[redacted]

Attachment to WCR

Final Well Report

Wrasse-1

(W836)

PETROLEUM RESERVOIR ENGINEERING · RESEARCH · FIELD SERVICES ·

CORE LAB

FINAL WELL REPORT

1 8 APR 1984 WRASSE NO. 1

ESSO AUSTRALIA LTD.

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

CORE LABORATORIES AUSTRALIA (QLD.) LTD.

23rd January 1984

MR S. TWARTZ
ESSO AUSTRALIA LTD.
(Geology Department)
ESSO House
127 Kent Street
Sydney NSW 2001

Dear Mr Twartz,

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

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

A.R. CHARLES
UNIT SUPERVISOR

ARC:pc

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

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

I N D E X

1. INTRODUCTION

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

Well co-ordinates were:

Latitude : 38° 19' 27.74" S
Longitude : 148° 16' 31.14" E

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

WRASSE NO. 1 was spudded on 27th October 1983 and reached a total depth of 2984 metres on 20th November 1983, a total drilling time of 26 days. The main objective of the well was to appraise the low stand fan complex in the Turrum Formation which was located at 666m from the rig location at a depth of 2570m TVD (2714m MD). The target had an azimuth of 264° relative to the rig location.

Elevations were:

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

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

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

M. MOWATT	-	Unit Supervisor
T. CHARLES	-	Pressure Engineer
B. GIFTSON	-	Logging Crew Chief
B. PAULET	-	Well Logger
P. DENTON	-	Well Logger
E. DIESPOSTI	-	Well Logger
M. KISSANE	-	Well Logger

2. RIG SPECIFICATIONS

CORE LAB

RIG INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.

WELL WRASSE NO. 1

OWNER	SOUTH SEAS DRILLING COMPANY
NAME AND NUMBER	SOUTHERN CROSS (N° 107)
TYPE	SEMI-SUBMERSIBLE , TWIN HULLED.
DERRICK, DRILL FLOOR & SUBSTRUCTURE	DERRICK: LEE C MOORE, 152' HIGH X 40' AT BASE. LOAD CAPACITY OF 1 000 000 lbs
DRAWWORKS	OILWELL E-2000 DRIVEN BY 2 GE 752 ELECTRIC MOTORS.
CROWN BLOCK	LEE C MOORE 27458 C. CAPACITY 500 SHORT TONS.
TRAVELING BLOCK	OILWELL A 500
SWIVEL	OILWELL PC 425
ELEVATORS	BYRON JACKSON MODEL GG CAPACITY 350 TON
KELLY & KELLY SPINNER	DRILLCO 5¼" x 50' HEX KELLY
ROTARY TABLE	OILWELL A 37½ SINGLE ELECTRIC MOTOR
ROTARY SLIPS	VARCO DCS-L
MUD PUMPS	TWO OILWELL A 1700PT. RATED AT 1600HP
MUD SYSTEM	FOUR MUD TANKS HAVING A TOTAL CAPACITY OF 1200 BBL, AND ONE PILL TANK HAVING A CAPACITY OF 105 BBL. TWO MUD HOPPERS POWERED BY 2 MISSION 6x8" CENTRIFUGAL BY TWO 100 HP ELECTRIC MOTORS. DESANDER : 1 DEMCO 4 CONE 12" MODEL N° 124 DESILTER : 1 DEMCO 4"-16H 16 CONE DEGASSER : 1 SWACO MODEL N° 36 SHALE SHAKERS : 2 BRANDT DUAL UNIT TANDEM - GHI DUAL UNIT.
BLOW OUT PREVENTORS	THREE SHAFFER L.W.S. 18¾" - 10 000 psi TWO HYDRIL G.L. 18¾" - 5000 psi
WELL CONTROL EQUIP.	FOUR VALVCON ACCUMULATORS. 2" - 10 000psi CHOKES: 2 C.I.W. ABJ H2 2 1/16" - 10 000 psi, 1 SWACO SUPER CHOKE
TUBULAR DRILLING EQUIPMENT	DC : 6¼" x 2 13/16" (4" IF TJ) 8 " x 2 13/16" (6 5/8" H90 TJ) 9¾" x 3" (7 5/8" H90 YJ) HWDP : 5" 50lb/ft GRADE G (6½" OD 4½" IF TJ) DP : 5" 19½lb/ft GRADE G&E (6 3/8" OD 4½" IF TJ)
CEMENTING UNIT	HALLIBURTON HT-400 UNIT
MONITORING EQUIPMENT	MARTIN DECKER : MUD VOLUME TOTALIZER 6 CHANNEL DRILLING RECORDER 4 PRESSURE GAUGES FLOWSHOW INDICATOR
POWER SUPPLY	2 EMD MD 18 DIESEL ENGINES RATED AT 1950 HP EACH 1 EMD MD 12 DIESEL ENGINE RATED AT 1500 HP
DIRECTIONAL EQUIP.	-

MISCELLANEOUS (E.G. RISER, COMPENSATION SYSTEM, PIPE RACKER, DP EQUIPMENT)

RISER: REGAN FC-7 TELESCOPIC 21" ID. PLUS FLOW DIVERTOR.
CASING POWER TONGS: ECKEL 13 3/8" (20 000 ft lbs), 20" (35 000 ft lbs)
CMT BULK TANKS: 3x1570cu ft. RISER TENSIONER: 6WESTERN GEAR, 50'STROKE, 80 000lbs.
MUD BULK TANKS: 3x1570cu ft. GUIDE LINE TENSIONERS : 4 WESTERN GEAR 16 000 lbs, 40'STROKE

7520-485 (CL 1151)

3. WELL INFORMATION, PROGRESS AND HISTORY

WELL INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.
WELL WRASSE NO. 1

Sheet No. 1

WELL NAME	WRASSE NO. 1			
OPERATOR	ESSO AUSTRALIA LTD.			
PARTNERS	B.H.P.			
RIG	OWNER	SOUTH SEAS DRILLING COMPANY		
	NAME OR NUMBER	SOUTHERN CROSS		
	TYPE	SEMI-SUBMERSIBLE		
LOCATION	LATITUDE (X)	38° 19' 27.74" S	LONGITUDE (Y)	148° 16' 31.14" E
	FIELD	GIPPSLAND BASIN	AREA	BASS STRAIT
	COUNTY		STATE	VICTORIA
	COUNTRY	AUSTRALIA		
	DESCRIPTION	WILDCAT		
DATUM POINTS	Ground Elevation		RKB to Ground Level	
	Mean Water Depth	65M	RKB to Water Level	21M
DATES	SPUD	27TH OCTOBER 1983	TOTAL DEPTH	20TH NOVEMBER 1983

HOLE SIZES

Depth From	Depth To	Bit Size	No. of Bits	No. of Reamers	Date From	Date To	Cased	Logged
65M	224M	26"	1	-	27/10/83	27/10/83	YES	NO
224M	817M	17½"	1	-	29/10/83	29/10/83	YES	YES
817M	2483M	12¼"	6	-	31/10/83	09/11/83	YES	YES
2483M	2984M	8½"	7	-	13/11/83	20/11/83	NO	YES

DRILLING FLUID

Depth From	Depth To	Weights	Type
65M	224M	8.6 TO 8.6	SEAWATER
224M	817M	8.6 TO 9.4	SEAWATER GEL
817M	2483M	9.0 TO 11.0	SEAWATER GEL
2483M	2984M	9.5 TO 9.7	SEAWATER GEL
		TO	
		TO	
		TO	
		TO	

WIRELINE LOGGING

Depth From	Depth To	Hole Size"	Date Run	Logs Run
827M	86M	17½	30/10/83	BHC-CAL-GR
2482M	802M	12¼	10/11/83	MSFL-GR-BHC
2483M	2280M	12¼	10/11/83	LDT-GR
2465M	1930M	12¼	10/11/83	CST
-	-	8.681	12/11/83	VELOCITY SURVEY (WST)
2979M	2473M	8.5	20/11/83	DLL-MSFL-GR-CAL (MSFL TOX FAILURE)
2982M	2473M	8.5	21/11/83	LDT-CNTH-GR-CAL
2982M	2474M	8.5	21/11/83	SONIC-CNTH-CAL-GR-MSFL

RISER, CASING & LINER

Depth From	Depth To	OD "	ID "	Weight	Grade	Threads	Date Run	Cement	Stages	Excess
2M	86M	22	21	---------- RISER ----------						
65M	208M	20	19.124	94.4	X-52	JV BOX	28/10/83	BC	1	-
65M	802M	13-3/8	12.615	54.5	K-55	BUTT	30/10/83	BC	1	-
65M	2473M	9-5/8	8.681	47.0	N-80	BUTT	11/11/83	G	1	-

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COMPANY ESSO AUSTRALIA LTD.
WELL WRASSE NO. 1

WELL INFORMATION SHEET
(SUPPLEMENTARY)

Sheet No. 2

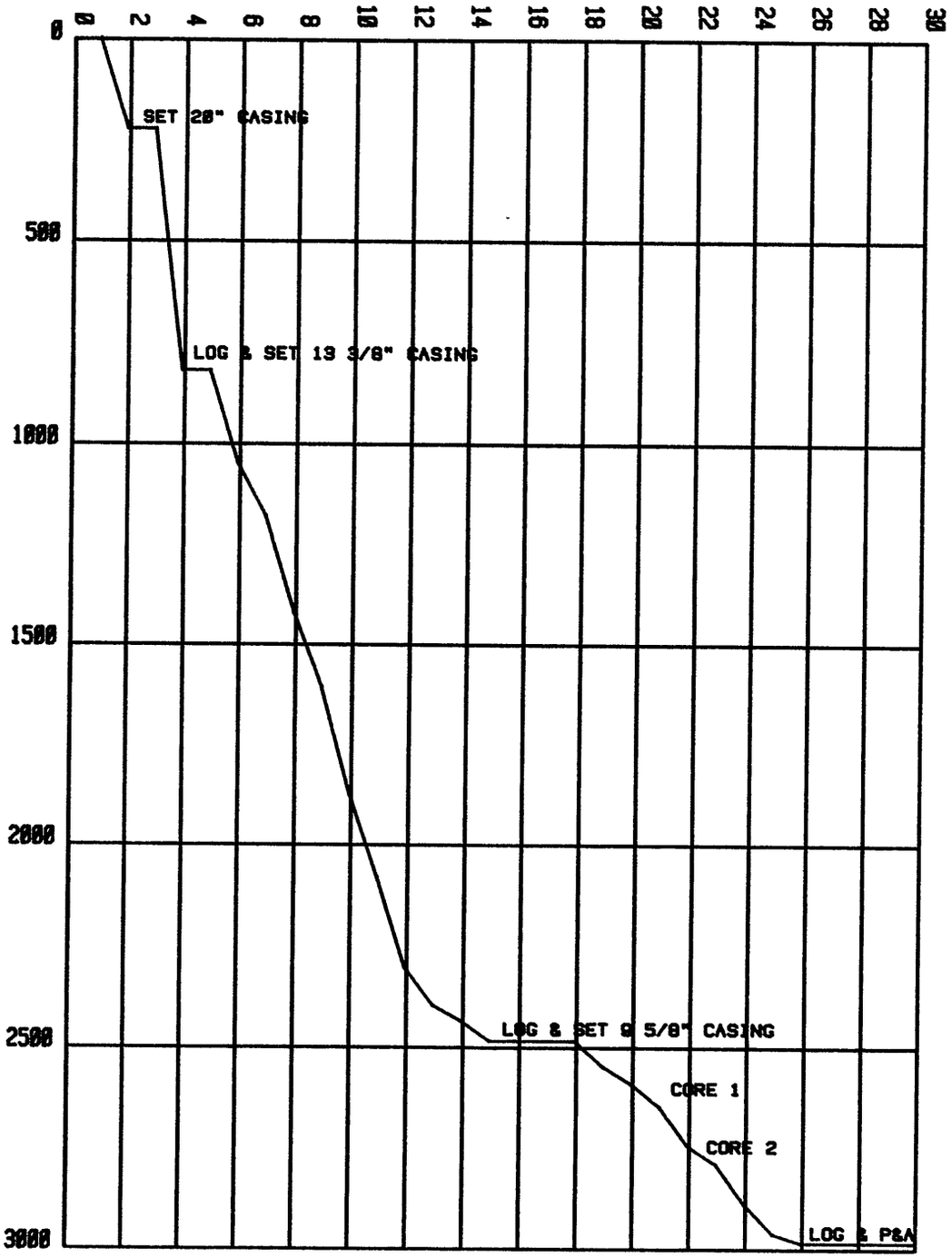
WIRELINE LOGGING (continued)

Depth from M	Depth to M	Hole size"	Date run	Logs run
2825	2473	8.5	21/11/83	VELOCITY SURVEY (WST)
2982	2474	8.5	21/11/83	HDT
		8.5	21/11/83	CST

PROGRESS LOG
ESSO AUSTRALIA LTD.

WRASSE No. 1

26	31	1	NOV	24



WELL HISTORY

26th October 1983. Arrived on location, set anchors and ballasted down. Rig location 38° 19' 27.74" S, 148° 16' 31.14" E.

27th October 1983. Set TGB in 65m of water. RIH with Bit No. RR1 (HTC 3AJ) and 26" hole opener. Drilled 86m-96m. The drill string got stuck due to pump problems, worked pipe and POOH to TGB. Fixed pump fault. Drilled to 224m. Circulated and displaced hole with high viscosity mud. Dropped survey. POOH to TGB. Recovered survey (¼°). RIH, circulated hole clean. POOH. Ran 20" casing.

28th October 1983. Continued running 20" casing. Cemented 20" casing shoe at 208m. Ran BOP stack and riser.

29th October 1983. RIH with NB No. 1 (HTC 3AJ); tagged cement at 195m. Drilled cement, then new hole from 224m to 817.6m. Background gas was a trace until 440m where it started to rise to 5 units. By 500m levels were 5-15 units and 15-20 units by 590m, rising to a peak of 39 units at 598m and returning to 15-25 units with another 39 units peak from 755m. The bit was pulled at 817.6m for the 13-3/8" casing after a wiper trip. 40 kips overpull was seen on stands 2 and 3, and 1½m of fill when running back to bottom. B.U. were circulated with 3/34/2 units gas prior to POOH.

30th October 1983. Schlumberger made one logging run (BHC-CAL-GR). Ran 13-3/8" casing. Set the shoe at 769m. Commenced drilling cement.

31st October 1983. Drilled cement then 6m new formation prior to making a Phase III P.I.T. at 823m (13.98 ppg). Drilled to 1001m; background gas rose to 70 units from 15-25 units before 900m with maximum of 108 units from 912m and 922m. A survey was made at 1001m (¼ N 45° W) prior to POOH. RIH with NB No. 3 (HTC X3A) with a kick-off B.H.A. (2° bent sub and Dyna-drill). Deviated hole was drilled to 1047m where a survey was made (5.5° S 80° W at 1030m).

1st November 1983. 6m of fill was reamed after the survey before drilling recommenced to 1114m where another survey was made (14° S 81° W at 1125.29m). Conducted a wiper trip. 1m of fill was encountered on RIH, and new hole drilled to 1151m. A survey was made (19.5° S 81° W at 1125.29m) before POOH. A new B.H.A. was made up to resume rotary drilling and new hole was drilled to 1178m. Background gas for the day was 15 units with trip gas of 10/57/16 units at 1001m. Maximum gas was 36 units from 1080m.

2nd November 1983. Drilling continued at an average deviation of 26°. The bit was changed at 1252m. Trip gas

was 7-132-15 units. Maximum gas was 25 units from 1310m (calcareous siltstone) and the B.G. was 10-15 units.

3rd November 1983. Drilled 12¼" deviated hole to 1450m. Changed the bit at this point due to the decreased angle of deviation. R.I.H. with Bit No. 5 (J1, 12¼") and drilled ahead to 1607m. Maximum gas was 27 units and the B.G. was 2-5 units. Trip gas from 1450m was 4-32-5 units.

4th November 1983. Drilled ahead to 1870m. Maximum gas was 25 units (1805m, limestone) over a background of 5-7 units.

5th November 1983. Drilled ahead to 2080m. Maximum gas was 29 units (1912m, limestone); and B.G. was 8-10 units. Connection gas was detected from 1891m and 1910m with 9.0 ppg mud. (The mud weight was increased to 9.2/9.3 ppg). Changed the bit at 2080m (40 hours on the bit - graded at 3-8-1/8). The Lakes Entrance formation was reached at 2010m.

6th November 1983. R.I.H. with Bit No. 7 (HTC X3A, 12¼") and drilled to 2302m where the bit was pulled to run a Dyna-drill (in order to regain the required azimuth of deviation). Maximum gas was 37 units, and the background was 10-15 units.

7th November 1983. Drilled 94m of new formation with the Dyna-drill, before pulling it at 2396m. Maximum gas was 18 units, and the B.G. was 6-8 units.

8th November 1983. Reran Bit No. 7 and drilled to the 9-5/8" casing point, 2434m. 170 units of trip and reaming gas were detected from 2396m. Tripping out at the casing point, severe overpull was experienced on the first 5 stands, so the string was ran back to bottom and the tight spots were cleaned (8-27-5 units W.T.G.).

9th November 1983. Conducted a wiper trip to the shoe, but the hole was sloughing. It took 6 hours to run and ream to bottom from the 13-3/8" shoe. Weighted up the mud (11.0 ppg) to control the formation. Drilled ahead to 2483m to drill past the sloughing formations. Made a short wiper trip before pulling out of the hole.

10th November 1983. Schlumberger made the following log runs at the proposed 9-5/8" casing point:

MSFL-GR-BHC
LDT-GR
CST

11th November 1983. Conducted a wiper trip (trip gas was 5-50-7 units). Ran the 9-5/8" casing.

12th November 1983. Cemented the casing shoe at 2473m. Tested the stack and 9-5/8" casing. Schlumberger ran a velocity survey (WST).

13th November 1983. R.I.H. with Bit No. 8 (HTC X3A, 8½"); tagged cement at 2412m; drilled cement then 6m of new hole to 2489m. Performed a P.I.T., obtaining a leak-off at 2489m (TMD) of 17.2 ppg (2356.3m TVD). Drilled 8½" hole to 2545m, where the bit was pulled. Penetration had died right off due to two locked cones. Maximum gas in the drilled interval was 8 units, over a B.G. of 1-2 units.

14th November 1983. R.I.H. with Bit No. 9 (HTC X3A, 8½") and drilled to the first core point, 2588m. (Maximum gas was 5 units; and the B.G. was 1-2 units). Tripped out after a short wiper (1-6-1 gas units).

15th November 1983. Cut Core No. 1 from 2588m - 2597.4m. Recovered 9.36m (100%) - the lithology was calcareous siltstone interbedded with calcareous shale. R.I.H. with a new J22 bit and drilled 8½" hole down to 2645m. During the coring run gas remained below 1 unit. Trip gas from 2597m was 1-7-2 units. Maximum gas in the drilled interval was 3.5 units (from 2609m) and the background was 1 unit.

16th November 1983. Drilled 8½" hole, at rates of 5-7m/hr, down to 2742.2m. POOH to core-bottoms up sample had 5% sandstone with 1.5 units gas. The survey recovered was 22° (azimuth was 269.5°). RIH for core No. 2. Maximum gas was 2.3 units over a background of 1.4 units in the drilled interval to 2742.2m.

17th November 1983. RIH with core barrel and circulated bottoms up (1-7-1.5 units) prior to cutting core No. 2. Background gas whilst coring was 1 unit. On POOH at 2751.4, some 60k overpull was experienced. 9.1m of core No. 2 (Siltstone) was recovered (99%). R.I.H. w/NB No. 11. Trip gas was 8 units; background gas was 1 unit with a maximum of 2.6 units. Continued drilling 8.5" hole to 2787m.

18th November 1983. Drilled ahead to 2806m where, after a flow check (no flow) bottoms up were circulated following a drill break (ROP increased from 7m/hr to 22m/hr). No show, so drilling resumed. A flow check was made at 2818m (no flow); drilled ahead to 2887m. POOH due to high torque, having dropped survey (21½° 269½° azimuth) RIH with NB No. 12 (HTC J22).

19th November 1983. Continued RIH with NB No. 12. High torque on getting to bottom. Trip gas was 0.5/8.3/0.6 units. Drilled ahead to 2961m.

20th November 1983. Drilled ahead to T.D. (2984m) made wiper trip - up to 220 kips overpull was experienced. On the first two stands, the pipe became stuck but it was worked free. RIH and circulated bottoms up 0.5/4.3/0.6 units. POOH; Schlumberger logs were then run, starting with the DLL/MSFL/GR/CAL.

21st November 1983. Continued running Schlumberger logs.

LDT/CNTH/GR/CAL
BHC/CNTA/MSFL/GR/CAL
VELOCITY SURVEY
HDT
CST

22nd November 1983. RIH with open-ended drill pipe and set cement plugs between 2775m-2607m and 2607m-2438m. Bottoms up gas was 0.5/8.5/1.0 units. POOH. Laid down drill pipe. Set bridge plug at 2300m. Cut 9-5/8" casing at 350m with Pengo cutter. Retrieved 9-5/8" casing.

23rd November 1983. Laid down 9-5/8" casing. Set plug No. 3 between 400m and 300m; squeezed 11 bbls to 450 psi Laid down drill pipe. Cut 13-3/8" casing at 178m with Pengo cutter. Retrieved 13-3/8" casing and laid down same. RIH and tagged cement at 295m, displaced hole with seawater. Set plug at 208m-118m and squeezed 18 bbls cement. Laid down drill pipe, pressure tested plug No. 4 to 500 psi.

24th November 1983. Pulled stack and riser. Cut 20" casing at 100m and retrieved it. Deballasted rig. Pulled anchors 3 and 6. Waited on day light.

25th November 1983. Waited on daylight. Pulled the remaining anchors. Commenced the tow to the next location (WIRRAH NO. 3).

4. LITHOLOGY AND CORE-O-GRAPHS

LITHOLOGY SUMMARY

Lakes Entrance Formation (244m - 1975m)

Calcarenite was the dominant lithology found in the top portion of this section. The calcarenite was white to medium grey, occasionally dark grey with traces of black specks, firm, angular to sub-angular, detrital, abundant fossil frags, broken ribbed shells, fenestral corals, bryozoa, ostracods, with minor traces of loose quartz grains being brown, medium to coarse, very well rounded, and moderately sorted. From 480m onwards formation tends to be more silty. Calcisiltite was the major lithology encountered in this section. It was light grey to dark grey occasionally buff, soft to firm, slightly argillaceous, with common shell fragments and forams. With increasing depth, thick sections of dolomite were encountered between 1040m - 1075m which was medium dark grey, hard to brittle, angular and crypto-crystalline. From 1075m onwards this section was mainly calcareous siltstone. It was observed as light grey - medium grey, very soft, sticky, partly argillaceous, with traces of pyrite and forams. Background gas averaged 10-30 units with the presence of $C_1 - C_4$; maximum gas was 110 units from 910 units.

Latrobe Group
Turrum Formation 1975m - 2531m
Unit F. SHALES AND SANDSTONE

The top portion of this section was dominantly calcarenite with minor dolomitic beds and with increased depth, claystone was encountered. Towards the lower portion of this section shales were present.

Calcarenite was dominantly medium light grey, occasionally off-white, fine to medium grained, subrounded, calcareous, with argillaceous matrix and forams present. Dolomite was found to be dark olive brown, very hard, even texture, crypto-crystalline. Claystone was of a medium dark grey, soft to firm, uniform texture and appearance, angular to elongated grains, moderately calcareous, slightly silty, traces of pyrite, microfossils and ostracods. The shales found in this section were medium dark grey to slightly brown, subfissile, angular, elongated to platey, slightly calcareous, slightly silty with common traces of pyrite and lignite. Average background gas was 10-30 units, with the presence of $C_1 - C_3$. Maximum gas monitored in this section was 35 units at 2272m with $C_1 - C_3$.

Unit E. (2531m - 2615m) SHALE PRONE FACIES

This section mainly comprised of claystone, calcareous siltstone interbedded with shale. Lithological descriptions were very much the same as the above section. One core was cut, and recovery was 99.6%. Maximum gas in this section was 38 units with $C_1 - C_2$ present (Calcareous siltstone).

Unit C. (2615m - 2714m) SAND PRONE FACIES

Calcareous siltstone was mainly encountered throughout this section but gradually becoming more carbonaceous, towards the base of the section. Siltstone with minor interbeds of sandstone were present. Siltstone was medium grey to dark grey, firm to hard, angular cuttings, micromicacous, quartzose, moderately calcareous and carbonaceous. Sandstone was white to clear quartz grains with fine

aggregates and medium-coarse loose grains which were angular to rounded with dolomitic cement, no visible porosity, no shows, traces of minor yellow mineral fluorescence. Maximum gas was 2.4 units at 2615m (C_1 only).

Unit B. (2714m - 2782m) SHALE PRONE FACIES

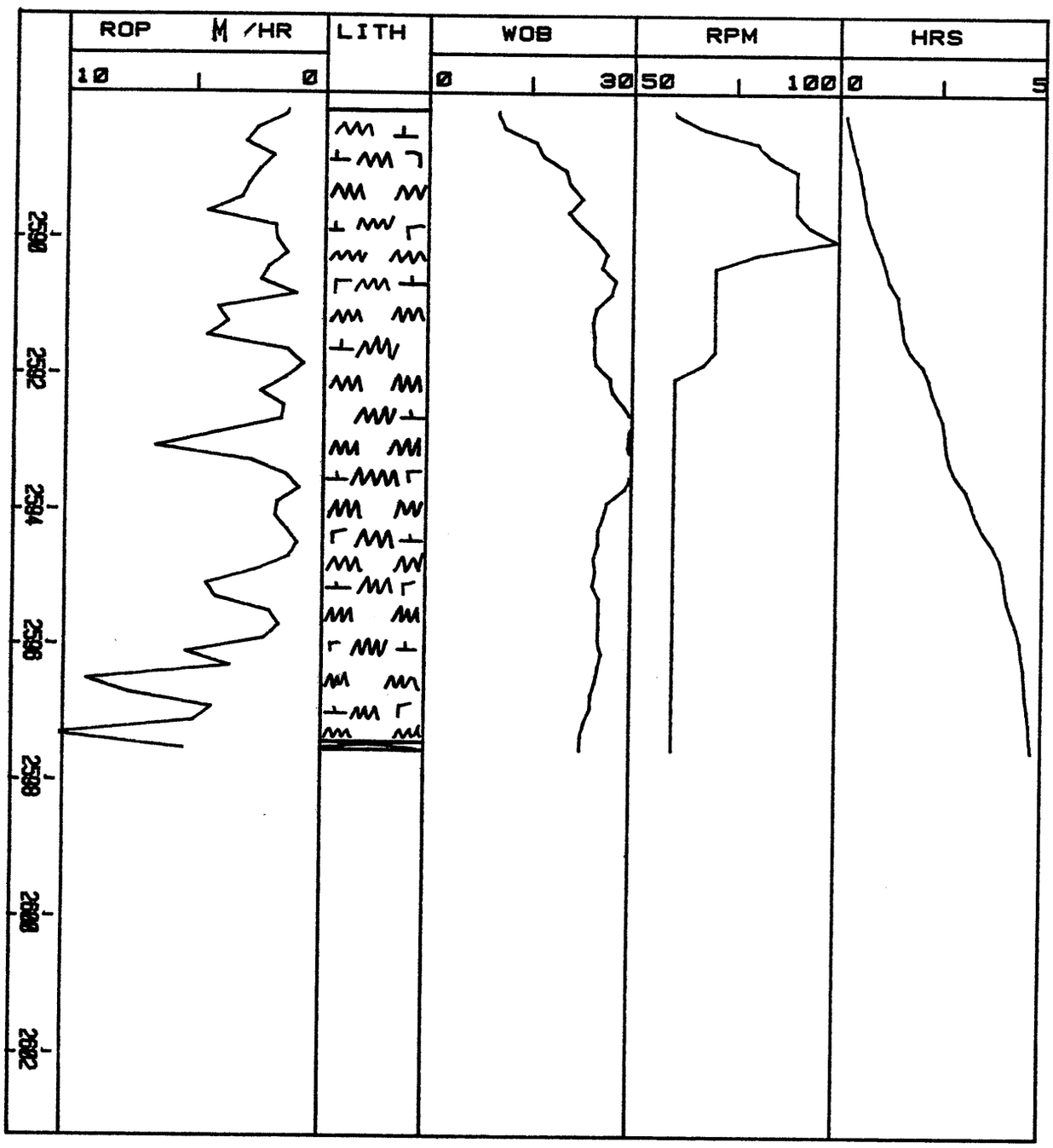
Three main lithologies encountered here were siltstone, claystone and sandstone. Siltstone and claystone were very similar to the above group, and sandstone was observed as clear, loose, angular quartz grains, poorly sorted, coarse to fine, no matrix or cementation, moderate visible porosity, no shows. Maximum gas was about 2 units at 2741m with presence of C_1 only. Core No. 2 was cut and recovery 9.2 metres (99.9%) of carbonaceous, calcareous, glauconitic siltstone.

Coarse Clastics (2782m - 2984m)

Sandstone and siltstone were the dominant lithologies found in this section with minor coal seams. The Sandstone was white to clear, quartz grains with fine aggregates and loose grains, medium to coarse, angular to rounded, dolomitic cement, poor visible porosity, minor yellow mineral fluorescence. The siltstone was mainly dark greenish-grey to light grey, hard, angular, slightly carbonaceous and slightly argillaceous. The coal was black, firm with conchoidal fracture. Maximum gas was about 2 units at 2944m with presence of $C_1 - C_2$.

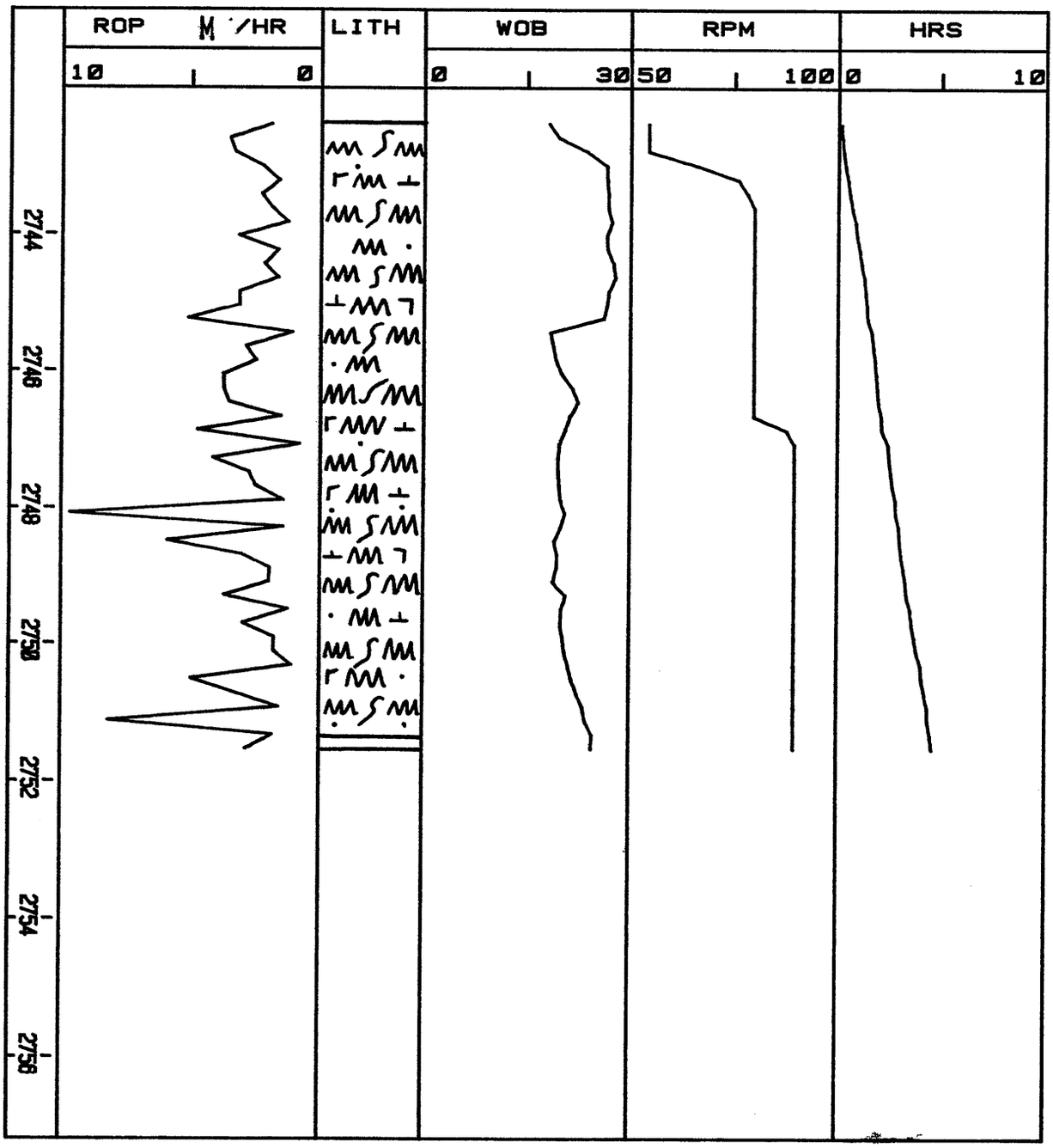
CORE-O-GRAPH

CLIENT:	ESSO AUSTRALIA LTD.
WELL:	WRASSE No. 1
CORE NO.:	1
INTERVAL CORED FROM	2588.0m. TO 2597.4m.
CUT: 9.4m	RECOVERED: 9.4m. (99.8%)
FORMATION:	TURRUM FORMATION - UNIT F
BIT MAKE & TYPE:	CHRIS. RC4
CORE BARREL SIZE:	8.75in. x 4.00in. x 19.81m.
BIT SIZE: 8.50	MUD WT.: 9.8



CORE-O-GRAPH

CLIENT:	ESSO AUSTRALIA LTD.
WELL:	WRASSE No. 1
CORE NO.:	2
INTERVAL CORED FROM	2742.2m. TO 2751.4m.
CUT: 9.2m	RECOVERED: 9.2m. (99.6%)
FORMATION:	TURRUM FORMATION - UNIT C
BIT MAKE & TYPE:	CHRIS. RC4
CORE BARREL SIZE:	6.75in. x 4.00in. x 19.61m.
BIT SIZE: 8.50	MUD WT.: 9.6



5. EXTENDED SERVICE PACKAGE

EXTENDED SERVICE INTRODUCTION

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

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

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

Core Laboratories E.S. logs include the following :

E.S. PRESSURE LOG

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

CORE LAB DRILL DATA PLOT

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

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

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

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

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

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

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

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

E.S. GEO-PLOT LOG

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

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

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

ELECTRIC LOG PLOT

A plot of shale resistivity (ohm-metres squared/metre), sonic travel time (microseconds per foot), bulk density (gm/cc) and neutron porosity (%), may be made using data supplied by Schlumberger. Two-cycle semi-log paper is used, with a vertical scale of 1:10000. As far as possible only clean shale points are selected and plotted. The relatively compressed vertical scale makes deviations from the normal compaction trend easier to identify.

PROGRESS LOG

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

DATA RECORDING

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

MUD DATA SHEETS

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

DRILLING PARAMETER PLOT

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

HYDRAULIC ANALYSES

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

GAS COMPOSITION ANALYSIS

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

1. Log plot

2. Triangulation plot

Both plots are included in this report.

GRAPHOLOG

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

MISCELLANEOUS

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

CORE LABORATORIES EQUIPMENT

Core Laboratories Field Laboratory 2007 monitoring equipment includes the following :

A. MUD LOGGING

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

B. EXTENDED SERVICE PACKAGE

1. HEWLETT PACKARD 9825B desktop computer.
2. HEWLETT PACKARD 9872B plotter
3. HEWLETT PACKARD 2631A printer.
4. Two HEWLETT PACKARD 2621P visual display units, (one located in the client's office).
5. Hookload/weight-on-bit transducer and recorder.
6. Rotary speed sensor and recorder.
7. Stand-pipe pump pressure transducer and recorder.
8. Mud flow out sensor and recorder.
9. Mud temperature sensors and recorders (in and out).
10. Mud conductivity sensors and recorders (in and out).
11. Mud density sensors (in and out) and recorders.
12. Rotary torque sensor and recorder.
13. Shale density apparatus.
14. Hydrogen sulphide gas detector.
15. Carbon dioxide gas detector.
16. DATALOGGER computer, monitor and impact printer.
17. DIGITAL remote paging display (located in the client's office).
18. Casing pressure transducer and recorder.

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

CORE LABORATORIES MONITORING EQUIPMENT

DEPTH

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

WEIGHT-ON-BIT

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

ROTARY SPEED

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

PUMP PRESSURE

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

CASING PRESSURE

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

PIT VOLUME

Four individual pits are displayed on the monitor. The pit volume total is calculated by the Datalogger and displayed on the monitor. The sensors are vertical floats triggering magnetic switches accurate to +/- 1 barrel.
In addition, a sensor is fitted to the rig's trip tank, so that hole fill-up during trips may be closely monitored. A recorder chart displays the levels of the active pits, the pit volume total, and the trip tank.

PUMP STROKES

These are the limit switch type, counting individual strokes. The pump rates per minute are displayed on the monitor.

ROTARY TORQUE

An American Aerospace Controls bi-directional current sensor is clamped over the power cable of the rotary table motor. Torque is displayed on the computer monitor and recorder chart.

MUD TEMPERATURE

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

MUD CONDUCTIVITY

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

MUD DENSITY

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

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

CUTTINGS

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

GAS

1. Flame Ionization Total Hydrocarbon gas detector.
   The T.H.M. accurately determines hydrocarbon concentrations up to 100% saturation.

2. Flame Ionization Detector chromatograph.
   The F.I.D. is capable of accurate determination of hydrocarbon concentration from C1 to C6+.

3. Cuttings gas detector (Wheatstone Bridge type).
   An auxiliary system for total gas detection.

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

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

SHALE DENSITY

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

6. ESP PLOT DISCUSSIONS AND CONCLUSIONS

ESP PLOT DISCUSSIONS AND CONCLUSIONS

WRASSE NO. 1 was drilled in the Gippsland Basin. Core Laboratories field unit FL 2007 monitored parameters associated with over-pressure detection; the well was not expected to have any abnormal pressure zones.

The primary tool used to determine overpressure zones is the "Drill Data Plot". This plot relates ROP's, 'd'c exponents, mud weight and mud gas to lithology.

The drilling exponent ('d'c) is the most important detecting factor having been normalised to account for various drilling parameters and mud weight. In this case a reasonable compaction trend does not develop until 550m due to the unconsolidated nature of the sediments. This trend continues to indicate normal pressure until 1825m, with various offsets where new bits had been run, or casing set. An indistinct scatter of d'c's is evident between 1000m and 1250m which is attributable to the controlled drilling whilst building angle in the deviated hole with a downhole motor assembly, rather than the more conventional rotary drilling.

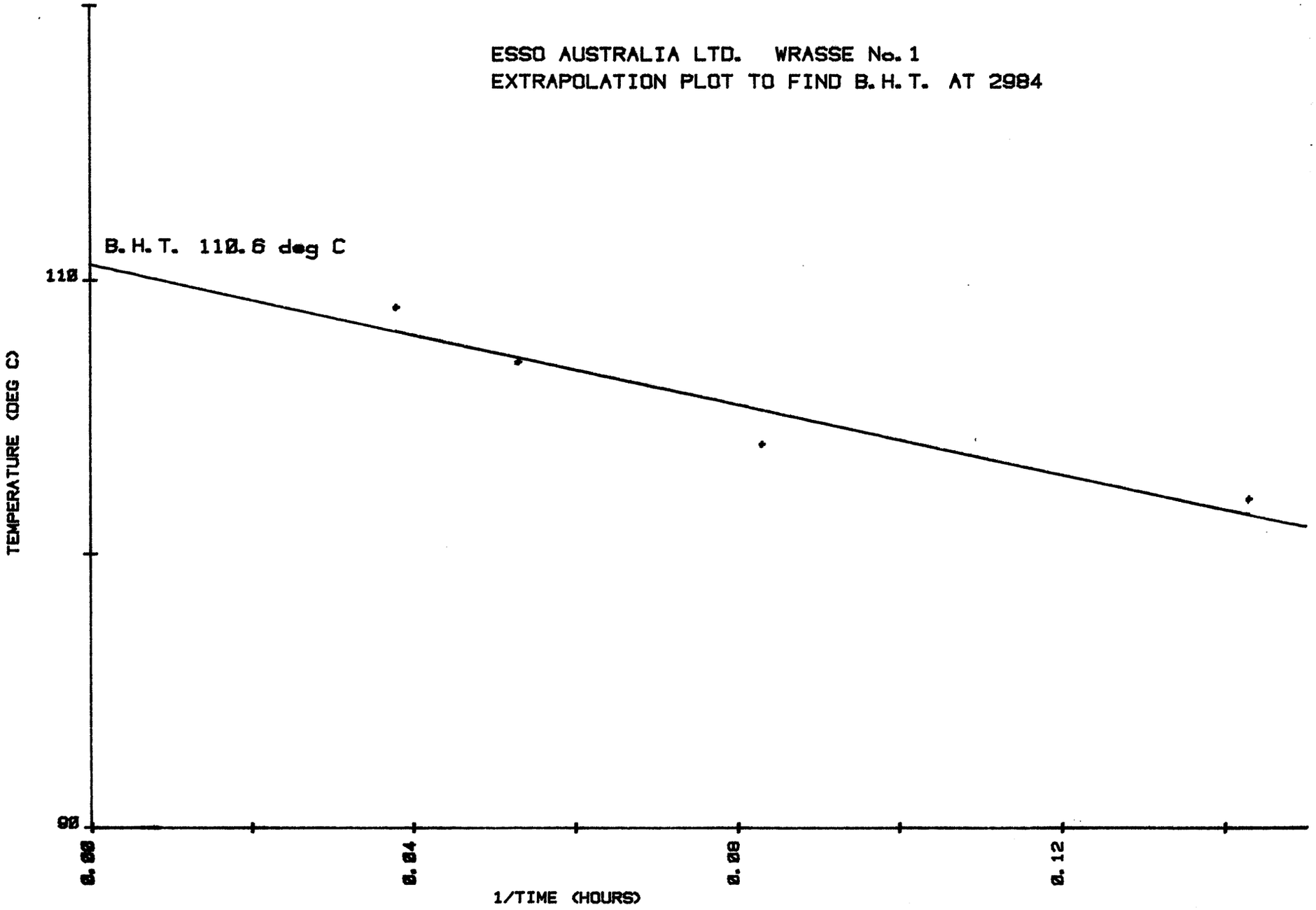
A decreasing trend is evident from 1825m to 2200m. This is associated with a slight increase in background gas from 5 units to 20 units. Trip gas also increased significantly from 32 units at 1450m to 46 units at 2080m and 56 units at 2302m. Connection gas was detected at 1891m (18-23-18 units) and 1911m (15-29-7 units). The mud weight was subsequently raised from 9.0 ppg to 9.2 ppg and no further signs of connection gas were seen. However, with calculated swab of 0.2 ppg in this section the pore pressure is thought to be about 8.8 ppg. Eaton's method of pore pressure calculation using d'c's gives a much higher, unrealistic pore pressure of 10.8 ppg, using an overburden gradient from other Bass Strait wells. Unfortunately this cannot be substantiated by RFT pressure data. Some of this trend reversal can be attributed to a change in lithology. It is common in the Gippsland Basin for the 'd'c exponent trend in this section not to exhibit a normal compaction curve, even slight reversals are relatively frequent but not as accentuated as the one in this case. Tight spots on POOH and RIH were common in this hole between 2015m - 2028m, 2062m - 2150m, 2370m - 2396m indicating that sloughing shale was present. Abnormally high trip gases were also detected (25-170-50 units at 2396m). Mud weight was raised to 10.9 ppg at 2396m to counteract these problems in this claystone-shale section. Background gas levels then dropped off to 5-10 units after 2200m, and the 'd'c exponent resumed a more normal trend, although it is seen to be stable rather than increasing as one would expect in a normally pressured zone. The mud weight was reduced to 9.6 ppg after the 9-5/8" casing had been set and background gas dropped off to low trace levels; no connection gas was seen. The 'd'c exponent was still stable, not increasing, indicating that the Pore Pressure probably remained at 8.8 ppg down to 2750m, after which it became more scattered reflecting the interbedded nature of the sandstones and siltstones encountered and a probable drop back in Pore Pressure to 8.4 ppg. As stated earlier no RFT's were made to validate these conclusions.

The temperature plot showed no deviation from the norm, but in cases such as this one where there was constant mud treatment and interruptions for deviation surveys no real trend could be established. An estimated

BHT from the Temperature Log is 89°C, and a calculated one from Schlumberger logs of 110.6°C (3.93°C/100m) indicate how unreliable the Temperature Log was in this instance.

The Pressure Plot represents the pressure conclusions for this well, being normally pressured to 1835m, rising to about 8.8 ppg by 1890m and dropping back down to 8.4 ppg at about 2750m. A PIT was conducted, after the 13-3/8" casing point, to 13.98 E.M.W., however this is not reliable as it was not conducted in a sand. The Leak-Off test after the 9-5/8" casing is much more reliable (17.2 ppg E.M.W.) and this value was used in the fracture gradient calculations to offset the model U.S. Gulf Coast curve. An overburden plot was not made due to the absence of sufficient data from density logs for this well.

7. B.H.T. ESTIMATION


ESSO AUSTRALIA LTD. WRASSE No. 1
EXTRAPOLATION PLOT TO FIND B.H.T. AT 2984
B.H.T. 110.6 deg C
110
90
TEMPERATURE (DEG C)
0.04
0.08
0.12
1/TIME (HOURS)

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
1	0.143	102.0
2	0.083	104.0
3	0.053	107.0
4	0.038	109.0

COEFFICIENT & CONSTANT:

Y = m.X + c where m = -6.3768116E 01 and c = 1.1055362E 02

INTERPOLATED DATA:

1/TIME	TEMPERATURE
0.000	110.6

8. OVERBURDEN GRADIENT CALCULATIONS AND PLOT

OVERBURDEN

Insufficient data was collected to provide a valid overburden plot for this well.

9. GAS ANALYSES

GAS COMPOSITION ANALYSIS

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

LOG PLOT

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

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

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

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

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

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

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

TRIANGULATION PLOT

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

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

GAS ANALYSES

Sidewall cores from this well were not tested for gas due to the lack of gas during drilling, absence of hydrocarbon fluorescence and suitable reservoir rock.

No gas composition analyses were made as the well contained no significant gas shows.

10. CORELAB DATA SHEETS

BIT RECORD

BIT SIZE . . . . . Inches

BIT COST . . . . . Australian dollars

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

DEPTHS . . . . . Metres

HOLE MADE. . . . . Metres

DRILLING TIME. . . . . Hours

AVERAGE ROP. . . . . Metres/hour

AVERAGE COST/METRE . . Australian dollars

BIT CONDITION. . . . . Teeth

Bearings

Gauge . . . . Inches

CORELAB

COMPANY ESSO AUSTRALIA LTD.

WELL WRASSE NO. 1

BIT RECORD

Sheet No. 1

S/NO	Bit No.	Make	Type	IADC Code	Size	Jets	Depth In	Hole Made	Drilling Time	On Bottom Hours	Turns K	Condition T B G	Remarks
LJ 321	RR 1	HTC	OSC 3AJ	111	26	20/20/20	86	138	6	4.23	23	1-1-I	POOH FOR 20" CASING.
041 XR	1	HTC	OSC 3AJ	111	17½	18/18/18	224	593.4	13¼	8.69	76	2-2-I	POOH FOR 13-3/8" CASING.
198 UK	2	HTC	X3A	114	12¼	18/18/18	817.6	183.7	5-¾	4.23	32	2-1-I	POOH TO CHANGE BHA.
245 UK	3	HTC	X3A	114	12¼	18/18/0	1001.3	149.7	14¼	8.76	237	1-1-I	POOH TO CHANGE BHA AND RIG UP DYNADRILL.
245 UK	RR 3	HTC	X3A	114	12¼	18/18/18	1151	101.5	5¼	12.87	258	4-3-I	POOH DUE TO DECREASED DEVIATION.
XA 162	4	HTC	X3A	114	12¼	18/18/18	1252.5	197.5	11-¾	10.24	92	1-1-I	POOH DUE TO DECREASED DEVIATION.
782 LS	5	HTC	J1	116	12¼	18/18/18	1450	630	45-¾	39.74	282	3-8-1/8	PULLED WITH 40 HOURS ON BOTTOM.
XD 344	6	HTC	X3A	114	12¼	16/16/18	2080	222	7-¾	5.93	56	1-3-I	PULLED TO RIH WITH THE DYHA-DRILL.
891 TK	7	HTC	X3A	114	12¼	18/28/28	2302	94	14¼	10.49	220	1-1-I	RAN THE DYNA-DRILL TO REGAIN THE DESIRED AZIMUTH.
891 TK	RR 7	HTC	X3A	114	12¼	16/16/18	2396	38	9-¾	1.99	18	2-2-I	OUT AT 9-5/8" CASING POINT.
129 DK	8	HTC	X3A	114	8½	12/12/12	2483	62	8¼	7.02	45	4-8-I	PULLED DUE TO VERY LOW RATES OF PENETRATION. 2 LOCKED CONES.
130 DK	9	HTC	X3A	114	8½	12/12/12	2545	43	3¼	2.72	19	2-2-I	OUT AT CORE POINT.
2W6918	9(CB1)	CHRIS	RC4	4	8½	EQUIVALENT 14/15/15	2588	9.4	5	4.76	19	5%	OUT TO CATCH CORE NO. 1.
792 SS	10	HTC	J22	517	8½	12/12/12	2597.4	144.8	26	23.53	106	2-3-I	POOH TO CORE.
2W6918	10(CB 2)	CHRIS	RC4	4	8½	EQUIVALENT 14/15/15	2742.2	9.2	4-¾	4.55	23	15%	POOH TO RECOVER CORE NO. 2.
670 ES	11	HTC	J22	517	8½	12/12/12	2751.4	135.6	18-¾	16.35	74	3-4-I	POOH DUE TO HIGH TORQUE.
673 ES	12	HTC	J22	517	8½	12/12/12	2887	97	27-¾	23.56	115	3-4-I	POOH AT T.D.

CORE LAB

COMPANY ESSO AUSTRALIA LTD.

WELL WRASSE NO. 1

BIT RECORD

Sheet No. 1

S/NO	Bit No.	Make	Type	IADC Code	Size	Cost	Jets	Depth In	Depth Out	Hole Made	Drilling Time	On Bottom Hours	Turns K	Average ROP	Average Cost/ M	Condition T B G
LJ 321	RR 1	HTC	OSC 3AJ	111	26	-	20/20/20	86	224	138	6	4.23	23	32.6	201.92	1-1-I
041 XR	1	HTC	OSC 3AJ	111	17½	4857	18/18/18	224	817.6	593.4	13¼	8.69	76	68.3	84.44	2-2-I
198 UK	2	HTC	X3A	114	12¼	2381	18/18/18	817.6	1001.3	183.7	5-¾	4.23	32	43.6	180.15	2-1-I
245 UK	RR 3	HTC	X3A	114	12¼	2381	18/18/0	1001.3	1151	149.7	14¼	8.76	237	17.1	346.71	1-1-I
245 UK	4	HTC	X3A	114	12¼	-	18/18/18	1151	1252.5	101.5	5¼	12.87	258	24.7	252.53	4-3-I
XA 162	5	HTC	J1	116	12¼	2381	18/18/18	1252.5	1450	197.5	11-¾	10.24	92	19.3	295.71	1-1-I
782 LS	6	HTC	X3A	114	12¼	2694	18/18/18	1450	2080	630	45-¾	39.74	282	15.9	271.74	3-8-1/8
XD 344	7	HTC	X3A	114	12¼	2381	16/16/18	2080	2302	222	7-¾	5.93	56	37.4	221.78	1-3-I
891 TK	RR 7	HTC	X3A	114	12¼	2381	18/28/28	2302	2396	94	14¼	10.49	220	9.0	708.75	1-1-I
891 TK	8	HTC	X3A	114	8½	-	16/16/18	2396	2483	38	9-¾	1.99	18	11.4	512.89	2-2-I
129 DK	9	HTC	X3A	114	8½	1373	12/12/12	2483	2545	62	8¼	7.02	45	8.8	871.53	4-8-I
130 DK	9(CB1)	CHRIS	RC4	4	8½	1373	12/12/12	2545	2588	43	3¼	2.72	19	15.8	899.92	2-2-I
2W6918	10	HTC	J22	517	8½	10,897	EQUIVALENT 14/15/15	2588	2597.4	9.4	5	4.76	19	0.5	5923.0	5%
792 SS	10(CB2)	CHRIS	RC4	4	8½	4139	12/12/12	2597.4	2742.2	144.8	26	23.53	108	6.2	816.15	2-3-I
2W6918	11	HTC	J22	517	8½	-	EQUIVALENT 14/15/15	2742.2	2751.4	9.2	4-¾	4.55	23	2.0	6812.0	15%
670 ES	12	HTC	J22	517	8½	4139	12/12/12	2751.4	2887	135.6	18-¾	16.35	74	8.3	692	2-4-I
673 ES						4139	12/12/12	2887	2984	97	27-¾	23.56	115	4.1	1246.0	3-4-I

7520-486 (CL 1152)

MUD INFORMATION SHEETS

DEPTH . . . . . Metres

MUD WEIGHT . . . . . Pounds per gallon

FUNNEL VISCOSITY . . . A.P.I.seconds

PLASTIC VISCOSITY. . . Centipoise

YIELD POINT. . . . . Pounds/100 square feet

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

FILTRATE . . . . . A.P.I. c.c.

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

SALINITY : Ca/Cl . . . ppm

SOLIDS/SAND/OIL. . . . Percentage

CORE LAB

MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.
WELL WRASSE NO. 1

Sheet No. 1

DEPTH (M)			770	817	1040	1152	1413
DATE	27/10/83	28/10/83	29/10/83	30/10/83	31/10/83	1/11/83	2/11/83
TIME	8.6		16:00	23:00	22:30	22:00	23:30
WEIGHT			9.0	9.0	9.0	9.0	9.1
FUNNEL VISCOSITY	120+		35	33	34	38	33
PV/YP		N	2/17	3/9	3/10	4/16	4/12
N/K	S	O	.14/7.73	.32/1.61	.30/2.01	.26/3.88	.32/2.15
GEL: INITIAL/10 MIN	E		2/4	4/6	3/6	4/10	3/6
pH	A	M	9.6	9.9	10.1	10.2	9.8
FILTRATE: API/API HTHP	W	U					
CAKE	A	D					
SALINITY (PPM)	T				15,000	13,000	16,000
SAND	E		1/4		TRACE	TRACE	TRACE
SOLIDS	R		5		5	5	6
OIL			0		0	0	0
NITRATES (PPM)							

REMARKS:

	SPUD	SET 20" CASING	DRILLED 17½" HOLE	SURFACE LOGS SET 13-5/8" CASING	DRILLED 12¼" HOLE	KICKED OFF WITH THE DYNA-DRILL	DRILLED 12¼" HOLE

DEPTH (M)	1595	1853	2070	2300	2336	2433	2483
DATE	3/11/83	4/11/83	5/11/83	6/11/83	7/11/83	8/11/83	9/11/83
TIME	23:00	23:00	14:00	11:00	10:00	17:00	24:00
WEIGHT	9.0+	9.0	9.3	9.4	9.3	9.5	10.9
FUNNEL VISCOSITY	33	40	38	42	38	42	48
PV/YP	4/10	4/18	4/18	5/20	4/20	5/22	10/21
N/K	.36/1.46	.24/4.90	.24/4.90	.26/4.85	.22/6.00	.24/5.86	.40/2.51
GEL: INITIAL/10 MIN	3/7	8/20	9/21	10/22	15/18	16/20	16/21
pH	9.6	9.4	9.3	9.6	10.3	10.0	10.5
FILTRATE: API/API HTHP							10.2/23.4
CAKE							2
SALINITY (PPM)	14,000	15,000	15,000	16,000	17,000	17,000	18,000
SAND	5	5	7	8	7	8	12
SOLIDS	0	0	0	0	0	0	0
OIL							
NITRATES (PPM)							

REMARKS:

DRILLED 12¼" DEVIATED HOLE

CORE LAB

MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.

WELL WRASSE NO. 1

Sheet No. 2

DEPTH (M)	2483	2483	2483	2545	2588	2632	2742
DATE	10/11/83	11/11/83	12/11/83	13/11/83	14/11/83	15/11/83	16/11/83
TIME	18:00	22:00	08:30	21:15	22:45	21:30	23:00
WEIGHT	10.9	10.9+	10.9	9.7	9.7	9.6	9.6
FUNNEL VISCOSITY	46	43	46	49	46	45	44
PV/YP	11/20	11/22	12/21	13/16	10/12	8/12	9/16
N/K	.44/2.02	.41/2.48	.45/2.03	.53/1.04	.54/.76	.49/.97	.44/1.57
GEL: INITIAL/10 MIN	13/18	20/26	16/28	6/28	5/28	5/30	3/32
pH	10.4	10.2	10.1	10.6	10.1	10.6	10.5
FILTRATE: API/API HTHP	8.0/21.4	8.6/22.0	8.4/21.6	7.8/22.0	7.1/20.2	6.2/17.4	5.4/17.2
CAKE	1	1	1	1	1	1	1
SALINITY (PPM)	18,000	18,000	18,000	16,000	18,000	18,000	18,000
SAND	TRACE	1/4	1/4	1/4	TRACE	TRACE	TRACE
SOLIDS	12	13	13	10	9	9	9
OIL	0	0	0	0	0	0	0
NITRATES (PPM)	0	0	0	120	100	180	200

REMARKS:

INTER-MEDIATE LOGS | SET 9-5/8" CASING | CEMENTED 9-5/8" CASING | DRILLED OUT CEMENT | CUT CORE NO. 1 DRILLED 8½" HOLE | VELOCITY SURVEY | DRILLED 8½" HOLE

DEPTH (M)	2762	2887	2950	2982			
DATE	17/11/83	18/11/83	19/11/83	20/11/83	21/11/83	22/11/83	23/11/83
TIME	21:00	21:00	21:00	06:00			
WEIGHT	9.6	9.6	9.6	9.6			
FUNNEL VISCOSITY	50	52	48	50			
PV/YP	12/17	9/17	12/20	11/21			
N/K	.5/1.29	.43/1.80	.46/1.83	.43/2.25			
GEL: INITIAL/10 MIN	7/38	5/40	7/33	10/39			
pH	10.7	10.4	10.7	10.6			
FILTRATE: API/API HTHP	6/17.4	6.1/16.4	5.6/17.2	5.2/16.8			
CAKE	1	1	1	1			
SALINITY (PPM)	18,000	18,000	21,000	21,000			
SAND	TRACE	TRACE	TRACE	TRACE			
SOLIDS	9	9	9	9			
OIL	-	-	-	-			
NITRATES (PPM)	200	200	180	160			

REMARKS:

CUT CORE NO. 2 | DRILLED 8½" HOLE | T.D. | LOGGING P & A

7520-492 (CL 1158)

WELL NAME:WRASSE No.1 FIELD:GIPPSLAND BASINKick-off Depth: 1000.0

SRVY #	MESRD DEP	DIP ANGLE	AZIMUTH	VERT DEP	DRIFT	NSDRIFT	EWDRIFT
1	1000.00	0.25	315.0	1000.00	0.00	0.00	0.00
2	1030.04	5.50	262.0	1030.00	1.51	0.48	-1.43
3	1049.11	8.00	262.7	1048.94	3.65	0.18	-3.65
4	1078.00	11.75	262.0	1077.40	8.57	-0.48	-8.56
5	1097.00	14.00	261.5	1095.92	12.80	-1.09	-12.75
6	1134.00	19.50	261.0	1131.35	23.45	-2.71	-23.29
7	1168.76	23.25	260.0	1163.72	36.11	-4.80	-35.79
8	1205.69	26.50	261.0	1197.23	51.63	-7.36	-51.11
9	1243.47	29.75	261.0	1230.55	69.44	-10.15	-68.70
10	1291.12	29.25	260.5	1272.02	92.90	-13.92	-91.86
11	1385.12	26.75	262.5	1355.02	137.03	-20.44	-135.50
12	1432.32	25.50	263.0	1397.39	157.81	-23.07	-156.12
13	1492.02	24.75	265.0	1451.45	183.14	-25.72	-181.33
14	1539.11	24.75	266.0	1494.21	202.82	-27.26	-200.98
15	1625.04	24.00	267.0	1572.48	238.20	-29.43	-236.38
16	1719.09	24.00	268.5	1658.40	276.34	-30.93	-274.60
17	1804.53	23.75	269.5	1736.53	310.78	-31.53	-309.18
18	1899.38	24.25	272.5	1823.18	349.12	-30.86	-347.75
19	1994.28	25.25	275.0	1909.36	388.43	-28.26	-387.40
20	2068.69	26.00	277.0	1976.45	420.14	-24.90	-419.40
21	2141.51	26.00	277.5	2041.90	451.55	-20.87	-451.07
22	2235.62	25.75	279.5	2126.58	491.91	-14.80	-491.69
23	2283.61	25.75	280.5	2169.80	512.34	-11.18	-512.22
24	2321.79	25.75	274.5	2204.19	528.74	-9.01	-528.67
25	2350.89	25.75	269.5	2230.40	541.37	-8.57	-541.30
26	2378.95	26.25	263.5	2255.62	553.66	-9.32	-553.58
27	2416.70	26.25	260.5	2289.48	570.23	-11.65	-570.11
28	2464.27	26.00	262.5	2332.19	591.01	-14.74	-590.83
29	2532.36	25.00	266.5	2393.65	620.26	-17.55	-620.01
30	2575.50	23.75	266.5	2432.94	638.05	-18.64	-637.78
31	2729.50	22.00	269.5	2574.83	697.91	-20.73	-697.61
32	2873.50	21.50	269.5	2708.58	751.26	-21.20	-750.96
33	2972.00	21.50	269.5	2800.22	787.36	-21.51	-787.06
34	2984.00	21.50	269.5	2811.39	791.75	-21.55	-791.46

APPENDICES

COMPUTER DATA LISTINGS

Data is fed to the computer while drilling is in progress, using the DRILL program and is stored on a tape at 10, 5, 1, or 0.2m intervals. This data is then available at a later date for use in other programs (for example KICK, SURGE, COST, OPTBIT, and HYDRL).

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

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

the following data lists have been made for this well :

(a). Bit record and bit initialization data

(b). Hydraulic analyses

(c). Data list A

(d). Data list B

(e). Data list C

(f). Data list D

COMPUTER PLOTS

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

GEOPLOT - 1:5000 SCALE - 2m averages

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

(a). BIT RECORD AND BIT INITIALIZATION DATA

BIT SIZE . . . . . Inches

BIT COST . . . . . Australian dollars

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

DEPTHS . . . . . Metres

HOLE MADE. . . . . Metres

DRILLING TIME. . . . . Hours

AVERAGE ROP. . . . . Metres/hour

AVERAGE COST/METRE . . Australian dollars

BIT CONDITION. . . . . Teeth

Bearings

Gauge . . . . Inches

WELL: WRASSE No.1

BIT RECORD

BIT No.	IADC CODE	MAKE & TYPE	SIZE	COST	NOZZLES	DEPTH IN	DEPTH OUT	BIT RUN	TOTAL HOURS	AROP	TRIP TIME	CCOST	TOTAL TURNS	CONDITION T	B	G
1	111	HTC OSC3AJ&26"HO	26.000	0.00	18 18 18	86.0	224.0	138.0	4.23	32.6	3.4	201.92	23433	2	4	0.000
1	111	HTC 3AJ	17.500	4857.00	18 18 18	224.2	817.6	593.4	8.69	68.3	3.7	84.44	75809	1	1	0.000
2	114	HTC X3A	12.250	2381.00	18 18 18	817.6	1001.3	183.7	4.21	43.6	4.2	180.15	32070	2	1	0.000
3	114	HTC X3A	12.250	2381.00	18 18 32	1001.3	1151.0	149.7	8.76	17.1	4.8	346.71	236560	1	1	0.000
3	114	HTC X3A	12.250	0.00	18 18 18	1151.0	1252.5	101.5	12.87	24.7	4.5	252.53	258476	4	3	0.000
4	114	HTC X3A	12.250	2381.00	18 18 18	1252.5	1450.0	197.5	10.24	19.3	5.1	295.71	91867	1	1	0.000
5	116	HTC J1	12.250	2694.00	18 18 18	1450.0	2080.0	630.0	39.74	15.9	6.4	271.74	282318	3	8	0.125
6	114	HTC X3A	12.250	2381.00	16 16 18	2080.0	2302.0	222.0	5.93	37.4	6.9	221.78	55875	1	3	0.000

WELL: WRASSE NO.1

BIT RECORD

BIT No.	IADC CODE	MAKE & TYPE	SIZE	COST	NOZZLES	DEPTH IN	DEPTH OUT	BIT RUN	TOTAL HOURS	AROP	TRIP TIME	CCOST	TOTAL TURNS	CONDITION T	B	G
7	114	HTC X3A	12.250	2381.00	18 28 28	2302.0	2396.0	94.0	10.49	9.0	7.1	708.75	220305	1	1	0.000
7	114	HTC X3A	12.250	0.00	16 16 18	2396.0	2483.0	87.0	18.12	11.4	7.3	512.89	278646	2	2	0.000
8	114	HTC X3A	8.500	1373.00	12 12 12	2483.0	2545.0	62.0	7.02	8.8	7.4	871.53	44770	4	8	0.000
9	114	HTC X3A	8.500	1373.00	12 12 12	2545.0	2588.0	43.0	2.72	15.8	7.5	899.92	18776	2	2	0.000
9	4	CHRIS RC4	8.500	10897.00	14 15 15	2588.0	2597.4	9.4	4.76	2.0	7.5	5922.40	19128	0	0	0.050
10	517	HTC J22	8.500	4139.00	12 12 12	2597.4	2742.2	144.8	23.53	6.2	7.7	816.24	105870	2	3	0.000
10	4	CHRIS RC4	8.500	0.00	14 15 15	2742.2	2751.4	9.2	4.60	2.0	7.8	4922.26	23082	0	0	0.150
11	517	HTC J22	8.500	4139.00	12 12 12	2751.4	2887.0	135.6	16.35	8.3	8.2	691.71	73588	2	4	0.000
12	517	HTC J22	8.500	4139.00	12 12 12	2887.0	2984.0	97.0	23.56	4.1	8.4	1245.95	115233	3	4	0.000

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

STARTING DEPTH.....	86.0		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	3.4		
BIT DIAMETER.....	26.000		
NOZZLES.....	18	18	18
HW DRILL COLLAR LENGTH, OD, ID....	25.10	9.750	3.062
DRILL COLLAR LENGTH, OD, ID.....	37.10	8.000	2.813
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	0.00	0.000	
PUMP VOLUMES 1 AND 2.....	0.120	0.120	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.16		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.00	
FINISHING DEPTH.....	224.0		
CUMULATIVE HOURS, TURNS.....	4.23	23433	
BIT CONDITION OUT.....	T 2	B 4	G 0.000

BIT NUMBER: 1 IADC CODE 111 HTC 3AJ

STARTING DEPTH.....	224.2		
BIT COST, RIG COST/HOUR.....	4857.00	3652.00	
TRIP TIME.....	3.7		
BIT DIAMETER.....	17.500		
NOZZLES.....	18	18	18
HW DRILL COLLAR LENGTH, OD, ID....	21.90	9.750	3.062
DRILL COLLAR LENGTH, OD, ID.....	92.18	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	111.15	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	208.00	19.124	
RISER LENGTH, ID.....	86.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.120	0.120	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.16		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.00	
FINISHING DEPTH.....	817.6		
CUMULATIVE HOURS, TURNS.....	8.69	75809	
BIT CONDITION OUT.....	T 1	B 1	G 0.000

BIT NUMBER: 2 IADC CODE 114 HTC X3A

STARTING DEPTH.....	817.6		
BIT COST, RIG COST/HOUR.....	2381.00	3652.00	
TRIP TIME.....	4.2		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	18
DRILL COLLAR LENGTH, OD, ID.....	103.33	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	194.68	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	802.00	12.614	
RISER LENGTH, ID.....	86.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.120	0.120	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.16		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.30	
FINISHING DEPTH.....	1001.3		
CUMULATIVE HOURS, TURNS.....	4.21	32070	
BIT CONDITION OUT.....	T 2	B 1	G 0.000

BIT NUMBER: 3 IADC CODE 114 HTC X3A

STARTING DEPTH.....	1001.3		
BIT COST, RIG COST/HOUR.....	2381.00	3652.00	
TRIP TIME.....	4.8		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	32
DRILL COLLAR LENGTH, OD, ID.....	111.20	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	194.70	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	802.00	12.614	
RISER LENGTH, ID.....	86.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.120	0.120	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.16		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.40	
FINISHING DEPTH.....	1151.0		
CUMULATIVE HOURS, TURNS.....	8.76	236560	
BIT CONDITION OUT.....	T 1	B 1	G 0.000

BIT NUMBER: 3	IADC CODE 114	HTC X3A		
STARTING DEPTH		1151.0		
BIT COST, RIG COST/HOUR		0.00	3652.00	
TRIP TIME		4.5		
PREVIOUS HOLE MADE		149.7		
PREVIOUS HOURS, TURNS		8.76	236560	
BIT DIAMETER		12.250		
NOZZLES		18	18	18
DRILL COLLAR LENGTH, OD, ID		105.80	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID		194.70	5.000	3.125
DRILL PIPE OD, ID			5.000	4.276
CASING DEPTH, ID		802.00	12.614	
RISER LENGTH, ID		86.00	21.000	
PUMP VOLUMES 1 AND 2		0.120	0.120	
PORE PRESSURE CALC EXPONENT		1.20		
NORMAL PORE PRESSURE		8.4		
OVERBURDEN GRADIENT MODIFIER		0.00		
STRESS RATIO MODIFIER		0.16		
"d" EXPONENT CORRECTION FACTOR		10.0		
CUTTINGS DIAMETER, DENSITY		2.0	2.40	
FINISHING DEPTH		1252.5		
CUMULATIVE HOURS, TURNS		12.87	258476	
BIT CONDITION OUT		T 4	B 3	G 0.000

BIT NUMBER: 4	IADC CODE 114	HTC X3A		
STARTING DEPTH		1252.5		
BIT COST, RIG COST/HOUR		2381.00	3652.00	
TRIP TIME		5.1		
BIT DIAMETER		12.250		
NOZZLES		18	18	18
DRILL COLLAR LENGTH, OD, ID		115.20	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID		194.88	5.000	3.125
DRILL PIPE OD, ID			5.000	4.276
CASING DEPTH, ID		802.00	12.614	
RISER LENGTH, ID		86.00	21.000	
PUMP VOLUMES 1 AND 2		0.120	0.120	
PORE PRESSURE CALC EXPONENT		1.20		
NORMAL PORE PRESSURE		8.4		
OVERBURDEN GRADIENT MODIFIER		0.00		
STRESS RATIO MODIFIER		0.16		
"d" EXPONENT CORRECTION FACTOR		10.0		
CUTTINGS DIAMETER, DENSITY		2.0	2.30	
FINISHING DEPTH		1450.0		
CUMULATIVE HOURS, TURNS		10.24	91867	
BIT CONDITION OUT		T 1	B 1	G 0.000

BIT NUMBER: 5 IADC CODE 116 HTC J1

STARTING DEPTH.....	1450.0		
BIT COST, RIG COST/HOUR.....	2694.00	3652.00	
TRIP TIME.....	6.4		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	18
DRILL COLLAR LENGTH, OD, ID.....	138.12	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	194.68	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	802.00	12.615	
RISER LENGTH, ID.....	86.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.16		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.5	2.30	
FINISHING DEPTH.....	2080.0		
CUMULATIVE HOURS, TURNS.....	39.74	282318	
BIT CONDITION OUT.....	T 3	B 8	G 0.125

BIT NUMBER: 6 IADC CODE 114 HTC X3A

STARTING DEPTH.....	2080.0		
BIT COST, RIG COST/HOUR.....	2381.00	3652.00	
TRIP TIME.....	6.9		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	18
DRILL COLLAR LENGTH, OD, ID.....	143.37	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	194.68	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	802.00	12.615	
RISER LENGTH, ID.....	86.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.16		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.5	2.30	
FINISHING DEPTH.....	2302.0		
CUMULATIVE HOURS, TURNS.....	5.93	55875	
BIT CONDITION OUT.....	T 1	B 3	G 0.000

BIT NUMBER: 7	IADC CODE 114	HTC X3A		
STARTING DEPTH.....		2302.0		
BIT COST, RIG COST/HOUR.....		2381.00	3652.00	
TRIP TIME.....		7.1		
BIT DIAMETER.....		12.250		
NOZZLES.....		18	28	28
DRILL COLLAR LENGTH, OD, ID.....		57.30	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....		194.68	5.000	3.125
DRILL PIPE OD, ID.....			5.000	4.276
CASING DEPTH, ID.....		802.00	12.615	
RISER LENGTH, ID.....		86.00	21.000	
PUMP VOLUMES 1 AND 2.....		0.119	0.119	
PORE PRESSURE CALC EXPONENT.....		1.20		
NORMAL PORE PRESSURE.....		8.4		
OVERBURDEN GRADIENT MODIFIER.....		0.00		
STRESS RATIO MODIFIER.....		0.16		
"d" EXPONENT CORRECTION FACTOR....		10.0		
CUTTINGS DIAMETER, DENSITY.....		2.5	2.30	
FINISHING DEPTH.....		2396.0		
CUMULATIVE HOURS, TURNS.....		10.49	220305	
BIT CONDITION OUT.....		T 1	B 1	G 0.000

BIT NUMBER: 7	IADC CODE 114	HTC X3A		
STARTING DEPTH.....		2396.0		
BIT COST, RIG COST/HOUR.....		0.00	3652.00	
TRIP TIME.....		7.3		
PREVIOUS HOLE MADE.....		94.0		
PREVIOUS HOURS, TURNS.....		10.49	220305	
BIT DIAMETER.....		12.250		
NOZZLES.....		16	16	18
DRILL COLLAR LENGTH, OD, ID.....		140.56	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....		194.68	5.000	3.125
DRILL PIPE OD, ID.....			5.000	4.276
CASING DEPTH, ID.....		802.00	12.615	
RISER LENGTH, ID.....		86.00	21.000	
PUMP VOLUMES 1 AND 2.....		0.119	0.119	
PORE PRESSURE CALC EXPONENT.....		1.20		
NORMAL PORE PRESSURE.....		8.4		
OVERBURDEN GRADIENT MODIFIER.....		0.00		
STRESS RATIO MODIFIER.....		0.16		
"d" EXPONENT CORRECTION FACTOR....		10.0		
CUTTINGS DIAMETER, DENSITY.....		2.5	2.40	
FINISHING DEPTH.....		2483.0		
CUMULATIVE HOURS, TURNS.....		18.12	278646	
BIT CONDITION OUT.....		T 2	B 2	G 0.000

BIT NUMBER: 8	IADC CODE 114	HTC X3A		
STARTING DEPTH.....		2483.0		
BIT COST, RIG COST/HOUR.....		1373.00	3652.00	
TRIP TIME.....		7.4		
BIT DIAMETER.....		8.500		
NOZZLES.....		12	12	12
DRILL COLLAR LENGTH, OD, ID.....		232.65	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....		194.68	5.000	3.125
DRILL PIPE OD, ID.....			5.000	4.276
CASING DEPTH, ID.....		2473.00	8.681	
RISER LENGTH, ID.....		86.00	21.000	
PUMP VOLUMES 1 AND 2.....		0.119	0.119	
PORE PRESSURE CALC EXPONENT.....		1.20		
NORMAL PORE PRESSURE.....		8.4		
OVERBURDEN GRADIENT MODIFIER.....		0.00		
STRESS RATIO MODIFIER.....		0.16		
"d" EXPONENT CORRECTION FACTOR....		10.0		
CUTTINGS DIAMETER, DENSITY.....		2.5	2.40	
FINISHING DEPTH.....		2545.0		
CUMULATIVE HOURS, TURNS.....		7.02	44770	
BIT CONDITION OUT.....		T 4	B 8	G 0.000

BIT NUMBER: 9	IADC CODE 114	HTC X3A		
STARTING DEPTH.....		2545.0		
BIT COST, RIG COST/HOUR.....		1373.00	3652.00	
TRIP TIME.....		7.5		
BIT DIAMETER.....		8.500		
NOZZLES.....		12	12	12
DRILL COLLAR LENGTH, OD, ID.....		232.65	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....		194.68	5.000	3.125
DRILL PIPE OD, ID.....			5.000	4.276
CASING DEPTH, ID.....		2473.00	8.681	
RISER LENGTH, ID.....		86.00	21.000	
PUMP VOLUMES 1 AND 2.....		0.119	0.119	
PORE PRESSURE CALC EXPONENT.....		1.20		
NORMAL PORE PRESSURE.....		8.4		
OVERBURDEN GRADIENT MODIFIER.....		0.00		
STRESS RATIO MODIFIER.....		0.16		
"d" EXPONENT CORRECTION FACTOR....		10.0		
CUTTINGS DIAMETER, DENSITY.....		2.5	2.40	
FINISHING DEPTH.....		2588.0		
CUMULATIVE HOURS, TURNS.....		2.72	18776	
BIT CONDITION OUT.....		T 2	B 2	G 0.000

BIT NUMBER: 9 IADC CODE 4 CHRIS RC4

STARTING DEPTH.....	2588.0		
BIT COST, RIG COST/HOUR.....	10897.00	3652.00	
TRIP TIME.....	7.5		
BIT DIAMETER.....	8.500		
NOZZLES.....	14	15	15
DRILL COLLAR LENGTH, OD, ID.....	223.96	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	194.68	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2473.00	8.681	
RISER LENGTH, ID.....	86.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.16		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.5	2.40	
FINISHING DEPTH.....	2597.4		
CUMULATIVE HOURS, TURNS.....	4.76	19128	
BIT CONDITION OUT.....	T 0	B 0	G 0.050

BIT NUMBER: 10 IADC CODE 517 HTC J22

STARTING DEPTH.....	2597.4		
BIT COST, RIG COST/HOUR.....	4139.00	3652.00	
TRIP TIME.....	7.7		
BIT DIAMETER.....	8.500		
NOZZLES.....	12	12	12
DRILL COLLAR LENGTH, OD, ID.....	232.65	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	194.68	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2473.00	8.681	
RISER LENGTH, ID.....	86.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.16		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.5	2.40	
FINISHING DEPTH.....	2742.2		
CUMULATIVE HOURS, TURNS.....	23.53	105870	
BIT CONDITION OUT.....	T 2	B 3	G 0.000

BIT NUMBER: 10 IADC CODE 4 CHRIS RC4

STARTING DEPTH.....	2742.2		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	7.8		
BIT DIAMETER.....	8.500		
NOZZLES.....	14	15	15
DRILL COLLAR LENGTH, OD, ID.....	223.96	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	194.68	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2473.00	8.681	
RISER LENGTH, ID.....	86.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.16		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.5	2.40	
FINISHING DEPTH.....	2751.4		
CUMULATIVE HOURS, TURNS.....	4.60	23082	
BIT CONDITION OUT.....	T 0	B 0	G 0.150

BIT NUMBER: 11 IADC CODE 517 HTC J22

STARTING DEPTH.....	2751.4		
BIT COST, RIG COST/HOUR.....	4139.00	3652.00	
TRIP TIME.....	8.2		
BIT DIAMETER.....	8.500		
NOZZLES.....	12	12	12
DRILL COLLAR LENGTH, OD, ID.....	232.60	6.500	2.813
HW DRILL PIPE LENGTH, OD, ID.....	194.70	5.000	3.125
DRILL PIPE OD, ID.....		5.000	3.125
CASING DEPTH, ID.....	2473.00	8.681	
RISER LENGTH, ID.....	86.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.16		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.4	2.40	
FINISHING DEPTH.....	2887.0		
CUMULATIVE HOURS, TURNS.....	16.35	73588	
BIT CONDITION OUT.....	T 2	B 4	G 0.000

BIT NUMBER: 12 IADC CODE 517 HTC J22

STARTING DEPTH.....	2887.0		
BIT COST, RIG COST/HOUR.....	4139.00	3652.00	
TRIP TIME.....	8.4		
BIT DIAMETER.....	8.500		
NOZZLES.....	12	12	12
DRILL COLLAR LENGTH, OD, ID.....	224.19	6.500	2.813
HW DRILL PIPE LENGTH, OD, ID.....	194.68	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2473.00	8.681	
RISER LENGTH, ID.....	86.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.16		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.5	2.50	
FINISHING DEPTH.....	2984.0		
CUMULATIVE HOURS, TURNS.....	23.56	115233	
BIT CONDITION OUT.....	T 3	B 4	G 0.000

(b). HYDRAULIC ANALYSIS

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

DEPTH.	Metres
FLOW RATE.	Rate of mud flow into the well, in gallons per minute.
ANNULAR VOLUMES. . . .	Barrels, Barrels/metre
ANNULAR VELOCITIES . .	Metres/minute
CRITICAL VELOCITIES. .	The annular velocity above which the flow becomes turbulent
SLIP VELOCITY.	The rate of slip of cuttings in the annulus under laminar flow
ASCENT VELOCITY. . . .	The rate of ascent of cuttings in the annulus under laminar flow
PRESSURE UNITS	Pounds per square inch
IMPACT FORCE	The impact force at the bit, in foot-pounds per second squared.
H.H.P.	Hydraulic horsepower at the bit
JET VELOCITY	The velocity of mud through the bit nozzles, in metres per second.
DENSITY UNITS.	Pounds per gallon

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 100.0 AND TVD 100.0

SPM 1 105 SPM 2 107 FLOW RATE 1066

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	1.851	46	14	0	TURBULENT			0.0
DC/OH	1.950	72	13	0	TURBULENT			0.0
DP/OH	2.074	78	12	0	TURBULENT			0.0
TOTAL VOLUME		197					TOTAL PRESSURE DROP	0.0

LAG: 7.8 MINUTES 813 STROKES #1 AND 830 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1620.3	HHP	1008	IMPACT FORCE	2179
% SURFACE PRESSURE	111.3	HHP/sqin	1.90	JET VELOCITY	140

PRESSURE BREAKDOWN:

SURFACE	64.6		
STRING	163.7		
BIT	1620.3		
ANNULUS	0.0		
TOTAL	1848.7	PUMP PRESSURE 1455.5	% DIFFERENCE 27.0

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.60	HYDROSTATIC PRESSURE	146.7
CIRCULATING:	ECD	8.60	CIRCULATING PRESSURE	146.7
PULLING OUT:	TRIP MARGIN	0.00	ESTIMATED SWAB	0.0
	EFFECTIVE MUD WEIGHT	8.60	BOTTOM HOLE PRESSURE	146.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 200.0 AND TVD 200.0

SPM 1 105 SPM 2 110 FLOW RATE 1084

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	1.851	46	14	0	TURBULENT			0.0
DC/OH	1.950	72	13	0	TURBULENT			0.0
DP/OH	2.074	286	12	0	TURBULENT			0.0
TOTAL VOLUME		405					TOTAL PRESSURE DROP	0.0

LAG: 15.7 MINUTES 1649 STROKES #1 AND 1722 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1675.1	HHP	1060	IMPACT FORCE	2253
% SURFACE PRESSURE	110.8	HHP/sqin	2.00	JET VELOCITY	142

PRESSURE BREAKDOWN:

SURFACE	66.6		
STRING	207.1		
BIT	1675.1		
ANNULUS	0.0		
TOTAL	1948.9	PUMP PRESSURE 1511.3	% DIFFERENCE 29.0

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.60	HYDROSTATIC PRESSURE	293.4
CIRCULATING:	ECD	8.60	CIRCULATING PRESSURE	293.5
PULLING OUT:	TRIP MARGIN	0.00	ESTIMATED SWAB	0.0
	EFFECTIVE MUD WEIGHT	8.60	BOTTOM HOLE PRESSURE	293.4

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 300.0 AND TVD 300.0

SPM 1 99 SPM 2 104 FLOW RATE 1023

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	15	36	100	LAMINAR	0	36	0.2
DC/OH	0.772	54	32	100	LAMINAR	0	31	0.6
DC/CSG	0.961	21	25	100	LAMINAR	0	25	0.1
HWDP/CSG	1.085	108	22	99	LAMINAR	0	22	0.5
HWDP/RIS	1.325	15	18	99	LAMINAR	0	18	0.0
DP/RIS	1.325	99	18	99	LAMINAR	0	18	0.3
TOTAL VOLUME		312				TOTAL PRESSURE DROP		1.8

LAG: 12.8 MINUTES 1275 STROKES #1 AND 1329 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1507.7	HHP	900	IMPACT FORCE	2027
% SURFACE PRESSURE	64.5	HHP/sqin	3.74	JET VELOCITY	134

PRESSURE BREAKDOWN:

SURFACE	69.5				
STRING	549.9				
BIT	1507.7				
ANNULUS	1.8				
TOTAL	2128.9	PUMP PRESSURE	2338.8	% DIFFERENCE	9.0

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.70	HYDROSTATIC PRESSURE	445.3
CIRCULATING:	ECD	8.74	CIRCULATING PRESSURE	447.1
PULLING OUT:	TRIP MARGIN	0.07	ESTIMATED SWAB	3.6
	EFFECTIVE MUD WEIGHT	8.63	BOTTOM HOLE PRESSURE	441.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 400.0 AND TVD 400.0

SPM 1 101 SPM 2 104 FLOW RATE 1034

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	15	37	117	LAMINAR	0	36	0.3
DC/OH	0.772	71	32	116	LAMINAR	0	32	1.1
HWDP/OH	0.896	70	27	116	LAMINAR	0	27	0.6
HWDP/CSG	1.085	36	23	115	LAMINAR	0	23	0.2
DP/CSG	1.085	96	23	115	LAMINAR	0	23	0.6
DP/RIS	1.325	114	19	115	LAMINAR	0	19	0.5
TOTAL VOLUME		402			TOTAL PRESSURE DROP			3.3

LAG: 16.3 MINUTES 1658 STROKES #1 AND 1693 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1557.7	HHP	939	IMPACT FORCE	2095
% SURFACE PRESSURE	61.2	HHP/sqin	3.91	JET VELOCITY	135

PRESSURE BREAKDOWN:

SURFACE	77.6				
STRING	658.1				
BIT	1557.7				
ANNULUS	3.3				
TOTAL	2296.7	PUMP PRESSURE	2546.2	% DIFFERENCE	9.8

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.80	HYDROSTATIC PRESSURE	600.5
CIRCULATING:	ECD	8.85	CIRCULATING PRESSURE	603.8
PULLING OUT:	TRIP MARGIN	0.10	ESTIMATED SWAB	6.6
	EFFECTIVE MUD WEIGHT	8.70	BOTTOM HOLE PRESSURE	593.9

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 500.0 AND TVD 500.0

SPM 1 102 SPM 2 104 FLOW RATE 1037

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	15	37	140	LAMINAR	0	37	0.5
DC/OH	0.772	71	32	141	LAMINAR	0	32	1.5
HWDP/OH	0.896	100	28	142	LAMINAR	0	28	1.3
DP/OH	0.896	60	28	142	LAMINAR	0	28	0.8
DP/CSG	1.085	132	23	143	LAMINAR	0	23	1.2
DP/RIS	1.325	114	19	144	LAMINAR	0	19	0.7
TOTAL VOLUME		492				TOTAL PRESSURE DROP		6.1

LAG: 19.9 MINUTES 2031 STROKES #1 AND 2066 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1584.1	HHP	958	IMPACT FORCE	2130
% SURFACE PRESSURE	61.9	HHP/sqin	3.98	JET VELOCITY	136

PRESSURE BREAKDOWN:

SURFACE	72.5				
STRING	657.3				
BIT	1584.1				
ANNULUS	6.1				
TOTAL	2320.0	PUMP PRESSURE	2557.5	% DIFFERENCE	9.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.89	HYDROSTATIC PRESSURE	758.3
CIRCULATING:	ECD	8.96	CIRCULATING PRESSURE	764.4
PULLING OUT:	TRIP MARGIN	0.14	ESTIMATED SWAB	12.2
	EFFECTIVE MUD WEIGHT	8.75	BOTTOM HOLE PRESSURE	746.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 600.0 AND TVD 600.0

SPM 1 102 SPM 2 104 FLOW RATE 1039

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	15	37	140	LAMINAR	0	37	0.5
DC/OH	0.772	71	32	141	LAMINAR	0	32	1.5
HWDP/OH	0.896	100	28	142	LAMINAR	0	28	1.3
DP/OH	0.896	149	28	142	LAMINAR	0	28	2.0
DP/CSG	1.085	132	23	143	LAMINAR	0	23	1.2
DP/RIS	1.325	114	19	144	LAMINAR	0	19	0.7
TOTAL VOLUME		581			TOTAL PRESSURE DROP			7.3

LAG: 23.5 MINUTES 2398 STROKES #1 AND 2446 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1589.2	HHP	963	IMPACT FORCE	2137
% SURFACE PRESSURE	61.9	HHP/sqin	4.00	JET VELOCITY	136

PRESSURE BREAKDOWN:

SURFACE	72.7				
STRING	701.1				
BIT	1589.2				
ANNULUS	7.3				
TOTAL	2370.3	PUMP PRESSURE	2569.0	% DIFFERENCE	7.7

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.89	HYDROSTATIC PRESSURE	910.0
CIRCULATING:	ECD	8.96	CIRCULATING PRESSURE	917.3
PULLING OUT:	TRIP MARGIN	0.14	ESTIMATED SWAB	14.6
	EFFECTIVE MUD WEIGHT	8.75	BOTTOM HOLE PRESSURE	895.4

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 700.0 AND TVD 700.0

SPM 1 102 SPM 2 103 FLOW RATE 1031

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	15	36	139	LAMINAR	0	36	0.5
DC/OH	0.772	71	32	140	LAMINAR	0	32	1.5
HWDP/OH	0.896	100	27	142	LAMINAR	0	27	1.3
DP/OH	0.896	239	27	142	LAMINAR	0	27	3.2
DP/CSG	1.085	132	23	142	LAMINAR	0	23	1.2
DP/RIS	1.325	114	19	143	LAMINAR	0	19	0.7
TOTAL VOLUME		671			TOTAL PRESSURE DROP			8.5

LAG: 27.3 MINUTES 2787 STROKES #1 AND 2804 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1586.3	HHP	955	IMPACT FORCE	2133
% SURFACE PRESSURE	59.6	HHP/sqin	3.97	JET VELOCITY	135

PRESSURE BREAKDOWN:

SURFACE	72.5
STRING	740.9
BIT	1586.3
ANNULUS	8.5
TOTAL	2408.2

PUMP PRESSURE 2662.4 % DIFFERENCE 9.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.00	HYDROSTATIC PRESSURE	1074.8
CIRCULATING:	ECD	9.07	CIRCULATING PRESSURE	1083.3
PULLING OUT:	TRIP MARGIN	0.14	ESTIMATED SWAB	17.0
	EFFECTIVE MUD WEIGHT	8.86	BOTTOM HOLE PRESSURE	1057.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 800.0 AND TVD 800.0

SPM 1 101 SPM 2 104 FLOW RATE 1033

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	15	37	139	LAMINAR	0	36	0.5
DC/OH	0.772	71	32	140	LAMINAR	0	32	1.5
HWDP/OH	0.896	100	27	142	LAMINAR	0	27	1.3
DP/OH	0.896	329	27	142	LAMINAR	0	27	4.4
DP/CSG	1.085	132	23	142	LAMINAR	0	23	1.2
DP/RIS	1.325	114	19	143	LAMINAR	0	19	0.7
TOTAL VOLUME		760			TOTAL PRESSURE DROP			9.7

LAG: 30.9 MINUTES 3134 STROKES #1 AND 3204 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1592.2	HHP	960	IMPACT FORCE	2141
% SURFACE PRESSURE	58.2	HHP/sqin	3.99	JET VELOCITY	135

PRESSURE BREAKDOWN:

SURFACE	72.8
STRING	785.3
BIT	1592.2
ANNULUS	9.7
TOTAL	2459.9

PUMP PRESSURE 2737.0 % DIFFERENCE 10.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.00	HYDROSTATIC PRESSURE	1228.3
CIRCULATING:	ECD	9.07	CIRCULATING PRESSURE	1238.0
PULLING OUT:	TRIP MARGIN	0.14	ESTIMATED SWAB	19.4
	EFFECTIVE MUD WEIGHT	8.86	BOTTOM HOLE PRESSURE	1209.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 900.0 AND TVD 900.0

SPM 1 0 SPM 2 114 FLOW RATE 574

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL.	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	27	50	90	LAMINAR	1	49	2.1
DC/CSG	0.303	2	45	89	LAMINAR	1	45	0.1
HWDP/CSG	0.427	83	32	85	LAMINAR	0	32	1.7
DP/CSG	0.427	220	32	85	LAMINAR	0	32	4.4
DP/RIS	1.325	114	10	80	LAMINAR	0	10	0.2
TOTAL VOLUME		446					TOTAL PRESSURE DROP	8.4

LAG: 32.7 MINUTES 0 STROKES #1 AND 3717 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	474.1	HHP	159	IMPACT FORCE	638
% SURFACE PRESSURE	45.2	HHP/sqin	1.35	JET VELOCITY	75

PRESSURE BREAKDOWN:

SURFACE	26.6		
STRING	345.3		
BIT	474.1		
ANNULUS	8.4		
TOTAL	854.4	PUMP PRESSURE 1050.0	% DIFFERENCE 18.6

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.69	HYDROSTATIC PRESSURE	1334.3
CIRCULATING:	ECD	8.74	CIRCULATING PRESSURE	1342.7
PULLING OUT:	TRIP MARGIN	0.11	ESTIMATED SWAB	16.8
	EFFECTIVE MUD WEIGHT	8.58	BOTTOM HOLE PRESSURE	1317.5

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1000.0 AND TVD 1000.0

SPM 1 99 SPM 2 97 FLOW RATE 988

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSUR DRO
DC/OH	0.274	28	86	89	LAMINAR	1	85	2.6
HWDP/OH	0.398	38	59	86	LAMINAR	0	59	1.0
HWDP/CSG	0.427	43	55	85	LAMINAR	0	55	1.0
DP/CSG	0.427	263	55	85	LAMINAR	0	55	6.2
DP/RIS	1.325	114	18	80	LAMINAR	0	18	0.2
TOTAL VOLUME		486				TOTAL PRESSURE DROP		11.1

LAG: 20.7 MINUTES 2045 STROKES #1 AND 2004 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1406.8	HHP	811	IMPACT FORCE	1892
% SURFACE PRESSURE	46.9	HHP/sqin	6.88	JET VELOCITY	129

PRESSURE BREAKDOWN:

SURFACE	70.8
STRING	959.6
BIT	1406.8
ANNULUS	11.1
TOTAL	2448.3

PUMP PRESSURE 3000.0 % DIFFERENCE 18.4

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.70	HYDROSTATIC PRESSURE	1484.2
CIRCULATING:	ECD	8.77	CIRCULATING PRESSURE	1495.3
PULLING OUT:	TRIP MARGIN	0.13	ESTIMATED SWAB	22.2
	EFFECTIVE MUD WEIGHT	8.57	BOTTOM HOLE PRESSURE	1462.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1100.0 AND TVD 1098.8

SPM 1 51 SPM 2 56 FLOW RATE 539

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	30	47	112	LAMINAR	0	46	3.5
HWDP/OH	0.398	74	32	110	LAMINAR	0	32	2.8
HWDP/CSG	0.427	3	30	110	LAMINAR	0	30	0.1
DP/CSG	0.427	303	30	110	LAMINAR	0	30	9.7
DP/RIS	1.325	114	10	107	LAMINAR	0	10	0.4

TOTAL VOLUME 525 TOTAL PRESSURE DROP 16.4

LAG: 40.9 MINUTES 2084 STROKES #1 AND 2289 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	146.6	HHP	46	IMPACT FORCE	339
% SURFACE PRESSURE	11.9	HHP/sqin	0.39	JET VELOCITY	41

PRESSURE BREAKDOWN:

SURFACE	24.5				
STRING	353.0				
BIT	146.6				
ANNULUS	16.4				
TOTAL	540.4	PUMP PRESSURE	1236.0	% DIFFERENCE	56.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.00	HYDROSTATIC PRESSURE	1687.1
CIRCULATING:	ECD	9.09	CIRCULATING PRESSURE	1703.5
PULLING OUT:	TRIP MARGIN	0.17	ESTIMATED SWAB	32.8
	EFFECTIVE MUD WEIGHT	8.83	BOTTOM HOLE PRESSURE	1654.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1200.0 AND TVD 1194.7

SPM 1 94 SPM 2 95 FLOW RATE 952

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	29	83	112	LAMINAR	1	82	3.8
HWDP/OH	0.398	78	57	110	LAMINAR	0	57	3.3
DP/OH	0.398	39	57	110	LAMINAR	0	57	1.7
DP/CSG	0.427	306	53	110	LAMINAR	0	53	11.3
DP/RIS	1.325	114	17	107	LAMINAR	0	17	0.4
TOTAL VOLUME		565			TOTAL PRESSURE DROP			20.5

LAG: 25.0 MINUTES 2352 STROKES #1 AND 2359 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1350.4	HHP	750	IMPACT FORCE	1816
% SURFACE PRESSURE	43.6	HHP/sqin	6.36	JET VELOCITY	124

PRESSURE BREAKDOWN:

SURFACE	68.0
STRING	1006.5
BIT	1350.4
ANNULUS	20.5
TOTAL	2445.4

PUMP PRESSURE 3098.7 % DIFFERENCE 21.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.00	HYDROSTATIC PRESSURE	1834.4
CIRCULATING:	ECD	9.10	CIRCULATING PRESSURE	1854.8
PULLING OUT:	TRIP MARGIN	0.20	ESTIMATED SWAB	40.9
	EFFECTIVE MUD WEIGHT	8.80	BOTTOM HOLE PRESSURE	1793.4

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1300.0 AND TVD 1283.0

SPM 1 88 SPM 2 94 FLOW RATE 916

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	32	80	127	LAMINAR	1	79	5.4
HWDP/OH	0.398	78	55	125	LAMINAR	0	55	4.3
DP/OH	0.398	75	55	125	LAMINAR	0	55	4.1
DP/CSG	0.427	306	51	124	LAMINAR	0	51	14.5
DP/RIS	1.325	114	16	121	LAMINAR	0	16	0.5
TOTAL VOLUME		604				TOTAL PRESSURE DROP		28.8

LAG: 27.7 MINUTES 2436 STROKES #1 AND 2597 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1278.0	HHP	683	IMPACT FORCE	1719
% SURFACE PRESSURE	41.9	HHP/sqin	5.80	JET VELOCITY	120

PRESSURE BREAKDOWN:

SURFACE	68.4
STRING	1076.1
BIT	1278.0
ANNULUS	28.8
TOTAL	2451.4

PUMP PRESSURE 3049.7 % DIFFERENCE 19.6

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.19	HYDROSTATIC PRESSURE	2011.6
CIRCULATING:	ECD	9.32	CIRCULATING PRESSURE	2040.4
PULLING OUT:	TRIP MARGIN	0.26	ESTIMATED SWAB	57.7
	EFFECTIVE MUD WEIGHT	8.93	BOTTOM HOLE PRESSURE	1953.9

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1400.0 AND TVD 1369.6

SPM 1 88 SPM 2 94 FLOW RATE 918

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	80	127	LAMINAR	1	79	5.4
HWDP/OH	0.398	78	55	124	LAMINAR	0	55	4.3
DP/OH	0.398	115	55	124	LAMINAR	0	55	6.3
DP/CSG	0.427	306	51	124	LAMINAR	0	51	14.5
DP/RIS	1.325	114	16	121	LAMINAR	0	16	0.5
TOTAL VOLUME		644				TOTAL PRESSURE DROP		31.1

LAG: 29.4 MINUTES 2595 STROKES #1 AND 2770 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1285.4	HHP	689	IMPACT FORCE	1728
% SURFACE PRESSURE	42.2	HHP/sqin	5.84	JET VELOCITY	120

PRESSURE BREAKDOWN:

SURFACE	68.8
STRING	1121.2
BIT	1285.4
ANNULUS	31.1
TOTAL	2506.4

PUMP PRESSURE 3043.3 % DIFFERENCE 17.6

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.20	HYDROSTATIC PRESSURE	2149.7
CIRCULATING:	ECD	9.33	CIRCULATING PRESSURE	2180.8
PULLING OUT:	TRIP MARGIN	0.27	ESTIMATED SWAB	62.1
	EFFECTIVE MUD WEIGHT	8.93	BOTTOM HOLE PRESSURE	2087.6

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1500.0 AND TVD 1459.7

SPM 1 87 SPM 2 89 FLOW RATE 879

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	38	76	90	LAMINAR	1	75	3.7
HWDP/OH	0.398	78	53	84	LAMINAR	1	52	2.2
DP/OH	0.398	145	53	84	LAMINAR	1	52	4.1
DP/CSG	0.427	306	49	84	LAMINAR	0	48	7.4
DP/RIS	1.325	114	16	77	LAMINAR	0	16	0.2
TOTAL VOLUME		681					TOTAL PRESSURE DROP	17.6

LAG: 32.6 MINUTES 2822 STROKES #1 AND 2900 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1176.6	HHP	603	IMPACT FORCE	1582
% SURFACE PRESSURE	39.4	HHP/sqin	5.12	JET VELOCITY	115

PRESSURE BREAKDOWN:

SURFACE	63.5		
STRING	1126.0		
BIT	1176.6		
ANNULUS	17.6		
TOTAL	2383.7	PUMP PRESSURE 2984.6	% DIFFERENCE 20.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.20	HYDROSTATIC PRESSURE	2291.1
CIRCULATING:	ECD	9.27	CIRCULATING PRESSURE	2308.7
PULLING OUT:	TRIP MARGIN	0.14	ESTIMATED SWAB	35.2
	EFFECTIVE MUD WEIGHT	9.06	BOTTOM HOLE PRESSURE	2255.9

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1600.0 AND TVD 1551.1

SPM 1 85 SPM 2 87 FLOW RATE 860

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	38	75	90	LAMINAR	1	73	3.7
HWDP/OH	0.398	78	51	85	LAMINAR	1	51	2.2
DP/OH	0.398	185	51	85	LAMINAR	1	51	5.2
DP/CSG	0.427	306	48	84	LAMINAR	0	47	7.3
DP/RIS	1.325	114	15	77	LAMINAR	0	15	0.2
TOTAL VOLUME		721				TOTAL PRESSURE DROP		18.6

LAG: 35.2 MINUTES 3005 STROKES #1 AND 3052 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1120.6	HHP	562	IMPACT FORCE	1507
% SURFACE PRESSURE	38.2	HHP/sqin	4.77	JET VELOCITY	113

PRESSURE BREAKDOWN:

SURFACE	60.8		
STRING	1113.5		
BIT	1120.6		
ANNULUS	18.6		
TOTAL	2313.5	PUMP PRESSURE 2933.5	% DIFFERENCE 21.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.14	HYDROSTATIC PRESSURE	2418.6
CIRCULATING:	ECD	9.21	CIRCULATING PRESSURE	2437.2
PULLING OUT:	TRIP MARGIN	0.14	ESTIMATED SWAB	37.1
	EFFECTIVE MUD WEIGHT	9.00	BOTTOM HOLE PRESSURE	2381.5

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1700.0 AND TVD 1642.4

SPM 1 87 SPM 2 88 FLOW RATE 873

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	38	76	91	LAMINAR	1	74	3.7
HWDP/OH	0.398	78	52	85	LAMINAR	1	52	2.2
DP/OH	0.398	225	52	85	LAMINAR	1	52	6.4
DP/CSG	0.427	306	49	85	LAMINAR	0	48	7.3
DP/RIS	1.325	114	16	78	LAMINAR	0	16	0.2
TOTAL VOLUME		761			TOTAL PRESSURE DROP			19.8

LAG: 36.6 MINUTES 3183 STROKES #1 AND 3208 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1135.4	HHP	578	IMPACT FORCE	1527
% SURFACE PRESSURE	36.3	HHP/sqin	4.90	JET VELOCITY	114

PRESSURE BREAKDOWN:

SURFACE	61.7		
STRING	1164.0		
BIT	1135.4		
ANNULUS	19.8		
TOTAL	2380.9	PUMP PRESSURE 3131.1	% DIFFERENCE 24.0

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.00	HYDROSTATIC PRESSURE	2521.8
CIRCULATING:	ECD	9.07	CIRCULATING PRESSURE	2541.6
PULLING OUT:	TRIP MARGIN	0.14	ESTIMATED SWAB	39.6
	EFFECTIVE MUD WEIGHT	8.86	BOTTOM HOLE PRESSURE	2482.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1800.0 AND TVD 1733.8

SPM 1 84 SPM 2 88 FLOW RATE 862

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	38	75	119	LAMINAR	1	74	5.6
HWDP/OH	0.398	78	52	115	LAMINAR	0	51	3.6
DP/OH	0.398	265	52	115	LAMINAR	0	51	12.3
DP/CSG	0.427	306	48	115	LAMINAR	0	48	12.2
DP/RIS	1.325	114	15	111	LAMINAR	0	15	0.4
TOTAL VOLUME		800			TOTAL PRESSURE DROP			34.2

LAG: 39.0 MINUTES 3296 STROKES #1 AND 3430 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1107.8	HHP	557	IMPACT FORCE	1490
% SURFACE PRESSURE	36.1	HHP/sqin	4.73	JET VELOCITY	113

PRESSURE BREAKDOWN:

SURFACE	60.3		
STRING	1173.2		
BIT	1107.8		
ANNULUS	34.2		
TOTAL	2375.5	PUMP PRESSURE 3064.4	% DIFFERENCE 22.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.00	HYDROSTATIC PRESSURE	2662.1
CIRCULATING:	ECD	9.12	CIRCULATING PRESSURE	2696.2
PULLING OUT:	TRIP MARGIN	0.23	ESTIMATED SWAB	68.4
	EFFECTIVE MUD WEIGHT	8.77	BOTTOM HOLE PRESSURE	2593.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1900.0 AND TVD 1824.4

SPM 1 87 SPM 2 85 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	38	75	119	LAMINAR	1	74	5.6
HWDP/OH	0.398	78	52	115	LAMINAR	0	51	3.6
DP/OH	0.398	305	52	115	LAMINAR	0	51	14.2
DP/CSG	0.427	306	48	115	LAMINAR	0	48	12.2
DP/RIS	1.325	114	16	111	LAMINAR	0	15	0.4
TOTAL VOLUME		840			TOTAL PRESSURE DROP			36.1

LAG: 40.8 MINUTES 3571 STROKES #1 AND 3489 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1113.8	HHP	562	IMPACT FORCE	1498
% SURFACE PRESSURE	35.3	HHP/sqin	4.76	JET VELOCITY	113

PRESSURE BREAKDOWN:

SURFACE	60.6
STRING	1213.9
BIT	1113.8
ANNULUS	36.1
TOTAL	2424.4

PUMP PRESSURE 3158.0 % DIFFERENCE 23.2

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.00	HYDROSTATIC PRESSURE	2801.2
CIRCULATING:	ECD	9.12	CIRCULATING PRESSURE	2837.3
PULLING OUT:	TRIP MARGIN	0.23	ESTIMATED SWAB	72.1
	EFFECTIVE MUD WEIGHT	8.77	BOTTOM HOLE PRESSURE	2729.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2000.0 AND TVD 1915.3

SPM 1 3 SPM 2 111 FLOW RATE 566

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	38	49	132	LAMINAR	0	49	6.1
HWDP/OH	0.398	78	34	130	LAMINAR	0	34	4.1
DP/OH	0.398	345	34	130	LAMINAR	0	34	18.1
DP/CSG	0.427	306	32	130	LAMINAR	0	31	13.9
DP/RIS	1.325	114	10	127	LAMINAR	0	10	0.5
TOTAL VOLUME		880					TOTAL PRESSURE DROP	42.7

LAG: 65.3 MINUTES 181 STROKES #1 AND 7215 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	483.5	HHP	160	IMPACT FORCE	650
% SURFACE PRESSURE	34.9	HHP/sqin	1.36	JET VELOCITY	74

PRESSURE BREAKDOWN:

SURFACE	28.6		
STRING	588.7		
BIT	483.5		
ANNULUS	42.7		
TOTAL	1143.5	PUMP PRESSURE 1386.9	% DIFFERENCE 17.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.10	HYDROSTATIC PRESSURE	2973.5
CIRCULATING:	ECD	9.23	CIRCULATING PRESSURE	3016.1
PULLING OUT:	TRIP MARGIN	0.26	ESTIMATED SWAB	85.4
	EFFECTIVE MUD WEIGHT	8.84	BOTTOM HOLE PRESSURE	2888.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2100.0 AND TVD 2005.8

SPM 1 78 SPM 2 78 FLOW RATE 779

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	39	68	131	LAMINAR	1	67	6.9
HWDP/OH	0.398	78	47	129	LAMINAR	0	46	4.4
DP/OH	0.398	382	47	129	LAMINAR	0	46	21.7
DP/CSG	0.427	306	43	129	LAMINAR	0	43	15.0
DP/RIS	1.325	114	14	127	LAMINAR	0	14	0.5
TOTAL VOLUME		919				TOTAL PRESSURE DROP		48.5

LAG: 49.6 MINUTES 3854 STROKES #1 AND 3871 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1249.0	HHP	567	IMPACT FORCE	1445
% SURFACE PRESSURE	39.6	HHP/sqin	4.81	JET VELOCITY	118

PRESSURE BREAKDOWN:

SURFACE	51.1				
STRING	1092.6				
BIT	1249.0				
ANNULUS	48.5				
TOTAL	2441.3	PUMP PRESSURE	3151.4	% DIFFERENCE	22.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.20	HYDROSTATIC PRESSURE	3148.2
CIRCULATING:	ECD	9.34	CIRCULATING PRESSURE	3196.6
PULLING OUT:	TRIP MARGIN	0.28	ESTIMATED SWAB	97.0
	EFFECTIVE MUD WEIGHT	8.92	BOTTOM HOLE PRESSURE	3051.2

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2200.0 AND TVD 2096.2

SPM 1 74 SPM 2 77 FLOW RATE 756

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	39	66	130	LAMINAR	1	65	6.8
HWDP/OH	0.398	78	45	129	LAMINAR	0	45	4.4
DP/OH	0.398	422	45	129	LAMINAR	0	45	23.8
DP/CSG	0.427	306	42	128	LAMINAR	0	42	14.9
DP/RIS	1.325	114	14	126	LAMINAR	0	14	0.5
TOTAL VOLUME		959			TOTAL PRESSURE DROP			50.4

LAG: 53.3 MINUTES 3964 STROKES #1 AND 4095 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1190.4	HHP	525	IMPACT FORCE	1377
% SURFACE PRESSURE	38.6	HHP/sqin	4.45	JET VELOCITY	115

PRESSURE BREAKDOWN:

SURFACE	48.9
STRING	1073.4
BIT	1190.4
ANNULUS	50.4
TOTAL	2363.0

PUMP PRESSURE 3086.4 % DIFFERENCE 23.4

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.30	HYDROSTATIC PRESSURE	3325.8
CIRCULATING:	ECD	9.44	CIRCULATING PRESSURE	3376.2
PULLING OUT:	TRIP MARGIN	0.28	ESTIMATED SWAB	100.8
	EFFECTIVE MUD WEIGHT	9.02	BOTTOM HOLE PRESSURE	3225.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2300.0 AND TVD 2186.3

SPM 1 74 SPM 2 75 FLOW RATE 746

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	39	65	130	LAMINAR	1	64	6.8
HWDP/OH	0.398	78	45	128	LAMINAR	0	44	4.4
DP/OH	0.398	462	45	128	LAMINAR	0	44	25.9
DP/CSG	0.427	306	42	128	LAMINAR	0	41	14.8
DP/RIS	1.325	114	13	125	LAMINAR	0	13	0.5
TOTAL VOLUME		999			TOTAL PRESSURE DROP			52.5

LAG: 56.3 MINUTES 4148 STROKES #1 AND 4246 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1170.8	HHP	509	IMPACT FORCE	1354
% SURFACE PRESSURE	37.7	HHP/sqin	4.32	JET VELOCITY	113

PRESSURE BREAKDOWN:

SURFACE	48.1		
STRING	1084.1		
BIT	1170.8		
ANNULUS	52.5		
TOTAL	2355.5	PUMP PRESSURE 3109.0	% DIFFERENCE 24.2

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	3506.2
CIRCULATING:	ECD	9.54	CIRCULATING PRESSURE	3558.6
PULLING OUT:	TRIP MARGIN	0.28	ESTIMATED SWAB	104.9
	EFFECTIVE MUD WEIGHT	9.12	BOTTOM HOLE PRESSURE	3401.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2400.0 AND TVD 2276.3

SPM 1 66 SPM 2 73 FLOW RATE 693

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	39	60	138	LAMINAR	1	60	7.3
HWDP/OH	0.398	78	41	137	LAMINAR	0	41	4.9
DP/OH	0.398	503	41	137	LAMINAR	0	41	31.6
DP/CSG	0.427	306	39	137	LAMINAR	0	38	16.6
DP/RIS	1.325	114	12	136	LAMINAR	0	12	0.6

TOTAL VOLUME 1039 TOTAL PRESSURE DROP 61.1

LAG: 63.0 MINUTES 4141 STROKES #1 AND 4591 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1010.9	HHP	409	IMPACT FORCE	1169
% SURFACE PRESSURE	36.9	HHP/sqin	3.47	JET VELOCITY	105

PRESSURE BREAKDOWN:

SURFACE	42.2
STRING	969.9
BIT	1010.9
ANNULUS	61.1
TOTAL	2084.0

PUMP PRESSURE 2738.6 % DIFFERENCE 23.9

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.39	HYDROSTATIC PRESSURE	3646.5
CIRCULATING:	ECD	9.55	CIRCULATING PRESSURE	3707.6
PULLING OUT:	TRIP MARGIN	0.31	ESTIMATED SWAB	122.2
	EFFECTIVE MUD WEIGHT	9.08	BOTTOM HOLE PRESSURE	3524.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2500.0 AND TVD 2366.2

SPM 1 91 SPM 2 0 FLOW RATE 456

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	3	103	128	LAMINAR	2	101	3.5
DC/CSG	0.116	24	94	126	LAMINAR	1	92	23.2
HWDP/CSG	0.160	31	68	120	LAMINAR	1	67	10.9
DP/CSG	0.160	319	68	120	LAMINAR	1	67	111.0
DP/RIS	1.325	114	8	99	LAMINAR	0	8	0.3
TOTAL VOLUME		491				TOTAL PRESSURE DROP		148.9

LAG: 45.2 MINUTES 4122 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1743.9	HHP	464	IMPACT FORCE	1042
% SURFACE PRESSURE	65.4	HHP/sqin	8.18	JET VELOCITY	134

PRESSURE BREAKDOWN:

SURFACE	24.0
STRING	647.1
BIT	1743.9
ANNULUS	148.9
TOTAL	2563.8

PUMP PRESSURE 2666.8 % DIFFERENCE 3.9

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	10.00	HYDROSTATIC PRESSURE	4036.8
CIRCULATING:	ECD	10.37	CIRCULATING PRESSURE	4185.6
PULLING OUT:	TRIP MARGIN	0.74	ESTIMATED SWAB	297.7
	EFFECTIVE MUD WEIGHT	9.26	BOTTOM HOLE PRESSURE	3739.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2600.0 AND TVD 2456.1

SPM 1 95 SPM 2 0 FLOW RATE 476

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	13	107	106	TURBULENT			13.3
DC/CSG	0.116	12	98	104	LAMINAR	2	96	9.3
HWDP/CSG	0.160	31	71	93	LAMINAR	1	70	7.5
DP/CSG	0.160	335	71	93	LAMINAR	1	70	80.8
DP/RIS	1.325	114	9	63	LAMINAR	0	9	0.1
TOTAL VOLUME		506					TOTAL PRESSURE DROP	111.0

LAG: 44.6 MINUTES 4249 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1829.2	HHP	508	IMPACT FORCE	1093
% SURFACE PRESSURE	65.8	HHP/sqin	8.95	JET VELOCITY	140

PRESSURE BREAKDOWN:

SURFACE	26.3
STRING	724.2
BIT	1829.2
ANNULUS	111.0
TOTAL	2690.6

PUMP PRESSURE 2778.7 % DIFFERENCE 3.2

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.62	HYDROSTATIC PRESSURE	4030.8
CIRCULATING:	ECD	9.88	CIRCULATING PRESSURE	4141.9
PULLING OUT:	TRIP MARGIN	0.53	ESTIMATED SWAB	222.0
	EFFECTIVE MUD WEIGHT	9.09	BOTTOM HOLE PRESSURE	3808.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2700.0 AND TVD 2546.7

SPM 1 98 SPM 2 0 FLOW RATE 488

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	24	110	105	TURBULENT			23.7
DC/CSG	0.116	1	100	103	LAMINAR	2	98	0.5
HWDP/CSG	0.160	31	72	94	LAMINAR	1	71	7.5
DP/CSG	0.160	351	72	94	LAMINAR	1	71	84.3
DP/RIS	1.325	114	9	69	LAMINAR	0	9	0.1
TOTAL VOLUME		521			TOTAL PRESSURE DROP			116.1

LAG: 44.8 MINUTES 4375 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1916.9	HHP	546	IMPACT FORCE	1146
% SURFACE PRESSURE	67.0	HHP/sqin	9.62	JET VELOCITY	144

PRESSURE BREAKDOWN:

SURFACE	26.2
STRING	737.7
BIT	1916.9
ANNULUS	116.1
TOTAL	2796.9

PUMP PRESSURE 2862.1 % DIFFERENCE 2.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.60	HYDROSTATIC PRESSURE	4170.9
CIRCULATING:	ECD	9.87	CIRCULATING PRESSURE	4287.1
PULLING OUT:	TRIP MARGIN	0.53	ESTIMATED SWAB	232.2
	EFFECTIVE MUD WEIGHT	9.07	BOTTOM HOLE PRESSURE	3938.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2800.0 AND TVD 2638.5

SPM 1 0 SPM 2 96 FLOW RATE 479

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.096	22	119	134	LAMINAR	2	117	40.8
HWDP/OH	0.151	14	76	118	LAMINAR	1	75	5.7
HWDP/CSG	0.160	16	71	116	LAMINAR	1	70	5.4
DP/CSG	0.160	367	71	116	LAMINAR	1	70	124.2
DP/RIS	1.325	114	9	83	LAMINAR	0	9	0.2
TOTAL VOLUME		533			TOTAL PRESSURE DROP			176.4

LAG: 46.8 MINUTES 0 STROKES #1 AND 4482 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1846.1	HHP	516	IMPACT FORCE	1103
% SURFACE PRESSURE	62.9	HHP/sqin	9.09	JET VELOCITY	141

PRESSURE BREAKDOWN:

SURFACE	27.5		
STRING	2105.4		
BIT	1846.1		
ANNULUS	176.4		
TOTAL	4155.3	PUMP PRESSURE 2936.7	% DIFFERENCE 41.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.60	HYDROSTATIC PRESSURE	4321.2
CIRCULATING:	ECD	9.99	CIRCULATING PRESSURE	4497.6
PULLING OUT:	TRIP MARGIN	0.78	ESTIMATED SWAB	352.7
	EFFECTIVE MUD WEIGHT	8.82	BOTTOM HOLE PRESSURE	3968.5

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2900.0 AND TVD 2730.0

SPM 1 97 SPM 2 0 FLOW RATE 483

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.096	21	120	140	LAMINAR	2	118	41.5
HWDP/OH	0.151	29	76	126	LAMINAR	1	76	13.0
DP/OH	0.151	1	76	126	LAMINAR	1	76	0.5
DP/CSG	0.160	383	72	125	LAMINAR	1	71	144.3
DP/RIS	1.325	114	9	95	LAMINAR	0	9	0.2
TOTAL VOLUME		549			TOTAL PRESSURE DROP			199.6

LAG: 47.7 MINUTES 4612 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1881.9	HHP	531	IMPACT FORCE	1125
% SURFACE PRESSURE	64.2	HHP/sqin	9.35	JET VELOCITY	142

PRESSURE BREAKDOWN:

SURFACE	27.5
STRING	796.3
BIT	1881.9
ANNULUS	199.6
TOTAL	2905.3

PUMP PRESSURE 2931.1 % DIFFERENCE 0.9

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.60	HYDROSTATIC PRESSURE	4471.2
CIRCULATING:	ECD	10.03	CIRCULATING PRESSURE	4670.8
PULLING OUT:	TRIP MARGIN	0.86	ESTIMATED SWAB	399.2
	EFFECTIVE MUD WEIGHT	8.74	BOTTOM HOLE PRESSURE	4072.0

(c). COMPUTER DATA LISTING : LIST A

INTERVAL . . . . . All depth records (data not averaged)

DEPTH. . . . . Well depth, in metres

ROP. . . . . Rate of penetration, in metres/hour

WOB. . . . . Weight-on-bit, in thousands of pounds

RPM. . . . . Rotary speed, in revolutions per minute

MW . . . . . Mud weight in, in pounds per gallon

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

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

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

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

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

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

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

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

BIT NUMBER	1	IADC CODE	111	INTERVAL	86.0- 224.0
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	18 18 18
COST	0.00	TRIP TIME	3.4	BIT RUN	138.0
TOTAL HOURS	4.23	TOTAL TURNS	23433	CONDITION	T2 B4 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
90.0	22.8	2.0	100	8.6	0.73	0.18	1053	160	3264	8.4	12.0
95.0	18.7	2.0	100	8.6	0.76	0.44	2662	196	1560	8.4	12.1
100.0	24.3	2.0	100	8.6	0.72	0.65	3895	150	1056	8.4	12.1
105.0	24.0	2.0	100	8.6	0.72	0.86	5145	152.17	818.34	8.4	12.1
110.0	16.3	2.0	100	8.6	0.79	1.16	6987	224.19	694.56	8.4	12.1
115.0	24.3	2.0	100	8.6	0.72	1.37	8220	150.14	600.69	8.4	12.1
120.0	36.0	2.0	100	8.6	0.65	1.51	9053	101.44	527.27	8.4	12.2
125.0	18.7	2.2	100	8.6	0.77	1.78	10657	195.18	484.70	8.4	12.2
130.0	30.6	2.3	100	8.6	0.69	1.94	11637	119.30	443.17	8.4	12.2
135.0	10.1	3.1	77	8.6	0.88	2.43	13918	359.92	434.68	8.4	12.2
140.0	24.9	4.1	75	8.6	0.74	2.63	14822	146.69	408.01	8.4	12.3
145.0	139.6	2.0	75	8.6	0.38	2.67	14983	26.16	375.65	8.4	12.3
150.0	22.6	2.0	75	8.6	0.68	2.89	15980	161.91	358.95	8.4	12.3
155.0	33.2	2.0	75	8.6	0.62	3.04	16658	109.97	340.91	8.4	12.3
160.0	30.6	2.7	75	8.6	0.66	3.20	17392	119.20	325.93	8.4	12.3
165.0	58.1	2.9	75	8.6	0.55	3.29	17779	62.90	309.28	8.4	12.4
170.0	36.2	2.8	75	8.6	0.63	3.43	18400	100.84	296.88	8.4	12.4
175.0	43.6	2.0	75	8.6	0.57	3.54	18915	83.73	284.90	8.4	12.4
180.0	81.1	2.0	107	8.6	0.53	3.60	19309	45.04	272.14	8.4	12.4
185.0	62.1	1.6	110	8.6	0.56	3.69	19841	58.84	261.37	8.4	12.4
190.0	122.4	2.6	110	8.6	0.48	3.73	20110	29.82	250.24	8.4	12.5
195.0	157.9	1.8	110	8.6	0.42	3.76	20319	23.13	239.82	8.4	12.5
200.0	131.4	4.5	110	8.6	0.51	3.80	20570	27.80	230.52	8.4	12.5
205.0	93.3	5.3	110	8.6	0.59	3.85	20924	39.16	222.48	8.4	12.5
210.0	30.9	2.9	110	8.6	0.74	4.01	21993	118.28	218.28	8.4	12.5
215.0	57.7	4.4	110	8.6	0.67	4.10	22565	63.30	212.27	8.4	12.6
220.0	67.9	2.1	110	8.6	0.57	4.17	23051	53.77	206.36	8.4	12.6
224.0	69.0	2.0	110	8.6	0.56	4.23	23433	52.92	201.91	8.4	12.6

BIT NUMBER	1	IADC CODE	111	INTERVAL	224.2- 817.6
HTC 3AJ		SIZE	17.500	NOZZLES	18 18 18
COST	4857.00	TRIP TIME	3.7	BIT RUN	593.4
TOTAL HOURS	8.69	TOTAL TURNS	75809	CONDITION	T1 B1 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
225.0	80.0	5.0	60	8.6	0.54	0.01	36	46	23007	8.4	12.6
230.0	81.6	5.0	60	8.6	0.53	0.07	256	45	3212	8.4	12.6
235.0	169.6	5.0	60	8.6	0.38	0.10	363	22	1735	8.4	12.6
240.0	209.2	5.0	60	8.6	0.34	0.12	449	17	1191	8.4	12.6
245.0	178.2	5.0	100	8.6	0.48	0.15	617	20.49	909.95	8.4	12.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
250.0	196.5	5.0	100	8.6	0.46	0.18	770	18.58	737.21	8.4	12.7
255.0	178.2	5.0	100	8.6	0.48	0.21	938	20.49	620.86	8.4	12.7
260.0	197.8	5.0	100	8.6	0.46	0.23	1090	18.46	536.72	8.4	12.7
265.0	176.5	5.0	119	8.6	0.51	0.26	1292	20.69	473.48	8.4	12.7
270.0	176.5	5.0	130	8.6	0.53	0.29	1513	20.69	424.05	8.4	12.8
275.0	202.2	5.0	130	8.6	0.50	0.31	1705	18.06	384.09	8.4	12.8
280.0	254.0	5.0	130	8.7	0.45	0.33	1859	14.38	350.96	8.4	12.8
285.0	77.1	5.0	130	8.7	0.69	0.40	2365	47.34	325.99	8.4	12.8
290.0	288.0	5.0	130	8.7	0.43	0.41	2500	12.68	302.19	8.4	12.8
295.0	94.2	5.0	130	8.7	0.65	0.47	2914	38.75	283.58	8.4	12.9
300.0	283.5	5.0	130	8.7	0.43	0.49	3051	12.68	265.73	8.4	12.9
305.0	104.1	5.0	130	8.7	0.63	0.53	3426	35.08	251.45	8.4	12.9
310.0	244.3	5.0	130	8.7	0.46	0.55	3586	14.95	237.67	8.4	12.9
315.0	74.1	5.1	130	8.7	0.71	0.62	4112	49.30	227.30	8.4	12.9
320.0	292.7	7.4	130	8.7	0.46	0.64	4245	12.48	216.09	8.4	12.9
325.0	202.2	6.6	130	8.7	0.52	0.66	4438	18.06	206.26	8.4	13.0
330.0	222.2	7.7	130	8.7	0.52	0.69	4614	16.43	197.29	8.4	13.0
335.0	145.3	4.8	130	8.7	0.56	0.72	4882	25.13	189.52	8.4	13.0
340.0	165.1	5.3	130	8.7	0.55	0.75	5118	22.11	182.30	8.4	13.0
345.0	136.4	5.0	130	8.7	0.58	0.79	5404	26.78	175.86	8.4	13.0
350.0	163.6	5.2	130	8.7	0.55	0.82	5643	22.32	169.76	8.4	13.1
355.0	155.2	7.1	130	8.7	0.59	0.85	5894	23.54	164.17	8.4	13.1
360.0	155.2	7.6	130	8.8	0.59	0.88	6145	23.54	158.99	8.4	13.1
365.0	165.1	7.7	130	8.8	0.58	0.91	6381	22.11	154.13	8.4	13.1
370.0	151.3	8.1	130	8.8	0.60	0.95	6639	24.14	149.67	8.4	13.1
375.0	147.5	8.7	130	8.8	0.62	0.98	6904	24.75	145.53	8.4	13.1
380.0	104.7	9.1	130	8.8	0.70	1.03	7276	34.90	141.98	8.4	13.2
385.0	133.3	11.1	130	8.8	0.67	1.06	7569	27.39	138.41	8.4	13.2
390.0	120.0	9.8	130	8.8	0.68	1.11	7894	30.43	135.16	8.4	13.2
395.0	120.8	10.2	130	8.8	0.68	1.15	8217	30.23	132.09	8.4	13.2
400.0	124.1	9.2	130	8.8	0.66	1.19	8531	29.42	129.17	8.4	13.2
405.0	145.2	9.1	130	8.8	0.63	1.22	8799	25.16	126.29	8.4	13.2
410.0	141.7	8.8	130	8.8	0.63	1.26	9075	25.77	123.59	8.4	13.3
415.0	141.7	10.4	130	8.8	0.65	1.29	9350	25.77	121.02	8.4	13.3
420.0	116.1	11.6	130	8.8	0.71	1.34	9686	31.45	118.73	8.4	13.3
425.0	130.4	11.2	131	8.8	0.68	1.37	9988	28.00	116.48	8.4	13.3
430.0	114.6	9.0	150	8.9	0.70	1.42	10380	31.85	114.42	8.4	13.3
435.0	94.2	9.6	150	8.9	0.76	1.47	10858	38.75	112.62	8.4	13.3
440.0	127.7	13.1	150	8.9	0.73	1.51	11210	28.61	110.68	8.4	13.4
445.0	106.5	8.8	150	8.9	0.71	1.56	11633	34.29	108.95	8.4	13.4
450.0	124.1	11.0	150	8.9	0.71	1.60	11995	29.42	107.19	8.4	13.4
455.0	100.6	10.7	150	8.9	0.76	1.65	12443	36.32	105.65	8.4	13.4
460.0	117.6	10.9	150	8.9	0.72	1.69	12825	31.04	104.07	8.4	13.4
465.0	109.8	9.1	150	8.9	0.71	1.74	13235	33.27	102.60	8.4	13.5
470.0	156.5	7.8	150	8.9	0.62	1.77	13523	23.33	100.99	8.4	13.5
475.0	128.6	8.9	150	8.9	0.68	1.81	13873	28.40	99.54	8.4	13.5
480.0	133.3	10.1	150	8.9	0.68	1.84	14210	27.39	98.13	8.4	13.5
485.0	124.1	9.1	150	8.9	0.69	1.88	14573	29.42	96.81	8.4	13.5
490.0	128.6	6.9	150	8.9	0.64	1.92	14923	28.40	95.53	8.4	13.5
495.0	39.5	10.0	150	8.9	0.96	2.05	16061	92.43	95.47	8.4	13.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
500.0	109.1	10.0	150	8.9	0.73	2.09	16474	33.48	94.34	8.4	13.6
505.0	58.3	10.0	150	8.9	0.87	2.18	17246	62.69	93.78	8.4	13.6
510.0	106.5	9.9	150	8.9	0.73	2.23	17669	34.29	92.74	8.4	13.6
515.0	85.7	12.6	150	8.9	0.82	2.29	18194	42.61	91.88	8.4	13.6
520.0	56.2	13.9	150	8.9	0.94	2.37	18994	64.92	91.42	8.4	13.6
525.0	67.9	15.3	150	8.9	0.91	2.45	19656	53.77	90.80	8.4	13.6
530.0	26.4	15.6	150	8.9	1.15	2.64	21364	138.57	91.58	8.4	13.7
535.0	53.6	14.7	150	8.9	0.96	2.73	22204	68.17	91.20	8.4	13.7
540.0	60.6	14.8	150	8.9	0.93	2.81	22946	60.26	90.71	8.4	13.7
545.0	48.8	13.3	150	8.9	0.96	2.92	23869	74.87	90.46	8.4	13.7
550.0	46.6	9.5	150	8.9	0.91	3.02	24834	78.32	90.28	8.4	13.7
555.0	66.2	5.1	150	8.9	0.74	3.10	25514	55.19	89.75	8.4	13.7
560.0	52.5	9.7	150	8.9	0.89	3.19	26371	69.59	89.45	8.4	13.8
565.0	56.1	11.1	150	8.9	0.90	3.28	27174	65.13	89.09	8.4	13.8
570.0	61.2	14.0	150	8.9	0.92	3.37	27909	59.65	88.66	8.4	13.8
575.0	67.2	15.7	150	8.9	0.92	3.44	28579	54.37	88.18	8.4	13.8
580.0	48.9	14.5	150	8.9	0.98	3.54	29499	74.66	87.99	8.4	13.8
585.0	59.2	15.0	150	8.9	0.94	3.63	30259	61.68	87.62	8.4	13.8
590.0	49.0	15.7	150	8.9	1.00	3.73	31176	74.46	87.44	8.4	13.8
595.0	61.6	14.8	150	8.9	0.93	3.81	31906	59.24	87.06	8.4	13.9
600.0	50.6	13.5	150	8.9	0.96	3.91	32796	72.23	86.86	8.4	13.9
605.0	72.0	13.9	150	8.9	0.88	3.98	33421	50.72	86.39	8.4	13.9
610.0	61.9	16.0	150	8.9	0.95	4.06	34149	59.04	86.04	8.4	13.9
615.0	50.3	14.7	150	8.9	0.98	4.16	35044	72.63	85.86	8.4	13.9
620.0	70.3	15.8	150	8.9	0.91	4.23	35684	51.94	85.44	8.4	13.9
625.0	62.5	16.5	150	8.9	0.95	4.31	36404	58.43	85.10	8.4	14.0
630.0	69.0	17.0	150	8.9	0.93	4.38	37056	52.95	84.70	8.4	14.0
635.0	59.4	15.3	150	8.9	0.95	4.47	37814	61.48	84.42	8.4	14.0
640.0	81.4	16.4	150	8.9	0.88	4.53	38366	44.84	83.94	8.4	14.0
645.0	61.0	16.9	150	8.9	0.96	4.61	39104	59.85	83.66	8.4	14.0
650.0	63.8	17.8	150	8.9	0.96	4.69	39809	57.21	83.35	8.4	14.0
655.0	58.1	17.1	150	8.9	0.98	4.77	40584	62.90	83.11	8.4	14.0
660.0	50.1	16.0	150	8.9	1.00	4.87	41481	72.84	82.99	8.4	14.1
665.0	65.9	23.0	150	8.9	1.01	4.95	42164	55.39	82.68	8.4	14.1
670.0	73.5	23.7	150	8.9	0.99	5.02	42776	49.71	82.31	8.4	14.1
675.0	62.5	25.8	150	8.9	1.05	5.10	43496	58.43	82.04	8.4	14.1
680.0	52.5	21.6	150	8.9	1.06	5.19	44354	69.59	81.91	8.4	14.1
685.0	43.7	21.1	150	8.9	1.10	5.31	45384	83.59	81.93	8.4	14.1
690.0	44.9	21.3	150	8.9	1.09	5.42	46386	81.36	81.92	8.4	14.1
695.0	47.1	23.4	150	8.9	1.11	5.52	47341	77.50	81.87	8.4	14.2
700.0	67.7	23.9	150	9.0	1.01	5.60	48006	53.97	81.58	8.4	14.2
705.0	55.6	24.8	150	9.0	1.06	5.69	48816	65.74	81.41	8.4	14.2
710.0	52.8	25.3	150	9.0	1.08	5.78	49669	69.19	81.29	8.4	14.2
715.0	85.3	24.9	150	9.0	0.95	5.84	50196	42.81	80.90	8.4	14.2
720.0	46.2	24.7	150	9.0	1.11	5.95	51171	79.13	80.88	8.4	14.2
725.0	44.1	25.2	150	9.0	1.13	6.06	52191	82.78	80.90	8.4	14.2
730.0	54.9	23.1	150	9.0	1.05	6.15	53011	66.55	80.76	8.4	14.3
735.0	41.5	24.8	150	9.0	1.14	6.28	54096	88.05	80.83	8.4	14.3
740.0	46.5	26.7	150	9.0	1.13	6.38	55064	78.52	80.81	8.4	14.3
745.0	54.9	26.5	150	9.0	1.08	6.47	55883	66.46	80.67	8.4	14.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
750.0	50.0	25.4	150	9.0	1.10	6.57	56783	73.04	80.59	8.4	14.3
755.0	46.2	25.7	150	9.0	1.12	6.68	57758	79.13	80.58	8.4	14.3
760.0	37.7	31.2	150	9.0	1.24	6.81	58953	96.98	80.73	8.4	14.3
765.0	29.7	26.7	150	9.0	1.26	6.98	60468	122.95	81.12	8.4	14.4
770.0	33.8	23.7	150	9.0	1.19	7.13	61798	107.94	81.37	8.4	14.4
775.0	35.7	25.8	150	9.0	1.20	7.27	63058	102.26	81.56	8.4	14.4
780.0	26.6	25.5	150	9.0	1.27	7.46	64748	137.15	82.06	8.4	14.4
785.0	26.0	26.7	150	9.0	1.29	7.65	66480	140.60	82.58	8.4	14.4
790.0	29.3	27.2	150	9.0	1.27	7.82	68015	124.57	82.95	8.4	14.4
795.0	29.1	29.2	150	9.0	1.29	7.99	69563	125.59	83.33	8.4	14.4
800.0	22.1	27.3	150	9.0	1.35	8.22	71603	165.56	84.04	8.4	14.5
805.0	40.5	25.2	150	9.0	1.15	8.34	72714	90.21	84.09	8.4	14.5
810.0	40.6	25.8	150	9.0	1.16	8.47	73822	89.88	84.14	8.4	14.5
815.0	35.9	26.1	150	9.0	1.20	8.61	75077	101.85	84.29	8.4	14.5
817.6	31.9	27.7	150	9.0	1.25	8.69	75809	114.32	84.42	8.4	14.5

BIT NUMBER	2	IADC CODE	114	INTERVAL	817.6- 1001.3
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2381.00	TRIP TIME	4.2	BIT RUN	183.7
TOTAL HOURS	4.21	TOTAL TURNS	32070	CONDITION	T2 B1 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
818.0	20.1	10.0	100	9.0	1.08	0.02	119	182	44480	8.4	14.5
819.0	13.3	10.0	100	9.0	1.18	0.10	571	275	12905	8.4	14.5
820.0	10.9	10.0	100	9.0	1.23	0.19	1121	335	7667	8.4	14.5
821.0	13.0	10.0	100	9.0	1.19	0.26	1583	281	5495	8.4	14.5
822.0	15.0	10.0	100	9.0	1.15	0.33	1983	243	4301	8.4	14.5
823.0	12.0	10.0	100	9.0	1.21	0.41	2484	305	3561	8.4	14.5
824.0	12.2	10.0	100	9.0	1.20	0.50	2976	299	3052	8.4	14.5
825.0	20.3	10.0	100	9.0	1.08	0.55	3271	180	2664	8.4	14.5
826.0	27.9	14.8	100	8.8	1.12	0.58	3486	131	2362	8.4	14.5
827.0	20.2	13.0	100	8.8	1.17	0.63	3783	181	2130	8.4	14.5
828.0	19.5	10.5	100	8.8	1.13	0.68	4091	188	1943	8.4	14.5
829.0	18.7	10.4	100	8.8	1.14	0.74	4413	196	1790	8.4	14.5
830.0	7.5	3.4	100	8.8	1.09	0.87	5208	484	1685	8.4	14.5
831.0	8.1	4.0	100	8.8	1.11	0.99	5952	452	1593	8.4	14.5
832.0	15.1	8.8	100	8.8	1.15	1.06	6348	241	1499	8.4	14.5
833.0	21.8	11.8	100	8.8	1.13	1.10	6623	167	1412	8.4	14.5
834.0	23.1	12.5	100	8.8	1.13	1.15	6883	158	1336	8.4	14.5
835.0	20.9	12.0	100	8.8	1.14	1.20	7170	174	1269	8.4	14.5
836.0	26.9	12.9	100	8.8	1.10	1.23	7393	136	1208	8.4	14.5
837.0	30.8	12.7	100	8.8	1.06	1.26	7588	119	1151	8.4	14.5
839.0	36.0	18.4	100	8.8	1.11	1.32	7922	101	1053	8.4	14.6
840.0	34.0	20.3	100	8.8	1.16	1.35	8098	108	1011	8.4	14.6
841.0	41.9	26.9	100	8.8	1.18	1.37	8242	87.24	971.62	8.4	14.6
842.0	45.6	27.7	100	8.8	1.16	1.40	8373	80.14	935.08	8.4	14.6
843.0	41.9	28.4	100	8.8	1.20	1.42	8517	87.24	901.70	8.4	14.6
844.0	30.5	28.2	100	8.8	1.30	1.45	8713	119.70	872.08	8.4	14.6
845.0	38.7	27.7	100	8.8	1.22	1.48	8868	94.34	843.70	8.4	14.6
846.0	36.0	28.0	100	8.8	1.24	1.51	9035	101.44	817.56	8.4	14.6
847.0	36.0	27.0	100	8.8	1.23	1.53	9202	101.44	793.20	8.4	14.6
848.0	32.0	30.0	100	8.8	1.30	1.56	9389	114.13	770.87	8.4	14.6
849.0	35.4	31.7	100	8.8	1.29	1.59	9559	103.14	749.60	8.4	14.6
850.0	29.3	27.1	100	8.8	1.30	1.63	9764	124.78	730.32	8.4	14.6
851.0	31.3	23.8	100	8.8	1.23	1.66	9955	116.66	711.94	8.4	14.6
852.0	43.9	25.9	100	8.8	1.15	1.68	10092	83.18	693.66	8.4	14.6
853.0	54.5	28.1	100	8.8	1.11	1.70	10202	66.95	675.96	8.4	14.6
854.0	43.9	28.0	145	8.8	1.30	1.72	10400	83.18	659.68	8.4	14.6
855.0	52.9	28.8	145	8.8	1.25	1.74	10564	68.98	643.88	8.4	14.6
856.0	56.2	29.4	145	8.8	1.23	1.76	10719	64.92	628.80	8.4	14.6
857.0	60.0	29.6	145	8.8	1.22	1.78	10864	60.87	614.39	8.4	14.6
859.0	49.1	23.8	145	8.8	1.21	1.82	11219	74.39	588.30	8.4	14.6
860.0	62.1	25.5	145	8.8	1.16	1.83	11359	58.84	575.82	8.4	14.6
861.0	62.1	28.9	145	8.8	1.20	1.85	11499	58.84	563.90	8.4	14.6
862.0	62.1	28.4	145	8.7	1.21	1.87	11639	58.84	552.53	8.4	14.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	
863.0	62.1	28.7	145	8.7	1.21	1.88	11779	58.84	541.65	8.4	14.6
864.0	46.2	30.2	145	8.7	1.32	1.90	11968	79.13	531.69	8.4	14.6
865.0	43.4	34.7	145	8.7	1.40	1.93	12168	84.20	522.25	8.4	14.6
866.0	41.9	33.6	145	8.7	1.40	1.95	12376	87.24	513.26	8.4	14.6
867.0	36.7	32.3	145	8.7	1.43	1.98	12613	99.42	504.88	8.4	14.6
868.0	41.9	28.4	145	8.7	1.33	2.00	12821	87.24	496.59	8.4	14.6
869.0	50.0	29.4	145	8.7	1.29	2.02	12995	73.04	488.35	8.4	14.6
870.0	51.4	29.8	145	8.7	1.28	2.04	13164	71.01	480.39	8.4	14.6
871.0	57.1	29.1	145	8.7	1.24	2.06	13316	63.91	472.59	8.4	14.6
872.0	53.7	31.8	145	8.7	1.29	2.08	13478	67.97	465.15	8.4	14.6
873.0	61.0	31.2	145	8.7	1.24	2.09	13621	59.85	457.84	8.4	14.6
874.0	63.2	33.6	145	8.7	1.26	2.11	13759	57.82	450.74	8.4	14.6
875.0	55.4	34.1	145	8.7	1.31	2.13	13916	65.94	444.04	8.4	14.6
876.0	52.9	33.0	145	8.7	1.31	2.15	14080	68.98	437.62	8.4	14.6
877.0	69.2	35.3	145	8.7	1.25	2.16	14206	52.75	431.14	8.4	14.7
878.0	72.0	33.6	145	8.7	1.22	2.17	14326	50.72	424.84	8.4	14.7
879.0	66.7	33.4	145	8.7	1.24	2.19	14457	54.78	418.81	8.4	14.7
880.0	63.2	33.3	145	8.7	1.26	2.21	14595	57.82	413.03	8.4	14.7
881.0	64.3	33.2	145	8.7	1.25	2.22	14730	56.81	407.41	8.4	14.7
882.0	72.0	33.4	145	8.7	1.21	2.23	14851	50.72	401.87	8.4	14.7
883.0	64.3	32.6	145	8.7	1.24	2.25	14986	56.81	396.59	8.4	14.7
884.0	66.7	33.1	145	8.7	1.24	2.27	15117	54.78	391.45	8.4	14.7
885.0	46.8	31.0	145	8.7	1.33	2.29	15303	78.11	386.80	8.4	14.7
886.0	36.0	27.0	145	8.7	1.36	2.31	15544	101.44	382.63	8.4	14.7
887.0	37.5	28.1	145	8.7	1.36	2.34	15776	97.39	378.52	8.4	14.7
888.0	40.4	28.1	145	8.7	1.34	2.37	15992	90.29	374.42	8.4	14.7
889.0	39.6	28.7	145	8.7	1.35	2.39	16211	92.31	370.47	8.4	14.7
890.0	30.5	22.8	145	8.7	1.35	2.42	16497	119.70	367.01	8.4	14.7
891.0	35.6	21.2	145	8.7	1.28	2.45	16741	102.46	363.40	8.4	14.7
892.0	36.7	22.0	145	8.7	1.28	2.48	16978	99.42	359.85	8.4	14.7
893.0	35.0	22.0	145	8.7	1.30	2.51	17226	104.34	356.47	8.4	14.7
894.0	34.0	22.0	145	8.7	1.30	2.54	17482	107.41	353.21	8.4	14.7
895.0	30.0	15.0	145	8.7	1.22	2.57	17772	121.73	350.22	8.4	14.7
896.0	36.0	12.7	145	8.7	1.13	2.60	18014	101.44	347.04	8.4	14.7
897.0	28.8	14.8	145	8.7	1.23	2.63	18316	126.81	344.27	8.4	14.7
898.0	31.0	17.9	145	8.7	1.27	2.67	18596	117.68	341.45	8.4	14.7
899.0	26.7	18.5	145	8.7	1.32	2.70	18922	136.95	338.94	8.4	14.7
900.0	30.0	18.1	145	8.7	1.28	2.74	19212	121.73	336.30	8.4	14.7
901.0	40.0	18.1	145	8.7	1.20	2.76	19430	91.30	333.36	8.4	14.7
902.0	45.0	17.7	145	8.7	1.16	2.78	19623	81.16	330.38	8.4	14.7
903.0	42.9	18.1	145	8.7	1.18	2.81	19826	85.21	327.51	8.4	14.7
904.0	46.8	17.9	145	8.7	1.15	2.83	20012	78.11	324.62	8.4	14.7
905.0	41.4	17.7	145	8.7	1.18	2.85	20222	88.26	321.91	8.4	14.7
906.0	85.7	20.0	145	8.7	1.00	2.86	20324	42.61	318.75	8.4	14.7
907.0	94.7	30.6	145	8.7	1.09	2.87	20416	38.55	315.62	8.4	14.7
908.0	97.3	32.3	145	8.7	1.10	2.88	20505	37.53	312.54	8.4	14.7
909.0	87.8	34.6	145	8.7	1.16	2.90	20604	41.59	309.58	8.4	14.7
910.0	69.2	32.5	145	8.7	1.22	2.91	20730	52.75	306.80	8.4	14.7
911.0	69.2	32.1	145	8.7	1.21	2.92	20856	52.75	304.08	8.4	14.7
912.0	81.8	32.7	145	8.7	1.16	2.94	20962	44.64	301.33	8.4	14.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
913.0	81.8	32.7	145	8.7	1.16	2.95	21068	44.64	298.64	8.4	14.7
914.0	66.7	33.2	145	8.7	1.24	2.96	21199	54.78	296.11	8.4	14.7
915.0	50.7	36.5	145	8.7	1.37	2.98	21370	72.03	293.81	8.4	14.7
916.0	72.0	33.8	145	8.7	1.22	3.00	21491	50.72	291.34	8.4	14.8
917.0	64.3	32.7	145	8.7	1.24	3.01	21627	56.81	288.98	8.4	14.8
918.0	69.2	31.4	145	8.7	1.21	3.03	21752	52.75	286.63	8.4	14.8
919.0	81.8	32.7	145	8.7	1.16	3.04	21859	44.64	284.24	8.4	14.8
920.0	83.7	33.3	145	8.7	1.16	3.05	21962	43.62	281.89	8.4	14.8
921.0	81.8	33.4	145	8.7	1.17	3.06	22069	44.64	279.60	8.4	14.8
922.0	76.6	33.7	145	8.7	1.20	3.08	22182	47.68	277.38	8.4	14.8
923.0	76.6	33.5	145	8.7	1.19	3.09	22296	47.68	275.20	8.4	14.8
924.0	66.7	31.7	145	8.7	1.22	3.11	22426	54.78	273.12	8.4	14.8
925.0	90.0	33.7	145	8.7	1.14	3.12	22523	40.58	270.96	8.4	14.8
926.0	76.6	31.4	145	8.7	1.17	3.13	22637	47.68	268.90	8.4	14.8
927.0	75.0	32.1	145	8.7	1.19	3.14	22753	48.69	266.89	8.4	14.8
928.0	80.0	31.6	145	8.7	1.16	3.16	22861	45.65	264.88	8.4	14.8
929.0	85.7	31.9	145	8.7	1.14	3.17	22963	42.61	262.89	8.4	14.8
930.0	85.7	32.0	145	8.7	1.14	3.18	23064	42.61	260.93	8.4	14.8
931.0	94.7	32.1	145	8.7	1.11	3.19	23156	38.55	258.97	8.4	14.8
932.0	85.7	31.2	145	8.7	1.13	3.20	23258	42.61	257.08	8.4	14.8
933.0	50.7	29.0	145	8.7	1.28	3.22	23429	72.03	255.47	8.4	14.8
934.0	75.0	32.1	145	8.7	1.19	3.23	23545	48.69	253.70	8.4	14.8
935.0	70.6	29.3	145	8.7	1.18	3.25	23669	51.74	251.98	8.4	14.8
936.0	64.3	29.7	145	8.7	1.21	3.26	23804	56.81	250.33	8.4	14.8
937.0	67.9	29.8	145	8.7	1.19	3.28	23932	53.77	248.68	8.4	14.8
938.0	62.1	30.1	145	8.7	1.23	3.29	24072	58.84	247.10	8.4	14.8
939.0	66.7	30.4	145	8.7	1.21	3.31	24203	54.78	245.52	8.4	14.8
940.0	66.7	31.3	145	8.7	1.22	3.32	24333	54.78	243.96	8.4	14.8
941.0	66.7	31.5	145	8.7	1.22	3.34	24464	54.78	242.43	8.4	14.8
942.0	54.5	32.5	145	8.7	1.30	3.36	24623	66.95	241.02	8.4	14.8
943.0	73.5	33.3	145	8.7	1.21	3.37	24742	49.71	239.49	8.4	14.8
944.0	81.8	32.1	145	8.7	1.16	3.38	24848	44.64	237.95	8.4	14.8
945.0	75.0	34.1	145	8.7	1.21	3.40	24964	48.69	236.47	8.4	14.8
946.0	83.7	36.1	145	8.7	1.19	3.41	25068	43.62	234.96	8.4	14.8
947.0	72.0	34.5	145	8.7	1.23	3.42	25189	50.72	233.54	8.4	14.8
948.0	57.1	41.7	145	8.7	1.38	3.44	25341	63.91	232.24	8.4	14.8
949.0	64.8	33.2	145	8.7	1.25	3.46	25475	56.36	230.90	8.4	14.8
950.0	62.1	33.5	145	8.7	1.26	3.47	25615	58.84	229.60	8.4	14.8
951.0	53.7	33.5	145	8.7	1.31	3.49	25777	67.97	228.39	8.4	14.8
952.0	62.1	34.9	145	8.7	1.28	3.51	25917	58.84	227.13	8.4	14.8
953.0	78.0	36.0	145	8.7	1.21	3.52	26029	46.82	225.80	8.4	14.8
954.0	75.0	37.0	145	8.7	1.24	3.53	26145	48.69	224.50	8.4	14.8
955.0	80.0	37.0	145	8.7	1.21	3.55	26254	45.65	223.20	8.4	14.8
956.0	72.0	36.5	145	8.7	1.24	3.56	26375	50.72	221.95	8.4	14.8
957.0	81.0	37.1	145	8.7	1.21	3.57	26482	45.09	220.68	8.4	14.9
958.0	73.5	37.1	145	8.7	1.25	3.59	26600	49.71	219.46	8.4	14.9
959.0	73.5	36.5	145	8.7	1.24	3.60	26719	49.71	218.26	8.4	14.9
960.0	69.2	33.9	145	8.7	1.23	3.61	26845	52.75	217.10	8.4	14.9
961.0	70.0	34.0	145	8.7	1.23	3.63	26969	52.17	215.95	8.4	14.9
962.0	73.0	34.1	145	8.7	1.21	3.64	27088	50.03	214.80	8.4	14.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
963.0	71.0	34.0	145	8.7	1.22	3.66	27211	51.44	213.68	8.4	14.9
964.0	72.0	33.9	145	8.7	1.22	3.67	27331	50.72	212.56	8.4	14.9
965.0	76.6	33.3	145	8.7	1.19	3.68	27445	47.68	211.45	8.4	14.9
966.0	92.3	35.5	145	8.7	1.15	3.69	27539	39.56	210.29	8.4	14.9
967.0	80.0	36.8	145	8.7	1.21	3.71	27648	45.65	209.19	8.4	14.9
968.0	81.8	39.1	145	8.7	1.23	3.72	27754	44.64	208.09	8.4	14.9
969.0	85.7	39.1	145	8.7	1.21	3.73	27856	42.61	207.00	8.4	14.9
970.0	83.1	40.0	145	8.7	1.23	3.74	27960	43.95	205.93	8.4	14.9
971.0	66.7	40.0	145	8.7	1.31	3.76	28091	54.75	204.94	8.4	14.9
972.0	72.0	40.5	145	8.7	1.29	3.77	28212	50.72	203.94	8.4	14.9
973.0	66.7	40.7	145	8.7	1.32	3.79	28342	54.78	202.98	8.4	14.9
974.0	67.9	38.6	145	8.7	1.29	3.80	28470	53.77	202.03	8.4	14.9
975.0	67.9	39.7	145	8.7	1.30	3.81	28598	53.77	201.09	8.4	14.9
976.0	69.2	38.8	145	8.7	1.28	3.83	28724	52.75	200.15	8.4	14.9
977.0	52.9	37.2	145	8.7	1.36	3.85	28888	68.98	199.33	8.4	14.9
978.0	66.7	38.7	145	8.7	1.30	3.86	29019	54.78	198.43	8.4	14.9
979.0	49.3	37.9	145	8.7	1.39	3.88	29195	74.05	197.66	8.4	14.9
980.0	66.7	38.8	145	8.7	1.30	3.90	29326	54.78	196.78	8.4	14.9
981.0	51.4	37.2	145	8.7	1.37	3.92	29495	71.01	196.01	8.4	14.9
982.0	55.0	39.0	145	8.7	1.36	3.94	29653	66.40	195.22	8.4	14.9
983.0	62.0	38.2	145	8.7	1.31	3.95	29793	58.90	194.39	8.4	14.9
984.0	68.2	37.6	145	8.7	1.27	3.97	29921	53.55	193.55	8.4	14.9
985.0	61.1	34.7	145	8.7	1.28	3.98	30063	59.74	192.75	8.4	14.9
986.0	78.3	37.0	145	8.7	1.22	4.00	30175	46.66	191.88	8.4	14.9
987.0	73.5	37.6	145	8.7	1.25	4.01	30293	49.71	191.04	8.4	14.9
988.0	72.0	37.5	145	8.7	1.26	4.02	30414	50.72	190.22	8.4	14.9
989.0	80.0	37.4	145	8.7	1.22	4.04	30523	45.65	189.38	8.4	14.9
990.0	63.2	40.2	145	8.7	1.33	4.05	30660	57.82	188.61	8.4	14.9
991.0	65.0	40.0	145	8.7	1.32	4.07	30794	56.18	187.85	8.4	14.9
992.0	62.0	40.0	145	8.7	1.33	4.08	30934	58.90	187.11	8.4	14.9
993.0	72.0	39.6	145	8.7	1.28	4.10	31055	50.72	186.33	8.4	14.9
994.0	66.7	40.1	145	8.7	1.31	4.11	31186	54.78	185.59	8.4	14.9
995.0	72.0	40.2	145	8.7	1.28	4.13	31307	50.72	184.83	8.4	14.9
996.0	60.0	39.7	145	8.7	1.34	4.14	31452	60.87	184.13	8.4	14.9
997.0	65.5	39.0	145	8.7	1.30	4.16	31585	55.79	183.42	8.4	14.9
998.0	59.0	39.0	145	8.7	1.34	4.18	31732	61.88	182.74	8.4	14.9
999.0	66.7	39.6	145	8.7	1.30	4.19	31862	54.78	182.04	8.4	15.0
1000.0	55.0	40.0	145	8.7	1.38	4.21	32021	66.40	181.40	8.4	15.0
1001.3	53.3	39.7	145	8.7	1.38	4.23	32233	68.48	180.60	8.4	15.0

BIT NUMBER	3	IADC CODE	114	INTERVAL	1001.3- 1151.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 32
COST	2381.00	TRIP TIME	4.8	BIT RUN	149.7
TOTAL HOURS	8.76	TOTAL TURNS	236560	CONDITION	T1 B1 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1002.0	10.1	5.0	450	8.7	1.45	0.07	1864	360	28804	8.4	15.0
1003.0	16.8	7.3	450	8.7	1.44	0.13	3469	217	11988	8.4	15.0
1004.0	15.2	4.4	450	8.7	1.33	0.19	5246	240	7637	8.4	15.0
1005.0	13.2	2.9	450	8.7	1.26	0.27	7294	277	5648	8.4	15.0
1006.0	11.8	2.7	450	8.7	1.27	0.35	9574	308	4512	8.4	15.0
1007.0	12.5	2.8	450	8.7	1.27	0.43	11741	293	3772	8.4	15.0
1008.0	24.5	5.3	450	8.7	1.27	0.48	12844	149	3231	8.4	15.0
1009.0	26.9	5.0	450	8.7	1.24	0.51	13849	136	2829	8.4	15.0
1010.0	28.8	5.0	450	8.7	1.23	0.55	14786	127	2518	8.4	15.0
1011.0	34.3	5.8	450	8.7	1.22	0.58	15574	107	2270	8.4	15.0
1012.0	30.5	5.7	450	8.7	1.24	0.61	16459	120	2069	8.4	15.0
1013.0	26.5	6.3	450	8.7	1.30	0.65	17479	138	1904	8.4	15.0
1014.0	28.3	7.2	450	8.7	1.32	0.68	18431	129	1764	8.4	15.0
1015.0	13.6	5.0	450	8.7	1.39	0.76	20419	269	1655	8.4	15.0
1016.0	13.8	2.0	450	8.9	1.15	0.83	22376	265	1560	8.4	15.0
1017.0	26.9	2.0	450	9.0	1.02	0.87	23381	136	1470	8.4	15.0
1018.0	21.7	2.0	450	9.0	1.06	0.91	24626	168	1392	8.4	15.0
1019.0	29.3	2.0	450	9.0	1.00	0.95	25549	125	1320	8.4	15.0
1020.0	30.0	2.0	450	9.0	1.00	0.98	26449	122	1256	8.4	15.0
1021.0	26.3	2.0	450	9.0	1.02	1.02	27476	139	1199	8.4	15.0
1022.0	18.8	2.0	450	9.0	1.08	1.07	28909	194	1151	8.4	15.0
1023.0	35.6	2.0	450	9.0	0.97	1.10	29666	102	1102	8.4	15.0
1024.0	128.6	1.8	450	9.0	0.73	1.11	29876	28	1055	8.4	15.0
1025.0	40.9	0.4	450	9.0	0.75	1.13	30536	89	1014	8.4	15.0
1026.0	150.0	1.9	450	9.0	0.71	1.14	30716	24.35	974.30	8.4	15.0
1027.0	52.9	1.2	450	9.0	0.83	1.16	31226	68.98	939.08	8.4	15.0
1028.0	75.0	0.5	450	9.0	0.69	1.17	31586	48.69	905.73	8.4	15.0
1029.0	81.8	2.1	450	9.0	0.83	1.18	31916	44.64	874.64	8.4	15.0
1030.0	64.3	1.0	450	9.0	0.78	1.20	32336	56.81	846.15	8.4	15.0
1031.0	61.0	1.6	450	9.0	0.84	1.21	32779	59.85	819.67	8.4	15.0
1032.0	58.1	1.1	450	9.0	0.80	1.23	33244	62.90	795.02	8.4	15.0
1033.0	133.3	2.3	450	9.0	0.75	1.24	33446	27.39	770.80	8.4	15.0
1034.0	55.4	1.7	450	9.0	0.87	1.26	33934	65.94	749.25	8.4	15.0
1035.0	100.0	2.1	450	9.0	0.79	1.27	34204	36.52	728.10	8.4	15.0
1036.0	73.5	2.9	450	9.0	0.89	1.28	34571	49.71	708.55	8.4	15.0
1037.0	57.1	2.8	450	9.0	0.94	1.30	35044	63.91	690.49	8.4	15.0
1038.0	83.7	12.4	450	9.0	1.16	1.31	35366	43.62	672.87	8.4	15.0
1039.0	75.0	8.4	450	9.0	1.09	1.32	35726	48.69	656.31	8.4	15.0
1040.0	80.0	7.9	450	9.0	1.06	1.34	36064	45.65	640.53	8.4	15.0
1041.0	76.6	8.1	450	9.0	1.08	1.35	36416	47.68	625.60	8.4	15.0
1042.0	87.8	8.6	450	9.0	1.06	1.36	36724	41.59	611.25	8.4	15.0
1043.0	76.6	8.0	450	9.0	1.07	1.37	37076	47.68	597.73	8.4	15.1
1044.0	128.6	9.6	450	9.0	0.99	1.38	37286	28.40	584.40	8.4	15.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1045.0	94.7	10.4	450	9.0	1.08	1.39	37571	38.55	571.91	8.4	15.1
1046.0	124.1	9.8	450	9.0	1.00	1.40	37789	29.42	559.77	8.4	15.1
1047.0	116.1	11.0	450	9.0	1.04	1.41	38021	31.45	548.21	8.4	15.1
1048.0	60.0	11.0	450	9.0	1.21	1.42	38471	60.87	537.78	8.4	15.1
1049.0	6.0	2.0	450	9.0	1.29	1.59	42971	608.67	539.26	8.4	15.1
1050.0	6.0	2.0	450	9.0	1.29	1.76	47471	608.67	540.69	8.4	15.1
1051.0	6.6	1.0	450	9.0	1.14	1.91	51562	553.33	540.94	8.4	15.1
1052.0	2.6	1.0	450	9.0	1.29	2.29	61947	1405	558	8.4	15.1
1053.0	2.6	3.0	450	9.0	1.54	2.68	72331	1405	574	8.4	15.1
1054.0	10.0	3.0	450	9.0	1.28	2.78	75031	365.20	570.39	8.4	15.1
1055.0	8.6	3.0	450	9.0	1.31	2.90	78171	424.65	567.67	8.4	15.1
1056.0	7.5	3.0	450	9.0	1.33	3.03	81771	486.93	566.20	8.4	15.1
1057.0	30.0	7.0	450	9.0	1.25	3.06	82671	121.73	558.22	8.4	15.1
1058.0	5.0	7.0	450	9.0	1.65	3.26	88071	730.40	561.25	8.4	15.1
1059.0	15.0	7.0	450	9.0	1.41	3.33	89871	243.47	555.74	8.4	15.1
1060.0	5.5	7.0	450	9.0	1.63	3.51	94780	664.00	557.59	8.4	15.1
1064.0	5.5	7.0	450	9.0	1.63	4.24	114416	664.00	564.38	8.4	15.1
1065.0	10.6	7.0	450	9.0	1.48	4.33	116964	344.53	560.93	8.4	15.1
1066.0	20.0	7.0	450	9.0	1.34	4.38	118314	182.60	555.08	8.4	15.1
1068.0	20.0	7.0	450	9.0	1.34	4.48	121014	182.60	543.91	8.4	15.1
1069.0	8.0	10.0	450	9.0	1.67	4.61	124389	456.50	542.62	8.4	15.1
1070.0	9.0	10.0	450	9.0	1.64	4.72	127389	405.78	540.63	8.4	15.1
1071.0	8.0	10.0	450	9.0	1.67	4.84	130764	456.50	539.42	8.4	15.1
1072.0	15.0	10.0	450	9.0	1.52	4.91	132564	243.47	535.23	8.4	15.1
1073.0	60.0	10.0	450	9.0	1.18	4.93	133014	60.87	528.62	8.4	15.1
1074.0	30.0	10.0	450	9.0	1.35	4.96	133914	121.73	523.02	8.4	15.1
1075.0	30.0	10.0	450	9.0	1.35	4.99	134814	121.73	517.58	8.4	15.1
1076.0	30.0	10.0	450	9.0	1.35	5.03	135714	121.73	512.28	8.4	15.1
1077.0	12.0	10.0	450	9.0	1.57	5.11	137964	304.33	509.53	8.4	15.1
1078.0	15.0	10.0	450	9.0	1.52	5.18	139764	243.47	506.06	8.4	15.1
1079.0	30.0	10.0	450	9.0	1.35	5.21	140664	121.73	501.12	8.4	15.1
1080.0	45.0	10.0	450	9.0	1.25	5.23	141264	81.16	495.78	8.4	15.1
1081.0	30.0	10.0	450	9.0	1.35	5.27	142164	121.73	491.09	8.4	15.1
1082.0	30.0	10.0	450	9.0	1.35	5.30	143064	121.73	486.51	8.4	15.1
1083.0	30.0	10.0	450	9.0	1.35	5.33	143964	121.73	482.04	8.4	15.1
1084.0	60.0	10.0	450	9.0	1.18	5.35	144414	60.87	476.95	8.4	15.1
1085.0	60.0	10.0	450	9.0	1.18	5.37	144864	60.87	471.98	8.4	15.1
1086.0	60.0	10.0	450	9.0	1.18	5.38	145314	60.87	467.13	8.4	15.1
1087.0	35.0	10.0	450	9.0	1.31	5.41	146085	104.34	462.89	8.4	15.1
1088.0	60.0	10.0	450	9.0	1.18	5.43	146535	60.87	458.26	8.4	15.2
1089.0	30.0	10.0	450	9.0	1.35	5.46	147435	121.73	454.42	8.4	15.2
1090.0	30.0	10.0	450	9.0	1.35	5.49	148335	121.73	450.67	8.4	15.2
1091.0	30.0	10.0	450	9.0	1.35	5.53	149235	121.73	447.00	8.4	15.2
1092.0	15.0	10.0	450	9.0	1.52	5.59	151035	243.47	444.76	8.4	15.2
1093.0	12.0	22.0	450	9.0	1.89	5.68	153285	304.33	443.23	8.4	15.2
1094.0	30.0	22.0	450	9.0	1.63	5.71	154185	121.73	439.76	8.4	15.2
1095.0	45.0	22.0	450	9.0	1.51	5.73	154785	81.16	435.93	8.4	15.2
1096.0	30.0	15.0	450	9.0	1.48	5.77	155685	121.73	432.61	8.4	15.2
1097.0	20.0	15.0	450	9.0	1.58	5.82	157035	182.60	430.00	8.4	15.2
1098.0	15.0	10.0	450	9.0	1.52	5.88	158835	243.47	428.07	8.4	15.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1099.0	10.0	10.0	450	9.0	1.61	5.98	161535	365.20	427.43	8.4	15.2
1100.0	20.0	10.0	450	9.0	1.45	6.03	162885	182.60	424.95	8.4	15.2
1101.0	30.0	10.0	450	9.0	1.35	6.07	163785	121.73	421.91	8.4	15.2
1102.0	30.0	10.0	450	9.0	1.35	6.10	164685	121.73	418.93	8.4	15.2
1103.0	30.0	10.0	450	9.0	1.35	6.13	165585	121.73	416.00	8.4	15.2
1104.0	30.0	10.0	450	9.0	1.35	6.17	166485	121.73	413.14	8.4	15.2
1105.0	40.0	10.0	450	9.0	1.28	6.19	167160	91.30	410.03	8.4	15.2
1106.0	10.0	10.0	450	9.0	1.61	6.29	169860	365.20	409.61	8.4	15.2
1107.0	30.0	10.0	450	9.0	1.35	6.32	170760	121.73	406.88	8.4	15.2
1108.0	30.0	10.0	450	9.0	1.35	6.36	171660	121.73	404.21	8.4	15.2
1109.0	20.0	10.0	450	9.0	1.45	6.41	173010	182.60	402.15	8.4	15.2
1110.0	30.0	10.0	450	9.0	1.35	6.44	173910	121.73	399.57	8.4	15.2
1111.0	30.0	10.0	450	9.0	1.35	6.47	174810	121.73	397.04	8.4	15.2
1112.0	20.0	10.0	450	9.0	1.45	6.52	176160	182.60	395.10	8.4	15.2
1113.0	15.0	10.0	450	9.0	1.52	6.59	177960	243.47	393.75	8.4	15.2
1114.0	15.0	10.0	450	9.0	1.52	6.66	179760	243.47	392.41	8.4	15.2
1115.0	5.7	4.8	450	9.0	1.51	6.83	184497	640.70	394.60	8.4	15.2
1116.0	20.0	4.8	450	9.0	1.25	6.88	185847	182.60	392.75	8.4	15.2
1117.0	15.0	4.8	450	9.0	1.31	6.95	187647	243.47	391.46	8.4	15.2
1118.0	15.0	4.8	450	9.0	1.31	7.02	189447	243.47	390.19	8.4	15.2
1119.0	15.0	4.8	450	9.0	1.31	7.08	191247	243.47	388.94	8.4	15.2
1120.0	20.0	5.0	450	9.0	1.26	7.13	192597	182.60	387.20	8.4	15.2
1121.0	21.0	5.0	450	9.0	1.25	7.18	193883	173.90	385.42	8.4	15.2
1122.0	30.0	5.0	450	9.0	1.17	7.21	194783	121.73	383.24	8.4	15.2
1123.0	12.0	5.0	450	9.0	1.36	7.30	197033	304.33	382.59	8.4	15.2
1124.0	31.0	5.0	450	9.0	1.17	7.33	197904	117.81	380.43	8.4	15.2
1125.0	30.0	5.0	450	9.0	1.17	7.36	198804	121.73	378.34	8.4	15.2
1126.0	30.0	5.0	450	9.0	1.17	7.40	199704	121.73	376.28	8.4	15.2
1127.0	20.0	5.0	450	9.0	1.26	7.45	201054	182.60	374.74	8.4	15.2
1128.0	20.0	5.0	450	9.0	1.26	7.50	202404	182.60	373.22	8.4	15.2
1129.0	19.0	5.0	450	9.0	1.27	7.55	203825	192.21	371.81	8.4	15.2
1130.0	19.0	5.0	450	9.0	1.27	7.60	205246	192.21	370.41	8.4	15.2
1131.0	20.0	5.0	450	9.0	1.26	7.65	206596	182.60	368.96	8.4	15.2
1132.0	20.0	5.0	450	9.0	1.26	7.70	207946	182.60	367.54	8.4	15.2
1133.0	21.0	5.0	450	9.0	1.25	7.75	209231	173.90	366.07	8.4	15.2
1134.0	19.0	5.0	450	9.0	1.27	7.80	210652	192.21	364.76	8.4	15.2
1135.0	30.0	5.0	450	9.0	1.17	7.84	211552	121.73	362.94	8.4	15.3
1136.0	15.0	5.0	450	9.0	1.32	7.90	213352	243.47	362.05	8.4	15.3
1137.0	30.0	5.0	450	9.0	1.17	7.94	214252	121.73	360.28	8.4	15.3
1138.0	30.0	5.0	450	9.0	1.17	7.97	215152	121.73	358.54	8.4	15.3
1139.0	30.0	5.0	450	9.0	1.17	8.00	216052	121.73	356.82	8.4	15.3
1140.0	20.0	5.0	450	9.0	1.26	8.05	217402	182.60	355.56	8.4	15.3
1141.0	20.0	5.0	450	9.0	1.26	8.10	218752	182.60	354.32	8.4	15.3
1142.0	12.0	5.0	450	9.0	1.36	8.19	221002	304.33	353.97	8.4	15.3
1143.0	15.0	5.0	450	9.0	1.32	8.25	222802	243.47	353.19	8.4	15.3
1144.0	15.0	5.0	450	9.0	1.32	8.32	224602	243.47	352.42	8.4	15.3
1145.0	60.0	5.0	450	9.0	1.03	8.34	225052	60.87	350.39	8.4	15.3
1146.0	15.0	5.0	450	9.0	1.32	8.40	226852	243.47	349.65	8.4	15.3
1147.0	20.0	5.0	450	9.0	1.26	8.45	228202	182.60	348.50	8.4	15.3
1148.0	20.0	5.0	450	9.0	1.26	8.50	229552	182.60	347.37	8.4	15.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1149.0	20.0	5.0	450	9.0	1.26	8.55	230902	182.60	346.26	8.4	15.3
1150.0	7.0	5.0	450	9.0	1.48	8.69	234760	521.71	347.44	8.4	15.3
1151.0	15.0	5.0	450	9.0	1.32	8.76	236560	243.47	346.74	8.4	15.3

BIT NUMBER	3	IADC CODE	114	INTERVAL	1151.0- 1252.5
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	0.00	TRIP TIME	4.5	BIT RUN	101.5
TOTAL HOURS	12.87	TOTAL TURNS	258476	CONDITION	T4 B3 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1152.0	20.0	50.0	100	9.0	1.66	8.81	236860	182.60	322.55	8.4	15.3
1153.0	40.0	50.0	100	9.0	1.41	8.84	237010	91.30	321.02	8.4	15.3
1154.0	50.0	50.0	100	9.0	1.33	8.86	237130	73.04	319.40	8.4	15.3
1155.0	20.0	50.0	100	9.0	1.66	8.91	237430	182.60	318.51	8.4	15.3
1156.0	60.0	50.0	100	9.0	1.26	8.92	237530	60.87	316.85	8.4	15.3
1157.0	50.0	50.0	100	9.0	1.33	8.94	237650	73.04	315.28	8.4	15.3
1158.0	20.0	50.0	100	9.0	1.66	8.99	237950	182.60	314.43	8.4	15.3
1159.0	20.0	50.0	100	9.0	1.66	9.04	238250	182.60	313.60	8.4	15.3
1160.0	15.0	50.0	100	9.0	1.77	9.11	238650	243.47	313.15	8.4	15.3
1161.0	12.0	50.0	100	9.0	1.85	9.19	239150	304.33	313.10	8.4	15.3
1162.0	25.0	50.0	100	9.0	1.58	9.23	239390	146.08	312.06	8.4	15.3
1163.0	60.0	50.0	100	9.0	1.26	9.25	239490	60.87	310.51	8.4	15.3
1164.0	30.0	50.0	100	9.0	1.51	9.28	239690	121.73	309.35	8.4	15.3
1165.0	30.0	50.0	100	9.0	1.51	9.32	239890	121.73	308.20	8.4	15.3
1166.0	30.0	50.0	100	9.0	1.51	9.35	240090	121.73	307.07	8.4	15.3
1167.0	60.0	50.0	100	9.0	1.26	9.37	240190	60.87	305.58	8.4	15.3
1168.0	60.0	50.0	100	9.0	1.26	9.38	240290	60.87	304.11	8.4	15.3
1169.0	60.0	50.0	100	9.0	1.26	9.40	240390	60.87	302.66	8.4	15.3
1170.0	40.0	50.0	100	9.0	1.41	9.42	240540	91.30	301.41	8.4	15.3
1171.0	60.0	50.0	100	9.0	1.26	9.44	240640	60.87	299.99	8.4	15.3
1172.0	60.0	50.0	100	9.0	1.26	9.46	240740	60.87	298.59	8.4	15.3
1173.0	30.0	50.0	100	9.0	1.51	9.49	240940	121.73	297.56	8.4	15.3
1174.0	30.0	50.0	100	9.0	1.51	9.52	241140	121.73	296.54	8.4	15.3
1175.0	60.0	50.0	100	9.0	1.26	9.54	241240	60.87	295.19	8.4	15.3
1176.0	60.0	50.0	100	9.0	1.26	9.56	241340	60.87	293.85	8.4	15.3
1177.0	60.0	50.0	100	9.0	1.26	9.57	241440	60.87	292.52	8.4	15.3
1178.0	30.0	50.0	100	9.0	1.51	9.61	241640	121.73	291.55	8.4	15.3
1179.0	35.0	50.0	80	9.0	1.38	9.64	241777	104.34	290.50	8.4	15.3
1180.0	37.0	48.0	80	9.0	1.34	9.66	241907	98.70	289.43	8.4	15.3
1181.0	32.0	50.0	80	9.0	1.41	9.69	242057	114.13	288.45	8.4	15.3
1182.0	44.0	50.0	80	9.0	1.29	9.72	242166	83.00	287.31	8.4	15.3
1183.0	28.0	49.0	80	9.0	1.45	9.75	242337	130.43	286.45	8.4	15.3
1184.0	29.0	48.0	80	9.0	1.43	9.79	242503	125.93	285.57	8.4	15.4
1185.0	36.0	49.0	80	9.0	1.36	9.81	242636	101.44	284.57	8.4	15.4
1186.0	45.0	48.0	80	9.0	1.27	9.84	242743	81.16	283.47	8.4	15.4
1187.0	43.0	50.0	80	9.0	1.30	9.86	242855	84.93	282.40	8.4	15.4
1188.0	32.0	49.0	80	9.0	1.40	9.89	243005	114.13	281.50	8.4	15.4
1189.0	42.0	49.0	80	9.0	1.30	9.91	243119	86.95	280.46	8.4	15.4
1190.0	36.0	50.0	80	9.0	1.36	9.94	243252	101.44	279.51	8.4	15.4
1191.0	41.0	50.0	80	9.0	1.32	9.97	243369	89.07	278.51	8.4	15.4
1192.0	36.0	50.0	80	9.0	1.36	9.99	243503	101.44	277.58	8.4	15.4
1193.0	31.5	43.5	80	9.0	1.35	10.03	243655	116.10	276.74	8.4	15.4
1194.0	37.9	47.6	80	9.0	1.32	10.05	243782	96.37	275.80	8.4	15.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1195.0	43.4	48.0	80	9.0	1.28	10.08	243892	84.20	274.81	8.4	15.4
1196.0	44.4	48.1	80	9.0	1.27	10.10	244000	82.17	273.82	8.4	15.4
1197.0	45.5	48.0	90	9.0	1.30	10.12	244119	80.26	272.83	8.4	15.4
1198.0	35.6	46.0	80	9.0	1.33	10.15	244254	102.46	271.97	8.4	15.4
1199.0	25.7	49.0	80	9.0	1.48	10.19	244441	142.02	271.31	8.4	15.4
1200.0	28.3	49.0	80	9.0	1.44	10.22	244610	128.83	270.59	8.4	15.4
1201.0	21.6	49.4	80	9.0	1.55	10.27	244833	169.41	270.09	8.4	15.4
1202.0	26.5	49.4	80	9.0	1.47	10.31	245014	137.96	269.43	8.4	15.4
1203.0	27.1	49.8	80	9.0	1.47	10.34	245191	134.92	268.76	8.4	15.4
1204.0	26.9	50.0	80	9.0	1.47	10.38	245370	135.94	268.11	8.4	15.4
1205.0	14.1	50.0	80	9.0	1.71	10.45	245710	258.68	268.06	8.4	15.4
1206.0	12.8	48.8	80	9.0	1.73	10.53	246085	285.06	268.14	8.4	15.4
1207.0	21.6	45.3	80	9.0	1.50	10.58	246307	169.07	267.66	8.4	15.4
1208.0	22.8	46.7	80	9.0	1.50	10.62	246517	160.28	267.14	8.4	15.4
1209.0	22.1	46.6	80	9.0	1.51	10.67	246735	165.35	266.65	8.4	15.4
1210.0	22.8	46.3	80	9.0	1.49	10.71	246945	160.28	266.14	8.4	15.4
1211.0	22.5	46.5	80	9.0	1.50	10.75	247159	162.31	265.65	8.4	15.4
1212.0	26.1	46.3	80	9.0	1.45	10.79	247343	139.99	265.05	8.4	15.4
1213.0	31.0	46.8	80	9.0	1.39	10.82	247497	117.68	264.36	8.4	15.4
1214.0	33.6	46.1	80	9.0	1.35	10.85	247640	108.55	263.62	8.4	15.4
1215.0	31.0	46.7	80	9.0	1.39	10.89	247795	117.68	262.94	8.4	15.4
1216.0	40.0	43.9	80	9.0	1.27	10.91	247915	91.30	262.14	8.4	15.4
1217.0	69.9	41.9	80	9.0	1.06	10.93	247983	52.24	261.17	8.4	15.4
1218.0	30.0	48.3	80	9.0	1.42	10.96	248143	121.73	260.52	8.4	15.4
1219.0	15.4	48.7	88	9.0	1.70	11.02	248486	237.38	260.42	8.4	15.4
1220.0	20.2	49.0	90	9.0	1.61	11.07	248753	180.57	260.05	8.4	15.4
1221.0	20.9	48.9	90	9.0	1.60	11.12	249011	174.48	259.66	8.4	15.4
1222.0	21.8	48.9	90	9.0	1.58	11.17	249259	167.38	259.24	8.4	15.4
1223.0	23.2	49.0	90	9.0	1.56	11.21	249491	157.24	258.78	8.4	15.4
1224.0	25.2	49.2	90	9.0	1.53	11.25	249706	145.07	258.27	8.4	15.4
1225.0	12.0	50.7	90	8.9	1.84	11.33	250156	304.33	258.48	8.4	15.4
1226.0	18.3	49.6	90	8.9	1.67	11.39	250451	199.85	258.22	8.4	15.4
1227.0	17.4	49.7	90	8.9	1.69	11.45	250762	209.99	258.01	8.4	15.4
1228.0	15.0	49.8	90	8.9	1.75	11.51	251122	243.47	257.94	8.4	15.4
1229.0	17.6	50.3	90	8.9	1.70	11.57	251428	206.95	257.72	8.4	15.4
1230.0	17.3	50.4	90	8.9	1.70	11.63	251740	211.00	257.51	8.4	15.4
1231.0	17.6	50.2	90	8.9	1.70	11.68	252047	207.96	257.30	8.4	15.4
1232.0	18.0	50.4	90	8.9	1.69	11.74	252347	202.89	257.06	8.4	15.4
1233.0	19.6	50.4	90	8.9	1.66	11.79	252623	186.66	256.76	8.4	15.4
1234.0	17.0	50.0	90	9.0	1.68	11.85	252941	214.82	256.58	8.4	15.4
1235.0	20.6	47.0	90	8.9	1.60	11.90	253203	177.53	256.24	8.4	15.4
1236.0	23.7	46.7	90	8.9	1.55	11.94	253431	154.20	255.80	8.4	15.5
1237.0	25.7	48.2	90	8.9	1.53	11.98	253641	142.02	255.32	8.4	15.5
1238.0	21.7	48.6	90	8.9	1.60	12.02	253890	168.40	254.95	8.4	15.5
1239.0	19.0	49.4	90	8.9	1.66	12.08	254174	191.73	254.69	8.4	15.5
1240.0	21.3	49.3	90	8.9	1.61	12.12	254427	171.44	254.34	8.4	15.5
1241.0	19.8	49.3	90	8.9	1.64	12.17	254700	184.63	254.05	8.4	15.5
1242.0	17.8	49.5	90	8.9	1.68	12.23	255003	204.92	253.84	8.4	15.5
1243.0	19.8	49.8	90	8.9	1.65	12.28	255276	184.63	253.56	8.4	15.5
1244.0	15.3	51.8	90	8.9	1.75	12.35	255630	239.41	253.50	8.4	15.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1245.0	15.9	49.7	90	9.0	1.71	12.41	255969	229.26	253.40	8.4	15.5
1246.0	16.7	50.7	90	9.0	1.70	12.47	256292	218.11	253.26	8.4	15.5
1247.0	15.8	51.0	90	9.0	1.72	12.53	256634	231.29	253.17	8.4	15.5
1248.0	16.5	50.0	90	9.0	1.70	12.59	256961	221.33	253.04	8.4	15.5
1249.0	16.5	50.0	90	9.0	1.70	12.65	257288	221.33	252.91	8.4	15.5
1250.0	16.0	50.0	90	9.0	1.71	12.72	257626	228.25	252.81	8.4	15.5
1251.0	15.6	50.0	90	9.0	1.72	12.78	257972	234.10	252.74	8.4	15.5
1252.0	16.5	50.0	90	9.0	1.70	12.84	258299	221.33	252.61	8.4	15.5
1252.5	15.3	51.3	90	9.0	1.74	12.87	258476	238.96	252.58	8.4	15.5

BIT NUMBER	4	IADC CODE	114	INTERVAL	1252.5- 1450.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2381.00	TRIP TIME	5.1	BIT RUN	197.5
TOTAL HOURS	10.24	TOTAL TURNS	91867	CONDITION	T1 B1 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	TCOST	CCOST	PP	FG
1253.0	25.9	30.0	130	9.0	1.42	0.02	151	141	42153	8.4	15.5
1254.0	23.1	44.5	130	9.0	1.64	0.06	489	158	14157	8.4	15.5
1255.0	22.2	42.7	130	9.0	1.64	0.11	840	164	8560	8.4	15.5
1256.0	28.6	43.0	130	9.0	1.55	0.14	1113	128	6151	8.4	15.5
1257.0	27.9	41.4	130	9.0	1.54	0.18	1392	131	4813	8.4	15.5
1258.0	28.1	42.1	130	9.0	1.55	0.21	1669	130	3961	8.4	15.5
1259.0	30.0	43.6	140	9.0	1.57	0.25	1948	122	3371	8.4	15.5
1260.0	27.9	45.1	150	9.0	1.63	0.28	2271	131	2939	8.4	15.5
1261.0	36.0	45.0	150	9.0	1.54	0.31	2521	101	2605	8.4	15.5
1262.0	30.1	45.0	150	9.0	1.61	0.34	2820	121	2343	8.4	15.5
1263.0	27.8	45.0	150	9.0	1.63	0.38	3144	131	2133	8.4	15.5
1264.0	27.0	44.9	150	9.0	1.64	0.42	3477	135	1959	8.4	15.5
1265.0	24.3	45.2	150	9.0	1.68	0.46	3847	150	1814	8.4	15.5
1266.0	33.5	45.0	150	9.0	1.57	0.49	4116	109	1688	8.4	15.5
1267.0	29.0	45.8	150	9.0	1.63	0.52	4426	126	1580	8.4	15.5
1268.0	30.0	49.6	150	9.0	1.66	0.56	4726	122	1486	8.4	15.5
1269.0	28.3	46.4	150	9.0	1.64	0.59	5044	129	1404	8.4	15.5
1270.0	23.0	46.0	150	9.2	1.68	0.63	5435	159	1333	8.4	15.5
1271.0	23.2	47.1	150	9.2	1.69	0.68	5823	157	1269	8.4	15.5
1272.0	20.4	46.5	150	9.2	1.72	0.73	6264	179	1213	8.4	15.5
1273.0	23.7	48.5	150	9.2	1.70	0.77	6644	154	1162	8.4	15.5
1274.0	22.2	47.1	150	9.2	1.70	0.81	7049	164	1115	8.4	15.5
1275.0	19.7	46.9	150	9.2	1.74	0.86	7507	186	1074	8.4	15.5
1276.0	20.2	47.3	150	9.2	1.74	0.91	7952	181	1036	8.4	15.5
1277.0	22.1	47.0	150	9.2	1.70	0.96	8359	165	1000	8.4	15.5
1278.0	22.0	46.5	150	9.2	1.70	1.01	8769	166.37	967.73	8.4	15.5
1279.0	23.8	46.4	150	9.2	1.67	1.05	9147	153.18	937.00	8.4	15.5
1280.0	20.6	46.4	150	9.2	1.72	1.10	9584	177.53	909.38	8.4	15.5
1281.0	20.7	45.4	150	9.2	1.71	1.14	10019	176.51	883.66	8.4	15.5
1282.0	28.3	43.1	150	9.2	1.57	1.18	10337	129.05	858.08	8.4	15.5
1283.0	24.9	43.3	150	9.2	1.62	1.22	10698	146.67	834.76	8.4	15.5
1284.0	28.2	42.1	150	9.2	1.56	1.26	11018	129.62	812.37	8.4	15.5
1285.0	29.8	41.8	150	9.2	1.54	1.29	11320	122.75	791.15	8.4	15.5
1286.0	29.3	42.8	150	9.2	1.56	1.32	11628	124.78	771.26	8.4	15.5
1287.0	32.1	43.7	150	9.2	1.54	1.35	11908	113.62	752.20	8.4	15.5
1288.0	31.0	45.7	150	9.2	1.57	1.39	12198	117.68	734.33	8.4	15.5
1289.0	33.3	44.6	150	9.2	1.53	1.42	12468	109.56	717.21	8.4	15.5
1290.0	30.5	44.1	150	9.2	1.56	1.45	12763	119.70	701.28	8.4	15.5
1291.0	22.8	43.3	150	9.2	1.65	1.49	13158	160.28	687.22	8.4	15.5
1292.0	30.5	46.0	150	9.2	1.58	1.53	13453	119.70	672.86	8.4	15.5
1293.0	32.1	45.1	150	9.2	1.55	1.56	13733	113.62	659.05	8.4	15.5
1294.0	27.5	44.2	150	9.2	1.59	1.59	14060	132.89	646.37	8.4	15.6
1295.0	28.3	44.8	150	9.2	1.59	1.63	14378	128.83	634.19	8.4	15.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1296.0	27.1	44.0	150	9.2	1.60	1.67	14710	134.92	622.72	8.4	15.6
1297.0	30.8	46.0	150	9.2	1.58	1.70	15003	118.69	611.39	8.4	15.6
1298.0	27.3	45.5	150	9.2	1.61	1.73	15333	133.91	600.89	8.4	15.6
1299.0	23.2	44.7	150	9.2	1.66	1.78	15720	157.24	591.35	8.4	15.6
1300.0	20.1	43.0	150	9.2	1.69	1.83	16168	181.59	582.73	8.4	15.6
1301.0	27.1	44.6	150	9.2	1.61	1.86	16500	134.92	573.49	8.4	15.6
1302.0	25.2	45.9	150	9.2	1.65	1.90	16858	145.07	564.84	8.4	15.6
1303.0	24.8	46.1	150	9.2	1.65	1.94	17220	147.09	556.57	8.4	15.6
1304.0	24.0	46.1	150	9.2	1.66	1.99	17595	152.17	548.71	8.4	15.6
1305.0	26.7	46.6	150	9.2	1.63	2.02	17933	136.95	540.87	8.4	15.6
1306.0	25.2	46.2	150	9.2	1.65	2.06	18290	145.07	533.47	8.4	15.6
1307.0	25.2	46.5	150	9.2	1.65	2.10	18648	145.07	526.35	8.4	15.6
1308.0	26.1	46.7	150	9.2	1.64	2.14	18993	139.99	519.38	8.4	15.6
1309.0	25.2	45.4	150	9.2	1.64	2.18	19350	145.07	512.76	8.4	15.6
1310.0	23.1	44.5	150	9.2	1.66	2.22	19740	158.25	506.59	8.4	15.6
1311.0	22.5	44.4	150	9.2	1.67	2.27	20140	162.31	500.71	8.4	15.6
1312.0	27.7	44.5	150	9.2	1.60	2.30	20465	131.88	494.51	8.4	15.6
1313.0	31.6	44.9	150	9.2	1.55	2.34	20750	115.65	488.25	8.4	15.6
1314.0	22.0	45.0	150	9.2	1.68	2.38	21160	166.00	483.01	8.4	15.6
1315.0	30.0	44.8	150	9.2	1.57	2.42	21460	121.73	477.23	8.4	15.6
1316.0	27.0	45.0	150	9.2	1.61	2.45	21793	135.26	471.84	8.4	15.6
1317.0	24.2	45.1	150	9.2	1.65	2.49	22165	150.91	466.87	8.4	15.6
1318.0	27.9	45.1	150	9.2	1.60	2.53	22487	130.90	461.74	8.4	15.6
1319.0	25.3	44.7	150	9.2	1.63	2.57	22843	144.35	456.96	8.4	15.6
1320.0	34.3	42.8	150	9.2	1.50	2.60	23106	106.52	451.77	8.4	15.6
1321.0	39.1	43.4	150	9.2	1.46	2.62	23336	93.33	446.54	8.4	15.6
1322.0	37.9	45.3	150	9.2	1.50	2.65	23573	96.37	441.50	8.4	15.6
1323.0	23.8	46.2	150	9.2	1.67	2.69	23951	153.18	437.41	8.4	15.6
1324.0	25.9	44.4	150	9.2	1.62	2.73	24298	141.01	433.27	8.4	15.6
1325.0	25.4	45.8	150	9.2	1.64	2.77	24653	144.05	429.28	8.4	15.6
1326.0	13.2	44.1	150	9.2	1.85	2.85	25336	276.94	427.20	8.4	15.6
1327.0	15.8	43.4	150	9.2	1.78	2.91	25906	231.29	424.58	8.4	15.6
1328.0	17.9	44.7	150	9.2	1.75	2.97	26408	203.90	421.65	8.4	15.6
1329.0	20.8	43.3	150	9.2	1.68	3.01	26841	175.50	418.43	8.4	15.6
1330.0	20.7	46.5	150	9.2	1.72	3.06	27276	176.51	415.31	8.4	15.6
1331.0	18.9	47.1	150	9.2	1.76	3.11	27751	192.74	412.48	8.4	15.6
1332.0	18.0	48.3	150	9.2	1.79	3.17	28251	202.89	409.84	8.4	15.6
1333.0	14.8	48.0	150	9.2	1.86	3.24	28858	246.51	407.81	8.4	15.6
1334.0	14.5	48.7	150	9.2	1.88	3.31	29481	252.60	405.91	8.4	15.6
1335.0	14.5	47.7	150	9.2	1.86	3.38	30101	251.58	404.04	8.4	15.6
1336.0	14.8	46.1	150	9.2	1.83	3.44	30708	246.51	402.15	8.4	15.6
1337.0	18.3	49.4	150	9.2	1.80	3.50	31201	199.85	399.76	8.4	15.6
1338.0	17.0	44.1	150	9.2	1.76	3.56	31731	215.06	397.60	8.4	15.6
1339.0	20.9	46.4	150	9.2	1.72	3.60	32161	174.48	395.02	8.4	15.6
1340.0	22.4	46.8	150	9.2	1.70	3.65	32563	163.33	392.37	8.4	15.6
1341.0	25.7	46.8	150	9.2	1.65	3.69	32913	142.02	389.54	8.4	15.6
1342.0	23.4	46.9	150	9.2	1.68	3.73	33298	156.22	386.93	8.4	15.6
1343.0	24.5	47.2	150	9.2	1.67	3.77	33666	149.12	384.31	8.4	15.6
1344.0	24.2	47.6	150	9.2	1.68	3.81	34038	151.15	381.76	8.4	15.6
1345.0	22.0	47.7	150	9.2	1.72	3.86	34448	166.37	379.43	8.4	15.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1346.0	24.8	47.7	150	9.2	1.67	3.90	34811	147.09	376.94	8.4	15.6
1347.0	22.9	46.0	150	9.2	1.68	3.94	35203	159.27	374.64	8.4	15.6
1348.0	24.3	46.3	150	9.2	1.66	3.98	35573	150.14	372.29	8.4	15.6
1349.0	21.2	46.8	150	9.2	1.72	4.03	35998	172.46	370.22	8.4	15.6
1350.0	24.5	46.8	150	9.2	1.67	4.07	36366	149.12	367.95	8.4	15.6
1351.0	29.0	47.2	150	9.2	1.61	4.11	36676	125.79	365.49	8.4	15.6
1352.0	24.3	47.7	150	9.2	1.68	4.15	37046	150.14	363.33	8.4	15.6
1353.0	21.4	48.1	150	9.2	1.73	4.19	37466	170.43	361.41	8.4	15.7
1354.0	21.2	48.1	150	9.2	1.73	4.24	37891	172.46	359.55	8.4	15.7
1355.0	19.0	48.4	150	9.2	1.77	4.29	38363	191.73	357.91	8.4	15.7
1356.0	21.0	48.0	150	9.2	1.73	4.34	38792	173.90	356.13	8.4	15.7
1357.0	23.7	48.2	150	9.2	1.69	4.38	39172	154.20	354.20	8.4	15.7
1358.0	24.7	48.5	150	9.2	1.68	4.42	39537	148.11	352.25	8.4	15.7
1359.0	21.7	48.9	150	9.2	1.73	4.47	39952	168.40	350.52	8.4	15.7
1360.0	19.3	49.3	150	9.2	1.78	4.52	40419	189.70	349.02	8.4	15.7
1361.0	19.8	49.2	150	9.2	1.77	4.57	40874	184.63	347.51	8.4	15.7
1362.0	20.7	49.0	150	9.2	1.75	4.62	41309	176.51	345.95	8.4	15.7
1363.0	21.1	49.2	150	9.2	1.75	4.67	41737	173.47	344.39	8.4	15.7
1364.0	20.7	49.1	150	9.2	1.75	4.72	42172	176.51	342.88	8.4	15.7
1365.0	17.6	48.6	150	9.2	1.80	4.77	42684	207.96	341.68	8.4	15.7
1366.0	11.6	49.2	150	9.2	1.96	4.86	43459	314.48	341.44	8.4	15.7
1367.0	17.6	49.9	150	9.2	1.82	4.92	43972	207.96	340.28	8.4	15.7
1368.0	19.6	49.3	150	9.2	1.77	4.97	44432	186.66	338.95	8.4	15.7
1369.0	19.4	49.6	150	9.2	1.78	5.02	44897	188.69	337.66	8.4	15.7
1370.0	19.1	49.7	150	9.2	1.79	5.07	45367	190.72	336.41	8.4	15.7
1371.0	21.8	49.7	150	9.2	1.74	5.12	45779	167.38	334.98	8.4	15.7
1372.0	19.8	49.8	150	9.2	1.78	5.17	46234	184.63	333.72	8.4	15.7
1373.0	17.9	49.9	150	9.2	1.81	5.22	46737	203.90	332.64	8.4	15.7
1374.0	20.1	47.9	150	9.2	1.75	5.27	47184	181.69	331.40	8.4	15.7
1375.0	18.9	48.3	150	9.2	1.77	5.33	47659	192.74	330.27	8.4	15.7
1376.0	21.8	48.3	150	9.2	1.72	5.37	48072	167.38	328.95	8.4	15.7
1377.0	20.0	48.8	150	9.2	1.76	5.42	48522	182.60	327.78	8.4	15.7
1378.0	16.9	48.2	150	9.2	1.81	5.48	49054	216.08	326.89	8.4	15.7
1379.0	15.7	47.4	150	9.2	1.83	5.54	49627	232.31	326.14	8.4	15.7
1380.0	15.0	47.5	150	9.2	1.85	5.61	50227	243.47	325.49	8.4	15.7
1381.0	14.4	47.1	150	9.2	1.86	5.68	50852	253.61	324.93	8.4	15.7
1382.0	15.2	47.0	150	9.2	1.83	5.75	51444	240.42	324.28	8.4	15.7
1383.0	14.6	47.6	150	9.2	1.86	5.82	52062	250.57	323.71	8.4	15.7
1384.0	12.3	47.7	150	9.2	1.92	5.90	52794	297.23	323.51	8.4	15.7
1385.0	11.9	50.0	150	9.2	1.96	5.98	53549	306.36	323.38	8.4	15.7
1386.0	13.7	53.4	150	9.2	1.95	6.05	54207	266.80	322.96	8.4	15.7
1387.0	13.1	44.2	150	9.2	1.85	6.13	54892	277.96	322.62	8.4	15.7
1388.0	15.9	45.5	150	9.2	1.80	6.19	55459	230.28	321.94	8.4	15.7
1389.0	18.5	46.7	150	9.2	1.76	6.25	55947	197.82	321.03	8.4	15.7
1390.0	17.4	47.8	150	9.2	1.80	6.30	56464	209.99	320.23	8.4	15.7
1391.0	16.1	47.7	150	9.2	1.82	6.37	57024	227.24	319.55	8.4	15.7
1392.0	14.0	45.9	150	9.2	1.85	6.44	57669	261.73	319.14	8.4	15.7
1393.0	15.2	45.6	150	9.2	1.82	6.50	58262	240.42	318.58	8.4	15.7
1394.0	13.5	47.0	150	9.2	1.88	6.58	58927	269.84	318.23	8.4	15.7
1395.0	20.0	47.6	150	9.2	1.74	6.63	59377	182.60	317.28	8.4	15.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1396.0	20.6	47.6	150	9.2	1.73	6.68	59814	177.53	316.31	8.4	15.7
1397.0	18.0	47.4	150	9.2	1.78	6.73	60314	202.89	315.52	8.4	15.7
1398.0	18.5	47.4	150	9.2	1.77	6.79	60802	197.82	314.71	8.4	15.7
1399.0	17.4	47.5	150	9.2	1.79	6.84	61319	209.99	314.00	8.4	15.7
1400.0	17.3	47.8	150	9.2	1.80	6.90	61839	211.00	313.30	8.4	15.7
1401.0	16.8	47.8	150	9.2	1.81	6.96	62374	217.09	312.65	8.4	15.7
1402.0	17.8	47.8	150	9.2	1.79	7.02	62879	204.92	311.93	8.4	15.7
1403.0	16.4	47.8	150	9.2	1.82	7.08	63427	222.16	311.34	8.4	15.7
1404.0	25.7	47.9	150	9.2	1.66	7.12	63777	142.02	310.22	8.4	15.7
1405.0	20.0	47.9	150	9.2	1.75	7.17	64227	182.60	309.38	8.4	15.7
1406.0	20.0	48.0	150	9.2	1.75	7.22	64677	182.60	308.56	8.4	15.7
1407.0	19.0	47.8	150	9.2	1.76	7.27	65149	191.73	307.80	8.4	15.7
1408.0	18.6	47.5	150	9.2	1.77	7.32	65634	196.80	307.09	8.4	15.7
1409.0	19.4	46.9	150	9.2	1.75	7.38	66099	188.69	306.33	8.4	15.7
1410.0	22.1	48.4	150	9.2	1.72	7.42	66507	165.35	305.43	8.4	15.7
1411.0	22.1	49.2	150	9.2	1.73	7.47	66914	165.35	304.55	8.4	15.7
1412.0	29.8	48.6	150	9.2	1.61	7.50	67217	122.75	303.41	8.4	15.7
1413.0	28.3	48.5	150	9.2	1.63	7.53	67534	128.83	302.32	8.4	15.7
1414.0	14.3	44.9	150	9.2	1.83	7.60	68162	254.63	302.03	8.4	15.7
1415.0	12.2	40.5	150	9.2	1.82	7.69	68899	299.26	302.01	8.4	15.8
1416.0	12.7	40.9	150	9.2	1.82	7.76	69607	287.09	301.92	8.4	15.8
1417.0	13.1	41.8	150	9.2	1.82	7.84	70294	278.97	301.78	8.4	15.8
1418.0	14.9	42.7	150	9.2	1.79	7.91	70899	245.50	301.44	8.4	15.8
1419.0	12.7	43.6	150	9.2	1.85	7.99	71607	287.09	301.35	8.4	15.8
1420.0	12.9	43.3	150	9.2	1.84	8.06	72304	283.03	301.24	8.4	15.8
1421.0	13.7	43.1	150	9.2	1.82	8.14	72962	266.80	301.04	8.4	15.8
1422.0	11.1	42.9	150	9.2	1.89	8.23	73772	328.68	301.20	8.4	15.8
1423.0	10.1	43.8	150	9.2	1.93	8.33	74659	360.13	301.55	8.4	15.8
1424.0	9.2	43.0	150	9.2	1.96	8.44	75642	398.68	302.12	8.4	15.8
1425.0	10.0	43.2	150	9.2	1.93	8.54	76542	365.20	302.48	8.4	15.8
1426.0	11.5	42.6	150	9.2	1.87	8.62	77324	317.52	302.57	8.4	15.8
1427.0	11.8	43.1	150	9.2	1.87	8.71	78089	310.42	302.61	8.4	15.8
1428.0	13.1	42.8	150	9.2	1.83	8.78	78774	277.96	302.47	8.4	15.8
1429.0	13.9	43.2	150	9.2	1.82	8.86	79422	262.74	302.25	8.4	15.8
1430.0	13.8	43.1	150	9.2	1.82	8.93	80072	263.76	302.03	8.4	15.8
1431.0	15.0	43.3	150	9.2	1.79	8.99	80672	243.47	301.70	8.4	15.8
1432.0	17.6	42.6	150	9.2	1.73	9.05	81184	207.96	301.18	8.4	15.8
1433.0	14.6	45.0	150	9.2	1.82	9.12	81799	249.55	300.89	8.4	15.8
1434.0	13.2	44.1	150	9.2	1.85	9.20	82482	276.94	300.76	8.4	15.8
1435.0	15.2	44.7	150	9.2	1.80	9.26	83074	240.42	300.43	8.4	15.8
1436.0	14.6	45.7	150	9.2	1.83	9.33	83689	249.55	300.15	8.4	15.8
1437.0	16.2	45.3	150	9.2	1.79	9.39	84244	225.21	299.75	8.4	15.8
1438.0	14.6	45.3	150	9.2	1.83	9.46	84859	249.55	299.48	8.4	15.8
1439.0	15.7	45.2	150	9.2	1.80	9.52	85432	232.31	299.12	8.4	15.8
1440.0	15.4	45.2	150	9.2	1.81	9.59	86017	237.38	298.79	8.4	15.8
1441.0	15.5	45.5	150	9.2	1.81	9.65	86599	236.37	298.46	8.4	15.8
1442.0	15.1	44.1	150	9.2	1.80	9.72	87197	242.45	298.16	8.4	15.8
1443.0	15.0	45.6	150	9.2	1.82	9.79	87797	243.47	297.87	8.4	15.8
1444.0	15.1	45.3	150	9.2	1.81	9.85	88392	241.44	297.58	8.4	15.8
1445.0	15.4	45.5	150	9.2	1.81	9.92	88977	237.38	297.27	8.4	15.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1446.0	14.7	45.2	150	9.2	1.82	9.99	89589	248.54	297.01	8.4	15.8
1447.0	15.1	45.3	150	9.2	1.82	10.05	90187	242.45	296.73	8.4	15.8
1448.0	15.5	45.4	150	9.2	1.81	10.12	90767	235.35	296.42	8.4	15.8
1449.0	15.9	45.6	150	9.2	1.80	10.18	91332	229.26	296.08	8.4	15.8
1450.0	16.8	45.9	150	9.2	1.79	10.24	91867	217.09	295.68	8.4	15.8

BIT NUMBER	5	IADC CODE	116	INTERVAL	1450.0- 2080.0
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	6.4	BIT RUN	630.0
TOTAL HOURS	39.74	TOTAL TURNS	282318	CONDITION	T3 B8 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1451.0	9.3	20.0	70	9.2	1.36	0.11	451	392	26459	8.4	15.8
1452.0	11.8	32.1	70	9.2	1.47	0.19	808	310	13385	8.4	15.8
1453.0	13.3	37.5	70	9.2	1.50	0.27	1123	274	9014	8.4	15.8
1454.0	18.0	37.0	70	9.2	1.40	0.32	1356	203	6812	8.4	15.8
1455.0	16.4	36.2	70	9.2	1.42	0.38	1613	223	5494	8.4	15.8
1456.0	15.0	35.5	70	9.2	1.44	0.45	1893	243	4619	8.4	15.8
1457.0	16.9	34.8	135	9.2	1.60	0.51	2371	216	3990	8.4	15.8
1458.0	19.6	34.9	110	9.2	1.49	0.56	2708	187	3514	8.4	15.8
1459.0	19.8	35.5	106	9.2	1.48	0.61	3030	185	3144	8.4	15.8
1460.0	16.1	35.4	105	9.2	1.55	0.67	3420	226	2853	8.4	15.8
1461.0	17.2	37.5	105	9.2	1.55	0.73	3786	212	2613	8.4	15.8
1462.0	17.2	39.8	105	9.2	1.58	0.79	4151	212	2413	8.4	15.8
1463.0	17.6	38.9	105	9.2	1.56	0.85	4508	207	2243	8.4	15.8
1464.0	14.4	39.5	105	9.2	1.64	0.92	4946	254	2101	8.4	15.8
1465.0	10.6	36.5	105	9.2	1.70	1.01	5539	344	1984	8.4	15.8
1466.0	14.9	32.7	105	9.2	1.54	1.08	5963	245	1875	8.4	15.8
1467.0	19.0	32.9	105	9.2	1.46	1.13	6293	192	1776	8.4	15.8
1468.0	18.8	33.3	105	9.2	1.47	1.18	6629	195	1688	8.4	15.8
1469.0	20.7	31.9	105	9.2	1.42	1.23	6934	177	1609	8.4	15.8
1470.0	20.0	31.8	105	9.2	1.43	1.28	7249	183	1537	8.4	15.8
1471.0	19.1	32.8	105	9.2	1.46	1.33	7578	191	1473	8.4	15.8
1472.0	18.6	32.8	105	9.2	1.47	1.39	7917	197	1415	8.4	15.8
1473.0	17.6	32.8	105	9.2	1.48	1.44	8276	208	1363	8.4	15.8
1474.0	13.1	40.4	105	9.2	1.68	1.52	8756	278	1317	8.4	15.8
1475.0	12.6	45.5	105	9.2	1.76	1.60	9254	289	1276	8.4	15.8
1476.0	12.4	45.4	105	9.2	1.76	1.68	9762	294	1239	8.4	15.9
1477.0	11.5	44.6	105	9.2	1.78	1.77	10310	318	1204	8.4	15.9
1478.0	13.1	44.3	105	9.2	1.73	1.84	10791	279	1171	8.4	15.9
1479.0	14.6	46.3	105	9.2	1.71	1.91	11221	250	1140	8.4	15.9
1480.0	16.2	46.0	105	9.2	1.67	1.97	11610	225	1109	8.4	15.9
1481.0	17.5	46.0	105	9.2	1.65	2.03	11970	209	1080	8.4	15.9
1482.0	16.4	46.0	105	9.2	1.67	2.09	12355	223	1053	8.4	15.9
1483.0	19.9	7.7	105	9.2	1.02	2.14	12672	184	1027	8.4	15.9
1484.0	22.5	46.5	105	9.2	1.56	2.19	12952	162	1002	8.4	15.9
1485.0	17.6	46.4	105	9.2	1.65	2.24	13311	207.96	978.86	8.4	15.9
1486.0	20.1	46.2	105	9.2	1.60	2.29	13624	181.59	956.71	8.4	15.9
1487.0	19.5	45.8	105	9.2	1.61	2.34	13948	187.67	935.93	8.4	15.9
1488.0	20.1	45.7	105	9.2	1.59	2.39	14261	181.59	916.08	8.4	15.9
1489.0	23.1	45.6	105	9.2	1.55	2.44	14534	158.25	896.64	8.4	15.9
1490.0	21.8	45.7	105	9.2	1.57	2.48	14823	167.38	878.41	8.4	15.9
1491.0	22.8	45.8	105	9.2	1.55	2.53	15099	160.28	860.90	8.4	15.9
1492.0	23.5	45.8	105	9.2	1.54	2.57	15367	155.21	844.10	8.4	15.9
1493.0	23.2	45.6	105	9.2	1.54	2.61	15638	157.24	828.12	8.4	15.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1494.0	15.9	48.3	105	9.2	1.71	2.68	16034	229.26	814.51	8.4	15.9
1495.0	14.9	47.1	105	9.2	1.72	2.74	16457	245.50	801.87	8.4	15.9
1496.0	16.4	47.5	105	9.2	1.69	2.80	16842	223.18	789.29	8.4	15.9
1497.0	15.3	49.1	105	9.2	1.73	2.87	17254	238.39	777.57	8.4	15.9
1498.0	14.9	48.8	105	9.2	1.74	2.94	17675	244.48	766.46	8.4	15.9
1499.0	14.9	48.3	105	9.2	1.73	3.00	18099	245.50	755.83	8.4	15.9
1500.0	15.7	48.9	105	9.2	1.72	3.07	18501	233.32	745.38	8.4	15.9
1501.0	16.4	48.4	105	9.2	1.70	3.13	18885	222.16	735.12	8.4	15.9
1502.0	17.6	49.1	105	9.2	1.68	3.18	19242	206.95	724.96	8.4	15.9
1503.0	12.8	44.4	105	9.2	1.74	3.26	19733	285.06	716.66	8.4	15.9
1504.0	25.4	47.6	111	9.2	1.55	3.30	19996	144.05	706.06	8.4	15.9
1505.0	30.0	49.0	120	9.2	1.54	3.34	20236	121.73	695.43	8.4	15.9
1506.0	21.4	49.7	120	9.2	1.66	3.38	20572	170.43	686.06	8.4	15.9
1507.0	21.2	49.3	120	9.2	1.66	3.43	20912	172.46	677.05	8.4	15.9
1508.0	21.7	49.0	120	9.2	1.65	3.48	21244	168.40	668.28	8.4	15.9
1509.0	26.9	50.2	120	9.2	1.59	3.51	21512	135.94	659.25	8.4	15.9
1510.0	20.2	49.6	120	9.2	1.68	3.56	21868	180.57	651.28	8.4	15.9
1511.0	22.4	49.5	120	9.2	1.65	3.61	22190	163.33	643.28	8.4	15.9
1512.0	11.5	46.9	120	9.2	1.85	3.69	22816	317.52	638.02	8.4	15.9
1513.0	17.6	47.9	120	9.2	1.72	3.75	23226	207.96	631.20	8.4	15.9
1514.0	11.1	47.5	120	9.2	1.87	3.84	23874	328.68	626.47	8.4	15.9
1515.0	12.5	45.4	120	9.2	1.80	3.92	24450	292.16	621.33	8.4	15.9
1516.0	11.7	45.7	120	9.2	1.83	4.01	25064	311.43	616.63	8.4	15.9
1517.0	11.6	46.3	120	9.2	1.84	4.09	25684	314.48	612.12	8.4	15.9
1518.0	15.4	45.9	120	9.2	1.74	4.16	26152	237.38	606.61	8.4	15.9
1519.0	12.9	45.3	120	9.2	1.79	4.23	26708	282.02	601.91	8.4	15.9
1520.0	15.5	46.7	120	9.2	1.75	4.30	27174	236.37	596.68	8.4	15.9
1521.0	14.3	48.6	120	9.2	1.80	4.37	27676	254.63	591.87	8.4	15.9
1522.0	14.7	50.9	120	9.2	1.81	4.44	28166	248.44	587.10	8.4	15.9
1523.0	14.4	50.8	120	9.2	1.82	4.51	28666	253.61	582.53	8.4	15.9
1524.0	14.1	50.4	120	9.2	1.82	4.58	29176	258.68	578.15	8.4	15.9
1525.0	12.4	49.9	120	9.2	1.86	4.66	29758	295.20	574.38	8.4	15.9
1526.0	13.8	50.8	120	9.2	1.83	4.73	30278	263.76	570.29	8.4	15.9
1527.0	16.8	51.2	120	9.2	1.77	4.79	30706	217.09	565.71	8.4	15.9
1528.0	14.2	51.6	120	9.2	1.84	4.86	31214	257.67	561.76	8.4	15.9
1529.0	18.1	51.7	120	9.2	1.75	4.92	31612	201.87	557.20	8.4	15.9
1530.0	16.4	51.1	120	9.2	1.78	4.98	32052	223.18	553.03	8.4	15.9
1531.0	15.8	50.1	120	9.2	1.78	5.04	32508	231.14	549.05	8.4	15.9
1532.0	21.3	45.6	120	9.2	1.62	5.09	32846	171.44	544.45	8.4	15.9
1533.0	19.4	45.6	120	9.2	1.65	5.14	33218	188.69	540.16	8.4	15.9
1534.0	21.4	46.1	120	9.2	1.62	5.19	33554	170.43	535.76	8.4	15.9
1535.0	18.6	46.8	120	9.2	1.68	5.24	33942	196.80	531.77	8.4	15.9
1536.0	16.7	46.6	120	9.2	1.72	5.30	34374	219.12	528.14	8.4	15.9
1537.0	17.3	46.8	120	9.2	1.71	5.36	34790	211.00	524.49	8.4	15.9
1538.0	16.2	46.8	120	9.2	1.73	5.42	35234	225.21	521.09	8.4	16.0
1539.0	17.8	47.1	120	9.2	1.70	5.47	35638	204.92	517.54	8.4	16.0
1540.0	16.7	48.3	120	9.2	1.74	5.53	36070	219.12	514.22	8.4	16.0
1541.0	18.2	55.0	120	9.2	1.78	5.59	36465	200.66	510.78	8.4	16.0
1542.0	19.1	51.2	120	9.2	1.72	5.64	36841	190.72	507.30	8.4	16.0
1543.0	20.1	51.1	120	9.2	1.70	5.69	37199	181.59	503.79	8.4	16.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1544.0	18.7	50.8	120	9.2	1.73	5.75	37585	195.79	500.52	8.4	16.0
1545.0	19.8	51.3	120	9.2	1.71	5.80	37949	184.63	497.19	8.4	16.0
1546.0	18.8	51.2	120	9.2	1.73	5.85	38333	194.77	494.04	8.4	16.0
1547.0	13.7	51.6	120	9.2	1.85	5.92	38859	266.80	491.70	8.4	16.0
1548.0	9.0	52.6	120	9.2	2.01	6.03	39655	403.75	490.80	8.4	16.0
1549.0	15.3	55.0	120	9.2	1.85	6.10	40126	238.69	488.26	8.4	16.0
1550.0	14.8	50.9	120	9.2	1.81	6.17	40613	246.85	485.84	8.4	16.0
1551.0	12.5	49.9	120	9.2	1.86	6.25	41191	293.17	483.93	8.4	16.0
1552.0	14.6	49.1	120	9.2	1.79	6.31	41683	249.55	481.64	8.4	16.0
1553.0	17.1	49.0	120	9.2	1.74	6.37	42105	214.05	479.04	8.4	16.0
1554.0	13.3	51.6	120	9.2	1.86	6.45	42645	273.90	477.07	8.4	16.0
1555.0	15.2	50.2	120	9.2	1.79	6.51	43119	240.42	474.81	8.4	16.0
1556.0	12.4	51.2	120	9.2	1.88	6.59	43699	294.19	473.11	8.4	16.0
1557.0	16.2	51.2	120	9.2	1.78	6.66	44143	225.21	470.79	8.4	16.0
1558.0	12.0	51.3	120	9.2	1.89	6.74	44745	305.35	469.26	8.4	16.0
1559.0	11.5	46.4	120	9.2	1.85	6.83	45371	317.52	467.87	8.4	16.0
1560.0	13.5	42.1	120	9.2	1.73	6.90	45903	269.84	466.07	8.4	16.0
1561.0	15.7	43.2	120	9.2	1.70	6.96	46361	232.31	463.96	8.4	16.0
1562.0	13.8	42.9	120	9.2	1.74	7.04	46883	264.77	462.18	8.4	16.0
1563.0	18.2	42.3	120	9.2	1.64	7.09	47279	200.86	459.87	8.4	16.0
1564.0	14.3	42.4	120	9.2	1.72	7.16	47783	255.64	458.08	8.4	16.0
1565.0	14.3	41.0	120	9.2	1.70	7.23	48287	255.64	456.32	8.4	16.0
1566.0	15.9	40.9	120	9.2	1.67	7.29	48741	230.28	454.37	8.4	16.0
1567.0	14.5	40.8	120	9.2	1.70	7.36	49239	252.60	452.65	8.4	16.0
1568.0	5.1	41.7	120	9.2	2.06	7.56	50645	713.49	454.86	8.4	16.0
1569.0	15.6	41.0	120	9.2	1.67	7.62	51107	234.34	453.00	8.4	16.0
1570.0	10.5	40.6	120	9.2	1.80	7.72	51795	348.97	452.14	8.4	16.0
1571.0	11.3	40.6	120	9.2	1.78	7.81	52435	324.62	451.08	8.4	16.0
1572.0	11.5	40.5	120	9.2	1.77	7.89	53061	317.52	449.99	8.4	16.0
1573.0	11.6	40.5	120	9.1	1.79	7.98	53681	314.48	448.89	8.4	16.0
1574.0	12.4	40.5	120	9.1	1.76	8.06	54263	295.20	447.65	8.4	16.0
1575.0	11.4	40.6	120	9.1	1.79	8.15	54893	319.55	446.62	8.4	16.0
1576.0	11.8	40.7	120	9.1	1.78	8.23	55501	308.39	445.52	8.4	16.0
1577.0	13.1	40.6	120	9.1	1.75	8.31	56051	278.97	444.21	8.4	16.0
1578.0	12.9	40.6	120	9.1	1.75	8.39	56607	282.02	442.95	8.4	16.0
1579.0	14.9	40.7	120	9.2	1.69	8.45	57091	245.50	441.41	8.4	16.0
1580.0	14.1	37.6	120	9.1	1.67	8.53	57601	258.68	440.01	8.4	16.0
1581.0	14.3	38.5	120	9.1	1.68	8.60	58103	254.63	438.59	8.4	16.0
1582.0	13.8	44.1	120	9.1	1.77	8.67	58625	264.77	437.28	8.4	16.0
1583.0	13.5	43.7	120	9.1	1.77	8.74	59157	269.84	436.02	8.4	16.0
1584.0	13.1	42.0	120	9.1	1.75	8.82	59705	277.96	434.84	8.4	16.0
1585.0	13.7	42.8	120	9.1	1.75	8.89	60231	266.80	433.59	8.4	16.0
1586.0	14.2	43.0	120	9.1	1.74	8.96	60739	257.67	432.30	8.4	16.0
1587.0	14.6	43.0	120	9.1	1.73	9.03	61233	250.57	430.97	8.4	16.0
1588.0	12.1	43.1	120	9.1	1.81	9.11	61828	301.82	430.04	8.4	16.0
1589.0	11.8	43.6	120	9.1	1.81	9.20	62437	308.68	429.16	8.4	16.0
1590.0	10.7	43.8	120	9.1	1.85	9.29	63109	340.85	428.53	8.4	16.0
1591.0	11.1	43.8	120	9.1	1.84	9.38	63755	327.67	427.82	8.4	16.0
1592.0	10.4	44.4	120	9.1	1.87	9.48	64449	352.01	427.28	8.4	16.0
1593.0	11.8	42.1	120	9.1	1.79	9.56	65059	309.41	426.46	8.4	16.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1594.0	11.8	42.6	120	9.1	1.80	9.65	65671	310.42	425.65	8.4	16.0
1595.0	12.6	42.6	120	9.1	1.78	9.73	66243	290.13	424.72	8.4	16.0
1596.0	11.7	42.7	120	9.1	1.80	9.81	66857	311.43	423.94	8.4	16.0
1597.0	12.5	42.7	120	9.1	1.78	9.89	67435	293.17	423.05	8.4	16.0
1598.0	12.2	41.4	120	9.1	1.77	9.97	68023	298.25	422.21	8.4	16.0
1599.0	19.7	41.3	120	9.1	1.61	10.02	68389	185.64	420.62	8.4	16.0
1600.0	17.2	41.9	120	9.1	1.66	10.08	68807	212.02	419.23	8.4	16.0
1601.0	16.4	41.8	120	9.1	1.68	10.14	69245	222.16	417.93	8.4	16.0
1602.0	13.6	42.3	120	9.1	1.75	10.22	69773	267.81	416.94	8.4	16.1
1603.0	14.4	42.7	120	9.1	1.73	10.29	70273	253.61	415.87	8.4	16.1
1604.0	13.4	43.2	120	9.1	1.76	10.36	70809	271.87	414.94	8.4	16.1
1605.0	12.8	43.2	120	9.1	1.78	10.44	71373	286.07	414.11	8.4	16.1
1606.0	14.1	43.7	120	9.1	1.75	10.51	71885	259.70	413.12	8.4	16.1
1607.0	12.6	43.9	120	9.1	1.79	10.59	72455	289.12	412.33	8.4	16.1
1608.0	10.7	42.7	120	9.0	1.86	10.68	73127	340.85	411.87	8.4	16.1
1609.0	11.4	43.4	120	9.0	1.85	10.77	73761	321.58	411.31	8.4	16.1
1610.0	13.2	44.4	120	9.0	1.81	10.85	74307	276.94	410.47	8.4	16.1
1611.0	11.8	43.7	120	9.0	1.84	10.93	74915	308.39	409.83	8.4	16.1
1612.0	12.3	45.0	120	9.0	1.85	11.01	75501	297.23	409.14	8.4	16.1
1613.0	13.0	46.1	120	9.0	1.84	11.09	76055	281.00	408.35	8.4	16.1
1614.0	14.6	43.2	120	9.0	1.76	11.16	76549	250.57	407.39	8.4	16.1
1615.0	16.3	42.4	120	9.0	1.71	11.22	76991	224.19	406.28	8.4	16.1
1616.0	15.3	42.5	120	9.0	1.74	11.28	77461	238.39	405.27	8.4	16.1
1617.0	13.0	42.8	120	9.0	1.80	11.36	78013	279.99	404.52	8.4	16.1
1618.0	14.5	38.6	120	9.0	1.70	11.43	78509	251.58	403.61	8.4	16.1
1619.0	16.2	42.7	120	9.0	1.72	11.49	78953	225.21	402.55	8.4	16.1
1620.0	18.1	42.7	120	9.0	1.68	11.55	79351	201.87	401.37	8.4	16.1
1621.0	14.3	43.0	120	9.0	1.76	11.62	79853	254.63	400.51	8.4	16.1
1622.0	16.3	44.7	120	9.0	1.74	11.68	80295	224.19	399.49	8.4	16.1
1623.0	13.4	43.3	120	9.0	1.79	11.75	80833	272.89	398.76	8.4	16.1
1624.0	11.4	40.5	120	9.0	1.81	11.84	81465	320.56	398.31	8.4	16.1
1625.0	16.0	44.6	120	9.0	1.75	11.90	81915	228.25	397.33	8.4	16.1
1626.0	7.1	42.6	120	9.0	2.00	12.04	82927	513.31	397.99	8.4	16.1
1627.0	6.9	42.7	120	9.0	2.01	12.19	83965	526.50	398.72	8.4	16.1
1628.0	8.4	44.3	120	9.0	1.97	12.31	84825	436.21	398.93	8.4	16.1
1629.0	9.7	45.1	120	9.0	1.93	12.41	85571	378.39	398.82	8.4	16.1
1630.0	8.5	43.7	120	9.0	1.96	12.53	86421	431.14	399.00	8.4	16.1
1631.0	8.9	44.5	120	9.0	1.96	12.64	87233	411.86	399.07	8.4	16.1
1632.0	10.6	44.6	120	9.0	1.89	12.74	87913	344.91	398.77	8.4	16.1
1633.0	6.7	44.9	120	9.0	2.06	12.88	88991	546.79	399.58	8.4	16.1
1634.0	7.3	44.8	120	9.0	2.03	13.02	89975	499.11	400.12	8.4	16.1
1635.0	7.8	44.6	120	9.0	2.00	13.15	90901	469.69	400.49	8.4	16.1
1636.0	8.0	44.7	120	9.0	1.99	13.28	91801	456.50	400.80	8.4	16.1
1637.0	15.9	51.0	120	9.0	1.83	13.34	92253	229.26	399.88	8.4	16.1
1638.0	15.8	52.7	120	9.0	1.85	13.40	92709	231.29	398.98	8.4	16.1
1639.0	13.8	52.2	120	9.0	1.89	13.47	93229	263.76	398.27	8.4	16.1
1640.0	13.7	52.2	120	9.0	1.90	13.55	93755	266.80	397.57	8.4	16.1
1641.0	13.4	51.9	120	9.0	1.90	13.62	94293	272.89	396.92	8.4	16.1
1642.0	11.0	52.3	120	9.0	1.98	13.71	94947	331.72	396.58	8.4	16.1
1643.0	11.0	52.5	120	9.0	1.98	13.80	95603	332.74	396.25	8.4	16.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1644.0	12.1	52.7	120	9.0	1.95	13.89	96197	301.29	395.76	8.4	16.1
1645.0	13.4	50.0	120	9.0	1.88	13.96	96734	272.54	395.13	8.4	16.1
1646.0	15.2	50.6	120	9.0	1.84	14.03	97209	240.93	394.34	8.4	16.1
1647.0	15.3	50.2	120	9.0	1.83	14.09	97681	239.41	393.56	8.4	16.1
1648.0	16.1	50.6	120	9.0	1.82	14.15	98129	227.24	392.72	8.4	16.1
1649.0	17.6	50.6	120	9.0	1.78	14.21	98537	206.95	391.78	8.4	16.1
1650.0	13.0	50.8	120	9.0	1.90	14.29	99091	281.00	391.23	8.4	16.1
1651.0	14.4	51.2	120	9.0	1.87	14.36	99591	253.61	390.54	8.4	16.1
1652.0	13.2	51.2	120	9.0	1.90	14.43	100137	276.94	389.98	8.4	16.1
1653.0	12.2	51.3	120	9.0	1.93	14.52	100727	299.26	389.54	8.4	16.1
1654.0	16.6	50.3	120	9.0	1.80	14.58	101161	220.13	388.70	8.4	16.1
1655.0	13.8	51.1	120	9.0	1.88	14.65	101681	263.76	388.10	8.4	16.1
1656.0	16.1	51.8	120	9.0	1.83	14.71	102127	226.22	387.31	8.4	16.1
1657.0	16.2	52.8	120	9.0	1.84	14.77	102571	225.21	386.53	8.4	16.1
1658.0	17.1	51.8	120	9.0	1.81	14.83	102993	214.05	385.70	8.4	16.1
1659.0	16.7	52.8	120	9.0	1.83	14.89	103423	218.11	384.90	8.4	16.1
1660.0	21.3	52.3	120	9.0	1.73	14.94	103761	171.44	383.88	8.4	16.1
1661.0	17.6	52.9	120	9.0	1.81	14.99	104169	206.95	383.04	8.4	16.1
1662.0	21.3	52.6	120	9.0	1.74	15.04	104507	171.44	382.04	8.4	16.1
1663.0	18.8	53.2	120	9.0	1.79	15.09	104891	194.77	381.16	8.4	16.1
1664.0	15.4	52.8	120	9.0	1.86	15.16	105359	237.38	380.49	8.4	16.1
1665.0	14.9	51.2	120	9.0	1.85	15.23	105841	244.48	379.86	8.4	16.1
1666.0	21.1	51.4	120	9.0	1.73	15.27	106183	173.47	378.90	8.4	16.1
1667.0	17.6	51.6	120	9.0	1.80	15.33	106593	207.96	378.12	8.4	16.1
1668.0	17.2	51.8	120	9.0	1.81	15.39	107011	212.02	377.35	8.4	16.1
1669.0	16.5	51.9	120	9.0	1.82	15.45	107447	221.15	376.64	8.4	16.2
1670.0	16.0	52.2	120	9.0	1.84	15.51	107897	228.25	375.97	8.4	16.2
1671.0	14.6	52.2	120	9.0	1.87	15.58	108391	250.57	375.40	8.4	16.2
1672.0	14.8	52.4	120	9.0	1.87	15.65	108879	247.52	374.82	8.4	16.2
1673.0	12.9	52.2	120	9.0	1.92	15.72	109437	283.03	374.41	8.4	16.2
1674.0	14.7	51.9	120	9.0	1.87	15.79	109927	248.54	373.85	8.4	16.2
1675.0	15.1	51.8	120	9.0	1.86	15.86	110405	242.45	373.26	8.4	16.2
1676.0	15.5	52.0	120	9.0	1.85	15.92	110869	235.35	372.65	8.4	16.2
1677.0	15.7	52.3	120	9.0	1.85	15.99	111327	232.31	372.04	8.4	16.2
1678.0	13.8	52.1	120	9.0	1.89	16.06	111847	263.76	371.56	8.4	16.2
1679.0	17.5	52.3	120	9.0	1.81	16.12	112259	208.98	370.85	8.4	16.2
1680.0	12.4	52.3	120	9.0	1.93	16.20	112839	294.19	370.52	8.4	16.2
1681.0	16.4	52.2	120	9.0	1.83	16.26	113277	222.16	369.88	8.4	16.2
1682.0	14.4	53.9	120	9.0	1.90	16.33	113777	253.61	369.37	8.4	16.2
1683.0	16.2	52.7	120	9.0	1.84	16.39	114221	225.21	368.76	8.4	16.2
1684.0	15.6	52.1	120	9.0	1.85	16.45	114683	234.34	368.18	8.4	16.2
1685.0	18.7	52.8	120	9.0	1.79	16.51	115069	195.79	367.45	8.4	16.2
1686.0	15.5	52.5	120	9.0	1.85	16.57	115533	235.35	366.89	8.4	16.2
1687.0	13.3	52.5	120	9.0	1.91	16.65	116073	273.90	366.50	8.4	16.2
1688.0	13.4	52.5	120	9.0	1.91	16.72	116609	271.87	366.10	8.4	16.2
1689.0	18.1	52.5	120	9.0	1.80	16.78	117007	201.87	365.41	8.4	16.2
1690.0	14.8	52.6	120	9.0	1.87	16.84	117493	246.51	364.92	8.4	16.2
1691.0	16.9	54.0	120	9.0	1.84	16.90	117919	216.09	364.30	8.4	16.2
1692.0	17.0	55.0	120	9.0	1.85	16.96	118343	214.82	363.68	8.4	16.2
1693.0	14.1	53.4	120	9.0	1.90	17.03	118853	259.01	363.25	8.4	16.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1694.0	14.2	52.7	120	9.0	1.89	17.10	119360	257.18	362.81	8.4	16.2
1695.0	15.1	52.3	120	9.0	1.86	17.17	119836	241.44	362.32	8.4	16.2
1696.0	16.2	52.5	120	9.0	1.84	17.23	120280	225.21	361.76	8.4	16.2
1697.0	14.8	52.9	120	9.0	1.88	17.30	120768	247.52	361.30	8.4	16.2
1698.0	17.6	53.6	120	9.0	1.82	17.36	121176	206.95	360.68	8.4	16.2
1699.0	17.7	53.6	120	9.0	1.82	17.41	121582	205.93	360.06	8.4	16.2
1700.0	12.3	54.4	120	9.0	1.96	17.49	122166	296.22	359.80	8.4	16.2
1701.0	11.5	53.7	120	9.0	1.98	17.58	122790	316.51	359.63	8.4	16.2
1702.0	17.8	54.0	120	9.0	1.82	17.64	123194	204.92	359.01	8.4	16.2
1703.0	16.1	54.5	120	9.0	1.86	17.70	123642	227.24	358.49	8.4	16.2
1704.0	15.9	54.0	120	9.0	1.86	17.76	124096	230.28	357.99	8.4	16.2
1705.0	15.9	54.0	120	9.0	1.86	17.82	124548	229.26	357.48	8.4	16.2
1706.0	17.9	53.9	120	9.0	1.82	17.88	124950	203.90	356.88	8.4	16.2
1707.0	16.2	54.4	120	9.0	1.86	17.94	125394	225.21	356.37	8.4	16.2
1708.0	18.3	53.7	120	9.0	1.81	18.00	125788	199.85	355.76	8.4	16.2
1709.0	18.3	53.8	120	9.0	1.81	18.05	126182	199.85	355.16	8.4	16.2
1710.0	21.1	52.5	120	9.0	1.74	18.10	126524	173.47	354.46	8.4	16.2
1711.0	22.4	52.9	120	9.0	1.72	18.14	126846	163.33	353.73	8.4	16.2
1712.0	27.3	52.0	120	9.0	1.64	18.18	127110	133.91	352.89	8.4	16.2
1713.0	20.1	52.4	120	9.0	1.76	18.23	127468	181.59	352.24	8.4	16.2
1714.0	13.5	52.7	120	9.0	1.91	18.30	128002	270.86	351.93	8.4	16.2
1715.0	16.2	52.2	120	9.0	1.83	18.36	128446	225.21	351.45	8.4	16.2
1716.0	19.4	51.9	120	9.0	1.76	18.42	128818	188.69	350.84	8.4	16.2
1717.0	14.9	51.9	120	9.0	1.86	18.48	129300	244.48	350.44	8.4	16.2
1718.0	16.4	51.6	120	9.0	1.82	18.54	129738	222.16	349.97	8.4	16.2
1719.0	14.7	51.4	120	9.0	1.86	18.61	130228	248.44	349.59	8.4	16.2
1720.0	13.7	51.5	120	9.0	1.89	18.69	130752	265.78	349.28	8.4	16.2
1721.0	13.7	51.2	120	9.0	1.88	18.76	131276	265.78	348.97	8.4	16.2
1722.0	14.2	52.5	120	9.0	1.89	18.83	131782	256.65	348.63	8.4	16.2
1723.0	13.2	53.3	120	9.0	1.92	18.90	132328	276.94	348.37	8.4	16.2
1724.0	11.8	53.4	120	9.0	1.97	18.99	132936	308.39	348.22	8.4	16.2
1725.0	13.5	52.9	120	9.0	1.91	19.06	133468	269.84	347.94	8.4	16.2
1726.0	13.0	53.0	120	9.0	1.93	19.14	134020	279.99	347.69	8.4	16.2
1727.0	11.7	53.1	120	9.0	1.97	19.22	134634	311.43	347.56	8.4	16.2
1728.0	13.4	52.6	120	9.0	1.91	19.30	135170	271.87	347.29	8.4	16.2
1729.0	11.3	53.9	120	9.0	1.99	19.39	135808	323.61	347.20	8.4	16.2
1730.0	15.3	50.4	120	9.0	1.83	19.45	136278	238.39	346.81	8.4	16.2
1731.0	10.9	49.4	120	9.0	1.95	19.54	136938	334.77	346.77	8.4	16.2
1732.0	12.0	48.5	120	9.0	1.90	19.63	137540	305.35	346.62	8.4	16.2
1733.0	13.0	46.9	120	9.0	1.85	19.70	138092	279.99	346.39	8.4	16.2
1734.0	16.1	48.5	120	9.0	1.79	19.77	138540	227.24	345.97	8.4	16.2
1735.0	9.8	49.0	120	9.0	1.98	19.87	139276	373.32	346.07	8.4	16.2
1736.0	12.2	48.8	120	9.0	1.90	19.95	139868	300.28	345.90	8.4	16.2
1737.0	14.2	48.8	120	9.0	1.84	20.02	140376	257.67	345.60	8.4	16.2
1738.0	14.5	48.7	120	9.0	1.83	20.09	140872	251.58	345.27	8.4	16.3
1739.0	14.2	48.8	120	9.0	1.84	20.16	141378	256.65	344.96	8.4	16.3
1740.0	11.7	48.8	120	9.0	1.91	20.25	141996	313.46	344.86	8.4	16.3
1741.0	13.9	48.8	120	9.0	1.85	20.32	142514	262.74	344.57	8.4	16.3
1742.0	15.1	48.6	120	9.0	1.82	20.39	142992	242.45	344.22	8.4	16.3
1743.0	15.9	48.7	120	9.0	1.80	20.45	143446	230.28	343.84	8.4	16.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1744.0	16.4	48.9	120	9.0	1.79	20.51	143884	222.16	343.42	8.4	16.3
1745.0	15.6	49.0	120	9.0	1.81	20.57	144346	234.34	343.05	8.4	16.3
1746.0	15.1	48.9	120	9.0	1.82	20.64	144822	241.44	342.71	8.4	16.3
1747.0	15.0	49.0	120	9.0	1.82	20.71	145302	243.47	342.37	8.4	16.3
1748.0	15.2	50.1	120	9.0	1.83	20.77	145776	240.26	342.03	8.4	16.3
1749.0	16.0	50.8	120	9.0	1.82	20.83	146226	228.25	341.65	8.4	16.3
1750.0	11.1	49.4	120	9.0	1.94	20.92	146874	328.68	341.61	8.4	16.3
1751.0	12.4	49.9	120	9.0	1.91	21.01	147456	295.20	341.45	8.4	16.3
1752.0	14.1	49.8	120	9.0	1.86	21.08	147968	259.70	341.18	8.4	16.3
1753.0	16.4	49.7	120	9.0	1.80	21.14	148406	222.16	340.79	8.4	16.3
1754.0	15.5	49.8	120	9.0	1.82	21.20	148870	235.35	340.44	8.4	16.3
1755.0	15.0	49.5	120	9.0	1.83	21.27	149350	243.47	340.13	8.4	16.3
1756.0	16.4	49.8	120	9.0	1.80	21.33	149788	222.16	339.74	8.4	16.3
1757.0	15.1	50.0	120	9.0	1.83	21.40	150266	242.45	339.42	8.4	16.3
1758.0	13.7	50.1	120	9.0	1.87	21.47	150790	265.78	339.18	8.4	16.3
1759.0	18.8	50.0	120	9.0	1.75	21.52	151174	194.77	338.72	8.4	16.3
1760.0	18.8	51.9	120	9.0	1.78	21.57	151558	194.77	338.25	8.4	16.3
1761.0	17.4	49.9	120	9.0	1.78	21.63	151972	209.99	337.84	8.4	16.3
1762.0	17.1	49.2	120	9.0	1.78	21.69	152394	214.05	337.44	8.4	16.3
1763.0	15.5	50.0	120	9.0	1.82	21.76	152858	235.35	337.12	8.4	16.3
1764.0	18.7	49.8	120	9.0	1.75	21.81	153244	195.79	336.67	8.4	16.3
1765.0	14.5	51.8	120	9.0	1.87	21.88	153740	251.58	336.40	8.4	16.3
1766.0	13.3	51.4	120	9.0	1.90	21.95	154282	274.91	336.20	8.4	16.3
1767.0	12.3	52.1	120	9.0	1.93	22.03	154868	297.23	336.08	8.4	16.3
1768.0	12.0	51.2	120	9.1	1.91	22.12	155470	305.35	335.98	8.4	16.3
1769.0	14.0	49.3	120	9.1	1.83	22.19	155984	260.71	335.75	8.4	16.3
1770.0	10.6	50.0	120	9.1	1.94	22.28	156664	344.91	335.77	8.4	16.3
1771.0	10.2	48.9	120	9.1	1.94	22.38	157370	358.10	335.84	8.4	16.3
1772.0	11.1	49.4	120	9.1	1.92	22.47	158020	329.69	335.83	8.4	16.3
1773.0	12.1	49.5	120	9.1	1.89	22.56	158616	302.30	335.72	8.4	16.3
1774.0	9.4	49.7	120	9.1	1.98	22.66	159384	389.55	335.89	8.4	16.3
1775.0	10.7	49.6	120	9.1	1.93	22.75	160054	339.84	335.90	8.4	16.3
1776.0	11.5	49.7	120	9.1	1.91	22.84	160678	316.51	335.84	8.4	16.3
1777.0	10.1	50.1	120	9.1	1.96	22.94	161390	361.14	335.92	8.4	16.3
1778.0	8.7	52.3	120	9.1	2.04	23.05	162214	417.95	336.17	8.4	16.3
1779.0	13.1	52.1	120	9.1	1.89	23.13	162762	277.96	335.99	8.4	16.3
1780.0	14.6	52.4	120	9.1	1.86	23.20	163256	250.57	335.73	8.4	16.3
1781.0	11.7	52.2	120	9.1	1.94	23.29	163872	312.45	335.66	8.4	16.3
1782.0	11.7	50.4	120	9.1	1.91	23.37	164486	311.43	335.59	8.4	16.3
1783.0	11.7	51.2	120	9.1	1.92	23.46	165100	311.43	335.52	8.4	16.3
1784.0	12.4	51.2	120	9.1	1.90	23.54	165682	295.20	335.40	8.4	16.3
1785.0	11.7	51.3	120	9.1	1.93	23.62	166300	313.46	335.33	8.4	16.3
1786.0	11.7	51.0	120	9.1	1.92	23.71	166916	312.45	335.26	8.4	16.3
1787.0	14.3	50.0	120	9.1	1.83	23.78	167420	255.64	335.03	8.4	16.3
1788.0	15.5	50.9	120	9.1	1.81	23.84	167884	235.35	334.73	8.4	16.3
1789.0	16.5	50.9	120	9.1	1.79	23.90	168320	221.15	334.40	8.4	16.3
1790.0	13.6	51.3	120	9.1	1.87	23.98	168848	267.81	334.20	8.4	16.3
1791.0	14.9	51.1	120	9.1	1.83	24.04	169332	245.50	333.94	8.4	16.3
1792.0	13.9	50.0	120	9.1	1.84	24.12	169850	262.74	333.73	8.4	16.3
1793.0	16.3	51.5	120	9.1	1.81	24.18	170292	224.19	333.41	8.4	16.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1794.0	12.2	51.5	120	9.0	1.93	24.26	170884	300.28	333.32	8.4	16.3
1795.0	15.3	51.5	120	9.0	1.85	24.32	171356	239.41	333.04	8.4	16.3
1796.0	11.7	50.8	120	9.0	1.94	24.41	171971	311.94	332.98	8.4	16.3
1797.0	14.4	49.5	120	9.0	1.85	24.48	172471	253.61	332.75	8.4	16.3
1798.0	15.9	50.1	120	9.0	1.82	24.54	172924	229.69	332.46	8.4	16.3
1799.0	12.7	50.6	120	9.0	1.91	24.62	173491	287.56	332.33	8.4	16.3
1800.0	14.8	50.2	120	9.0	1.84	24.69	173977	246.76	332.08	8.4	16.3
1801.0	12.4	50.7	120	9.0	1.92	24.77	174557	294.19	331.98	8.4	16.3
1802.0	21.3	50.5	120	9.0	1.71	24.82	174895	171.44	331.52	8.4	16.3
1803.0	16.8	50.5	120	9.0	1.80	24.88	175323	217.09	331.20	8.4	16.3
1804.0	17.6	50.5	120	9.0	1.78	24.93	175733	207.96	330.85	8.4	16.3
1805.0	16.9	50.4	120	9.0	1.80	24.99	176159	216.08	330.53	8.4	16.3
1806.0	16.9	47.7	120	9.0	1.76	25.05	176585	216.08	330.20	8.4	16.3
1807.0	16.9	47.7	120	9.0	1.77	25.11	177011	216.08	329.88	8.4	16.3
1808.0	14.2	46.8	120	9.0	1.82	25.18	177517	256.65	329.68	8.4	16.3
1809.0	17.1	47.1	120	9.0	1.75	25.24	177939	214.05	329.36	8.4	16.4
1810.0	14.5	47.9	120	9.0	1.82	25.31	178435	251.58	329.14	8.4	16.4
1811.0	18.0	48.1	120	9.0	1.75	25.36	178835	202.89	328.79	8.4	16.4
1812.0	13.0	46.8	120	9.0	1.85	25.44	179387	279.99	328.66	8.4	16.4
1813.0	11.8	48.3	120	9.0	1.90	25.53	179999	310.42	328.61	8.4	16.4
1814.0	12.1	49.1	120	9.0	1.90	25.61	180593	301.29	328.53	8.4	16.4
1815.0	17.8	44.8	120	9.0	1.71	25.66	180998	205.43	328.19	8.4	16.4
1816.0	13.7	48.5	120	9.0	1.85	25.74	181522	265.78	328.02	8.4	16.4
1817.0	13.7	48.5	120	9.0	1.85	25.81	182046	265.78	327.85	8.4	16.4
1818.0	14.1	48.7	120	9.0	1.84	25.88	182556	258.68	327.67	8.4	16.4
1819.0	11.9	47.9	120	9.0	1.89	25.96	183162	307.38	327.61	8.4	16.4
1820.0	10.7	46.0	120	9.0	1.91	26.06	183836	341.87	327.65	8.4	16.4
1821.0	11.6	46.9	120	9.0	1.89	26.14	184456	314.48	327.61	8.4	16.4
1822.0	12.3	47.8	120	9.0	1.88	26.23	185040	296.22	327.53	8.4	16.4
1823.0	9.7	48.5	120	9.0	1.98	26.33	185780	375.34	327.66	8.4	16.4
1824.0	7.6	48.6	120	9.0	2.07	26.46	186732	482.88	328.07	8.4	16.4
1825.0	10.9	47.9	120	9.0	1.93	26.55	187392	334.77	328.09	8.4	16.4
1826.0	11.1	49.6	120	9.0	1.94	26.64	188038	327.67	328.09	8.4	16.4
1827.0	14.1	50.6	120	9.0	1.87	26.71	188550	259.70	327.91	8.4	16.4
1828.0	12.0	50.1	120	9.0	1.92	26.80	189148	303.32	327.84	8.4	16.4
1829.0	13.5	50.9	120	9.0	1.89	26.87	189680	269.84	327.69	8.4	16.4
1830.0	11.8	51.0	120	9.0	1.94	26.95	190292	310.42	327.64	8.4	16.4
1831.0	13.0	50.8	120	9.0	1.90	27.03	190846	281.00	327.52	8.4	16.4
1832.0	12.9	51.3	120	9.0	1.91	27.11	191402	282.02	327.40	8.4	16.4
1833.0	13.3	51.2	120	9.0	1.90	27.18	191942	273.90	327.26	8.4	16.4
1834.0	10.8	51.4	120	9.0	1.98	27.28	192608	337.81	327.29	8.4	16.4
1835.0	17.1	50.0	120	9.0	1.79	27.33	193030	214.05	327.00	8.5	16.4
1836.0	15.1	50.2	120	9.0	1.84	27.40	193508	242.45	326.78	8.5	16.4
1837.0	14.0	48.6	120	9.0	1.85	27.47	194024	261.73	326.61	8.5	16.4
1838.0	13.7	48.2	120	9.0	1.85	27.55	194550	266.80	326.46	8.5	16.4
1839.0	12.0	48.0	120	9.0	1.89	27.63	195148	303.32	326.40	8.5	16.4
1840.0	23.7	49.0	120	9.0	1.66	27.67	195452	154.20	325.95	8.5	16.4
1841.0	15.3	50.2	120	9.0	1.83	27.74	195924	239.41	325.73	8.5	16.4
1842.0	16.7	50.4	120	9.0	1.80	27.80	196354	218.11	325.46	8.6	16.4
1843.0	16.2	50.5	120	9.0	1.81	27.86	196798	225.21	325.20	8.6	16.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1844.0	16.9	50.0	120	9.0	1.79	27.92	197224	216.08	324.93	8.6	16.4
1845.0	19.3	49.6	120	9.0	1.74	27.97	197598	189.70	324.58	8.6	16.4
1846.0	13.5	50.8	120	9.0	1.89	28.04	198132	270.86	324.45	8.6	16.4
1847.0	15.5	51.1	120	9.0	1.84	28.11	198598	236.37	324.23	8.6	16.4
1848.0	17.8	50.6	120	9.0	1.78	28.16	199002	204.92	323.93	8.6	16.4
1849.0	18.8	50.2	120	9.0	1.76	28.22	199386	194.77	323.60	8.6	16.4
1850.0	18.5	50.3	120	9.0	1.76	28.27	199776	197.82	323.29	8.6	16.4
1851.0	19.9	50.4	120	9.0	1.74	28.32	200138	183.61	322.94	8.6	16.4
1852.0	19.4	50.6	120	9.0	1.75	28.37	200510	188.69	322.61	8.6	16.4
1853.0	22.8	52.1	120	9.0	1.71	28.42	200826	160.28	322.20	8.6	16.4
1854.0	17.4	50.8	120	9.0	1.79	28.48	201240	209.99	321.93	8.6	16.4
1855.0	16.7	49.0	120	9.0	1.79	28.54	201672	219.12	321.67	8.6	16.4
1856.0	21.3	48.7	120	9.0	1.69	28.58	202010	171.44	321.30	8.6	16.4
1857.0	18.8	48.8	120	9.0	1.74	28.64	202394	194.77	320.99	8.6	16.4
1858.0	27.7	48.3	120	9.0	1.59	28.67	202654	131.88	320.53	8.6	16.4
1859.0	23.8	48.5	120	9.0	1.65	28.71	202956	153.18	320.12	8.6	16.4
1860.0	26.1	48.9	120	9.0	1.62	28.75	203232	139.99	319.68	8.6	16.4
1861.0	24.2	47.9	120	9.0	1.64	28.79	203530	151.15	319.27	8.6	16.4
1862.0	25.2	47.8	120	9.0	1.62	28.83	203816	145.07	318.85	8.6	16.4
1863.0	24.0	46.4	120	9.0	1.62	28.87	204116	152.17	318.44	8.6	16.4
1864.0	19.7	50.3	120	9.0	1.74	28.93	204482	185.64	318.12	8.6	16.5
1865.0	19.6	50.1	120	9.0	1.74	28.98	204850	186.66	317.81	8.6	16.5
1866.0	22.0	50.7	120	9.0	1.70	29.02	205178	166.37	317.44	8.6	16.5
1867.0	20.7	50.5	120	9.0	1.72	29.07	205526	176.51	317.10	8.6	16.5
1868.0	22.8	50.5	120	9.0	1.69	29.11	205842	160.28	316.73	8.6	16.5
1869.0	24.8	50.3	120	9.0	1.65	29.15	206132	147.09	316.32	8.6	16.5
1870.0	23.1	50.6	120	9.0	1.68	29.20	206444	158.25	315.95	8.6	16.5
1871.0	24.1	50.1	120	9.0	1.66	29.24	206743	151.54	315.56	8.6	16.5
1872.0	24.5	50.0	120	9.0	1.66	29.28	207036	148.79	315.16	8.6	16.5
1873.0	19.1	50.0	120	9.0	1.75	29.33	207412	190.72	314.87	8.7	16.5
1874.0	23.7	51.1	120	9.0	1.68	29.37	207716	154.20	314.49	8.7	16.5
1875.0	29.8	50.5	120	9.0	1.59	29.41	207958	122.75	314.04	8.7	16.5
1876.0	26.9	50.8	120	9.0	1.63	29.45	208226	135.94	313.62	8.7	16.5
1877.0	27.9	50.3	120	9.0	1.61	29.48	208484	130.86	313.19	8.7	16.5
1878.0	23.2	50.5	120	9.0	1.68	29.52	208794	157.24	312.83	8.7	16.5
1879.0	24.3	50.9	120	9.0	1.67	29.57	209090	150.14	312.45	8.7	16.5
1880.0	27.3	51.2	120	9.0	1.63	29.60	209354	133.91	312.03	8.7	16.5
1881.0	22.6	51.8	120	9.0	1.70	29.65	209672	161.30	311.68	8.7	16.5
1882.0	24.2	51.7	120	9.0	1.68	29.69	209970	151.15	311.31	8.7	16.5
1883.0	19.3	54.8	120	9.0	1.80	29.74	210344	189.70	311.03	8.7	16.5
1884.0	23.4	49.2	120	9.0	1.66	29.78	210652	156.22	310.67	8.7	16.5
1885.0	24.2	48.8	120	9.0	1.65	29.82	210950	151.15	310.31	8.7	16.5
1886.0	29.0	48.9	120	9.0	1.58	29.86	211198	125.79	309.88	8.7	16.5
1887.0	18.0	49.2	120	9.0	1.76	29.91	211598	202.89	309.64	8.7	16.5
1888.0	22.2	49.6	120	9.0	1.69	29.96	211922	164.34	309.31	8.7	16.5
1889.0	28.3	49.5	120	9.0	1.60	29.99	212176	128.83	308.90	8.7	16.5
1890.0	28.1	49.5	120	9.0	1.60	30.03	212432	129.85	308.49	8.7	16.5
1891.0	21.8	49.7	120	9.0	1.70	30.08	212762	167.38	308.17	8.7	16.5
1892.0	24.7	48.6	120	9.0	1.64	30.12	213054	148.11	307.81	8.7	16.5
1893.0	52.2	43.1	120	9.0	1.31	30.14	213192	70.00	307.27	8.7	16.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1894.0	29.3	48.6	120	9.0	1.58	30.17	213438	124.78	306.86	8.7	16.5
1895.0	35.3	48.3	120	9.0	1.50	30.20	213642	103.47	306.40	8.8	16.5
1896.0	26.1	48.0	120	9.0	1.61	30.24	213918	139.99	306.03	8.8	16.5
1897.0	21.8	45.5	120	9.0	1.65	30.28	214248	167.38	305.72	8.8	16.5
1898.0	24.3	46.1	120	9.0	1.62	30.32	214544	150.14	305.37	8.8	16.5
1899.0	25.2	46.4	120	9.0	1.61	30.36	214830	145.07	305.01	8.8	16.5
1900.0	21.6	46.4	120	9.0	1.66	30.41	215164	169.41	304.71	8.8	16.5
1901.0	22.0	45.1	120	9.0	1.64	30.45	215492	166.37	304.41	8.8	16.5
1902.0	28.6	45.5	120	9.0	1.55	30.49	215744	127.82	304.02	8.8	16.5
1903.0	27.5	45.1	120	9.0	1.56	30.53	216006	132.89	303.64	8.8	16.5
1904.0	27.5	45.1	120	9.0	1.56	30.56	216268	132.89	303.26	8.8	16.5
1905.0	26.9	45.3	120	9.0	1.57	30.60	216536	135.94	302.89	8.8	16.5
1906.0	25.5	46.7	120	9.0	1.60	30.64	216818	143.04	302.54	8.8	16.5
1907.0	16.7	43.4	120	9.0	1.72	30.70	217250	219.12	302.36	8.8	16.5
1908.0	21.1	48.6	120	9.0	1.70	30.75	217592	173.47	302.08	8.8	16.5
1909.0	22.2	48.7	120	9.0	1.68	30.79	217916	164.34	301.78	8.8	16.5
1910.0	21.7	48.4	120	9.1	1.66	30.84	218248	168.40	301.49	8.8	16.5
1911.0	21.8	40.8	120	9.1	1.57	30.88	218578	167.38	301.20	8.8	16.5
1912.0	15.8	41.1	120	9.1	1.69	30.95	219034	231.29	301.05	8.8	16.5
1913.0	18.0	41.5	120	9.1	1.65	31.00	219434	202.89	300.83	8.8	16.5
1914.0	13.6	41.3	120	9.1	1.74	31.08	219962	267.81	300.76	8.8	16.5
1915.0	15.7	39.9	120	9.1	1.67	31.14	220422	233.32	300.62	8.8	16.5
1916.0	16.8	41.4	120	9.1	1.67	31.20	220850	217.09	300.44	8.8	16.5
1917.0	21.7	40.9	120	9.1	1.58	31.24	221182	168.40	300.16	8.8	16.5
1918.0	18.0	41.1	120	9.1	1.64	31.30	221582	202.89	299.95	8.8	16.5
1919.0	16.5	40.9	120	9.1	1.67	31.36	222018	221.15	299.78	8.8	16.5
1920.0	10.5	39.1	120	9.1	1.80	31.46	222702	346.94	299.88	8.8	16.5
1921.0	15.6	36.2	120	9.1	1.63	31.52	223164	234.34	299.74	8.8	16.5
1922.0	15.5	36.5	120	9.0	1.65	31.58	223630	236.37	299.61	8.8	16.6
1923.0	20.7	39.9	120	9.0	1.60	31.63	223978	176.51	299.35	8.8	16.6
1924.0	19.8	39.2	120	9.0	1.61	31.68	224342	184.63	299.11	8.8	16.6
1925.0	20.8	39.3	120	9.0	1.59	31.73	224688	175.50	298.85	8.8	16.6
1926.0	19.9	40.5	120	9.0	1.62	31.78	225050	183.61	298.60	8.8	16.6
1927.0	16.7	40.5	120	9.0	1.68	31.84	225480	218.11	298.43	8.8	16.6
1928.0	17.7	41.1	120	9.0	1.67	31.90	225886	205.93	298.24	8.8	16.6
1929.0	13.5	43.7	120	9.0	1.79	31.97	226418	269.84	298.18	8.8	16.6
1930.0	20.8	42.3	120	9.0	1.63	32.02	226764	175.50	297.93	8.8	16.6
1931.0	17.6	41.0	120	9.0	1.67	32.08	227173	207.50	297.74	8.8	16.6
1932.0	22.2	42.0	120	9.0	1.60	32.12	227498	164.50	297.46	8.8	16.6
1933.0	20.2	41.8	120	9.0	1.63	32.17	227854	180.79	297.22	8.8	16.6
1934.0	20.5	41.4	120	9.0	1.62	32.22	228205	178.15	296.97	8.8	16.6
1935.0	18.1	42.1	120	9.0	1.67	32.28	228603	201.77	296.78	8.8	16.6
1936.0	20.9	41.2	120	9.0	1.61	32.32	228948	174.74	296.53	8.8	16.6
1937.0	24.6	42.3	120	9.0	1.57	32.36	229240	148.46	296.22	8.8	16.6
1938.0	27.7	39.1	120	9.1	1.47	32.40	229500	131.88	295.89	8.8	16.6
1939.0	28.3	40.0	120	9.1	1.48	32.44	229754	128.83	295.54	8.8	16.6
1940.0	26.7	40.4	120	9.1	1.50	32.47	230024	136.95	295.22	8.8	16.6
1941.0	23.4	41.0	120	9.1	1.55	32.52	230332	156.22	294.94	8.8	16.6
1942.0	25.5	41.6	120	9.1	1.53	32.55	230614	143.04	294.63	8.8	16.6
1943.0	24.2	42.1	120	9.1	1.55	32.60	230912	151.15	294.34	8.8	16.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1944.0	24.8	42.2	120	9.1	1.55	32.64	231202	147.09	294.04	8.8	16.6
1945.0	22.9	42.5	120	9.1	1.58	32.68	231516	159.27	293.77	8.8	16.6
1946.0	19.7	44.1	120	9.1	1.65	32.73	231882	185.64	293.55	8.8	16.6
1947.0	16.8	42.6	120	9.1	1.69	32.79	232311	217.38	293.40	8.8	16.6
1948.0	17.3	41.3	120	9.1	1.66	32.85	232728	211.58	293.23	8.8	16.6
1949.0	19.7	40.6	120	9.1	1.61	32.90	233094	185.64	293.02	8.8	16.6
1950.0	17.4	42.5	120	9.1	1.67	32.96	233508	209.99	292.85	8.8	16.6
1951.0	24.8	43.1	120	9.1	1.56	33.00	233798	147.09	292.56	8.8	16.6
1952.0	14.9	42.4	120	9.1	1.73	33.06	234282	245.50	292.47	8.8	16.6
1953.0	15.9	42.5	120	9.1	1.70	33.13	234736	230.28	292.34	8.8	16.6
1954.0	16.7	41.2	120	9.1	1.67	33.19	235166	218.11	292.19	8.8	16.6
1955.0	19.5	42.9	120	9.1	1.64	33.24	235536	187.67	291.99	8.8	16.6
1956.0	11.5	43.3	120	9.1	1.83	33.33	236160	316.51	292.04	8.8	16.6
1957.0	16.1	41.5	120	9.1	1.69	33.39	236606	226.22	291.91	8.8	16.6
1958.0	25.9	42.1	120	9.1	1.53	33.43	236884	141.01	291.61	8.8	16.6
1959.0	17.6	43.7	120	9.1	1.68	33.48	237292	206.95	291.44	8.8	16.6
1960.0	21.6	44.7	120	9.1	1.62	33.53	237626	169.41	291.20	8.8	16.6
1961.0	15.4	44.6	120	9.1	1.74	33.59	238094	237.38	291.10	8.8	16.6
1962.0	18.0	43.3	120	9.1	1.67	33.65	238494	202.89	290.93	8.8	16.6
1963.0	9.0	41.9	120	9.1	1.89	33.76	239290	403.75	291.15	8.8	16.6
1964.0	8.9	42.3	120	9.1	1.90	33.87	240100	410.85	291.38	8.8	16.6
1965.0	22.9	42.0	120	9.1	1.57	33.92	240414	159.27	291.12	8.8	16.6
1966.0	17.0	41.6	120	9.1	1.67	33.97	240838	215.06	290.97	8.8	16.6
1967.0	20.8	42.7	120	9.1	1.61	34.02	241184	175.50	290.75	8.8	16.6
1968.0	25.0	42.4	120	9.1	1.55	34.06	241472	146.08	290.47	8.8	16.6
1969.0	20.0	42.7	120	9.1	1.63	34.11	241832	182.60	290.26	8.8	16.6
1970.0	19.6	42.6	120	9.1	1.63	34.16	242200	186.66	290.06	8.8	16.6
1971.0	21.2	42.4	120	9.1	1.60	34.21	242540	172.46	289.84	8.8	16.6
1972.0	22.8	42.9	120	9.1	1.58	34.26	242856	160.28	289.59	8.8	16.6
1973.0	24.7	43.3	120	9.1	1.56	34.30	243148	148.11	289.32	8.8	16.6
1974.0	21.1	43.6	120	9.1	1.62	34.34	243490	173.47	289.10	8.8	16.6
1975.0	16.2	42.7	120	9.1	1.70	34.40	243934	225.21	288.98	8.8	16.6
1976.0	20.0	42.5	120	9.1	1.62	34.45	244294	182.60	288.78	8.8	16.6
1977.0	20.3	41.8	120	9.1	1.61	34.50	244648	179.56	288.57	8.8	16.6
1978.0	19.5	41.7	120	9.1	1.62	34.56	245018	187.67	288.38	8.8	16.6
1979.0	21.6	41.7	120	9.1	1.59	34.60	245352	169.41	288.15	8.8	16.6
1980.0	31.0	41.6	120	9.1	1.46	34.63	245584	117.68	287.83	8.8	16.6
1981.0	27.5	41.6	120	9.1	1.50	34.67	245846	132.89	287.54	8.8	16.6
1982.0	25.0	42.3	120	9.1	1.54	34.71	246134	146.08	287.27	8.8	16.6
1983.0	31.3	41.8	120	9.1	1.46	34.74	246364	116.66	286.95	8.8	16.6
1984.0	16.2	43.2	120	9.1	1.70	34.80	246808	225.21	286.84	8.8	16.6
1985.0	19.1	41.6	120	9.1	1.63	34.86	247184	190.72	286.66	8.8	16.6
1986.0	30.5	43.1	120	9.1	1.48	34.89	247420	119.70	286.35	8.8	16.6
1987.0	25.7	44.8	120	9.1	1.56	34.93	247700	142.02	286.08	8.8	16.6
1988.0	21.1	43.7	120	9.1	1.62	34.98	248042	173.47	285.87	8.8	16.6
1989.0	21.8	42.3	120	9.1	1.59	35.02	248372	167.38	285.65	8.8	16.6
1990.0	18.2	42.5	120	9.1	1.66	35.08	248768	200.86	285.49	8.8	16.6
1991.0	21.1	42.8	120	9.1	1.61	35.12	249110	173.47	285.28	8.8	16.6
1992.0	21.2	42.4	120	9.1	1.60	35.17	249450	172.46	285.08	8.8	16.6
1993.0	23.2	42.8	120	9.1	1.58	35.21	249760	157.24	284.84	8.8	16.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1994.0	22.0	43.0	120	9.1	1.60	35.26	250088	166.37	284.62	8.8	16.6
1995.0	21.2	41.9	120	9.1	1.60	35.31	250428	172.46	284.42	8.8	16.6
1996.0	25.2	41.8	120	9.1	1.54	35.35	250714	145.07	284.16	8.8	16.6
1997.0	16.7	42.0	120	9.1	1.68	35.41	251146	219.12	284.04	8.8	16.6
1998.0	27.3	43.1	120	9.1	1.52	35.44	251410	133.91	283.77	8.8	16.6
1999.0	14.5	43.3	120	9.1	1.75	35.51	251908	252.60	283.71	8.8	16.6
2000.0	24.8	42.8	120	9.1	1.55	35.55	252198	147.09	283.46	8.8	16.6
2001.0	20.3	42.2	120	9.1	1.62	35.60	252553	180.06	283.28	8.8	16.6
2002.0	18.0	42.3	120	9.1	1.66	35.66	252953	202.89	283.13	8.8	16.6
2003.0	24.0	42.5	120	9.1	1.56	35.70	253253	152.17	282.89	8.8	16.7
2004.0	31.3	41.9	120	9.1	1.46	35.73	253483	116.66	282.59	8.8	16.7
2005.0	21.2	33.3	120	9.1	1.49	35.78	253823	172.46	282.39	8.8	16.7
2006.0	23.5	32.7	120	9.1	1.45	35.82	254129	155.21	282.17	8.8	16.7
2007.0	20.8	34.5	120	9.1	1.51	35.87	254475	175.50	281.97	8.8	16.7
2008.0	15.1	33.6	120	9.1	1.60	35.93	254951	241.44	281.90	8.8	16.7
2009.0	15.6	33.1	120	9.1	1.59	36.00	255413	234.34	281.82	8.8	16.7
2010.0	14.3	33.1	120	9.1	1.61	36.07	255915	254.63	281.77	8.8	16.7
2011.0	18.0	32.8	120	9.1	1.54	36.12	256315	202.89	281.63	8.8	16.7
2012.0	23.1	32.9	120	9.1	1.46	36.17	256627	158.25	281.41	8.8	16.7
2013.0	25.7	33.8	120	9.1	1.43	36.21	256907	142.02	281.16	8.8	16.7
2014.0	18.0	33.4	120	9.1	1.54	36.26	257307	202.89	281.02	8.8	16.7
2015.0	22.6	31.7	120	9.1	1.45	36.31	257625	161.30	280.81	8.8	16.7
2016.0	16.7	33.5	120	9.2	1.55	36.37	258055	218.11	280.70	8.8	16.7
2017.0	21.1	32.9	120	9.2	1.47	36.41	258397	173.47	280.51	8.8	16.7
2018.0	22.0	32.1	120	9.2	1.45	36.46	258725	166.37	280.31	8.8	16.7
2019.0	23.8	34.5	120	9.2	1.45	36.50	259027	153.18	280.09	8.8	16.7
2020.0	20.5	33.4	120	9.2	1.49	36.55	259379	178.54	279.91	8.8	16.7
2021.0	16.9	32.9	120	9.2	1.54	36.61	259805	216.08	279.80	8.8	16.7
2022.0	17.4	34.4	120	9.2	1.55	36.67	260219	209.99	279.67	8.8	16.7
2023.0	16.2	36.2	120	9.2	1.60	36.73	260663	225.21	279.58	8.8	16.7
2024.0	15.9	34.3	120	9.2	1.58	36.79	261115	229.26	279.49	8.8	16.7
2025.0	18.5	33.1	120	9.2	1.51	36.85	261505	197.82	279.35	8.8	16.7
2026.0	22.2	33.1	120	9.2	1.46	36.89	261829	164.34	279.15	8.8	16.7
2027.0	19.5	35.0	120	9.2	1.52	36.94	262199	187.67	278.99	8.8	16.7
2028.0	20.6	34.3	120	9.2	1.50	36.99	262549	177.53	278.82	8.8	16.7
2029.0	29.8	35.0	120	9.2	1.39	37.02	262791	122.75	278.55	8.8	16.7
2030.0	20.0	34.4	120	9.2	1.51	37.07	263151	182.60	278.38	8.8	16.7
2031.0	20.0	33.8	120	9.2	1.50	37.12	263511	182.60	278.22	8.8	16.7
2032.0	20.8	33.3	120	9.2	1.48	37.17	263857	175.50	278.04	8.8	16.7
2033.0	15.5	36.2	120	9.2	1.61	37.24	264323	236.37	277.97	8.8	16.7
2034.0	20.2	46.0	120	9.2	1.64	37.29	264679	180.57	277.80	8.8	16.7
2035.0	18.8	48.8	120	9.2	1.70	37.34	265063	194.77	277.66	8.8	16.7
2036.0	24.7	49.1	120	9.2	1.61	37.38	265355	148.11	277.44	8.8	16.7
2037.0	17.9	50.3	120	9.2	1.74	37.44	265757	203.90	277.31	8.8	16.7
2038.0	18.4	45.9	120	9.2	1.68	37.49	266149	198.83	277.18	8.8	16.7
2039.0	19.1	49.4	120	9.2	1.70	37.54	266525	190.72	277.03	8.8	16.7
2040.0	26.9	49.9	120	9.2	1.59	37.58	266793	135.94	276.79	8.8	16.7
2041.0	28.6	50.5	120	9.3	1.55	37.61	267045	127.82	276.54	8.8	16.7
2042.0	27.7	50.1	120	9.3	1.56	37.65	267305	131.88	276.30	8.8	16.7
2043.0	23.8	36.4	120	9.3	1.46	37.69	267607	153.18	276.09	8.8	16.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2044.0	23.2	35.5	120	9.3	1.46	37.74	267917	157.24	275.89	8.8	16.7
2045.0	24.8	35.4	120	9.3	1.43	37.78	268207	147.09	275.67	8.8	16.7
2046.0	23.1	35.2	120	9.3	1.45	37.82	268519	158.25	275.48	8.8	16.7
2047.0	22.6	36.9	120	9.3	1.48	37.86	268837	161.30	275.28	8.8	16.7
2048.0	22.2	36.5	120	9.3	1.48	37.91	269161	164.34	275.10	8.8	16.7
2049.0	20.8	36.3	120	9.3	1.50	37.96	269507	175.50	274.93	8.8	16.7
2050.0	21.6	36.5	120	9.3	1.49	38.00	269841	169.41	274.76	8.8	16.7
2051.0	21.3	36.4	120	9.3	1.49	38.05	270179	171.44	274.58	8.8	16.7
2052.0	23.1	35.4	120	9.3	1.46	38.09	270491	158.25	274.39	8.8	16.7
2053.0	21.2	36.3	120	9.3	1.50	38.14	270831	172.46	274.22	8.8	16.7
2054.0	22.8	38.2	120	9.3	1.50	38.18	271147	160.28	274.03	8.8	16.7
2055.0	16.6	38.1	120	9.3	1.60	38.24	271581	220.13	273.94	8.8	16.7
2056.0	15.0	37.6	120	9.3	1.62	38.31	272061	243.47	273.89	8.8	16.7
2057.0	13.0	36.9	120	9.3	1.66	38.39	272613	279.99	273.90	8.8	16.7
2058.0	15.2	36.4	120	9.3	1.60	38.45	273087	240.42	273.85	8.8	16.7
2059.0	13.3	35.9	120	9.3	1.64	38.53	273629	274.91	273.85	8.8	16.7
2060.0	14.1	35.8	120	9.3	1.62	38.60	274139	258.68	273.83	8.8	16.7
2061.0	13.5	36.3	120	9.3	1.64	38.67	274671	269.84	273.82	8.8	16.7
2062.0	9.1	34.0	120	9.3	1.73	38.78	275461	400.71	274.03	8.8	16.7
2063.0	14.2	32.6	120	9.3	1.57	38.85	275967	256.65	274.00	8.8	16.7
2064.0	16.2	32.3	120	9.3	1.53	38.92	276411	225.21	273.92	8.8	16.7
2065.0	20.5	33.7	120	9.3	1.47	38.96	276763	178.54	273.76	8.8	16.7
2066.0	21.2	33.7	120	9.3	1.46	39.01	277103	172.46	273.60	8.8	16.7
2067.0	17.0	33.8	120	9.3	1.53	39.07	277527	215.06	273.50	8.8	16.7
2068.0	16.6	33.2	120	9.3	1.53	39.13	277961	220.13	273.42	8.8	16.7
2069.0	18.5	33.5	120	9.3	1.50	39.18	278351	197.82	273.30	8.8	16.7
2070.0	16.1	32.6	120	9.3	1.53	39.25	278797	226.22	273.22	8.8	16.7
2071.0	19.5	33.4	120	9.3	1.49	39.30	279167	187.67	273.08	8.8	16.7
2072.0	23.1	33.7	120	9.3	1.44	39.34	279479	158.25	272.90	8.8	16.7
2073.0	23.7	33.4	120	9.3	1.42	39.38	279783	154.20	272.71	8.8	16.7
2074.0	23.4	32.9	120	9.3	1.42	39.43	280091	156.22	272.52	8.8	16.7
2075.0	23.1	34.4	120	9.3	1.44	39.47	280403	158.25	272.34	8.8	16.7
2076.0	17.8	34.5	120	9.3	1.53	39.53	280807	204.92	272.23	8.8	16.7
2077.0	21.3	34.7	120	9.3	1.47	39.57	281145	171.44	272.07	8.8	16.7
2078.0	19.6	34.5	120	9.3	1.50	39.62	281513	186.66	271.93	8.8	16.7
2079.0	18.0	34.1	120	9.3	1.52	39.68	281913	202.89	271.82	8.8	16.7
2080.0	17.8	35.0	120	9.3	1.53	39.74	282318	205.17	271.72	8.8	16.7

BIT NUMBER	6	IADC CODE	114	INTERVAL	2080.0- 2302.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 18
COST	2381.00	TRIP TIME	6.9	BIT RUN	222.0
TOTAL HOURS	5.93	TOTAL TURNS	55875	CONDITION	T1 B3 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2081.0	17.0	32.2	160	9.2	1.62	0.06	565	215	27795	8.8	16.7
2082.0	18.0	38.6	160	9.2	1.69	0.11	1098	203	13999	8.8	16.7
2083.0	18.0	38.1	160	9.2	1.68	0.17	1631	203	9400	8.8	16.7
2084.0	38.0	40.0	160	9.2	1.46	0.20	1884	96	7074	8.8	16.7
2085.0	25.0	44.3	160	9.2	1.65	0.24	2268	146	5689	8.8	16.7
2086.0	26.5	46.2	160	9.2	1.65	0.27	2631	138	4763	8.8	16.8
2087.0	27.9	43.6	160	9.2	1.60	0.31	2975	131	4102	8.8	16.8
2088.0	35.6	45.8	160	9.2	1.54	0.34	3244	102	3602	8.8	16.8
2089.0	29.0	45.5	160	9.2	1.61	0.37	3575	126	3216	8.8	16.8
2090.0	28.8	44.6	160	9.2	1.60	0.41	3908	127	2907	8.8	16.8
2091.0	39.1	42.6	160	9.2	1.48	0.43	4153	93	2651	8.8	16.8
2092.0	30.5	42.7	160	9.2	1.56	0.47	4468	120	2440	8.8	16.8
2093.0	37.1	42.7	160	9.2	1.50	0.49	4727	98	2260	8.8	16.8
2094.0	22.0	41.2	160	9.2	1.66	0.54	5164	166	2110	8.8	16.8
2095.0	41.4	42.8	160	9.2	1.46	0.56	5396	88	1976	8.8	16.8
2096.0	34.6	42.8	160	9.2	1.52	0.59	5673	106	1859	8.8	16.8
2097.0	35.3	43.2	160	9.2	1.52	0.62	5945	103	1755	8.8	16.8
2098.0	38.3	43.9	160	9.2	1.50	0.65	6196	95	1663	8.8	16.8
2099.0	31.3	43.7	160	9.2	1.57	0.68	6503	117	1582	8.8	16.8
2100.0	26.1	41.6	160	9.2	1.60	0.72	6871	140	1510	8.8	16.8
2101.0	23.4	43.1	160	9.2	1.66	0.76	7281	156	1445	8.8	16.8
2102.0	34.6	39.4	160	9.2	1.48	0.79	7558	106	1384	8.8	16.8
2103.0	26.3	39.6	160	9.2	1.58	0.83	7924	139	1330	8.8	16.8
2104.0	28.1	38.8	160	9.2	1.54	0.86	8265	130	1280	8.8	16.8
2105.0	46.2	40.2	160	9.2	1.40	0.88	8473	79	1232	8.8	16.8
2106.0	43.4	39.1	160	9.2	1.40	0.91	8694	84	1188	8.8	16.8
2107.0	43.4	40.0	160	9.2	1.41	0.93	8916	84	1147	8.8	16.8
2108.0	37.5	39.4	160	9.2	1.46	0.96	9172	97	1110	8.8	16.8
2109.0	39.6	40.5	160	9.2	1.45	0.98	9414	92	1075	8.8	16.8
2110.0	36.7	40.3	160	9.2	1.47	1.01	9676	99	1042	8.8	16.8
2111.0	35.0	40.6	160	9.2	1.49	1.04	9950	104	1012	8.8	16.8
2112.0	34.3	40.7	160	9.2	1.50	1.07	10230	106.52	983.48	8.8	16.8
2113.0	31.0	39.9	160	9.2	1.53	1.10	10539	117.68	957.25	8.8	16.8
2114.0	50.0	38.8	160	9.2	1.35	1.12	10731	73.04	931.24	8.8	16.8
2115.0	53.7	39.8	160	9.2	1.34	1.14	10910	67.97	906.57	8.8	16.8
2116.0	41.9	40.6	160	9.2	1.43	1.16	11139	87.24	883.82	8.8	16.8
2117.0	48.0	40.7	160	9.2	1.39	1.18	11339	76.08	861.98	8.8	16.8
2118.0	46.8	39.4	160	9.2	1.38	1.20	11545	78.11	841.36	8.8	16.8
2119.0	51.4	40.3	160	9.2	1.36	1.22	11731	71.01	821.60	8.8	16.8
2120.0	36.4	40.0	160	9.2	1.47	1.25	11995	100.43	803.57	8.8	16.8
2121.0	37.1	39.3	160	9.2	1.46	1.28	12254	98.40	786.38	8.8	16.8
2122.0	37.9	39.6	160	9.2	1.46	1.30	12507	96.37	769.95	8.8	16.8
2123.0	45.0	42.1	160	9.2	1.42	1.33	12721	81.16	753.93	8.8	16.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2124.0	49.3	41.4	160	9.2	1.39	1.35	12915	74.05	738.48	8.8	16.8
2125.0	46.8	41.4	160	9.2	1.40	1.37	13121	78.11	723.80	8.8	16.8
2126.0	44.4	40.7	160	9.2	1.41	1.39	13337	82.17	709.85	8.8	16.8
2127.0	43.4	40.2	160	9.2	1.42	1.41	13558	84.20	696.54	8.8	16.8
2128.0	48.6	40.3	160	9.2	1.38	1.43	13755	75.07	683.59	8.8	16.8
2129.0	52.9	40.6	160	9.2	1.35	1.45	13937	68.98	671.05	8.8	16.8
2130.0	37.5	41.8	160	9.2	1.48	1.48	14193	97.39	659.58	8.8	16.8
2131.0	40.0	42.8	160	9.2	1.47	1.50	14433	91.30	648.43	8.8	16.8
2132.0	22.5	43.0	160	9.2	1.67	1.55	14859	162.31	639.09	8.8	16.8
2133.0	36.7	41.9	160	9.2	1.49	1.58	15121	99.42	628.90	8.8	16.8
2134.0	43.9	41.3	160	9.2	1.42	1.60	15339	83.18	618.80	8.8	16.8
2135.0	45.0	41.9	160	9.2	1.42	1.62	15553	81.16	609.02	8.8	16.8
2136.0	47.4	42.1	160	9.2	1.41	1.64	15755	77.10	599.52	8.8	16.8
2137.0	52.2	42.7	160	9.2	1.38	1.66	15939	70.00	590.23	8.8	16.8
2138.0	46.2	42.8	160	9.2	1.42	1.68	16147	79.13	581.42	8.8	16.8
2139.0	41.9	43.8	160	9.2	1.47	1.71	16377	87.24	573.05	8.8	16.8
2140.0	37.5	44.1	160	9.2	1.51	1.73	16633	97.39	565.12	8.8	16.8
2141.0	42.4	43.4	160	9.2	1.46	1.76	16859	86.23	557.27	8.8	16.8
2142.0	24.2	38.9	160	9.2	1.60	1.80	17257	151.15	550.72	8.8	16.8
2143.0	52.9	40.6	160	9.2	1.35	1.82	17438	68.98	543.07	8.8	16.8
2144.0	63.2	40.6	160	9.2	1.29	1.83	17590	57.82	535.49	8.8	16.8
2145.0	45.0	41.2	160	9.2	1.42	1.85	17803	81.16	528.50	8.8	16.8
2146.0	45.6	41.4	160	9.2	1.41	1.88	18014	80.14	521.71	8.8	16.8
2147.0	41.4	40.2	160	9.2	1.43	1.90	18246	88.26	515.24	8.8	16.8
2148.0	45.0	39.5	160	9.2	1.40	1.92	18459	81.16	508.85	8.8	16.8
2149.0	43.9	39.3	160	9.2	1.40	1.95	18678	83.18	502.68	8.8	16.8
2150.0	44.4	39.5	160	9.2	1.40	1.97	18894	82.17	496.68	8.8	16.8
2151.0	34.6	38.8	160	9.2	1.48	2.00	19171	105.50	491.17	8.8	16.8
2152.0	45.0	40.5	160	9.2	1.41	2.02	19385	81.16	485.47	8.8	16.8
2153.0	47.4	39.6	160	9.2	1.38	2.04	19587	77.10	479.88	8.8	16.8
2154.0	47.0	41.7	160	9.2	1.41	2.06	19791	77.70	474.44	8.8	16.8
2155.0	37.9	41.8	160	9.2	1.48	2.09	20045	96.37	469.40	8.8	16.8
2156.0	44.4	40.3	160	9.2	1.41	2.11	20261	82.17	464.31	8.8	16.8
2157.0	39.6	42.2	160	9.2	1.47	2.14	20503	92.31	459.48	8.8	16.8
2158.0	36.7	41.7	160	9.2	1.49	2.16	20765	99.42	454.86	8.8	16.8
2159.0	42.4	41.5	160	9.2	1.44	2.19	20991	86.23	450.19	8.8	16.8
2160.0	60.0	40.0	160	9.3	1.29	2.20	21151	60.87	445.33	8.8	16.8
2161.0	15.8	40.0	160	9.3	1.73	2.27	21759	231.29	442.68	8.8	16.8
2162.0	65.5	40.0	155	9.3	1.25	2.28	21902	55.79	437.97	8.8	16.8
2163.0	60.0	40.0	155	9.3	1.28	2.30	22057	60.87	433.42	8.8	16.8
2164.0	51.4	40.0	155	9.3	1.33	2.32	22237	71.01	429.11	8.8	16.8
2165.0	54.5	40.0	155	9.3	1.31	2.34	22408	66.95	424.85	8.8	16.8
2166.0	51.4	40.0	155	9.3	1.33	2.36	22589	71.01	420.73	8.8	16.8
2167.0	40.0	40.0	155	9.3	1.41	2.38	22821	91.30	416.95	8.8	16.8
2168.0	58.1	40.7	155	9.3	1.30	2.40	22981	62.90	412.92	8.8	16.8
2169.0	60.0	39.0	155	9.3	1.27	2.41	23136	60.87	408.97	8.8	16.8
2170.0	62.1	40.5	155	9.3	1.27	2.43	23286	58.84	405.08	8.8	16.8
2171.0	60.0	40.2	155	9.3	1.28	2.45	23441	60.87	401.30	8.8	16.8
2172.0	47.4	40.4	155	9.3	1.36	2.47	23638	77.10	397.77	8.8	16.9
2173.0	54.5	40.8	155	9.3	1.32	2.49	23808	66.95	394.21	8.8	16.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2174.0	51.4	40.8	155	9.3	1.34	2.51	23989	71.01	390.78	8.8	16.9
2175.0	60.0	40.8	155	9.3	1.29	2.52	24144	60.87	387.30	8.8	16.9
2176.0	50.0	40.9	155	9.3	1.35	2.54	24330	73.04	384.03	8.8	16.9
2177.0	56.2	41.1	155	9.3	1.31	2.56	24495	64.92	380.74	8.8	16.9
2178.0	47.4	41.3	155	9.3	1.37	2.58	24692	77.10	377.64	8.8	16.9
2179.0	51.4	41.2	155	9.3	1.34	2.60	24872	71.01	374.54	8.8	16.9
2180.0	58.1	41.3	155	9.3	1.30	2.62	25033	62.90	371.43	8.8	16.9
2181.0	52.9	41.2	155	9.3	1.33	2.64	25208	68.98	368.43	8.8	16.9
2182.0	40.0	41.6	155	9.3	1.43	2.66	25441	91.30	365.72	8.8	16.9
2183.0	52.9	41.9	155	9.3	1.34	2.68	25616	68.98	362.84	8.8	16.9
2184.0	48.0	41.5	155	9.3	1.37	2.70	25810	76.08	360.08	8.8	16.9
2185.0	54.5	40.4	155	9.3	1.32	2.72	25981	66.95	357.29	8.8	16.9
2186.0	51.4	40.8	155	9.3	1.34	2.74	26161	71.01	354.59	8.8	16.9
2187.0	69.2	41.3	155	9.3	1.24	2.75	26296	52.75	351.76	8.8	16.9
2188.0	60.0	41.0	155	9.3	1.29	2.77	26451	60.87	349.07	8.8	16.9
2189.0	50.0	41.1	155	9.3	1.35	2.79	26637	73.04	346.54	8.8	16.9
2190.0	51.4	41.6	155	9.3	1.35	2.81	26818	71.01	344.03	8.8	16.9
2191.0	51.4	42.1	155	9.3	1.35	2.83	26998	71.01	341.57	8.8	16.9
2192.0	46.2	42.2	155	9.3	1.39	2.85	27200	79.13	339.23	8.8	16.9
2193.0	42.9	42.4	155	9.3	1.42	2.87	27417	85.21	336.98	8.8	16.9
2194.0	58.1	42.6	155	9.3	1.32	2.89	27577	62.90	334.58	8.8	16.9
2195.0	56.2	42.3	155	9.3	1.32	2.91	27742	64.92	332.23	8.8	16.9
2196.0	52.9	42.2	155	9.3	1.34	2.93	27918	68.98	329.96	8.8	16.9
2197.0	60.0	40.6	155	9.3	1.29	2.95	28073	60.87	327.66	8.8	16.9
2198.0	51.4	39.3	155	9.3	1.32	2.96	28254	71.01	325.49	8.8	16.9
2199.0	61.0	39.3	155	9.3	1.27	2.98	28406	59.85	323.26	8.8	16.9
2200.0	40.4	41.4	155	9.3	1.43	3.01	28636	90.29	321.32	8.8	16.9
2201.0	63.2	40.5	155	9.3	1.27	3.02	28784	57.82	319.14	8.8	16.9
2202.0	37.5	40.1	155	9.3	1.44	3.05	29032	97.39	317.32	8.8	16.9
2203.0	39.6	40.7	155	9.3	1.43	3.07	29267	92.31	315.49	8.8	16.9
2204.0	44.4	42.8	155	9.3	1.41	3.10	29476	82.17	313.61	8.8	16.9
2205.0	61.0	44.2	155	9.3	1.31	3.11	29628	59.85	311.58	8.8	16.9
2206.0	65.5	44.4	155	9.3	1.29	3.13	29770	55.79	309.55	8.8	16.9
2207.0	57.1	44.8	155	9.3	1.34	3.15	29933	63.91	307.62	8.8	16.9
2208.0	72.0	46.1	155	9.3	1.28	3.16	30062	50.72	305.61	8.8	16.9
2209.0	44.4	44.1	155	9.3	1.42	3.18	30272	82.17	303.88	8.8	16.9
2210.0	50.7	41.1	155	9.3	1.35	3.20	30455	72.03	302.09	8.8	16.9
2211.0	32.1	40.7	155	9.3	1.49	3.23	30744	113.62	300.65	8.8	16.9
2212.0	35.6	39.7	155	9.3	1.45	3.26	31005	102.46	299.15	8.8	16.9
2213.0	26.5	41.0	155	9.3	1.56	3.30	31357	137.96	297.94	8.8	16.9
2214.0	34.6	39.7	155	9.3	1.46	3.33	31625	105.50	296.50	8.8	16.9
2215.0	31.9	40.5	155	9.3	1.50	3.36	31917	114.63	295.16	8.8	16.9
2216.0	41.4	40.4	155	9.3	1.41	3.38	32142	88.26	293.64	8.8	16.9
2217.0	30.6	40.4	155	9.3	1.51	3.42	32445	119.20	292.36	8.8	16.9
2218.0	70.6	38.8	155	9.3	1.21	3.43	32577	51.74	290.62	8.8	16.9
2219.0	52.9	39.4	155	9.3	1.31	3.45	32753	68.98	289.02	8.8	16.9
2220.0	59.0	40.3	155	9.3	1.29	3.47	32910	61.88	287.40	8.8	16.9
2221.0	58.1	40.1	155	9.3	1.29	3.48	33071	62.90	285.81	8.8	16.9
2222.0	47.4	40.4	155	9.3	1.36	3.50	33267	77.10	284.34	8.8	16.9
2223.0	48.0	39.9	155	9.3	1.35	3.52	33461	76.08	282.88	8.8	16.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2224.0	36.7	40.7	155	9.3	1.45	3.55	33714	99.42	281.61	8.8	16.9
2225.0	51.4	41.0	155	9.3	1.34	3.57	33895	71.01	280.16	8.8	16.9
2226.0	30.3	39.5	155	9.3	1.50	3.60	34202	120.72	279.07	8.8	16.9
2227.0	48.0	39.6	155	9.3	1.35	3.63	34396	76.08	277.68	8.8	16.9
2228.0	56.2	40.1	155	9.3	1.30	3.64	34561	64.92	276.25	8.8	16.9
2229.0	36.7	40.3	155	9.3	1.45	3.67	34814	99.42	275.06	8.8	16.9
2230.0	51.4	41.4	155	9.3	1.34	3.69	34995	71.01	273.70	8.8	16.9
2231.0	32.4	40.9	155	9.3	1.49	3.72	35282	112.60	272.63	8.8	16.9
2232.0	30.8	39.4	155	9.3	1.49	3.75	35584	118.69	271.62	8.8	16.9
2233.0	31.6	41.4	155	9.3	1.51	3.78	35879	115.65	270.60	8.8	16.9
2234.0	38.3	40.9	155	9.3	1.44	3.81	36122	95.36	269.46	8.8	16.9
2235.0	28.3	40.9	155	9.3	1.54	3.85	36450	128.83	268.56	8.8	16.9
2236.0	20.9	41.3	155	9.3	1.65	3.89	36895	174.99	267.96	8.8	16.9
2237.0	36.4	39.7	155	9.3	1.44	3.92	37151	100.43	266.89	8.8	16.9
2238.0	39.1	40.1	155	9.3	1.42	3.95	37389	93.33	265.79	8.8	16.9
2239.0	34.0	37.6	155	9.3	1.44	3.98	37662	107.53	264.79	8.8	16.9
2240.0	36.0	39.7	155	9.3	1.45	4.00	37921	101.44	263.77	8.8	16.9
2241.0	37.9	40.8	155	9.3	1.44	4.03	38166	96.37	262.73	8.8	16.9
2242.0	33.3	40.5	155	9.3	1.48	4.06	38445	109.56	261.79	8.8	16.9
2243.0	28.1	40.2	155	9.3	1.53	4.10	38776	129.85	260.98	8.8	16.9
2244.0	33.6	42.4	155	9.3	1.50	4.13	39052	108.55	260.05	8.8	16.9
2245.0	38.3	40.2	155	9.3	1.43	4.15	39295	95.36	259.05	8.8	16.9
2246.0	36.7	40.2	155	9.3	1.44	4.18	39548	99.42	258.09	8.8	16.9
2247.0	36.4	38.6	155	9.3	1.43	4.21	39804	100.43	257.15	8.8	16.9
2248.0	45.6	41.0	155	9.3	1.38	4.23	40008	80.14	256.09	8.8	16.9
2249.0	33.3	42.0	155	9.3	1.50	4.26	40287	109.56	255.23	8.8	16.9
2250.0	25.7	42.2	155	9.3	1.59	4.30	40649	142.02	254.56	8.8	16.9
2251.0	36.7	42.0	155	9.3	1.46	4.32	40902	99.42	253.65	8.8	16.9
2252.0	31.9	41.0	155	9.3	1.50	4.36	41194	114.63	252.84	8.8	16.9
2253.0	36.4	39.0	155	9.3	1.43	4.38	41450	100.43	251.96	8.8	16.9
2254.0	50.0	35.7	155	9.3	1.30	4.40	41636	73.04	250.93	8.8	16.9
2255.0	46.8	33.4	155	9.3	1.29	4.43	41835	78.11	249.95	8.8	16.9
2256.0	50.7	36.8	155	9.3	1.30	4.44	42018	72.03	248.94	8.8	16.9
2257.0	40.4	37.1	155	9.3	1.38	4.47	42248	90.29	248.04	8.8	16.9
2258.0	36.0	38.7	155	9.3	1.43	4.50	42506	101.44	247.22	8.8	16.9
2259.0	40.4	37.4	155	9.3	1.38	4.52	42736	90.29	246.34	8.8	16.9
2260.0	46.2	37.4	155	9.3	1.34	4.54	42938	79.13	245.41	8.8	16.9
2261.0	35.3	37.1	155	9.3	1.42	4.57	43201	103.47	244.63	8.8	16.9
2262.0	36.4	36.9	155	9.3	1.41	4.60	43457	100.43	243.83	8.8	17.0
2263.0	34.3	42.5	155	9.3	1.49	4.63	43728	106.52	243.08	8.8	17.0
2264.0	39.1	40.8	155	9.3	1.43	4.65	43966	93.33	242.27	8.8	17.0
2265.0	38.7	39.5	155	9.3	1.42	4.68	44206	94.34	241.47	8.8	17.0
2266.0	36.4	39.4	155	9.3	1.44	4.71	44462	100.43	240.71	8.8	17.0
2267.0	35.0	39.7	155	9.3	1.46	4.74	44728	104.49	239.98	8.8	17.0
2268.0	45.0	39.5	155	9.3	1.37	4.76	44935	81.16	239.14	8.8	17.0
2269.0	38.7	38.2	155	9.3	1.41	4.78	45175	94.34	238.37	8.8	17.0
2270.0	50.7	40.5	155	9.3	1.34	4.80	45358	72.03	237.50	8.8	17.0
2271.0	41.9	40.8	155	9.3	1.41	4.83	45580	87.24	236.71	8.8	17.0
2272.0	31.3	41.7	155	9.3	1.51	4.86	45877	116.66	236.08	8.8	17.0
2273.0	18.7	45.8	155	9.3	1.74	4.91	46376	195.79	235.88	8.8	17.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2274.0	22.0	41.6	155	9.3	1.63	4.96	46800	166.37	235.52	8.8	17.0
2275.0	24.3	41.6	155	9.3	1.60	5.00	47182	150.14	235.08	8.8	17.0
2276.0	32.4	41.1	155	9.3	1.50	5.03	47469	112.60	234.46	8.8	17.0
2277.0	36.0	41.3	155	9.3	1.46	5.06	47727	101.44	233.78	8.8	17.0
2278.0	30.5	41.5	155	9.3	1.52	5.09	48032	119.70	233.20	8.8	17.0
2279.0	29.8	40.9	155	9.3	1.52	5.13	48345	122.75	232.65	8.8	17.0
2280.0	19.2	41.9	155	9.3	1.68	5.18	48829	190.21	232.44	8.8	17.0
2281.0	25.9	41.2	155	9.3	1.57	5.22	49188	141.01	231.98	8.8	17.0
2282.0	29.5	39.5	155	9.3	1.51	5.25	49503	123.76	231.45	8.8	17.0
2283.0	24.0	38.5	155	9.3	1.57	5.29	49891	152.17	231.06	8.8	17.0
2284.0	45.0	41.7	155	9.3	1.39	5.31	50097	81.16	230.32	8.8	17.0
2285.0	41.4	42.3	155	9.3	1.43	5.34	50322	88.26	229.63	8.8	17.0
2286.0	35.0	42.1	155	9.3	1.48	5.37	50588	104.49	229.02	8.8	17.0
2287.0	38.7	41.8	155	9.3	1.44	5.39	50828	94.34	228.37	8.8	17.0
2288.0	36.0	41.5	155	9.3	1.47	5.42	51087	101.44	227.76	8.8	17.0
2289.0	41.4	42.8	155	9.3	1.43	5.44	51312	88.26	227.09	8.8	17.0
2290.0	48.6	42.5	155	9.4	1.36	5.46	51503	75.07	226.37	8.8	17.0
2291.0	40.0	42.1	155	9.4	1.42	5.49	51735	91.30	225.73	8.8	17.0
2292.0	22.4	38.3	155	9.4	1.57	5.53	52151	163.33	225.43	8.8	17.0
2293.0	27.7	29.8	155	9.4	1.39	5.57	52487	131.88	224.99	8.8	17.0
2294.0	20.8	46.2	155	9.4	1.69	5.62	52934	175.50	224.76	8.8	17.0
2295.0	28.3	41.1	155	9.4	1.53	5.65	53262	128.83	224.32	8.8	17.0
2296.0	23.7	41.1	155	9.4	1.58	5.70	53655	154.20	223.99	8.8	17.0
2297.0	26.7	41.4	155	9.4	1.55	5.73	54003	136.95	223.59	8.8	17.0
2298.0	27.9	41.8	155	9.4	1.54	5.77	54337	130.86	223.17	8.8	17.0
2299.0	22.9	41.0	155	9.4	1.59	5.81	54742	159.27	222.87	8.8	17.0
2300.0	23.1	41.4	155	9.4	1.60	5.86	55145	158.25	222.58	8.8	17.0
2301.0	23.7	41.2	155	9.4	1.59	5.90	55538	154.09	222.27	8.8	17.0
2302.0	27.6	42.0	155	9.4	1.54	5.93	55875	132.32	221.87	8.8	17.0

BIT NUMBER	7	IADC CODE	114	INTERVAL	2302.0- 2396.0
HTC X3A		SIZE	12.250	NOZZLES	18 28 28
COST	2381.00	TRIP TIME	7.1	BIT RUN	94.0
TOTAL HOURS	10.49	TOTAL TURNS	220305	CONDITION	T1 B1 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2303.0	40.0	12.0	350	9.4	1.22	0.03	525	91	28402	8.8	17.0
2304.0	12.0	25.0	350	9.4	1.80	0.11	2275	304	14353	8.8	17.0
2305.0	6.3	17.0	350	9.4	1.80	0.27	5608	580	9762	8.8	17.0
2306.0	11.2	21.0	350	9.4	1.74	0.36	7483	326	7403	8.8	17.0
2307.0	6.2	16.0	350	9.4	1.78	0.52	10870	589	6040	8.8	17.0
2308.0	7.9	17.0	350	9.4	1.74	0.64	13529	462	5110	8.8	17.0
2309.0	6.5	17.0	350	9.4	1.79	0.80	16759	562	4461	8.8	17.0
2310.0	7.5	20.0	350	9.4	1.83	0.93	19559	487	3964	8.8	17.0
2311.0	7.4	20.0	350	9.4	1.83	1.07	22397	494	3578	8.8	17.0
2312.0	8.8	20.0	350	9.4	1.78	1.18	24784	415	3262	8.8	17.0
2313.0	12.0	20.0	350	9.4	1.70	1.26	26534	304	2993	8.8	17.0
2314.0	8.5	20.0	350	9.4	1.79	1.38	29004	430	2780	8.8	17.0
2315.0	9.1	25.0	350	9.4	1.88	1.49	31312	401	2597	8.8	17.0
2316.0	8.8	25.0	350	9.4	1.89	1.60	33698	415	2441	8.8	17.0
2317.0	9.1	25.0	350	9.4	1.88	1.71	36006	401	2305	8.8	17.0
2318.0	12.0	25.0	350	9.4	1.80	1.80	37756	304	2180	8.8	17.0
2319.0	8.4	25.0	350	9.4	1.90	1.92	40256	435	2077	8.8	17.0
2320.0	10.0	25.0	350	9.4	1.85	2.02	42356	365	1982	8.8	17.0
2321.0	9.5	15.0	350	9.4	1.64	2.12	44566	384	1898	8.8	17.0
2322.0	14.1	15.0	350	9.4	1.54	2.19	46056	259	1816	8.8	17.0
2323.0	8.2	15.0	350	9.4	1.68	2.32	48617	445	1751	8.8	17.0
2324.0	9.7	15.0	350	9.4	1.64	2.42	50782	376	1688	8.8	17.0
2325.0	9.9	15.0	350	9.4	1.63	2.52	52903	369	1631	8.8	17.0
2326.0	11.6	15.0	350	9.4	1.59	2.61	54713	315	1576	8.8	17.0
2327.0	14.4	15.0	350	9.4	1.54	2.67	56172	254	1523	8.8	17.0
2328.0	12.0	15.0	350	9.4	1.58	2.76	57922	304	1476	8.8	17.0
2329.0	11.6	15.0	350	9.4	1.59	2.84	59732	315	1433	8.8	17.0
2330.0	8.6	15.0	350	9.4	1.67	2.96	62174	425	1397	8.8	17.0
2331.0	10.1	15.0	350	9.4	1.63	3.06	64253	362	1362	8.8	17.0
2332.0	9.6	15.0	350	9.4	1.64	3.16	66441	380	1329	8.8	17.0
2333.0	10.1	15.0	350	9.4	1.63	3.26	68520	362	1298	8.8	17.0
2334.0	15.2	15.0	350	9.4	1.52	3.33	69901	240	1265	8.8	17.0
2335.0	10.0	15.0	350	9.4	1.63	3.43	72001	365	1237	8.8	17.0
2336.0	6.3	15.0	350	9.4	1.75	3.59	75335	580	1218	8.8	17.0
2337.0	5.7	15.0	350	9.4	1.77	3.76	79019	641	1201	8.8	17.0
2338.0	5.7	15.0	350	9.4	1.77	3.94	82703	641	1186	8.8	17.0
2339.0	5.3	15.0	350	9.4	1.79	4.13	86665	689	1172	8.8	17.0
2340.0	8.3	15.0	350	9.4	1.68	4.25	89196	440	1153	8.8	17.0
2341.0	10.0	15.0	350	9.4	1.63	4.35	91296	365	1133	8.8	17.0
2342.0	4.7	15.0	350	9.4	1.82	4.56	95764	777	1124	8.8	17.0
2343.0	9.0	15.0	350	9.4	1.66	4.67	98097	406	1107	8.8	17.0
2344.0	9.6	15.0	350	9.4	1.64	4.78	100284	380	1089	8.8	17.0
2345.0	11.6	15.0	350	9.4	1.59	4.86	102095	315	1071	8.8	17.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2346.0	7.4	15.0	350	9.4	1.70	5.00	104933	494	1058	8.8	17.0
2347.0	11.2	15.0	350	9.4	1.60	5.09	106808	326	1042	8.8	17.0
2348.0	7.3	15.0	350	9.4	1.71	5.22	109684	500	1030	8.8	17.0
2349.0	14.9	15.0	350	9.3	1.54	5.29	111094	245	1013	8.8	17.0
2350.0	12.6	15.0	350	9.3	1.59	5.37	112760	289.84	998.33	8.8	17.0
2351.0	12.0	15.0	350	9.3	1.60	5.45	114510	304.33	984.17	8.8	17.0
2352.0	11.5	15.0	350	9.3	1.61	5.54	116336	317.57	970.83	8.8	17.0
2353.0	11.9	15.0	350	9.3	1.60	5.62	118101	306.89	957.81	8.8	17.0
2354.0	7.9	15.0	350	9.3	1.71	5.75	120759	462.28	948.29	8.8	17.1
2355.0	11.9	15.0	350	9.3	1.60	5.83	122524	306.89	936.18	8.8	17.1
2356.0	10.0	15.0	350	9.3	1.65	5.93	124624	365.20	925.61	8.8	17.1
2357.0	11.4	15.0	350	9.3	1.61	6.02	126466	320.35	914.61	8.8	17.1
2358.0	8.3	15.0	350	9.3	1.69	6.14	128996	440.00	906.13	8.8	17.1
2359.0	10.0	15.0	350	9.3	1.65	6.24	131096	365.20	896.64	8.8	17.1
2360.0	9.7	15.0	350	9.3	1.65	6.35	133261	376.49	887.67	8.8	17.1
2361.0	7.5	15.0	350	9.3	1.72	6.48	136061	486.93	880.88	8.8	17.1
2362.0	11.9	15.0	350	9.3	1.60	6.56	137826	306.89	871.31	8.8	17.1
2363.0	11.7	15.0	350	9.3	1.61	6.65	139621	312.14	862.15	8.8	17.1
2364.0	12.2	15.0	350	9.3	1.60	6.73	141342	299.34	853.07	8.8	17.1
2365.0	10.3	15.0	350	9.3	1.64	6.83	143381	354.56	845.16	8.8	17.1
2366.0	8.8	15.0	350	9.3	1.68	6.94	145767	415.00	838.43	8.8	17.1
2367.0	11.9	15.0	350	9.3	1.60	7.03	147532	306.89	830.26	8.8	17.1
2368.0	12.0	15.0	350	9.3	1.60	7.11	149282	304.33	822.29	8.8	17.1
2369.0	13.6	15.0	350	9.3	1.57	7.18	150826	268.53	814.02	8.8	17.1
2370.0	8.3	15.0	350	9.3	1.69	7.30	153356	440.00	808.52	8.8	17.1
2371.0	5.3	15.0	350	9.3	1.81	7.49	157319	689.06	806.79	8.8	17.1
2372.0	7.4	15.0	350	9.3	1.72	7.63	160156	493.51	802.32	8.8	17.1
2373.0	5.4	15.0	350	9.3	1.80	7.81	164045	676.30	800.54	8.8	17.1
2374.0	4.6	15.0	350	9.3	1.84	8.03	168611	793.91	800.45	8.8	17.1
2375.0	15.0	15.0	350	9.3	1.54	8.10	170011	243.47	792.82	8.8	17.1
2376.0	10.3	15.0	350	9.3	1.64	8.19	172049	354.56	786.90	8.8	17.1
2377.0	8.0	15.0	350	9.3	1.70	8.32	174674	456.50	782.49	8.8	17.1
2378.0	8.6	15.0	350	9.3	1.68	8.43	177116	424.65	777.78	8.8	17.1
2379.0	13.3	15.0	350	9.3	1.57	8.51	178695	274.59	771.25	8.8	17.1
2380.0	8.3	15.0	350	9.3	1.69	8.63	181225	440.00	767.00	8.8	17.1
2381.0	11.4	15.0	350	9.3	1.61	8.72	183067	320.35	761.35	8.8	17.1
2382.0	11.2	15.0	350	9.3	1.62	8.81	184942	326.07	755.91	8.8	17.1
2383.0	8.6	15.0	350	9.3	1.68	8.92	187384	424.65	751.82	8.8	17.1
2384.0	9.0	15.0	350	9.3	1.67	9.03	189718	405.78	747.60	8.8	17.1
2385.0	7.1	15.0	350	9.3	1.73	9.18	192675	514.37	744.79	8.8	17.1
2386.0	5.3	15.0	350	9.3	1.81	9.36	196638	689.06	744.12	8.8	17.1
2387.0	10.7	15.0	350	9.3	1.63	9.46	198600	341.31	739.38	8.8	17.1
2388.0	6.5	15.0	350	9.3	1.76	9.61	201831	561.85	737.32	8.8	17.1
2389.0	12.2	15.0	350	9.3	1.60	9.69	203552	299.34	732.29	8.8	17.1
2390.0	8.9	15.0	350	9.3	1.68	9.81	205912	410.34	728.63	8.8	17.1
2391.0	9.9	15.0	350	9.3	1.65	9.91	208033	368.89	724.59	8.8	17.1
2392.0	8.5	15.0	350	9.3	1.69	10.02	210504	429.65	721.31	8.8	17.1
2393.0	7.0	15.0	350	9.3	1.74	10.17	213504	521.71	719.12	8.8	17.1
2394.0	9.9	15.0	350	9.3	1.65	10.27	215625	368.89	715.31	8.8	17.1
2395.0	11.4	15.0	350	9.3	1.61	10.36	217467	320.35	711.06	8.8	17.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2396.0	7.4	15.0	350	9.3	1.72	10.49	220305	493.51	708.75	8.8	17.1

BIT NUMBER	7	IADC CODE	114	INTERVAL	2396.0- 2483.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 18
COST	0.00	TRIP TIME	7.3	BIT RUN	87.0
TOTAL HOURS	18.12	TOTAL TURNS	278646	CONDITION	T2 B2 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2397.0	24.9	31.5	100	9.4	1.32	10.53	220546	146.53	685.43	8.8	17.1
2398.0	20.5	40.8	137	9.4	1.59	10.58	220947	178.54	680.15	8.8	17.1
2399.0	23.7	41.0	150	9.4	1.57	10.62	221327	154.20	674.73	8.8	17.1
2400.0	18.7	39.0	150	9.4	1.63	10.67	221809	195.79	669.84	8.8	17.1
2401.0	21.7	37.9	150	9.4	1.57	10.72	222224	168.40	664.77	8.8	17.1
2402.0	17.7	41.9	150	9.4	1.68	10.78	222732	205.93	660.18	8.8	17.1
2403.0	19.3	41.7	150	9.4	1.65	10.83	223199	189.70	655.53	8.8	17.1
2404.0	21.4	39.3	150	9.4	1.59	10.88	223619	170.43	650.77	8.8	17.1
2405.0	16.0	40.8	150	9.4	1.70	10.94	224182	228.25	646.67	8.8	17.1
2406.0	20.7	39.7	150	9.4	1.60	10.99	224617	176.51	642.15	8.8	17.1
2407.0	18.9	42.7	150	9.4	1.67	11.04	225092	192.74	637.87	8.8	17.1
2408.0	18.4	41.4	150	9.4	1.66	11.09	225582	198.83	633.73	8.8	17.1
2409.0	17.1	40.8	150	9.4	1.68	11.15	226107	213.03	629.79	8.8	17.1
2410.0	16.7	39.2	150	9.4	1.67	11.21	226647	219.12	625.99	8.8	17.1
2411.0	17.9	42.1	150	9.4	1.68	11.27	227149	203.90	622.12	8.8	17.1
2412.0	17.0	42.7	150	9.4	1.71	11.33	227679	215.06	618.42	8.8	17.1
2413.0	17.7	42.1	150	9.4	1.68	11.38	228187	205.93	614.70	8.8	17.1
2414.0	14.8	42.5	150	9.4	1.75	11.45	228794	246.51	611.42	8.8	17.1
2415.0	27.9	41.8	150	9.4	1.53	11.49	229117	130.86	607.16	8.8	17.1
2416.0	17.1	41.0	150	9.4	1.68	11.55	229642	213.03	603.71	8.8	17.1
2417.0	20.3	43.2	150	9.4	1.65	11.59	230084	179.56	600.02	8.8	17.1
2418.0	13.7	40.0	150	9.4	1.74	11.67	230739	265.78	597.14	8.8	17.1
2419.0	21.4	42.3	150	9.4	1.62	11.71	231159	170.43	593.49	8.8	17.1
2420.0	15.8	43.2	150	9.4	1.74	11.78	231729	231.29	590.42	8.8	17.1
2421.0	19.1	44.0	150	9.4	1.68	11.83	232199	190.72	587.06	8.8	17.1
2422.0	20.2	44.5	150	9.4	1.67	11.88	232644	180.57	583.67	8.8	17.1
2423.0	15.1	44.8	150	9.4	1.77	11.94	233239	241.44	580.84	8.8	17.1
2424.0	28.1	44.1	150	9.4	1.55	11.98	233559	129.85	577.15	8.8	17.1
2425.0	22.0	44.1	150	9.4	1.64	12.03	233969	166.37	573.81	8.8	17.1
2426.0	27.5	44.4	150	9.4	1.56	12.06	234297	132.89	570.25	8.8	17.1
2427.0	24.5	45.3	150	9.4	1.61	12.10	234664	149.12	566.88	8.8	17.1
2428.0	19.3	43.7	150	9.4	1.68	12.16	235132	189.70	563.89	8.8	17.1
2429.0	23.2	44.3	150	9.4	1.62	12.20	235519	157.24	560.69	8.8	17.1
2430.0	21.3	45.3	150	9.4	1.66	12.25	235942	171.44	557.65	8.8	17.1
2431.0	22.0	45.0	150	9.4	1.65	12.29	236352	166.37	554.61	8.8	17.1
2432.0	20.7	43.7	150	9.4	1.65	12.34	236787	176.51	551.71	8.8	17.1
2433.0	15.7	41.5	150	9.4	1.72	12.40	237359	232.31	549.27	8.8	17.1
2434.0	13.7	41.6	150	9.4	1.76	12.48	238015	266.29	547.12	8.8	17.1
2435.0	13.2	36.5	120	10.9	1.40	12.55	238559	275.93	545.08	8.8	17.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2436.0	9.4	40.3	120	11.0	1.53	12.66	239327	389.55	543.92	8.8	17.1
2437.0	6.4	40.9	120	11.0	1.65	12.81	240453	571.13	544.13	8.8	17.1
2438.0	10.9	40.7	120	11.0	1.50	12.91	241111	333.75	542.58	8.8	17.1
2439.0	7.4	41.4	120	11.0	1.61	13.04	242085	494.03	542.22	8.8	17.1
2440.0	12.1	40.3	120	11.0	1.46	13.12	242679	301.29	540.48	8.8	17.1
2441.0	8.0	40.6	120	11.0	1.58	13.25	243583	450.53	539.89	8.8	17.1
2442.0	9.0	42.1	120	10.8	1.60	13.36	244387	407.81	538.94	8.8	17.1
2443.0	7.6	41.7	120	10.8	1.64	13.49	245332	479.04	538.52	8.8	17.1
2444.0	9.4	41.4	120	10.8	1.58	13.60	246098	388.51	537.46	8.8	17.1
2445.0	8.8	40.9	120	10.8	1.59	13.71	246916	415.00	536.61	8.8	17.1
2446.0	9.6	40.3	120	10.8	1.56	13.82	247666	380.42	535.52	8.8	17.1
2447.0	7.4	40.7	120	10.8	1.64	13.95	248639	493.51	535.23	8.8	17.1
2448.0	7.4	40.7	120	10.8	1.64	14.09	249612	493.51	534.95	8.8	17.1
2449.0	9.6	40.3	120	10.9	1.54	14.19	250362	380.42	533.90	8.8	17.1
2450.0	7.3	40.5	120	10.9	1.62	14.33	251348	500.27	533.67	8.8	17.2
2451.0	6.6	40.5	120	10.9	1.65	14.48	252439	553.33	533.80	8.8	17.2
2452.0	9.5	40.2	120	10.9	1.54	14.58	253197	384.42	532.80	8.8	17.2
2453.0	12.2	40.0	120	10.9	1.47	14.67	253787	299.34	531.26	8.8	17.2
2454.0	6.9	40.0	120	10.9	1.63	14.81	254831	529.28	531.25	8.8	17.2
2455.0	6.3	40.0	120	10.9	1.66	14.97	255973	579.68	531.56	8.8	17.2
2456.0	10.4	40.0	120	10.9	1.52	15.07	256666	351.15	530.39	8.8	17.2
2457.0	6.4	40.0	120	10.9	1.65	15.22	257791	570.63	530.65	8.8	17.2
2458.0	6.6	40.0	120	10.9	1.64	15.37	258882	553.33	530.80	8.8	17.2
2459.0	7.5	40.0	120	10.9	1.61	15.51	259842	486.93	530.52	8.8	17.2
2460.0	6.4	40.0	120	10.9	1.65	15.66	260967	570.63	530.77	8.8	17.2
2461.0	7.0	40.0	120	10.9	1.63	15.81	261995	521.71	530.71	8.8	17.2
2462.0	11.8	40.0	120	10.9	1.48	15.89	262605	309.49	529.33	8.8	17.2
2463.0	12.6	40.0	120	10.9	1.46	15.97	263177	289.84	527.84	8.8	17.2
2464.0	7.6	40.0	120	10.9	1.60	16.10	264124	480.53	527.55	8.8	17.2
2465.0	8.6	40.0	120	10.9	1.57	16.22	264961	424.65	526.92	8.8	17.2
2466.0	5.7	40.2	120	10.9	1.69	16.39	266225	640.70	527.61	8.8	17.2
2467.0	7.4	39.9	120	10.9	1.61	16.53	267198	493.51	527.41	8.8	17.2
2468.0	8.5	39.9	120	10.9	1.57	16.65	268045	429.65	526.82	8.8	17.2
2469.0	8.2	40.1	120	10.9	1.58	16.77	268923	445.37	526.33	8.8	17.2
2470.0	8.9	40.0	120	10.9	1.56	16.88	269732	410.34	525.64	8.8	17.2
2471.0	12.7	40.0	120	10.9	1.46	16.96	270299	287.56	524.23	8.8	17.2
2472.0	9.2	40.0	120	10.9	1.55	17.07	271081	396.96	523.48	8.8	17.2
2473.0	11.1	40.2	120	10.9	1.50	17.16	271730	329.01	522.35	8.8	17.2
2474.0	11.3	40.0	120	10.9	1.49	17.25	272367	323.19	521.19	8.8	17.2
2475.0	11.6	39.9	120	10.9	1.48	17.33	272988	314.83	519.99	8.8	17.2
2476.0	10.2	40.2	120	10.9	1.52	17.43	273694	358.04	519.06	8.8	17.2
2477.0	10.2	40.2	120	10.9	1.52	17.53	274399	358.04	518.14	8.8	17.2
2478.0	10.0	40.0	120	10.9	1.53	17.63	275119	365.20	517.27	8.8	17.2
2479.0	9.6	40.3	120	10.9	1.54	17.73	275869	380.42	516.50	8.8	17.2
2480.0	12.0	40.1	120	10.9	1.48	17.82	276469	304.33	515.31	8.8	17.2
2481.0	16.6	40.0	120	10.9	1.38	17.88	276903	220.00	513.66	8.8	17.2
2482.0	6.9	40.1	120	10.9	1.63	18.02	277947	529.28	513.75	8.8	17.2
2483.0	10.3	40.0	120	10.9	1.52	18.12	278646	354.56	512.87	8.8	17.2

BIT NUMBER	8	IADC CODE	114	INTERVAL	2483.0- 2545.0
HTC X3A		SIZE	8.500	NOZZLES	12 12 12
COST	1373.00	TRIP TIME	7.4	BIT RUN	62.0
TOTAL HOURS	7.02	TOTAL TURNS	44770	CONDITION	T4 B8 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2484.0	9.4	21.0	85	10.3	1.41	0.11	543	389	28786	8.8	17.2
2485.0	15.2	30.0	85	10.3	1.42	0.17	878	240	14513	8.8	17.2
2486.0	11.8	30.0	85	10.3	1.50	0.26	1310	309	9779	8.8	17.2
2487.0	8.4	30.0	85	10.3	1.60	0.38	1917	435	7443	8.8	17.2
2488.0	8.0	30.0	85	10.3	1.62	0.50	2555	457	6045	8.8	17.2
2489.0	9.7	29.9	85	10.3	1.56	0.60	3081	376	5101	8.8	17.2
2490.0	12.5	30.2	85	10.2	1.50	0.68	3489	292	4414	8.8	17.2
2491.0	13.7	30.0	85	10.2	1.47	0.76	3861	267	3895	8.8	17.2
2492.0	9.1	29.3	85	10.2	1.58	0.87	4421	401	3507	8.8	17.2
2493.0	11.8	30.0	85	10.2	1.51	0.95	4854	309	3187	8.8	17.2
2494.0	9.9	29.4	85	10.2	1.56	1.05	5369	369	2931	8.8	17.2
2495.0	8.9	31.1	110	10.0	1.73	1.17	6110	410	2721	8.8	17.2
2496.0	7.1	34.1	110	10.0	1.86	1.31	7042	516	2551	8.8	17.2
2497.0	9.6	36.5	110	10.0	1.80	1.41	7728	379	2396	8.8	17.2
2498.0	8.4	36.5	110	10.0	1.85	1.53	8516	436	2266	8.8	17.2
2499.0	7.3	35.8	110	10.0	1.88	1.67	9420	500	2155	8.8	17.2
2500.0	8.1	35.3	110	10.0	1.84	1.79	10230	448	2055	8.8	17.2
2501.0	8.0	34.9	110	10.0	1.83	1.91	11052	454	1966	8.8	17.2
2502.0	7.5	35.7	110	10.0	1.87	2.05	11926	484	1888	8.8	17.2
2503.0	7.0	34.8	110	10.0	1.88	2.19	12872	523	1820	8.8	17.2
2504.0	8.7	34.9	110	9.9	1.83	2.30	13631	420	1753	8.8	17.2
2505.0	7.4	34.6	110	9.8	1.89	2.44	14522	493	1696	8.8	17.2
2506.0	8.5	33.8	110	9.8	1.84	2.56	15303	432	1641	8.8	17.2
2507.0	5.8	34.5	110	9.8	1.98	2.73	16449	634	1599	8.8	17.2
2508.0	8.0	35.4	110	9.8	1.88	2.86	17274	457	1553	8.8	17.2
2509.0	9.3	35.0	110	9.8	1.83	2.96	17987	395	1509	8.8	17.2
2510.0	9.5	35.1	110	9.7	1.84	3.07	18682	384	1467	8.8	17.2
2511.0	8.7	34.8	110	9.7	1.86	3.19	19443	421	1430	8.8	17.2
2512.0	10.0	34.9	110	9.7	1.82	3.29	20103	365	1393	8.8	17.2
2513.0	11.0	35.2	110	9.7	1.79	3.38	20702	332	1358	8.8	17.2
2514.0	10.8	33.9	110	9.7	1.77	3.47	21313	338	1325	8.8	17.2
2515.0	9.6	33.8	110	9.6	1.82	3.57	22000	380	1295	8.8	17.2
2516.0	10.0	35.6	110	9.6	1.85	3.67	22662	366	1267	8.8	17.2
2517.0	10.7	36.2	110	9.6	1.83	3.77	23276	340	1240	8.8	17.2
2518.0	9.1	35.6	110	9.6	1.88	3.88	23999	400	1216	8.8	17.2
2519.0	10.6	35.1	110	9.6	1.82	3.97	24622	345	1192	8.8	17.2
2520.0	10.6	34.9	110	9.6	1.82	4.06	25245	345	1169	8.8	17.2
2521.0	11.1	36.6	110	9.6	1.83	4.15	25839	329	1147	8.8	17.2
2522.0	11.1	36.2	110	9.6	1.82	4.24	26435	330	1126	8.8	17.2
2523.0	10.8	35.7	110	9.6	1.82	4.34	27046	338	1106	8.8	17.2
2524.0	12.6	34.3	110	9.6	1.74	4.42	27568	289	1086	8.8	17.2
2525.0	9.1	36.4	110	9.6	1.89	4.53	28291	400	1070	8.8	17.2
2526.0	9.6	36.0	110	9.6	1.87	4.63	28978	380	1054	8.8	17.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2527.0	10.8	37.4	110	9.6	1.85	4.72	29589	338	1037	8.8	17.2
2528.0	9.3	39.3	110	9.6	1.94	4.83	30298	393	1023	8.8	17.2
2529.0	10.2	39.3	110	9.6	1.90	4.93	30943	357	1009	8.8	17.2
2530.0	12.5	39.3	110	9.6	1.83	5.01	31471	292.16	993.31	8.8	17.2
2531.0	8.6	38.3	110	9.6	1.95	5.12	32240	425.05	981.47	8.8	17.2
2532.0	10.1	38.0	110	9.6	1.88	5.22	32890	360.13	968.79	8.8	17.2
2533.0	11.0	38.1	110	9.6	1.86	5.31	33492	332.74	956.07	8.8	17.2
2534.0	15.3	40.0	110	9.6	1.77	5.38	33923	238.39	942.00	8.8	17.2
2535.0	12.8	42.5	110	9.6	1.87	5.46	34438	285.06	929.37	8.8	17.2
2536.0	11.6	42.4	110	9.6	1.91	5.54	35006	314.48	917.77	8.8	17.2
2537.0	16.2	42.5	110	9.6	1.78	5.60	35413	225.21	904.94	8.8	17.2
2538.0	10.8	36.1	110	9.6	1.83	5.70	36025	338.82	894.65	8.8	17.2
2539.0	11.5	32.6	110	9.6	1.75	5.78	36597	316.51	884.32	8.8	17.2
2540.0	15.3	31.8	110	9.6	1.63	5.85	37028	238.39	872.99	8.8	17.2
2541.0	19.0	31.5	110	9.7	1.54	5.90	37375	191.73	861.25	8.8	17.2
2542.0	9.6	32.1	110	9.7	1.78	6.01	38060	379.40	853.08	8.8	17.2
2543.0	9.1	32.4	110	9.7	1.80	6.12	38786	401.72	845.56	8.8	17.2
2544.0	5.0	33.4	110	9.7	2.03	6.32	40112	733.44	843.72	8.8	17.2
2545.0	1.4	37.3	110	9.7	2.54	7.02	44770	2578	872	8.8	17.2

BIT NUMBER	9	IADC CODE	114	INTERVAL	2545.0- 2588.0
HTC X3A		SIZE	8.500	NOZZLES	12 12 12
COST	1373.00	TRIP TIME	7.5	BIT RUN	43.0
TOTAL HOURS	2.72	TOTAL TURNS	18776	CONDITION	T2 B2 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2546.0	6.8	20.0	115	9.6	1.67	0.15	1015	537	29300	8.8	17.2
2547.0	12.8	30.0	115	9.6	1.68	0.23	1554	285	14793	8.8	17.2
2548.0	16.9	30.0	115	9.6	1.59	0.28	1962	216	9934	8.8	17.3
2549.0	14.5	35.0	115	9.6	1.72	0.35	2438	252	7513	8.8	17.3
2550.0	16.1	35.0	115	9.6	1.69	0.42	2866	227	6056	8.8	17.3
2551.0	16.6	35.0	115	9.6	1.68	0.48	3282	220	5083	8.8	17.3
2552.0	15.6	35.0	115	9.6	1.70	0.54	3724	234	4391	8.8	17.3
2553.0	13.6	32.1	115	9.7	1.69	0.61	4232	269	3875	8.8	17.3
2554.0	18.3	33.3	115	9.7	1.61	0.67	4610	200	3467	8.8	17.3
2555.0	17.3	33.8	115	9.7	1.63	0.73	5009	211	3141	8.8	17.3
2556.0	16.1	34.4	115	9.6	1.67	0.79	5436	226	2876	8.8	17.3
2557.0	19.0	34.2	115	9.7	1.61	0.84	5798	192	2653	8.8	17.3
2558.0	15.7	34.6	115	9.7	1.68	0.90	6237	232	2466	8.8	17.3
2559.0	18.5	34.7	115	9.7	1.63	0.96	6611	198	2304	8.8	17.3
2560.0	15.9	34.6	115	9.7	1.68	1.02	7044	229	2166	8.8	17.3
2561.0	17.1	34.7	115	9.7	1.65	1.08	7449	214	2044	8.8	17.3
2562.0	13.8	30.5	115	9.7	1.65	1.15	7947	264	1939	8.8	17.3
2563.0	16.7	34.5	115	9.7	1.66	1.21	8359	218	1844	8.8	17.3
2564.0	16.0	34.8	115	9.6	1.68	1.27	8791	228	1759	8.8	17.3
2565.0	19.4	35.0	115	9.7	1.62	1.33	9147	189	1680	8.8	17.3
2566.0	16.4	35.1	115	9.7	1.68	1.39	9569	223	1611	8.8	17.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2567.0	14.9	35.2	115	9.6	1.71	1.45	10031	244	1549	8.8	17.3
2568.0	15.7	35.1	115	9.7	1.69	1.52	10470	232	1491	8.8	17.3
2569.0	17.2	35.3	115	9.7	1.66	1.58	10870	212	1438	8.8	17.3
2570.0	14.0	35.4	115	9.7	1.73	1.65	11365	262	1391	8.8	17.3
2571.0	13.2	34.7	115	9.7	1.74	1.72	11888	277	1348	8.8	17.3
2572.0	14.1	33.4	115	9.6	1.70	1.79	12379	260	1308	8.8	17.3
2573.0	16.8	38.7	115	9.6	1.73	1.85	12789	217	1269	8.8	17.3
2574.0	20.7	38.9	115	9.6	1.66	1.90	13122	177	1231	8.8	17.3
2575.0	17.6	38.6	115	9.6	1.71	1.96	13515	208	1197	8.8	17.3
2576.0	16.9	35.7	115	9.6	1.68	2.02	13923	216	1166	8.8	17.3
2577.0	18.9	35.3	115	9.6	1.63	2.07	14288	193	1135	8.8	17.3
2578.0	17.3	35.9	115	9.6	1.67	2.13	14686	211	1107	8.8	17.3
2579.0	16.3	35.8	115	9.6	1.70	2.19	15110	224	1081	8.8	17.3
2580.0	17.2	35.3	115	9.6	1.67	2.25	15510	212	1056	8.8	17.3
2581.0	18.0	34.8	115	9.6	1.64	2.30	15894	203	1033	8.8	17.3
2582.0	12.5	34.9	115	9.6	1.77	2.38	16444	291	1013	8.8	17.3
2583.0	18.1	34.3	115	9.6	1.63	2.44	16825	201.87	991.27	8.8	17.3
2584.0	17.1	34.3	115	9.6	1.65	2.50	17230	214.05	971.34	8.8	17.3
2585.0	15.7	34.6	115	9.6	1.69	2.56	17669	232.31	952.86	8.8	17.3
2586.0	17.1	34.4	115	9.6	1.66	2.62	18071	213.03	934.82	8.8	17.3
2587.0	20.6	34.5	115	9.6	1.59	2.67	18406	177.53	916.79	8.8	17.3
2588.0	18.7	34.8	115	9.6	1.63	2.72	18776	195.79	900.02	8.8	17.3

BIT NUMBER	9	IADC CODE	4	INTERVAL	2588.0- 2597.4
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	10897.00	TRIP TIME	7.5	BIT RUN	9.4
TOTAL HOURS	4.76	TOTAL TURNS	19128	CONDITION	T0 B0 G0.050

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2588.2	1.3	10.4	60	9.6	1.65	0.15	534	2709	194144	8.8	17.3
2588.4	2.5	11.4	67	9.6	1.56	0.23	852	1441	97792	8.8	17.3
2588.6	3.0	15.9	80	9.6	1.70	0.29	1174	1227	65604	8.8	17.3
2588.8	1.9	17.0	83	9.6	1.87	0.40	1709	1953	49691	8.8	17.3
2589.0	2.4	20.4	90	9.6	1.91	0.48	2150	1491	40051	8.8	17.3
2589.2	2.8	21.1	90	9.6	1.88	0.55	2529	1283	33590	8.8	17.3
2589.4	3.1	22.9	90	9.6	1.89	0.62	2876	1172	28959	8.8	17.3
2589.6	4.4	20.8	90	9.6	1.74	0.66	3119	822	25442	8.8	17.3
2589.8	1.8	22.7	93	9.6	2.07	0.78	3756	2080	22846	8.8	17.3
2590.0	1.7	25.0	100	9.6	2.17	0.89	4466	2161	20777	8.8	17.3
2590.2	1.3	26.5	80	9.6	2.22	1.05	5211	2820	19145	8.8	17.3
2590.4	2.0	25.7	70	9.6	2.02	1.15	5623	1790	17699	8.8	17.3
2590.6	2.3	27.8	70	9.6	2.02	1.23	5983	1567	16458	8.8	17.3
2590.8	0.9	27.2	70	9.6	2.30	1.45	6893	3956	15565	8.8	17.3
2591.0	4.0	25.0	70	9.6	1.79	1.50	7103	913	14588	8.8	17.3
2591.2	3.6	24.5	70	9.6	1.81	1.56	7336	1014	13740	8.8	17.3
2591.4	4.4	24.8	70	9.6	1.75	1.60	7527	827	12980	8.8	17.3
2591.6	1.3	24.7	70	9.6	2.14	1.76	8192	2891	12420	8.8	17.3
2591.8	0.7	25.0	67	9.6	2.34	2.06	9415	5564	12059	8.8	17.3
2592.0	1.4	27.1	60	9.6	2.13	2.21	9946	2693	11590	8.8	17.3
2592.2	2.3	27.5	60	9.6	1.97	2.30	10256	1572	11113	8.8	17.3
2592.4	1.4	29.1	60	9.6	2.16	2.44	10767	2592	10726	8.8	17.3
2592.6	1.5	30.4	60	9.6	2.17	2.57	11247	2435	10366	8.8	17.3
2592.8	4.0	30.0	60	9.6	1.84	2.62	11429	923	9972	8.8	17.3
2593.0	6.4	29.7	60	9.6	1.68	2.65	11542	573	9596	8.8	17.3
2593.2	2.7	30.6	60	9.6	1.99	2.73	11813	1375	9280	8.8	17.3
2593.4	1.3	30.5	60	9.6	2.23	2.89	12373	2840	9041	8.8	17.3
2593.6	0.8	29.2	60	9.6	2.37	3.15	13316	4783	8889	8.8	17.3
2593.8	1.6	26.7	60	9.6	2.06	3.27	13761	2257	8661	8.8	17.3
2594.0	1.7	26.1	60	9.6	2.03	3.39	14183	2140	8443	8.8	17.3
2594.2	1.2	25.4	60	9.6	2.12	3.55	14766	2957	8266	8.8	17.3
2594.4	0.8	25.4	60	9.6	2.24	3.79	15635	4408	8146	8.8	17.3
2594.6	1.2	24.8	60	9.6	2.12	3.96	16247	3104	7993	8.8	17.3
2594.8	2.5	25.1	60	9.6	1.89	4.04	16538	1476	7801	8.8	17.3
2595.0	4.4	24.7	60	9.6	1.71	4.09	16702	832	7602	8.8	17.3
2595.2	4.0	25.7	60	9.6	1.76	4.14	16882	913	7416	8.8	17.3
2595.4	1.9	25.6	60	9.6	1.99	4.24	17260	1917	7268	8.8	17.3
2595.6	1.5	25.6	60	9.6	2.06	4.37	17732	2394	7140	8.8	17.3
2595.8	2.1	25.5	60	9.6	1.95	4.47	18068	1704	7000	8.8	17.3
2596.0	5.1	26.1	60	9.6	1.68	4.51	18208	710	6843	8.8	17.3
2596.2	3.4	25.6	60	9.6	1.80	4.56	18419	1070	6702	8.8	17.3
2596.4	9.0	25.2	60	9.6	1.49	4.59	18499	406	6552	8.8	17.3
2596.6	7.3	24.5	60	9.6	1.54	4.61	18597	497	6411	8.8	17.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2596.8	4.1	24.5	60	9.6	1.72	4.66	18772	888	6286	8.8	17.3
2597.0	4.9	23.6	60	9.6	1.65	4.70	18920	751	6163	8.8	17.3
2597.2	10.3	23.1	60	9.6	1.41	4.72	18990	355	6037	8.8	17.3
2597.4	5.2	23.0	60	9.6	1.62	4.76	19128	700	5923	8.8	17.3

BIT NUMBER	10	IADC CODE	517	INTERVAL	2597.4- 2742.2
HTC J22		SIZE	8.500	NOZZLES	12 12 12
COST	4139.00	TRIP TIME	7.7	BIT RUN	144.8
TOTAL HOURS	23.53	TOTAL TURNS	105870	CONDITION	T2 B3 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2598.0	3.3	19.9	75	9.6	1.75	0.18	823	1113	54878	8.8	17.3
2599.0	4.7	23.2	75	9.6	1.72	0.39	1774	772	21062	8.8	17.3
2600.0	4.1	29.1	75	9.6	1.89	0.64	2876	895	13305	8.8	17.3
2601.0	5.9	33.0	75	9.6	1.85	0.81	3641	621	9782	8.8	17.3
2602.0	5.0	36.2	75	9.6	1.96	1.01	4538	727	7813	8.8	17.3
2603.0	5.2	35.0	75	9.6	1.93	1.20	5401	701	6543	8.8	17.3
2604.0	3.5	34.0	75	9.6	2.04	1.48	6670	1030	5708	8.8	17.3
2605.0	4.8	32.9	75	9.6	1.92	1.69	7609	762	5057	8.8	17.3
2606.0	4.2	35.2	75	9.6	2.01	1.93	8685	873	4571	8.8	17.3
2607.0	5.0	35.6	75	9.6	1.96	2.13	9590	734	4171	8.8	17.3
2608.0	5.4	36.0	75	9.6	1.93	2.31	10418	672	3841	8.8	17.3
2609.0	4.9	35.7	75	9.6	1.97	2.52	11341	750	3574	8.8	17.3
2610.0	11.3	39.1	75	9.6	1.73	2.61	11740	324	3316	8.8	17.3
2611.0	6.3	42.0	75	9.6	1.99	2.77	12459	583	3115	8.8	17.3
2612.0	4.3	42.4	75	9.6	2.13	3.00	13504	848	2960	8.8	17.3
2613.0	5.8	42.6	75	9.6	2.03	3.17	14281	631	2811	8.8	17.3
2614.0	6.3	42.6	75	9.6	1.99	3.33	14993	577	2676	8.8	17.3
2615.0	4.9	43.3	75	9.6	2.10	3.54	15914	748	2567	8.8	17.3
2616.0	5.5	39.8	75	9.6	2.00	3.72	16739	670	2465	8.8	17.3
2617.0	4.9	39.0	75	9.6	2.02	3.92	17656	745	2377	8.8	17.3
2618.0	7.1	38.8	75	9.6	1.89	4.06	18293	516	2287	8.8	17.3
2619.0	4.1	38.8	75	9.6	2.08	4.31	19385	887	2222	8.8	17.3
2620.0	6.2	38.8	75	9.6	1.94	4.47	20110	588	2150	8.8	17.3
2621.0	5.3	39.3	75	9.6	2.00	4.66	20959	689	2088	8.8	17.3
2622.0	6.3	39.3	75	9.6	1.94	4.82	21678	583	2026	8.8	17.3
2623.0	5.4	39.3	75	9.6	1.99	5.00	22509	675	1974	8.8	17.3
2624.0	5.1	39.3	75	9.6	2.01	5.20	23385	711	1926	8.8	17.3
2625.0	4.9	39.4	75	9.6	2.03	5.40	24310	751	1884	8.8	17.3
2626.0	5.5	38.9	75	9.6	1.98	5.58	25129	664	1841	8.8	17.3
2627.0	4.4	39.6	75	9.6	2.09	5.81	26163	839	1807	8.8	17.3
2628.0	4.7	39.4	75	9.5	2.07	6.03	27123	779	1774	8.8	17.3
2629.0	6.2	37.4	75	9.5	1.93	6.19	27850	590	1736	8.8	17.3
2630.0	6.4	39.3	75	9.5	1.95	6.35	28556	573	1700	8.8	17.3
2631.0	6.6	39.6	75	9.5	1.95	6.50	29235	551	1666	8.8	17.3
2632.0	5.8	39.4	75	9.5	1.99	6.67	30010	629	1636	8.8	17.3
2633.0	6.7	39.6	75	9.5	1.94	6.82	30685	548	1606	8.8	17.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2634.0	5.6	39.7	75	9.5	2.01	7.00	31486	650	1580	8.8	17.3
2635.0	5.7	39.4	75	9.5	2.00	7.17	32275	640	1555	8.8	17.3
2636.0	6.3	39.6	75	9.5	1.97	7.33	32990	580	1529	8.8	17.3
2637.0	6.1	39.9	75	9.5	1.98	7.49	33723	594	1506	8.8	17.3
2638.0	6.5	39.8	75	9.5	1.96	7.65	34420	566	1483	8.8	17.3
2639.0	5.2	37.1	75	9.5	1.99	7.84	35289	705	1464	8.8	17.3
2640.0	5.3	36.2	75	9.5	1.97	8.03	36140	691	1446	8.8	17.3
2641.0	5.8	36.2	75	9.5	1.93	8.20	36910	625	1427	8.8	17.3
2642.0	5.9	36.6	75	9.5	1.93	8.37	37671	618	1409	8.8	17.3
2643.0	5.5	37.9	75	9.5	1.98	8.55	38490	664	1392	8.8	17.3
2644.0	5.5	38.0	75	9.5	1.99	8.74	39311	666	1377	8.8	17.3
2645.0	5.5	37.8	75	9.5	1.98	8.92	40124	659	1362	8.7	17.3
2646.0	4.9	37.6	75	9.5	2.02	9.12	41035	740	1349	8.7	17.3
2647.0	5.4	38.1	75	9.5	1.99	9.30	41868	676	1335	8.7	17.3
2648.0	6.5	39.0	75	9.5	1.94	9.46	42557	559	1320	8.7	17.3
2649.0	7.8	39.0	75	9.5	1.87	9.59	43134	469	1304	8.7	17.3
2650.0	6.6	39.0	75	9.6	1.92	9.74	43816	553	1289	8.7	17.3
2651.0	6.1	39.0	75	9.6	1.95	9.90	44553	599	1276	8.7	17.3
2652.0	6.6	39.2	75	9.6	1.92	10.05	45238	556	1263	8.7	17.3
2653.0	6.0	39.1	75	9.6	1.95	10.22	45984	606	1251	8.7	17.3
2654.0	6.6	39.2	75	9.6	1.92	10.37	46662	550	1239	8.6	17.3
2655.0	5.9	39.2	75	9.6	1.96	10.54	47423	618	1228	8.6	17.3
2656.0	6.0	39.3	75	9.6	1.96	10.71	48179	614	1218	8.6	17.3
2657.0	8.6	39.5	75	9.6	1.83	10.82	48703	425	1204	8.6	17.3
2658.0	7.5	41.4	75	9.6	1.91	10.96	49304	488	1193	8.6	17.3
2659.0	7.7	41.7	75	9.6	1.90	11.09	49887	473	1181	8.6	17.3
2660.0	7.0	41.4	75	9.6	1.93	11.23	50527	519	1170	8.6	17.3
2661.0	6.1	77.2	75	9.6	2.54	11.39	51262	596	1161	8.6	17.3
2662.0	7.7	38.4	75	9.6	1.85	11.52	51847	475	1151	8.6	17.4
2663.0	6.1	38.1	75	9.6	1.93	11.68	52579	594	1142	8.6	17.4
2664.0	8.2	38.4	75	9.6	1.83	11.81	53129	446	1132	8.5	17.3
2665.0	5.8	38.4	75	9.6	1.95	11.98	53899	625	1124	8.5	17.3
2666.0	5.3	37.9	75	9.6	1.97	12.17	54744	686	1118	8.5	17.3
2667.0	9.5	36.7	75	9.6	1.75	12.27	55218	384	1107	8.5	17.3
2668.0	6.9	36.7	75	9.6	1.86	12.42	55871	530	1099	8.5	17.4
2669.0	5.3	36.6	75	9.6	1.95	12.61	56724	693	1093	8.5	17.4
2670.0	5.8	36.6	75	9.6	1.92	12.78	57501	630	1087	8.5	17.4
2671.0	6.8	36.5	75	9.6	1.87	12.93	58164	539	1080	8.5	17.4
2672.0	5.4	36.5	75	9.6	1.95	13.11	59002	680	1074	8.5	17.4
2673.0	5.6	36.6	75	9.6	1.93	13.29	59802	649	1069	8.4	17.3
2674.0	6.3	36.6	75	9.6	1.89	13.45	60516	579	1062	8.4	17.3
2675.0	6.4	36.6	75	9.6	1.89	13.60	61222	573	1056	8.4	17.4
2676.0	7.7	38.8	75	9.6	1.86	13.73	61804	473	1049	8.4	17.4
2677.0	7.0	38.9	75	9.6	1.89	13.88	62446	520	1042	8.4	17.4
2678.0	7.1	38.5	75	9.6	1.88	14.02	63077	512	1035	8.4	17.4
2679.0	7.2	38.5	75	9.6	1.88	14.16	63701	506	1029	8.4	17.4
2680.0	6.3	38.5	75	9.6	1.93	14.32	64418	582	1023	8.4	17.4
2681.0	6.6	38.5	75	9.6	1.91	14.47	65099	553	1018	8.4	17.4
2682.0	9.0	39.1	75	9.6	1.81	14.58	65602	408	1011	8.4	17.4
2683.0	6.2	39.2	75	9.6	1.94	14.74	66329	590	1006	8.4	17.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2684.0	6.9	39.3	75	9.6	1.91	14.88	66981	529	1000	8.4	17.4
2685.0	8.4	38.7	75	9.6	1.83	15.00	67517	435.20	993.76	8.4	17.4
2686.0	7.3	38.7	75	9.6	1.88	15.14	68136	502.15	988.21	8.4	17.4
2687.0	7.3	38.7	75	9.6	1.87	15.28	68748	497.08	982.73	8.4	17.4
2688.0	8.3	38.7	75	9.6	1.83	15.40	69291	440.27	976.74	8.4	17.4
2689.0	7.0	38.9	75	9.6	1.90	15.54	69936	523.45	971.79	8.4	17.4
2690.0	8.7	38.7	75	9.6	1.82	15.66	70456	422.01	965.85	8.4	17.4
2691.0	8.6	38.9	75	9.6	1.82	15.77	70982	427.08	960.10	8.4	17.4
2692.0	7.3	38.8	75	9.6	1.88	15.91	71598	500.12	955.23	8.4	17.4
2693.0	7.5	39.1	75	9.6	1.87	16.04	72199	487.95	950.35	8.4	17.4
2694.0	7.5	38.2	75	9.6	1.86	16.18	72797	484.90	945.53	8.4	17.4
2695.0	6.2	38.8	75	9.6	1.94	16.34	73527	592.44	941.91	8.4	17.4
2696.0	7.0	40.9	75	9.6	1.93	16.48	74171	522.44	937.66	8.4	17.4
2697.0	6.9	40.9	75	9.6	1.93	16.63	74821	527.51	933.54	8.4	17.4
2698.0	8.3	40.9	75	9.6	1.87	16.75	75363	440.27	928.64	8.4	17.4
2699.0	6.7	39.3	75	9.6	1.92	16.90	76036	545.77	924.87	8.4	17.4
2700.0	6.4	39.1	75	9.6	1.93	17.05	76738	570.12	921.41	8.4	17.4
2701.0	7.1	38.9	75	9.6	1.89	17.19	77368	511.28	917.45	8.4	17.4
2702.0	8.1	38.7	75	9.6	1.84	17.32	77921	448.38	912.97	8.4	17.4
2703.0	7.0	41.6	75	9.6	1.94	17.46	78564	522.44	909.27	8.4	17.4
2704.0	6.5	40.7	75	9.6	1.95	17.61	79258	563.02	906.02	8.4	17.4
2705.0	9.8	37.1	75	9.6	1.74	17.71	79716	371.54	901.05	8.4	17.4
2706.0	7.7	38.0	75	9.6	1.85	17.84	80301	474.76	897.13	8.4	17.4
2707.0	6.2	37.5	75	9.6	1.92	18.01	81031	592.44	894.35	8.4	17.4
2708.0	7.3	37.0	75	9.6	1.85	18.14	81643	497.08	890.76	8.4	17.4
2709.0	7.9	36.6	75	9.6	1.81	18.27	82216	464.62	886.94	8.4	17.4
2710.0	7.0	36.8	75	9.6	1.86	18.41	82857	520.41	883.68	8.4	17.4
2711.0	7.7	36.5	75	9.6	1.82	18.54	83440	472.73	880.06	8.4	17.4
2712.0	6.8	36.5	75	9.6	1.86	18.69	84101	536.64	877.07	8.4	17.4
2713.0	6.5	36.9	75	9.6	1.89	18.84	84793	562.00	874.34	8.4	17.4
2714.0	6.2	38.6	75	9.6	1.93	19.00	85518	588.38	871.89	8.4	17.4
2715.0	7.5	40.1	75	9.6	1.89	19.14	86121	488.96	868.63	8.4	17.4
2716.0	7.0	40.1	75	9.6	1.91	19.28	86760	518.38	865.68	8.4	17.4
2717.0	7.0	40.0	75	9.6	1.91	19.42	87402	521.42	862.80	8.4	17.4
2718.0	6.9	40.2	75	9.6	1.92	19.57	88058	532.58	860.06	8.4	17.4
2719.0	6.8	40.1	75	9.6	1.92	19.72	88718	535.63	857.40	8.4	17.4
2720.0	6.2	40.2	75	9.6	1.96	19.88	89440	585.33	855.18	8.4	17.4
2721.0	7.0	40.1	75	9.6	1.91	20.02	90081	520.41	852.47	8.4	17.4
2722.0	7.7	40.3	75	9.6	1.89	20.15	90668	476.79	849.45	8.4	17.4
2723.0	5.8	36.8	75	9.6	1.93	20.32	91450	634.03	847.74	8.4	17.4
2724.0	5.3	37.5	75	9.6	1.97	20.51	92300	689.82	846.49	8.4	17.4
2725.0	6.7	37.7	75	9.6	1.89	20.66	92968	542.73	844.11	8.4	17.4
2726.0	7.2	37.9	75	9.6	1.87	20.80	93590	504.18	841.47	8.4	17.4
2727.0	8.2	37.8	75	9.6	1.82	20.92	94138	445.34	838.41	8.4	17.4
2728.0	5.5	37.8	75	9.6	1.96	21.10	94956	663.45	837.07	8.4	17.4
2729.0	5.1	38.1	75	9.6	1.99	21.30	95837	715.18	836.14	8.4	17.4
2730.0	6.5	37.8	75	9.6	1.90	21.45	96527	559.97	834.06	8.4	17.4
2731.0	5.2	38.1	75	9.6	1.99	21.64	97390	699.97	833.06	8.4	17.4
2732.0	5.3	38.2	75	9.6	1.98	21.83	98232	683.74	831.95	8.4	17.4
2733.0	5.4	37.1	75	9.6	1.96	22.02	99071	680.69	830.83	8.4	17.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2734.0	6.1	38.1	75	9.6	1.93	22.18	99805	595.48	829.11	8.4	17.4
2735.0	6.0	38.2	75	9.6	1.94	22.35	100561	613.74	827.54	8.4	17.4
2736.0	6.2	38.1	75	9.6	1.92	22.51	101282	585.33	825.80	8.4	17.4
2737.0	6.4	42.4	75	9.6	1.99	22.66	101986	571.13	823.97	8.4	17.4
2738.0	5.6	39.7	75	9.5	2.00	22.84	102787	650.26	822.74	8.4	17.4
2739.0	6.7	40.4	75	9.5	1.96	22.99	103462	547.80	820.80	8.4	17.4
2740.0	6.6	41.5	75	9.5	1.98	23.14	104146	554.90	818.93	8.4	17.4
2741.0	5.2	41.6	75	9.5	2.07	23.34	105018	708.08	818.16	8.4	17.4
2742.0	6.3	38.0	75	9.5	1.93	23.50	105730	577.39	816.49	8.4	17.4
2742.2	6.4	40.2	75	9.5	1.97	23.53	105870	570.63	816.15	8.4	17.4

BIT NUMBER	10	IADC CODE	4	INTERVAL	2742.2- 2751.4
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	7.8	BIT RUN	9.2
TOTAL HOURS	4.60	TOTAL TURNS	23082	CONDITION	T0 B0 G0.150

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2742.4	1.8	18.4	54	9.6	1.80	0.11	360	2029	144457	8.4	17.4
2742.6	3.4	19.8	54	9.6	1.65	0.17	549	1065	72761	8.4	17.4
2742.8	3.2	23.9	54	9.6	1.76	0.23	751	1136	48886	8.4	17.4
2743.0	2.1	26.8	66	9.6	2.02	0.33	1125	1725	37096	8.4	17.4
2743.2	1.5	26.9	76	9.6	2.18	0.46	1738	2455	30168	8.4	17.4
2743.4	2.2	27.0	78	9.6	2.07	0.55	2169	1674	25419	8.4	17.4
2743.6	1.7	27.0	80	9.6	2.15	0.67	2720	2095	22087	8.4	17.4
2743.8	1.1	27.6	80	9.6	2.30	0.84	3560	3195	19725	8.4	17.4
2744.0	3.1	26.8	80	9.6	1.96	0.91	3873	1192	17666	8.4	17.4
2744.2	1.5	26.9	80	9.6	2.19	1.04	4505	2404	16140	8.4	17.4
2744.4	2.1	27.8	80	9.6	2.11	1.14	4969	1765	14833	8.4	17.4
2744.6	1.5	28.1	80	9.6	2.22	1.27	5605	2419	13799	8.4	17.4
2744.8	3.0	27.0	80	9.6	1.97	1.33	5921	1202	12830	8.4	17.4
2745.0	3.0	26.8	80	9.6	1.97	1.40	6237	1202	11999	8.4	17.4
2745.2	5.0	26.3	80	9.6	1.79	1.44	6428	725	11247	8.4	17.4
2745.4	1.0	18.6	80	9.6	2.10	1.65	7422	3784	10781	8.4	17.4
2745.6	2.8	19.0	80	9.6	1.80	1.72	7768	1314	10224	8.4	17.4
2745.8	2.4	19.5	80	9.6	1.86	1.80	8172	1537	9741	8.4	17.4
2746.0	3.7	20.3	80	9.6	1.76	1.86	8434	999	9281	8.4	17.4
2746.2	3.7	21.9	80	9.6	1.79	1.91	8697	999	8867	8.4	17.4
2746.4	3.4	22.7	80	9.6	1.83	1.97	8978	1070	8496	8.4	17.4
2746.6	1.4	21.4	80	9.6	2.07	2.11	9665	2612	8229	8.4	17.4
2746.8	4.6	20.8	88	9.6	1.73	2.16	9892	786	7905	8.4	17.4
2747.0	0.7	19.9	90	9.6	2.27	2.45	11493	5412	7801	8.4	17.4
2747.2	4.0	19.7	90	9.6	1.75	2.50	11760	903	7525	8.4	17.4
2747.4	2.6	19.8	90	9.6	1.88	2.58	12171	1390	7289	8.4	17.4
2747.6	2.4	20.0	90	9.6	1.91	2.66	12628	1547	7077	8.4	17.4
2747.8	1.3	20.2	90	9.6	2.09	2.82	13458	2805	6924	8.4	17.4
2748.0	9.6	20.8	90	9.6	1.52	2.84	13570	380	6698	8.4	17.4
2748.2	1.3	20.2	90	9.6	2.09	2.99	14401	2810	6569	8.4	17.4
2748.4	5.8	19.3	90	9.6	1.63	3.03	14587	629	6377	8.4	17.4
2748.6	2.9	19.7	90	9.6	1.84	3.10	14959	1258	6217	8.4	17.4
2748.8	1.8	19.6	90	9.6	1.98	3.20	15552	2004	6089	8.4	17.4
2749.0	1.9	19.0	90	9.6	1.95	3.31	16129	1953	5968	8.4	17.4
2749.2	3.6	21.0	90	9.6	1.81	3.37	16429	1014	5826	8.4	17.4
2749.4	1.1	20.3	90	9.6	2.14	3.55	17392	3256	5755	8.4	17.4
2749.6	2.9	20.1	90	9.6	1.86	3.62	17767	1268	5634	8.4	17.4
2749.8	1.6	20.6	90	9.6	2.03	3.74	18423	2217	5544	8.4	17.4
2750.0	1.7	20.8	90	9.6	2.04	3.86	19075	2206	5458	8.4	17.4
2750.2	1.0	21.4	90	9.6	2.22	4.07	20197	3794	5416	8.4	17.4
2750.4	4.9	21.9	90	9.6	1.74	4.11	20419	751	5303	8.4	17.4
2750.8	1.4	23.6	90	9.6	2.15	4.38	21915	2529	5174	8.4	17.4
2751.0	8.1	24.0	90	9.6	1.63	4.41	22048	451	5066	8.4	17.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2751.2	1.7	25.0	90	9.6	2.14	4.53	22686	2156	5002	8.4	17.4
2751.4	2.7	24.7	90	9.6	1.99	4.60	23082	1339	4922	8.4	17.4

BIT NUMBER	11	IADC CODE	517	INTERVAL	2751.4- 2887.0
HTC J22		SIZE	8.500	NOZZLES	12 12 12
COST	4139.00	TRIP TIME	8.2	BIT RUN	135.6
TOTAL HOURS	16.35	TOTAL TURNS	73588	CONDITION	T2 B4 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2752.0	2.3	25.0	75	9.6	1.99	0.26	1174	1588	58397	8.4	17.4
2753.0	5.3	31.0	75	9.6	1.85	0.45	2023	689	22329	8.4	17.4
2754.0	10.5	37.0	75	9.6	1.72	0.54	2452	348	13875	8.4	17.4
2755.0	6.9	36.2	75	9.6	1.85	0.69	3104	530	10168	8.4	17.4
2756.0	6.1	35.8	75	9.6	1.89	0.85	3840	598	8087	8.4	17.4
2757.0	6.8	35.7	75	9.6	1.85	1.00	4505	540	6740	8.4	17.4
2758.0	6.1	35.9	75	9.6	1.89	1.17	5247	602	5810	8.4	17.4
2759.0	7.2	35.8	75	9.6	1.83	1.31	5874	509	5112	8.4	17.4
2760.0	5.5	35.8	75	9.6	1.92	1.49	6687	659	4594	8.4	17.4
2761.0	7.3	36.0	75	9.6	1.83	1.62	7299	497	4168	8.4	17.4
2762.0	7.9	35.5	75	9.6	1.80	1.75	7872	465	3818	8.4	17.4
2763.0	10.3	35.5	75	9.6	1.70	1.85	8310	356	3520	8.4	17.4
2764.0	11.0	35.7	75	9.6	1.68	1.94	8720	333	3267	8.4	17.4
2765.0	12.3	35.4	75	9.6	1.64	2.02	9087	297	3049	8.4	17.4
2766.0	8.8	35.9	75	9.6	1.76	2.13	9597	414	2868	8.4	17.4
2767.0	13.4	35.7	75	9.6	1.61	2.21	9933	273	2702	8.4	17.4
2768.0	10.8	35.9	75	9.6	1.69	2.30	10349	338	2559	8.4	17.4
2769.0	9.8	35.8	75	9.6	1.73	2.40	10810	374	2435	8.4	17.4
2770.0	8.7	35.9	75	9.6	1.77	2.52	11325	418	2327	8.4	17.4
2771.0	9.2	36.0	75	9.6	1.75	2.63	11814	397	2228	8.4	17.4
2772.0	8.8	36.1	75	9.6	1.77	2.74	12326	415	2140	8.4	17.4
2773.0	13.1	36.3	75	9.6	1.63	2.82	12669	278	2054	8.4	17.4
2774.0	8.4	36.5	75	9.6	1.79	2.93	13203	433	1982	8.4	17.4
2775.0	9.0	36.4	75	9.6	1.76	3.04	13701	405	1915	8.4	17.5
2776.0	9.5	36.6	75	9.6	1.75	3.15	14174	383	1853	8.4	17.5
2777.0	9.6	36.5	75	9.6	1.74	3.25	14643	380	1796	8.4	17.5
2778.0	7.6	36.8	75	9.6	1.83	3.39	15238	483	1746	8.4	17.5
2779.0	10.7	36.5	75	9.6	1.70	3.48	15656	340	1695	8.4	17.5
2780.0	9.2	36.8	75	9.6	1.76	3.59	16145	397	1650	8.4	17.5
2781.0	6.8	37.0	75	9.6	1.87	3.74	16811	541	1612	8.4	17.5
2782.0	13.4	36.0	75	9.6	1.62	3.81	17148	273	1569	8.4	17.5
2783.0	11.5	36.4	75	9.6	1.68	3.90	17540	319	1529	8.4	17.5
2784.0	9.5	36.8	75	9.6	1.75	4.00	18013	383	1494	8.4	17.5
2785.0	8.6	37.2	75	9.6	1.79	4.12	18539	427	1462	8.4	17.5
2786.0	8.6	37.3	75	9.6	1.80	4.24	19064	426	1432	8.4	17.5
2787.0	7.8	38.6	75	9.6	1.85	4.36	19641	469	1405	8.4	17.5
2788.0	8.0	38.4	75	9.6	1.84	4.49	20204	457	1379	8.4	17.5
2789.0	10.1	38.5	75	9.6	1.76	4.59	20650	362	1352	8.4	17.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2790.0	8.5	38.5	75	9.6	1.82	4.71	21178	428	1328	8.4	17.5
2791.0	13.7	37.6	75	9.6	1.63	4.78	21505	266	1301	8.4	17.5
2792.0	11.0	38.6	75	9.6	1.73	4.87	21915	333	1278	8.4	17.5
2793.0	7.9	38.8	75	9.6	1.85	5.00	22483	461	1258	8.4	17.5
2794.0	12.8	38.6	75	9.6	1.67	5.07	22834	285	1235	8.4	17.5
2795.0	10.5	39.0	75	9.6	1.75	5.17	23263	348	1215	8.4	17.5
2796.0	11.2	39.1	75	9.6	1.73	5.26	23665	327	1195	8.4	17.5
2797.0	10.5	39.1	75	9.6	1.75	5.35	24093	347	1176	8.4	17.5
2798.0	6.3	39.6	75	9.6	1.95	5.51	24810	582	1164	8.4	17.5
2799.0	6.7	39.8	75	9.6	1.92	5.66	25480	544	1151	8.4	17.5
2800.0	19.8	37.6	75	9.6	1.50	5.71	25708	185	1131	8.4	17.5
2801.0	12.6	37.3	75	9.6	1.66	5.79	26065	290	1114	8.4	17.5
2802.0	14.3	37.4	75	9.6	1.62	5.86	26380	256	1097	8.4	17.5
2803.0	13.3	36.5	75	9.6	1.63	5.94	26718	274	1081	8.4	17.5
2804.0	9.2	37.2	75	9.6	1.77	6.05	27205	396	1068	8.4	17.5
2805.0	22.1	36.2	75	9.6	1.45	6.09	27409	165	1051	8.4	17.5
2806.0	17.2	35.8	75	9.6	1.53	6.15	27670	212	1036	8.4	17.5
2807.0	11.0	36.0	75	9.6	1.69	6.24	28080	333	1023	8.4	17.5
2808.0	10.8	36.8	75	9.6	1.70	6.33	28495	337	1011	8.4	17.5
2809.0	22.5	35.7	75	9.6	1.43	6.38	28695	162.31	996.06	8.4	17.5
2810.0	9.5	39.2	75	9.6	1.79	6.48	29170	385.49	985.64	8.4	17.5
2811.0	8.2	39.4	75	9.6	1.85	6.60	29718	444.33	976.56	8.4	17.5
2812.0	18.8	38.0	75	9.6	1.53	6.66	29958	194.77	963.66	8.4	17.5
2813.0	24.3	37.4	75	9.6	1.43	6.70	30143	150.14	950.45	8.4	17.5
2814.0	18.4	37.4	75	9.6	1.53	6.75	30388	198.83	938.44	8.4	17.5
2815.0	14.9	38.4	75	9.6	1.62	6.82	30690	245.50	927.55	8.4	17.5
2816.0	13.3	39.0	75	9.6	1.67	6.90	31029	274.91	917.45	8.4	17.5
2817.0	14.3	39.2	75	9.6	1.64	6.97	31343	254.63	907.34	8.4	17.5
2818.0	15.4	39.0	75	9.6	1.61	7.03	31635	237.38	897.28	8.4	17.5
2819.0	12.5	40.8	75	9.6	1.72	7.11	31996	293.17	888.35	8.4	17.5
2820.0	15.8	42.1	75	9.6	1.65	7.17	32281	231.29	878.77	8.4	17.5
2821.0	16.0	41.8	75	9.6	1.64	7.24	32563	228.25	869.42	8.4	17.5
2822.0	19.9	41.2	75	9.6	1.55	7.29	32789	183.52	859.71	8.4	17.5
2823.0	16.9	41.4	75	9.6	1.61	7.35	33056	216.58	850.72	8.4	17.5
2824.0	16.2	41.9	75	9.6	1.63	7.41	33333	225.21	842.11	8.4	17.5
2825.0	15.3	41.0	75	9.6	1.64	7.47	33627	238.69	833.91	8.4	17.5
2826.0	13.4	41.8	75	9.6	1.70	7.55	33963	272.89	826.39	8.4	17.5
2827.0	8.4	43.1	75	9.6	1.90	7.67	34502	437.23	821.24	8.4	17.5
2828.0	10.0	40.0	75	9.6	1.78	7.77	34952	365.20	815.29	8.4	17.5
2829.0	9.6	40.0	75	9.6	1.80	7.87	35421	380.42	809.68	8.4	17.5
2830.0	13.6	39.0	75	9.6	1.66	7.94	35752	268.53	802.80	8.4	17.5
2831.0	6.8	40.0	75	9.6	1.92	8.09	36414	537.06	799.46	8.4	17.5
2832.0	9.2	41.0	75	9.6	1.83	8.20	36903	396.96	794.47	8.4	17.5
2833.0	26.6	38.0	75	9.6	1.40	8.24	37072	137.29	786.41	8.4	17.5
2834.0	20.0	40.0	75	9.6	1.53	8.29	37297	182.60	779.10	8.4	17.5
2835.0	5.8	40.0	75	9.6	1.98	8.46	38073	629.66	777.32	8.4	17.5
2836.0	9.6	40.0	75	9.6	1.80	8.56	38541	380.42	772.62	8.4	17.5
2837.0	9.0	40.0	75	9.6	1.82	8.68	39041	405.78	768.34	8.4	17.5
2838.0	8.4	41.0	75	9.6	1.86	8.79	39577	434.76	764.49	8.4	17.5
2839.0	18.9	39.0	75	9.6	1.54	8.85	39815	193.23	757.96	8.4	17.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2840.0	18.0	40.0	75	9.6	1.57	8.90	40065	202.89	751.70	8.4	17.5
2841.0	6.6	40.0	75	9.6	1.93	9.05	40747	553.33	749.49	8.4	17.5
2842.0	2.5	40.0	75	9.6	2.29	9.45	42547	1461	757	8.4	17.5
2843.0	3.7	36.0	75	9.6	2.07	9.73	43763	987.03	759.84	8.4	17.5
2844.0	17.4	37.0	75	9.6	1.54	9.78	44022	209.89	753.91	8.4	17.5
2845.0	16.8	38.0	75	9.6	1.57	9.84	44290	217.38	748.17	8.4	17.5
2846.0	11.4	38.0	75	9.6	1.71	9.93	44685	320.35	743.65	8.4	17.5
2847.0	10.1	35.0	75	9.6	1.70	10.03	45128	360.13	739.64	8.4	17.5
2848.0	8.0	34.0	75	9.6	1.76	10.15	45688	453.96	736.68	8.4	17.5
2849.0	5.8	34.9	75	9.6	1.89	10.33	46469	634.03	735.63	8.4	17.5
2850.0	10.3	32.9	75	9.6	1.66	10.42	46904	353.03	731.75	8.4	17.5
2851.0	9.7	34.6	75	9.6	1.71	10.53	47368	376.36	728.18	8.4	17.5
2852.0	13.8	34.4	75	9.6	1.58	10.60	47693	263.76	723.57	8.4	17.5
2853.0	12.9	32.9	75	9.6	1.58	10.68	48041	283.03	719.23	8.4	17.5
2854.0	12.5	32.7	75	9.6	1.59	10.76	48403	293.17	715.08	8.4	17.5
2855.0	8.8	33.9	75	9.6	1.73	10.87	48913	413.89	712.17	8.4	17.5
2856.0	12.9	34.2	75	9.6	1.60	10.95	49263	284.04	708.08	8.4	17.5
2857.0	18.2	32.4	75	9.6	1.46	11.00	49510	200.86	703.27	8.4	17.5
2858.0	11.8	34.3	75	9.6	1.64	11.09	49893	310.42	699.59	8.4	17.5
2859.0	11.1	34.5	75	9.6	1.66	11.18	50296	327.67	696.13	8.4	17.5
2860.0	9.5	30.5	75	9.6	1.65	11.28	50769	383.46	693.25	8.4	17.5
2861.0	6.2	34.3	75	9.6	1.86	11.44	51495	589.39	692.30	8.4	17.5
2862.0	5.6	34.4	75	9.6	1.89	11.62	52295	649.24	691.92	8.4	17.5
2863.0	5.3	34.4	75	9.6	1.91	11.81	53138	683.74	691.84	8.4	17.5
2864.0	5.8	35.4	75	9.6	1.90	11.98	53915	630.98	691.30	8.4	17.5
2865.0	6.0	36.7	75	9.6	1.91	12.15	54671	613.74	690.62	8.4	17.5
2866.0	7.5	36.4	75	9.6	1.83	12.28	55268	483.89	688.81	8.4	17.5
2867.0	6.3	36.3	75	9.6	1.89	12.44	55981	579.25	687.87	8.4	17.5
2868.0	6.1	36.6	75	9.6	1.90	12.60	56715	595.48	687.07	8.4	17.5
2869.0	5.9	36.8	75	9.6	1.92	12.77	57484	623.88	686.54	8.4	17.5
2870.0	7.3	36.6	75	9.6	1.84	12.91	58098	498.09	684.95	8.4	17.5
2871.0	7.2	37.3	75	9.6	1.86	13.05	58721	506.21	683.45	8.4	17.5
2872.0	18.9	35.0	75	9.6	1.48	13.10	58959	192.74	679.39	8.4	17.5
2873.0	12.7	30.5	75	9.6	1.55	13.18	59314	288.10	676.17	8.4	17.5
2874.0	16.1	32.3	75	9.6	1.50	13.24	59594	227.24	672.51	8.4	17.5
2875.0	20.2	32.0	75	9.6	1.42	13.29	59816	180.57	668.53	8.4	17.5
2876.0	5.7	21.8	75	9.6	1.64	13.47	60609	643.16	668.32	8.4	17.6
2877.0	7.9	24.9	75	9.6	1.60	13.60	61178	461.57	666.68	8.4	17.6
2878.0	5.6	26.5	75	9.6	1.74	13.77	61978	649.24	666.54	8.4	17.6
2879.0	6.4	26.0	75	9.6	1.69	13.93	62679	569.10	665.77	8.4	17.6
2880.0	4.2	17.2	75	9.6	1.62	14.17	63759	876.48	667.41	8.4	17.6
2881.0	4.3	15.9	75	9.6	1.58	14.40	64798	843.00	668.77	8.4	17.6
2882.0	3.8	15.8	75	9.6	1.61	14.66	65981	960.68	671.00	8.4	17.6
2883.0	4.0	16.7	75	9.6	1.63	14.92	67120	924.16	672.93	8.4	17.6
2884.0	3.3	16.0	75	9.6	1.66	15.22	68491	1113	676	8.4	17.6
2885.0	2.0	20.2	75	9.6	1.91	15.71	70716	1806	685	8.4	17.6
2886.0	3.1	15.8	75	9.6	1.67	16.04	72163	1174	688	8.4	17.6
2887.0	3.2	14.7	75	9.6	1.63	16.35	73588	1156	692	8.4	17.6

BIT NUMBER	12	IADC CODE	517	INTERVAL	2887.0- 2984.0
HTC J22		SIZE	8.500	NOZZLES	12 12 12
COST	4139.00	TRIP TIME	8.4	BIT RUN	97.0
TOTAL HOURS	23.56	TOTAL TURNS	115233	CONDITION	T3 B4 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2888.0	5.0	15.5	75	9.6	1.53	0.20	901	732	35547	8.4	17.6
2889.0	1.8	8.4	75	9.6	1.56	0.77	3453	2070	18809	8.4	17.6
2890.0	2.4	8.8	82	9.6	1.52	1.18	5464	1501	13040	8.4	17.6
2891.0	1.6	9.5	86	9.6	1.67	1.80	8696	2288	10352	8.4	17.6
2892.0	1.9	11.8	86	9.6	1.71	2.33	11424	1930	8667	8.4	17.6
2893.0	2.0	17.0	86	9.6	1.85	2.82	13943	1783	7520	8.4	17.6
2894.0	3.2	20.4	86	9.6	1.82	3.14	15573	1153	6611	8.4	17.6
2895.0	3.9	21.3	86	9.6	1.78	3.39	16896	936	5901	8.4	17.6
2896.0	9.2	20.2	86	9.6	1.50	3.50	17455	396	5290	8.4	17.6
2897.0	4.8	15.4	86	9.6	1.58	3.71	18532	762	4837	8.4	17.6
2898.0	9.2	22.3	86	9.6	1.55	3.82	19091	396	4433	8.4	17.6
2899.0	5.1	36.6	86	9.6	2.01	4.01	20097	712	4123	8.4	17.6
2900.0	5.1	39.4	86	9.6	2.07	4.21	21109	716	3861	8.4	17.6
2901.0	9.2	37.3	86	9.6	1.82	4.32	21672	399	3614	8.4	17.6
2902.0	5.4	34.3	86	9.6	1.95	4.51	22631	679	3418	8.4	17.6
2903.0	6.9	31.6	86	9.6	1.82	4.65	23379	530	3237	8.4	17.6
2904.0	5.3	36.8	86	9.6	2.01	4.84	24355	691	3088	8.4	17.6
2905.0	4.5	36.1	86	9.6	2.05	5.06	25503	813	2961	8.4	17.6
2906.0	5.1	40.9	86	9.6	2.10	5.26	26524	722	2843	8.4	17.6
2907.0	4.6	39.8	86	9.6	2.11	5.48	27643	792	2741	8.4	17.6
2908.0	17.3	20.8	86	9.6	1.33	5.53	27941	210	2620	8.4	17.6
2909.0	5.8	23.5	86	9.6	1.71	5.71	28825	626	2530	8.4	17.6
2910.0	9.6	28.4	86	9.6	1.65	5.81	29364	381	2436	8.4	17.6
2911.0	12.1	34.2	86	9.6	1.67	5.89	29791	302	2347	8.4	17.6
2912.0	6.7	22.4	86	9.6	1.65	6.04	30562	546	2275	8.4	17.6
2913.0	6.5	19.3	86	9.6	1.59	6.20	31353	560	2209	8.4	17.6
2914.0	3.7	14.3	86	9.6	1.62	6.47	32755	992	2164	8.4	17.6
2915.0	3.8	11.6	86	9.6	1.53	6.73	34106	956	2121	8.4	17.6
2916.0	6.1	12.8	86	9.6	1.44	6.89	34946	595	2068	8.4	17.6
2917.0	7.5	14.7	86	9.6	1.44	7.02	35630	484	2016	8.4	17.6
2918.0	7.9	26.8	86	9.6	1.68	7.15	36282	462	1966	8.4	17.6
2919.0	7.0	26.5	86	9.6	1.72	7.29	37015	518	1920	8.4	17.6
2920.0	11.1	26.2	86	9.6	1.56	7.38	37479	329	1872	8.4	17.6
2921.0	8.9	22.8	86	9.6	1.57	7.50	38060	411	1829	8.4	17.6
2922.0	5.8	14.9	86	9.6	1.51	7.67	38944	626	1795	8.4	17.6
2923.0	3.2	13.6	86	9.6	1.63	7.98	40542	1131	1776	8.4	17.6
2924.0	6.1	15.0	86	9.6	1.50	8.14	41382	594	1744	8.4	17.6
2925.0	4.1	13.6	86	9.6	1.57	8.38	42629	883	1722	8.4	17.6
2926.0	4.4	14.8	86	9.6	1.59	8.61	43815	839	1699	8.4	17.6
2927.0	2.8	12.9	86	9.6	1.64	8.96	45632	1286	1689	8.4	17.6
2928.0	5.2	20.9	86	9.6	1.69	9.16	46631	707	1665	8.4	17.6
2929.0	6.8	27.9	86	9.6	1.76	9.30	47394	540	1638	8.4	17.6
2930.0	4.6	18.4	86	9.6	1.66	9.52	48504	786	1618	8.4	17.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2931.0	5.8	21.6	86	9.6	1.67	9.69	49387	625	1596	8.4	17.6
2932.0	6.1	22.9	86	9.6	1.68	9.85	50232	598	1573	8.4	17.6
2933.0	4.2	23.6	86	9.6	1.82	10.09	51471	877	1558	8.4	17.6
2934.0	4.2	26.7	86	9.6	1.88	10.33	52698	868	1544	8.4	17.6
2935.0	4.2	27.1	86	9.6	1.89	10.57	53927	869	1530	8.4	17.6
2936.0	3.5	32.1	86	9.6	2.05	10.85	55389	1035	1519	8.4	17.6
2937.0	3.0	37.2	86	9.6	2.22	11.19	57123	1227	1514	8.4	17.6
2938.0	3.8	38.4	86	9.6	2.16	11.46	58498	973	1503	8.4	17.6
2939.0	5.1	38.0	86	9.6	2.04	11.65	59515	720	1488	8.4	17.6
2940.0	3.9	37.9	86	9.6	2.13	11.91	60822	925	1477	8.4	17.6
2941.0	5.3	38.0	86	9.6	2.03	12.10	61803	694	1463	8.4	17.6
2942.0	3.8	38.4	86	9.6	2.15	12.36	63153	956	1454	8.4	17.6
2943.0	2.2	38.3	86	9.6	2.34	12.80	65456	1630	1457	8.4	17.6
2944.0	8.5	41.3	86	9.6	1.91	12.92	66066	431	1439	8.4	17.6
2945.0	4.0	40.2	86	9.6	2.17	13.17	67356	913	1430	8.4	17.6
2946.0	4.2	41.3	86	9.6	2.17	13.41	68584	870	1420	8.4	17.6
2947.0	3.9	40.9	86	9.6	2.19	13.67	69907	936	1412	8.4	17.6
2948.0	3.1	41.2	86	9.6	2.28	13.99	71572	1178	1408	8.4	17.6
2949.0	2.2	39.4	86	9.6	2.37	14.44	73908	1654	1412	8.4	17.6
2950.0	1.7	40.0	84	9.6	2.47	15.04	76923	2187	1425	8.4	17.6
2951.0	2.7	42.4	75	9.6	2.31	15.42	78611	1370	1424	8.4	17.6
2952.0	3.8	41.0	75	9.6	2.15	15.68	79788	956	1417	8.4	17.6
2953.0	3.4	40.8	75	9.6	2.19	15.97	81118	1079	1411	8.4	17.6
2954.0	3.9	41.1	75	9.6	2.15	16.23	82277	940	1404	8.4	17.6
2955.0	3.3	41.2	75	9.6	2.21	16.53	83634	1102	1400	8.4	17.6
2956.0	5.5	41.1	75	9.6	2.02	16.72	84456	666	1389	8.4	17.6
2957.0	4.0	41.1	75	9.6	2.13	16.96	85572	906	1382	8.4	17.6
2958.0	5.0	41.3	75	9.6	2.06	17.16	86478	735	1373	8.4	17.6
2959.0	5.8	40.5	75	9.6	1.99	17.34	87254	630	1363	8.4	17.6
2960.0	6.0	41.2	75	9.6	1.99	17.51	88011	614	1353	8.4	17.6
2961.0	6.3	41.4	75	9.6	1.98	17.67	88729	583	1342	8.4	17.6
2962.0	5.0	41.7	75	9.6	2.06	17.86	89624	726	1334	8.4	17.6
2963.0	7.9	36.3	75	9.6	1.81	17.99	90197	465	1323	8.4	17.6
2964.0	2.8	39.8	75	9.6	2.24	18.34	91781	1285	1322	8.4	17.6
2965.0	2.6	40.7	75	9.6	2.29	18.73	93512	1405	1323	8.4	17.6
2966.0	4.4	38.3	75	9.6	2.05	18.95	94524	822	1317	8.4	17.6
2967.0	4.8	29.7	75	9.6	1.85	19.16	95453	754	1310	8.4	17.6
2968.0	4.4	39.7	75	9.6	2.08	19.39	96478	832	1304	8.4	17.6
2969.0	7.8	37.8	75	9.6	1.84	19.52	97057	470	1294	8.4	17.6
2970.0	8.8	39.7	75	9.6	1.82	19.63	97566	413	1283	8.4	17.6
2971.0	4.1	35.0	75	9.6	2.01	19.87	98661	889	1278	8.4	17.6
2972.0	5.2	36.1	75	9.6	1.95	20.06	99522	699	1272	8.4	17.6
2973.0	6.4	40.0	75	9.6	1.94	20.22	100221	567	1263	8.4	17.6
2974.0	3.8	41.7	75	9.6	2.17	20.48	101409	965	1260	8.4	17.6
2975.0	3.4	42.6	75	9.6	2.23	20.78	102746	1084	1258	8.4	17.6
2976.0	3.1	43.2	75	9.6	2.27	21.10	104196	1177	1257	8.4	17.6
2977.0	3.2	43.7	75	9.6	2.26	21.41	105597	1137	1256	8.4	17.6
2978.0	3.1	43.7	75	9.6	2.27	21.73	107029	1163	1255	8.4	17.7
2979.0	3.2	43.6	75	9.6	2.26	22.04	108426	1133	1253	8.4	17.7
2980.0	2.9	43.7	75	9.6	2.30	22.38	109954	1241	1253	8.4	17.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2981.0	2.9	44.0	75	9.6	2.30	22.72	111489	1246	1253	8.4	17.7
2982.0	4.6	38.0	75	9.6	2.03	22.94	112475	800	1248	8.4	17.7
2983.0	3.2	44.2	75	9.6	2.27	23.25	113872	1134	1247	8.4	17.7
2984.0	3.3	44.0	75	9.6	2.26	23.56	115233	1105	1246	8.4	17.7

(d). COMPUTER DATA LISTING : LIST B

INTERVAL . . . . . 10m averages.

DEPTH. . . . . Well depth, in metres.

ROP. . . . . Rate of penetration, in metres per hour.

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

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

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

TOTAL COST . . . . . Cumulative bit cost, in A dollars.

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

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

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

BIT NUMBER	1	IADC CODE	111	INTERVAL	86.0- 224.0
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	18 18 18
COST	0.00	TRIP TIME	3.4	BIT RUN	138.0
TOTAL HOURS	4.23	TOTAL TURNS	23433	CONDITION	T2 B4 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
90.0	22.8	4.0	0.18	1053	13057.93	160	3264	-
100.0	21.1	14.0	0.65	3895	14787.56	173	1056	-
110.0	19.4	24.0	1.16	6987	16669.35	188.18	694.56	-
120.0	29.0	34.0	1.51	9053	17927.26	125.79	527.27	-
130.0	23.2	44.0	1.94	11637	19499.65	157.24	443.17	-
140.0	14.4	54.0	2.63	14822	22032.72	253.31	408.01	-
150.0	38.8	64.0	2.89	15980	22973.06	94.03	358.95	-
160.0	31.9	74.0	3.20	17392	24118.87	114.58	325.93	-
170.0	44.6	84.0	3.43	18400	24937.53	81.87	296.88	-
180.0	56.7	94.0	3.60	19309	25581.36	64.38	272.14	-
190.0	82.4	104.0	3.73	20110	26024.67	44.33	250.24	-
200.0	143.4	114.0	3.80	20570	26279.30	25.46	230.52	-
210.0	46.4	124.0	4.01	21993	27066.51	78.72	218.28	-
220.0	62.4	134.0	4.17	23051	27651.84	58.53	206.36	-
224.0	69.0	138.0	4.23	23433	27863.51	52.92	201.91	-

BIT NUMBER	1	IADC CODE	111	INTERVAL	224.2- 817.6
HTC 3AJ		SIZE	17.500	NOZZLES	18 18 18
COST	4857.00	TRIP TIME	3.7	BIT RUN	593.4
TOTAL HOURS	8.69	TOTAL TURNS	75809	CONDITION	T1 B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
230.0	81.4	5.8	0.07	256	18629.58	45	3212	-
240.0	187.3	15.8	0.12	449	18824.53	19	1191	-
250.0	186.9	25.8	0.18	770	19019.89	19.54	737.21	-
260.0	187.5	35.8	0.23	1090	19214.66	19.48	536.72	-
270.0	176.5	45.8	0.29	1513	19421.61	20.69	424.05	-
280.0	225.2	55.8	0.33	1859	19583.79	16.22	350.96	-
290.0	121.7	65.8	0.41	2500	19883.89	30.01	302.19	-
300.0	141.5	75.8	0.49	3051	20142.07	25.82	265.73	-
310.0	146.0	85.8	0.55	3586	20392.21	25.01	237.67	-
320.0	118.2	95.8	0.64	4245	20701.11	30.89	216.09	-
330.0	211.8	105.8	0.69	4614	20873.57	17.25	197.29	-
340.0	154.6	115.8	0.75	5118	21109.79	23.62	182.30	-
350.0	148.8	125.8	0.82	5643	21355.28	24.55	169.76	-
360.0	155.2	135.8	0.88	6145	21590.64	23.54	158.99	-
370.0	157.9	145.8	0.95	6639	21821.93	23.13	149.67	-
380.0	122.4	155.8	1.03	7276	22120.18	29.82	141.98	-
390.0	126.3	165.8	1.11	7894	22409.29	28.91	135.16	-
400.0	122.4	175.8	1.19	8531	22707.54	29.82	129.17	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
410.0	143.4	185.8	1.26	9075	22962.16	25.46	123.59	-
420.0	127.7	195.8	1.34	9686	23248.24	28.61	118.73	-
430.0	122.0	205.8	1.42	10380	23547.50	29.93	114.42	-
440.0	108.4	215.8	1.51	11210	23884.29	33.68	110.68	-
450.0	114.6	225.8	1.60	11995	24202.83	31.85	107.19	-
460.0	108.4	235.8	1.69	12825	24539.63	33.68	104.07	
470.0	129.0	245.8	1.77	13523	24822.66	28.30	100.99	-
480.0	130.9	255.8	1.84	14210	25101.63	27.90	98.13	-
490.0	126.3	265.8	1.92	14923	25390.74	28.91	95.53	-
500.0	58.0	275.8	2.09	16474	26020.26	62.95	94.34	-
510.0	75.3	285.8	2.23	17669	26505.17	48.49	92.74	-
520.0	67.9	295.8	2.37	18994	27042.82	53.77	91.42	-
530.0	38.0	305.8	2.64	21364	28004.52	96.17	91.58	+
540.0	56.9	315.8	2.81	22946	28646.66	64.21	90.71	-
550.0	47.7	325.8	3.02	24834	29412.57	76.59	90.28	-
560.0	58.5	335.8	3.19	26371	30036.45	62.39	89.45	-
570.0	58.5	345.8	3.37	27909	30660.33	62.39	88.66	-
580.0	56.6	355.8	3.54	29499	31305.52	64.52	87.99	-
590.0	53.7	365.8	3.73	31176	31986.21	68.07	87.44	-
600.0	55.6	375.8	3.91	32796	32643.57	65.74	86.86	-
610.0	66.5	385.8	4.06	34149	33192.39	54.88	86.04	-
620.0	58.6	395.8	4.23	35684	33815.25	62.29	85.44	-
630.0	65.6	405.8	4.38	37056	34372.18	55.69	84.70	-
640.0	68.7	415.8	4.53	38366	34903.75	53.16	83.94	-
650.0	62.4	425.8	4.69	39809	35489.09	58.53	83.35	-
660.0	53.8	435.8	4.87	41481	36167.75	67.87	82.99	-
670.0	69.5	445.8	5.02	42776	36693.23	52.55	82.31	-
680.0	57.1	455.8	5.19	44354	37333.35	64.01	81.91	-
690.0	44.3	465.8	5.42	46386	38158.09	82.47	81.92	+
700.0	55.6	475.8	5.60	48006	38815.45	65.74	81.58	-
710.0	54.1	485.8	5.78	49669	39490.06	67.46	81.29	-
720.0	59.9	495.8	5.95	51171	40099.74	60.97	80.88	-
730.0	48.9	505.8	6.15	53011	40846.37	74.66	80.76	-
740.0	43.8	515.8	6.38	55064	41679.23	83.29	80.81	+
750.0	52.4	525.8	6.57	56783	42376.73	69.75	80.59	-
760.0	41.5	535.8	6.81	58953	43257.27	88.05	80.73	+
770.0	31.6	545.8	7.13	61798	44411.71	115.44	81.37	+
780.0	30.5	555.8	7.46	64748	45608.75	119.70	82.06	+
790.0	27.5	565.8	7.82	68015	46934.63	132.59	82.95	+
800.0	25.1	575.8	8.22	71603	48390.36	145.57	84.04	+
810.0	40.6	585.8	8.47	73822	49290.78	90.04	84.14	+
817.6	34.4	593.4	8.69	75809	50097.27	106.12	84.42	+

BIT NUMBER	2	IADC CODE	114	INTERVAL	817.6- 1001.3
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2381.00	TRIP TIME	4.2	BIT RUN	183.7
TOTAL HOURS	4.21	TOTAL TURNS	32070	CONDITION	T2 B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
820.0	12.8	2.4	0.19	1121	18401.72	284	7667	-
830.0	14.7	12.4	0.87	5208	20889.56	249	1685	-
840.0	20.8	22.4	1.35	8098	22648.61	176	1011	-
850.0	36.0	32.4	1.63	9764	23662.21	101.36	730.32	-
860.0	48.5	42.4	1.83	11359	24414.59	75.24	575.82	-
870.0	48.2	52.4	2.04	13164	25172.38	75.78	480.39	-
880.0	60.8	62.4	2.21	14595	25772.93	60.06	413.03	-
890.0	45.7	72.4	2.42	16497	26571.30	79.84	367.01	-
900.0	32.0	82.4	2.74	19212	27711.27	114.00	336.30	-
910.0	57.3	92.4	2.91	20730	28348.34	63.71	306.80	-
920.0	70.6	102.4	3.05	21962	28865.71	51.74	281.89	-
930.0	78.9	112.4	3.18	23064	29328.29	46.26	260.93	-
940.0	68.6	122.4	3.32	24333	29860.88	53.26	243.96	-
950.0	67.9	132.4	3.47	25615	30399.09	53.82	229.60	-
960.0	70.8	142.4	3.61	26845	30915.04	51.59	217.10	-
970.0	78.0	152.4	3.74	27960	31383.48	46.84	205.93	-
980.0	63.7	162.4	3.90	29326	31956.61	57.31	196.78	-
990.0	65.2	172.4	4.05	30660	32516.78	56.02	188.61	-
1000.0	64.0	182.4	4.21	32021	33087.82	57.10	181.40	-
1001.3	53.3	183.7	4.23	32233	33176.83	68.48	180.60	-

BIT NUMBER	3	IADC CODE	114	INTERVAL	1001.3- 1151.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 32
COST	2381.00	TRIP TIME	4.8	BIT RUN	149.7
TOTAL HOURS	8.76	TOTAL TURNS	236560	CONDITION	T1 B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1010.0	15.9	8.7	0.55	14786	21910.58	230	2518	-
1020.0	23.2	18.7	0.98	26449	23488.04	158	1256	-
1030.0	45.9	28.7	1.20	32336	24284.38	79.63	846.15	-
1040.0	72.4	38.7	1.34	36064	24788.56	50.42	640.53	-
1050.0	23.7	48.7	1.76	47471	26331.53	154.30	540.69	-
1060.0	5.7	58.7	3.51	94780	32730.47	639.89	557.59	+
1070.0	8.3	68.7	4.72	127389	37141.08	441.06	540.63	-
1080.0	19.5	78.7	5.23	141264	39017.80	187.67	495.78	-
1090.0	38.2	88.7	5.49	148335	39974.28	95.65	450.67	-
1100.0	18.6	98.7	6.03	162885	41942.30	196.80	424.95	-
1110.0	24.5	108.7	6.44	173910	43433.53	149.12	399.57	-
1120.0	14.4	118.7	7.13	192597	45961.10	252.76	387.20	-
1130.0	21.3	128.7	7.60	205246	47671.97	171.09	370.41	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1140.0	22.2	138.7	8.05	217402	49316.28	164.43	355.56	-
1150.0	15.6	148.7	8.69	234760	51664.00	234.77	347.44	-
1151.0	15.0	149.7	8.76	236560	51907.47	243.47	346.74	-

BIT NUMBER	3	IADC CODE	114	INTERVAL	1151.0- 1252.5
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	0.00	TRIP TIME	4.5	BIT RUN	101.5
TOTAL HOURS	12.87	TOTAL TURNS	258476	CONDITION	T4 B3 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1160.0	25.8	158.7	9.11	238650	49697.63	141.35	313.15	-
1170.0	31.7	168.7	9.42	240540	50848.01	115.04	301.41	-
1180.0	41.9	178.7	9.66	241907	51720.59	87.26	289.43	-
1190.0	35.7	188.7	9.94	243252	52744.13	102.35	279.51	-
1200.0	35.7	198.7	10.22	244610	53767.06	102.29	270.59	-
1210.0	20.6	208.7	10.71	246945	55544.03	177.70	266.14	-
1220.0	27.5	218.7	11.07	248753	56873.46	132.94	260.05	-
1230.0	18.1	228.7	11.63	251740	58893.22	201.98	257.51	-
1240.0	20.1	238.7	12.12	254427	60710.87	181.76	254.34	-
1250.0	16.9	248.7	12.72	257626	62874.03	216.32	252.81	-
1252.5	15.9	251.2	12.87	258476	63448.95	229.97	252.58	-

BIT NUMBER	4	IADC CODE	114	INTERVAL	1252.5- 1450.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2381.00	TRIP TIME	5.1	BIT RUN	197.5
TOTAL HOURS	10.24	TOTAL TURNS	91867	CONDITION	T1 B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1260.0	26.5	7.5	0.28	2271	22040.42	138	2939	-
1270.0	28.4	17.5	0.63	5435	23324.31	128	1333	-
1280.0	21.7	27.5	1.10	9584	25007.92	168.36	909.38	-
1290.0	28.3	37.5	1.45	12763	26297.85	128.99	701.28	-
1300.0	26.4	47.5	1.83	16168	27679.53	138.17	582.73	-
1310.0	25.2	57.5	2.22	19740	29129.17	144.96	506.59	-
1320.0	26.7	67.5	2.60	23106	30494.67	136.55	451.77	-
1330.0	21.6	77.5	3.06	27276	32186.76	169.21	415.31	-
1340.0	17.0	87.5	3.65	32563	34332.31	214.56	392.37	-
1350.0	23.7	97.5	4.07	36366	35875.28	154.30	367.95	-
1360.0	22.2	107.5	4.52	40419	37520.13	164.48	349.02	-
1370.0	18.2	117.5	5.07	45367	39527.71	200.76	336.41	-
1380.0	18.5	127.5	5.61	50227	41499.90	197.22	325.49	-
1390.0	14.4	137.5	6.30	56464	44030.94	253.10	320.23	-
1400.0	16.7	147.5	6.90	61839	46211.99	218.11	313.30	-
1410.0	19.3	157.5	7.42	66507	48105.96	189.40	305.43	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1420.0	15.5	167.5	8.06	72304	50458.46	235.25	301.24	-
1430.0	11.6	177.5	8.93	80072	53610.34	315.19	302.03	+
1440.0	15.1	187.5	9.59	86017	56022.69	241.23	298.79	-
1450.0	15.4	197.5	10.24	91867	58396.49	237.38	295.68	-

BIT NUMBER	5	IADC CODE	116	INTERVAL	1450.0- 2080.0
MTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	6.4	BIT RUN	630.0
TOTAL HOURS	39.74	TOTAL TURNS	282318	CONDITION	T3 B8 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1460.0	14.8	10.0	0.67	3420	28526.49	246	2853	-
1470.0	16.5	20.0	1.28	7249	30746.09	222	1537	-
1480.0	14.4	30.0	1.97	11610	33274.09	253	1109	-
1490.0	19.6	40.0	2.48	14823	35136.51	186.24	878.41	-
1500.0	17.1	50.0	3.07	18501	37268.87	213.24	745.38	-
1510.0	20.2	60.0	3.56	21868	39076.61	180.77	651.28	-
1520.0	13.6	70.0	4.30	27174	41767.94	269.13	596.68	-
1530.0	14.8	80.0	4.98	32052	44242.06	247.41	553.03	-
1540.0	17.9	90.0	5.53	36070	46279.93	203.79	514.22	-
1550.0	15.8	100.0	6.17	40613	48584.17	230.42	485.84	-
1560.0	13.6	110.0	6.90	45903	51267.37	268.32	466.07	-
1570.0	12.2	120.0	7.72	51795	54256.26	298.89	452.14	-
1580.0	12.4	130.0	8.53	57601	57201.20	294.49	440.01	-
1590.0	13.1	140.0	9.29	63109	59994.78	279.36	428.53	-
1600.0	12.6	150.0	10.08	68807	62884.93	289.02	419.23	-
1610.0	13.1	160.0	10.85	74307	65674.65	278.97	410.47	-
1620.0	14.3	170.0	11.55	79351	68233.08	255.84	401.37	-
1630.0	10.2	180.0	12.53	86421	71819.14	358.61	399.00	-
1640.0	9.8	190.0	13.55	93755	75539.11	372.00	397.57	-
1650.0	13.5	200.0	14.29	99091	78245.81	270.67	391.23	-
1660.0	15.4	210.0	14.94	103761	80614.54	236.87	383.88	-
1670.0	17.4	220.0	15.51	107897	82712.41	209.79	375.97	-
1680.0	14.6	230.0	16.20	112839	85219.10	250.67	370.52	-
1690.0	15.5	240.0	16.84	117493	87579.71	236.06	364.92	-
1700.0	15.4	250.0	17.49	122166	89950.09	237.04	359.80	-
1710.0	16.5	260.0	18.10	126524	92160.56	221.05	354.46	-
1720.0	17.0	270.0	18.69	130752	94304.99	214.44	349.28	-
1730.0	13.0	280.0	19.45	136278	97107.90	280.29	346.81	-
1740.0	12.6	290.0	20.25	141996	100008.20	290.03	344.86	-
1750.0	14.8	300.0	20.92	146874	102482.27	247.41	341.61	-
1760.0	15.4	310.0	21.57	151558	104858.10	237.58	338.25	-
1770.0	14.1	320.0	22.28	156664	107447.97	258.99	335.77	-
1780.0	10.9	330.0	23.20	163256	110791.58	334.36	335.73	-
1790.0	12.9	340.0	23.98	168848	113627.97	283.64	334.20	-
1800.0	14.0	350.0	24.69	173977	116229.64	260.17	332.08	-
1810.0	16.2	360.0	25.31	178435	118490.83	226.12	329.14	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1820.0	13.3	370.0	26.06	183836	121230.34	273.95	327.65	-
1830.0	11.2	380.0	26.95	190292	124504.97	327.46	327.64	-
1840.0	14.0	390.0	27.67	195452	127122.23	261.73	325.95	-
1850.0	16.7	400.0	28.27	199776	129315.46	219.32	323.29	-
1860.0	20.8	410.0	28.75	203232	131068.42	175.30	319.68	-
1870.0	22.4	420.0	29.20	206444	132697.62	162.92	315.95	-
1880.0	24.7	430.0	29.60	209354	134173.68	147.61	312.03	-
1890.0	23.4	440.0	30.03	212432	135734.91	156.12	308.49	-
1900.0	26.4	450.0	30.41	215164	137120.64	138.57	304.71	-
1910.0	23.3	460.0	30.84	218248	138684.92	156.43	301.49	-
1920.0	16.2	470.0	31.46	222702	140944.08	225.92	299.88	-
1930.0	17.7	480.0	32.02	226764	143004.42	206.03	297.93	-
1940.0	22.1	490.0	32.47	230024	144657.99	165.36	295.22	-
1950.0	20.7	500.0	32.96	233508	146425.00	176.70	292.85	-
1960.0	17.5	510.0	33.53	237626	148513.75	208.87	291.20	-
1970.0	15.7	520.0	34.16	242200	150833.78	232.00	290.06	-
1980.0	21.3	530.0	34.63	245584	152550.22	171.64	287.83	-
1990.0	22.6	540.0	35.08	248768	154165.22	161.50	285.49	-
2000.0	21.0	550.0	35.55	252198	155904.99	173.98	283.46	-
2010.0	19.4	560.0	36.07	255915	157790.33	188.53	281.77	-
2020.0	20.8	570.0	36.55	259379	159547.35	175.70	279.91	-
2030.0	19.1	580.0	37.07	263151	161460.59	191.32	278.38	-
2040.0	19.8	590.0	37.58	266793	163307.90	184.73	276.79	-
2050.0	23.6	600.0	38.00	269841	164853.91	154.60	274.76	-
2060.0	16.8	610.0	38.60	274139	167033.95	218.00	273.83	-
2070.0	15.5	620.0	39.25	278797	169396.59	236.26	273.22	-
2080.0	20.5	630.0	39.74	282318	171182.26	178.57	271.72	-

BIT NUMBER	6	IADC CODE	114	INTERVAL	2080.0- 2302.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 18
COST	2381.00	TRIP TIME	6.9	BIT RUN	222.0
TOTAL HOURS	5.93	TOTAL TURNS	55875	CONDITION	T1 B3 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2090.0	24.6	10.0	0.41	3908	29066.47	149	2907	-
2100.0	32.4	20.0	0.72	6871	30193.52	113	1510	-
2110.0	34.2	30.0	1.01	9676	31260.56	107	1042	-
2120.0	41.4	40.0	1.25	11995	32142.98	88.24	803.57	-
2130.0	43.7	50.0	1.48	14193	32978.88	83.59	659.58	-
2140.0	39.3	60.0	1.73	16633	33907.10	92.82	565.12	-
2150.0	42.5	70.0	1.97	18894	34767.35	86.02	496.68	
2160.0	42.5	80.0	2.20	21151	35626.17	85.88	445.33	-
2170.0	44.0	90.0	2.43	23286	36457.00	83.08	405.08	-
2180.0	53.3	100.0	2.62	25033	37142.77	68.58	371.43	-
2190.0	52.1	110.0	2.81	26818	37843.75	70.10	344.03	-
2200.0	51.1	120.0	3.01	28636	38557.92	71.42	321.32	
2210.0	51.1	130.0	3.20	30455	39272.08	71.42	302.09	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2220.0	37.9	140.0	3.47	32910	40236.31	96.42	287.40	-
2230.0	44.6	150.0	3.69	34995	41054.97	81.87	273.70	-
2240.0	31.8	160.0	4.00	37921	42203.83	114.89	263.77	-
2250.0	34.1	170.0	4.30	40649	43275.08	107.13	254.56	-
2260.0	40.6	180.0	4.54	42938	44173.88	89.88	245.41	-
2270.0	38.4	190.0	4.80	45358	45124.41	95.05	237.50	-
2280.0	26.8	200.0	5.18	48829	46487.32	136.29	232.44	-
2290.0	34.8	210.0	5.46	51503	47537.27	105.00	226.37	-
2300.0	25.5	220.0	5.86	55145	48967.64	143.04	222.58	-
2302.0	25.5	222.0	5.93	55875	49254.05	143.21	221.87	-

BIT NUMBER	7	IADC CODE	114	INTERVAL	2302.0- 2396.0
HTC X3A		SIZE	12.250	NOZZLES	18 28 28
COST	2381.00	TRIP TIME	7.1	BIT RUN	94.0
TOTAL HOURS	10.49	TOTAL TURNS	220305	CONDITION	T1 B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2310.0	8.6	8.0	0.93	19559	31711.68	425	3964	-
2320.0	9.2	18.0	2.02	42356	35676.10	396	1982	-
2330.0	10.6	28.0	2.96	62174	39122.53	345	1397	-
2340.0	7.8	38.0	4.25	89196	43821.72	470	1153	-
2350.0	8.9	48.0	5.37	112760	47919.77	409.80	998.33	-
2360.0	10.2	58.0	6.35	133261	51484.97	356.52	887.67	-
2370.0	10.5	68.0	7.30	153356	54979.59	349.46	808.52	-
2380.0	7.5	78.0	8.63	181225	59826.14	484.65	767.00	-
2390.0	8.5	88.0	9.81	205912	64119.25	429.31	728.63	-
2396.0	8.8	94.0	10.49	220305	66622.25	417.17	708.75	-

BIT NUMBER	7	IADC CODE	114	INTERVAL	2396.0- 2483.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 18
COST	0.00	TRIP TIME	7.3	BIT RUN	87.0
TOTAL HOURS	18.12	TOTAL TURNS	278646	CONDITION	T2 B2 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2400.0	21.6	98.0	10.67	221809	65644.14	168.76	669.84	-
2410.0	18.6	108.0	11.21	226647	67607.09	196.30	625.99	-
2420.0	17.7	118.0	11.78	231729	69669.45	206.24	590.42	-
2430.0	21.4	128.0	12.25	235942	71378.79	170.93	557.65	-
2440.0	11.4	138.0	13.12	242679	74585.96	320.72	540.48	-
2450.0	8.3	148.0	14.33	251348	78982.98	439.70	533.67	-
2460.0	7.5	158.0	15.66	260967	83861.71	487.87	530.77	-
2470.0	8.2	168.0	16.88	269732	88307.50	444.58	525.64	-
2480.0	10.7	178.0	17.82	276469	91725.06	341.76	515.31	-
2483.0	9.9	181.0	18.12	278646	92828.90	367.95	512.87	-

BIT NUMBER	8	IADC CODE	114	INTERVAL	2483.0- 2545.0
HTC X3A		SIZE	8.500	NOZZLES	12 12 12
COST	1373.00	TRIP TIME	7.4	BIT RUN	62.0
TOTAL HOURS	7.02	TOTAL TURNS	44770	CONDITION	T4 B8 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2490.0	10.2	7.0	0.68	3489	30895.98	357	4414	-
2500.0	9.0	17.0	1.79	10230	34932.38	404	2055	-
2510.0	7.8	27.0	3.07	18682	39608.97	468	1467	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2520.0	10.1	37.0	4.06	25245	43240.68	363	1169	-
2530.0	10.6	47.0	5.01	31471	46685.74	344.51	993.31	-
2540.0	11.9	57.0	5.85	37028	49760.52	307.48	872.99	-
2545.0	4.3	62.0	7.02	44770	54044.52	856.80	871.69	-

BIT NUMBER	9	IADC CODE	114	INTERVAL	2545.0- 2588.0
HTC X3A		SIZE	8.500	NOZZLES	12 12 12
COST	1373.00	TRIP TIME	7.5	BIT RUN	43.0
TOTAL HOURS	2.72	TOTAL TURNS	18776	CONDITION	T2 B2 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2550.0	12.0	5.0	0.42	2866	30280.16	303	6056	-
2560.0	16.5	15.0	1.02	7044	32491.28	221	2166	-
2570.0	16.0	25.0	1.65	11365	34778.01	229	1391	-
2580.0	16.6	35.0	2.25	15510	36972.26	219	1056	-
2588.0	16.9	43.0	2.72	18776	38700.87	216.08	900.02	-

BIT NUMBER	9	IADC CODE	4	INTERVAL	2588.0- 2597.4
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	10897.00	TRIP TIME	7.5	BIT RUN	9.4
TOTAL HOURS	4.76	TOTAL TURNS	19128	CONDITION	T0 B0 G0.050

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2590.0	2.2	2.0	0.89	4466	41554.53	1634	20777	-
2597.4	1.9	9.4	4.76	19128	55676.61	1908	5923	-

BIT NUMBER	10	IADC CODE	517	INTERVAL	2597.4- 2742.2
HTC J22		SIZE	8.500	NOZZLES	12 12 12
COST	4139.00	TRIP TIME	7.7	BIT RUN	144.8
TOTAL HOURS	23.53	TOTAL TURNS	105870	CONDITION	T2 B3 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2600.0	4.1	2.6	0.64	2876	34593.64	898	13305	-
2610.0	5.1	12.6	2.61	11740	41787.06	719	3316	-
2620.0	5.4	22.6	4.47	20110	48579.78	679	2150	-
2630.0	5.3	32.6	6.35	28556	55434.38	685	1700	-
2640.0	5.9	42.6	8.03	36140	61589.02	615	1446	-
2650.0	5.9	52.6	9.74	43816	67818.14	623	1289	-
2660.0	6.7	62.6	11.23	50527	73264.69	545	1170	-
2670.0	6.5	72.6	12.78	57501	78924.28	566	1087	-
2680.0	6.5	82.6	14.32	64418	84538.21	561	1023	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2690.0	7.5	92.6	15.66	70456	89437.98	489.98	965.85	-
2700.0	7.2	102.6	17.05	76738	94536.58	509.86	921.41	-
2710.0	7.4	112.6	18.41	82857	99502.54	496.60	883.68	-
2720.0	6.8	122.6	19.88	89440	104844.60	534.21	855.18	-
2730.0	6.3	132.6	21.45	96527	110596.50	575.19	834.06	-
2740.0	5.9	142.6	23.14	104146	116779.54	618.30	818.93	-
2742.2	5.7	144.8	23.53	105870	118179.14	636.18	816.15	-

BIT NUMBER	10	IADC CODE	4	INTERVAL	2742.2- 2751.4
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	7.8	BIT RUN	9.2
TOTAL HOURS	4.60	TOTAL TURNS	23082	CONDITION	T0 B0 G0.150

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2750.0	2.0	7.8	3.86	19075	42573.19	1806	5458	-
2751.4	1.9	9.2	4.60	23082	45282.77	1935	4922	-

BIT NUMBER	11	IADC CODE	517	INTERVAL	2751.4- 2887.0
HTC J22		SIZE	8.500	NOZZLES	12 12 12
COST	4139.00	TRIP TIME	8.2	BIT RUN	135.6
TOTAL HOURS	16.35	TOTAL TURNS	73588	CONDITION	T2 B4 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2760.0	5.8	8.6	1.49	6687	39511.90	631	4594	-
2770.0	9.7	18.6	2.52	11325	43276.50	376	2327	-
2780.0	9.3	28.6	3.59	16145	47188.00	391	1650	-
2790.0	8.9	38.6	4.71	21178	51272.16	408	1328	-
2800.0	9.9	48.6	5.71	25708	54948.50	368	1131	-
2810.0	13.0	58.6	6.48	29170	57758.51	281.00	985.64	-
2820.0	14.5	68.6	7.17	32281	60283.47	252.50	878.77	-
2830.0	13.0	78.6	7.94	35752	63099.97	281.65	802.80	-
2840.0	10.4	88.6	8.90	40065	66600.61	350.06	751.70	-
2850.0	6.6	98.6	10.42	46904	72150.53	554.99	731.75	-
2860.0	11.6	108.6	11.28	50769	75287.20	313.67	693.25	-
2870.0	6.1	118.6	12.91	58098	81234.88	594.77	684.95	-
2880.0	7.9	128.6	14.17	63759	85829.30	459.44	667.41	-
2887.0	3.2	135.6	16.35	73588	93805.88	1140	692	+

BIT NUMBER	12	IADC CODE	517	INTERVAL	2887.0- 2984.0
HTC J22		SIZE	8.500	NOZZLES	12 12 12
COST	4139.00	TRIP TIME	8.4	BIT RUN	97.0
TOTAL HOURS	23.56	TOTAL TURNS	115233	CONDITION	T3 B4 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2890.0	2.5	3.0	1.18	5464	39119.19	1434	13040	-
2900.0	3.3	13.0	4.21	21109	50191.93	1107	3861	-
2910.0	6.3	23.0	5.81	29364	56034.62	584	2436	-
2920.0	6.4	33.0	7.38	37479	61778.15	574	1872	-
2930.0	4.7	43.0	9.52	48504	69581.26	780	1618	-
2940.0	4.2	53.0	11.91	60822	78299.39	872	1477	-
2950.0	3.2	63.0	15.04	76923	89747.91	1145	1425	-
2960.0	4.1	73.0	17.51	88011	98746.04	900	1353	-
2970.0	4.7	83.0	19.63	97566	106500.45	775	1283	-
2980.0	3.6	93.0	22.38	109954	116554.61	1005	1253	-
2984.0	3.4	97.0	23.56	115233	120838.72	1071	1246	-

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INTERVAL	10m averages.
DEPTH.	Well depth, in metres.
FLOW RATE.	Mud flow into the well, in gallons per minute.
PSP.	Pump pressure, in pounds per square inch.
PBIT	Bit pressure drop, in pounds per square inch.
%PSP	Percentage of surface pressure dropped at the bit.
H.H.P.	Bit hydraulic horsepower.
HHP/SQ IN.	Bit hydraulic horsepower per square inch of bit diameter.
IMPACT FORCE	Bit impact force, in foot-pounds per second squared.
JET VELOCITY	Mud velocity through the bit nozzles, in metres per second.

BIT NUMBER	1	IADC CODE	111	INTERVAL	86.0- 224.0
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	18 18 18
COST	0.00	TRIP TIME	3.4	BIT RUN	138.0
TOTAL HOURS	4.23	TOTAL TURNS	23433	CONDITION	T2 B4 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
90.0	1065	1455.1	1615.0	111.0	1003	1.89	2172	139
100.0	1066	1455.5	1620.3	111.3	1008	1.90	2179	140
110.0	1068	1454.7	1624.9	111.7	1012	1.91	2185	140
120.0	1089	1484.3	1690.8	113.9	1075	2.02	2274	143
130.0	1091	1272.0	1695.4	133.3	1079	2.03	2280	143
140.0	1093	1342.5	1701.6	126.7	1085	2.04	2288	143
150.0	786	877.0	881.0	100.5	404	0.76	1185	103
160.0	1070	1437.8	1632.4	113.5	1019	1.92	2195	140
170.0	1081	1475.4	1665.8	112.9	1051	1.98	2240	141
180.0	1083	1502.8	1670.4	111.2	1055	1.99	2246	142
190.0	1088	1505.5	1688.3	112.1	1072	2.02	2270	142
200.0	1084	1511.3	1675.1	110.8	1060	2.00	2253	142
210.0	1075	1484.1	1648.2	111.1	1034	1.95	2216	141
220.0	1080	1510.1	1661.0	110.0	1046	1.97	2234	141
224.0	1081	1517.1	1666.3	109.8	1051	1.98	2241	141

BIT NUMBER	1	IADC CODE	111	INTERVAL	224.2- 817.6
HTC 3AJ		SIZE	17.500	NOZZLES	18 18 18
COST	4857.00	TRIP TIME	3.7	BIT RUN	593.4
TOTAL HOURS	8.69	TOTAL TURNS	75809	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
230.0	183	317.8	47.9	15.1	5	0.02	64	24
240.0	1023	1949.6	1491.0	76.5	890	3.70	2005	134
250.0	1025	2110.3	1496.9	70.9	895	3.72	2013	134
260.0	1033	2201.7	1519.4	69.0	915	3.81	2043	135
270.0	1031	2230.7	1513.9	67.9	910	3.79	2036	135
280.0	1030	2235.5	1529.7	68.4	919	3.82	2057	135
290.0	1032	2321.4	1536.7	66.2	926	3.85	2066	135
300.0	1023	2338.8	1507.7	64.5	900	3.74	2027	134
310.0	1026	2409.7	1517.4	63.0	908	3.78	2040	134
320.0	1024	2458.1	1512.2	61.5	904	3.76	2033	134
330.0	1031	2512.2	1533.0	61.0	922	3.83	2061	135
340.0	1033	2506.2	1538.7	61.4	927	3.86	2069	135
350.0	1036	2521.9	1546.8	61.3	935	3.89	2080	136
360.0	1034	2517.9	1559.6	61.9	941	3.91	2097	135
370.0	1039	2525.6	1573.4	62.3	954	3.96	2116	136
380.0	1032	2515.1	1554.5	61.8	936	3.89	2090	135
390.0	1030	2552.9	1545.8	60.6	929	3.86	2079	135
400.0	1034	2546.2	1557.7	61.2	939	3.91	2095	135

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
410.0	1031	2415.2	1551.2	64.2	933	3.88	2086	135
420.0	1034	2487.1	1557.7	62.6	939	3.91	2095	135
430.0	1033	2516.0	1572.0	62.5	947	3.94	2114	135
440.0	1037	2544.1	1583.4	62.2	958	3.98	2129	136
450.0	1030	2519.1	1561.8	62.0	938	3.90	2100	135
460.0	1031	2505.9	1565.5	62.5	942	3.91	2105	135
470.0	1036	2567.4	1581.9	61.6	956	3.98	2127	136
480.0	1026	2549.5	1551.5	60.9	929	3.86	2086	134
490.0	1035	2539.6	1576.7	62.1	952	3.96	2120	135
500.0	1037	2557.5	1584.1	61.9	958	3.98	2130	136
510.0	1039	2551.5	1591.0	62.4	965	4.01	2139	136
520.0	1041	2610.1	1595.4	61.1	969	4.03	2145	136
530.0	1043	2559.3	1601.0	62.6	974	4.05	2153	136
540.0	1037	2582.3	1584.2	61.3	958	3.98	2130	136
550.0	1037	2595.7	1583.6	61.0	958	3.98	2130	136
560.0	1042	2639.0	1600.3	60.6	973	4.05	2152	136
570.0	1035	2573.4	1579.0	61.4	954	3.97	2123	135
580.0	1040	2623.7	1591.8	60.7	965	4.01	2141	136
590.0	1035	2621.5	1578.9	60.2	954	3.97	2123	135
600.0	1039	2569.0	1589.2	61.9	963	4.00	2137	136
610.0	1040	2632.6	1592.8	60.5	966	4.02	2142	136
620.0	1043	2627.8	1601.3	60.9	974	4.05	2153	136
630.0	1035	2633.8	1579.1	60.0	954	3.97	2123	135
640.0	1037	2652.0	1584.7	59.8	959	3.99	2131	136
650.0	1043	2689.0	1602.6	59.6	975	4.05	2155	136
660.0	1037	2631.0	1584.4	60.2	959	3.99	2131	136
670.0	1037	2673.7	1584.3	59.3	959	3.99	2130	136
680.0	1027	2628.2	1552.7	59.1	930	3.87	2088	134
690.0	1036	2695.4	1582.1	58.7	957	3.98	2128	136
700.0	1031	2662.4	1586.3	59.6	955	3.97	2133	135
710.0	1040	2722.1	1612.7	59.2	978	4.07	2169	136
720.0	1036	2728.4	1599.8	58.6	967	4.02	2151	136
730.0	1031	2711.1	1586.7	58.5	955	3.97	2134	135
740.0	1027	2676.0	1573.5	58.8	943	3.92	2116	134
750.0	1029	2693.1	1578.0	58.6	947	3.94	2122	135
760.0	1037	2743.6	1603.4	58.4	970	4.03	2156	136
770.0	1032	2732.2	1587.9	58.1	956	3.97	2135	135
780.0	1020	2674.9	1552.3	58.0	924	3.84	2087	133
790.0	1029	2711.1	1579.0	58.2	948	3.94	2123	135
800.0	1033	2737.0	1592.2	58.2	960	3.99	2141	135
810.0	1027	2715.0	1571.5	57.9	941	3.91	2113	134
817.6	1025	2714.1	1566.9	57.7	937	3.90	2107	134

BIT NUMBER	2	IADC CODE	114	INTERVAL	817.6- 1001.3
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2381.00	TRIP TIME	4.2	BIT RUN	183.7
TOTAL HOURS	4.21	TOTAL TURNS	32070	CONDITION	T2 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
820.0	802	1961.5	958.7	48.9	448	3.80	1289	105
830.0	1053	3154.4	1616.9	51.3	993	8.43	2174	138
840.0	1034	3113.1	1559.6	50.1	941	7.98	2097	135
850.0	1018	2996.5	1510.4	50.4	897	7.61	2031	133
860.0	1006	2873.4	1475.1	51.3	866	7.34	1984	132
870.0	1016	2934.6	1486.1	50.6	881	7.47	1998	133
880.0	1014	2922.0	1481.6	50.7	877	7.44	1992	133
890.0	628	1000.0	567.9	56.8	208	1.77	764	82
900.0	574	1050.0	474.1	45.2	159	1.35	638	75
910.0	1023	2945.0	1507.3	51.2	900	7.63	2027	134
920.0	1008	2879.4	1462.0	50.8	859	7.29	1966	132
930.0	1018	2929.5	1492.9	51.0	887	7.52	2007	133
940.0	1001	2820.6	1442.8	51.2	843	7.15	1940	131
950.0	1006	2864.2	1457.0	50.9	855	7.25	1959	132
960.0	993	2884.7	1420.7	49.2	823	6.99	1910	130
970.0	993	2920.0	1421.2	48.7	823	6.99	1911	130
980.0	991	3051.9	1413.7	46.3	817	6.93	1901	130
990.0	986	3022.4	1399.6	46.3	805	6.83	1882	129
1000.0	988	3000.0	1406.8	46.9	811	6.88	1892	129
1001.3	987	3004.2	1403.3	46.7	808	6.86	1887	129

BIT NUMBER	3	IADC CODE	114	INTERVAL	1001.3- 1151.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 32
COST	2381.00	TRIP TIME	4.8	BIT RUN	149.7
TOTAL HOURS	8.76	TOTAL TURNS	236560	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1010.0	559	1365.8	152.2	11.1	50	0.42	352	43
1020.0	555	1387.9	155.3	11.2	50	0.43	359	42
1030.0	562	1391.4	159.3	11.4	52	0.44	368	43
1040.0	561	1432.5	158.7	11.1	52	0.44	367	43
1050.0	554	1500.0	154.9	10.3	50	0.43	358	42
1060.0	539	1360.0	146.6	10.8	46	0.39	339	41
1070.0	539	1236.0	146.6	11.9	46	0.39	339	41
1080.0	539	1236.0	146.6	11.9	46	0.39	339	41
1090.0	539	1236.0	146.6	11.9	46	0.39	339	41
1100.0	539	1236.0	146.6	11.9	46	0.39	339	41
1110.0	539	1236.0	146.6	11.9	46	0.39	339	41
1120.0	534	1724.0	143.9	8.3	45	0.38	333	41
1130.0	534	1724.0	143.9	8.3	45	0.38	333	41

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1140.0	534	1724.0	143.9	8.3	45	0.38	333	41
1150.0	534	1724.0	143.9	8.3	45	0.38	333	41
1151.0	534	1724.0	143.9	8.3	45	0.38	333	41

BIT NUMBER	3	IADC CODE	114	INTERVAL	1151.0- 1252.5
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	0.00	TRIP TIME	4.5	BIT RUN	101.5
TOTAL HOURS	12.87	TOTAL TURNS	258476	CONDITION	T4 B3 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1160.0	862	2800.0	1107.7	39.6	557	4.73	1490	113
1170.0	857	2760.0	1094.8	39.7	547	4.64	1472	112
1180.0	958	3136.0	1367.6	43.6	764	6.48	1839	125
1190.0	953	3150.0	1353.2	43.0	752	6.38	1820	125
1200.0	952	3098.7	1350.4	43.6	750	6.36	1816	124
1210.0	954	3115.6	1357.9	43.6	756	6.41	1826	125
1220.0	966	3163.6	1393.0	44.0	785	6.66	1873	126
1230.0	966	3180.2	1375.5	43.3	775	6.58	1850	126
1240.0	960	3182.9	1358.9	42.7	761	6.46	1827	126
1250.0	963	3150.0	1382.0	43.9	776	6.59	1858	126
1252.5	964	3175.9	1384.9	43.6	779	6.61	1862	126

BIT NUMBER	4	IADC CODE	114	INTERVAL	1252.5- 1450.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2381.00	TRIP TIME	5.1	BIT RUN	197.5
TOTAL HOURS	10.24	TOTAL TURNS	91867	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1260.0	911	3010.9	1238.5	41.1	658	5.59	1665	119
1270.0	917	3000.0	1282.7	42.8	686	5.82	1725	120
1280.0	915	2979.2	1276.3	42.8	682	5.78	1716	120
1290.0	930	3078.7	1317.6	42.8	715	6.07	1772	122
1300.0	916	3049.7	1278.0	41.9	683	5.80	1719	120
1310.0	912	3006.8	1267.8	42.2	675	5.73	1705	119
1320.0	925	3086.5	1303.2	42.2	703	5.97	1752	121
1330.0	907	2982.0	1251.9	42.0	662	5.62	1683	119
1340.0	920	3063.1	1289.2	42.1	692	5.87	1734	120
1350.0	919	3050.7	1286.8	42.2	690	5.86	1730	120
1360.0	916	3024.5	1278.8	42.3	684	5.80	1720	120
1370.0	917	3056.0	1281.3	41.9	685	5.81	1723	120
1380.0	919	3072.1	1287.0	41.9	690	5.85	1731	120
1390.0	917	3040.2	1283.2	42.2	687	5.83	1725	120
1400.0	918	3043.3	1285.4	42.2	689	5.84	1728	120
1410.0	898	2902.5	1229.6	42.4	644	5.47	1653	117

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1420.0	933	3179.9	1326.3	41.7	722	6.12	1784	122
1430.0	937	3187.4	1337.9	42.0	731	6.20	1799	123
1440.0	939	3196.0	1344.0	42.1	736	6.25	1807	123
1450.0	938	3185.6	1341.1	42.1	734	6.23	1803	123

BIT NUMBER	5	IADC CODE	116	INTERVAL	1450.0- 2080.0
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	6.4	BIT RUN	630.0
TOTAL HOURS	39.74	TOTAL TURNS	282318	CONDITION	T3 B8 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1460.0	914	3232.8	1274.3	39.4	680	5.77	1714	120
1470.0	874	2978.9	1165.2	39.1	594	5.04	1567	114
1480.0	871	2952.4	1157.8	39.2	589	4.99	1557	114
1490.0	874	2972.0	1164.6	39.2	594	5.04	1566	114
1500.0	879	2984.6	1176.6	39.4	603	5.12	1582	115
1510.0	869	2935.6	1150.4	39.2	583	4.95	1547	114
1520.0	867	2934.5	1144.8	39.0	579	4.91	1539	113
1530.0	871	2944.7	1155.6	39.2	587	4.98	1554	114
1540.0	860	2939.5	1127.6	38.4	566	4.80	1516	113
1550.0	842	2792.4	1080.0	38.7	530	4.50	1452	110
1560.0	859	2905.8	1123.9	38.7	563	4.78	1511	112
1570.0	858	2931.3	1121.8	38.3	561	4.76	1508	112
1580.0	864	2957.1	1129.8	38.2	569	4.83	1519	113
1590.0	858	2911.6	1114.3	38.3	558	4.73	1498	112
1600.0	860	2933.5	1120.6	38.2	562	4.77	1507	113
1610.0	862	2944.8	1109.2	37.7	558	4.74	1492	113
1620.0	879	3056.1	1153.6	37.7	592	5.02	1551	115
1630.0	881	3089.8	1157.8	37.5	595	5.05	1557	115
1640.0	879	3098.0	1152.1	37.2	591	5.01	1549	115
1650.0	870	3057.6	1128.2	36.9	572	4.86	1517	114
1660.0	876	3096.2	1145.0	37.0	585	4.97	1540	115
1670.0	877	3127.2	1146.3	36.7	586	4.97	1541	115
1680.0	875	3128.8	1142.4	36.5	583	4.95	1536	115
1690.0	879	3156.8	1153.2	36.5	592	5.02	1551	115
1700.0	873	3131.1	1135.4	36.3	578	4.90	1527	114
1710.0	869	3133.1	1127.4	36.0	572	4.85	1516	114
1720.0	876	3107.9	1143.8	36.8	584	4.96	1538	115
1730.0	865	3056.4	1116.1	36.5	563	4.78	1501	113
1740.0	747	2412.3	832.4	34.5	363	3.08	1119	98
1750.0	578	1416.1	497.7	35.1	168	1.42	669	76
1760.0	862	3063.5	1108.0	36.2	557	4.73	1490	113
1770.0	861	3058.2	1117.6	36.5	561	4.76	1503	113
1780.0	862	3044.9	1119.2	36.8	563	4.77	1505	113
1790.0	857	3042.2	1106.9	36.4	553	4.69	1488	112
1800.0	862	3064.4	1107.8	36.1	557	4.73	1490	113
1810.0	862	3065.0	1106.9	36.1	556	4.72	1488	113

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1820.0	857	3044.1	1095.9	36.0	548	4.65	1474	112
1830.0	858	3064.0	1097.7	35.8	549	4.66	1476	112
1840.0	842	3012.4	1056.8	35.1	519	4.40	1421	110
1850.0	850	3052.0	1077.7	35.3	535	4.54	1449	111
1860.0	853	3034.6	1085.1	35.8	540	4.58	1459	112
1870.0	868	3150.1	1123.4	35.7	569	4.83	1511	114
1880.0	866	3132.2	1117.8	35.7	565	4.79	1503	113
1890.0	865	3127.3	1115.2	35.7	563	4.77	1500	113
1900.0	864	3158.0	1113.8	35.3	562	4.76	1498	113
1910.0	855	3117.6	1103.1	35.4	550	4.67	1483	112
1920.0	725	2352.5	792.8	33.7	335	2.85	1066	95
1930.0	556	1381.7	461.4	33.4	150	1.27	620	73
1940.0	587	1557.0	520.5	33.4	178	1.51	700	77
1950.0	608	1646.8	557.5	33.9	198	1.68	750	80
1960.0	846	3169.6	1080.3	34.1	534	4.53	1453	111
1970.0	845	3147.1	1077.5	34.2	531	4.51	1449	111
1980.0	848	3176.0	1084.2	34.1	536	4.55	1458	111
1990.0	535	1314.5	432.0	32.9	135	1.14	581	70
2000.0	566	1386.9	483.5	34.9	160	1.36	650	74
2010.0	838	3092.6	1058.7	34.2	518	4.39	1424	110
2020.0	840	3141.0	1076.2	34.3	528	4.48	1447	110
2030.0	837	3137.9	1068.6	34.1	522	4.43	1437	110
2040.0	828	3061.8	1046.3	34.2	506	4.29	1407	108
2050.0	832	3068.9	1065.9	34.7	517	4.39	1433	109
2060.0	830	3059.6	1060.9	34.7	514	4.36	1427	109
2070.0	817	2978.6	1028.6	34.5	490	4.16	1383	107
2080.0	825	2990.0	1048.1	35.1	504	4.28	1409	108

BIT NUMBER	6	IADC CODE	114	INTERVAL	2080.0- 2302.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 18
COST	2381.00	TRIP TIME	6.9	BIT RUN	222.0
TOTAL HOURS	5.93	TOTAL TURNS	55875	CONDITION	T1 B3 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2090.0	774	3131.1	1235.3	39.5	558	4.73	1429	118
2100.0	779	3151.4	1249.0	39.6	567	4.81	1445	118
2110.0	778	3215.2	1244.7	38.7	565	4.79	1440	118
2120.0	786	3253.7	1270.9	39.1	583	4.94	1470	120
2130.0	771	3209.4	1222.4	38.1	550	4.66	1414	117
2140.0	773	3202.5	1230.9	38.4	555	4.71	1424	118
2150.0	771	3224.1	1223.9	38.0	551	4.67	1416	117
2160.0	754	3057.0	1185.7	38.8	522	4.43	1371	115
2170.0	760	3066.2	1204.6	39.3	534	4.53	1393	116
2180.0	759	3083.0	1200.3	38.9	532	4.51	1388	115
2190.0	750	3037.5	1171.4	38.6	512	4.35	1355	114
2200.0	756	3086.4	1190.4	38.6	525	4.45	1377	115
2210.0	554	1715.3	638.3	37.2	206	1.75	738	84

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2220.0	571	1816.8	678.4	37.3	226	1.92	785	87
2230.0	547	1697.5	623.1	36.7	199	1.69	721	83
2240.0	539	1698.9	604.5	35.6	190	1.61	699	82
2250.0	517	1641.1	557.8	34.0	168	1.43	645	79
2260.0	742	3043.0	1147.4	37.7	497	4.22	1327	113
2270.0	750	3080.4	1171.4	38.0	512	4.35	1355	114
2280.0	746	3114.3	1158.5	37.2	504	4.28	1340	113
2290.0	736	3113.4	1140.6	36.6	490	4.16	1319	112
2300.0	746	3109.0	1170.8	37.7	509	4.32	1354	113
2302.0	745	3102.0	1167.8	37.6	507	4.30	1351	113

BIT NUMBER	7	IADC CODE	114	INTERVAL	2302.0- 2396.0
HTC X3A		SIZE	12.250	NOZZLES	18 28 28
COST	2381.00	TRIP TIME	7.1	BIT RUN	94.0
TOTAL HOURS	10.49	TOTAL TURNS	220305	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2310.0	535	1558.0	117.6	7.5	37	0.31	308	36
2320.0	535	1560.0	117.6	7.5	37	0.31	308	36
2330.0	535	1580.0	117.6	7.4	37	0.31	308	36
2340.0	525	1587.0	113.2	7.1	35	0.29	296	35
2350.0	530	1506.0	114.2	7.6	35	0.30	299	36
2360.0	530	1506.0	114.2	7.6	35	0.30	299	36
2370.0	530	1263.0	114.2	9.0	35	0.30	299	36
2380.0	525	1324.0	112.0	8.5	34	0.29	293	35
2390.0	525	1548.0	112.0	7.2	34	0.29	293	35
2396.0	525	1574.0	112.0	7.1	34	0.29	293	35

BIT NUMBER	7	IADC CODE	114	INTERVAL	2396.0- 2483.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 18
COST	0.00	TRIP TIME	7.3	BIT RUN	87.0
TOTAL HOURS	18.12	TOTAL TURNS	278646	CONDITION	T2 B2 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2400.0	693	2738.6	1010.9	36.9	409	3.47	1169	105
2410.0	723	2898.6	1099.0	37.9	463	3.93	1271	110
2420.0	713	2915.8	1068.0	36.6	444	3.77	1235	108
2430.0	719	2875.2	1087.4	37.8	456	3.87	1258	109
2440.0	679	2944.9	1134.4	38.5	449	3.81	1312	103
2450.0	680	2948.0	1128.1	38.3	447	3.80	1305	103
2460.0	670	2860.0	1095.2	38.3	428	3.63	1267	102
2470.0	665	2905.0	1078.9	37.1	418	3.55	1248	101
2480.0	660	2857.0	1062.7	37.2	409	3.47	1229	100
2483.0	665	2864.0	1078.9	37.7	418	3.55	1248	101

BIT NUMBER	8	IADC CODE	114	INTERVAL	2483.0- 2545.0
HTC X3A		SIZE	8.500	NOZZLES	12 12 12
COST	1373.00	TRIP TIME	7.4	BIT RUN	62.0
TOTAL HOURS	7.02	TOTAL TURNS	44770	CONDITION	T4 B8 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2490.0	385	2081.0	1267.3	60.9	285	5.01	757	113
2500.0	456	2666.8	1743.9	65.4	464	8.18	1042	134
2510.0	462	2690.6	1739.4	64.6	469	8.27	1040	136

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2520.0	468	2687.3	1760.7	65.5	480	8.46	1052	138
2530.0	465	2360.4	1740.9	73.8	472	8.32	1040	137
2540.0	463	2684.8	1730.6	64.5	467	8.24	1034	136
2545.0	467	2665.8	1777.6	66.7	485	8.54	1062	138

BIT NUMBER	9	IADC CODE	114	INTERVAL	2545.0- 2588.0
HTC X3A		SIZE	8.500	NOZZLES	12 12 12
COST	1373.00	TRIP TIME	7.5	BIT RUN	43.0
TOTAL HOURS	2.72	TOTAL TURNS	18776	CONDITION	T2 B2 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2550.0	470	2850.0	1777.6	62.4	487	8.59	1062	138
2560.0	464	2785.2	1743.6	62.6	472	8.32	1042	137
2570.0	463	2745.2	1733.6	63.1	468	8.25	1036	136
2580.0	461	2714.6	1713.1	63.1	461	8.12	1024	136
2588.0	456	2683.2	1676.0	62.5	446	7.86	1002	134

BIT NUMBER	9	IADC CODE	4	INTERVAL	2588.0- 2597.4
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	10897.00	TRIP TIME	7.5	BIT RUN	9.4
TOTAL HOURS	4.76	TOTAL TURNS	19128	CONDITION	T0 B0 G0.050

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2590.0	242	1014.6	212.2	20.9	30	0.53	190	48
2597.4	201	767.1	145.9	19.0	17	0.30	130	40

BIT NUMBER	10	IADC CODE	517	INTERVAL	2597.4- 2742.2
HTC J22		SIZE	8.500	NOZZLES	12 12 12
COST	4139.00	TRIP TIME	7.7	BIT RUN	144.8
TOTAL HOURS	23.53	TOTAL TURNS	105870	CONDITION	T2 B3 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2600.0	476	2778.7	1829.2	65.8	508	8.95	1093	140
2610.0	487	2854.2	1911.2	67.0	543	9.57	1142	143
2620.0	493	2926.9	1955.3	66.8	562	9.91	1169	145
2630.0	490	2885.0	1915.6	66.4	548	9.66	1145	144
2640.0	488	2861.9	1896.5	66.3	540	9.51	1133	144
2650.0	487	2845.0	1907.6	67.1	542	9.55	1140	143
2660.0	490	2873.3	1933.8	67.3	553	9.74	1156	144
2670.0	488	2840.1	1918.6	67.6	546	9.63	1147	144
2680.0	488	2844.5	1915.6	67.3	545	9.61	1145	14

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2690.0	488	2871.8	1916.3	66.7	545	9.61	1145	144
2700.0	488	2862.1	1916.9	67.0	546	9.62	1146	144
2710.0	487	2847.2	1911.4	67.1	543	9.57	1142	143
2720.0	489	2879.8	1927.8	66.9	550	9.70	1152	144
2730.0	486	2821.6	1902.6	67.4	540	9.51	1137	143
2740.0	488	2855.1	1901.4	66.6	542	9.55	1136	144
2742.2	490	2850.0	1911.9	67.1	546	9.63	1143	144

BIT NUMBER	10	IADC CODE	4	INTERVAL	2742.2- 2751.4
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	7.8	BIT RUN	9.2
TOTAL HOURS	4.60	TOTAL TURNS	23082	CONDITION	T0 B0 G0.150

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2750.0	284	1156.9	290.7	25.1	48	0.85	260	56
2751.4	285	1126.8	291.6	25.9	48	0.85	261	56

BIT NUMBER	11	IADC CODE	517	INTERVAL	2751.4- 2887.0
HTC J22		SIZE	8.500	NOZZLES	12 12 12
COST	4139.00	TRIP TIME	8.2	BIT RUN	135.6
TOTAL HOURS	16.35	TOTAL TURNS	73588	CONDITION	T2 B4 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2760.0	475	2877.2	1819.8	63.2	505	8.89	1088	140
2770.0	479	2916.0	1849.2	63.4	517	9.11	1105	141
2780.0	480	2930.6	1854.8	63.3	519	9.15	1109	141
2790.0	480	2945.8	1858.6	63.1	521	9.18	1111	141
2800.0	479	2936.7	1846.1	62.9	516	9.09	1103	141
2810.0	477	2918.0	1835.3	62.9	511	9.01	1097	141
2820.0	478	2955.0	1840.3	62.3	513	9.05	1100	141
2830.0	480	2950.0	1854.0	62.8	519	9.15	1108	141
2840.0	480	2950.0	1854.0	62.8	519	9.15	1108	141
2850.0	473	2905.0	1803.2	62.1	498	8.77	1078	139
2860.0	476	2910.6	1823.0	62.6	506	8.92	1090	140
2870.0	478	2944.1	1841.6	62.6	514	9.05	1101	141
2880.0	474	2877.1	1812.0	63.0	501	8.84	1083	140
2887.0	474	2878.4	1810.1	62.9	501	8.82	1082	140

BIT NUMBER	12	IADC CODE	517	INTERVAL	2887.0- 2984.0
HTC J22		SIZE	8.500	NOZZLES	12 12 12
COST	4139.00	TRIP TIME	8.4	BIT RUN	97.0
TOTAL HOURS	23.56	TOTAL TURNS	115233	CONDITION	T3 B4 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2890.0	480	2963.4	1858.3	62.7	521	9.18	1111	141
2900.0	483	2931.1	1881.9	64.2	531	9.35	1125	142
2910.0	485	2926.1	1890.6	64.6	534	9.42	1130	143
2920.0	480	2860.8	1853.0	64.8	519	9.14	1107	141
2930.0	482	2913.3	1872.6	64.3	527	9.28	1119	142
2940.0	482	2916.1	1874.8	64.3	528	9.30	1120	142
2950.0	476	2717.1	1827.5	67.3	508	8.95	1092	140
2960.0	472	2807.9	1795.7	64.0	495	8.72	1073	139
2970.0	483	2940.0	1876.0	63.8	528	9.31	1121	142
2980.0	480	2902.4	1855.3	63.9	520	9.16	1109	141
2984.0	477	2883.3	1835.5	63.7	511	9.01	1097	141

(f). COMPUTER DATA LISTING : LIST D

INTERVAL . . . . . 10m averages.

DEPTH . . . . . Well depth, in metres.

SPM1 . . . . . Stroke rate per minute, for Pump no.1

SPM2 . . . . . Stroke rate per minute, for Pump no.2.

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

ANNULAR VELOCITIES : (in metres per minute)

DC/OH - Between drill collars and the open hole.

DC/CSG - Between drill collars and casing.

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

HW/CSG - Between heavyweight drill pipe and casing.

DP/OH - Between drill pipe and open hole.

DP/CSG - Between drill pipe and casing.

DP/RIS - Between drill pipe and riser.

BIT NUMBER	1	IADC CODE	111	INTERVAL	86.0- 224.0
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	18 18 18
COST	0.00	TRIP TIME	3.4	BIT RUN	138.0
TOTAL HOURS	4.23	TOTAL TURNS	23433	CONDITION	T2 B4 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
90.0	104	107	1065	13				12		
100.0	105	107	1066	13				12		
110.0	105	107	1068	13				12		
120.0	106	110	1089	13				13		
130.0	106	111	1091	13				13		
140.0	106	111	1093	13				13		
150.0	53	103	786	10				9		
160.0	104	108	1070	13				12		
170.0	104	110	1081	13				12		
180.0	105	110	1083	13				12		
190.0	106	110	1088	13				12		
200.0	105	110	1084	13				12		
210.0	105	109	1075	13				12		
220.0	105	109	1080	13				12		
224.0	105	109	1081	13				12		

BIT NUMBER	1	IADC CODE	111	INTERVAL	224.2- 817.6
HTC 3AJ		SIZE	17.500	NOZZLES	18 18 18
COST	4857.00	TRIP TIME	3.7	BIT RUN	593.4
TOTAL HOURS	8.69	TOTAL TURNS	75809	CONDITION	T1 B1 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
230.0	18	19	183	6	5		4			3
240.0	98	105	1023	32	25		22			18
250.0	99	104	1025	32	25		22			18
260.0	100	104	1033	32	26		23			19
270.0	101	104	1031	32	26		23			19
280.0	101	104	1030	32	26		23			19
290.0	101	104	1032	32	26		23			19
300.0	99	104	1023	32	25		22			18
310.0	100	104	1026	32	25		23			18
320.0	101	103	1024	32	25		22		22	18
330.0	100	104	1031	32		27	23		23	19
340.0	101	104	1033	32		27	23		23	19
350.0	101	105	1036	32		28	23		23	19
360.0	101	104	1034	32		27	23		23	19
370.0	102	105	1039	32		28	23		23	19
380.0	101	104	1032	32		27	23		23	19
390.0	100	104	1030	32		27	23		23	18
400.0	101	104	1034	32		27	23		23	19

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
410.0	100	104	1031	32		27	23		23	19
420.0	101	104	1034	32		27	23		23	19
430.0	101	104	1033	32		27	23		23	19
440.0	101	104	1037	32		28		28	23	19
450.0	101	104	1030	32		27		27	23	18
460.0	100	104	1031	32		27		27	23	19
470.0	101	105	1036	32		28		28	23	19
480.0	100	103	1026	32		27		27	23	18
490.0	102	103	1035	32		27		27	23	19
500.0	102	104	1037	32		28		28	23	19
510.0	102	104	1039	32		28		28	23	19
520.0	102	104	1041	32		28		28	23	19
530.0	102	105	1043	32		28		28	23	19
540.0	102	104	1037	32		28		28	23	19
550.0	102	104	1037	32		28		28	23	19
560.0	102	105	1042	32		28		28	23	19
570.0	102	103	1035	32		28		28	23	19
580.0	102	104	1040	32		28		28	23	19
590.0	102	103	1035	32		28		28	23	19
600.0	102	104	1039	32		28		28	23	19
610.0	102	104	1040	32		28		28	23	19
620.0	102	105	1043	32		28		28	23	19
630.0	102	103	1035	32		28		28	23	19
640.0	102	104	1037	32		28		28	23	19
650.0	102	105	1043	32		28		28	23	19
660.0	102	104	1037	32		28		28	23	19
670.0	102	104	1037	32		28		28	23	19
680.0	102	102	1027	32		27		27	23	18
690.0	102	104	1036	32		28		28	23	19
700.0	102	103	1031	32		27		27	23	19
710.0	102	104	1040	32		28		28	23	19
720.0	102	104	1036	32		28		28	23	19
730.0	102	102	1031	32		27		27	23	19
740.0	100	103	1027	32		27		27	23	18
750.0	103	101	1029	32		27		27	23	18
760.0	102	104	1037	32		28		28	23	19
770.0	101	104	1032	32		27		27	23	19
780.0	100	103	1020	31		27		27	22	18
790.0	100	104	1029	32		27		27	23	18
800.0	101	104	1033	32		27		27	23	19
810.0	100	103	1027	32		27		27	23	18
817.6	101	103	1025	32		27		27	22	18

BIT NUMBER	2	IADC CODE	114	INTERVAL	817.6- 1001.3
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2381.00	TRIP TIME	4.2	BIT RUN	183.7
TOTAL HOURS	4.21	TOTAL TURNS	32070	CONDITION	T2 B1 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
820.0	79	80	802	70	63		45		45	14
830.0	99	109	1053	91	83		59		59	19
840.0	99	106	1034	90	81		58		58	19
850.0	101	101	1018	88	80		57		57	18
860.0	100	99	1006	87	79		56		56	18
870.0	101	101	1016	88	80		57		57	18
880.0	101	101	1014	88	80		57		57	18
890.0	32	92	628	55	49		35		35	11
900.0	0	114	574	50	45		32		32	10
910.0	98	105	1023	89		61	57		57	18
920.0	101	99	1008	88		60	56		56	18
930.0	101	101	1018	88		61	57		57	18
940.0	99	99	1001	87		60	56		56	18
950.0	100	99	1006	87		60	56		56	18
960.0	99	98	993	86		59	55		55	18
970.0	98	99	993	86		59	55		55	18
980.0	98	98	991	86		59	55		55	18
990.0	99	97	986	86		59	55		55	18
1000.0	99	97	988	86		59	55		55	18
1001.3	99	97	987	86		59	55		55	18

BIT NUMBER	3	IADC CODE	114	INTERVAL	1001.3- 1151.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 32
COST	2381.00	TRIP TIME	4.8	BIT RUN	149.7
TOTAL HOURS	8.76	TOTAL TURNS	236560	CONDITION	T1 B1 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1010.0	52	59	559	49		33	31		31	10
1020.0	50	60	555	48		33	31		31	10
1030.0	52	60	562	49		34	31		31	10
1040.0	52	60	561	49		34	31		31	10
1050.0	51	59	554	48		33	31		31	10
1060.0	51	56	539	47		32	30		30	10
1070.0	51	56	539	47		32	30		30	10
1080.0	51	56	539	47		32	30		30	10
1090.0	51	56	539	47		32	30		30	10
1100.0	51	56	539	47		32	30		30	10
1110.0	51	56	539	47		32		32	30	10
1120.0	51	55	534	46		32		32	30	10
1130.0	51	55	534	46		32		32	30	10

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1140.0	51	55	534	46		32		32	30	10
1150.0	51	55	534	46		32		32	30	10
1151.0	51	55	534	46		32		32	30	10

BIT NUMBER	3	IADC CODE	114	INTERVAL	1151.0- 1252.5
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	0.00	TRIP TIME	4.5	BIT RUN	101.5
TOTAL HOURS	12.87	TOTAL TURNS	258476	CONDITION	T4 B3 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1160.0	81	90	862	75		52		52	48	15
1170.0	80	90	857	74		51		51	48	15
1180.0	94	96	958	83		57		57	53	17
1190.0	94	95	953	83		57		57	53	17
1200.0	94	95	952	83		57		57	53	17
1210.0	91	99	954	83		57		57	53	17
1220.0	95	97	966	84		58		58	54	17
1230.0	93	99	966	84		58		58	54	17
1240.0	94	96	960	83		57		57	54	17
1250.0	93	98	963	84		58		58	54	17
1252.5	93	98	964	84		58		58	54	17

BIT NUMBER	4	IADC CODE	114	INTERVAL	1252.5- 1450.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2381.00	TRIP TIME	5.1	BIT RUN	197.5
TOTAL HOURS	10.24	TOTAL TURNS	91867	CONDITION	T1 B1 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1260.0	89	92	911	79		54		54	51	16
1270.0	88	94	917	80		55		55	51	16
1280.0	88	94	915	80		55		55	51	16
1290.0	90	95	930	81		56		56	52	17
1300.0	88	94	916	80		55		55	51	16
1310.0	86	96	912	79		55		55	51	16
1320.0	89	94	925	80		55		55	52	17
1330.0	88	92	907	79		54		54	51	16
1340.0	89	94	920	80		55		55	51	17
1350.0	89	93	919	80		55		55	51	17
1360.0	89	93	916	80		55		55	51	16
1370.0	88	94	917	80		55		55	51	16
1380.0	89	94	919	80		55		55	51	17
1390.0	89	93	917	80		55		55	51	16
1400.0	88	94	918	80		55		55	51	16
1410.0	87	91	898	78		54		54	50	16

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1420.0	93	92	933	81		56		56	52	17
1430.0	93	93	937	81		56		56	52	17
1440.0	91	95	939	82		56		56	52	17
1450.0	91	96	938	81		56		56	52	17

BIT NUMBER	5	IADC CODE	116	INTERVAL	1450.0- 2080.0
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	6.4	BIT RUN	630.0
TOTAL HOURS	39.74	TOTAL TURNS	282318	CONDITION	T3 B8 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1460.0	90	92	914	79		55		55	51	16
1470.0	90	85	874	76		52		52	49	16
1480.0	90	84	871	76		52		52	49	16
1490.0	86	89	874	76		52		52	49	16
1500.0	87	89	879	76		53		53	49	16
1510.0	86	88	869	75		52		52	48	16
1520.0	85	88	867	75		52		52	48	16
1530.0	86	88	871	76		52		52	49	16
1540.0	85	87	860	75		51		51	48	15
1550.0	80	89	842	73		50		50	47	15
1560.0	86	86	859	75		51		51	48	15
1570.0	84	88	858	74		51		51	48	15
1580.0	85	88	864	75		52		52	48	16
1590.0	85	87	858	74		51		51	48	15
1600.0	85	87	860	75		51		51	48	15
1610.0	85	87	862	75		52		52	48	15
1620.0	87	89	879	76		53		53	49	16
1630.0	87	89	881	77		53		53	49	16
1640.0	87	89	879	76		53		53	49	16
1650.0	86	88	870	76		52		52	48	16
1660.0	88	88	876	76		52		52	49	16
1670.0	87	88	877	76		52		52	49	16
1680.0	87	88	875	76		52		52	49	16
1690.0	90	86	879	76		53		53	49	16
1700.0	87	88	873	76		52		52	49	16
1710.0	87	87	869	76		52		52	48	16
1720.0	86	89	876	76		52		52	49	16
1730.0	86	88	865	75		52		52	48	16
1740.0	53	97	747	65		45		45	42	13
1750.0	0	116	578	50		35		35	32	10
1760.0	85	88	862	75		52		52	48	15
1770.0	85	88	861	75		51		51	48	15
1780.0	85	88	862	75		51		51	48	15
1790.0	85	86	857	74		51		51	48	15
1800.0	84	88	862	75		52		52	48	15
1810.0	85	87	862	75		51		51	48	15

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1820.0	85	87	857	74		51		51	48	15
1830.0	85	87	858	75		51		51	48	15
1840.0	83	85	842	73		50		50	47	15
1850.0	85	85	850	74		51		51	47	15
1860.0	85	86	853	74		51		51	48	15
1870.0	87	87	868	75		52		52	48	16
1880.0	87	86	866	75		52		52	48	16
1890.0	87	86	865	75		52		52	48	16
1900.0	87	85	864	75		52		52	48	16
1910.0	87	84	855	74		51		51	48	15
1920.0	44	101	725	63		43		43	40	13
1930.0	0	111	556	48		33		33	31	10
1940.0	0	118	587	51		35		35	33	11
1950.0	0	122	608	53		36		36	34	11
1960.0	85	84	846	74		51		51	47	15
1970.0	86	84	845	73		51		51	47	15
1980.0	85	85	848	74		51		51	47	15
1990.0	0	107	535	46		32		32	30	10
2000.0	3	111	566	49		34		34	32	10
2010.0	83	85	838	73		50		50	47	15
2020.0	87	81	840	73		50		50	47	15
2030.0	85	82	837	73		50		50	47	15
2040.0	82	84	828	72		50		50	46	15
2050.0	84	82	832	72		50		50	46	15
2060.0	80	86	830	72		50		50	46	15
2070.0	80	84	817	71		49		49	46	15
2080.0	79	86	825	72		49		49	46	15

BIT NUMBER	6	IADC CODE	114	INTERVAL	2080.0- 2302.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 18
COST	2381.00	TRIP TIME	6.9	BIT RUN	222.0
TOTAL HOURS	5.93	TOTAL TURNS	55875	CONDITION	T1 B3 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2090.0	73	82	774	67		46		46	43	14
2100.0	78	78	779	68		47		47	43	14
2110.0	78	78	778	68		46		46	43	14
2120.0	79	78	786	68		47		47	44	14
2130.0	77	77	771	67		46		46	43	14
2140.0	74	81	773	67		46		46	43	14
2150.0	77	77	771	67		46		46	43	14
2160.0	77	74	754	66		45		45	42	14
2170.0	68	84	760	66		45		45	42	14
2180.0	68	84	759	66		45		45	42	14
2190.0	78	72	750	65		45		45	42	13
2200.0	74	77	756	66		45		45	42	14
2210.0	0	111	554	48		33		33	31	10

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2220.0	0	114	571	50		34		34	32	10
2230.0	0	109	547	47		33		33	30	10
2240.0	0	108	539	47		32		32	30	10
2250.0	0	104	517	45		31		31	29	9
2260.0	73	76	742	64		44		44	41	13
2270.0	73	77	750	65		45		45	42	13
2280.0	75	75	746	65		45		45	42	13
2290.0	73	74	736	64		44		44	41	13
2300.0	74	75	746	65		45		45	42	13
2302.0	74	75	745	65		45		45	41	13

BIT NUMBER	7	IADC CODE	114	INTERVAL	2302.0- 2396.0
HTC X3A		SIZE	12.250	NOZZLES	18 28 28
COST	2381.00	TRIP TIME	7.1	BIT RUN	94.0
TOTAL HOURS	10.49	TOTAL TURNS	220305	CONDITION	T1 B1 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2310.0	53	54	535	46		32		32	30	10
2320.0	53	54	535	46		32		32	30	10
2330.0	53	54	535	46		32		32	30	10
2340.0	51	54	525	46		31		31	29	9
2350.0	52	54	530	46		32		32	30	10
2360.0	52	54	530	46		32		32	30	10
2370.0	49	57	530	46		32		32	30	10
2380.0	49	56	525	46		31		31	29	9
2390.0	49	56	525	46		31		31	29	9
2396.0	49	56	525	46		31		31	29	9

BIT NUMBER	7	IADC CODE	114	INTERVAL	2396.0- 2483.0
HTC X3A		SIZE	12.250	NOZZLES	16 16 18
COST	0.00	TRIP TIME	7.3	BIT RUN	87.0
TOTAL HOURS	18.12	TOTAL TURNS	278646	CONDITION	T2 B2 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2400.0	66	73	693	60		41		41	39	12
2410.0	71	74	723	63		43		43	40	13
2420.0	70	72	713	62		43		43	40	13
2430.0	71	73	719	62		43		43	40	13
2440.0	67	69	679	59		41		41	38	12
2450.0	67	69	680	59		41		41	38	12
2460.0	65	69	670	58		40		40	37	12
2470.0	64	69	665	58		40		40	37	12
2480.0	64	68	660	57		39		39	37	12
2483.0	64	69	665	58		40		40	37	12

BIT NUMBER	8	IADC CODE	114	INTERVAL	2483.0- 2545.0
HTC X3A		SIZE	8.500	NOZZLES	12 12 12
COST	1373.00	TRIP TIME	7.4	BIT RUN	62.0
TOTAL HOURS	7.02	TOTAL TURNS	44770	CONDITION	T4 B8 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2490.0	77	0	385	87	79		57		57	7
2500.0	91	0	456	103	94		68		68	8
2510.0	93	0	462	104	95		69		69	8

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2520.0	94	0	468	105	96		69		69	8
2530.0	93	0	465	105	96		69		69	8
2540.0	93	0	463	104	95		69		69	8
2545.0	0	94	467	105	96		69		69	8

BIT NUMBER	9	IADC CODE	114	INTERVAL	2545.0- 2588.0
HTC X3A		SIZE	8.500	NOZZLES	12 12 12
COST	1373.00	TRIP TIME	7.5	BIT RUN	43.0
TOTAL HOURS	2.72	TOTAL TURNS	18776	CONDITION	T2 B2 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2550.0	94	0	470	106	97		70		70	8
2560.0	93	0	464	105	96		69		69	8
2570.0	93	0	463	104	95		69		69	8
2580.0	92	0	461	104	95		68		68	8
2588.0	91	0	456	103	94		68		68	8

BIT NUMBER	9	IADC CODE	4	INTERVAL	2588.0- 2597.4
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	10897.00	TRIP TIME	7.5	BIT RUN	9.4
TOTAL HOURS	4.76	TOTAL TURNS	19128	CONDITION	T0 B0 G0.050

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2590.0	48	0	242		50		36		36	4
2597.4	40	0	201		41		30		30	4

BIT NUMBER	10	IADC CODE	517	INTERVAL	2597.4- 2742.2
HTC J22		SIZE	8.500	NOZZLES	12 12 12
COST	4139.00	TRIP TIME	7.7	BIT RUN	144.8
TOTAL HOURS	23.53	TOTAL TURNS	105870	CONDITION	T2 B3 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2600.0	95	0	476	107	98		71		71	9
2610.0	66	32	487	110	100		72		72	9
2620.0	99	0	493	111	101		73		73	9
2630.0	98	0	490	110	101		73		73	
2640.0	98	0	488	110	100		72		72	9
2650.0	97	0	487	110	100		72		72	9
2660.0	98	0	490	110	101		73		73	9
2670.0	98	0	488	110	101		72		72	9
2680.0	98	0	488	110	100		72		72	9

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2690.0	98	0	488	110	100		72		72	9
2700.0	98	0	488	110	100		72		72	9
2710.0	97	0	487	110		77	72		72	9
2720.0	98	0	489	110		77	73		73	9
2730.0	97	0	486	109		77	72		72	9
2740.0	98	0	488	110		77	72		72	9
2742.2	98	0	490	110		77	73		73	9

BIT NUMBER	10	IADC CODE	4	INTERVAL	2742.2- 2751.4
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	7.8	BIT RUN	9.2
TOTAL HOURS	4.60	TOTAL TURNS	23082	CONDITION	T0 B0 G0.150

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2750.0	57	0	284	64		45	42		42	5
2751.4	57	0	285	64		45	42		42	5

BIT NUMBER	11	IADC CODE	517	INTERVAL	2751.4- 2887.0
HTC J22		SIZE	8.500	NOZZLES	12 12 12
COST	4139.00	TRIP TIME	8.2	BIT RUN	135.6
TOTAL HOURS	16.35	TOTAL TURNS	73588	CONDITION	T2 B4 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2760.0	0	95	475	118		75	71		71	9
2770.0	0	96	479	119		76	71		71	9
2780.0	0	96	480	120		76	71		71	9
2790.0	0	96	480	120		76	71		71	9
2800.0	0	96	479	119		76	71		71	
2810.0	0	96	477	119		76	71		71	9
2820.0	0	96	478	119		76	71		71	9
2830.0	0	96	480	120		76	71		71	9
2840.0	0	96	480	120		76	71		71	9
2850.0	0	95	473	118		75	70		70	9
2860.0	0	95	476	119		75	71		71	9
2870.0	0	96	478	119		76	71		71	
2880.0	0	95	474	118		75	70		70	9
2887.0	0	95	474	118		75	70		70	9

BIT NUMBER	12	IADC CODE	517	INTERVAL	2887.0- 2984.0
HTC J22		SIZE	8.500	NOZZLES	12 12 12
COST	4139.00	TRIP TIME	8.4	BIT RUN	97.0
TOTAL HOURS	23.56	TOTAL TURNS	115233	CONDITION	T3 B4 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2890.0	96	0	480	120		76	71		71	9
2900.0	97	0	483	120		76		76	72	9
2910.0	97	0	485	121		77		77	72	9
2920.0	96	0	480	120		76		76	71	9
2930.0	0	96	482	120		76		76	72	9
2940.0	0	97	482	120		76		76	72	9
2950.0	95	0	476	119		75		75	71	9
2960.0	94	0	472	118		75		75	70	8
2970.0	97	0	483	120		76		76	72	9
2980.0	96	0	480	120		76		76	71	9
2984.0	96	0	477	119		76		76	71	9

PE605043

This is an enclosure indicator page.
The enclosure PE605043 is enclosed within the container PE907863 at this location in this document.

The enclosure PE605043 has the following characteristics:

ITEM_BARCODE	= PE605043
CONTAINER_BARCODE	= PE907863
NAME	= Drill Data Plot
BASIN	= GIPPSLAND
PERMIT	=
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Drill Data Plot (enclosure from Final Well Report--attachment to WCR) for Wrasse-1
REMARKS	=
DATE_CREATED	= 20/11/83
DATE_RECEIVED	= 18/04/84
W_NO	= W836
WELL_NAME	= Wrasse-1
CONTRACTOR	= Core Laboratories
CLIENT_OP_CO	= ESSO Australia Ltd

(Inserted by DNRE - Vic Govt Mines Dept)

PE 605043

Drill Data Plot

PE605044

This is an enclosure indicator page.
The enclosure PE605044 is enclosed within the container PE907863 at this location in this document.

The enclosure PE605044 has the following characteristics:

ITEM_BARCODE	= PE605044
CONTAINER_BARCODE	= PE907863
NAME	= Temperature Plot
BASIN	= GIPPSLAND
PERMIT	=
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Temperature Plot (enclosure from Final Well Report--attachment to WCR) for Wrasse-1
REMARKS	=
DATE_CREATED	= 20/11/83
DATE_RECEIVED	= 18/04/84
W_NO	= W836
WELL_NAME	= Wrasse-1
CONTRACTOR	= Core Laboratories
CLIENT_OP_CO	= ESSO Australia Ltd

(Inserted by DNRE - Vic Govt Mines Dept)

PE605044

Temperature Plot

PE605045

This is an enclosure indicator page.
The enclosure PE605045 is enclosed within the container PE907863 at this location in this document.

The enclosure PE605045 has the following characteristics:

ITEM_BARCODE	= PE605045
CONTAINER_BARCODE	= PE907863
NAME	= Pressure Plot
BASIN	= GIPPSLAND
PERMIT	=
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Pressure Plot (enclosure from Final Well Report--attachment to WCR) for Wrasse-1
REMARKS	=
DATE_CREATED	= 20/11/83
DATE_RECEIVED	= 18/04/84
W_NO	= W836
WELL_NAME	= Wrasse-1
CONTRACTOR	= Core Laboratories
CLIENT_OP_CO	= ESSO Australia Ltd

(Inserted by DNRE - Vic Govt Mines Dept)

PE605045

Pressure Plot

PE605046

This is an enclosure indicator page.
The enclosure PE605046 is enclosed within the container PE907863 at this location in this document.

The enclosure PE605046 has the following characteristics:

ITEM_BARCODE	= PE605046
CONTAINER_BARCODE	= PE907863
NAME	= Geo-Plot
BASIN	= GIPPSLAND
PERMIT	=
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Geo-Plot (enclosure from Final Well Report--attachment to WCR) for Wrasse-1
REMARKS	=
DATE_CREATED	= 20/11/83
DATE_RECEIVED	= 18/04/84
W_NO	= W836
WELL_NAME	= Wrasse-1
CONTRACTOR	= Core Laboratories
CLIENT_OP_CO	= ESSO Australia Ltd

(Inserted by DNRE - Vic Govt Mines Dept)

PE605046

Geoplot

PE601247

This is an enclosure indicator page.
The enclosure PE601247 is enclosed within the container PE907863 at this location in this document.

The enclosure PE601247 has the following characteristics:

ITEM_BARCODE	= PE601247
CONTAINER_BARCODE	= PE907863
NAME	= Grapholog Mud Log
BASIN	= GIPPSLAND
PERMIT	=
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Grapholog Mud Log (enclosure from Final Well Report--attachment to WCR) for Wrasse-1
REMARKS	=
DATE_CREATED	= 27/10/83
DATE_RECEIVED	= 18/04/84
W_NO	= W836
WELL_NAME	= Wrasse-1
CONTRACTOR	= Core Laboratories
CLIENT_OP_CO	= ESSO Australia Ltd

(Inserted by DNRE - Vic Govt Mines Dept)

PE601247

Grapholog