Tuna - 4

OIL and GAS DIVISION

30 JAN 1985

[redacted]

Attachment to WCR Final Well Report (W868)

PETROLEUM RESERVOIR ENGINEERING · RESEARCH · FIELD SERVICES ·

CORE LAB

ESSO AUSTRALIA LIMITED

TUNA #4

FINAL WELL REPORT

INDEX

INTRODUCTION

TUNA NO. 4 was drilled by ESSO AUSTRALIA LTD. in the Bass Strait, Australia.

Well co-ordinates were:

Latitude : 38° 11' 20.93" S
Longitude : 148° 22' 08.39" 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.

TUNA NO. 4 was spudded on 18th May 1984 and reached a total depth of 3321 metres on 7th July 1984, a total drilling time of 52 days. The main objectives of the well were:

1. To confirm a commercial accumulation of M-1 oil in the western part of the TUNA field;

2. To assess the hydrocarbon potential of the intra Latrobe section in a fault bounded trap located southwest of the TUNA field intra Latrobe accumulations.

A number of promising reservoirs were encountered, hence the well was production-tested.

Elevations were:

Kelly bushings to mean sea level ..... 21 metres
Water depth ..... 61 metres
Kelly bushings to mean sea bed ..... 82 metres

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

Core Laboratories personnel involved in the logging of TUNA NO. 4 were as follows:

T. CHARLES	-	Unit Supervisor
B. PAULET	-	Pressure Engineer
B. GIFTSON	-	Logging Crew Chief
D. MACKAY	-	Well Logger
A. HIGGS	-	Well Logger
R. WALSH	-	Well Logger
P. LANDRY	-	Well Logger

2. RIG SPECIFICATIONS

RIG INFORMATION SHEET

CORE LAB

COMPANY ESSO AUSTRALIA LTD.

WELL TUNA NO. 4

OWNER	SOUTH SEAS DRILLING COMPANY
NAME AND NUMBER	SOUTHERN CROSS (NO. 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	DEGASSER: 1 SWACO MODEL NO. 36
	SHALE SHAKERS: 2 BRANDT DUAL UNIT TANDEM - GHI DUAL UNIT
	FOUR MUD TANKS HAVING A TOTAL CAPACITY OF 1200 BBL, AND ONE PILL TANK HAVING A CAPACITY OF 105 BBL.
	TWO MUD HOPPERS POWERED BY 2 MISSION 6 X 8" CENTRIFUGAL BY TWO 100 HP ELECTRIC MOTORS.
	DESANDER: 1 DEMCO 4 CONE 12" MODEL NO. 124
	DESILTER: 1 DEMCO 4"-16H 16 CONE
BLOW OUT PREVENTORS	THREE SHAFFER L.W.S. 18-3/4" - 10 000 PSI
	TWO HYDRIL G.L 18-3/4" - 5000 PSI
WELL CONTROL EQIP.	FOUR VALVCON ACCUMULATORS. 2" - 10 000 PSI
	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)
	9-3/4" 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: 6 WESTERN GEAR, 50' STROKE, 80 000 LBS
MUD BULK TANKS: 3X1570CU FT. GUIDE LINE TENSIONERS: 4 WESTERN GEAR 16 000 LBS, 40' STROKE.

3. WELL INFORMATION, PROGRESS AND HISTORY

WELL INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.
WELL TUNA NO. 4

Sheet No. 1

WELL NAME	TUNA NO. 4			
OPERATOR	ESSO EXPLORATION AND PRODUCTION AUSTRALIA INC.			
PARTNERS	B.H.P.			
RIG	OWNER	SANTA FE (SOUTH SEAS DRILLING CO.)		
	NAME OR NUMBER	SOUTHERN CROSS		
	TYPE	SEMI-SUBMERSIBLE		
LOCATION	LATITUDE (X)	38° 11' 20.93" S	LONGITUDE (Y)	148° 22' 08.39" E
	FIELD	TUNA	AREA	GIPPSLAND BASIN
	COUNTY	BASS STRAIT	STATE	VICTORIA
	COUNTRY	AUSTRALIA		
	DESCRIPTION	EXPLORATION WELL		
DATUM POINTS	Ground Elevation	-	RKB to Ground Level	-
	Mean Water Depth	61 METRES	RKB to Water Level	21 METRES
DATES	SPUD	18 MAY 1984	TOTAL DEPTH	7 JULY 1984

HOLE SIZES

Depth From	Depth To	Bit Size "	No. of Bits	No. of Reamers	Date From	Date To	Cased	Logged
82	219	26	1	0	18/05/84	18/05/84	Y	N
219	811	17½	1	0	19/05/84	20/05/84	Y	Y
811	2445	12¼	5	0	21/05/84	31/05/84	Y	Y
2445	3321	8½	10	1	04/06/84	18/06/84	Y	Y

DRILLING FLUID

Depth From	Depth To	Weights PPG			Type
81M	219M	8.7	TO	8.7	SEAWATER
219M	1300M	8.7	TO	9.6	SEAWATER - DRILLED SOLIDS
1300M	3321M	9.3	TO	11.6	SEAWATER - GEL/POLYMER
			TO		
			TO		
			TO		
			TO		
			TO		

WIRELINE LOGGING

Depth From	Depth To	Hole Size	Date Run	Logs Run
809M	205M	17½"	20/05/84	BHC-GR-CAL
2445M	793.5M	12¼"	31/05/84	DLL-MSFL-LDL-CNL-GR-CAL
2445M	794M	12¼"	31/05/84	FDL-CNL-CAL-GRA
2444M	794M	12¼"	31/05/84	BHC-GR
2444M	794M	12¼"	01/06/84	HDT
2400M	1377M	12¼"	01/06/84	RFT NOS: 1, 2, 3, 4
2426M	1360M	12¼"	02/06/84	CST NOS: 1, 2
2650M	2434M	8½"	09/06/84	DCTB-SRSA-GR-CAL

RISER, CASING & LINER

Depth From	Depth To	OD	ID	Weight	Grade	Threads	Date Run	Cement	Stages	Excess
0M	82M	22"	21"	----------		RISER	----------			
82M	205M	20"	19.124	94.4	X52	JV BOX	18/05/84	"G"	1	-
82M	794M	13-3/8"	12.615	54.5	K55	BUTT	21/05/84	"G"	1	-
82M	2434M	9-5/8"	8.681	47.0	N80	BUTT	03/06/84	"G"	2	-
2227M	3219M	7"	6.276	26.0	N80	BUTT	11/07/84	"G"	2	-

CORE LAB

COMPANY ESSO AUSTRALIA LTD
WELL TUNA #4

WELL INFORMATION SHEET (SUPPLEMENTARY)

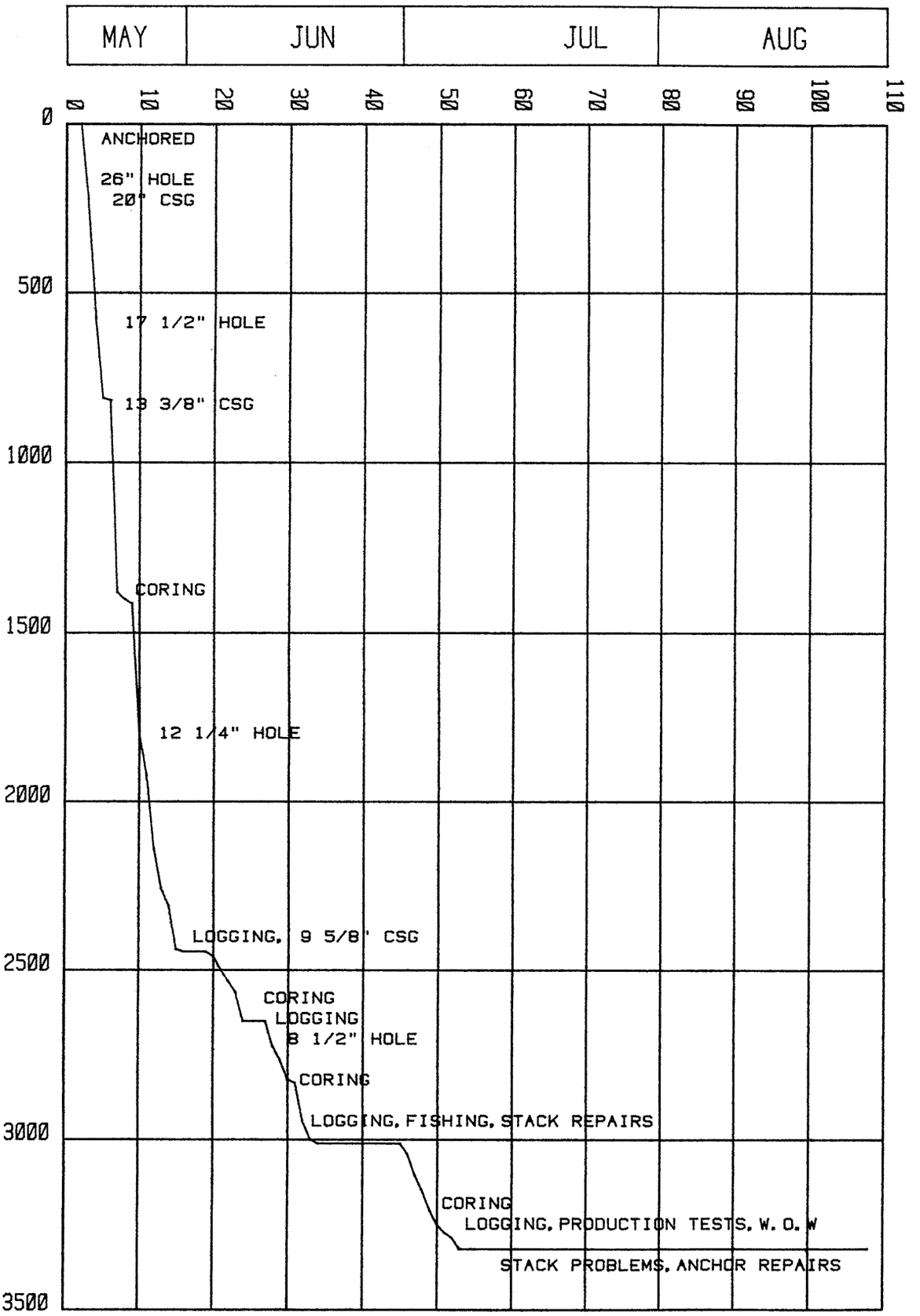
Sheet No. 1

WIRELINE LOGGING (continued)

Depth from M	Depth to M	Hole size	Date run	Logs run
2650	2434	8½	9/6/84	DCTB-SRSA-GR-CAL
2649	2434	8½	9/6/84	LDTC-CNTH-GR-CAL
-	-	8½	9-11/6/84	RFT Nos 5-14
2649	2434	8½	11/6/84	HDT-GR-CAL
3011	2434	8½	18/6/84	DLTE-SRTC-GR-CAL
3011	2434	8½	19/6/84	LTDC-CNTH-GR-CAL
3011	2434	8½	19/6/84	SLTN-GR
-	-	8½	19/6/84	RFT No 15 (PRETESTS)
-	-	8½	20-25/6/84	RFT Nos 16-29
3321	2925	8½	8/7/84	DLL-MSFL-GR-CAL
3321	2925	8½	8/7/84	LDT-CNTH-GR-CAL
3321	2950	8½	8/7/84	BHC-GR
3321	2950	8½	8/7/84	HDT
-	-	8½	8/7/84	VELOCITY SURVEY
-	-	8½	9/7/84	RFT Nos 31, 32
-	-	8½	10/7/84	RFT Nos 33, 34
-	-	8½	10/7/84	CSTs Nos 3, 4
-	-	6.276	19-20/7/84	PWT No 1
-	-	6.276	21/7/84	CH RFT Nos 1, 2
2820	2829	6.276	22-28/7/84	PWT No 2
-	-	6.276	6/8/84	CH RFT Nos 3-5
2562	2569	6.276	8-10/8/84	PWT No 3
2543	2552	6.276	16-18/8/84	PWT No 4
2469.5	2477	6.276	20-24/8/84	PWT No 5 (in two sections)

PROGRESS LOG
ESSO AUSTRALIA LTD

TUNA No. 4



TUNA #4
WELL HISTORY

16 MAY 1984 — Towed to the location of Tuna #4, from West Fortescue #1.

17 MAY 1984 — Arrived at Tuna #4. Ran the anchors. Ballasted the rig down. Ran the base-plate.

18 MAY 1984 — Spudded in, and drilled 26" hole to 219 metres. Pulled out, then ran back in to circulate the hole clean. P.O.O.H., then ran the 20" casing followed by the guide-base. Cemented the shoe at 205 metres.

19 MAY 1984 — Ran the stack and riser. Nippled up. R.I.H. with a new bit (17½", HTC,OSC 3AJ) and drilled out the cement and shoe. Drilled new formation from 219 to 571 metres. This surface section of hole yielded high levels of background gas (around 15-20 units), with the peak of 56 units coming from the limestone at 410 metres.

20 MAY 1984 — Drilled 17½ hole down to the 13.3/8" casing point, 811 metres. Background gas levels remained high, around 15-20 units (Limestone). Made a wiper trip from 811 metres to the 20" shoe; excessive overpull was experienced, so the hole was reamed to bottom. Schlumberger ran a sonic log. Commenced running 13.3/8" casing.

21 MAY 1984 — Ran the 13.3/8" casing. Cemented the shoe at 794 metres. Tested the stack. R.I.H. with a J1 bit (Hughes) and drilled out the cement and shoe. Conducted a P.I.T. after 6 metres of new formation.

22 MAY 1984 — Drilled 12¼" hole to 1,381 metres; circulated bottoms-up for the geologist after a drill-break. The sample yielded sandstone and 1,510 units of gas, so it was decided to commence the coring program at this point.

23 MAY 1984 — Cut core No's 1 and 2, using the plastic sleeve technique.

24 MAY 1984 — Cut core No's 3 and 4. Nothing was recovered from the third core; and only 11.4% was recovered from core No. 4. R.I.H. with an insert drill-bit (J22) and reamed the core rathole.

25 MAY 1984 — Completed reaming to bottom, then drilled new hole to 1,802 metres. Gas was predominantly around 20 units background, with the peaks (reaching 150 units) associated with coals.

26 MAY 1984	Continued drilling 12¼" hole to 1,885 metres, where the bit was pulled as a precautionary measure (with 30 hours on bottom). Drilling resumed with a new J22, down to 1,922 metres.
27 MAY 1984	Drilled ahead to 2,138 metres. Background gas varied between 10 and 25 units, with peaks rising to 200 units (associated with coals).
28 MAY 1984	Drilled ahead to 2,258 metres, where the bit was pulled due to an increase in torque and decreased R.O.P.'s.
29 MAY 1984	R.I.H. with a new bit (Hughes J22), reaming and washing the tight spots. Drilled new hole down to 2,309m. Maximum drilled gas was 17 units over a background of 10-12 units. No abnormalities were detected.
30 MAY 1984	Drilled to 2,438 metres.
31 MAY 1984	Drilled 12¼" hole to 2,445 metres where a 20 stand wiper trip was made (W.T.G. 1-6-2u). After pulling our of the hole Schlumberger logs were run.
1 JUNE 1984	Continued to run logs and R.F.T.'s 1-4.
2 JUNE 1984	Ran C.S.T.'s 1 and 2 then rigged down Schlumberger and made a wiper trip (Max Gas 36u) prior to running casing. Ran 64 joints of casing.
3 JUNE 1984	Continued to run casing (201 total) and then cemented same with a two-stage cementing program.
4 JUNE 1984	A B.O.P. test was performed and the new 8½" bottom hole assembly was made up and run into the hole. The cement was drilled to 2,429 metres where a casing pressure test was performed. New hole was drilled from 2,445 to 2,451 metres and a phase II pressure integrity test was carried out giving an equivalent mud weight of 16.81 ppg. Drilling recommenced and 8½" hole was drilled to 2,458 metres.
5 JUNE 1984	New 8½" hole was drilled to 2,464 metres where the bit was pulled due to low rates of penetration. A J22 was run into the hole and drilled to 2,481 metres where a flow check was performed and the cuttings circulated out. Good sands with fluoresence prompted the cutting of core No. 5; 2,481-2,499 metres.
6 JUNE 1984	Pulled out of hole and recovered core No. 5 (89%). Ran back into the hole to cut core No. 6 (2,499 - 2,517) recovered same (70%) and then proceeded to cut and recover core No. 7 (2,517 - 2,531 metres 70% recovered).

7 JUNE 1984 — Ran into hole and cut core No. 8 (2,531 - 2,549 metres) and recovered 87%. Core No. 9 was then cut from 2,549 - 2,564 metres with a recovery of 83%. The bottom hole assembly was then made up and run into the hole.

8 JUNE 1984 — Reamed the core rathole. New 8½" hole was drilled down to 2,650m where a short wiper trip was carried out due to overpull in making connections. After the completion of the wiper trip a decision was made to pull out of the hole to run intermediate logs.

9 JUNE 1984 — Schlumberger ran the following logs:

DCTB-SRSA-GR-CAL 2,650 - 2,434 metres
LDTC-CNTH-GR-CAL 2,649 - 2,434 metres
R.F.T.'s No. 5 (pretests) and No. 6

10 JUNE 1984 — Continued to run R.F.T.'s No. 6 - 10.

11 JUNE 1984 — Continued to run R.F.T.'s No. 11 - 14 and then ran HDT-GR-CAL 2,649-2,434 metres followed by a B.O.P. test.

12 JUNE 1984 — Ran in hole and drilled 8½" hole to 2,725 metres.

13 JUNE 1984 — Drilled ahead to 2,731 metres where the bit was pulled due to low rates of penetration. R.I.H. and drilled ahead to 2,766 metres. Possible connection gas and flow-check gas were detected in the interval 2,736 to 2,756 metres, indicating the pore pressure had increased from 8.6 ppg to 9.0 ppg. (The mud weight was 9.5 ppg).

14 JUNE 1984 — Drilled 8½" hole to 2,822 metres. Circulated bottoms-up at this point, for the geologist. A reasonable show was found, so it was decided to core. Earlier, a 10-10-10 test was carried out at 2,798 metres (5-12-6 units). This result, using a mud weight of 9.5 ppg verified a pore pressure of 9.0-9.2 ppg equivalent at this depth. Considerable drag was experienced while pulling the J33, so after 10 singles the string was run back to bottom, reaming where necessary. R.I.H. with the core barrel and a diamond bit.

15 JUNE 1984 — Cut core No. 10 from 2,822.5 metres, but had to terminate the run prematurely at 2,828 metres, due to the core bit becoming ringed out (probably as a result of down-hole junk). Recovered 54.4% of the core. Shows therein instigated a further core run ... No. 11, from 2,828 metres to 2,833 metres. Slow R.O.P.'s also halted this run early. Recovered 58% of the core (comprising predominantly of carbonaceous siltstone). The lack of core shows prompted a return to drilling.

16 JUNE 1984 — Reamed the core rathole and drilled new hole down to 2,946 metres. Overpressure was indicated by connection gas. Pore pressure was estimated to have increased to 9.4 ppg EMW by 2,910 metres. Background gas varied between 4-140 units, and the maximum drilled gas was 360 units (from 2,912 metres).

17 JUNE 1984 — Drilled to 2,975 metres. Tripped for a precautionary bit change, then continued drilling down to 2,998 metres. Connection gas was detected throughout the drilled interval, indicating the pore pressure was still 9.4 ppg EMW.

18 JUNE 1984 — Drilled to 3,011 metres - premature T.D. The pore pressure had risen to 10.1 ppg by 3,004 metres, creating underbalanced drilling conditions. The gas rose to 3,190 units, before the mud was weighted up to 10.5 ppg. Made a 20-stand wiper stand, then P.O.O.H. to run logs at T.D.

19 JUNE 1984 — Electric logs were run. The R.F.T. tool became stuck in the hole. Attempts to free the tool by "working the wireline" were unsuccessful, so the wireline was cut, and the drill-string was run into the hole with the wireline inside, and a fishing tool on the end of the string. (This operation is known as "stripping over").

20 JUNE 1984 — Retrieved the R.F.T. tool. Conducted a wiper trip.

21 JUNE 1984 — Trip gas from 3,011 metres was 8-1805-24 units. Schlumberger recommenced R.F.T.'s using a new drum of wireline.

22 JUNE 1984 — Schlumberger continued running R.F.T.'s After R.F.T. No. 20, R.I.H. with the drill string to make a wiper trip.

23 JUNE 1984 — Trip gas from 3,011 metres was 960-3625-75 units. Had to circulate for about 2 hours to reduce the very high gas concentration in the mud. Resumed R.F.T.'s.

24 JUNE 1984 — Schlumberger continued running R.F.T.'s.

25 JUNE 1984 — Continued running R.F.T.'s. Made a wiper trip after run No. 29. Wiper trip gas from 3,011 metres was 35-3650-95 units. Resumed R.F.T.'ing. During R.F.T. No. 30, the tool became stuck and could not be worked loose, so the Schlumberger wireline had to be cut, and the tool fished for.

26 JUNE 1984	Stripped over the fish, and pulled same to surface. Recovered the R.F.T. sample then R.I.H. with open-ended drill-pipe. Circulated bottoms-up (T.G. 26-2368-35 units) and weighted the mud up to 11.0 ppg. Pulled 20 stands and set a cement plug around the 9 5/8" casing shoe.
27 JUNE 1984	A 9 5/8" EZSV bridge plug was set at 2,343 metres and tested to 3,000 psi. The B.O.P. stack was then pulled for repairs.
28 JUNE 1984	Continued to repair B.O.P. before running same back onto wellhead. A B.O.P. function test was then carried out. Ran in hole with new bit 12 to drill out bridge plug and cement.
29 JUNE 1984	On commencement of drilling, a drop in pump pressure was observed and the drill string was pulled to find a nozzle lost from the bit. Ran back into hole and drilled through the bridge plug and cement. While reaming out the hole below the cement plug, a gas bubble came to the surface displacing mud through the rotary table (max gas2,770 units). The well was shut in and observed. Drill pipe and annular pressures were zero. The well was diverted to the trip tank for 15 minutes and was found to be static. The bit was then run to bottom.
30 JUNE 1984	Circulated bottoms up (gas 2,700 units) and then drilled to 3,013 metres and pulled the drill string for a bit change. A 10-10-10 test was performed before pulling out, giving 60-110-48 units. Ran in hole with bit number 13 (J33 3x13) and drilled ahead to 3,041 metres (T.G. 16-300-12).
1 JULY 1984	Drilled 8½" hole to 3,105m.
2 JULY 1984	Drilled to 3,140 metres where the bit was pulled due to an increase in torque. A new J33 was run into the hole and new hole was drilled to 3,150 metres.
3 JULY 1984	Drilled ahead to 3,205 metres.
4 JULY 1984	Drilled ahead to 3,237 metres where the gas level rose to 2,200 units (44%). Gas was circulated out but did not drop below 1,200 units. The mud weight was raised to 10.9 units to suppress the gas. A 10-10-10 was conducted after the 10.9 mud was conditioned resulting in 4-7-4 units. Drilled ahead to 3,250 metres.

5 JULY 1984	New hole was drilled to 3,273 metres where the hole was circulated out (4-1860-5 units). A 10-10-10 was conducted giving (4-1750-25); so the mud weight was then raised from 10.9 to 11.4 ppg to suppress gas readings. The bit was then pulled out of the hole in order to cut a core.
6 JULY 1984	Cut core No. 12 from 3,273.2 to 3,282.5 meters, recovering 100%. With no shows at the bottom of the core, normal drilling operations were resumed, including a stack test. R.I.H. with bit No. 15 (J44); reamed the core rathole; then circulated bottoms-up (T.G. was 15-96-7 units), prior to drilling new hole down to 3,288 metres. Pore pressure was estimated to be 10.8 ppg at this depth since no connection gas was detected in the drilled interval, whilst using a mud weight of 11.5 ppg.
7 JULY 1984	Continued drilling 8½" hole, at the slow penetration rate of 1-2 metres per hour, down to the T.D. of 3,321 metres. Circulated bottoms-up, then P.O.O.H. to log.
8 JULY 1984	Schlumberger logged at T.D. R.I.H. for a wiper trip, following the velocity survey.
9 JULY 1984	Completed the wiper trip and proceeded to run R.F.T.'s 31, 32, 33.
10 JULY 1984	Continued to run R.F.T.'s, followed by three C.S.T. runs. Open-ended drill pipe was then run into the hole to condition the mud prior to cementing.
11 JULY 1984	Continued to condition the hole. Bottoms-up gas was 80-2500-25 units. Set a cement plug between 3,237 and 3,321 metres. Circulated bottoms-up from the top of the cement plug (60-1500-20 units). Pulled the open-ended drill string out of the hole, then R.I.H. with a drill bit. Circulated bottoms-up again (maximum gas was 120 units).
12 JULY 1984	Tested the cement; performed a P.I.T. Ran the 7" liner. Circulated bottoms-up from the liner seat (3,219 metres); maximum gas was 12 units. Cemented the liner.
13 JULY 1984	Pulled the liner running tool, after circulating bottoms-up from the top of the cement (maximum gas was 8 units). Tested the stack. R.I.H. with a 8½" bit and a 9 5/8" casing scraper. Circulated bottoms-up from 2,227 metres; 2-73-3 units. Performed a P.I.T. which indicated a poor cement job. P.O.O.H., then R.I.H. with O.E.D.P. to re-cement the liner.

14 JULY 1984	Circulated bottoms-up from 2,060 metres; 1-2.5-1 units. Squeezed cement. Pulled the open-ended drill string. R.I.H. with an 8½" bit and reamed the cement from 2,083-2,227 metres. (Maximum gas while reaming the cement was 21 units). P.O.O.H.
15 JULY 1984	Made up a modified B.H.A. for a 6" hole. R.I.H. with same plus a 6" bit and 7" casing scraper. Reamed and drilled cement from 3,005-3,147 metres.
16 JULY 1984	Continued drilling cement (down to 3,182 metres). Circulated and conditioned the mud. P.O.O.H.
17 JULY 1984	Schlumberger ran in the hole 3 times. Firstly to run a cement bond log (CBL); secondly to run the gauge ring and junk basket; and finally to set a Model "D" packer at 3,080 metres. The drilling crew then R.I.H. with drill-pipe and tubing to pump diesel below the packer. P.O.O.H.
18 JULY 1984	Ran the production tubing and rigged up the surface equipment.
19 JULY 1984	Completed the preliminary pressure tests on equipment and lines, then commenced PWT No. 1 by perforating the interval 3,147-3,138 metres. Waited for pressure build-up.
20 JULY 1984	Flowed the well. Gas was recovered at the surface. Otis took a bottom-hole sample, then the well was opened again, with the flow routed via the separator. Conducted a stepwise pressure profile; reverse circulated; and then killed the well.
21 JULY 1984	Pulled the production tubing, then ran cased-hole R.F.T.'s.
22 JULY 1984	Ran tubing and rigged up the production equipment.
23 July 1984	Flowed the well via the tanks and flare booms.
24-26 JULY 1984	Continued to flow the well.
27 JULY 1984	Shut the well in.
28 JULY 1984	Rigged down the production equipment, and killed the well. At 06.25 hrs anchor line No. 3 parted and all non-essential personnel were evacuated from the rig due to deteriorating weather conditions.
29-31 JULY 1984	Waited on weather
1-4 AUGUST 1984	Repaired the broken anchor lines. Repositioned the rig on location. Ran the riser.

5 AUGUST 1984	Service personnel returned to the rig. Pipe was run into the hole to bottom, and the hole was conditioned. Tested the stack.
6 AUGUST 1984	Ran cased-hole R.F.T. No.'s 3-5 then raised the L.M.R.P. to repair a leak.
7 AUGUST 1984	Repaired the L.M.R.P., re-ran same, then tested the entire stack. Ran the 3½" tubing and rigged up the production equipment.
8 AUGUST 1984	Commenced P.W.T. No. 3 by perforating the interval 2,562-2,569 metres. The gun became stuck in the packer. Flowed the well. Shut in the well and attempted to recover the gun, but it had dropped through the packer.
9 AUGUST 1984	Took two bottom-hole samples, then opened the well for the major flow period. The well was shut in just before midnight.
10 AUGUST 1984	Rigged down the test equipment and pulled the tubing. Set the bridge plug and production packer for test No. 4. Ran the tubing.
11 AUGUST 1984	Rigged up for the test, then paused due to inclement weather.
12-14 AUG 1984	Waited on weather. The mud in the hole was circulated to condition it, during a short period of calm in the weather.
15 AUGUST 1984	Waited on weather. Conditioned the mud. Pulled the L.M.R.P. to fix a leak. Made repairs and re-ran same.
16 AUGUST 1984	Rigged up the surface production equipment. Began PWT No. 4 by perforating the interval 2,543-2,552 metres. The well flowed immediately. Shut the well in after the flow had cleaned-up satisfactorily.
17 AUGUST 1984	Schlumberger performed temperature and pressure surveys down-hole. Opened the well for the major flow period, firstly via the choke manifold, then via the separator. The well produced at 1,900 bbls of oil per day. Shut the well in prematurely due to a weather alert. Let the pressure build-up. Reverse-circulated. Conditioned the mud in the hole. (Gas was 1-830-100 units).
18 AUGUST 1984	Hung off the tubing and waited on weather. Decided to terminate production test No. 4, so the well was killed (maximum gas was 89 units). Rigged down the surface testing equipment and squeezed cement into the perforations.

4. LITHOLOGY AND CORE-O-GRAPHS

LITHOLOGY SUMMARY

TUNA NO. 4 was drilled to (1) confirm a commercial accumulation of M-1 oil in the Western part of the Tuna field; (2) to assess the hydrocarbon potential of the intra-Latrobe section in a fault bounded trap located South West of the Tuna field intra Latrobe accumulations. Proposed T.D. was 3021 metres, but after promising shows this was extended to 3321 metres to further evaluate the lower Latrobe Group sediments.

All formation tops are open to speculation and are based entirely on the examination of cuttings. (All depths from R.K.B.)

Gippsland Limestone (220 - 1085 metres)

This was a limestone sequence of calcarenite with increasing quantities of calcisiltite with depth.

Calcarenite: light grey to medium grey, soft-firm, sub rounded grains, moderately well sorted; becoming argillaceous with depth. Occasionally fossilliferous with bryzoans, corals and rare forams. Minor glauconite and pyrite in parts.

The gas averaged 15-30 units with only C_1 from 220 - 870 metres, steadily increasing to 30-50 units from 870 metres on with C_1 and minor C_2 and C_3 being recorded.

Lakes Entrance Formation (1085 - 1373 metres)

This section consisted entirely of calcisiltite and calcilutite. Medium - light grey, soft to occasionally firm, argillaceous. Becoming increasingly soft - sticky and gummy with depth. Minor very fine sand grains, pyrite and glauconite in part.

The gas averaged 30 units with C_1 and minor C_2 and C_3.

Latrobe Group (1373 - 3321 metres T.D.)

A stratigraphic sequence of channel deposits which consisted of interbedded Sandstone, Siltstone, Coal, Claystone/Shale, and altered volcanics.

This formation can be divided into several intervals.

1373 - 1530 metres M 1 Reservoir

Sandstone: loose quartz grains, clear to milky white, coarse to very coarse, sub angular - sub rounded, moderately sorted; no shows. Grading to sandstone: clear to opaque, grey in part, coarse to very coarse, unconsolidated, sub-rounded - sub angular. At 1415 - 1455 metres 5 - 20% bright yellow/green fluorescence with a very slow weak yellow cut was noted.

Four plastic sleeve cores were cut back to back at the top of the M-1 Reservoir - from 1380 - 1414 metres. Due to the unconsolidated nature of the sands, recovery was very poor. The amount recovered consisted of Sandstone and minor Siltstone. The Sandstone was clear, grey-white, occ buff; medium - coarse, occasionally very coarse grained. Sub angular - sub rounded - occ well rounded. Predominantely unconsolidated and clear,

with occasional argillaceous and minor kaolinite matrix. Fluorescence in the cores was noted from 1395 - 1414 metres - 70-90% bright greenish yell with a moderately fast streaming white cut.

Gas increased immediately upon entering the coarse clastics at the top of the Latrobe, from 30 to a peak of 1500 units, decreasing to 5 - 20 units. C_1 to C_6 was recorded.

1530 - 2050 metres

Interbedded Siltstone, Claystone, Coal and Sandstone.

The Sandstone was clear, white, occasionally grey. Predominantly unconsolidated, coarse grained, sub angular to sub rounded, moderately sorted, with good visible porosity. Occasionally fine grained with slightly calcareous cement and an argillaceous matrix. No shows.

Siltstone: Interbedded throughout, with several distinct beds of 80-100% Siltstone. Light grey - medium grey brown, firm, argillaceous, micromicaceous and carbonaceous in part. Occasionally sandy. Slighty calcareous in part. part.

Claystone: Increasing with depth, often seen as sticky gumbo. Light grey - dark grey, microcarbonaceous, very soft.

Coal: Small beds increasing in size and frequency with depth - to a large coal deposit from 2000 - 2050 metres. Black, hard to firm, blocky, occasionally vitreous.

Gas averaged 10 - 30 units, with peaks up to 250 units associated with coal beds. C_1 - C_4 was recorded with trace C_5 in parts.

2050 - 2695 metres

Interbedded Sandstone, Siltstone, with occasional shale/claystone, and minor coal.

Sandstone: Clear, medium to coarse grained, unconsolidated quartz grains, sub angular to rounded, modeately sorted. Grading with depth to finer grained with occasional quartzose aggregates with dolomitic and siliceous cement.

Siltstone: Light to dark grey brown, firm, carbonaceous, micromicaceous in part, argillaceous, becoming slightly calcareous with depth.

Shale: Dark brown, micromicaceous, sub fissile, occasional carbonaceous laminations and flecks.

Cores 5 - 9 were cut back to back from 2481 - 2564 metres. The associated lithology was interbedded sandstone, silty sandstone and Siltstone. The environment was deduced as pluvial, - and this was a sequence of stacked channel sandstones ranging from beds of very fine to fine grained, dolomitic cemented sandstones with poor visible porosity and no shows; to medium to coarse grained sandstone, moderate to well sorted, weak siliceous cement and good visible porosity - with associated oil staining and bright yellow fluorescence with slow to moderately fast streaming cut.

Gas averaged 10 units, increasing up to 200 units in the hydrocarbon bearing zones, with C_1 - C_6 present from 2460 - 2695 metres.

2695 - 2745 metres

This section consisted entirely of volcanic material - notably Dolerite; with minor sandstone at the base.

Dolerite: Medium-dark grey-grey green, hard to very hard, sub angular cuttings, occasional coarse crystalline quartz; and feldspars and ferromagnesiums.

Gas was 3 units throughout with a peak of 50 units immediately upon coming out of the volcanics into sandstone at the base of the zone.

2745 - 3060 metres

Interbedded sandstone, siltstone, with minor claystone and coal.

Sandstone: 2 types (1) loose quartz grains and fragments, clear-milky white, medium to very coarse grained, sub angular to angular - occasionally sub rounded. Poor to moderately sorted. (2) Sandstone aggregates; very light grey, fine to very fine grained - occasionally fine to medium grained aggregates. Moderately well sorted, friable to moderately hard. Moderately cemented - siliceous, minor dolomitic cement, occasional carbonaceous inclusions, predominantly poor visible porosity. In some parts where porosity was not "cemented out" there was 5-20% bright white to dull yellow fluorescence with slow to moderately fast streaming cut.

Siltstone: Light grey - dark grey, brown grey; firm - hard, occasionally soft. Blocky, micromicaceous in part, dolomitic in part. Common carbonaceous and coaly inclusions. Occasional very fine quartz grain inclusions.

Coal: Black, firm - brittle, vitreous in part, conchoidal fracture in part.

Cores 10 - 11 were cut in this zone from 2822.5 - 2833 metres. Core recovered (56%) indicated an interbedded/interlaminated sandstone/siltstone lithology. The Sandstone ranged from very fine to coarse grained, poor to moderately well sorted, with predominately siliceous cement with an argillaceous matrix in part. Up to 80% bright white - yellow fluorescence occurred in small zones (2 cm - 50 cm thick) with a slow streaming and instant white crush cut.

Gas averaged 10 - 30 units, climbing to 400 units in hydrocarbon zones - and peaking at 3500 units upon entering overpressure at 3006 metres. C_1 - C_6 were recorded.

3060 - 3321 metres T.D.

The bottom section of the Latrobe Group consisted of Interbedded Sandstone, Siltstone, Sandstone conglomerate, and occasional chert and dolomitic shale; with minor coal.

Sandstone, Sandstone/conglomerate: At the top of this interval the Sandstone was white, buff, light grey; medium to coarse grained, sub angular to angular, predominantly unconsolidated; - becoming finer grained with dominant siliceous and occasionally dolomitic cement; occasional kaolinite matrix. The Sandstone graded to a Sandstone/conglomerate: fine-

medium grained with common chert clasts, angular quartz pebbles, lithic fragments and carbonaceous inclusions. Siliceous and trace dolomitic cement.

At T.D. the Sandstone was 20% dark grey, fine grained, argillaceous and bituminous - with trace to moderate bright yellow fluorescence and a moderately fast streaming white to light yellow cut.

Siltstone: Grey to dark grey, carbonaceous, micromicaceous, firm to hard; kaolinitic and siliceous in part.

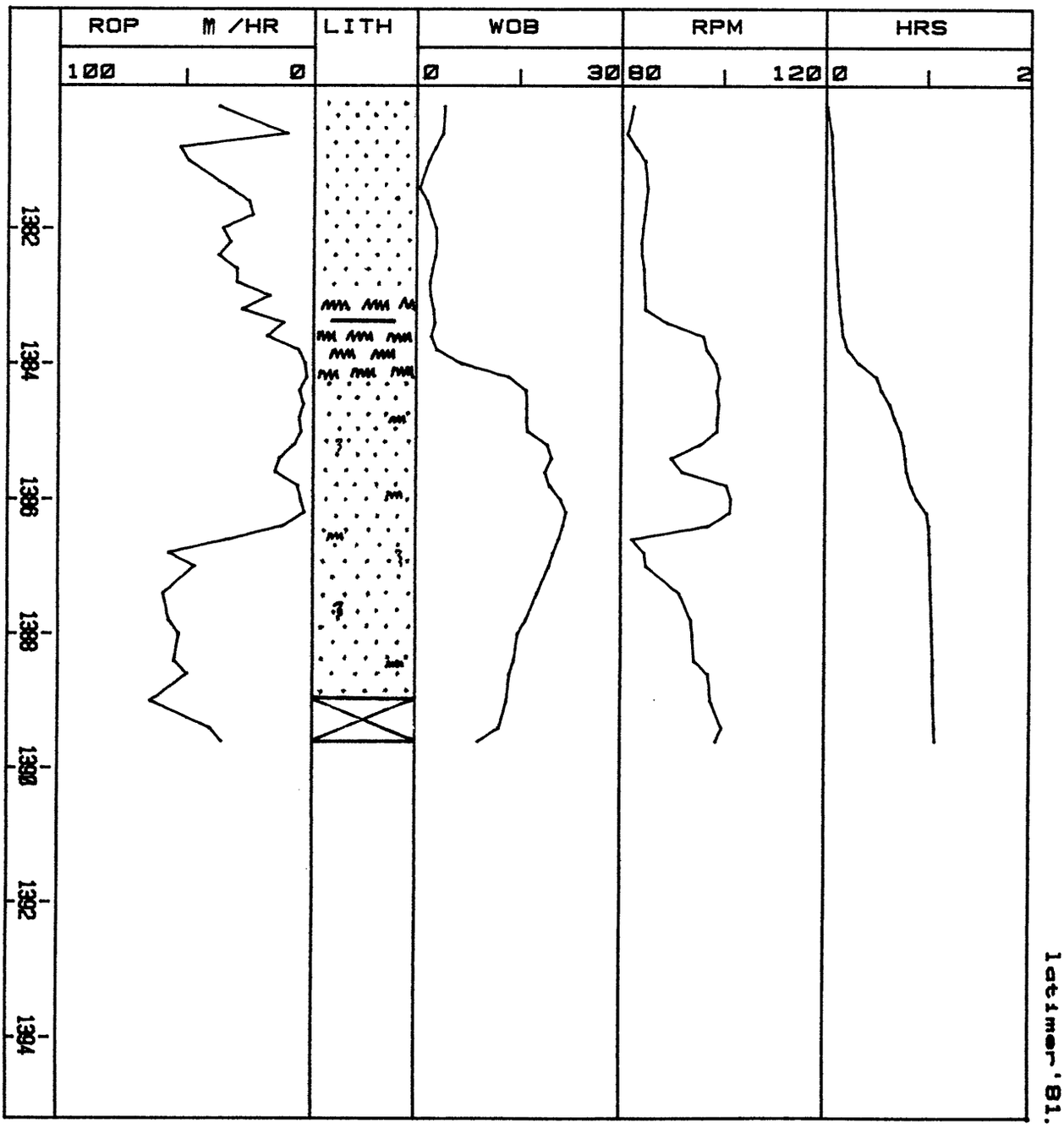
Core 12 was cut from 3273.9 - 3282.5 metres - Lithology was interbedded and interlaminated Sandstone/Siltstone/ and Shale, with Sandstone conglomerate at the base of the core.

Gas averaged 20 units with peaks up to 100 units associated with coals and hydrocarbon shows; and up to 2000 units where overpressure was encountered.

C_1 to C_4 were encountered throughout, with occasional C_5 and C_6.

CORE-O-GRAPH

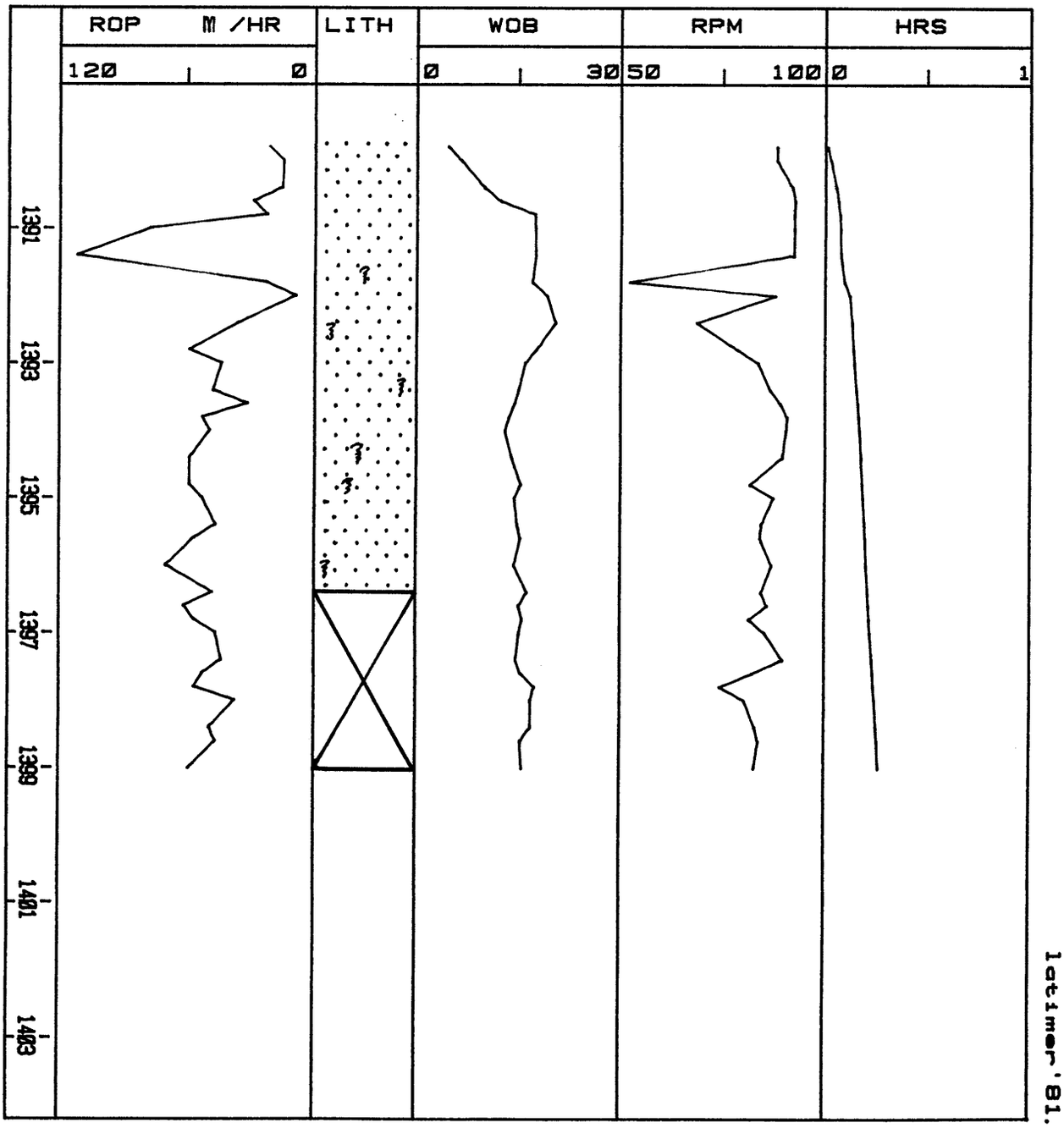
CLIENT:	ESSO AUSTRALIA LTD.
WELL:	TUNA No. 4
CORE NO.:	1
INTERVAL CORED FROM	1380.0m. TO 1389.8m.
CUT: 9.8m.	RECOVERED: 8.8m. (89.8%)
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRISTENSEN RC4
CORE BARREL SIZE:	7.00in. x 5.00in. x 10.77m.
BIT SIZE: 9.88	MUD WT.: 9.8



latimer'81.

CORE-O-GRAPH

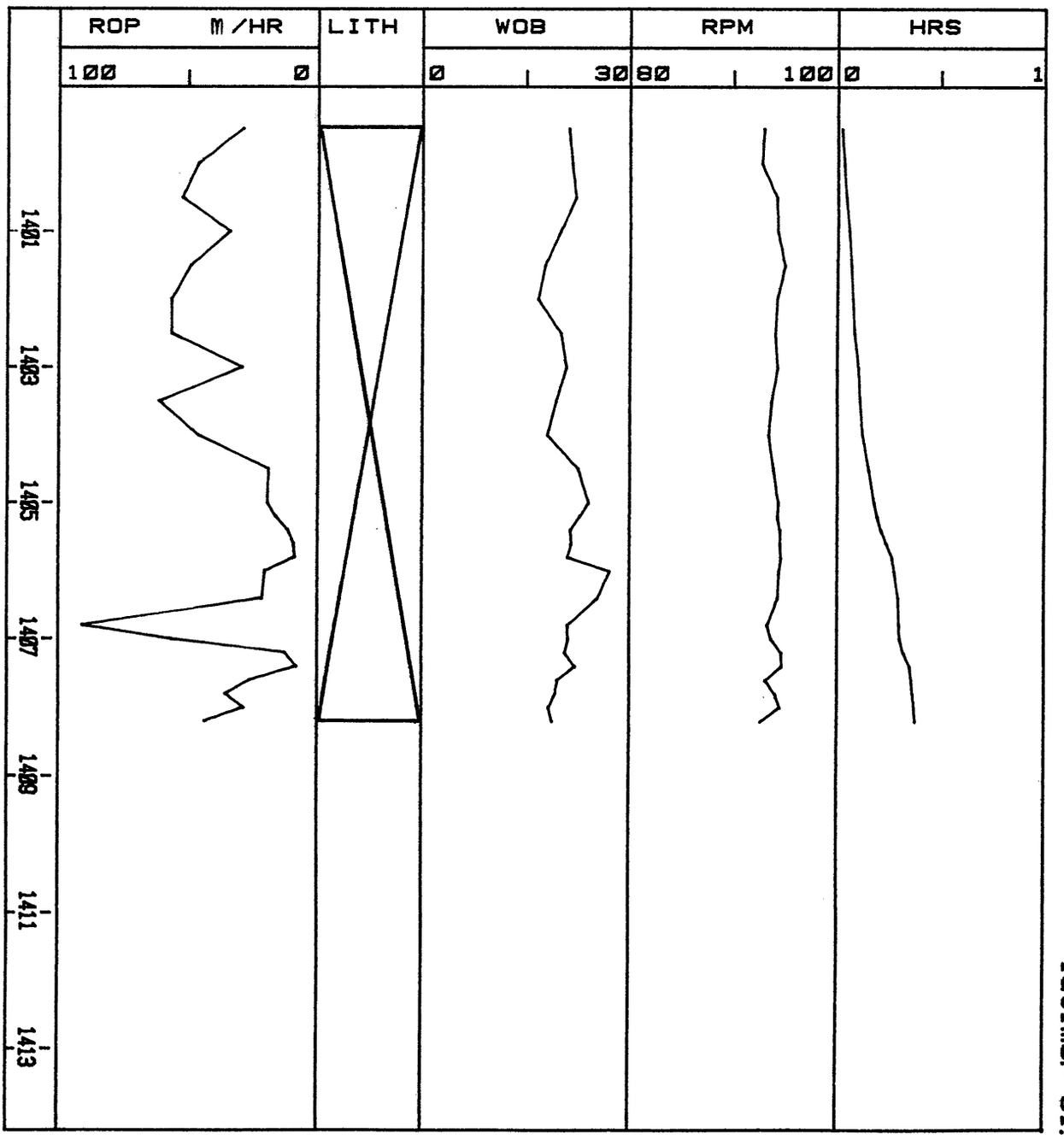
CLIENT:	ESSO AUSTRALIA LTD.
WELL:	TUNA No. 4
CORE NO.:	2
INTERVAL CORED FROM	1389.6m. TO 1399.0m.
CUT: 9.4m.	RECOVERED: 7.0m. (74.5%)
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRISTENSEN RC4
CORE BARREL SIZE:	7.00in. x 5.00in. x 10.77m.
BIT SIZE: 9.88	MUD WT.: 9.8



latimer'81.

CORE-O-GRAPH

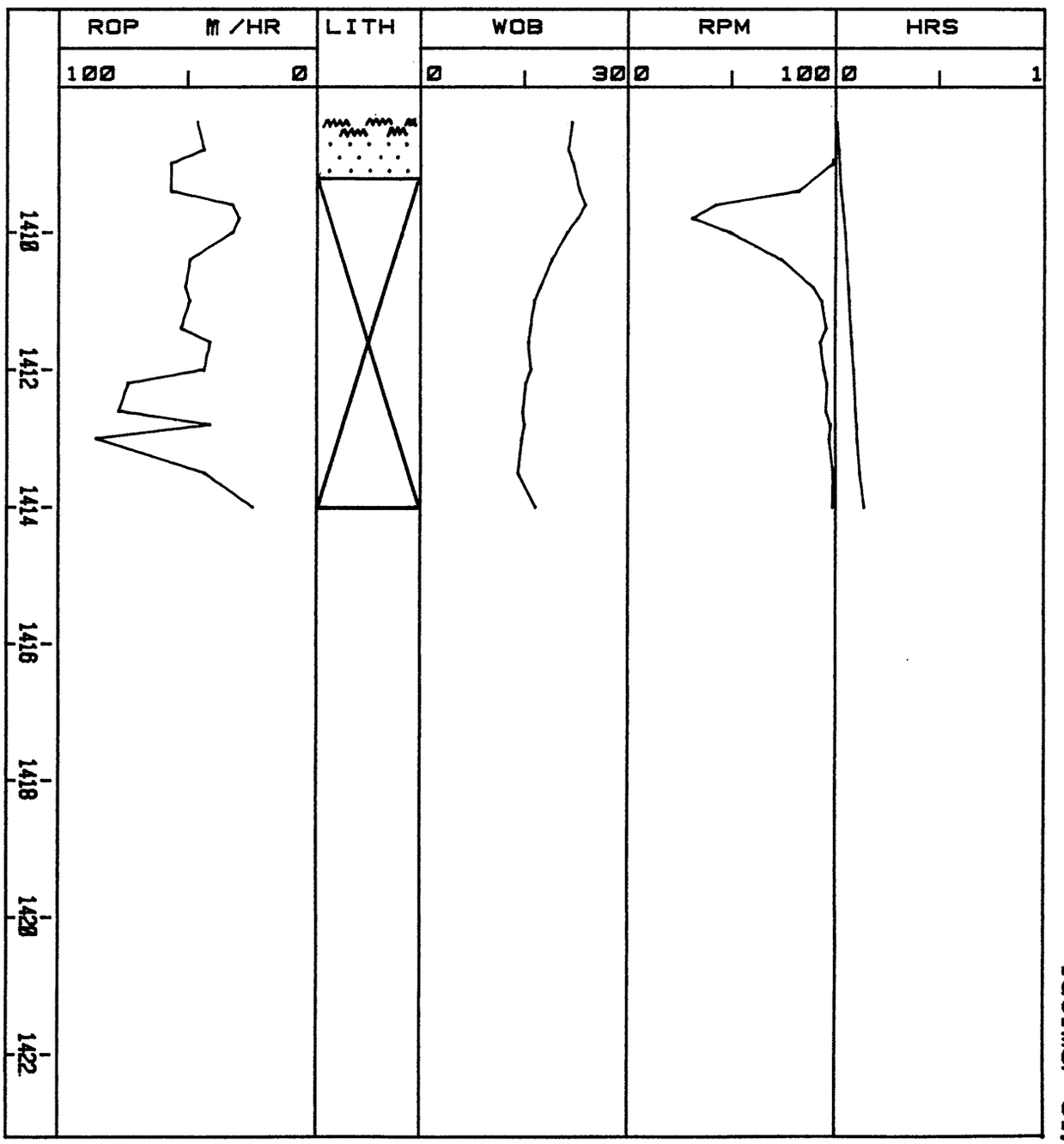
CLIENT:	ESSO AUSTRALIA LTD.
WELL:	TUNA No. 4
CORE NO.:	3
INTERVAL CORED FROM	1399.0m. TO 1408.2m.
CUT: 9.2 m.	RECOVERED: 0.0m. (0.0%)
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRISTENSEN RC4
CORE BARREL SIZE:	7.00in. x 5.00in. x 10.77m.
BIT SIZE: 9.88	MUD WT.: 9.8



latimer '81.

CORE-O-GRAPH

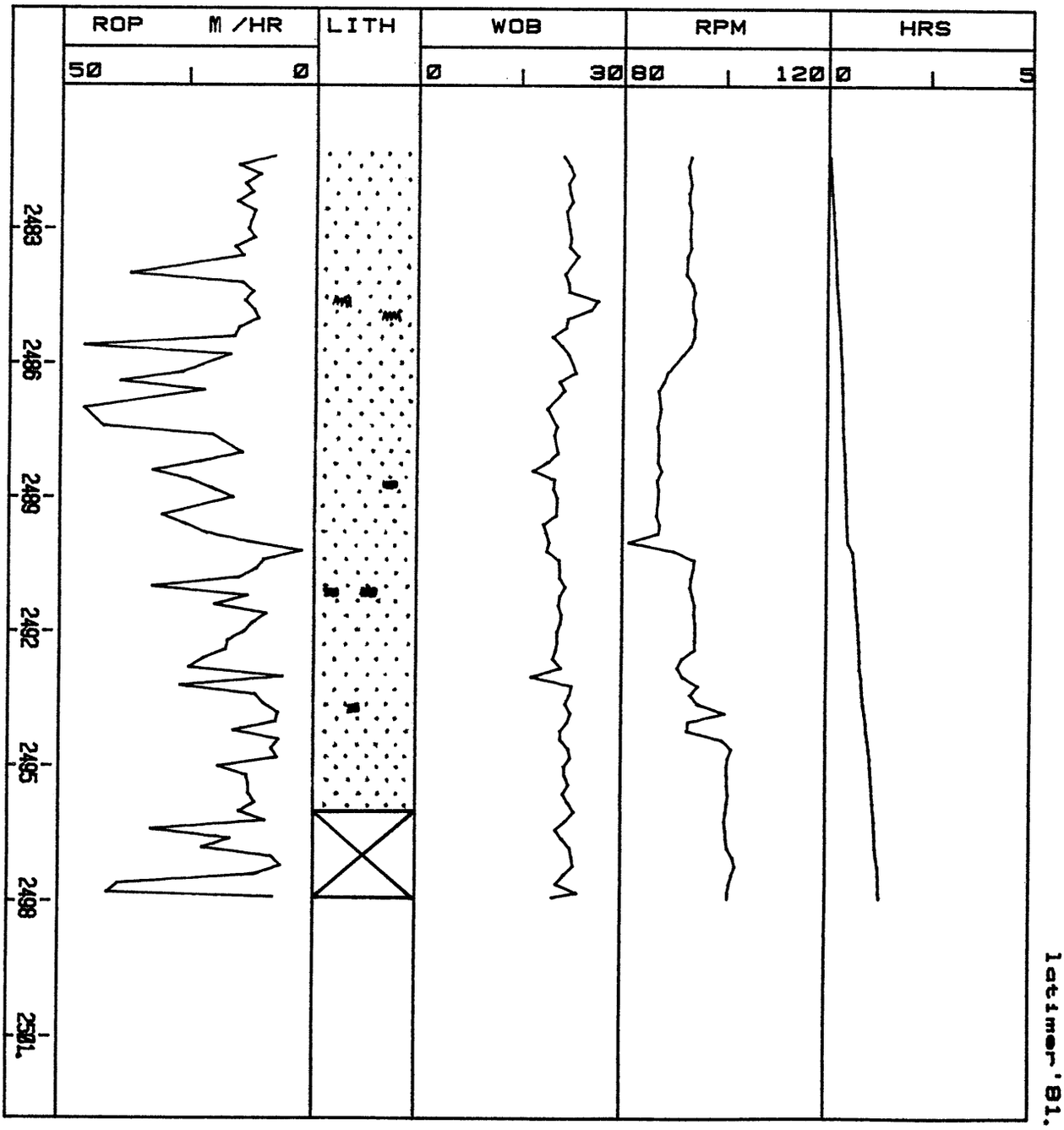
CLIENT:	ESSO AUSTRALIA LTD.
WELL:	TUNA No. 4
CORE NO.:	4
INTERVAL CORED FROM	1408.2m. TO 1414.0m.
CUT: 5.8m.	RECOVERED: 1.1m. (19.0%)
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRISTENSEN RC4
CORE BARREL SIZE:	7.00in. x 5.00in. x 10.77m.
BIT SIZE: 9.88	MUD WT.: 9.8



latimer '81.

CORE-O-GRAPH

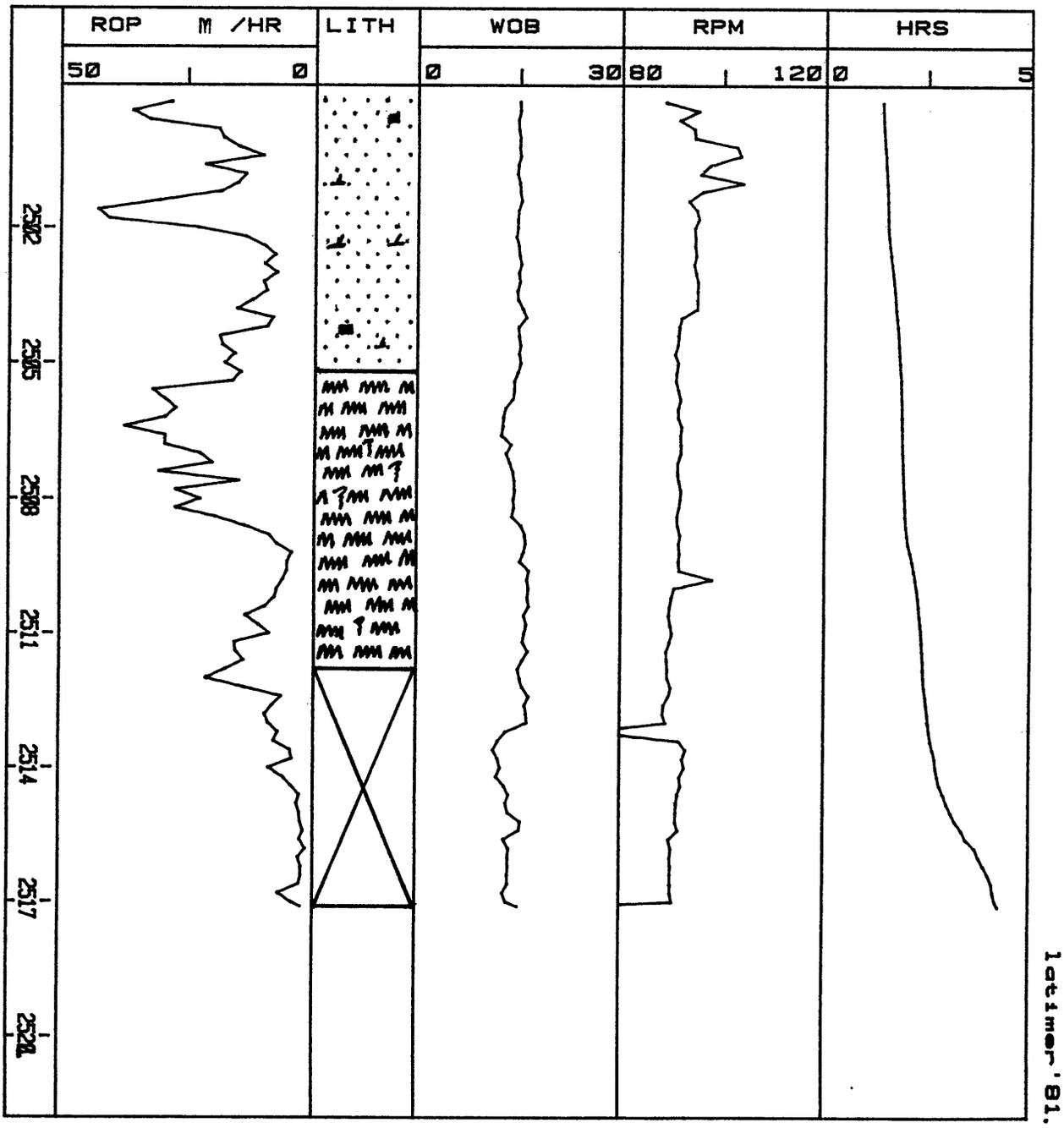
CLIENT:	ESSO AUSTRALIA LTD.
WELL:	TUNA No. 4
CORE NO.:	5
INTERVAL CORED FROM	2481.2m. TO 2499.0m.
CUT: 17.8 m.	RECOVERED: 16.0m. (89.9%)
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRISTENSEN RC8
CORE BARREL SIZE:	6.25in. x 4.00in. x 18.40m.
BIT SIZE: 8.50	MUD WT.: 9.4



latimer'81.

CORE-O-GRAPH

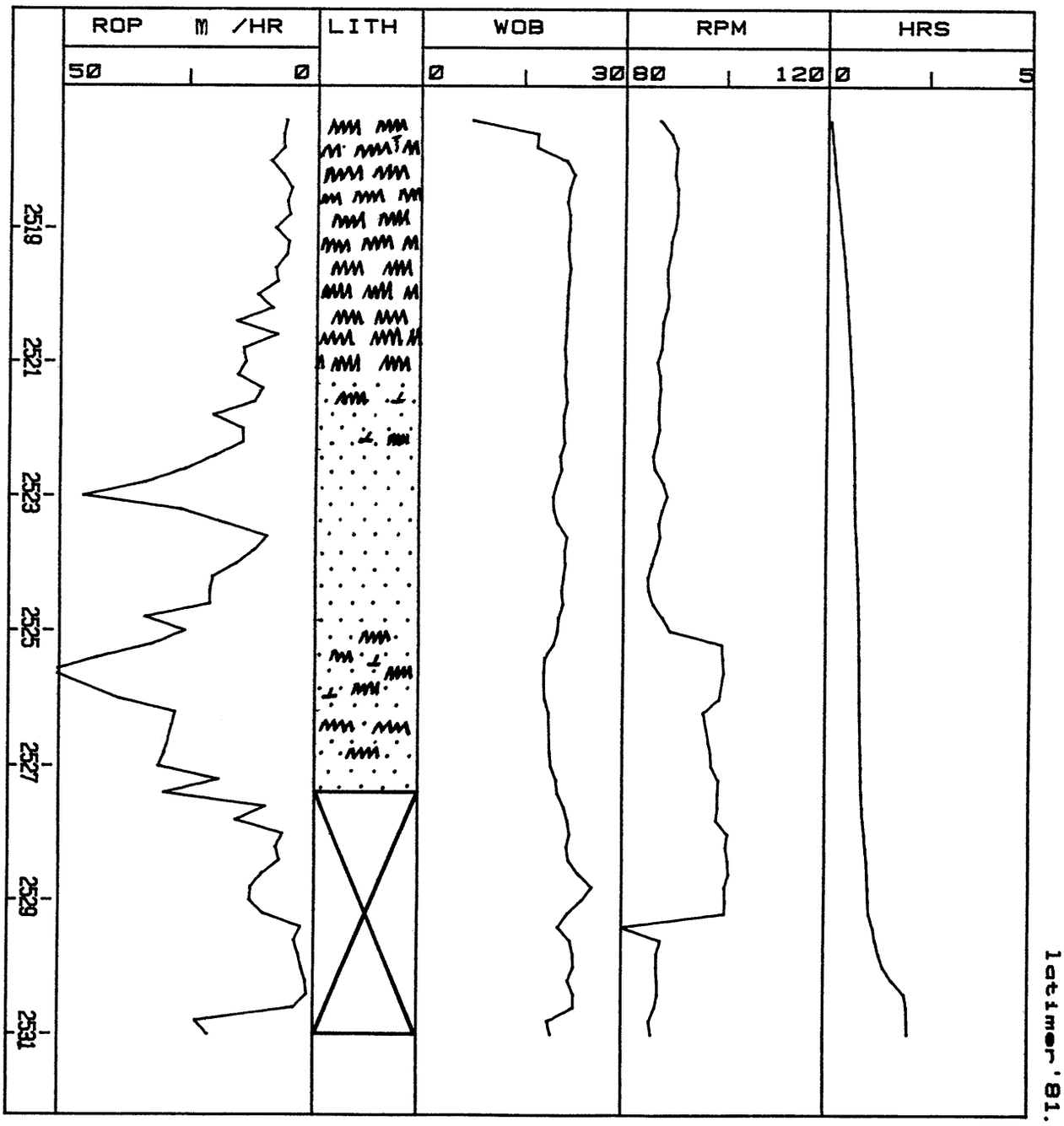
CLIENT:	ESSO AUSTRALIA LTD.
WELL:	TUNA No. 4
CORE NO.:	6
INTERVAL CORED FROM	2499.0m. TO 2517.1m.
CUT: 18.1 m .	RECOVERED: 12.7m. (69.9%)
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRISTENSEN RC8
CORE BARREL SIZE:	8.25in. x 4.00in. x 18.40m.
BIT SIZE: 8.50	MUD WT.: 9.4



latimer '81.

CORE-O-GRAPH

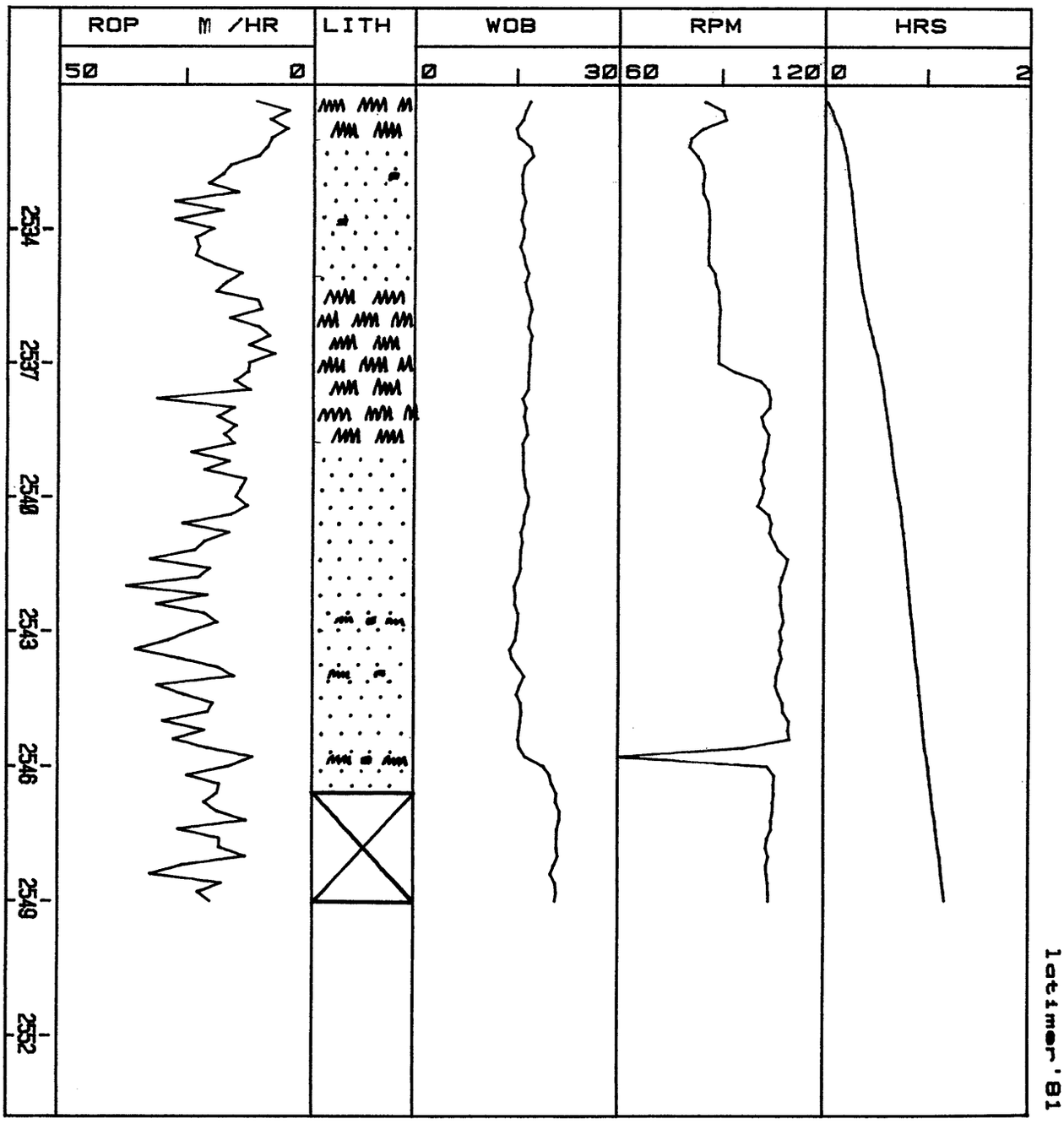
CLIENT:	ESSO AUSTRALIA LTD.
WELL:	TUNA No. 4
CORE NO.:	7
INTERVAL CORED FROM	2517.1m. TO 2531.0m.
CUT: 13.9 m.	RECOVERED: 9.8m. (70.5%)
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRISTENSEN RC6
CORE BARREL SIZE:	6.25in. x 4.00in. x 18.40m.
BIT SIZE: 8.50	MUD WT.: 9.4



latimer '81.

CORE-O-GRAPH

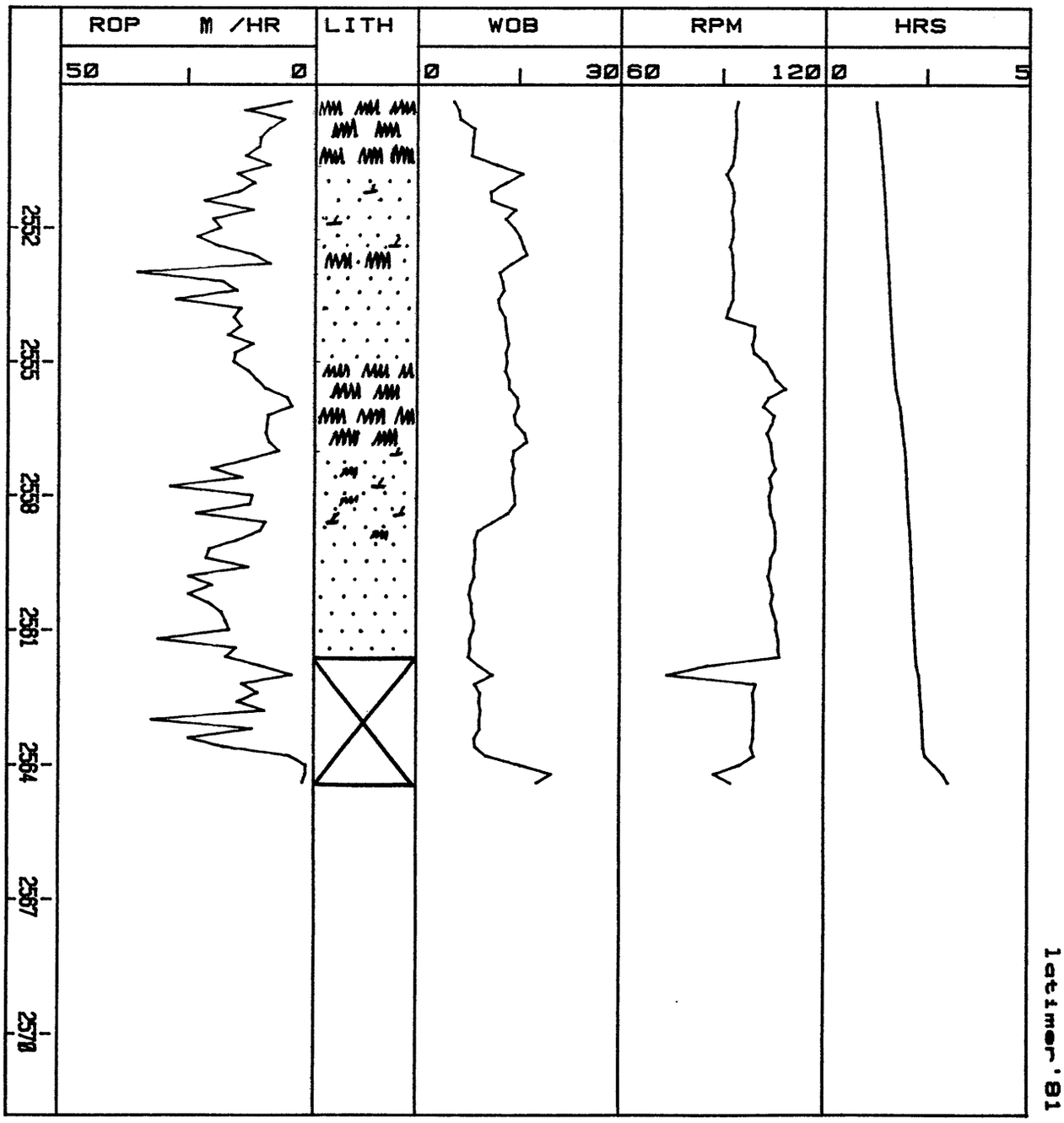
CLIENT:	ESSO AUSTRALIA LTD.
WELL:	TUNA No. 4
CORE NO.:	8
INTERVAL CORED FROM	2531.0m. TO 2549.0m.
CUT: 18.0 m.	RECOVERED: 15.6m. (86.7%)
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRISTENSEN RC4
CORE BARREL SIZE:	6.25in. x 4.00in. x 18.40m.
BIT SIZE: 8.50	MUD WT.: 9.4



latimer'81

CORE-O-GRAPH

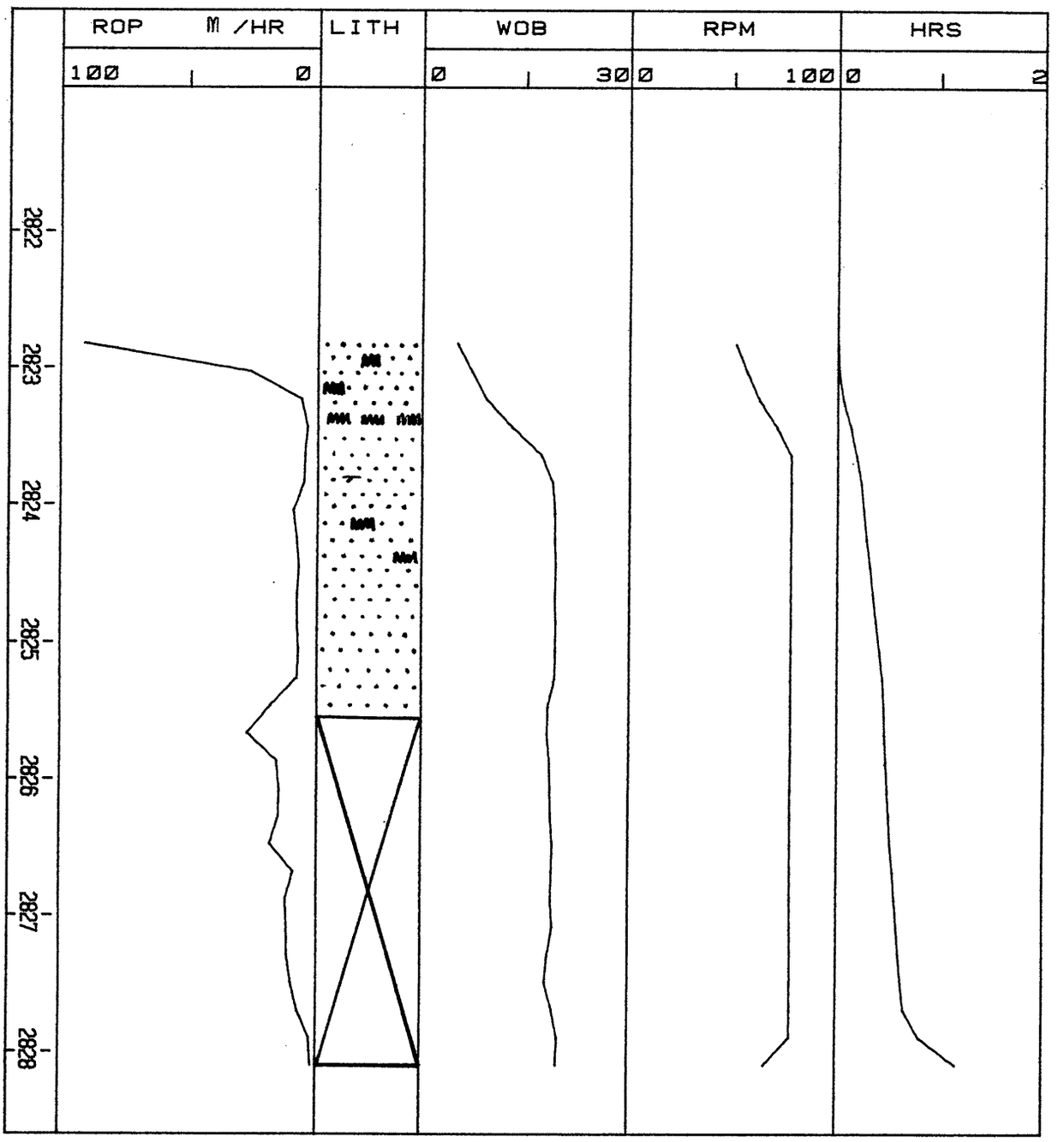
CLIENT:	ESSO AUSTRALIA LTD.
WELL:	TUNA No. 4
CORE NO.:	9
INTERVAL CORED FROM	2549.0m. TO 2564.4m.
CUT: 15.4 m.	RECOVERED: 12.5m. (81.2%)
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRISTENSEN RC4
CORE BARREL SIZE:	8.25in. x 4.00in. x 18.40m.
BIT SIZE: 8.50	MUD WT.: 9.4



latimer '81

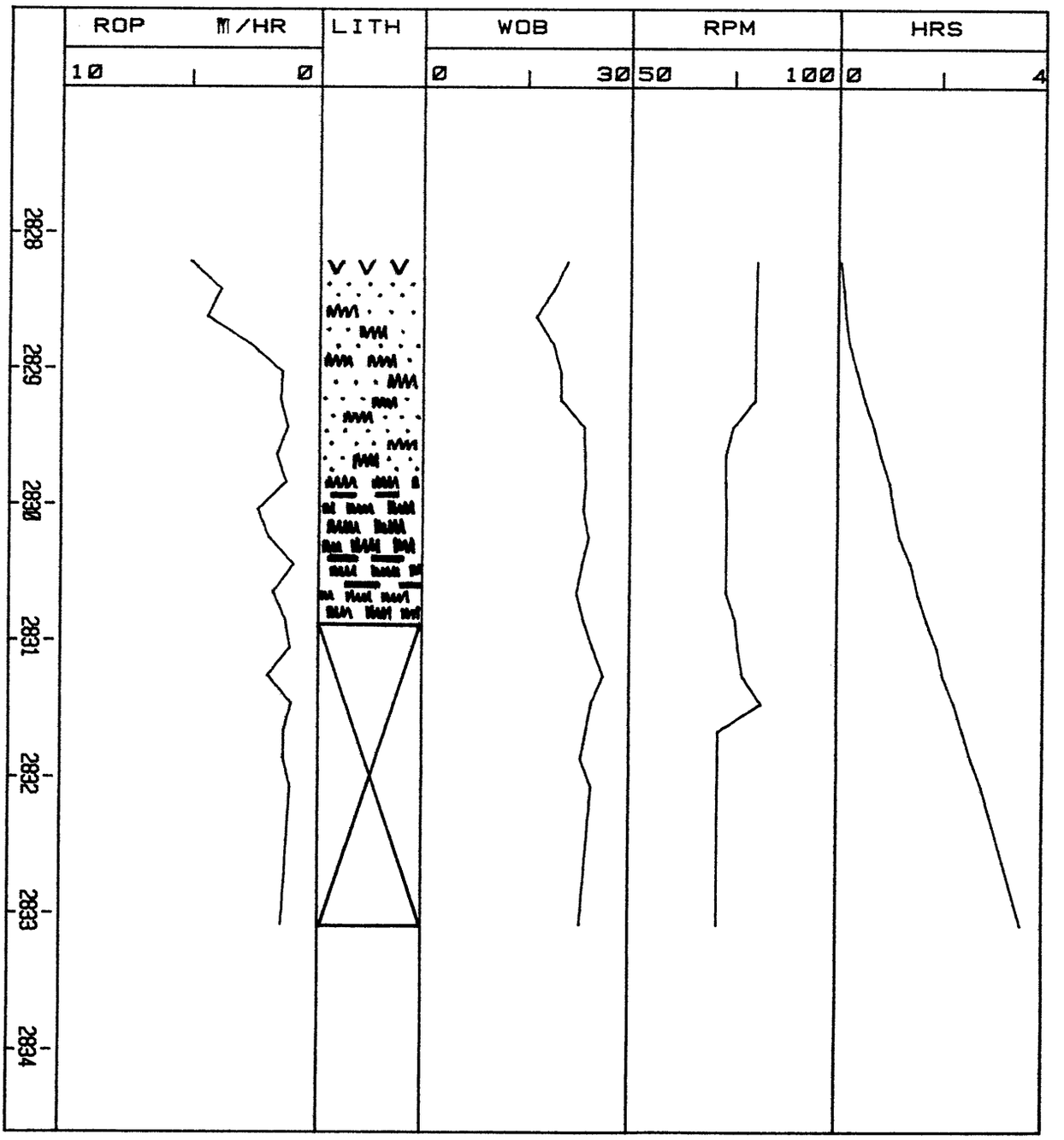
CORE-O-GRAPH

CLIENT:	ESSO AUSTRALIA LTD
WELL:	TUNA No. 4
CORE NO.:	10
INTERVAL CORED FROM	2822.5m. TO 2828.0m.
CUT: 5.5m.	RECOVERED: 3.0m. (54.5%)
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRISTENSEN MC-23
CORE BARREL SIZE:	6.25in. x 4.00in. x 18.40m.
BIT SIZE: 8.47	MUD WT.: 9.7



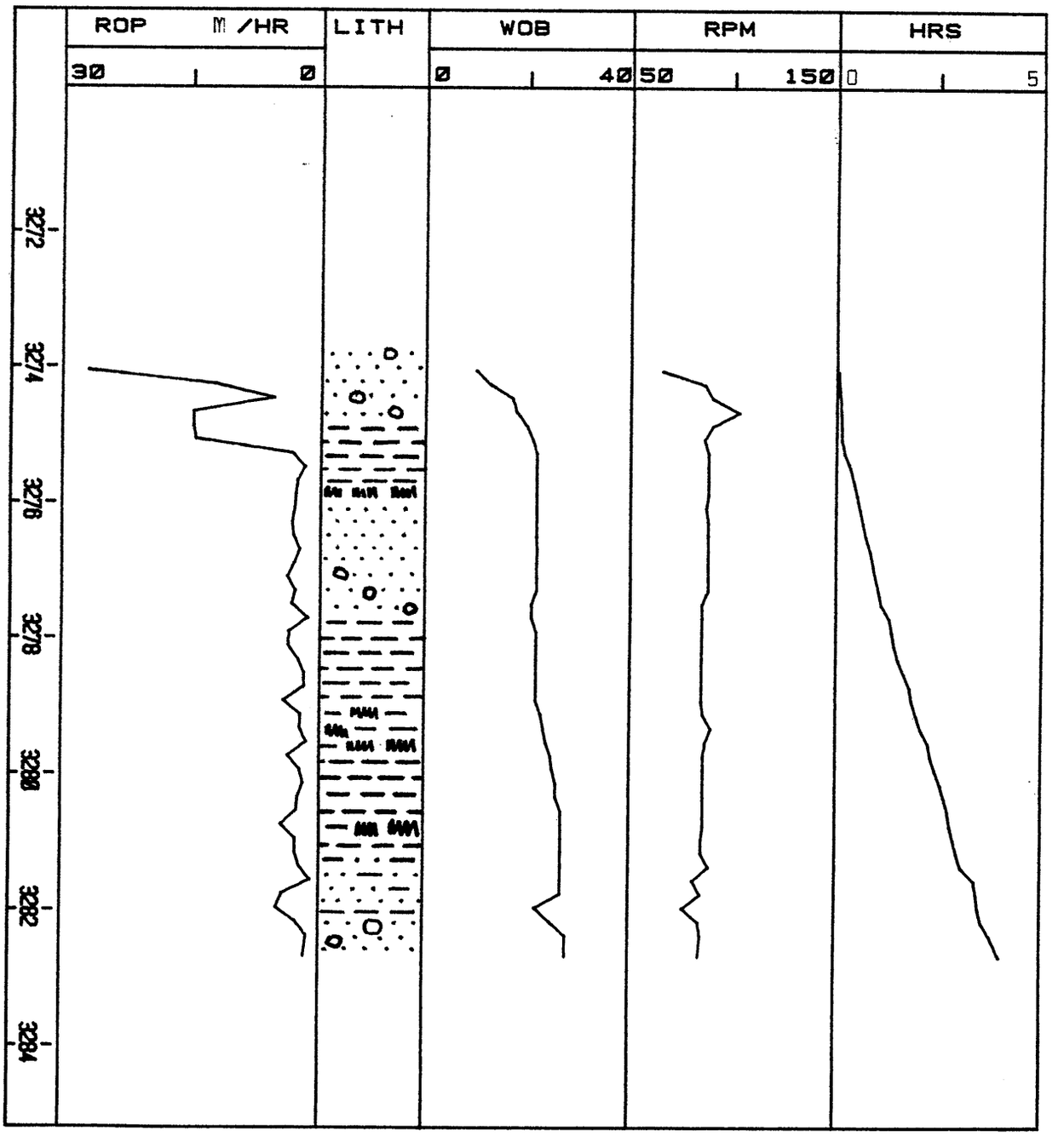
CORE-O-GRAPH

CLIENT:	ESSO AUSTRALIA LTD
WELL:	TUNA No. 4
CORE NO.:	11
INTERVAL CORED FROM	2828.0m. TO 2833.0m.
CUT: 5.0m	RECOVERED: 2.9m. (58.0%)
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRISTENSEN C-23
CORE BARREL SIZE:	6.25in. x 4.00in. x 18.40m.
BIT SIZE: 8.50	MUD WT.: 9.7



CORE-O-GRAPH

CLIENT:	ESSO AUSTRALIA LTD
WELL:	TUNA NO. 4
CORE NO.:	12
INTERVAL CORED FROM	3273.9 m. TO 3282.5m.
CUT: 8.6m	RECOVERED: 8.6m (100.0%)
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRISTENSEN C-23
CORE BARREL SIZE:	8.25in. x 4.00in. x 18.40m.
BIT SIZE: 8.47"	MUD WT.: 11.4ppg.



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 possibl 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 repor 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 secondar coil, the amplitude of the current being directly proportional to the conductivity of the mud.

MUD DENSITY

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

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

CUTTINGS

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

GAS

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

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

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

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

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

SHALE DENSITY

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

6. ESP PLOT DISCUSSIONS AND CONCLUSIONS

ESP PLOT DISCUSSION AND CONCLUSIONS

As predicted from the offset data, this section of the Gippsland Basin was indeed overpressured.

The ESP plots appended in this report manifest the overpressure quite clearly. For instance, in the "Drill Data Plot", the high pressure gas sands at the top of the Latrobe (1376 metres) can be seen as a drill-off trend, as an increase in background gas, and as a reversal in the 'd' exponent trend.

Similar trends exist for the major overpressured zone in the well, which commenced at 2734 metres, and continued on down to T.D. (3321 metres). This section, sealed off by the "Volcanics" above it, was characterized by interbedded sandstones and siltstones, and by a steadily increasing pore pressure, with depth. In the overpressured areas, drill-breaks were flow-checked; connection gas appeared; and 10-10-10 tests were performed. As this information came to hand, the pore pressure was estimated, and the mud was weighted up appropriately. TUNA NO. 4 was drilled overbalanced throughout, with the exception of the zone between 3006 and 3011 metres. Here, the mud weight was only 9.7 ppg, while the pore pressure was up around 10.1 ppg. This underbalanced condition yielded extremely high background gas levels (up to 3100 units).

Quantitative values for the abnormal pressure areas were assigned primarily on the basis of degrees of gas obtained from connections, flow-checks, trips, and 10-10-10 tests. Table 1 summarizes these data. Table 2 shows the resulting formation pressure profile for the entire well. The profile is illustrated on 2 plots: firstly, on the "Pressure Plot", associated with mud density and fracture gradient; and secondly on the "Geoplot". As can be seen, the mud weight overbalancing the pore pressures was never, at any time during the well, high enough to fracture the formation.

The pressure of abnormal formation pressure in TUNA NO. 4 is further highlighted on the "Temperature" plot. In the interval 2870 - 3010 metres we see a classic manifestation of overpressure, where the geothermal gradient has decreased from the normal 2.16^{o}F/100 feet to almost zero. Theoretically, it should remain thus subdued (acting as a good insulator) until normal pressure is once again penetrated. However, in this case, even though the latter conditions are not met we see a return to apparently normal thermal (and hence geo-pressure) circumstances below 3010 metres. Overpressure exists to T.D., as we know, so there is a disparity, which is explained by the interbedded native of the lithology.

Overburden gradient calculations and a plot of the gradient are included in the report. The fracture gradient is as true as can be derived from the scant leak-off data available for the Gippsland Basin.

TABLE 1: ABNORMAL PRESSURE QUANTIFICATION

DEPTH (M)	CONNECTION GAS (UNITS)	FLOW-CHECK GAS (UNITS)	10-10-10 TEST GAS (UNITS)	TRIP GAS (UNITS)	MUD WEIGHT	ESTIMATED PORE PRESSURE
2650				1-105-4	9.4	8.6
2731				6-69-5	9.5	8.6
2736		4-12-4			9.5	9.0
2737	18-65-13				9.5	9.1
2740		40-140-50			9.5	9.1
2744		40-130-120			9.5	9.1
2747	50-110-100				9.5	9.1
2756	100-150-31				9.5	9.1
2768		8-115-65			9.5	9.1
2776	24-38-6				9.4	9.1
2785	6-93-15				9.5	9.1
2795	12-95-13				9.5	9.1
2798			5-12-6		9.5	9.1
2806		6-109-6			9.6	9.1
2828				10-33-1	9.7	9.2
2833				6-22-5	9.7	9.2
2888	6-44-12				9.7	9.3
2907	4-18-8				9.7+	9.3
2917	2-228-50				9.7	9.4
2927	12-25-9				9.7+	9.4
2927.5		9-26-20			9.7+	9.4
2936	29-110-30				9.7+	9.4
2946	4-23-6				9.7	9.4
2956	22-60-30				9.7	9.4
2960		4-11-3	4-11-3		9.7	9.4
2966	9-12-7				9.7	9.4
2975				4-30-19	9.7	9.4
2986	2-11-3				9.7	9.4
2995	123-226-80				9.7	9.6
3006	125-3000-240				9.7+	10.1
3010		240-3170-810			9.7	10.1
3011				8-1805-24	10.5	10.1
3011				35-3630-95	10.5	10.1
3011				960-3625-75	10.5	10.1
3011				2770	10.9	10.1
3013			80-110-50		10.7	10.1
3013				60-320-23	10.7	10.1
3112	10-84-16				10.5	10.1
3131	3-103-54				10.5	10.1
3237			4-5-4		10.9	10.5
3273			6-1750-6		10.9	10.5
3273			2-7-4	2-14-2	11.4	10.5
3282				15-96-7	11.4	10.8
3321				2-1440-32	11.5	10.8
3321				80-2550-25	11.6	10.8

TABLE 2: GEOPRESSURE PROFILE

DEPTH INTERVAL		PORE PRESSURE
FROM	TO	
82	1375	8.4
1376	1389	8.7
1390	1414	8.6
1415	2206	8.5
2207	2394	8.4
2395	2445	8.5
2446	2733	8.6
2734		8.8
2735		8.9
2736		9.0
2737	2811	9.1
2812	2886	9.2
2887	2909	9.3
2910	2993	9.4
2994		9.5
2995	3003	9.6
3004	3140	10.1
3141	3234	10.2
3135	3273	10.5
3274	3321	10.8

7. B.H.T. ESTIMATION

CORE LAB
========

STRAIGHT LINE LEAST SQUARES BEST FIT

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

ENTERED DATA:

DATA SET #	1/TIME	TEMP
1	0.155	102.0
2	0.093	111.0
3	0.070	117.0

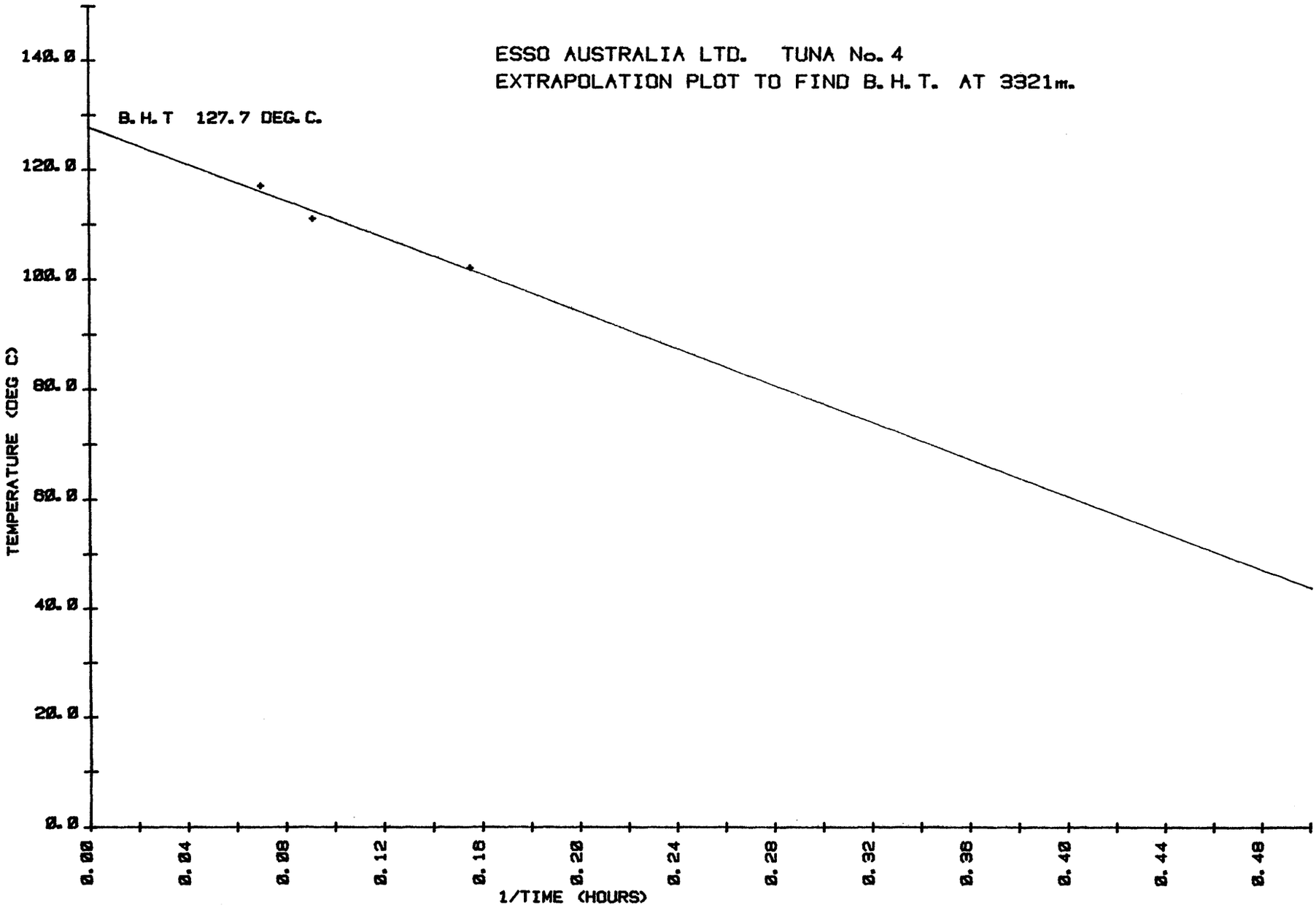
COEFFICIENT & CONSTANT:

Y = m.X + c where m = -1.6808366E 02 and c = 1.2770481E 02

INTERPOLATED DATA:

1/TIME	TEMP
0.000	127.7

ESSO AUSTRALIA LTD. TUNA No. 4
EXTRAPOLATION PLOT TO FIND B. H. T. AT 3321m.



8. OVERBURDEN GRADIENT CALCULATIONS AND PLOT

OVERBURDEN GRADIENT CALCULATIONS

DEPTH . . . . . .metres

BULK DENSITY . . . . . .gm/cc

OVERBURDEN PRESSURE INCREMENT. .psi

CUMULATIVE OVERBURDEN PRESSURE .psi

OVERBURDEN PRESSURE GRADIENT . .psi/ft

OVERBURDEN EQUIVALENT DENSITY. .Pounds per gallon

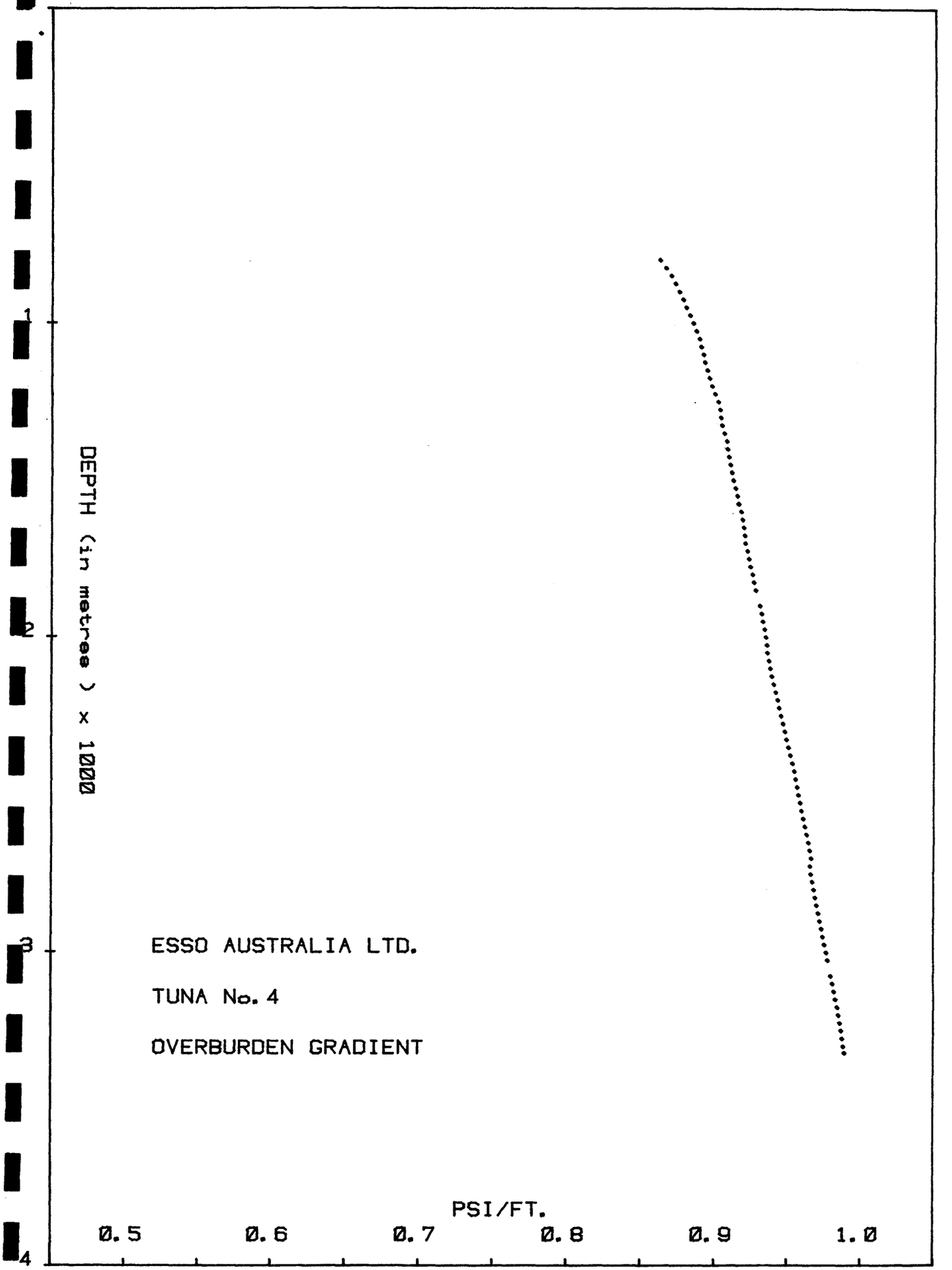
BULK DENSITY TAKEN FROM AVERAGED F.D.C. LOG, OR FROM SONIC LOG FOR SECTIONS WHERE THE F.D.C. LOG IS NOT AVAILABLE.

OVERBURDEN GRADIENT CALCULATIONS

DEPTH from	DEPTH to	AVR.BULK DENSITY	O/BURDEN INC.	O/BURDEN CUMM.	O/BURDEN GRAD.	O/BURDEN GRAD.
metres	metres	gm/cc	psi	psi	psi/ft	ppg
0	82	1.02	118.82	118.82	0.442	8.49
82	800	2.10	2141.98	2260.80	0.861	16.56
800	825	2.29	81.33	2342.13	0.865	16.64
825	850	2.28	80.97	2423.10	0.869	16.71
850	875	2.24	79.55	2502.66	0.872	16.77
875	900	2.23	79.20	2581.85	0.874	16.82
900	925	2.24	79.55	2661.41	0.877	16.86
925	950	2.22	78.84	2740.25	0.879	16.91
950	975	2.26	80.26	2820.51	0.882	16.96
975	1000	2.24	79.55	2900.07	0.884	17.00
1000	1025	2.24	79.55	2979.62	0.886	17.04
1025	1050	2.25	79.91	3059.53	0.888	17.08
1050	1075	2.18	77.42	3136.95	0.889	17.10
1075	1100	2.21	78.49	3215.44	0.891	17.13
1100	1125	2.16	76.71	3292.15	0.892	17.15
1125	1150	2.23	79.20	3371.35	0.894	17.18
1150	1175	2.24	79.55	3450.91	0.895	17.22
1175	1200	2.26	80.26	3531.17	0.897	17.25
1200	1225	2.31	82.04	3613.21	0.899	17.29
1225	1250	2.32	82.39	3695.60	0.901	17.33
1250	1275	2.24	79.55	3775.16	0.902	17.36
1275	1300	2.15	76.36	3851.51	0.903	17.37
1300	1325	2.18	77.42	3928.94	0.904	17.38
1325	1350	2.27	80.62	4009.56	0.905	17.41
1350	1375	2.30	81.68	4091.24	0.907	17.44
1375	1400	2.18	77.42	4168.66	0.908	17.45
1400	1425	2.20	78.13	4246.80	0.908	17.47
1425	1450	2.24	79.55	4326.35	0.909	17.49
1450	1475	2.24	79.55	4405.90	0.910	17.51
1475	1500	2.26	80.26	4486.17	0.912	17.53
1500	1525	2.31	82.04	4568.21	0.913	17.56
1525	1550	2.29	81.33	4649.54	0.914	17.58
1550	1575	2.25	79.91	4729.45	0.915	17.60
1575	1600	2.34	83.11	4812.55	0.917	17.63
1600	1625	2.31	82.04	4894.59	0.918	17.66
1625	1650	2.24	79.55	4974.14	0.919	17.67
1650	1675	2.21	78.49	5052.63	0.919	17.68
1675	1700	2.21	78.49	5131.12	0.920	17.69
1700	1725	2.35	83.46	5214.58	0.921	17.72
1725	1750	2.30	81.68	5296.26	0.922	17.74
1750	1775	2.28	80.97	5377.24	0.923	17.76
1775	1800	2.37	84.17	5461.41	0.925	17.78
1800	1825	2.33	82.75	5544.16	0.926	17.81
1825	1850	2.33	82.75	5626.91	0.927	17.83
1850	1875	2.34	83.11	5710.01	0.928	17.85

DEPTH from	DEPTH to	AVR.BULK DENSITY	O/BURDEN INC.	O/BURDEN CUMM.	O/BURDEN GRAD.	O/BURDEN GRAD.
metres	metres	gm/cc	psi	psi	psi/ft	ppg
1875	1900	2.46	87.37	5797.38	0.930	17.89
1900	1925	2.35	83.46	5880.84	0.931	17.91
1925	1950	2.31	82.04	5962.88	0.932	17.92
1950	1975	2.37	84.17	6047.05	0.933	17.95
1975	2000	2.30	81.68	6128.74	0.934	17.96
2000	2025	2.32	82.39	6211.13	0.935	17.98
2025	2050	2.20	78.13	6289.26	0.935	17.98
2050	2075	2.35	83.46	6372.72	0.936	18.00
2075	2100	2.37	84.17	6456.89	0.937	18.02
2100	2125	2.40	85.24	6542.13	0.938	18.05
2125	2150	2.42	85.95	6628.08	0.940	18.07
2150	2175	2.46	87.37	6715.44	0.941	18.10
2175	2200	2.44	86.66	6802.10	0.942	18.12
2200	2225	2.38	84.53	6886.63	0.943	18.14
2225	2250	2.49	88.43	6975.06	0.945	18.17
2250	2275	2.47	87.72	7062.78	0.946	18.20
2275	2300	2.43	86.30	7149.08	0.947	18.22
2300	2325	2.47	87.72	7236.80	0.949	18.24
2325	2350	2.48	88.08	7324.88	0.950	18.27
2350	2375	2.48	88.08	7412.96	0.951	18.30
2375	2400	2.50	88.79	7501.75	0.953	18.32
2400	2425	2.46	87.37	7589.11	0.954	18.34
2425	2450	2.45	87.01	7676.12	0.955	18.36
2450	2475	2.44	86.66	7762.78	0.956	18.38
2475	2500	2.42	85.95	7848.73	0.957	18.40
2500	2525	2.48	88.08	7936.80	0.958	18.42
2525	2550	2.46	87.37	8024.17	0.959	18.44
2550	2575	2.47	87.72	8111.89	0.960	18.47
2575	2600	2.50	88.79	8200.68	0.961	18.49
2600	2625	2.50	88.79	8289.47	0.963	18.51
2625	2650	2.52	89.50	8378.97	0.964	18.53
2650	2675	2.49	88.43	8467.40	0.965	18.55
2675	2700	2.47	87.72	8555.12	0.966	18.57
2700	2725	2.00	71.03	8626.15	0.965	18.56
2725	2750	2.44	86.66	8712.81	0.966	18.57
2750	2775	2.46	87.37	8800.17	0.967	18.59
2775	2800	2.50	88.79	8888.96	0.968	18.61
2800	2825	2.45	87.01	8975.97	0.968	18.62
2825	2850	2.50	88.79	9064.76	0.969	18.64
2850	2875	2.51	89.14	9153.90	0.970	18.66
2875	2900	2.57	91.27	9245.18	0.972	18.69
2900	2925	2.54	90.21	9335.38	0.973	18.71
2925	2950	2.52	89.50	9424.88	0.974	18.73
2950	2975	2.57	91.27	9516.15	0.975	18.75
2975	3000	2.60	92.34	9608.49	0.976	18.77
3000	3025	2.48	88.08	9696.57	0.977	18.79
3025	3050	2.58	91.63	9788.20	0.978	18.81

DEPTH from	DEPTH to	AVR.BULK DENSITY	O/BURDEN INC.	O/BURDEN CUMM.	O/BURDEN GRAD.	O/BURDEN GRAD.
metres	metres	gm/cc	psi	psi	psi/ft	ppg
3050	3075	2.57	91.27	9879.47	0.979	18.83
3075	3100	2.60	92.34	9971.81	0.980	18.85
3100	3125	2.52	89.50	10061.31	0.981	18.87
3125	3150	2.56	90.92	10152.23	0.982	18.89
3150	3175	2.63	93.40	10245.63	0.984	18.92
3175	3200	2.53	89.85	10335.49	0.984	18.93
3200	3225	2.59	91.98	10427.47	0.986	18.95
3225	3250	2.51	89.14	10516.61	0.986	18.97
3250	3275	2.56	90.92	10607.53	0.987	18.99
3275	3300	2.51	89.14	10696.67	0.988	19.00
3300	3321	2.59	77.27	10773.94	0.989	19.02


DEPTH (in metres) x 1000
1
2
3
4
ESSO AUSTRALIA LTD.
TUNA No. 4
OVERBURDEN GRADIENT
PSI/FT.
0.5
0.6
0.7
0.8
0.9
1.0

9. GAS ANALYSES

GAS COMPOSITION ANALYSIS

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

LOG PLOT

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

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

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

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

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

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

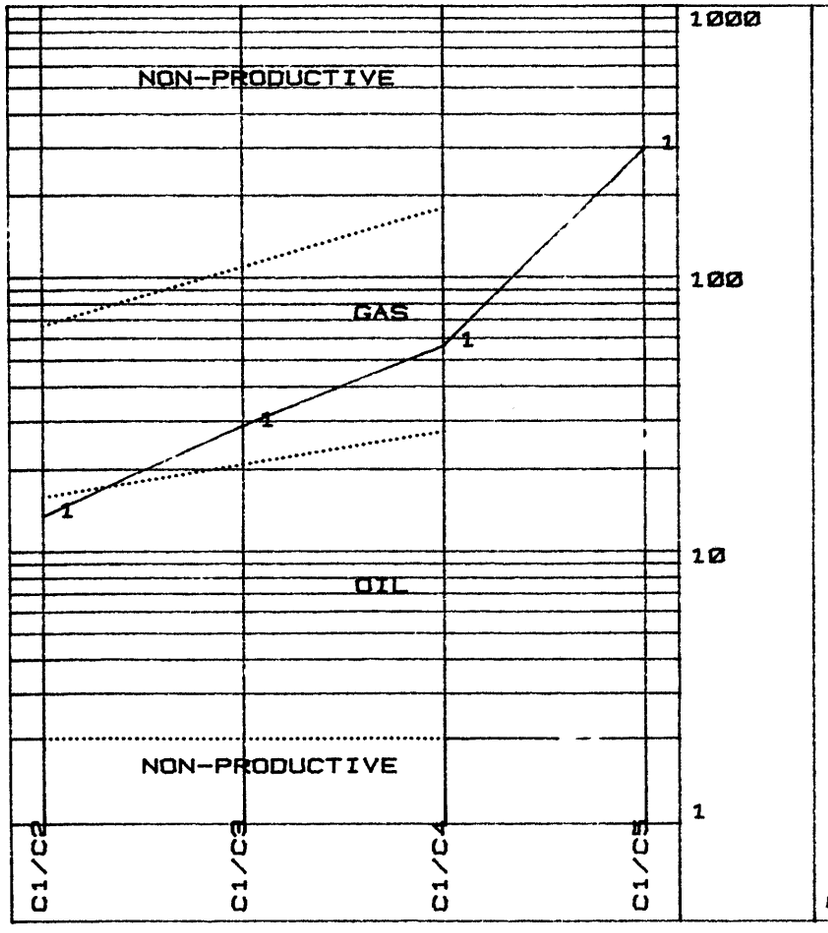
5. The ratios may not be definitive for low permeability zones; however, steep ratio plots may indicate a tight zone.

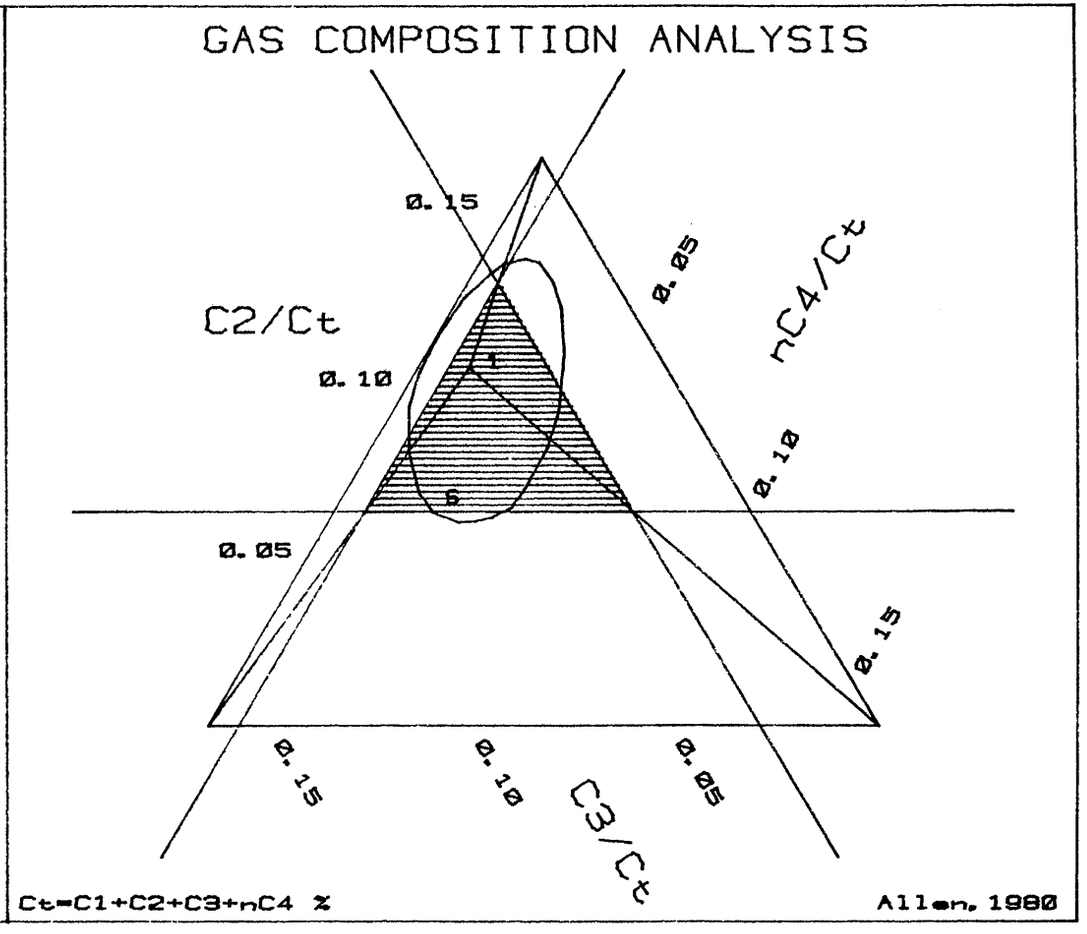
TRIANGULATION PLOT

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

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

CORE LAB. INTL. LTD. Client: ESSO AUSTRALIA LTD. Well: TUNA No. 4

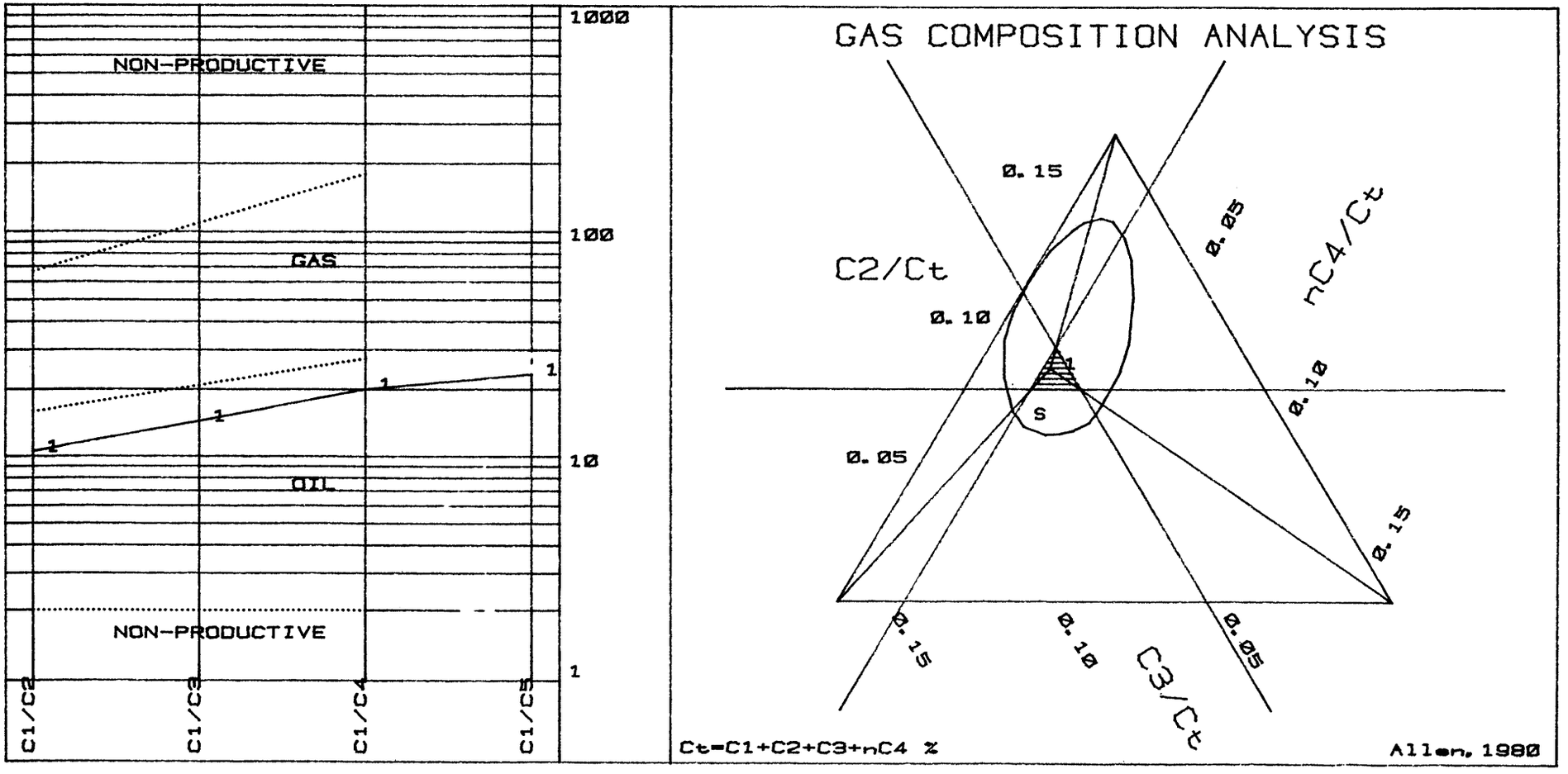




NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	1380	2.432	0.180	0.084	0.022	0.022	0.008	0.003	2.717	14	29	56	297

CONCLUSION: GAS ZONE

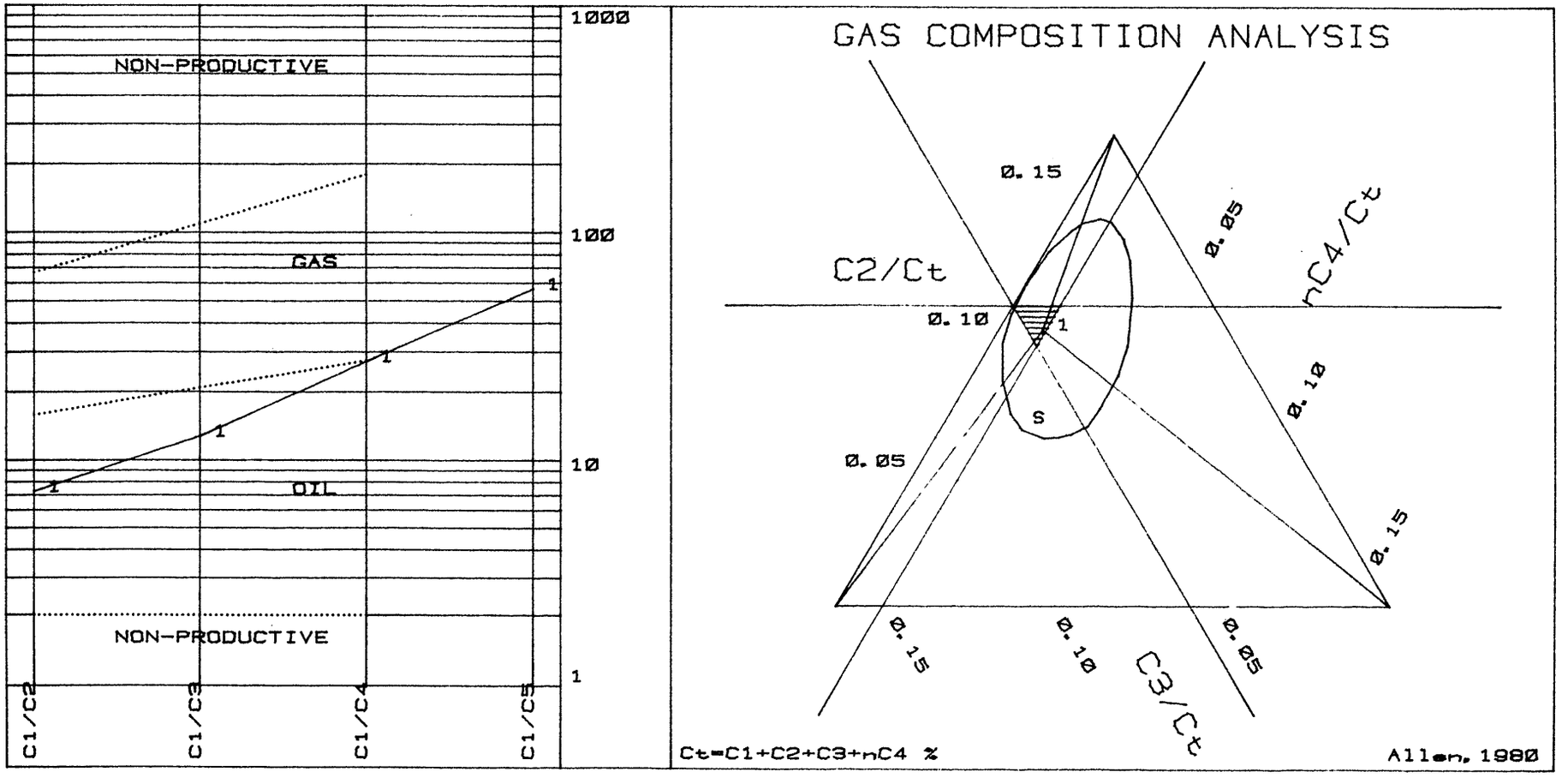
CORE LAB. INTL. LTD. Client: ESSO AUSTRALIA LTD. Well: TUNA No. 4



NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	1435	0.124	0.012	0.009	0.003	0.003	0.005	0.005	0.148	11	14	20	23

CONCLUSION: WET GAS ZONE. HIGH GOR.

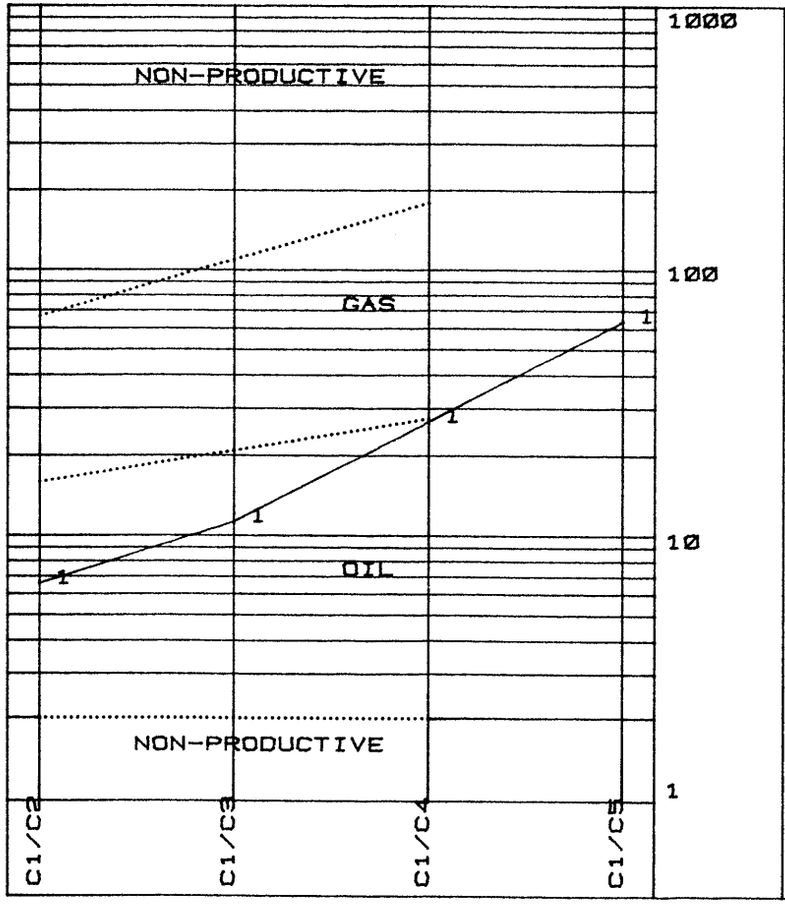
CORE LAB. INTL. LTD. Client: ESSO AUSTRALIA LTD. Well: TUNA No. 4

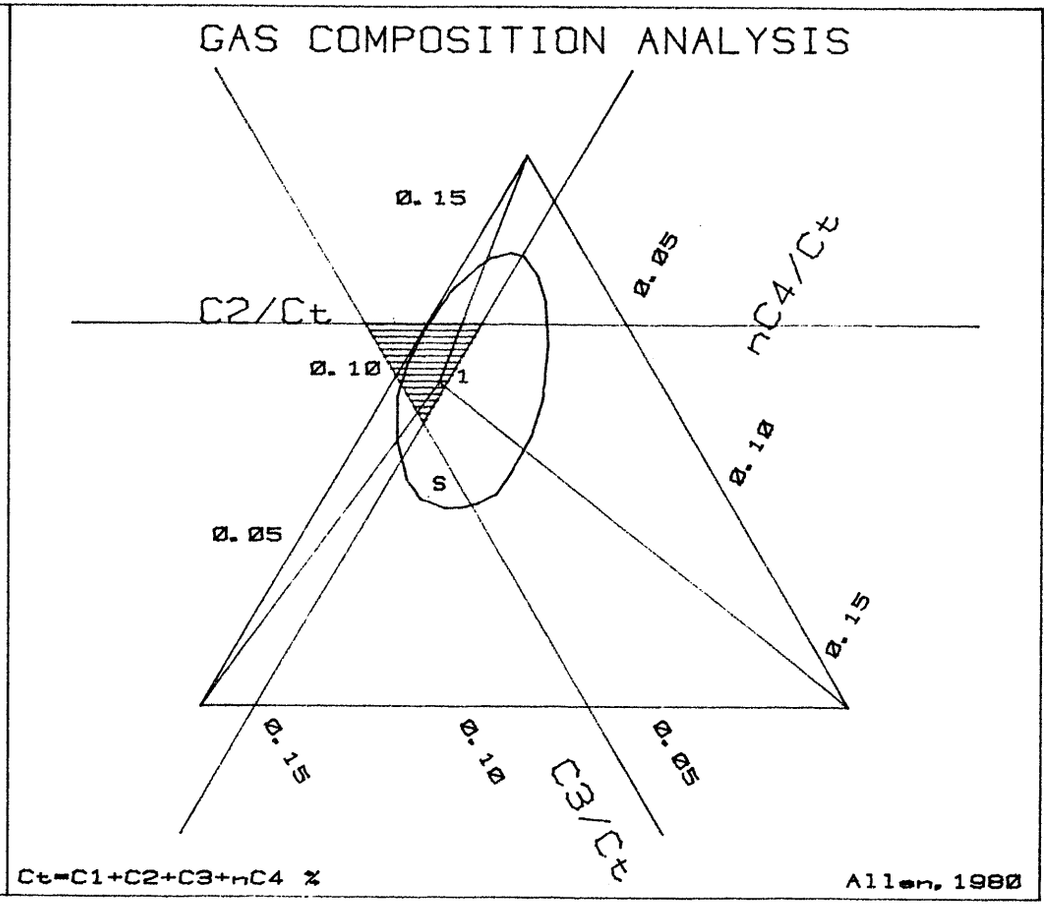


NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	2505	2.926	0.403	0.229	0.054	0.054	0.052	0.026	3.612	7	13	27	57

CONCLUSION: OIL ZONE

CORE LAB. INTL. LTD. Client: ESSO AUSTRALIA LTD. Well: TUNA No. 4

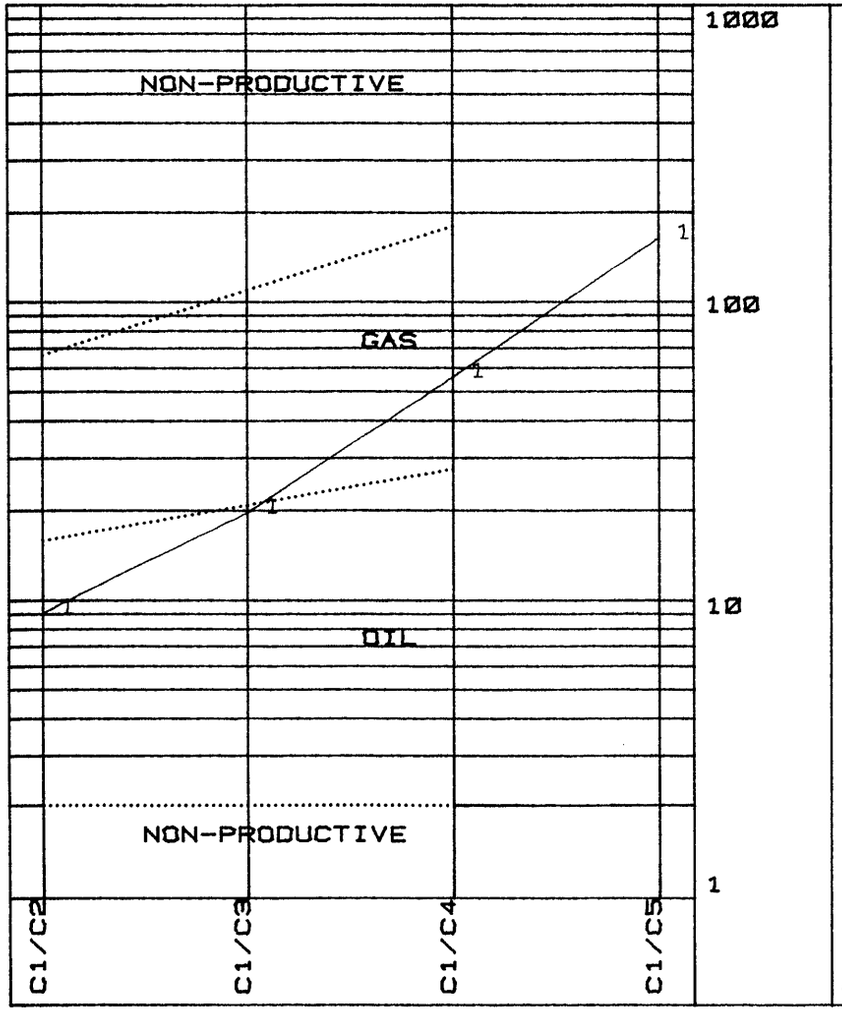


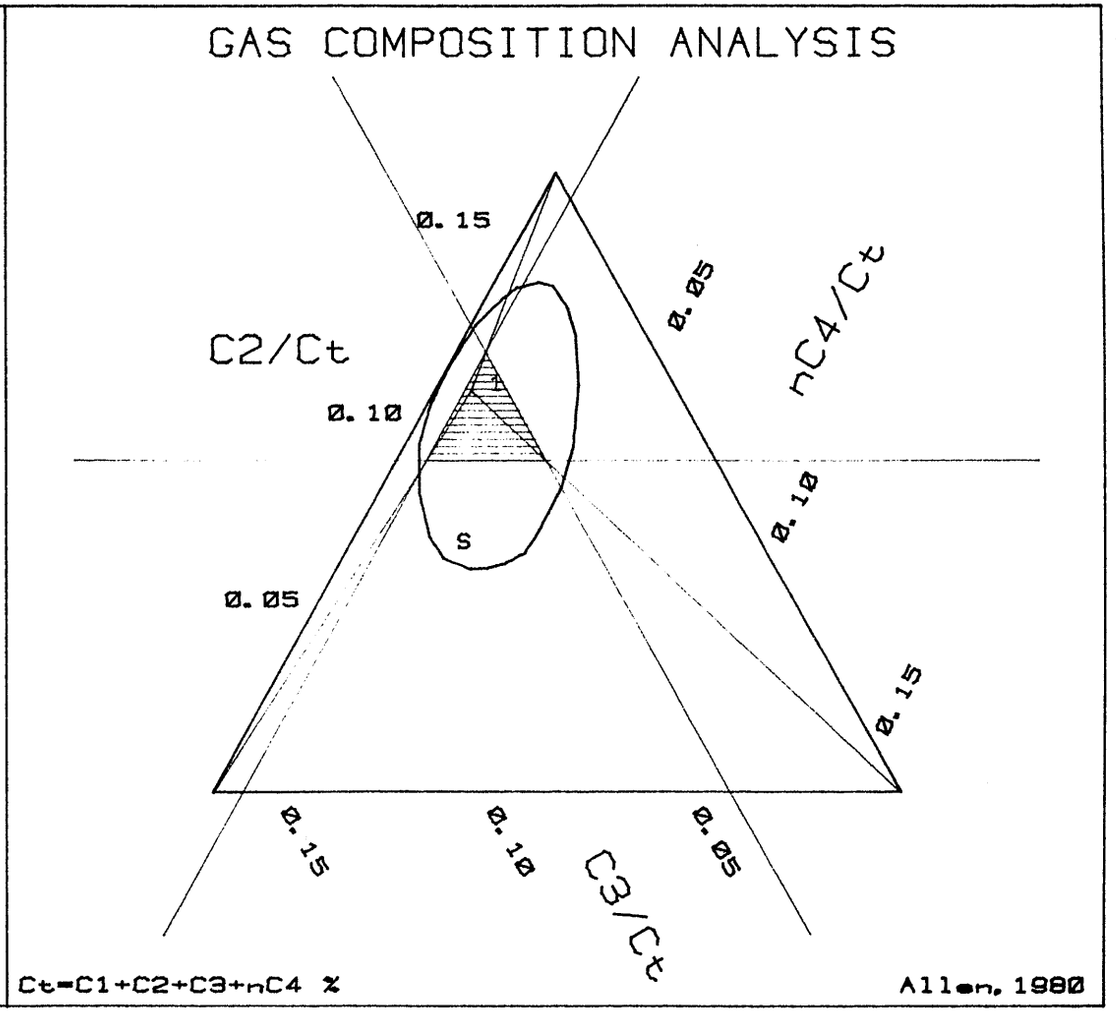


NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	2528	2.643	0.403	0.235	0.049	0.049	0.041	0.019	3.330	7	11	27	64

CONCLUSION: OIL ZONE

CORE LAB. INTL. LTD. Client: ESSO AUSTRALIA LTD Well: TUNA No. 4

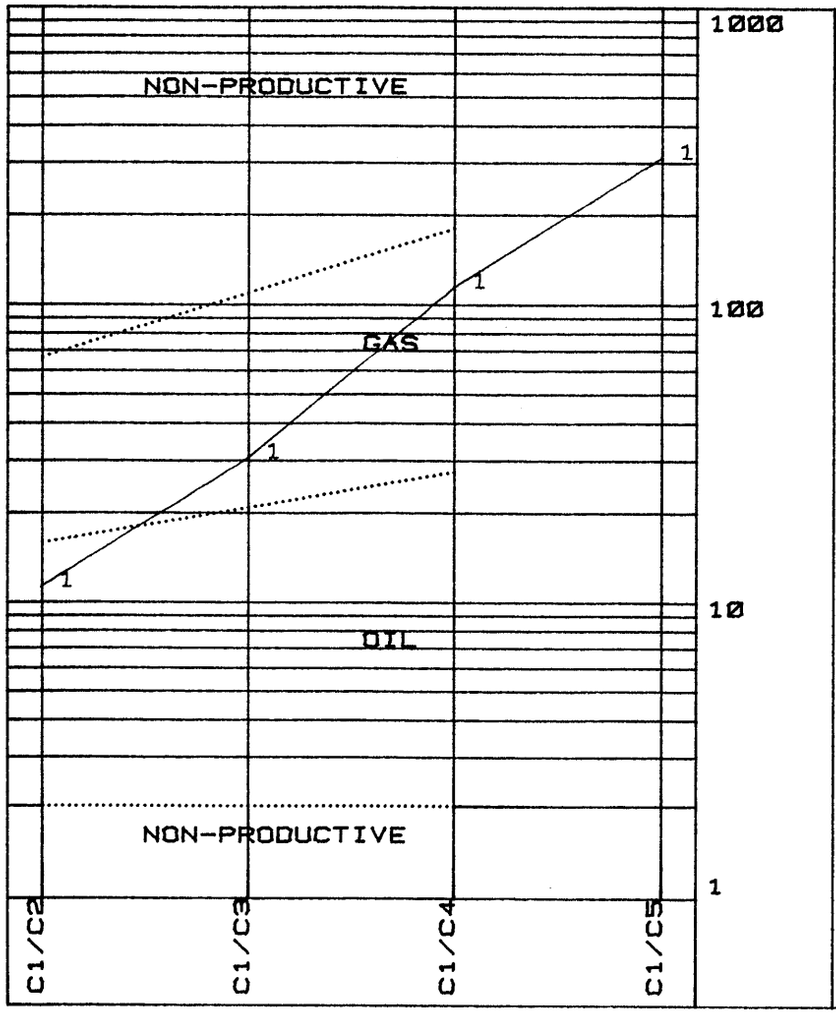


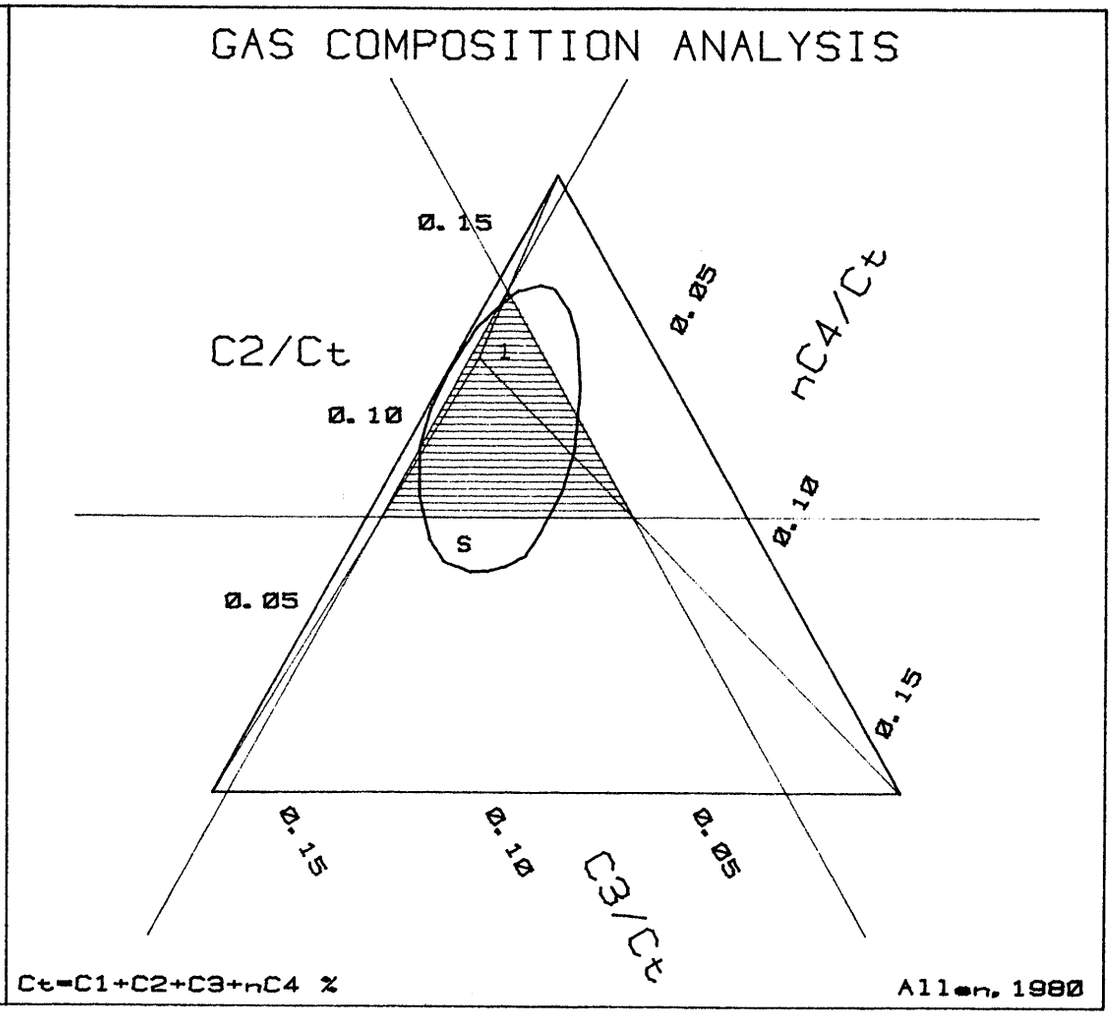


NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	2554	18.405	2.016	Ø.929	Ø.163	Ø.163	Ø.112	Ø.050	21.513	9	20	56	164

CONCLUSION: WET GAS ZONE, WITH MODERATE PERMEABILITY

CORE LAB. INTL. LTD. Client: ESSO AUSTRALIA LTD Well: TUNA No. 4

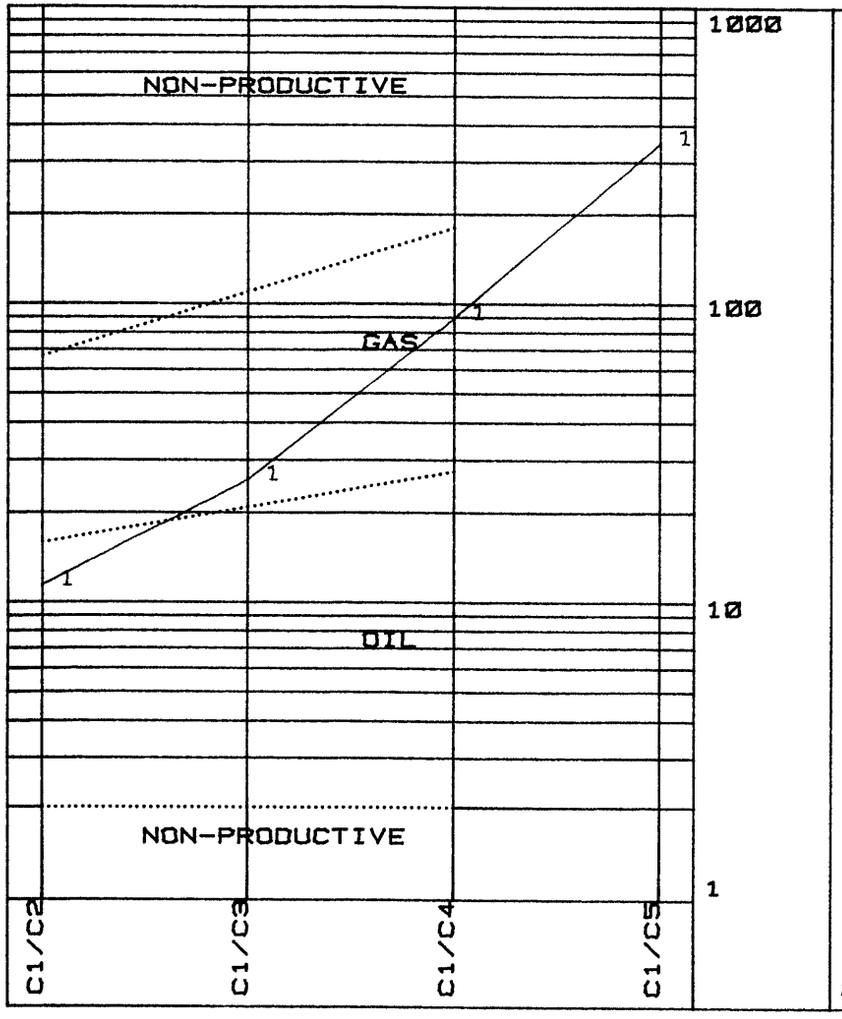


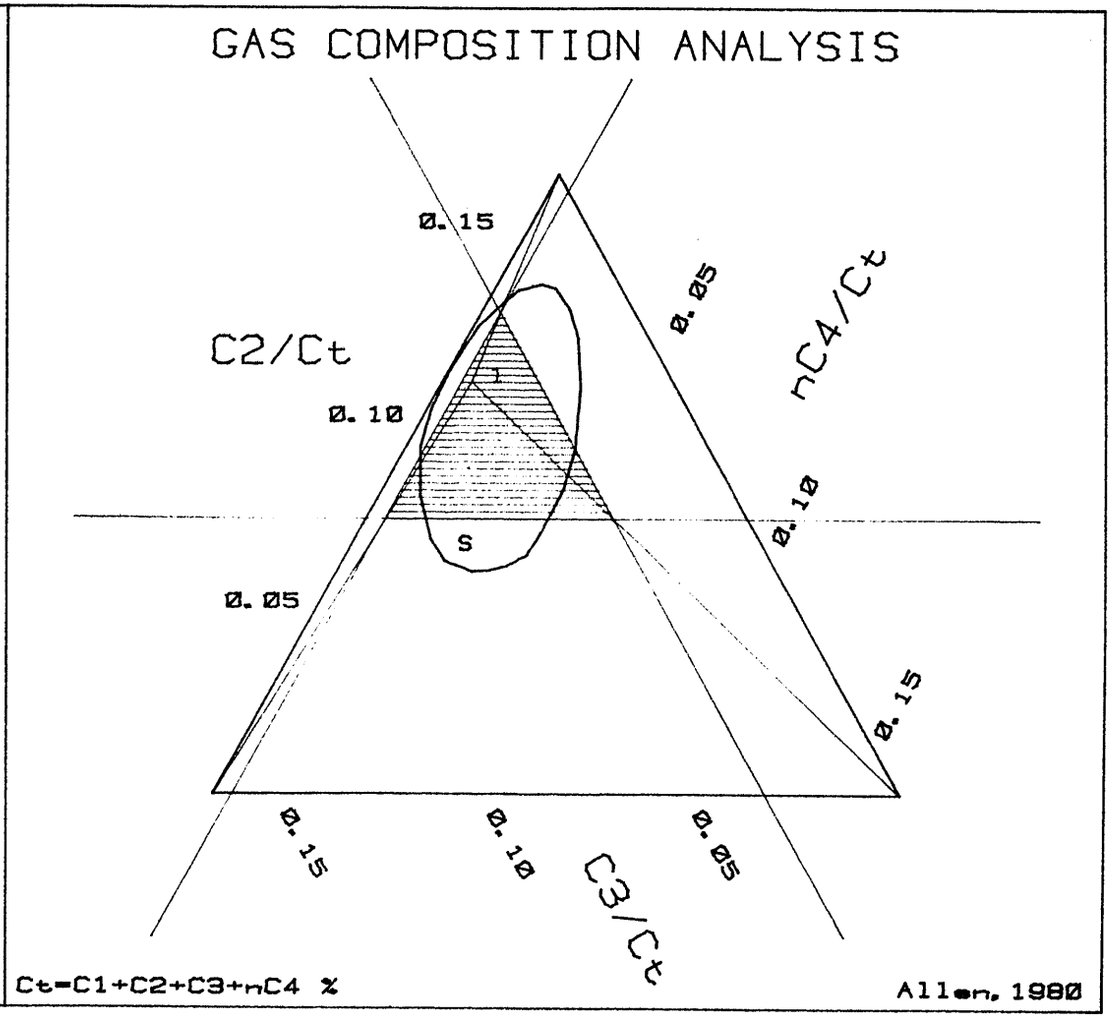


NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	2753	27.208	2.400	0.885	0.119	0.119	0.087	0.039	30.612	11	31	115	313

CONCLUSION: WET GAS ZONE

CORE LAB. INTL. LTD. Client: ESSO AUSTRALIA LTD Well: TUNA No. 4





NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	2949	15.637	1.375	0.607	0.088	0.088	0.045	0.023	17.707	11	26	89	347

CONCLUSION: WET GAS ZONE

CORE LAB

SIDEWALL CORE GAS ANALYSIS DATA SHEET

SHEET # 1

COMPANY ESSO AUSTRALIA LTD.

LOGGING SUITE NO. 5

WELL TUNA NO. 4

NO	DEPTH	C1	C2	C3	C4	C5	C6	COMMENTS
		PPM	PPM	PPM	PPM	PPM	PPM	
1	3309.5	157	27	20	19	16	21	
2	3302.5	1299	202	63	18	8	-	
3	3294	1554	135	54	26	25	42	
4	3286	413	67	45	35	31	62	
5	3281	1358	359	88	26	10	TR	
6	3277	315	34	22	28	67	117	
8	3261	1161	112	58	35	28	41	
9	3256	846	152	38	36	15	18	
11	3239	315	101	99	121	100	138	
12	3234.5	271	54	34	45	44	90	
14	3218.5	866	315	125	39	8	TR	
15	3212.5	2440	472	81	29	14	20	
17	3201	2361	405	88	39	33	42	
18	3195.5	81	17	11	11	15	45	
20	3184	433	15	22	11	5	7	
21	3179.5	1731	900	216	44	10	6	
23	3169	4093	721	220	79	10	TR	
24	3175.5	236	88	76	122	210	290	
26	3146.5	244	70	32	18	11	17	
27	3139	216	112	38	24	8	8	
29	3125	1062	494	175	70	16	6	
30	3119.5	118	114	103	127	164	257	
34	3089	37	8	5	4	3	TR	VERY SMALL SAMPLE
35	3070	767	270	130	44	13	7	
36	3060	79	18	18	48	77	110	SMALL SAMPLE
38	3043	1653	787	236	109	28	10	
39	3034.3	8187	1259	432	112	23	7	
40	3031.5	315	101	99	88	64	55	
41	3026	433	46	54	33	15	10	SMALL MUDDY SAMPLE
42	3024	1968	494	211	70	20	12	
45	3002	571	51	43	16	7	6	
46	2995.5	335	17	47	66	182	172	
48	2976	2480	540	162	46	15	10	
49	2970	374	146	45	13	4	TR	SMALL SAMPLE
51	2959	63	34	25	20	8	11	

CORE LAB

SIDEWALL CORE GAS ANALYSIS DATA SHEET

SHEET # 2

COMPANY ESSO AUSTRALIA LTD.

LOGGING SUITE NO. 5

WELL TUNA NO. 4

Nº	DEPTH	C1	C2	C3	C4	C5	C6	COMMENTS
		PPM	PPM	PPM	PPM	PPM	PPM	
53	2946	1180	539	193	54	10	TR	
54	2943.5	315	174	130	140	421	717	
55	2940	472	292	45	24	14	33	
56	2935.5	138	67	45	39	67	141	
57	2926	6061	1169	414	136	51	28	
58	2924	157	45	27	26	8	21	
59	2909.5	7557	1888	756	201	62	26	
60	2900	882	276	148	88	36	28	
61	2892.5	177	39	22	20	8	11	
62	2885	5117	2158	648	149	28	6	
63	2875	354	202	140	83	31	28	
64	2871	128	73	47	48	72	269	
66	2852.5	122	95	53	31	15	24	
67	2844	82	25	20	18	8	TR	
68	2840	300	110	34	13	18	27	
69	2822	246	107	67	61	75	155	
70	2815	5589	2742	1152	350	72	29	
71	2808	236	172	1188	1156	802	717	
72	2799	108	51	31	22	11	11	
73	2790.5	49	39	47	203	617	712	
74	2780	364	261	121	59	18	12	
75	2775	128	62	63	271	668	787	
76	2764	177	110	184	447	730	800	
77	2768.5	826	359	157	88	51	79	
78	2763	266	73	49	49	44	124	
79	2757	5	4	17	48	87	203	
80	2752	49	59	295	657	689	1187	
81	2743	205	68	54	44	57	138	
82	2738.5	563	84	41	20	62	-	
83	2730	450	90	54	30	5	TR	
84	2683	353	68	44	27	6	TR	
85	2681.5	431	79	50	74	8	TR	
87	2663	60	24	22	18	11	28	
88	2661	568	129	72	27	11	TR	
89	2659.5	618	202	108	44	20	TR	

CORE LAB — SIDEWALL CORE GAS ANALYSIS DATA SHEET — SHEET # 3

COMPANY ESSO AUSTRALIA LTD. — LOGGING SUITE NO. 5

WELL TUNA NO. 4

N2	DEPTH	C1	C2	C3	C4	C5	C6	COMMENTS
		PPM	PPM	PPM	PPM	PPM	PPM	
90	2652	882	509	396	184	78	42	
91	2642	686	313	184	88	31	11	
92	2643	177	78	45	18	TR	-	
93	2652	TR	TR	TR	TR	25	69	
94	2608.5	58	35	30	18	TR	-	
95	2605	60	44	27	18	TR	-	
96	2587	490	67	36	18	TR	-	
97	2571	TR	TR	18	25	51	103	
98	2649	14799	4121	1656	420	123	52	
100	2464.5	2117	90	93	119	TR	-	
101	2456	2195	1168	590	210	TR	-	
102	3266	705	73	27	10	TR	-	
103	3248	5645	806	171	44	12	TR	
104	3225	6272	1164	576	225	57	20	
105	3207	470	135	49	21	TR	-	
106	3190	70	32	18	21	25	55	
107	3176.5	170	44	22	25	20	27	
108	3135	206	61	22	13	TR	-	
109	3131.5	98	24	22	18	TR	-	
110	3105.5	60	17	14	18	22	24	
111	3100	705	117	45	21	15	11	
112	3096.5	215	34	18	13	11	TR	
113	3089	127	35	34	33	45	70	
114	3056	61	28	22	18	11	14	
115	3026	980	470	194	57	20	TR	
116	3019	1078	392	225	78	35	28	
117	3010.5	196	84	76	44	21	20	
118	2992	147	112	72	26	TR	-	
120	2948.5	88	45	36	26	16	34	
121	2673	157	18	22	17	TR	-	
122	2468	5174	2598	1080	328	82	34	

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

CORE LAB

BIT RECORD

COMPANY ESSO AUSTRALIA LTD.
WELL TUNA NO. 4

Sheet No. 1

S/NO	Bit No.	Make	Type	IADC Code	Size "	Jets	Depth In m	Hole Made m	Drilling Time	On Bottom Hours	Turns K	Condition T B G	Remarks
LJ 321	RR 1	HTC	OSC 3AJ +26"H/O	111	26	20/20/20	82	137	7	3.96	13.5	2-3-I	OUT AT 20" CASING POINT.
VE 321	1	HTC	OSC 3AJ	111	17½	20/20/20	219	592	19-3/4	11.56	104.0	2-4-I	OUT AT 13-3/8" CASING POINT.
CD 416	2	HTC	J1	116	12¼	18/18/18	811	570	20½	12.11	100.2	4-2-1/8	PULLED TO CUT CORE NO. 1.
82 B 0801	CB 1	CHRIS	RC4	4	9-7/8	EQUIVALENT 15/15/15	1380	9.6	1¼	1.08	6.3	5%	OUT TO RECOVER CORE NO. 1.
82 B 0801	CB 1 RR	CHRIS	RC4	4	9-7/8	EQUIVALENT 15/15/15	1389.6	9.4	¼	1.35	7.6	10%	OUT TO RECOVER CORE NO. 2.
82 B 0801	CB 1 RR	CHRIS	RC4	4	9-7/8	EQUIVALENT 15/15/15	1399	9.2	½	1.73	9.7	15%	OUT TO RECOVER CORE NO. 3.
82 B 0801	CB 1 RR	CHRIS	RC4	4	9-7/8	EQUIVALENT 15/15/15	1408.2	5.8	¼	1.87	10.4	20%	PULLED TO CATCH CORE NO. 4.
ZF 234	3	HTC	J22	517	12¼	18/18/18	1414	471.3	31	24.71	107.0	2-3-1/8	PRECAUTIONARY PULL, WITH
													30 HOURS ON THE BIT.
ZC 600	4	HTC	J22	517	12¼	16/16/18	1885.3	372.9	50	43.84	205.4	5-6-¼	INCREASED TORQUE, AND
													DECREASED ROP'S.
ZF 237	5	HTC	J22	517	12¼	16/16/18	2258.2	186.8	34¼	30.22	125.2	6-5-¼	9-5/8" CASING POINT.
CF 377	6	HTC	JD8	734	8½	14/14/14	2445.0	19.0	5½	4.92	18.7	6-3-I	PULLED DUE TO LOW RATES
													OF PENETRATION.
795 SS	7	HTC	J22	517	8½	14/14/14	2464.0	17.2	2	1.43	4.4	1-1-I	PULLED TO CUT CORE NO. 5.
85 B 0616	CB 2	CHRIS	RC6	4	8½	EQUIVALENT 14/15/15	2481.2	17.8	1½	1.45	8.2	5%	OUT TO RECOVER CORE NO. 5.
85 B 0616	RR CB 2	CHRIS	RC6	4	8½	EQUIVALENT 14/15/15	2499.0	18.1	3¼	2.82	15.6	20%	OUT TO RECOVER CORE NO. 6.
85 B 0616	RR CB 2	CHRIS	RC6	4	8½	EQUIVALENT 14/15/15	2517.1	13.9	3¼	2.07	11.0	50%	OUT TO RECOVER CORE NO. 7.
2 W 7361	CB 3	CHRIS	RC4	4	8½	EQUIVALENT 14/15/15	2531.0	18.0	1½	1.18	6.8	15%	OUT TO RECOVER CORE NO. 8.
2 W 7361	RR CB 3	CHRIS	RC4	4	8½	EQUIVALENT 14/15/15	2549.0	15.4	2½	1.87	10.7	30%	OUT TO RECOVER CORE NO. 9.
795 SS	RR 7	HTC	J22	517	8½	13/13/13	2564.4	85.6	11¼	10.92	42.9	2-3-1/16"	PULLED TO RUN INTERMEDIATE
													LOGS.
769 SS	8	HTC	J22	517	8½	13/13/13	2650	81.0	21½	18.26	62.0	8-6-1/8"	PULLED DUE TO LOW ROP'S.
515 TL	9	HTC	J33	537	8½	13/13/13	2731	91.5	14-3/4	12.33	42.0	1-2-1/16"	PULLED TO CUT CORE NO. 10.

CORE LAB

BIT RECORD

COMPANY ESSO AUSTRALIA LTD.

WELL TUNA NO. 4

Sheet No. 2

S/NO	Bit No.	Make	Type	IADC Code	Size	Jets	Depth In	Hole Made	Drilling Time	On Bottom Hours	Turns	Condition T B G	Remarks
82 B 0704	CB 4	CHRIS	MC23	4	8.47	EQUIVALENT 14/14/14	2822.5	5.5	1¼	1.17	5.1	RINGED	PULLED EARLY DUE TO DECREASED ROP.
81 E 0333	CB 5	CHRIS	C23	4	8.47	EQUIVALENT 14/14/14	2828.0	5.0	3	3.58	16.0	15%	PULLED EARLY DUE TO VERY LOW ROP'S.
110 WK	10	HTC	J33	537	8½	13/13/13	2833.0	142.0	31-¾	29.05	102.9	4-4-I	PULLED AS A PRECAUTION.
TL 215	11	HTC	J44	617	8½	13/13/13	2975.5	35.5	11½	10.65	36.5	1-1-I	PREMATURE T.D. DUE TO OVERPRESSURE FORMATIONS.
CJ 084	12	HTC	JD8	734	8½	13/13/13	3011.0	2.1	1	0.5	2.2	7-3-I	REAMER + 2 METRES NEW FORMATION.
416 RS	13	HTC	J33	537	8½	13/13/13	3013.1	127.3	43¼	39.96	127.8	4-5-1/16"	PULLED DUE TO INCREASE TORQUE 3½°.
417 RS	14	HTC	J33	537	8½	13/13/13	3140.4	133.5	53½	49.34	140.6	4-4-1/16"	PULLED TO CUT CORE NO. 12.
81 E 0333	14	CHRIS	C23	4	8.47	14/14/14	3273.2	8.6	4	7.57	36.5	100%	PULLED TU RECOVER CORE NO. 12.
TL 406	15	HTC	J44	617	8½	13/13/13	3282.5	38.5	21	18.84	55.5	1-1-I	OUT AT T.D.

7520-487 (CL 1153)

CORE LAB

BIT RECORD

COMPANY ESSO AUSTRALIA LTD.

WELL TUNA NO. 4

Sheet No. 1

S/NO.	Bit No.	Make	Type	IADC Code	Size "	Cost A$	Jets	Depth In M	Depth Out M	Hole Made M	Drilling Time	On Bottom Hours	Turns K	Average ROP	Average Cost/M	Condition T B G
LJ 321	RR 1	HTC	OSC 3AJ +26"H/O	111	26	0	20/20/20	82	219	137	7	3.96	13.5	34.6	172.33	2-3-I
VE 321	1	HTC	OSC 3AJ	111	17½	4857	20/20/20	219	811	592	19-3/4	11.56	104.0	51.2	102.34	2-4-I
CD 416	2	HTC	J1	116	12¼	2694	18/18/18	811	1381	570	20½	12.11	100.2	47.1	113.71	4-2-1/8
82 B 0801	CB 1	CHRIS	RC4	4	97/8	18000	EQUIVALENT 15/15/15	1380	1389.6	9.6	1¼	1.08	6.3	8.9	3823.35	5%
82 B 0801	CB 1 RR	CHRIS	RC4	4	97/8	0	EQUIVALENT 15/15/15	1389.6	1399	9.4	1	1.35	7.6	43.8	1220.54	10%
82 B 0801	CB 1 RR	CHRIS	RC4	4	97/8	0	EQUIVALENT 15/15/15	1399	1408.2	9.2	¼	1.73	9.7	24.2	871.56	15%
82 B 0801	CB 1 RR	CHRIS	RC4	4	97/8	0	EQUIVALENT 15/15/15	1408.2	1414.0	5.8	¼	1.87	10.4	41.4	737.92	20%
ZF 234	3	HTC	J22	517	12¼	8516	18/18/18	1414	1885.3	471.3	31	24.71	107.0	19.1	256.03	2-3-1/8
ZC 600	4	HTC	J22	517	12¼	8516	16/16/18	1885.3	2258.2	372.9	50	43.84	205.4	8.5	518.78	5-6-¼
ZF 237	5	HTC	J22	517	12¼	8516	16/16/18	2258.2	2445.0	186.8	3¼	30.22	125.2	6.2	783.03	6-5-¼
CF 377	6	HTC	JD8	734	8½	1700	14/14/14	2445.0	2464	19	5½	4.92	18.7	3.9	2457.51	6-3-I
795 SS	7	HTC	J22	517	8½	4139	14/14/14	2464	2481.2	17.2	2	1.43	4.4	12.0	2136.71	1-1-I
85 B 0616	CB 2	CHRIS	RC6	4	8½	11019	EQUIVALENT 14/15/15	2481.2	2499.0	17.8	1½	1.45	8.2	12.3	2455.30	5%
85 B 0616	RR CB 2	CHRIS	RC6	4	8½	0	EQUIVALENT 14/15/15	2499.0	2517.1	18.1	3¼	2.82	15.6	6.3	1190.69	20%
85 B 0616	RR CB 2	CHRIS	RC6	4	8½	0	EQUIVALENT 14/15/15	2517.1	2531.0	13.9	3¼	2.07	11.0	6.7	1012.90	50%
2 W 7361	CB 3	CHRIS	RC4	4	8½	21210	EQUIVALENT 14/15/15	2531.0	2549.0	18.0	1½	1.18	6.8	15.3	2959.70	15%
2 W 7361	RR CB 3	CHRIS	RC4	4	8½	0	EQUIVALENT 14/15/15	2549.0	2564.4	15.4	2½	1.87	10.7	8.3	2501.86	30%
795 SS	RR 7	HTC	J22	517	8½	0	13/13/13	2564.4	2650.0	85.6	11¼	10.92	42.9	9.0	654.58	2-3-1/16
769 SS	8	HTC	J22	517	8½	4139	13/13/13	2650.0	2731.0	81.0	21½	18.26	62.0	4.4	1226.05	8-6-1/8
515 TL	9	HTC	J33	537	8½	4503	13/13/13	2731.0	2822.5	91.5	14-3/4	12.33	42.0	7.4	860.64	1-2-1/16
82 B 0704	CB 4	CHRIS	MC23	4	8.47	18067	EQUIVALENT 14/14/14	2822.5	2828.0	5.5	1¼	1.17	5.1	4.7	9373.79	RINGED
81 E 0333	CB 5	CHRIS	C23	4	8.47	18067	EQUIVALENT 14/14/14	2828.0	2833.0	5.0	3	3.58	16.0	1.4	12071.43	15%
110 WK	10	HTC	J33	537	8½	4503	13/13/13	2833.0	2975.5	142.5	31-3/4	29.05	102.9	4.9	988.81	4-4-I
TL 215	11	HTC	J44	617	8½	4357	13/13/13	2975.5	3011.0	35.5	11½	10.65	36.5	3.3	2082.47	1-1-I

CORE LAB

BIT RECORD

COMPANY ESSO AUSTRALIA LTD.

WELL TUNA NO. 4

Sheet No. 2

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/	Condition T B G
LJ 084	12	HTC	JD8	734	8½	1700	13/13/13	3011.0	3013.0	2.1	1	0.5	2.2	4.2	13748.5	7-3-I
416 RS	13	HTC	J33	537	8½	4503	13/13/13	3013.1	3140.4	127.3	43¾	39.96	127.8	3.2	1382.57	4-5-1/16
417 RS	14	HTC	J33	537	8½	4503	13/13/13	3140.4	3273.2	133.5	53½	49.34	140.6	2.7	1626.93	4-4-1/16
81 E 0333	15	CHRIS	C23	4	8.47	0	14/14/14	3273.2	3282.5	8.6	4	7.57	36.5	2.2	4449.53	100%
TL 406	15	HTC	J44	617	8½	4347	13/13/13	3282.5	3321.0	38.5	21	18.84	55.5	2.0	2760.37	1-1-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 TUNA NO. 4

Sheet No. 1

DEPTH			520	746	811	1370	1389
DATE	17/05/84	18/05/84	19/05/84	20/05/84	21/05/84	22/05/84	23/05/84
TIME			22:00	07:00	20:00	20:30	17:00
WEIGHT			9.1	9.1	9.2	9.7	9.7
FUNNEL VISCOSITY			35	34	35	63	50
PV/YP			4/11	4/9	5/15	10/28	11/24
N/K			.34/1.79	.39/1.17	.32/2.69	.34/4.65	.39/3.0
GEL: INITIAL/10 MIN			10/13	11/17	12/18	25/30	26/39
pH	SEAWATER	SEAWATER	9.5	9.3	9.6	11.3	11
FILTRATE: API/API HTHP		PLUS	NO TEST	NO TEST	NO CHECK	8.5/21	9.0/18
CAKE		DRILLED	3	3	3	3	3
SALINITY (PPM)		SOLIDS	19,500	16,500	18,000	21,000	21,000
SAND			TR	0	TR	TR	TR
SOLIDS			3	4	5	9	9
OIL			0	0	0	0	0
NITRATES (PPM)			0	0	0	140	0

REMARKS:

SPUDDED IN — 20" CASING RAN STACK & RISER — DRILLED 17½" HOLE — WIPER TRIP — LOGGED — 13-3/8" CASING — STACK TEST — DRILLED 12¼" HOLE — CUT CORE NOS: 1 & 2

DEPTH	1404	1731	1900	2138	2258	2298	2433
DATE	24/05/84	25/04/84	26/05/84	27/05/84	28/05/84	29/05/84	30/05/84
TIME	11:00	20:25	20:30	24:00	21:00	21:30	23:00
WEIGHT	9.8	9.7	9.7	9.7	9.8	9.7	9.8
FUNNEL VISCOSITY	53	51	48	49	70	49	60
PV/YP	10/20	10/15	12/23	13/23	12/28	14/32	15/33
N/K	.41/2.26	.49/1.21	.43/2.47	.44/2.25	.38/3.78	.36/4.22	
GEL: INITIAL/10 MIN	20/43	10/29	15/27	7/27	15/38	13/35	17/41
pH	11.2	11.0	11.3	11.3	10.6	10.6	10.6
FILTRATE: API/API HTHP	8.4/18	7.8/18	6.7/16.8	7.2/17.5	6.8/-	6.3/17.9	6.7/18.6
CAKE	3	2	2	2	2	2	2
SALINITY (PPM)	21,000	20,000	22,500	21,000	22,000	22,000	22,000
SAND	TR	TR	TR	TR	0.25	TR	0.5
SOLIDS	10	9	9	9	9	9	10
OIL	0	0	0	0	0	0	-
NITRATES (PPM)	0	180	160	180	160	160	180

REMARKS:

CUT CORES 3 & 4 ---------- DRILLED 12-1/4" HOLE ----------

CORE LAB

MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.

WELL TUNA NO. 4

Sheet No. 2

DEPTH	2445	2445	2445	2445	2451	2490	2530
DATE	31/05/84	01/06/84	02/06/84	03/06/84	04/06/84	05/06/84	06/06/84
TIME	16:00	18:00	14:00	10:15	22:00	21:30	18:30
WEIGHT	9.7	9.7	9.7	9.8	9.3	9.4	9.4
FUNNEL VISCOSITY	45	44	52	65	36	37	41
PV/YP	12/26	13/26	15/31	16/35	9/19	7/20	9/29
N/K	.4/3.22	.41/2.94	.41/3.64	.39/4.39	.4/2.28	.33/3.40	.31/3.62
GEL: INITIAL/10 MIN	13/34	12/35	16/39	18/43	5/24	8/26	8/35
pH	10.6	10.3	10.4	10.0	10.6	10.6	10.7
FILTRATE: API/API HTHP	6.5/18.2	6.7/19.2	7.3/19.6	8.2/22.4	8.4/23.8	8.3/20.2	6.8/16.9
CAKE	2	2	2	3	2	2	2
SALINITY (PPM)	22,000	22,000	22,000	22,000	23,000	22,000	23,000
SAND	TR	TR	TR	TR	TR	TR	TR
SOLIDS	9	9	9	9	5	6	6
OIL	-	-	-	-	-	-	-
NITRATES (PPM)	180	180	140	100	80	160	160

REMARKS:

RAN LOGS

RUN CASING 9-5/8"

B.O.P. TEST

DRILLED 8-1/2"

P.I.T.

DRILLED 8-1/2" HOLE

CORE NO. 5

CORE NO. 6

CORE NO. 7

DEPTH	2549	2650	2650	2650	2710	2731	2822
DATE	07/06/84	08/06/84	09/06/84	10/06/84	12/06/84	13/06/84	14/06/84
TIME	13:15	17:30	18:00	16:00	18:00	17:30	13:30
WEIGHT	9.4	9.4	9.4	9.4	9.4	9.4	9.7
FUNNEL VISCOSITY	40	70	55	53	59	58	68
PV/YP	10/20	12/33	12/28	12/25	10/32	13/19	15/40
N/K	.41/2.26	.34/5.37	.38/3.78	.41/2.96	.31/6.15	.49/1.49	.35/6.29
GEL: INITIAL/10 MIN	9/21	17/42	11/34	11/29	19/26	19/28	22/38
pH	10.7	10.7	10.5	10.5	10.9	10.9	11.1
FILTRATE: API/API HTHP	7.2/20.4	6.8/17.2	6.9/17.2	6.6/17	7.6/19	5.6/-	5/16
CAKE	2	2	2	2	2	2	2
SALINITY (PPM)	22,000	21,000	21,000	21,000	17,000	17,000	17,000
SAND	TR	TR	TR	TR	TR	TR	TR
SOLIDS	6	6	6	6	6	6	9
OIL	-	-	-	-	-	-	-
NITRATES (PPM)	160	180	180	160	260	280	300

REMARKS:

CORE NO. 8

CORE NO. 9

DRILLED 8-1/2" HOLE

WIPER TRIP

LOGGED

TEST B.O.P.

DRILLED 8-1/2" HOLE

CORE LAB

MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.

WELL TUNA NO. 4

Sheet No. 3

DEPTH	2824	2854	2967	3011	3011	3011	3011
DATE	15/06/84	16/06/84	17/06/84	18/06/84	19/06/84	20/06/84	21/06/84
TIME	01:30	05:30	05:30	11:00	15:00	22:00	07:30
WEIGHT	9.7	9.7	9.7	10.4	10.5	10.4	10.5
FUNNEL VISCOSITY	62	57	65	52	53	85	62
PV/YP	15/16	15/20	17/23	20/27	21/26	18/41	20/38
N/K	.57/.89	.51/1.42	.51/1.66	.51/1.94	.53/1.70	.38/5.38	.43/4.04
GEL: INITIAL/10 MIN	17/28	16/19	18/32	19/36	18/40	25/48	29/52
pH	10.8	10.6	10.8	10.9	10.9	10.3	10.9
FILTRATE: API/API HTHP	5/16.6	5.8/17	4.6/16	4.7/16	4.3/16	3.8/16.6	4.2/16.4
CAKE	2	2	2	2	2	3	2
SALINITY (PPM)	17,000	16,000	17,000	17,000	17,000	17,000	18,000
SAND	TR	TR	TR	0.25	0.25	0.50	0.25
SOLIDS	9	9	9	11	11	11	11
OIL	0	0	0	0	0	0	0
NITRATES (PPM)	280	220	200	200	200	200	180

REMARKS:

CORE NOS: 10-11

DRILLED 8-1/2" HOLE

STUCK RFT TOOL

WIPER TRIP

LOGGED

R. F. T.'S

DEPTH	3011	3011	3011	3011	3011	3011	3011
DATE	22/06/84	23/06/84	24/06/84	25/06/84	26/06/84	27/06/84	28/06/84
TIME	14:00	05:00	18:00	10:45	22:30	17:00	19:00
WEIGHT	10.5	10.5	10.5	10.5	11.0	10.9	10.9
FUNNEL VISCOSITY	65	46	50	45	52	49	44
PV/YP	21/40	23/30	22/27	18/21	25/27	26/24	22/20
N/K	.43/4.27	.52/2.07	.53/1.75	.55/1.29	.57/1.52	.60/1.16	.61/.95
GEL: INITIAL/10 MIN	31/52	16/41	15/35	17/31	19/35	18/34	14/29
pH	10.5	10.6	10.4	10.1	10.4	10.2	10.0
FILTRATE: API/API HTHP	4.1/15.8	4.3/16.6	4.8/17.6	7.1/21.8	5.9/22.2	6.5/22.8	7.3/23.6
CAKE	2	2	2	2	3	2	2
SALINITY (PPM)	18,000	18,000	18,000	17,000	18,000	18,000	18,000
SAND	0.25	0.25	TR	0.25	0.5	0.25	0.25
SOLIDS	11	11	11	11	15	14	14
OIL	0	0	0	0	0	0	0
NITRATES (PPM)	180	180	180	160	150	120	120

REMARKS:

WIPER TRIP

WIPER TRIP

STUCK RFT TOOL

REPAIRED STACK

--------- R. F. T.'S ----------

CORE LAB

MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.
WELL TUNA NO. 4

Sheet No. 4

DEPTH	3011	3032	3096	3146	3201	3250	3274
DATE	29/06/84	30/06/84	01/07/84	02/07/84	03/07/84	04/07/84	05/07/84
TIME	22:30	21:00	21:30	21:00	22:00	22:00	23:45
WEIGHT	10.7	10.7	10.5	10.5	10.5	10.9	11.4
FUNNEL VISCOSITY	49	52	60	57	59	63	64
PV/YP	20/33	18/28	21/34	19/30	20/34	22/39	20/35
N/K	.46/2.98	.48/2.36	.47/3.00	.47/2.57	.45/3.18	.44/3.83	.45/3.38
GEL: INITIAL/10 MIN	28/43	20/35	28/43	28/43	19/43	19/43	16/38
pH	11.1	10.8	11.0	10.5	10.5	10.5	10.5
FILTRATE: API/API HTHP	6.4/21.7	5.1/17.6	5.8/19.0	5.8/21	6/20	6/20	6/20
CAKE	2	2	2	2	2	2	2
SALINITY (PPM)	16,000	16,000	17,000	17,000	17,000	17,000	16,000
SAND	25	25	TR	TR	TR	TR	TR
SOLIDS	13	12	11	11	12.5	12.5	12.5
OIL	-	-	-	-	-	-	-
NITRATES (PPM)	160	180	180	200	190	190	200

REMARKS:

---------- DRILLED 8-1/2" HOLE ----------

DEPTH	3286	3321	3321	3321			
DATE	06/07/84	07/07/84	08/07/84	09/07/84	10/07/84	11/07/84	12/07/84
TIME	22:00	24:00	24:00	21:00			
WEIGHT	11.5	11.5	11.5	11.4			
FUNNEL VISCOSITY	62	70	72	64			
PV/YP	21/36	30/31	31/29	31/29			
N/K	.45/3.40	.58/1.67	.60/1.42	.60/1.42			
GEL: INITIAL/10 MIN	18/34	19/33	20/47	20/41			
pH	10.7	11.0	10.8	10.8			
FILTRATE: API/API HTHP	6/20	5.5/19	5.5/19	5/19			
CAKE	2	2	2	2			
SALINITY (PPM)	17,200	17,500	17,500	17,500			
SAND	TR	TR	TR	TR			
SOLIDS	12.5	12.5	0.5	12.5			
OIL	0	0	0	0			
NITRATES (PPM)	200	190	190	190			

REMARKS:

CUT CORE NO: 12 — DRILLED 8-1/2" HOLE — LOGGED AT T.D. — PRODUCTION TESTED

7520-492 (CL 1158)

R.F.T. DATA SHEETS

CORE LAB

COMPANY ESSO AUSTRALIA LTD.

WELL TUNA NO. 4

R.F.T. SAMPLING DATA SHEET

Sheet No. 1

RUN No.	1	1	2	2	3	3
SEAT No.	16	17	18	18	19	19
CHAMBER CAPACITY (GAL)	6	1	6	1	6	1
DEPTH (metres)	1398.5	1398.4	1440.5	1400.5	1398.5	1398.5
RECOVERY VOLUMES						
GAS (Cu Ft)	23.9		56		92	
OIL (cc)	-		13,000		-	
WATER/FILTRATE (cc)	500		2250		800	
OTHER (cc)	-		-		340	
SURFACE PRESSURE (PSI)	450		1200		1400	
GAS COMPOSITION						
C1 (PPM)	436659.2	PLUGGED SEAT	453181	PRESERVED	434299	PRESERVED
C2 (PPM)	66355.2		60825		63590	
C3 (PPM)	35717.1		12288		33484	
C4 (PPM)	15411.2		9769		14310	
C5 (PPM)	3856.6		3185		5198	
C6 (PPM)	6600.0		1110		1680	
CO2 (%)	1%		2%		3%	
H2S (PPM)	NIL		0		TR	
OIL PROPERTIES						
DENSITY			48.9@60°F		64.8@60°C	
COLOUR			RED/BROWN		LT BRN	
FLUORESCENCE			BT CREAM		BRIGHT WHITE	
POUR POINT (°C)						
WATER PROPERTIES						
RESISTIVITY (Ωm)	0.47@56°F				0.39@61°F	
Cl (frm resis) (PPM)	17,000				20,000	
Cl (frm titrat) (PPM)	10,000		15,000		15,000	
NITRATES (PPM)	80.0		100		100	
pH	8.3		8.0		8.5	
COMMENTS	500ML FILTRATE RECOVERED, WITH MINOR CONDENSATE					
SAMPLES SHIPPED (Include quantity and volume of containers).	1 x 4L PLASTIC		1 x 5GAL JERRY CAN 1 x 4L PLASTIC		1 x 1L TIN	

CORE LAB

COMPANY ESSO AUSTRALIA LTD.

WELL TUNA NO. 4

R.F.T. SAMPLING DATA SHEET

Sheet No. 2

RUN No.	4	4				
SEAT No.	22	22				
CHAMBER CAPACITY (GAL)	6	2-3/4				
DEPTH (metres)	2369.6	2369.6				
RECOVERY VOLUMES						
GAS (Cu Ft)	-	-				
OIL (cc)	-	-				
WATER/FILTRATE (cc)	21,900	21,900				
OTHER (cc)						
SURFACE PRESSURE (PSI)						
GAS COMPOSITION						
C1 (PPM)						
C2 (PPM)						
C3 (PPM)						
C4 (PPM)						
C5 (PPM)						
C6 (PPM)						
CO2 (%)						
H2S (PPM)						
OIL PROPERTIES						
DENSITY						
COLOUR						
FLUORESCENCE						
POUR POINT (^{O}C)						
WATER PROPERTIES						
RESISTIVITY (Ωm)						
Cl (frm resis) (PPM)						
Cl (frm titrat) (PPM)	16,000	18,000				
NITRATES (PPM)	7.0	7.5				
pH	40	80				
COMMENTS	NO GAS RECOVERED.					
SAMPLES SHIPPED (Include quantity and volume of containers).						

CORE LAB

COMPANY ESSO AUSTRALIA LTD.
WELL TUNA NO. 4

R.F.T. SAMPLING DATA SHEET

Sheet No. 3

RUN No.	6	6	7	7	8	8
SEAT No.	45	46	48	48	50	50
CHAMBER CAPACITY (GAL)	12	2-3/4	12	2-3/4	12	2-3/4
DEPTH (metres)	2451.5	2451.5	2470.4	2470.4	2475.0	2475.0
RECOVERY VOLUMES						
GAS (Cu Ft)	.78	-	1.35	0.65	1.61	-
OIL (cc)	-				TR SCUM	8
WATER/FILTRATE (cc)	41,550		41,750	9250	41,750	8550
OTHER (cc)	-					
SURFACE PRESSURE (PSI)	300		400	150	375	200
GAS COMPOSITION						
C1 (PPM)	51,020	NO GAS			INSUFFICIENT SAMPLE	NO SAMPLE
C2 (PPM)	4,914					
C3 (PPM)	2,865					
C4 (PPM)	1,539					
C5 (PPM)	773					
C6 (PPM)	28					
CO2 (%)	1.50		11.0	-	3	
H2S (PPM)	15.20		25.0	-	195	
OIL PROPERTIES						
DENSITY						
COLOUR					TAN	TAN
FLUORESCENCE					BRIGHT	BRIGHT WHITE
POUR POINT (^{o}C)						
WATER PROPERTIES						
RESISTIVITY (Ωm)	.284@18^{o}C	.290@17^{o}C	.268@17^{o}C	.265@16^{o}C	.279@15.5^{o}C	.285@15.5^{o}C
Cl (frm resis) (PPM)	26K	26K	15K		12.75K	12.25K
Cl (frm titrat) (PPM)	15,000	15,000	17,000	16,000	19,000	16,000
NITRATES (PPM)	20	20	10	TR	40	40
pH	8	9	7.5	7.0	7.5	7.5
COMMENTS						
SAMPLES SHIPPED (Include quantity and volume of containers).	1 x 5GAL PLASTIC	1 x 4L PLASTIC	1 x 5GAL PLASTIC	1 x 4L PLASTIC	1 x 4GAL PLASTIC	1 x 4L PLASTIC

CORE LAB

COMPANY ESSO AUSTRALIA LTD.

WELL TUNA NO. 4

R.F.T. SAMPLING DATA SHEET

Sheet No. 4

RUN No.	9	9	10	10	12	12
SEAT No.	51	51	52	52	56	56
CHAMBER CAPACITY (GAL)	45.4	10.4	45.4	10.4	45.4	3.8
DEPTH (metres)	2550.0	2550.0	2566.0	2566.0	2582.8	2582.8
RECOVERY VOLUMES						
GAS (Cu Ft)	64.36				5.8	.55
OIL (cc)	15,550				-	-
WATER/FILTRATE (cc)	1830				40,500	3,500
OTHER (cc)					-	-
SURFACE PRESSURE (PSI)	1400				500	290
GAS COMPOSITION						
C1 (PPM)	360621		297961	326533	129592	N
C2 (PPM)	52660		97696	52541	7446	O
C3 (PPM)	37481		68017	19644	5232	G
C4 (PPM)	5287		28200	5581	1557	A
C5 (PPM)	1102		8039	1037	145	S
C6 (PPM)	400		1800	150	27	
CO2 (%)	19%		20%	23%	11%	
H2S (PPM)	12		16	22	NIL	
OIL PROPERTIES						
DENSITY API @ 15°C	39.5		40.1	39.6		
COLOUR	RED BRN		RED BRN	RED BRN		
FLUORESCENCE	BRT CREAM		BRIGHT WHITE			
POUR POINT (°C)	87°F					
WATER PROPERTIES						
RESISTIVITY (Ωm)	.288@18°C		.300@19°C	.298@23°C	.30@17°C	.322@16°C
Cl (frm resis) (PPM)	14K		18K	20K	25K	25K
Cl (frm titrat) (PPM)	16		15	16	16	16
NITRATES (PPM)	20		10	10	20	30
pH	8		7	7	6.9	7.2
COMMENTS						
SAMPLES SHIPPED (Include quantity and volume of containers).	1 x 5GAL PLASTIC OF H2O 1 x 5GAL JERRY CAN OF OIL					

CORE LAB

COMPANY ESSO AUSTRALIA LTD.
WELL TUNA NO. 4

R.F.T. SAMPLING DATA SHEET

Sheet No. 5

RUN No.	13	13	14	14		
SEAT No.	57	57	58	58		
CHAMBER CAPACITY (GAL)	12	2-1/4	12	1		
DEPTH (metres)	2507.2	2507.2	2470.0	2470.0		
RECOVERY VOLUMES						
GAS (Cu Ft)	26		3.65	0		
OIL (cc)	525		TR	SCUM		
WATER/FILTRATE (cc)	3295		4155	350		
OTHER (cc)						
SURFACE PRESSURE (PSI)	975		500	0		
GAS COMPOSITION						
C1 (PPM)	351023		104082			
C2 (PPM)	69102		8637			
C3 (PPM)	30679		4043			
C4 (PPM)	9987		1527			
C5 (PPM)	2463		4168			
C6 (PPM)	512		180			
CO2 (%)	15		3.5			
H2S (PPM)	16		2			
OIL PROPERTIES						
DENSITY	40					
COLOUR	RED BRN					
FLUORESCENCE	BRT CREAM A					
POUR POINT (^{o}C)						
WATER PROPERTIES						
RESISTIVITY (Ωm)	.286@17^{o}C		.262@20^{o}C	.263@20^{o}C		
Cl (frm resis) (PPM)	27K		26K	26K		
Cl (frm titrat) (PPM)	14.5K		15K	15K		
NITRATES (PPM)	NIL		0	0		
pH	7.0		1			
COMMENTS						
SAMPLES SHIPPED (Include quantity and volume of containers).	2 x 1GAL TINS OIL 1 x5GAL WATER PLASTIC		1 x 5GAL PLASTIC WATER	1 x 1GAL WATER PLASTIC		

CORE LAB

COMPANY ESSO AUSTRALIA LTD.
WELL TUNA NO. 4

R.F.T. SAMPLING DATA SHEET

Sheet No. 6

RUN No.	18	18	19	19	20	20
SEAT No.	18/88	18/88	94	95	96	96
CHAMBER CAPACITY (LIT.)	45.4	10.4	45.4	10.4	45.4	10.4
DEPTH (metres)	2948.5	2948.5	2896.5		2896.5	2896.5
RECOVERY VOLUMES						
GAS (Cu Ft)	16.61	10.65	1.26		9.25	0
OIL (cc)	1750	1500	TR SCUM		0	0
WATER/FILTRATE (cc)	37450	6750	6250		0	0
OTHER (cc) MUD					28000	0
SURFACE PRESSURE (PSI)	850	1100	25		300	0
GAS COMPOSITION						
C1 (PPM)	328,770	309,923	268,042		293,171	
C2 (PPM)	61,079	51,825	34,549		46,889	
C3 (PPM)	25,692	20,257	14,822		18,775	
C4 (PPM)	7,905	5,434	5,928		7,411	
C5 (PPM)	1,536	940	2,624		2,892	
C6 (PPM)	199.6	174.7	699		1,198	
CO2 (%)	15	20	3		2	
H2S (PPM)	5	2	4		TR	
OIL PROPERTIES						
DENSITY API @ 60°F	37.8	38.3				
COLOUR	RED BRN	RED BRN				
FLUORESCENCE	BRIGHT	CREAM				
POUR POINT (°C)	37					
WATER PROPERTIES						
RESISTIVITY (Ωm) @ 21°C	0.260	0.277	0.253		0.258	
Cl (frm resis) (PPM)	26,000	25,000	27,000		31,000	
Cl (frm titrat) (PPM)	16,000	17,000	15,000		18,000	
NITRATES (PPM)	40	30	TR		120	
pH	8.0	7.5	8.2		9.7	
COMMENTS				CHAMBER NOT OPENED	SEAL FAILURE AFTER 1 HOUR OF SAMPLING	ONLY ONE CHAMBER WAS FILLED.
SAMPLES SHIPPED (Include quantity and volume of containers).	1 SAMPLE 4 LITRE OIL 1 SAMPLE 20 LITRE WATER	1 SAMPLE WATER 4 LITRE. 1 SAMPLE 4 LITRE OIL				

CORE LAB

COMPANY ESSO AUSTRALIA LTD.
WELL TUNA NO. 4

R.F.T. SAMPLING DATA SHEET

Sheet No. 7

RUN No.	21	21	22	22	23	23
SEAT No.	100	100	101	101	102	102
CHAMBER CAPACITY (LIT)	45.4	10.4	45.4	10.4	45.4	10.4
DEPTH (metres)	2866.2	2866.2	2827	2827	2775	2775
RECOVERY VOLUMES						
GAS (Cu Ft)	13.1	7.63	1.55	0	0.23	0.01
OIL (cc)				TR SCUM		
WATER/FILTRATE (cc)	28500	4600	14250	5250	1100	9750
OTHER (cc)						
SURFACE PRESSURE (PSI)	420	500	370	80	150	100
GAS COMPOSITION						
C1 (PPM)	400384	301465	178995		94208	
C2 (PPM)	57016	11878	19251		8314	
C3 (PPM)	16865	11243	5621		3279	
C4 (PPM)	5690	4377	1751		1422	
C5 (PPM)	1405	527	702		643	
C6 (PPM)	284	284	355		264	
CO2 (%)	9	9	6		3	
H2S (PPM)	4	11	0		3	
OIL PROPERTIES						
DENSITY						
COLOUR						
FLUORESCENCE						
POUR POINT (^{o}C)						
WATER PROPERTIES						
RESISTIVITY (Ωm) @ 21^{o}C	0.242	0.243	0.250	0.253	0.289	0.253
Cl (frm resis) (PPM)	27,000	27,000	27,000	27,000	26,000	32,000
Cl (frm titrat) (PPM)	17,000	17,000	18,000	18,000	18,000	18,000
NITRATES (PPM)	TR	TR	10	TR	30	40
pH	8.3	8.3	8.3	8.0	9.7	10.2
COMMENTS				NO GAS RECOVERED		INSUFFICIENT SAMPLE FOR ANALYSIS
SAMPLES SHIPPED (Include quantity and volume of containers).						

CORE LAB

COMPANY ESSO AUSTRALIA LTD.
WELL TUNA NO. 4

R.F.T. SAMPLING DATA SHEET

Sheet No. 8

RUN No.	24	24	25	25	26	26
SEAT No.	103	103	106	105	107	107
CHAMBER CAPACITY (LIT)	45.4	10.4	45.4	10.4	45.4	10.4
DEPTH (metres)	2775	2775	2686	2775	2919.5	2919.5
RECOVERY VOLUMES						
GAS (Cu Ft)	0.28	0	81.2	0.11	131.3	48.8
OIL (cc)	0	0	-	-		
WATER/FILTRATE (cc)	1000	9000	30,700	6,750	17,500	1,830
OTHER (cc) CONDENSATE			0.25	-	TR	220
SURFACE PRESSURE (PSI)	200	100	1600	100	1500	1600
GAS COMPOSITION						
C1 (PPM)	40,627		320,307	-	70,656	56,960
C2 (PPM)	1,744		38,010	-	9,502	8,696
C3 (PPM)	732		14,996	-	3,982	2,979
C4 (PPM)	315		3,279	-	1,313	1,468
C5 (PPM)	66		547	-	468	369
C6 (PPM)	9		38	-	142	248
CO2 (%)	0		8.3	-	17	20
H2S (PPM)	0		TR	-	2	15
OIL PROPERTIES						
DENSITY						
COLOUR						
FLUORESCENCE						
POUR POINT (^{o}C)						
WATER PROPERTIES						
RESISTIVITY (Ωm) @ 16^{o}C	0.298	0.249			0.249	0.244
Cl (frm resis) (PPM)	26,000	32,000			16,000	16,500
Cl (frm titrat) (PPM)	16,000	18,000	17,000	17,000	16,000	16,000
NITRATES (PPM)	30	50	TR	TR	20	TR
pH	9.1	9.5	8.5	8.4	8.4	8.3
COMMENTS		NO GAS RECOVERED	CONDENSATE HAD AN API OF 41.6	NO GAS RE-COVERED		
SAMPLES SHIPPED (Include quantity and volume of containers).	1/4 LITRES PLASTIC WATER SAMPLE		1/1 LIT CONDENS. SAMPLE 1/5 GAL WATER SAMPLE	1/4 LIT WATER SAMPLE		

CORE LAB

COMPANY ESSO AUSTRALIA LTD.
WELL TUNA NO. 4

R.F.T. SAMPLING DATA SHEET

Sheet No. 9

RUN No.	27	27	28	28	29	29
SEAT No.	108	108	109	109	114	114
CHAMBER CAPACITY (LIT)	45.4	10.4	45.4	3.8	45.4	3.8
DEPTH (metres)	2812.5	2812.5	2768	2768	2752	2752
RECOVERY VOLUMES						
GAS (Cu Ft)	12.4	14.67	2.07	0.24	5.7	-
OIL (cc)	2350	3360			-	-
WATER/FILTRATE (cc)	32300	3750	41.5	3.75	-	-
OTHER (cc) MUD					16,750	
SURFACE PRESSURE (PSI)	700	1200	400	100	100	-
GAS COMPOSITION						
C1 (PPM)	12953	14692	21196	17664	25024	-
C2 (PPM)	1781	1878	3563	3469	3267	-
C3 (PPM)	1037	1269	1873	1690	1757	-
C4 (PPM)	984	1096	273	246	1231	-
C5 (PPM)	204	674	117	120	878	-
C6 (PPM)	107	296	71	58	248	-
CO2 (%)	10	13	4	2	6.1	-
H2S (PPM)	5	25	TR	TR	-	-
OIL PROPERTIES						
DENSITY API	36.6	36				
COLOUR	RED BRN	RED BRN				
FLUORESCENCE	YEL-CRM	YEL-CRM				
POUR POINT (^{o}C)		34				
WATER PROPERTIES						
RESISTIVITY (Ωm) @ 21^{o}C	0.261	0.247				
Cl (frm resis) (PPM)	18,500	20,500				
Cl (frm titrat) (PPM)	17,000	17,000	18,000	18,000		
NITRATES (PPM)	10	30	40	20		
pH	8.1	7.9	8.5	8.3		
COMMENTS					PACKER FAILURE	PACKER FAILURE
SAMPLES SHIPPED (Include quantity and volume of containers).						

CORE LAB

COMPANY ESSO AUSTRALIA LTD
WELL TUNA NO. 4

R.F.T. SAMPLING DATA SHEET

Sheet No. 10

RUN No.	30	30				
SEAT No.	118	118				
CHAMBER CAPACITY (LIT)	45.4	10.4				
DEPTH (metres)	2929.5	2929.5				
RECOVERY VOLUMES						
GAS (Cu Ft)	1.07	19.28				
OIL (cc)	0	0				
WATER/FILTRATE (cc)	43,500	7250				
OTHER (cc) CONDENSATE	0	TR				
SURFACE PRESSURE (PSI)	100	1400				
GAS COMPOSITION						
C1 (PPM)	42393	38860				
C2 (PPM)	3563	4751				
C3 (PPM)	2496	2342				
C4 (PPM)	1987	1469				
C5 (PPM)	1349	1171				
C6 (PPM)	460	355				
CO2 (%)	18	8				
H2S (PPM)	TR	TR				
OIL PROPERTIES						
DENSITY						
COLOUR						
FLUORESCENCE						
POUR POINT (^{0}C)						
WATER PROPERTIES						
RESISTIVITY (Ωm)						
Cl (frm resis) (PPM)						
Cl (frm titrat) (PPM)	18,000	18,000				
NITRATES (PPM)	50	30				
pH	8.2	9.8				
COMMENTS						
SAMPLES SHIPPED (Include quantity and volume of containers).						

CORE LAB

COMPANY ESSO AUSTRALIA LTD.
WELL TUNA NO. 4

R.F.T. SAMPLING DATA SHEET

Sheet No. 11

RUN No.	31	31	32	32	33	33
SEAT No.	121	121	122	122	123	123
CHAMBER CAPACITY (GAL)	12	2-3/4	12	2-3/4	12	2-3/4
DEPTH (metres)	3157.8	3157.8	3062	3062	3031.5	3031.5
RECOVERY VOLUMES						
GAS (Cu Ft)	4	5.8	249	78	8	39
OIL (cc)	0				OIL SCUM	200
WATER/FILTRATE (cc)	2030	890	11500		11750	4750
OTHER (cc) CONDENSATE			2250		-	-
SURFACE PRESSURE (PSI)	2100	2000	2280	2250	80	2000
GAS COMPOSITION						
C1 (PPM)	372817	322437	332513	324956	342589	317399
C2 (PPM)	41722	40284	54671	51793	53232	43161
C3 (PPM)	11520	9360	23616	21888	25344	19584
C4 (PPM)	3083	3083	7428	8479	6727	4415
C5 (PPM)	822	925	2150	2656	801	514
C6 (PPM)	189	258	504	654	NIL	NIL
CO2 (%)	2	9	23	19	10	8
H2S (PPM)	0	0	7	7	NIL	NIL
OIL PROPERTIES						
DENSITY				49.1		43
COLOUR					OIL SCUM	WAXY YEL
FLUORESCENCE						BRI WH
POUR POINT (°C)						WH CUT./YEL -
WATER PROPERTIES						
RESISTIVITY (Ωm)						
Cl (frm resis) (PPM)						
Cl (frm titrat) (PPM)	16,000	18,000	23,000	17,500	195	21
NITRATES (PPM)	198	176	213	195	198	195
pH	8.5	7.2	8.4	6.5	7.15	6.5
COMMENTS						
SAMPLES SHIPPED (Include quantity and volume of containers).	1 x 5GAL PLASTIC	1 x 1GAL PLASTIC			1 x 25LT PLASTIC CAN	1 x 4LT PLASTIC CAN 1 x 1LT TIN

CORE LAB

COMPANY ESSO AUSTRALIA LTD.
WELL TUNA NO. 4

R.F.T. SAMPLING DATA SHEET

Sheet No. 12

RUN No.	33	33	34	34		
SEAT No.	123	123	125	125		
CHAMBER CAPACITY (GAL)	12	2714	12	2-3/4		
DEPTH (metres)	3031.5	3031.5	3119.4	3119.4		
RECOVERY VOLUMES						
GAS (Cu Ft)	39.5	8	1.2	0.5		
OIL (cc)	0.2	SCUM	-	-		
WATER/FILTRATE (cc)	4750	11750	15000	9750		
OTHER (cc)			-	-		
SURFACE PRESSURE (PSI)	2000	80	0	600		
GAS COMPOSITION						
C1 (PPM)	352665	347,627	165,918	283,516		
C2 (PPM)	47477	48,916	51,793	20,142		
C3 (PPM)	20735	17,668	50,688	5,326		
C4 (PPM)	4905	5263	2943	1296		
C5 (PPM)	596	165	62	246		
C6 (PPM)	NIL	NIL	NIL	NIL		
CO2 (%)	10	10	15	2		
H2S (PPM)	NIL	NIL	NIL	NIL		
OIL PROPERTIES						
DENSITY						
COLOUR						
FLUORESCENCE						
POUR POINT (°C)						
WATER PROPERTIES						
RESISTIVITY (Ωm)						
Cl (frm resis) (PPM)						
Cl (frm titrat) (PPM)	19,500	21,000	20,000	17,500		
NITRATES (PPM)	198	195	209	198		
pH	7.5	6.5	7.8	7.5		
COMMENTS	GAS RCVD FROM MID POINT OF EMPTYING CHAMBER.	GAS RCVD FROM END POINT OF EMPTYING CHAMBER.		VERY POOR GAS SAMPLE		
SAMPLES SHIPPED (Include quantity and volume of containers).						

CORE LAB

CASED-HOLE

R.F.T. SAMPLING DATA SHEET

COMPANY ESSO AUSTRALIA LTD

WELL TUNA #4

Sheet No. 13

RUN No.	35	35	36	36		
SEAT No.	128	128	129	129		
CHAMBER CAPACITY (GAL)	12	2 3/4	12	2 3/4		
DEPTH (metres)	2938.8	2938.8	2940.0	2940.0		
RECOVERY VOLUMES						
GAS (Cu Ft)	3.04	1.02	3.95	1.28		
OIL (cc)	0	0	0	100		
WATER/FILTRATE (cc)	41,700	9,500	28,250	9,000		
OTHER (cc)	0	0	0	0		
SURFACE PRESSURE (PSI)	300	350	420	380		
GAS COMPOSITION						
C1 (PPM)	46,664	44,442	292,680	236,032		
C2 (PPM)	6,071	6,267	40,960	34,560		
C3 (PPM)	2,630	2,981	20,685	16,031		
C4 (PPM)	747	1,121	6,872	4,229		
C5 (PPM)	229	367	1,883	1,198		
C6 (PPM)	46	114	455	420		
CO2 (%)	0.5	27.3	11.0	6.5		
H2S (PPM)	0	0	0	0		
OIL PROPERTIES						
DENSITY ^{o}API				34^{o}		
COLOUR				Dk brn		
FLUORESCENCE				Crm-yel		
POUR POINT (^{o}C)				35^{o}		
WATER PROPERTIES						
RESISTIVITY (Ωm)						
Cl (frm resis) (PPM)						
Cl (frm titrat) (PPM)	14,000	13,500				
NITRATES (PPM)	140	100				
pH	7.3	7.0				
COMMENTS		Trace C_7	Trace C_7	Trace C_7		
SAMPLES SHIPPED (Include quantity and volume of containers).						

PRODUCTION TEST DATA

CORE LAB. **PRODUCTION WELL TEST DATA SHEET** SHEET# 1

COMPANY ESSO AUSTRALIA LTD DATE 23-25TH JULY, 1984

WELL TUNA #4 PWT# 2

PERFORATIONS 2820 - 2829 m (FM, RKB)

RATHOLE FLUID: TYPE _____ RES. Ω m _____ @ _____ PH _____ Cl (TITRAT) _____ PPM

NO3 _____ PPM DENSITY _____

CUSHION FLUID: TYPE _____ RES. Ω m _____ @ _____ PH _____

Cl (TITRAT) _____ PPM DENSITY _____

	TIME HH:MM	SAMPLING POINT	NO.	SHAKE OUT % OIL	SHAKE OUT % H2O	SHAKE OUT % SLDS	API @ TEMP —	API @ TEMP °F	COLOUR OIL	POUR POINT °C	WATER RES @ TEMP Ω-m	WATER RES @ TEMP °	Cl PPM	NO3 PPM	PH	COMMENTS
	05:30	CH/MAN					35.5	60	Dk brn	33						
	06:30	CH/MAN					37.8	60	Dk brn	35						
	07:30	CH/MAN														
24/7/84	07:30	CH/MAN		98	2	0	34.2	60	Dk brn	32						
	08:00	CH/MAN		98.7	1.3	TR	34.8	60	Dk brn	34						
	08:30	CH/MAN		99.0	1.0	TR	32.4	60	Dk brn	32.3						
	09:00	CH/MAN		99.3	0.6	0.1	33.2	60	Dk brn	33.0						
	09:30	CH/MAN		99.2	0.7	0.1	34.6	60	Dk brn	34.4						
	10:00	CH/MAN		99.6	0.3	0.1	32.4	60	Dk brn	33.6						
	10:30	CH/MAN		99.6	0.3	0.1	36.2	60	Dk brn	34.6						
	11:00	CH/MAN		99.5	0.4	0.1	32.6	60	Dk brn	36						
	11:30	CH/MAN		99.6	0.3	0.1	36.9	60	Dk brn	36						
	12:00	CH/MAN		99.2	0.6	0.2	36.3	60	Dk brn	35						
25/7/84	12:30	CH/MAN		99.4	0.4	0.2	36.4	60	Dk brn	35						
	01:00	COLLECTED JERRY CAN SAMPLE NO. 1														
	01:00	CH/MAN		96.2	3.6	0.2	36.5	60	Dk brn	35						
	01:30	CH/MAN		98.9	1.0	0.1	36.2	60	Dk brn	35						
	02:00	CH/MAN		98.6	1.1	0.25	36.3	60	Dk brn	35						
	02:30	CH/MAN		98.0	1.8	0.2	36.2	60	Dk brn	35						
	03:00	CH/MAN		98.0	1.7	0.3	35.9	60	Dk brn	35						
	03:30	CH/MAN		99.2	0.7	0.1	36.0	60	Dk brn	35.5						
	04:30	CH/MAN		98.8	1.1	0.1	36.1	60	Dk brn	35.4						
	05:30	CH/MAN		99.5	0.4	0.1	35.5	60	Dk brn	35.0						
	06:30	CH/MAN		99.5	0.4	0.1	36.1	60	Dk brn	36.0						
	07:30	CH/MAN		99.8	0.2	TR	35.7	60	Dk brn	35.0						
	08:30	CH/MAN		98.7	1.1	0.2	35.4	60	Dk brn	35.5						
	09:30	CH/MAN		99.1	0.7	0.2	36.4	60	Dk brn	35.0						
	10:30	CH/MAN		98.8	1.1	0.1	36.4	60	Dk brn	35.5						
	11:30	CH/MAN		99.8	0.2	TR	35.4	60	Dk brn	36.0						
	11:55	CH/MAN		99.7	0.3	0.2	34.96	60	Dk brn	36.0						

CORE LAB. **PRODUCTION WELL TEST DATA SHEET** SHEET # 2

COMPANY ESSO AUSTRALIA LTD DATE 26TH JULY 1984

WELL TUNA #4 PWT# 2

PERFORATIONS 2820 - 2829 m (FM, RKB)

RATHOLE FLUID: TYPE _____ RES. Ω m _____ ° _____ PH _____ Cl (TITRAT) _____ PPM

NO3 _____ PPM DENSITY _____

CUSHION FLUID: TYPE _____ RES. Ω m _____ ° _____ PH _____

Cl (TITRAT) _____ PPM DENSITY _____

TIME HH:MM	SAMPLING POINT	NO	SHAKE OUT % OIL	SHAKE OUT % H2O	SHAKE OUT % SLDS	API @ TEMP —	API @ TEMP °F	COLOUR OIL	POUR POINT °C	WATER RES @ TEMP Ω-m	WATER RES @ TEMP °	Cl PPM	NO3 PPM	PH	COMMENTS
12:45	CH/MAN		99.7	0.5	0.2	34.6	60	Dk brn	35.5						
01:45	CH/MAN		99.8	0.2	TR	35.6	60	Dk brn	36						
02:45	CH/MAN		99.5	0.4	0.1	35.4	60	Dk brn	35.5						Shut in at
03:45	CH/MAN		99.7	0.2	0.1	35.0	60	Dk brn	36.0						02:50 to
05:00	CH/MAN		99.0	0.9	0.1	36.1	60	Dk brn	35.5						pressure
06:00	CH/MAN		99.5	0.4	0.1	34.8	60	Dk brn	36.0						test
07:00	CH/MAN		99.8	0.2	TR	35.4	60	Dk brn	35.5						
08:00	CH/MAN		99.4	0.3	TR	36.0	60	Dk brn	35.5						
09:00	CH/MAN		99.3	0.7	TR	35.4	60	Dk brn	36.0						Shut from
10:30	CH/MAN		99.4	0.5	0.1	35.1	60	Dk brn	35.0						09:18-10:00
11:00	CH/MAN		99.7	0.3	TR	35.4	60	Dk brn	36.0						to repair
12:00	CH/MAN		99.6	0.4	TR	35.6	60	Dk brn	35.0						chiksan leak
01:00	CH/MAN		99.7	0.3	TR	30.8	60	Dk brn	36.0						
01:30	CH/MAN		99.8	0.2	TR	31.6	60	Dk brn	35.4						
02:00	CH/MAN		99.8	0.2	TR	33.0	60	Dk brn	36.2						

CORE LAB. **PRODUCTION WELL TEST DATA SHEET** SHEET# 3

COMPANY ESSO AUSTRALIA LTD

WELL TUNA #4 PWT# 3

PERFORATIONS 2562 - 2569 m (FM, RKB)

DATE 8TH AUGUST, 1984
9TH AUGUST, 1984

INITIAL FLOW

RATHOLE FLUID: TYPE _____ RES. Ω m _____ @ _____ PH _____ Cl (TITRAT) _____ PPM
NO3 _____ PPM DENSITY _____

CUSHION FLUID: TYPE _____ RES. Ω m _____ @ _____ PH _____
Cl (TITRAT) _____ PPM DENSITY _____

TIME HH:MM	SAMPLING POINT	NO.	SHAKE OUT % OIL	H2O	SLDS	API @ TEMP —	@	COLOUR OIL	POUR POINT °C	WATER RES @ TEMP Ω-m	°C	Cl PPM	NO3 PPM	PH	COMMENTS
12:30	CHOKE		97	3	0.1	39.3		Dk brn	29						
13:17	CHOKE		45	40	15	37.9		Dk brn	30			16000	187	7.9	
15:45			31	68	4	37.7		Dk brn		0.82	18	15000	143	7.14	
16:15	CHOKE		31	65	4	37.6		Dk brn	31	0.76	18	16000	187	6.91	
22:50	CHOKE		75	25	1.75										
23:00	CHOKE		92	7.5	0.5	37.2		Dk brn	29			15000	187	8.17	
9/8/84 13:35	CHOKE		95	4.5	0.5										
13:50	CHOKE		99	0.9	0.1										
14:05	CHOKE		99.5	0.4	0.1	39									
14:20	CHOKE		99.3	0.7	TR										
14:35	CHOKE		98	1.5	0.3	38.8		Dk brn	30						
14:50	CHOKE		99	0.8	TR										
15:05	CHOKE		99.9	0.1	TR	39.0		Dk brn	30						
15:30	CHOKE		99	0.2	TR	39									
15:45	CHOKE		99.8	0.3	0.2										
16:00	CHOKE		35	65	0.5										
16:15	CHOKE		TR	99.8	0.2							15000	TR	6.75	
16:30	CHOKE		10	90	0.5										
17:00	CHOKE		10	90	0.5	39		Dk brn	31			16500	55	7.34	
17:15	CHOKE		10	90	0.5										
17:30	CHOKE		10	89	1							18000	66	7.86	
17:45	CHOKE		10	90	0.2										
18:00	CHOKE		20	80	0.1							18500	33	8.00	
18:15	CHOKE		35	65	0.2										
18:30	CHOKE		30	70	0.1										
18:45	CHOKE		40	60	0.1										
19:00	CHOKE		60	40	0.1										
19:15	CHOKE		55	45	0.1										
19:30	CHOKE		55	45	0.1										

CORE LAB. **PRODUCTION WELL TEST DATA SHEET** SHEET # 4

COMPANY ESSO AUSTRALIA LTD DATE 8TH AUGUST, 1984

WELL TUNA #4 PWT# 3

PERFORATIONS 2562 - 2569 m (FM, RKB) INITIAL FLOW

RATHOLE FLUID: TYPE _____ RES. Ω m _____ ° _____ PH _____ Cl (TITRAT) _____ PPM

NO3 _____ PPM DENSITY _____

CUSHION FLUID: TYPE _____ RES. Ω m _____ ° _____ PH _____

Cl (TITRAT) _____ PPM DENSITY _____

TIME HH:MM	SAMPLING POINT	NO.	SHAKE OUT % OIL	SHAKE OUT % H2O	SHAKE OUT % SLDS	API @ TEMP —	API @ TEMP °	COLOUR OIL	POUR POINT °	WATER RES @ TEMP Ω-m	WATER RES @ TEMP °	Cl PPM	NO3 PPM	PH	COMMENTS
19:45	CHOKE		50	50	TR										
20:00	CHOKE		50	50	TR										
20:15	CHOKE		45	55	TR										
20:30	CHOKE		40	60	-							18500	TR	6.8	
20:45	CHOKE		45	55	TR										
21:00	CHOKE		50	50	TR										
21:15	CHOKE		55	45	-										
21:30	CHOKE		55	45	-										
21:45	CHOKE		55	45	TR										
22:00	CHOKE		55	45	TR										
22:15	CHOKE														
22:30	CHOKE		55	45	TR										
22:45	CHOKE														
23:00	CHOKE		55	45	-										
23:30	CHOKE		50	50	-										

CORE LAB. **PRODUCTION WELL TEST DATA SHEET** SHEET # 5

COMPANY ESSO AUSTRALIA LTD DATE 9TH AUGUST, 1984

WELL TUNA #4 PWT# 3

PERFORATIONS 2562 - 2569 m (FM, RKB) FINAL FLOW

RATHOLE FLUID: TYPE _____ RES. Ω m _____ ° _____ PH _____ Cl (TITRAT) _____ PPM

NO3 _____ PPM DENSITY _____

CUSHION FLUID: TYPE _____ RES. Ω m _____ ° _____ PH _____

Cl (TITRAT) _____ PPM DENSITY _____

TIME HH:MM	SAMPLING POINT	NO.	SHAKE OUT % OIL	SHAKE OUT % H2O	SHAKE OUT % SLDS	API & TEMP —	API & TEMP °	COLOUR OIL	POUR POINT °	WATER RES & TEMP Ω-m	WATER RES & TEMP °	Cl PPM	NO3 PPM	PH	COMMENTS
17:45	SEPARATOR		10	90	0.2										
18:30	SEPARATOR											16500	TR	7.1	
19:00	SEPARATOR					39		Dk brn	29			19500	33	6.9	
19:30	SEPARATOR					38		Dk brn	30			11500	TR	7	
20:00	SEPARATOR		TR	100	TR	38		Dk brn				19000	TR	6.8	
20:30	SEPARATOR											18500	TR	6.8	
21:00	SEPARATOR		TR	100	TR	39		Dk brn	30			17000	TR	6.9	
21:30	SEPARATOR		TR			39		Dk brn	30			18000	TR	6.9	
22:00	SEPARATOR					39		Dk brn				19000	TR	6.9	
22:30	SEPARATOR											16000	TR	7	
23:00	SEPARATOR		TR	100	-	39		Dk brn	30						
23:30	SEPARATOR					39		Dk brn	30						

CORE LAB. **PRODUCTION WELL TEST DATA SHEET** SHEET # 6

COMPANY ESSO AUSTRALIA LTD DATE 16TH AUGUST, 1984

WELL TUNA #4 PWT # 4 INITIAL FLOW

PERFORATIONS 2543 - 2552 m (FM, RKB)

RATHOLE FLUID: TYPE _____ RES. Ω m _____ ° _____ PH _____ Cl (TITRAT) _____ PPM

NO3 _____ PPM DENSITY _____

CUSHION FLUID: TYPE _____ RES. Ω m _____ ° _____ PH _____

Cl (TITRAT) _____ PPM DENSITY _____

TIME HH:MM	SAMPLING POINT	NO	SHAKE OUT % OIL	H2O	SLDS	API @ TEMP —	°F	COLOUR OIL	POUR POINT °C	WATER RES @ TEMP Ω-m	°	Cl PPM	NO3 PPM	PH	COMMENTS
20:11	CHOKE		69	3.3	27.7	39	60	brown	32						
20:34	C/MAN		78	0	22	38	60	brown	28						
20:51	C/MAN		92	0	8	38	60	brown	30						
21:12	C/MAN		91	1	8	37	60	brown	29						
21:37	C/MAN		97	0	3	39	60	brown	31						
21:56	C/MAN		99.5	0	0.5	39	60	brown	31						
22:09	C/MAN		99.8	0	0.2	39	60	brown	32						
22:26	C/MAN		99.6	0	0.4	39	60	brown	31						
22:40	C/MAN		99.7	0	0.3	-	-	brown	-						
22:56	C/MAN		99.55	0.05	0.4	39	60	brown	31						
23:22	C/MAN		99.7	0	0.3	-	-	brown	-						

CORE LAB. **PRODUCTION WELL TEST DATA SHEET** SHEET # 7

COMPANY ESSO AUSTRALIA LTD
WELL TUNA #4 PWT# 4
PERFORATIONS 2543 - 2552 m (FM, RKB)

DATE 17TH AUGUST, 1984
FINAL FLOW

RATHOLE FLUID: TYPE _____ RES. Ω m _____ ° _____ PH _____ Cl (TITRAT) _____ PPM
NO3 _____ PPM DENSITY _____

CUSHION FLUID: TYPE _____ RES. Ω m _____ ° _____ PH _____
Cl (TITRAT) _____ PPM DENSITY _____

TIME HH:MM	SAMPLING POINT	NO.	SHAKE OUT % OIL	H2O	SLDS	API & TEMP —	°F	COLOUR OIL	POUR POINT °C	WATER RES & TEMP Ω-m	°	Cl PPM	NO3 PPM	PH	COMMENTS
06:00	CH/MAN		97	0	3	39	60	Brown	27						Solids are soft sediment/filtrate
06:30	CH/MAN		75	0	25	39	60	Brown	26						
07:00	CH/MAN		98	0	2	39	60	Brown	28						
07:30	CH/MAN		98	0	2			Brown	28						
08:00	CH/MAN		98	0	2	37	60	Brown	28						
08:30	CH/MAN		98	0	2	38	60	Brown	27						
09:00	CH/MAN		98.7	0	1.3	37	60	Rd-brn	29						
09:30	CH/MAN		99.8	0	.02			Rd-brn							
10:00	CH/MAN		99.85	0	.15	37	60	Rd-brn	29						
10:30	CH/MAN		99.95	0	.05			Rd-brn							
11:00	CH/MAN		100	0	TR	40	60	Rd-brn	27						
11:30	CH/MAN		100	0	TR			Rd-brn							
12:00	CH/MAN		100	0	TR	38	60	Brown	26						
12:30	CH/MAN		99.7	TR	0.3			Brown							
13:00	CH/MAN		100	0	0	38	60	Brown	31			13000	110	7	
13:30	CH/MAN		100	0	0										
14:00	CH/MAN		100	0	0	39	60	Brown	31						
14:30	CH/MAN		100	0	0										
15:00	CH/MAN		100	0	0	39	60	Brown	31						
	SHUT THE WELL IN PREMATURELY DUE TO A WEATHER ALERT														
	AT 15:45 HRS.														

CORE LAB. **PRODUCTION WELL TEST DATA SHEET** SHEET # 8

COMPANY ESSO AUSTRALIA LTD
WELL TUNA #4 PWT# 5
PERFORATIONS 2469.5 - 2477 m (FM, RKB)

DATE 20TH AUGUST, 1984

INITIAL FLOW (CLEAN-UP)

RATHOLE FLUID: TYPE _____ RES. Ω m _____ ° _____ PH _____ Cl (TITRAT) _____ PPM
NO3 _____ PPM DENSITY _____

CUSHION FLUID: TYPE _____ RES. Ω m _____ ° _____ PH _____
Cl (TITRAT) _____ PPM DENSITY _____

TIME HH:MM	SAMPLING POINT	NO.	SHAKE OUT % OIL	H2O	SLDS	API @ TEMP —	° F	COLOUR OIL	POUR POINT °C	WATER RES @ TEMP Ω - m	°	Cl PPM	NO3 PPM	PH	COMMENTS
16:05	CH/MAN		ONLY GAS-CUT MUD WAS RECOVERED												
16:50	CH/MAN		99.5	-	0.5	39	60	Brown	30						
17:05	CH/MAN					40	60	Brown	30			13000	150	8.5	
17:20	CH/MAN		8	90.8	1.2	OIL EMULSION/WATER RECOV.						13000	150	8.5	
17:47	CH/MAN		83	17	TR										
18:00	CH/MAN		95	5	TR	40	60	Brown	31						Pale
18:30	CH/MAN		12	87.6	0.4							13000	176	7.4	crm-blue flourescence
19:00	CH/MAN		95	5	TR	39	60	Brown	30						
19:15	CH/MAN		55	45	-							13000	200	7.3	
20:00	CH/MAN		52	48	TR	38	60	Brown	30			13000	200	6.7	
20:15	SEPARATOR											12000	200	6.8	

CORE LAB. **PRODUCTION WELL TEST DATA SHEET** SHEET # 9

COMPANY ESSO AUSTRALIA LTD DATE 21ST AUGUST, 1984

WELL TUNA #4 PWT# 5

PERFORATIONS 2469.5 - 2477 m (FM, RKB) FINAL FLOW

RATHOLE FLUID: TYPE _____ RES. Ω m _____ ° _____ PH _____ Cl (TITRAT) _____ PPM

NO3 _____ PPM DENSITY _____

CUSHION FLUID: TYPE _____ RES. Ω m _____ ° _____ PH _____

Cl (TITRAT) _____ PPM DENSITY _____

TIME HH:MM	SAMPLING POINT	NO.	SHAKE OUT % OIL	H2O	SLDS	API @ TEMP —	° F	COLOUR OIL	POUR POINT °C	WATER RES @ TEMP Ω-m	°	Cl PPM	NO3 PPM	PH	COMMENTS
02:00	CH/MAN		95	4.5	.5	39	60	Brown	30						
02:30	CH/MAN		99.4	.6	TR	38	60	Brown	30						The water
03:00	CH/MAN		94	6	TR	38	60	Brown	31						is a dirty
03:30	CH/MAN		95	5	TR	38	60	Brown	31						filtrate
04:00	CH/MAN		94	6	TR	38		Brown	31						
04:30	CH/MAN		84	16	TR	38.5	60	Brown	31						
05:00	CH/MAN		98.5	1.5	TR	38	60	Brown	31						
06:00	CH/MAN		95	5	TR	38	60	Brown	31						
06:30	CH/MAN		95.5	4.5	TR	38	60	Brown	30						
07:00	CH/MAN		95	5	TR	39	60	Brown	31						
07:30	CH/MAN		97.5	3.5	TR	37	60	Brown	31						
07:50	CH/MAN		95.5	4.5	TR	38	60	Brown	32						
	WELL WAS SHUT-IN PREMATURELY DUE TO BAD WEATHER.														

CORE LAB. **PRODUCTION WELL TEST DATA SHEET** SHEET # 10

COMPANY ESSO AUSTRALIA LTD

WELL TUNA #4 PWT# 5 (contd)

PERFORATIONS 2469.5 - 2477 m (FM, RKB)

DATE 23RD AUGUST, 1984

FINAL FLOW (RESUMED)

RATHOLE FLUID: TYPE _____ RES. Ω m _____ @ _____ PH _____ Cl (TITRAT) _____ PPM

NO3 _____ PPM DENSITY _____

CUSHION FLUID: TYPE _____ RES. Ω m _____ @ _____ PH _____

Cl (TITRAT) _____ PPM DENSITY _____

TIME	SAMPLING POINT	NO.	SHAKE OUT %			API & TEMP		COLOUR OIL	POUR POINT	WATER RES & TEMP		Cl	NO3	PH	
HH:MM			OIL	H2O	SLDS	—	°		°	Ω-m	°	PPM	PPM		COMMENTS
07:45	CH/MAN		84	15	.9	39	60	Brown	32						Water is a
08:00	CH/MAN		99.2	.8	TR	37	60	Brown	32						brown
08:30	CH/MAN		99.6	.4	TR	38	60	Brown	31						filtrate/
09:00	CH/MAN		95	5	TR	38	60	Brown	30						emulsion
09:30	CH/MAN		96	4	TR	39	60	Brown	30						
10:00	CH/MAN		96.5	3.5	TR	38	60	Brown	30						
10:30	CH/MAN		97	3.0	TR	38	60	Brown	31						
11:00	CH/MAN		96.5	3.5	TR	38	60	Brown	30						
11:30	CH/MAN		96	4	TR	38	60	Brown	30			5000	40	65	
12:00	SEPARATOR		98	2	0	39	60	Brown	30			5000	90	67	
12:30	CH/MAN		99.5	0.5	0	40	60	Brown	31						
13:00	SEPARATOR		98	2	0	39	60	Brown	31			5000	90	67	
13:30	CH/MAN		100	0	0	39	60	Brown	31			5000	100	67	
14:00	SEPARATOR		100	0	0	39	60	Brown	31						
14:30	CH/MAN		99	1	0	38	60	Brown	31			6000	120	66	
15:00	SEPARATOR		98	2	0	38	60	Brown	31			7000	130	63	
15:30	CH/MAN		100	0	0	38	60	Brown	30			7000	140	65	
16:00	SEPARATOR		100	0	0	39	60	Brown	31			11000	0	79	MUD
16:30	CH/MAN		100	0	0	38	60	Brown	31						
17:00	SEPARATOR		99	1	0	38	60	Brown	32						
17:30	CH/MAN		99.5	0.5	0	37	60	Brown	31						
18:00	SEPARATOR		100	0	0	38	60	Brown	31						

CORE LAB

PRODUCTION WELL TEST DATA SHEET

SHEET # 1

COMPANY ESSO AUSTRALIA LTD

WELL TUNA #4 PWT # 1

PERFORATIONS 3147 - 3138 m (FM, RKB)

DATE 20TH JULY, 1984

INITIAL FLOW

TIME	SAMPLING POINT	C1	C2	C3	C4	C5	C6	CO2	H2S	
HH:MM		PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	
07:40	MANIFOLD	88,883	10,575	3,639	1,308	565	274	23	0	
16:36	SEPARATOR	101,104	10,967	3,682	1,420	594	277	18.4	-	
17:00	SEPARATOR	100,074	10,379	3,760	1,312	594	282	16.0	-	
17:20	SEPARATOR	99,994	11,750	4,033	1,569	780	312	16.2	-	

CORE LAB

PRODUCTION WELL TEST DATA SHEET

SHEET # 2

COMPANY ESSO AUSTRALIA LTD

WELL TUNA #4 PWT # 2

PERFORATIONS 2820 - 2829 m (FM, RKB)

DATE 23 - 26 JULY, 1984

	TIME	SAMPLING POINT	C1	C2	C3	C4	C5	C6	CO2	H2S	
	HH:MM		PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	Comment
	6:30	CHOKE MANI	528,711	35,840	12,410	4,229	1,370	560	18	NIL	
	7:30										
24/7/84	10:30	CHOKE MANI	396,533	51,200	16,547	4,229	1,960	960	17	TR	
	11:00	CHOKE MANI	387,869	51,169	16,274	4,169	1,860	796	20	TR	
	11:30	CHOKE MANI	WAXY	SAMPLE							
26/7/84	05:00	SEPARATOR	401,254	72,240	37,232	11,357	1,626	280	N/A	NIL	
	06:00	SEPARATOR	339,886	61,440	31,027	8,458	2,739	336	N/A	NIL	
	07:00	SEPARATOR	424,857	66,560	26,890	7,295	2,396	210	31	-	
	08:00	SEPARATOR	434,298	69,120	28,958	7,400	1,284	175	36	-	
	09:00	SEPARATOR	429,578	69,120	31,027	10,572	3,210	630	34	-	*Shut
	12:00	SEPARATOR	436,186	69,786	33,621	11,261	3,460	730	40	-	down
	12:30	SEPARATOR	453,181	69,896	33,095	13,744	5,136	2,742	43	-	for
	13:45	SEPARATOR	469,260	69,989	33,696	14,276	4,696	7,134	45	-	chiksan repair

CORE LAB

PRODUCTION WELL TEST DATA SHEET

SHEET # 3

COMPANY ESSO AUSTRALIA LTD

WELL TUNA #4 PWT # 3

PERFORATIONS 2562 - 2569 m (FM, RKB)

DATE 8TH AUGUST, 1984

INITIAL FLOW

TIME	SAMPLING POINT	C1	C2	C3	C4	C5	C6	CO2	H2S
HH:MM		PPM	PPM	PPM	PPM	PPM	PPM	%	PPM
12:45	CHOKE	571,432	86,384	19,617	7,614	3,099	1,028		0
13:17	CHOKE	302,043	82,065	58,245	24,038	6,220	684	36	0
		CLOSED TO PULL OUT SCHLUMBER'S TOOL							
16:15	CHOKE	310,128	64,665	38,830	19,236	7,128	2,138	33	0
		CLOSED DUE TO POOR BURNING							0
23:00	CHOKE	232,596	73,426	51,298	22,443	5,447	642	28	0
11:30	DOWN HOLE SAMPLE	365,308	30,138	6,067	1,152	295	0	45	0
		224,491	35,617	10,920	2,404	453	0	-	-
15:00	SEPARATOR	261,160	77,746	58,245	33,664	14,266	2,742	35	0
16:00	SEPARATOR	261,226	45,351	38,830	28,855	15,563	4,200	35	0
17:00	SEPARATOR	301,967	43,192	19,415	7,013	2,593	942	33	-
18:00	SEPARATOR	302,043	51,830	24,268	11,221	4,669	1,455	31	-
19:00	SEPARATOR	293,879	58,309	32,358	16,030	8,300	2,185	28	-
19:30	SEPARATOR	302,043	60,469	35,594	17,633	6,744	1,628	30	-
20:00	SEPARATOR	310,206	53,990	29,122	12,824	4,669	1,157	29	-
20:30	SEPARATOR	310,206	56,150	29,122	12,824	5,293	1,542	30	-
21:00	SEPARATOR	310,206	53,990	32,321	16,030	4,982	1,285	30	-
21:30	SEPARATOR	293,879	60,469	33,976	19,236	8,559	3,214	31	-
22:00	SEPARATOR	289,798	56,150	32,358	17,633	8,819	3,942	31	-
22:30	SEPARATOR	290,671	53,990	32,321	18,136	8,469	3,526	31	-
23:00	SEPARATOR	293,879	60,469	35,594	19,236	9,078	3,700	31	-
23:30	SEPARATOR	297,961	60,469	32,358	17,633	7,781	2,914	31	-

CORE LAB

PRODUCTION WELL TEST DATA SHEET

SHEET # 4

COMPANY ESSO AUSTRALIA LTD

WELL TUNA #4 PWT # 4

PERFORATIONS 2543 - 2552 m (FM. RKB)

DATE 17TH AUGUST, 1984

FINAL FLOW

TIME	SAMPLING POINT	C1	C2	C3	C4	C5	C6	CO2	H2S	
HH:MM		PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	
07:00	CH/MAN	326,533	41,432	12,538	3,005	745	150	20+	TR	
09:15	CH/MAN							44	6	
09:30	SEPARATOR	306,124	58,309	25,886	8,015	1,880	300	24	6	
10:30	SEPARATOR	318,369	60,469	26,291	7,614	1,621	380	25	8	
11:30	SEPARATOR	291,962	60,901	29,767	12,023	3,955	1,071	27	6	
12:30	SEPARATOR	314,288	62,629	31,549	11,221	4,021	1,071	26	8	
13:30	SEPARATOR	273,471	64,788	29,123	14,428	5,836	1,886	28	2	C_7 also
14:30	SEPARATOR	273,471	60,469	28,314	12,624	3,988	857	26	8	

CORE LAB

PRODUCTION WELL TEST DATA SHEET

SHEET # 5

COMPANY ESSO AUSTRALIA LTD

WELL TUNA #4 PWT # 5

PERFORATIONS 2469.5 - 2477 m (FM, RKB)

DATE 20TH AUGUST, 1984

INITIAL FLOW

TIME	SAMPLING POINT	C1	C2	C3	C4	C5	C6	CO2	H2S	
HH:MM		PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	
16:05	CH/MAN	41,189	3,956	3,544	3,213	2,897	875	8	0	+ C_7
16:20	CH/MAN	52,345	4,216	3,096	2,419	713	146	18	0	
17:05	CH/MAN	53,203	4,320	3,137	2,340	624	117	19	0	
17:47	CH/MAN	53,203	4,372	3,096	2,221	579	131	21	0	TR C_7
18:30	CH/MAN	53,203	4,060	2,892	2,142	540	124	21	0	TR C_7
19:30	CH/MAN	48,912	3,487	2,526	2,062	847	219	25	0	
20:00	SEPARATOR	44,622	3,747	2,851	2,261	2,229	642	26	4	Traces C_7 & C_8

CORE LAB

PRODUCTION WELL TEST DATA SHEET

SHEET # 6

COMPANY ESSO AUSTRALIA LTD

WELL TUNA #4 PWT # 5

PERFORATIONS 2469.5 - 2477 m (FM, RKB)

DATE

FINAL FLOW

TIME	SAMPLING POINT	C1	C2	C3	C4	C5	C6	CO2	H2S	
HH:MM		PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	
03:00	CH/MAN	53,095	3,435	3,525	1,824	758	175	24	TR	
03:30	CH/MAN	50,709	3,747	2,688	2,213	891	233	25	4	
04:00	SEPARATOR	52,344	3,955	2,933	2,379	1,504	325	26	2	TR C_7
04:30	SEPARATOR	52,400	3,372	2,625	2,062	1,281	570	26	2	
05:00	SEPARATOR	49,770	3,990	3,340	2,776	2,139	623	26	2	
06:00	SEPARATOR	50,709	3,955	2,770	2,221	1,961	710	26	7	
06:30	SEPARATOR	53,202	4,829	3,747	3,093	2,187	554	26	6	
07:00	SEPARATOR	53,031	4,830	3,747	3,054	2,362	612	27	7	C_7 +
07:30		52,376	3,800	2,647	2,142	2,180	597	26	6	
	WELL WAS SHUT-IN PREMATURELY DUE TO ROUGH WEATHER									

CORE LAB

PRODUCTION WELL TEST DATA SHEET

SHEET # 7

COMPANY ESSO AUSTRALIA LTD

WELL TUNA #4 PWT # 5 (contd)

PERFORATIONS 2469.5-2477m (FM, RKB)

DATE 23RD AUGUST, 1984

FINAL FLOW RESUMED

TIME	SAMPLING POINT	C1	C2	C3	C4	C5	C6	CO2	H2S	
HH:MM		PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	
08:00	CH/MAN	51,486	3,851	3,592	2,260	802	218	25	-	
08:30	CH/MAN	51,500	3,747	2,867	2,253	891	294	26	-	C_7
09:00	CH/MAN	51,480	3,414	2,525	2,062	847	236	26	-	
09:30	CH/MAN	50,642	3,120	2,362	1,938	824	227	26	-	
10:00	SEPARATOR	50,731	3,226	2,514	2,125	1,780	562	26	-	
10:30	SEPARATOR	49,770	3,018	2,362	1,983	1,827	592	26	1	
11:00	SEPARATOR	51,659	2,956	2,444	2,062	2,050	440	26	2	
11:30	SEPARATOR	48,912	2,706	2,199	1,824	1,783	525	26	2	
12:00	SEPARATOR	46,338	3,747	2,851	2,340	1,649	262	24	2	
12:30	SEPARATOR	42,906	3,643	2,892	2,340	981	109	24	1	
13:00	SEPARATOR	41,189	3,331	2,648	2,221	1,516	335	26	7	
13:30	SEPARATOR	43,764	3,643	2,933	2,499	1,649	416	24	7	
14:00	SEPARATOR	43,764	3,383	2,607	2,142	1,917	467	26	7	
14:30	SEPARATOR	44,622	3,643	2,770	2,340	2,050	744	25	6	
15:00	SEPARATOR	47,196	3,539	2,689	2,181	2,229	715	25	7	
15:30	SEPARATOR	42,047	3,643	2,770	2,261	2,273	860	25	6	
16:00	SEPARATOR	48,054	3,851	2,953	2,419	2,496	890	25	2	ABUNDANT C_7
16:30	SEPARATOR	44,622	3,435	2,648	2,142	2,318	977	26	6	
17:00	SEPARATOR	47,196	3,539	2,689	2,142	2,273	802	26	6	
17:30	SEPARATOR	43,764	3,123	2,566	2,102	2,140	744	26	7	
18:00	SEPARATOR	47,196	3,747	2,770	2,261	1,783	452	24	4	

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: TUNA NO.4 BIT RECORD

BIT No.	IADC CODE	MAKE & TYPE	SIZE	COST	NOZZLES	DEPTH IN	DEPTH OUT	BIT RUN	TOTAL HOURS	AROP	TRIP TIME	CCOST	TOTAL TURNS	CONDITION T B G
1	111	HTC OSC3AJ+26"HO	26.000	0.00	20 20 20	82.0	219.0	137.0	3.96	34.6	2.5	172.33	13521	2 3 0.001
1	111	HTC OSC 3AJ	17.500	4857.00	20 20 20	219.0	811.0	592.0	11.56	51.2	3.7	102.34	104012	2 4 0.000
2	116	HTC J1	12.250	2694.00	18 18 18	811.0	1381.0	570.0	12.11	47.1	4.9	113.71	100225	4 2 0.125
2	4	CHRIS RC4	9.875	14500.00	15 15 15	1380.0	1389.6	9.6	1.08	8.9	5.0	3823.35	6261	0 0 0.050
2	4	CHRIS RC4	9.875	0.00	15 15 15	1389.6	1399.0	9.4	1.35	34.8	5.0	1220.54	7608	0 0 0.100
2	4	CHRIS RC4	9.875	0.00	15 15 15	1399.0	1408.2	9.2	1.73	24.2	5.0	871.56	9742	0 0 0.150
2	4	CHRIS RC4	9.875	0.00	15 15 15	1408.2	1414.0	5.8	1.87	41.4	5.0	737.92	10452	0 0 0.200
3	517	HTC J22	12.250	8516.00	18 18 18	1414.0	1885.3	471.3	24.71	19.1	6.0	256.03	107006	2 3 0.125
4	517	HTC J22	12.250	8516.00	16 16 18	1885.3	2258.2	372.9	43.84	8.5	6.8	518.78	205424	5 6 0.250
5	517	HTC J22	12.250	8516.00	16 16 18	2258.2	2445.0	186.8	30.22	6.2	7.5	783.03	125	6 5 0.250

WELL: TUNA No.4 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
6	347	HTC JD8	8.500	1700.00	14 14 14	2445.0	2464.0	19.0	4.92	3.9	7.4	2457.51	18701	6 3 0.000
7	517	HTC J22	8.500	4139.00	14 14 14	2464.0	2481.2	17.2	1.43	12.0	7.5	2136.71	4447	1 1 0.000
7	4	CHRIST RC6	8.500	11019.00	14 15 15	2481.2	2499.0	17.8	1.45	12.3	7.5	2455.30	8248	0 0 0.050
7	4	CHRIST RC6	8.500	0.00	15 14 15	2499.0	2517.1	18.1	4.27	6.3	7.5	1190.69	23867	0 0 0.200
7	4	CHRIST RC6	8.500	0.00	14 15 15	2517.1	2531.0	13.9	6.34	6.7	7.5	1012.90	34899	0 0 0.500
7	4	CHRIST RC4	8.500	21210.00	14 15 15	2531.0	2549.0	18.0	1.18	15.3	7.6	2959.70	6796	0 0 0.150
7	4	CHRIST RC4	8.500	0.00	14 15 15	2549.0	2564.4	15.4	3.05	8.3	7.5	2501.86	17528	0 0 0.300
7	517	HTC J22	8.500	0.00	14 14 14	2564.4	2650.0	85.6	10.79	9.1	7.6	654.58	42370	2 3 0.062
8	517	HTC J22	8.500	4139.00	13 13 13	2650.0	2731.0	81.0	18.26	4.4	7.8	1226.05	61996	8 6 0.125
9	537	HTC J33	8.500	4503.00	13 13 13	2731.0	2822.5	91.5	12.33	7.4	8.0	860.64	42031	1 2 0.062
9	4	CHRIS MC23	8.469	18067.00	14 14 14	2822.5	2828.0	5.5	1.17	4.7	8.0	9373.79	5131	0 0 1.000
9	4	CHRIS C-23	8.469	18067.00	14 14 14	2828.0	2833.0	5.0	3.58	1.4	8.0	12071.43	16019	0 0 0.150
10	537	HTC J33	8.500	4503.00	13 13 13	2833.0	2975.5	142.5	29.05	4.9	8.3	988.81	102918	4 4 0.000
11	617	HTC J44	8.500	4357.00	13 13 13	2975.5	3011.0	35.5	10.65	3.3	8.4	2082.47	36514	1 1 0.000
12	347	HTC JD8	8.500	1500.00	13 13 13	3011.0	3013.1	2.1	0.50	4.2	7.0	13748.45	2175	7 3 0.000
13	537	HTC J33	8.500	4503.00	13 13 13	3013.1	3140.4	127.3	39.96	3.2	7.0	1382.57	127844	4 5 0.063
14	537	HTC J33	8.500	4503.00	13 13 13	3140.4	3273.9	133.5	49.34	2.7	8.9	1626.93	140579	4 4 0.062
14	4	CHRIS C23	8.470	0.00	14 14 14	3273.9	3282.5	8.6	7.57	2.2	9.0	4449.53	36538	0 0 1.000
15	617	HTC J44	8.500	4347.00	13 13 13	3282.5	3321.0	38.5	18.84	2.0	9.1	2763.22	55509	1 1 0.000

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

STARTING DEPTH.....	92.0		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	2.5		
BIT DIAMETER.....	26.000		
NOZZLES.....	20	20	20
HW DRILL COLLAR LENGTH, OD, ID....	23.20	9.750	3.062
DRILL COLLAR LENGTH, OD, ID.....	55.12	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	36.85	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	0.00	0.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.4		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	5.0	1.80	
FINISHING DEPTH.....	219.0		
CUMULATIVE HOURS, TURNS.....	3.96	13521	
BIT CONDITION OUT.....	T 2	B 3	G 0.000

BIT NUMBER: 1 IADC CODE 111 HTC OSC 3AJ

STARTING DEPTH.....	219.0		
BIT COST, RIG COST/HOUR.....	4857.00	3652.00	
TRIP TIME.....	3.7		
BIT DIAMETER.....	17.500		
NOZZLES.....	20	20	20
HW DRILL COLLAR LENGTH, OD, ID....	21.26	9.750	3.062
DRILL COLLAR LENGTH, OD, ID.....	92.54	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.46	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	205.00	19.124	
RISER LENGTH, ID.....	82.00	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.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	3.5	2.10	
FINISHING DEPTH.....	811.0		
CUMULATIVE HOURS, TURNS.....	11.56	104012	
BIT CONDITION OUT.....	T 2	B 4	G 0.000

BIT NUMBER: 2 IADC CODE 116 HTC J1

STARTING DEPTH.....	811.0		
BIT COST, RIG COST/HOUR.....	2694.00	3652.00	
TRIP TIME.....	4.9		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	18
DRILL COLLAR LENGTH, OD, ID.....	168.55	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.46	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	794.00	12.615	
RISER LENGTH, ID.....	82.00	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.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.5	2.20	
FINISHING DEPTH.....	1381.0		
CUMULATIVE HOURS, TURNS.....	12.11	100225	
BIT CONDITION OUT.....	T 4	B 2	G 0.125

BIT NUMBER: 2 IADC CODE 4 CHRIS RC4

STARTING DEPTH.....	1380.0		
BIT COST, RIG COST/HOUR.....	14500.00	3652.00	
TRIP TIME.....	5.0		
BIT DIAMETER.....	9.875		
NOZZLES.....	15	15	15
DRILL COLLAR LENGTH, OD, ID.....	160.49	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.46	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	1380.00	794.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	82.00	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.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.30	
FINISHING DEPTH.....	1389.6		
CUMULATIVE HOURS, TURNS.....	1.08	6261	
BIT CONDITION OUT.....	T 0	B 0	G 0.050

BIT NUMBER: 2 IADC CODE 4 CHRIS RC4

STARTING DEPTH.....	1389.6		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	5.0		
PREVIOUS HOLE MADE.....	9.6		
PREVIOUS HOURS, TURNS.....	1.08	6261	
BIT DIAMETER.....	9.875		
NOZZLES.....	15	15	15
DRILL COLLAR LENGTH, OD, ID.....	160.49	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.46	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	1380.00	794.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	82.00	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.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.30	
FINISHING DEPTH.....	1399.0		
CUMULATIVE HOURS, TURNS.....	1.35	7608	
BIT CONDITION OUT.....	T 0	B 0	G 0.100

BIT NUMBER: 2 IADC CODE 4 CHRIS RC4

STARTING DEPTH.....	1399.0		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	5.0		
PREVIOUS HOLE MADE.....	19.0		
PREVIOUS HOURS, TURNS.....	1.35	7608	
BIT DIAMETER.....	9.875		
NOZZLES.....	15	15	15
DRILL COLLAR LENGTH, OD, ID.....	160.49	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.46	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	1380.00	794.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	82.00	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.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.30	
FINISHING DEPTH.....	1408.2		
CUMULATIVE HOURS, TURNS.....	1.73	9742	
BIT CONDITION OUT.....	T 0	B 0	G 0.150

BIT NUMBER: 2 IADC CODE 4 CHRIS RC4

STARTING DEPTH.....	1408.2		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	5.0		
PREVIOUS HOLE MADE.....	28.2		
PREVIOUS HOURS, TURNS.....	1.73	9742	
BIT DIAMETER.....	9.875		
NOZZLES.....	15	15	15
DRILL COLLAR LENGTH, OD, ID.....	160.49	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.46	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	1380.00	794.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	82.00	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.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.30	
FINISHING DEPTH.....	1414.0		
CUMULATIVE HOURS, TURNS.....	1.87	10452	
BIT CONDITION OUT.....	T 0	B 0	G 0.200

BIT NUMBER: 3 IADC CODE 517 HTC J22

STARTING DEPTH.....	1414.0		
BIT COST, RIG COST/HOUR.....	8516.00	3652.00	
TRIP TIME.....	6.0		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	18
DRILL COLLAR LENGTH, OD, ID.....	168.55	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.46	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	794.00	12.615	
RISER LENGTH, ID.....	82.00	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.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.5	2.40	
FINISHING DEPTH.....	1885.3		
CUMULATIVE HOURS, TURNS.....	24.71	107006	
BIT CONDITION OUT.....	T 2	B 3	G 0.125

BIT NUMBER: 4	IADC CODE 517	HTC J22		
STARTING DEPTH	1885.3			
BIT COST, RIG COST/HOUR	8516.00	3652.00		
TRIP TIME	6.8			
BIT DIAMETER	12.250			
NOZZLES	16	16	18	
DRILL COLLAR LENGTH, OD, ID	172.76	8.000	2.813	
HW DRILL PIPE LENGTH, OD, ID	83.46	5.000	3.125	
DRILL PIPE OD, ID		5.000	4.276	
CASING DEPTH, ID	794.00	12.615		
RISER LENGTH, ID	82.00	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	0.10			
"d" EXPONENT CORRECTION FACTOR	10.0			
CUTTINGS DIAMETER, DENSITY	2.5	2.50		
FINISHING DEPTH	2258.2			
CUMULATIVE HOURS, TURNS	43.84	205424		
BIT CONDITION OUT	T 5	B 6	G 0.250	

BIT NUMBER: 5	IADC CODE 517	HTC J22		
STARTING DEPTH	2258.2			
BIT COST, RIG COST/HOUR	8516.00	3652.00		
TRIP TIME	7.5			
BIT DIAMETER	12.250			
NOZZLES	16	16	18	
DRILL COLLAR LENGTH, OD, ID	172.76	8.000	2.813	
HW DRILL PIPE LENGTH, OD, ID	83.46	5.000	3.125	
DRILL PIPE OD, ID		5.000	4.276	
CASING DEPTH, ID	794.00	12.615		
RISER LENGTH, ID	82.00	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	0.10			
"d" EXPONENT CORRECTION FACTOR	10.0			
CUTTINGS DIAMETER, DENSITY	2.5	2.50		
FINISHING DEPTH	2445.0			
CUMULATIVE HOURS, TURNS	30.22	125215		
BIT CONDITION OUT	T 6	B 5	G 0.250	

BIT NUMBER: 6 IADC CODE 347 HTC JD8

STARTING DEPTH.....	2445.0		
BIT COST, RIG COST/HOUR.....	1700.00	3652.00	
TRIP TIME.....	7.4		
BIT DIAMETER.....	8.500		
NOZZLES.....	14	14	14
DRILL COLLAR LENGTH, OD, ID.....	207.10	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.46	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2434.00	8.681	
RISER LENGTH, ID.....	82.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.20	
FINISHING DEPTH.....	2464.0		
CUMULATIVE HOURS, TURNS.....	4.92	18701	
BIT CONDITION OUT.....	T 6	B 3	G 0.000

BIT NUMBER: 7 IADC CODE 517 HTC J22

STARTING DEPTH.....	2464.0		
BIT COST, RIG COST/HOUR.....	4139.00	3652.00	
TRIP TIME.....	7.5		
BIT DIAMETER.....	8.500		
NOZZLES.....	14	14	14
DRILL COLLAR LENGTH, OD, ID.....	264.75	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.46	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2434.00	8.681	
RISER LENGTH, ID.....	82.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.20	
FINISHING DEPTH.....	2481.2		
CUMULATIVE HOURS, TURNS.....	1.43	4447	
BIT CONDITION OUT.....	T 1	B 1	G 0.000

BIT NUMBER: 7 IADC CODE 4 CHRIST RC6

STARTING DEPTH.....	2481.2		
BIT COST, RIG COST/HOUR.....	11019.00	3652.00	
TRIP TIME.....	7.5		
BIT DIAMETER.....	8.500		
NOZZLES.....	14	15	15
DRILL COLLAR LENGTH, OD, ID.....	249.00	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.50	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2434.00	8.681	
RISER LENGTH, ID.....	82.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.20	
FINISHING DEPTH.....	2499.0		
CUMULATIVE HOURS, TURNS.....	1.45	8248	
BIT CONDITION OUT.....	T 0	B 0	G 0.050

BIT NUMBER: 7 IADC CODE 4 CHRIST RC6

STARTING DEPTH.....	2499.0		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	7.5		
PREVIOUS HOLE MADE.....	18.0		
PREVIOUS HOURS, TURNS.....	1.40	8248	
BIT DIAMETER.....	8.500		
NOZZLES.....	15	14	15
DRILL COLLAR LENGTH, OD, ID.....	249.00	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	82.00	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2434.00	8.681	
RISER LENGTH, ID.....	82.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.20	
FINISHING DEPTH.....	2517.1		
CUMULATIVE HOURS, TURNS.....	4.27	23867	
BIT CONDITION OUT.....	T 0	B 0	G 0.200

BIT NUMBER: 7 IADC CODE 4 CHRIST RC6

STARTING DEPTH.....	2517.1		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	7.5		
PREVIOUS HOLE MADE.....	36.0		
PREVIOUS HOURS, TURNS.....	4.27	23867	
BIT DIAMETER.....	8.500		
NOZZLES.....	14	15	15
DRILL COLLAR LENGTH, OD, ID.....	249.00	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	82.00	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2434.00	8.681	
RISER LENGTH, ID.....	82.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.20	
FINISHING DEPTH.....	2531.0		
CUMULATIVE HOURS, TURNS.....	6.34	34899	
BIT CONDITION OUT.....	T 0	B 0	G 0.500

BIT NUMBER: 7 IADC CODE 4 CHRIST RC4

STARTING DEPTH.....	2531.0		
BIT COST, RIG COST/HOUR.....	21210.00	3652.00	
TRIP TIME.....	7.6		
BIT DIAMETER.....	8.500		
NOZZLES.....	14	15	15
DRILL COLLAR LENGTH, OD, ID.....	249.00	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	82.00	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2434.00	8.681	
RISER LENGTH, ID.....	82.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.20	
FINISHING DEPTH.....	2549.0		
CUMULATIVE HOURS, TURNS.....	1.18	6796	
BIT CONDITION OUT.....	T 0	B 0	G 0.150

BIT NUMBER: 7 IADC CODE 4 CHRIST RC4

STARTING DEPTH.....	2549.0		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	7.5		
PREVIOUS HOLE MADE.....	0.0		
PREVIOUS HOURS, TURNS.....	1.20	6796	
BIT DIAMETER.....	8.500		
NOZZLES.....	14	15	15
DRILL COLLAR LENGTH, OD, ID.....	249.00	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	82.00	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2434.00	8.681	
RISER LENGTH, ID.....	82.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.20	
FINISHING DEPTH.....	2564.4		
CUMULATIVE HOURS, TURNS.....	3.05	17528	
BIT CONDITION OUT.....	T 0	B 0	G 0.300

BIT NUMBER: 7 IADC CODE 517 HTC J22

STARTING DEPTH.....	2564.4		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	7.6		
PREVIOUS HOLE MADE.....	17.0		
PREVIOUS HOURS, TURNS.....	1.36	4208	
BIT DIAMETER.....	8.500		
NOZZLES.....	14	14	14
DRILL COLLAR LENGTH, OD, ID.....	264.75	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.46	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2434.00	8.681	
RISER LENGTH, ID.....	82.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.20	
FINISHING DEPTH.....	2650.0		
CUMULATIVE HOURS, TURNS.....	10.79	42370	
BIT CONDITION OUT.....	T 2	B 3	G 0.062

BIT NUMBER: 8	IADC CODE 517	HTC J22		
STARTING DEPTH.....	2650.0			
BIT COST, RIG COST/HOUR.....	4139.00	3652.00		
TRIP TIME.....	7.8			
BIT DIAMETER.....	8.500			
NOZZLES.....	13	13	13	
DRILL COLLAR LENGTH, OD, ID.....	257.50	6.250	2.813	
HW DRILL PIPE LENGTH, OD, ID.....	83.50	5.000	3.125	
DRILL PIPE OD, ID.....		5.000	4.276	
CASING DEPTH, ID.....	2434.00	8.681		
RISER LENGTH, ID.....	82.00	21.000		
PUMP VOLUMES 1 AND 2.....	0.119	0.119		
PORE PRESSURE CALC EXPONENT.....	1.20			
NORMAL PORE PRESSURE.....	8.6			
OVERBURDEN GRADIENT MODIFIER.....	0.00			
STRESS RATIO MODIFIER.....	0.10			
"d" EXPONENT CORRECTION FACTOR....	10.0			
CUTTINGS DIAMETER, DENSITY.....	2.0	2.20		
FINISHING DEPTH.....	2731.0			
CUMULATIVE HOURS, TURNS.....	18.26	61996		
BIT CONDITION OUT.....	T 8	B 6	G 0.125	

BIT NUMBER: 9	IADC CODE 537	HTC J33		
STARTING DEPTH.....	2731.0			
BIT COST, RIG COST/HOUR.....	4503.00	3652.00		
TRIP TIME.....	8.0			
BIT DIAMETER.....	8.500			
NOZZLES.....	13	13	13	
DRILL COLLAR LENGTH, OD, ID.....	265.67	6.250	2.813	
HW DRILL PIPE LENGTH, OD, ID.....	83.46	5.000	3.125	
DRILL PIPE OD, ID.....		5.000	4.276	
CASING DEPTH, ID.....	2434.00	8.681		
RISER LENGTH, ID.....	82.00	21.000		
PUMP VOLUMES 1 AND 2.....	0.119	0.119		
PORE PRESSURE CALC EXPONENT.....	1.20			
NORMAL PORE PRESSURE.....	8.6			
OVERBURDEN GRADIENT MODIFIER.....	0.00			
STRESS RATIO MODIFIER.....	0.10			
"d" EXPONENT CORRECTION FACTOR....	10.0			
CUTTINGS DIAMETER, DENSITY.....	2.0	2.50		
FINISHING DEPTH.....	2822.5			
CUMULATIVE HOURS, TURNS.....	12.33	42031		
BIT CONDITION OUT.....	T 1	B 2	G 0.062	

BIT NUMBER: 9 IADC CODE 4 CHRIS MC23

STARTING DEPTH.....	2822.5		
BIT COST, RIG COST/HOUR.....	18067.00	3652.00	
TRIP TIME.....	8.0		
BIT DIAMETER.....	8.469		
NOZZLES.....	14	14	14
DRILL COLLAR LENGTH, OD, ID.....	250.61	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.46	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	2822.50	2434.00	8.500
CASING ID.....	8.681		
RISER LENGTH, ID.....	82.00	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.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.50	
FINISHING DEPTH.....	2828.0		
CUMULATIVE HOURS, TURNS.....	1.17	5131	
BIT CONDITION OUT.....	T 0	B 0	G 1.000

BIT NUMBER: 9 IADC CODE 4 CHRIS C-23

STARTING DEPTH.....	2828.0		
BIT COST, RIG COST/HOUR.....	18067.00	3652.00	
TRIP TIME.....	8.0		
BIT DIAMETER.....	8.469		
NOZZLES.....	14	14	14
DRILL COLLAR LENGTH, OD, ID.....	250.61	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.46	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	2822.50	2434.00	8.500
CASING ID.....	8.681		
RISER LENGTH, ID.....	82.00	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.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.50	
FINISHING DEPTH.....	2833.0		
CUMULATIVE HOURS, TURNS.....	3.58	16019	
BIT CONDITION OUT.....	T 0	B 0	G 0.150

BIT NUMBER: 10 IADC CODE 537 HTC J33

STARTING DEPTH.....	2833.0		
BIT COST, RIG COST/HOUR.....	4503.00	3652.00	
TRIP TIME.....	8.3		
BIT DIAMETER.....	8.500		
NOZZLES.....	13	13	13
DRILL COLLAR LENGTH, OD, ID.....	263.29	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.46	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2434.00	8.681	
RISER LENGTH, ID.....	82.00	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.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.50	
FINISHING DEPTH.....	2975.5		
CUMULATIVE HOURS, TURNS.....	29.05	102918	
BIT CONDITION OUT.....	T 4	B 4	G 0.000

BIT NUMBER: 11 IADC CODE 617 HTC J44

STARTING DEPTH.....	2975.5		
BIT COST, RIG COST/HOUR.....	4357.00	3652.00	
TRIP TIME.....	8.4		
BIT DIAMETER.....	8.500		
NOZZLES.....	13	13	13
DRILL COLLAR LENGTH, OD, ID.....	264.21	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.46	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2434.00	8.681	
RISER LENGTH, ID.....	82.00	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.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.50	
FINISHING DEPTH.....	3011.0		
CUMULATIVE HOURS, TURNS.....	10.65	36514	
BIT CONDITION OUT.....	T 1	B 1	G 0.000

BIT NUMBER: 12 IADC CODE 347 HTC JD8

STARTING DEPTH.....	3011.0		
BIT COST, RIG COST/HOUR.....	1500.00	3652.00	
TRIP TIME.....	7.0		
BIT DIAMETER.....	8.500		
NOZZLES.....	13	13	13
DRILL COLLAR LENGTH, OD, ID.....	264.21	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.50	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2434.00	8.681	
RISER LENGTH, ID.....	82.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	10.1		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.00	
FINISHING DEPTH.....	3013.1		
CUMULATIVE HOURS, TURNS.....	0.50	2175	
BIT CONDITION OUT.....	T 7	B 3	G 0.000

BIT NUMBER: 13 IADC CODE 537 HTC J33

STARTING DEPTH.....	3013.1		
BIT COST, RIG COST/HOUR.....	4503.00	3652.00	
TRIP TIME.....	7.0		
BIT DIAMETER.....	8.500		
NOZZLES.....	13	13	13
DRILL COLLAR LENGTH, OD, ID.....	264.20	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.50	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2434.00	8.681	
RISER LENGTH, ID.....	82.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	10.1		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.20	
FINISHING DEPTH.....	3140.4		
CUMULATIVE HOURS, TURNS.....	39.96	127844	
BIT CONDITION OUT.....	T 4	B 5	G 0.063

BIT NUMBER: 14 IADC CODE 537 HTC J33

STARTING DEPTH.....	3140.4		
BIT COST, RIG COST/HOUR.....	4503.00	3652.00	
TRIP TIME.....	8.9		
BIT DIAMETER.....	8.500		
NOZZLES.....	13	13	13
DRILL COLLAR LENGTH, OD, ID.....	263.20	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.50	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2434.00	8.681	
RISER LENGTH, ID.....	82.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	10.2		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.50	
FINISHING DEPTH.....	3273.9		
CUMULATIVE HOURS, TURNS.....	49.34	140579	
BIT CONDITION OUT.....	T 4	B 4	G 0.062

BIT NUMBER: 14 IADC CODE 4 CHRIS C23

STARTING DEPTH.....	3273.9		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	9.0		
PREVIOUS HOLE MADE.....	5.0		
PREVIOUS HOURS, TURNS.....	3.58	16019	
BIT DIAMETER.....	8.470		
NOZZLES.....	14	14	14
DRILL COLLAR LENGTH, OD, ID.....	250.61	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.46	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2434.00	8.681	
RISER LENGTH, ID.....	82.00	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.....	0.10		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	1.0	2.60	
FINISHING DEPTH.....	3282.5		
CUMULATIVE HOURS, TURNS.....	7.57	36538	
BIT CONDITION OUT.....	T 0	B 0	G 1.000

BIT NUMBER: 15 IADC CODE 617 HTC J44

STARTING DEPTH	3282.5		
BIT COST, RIG COST/HOUR	4347.00	3652.00	
TRIP TIME	9.1		
BIT DIAMETER	8.500		
NOZZLES	13	13	13
DRILL COLLAR LENGTH, OD, ID	263.29	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID	83.46	5.000	3.125
DRILL PIPE OD, ID		5.000	4.276
CASING DEPTH, ID	2434.00	8.681	
RISER LENGTH, ID	82.00	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	0.10		
"d" EXPONENT CORRECTION FACTOR	10.0		
CUTTINGS DIAMETER, DENSITY	2.0	2.60	
FINISHING DEPTH	3321.0		
CUMULATIVE HOURS, TURNS	18.84	55509	
BIT CONDITION OUT	T 1	B 1	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

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 100.0 AND TVD 100.0

SPM 1 80 SPM 2 79 FLOW RATE 795

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	1.851	43	10	12	LAMINAR	1	9	0.0
DC/OH	1.950	107	10	12	LAMINAR	1	9	0.0
HWDP/OH	2.074	45	9	11	LAMINAR	1	8	0.0
TOTAL VOLUME		195			TOTAL PRESSURE DROP			0.0

LAG: 10.3 MINUTES 826 STROKES #1 AND 816 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	594.6	HHP	276	IMPACT FORCE	987
% SURFACE PRESSURE	214.7	HHP/sqin	0.52	JET VELOCITY	84

PRESSURE BREAKDOWN:

SURFACE	38.3				
STRING	137.8				
BIT	594.6				
ANNULUS	0.0				
TOTAL	770.7	PUMP PRESSURE	277.0	% DIFFERENCE	178.2

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.66	HYDROSTATIC PRESSURE	147.7
CIRCULATING:	ECD	8.66	CIRCULATING PRESSURE	147.8
PULLING OUT:	TRIP MARGIN	0.00	ESTIMATED SWAB	0.0
	EFFECTIVE MUD WEIGHT	8.66	BOTTOM HOLE PRESSURE	147.7

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 200.0 AND TVD 200.0

SPM 1 100 SPM 2 101 FLOW RATE 1005

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	1.851	43	13	12	TURBULENT			0.0
DC/OH	1.950	107	12	12	TURBULENT			0.0
HWDP/OH	2.074	76	12	11	TURBULENT			0.0
DP/OH	2.074	176	12	11	TURBULENT			0.0
TOTAL VOLUME		403					TOTAL PRESSURE DROP	0.0

LAG: 16.8 MINUTES 1684 STROKES #1 AND 1701 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	954.6	HHP	559	IMPACT FORCE	1585
% SURFACE PRESSURE	78.7	HHP/sqin	1.05	JET VELOCITY	106

PRESSURE BREAKDOWN:

SURFACE	58.6				
STRING	262.7				
BIT	954.6				
ANNULUS	0.0				
TOTAL	1275.9	PUMP PRESSURE	1213.0	% DIFFERENCE	5.2

BOTTOM HOLE PRESSURES:

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

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 300.0 AND TVD 300.0

SPM 1 100 SPM 2 100 FLOW RATE 1000

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	14	35	92	LAMINAR	1	35	0.2
DC/OH	0.772	57	31	90	LAMINAR	0	30	0.5
DC/CSG	0.961	18	25	89	LAMINAR	0	24	0.1
HWDP/CSG	1.085	91	22	87	LAMINAR	0	22	0.3
DP/CSG	1.085	23	22	87	LAMINAR	0	22	0.1
DP/RIS	1.325	109	18	86	LAMINAR	0	18	0.2
TOTAL VOLUME		311			TOTAL PRESSURE DROP			1.5

LAG: 13.1 MINUTES 1307 STROKES #1 AND 1307 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	966.8	HHP	564	IMPACT FORCE	1605
% SURFACE PRESSURE	43.9	HHP/sqin	2.34	JET VELOCITY	106

PRESSURE BREAKDOWN:

SURFACE	78.1		
STRING	573.6		
BIT	966.8		
ANNULUS	1.5		
TOTAL	1620.0	PUMP PRESSURE 2200.0	% DIFFERENCE 26.4

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.90	HYDROSTATIC PRESSURE	455.5
CIRCULATING:	ECD	8.93	CIRCULATING PRESSURE	457.0
PULLING OUT:	TRIP MARGIN	0.06	ESTIMATED SWAB	3.0
	EFFECTIVE MUD WEIGHT	8.84	BOTTOM HOLE PRESSURE	452.5

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 400.0 AND TVD 400.0

SPM 1 99 SPM 2 0 FLOW RATE 495

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	14	18	91	LAMINAR	0	17	0.2
DC/OH	0.772	71	15	90	LAMINAR	0	15	0.5
HWDP/OH	0.896	73	13	87	LAMINAR	0	13	0.3
HWDP/CSG	1.085	2	11	86	LAMINAR	0	11	0.0
DP/CSG	1.085	131	11	86	LAMINAR	0	11	0.4
DP/RIS	1.325	109	9	85	LAMINAR	0	9	0.2
TOTAL VOLUME		401				TOTAL PRESSURE DROP		1.6

LAG: 34.0 MINUTES 3367 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	239.8	HHP	69	IMPACT FORCE	398
% SURFACE PRESSURE	35.3	HHP/sqin	0.29	JET VELOCITY	52

PRESSURE BREAKDOWN:

SURFACE	22.2				
STRING	176.2				
BIT	239.8				
ANNULUS	1.6				
TOTAL	439.9	PUMP PRESSURE	680.0	% DIFFERENCE	35.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.00	HYDROSTATIC PRESSURE	614.2
CIRCULATING:	ECD	9.02	CIRCULATING PRESSURE	615.8
PULLING OUT:	TRIP MARGIN	0.05	ESTIMATED SWAB	3.2
	EFFECTIVE MUD WEIGHT	8.95	BOTTOM HOLE PRESSURE	611.0

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 500.0 AND TVD 500.0

SPM 1 99 SPM 2 100 FLOW RATE 996

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	14	35	90	LAMINAR	1	35	0.2
DC/OH	0.772	71	31	89	LAMINAR	0	30	0.7
HWDP/OH	0.896	75	26	86	LAMINAR	0	26	0.4
DP/OH	0.896	88	26	86	LAMINAR	0	26	0.5
DP/CSG	1.085	134	22	85	LAMINAR	0	22	0.5
DP/RIS	1.325	109	18	84	LAMINAR	0	18	0.2
TOTAL VOLUME		490			TOTAL PRESSURE DROP			2.5

LAG: 20.7 MINUTES 2046 STROKES #1 AND 2073 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	993.1	HHP	577	IMPACT FORCE	1649
% SURFACE PRESSURE	40.9	HHP/sqin	2.40	JET VELOCITY	106

PRESSURE BREAKDOWN:

SURFACE	79.7				
STRING	677.6				
BIT	993.1				
ANNULUS	2.5				
TOTAL	1752.9	PUMP PRESSURE	2426.6	% DIFFERENCE	27.8

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.20	HYDROSTATIC PRESSURE	784.8
CIRCULATING:	ECD	9.23	CIRCULATING PRESSURE	787.3
PULLING OUT:	TRIP MARGIN	0.06	ESTIMATED SWAB	5.0
	EFFECTIVE MUD WEIGHT	9.14	BOTTOM HOLE PRESSURE	779.8

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 600.0 AND TVD 600.0

SPM 1 99 SPM 2 100 FLOW RATE 992

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	14	35	90	LAMINAR	1	35	0.2
DC/OH	0.772	71	31	89	LAMINAR	0	30	0.7
HWDP/OH	0.896	75	26	86	LAMINAR	0	26	0.4
DP/OH	0.896	177	26	86	LAMINAR	0	26	1.0
DP/CSG	1.085	134	22	85	LAMINAR	0	22	0.5
DP/RIS	1.325	109	18	84	LAMINAR	0	18	0.2
TOTAL VOLUME		580			TOTAL PRESSURE DROP			3.0

LAG: 24.5 MINUTES 2427 STROKES #1 AND 2445 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	984.5	HHP	570	IMPACT FORCE	1634
% SURFACE PRESSURE	40.4	HHP/sqin	2.37	JET VELOCITY	105

PRESSURE BREAKDOWN:

SURFACE	79.1
STRING	717.9
BIT	984.5
ANNULUS	3.0
TOTAL	1784.5

PUMP PRESSURE 2434.4 % DIFFERENCE 26.7

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.20	HYDROSTATIC PRESSURE	941.7
CIRCULATING:	ECD	9.23	CIRCULATING PRESSURE	944.7
PULLING OUT:	TRIP MARGIN	0.06	ESTIMATED SWAB	6.0
	EFFECTIVE MUD WEIGHT	9.14	BOTTOM HOLE PRESSURE	935.8

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 700.0 AND TVD 700.0

SPM 1 115 SPM 2 0 FLOW RATE 576

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	14	20	91	LAMINAR	0	20	0.2
DC/OH	0.772	71	18	89	LAMINAR	0	18	0.6
HWDP/OH	0.896	75	15	87	LAMINAR	0	15	0.3
DP/OH	0.896	267	15	87	LAMINAR	0	15	1.2
DP/CSG	1.085	134	13	84	LAMINAR	0	13	0.4
DP/RIS	1.325	109	10	85	LAMINAR	0	10	0.2
TOTAL VOLUME		669			TOTAL PRESSURE DROP			2.9

LAG: 48.8 MINUTES 5626 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	328.0	HHP	110	IMPACT FORCE	545
% SURFACE PRESSURE	37.5	HHP/sqin	0.46	JET VELOCITY	61

PRESSURE BREAKDOWN:

SURFACE	29.4		
STRING	284.2		
BIT	328.0		
ANNULUS	2.9		
TOTAL	644.5	PUMP PRESSURE 874.7	% DIFFERENCE 26.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.10	HYDROSTATIC PRESSURE	1086.7
CIRCULATING:	ECD	9.12	CIRCULATING PRESSURE	1089.6
PULLING OUT:	TRIP MARGIN	0.05	ESTIMATED SWAB	5.8
	EFFECTIVE MUD WEIGHT	9.05	BOTTOM HOLE PRESSURE	1081.0

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 800.0 AND TVD 800.0

SPM 1 98 SPM 2 98 FLOW RATE 982

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	14	35	91	LAMINAR	1	34	0.2
DC/OH	0.772	71	30	89	LAMINAR	0	30	0.7
HWDP/OH	0.896	75	26	87	LAMINAR	0	26	0.4
DP/OH	0.896	356	26	87	LAMINAR	0	26	1.9
DP/CSG	1.085	134	22	86	LAMINAR	0	21	0.5
DP/RIS	1.325	109	18	85	LAMINAR	0	18	0.2
TOTAL VOLUME		759			TOTAL PRESSURE DROP			3.9

LAG: 32.5 MINUTES 3189 STROKES #1 AND 3189 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	954.2	HHP	547	IMPACT FORCE	1584
% SURFACE PRESSURE	39.0	HHP/sqin	2.27	JET VELOCITY	104

PRESSURE BREAKDOWN:

SURFACE	77.0		
STRING	787.4		
BIT	954.2		
ANNULUS	3.9		
TOTAL	1822.5	PUMP PRESSURE 2447.7	% DIFFERENCE 25.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.10	HYDROSTATIC PRESSURE	1242.0
CIRCULATING:	ECD	9.13	CIRCULATING PRESSURE	1245.9
PULLING OUT:	TRIP MARGIN	0.06	ESTIMATED SWAB	7.9
	EFFECTIVE MUD WEIGHT	9.04	BOTTOM HOLE PRESSURE	1234.1

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 900.0 AND TVD 900.0

SPM 1 98 SPM 2 98 FLOW RATE 976

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	85	99	LAMINAR	1	84	3.5
DC/CSG	0.303	19	77	98	LAMINAR	1	76	1.8
HWDP/CSG	0.427	36	54	92	LAMINAR	0	54	1.1
DP/CSG	0.427	242	54	92	LAMINAR	0	54	7.2
DP/RIS	1.325	109	18	84	LAMINAR	0	17	0.2
TOTAL VOLUME		434				TOTAL PRESSURE DROP		13.8

LAG: 18.7 MINUTES 1824 STROKES #1 AND 1825 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1451.2	HHP	826	IMPACT FORCE	1951
% SURFACE PRESSURE	51.8	HHP/sqin	7.01	JET VELOCITY	128

PRESSURE BREAKDOWN:

SURFACE	80.2
STRING	1055.3
BIT	1451.2
ANNULUS	13.8
TOTAL	2600.5

PUMP PRESSURE 2803.4 % DIFFERENCE 7.2

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.20	HYDROSTATIC PRESSURE	1412.6
CIRCULATING:	ECD	9.29	CIRCULATING PRESSURE	1426.4
PULLING OUT:	TRIP MARGIN	0.18	ESTIMATED SWAB	27.6
	EFFECTIVE MUD WEIGHT	9.02	BOTTOM HOLE PRESSURE	1385.0

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1000.0 AND TVD 1000.0

SPM 1 100 SPM 2 97 FLOW RATE 984

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	46	85	99	LAMINAR	1	84	5.6
HWDP/OH	0.398	15	59	93	LAMINAR	0	58	0.5
HWDP/CSG	0.427	20	55	92	LAMINAR	0	54	0.6
DP/CSG	0.427	285	55	92	LAMINAR	0	54	8.5
DP/RIS	1.325	109	18	84	LAMINAR	0	18	0.2
TOTAL VOLUME		474			TOTAL PRESSURE DROP			15.5

LAG: 20.2 MINUTES 2023 STROKES #1 AND 1961 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1475.2	HHP	847	IMPACT FORCE	1984
% SURFACE PRESSURE	49.3	HHP/sqin	7.18	JET VELOCITY	129

PRESSURE BREAKDOWN:

SURFACE	81.4
STRING	1118.0
BIT	1475.2
ANNULUS	15.5
TOTAL	2690.1

PUMP PRESSURE 2990.9 % DIFFERENCE 10.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.20	HYDROSTATIC PRESSURE	1569.5
CIRCULATING:	ECD	9.29	CIRCULATING PRESSURE	1585.0
PULLING OUT:	TRIP MARGIN	0.18	ESTIMATED SWAB	30.9
	EFFECTIVE MUD WEIGHT	9.02	BOTTOM HOLE PRESSURE	1538.6

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1100.0 AND TVD 1100.0

SPM 1 94 SPM 2 93 FLOW RATE 931

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	46	81	98	LAMINAR	1	80	5.5
HWDP/OH	0.398	33	56	92	LAMINAR	0	55	1.1
DP/OH	0.398	22	56	92	LAMINAR	0	55	0.7
DP/CSG	0.427	304	52	91	LAMINAR	0	51	8.9
DP/RIS	1.325	109	17	84	LAMINAR	0	17	0.2
TOTAL VOLUME		514			TOTAL PRESSURE DROP			16.5

LAG: 23.2 MINUTES 2169 STROKES #1 AND 2150 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1335.5	HHP	725	IMPACT FORCE	1796
% SURFACE PRESSURE	47.0	HHP/sqin	6.15	JET VELOCITY	122

PRESSURE BREAKDOWN:

SURFACE	74.4		
STRING	1063.9		
BIT	1335.5		
ANNULUS	16.5		
TOTAL	2490.3	PUMP PRESSURE 2840.1	% DIFFERENCE 12.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.30	HYDROSTATIC PRESSURE	1745.3
CIRCULATING:	ECD	9.39	CIRCULATING PRESSURE	1761.8
PULLING OUT:	TRIP MARGIN	0.18	ESTIMATED SWAB	33.0
	EFFECTIVE MUD WEIGHT	9.12	BOTTOM HOLE PRESSURE	1712.2

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1200.0 AND TVD 1200.0

SPM 1 88 SPM 2 85 FLOW RATE 865

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	46	75	98	LAMINAR	1	74	5.4
HWDP/OH	0.398	33	52	92	LAMINAR	0	51	1.1
DP/OH	0.398	61	52	92	LAMINAR	0	51	2.1
DP/CSG	0.427	304	48	91	LAMINAR	0	48	8.6
DP/RIS	1.325	109	16	84	LAMINAR	0	15	0.2
TOTAL VOLUME		554			TOTAL PRESSURE DROP			17.4

LAG: 26.9 MINUTES 2373 STROKES #1 AND 2280 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1152.9	HHP	582	IMPACT FORCE	1550
% SURFACE PRESSURE	45.1	HHP/sqin	4.94	JET VELOCITY	113

PRESSURE BREAKDOWN:

SURFACE	65.2				
STRING	969.6				
BIT	1152.9				
ANNULUS	17.4				
TOTAL	2205.1	PUMP PRESSURE	2554.1	% DIFFERENCE	13.7

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.30	HYDROSTATIC PRESSURE	1903.9
CIRCULATING:	ECD	9.39	CIRCULATING PRESSURE	1921.3
PULLING OUT:	TRIP MARGIN	0.17	ESTIMATED SWAB	34.8
	EFFECTIVE MUD WEIGHT	9.13	BOTTOM HOLE PRESSURE	1869.1

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1300.0 AND TVD 1300.0

SPM 1 91 SPM 2 84 FLOW RATE 876

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	46	76	124	LAMINAR	1	75	8.2
HWDP/OH	0.398	33	52	119	LAMINAR	0	52	1.8
DP/OH	0.398	101	52	119	LAMINAR	0	52	5.4
DP/CSG	0.427	304	49	118	LAMINAR	0	49	13.8
DP/RIS	1.325	109	16	111	LAMINAR	0	16	0.4
TOTAL VOLUME		594				TOTAL PRESSURE DROP		29.6

LAG: 28.4 MINUTES 2589 STROKES #1 AND 2399 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1209.3	HHP	618	IMPACT FORCE	1626
% SURFACE PRESSURE	41.5	HHP/sqin	5.25	JET VELOCITY	115

PRESSURE BREAKDOWN:

SURFACE	70.4		
STRING	1088.2		
BIT	1209.3		
ANNULUS	29.6		
TOTAL	2397.4	PUMP PRESSURE 2916.2	% DIFFERENCE 17.8

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.50	HYDROSTATIC PRESSURE	2106.9
CIRCULATING:	ECD	9.63	CIRCULATING PRESSURE	2136.5
PULLING OUT:	TRIP MARGIN	0.27	ESTIMATED SWAB	59.1
	EFFECTIVE MUD WEIGHT	9.23	BOTTOM HOLE PRESSURE	2047.8

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1385.0 AND TVD 1385.0

SPM 1 55 SPM 2 0 FLOW RATE 276

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.107	1	62	168	LAMINAR	1	61	1.0
DC/LIN	0.274	43	24	155	LAMINAR	0	24	7.9
HWDP/LIN	0.398	33	16	148	LAMINAR	0	16	1.8
DP/LIN	0.398	138	16	148	LAMINAR	0	16	7.6
DP/CSG	0.427	304	15	147	LAMINAR	0	15	14.3
DP/RIS	1.325	109	5	137	LAMINAR	0	5	0.4
TOTAL VOLUME		628			TOTAL PRESSURE DROP			33.1

LAG: 95.5 MINUTES 5274 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	253.7	HHP	41	IMPACT FORCE	237
% SURFACE PRESSURE	46.5	HHP/sqin	0.53	JET VELOCITY	52

PRESSURE BREAKDOWN:

SURFACE	9.9				
STRING	154.9				
BIT	253.7				
ANNULUS	33.1				
TOTAL	451.6	PUMP PRESSURE	545.3	% DIFFERENCE	17.2

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.70	HYDROSTATIC PRESSURE	2292.0
CIRCULATING:	ECD	9.84	CIRCULATING PRESSURE	2325.1
PULLING OUT:	TRIP MARGIN	0.28	ESTIMATED SWAB	66.3
	EFFECTIVE MUD WEIGHT	9.42	BOTTOM HOLE PRESSURE	2225.7

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1395.0 AND TVD 1395.0

SPM 1 0 SPM 2 50 FLOW RATE 249

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.107	2	55	168	LAMINAR	0	55	3.0
DC/LIN	0.274	40	22	155	LAMINAR	0	22	7.1
HWDP/LIN	0.398	33	15	148	LAMINAR	0	15	1.8
DP/LIN	0.398	142	15	148	LAMINAR	0	15	7.6
DP/CSG	0.427	304	14	147	LAMINAR	0	14	13.8
DP/RIS	1.325	109	4	137	LAMINAR	0	4	0.4
TOTAL VOLUME		630				TOTAL PRESSURE DROP		33.7

LAG: 106.4 MINUTES 0 STROKES #1 AND 5293 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	206.0	HHP	30	IMPACT FORCE	192
% SURFACE PRESSURE	72.2	HHP/sqin	0.39	JET VELOCITY	47

PRESSURE BREAKDOWN:

SURFACE	8.2				
STRING	128.9				
BIT	206.0				
ANNULUS	33.7				
TOTAL	376.8	PUMP PRESSURE	285.4	% DIFFERENCE	32.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.70	HYDROSTATIC PRESSURE	2308.5
CIRCULATING:	ECD	9.84	CIRCULATING PRESSURE	2342.3
PULLING OUT:	TRIP MARGIN	0.28	ESTIMATED SWAB	67.5
	EFFECTIVE MUD WEIGHT	9.42	BOTTOM HOLE PRESSURE	2241.0

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1405.0 AND TVD 1405.0

SPM 1 34 SPM 2 0 FLOW RATE 170

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.107	3	38	163	LAMINAR	0	37	4.1
DC/LIN	0.274	37	15	148	LAMINAR	0	15	5.1
HWDP/LIN	0.398	33	10	138	LAMINAR	0	10	1.3
DP/LIN	0.398	146	10	138	LAMINAR	0	10	5.7
DP/CSG	0.427	304	9	137	LAMINAR	0	9	10.1
DP/RIS	1.325	109	3	125	LAMINAR	0	3	0.3
TOTAL VOLUME		632			TOTAL PRESSURE DROP			26.6

LAG: 156.6 MINUTES 5313 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	95.8	HHP	9	IMPACT FORCE	89
% SURFACE PRESSURE	21.5	HHP/sqin	0.12	JET VELOCITY	32

PRESSURE BREAKDOWN:

SURFACE	4.2
STRING	66.2
BIT	95.8
ANNULUS	26.6
TOTAL	192.8

PUMP PRESSURE 445.3 % DIFFERENCE 56.7

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.70	HYDROSTATIC PRESSURE	2325.1
CIRCULATING:	ECD	9.81	CIRCULATING PRESSURE	2351.7
PULLING OUT:	TRIP MARGIN	0.22	ESTIMATED SWAB	53.2
	EFFECTIVE MUD WEIGHT	9.48	BOTTOM HOLE PRESSURE	2271.9

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1410.0 AND TVD 1410.0

SPM 1 48 SPM 2 0 FLOW RATE 239

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.107	3	53	142	LAMINAR	1	53	4.4
DC/LIN	0.274	36	21	125	LAMINAR	0	21	4.0
HWDP/LIN	0.398	33	14	115	LAMINAR	0	14	1.0
DP/LIN	0.398	148	14	115	LAMINAR	0	14	4.6
DP/CSG	0.427	304	13	114	LAMINAR	0	13	8.0
DP/RIS	1.325	109	4	102	LAMINAR	0	4	0.2
TOTAL VOLUME		633				TOTAL PRESSURE DROP		22.3

LAG: 111.2 MINUTES 5323 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	192.6	HHP	27	IMPACT FORCE	180
% SURFACE PRESSURE	53.1	HHP/sqin	0.35	JET VELOCITY	45

PRESSURE BREAKDOWN:

SURFACE	7.7				
STRING	121.9				
BIT	192.6				
ANNULUS	22.3				
TOTAL	344.5	PUMP PRESSURE	363.0	% DIFFERENCE	5.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.80	HYDROSTATIC PRESSURE	2357.4
CIRCULATING:	ECD	9.89	CIRCULATING PRESSURE	2379.7
PULLING OUT:	TRIP MARGIN	0.19	ESTIMATED SWAB	44.7
	EFFECTIVE MUD WEIGHT	9.61	BOTTOM HOLE PRESSURE	2312.7

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1500.0 AND TVD 1500.0

SPM 1 87 SPM 2 86 FLOW RATE 866

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	46	75	125	LAMINAR	1	75	8.9
HWDP/OH	0.398	33	52	115	LAMINAR	0	51	1.8
DP/OH	0.398	181	52	115	LAMINAR	0	51	9.6
DP/CSG	0.427	304	48	114	LAMINAR	0	48	13.7
DP/RIS	1.325	109	16	102	LAMINAR	0	16	0.3
TOTAL VOLUME		673			TOTAL PRESSURE DROP			34.4

LAG: 32.7 MINUTES 2841 STROKES #1 AND 2817 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1217.6	HHP	615	IMPACT FORCE	1637
% SURFACE PRESSURE	41.9	HHP/sqin	5.22	JET VELOCITY	113

PRESSURE BREAKDOWN:

SURFACE	78.2				
STRING	1299.0				
BIT	1217.6				
ANNULUS	34.4				
TOTAL	2629.2	PUMP PRESSURE	2907.5	% DIFFERENCE	9.6

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.80	HYDROSTATIC PRESSURE	2507.9
CIRCULATING:	ECD	9.93	CIRCULATING PRESSURE	2542.3
PULLING OUT:	TRIP MARGIN	0.27	ESTIMATED SWAB	68.8
	EFFECTIVE MUD WEIGHT	9.53	BOTTOM HOLE PRESSURE	2439.1

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1600.0 AND TVD 1600.0

SPM 1 93 SPM 2 78 FLOW RATE 851

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	46	74	127	LAMINAR	1	73	8.8
HWDP/OH	0.398	33	51	117	LAMINAR	0	51	1.8
DP/OH	0.398	221	51	117	LAMINAR	0	51	11.7
DP/CSG	0.427	304	47	116	LAMINAR	0	47	13.6
DP/RIS	1.325	109	15	103	LAMINAR	0	15	0.3
TOTAL VOLUME		713					TOTAL PRESSURE DROP	36.2

LAG: 35.2 MINUTES 3262 STROKES #1 AND 2730 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1151.3	HHP	571	IMPACT FORCE	1548
% SURFACE PRESSURE	41.1	HHP/sqin	4.85	JET VELOCITY	111

PRESSURE BREAKDOWN:

SURFACE	74.5
STRING	1280.7
BIT	1151.3
ANNULUS	36.2
TOTAL	2542.8

PUMP PRESSURE 2800.5 % DIFFERENCE 9.2

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.60	HYDROSTATIC PRESSURE	2620.5
CIRCULATING:	ECD	9.73	CIRCULATING PRESSURE	2656.7
PULLING OUT:	TRIP MARGIN	0.27	ESTIMATED SWAB	72.5
	EFFECTIVE MUD WEIGHT	9.33	BOTTOM HOLE PRESSURE	2548.0

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1700.0 AND TVD 1700.0

SPM 1 87 SPM 2 86 FLOW RATE 865

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	46	75	126	LAMINAR	1	74	8.9
HWDP/OH	0.398	33	52	116	LAMINAR	0	51	1.8
DP/OH	0.398	261	52	116	LAMINAR	0	51	13.9
DP/CSG	0.427	304	48	115	LAMINAR	0	48	13.7
DP/RIS	1.325	109	16	102	LAMINAR	0	16	0.3
TOTAL VOLUME		753				TOTAL PRESSURE DROP		38.6

LAG: 36.5 MINUTES 3197 STROKES #1 AND 3130 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1203.3	HHP	607	IMPACT FORCE	1618
% SURFACE PRESSURE	40.9	HHP/sqin	5.15	JET VELOCITY	113

PRESSURE BREAKDOWN:

SURFACE	77.5		
STRING	1375.9		
BIT	1203.3		
ANNULUS	38.6		
TOTAL	2695.3	PUMP PRESSURE 2939.9	% DIFFERENCE 8.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.70	HYDROSTATIC PRESSURE	2813.2
CIRCULATING:	ECD	9.83	CIRCULATING PRESSURE	2851.9
PULLING OUT:	TRIP MARGIN	0.27	ESTIMATED SWAB	77.2
	EFFECTIVE MUD WEIGHT	9.43	BOTTOM HOLE PRESSURE	2736.0

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1800.0 AND TVD 1800.0

SPM 1 85 SPM 2 85 FLOW RATE 852

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	46	74	126	LAMINAR	1	73	8.8
HWDP/OH	0.398	33	51	116	LAMINAR	0	51	1.8
DP/OH	0.398	300	51	116	LAMINAR	0	51	15.9
DP/CSG	0.427	304	47	115	LAMINAR	0	47	13.6
DP/RIS	1.325	109	15	102	LAMINAR	0	15	0.3
TOTAL VOLUME		793			TOTAL PRESSURE DROP			40.5

LAG: 39.1 MINUTES 3322 STROKES #1 AND 3340 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1167.5	HHP	580	IMPACT FORCE	1570
% SURFACE PRESSURE	40.2	HHP/sqin	4.93	JET VELOCITY	112

PRESSURE BREAKDOWN:

SURFACE	75.4				
STRING	1382.4				
BIT	1167.5				
ANNULUS	40.5				
TOTAL	2665.7	PUMP PRESSURE	2900.7	% DIFFERENCE	8.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.70	HYDROSTATIC PRESSURE	2978.7
CIRCULATING:	ECD	9.83	CIRCULATING PRESSURE	3019.2
PULLING OUT:	TRIP MARGIN	0.26	ESTIMATED SWAB	81.0
	EFFECTIVE MUD WEIGHT	9.44	BOTTOM HOLE PRESSURE	2897.7

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1900.0 AND TVD 1900.0

SPM 1 79 SPM 2 78 FLOW RATE 785

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	68	104	LAMINAR	1	67	6.5
HWDP/OH	0.398	33	47	93	LAMINAR	0	47	1.2
DP/OH	0.398	339	47	93	LAMINAR	0	47	12.1
DP/CSG	0.427	304	44	92	LAMINAR	0	43	9.1
DP/RIS	1.325	109	14	78	LAMINAR	0	14	0.2
TOTAL VOLUME		832			TOTAL PRESSURE DROP			29.2

LAG: 44.5 MINUTES 3499 STROKES #1 AND 3493 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1339.5	HHP	614	IMPACT FORCE	1549
% SURFACE PRESSURE	46.5	HHP/sqin	5.21	JET VELOCITY	119

PRESSURE BREAKDOWN:

SURFACE	65.0				
STRING	1240.4				
BIT	1339.5				
ANNULUS	29.2				
TOTAL	2674.0	PUMP PRESSURE	2879.7	% DIFFERENCE	7.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.70	HYDROSTATIC PRESSURE	3144.2
CIRCULATING:	ECD	9.79	CIRCULATING PRESSURE	3173.4
PULLING OUT:	TRIP MARGIN	0.18	ESTIMATED SWAB	58.4
	EFFECTIVE MUD WEIGHT	9.52	BOTTOM HOLE PRESSURE	3085.8

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2000.0 AND TVD 2000.0

SPM 1 0 SPM 2 101 FLOW RATE 505

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	44	136	LAMINAR	0	44	8.3
HWDP/OH	0.398	33	30	125	LAMINAR	0	30	1.6
DP/OH	0.398	378	30	125	LAMINAR	0	30	18.3
DP/CSG	0.427	304	28	124	LAMINAR	0	28	12.4
DP/RIS	1.325	109	9	110	LAMINAR	0	9	0.3
TOTAL VOLUME		872			TOTAL PRESSURE DROP			40.9

LAG: 72.5 MINUTES 0 STROKES #1 AND 7327 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	554.7	HHP	164	IMPACT FORCE	642
% SURFACE PRESSURE	43.1	HHP/sqin	1.39	JET VELOCITY	77

PRESSURE BREAKDOWN:

SURFACE	30.5
STRING	599.4
BIT	554.7
ANNULUS	40.9
TOTAL	1225.6

PUMP PRESSURE 1287.5 % DIFFERENCE 4.8

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.70	HYDROSTATIC PRESSURE	3309.7
CIRCULATING:	ECD	9.82	CIRCULATING PRESSURE	3350.6
PULLING OUT:	TRIP MARGIN	0.24	ESTIMATED SWAB	81.9
	EFFECTIVE MUD WEIGHT	9.46	BOTTOM HOLE PRESSURE	3227.8

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2100.0 AND TVD 2100.0

SPM 1 0 SPM 2 104 FLOW RATE 521

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	45	136	LAMINAR	0	45	8.5
HWDP/OH	0.398	33	31	125	LAMINAR	0	31	1.6
DP/OH	0.398	418	31	125	LAMINAR	0	31	20.5
DP/CSG	0.427	304	29	124	LAMINAR	0	29	12.6
DP/RIS	1.325	109	9	110	LAMINAR	0	9	0.3
TOTAL VOLUME		912					TOTAL PRESSURE DROP	43.4

LAG: 73.5 MINUTES 0 STROKES #1 AND 7662 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	589.5	HHP	179	IMPACT FORCE	682
% SURFACE PRESSURE	41.8	HHP/sqin	1.52	JET VELOCITY	79

PRESSURE BREAKDOWN:

SURFACE	32.2				
STRING	651.7				
BIT	589.5				
ANNULUS	43.4				
TOTAL	1316.9	PUMP PRESSURE	1411.1	% DIFFERENCE	6.7

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.70	HYDROSTATIC PRESSURE	3475.2
CIRCULATING:	ECD	9.82	CIRCULATING PRESSURE	3518.6
PULLING OUT:	TRIP MARGIN	0.24	ESTIMATED SWAB	86.8
	EFFECTIVE MUD WEIGHT	9.46	BOTTOM HOLE PRESSURE	3388.3

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2200.0 AND TVD 2200.0

SPM 1 0 SPM 2 110 FLOW RATE 550

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	48	136	LAMINAR	0	47	8.6
HWDP/OH	0.398	33	33	123	LAMINAR	0	33	1.6
DP/OH	0.398	458	33	123	LAMINAR	0	33	22.3
DP/CSG	0.427	304	31	122	LAMINAR	0	31	12.5
DP/RIS	1.325	109	10	107	LAMINAR	0	10	0.3
TOTAL VOLUME		952				TOTAL PRESSURE DROP		45.3

LAG: 72.6 MINUTES 0 STROKES #1 AND 7997 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	657.9	HHP	211	IMPACT FORCE	761
% SURFACE PRESSURE	41.1	HHP/sqin	1.79	JET VELOCITY	84

PRESSURE BREAKDOWN:

SURFACE	36.1		
STRING	751.8		
BIT	657.9		
ANNULUS	45.3		
TOTAL	1491.1	PUMP PRESSURE 1600.1	% DIFFERENCE 6.8

BOTTOM HOLE PRESSURES:

	DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	9.70	HYDROSTATIC PRESSURE	3640.7
CIRCULATING: ECD	9.82	CIRCULATING PRESSURE	3686.8
PULLING OUT: TRIP MARGIN	0.24	ESTIMATED SWAB	90.6
EFFECTIVE MUD WEIGHT	9.46	BOTTOM HOLE PRESSURE	3550.0

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2300.0 AND TVD 2300.0

SPM 1 73 SPM 2 75 FLOW RATE 739

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	64	154	LAMINAR	0	64	12.1
HWDP/OH	0.398	33	44	144	LAMINAR	0	44	2.4
DP/OH	0.398	498	44	144	LAMINAR	0	44	36.4
DP/CSG	0.427	304	41	143	LAMINAR	0	41	18.8
DP/RIS	1.325	109	13	131	LAMINAR	0	13	0.5
TOTAL VOLUME		991			TOTAL PRESSURE DROP			70.2

LAG: 56.3 MINUTES 4128 STROKES #1 AND 4204 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1181.0	HHP	509	IMPACT FORCE	1366
% SURFACE PRESSURE	41.4	HHP/sqin	4.32	JET VELOCITY	112

PRESSURE BREAKDOWN:

SURFACE	60.3
STRING	1288.2
BIT	1181.0
ANNULUS	70.2
TOTAL	2599.6

PUMP PRESSURE 2851.6 % DIFFERENCE 8.8

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.64	HYDROSTATIC PRESSURE	3784.5
CIRCULATING:	ECD	9.82	CIRCULATING PRESSURE	3854.7
PULLING OUT:	TRIP MARGIN	0.36	ESTIMATED SWAB	140.5
	EFFECTIVE MUD WEIGHT	9.29	BOTTOM HOLE PRESSURE	3644.0

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2400.0 AND TVD 2400.0

SPM 1 74 SPM 2 75 FLOW RATE 744

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	65	168	LAMINAR	0	64	14.2
HWDP/OH	0.398	33	44	156	LAMINAR	0	44	2.8
DP/OH	0.398	538	44	156	LAMINAR	0	44	45.6
DP/CSG	0.427	304	41	155	LAMINAR	0	41	21.9
DP/RIS	1.325	109	13	140	LAMINAR	0	13	0.6
TOTAL VOLUME		1031				TOTAL PRESSURE DROP		85.1

LAG: 58.2 MINUTES 4315 STROKES #1 AND 4351 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1213.7	HHP	527	IMPACT FORCE	1404
% SURFACE PRESSURE	41.7	HHP/sqin	4.47	JET VELOCITY	113

PRESSURE BREAKDOWN:

SURFACE	64.5				
STRING	1415.7				
BIT	1213.7				
ANNULUS	85.1				
TOTAL	2778.9	PUMP PRESSURE	2910.1	% DIFFERENCE	4.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.78	HYDROSTATIC PRESSURE	4006.1
CIRCULATING:	ECD	9.99	CIRCULATING PRESSURE	4091.3
PULLING OUT:	TRIP MARGIN	0.42	ESTIMATED SWAB	170.2
	EFFECTIVE MUD WEIGHT	9.37	BOTTOM HOLE PRESSURE	3835.9

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2450.0 AND TVD 2450.0

SPM 1 110 SPM 2 1 FLOW RATE 554

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	2	125	120	TURBULENT			1.9
DC/CSG	0.116	22	114	119	LAMINAR	1	113	18.4
HWDP/CSG	0.160	13	82	115	LAMINAR	1	82	4.2
DP/CSG	0.160	333	82	115	LAMINAR	1	82	103.9
DP/RIS	1.325	109	10	102	LAMINAR	0	10	0.3
TOTAL VOLUME		479					TOTAL PRESSURE DROP	128.6

LAG: 36.4 MINUTES 3988 STROKES #1 AND 38 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1290.6	HHP	417	IMPACT FORCE	1050
% SURFACE PRESSURE	59.0	HHP/sqin	7.35	JET VELOCITY	120

PRESSURE BREAKDOWN:

SURFACE	29.2
STRING	686.5
BIT	1290.6
ANNULUS	128.6
TOTAL	2134.8

PUMP PRESSURE 2186.2 % DIFFERENCE 2.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.30	HYDROSTATIC PRESSURE	3887.2
CIRCULATING:	ECD	9.61	CIRCULATING PRESSURE	4015.8
PULLING OUT:	TRIP MARGIN	0.62	ESTIMATED SWAB	257.3
	EFFECTIVE MUD WEIGHT	8.68	BOTTOM HOLE PRESSURE	3629.9

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2470.0 AND TVD 2470.0

SPM 1 63 SPM 2 62 FLOW RATE 624

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	4	140	142	LAMINAR	1	139	6.1
DC/CSG	0.116	26	128	141	LAMINAR	1	127	33.3
HWDP/CSG	0.160	13	93	132	LAMINAR	1	92	5.9
DP/CSG	0.160	327	93	132	LAMINAR	1	92	143.9
DP/RIS	1.325	109	11	105	LAMINAR	0	11	0.3
TOTAL VOLUME		480				TOTAL PRESSURE DROP		189.5

LAG: 32.3 MINUTES 2021 STROKES #1 AND 2009 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1637.5	HHP	596	IMPACT FORCE	1332
% SURFACE PRESSURE	55.8	HHP/sqin	10.50	JET VELOCITY	135

PRESSURE BREAKDOWN:

SURFACE	41.5				
STRING	1070.9				
BIT	1637.5				
ANNULUS	189.5				
TOTAL	2939.4	PUMP PRESSURE	2935.7	% DIFFERENCE	0.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.30	HYDROSTATIC PRESSURE	3918.9
CIRCULATING:	ECD	9.75	CIRCULATING PRESSURE	4108.4
PULLING OUT:	TRIP MARGIN	0.90	ESTIMATED SWAB	378.9
	EFFECTIVE MUD WEIGHT	8.40	BOTTOM HOLE PRESSURE	3540.0

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2490.0 AND TVD 2490.0

SPM 1 49 SPM 2 0 FLOW RATE 246

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	6	55	148	LAMINAR	0	55	7.0
DC/CSG	0.116	22	51	147	LAMINAR	0	50	21.0
HWDP/CSG	0.160	13	37	139	LAMINAR	0	36	4.5
DP/CSG	0.160	333	37	139	LAMINAR	0	36	111.3
DP/RIS	1.325	109	4	114	LAMINAR	0	4	0.2
TOTAL VOLUME		483				TOTAL PRESSURE DROP		144.0

LAG: 82.5 MINUTES 4061 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	213.7	HHP	31	IMPACT FORCE	191
% SURFACE PRESSURE	57.8	HHP/sqin	0.54	JET VELOCITY	48

PRESSURE BREAKDOWN:

SURFACE	7.9				
STRING	199.0				
BIT	213.7				
ANNULUS	144.0				
TOTAL	564.5	PUMP PRESSURE	370.0	% DIFFERENCE	52.6

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	3993.1
CIRCULATING:	ECD	9.74	CIRCULATING PRESSURE	4137.1
PULLING OUT:	TRIP MARGIN	0.68	ESTIMATED SWAB	287.9
	EFFECTIVE MUD WEIGHT	8.72	BOTTOM HOLE PRESSURE	3705.2

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2500.0 AND TVD 2500.0

SPM 1 44 SPM 2 0 FLOW RATE 222

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	7	50	152	LAMINAR	0	50	8.3
DC/CSG	0.116	21	46	150	LAMINAR	0	45	20.0
HWDP/CSG	0.160	13	33	143	LAMINAR	0	33	4.4
DP/CSG	0.160	335	33	143	LAMINAR	0	33	113.2
DP/RIS	1.325	109	4	118	LAMINAR	0	4	0.3
TOTAL VOLUME		485				TOTAL PRESSURE DROP		146.2

LAG: 91.8 MINUTES 4074 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	173.4	HHP	22	IMPACT FORCE	155
% SURFACE PRESSURE	71.8	HHP/sqin	0.40	JET VELOCITY	44

PRESSURE BREAKDOWN:

SURFACE	6.5				
STRING	165.1				
BIT	173.4				
ANNULUS	146.2				
TOTAL	491.2	PUMP PRESSURE	241.4	% DIFFERENCE	103.4

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	4009.2
CIRCULATING:	ECD	9.74	CIRCULATING PRESSURE	4155.4
PULLING OUT:	TRIP MARGIN	0.69	ESTIMATED SWAB	292.4
	EFFECTIVE MUD WEIGHT	8.71	BOTTOM HOLE PRESSURE	3716.8

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2525.0 AND TVD 2525.0

SPM 1 35 SPM 2 0 FLOW RATE 175

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	10	39	152	LAMINAR	0	39	10.4
DC/CSG	0.116	18	36	150	LAMINAR	0	36	15.7
HWDP/CSG	0.160	13	26	143	LAMINAR	0	26	4.1
DP/CSG	0.160	339	26	143	LAMINAR	0	26	104.6
DP/RIS	1.325	109	3	118	LAMINAR	0	3	0.2
TOTAL VOLUME		489				TOTAL PRESSURE DROP		135.0

LAG: 117.6 MINUTES 4105 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	107.4	HHP	11	IMPACT FORCE	96
% SURFACE PRESSURE	50.5	HHP/sqin	0.19	JET VELOCITY	34

PRESSURE BREAKDOWN:

SURFACE	4.2				
STRING	107.9				
BIT	107.4				
ANNULUS	135.0				
TOTAL	354.5	PUMP PRESSURE	212.6	% DIFFERENCE	66.8

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	4049.3
CIRCULATING:	ECD	9.71	CIRCULATING PRESSURE	4184.3
PULLING OUT:	TRIP MARGIN	0.63	ESTIMATED SWAB	270.1
	EFFECTIVE MUD WEIGHT	8.77	BOTTOM HOLE PRESSURE	3779.2

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2540.0 AND TVD 2540.0

SPM 1 0 SPM 2 39 FLOW RATE 197

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	11	44	152	LAMINAR	0	44	12.7
DC/CSG	0.116	17	41	150	LAMINAR	0	40	14.9
HWDP/CSG	0.160	13	29	143	LAMINAR	0	29	4.3
DP/CSG	0.160	341	29	143	LAMINAR	0	29	110.3
DP/RIS	1.325	109	4	118	LAMINAR	0	4	0.2
TOTAL VOLUME		491				TOTAL PRESSURE DROP		142.4

LAG: 104.6 MINUTES 0 STROKES #1 AND 4124 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	136.8	HHP	16	IMPACT FORCE	122
% SURFACE PRESSURE	34.2	HHP/sqin	0.28	JET VELOCITY	39

PRESSURE BREAKDOWN:

SURFACE	5.3				
STRING	134.6				
BIT	136.8				
ANNULUS	142.4				
TOTAL	419.1	PUMP PRESSURE	400.0	% DIFFERENCE	4.8

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	4073.3
CIRCULATING:	ECD	9.73	CIRCULATING PRESSURE	4215.7
PULLING OUT:	TRIP MARGIN	0.66	ESTIMATED SWAB	284.9
	EFFECTIVE MUD WEIGHT	8.74	BOTTOM HOLE PRESSURE	3788.4

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2550.0 AND TVD 2550.0

SPM 1 40 SPM 2 0 FLOW RATE 201

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	12	45	168	LAMINAR	0	45	17.1
DC/CSG	0.116	15	41	166	LAMINAR	0	41	17.2
HWDP/CSG	0.160	13	30	160	LAMINAR	0	30	5.4
DP/CSG	0.160	343	30	160	LAMINAR	0	30	141.8
DP/RIS	1.325	109	4	140	LAMINAR	0	4	0.4
TOTAL VOLUME		492				TOTAL PRESSURE DROP		181.9

LAG: 103.0 MINUTES 4137 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	142.2	HHP	17	IMPACT FORCE	127
% SURFACE PRESSURE	26.8	HHP/sqin	0.29	JET VELOCITY	40

PRESSURE BREAKDOWN:

SURFACE	5.4				
STRING	139.7				
BIT	142.2				
ANNULUS	181.9				
TOTAL	469.3	PUMP PRESSURE	531.5	% DIFFERENCE	11.7

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	4089.4
CIRCULATING:	ECD	9.82	CIRCULATING PRESSURE	4271.3
PULLING OUT:	TRIP MARGIN	0.84	ESTIMATED SWAB	363.9
	EFFECTIVE MUD WEIGHT	8.56	BOTTOM HOLE PRESSURE	3725.5

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2600.0 AND TVD 2600.0

SPM 1 57 SPM 2 54 FLOW RATE 557

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	18	125	157	LAMINAR	1	125	32.0
DC/CSG	0.116	11	115	155	LAMINAR	1	114	16.4
HWDP/CSG	0.160	13	83	146	LAMINAR	0	82	6.7
DP/CSG	0.160	348	83	146	LAMINAR	0	82	175.3
DP/RIS	1.325	109	10	116	LAMINAR	0	10	0.3
TOTAL VOLUME		499				TOTAL PRESSURE DROP		230.8

LAG: 37.7 MINUTES 2149 STROKES #1 AND 2045 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1319.1	HHP	428	IMPACT FORCE	1073
% SURFACE PRESSURE	44.4	HHP/sqin	7.55	JET VELOCITY	128

PRESSURE BREAKDOWN:

SURFACE	35.4
STRING	939.8
BIT	1319.1
ANNULUS	230.8
TOTAL	2525.1

PUMP PRESSURE 2973.0 % DIFFERENCE 15.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	4169.5
CIRCULATING:	ECD	9.92	CIRCULATING PRESSURE	4400.3
PULLING OUT:	TRIP MARGIN	1.04	ESTIMATED SWAB	461.6
	EFFECTIVE MUD WEIGHT	8.36	BOTTOM HOLE PRESSURE	3707.8

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2700.0 AND TVD 2699.8

SPM 1 58 SPM 2 54 FLOW RATE 560

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	27	126	169	LAMINAR	1	125	55.9
HWDP/OH	0.151	1	89	160	LAMINAR	0	88	0.9
HWDP/CSG	0.160	12	83	159	LAMINAR	0	83	7.1
DP/CSG	0.160	365	83	159	LAMINAR	0	83	214.1
DP/RIS	1.325	109	10	133	LAMINAR	0	10	0.5
TOTAL VOLUME		515				TOTAL PRESSURE DROP		278.4

LAG: 38.6 MINUTES 2236 STROKES #1 AND 2088 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1795.0	HHP	586	IMPACT FORCE	1259
% SURFACE PRESSURE	60.2	HHP/sqin	10.33	JET VELOCITY	140

PRESSURE BREAKDOWN:

SURFACE	35.8				
STRING	960.8				
BIT	1795.0				
ANNULUS	278.4				
TOTAL	3069.9	PUMP PRESSURE	2983.9	% DIFFERENCE	2.9

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	4329.6
CIRCULATING:	ECD	10.00	CIRCULATING PRESSURE	4608.0
PULLING OUT:	TRIP MARGIN	1.21	ESTIMATED SWAB	556.7
	EFFECTIVE MUD WEIGHT	8.19	BOTTOM HOLE PRESSURE	3772.9

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2800.0 AND TVD 2799.7

SPM 1 54 SPM 2 55 FLOW RATE 545

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	28	127	170	LAMINAR	1	122	61.1
HWDP/OH	0.151	13	86	172	LAMINAR	0	86	9.7
DP/OH	0.151	3	86	172	LAMINAR	0	86	2.0
DP/CSG	0.160	377	81	172	LAMINAR	0	81	249.8
DP/RIS	1.325	109	10	154	LAMINAR	0	10	0.7
TOTAL VOLUME		529				TOTAL PRESSURE DROP		323.2

LAG: 40.8 MINUTES 2217 STROKES #1 AND 2230 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1720.7	HHP	547	IMPACT FORCE	1207
% SURFACE PRESSURE	57.7	HHP/sqin	9.65	JET VELOCITY	137

PRESSURE BREAKDOWN:

SURFACE	33.2
STRING	920.0
BIT	1720.7
ANNULUS	323.2
TOTAL	2997.0

PUMP PRESSURE 2980.3 % DIFFERENCE 0.6

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.50	HYDROSTATIC PRESSURE	4537.6
CIRCULATING:	ECD	10.18	CIRCULATING PRESSURE	4860.7
PULLING OUT:	TRIP MARGIN	1.35	ESTIMATED SWAB	646.3
	EFFECTIVE MUD WEIGHT	8.15	BOTTOM HOLE PRESSURE	3891.2

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2825.0 AND TVD 2824.7

SPM 1 51 SPM 2 0 FLOW RATE 256

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.104	0	59	176	LAMINAR	0	58	0.5
DC/LIN	0.106	26	58	176	LAMINAR	0	57	45.2
HWDP/LIN	0.151	13	40	171	LAMINAR	0	40	7.6
DP/LIN	0.151	9	40	171	LAMINAR	0	40	5.2
DP/CSG	0.160	377	38	170	LAMINAR	0	38	197.9
DP/RIS	1.325	109	5	153	LAMINAR	0	5	0.5
TOTAL VOLUME		534				TOTAL PRESSURE DROP		256.9

LAG: 87.6 MINUTES 4484 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	287.4	HHP	43	IMPACT FORCE	234
% SURFACE PRESSURE	28.6	HHP/sqin	0.76	JET VELOCITY	55

PRESSURE BREAKDOWN:

SURFACE	8.6				
STRING	235.9				
BIT	287.4				
ANNULUS	256.9				
TOTAL	788.8	PUMP PRESSURE	1005.2	% DIFFERENCE	21.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.70	HYDROSTATIC PRESSURE	4674.5
CIRCULATING:	ECD	10.23	CIRCULATING PRESSURE	4931.4
PULLING OUT:	TRIP MARGIN	1.07	ESTIMATED SWAB	513.8
	EFFECTIVE MUD WEIGHT	8.63	BOTTOM HOLE PRESSURE	4160.6

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2830.0 AND TVD 2829.7

SPM 1 59 SPM 2 0 FLOW RATE 295

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ACCEND VEL	PRESSURE DROP
DC/OH	0.104	1	68	200	LAMINAR	0	67	1.8
DC/LIN	0.106	26	66	200	LAMINAR	0	66	58.5
HWDP/LIN	0.151	13	47	191	LAMINAR	0	47	9.8
DP/LIN	0.151	9	47	191	LAMINAR	0	47	7.3
DP/CSG	0.160	377	44	190	LAMINAR	0	44	252.3
DP/RIS	1.325	109	5	164	LAMINAR	0	5	0.6
TOTAL VOLUME		534				TOTAL PRESSURE DROP		330.3

LAG: 76.1 MINUTES 4491 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	386.5	HHP	67	IMPACT FORCE	314
% SURFACE PRESSURE	27.5	HHP/sqin	1.18	JET VELOCITY	64

PRESSURE BREAKDOWN:

SURFACE	12.2
STRING	333.9
BIT	386.5
ANNULUS	330.3
TOTAL	1062.9

PUMP PRESSURE 1405.4 % DIFFERENCE 24.4

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.80	HYDROSTATIC PRESSURE	4731.0
CIRCULATING:	ECD	10.48	CIRCULATING PRESSURE	5061.3
PULLING OUT:	TRIP MARGIN	1.37	ESTIMATED SWAB	660.6
	EFFECTIVE MUD WEIGHT	8.43	BOTTOM HOLE PRESSURE	4070.4

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2900.0 AND TVD 2899.6

SPM 1 53 SPM 2 54 FLOW RATE 534

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	28	120	147	LAMINAR	1	119	48.3
HWDP/OH	0.151	13	85	133	LAMINAR	1	84	6.6
DP/OH	0.151	18	85	133	LAMINAR	1	84	9.4
DP/CSG	0.160	377	79	131	LAMINAR	1	79	166.9
DP/RIS	1.325	109	10	93	LAMINAR	0	10	0.2
TOTAL VOLUME		544				TOTAL PRESSURE DROP		231.4

LAG: 42.8 MINUTES 2269 STROKES #1 AND 2306 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1697.2	HHP	529	IMPACT FORCE	1190
% SURFACE PRESSURE	58.4	HHP/sqin	9.33	JET VELOCITY	134

PRESSURE BREAKDOWN:

SURFACE	35.5				
STRING	1000.1				
BIT	1697.2				
ANNULUS	231.4				
TOTAL	2964.1	PUMP PRESSURE	2905.5	% DIFFERENCE	2.0

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.76	HYDROSTATIC PRESSURE	4825.9
CIRCULATING:	ECD	10.22	CIRCULATING PRESSURE	5057.3
PULLING OUT:	TRIP MARGIN	0.94	ESTIMATED SWAB	462.8
	EFFECTIVE MUD WEIGHT	8.82	BOTTOM HOLE PRESSURE	4363.1

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3000.0 AND TVD 2999.5

SPM 1 53 SPM 2 52 FLOW RATE 521

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	28	117	144	LAMINAR	1	116	46.2
HWDP/OH	0.151	13	82	129	LAMINAR	1	82	6.2
DP/OH	0.151	33	82	129	LAMINAR	1	82	16.3
DP/CSG	0.160	377	77	128	LAMINAR	1	77	157.7
DP/RIS	1.325	109	9	89	LAMINAR	0	9	0.2
TOTAL VOLUME		559				TOTAL PRESSURE DROP		226.7

LAG: 45.1 MINUTES 2374 STROKES #1 AND 2326 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1610.7	HHP	490	IMPACT FORCE	1130
% SURFACE PRESSURE	54.0	HHP/sqin	8.63	JET VELOCITY	131

PRESSURE BREAKDOWN:

SURFACE	33.8
STRING	975.0
BIT	1610.7
ANNULUS	226.7
TOTAL	2846.2

PUMP PRESSURE 2981.1 % DIFFERENCE 4.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.73	HYDROSTATIC PRESSURE	4980.7
CIRCULATING:	ECD	10.18	CIRCULATING PRESSURE	5207.4
PULLING OUT:	TRIP MARGIN	0.89	ESTIMATED SWAB	453.3
	EFFECTIVE MUD WEIGHT	8.85	BOTTOM HOLE PRESSURE	4527.4

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3012.0 AND TVD 3011.4

SPM 1 63 SPM 2 38 FLOW RATE 507

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	28	114	143	LAMINAR	1	114	52.3
HWDP/OH	0.151	13	80	123	LAMINAR	0	80	6.6
DP/OH	0.151	35	80	123	LAMINAR	0	80	18.1
DP/CSG	0.160	377	75	121	LAMINAR	0	75	163.9
DP/RIS	1.325	109	9	73	LAMINAR	0	9	0.1

TOTAL VOLUME 561 TOTAL PRESSURE DROP 241.0

LAG: 46.4 MINUTES 2933 STROKES #1 AND 1783 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1709.4	HHP	506	IMPACT FORCE	1199
% SURFACE PRESSURE	56.3	HHP/sqin	8.92	JET VELOCITY	127

PRESSURE BREAKDOWN:

SURFACE	38.1
STRING	1100.7
BIT	1709.4
ANNULUS	241.0
TOTAL	3089.2

PUMP PRESSURE 3034.1 % DIFFERENCE 1.8

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	10.90	HYDROSTATIC PRESSURE	5599.9
CIRCULATING:	ECD	11.37	CIRCULATING PRESSURE	5840.9
PULLING OUT:	TRIP MARGIN	0.94	ESTIMATED SWAB	482.0
	EFFECTIVE MUD WEIGHT	9.96	BOTTOM HOLE PRESSURE	5117.8

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3100.0 AND TVD 3099.2

SPM 1 101 SPM 2 0 FLOW RATE 506

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	28	114	184	LAMINAR	0	114	73.2
HWDP/OH	0.151	13	80	169	LAMINAR	0	80	10.3
DP/OH	0.151	48	80	169	LAMINAR	0	80	39.1
DP/CSG	0.160	377	75	167	LAMINAR	0	75	260.6
DP/RIS	1.325	109	9	124	LAMINAR	0	9	0.4
TOTAL VOLUME		574				TOTAL PRESSURE DROP		383.5

LAG: 47.6 MINUTES 4827 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1651.9	HHP	488	IMPACT FORCE	1159
% SURFACE PRESSURE	55.2	HHP/sqin	8.60	JET VELOCITY	127

PRESSURE BREAKDOWN:

SURFACE	36.7				
STRING	1079.2				
BIT	1651.9				
ANNULUS	383.5				
TOTAL	3151.3	PUMP PRESSURE	2990.8	% DIFFERENCE	5.4

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	10.58	HYDROSTATIC PRESSURE	5593.7
CIRCULATING:	ECD	11.30	CIRCULATING PRESSURE	5977.2
PULLING OUT:	TRIP MARGIN	1.45	ESTIMATED SWAB	767.0
	EFFECTIVE MUD WEIGHT	9.13	BOTTOM HOLE PRESSURE	4826.6

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3200.0 AND TVD 3199.0

SPM 1 97 SPM 2 0 FLOW RATE 486

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	28	109	187	LAMINAR	1	109	72.8
HWDP/OH	0.151	13	77	174	LAMINAR	0	77	10.6
DP/OH	0.151	63	77	174	LAMINAR	0	77	53.1
DP/CSG	0.160	377	72	173	LAMINAR	0	72	269.5
DP/RIS	1.325	109	9	135	LAMINAR	0	9	0.5
TOTAL VOLUME		590			TOTAL PRESSURE DROP			406.3

LAG: 51.0 MINUTES 4954 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1507.8	HHP	427	IMPACT FORCE	1058
% SURFACE PRESSURE	51.5	HHP/sqin	7.53	JET VELOCITY	122

PRESSURE BREAKDOWN:

SURFACE	33.2				
STRING	993.0				
BIT	1507.8				
ANNULUS	406.3				
TOTAL	2940.4	PUMP PRESSURE	2928.4	% DIFFERENCE	0.4

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	10.50	HYDROSTATIC PRESSURE	5730.5
CIRCULATING:	ECD	11.24	CIRCULATING PRESSURE	6136.8
PULLING OUT:	TRIP MARGIN	1.49	ESTIMATED SWAB	812.7
	EFFECTIVE MUD WEIGHT	9.01	BOTTOM HOLE PRESSURE	4917.8

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3280.0 AND TVD 3278.9

SPM 1 54 SPM 2 0 FLOW RATE 270

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.104	26	62	193	LAMINAR	0	62	62.0
HWDP/OH	0.149	12	43	177	LAMINAR	0	43	9.2
DP/OH	0.149	76	43	177	LAMINAR	0	43	56.5
DP/CSG	0.160	377	40	175	LAMINAR	0	40	230.4
DP/RIS	1.325	109	5	134	LAMINAR	0	5	0.4
TOTAL VOLUME		601			TOTAL PRESSURE DROP			358.5

LAG: 93.5 MINUTES 5048 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	376.0	HHP	59	IMPACT FORCE	306
% SURFACE PRESSURE	25.1	HHP/sqin	1.05	JET VELOCITY	58

PRESSURE BREAKDOWN:

SURFACE	12.8		
STRING	382.7		
BIT	376.0		
ANNULUS	358.5		
TOTAL	1130.1	PUMP PRESSURE 1500.0	% DIFFERENCE 24.7

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	11.40	HYDROSTATIC PRESSURE	6377.0
CIRCULATING:	ECD	12.04	CIRCULATING PRESSURE	6735.6
PULLING OUT:	TRIP MARGIN	1.28	ESTIMATED SWAB	717.1
	EFFECTIVE MUD WEIGHT	10.12	BOTTOM HOLE PRESSURE	5660.0

CORE LAB
========

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3300.0 AND TVD 3298.9

SPM 1 18 SPM 2 72 FLOW RATE 450

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	28	101	176	LAMINAR	1	101	69.8
HWDP/OH	0.151	13	71	163	LAMINAR	0	71	10.0
DP/OH	0.151	78	71	163	LAMINAR	0	71	62.0
DP/CSG	0.160	377	67	161	LAMINAR	0	67	253.7
DP/RIS	1.325	109	8	123	LAMINAR	0	8	0.4
TOTAL VOLUME		605				TOTAL PRESSURE DROP		395.9

LAG: 56.4 MINUTES 1019 STROKES #1 AND 4062 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1420.9	HHP	373	IMPACT FORCE	997
% SURFACE PRESSURE	48.9	HHP/sqin	6.58	JET VELOCITY	113

PRESSURE BREAKDOWN:

SURFACE	31.5		
STRING	960.6		
BIT	1420.9		
ANNULUS	395.9		
TOTAL	2808.9	PUMP PRESSURE 2905.8	% DIFFERENCE 3.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	11.50	HYDROSTATIC PRESSURE	6472.2
CIRCULATING:	ECD	12.20	CIRCULATING PRESSURE	6868.1
PULLING OUT:	TRIP MARGIN	1.41	ESTIMATED SWAB	791.7
	EFFECTIVE MUD WEIGHT	10.09	BOTTOM HOLE PRESSURE	5680.4

(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 hy 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	82.0- 219.0
HTC OSC3AJ+26"HO		SIZE	26.000	NOZZLES	20 20 20
COST	0.00	TRIP TIME	2.5	BIT RUN	137.0
TOTAL HOURS	3.96	TOTAL TURNS	13521	CONDITION	T2 B3 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
85.0	28.5	1.0	51	8.7	0.52	0.11	321	128	3171	8.4	11.6
90.0	32.5	1.0	51	8.7	0.50	0.26	791	112	1260	8.4	11.6
100.0	43.0	1.0	52	8.7	0.47	0.49	1517	84.93	606.96	8.4	11.6
110.0	18.6	1.0	52	8.7	0.59	1.03	3191	196.34	460.31	8.4	11.7
120.0	12.4	1.0	52	8.7	0.65	1.84	5707	294.52	416.68	8.4	11.7
130.0	26.0	1.0	53	8.7	0.54	2.22	6930	140.46	359.14	8.4	11.8
140.0	29.0	1.4	66	8.7	0.58	2.57	8295	125.93	318.93	8.4	11.8
150.0	49.0	1.6	52	8.7	0.47	2.77	8932	74.53	282.99	8.4	11.9
160.0	58.0	2.5	69	8.7	0.52	2.94	9646	62.97	254.78	8.4	11.9
170.0	44.0	1.3	65	8.7	0.51	3.17	10532	83.00	235.26	8.4	11.9
180.0	70.0	2.7	55	8.7	0.46	3.31	11004	52.17	216.58	8.4	12.0
190.0	53.0	2.1	68	8.7	0.52	3.50	11774	68.91	202.90	8.4	12.0
200.0	57.0	2.0	69	8.7	0.51	3.68	12500	64.07	191.14	8.4	12.0
210.0	61.0	3.0	71	8.7	0.53	3.84	13198	59.87	180.88	8.4	12.1
219.0	72.0	2.7	43	8.7	0.41	3.96	13521	50.72	172.33	8.4	12.1

BIT NUMBER	1	IADC CODE	111	INTERVAL	219.0- 811.0
HTC OSC 3AJ		SIZE	17.500	NOZZLES	20 20 20
COST	4857.00	TRIP TIME	3.7	BIT RUN	592.0
TOTAL HOURS	11.56	TOTAL TURNS	104012	CONDITION	T2 B4 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
220.0	102.0	5.0	145	8.9	0.64	0.01	85	36	18405	8.4	12.1
230.0	189.0	10.0	150	8.9	0.60	0.06	561	19	1691	8.4	12.2
240.0	130.0	11.0	150	8.9	0.70	0.14	1254	28.09	899.02	8.4	12.2
250.0	142.0	12.0	150	8.9	0.69	0.21	1888	25.72	617.31	8.4	12.2
260.0	146.0	10.0	150	8.9	0.66	0.28	2504	25.01	472.85	8.4	12.3
270.0	127.0	10.0	150	8.9	0.69	0.36	3213	28.76	385.77	8.4	12.3
280.0	174.0	15.0	150	8.9	0.68	0.41	3730	20.99	325.97	8.4	12.4
290.0	321.0	20.0	150	8.9	0.56	0.45	4010	11.38	281.66	8.4	12.4
300.0	423.0	25.0	150	8.9	0.52	0.47	4223	8.63	247.95	8.4	12.4
310.0	382.0	25.0	150	8.9	0.54	0.50	4459	9.56	221.76	8.4	12.5
320.0	458.0	22.0	150	8.9	0.48	0.52	4655	7.97	200.59	8.4	12.5
325.0	67.5	14.5	145	8.9	0.89	0.59	5300	54.10	193.68	8.4	12.5
330.0	180.0	18.3	145	8.9	0.69	0.62	5541	20.29	185.87	8.4	12.5
335.0	167.4	17.7	145	8.9	0.70	0.65	5801	21.81	178.80	8.4	12.6
338.0	260.0	8.3	150	8.9	0.51	0.66	5905	14.05	174.64	8.4	12.6
340.0	133.3	14.1	150	8.9	0.73	0.68	6040	27.39	172.21	8.4	12.6
342.0	194.6	17.6	150	8.9	0.67	0.69	6132	18.77	169.72	8.4	12.6
344.0	205.7	18.3	150	8.9	0.66	0.70	6220	17.75	167.28	8.4	12.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
346.0	184.6	18.3	150	8.9	0.69	0.71	6317	19.78	164.96	8.4	12.6
348.0	171.4	18.2	150	8.9	0.71	0.72	6422	21.30	162.73	8.4	12.6
350.0	126.3	19.1	150	8.9	0.80	0.73	6565	28.91	160.69	8.4	12.6
352.0	276.9	25.8	150	8.9	0.64	0.74	6630	13.19	158.47	8.4	12.6
354.0	194.6	25.3	150	8.9	0.73	0.75	6722	18.77	156.40	8.4	12.6
356.0	257.1	32.0	150	8.9	0.70	0.76	6792	14.20	154.33	8.4	12.6
358.0	124.1	23.0	150	8.9	0.84	0.78	6937	29.42	152.53	8.4	12.6
360.0	200.0	27.8	150	8.9	0.74	0.79	7027	18.26	150.63	8.4	12.6
362.0	218.2	33.6	150	8.9	0.75	0.79	7110	16.74	148.75	8.4	12.6
364.0	205.7	34.0	150	8.9	0.77	0.80	7197	17.75	146.95	8.4	12.7
366.0	54.5	17.9	150	8.9	1.00	0.84	7527	66.95	145.86	8.4	12.7
368.0	150.0	22.8	150	8.9	0.79	0.85	7647	24.35	144.23	8.4	12.7
370.0	205.7	26.8	150	8.9	0.73	0.86	7735	17.75	142.55	8.4	12.7
372.0	205.7	26.8	150	8.9	0.73	0.87	7822	17.75	140.92	8.4	12.7
374.0	218.2	29.0	150	8.9	0.73	0.88	7905	16.74	139.32	8.4	12.7
376.0	138.5	21.2	150	8.9	0.79	0.90	8035	26.38	137.88	8.4	12.7
380.0	171.4	21.2	150	8.9	0.74	0.92	8245	21.30	134.98	8.4	12.7
382.0	153.2	21.8	150	8.9	0.77	0.93	8362	23.84	133.62	8.4	12.7
384.0	175.6	23.4	150	8.9	0.75	0.95	8465	20.80	132.25	8.4	12.7
386.0	150.0	21.1	150	8.9	0.77	0.96	8585	24.35	130.96	8.4	12.7
388.0	167.4	23.7	150	8.9	0.76	0.97	8692	21.81	129.67	8.4	12.7
390.0	156.5	23.9	150	8.9	0.78	0.98	8807	23.33	128.42	8.4	12.7
392.0	90.0	31.2	150	8.9	1.00	1.01	9007	40.58	127.41	8.4	12.8
394.0	150.0	27.9	150	8.9	0.83	1.02	9127	24.35	126.23	8.4	12.8
396.0	150.0	23.5	150	9.0	0.78	1.03	9247	24.35	125.08	8.4	12.8
398.0	225.0	23.0	150	9.0	0.67	1.04	9327	16.23	123.86	8.4	12.8
400.0	200.0	21.0	150	9.0	0.69	1.05	9417	18.26	122.70	8.4	12.8
402.0	200.0	22.0	150	9.0	0.69	1.06	9507	18.26	121.55	8.4	12.8
404.0	211.8	21.5	150	9.0	0.68	1.07	9592	17.25	120.43	8.4	12.8
406.0	189.5	18.1	150	9.0	0.68	1.08	9687	19.27	119.35	8.4	12.8
408.0	205.7	22.9	150	9.0	0.69	1.09	9775	17.75	118.27	8.4	12.8
410.0	132.0	22.0	150	9.0	0.80	1.11	9911	27.67	117.32	8.4	12.8
412.0	150.0	21.1	150	9.1	0.75	1.12	10031	24.35	116.36	8.4	12.8
414.0	64.3	16.6	150	9.1	0.92	1.15	10311	56.81	115.75	8.4	12.8
416.0	97.3	16.5	150	9.1	0.82	1.17	10496	37.53	114.95	8.4	12.8
418.0	200.0	17.0	150	9.1	0.65	1.18	10586	18.26	113.98	8.4	12.8
420.0	153.2	21.9	150	9.1	0.75	1.19	10704	23.84	113.08	8.4	12.8
422.0	112.5	23.6	150	9.1	0.85	1.21	10864	32.46	112.29	8.4	12.9
428.0	50.0	26.4	150	9.2	1.08	1.33	11944	73.04	111.16	8.4	12.9
430.0	78.3	22.4	150	9.2	0.93	1.36	12174	46.66	110.55	8.4	12.9
432.0	84.7	24.5	150	9.2	0.93	1.38	12386	43.11	109.92	8.4	12.9
434.0	83.1	11.0	150	9.2	0.78	1.41	12603	43.96	109.31	8.4	12.9
436.0	122.0	24.2	150	9.2	0.83	1.42	12750	29.93	108.57	8.4	12.9
440.0	65.0	17.2	150	9.2	0.92	1.48	13304	56.18	107.63	8.4	12.9
442.0	75.0	24.0	150	9.2	0.95	1.51	13544	48.69	107.10	8.4	12.9
444.0	48.6	16.1	150	9.1	0.98	1.55	13914	75.07	106.81	8.4	12.9
446.0	81.8	25.5	150	9.1	0.95	1.58	14134	44.64	106.26	8.4	12.9
448.0	100.0	29.7	150	9.1	0.93	1.60	14314	36.52	105.66	8.4	12.9
450.0	66.7	23.9	150	9.1	0.99	1.63	14584	54.78	105.21	8.4	12.9
452.0	120.0	22.7	150	9.1	0.83	1.64	14734	30.43	104.57	8.4	13.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
454.0	58.1	25.8	150	9.1	1.05	1.68	15044	62.90	104.22	8.4	13.0
456.0	58.5	26.2	150	9.1	1.05	1.71	15352	62.39	103.87	8.4	13.0
458.0	90.0	28.0	150	9.1	0.95	1.73	15552	40.58	103.34	8.4	13.0
460.0	87.8	28.0	150	9.1	0.96	1.76	15757	41.59	102.82	8.4	13.0
462.0	91.1	26.4	150	9.1	0.93	1.78	15954	40.07	102.31	8.4	13.0
464.0	90.0	25.0	150	9.2	0.91	1.80	16154	40.58	101.80	8.4	13.0
466.0	128.6	26.8	150	9.2	0.83	1.82	16294	28.40	101.21	8.4	13.0
468.0	67.3	27.0	150	9.2	1.01	1.84	16562	54.27	100.83	8.4	13.0
470.0	72.7	25.9	150	9.2	0.98	1.87	16809	50.22	100.43	8.4	13.0
472.0	43.9	25.1	150	9.2	1.11	1.92	17219	83.18	100.29	8.4	13.0
474.0	74.2	27.9	150	9.2	0.99	1.94	17462	49.20	99.89	8.4	13.0
476.0	67.9	27.6	150	9.2	1.01	1.97	17727	53.77	99.53	8.4	13.0
478.0	48.3	27.6	150	9.2	1.11	2.02	18099	75.58	99.35	8.4	13.0
480.0	52.2	27.5	150	9.2	1.08	2.05	18444	70.00	99.17	8.4	13.0
484.0	42.4	31.7	150	9.2	1.18	2.15	19294	86.23	98.93	8.4	13.1
486.0	61.0	30.1	150	9.2	1.07	2.18	19589	59.85	98.63	8.4	13.1
488.0	53.7	29.2	150	9.2	1.09	2.22	19924	67.97	98.41	8.4	13.1
490.0	60.5	29.3	150	9.2	1.06	2.25	20222	60.36	98.13	8.4	13.1
492.0	54.5	28.1	150	9.2	1.08	2.29	20552	66.95	97.90	8.4	13.1
494.0	60.0	29.9	150	9.2	1.07	2.32	20852	60.87	97.63	8.4	13.1
496.0	92.3	30.0	150	9.2	0.95	2.34	21047	39.56	97.21	8.4	13.1
498.0	116.1	29.8	150	9.2	0.88	2.36	21202	31.45	96.74	8.4	13.1
500.0	60.0	26.4	150	9.2	1.04	2.39	21502	60.87	96.48	8.4	13.1
502.0	30.5	26.8	150	9.2	1.23	2.46	22092	119.70	96.65	8.4	13.1
504.0	80.9	25.6	150	9.2	0.95	2.48	22314	45.14	96.29	8.4	13.1
506.0	59.0	29.3	150	9.2	1.07	2.52	22619	61.88	96.05	8.4	13.1
508.0	53.3	27.0	150	9.2	1.07	2.56	22957	68.48	95.85	8.4	13.1
510.0	48.3	26.0	150	9.2	1.09	2.60	23329	75.58	95.72	8.4	13.1
512.0	48.0	27.2	150	9.2	1.10	2.64	23704	76.08	95.58	8.4	13.1
514.0	96.0	28.2	150	9.2	0.92	2.66	23892	38.04	95.19	8.4	13.2
516.0	33.2	26.3	150	9.2	1.19	2.72	24434	110.07	95.29	8.4	13.2
518.0	49.7	26.6	150	9.2	1.09	2.76	24797	73.55	95.15	8.4	13.2
520.0	33.3	25.7	150	9.2	1.19	2.82	25337	109.56	95.24	8.4	13.2
522.0	219.1	25.7	150	9.2	0.68	2.83	25419	16.67	94.72	8.4	13.2
524.0	73.5	27.0	150	9.2	0.99	2.86	25664	49.71	94.43	8.4	13.2
526.0	128.6	26.0	150	9.2	0.83	2.87	25804	28.40	94.00	8.4	13.2
528.0	39.3	27.9	150	9.2	1.17	2.92	26261	92.82	93.99	8.4	13.2
530.0	52.2	27.1	150	9.2	1.08	2.96	26606	70.00	93.84	8.4	13.2
532.0	42.6	29.4	150	9.2	1.16	3.01	27029	85.72	93.78	8.4	13.2
534.0	41.9	28.0	150	9.2	1.15	3.06	27459	87.24	93.74	8.4	13.2
536.0	47.0	25.3	150	9.2	1.09	3.10	27842	77.77	93.64	8.4	13.2
538.0	35.8	28.1	150	9.2	1.19	3.15	28345	101.95	93.69	8.4	13.2
540.0	35.6	25.7	150	9.2	1.17	3.21	28850	102.46	93.75	8.4	13.2
542.0	40.2	27.8	150	9.2	1.16	3.26	29297	90.79	93.73	8.4	13.2
544.0	32.7	27.0	150	9.2	1.21	3.32	29847	111.59	93.84	8.4	13.2
546.0	44.2	25.0	150	9.2	1.10	3.37	30255	82.68	93.77	8.4	13.3
548.0	45.6	25.4	150	9.2	1.10	3.41	30650	80.14	93.69	8.4	13.3
550.0	45.0	24.2	150	9.2	1.09	3.45	31050	81.16	93.61	8.4	13.3
552.0	37.9	25.9	150	9.2	1.15	3.51	31525	96.37	93.63	8.4	13.3
554.0	44.7	26.6	150	9.2	1.12	3.55	31927	81.66	93.56	8.4	13.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
556.0	39.3	27.8	150	9.2	1.16	3.60	32385	92.82	93.55	8.4	13.3
558.0	58.5	26.2	150	9.2	1.04	3.64	32692	62.39	93.37	8.4	13.3
560.0	38.5	19.3	150	9.2	1.07	3.69	33160	94.85	93.38	8.4	13.3
562.0	55.8	30.5	150	9.2	1.09	3.72	33482	65.43	93.22	8.4	13.3
564.0	53.3	29.1	150	9.2	1.09	3.76	33820	68.48	93.07	8.4	13.3
566.0	52.6	28.3	150	9.2	1.09	3.80	34162	69.49	92.94	8.4	13.3
568.0	45.3	29.7	150	9.2	1.15	3.84	34560	80.65	92.87	8.4	13.3
570.0	56.2	27.0	150	9.2	1.06	3.88	34880	64.92	92.71	8.4	13.3
572.0	34.0	32.6	150	9.2	1.26	3.94	35410	107.53	92.79	8.4	13.3
574.0	52.2	30.0	150	9.2	1.11	3.98	35755	70.00	92.66	8.4	13.3
576.0	43.9	31.1	150	9.2	1.17	4.02	36165	83.18	92.61	8.4	13.3
578.0	50.0	31.2	150	9.2	1.13	4.06	36525	73.04	92.50	8.4	13.4
580.0	40.9	30.9	150	9.2	1.19	4.11	36965	89.27	92.48	8.4	13.4
582.0	57.1	30.6	150	9.2	1.09	4.15	37280	63.91	92.32	8.4	13.4
584.0	59.5	31.3	150	9.2	1.08	4.18	37582	61.37	92.16	8.4	13.4
586.0	58.1	31.3	150	9.2	1.09	4.21	37892	62.90	92.00	8.4	13.4
588.0	55.4	30.4	150	9.2	1.10	4.25	38217	65.94	91.85	8.4	13.4
590.0	55.4	31.4	150	9.2	1.10	4.29	38542	65.94	91.71	8.4	13.4
592.0	54.5	32.1	150	9.2	1.12	4.32	38872	66.95	91.58	8.4	13.4
594.0	51.1	29.3	150	9.2	1.11	4.36	39225	71.52	91.48	8.4	13.4
596.0	50.0	30.0	150	9.2	1.12	4.40	39585	73.04	91.38	8.4	13.4
598.0	39.1	33.4	150	9.2	1.22	4.45	40045	93.33	91.39	8.4	13.4
600.0	49.7	34.1	150	9.2	1.16	4.49	40407	73.55	91.29	8.4	13.4
602.0	46.2	30.2	150	9.2	1.14	4.54	40797	78.98	91.23	8.4	13.4
604.0	47.1	29.7	150	9.2	1.14	4.58	41179	77.61	91.16	8.4	13.4
606.0	58.1	29.0	150	9.2	1.07	4.61	41489	62.90	91.01	8.4	13.4
608.0	57.6	29.2	150	9.2	1.07	4.65	41802	63.40	90.87	8.4	13.4
610.0	55.4	30.4	150	9.2	1.10	4.69	42127	65.94	90.74	8.4	13.4
612.0	55.0	29.8	150	9.2	1.09	4.72	42454	66.45	90.62	8.4	13.5
614.0	54.5	30.8	150	9.2	1.10	4.76	42784	66.95	90.50	8.4	13.5
616.0	39.1	29.8	150	9.2	1.19	4.81	43244	93.33	90.51	8.4	13.5
618.0	45.6	31.0	150	9.2	1.16	4.85	43639	80.14	90.46	8.4	13.5
620.0	58.5	31.3	150	9.2	1.09	4.89	43947	62.39	90.32	8.4	13.5
622.0	50.4	31.6	150	9.2	1.13	4.93	44304	72.46	90.23	8.4	13.5
624.0	42.6	31.6	150	9.2	1.18	4.97	44726	85.72	90.21	8.4	13.5
626.0	40.9	32.2	150	9.2	1.20	5.02	45166	89.27	90.21	8.4	13.5
628.0	31.9	29.9	150	9.2	1.25	5.09	45731	114.63	90.33	8.4	13.5
630.0	34.8	29.5	150	9.2	1.22	5.14	46249	105.00	90.40	8.4	13.5
632.0	25.3	28.7	150	9.2	1.30	5.22	46961	144.56	90.66	8.4	13.5
634.0	35.6	31.1	150	9.2	1.23	5.28	47466	102.46	90.72	8.4	13.5
636.0	23.8	31.6	150	9.2	1.35	5.36	48224	153.69	91.02	8.4	13.5
638.0	27.7	28.9	150	9.2	1.27	5.44	48874	131.88	91.21	8.4	13.5
640.0	29.3	28.2	150	9.2	1.25	5.50	49489	124.78	91.37	8.4	13.5
642.0	32.6	27.8	150	9.1	1.23	5.56	50041	112.10	91.47	8.4	13.5
644.0	25.4	29.8	150	9.1	1.32	5.64	50749	143.54	91.72	8.4	13.5
646.0	36.2	27.8	150	9.1	1.20	5.70	51246	100.94	91.76	8.4	13.6
648.0	42.4	27.4	150	9.1	1.15	5.75	51671	86.23	91.73	8.4	13.6
650.0	46.8	28.0	150	9.1	1.13	5.79	52056	78.11	91.67	8.4	13.6
652.0	35.3	28.8	150	9.1	1.22	5.85	52566	103.47	91.72	8.4	13.6
654.0	31.9	29.4	150	9.1	1.25	5.91	53131	114.63	91.83	8.4	13.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
656.0	33.8	28.4	150	9.1	1.23	5.97	53664	108.04	91.90	8.4	13.6
658.0	53.3	28.3	150	9.1	1.10	6.00	54001	68.48	91.80	8.4	13.6
660.0	30.0	29.6	150	9.1	1.27	6.07	54601	121.73	91.93	8.4	13.6
662.0	43.9	29.0	150	9.1	1.16	6.12	55011	83.18	91.89	8.4	13.6
664.0	43.4	28.4	150	9.1	1.16	6.16	55426	84.20	91.86	8.4	13.6
666.0	40.9	28.0	150	9.1	1.17	6.21	55866	89.27	91.85	8.4	13.6
668.0	28.3	30.2	150	9.1	1.30	6.28	56501	128.83	92.01	8.4	13.6
670.0	33.2	30.3	150	9.1	1.25	6.34	57044	110.07	92.09	8.4	13.6
672.0	46.2	30.0	150	9.1	1.16	6.39	57434	79.13	92.04	8.4	13.6
674.0	41.1	29.7	150	9.1	1.19	6.43	57871	88.76	92.02	8.4	13.6
676.0	24.4	26.5	150	9.1	1.30	6.52	58609	149.63	92.27	8.4	13.6
678.0	29.5	27.0	150	9.1	1.25	6.58	59219	123.76	92.41	8.4	13.6
680.0	28.6	26.9	150	9.1	1.26	6.65	59849	127.82	92.56	8.4	13.7
682.0	33.8	27.1	150	9.1	1.21	6.71	60381	108.04	92.63	8.4	13.7
684.0	32.7	27.0	150	9.1	1.22	6.77	60931	111.59	92.71	8.4	13.7
686.0	30.4	27.9	150	9.1	1.25	6.84	61524	120.21	92.83	8.4	13.7
688.0	32.3	27.9	150	9.1	1.23	6.90	62081	113.11	92.92	8.4	13.7
690.0	25.4	28.2	150	9.1	1.30	6.98	62789	143.54	93.13	8.4	13.7
692.0	28.8	28.4	150	9.1	1.27	7.05	63414	126.81	93.27	8.4	13.7
694.0	34.4	28.3	150	9.1	1.22	7.11	63936	106.01	93.33	8.4	13.7
696.0	31.6	27.9	150	9.1	1.24	7.17	64506	115.65	93.42	8.4	13.7
698.0	24.5	28.7	150	9.1	1.32	7.25	65241	149.12	93.65	8.4	13.7
700.0	21.9	28.8	150	9.1	1.35	7.35	66064	166.88	93.96	8.4	13.7
702.0	26.6	28.6	150	9.1	1.30	7.42	66741	137.46	94.14	8.4	13.7
704.0	29.0	29.4	150	9.1	1.28	7.49	67361	125.79	94.27	8.4	13.7
706.0	19.4	26.2	150	9.1	1.35	7.59	68289	188.18	94.65	8.4	13.7
708.0	27.1	28.6	150	9.1	1.29	7.67	68954	134.92	94.82	8.4	13.7
710.0	28.2	25.7	150	9.1	1.24	7.74	69591	129.34	94.96	8.4	13.7
712.0	30.3	27.5	150	9.1	1.25	7.80	70186	120.72	95.06	8.4	13.7
714.0	28.6	27.5	150	9.1	1.26	7.87	70816	127.82	95.20	8.4	13.7
716.0	24.1	30.1	150	9.1	1.34	7.96	71564	151.66	95.42	8.4	13.8
718.0	23.5	31.0	150	9.1	1.36	8.04	72331	155.72	95.67	8.4	13.8
720.0	18.2	31.1	150	9.1	1.43	8.15	73321	200.86	96.09	8.4	13.8
722.0	28.1	30.0	150	9.1	1.30	8.22	73961	129.85	96.22	8.4	13.8
724.0	20.7	29.6	150	9.1	1.38	8.32	74831	176.51	96.54	8.4	13.8
726.0	23.0	32.1	150	9.1	1.38	8.41	75614	158.76	96.78	8.4	13.8
728.0	33.6	30.8	150	9.1	1.25	8.47	76149	108.55	96.83	8.4	13.8
730.0	35.8	29.9	150	9.1	1.23	8.52	76651	101.95	96.85	8.4	13.8
732.0	31.2	28.9	150	9.1	1.25	8.59	77229	117.17	96.93	8.4	13.8
734.0	31.3	28.2	150	9.1	1.25	8.65	77804	116.66	97.01	8.4	13.8
736.0	27.0	28.3	150	9.1	1.29	8.72	78471	135.43	97.15	8.4	13.8
738.0	29.5	28.8	150	9.1	1.27	8.79	79081	123.76	97.26	8.4	13.8
740.0	28.2	29.0	150	9.1	1.28	8.86	79719	129.34	97.38	8.4	13.8
742.0	30.9	29.5	150	9.1	1.26	8.93	80301	118.18	97.46	8.4	13.8
744.0	22.8	27.1	150	9.1	1.32	9.01	81091	160.28	97.70	8.4	13.8
746.0	23.2	28.2	150	9.1	1.33	9.10	81869	157.75	97.93	8.4	13.8
748.0	27.9	27.6	150	9.1	1.27	9.17	82514	130.86	98.05	8.4	13.8
750.0	38.5	29.0	150	9.1	1.20	9.22	82981	94.85	98.04	8.4	13.8
752.0	35.1	28.3	150	9.1	1.22	9.28	83494	103.98	98.06	8.4	13.9
754.0	26.3	28.0	150	9.1	1.29	9.36	84179	138.98	98.21	8.4	13.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
756.0	22.6	27.5	150	9.1	1.33	9.45	84974	161.30	98.45	8.4	13.9
758.0	35.6	28.4	150	9.1	1.21	9.50	85479	102.46	98.46	8.4	13.9
760.0	30.9	30.4	150	9.1	1.27	9.57	86061	118.18	98.54	8.4	13.9
762.0	24.6	29.2	150	9.1	1.32	9.65	86794	148.62	98.72	8.4	13.9
764.0	25.5	26.7	150	9.1	1.28	9.73	87499	143.04	98.88	8.4	13.9
766.0	24.2	24.9	150	9.1	1.28	9.81	88244	151.15	99.07	8.4	13.9
768.0	25.8	21.9	150	9.1	1.22	9.89	88941	141.52	99.23	8.4	13.9
770.0	34.4	27.2	150	9.1	1.21	9.95	89464	106.01	99.25	8.4	13.9
772.0	29.1	27.6	150	9.1	1.26	10.01	90081	125.28	99.35	8.4	13.9
774.0	29.4	28.2	150	9.1	1.26	10.08	90694	124.27	99.44	8.4	13.9
776.0	24.9	28.3	150	9.1	1.31	10.16	91416	146.59	99.61	8.4	13.9
778.0	29.0	28.8	150	9.1	1.27	10.23	92036	125.79	99.70	8.4	13.9
780.0	28.6	28.6	150	9.1	1.28	10.30	92666	127.82	99.80	8.4	13.9
782.0	27.6	28.1	150	9.1	1.28	10.37	93319	132.39	99.92	8.4	13.9
784.0	27.1	28.8	150	9.1	1.29	10.45	93984	134.92	100.04	8.4	13.9
786.0	16.4	30.0	150	9.1	1.45	10.57	95084	223.18	100.48	8.4	13.9
788.0	20.3	27.4	150	9.1	1.36	10.67	95969	179.56	100.75	8.4	14.0
790.0	29.1	24.8	150	9.1	1.23	10.74	96586	125.28	100.84	8.4	14.0
792.0	31.7	29.5	150	9.1	1.26	10.80	97154	115.14	100.89	8.4	14.0
794.0	25.4	29.0	150	9.1	1.31	10.88	97861	143.54	101.04	8.4	14.0
796.0	23.7	28.3	150	9.1	1.32	10.96	98621	154.20	101.27	8.4	14.0
798.0	24.2	25.7	150	9.1	1.29	11.05	99366	151.15	101.39	8.4	14.0
800.0	30.3	28.2	150	9.1	1.26	11.11	99961	120.72	101.46	8.4	14.0
802.0	21.6	27.0	150	9.1	1.34	11.20	100796	169.41	101.69	8.4	14.0
804.0	32.0	25.7	150	9.1	1.21	11.27	101359	114.13	101.74	8.4	14.0
806.0	27.6	25.5	150	9.1	1.25	11.34	102011	132.39	101.84	8.4	14.0
808.0	24.3	26.4	150	9.1	1.29	11.42	102751	150.14	102.00	8.4	14.0
810.0	21.4	26.7	150	9.1	1.33	11.52	103594	170.93	102.24	8.4	14.0
811.0	21.5	27.8	150	9.1	1.35	11.56	104012	169.92	102.35	8.4	14.0

BIT NUMBER	2	IADC CODE	116	INTERVAL	811.0- 1381.0
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	4.9	BIT RUN	570.0
TOTAL HOURS	12.11	TOTAL TURNS	100225	CONDITION	T4 B2 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
812.0	29.4	22.9	80	9.2	1.12	0.03	163	124	20713	8.4	14.0
813.0	25.7	23.0	80	9.2	1.16	0.07	351	142	10428	8.4	14.0
814.0	25.5	22.9	80	9.2	1.16	0.11	540	143	6999	8.4	14.0
815.0	24.7	23.3	80	9.2	1.18	0.15	735	148	5287	8.4	14.0
816.0	18.4	22.5	81	9.2	1.25	0.21	999	199	4269	8.4	14.0
817.0	21.8	24.6	72	9.2	1.20	0.25	1197	167	3585	8.4	14.0
818.0	51.4	31.7	93	9.2	1.10	0.27	1306	71	3083	8.4	14.0
819.0	34.6	33.2	100	9.2	1.26	0.30	1479	106	2711	8.4	14.0
820.0	37.9	40.2	121	9.2	1.37	0.33	1671	96	2421	8.4	14.0
821.0	40.4	39.5	119	9.2	1.33	0.35	1847	90	2188	8.4	14.0
822.0	40.0	38.5	120	9.2	1.33	0.38	2027	91	1997	8.4	14.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
823.0	47.4	38.4	118	9.2	1.27	0.40	2177	77	1837	8.4	14.0
824.0	33.3	35.2	119	9.2	1.35	0.43	2391	110	1704	8.4	14.0
825.0	33.0	47.2	120	9.2	1.48	0.46	2609	111	1590	8.4	14.0
826.0	56.8	39.8	117	9.2	1.22	0.48	2733	64	1489	8.4	14.1
827.0	34.3	38.7	117	9.2	1.37	0.51	2938	107	1402	8.4	14.1
828.0	42.4	39.4	117	9.2	1.31	0.53	3104	86	1325	8.4	14.1
829.0	53.7	39.6	117	9.2	1.23	0.55	3235	68	1255	8.4	14.1
830.0	59.0	39.0	118	9.2	1.20	0.56	3355	62	1192	8.4	14.1
831.0	59.0	37.0	118	9.2	1.18	0.58	3474	62	1136	8.4	14.1
832.0	61.0	39.0	118	9.2	1.19	0.60	3590	60	1084	8.4	14.1
833.0	63.2	39.3	118	9.2	1.18	0.61	3702	58	1038	8.4	14.1
834.0	63.2	39.6	121	9.2	1.19	0.63	3816	57.82	995.15	8.4	14.1
835.0	46.8	31.8	120	9.2	1.21	0.65	3970	78.11	956.94	8.4	14.1
836.0	62.1	42.8	121	9.2	1.23	0.67	4087	58.84	921.01	8.4	14.1
837.0	58.1	40.6	121	9.2	1.23	0.68	4212	62.90	888.01	8.4	14.1
838.0	52.9	40.5	121	9.2	1.26	0.70	4349	68.98	857.67	8.4	14.1
839.0	56.2	39.5	121	9.2	1.23	0.72	4479	64.92	829.36	8.4	14.1
840.0	54.5	40.0	121	9.2	1.24	0.74	4612	66.95	803.07	8.4	14.1
841.0	46.8	40.3	121	9.2	1.30	0.76	4768	78.11	778.91	8.4	14.1
842.0	41.9	40.7	121	9.2	1.34	0.78	4942	87.24	756.59	8.4	14.1
843.0	48.0	40.5	122	9.2	1.29	0.81	5094	76.08	735.33	8.4	14.1
844.0	47.4	41.0	120	9.2	1.30	0.83	5245	77.10	715.38	8.4	14.1
845.0	26.1	40.1	120	9.2	1.49	0.86	5521	139.99	698.46	8.4	14.1
846.0	60.0	41.5	125	9.2	1.23	0.88	5646	60.87	680.24	8.4	14.1
847.0	62.1	40.9	124	9.2	1.22	0.90	5766	58.84	662.98	8.4	14.1
848.0	54.5	40.8	125	9.2	1.26	0.92	5903	66.95	646.87	8.4	14.1
849.0	48.0	40.8	124	9.2	1.30	0.94	6059	76.08	631.85	8.4	14.1
850.0	55.4	40.7	124	9.2	1.25	0.95	6193	65.94	617.34	8.4	14.1
851.0	55.4	40.8	125	9.2	1.25	0.97	6328	65.94	603.56	8.4	14.1
852.0	62.1	39.9	125	9.2	1.21	0.99	6449	58.84	590.27	8.4	14.1
853.0	57.1	41.1	124	9.2	1.25	1.01	6579	63.91	577.74	8.4	14.1
854.0	48.6	37.3	121	9.2	1.25	1.03	6729	75.07	566.05	8.4	14.1
855.0	41.9	38.8	109	9.2	1.28	1.05	6884	87.24	555.17	8.4	14.1
856.0	56.2	40.8	120	9.2	1.24	1.07	7012	64.92	544.27	8.4	14.1
857.0	56.2	39.3	120	9.2	1.22	1.09	7140	64.92	533.85	8.4	14.1
858.0	61.0	40.3	120	9.2	1.20	1.10	7258	59.85	523.77	8.4	14.1
859.0	63.2	39.6	120	9.2	1.19	1.12	7371	57.82	514.06	8.4	14.1
860.0	59.0	39.7	120	9.2	1.21	1.14	7493	61.88	504.83	8.4	14.1
861.0	58.1	40.0	120	9.2	1.22	1.15	7617	62.90	495.99	8.4	14.1
862.0	52.9	40.4	120	9.2	1.25	1.17	7753	68.98	487.62	8.4	14.1
863.0	56.2	40.4	120	9.2	1.23	1.19	7880	64.92	479.49	8.4	14.1
864.0	55.4	34.6	122	9.2	1.19	1.21	8012	65.94	471.69	8.4	14.1
865.0	49.3	37.2	118	9.2	1.24	1.23	8156	74.05	464.32	8.4	14.1
866.0	73.5	36.1	122	9.2	1.11	1.24	8255	49.71	456.79	8.4	14.2
867.0	53.7	33.7	122	9.2	1.19	1.26	8392	67.97	449.84	8.4	14.2
868.0	51.4	36.4	122	9.2	1.23	1.28	8534	71.01	443.20	8.4	14.2
869.0	43.9	30.6	122	9.2	1.22	1.30	8701	83.18	436.99	8.4	14.2
870.0	55.4	38.4	122	9.2	1.22	1.32	8833	65.94	430.70	8.4	14.2
871.0	52.2	39.2	122	9.2	1.25	1.34	8973	70.00	424.69	8.4	14.2
872.0	58.1	38.7	122	9.2	1.21	1.36	9099	62.90	418.76	8.4	14.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
873.0	54.5	35.9	122	9.2	1.20	1.38	9234	66.95	413.08	8.4	14.2
874.0	45.6	36.9	113	9.2	1.25	1.40	9383	80.14	407.80	8.4	14.2
875.0	50.0	34.2	121	9.2	1.21	1.42	9528	73.04	402.57	8.4	14.2
876.0	55.4	37.0	121	9.2	1.21	1.44	9659	65.94	397.39	8.4	14.2
877.0	78.3	37.2	121	9.2	1.10	1.45	9752	46.66	392.07	8.4	14.2
878.0	45.0	37.4	121	9.2	1.28	1.47	9913	81.16	387.43	8.4	14.2
879.0	48.6	39.1	121	9.2	1.27	1.49	10062	75.07	382.84	8.4	14.2
880.0	56.2	38.7	121	9.2	1.22	1.51	10191	64.92	378.23	8.4	14.2
881.0	57.1	38.9	121	9.2	1.22	1.53	10318	63.91	373.74	8.4	14.2
882.0	49.3	37.6	121	9.2	1.25	1.55	10465	74.05	369.52	8.4	14.2
883.0	43.9	36.4	121	9.2	1.28	1.57	10631	83.18	365.54	8.4	14.2
884.0	43.9	38.5	113	9.2	1.28	1.59	10785	83.18	361.68	8.4	14.2
885.0	46.8	37.2	120	9.2	1.26	1.61	10939	78.11	357.84	8.4	14.2
886.0	53.7	33.5	120	9.2	1.18	1.63	11073	67.97	353.98	8.4	14.2
887.0	57.1	39.5	120	9.2	1.22	1.65	11199	63.91	350.16	8.4	14.2
888.0	62.1	39.7	120	9.2	1.19	1.67	11315	58.84	346.38	8.4	14.2
889.0	49.3	39.4	120	9.2	1.27	1.69	11461	74.05	342.89	8.4	14.2
890.0	59.0	40.1	120	9.2	1.21	1.70	11583	61.88	339.33	8.4	14.2
891.0	43.4	35.3	120	9.2	1.27	1.73	11749	84.20	336.14	8.4	14.2
892.0	53.7	35.6	120	9.2	1.20	1.74	11883	67.97	332.83	8.4	14.2
893.0	53.7	37.6	120	9.2	1.22	1.76	12017	67.97	329.60	8.4	14.2
894.0	34.3	37.5	109	9.2	1.34	1.79	12208	106.52	326.91	8.4	14.2
895.0	44.4	38.5	120	9.2	1.29	1.81	12369	82.17	324.00	8.4	14.2
896.0	45.6	38.8	120	9.2	1.29	1.84	12527	80.14	321.13	8.4	14.2
897.0	50.7	37.7	120	9.2	1.24	1.86	12669	72.03	318.23	8.4	14.2
898.0	52.9	39.0	120	9.2	1.24	1.88	12805	68.98	315.37	8.4	14.2
899.0	52.9	38.1	120	9.2	1.23	1.89	12941	68.98	312.57	8.4	14.2
900.0	61.0	37.6	120	9.2	1.18	1.91	13059	59.85	309.73	8.4	14.2
901.0	53.7	37.1	120	9.2	1.22	1.93	13193	67.97	307.04	8.4	14.2
902.0	44.4	38.8	113	9.2	1.27	1.95	13345	82.17	304.57	8.4	14.2
903.0	53.3	36.5	121	9.2	1.22	1.97	13482	68.48	302.01	8.4	14.2
904.0	45.6	33.2	121	9.2	1.23	1.99	13642	80.14	299.62	8.4	14.2
905.0	45.0	36.1	122	9.2	1.27	2.01	13804	81.16	297.30	8.4	14.2
906.0	53.7	41.0	121	9.2	1.26	2.03	13939	67.97	294.88	8.4	14.3
907.0	50.7	40.1	122	9.2	1.27	2.05	14083	72.03	292.56	8.4	14.3
908.0	42.9	35.4	122	9.2	1.28	2.08	14253	85.21	290.42	8.4	14.3
909.0	51.4	40.2	121	9.2	1.27	2.10	14395	71.01	288.18	8.4	14.3
910.0	45.6	38.7	122	9.2	1.29	2.12	14555	80.14	286.08	8.4	14.3
911.0	46.2	39.0	122	9.2	1.29	2.14	14713	79.13	284.01	8.4	14.3
912.0	29.8	39.5	120	9.2	1.44	2.17	14955	122.75	282.42	8.4	14.3
913.0	48.0	43.1	121	9.2	1.32	2.19	15106	76.08	280.39	8.4	14.3
914.0	50.0	41.8	121	9.2	1.29	2.21	15251	73.04	278.38	8.4	14.3
915.0	58.1	42.1	121	9.0	1.27	2.23	15376	62.90	276.31	8.4	14.3
916.0	50.7	40.6	121	9.0	1.30	2.25	15519	72.03	274.36	8.4	14.3
917.0	54.5	41.1	121	9.0	1.28	2.27	15652	66.95	272.41	8.4	14.3
918.0	50.0	42.9	121	9.0	1.33	2.29	15798	73.04	270.54	8.4	14.3
919.0	45.0	40.7	121	9.0	1.34	2.31	15959	81.16	268.79	8.4	14.3
920.0	46.2	40.1	121	9.0	1.33	2.33	16116	79.13	267.05	8.4	14.3
921.0	69.2	41.2	121	9.0	1.20	2.35	16221	52.75	265.10	8.4	14.3
922.0	42.4	41.9	111	9.0	1.35	2.37	16378	86.23	263.49	8.4	14.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
923.0	59.0	43.0	121	9.0	1.27	2.39	16501	61.88	261.69	8.4	14.3
924.0	55.4	43.5	121	9.0	1.30	2.41	16632	65.94	259.96	8.4	14.3
925.0	58.1	41.4	121	9.0	1.26	2.42	16758	62.90	258.23	8.4	14.3
926.0	40.9	36.6	120	9.0	1.33	2.45	16934	89.27	256.76	8.4	14.3
927.0	46.8	33.8	120	9.0	1.25	2.47	17088	78.11	255.22	8.4	14.3
928.0	52.9	43.9	120	9.0	1.31	2.49	17223	68.98	253.63	8.4	14.3
929.0	57.1	43.5	120	9.0	1.28	2.51	17349	63.91	252.02	8.4	14.3
930.0	57.1	43.6	120	9.0	1.28	2.52	17474	63.91	250.44	8.4	14.3
931.0	52.9	42.1	120	9.0	1.30	2.54	17610	68.98	248.93	8.4	14.3
932.0	56.2	44.0	118	9.0	1.29	2.56	17737	64.92	247.41	8.4	14.3
933.0	60.0	42.3	119	9.0	1.25	2.58	17855	60.87	245.88	8.4	14.3
934.0	64.3	45.2	119	9.0	1.25	2.59	17966	56.81	244.34	8.4	14.3
935.0	59.0	43.5	119	9.0	1.27	2.61	18087	61.88	242.87	8.4	14.3
936.0	60.0	43.3	119	9.0	1.26	2.63	18205	60.87	241.41	8.4	14.3
937.0	58.1	43.6	119	9.0	1.28	2.64	18328	62.90	240.00	8.4	14.3
938.0	61.0	42.4	119	9.0	1.25	2.66	18445	59.85	238.58	8.4	14.3
939.0	59.0	44.8	119	9.0	1.28	2.68	18565	61.88	237.20	8.4	14.3
940.0	58.1	43.5	119	9.0	1.27	2.69	18688	62.90	235.85	8.4	14.3
941.0	36.4	40.2	120	9.0	1.41	2.72	18886	100.43	234.80	8.4	14.3
942.0	59.0	46.2	119	9.0	1.29	2.74	19007	61.88	233.48	8.4	14.3
943.0	60.0	46.0	119	9.0	1.29	2.75	19125	60.87	232.18	8.4	14.3
944.0	54.5	46.1	119	9.0	1.32	2.77	19256	66.95	230.93	8.4	14.3
945.0	53.7	46.1	119	9.0	1.33	2.79	19388	67.97	229.72	8.4	14.3
946.0	54.5	46.1	119	9.0	1.32	2.81	19519	66.95	228.51	8.4	14.3
947.0	58.1	45.0	119	9.0	1.29	2.83	19641	62.90	227.30	8.4	14.4
948.0	58.1	44.5	119	9.0	1.28	2.84	19764	62.90	226.10	8.4	14.4
949.0	56.2	45.0	119	9.0	1.30	2.86	19891	64.92	224.93	8.4	14.4
950.0	50.7	45.0	120	9.0	1.34	2.88	20033	72.03	223.83	8.4	14.4
951.0	63.2	50.5	120	9.0	1.31	2.90	20147	57.82	222.64	8.4	14.4
952.0	53.7	45.8	120	9.0	1.33	2.92	20281	67.97	221.54	8.4	14.4
953.0	67.9	43.2	120	9.0	1.22	2.93	20386	53.77	220.36	8.4	14.4
954.0	46.8	41.9	120	9.0	1.34	2.95	20541	78.11	219.37	8.4	14.4
955.0	46.2	44.5	120	9.0	1.37	2.97	20697	79.13	218.39	8.4	14.4
956.0	46.2	45.0	120	9.0	1.38	3.00	20853	79.13	217.43	8.4	14.4
957.0	45.6	44.6	120	9.0	1.38	3.02	21011	80.14	216.49	8.4	14.4
958.0	53.7	43.6	120	9.0	1.31	3.04	21146	67.97	215.48	8.4	14.4
959.0	53.7	41.8	120	9.0	1.29	3.05	21280	67.97	214.49	8.4	14.4
960.0	50.0	40.0	120	9.0	1.30	3.07	21424	73.04	213.54	8.4	14.4
961.0	57.1	45.6	119	9.0	1.30	3.09	21549	63.91	212.54	8.4	14.4
962.0	52.9	42.4	119	9.0	1.30	3.11	21684	68.98	211.59	8.4	14.4
963.0	57.1	44.8	119	9.0	1.29	3.13	21809	63.91	210.62	8.4	14.4
964.0	52.9	44.0	119	9.0	1.31	3.15	21944	68.98	209.69	8.4	14.4
965.0	53.7	40.9	108	9.0	1.25	3.17	22065	67.97	208.77	8.4	14.4
966.0	58.1	45.3	117	9.0	1.29	3.18	22186	62.90	207.83	8.4	14.4
967.0	59.0	46.1	117	9.0	1.29	3.20	22305	61.88	206.89	8.4	14.4
968.0	57.1	46.0	117	9.0	1.30	3.22	22427	63.91	205.98	8.4	14.4
969.0	62.1	44.7	117	9.0	1.26	3.23	22541	58.84	205.05	8.4	14.4
970.0	41.9	42.2	148	9.0	1.45	3.26	22753	87.24	204.31	8.4	14.4
971.0	45.6	42.0	150	9.0	1.43	3.28	22950	80.14	203.54	8.4	14.4
972.0	37.9	43.6	150	9.0	1.51	3.31	23188	96.37	202.87	8.4	14.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
973.0	42.9	42.3	150	9.0	1.45	3.33	23398	85.21	202.14	8.4	14.4
974.0	42.4	42.9	150	9.0	1.46	3.35	23610	86.23	201.43	8.4	14.4
975.0	40.0	42.0	150	9.0	1.47	3.38	23835	91.30	200.76	8.4	14.4
976.0	40.9	42.1	150	9.0	1.47	3.40	24055	89.27	200.09	8.4	14.4
977.0	44.4	41.1	150	9.0	1.43	3.42	24258	82.17	199.37	8.4	14.4
978.0	42.9	42.9	150	9.0	1.46	3.45	24468	85.21	198.69	8.4	14.4
979.0	65.5	41.9	150	9.0	1.30	3.46	24605	55.79	197.84	8.4	14.4
980.0	48.6	42.3	150	9.0	1.41	3.48	24790	75.07	197.11	8.4	14.4
981.0	46.8	42.9	150	9.0	1.43	3.51	24983	78.11	196.41	8.4	14.4
982.0	45.0	44.3	150	9.0	1.46	3.53	25183	81.16	195.74	8.4	14.4
983.0	44.4	42.6	150	9.0	1.44	3.55	25385	82.17	195.08	8.4	14.4
984.0	41.9	40.8	150	9.0	1.44	3.57	25600	87.24	194.46	8.4	14.4
985.0	47.4	37.0	150	9.0	1.36	3.60	25790	77.10	193.78	8.4	14.4
986.0	58.1	41.3	150	9.0	1.34	3.61	25945	62.90	193.03	8.4	14.4
987.0	64.3	41.0	150	9.0	1.30	3.63	26085	56.81	192.26	8.4	14.4
988.0	41.4	37.8	150	9.0	1.41	3.65	26303	88.26	191.67	8.4	14.4
989.0	69.2	43.4	150	9.0	1.29	3.67	26433	52.75	190.89	8.4	14.5
990.0	60.0	43.4	150	9.0	1.34	3.68	26583	60.87	190.17	8.4	14.5
991.0	63.2	43.7	150	9.0	1.33	3.70	26725	57.82	189.43	8.4	14.5
992.0	65.5	43.6	150	9.0	1.32	3.71	26863	55.79	188.69	8.4	14.5
993.0	69.2	43.2	150	9.0	1.29	3.73	26993	52.75	187.95	8.4	14.5
994.0	63.2	44.0	150	9.0	1.33	3.74	27135	57.82	187.23	8.4	14.5
995.0	53.7	39.4	150	9.0	1.34	3.76	27303	67.97	186.59	8.4	14.5
996.0	63.2	41.1	150	9.0	1.30	3.78	27445	57.82	185.89	8.4	14.5
997.0	58.1	41.0	150	9.0	1.33	3.80	27600	62.90	185.23	8.4	14.5
998.0	72.0	42.7	150	9.2	1.25	3.81	27725	50.72	184.51	8.4	14.5
999.0	58.1	40.4	150	9.2	1.30	3.83	27880	62.90	183.86	8.4	14.5
1000.0	65.5	40.9	150	9.2	1.26	3.84	28018	55.79	183.18	8.4	14.5
1001.0	59.0	41.2	150	9.2	1.30	3.86	28170	61.88	182.55	8.4	14.5
1002.0	64.3	43.4	150	9.2	1.29	3.88	28310	56.81	181.89	8.4	14.5
1003.0	62.1	43.5	150	9.2	1.30	3.89	28455	58.84	181.25	8.4	14.5
1004.0	52.2	41.0	150	9.2	1.34	3.91	28628	70.00	180.67	8.4	14.5
1005.0	51.4	44.2	150	9.2	1.38	3.93	28803	71.01	180.11	8.4	14.5
1006.0	52.2	43.4	150	9.2	1.36	3.95	28975	70.00	179.54	8.4	14.5
1007.0	53.7	41.2	150	9.2	1.33	3.97	29143	67.97	178.97	8.4	14.5
1008.0	59.0	41.0	150	9.2	1.30	3.98	29295	61.88	178.38	8.4	14.5
1009.0	54.5	36.6	150	9.2	1.28	4.00	29460	66.95	177.81	8.4	14.5
1010.0	61.0	36.4	150	9.2	1.24	4.02	29608	59.85	177.22	8.4	14.5
1011.0	62.1	38.4	150	9.2	1.25	4.04	29753	58.84	176.63	8.4	14.5
1012.0	46.8	39.9	150	9.2	1.37	4.06	29945	78.11	176.14	8.4	14.5
1013.0	49.7	41.1	150	9.2	1.36	4.08	30126	73.55	175.63	8.4	14.5
1014.0	47.4	41.0	150	9.2	1.37	4.10	30316	77.10	175.15	8.4	14.5
1015.0	52.2	41.2	150	9.2	1.34	4.12	30489	70.00	174.63	8.4	14.5
1016.0	53.7	40.4	150	9.2	1.32	4.14	30656	67.97	174.11	8.4	14.5
1017.0	52.9	38.7	150	9.2	1.31	4.15	30826	68.98	173.60	8.4	14.5
1018.0	46.8	39.4	150	9.2	1.36	4.18	31019	78.11	173.14	8.4	14.5
1019.0	58.1	38.4	150	9.2	1.28	4.19	31174	62.90	172.61	8.4	14.5
1020.0	61.0	39.0	150	9.2	1.27	4.21	31321	59.85	172.07	8.4	14.5
1021.0	61.0	39.3	150	9.2	1.27	4.23	31469	59.85	171.54	8.4	14.5
1022.0	66.7	39.2	150	9.2	1.24	4.24	31604	54.78	170.98	8.4	14.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1023.0	67.9	39.2	150	9.2	1.23	4.26	31736	53.77	170.43	8.4	14.5
1024.0	61.0	39.0	150	9.2	1.27	4.27	31884	59.85	169.91	8.4	14.5
1025.0	57.1	39.4	150	9.2	1.29	4.29	32041	63.91	169.41	8.4	14.5
1026.0	51.4	39.7	150	9.2	1.33	4.31	32216	71.01	168.96	8.4	14.5
1027.0	32.1	39.9	150	9.2	1.49	4.34	32496	113.62	168.70	8.4	14.5
1028.0	57.1	40.3	150	9.2	1.30	4.36	32654	63.91	168.22	8.4	14.5
1029.0	62.1	40.6	150	9.2	1.28	4.37	32799	58.84	167.77	8.4	14.5
1030.0	63.2	40.5	150	9.2	1.27	4.39	32941	57.82	167.21	8.4	14.5
1031.0	67.9	40.2	150	9.2	1.24	4.40	33074	53.77	166.70	8.4	14.5
1032.0	63.2	40.1	150	9.2	1.27	4.42	33216	57.82	166.21	8.4	14.5
1033.0	59.0	40.5	150	9.2	1.29	4.44	33369	61.88	165.74	8.4	14.6
1034.0	63.5	40.6	150	9.2	1.27	4.45	33511	57.49	165.25	8.4	14.6
1035.0	61.0	40.5	150	9.2	1.28	4.47	33658	59.85	164.78	8.4	14.6
1036.0	62.1	40.2	150	9.2	1.27	4.49	33803	58.84	164.31	8.4	14.6
1037.0	55.4	39.5	150	9.2	1.30	4.50	33966	65.94	163.87	8.4	14.6
1038.0	50.7	41.1	150	9.2	1.35	4.52	34143	72.03	163.47	8.4	14.6
1039.0	73.5	45.1	150	9.2	1.26	4.54	34266	49.71	162.97	8.4	14.6
1040.0	73.5	44.0	150	9.2	1.25	4.55	34388	49.71	162.48	8.4	14.6
1041.0	73.5	44.6	150	9.2	1.26	4.56	34511	49.71	161.99	8.4	14.6
1042.0	60.0	44.8	150	9.2	1.33	4.58	34661	60.87	161.55	8.4	14.6
1043.0	63.2	44.6	150	9.2	1.31	4.60	34803	57.82	161.10	8.4	14.6
1044.0	48.6	44.7	150	9.2	1.40	4.62	34988	75.07	160.73	8.4	14.6
1045.0	56.2	44.5	150	9.2	1.35	4.63	35148	64.92	160.32	8.4	14.6
1046.0	41.9	40.3	150	9.2	1.41	4.66	35363	87.24	160.01	8.4	14.6
1047.0	51.4	44.1	150	9.2	1.38	4.68	35538	71.01	159.63	8.4	14.6
1048.0	56.2	43.2	150	9.2	1.34	4.70	35698	64.92	159.23	8.4	14.6
1049.0	48.6	38.2	150	9.2	1.33	4.72	35883	75.07	158.88	8.4	14.6
1050.0	51.4	33.1	150	9.2	1.26	4.74	36058	71.01	158.51	8.4	14.6
1051.0	59.0	44.0	150	9.2	1.33	4.75	36211	61.88	158.11	8.4	14.6
1052.0	55.4	43.0	150	9.2	1.34	4.77	36373	65.94	157.73	8.4	14.6
1053.0	60.0	44.2	150	9.2	1.32	4.79	36523	60.87	157.33	8.4	14.6
1054.0	62.1	45.3	150	9.2	1.32	4.80	36668	58.84	156.92	8.4	14.6
1055.0	36.7	40.9	150	9.2	1.46	4.83	36913	99.42	156.69	8.4	14.6
1056.0	60.0	39.3	150	9.2	1.28	4.85	37063	60.87	156.30	8.4	14.6
1057.0	65.5	39.6	150	9.2	1.25	4.86	37201	55.79	155.89	8.4	14.6
1058.0	63.2	40.3	150	9.2	1.27	4.88	37343	57.82	155.49	8.4	14.6
1059.0	55.4	39.0	150	9.2	1.30	4.90	37506	65.94	155.13	8.4	14.6
1060.0	55.4	39.7	150	9.2	1.31	4.91	37668	65.94	154.77	8.4	14.6
1061.0	56.2	40.2	150	9.2	1.31	4.93	37828	64.92	154.41	8.4	14.6
1062.0	58.1	40.0	150	9.2	1.29	4.95	37983	62.90	154.05	8.4	14.6
1064.0	62.1	40.0	150	9.3	1.26	4.98	38273	58.84	153.29	8.4	14.6
1066.0	61.0	40.0	150	9.3	1.26	5.01	38568	59.85	152.56	8.4	14.6
1068.0	49.3	40.0	150	9.3	1.33	5.06	38933	74.05	151.95	8.4	14.6
1070.0	59.0	40.0	150	9.3	1.27	5.09	39238	61.88	151.25	8.4	14.6
1072.0	55.4	40.0	150	9.3	1.30	5.13	39563	65.94	150.60	8.4	14.6
1074.0	69.2	40.0	150	9.3	1.22	5.15	39823	52.75	149.86	8.4	14.6
1076.0	52.2	40.0	150	9.3	1.32	5.19	40168	70.00	149.25	8.4	14.6
1078.0	59.0	40.0	150	9.3	1.27	5.23	40473	61.88	148.60	8.4	14.7
1080.0	59.0	40.0	150	9.3	1.27	5.26	40778	61.88	147.95	8.4	14.7
1082.0	52.9	40.0	150	9.3	1.31	5.30	41118	68.98	147.37	8.4	14.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1084.0	60.0	40.0	150	9.3	1.27	5.33	41418	60.87	146.74	8.4	14.7
1086.0	60.0	40.0	150	9.3	1.27	5.36	41718	60.87	146.11	8.4	14.7
1088.0	72.0	35.0	150	9.3	1.16	5.39	41968	50.72	145.42	8.4	14.7
1090.0	49.3	35.0	150	9.3	1.28	5.43	42333	74.05	144.91	8.4	14.7
1092.0	58.1	35.0	150	9.3	1.23	5.47	42643	62.90	144.33	8.4	14.7
1094.0	81.8	35.0	150	9.3	1.12	5.49	42863	44.64	143.63	8.4	14.7
1096.0	65.5	33.6	150	9.3	1.18	5.52	43138	55.79	143.01	8.4	14.7
1098.0	56.2	31.7	150	9.3	1.20	5.56	43458	64.92	142.46	8.4	14.7
1100.0	56.2	31.4	150	9.3	1.20	5.59	43778	64.92	141.93	8.4	14.7
1102.0	51.4	32.3	150	9.3	1.24	5.63	44128	71.01	141.44	8.4	14.7
1104.0	56.2	32.4	150	9.3	1.21	5.67	44448	64.92	140.92	8.4	14.7
1106.0	57.1	32.4	150	9.3	1.21	5.70	44763	63.91	140.40	8.4	14.7
1108.0	43.9	32.0	150	9.3	1.28	5.75	45173	83.18	140.01	8.4	14.7
1110.0	45.0	33.4	150	9.3	1.29	5.79	45573	81.16	139.62	8.4	14.7
1112.0	56.2	33.4	150	9.3	1.22	5.83	45893	64.92	139.12	8.4	14.7
1114.0	52.2	33.3	150	9.3	1.24	5.87	46238	70.00	138.66	8.4	14.7
1116.0	53.7	33.2	150	9.3	1.23	5.90	46573	67.97	138.20	8.4	14.7
1118.0	58.1	32.9	150	9.3	1.21	5.94	46883	62.90	137.71	8.4	14.7
1120.0	54.5	33.0	150	9.3	1.23	5.98	47213	66.95	137.25	8.4	14.7
1122.0	53.7	34.9	150	9.3	1.25	6.01	47548	67.97	136.81	8.4	14.7
1124.0	61.0	34.9	150	9.3	1.21	6.05	47843	59.85	136.32	8.4	14.8
1126.0	54.0	34.7	150	9.3	1.25	6.08	48176	67.63	135.88	8.4	14.8
1128.0	37.9	32.1	150	9.3	1.33	6.14	48651	96.37	135.63	8.4	14.8
1130.0	63.2	33.4	150	9.3	1.19	6.17	48936	57.82	135.14	8.4	14.8
1132.0	62.1	34.2	150	9.3	1.20	6.20	49226	58.84	134.67	8.4	14.8
1134.0	60.0	34.7	150	9.3	1.22	6.23	49526	60.87	134.21	8.4	14.8
1136.0	54.5	34.6	150	9.3	1.24	6.27	49856	66.95	133.80	8.4	14.8
1138.0	52.2	29.2	150	9.3	1.20	6.31	50201	70.00	133.41	8.4	14.8
1140.0	60.0	37.0	150	9.3	1.24	6.34	50501	60.87	132.96	8.4	14.8
1142.0	50.0	35.4	150	9.3	1.28	6.38	50861	73.04	132.60	8.4	14.8
1144.0	40.0	23.0	150	9.3	1.20	6.43	51311	91.30	132.35	8.4	14.8
1146.0	25.9	15.2	150	9.3	1.19	6.51	52006	141.01	132.41	8.4	14.8
1148.0	40.9	25.0	150	9.3	1.22	6.56	52446	89.27	132.15	8.4	14.8
1150.0	52.9	31.3	150	9.3	1.22	6.59	52786	68.98	131.78	8.4	14.8
1152.0	56.2	34.2	150	9.3	1.23	6.63	53106	64.92	131.39	8.4	14.8
1154.0	52.9	32.6	150	9.3	1.23	6.67	53446	68.98	131.02	8.4	14.8
1156.0	49.3	29.7	150	9.3	1.22	6.71	53811	74.05	130.69	8.4	14.8
1158.0	49.3	34.6	150	9.3	1.28	6.75	54176	74.05	130.36	8.4	14.8
1159.0	50.7	32.5	150	9.3	1.24	6.77	54354	72.03	130.20	8.4	14.8
1160.0	56.2	32.5	150	9.3	1.21	6.79	54514	64.92	130.01	8.4	14.8
1161.0	56.2	36.6	150	9.3	1.26	6.80	54674	64.92	129.82	8.4	14.8
1162.0	50.7	34.2	150	9.3	1.26	6.82	54851	72.03	129.66	8.4	14.8
1163.0	41.9	35.7	150	9.3	1.34	6.85	55066	87.24	129.54	8.4	14.8
1164.0	51.4	36.8	150	9.3	1.29	6.87	55241	71.01	129.37	8.4	14.8
1165.0	56.2	36.3	150	9.3	1.25	6.89	55401	64.92	129.19	8.4	14.8
1166.0	53.7	37.9	150	9.3	1.28	6.90	55569	67.97	129.02	8.4	14.8
1167.0	55.4	36.3	150	9.3	1.26	6.92	55731	65.94	128.84	8.4	14.8
1168.0	53.7	36.2	150	9.3	1.27	6.94	55899	67.97	128.67	8.4	14.8
1169.0	47.4	36.4	150	9.3	1.31	6.96	56089	77.10	128.53	8.4	14.8
1170.0	50.7	35.9	150	9.3	1.28	6.98	56266	72.03	128.37	8.4	14.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1171.0	57.1	33.0	150	9.3	1.21	7.00	56424	63.91	128.19	8.4	14.8
1172.0	46.8	37.5	150	9.3	1.33	7.02	56616	78.11	128.05	8.4	14.9
1173.0	53.7	37.6	150	9.3	1.28	7.04	56784	67.97	127.89	8.4	14.9
1174.0	54.5	36.0	150	9.3	1.26	7.06	56949	66.95	127.72	8.4	14.9
1175.0	52.9	39.8	150	9.3	1.31	7.08	57119	68.98	127.56	8.4	14.9
1176.0	56.2	37.3	150	9.3	1.26	7.09	57279	64.92	127.38	8.4	14.9
1177.0	50.0	37.4	150	9.3	1.30	7.11	57459	73.04	127.24	8.4	14.9
1178.0	52.9	36.0	150	9.3	1.27	7.13	57629	68.98	127.08	8.4	14.9
1180.0	51.4	36.3	150	9.3	1.28	7.17	57979	71.01	126.77	8.4	14.9
1182.0	52.9	36.4	150	9.3	1.27	7.21	58319	68.98	126.46	8.4	14.9
1184.0	54.5	37.9	150	9.3	1.28	7.25	58649	66.95	126.14	8.4	14.9
1186.0	64.3	39.0	150	9.3	1.24	7.28	58929	56.81	125.77	8.4	14.9
1188.0	51.4	39.8	150	9.3	1.32	7.32	59279	71.01	125.48	8.4	14.9
1190.0	56.2	38.4	150	9.3	1.27	7.35	59599	64.92	125.16	8.4	14.9
1192.0	56.2	40.7	150	9.3	1.30	7.39	59919	64.92	124.85	8.4	14.9
1194.0	60.0	41.4	150	9.3	1.28	7.42	60219	60.87	124.51	8.4	14.9
1196.0	51.4	39.4	150	9.3	1.31	7.46	60569	71.01	124.24	8.4	14.9
1198.0	54.5	38.0	150	9.3	1.28	7.50	60899	66.95	123.94	8.4	14.9
1200.0	43.9	37.0	150	9.3	1.34	7.54	61309	83.18	123.73	8.4	14.9
1201.0	52.2	39.2	150	9.3	1.31	7.56	61481	70.00	123.59	8.4	14.9
1202.0	54.5	36.5	150	9.3	1.26	7.58	61646	66.95	123.45	8.4	14.9
1203.0	57.1	41.9	150	9.3	1.30	7.60	61804	63.91	123.30	8.4	14.9
1204.0	49.3	37.7	150	9.3	1.31	7.62	61986	74.05	123.17	8.4	14.9
1205.0	53.7	32.2	150	9.4	1.21	7.64	62154	67.97	123.03	8.4	14.9
1206.0	62.1	46.2	150	9.4	1.30	7.65	62299	58.84	122.87	8.4	14.9
1207.0	58.1	43.1	150	9.4	1.30	7.67	62454	62.90	122.72	8.4	14.9
1208.0	52.2	40.1	150	9.4	1.30	7.69	62626	70.00	122.58	8.4	14.9
1209.0	48.0	28.7	150	9.4	1.21	7.71	62814	76.08	122.47	8.4	14.9
1210.0	70.6	40.0	150	9.4	1.20	7.72	62941	51.74	122.29	8.4	14.9
1211.0	58.1	44.1	150	9.4	1.31	7.74	63096	62.90	122.14	8.4	14.9
1212.0	58.1	44.8	150	9.4	1.31	7.76	63251	62.90	121.99	8.4	14.9
1213.0	57.1	43.9	150	9.4	1.31	7.77	63409	63.91	121.85	8.4	14.9
1214.0	63.2	43.2	150	9.4	1.27	7.79	63551	57.82	121.69	8.4	14.9
1215.0	52.2	43.7	150	9.4	1.34	7.81	63724	70.00	121.56	8.4	14.9
1216.0	78.3	43.0	150	9.4	1.19	7.82	63839	46.66	121.38	8.4	14.9
1217.0	81.8	43.6	150	9.4	1.19	7.83	63949	44.64	121.19	8.4	14.9
1218.0	54.5	41.3	150	9.4	1.30	7.85	64114	66.95	121.05	8.4	14.9
1219.0	38.7	35.7	150	9.4	1.35	7.88	64346	94.34	120.99	8.4	14.9
1220.0	62.1	42.0	150	9.4	1.26	7.90	64491	58.84	120.84	8.4	14.9
1221.0	59.0	39.4	150	9.4	1.25	7.91	64644	61.88	120.69	8.4	15.0
1222.0	61.0	40.5	150	9.5	1.24	7.93	64791	59.85	120.54	8.4	15.0
1223.0	57.1	38.8	150	9.5	1.25	7.95	64949	63.91	120.41	8.4	15.0
1224.0	61.0	38.8	150	9.5	1.23	7.96	65096	59.85	120.26	8.4	15.0
1225.0	58.1	42.1	150	9.5	1.27	7.98	65251	62.90	120.12	8.4	15.0
1226.0	54.5	40.1	150	9.5	1.27	8.00	65416	66.95	119.99	8.4	15.0
1227.0	53.7	38.6	150	9.5	1.26	8.02	65584	67.97	119.87	8.4	15.0
1228.0	57.1	37.9	150	9.5	1.24	8.03	65741	63.91	119.73	8.4	15.0
1229.0	50.0	31.9	150	9.5	1.22	8.05	65921	73.04	119.62	8.4	15.0
1230.0	58.1	34.1	150	9.5	1.19	8.07	66076	62.90	119.49	8.4	15.0
1231.0	50.0	38.4	150	9.5	1.29	8.09	66256	73.04	119.38	8.4	15.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1232.0	56.2	38.6	150	9.5	1.25	8.11	66416	64.92	119.25	8.4	15.0
1233.0	49.3	36.5	150	9.5	1.27	8.13	66599	74.05	119.14	8.4	15.0
1234.0	45.0	34.2	150	9.5	1.27	8.15	66799	81.16	119.05	8.4	15.0
1235.0	50.7	31.4	150	9.5	1.21	8.17	66976	72.03	118.94	8.4	15.0
1236.0	49.3	30.8	150	9.5	1.21	8.19	67159	74.05	118.83	8.4	15.0
1237.0	40.4	29.0	150	9.5	1.25	8.22	67381	90.29	118.77	8.4	15.0
1238.0	28.1	27.4	150	9.5	1.33	8.25	67701	129.85	118.79	8.4	15.0
1239.0	48.0	33.1	150	9.5	1.24	8.27	67889	76.08	118.69	8.4	15.0
1240.0	56.2	31.6	150	9.5	1.18	8.29	68049	64.92	118.57	8.4	15.0
1241.0	50.7	33.9	150	9.5	1.23	8.31	68226	72.03	118.46	8.4	15.0
1242.0	52.2	31.6	150	9.5	1.20	8.33	68399	70.00	118.35	8.4	15.0
1243.0	50.7	34.6	150	9.5	1.24	8.35	68576	72.03	118.24	8.4	15.0
1244.0	50.0	33.0	150	9.5	1.23	8.37	68756	73.04	118.14	8.4	15.0
1245.0	51.4	33.0	150	9.5	1.22	8.39	68931	71.01	118.03	8.4	15.0
1246.0	51.4	34.0	150	9.5	1.23	8.41	69106	71.01	117.92	8.4	15.0
1247.0	48.6	33.0	150	9.5	1.24	8.43	69291	75.07	117.82	8.4	15.0
1248.0	56.2	30.4	150	9.5	1.16	8.45	69451	64.92	117.70	8.4	15.0
1249.0	49.3	33.1	150	9.5	1.23	8.47	69634	74.05	117.60	8.4	15.0
1250.0	51.4	35.9	150	9.5	1.25	8.49	69809	71.01	117.49	8.4	15.0
1251.0	51.4	33.4	150	9.5	1.22	8.51	69984	71.01	117.39	8.4	15.0
1252.0	54.5	36.3	150	9.5	1.24	8.52	70149	66.95	117.27	8.4	15.0
1253.0	52.2	34.2	150	9.5	1.23	8.54	70321	70.00	117.17	8.4	15.0
1254.0	45.6	35.4	150	9.5	1.28	8.56	70519	80.14	117.08	8.4	15.0
1255.0	46.2	34.3	150	9.5	1.27	8.59	70714	79.13	117.00	8.4	15.0
1256.0	46.8	33.5	150	9.5	1.25	8.61	70906	78.11	116.91	8.4	15.0
1257.0	36.0	30.1	150	9.5	1.29	8.64	71156	101.44	116.88	8.4	15.0
1258.0	46.8	23.9	150	9.5	1.14	8.66	71349	78.11	116.79	8.4	15.0
1259.0	50.0	32.7	150	9.5	1.23	8.68	71529	73.04	116.69	8.4	15.0
1260.0	48.6	30.8	150	9.5	1.21	8.70	71714	75.07	116.60	8.4	15.0
1261.0	48.6	32.7	150	9.5	1.23	8.72	71899	75.07	116.51	8.4	15.0
1262.0	47.4	31.9	150	9.5	1.23	8.74	72089	77.10	116.42	8.4	15.0
1263.0	44.4	32.9	150	9.5	1.26	8.76	72291	82.17	116.34	8.4	15.0
1264.0	51.4	28.5	150	9.5	1.17	8.78	72466	71.01	116.24	8.4	15.0
1265.0	46.2	32.3	150	9.5	1.25	8.80	72661	79.13	116.16	8.4	15.0
1266.0	45.0	30.5	150	9.5	1.23	8.83	72861	81.16	116.08	8.4	15.0
1267.0	33.3	28.4	150	9.5	1.30	8.86	73131	109.56	116.07	8.4	15.0
1268.0	19.7	26.4	85	9.5	1.26	8.91	73391	185.64	116.22	8.4	15.0
1269.0	20.3	25.7	87	9.5	1.25	8.96	73647	179.56	116.36	8.4	15.0
1270.0	23.1	26.9	86	9.5	1.22	9.00	73871	158.25	116.45	8.4	15.0
1271.0	22.0	27.1	85	9.5	1.24	9.04	74103	166.37	116.56	8.4	15.0
1272.0	22.9	27.1	95	9.5	1.26	9.09	74352	159.27	116.65	8.4	15.1
1273.0	27.3	26.4	106	9.5	1.23	9.12	74585	133.91	116.69	8.4	15.1
1274.0	25.7	25.6	105	9.5	1.23	9.16	74830	142.02	116.75	8.4	15.1
1275.0	29.0	27.2	105	9.5	1.22	9.20	75047	125.79	116.76	8.4	15.1
1276.0	27.1	27.0	105	9.5	1.23	9.23	75280	134.92	116.80	8.4	15.1
1277.0	21.1	24.2	105	9.5	1.27	9.28	75579	173.47	116.93	8.4	15.1
1278.0	28.8	30.2	110	9.5	1.27	9.32	75808	126.81	116.95	8.4	15.1
1279.0	30.5	31.4	108	9.5	1.26	9.35	76020	119.70	116.95	8.4	15.1
1280.0	25.4	27.2	108	9.5	1.27	9.39	76276	144.05	117.01	8.4	15.1
1281.0	35.0	31.5	110	9.5	1.23	9.42	76465	104.49	116.98	8.4	15.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1282.0	29.5	24.8	111	9.5	1.20	9.45	76691	123.76	117.00	8.4	15.1
1283.0	30.8	25.4	110	9.5	1.19	9.48	76905	118.69	117.00	8.4	15.1
1284.0	29.3	26.9	109	9.5	1.22	9.52	77128	124.78	117.02	8.4	15.1
1285.0	37.5	26.8	110	9.5	1.15	9.54	77304	97.39	116.98	8.4	15.1
1286.0	25.4	25.4	110	9.5	1.25	9.58	77565	144.05	117.03	8.4	15.1
1287.0	27.1	26.8	119	9.5	1.27	9.62	77829	134.92	117.07	8.4	15.1
1288.0	35.3	27.1	150	9.5	1.26	9.65	78084	103.47	117.04	8.4	15.1
1289.0	40.9	30.2	150	9.5	1.26	9.67	78304	89.27	116.98	8.4	15.1
1290.0	36.0	29.6	150	9.5	1.29	9.70	78554	101.44	116.95	8.4	15.1
1291.0	44.4	29.8	150	9.5	1.23	9.72	78757	82.17	116.88	8.4	15.1
1292.0	35.3	30.1	150	9.5	1.30	9.75	79012	103.47	116.85	8.4	15.1
1293.0	40.4	29.6	150	9.5	1.25	9.78	79234	90.29	116.80	8.4	15.1
1294.0	50.0	31.2	150	9.5	1.21	9.80	79414	73.04	116.71	8.4	15.1
1295.0	50.0	30.5	150	9.5	1.20	9.82	79594	73.04	116.62	8.4	15.1
1296.0	15.0	28.6	150	9.5	1.53	9.88	80194	243.47	116.88	8.4	15.1
1297.0	44.4	32.7	150	9.5	1.26	9.91	80397	82.17	116.81	8.4	15.1
1298.0	51.4	29.7	150	9.5	1.18	9.93	80572	71.01	116.71	8.4	15.1
1299.0	39.1	29.6	150	9.5	1.26	9.95	80802	93.33	116.66	8.4	15.1
1300.0	36.4	27.4	150	9.5	1.26	9.98	81049	100.43	116.63	8.4	15.1
1301.0	43.9	28.2	150	9.5	1.21	10.00	81254	83.18	116.56	8.4	15.1
1302.0	36.4	26.2	150	9.5	1.24	10.03	81502	100.43	116.53	8.4	15.1
1303.0	42.4	26.7	150	9.5	1.20	10.05	81714	86.23	116.47	8.4	15.1
1304.0	38.3	28.1	150	9.5	1.25	10.08	81949	95.36	116.43	8.4	15.1
1305.0	30.8	26.8	150	9.5	1.30	10.11	82242	118.69	116.43	8.4	15.1
1306.0	31.3	23.4	150	9.5	1.25	10.14	82529	116.66	116.43	8.4	15.1
1307.0	35.3	28.4	150	9.5	1.28	10.17	82784	103.47	116.40	8.4	15.1
1308.0	42.4	26.5	150	9.5	1.20	10.20	82997	86.23	116.34	8.4	15.1
1309.0	38.3	30.8	150	9.5	1.28	10.22	83232	95.36	116.30	8.4	15.1
1310.0	35.0	28.0	150	9.5	1.28	10.25	83489	104.49	116.28	8.4	15.1
1311.0	51.4	30.9	150	9.5	1.20	10.27	83664	71.01	116.19	8.4	15.1
1312.0	36.4	31.0	150	9.5	1.30	10.30	83912	100.43	116.16	8.4	15.1
1313.0	40.4	29.2	150	9.5	1.25	10.32	84134	90.29	116.10	8.4	15.1
1314.0	40.4	30.0	150	9.5	1.26	10.35	84357	90.29	116.05	8.4	15.1
1315.0	30.3	27.3	150	9.5	1.31	10.38	84654	120.72	116.06	8.4	15.1
1316.0	40.4	30.8	150	9.5	1.27	10.40	84877	90.29	116.01	8.4	15.1
1317.0	46.2	30.8	150	9.5	1.23	10.43	85072	79.13	115.94	8.4	15.1
1318.0	40.4	30.9	150	9.5	1.27	10.45	85294	90.29	115.89	8.4	15.1
1319.0	38.7	30.9	150	9.5	1.28	10.48	85527	94.34	115.85	8.4	15.1
1320.0	46.2	31.3	150	9.5	1.23	10.50	85722	79.13	115.77	8.4	15.1
1321.0	36.0	37.7	150	9.5	1.38	10.53	85972	101.44	115.75	8.4	15.1
1322.0	42.4	40.6	150	9.5	1.36	10.55	86184	86.23	115.69	8.4	15.1
1323.0	36.7	40.6	150	9.5	1.41	10.58	86429	99.42	115.66	8.4	15.1
1324.0	42.9	40.8	150	9.5	1.36	10.60	86639	85.21	115.60	8.4	15.2
1325.0	61.0	34.2	150	9.5	1.18	10.62	86787	59.85	115.49	8.4	15.2
1326.0	40.9	41.0	150	9.5	1.38	10.64	87007	89.27	115.44	8.4	15.2
1327.0	39.1	41.3	150	9.5	1.39	10.67	87237	93.33	115.39	8.4	15.2
1328.0	39.6	41.9	150	9.5	1.40	10.69	87464	92.31	115.35	8.4	15.2
1329.0	41.9	42.8	150	9.5	1.39	10.72	87679	87.24	115.30	8.4	15.2
1330.0	40.0	42.7	150	9.5	1.40	10.74	87904	91.30	115.25	8.4	15.2
1331.0	41.4	42.4	150	9.5	1.39	10.76	88122	88.26	115.20	8.4	15.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1332.0	33.6	43.0	150	9.5	1.46	10.79	88389	108.55	115.18	8.4	15.2
1333.0	36.0	43.2	150	9.5	1.44	10.82	88639	101.44	115.16	8.4	15.2
1334.0	31.6	42.3	150	9.5	1.48	10.85	88924	115.65	115.16	8.4	15.2
1335.0	40.0	44.0	150	9.5	1.42	10.88	89149	91.30	115.11	8.4	15.2
1336.0	32.4	43.8	150	9.5	1.48	10.91	89427	112.60	115.11	8.4	15.2
1337.0	37.1	43.0	150	9.5	1.43	10.94	89669	98.40	115.08	8.4	15.2
1338.0	25.4	43.1	150	9.5	1.56	10.98	90024	144.05	115.13	8.4	15.2
1339.0	44.4	43.8	150	9.5	1.38	11.00	90227	82.17	115.07	8.4	15.2
1340.0	35.0	42.2	150	9.5	1.44	11.03	90484	104.49	115.05	8.4	15.2
1341.0	38.7	43.6	150	9.5	1.42	11.05	90717	94.34	115.01	8.4	15.2
1342.0	44.4	43.1	150	9.5	1.37	11.08	90919	82.17	114.95	8.4	15.2
1343.0	46.8	43.0	150	9.5	1.35	11.10	91112	78.11	114.88	8.4	15.2
1344.0	31.9	39.5	150	9.6	1.43	11.13	91394	114.63	114.88	8.4	15.2
1345.0	35.0	43.0	150	9.6	1.44	11.16	91652	104.49	114.86	8.4	15.2
1346.0	40.0	43.0	150	9.6	1.39	11.18	91877	91.30	114.82	8.4	15.2
1347.0	37.9	42.6	150	9.6	1.40	11.21	92114	96.37	114.78	8.4	15.2
1348.0	43.9	43.8	150	9.6	1.37	11.23	92319	83.18	114.72	8.4	15.2
1349.0	43.4	43.1	150	9.6	1.36	11.25	92527	84.20	114.67	8.4	15.2
1350.0	40.9	43.4	150	9.6	1.39	11.28	92747	89.27	114.62	8.4	15.2
1351.0	36.4	43.4	150	9.6	1.43	11.31	92994	100.43	114.59	8.4	15.2
1352.0	47.4	43.2	150	9.6	1.34	11.33	93184	77.10	114.52	8.4	15.2
1353.0	45.6	43.3	150	9.6	1.35	11.35	93382	80.14	114.46	8.4	15.2
1354.0	38.3	39.1	150	9.6	1.36	11.38	93617	95.36	114.42	8.4	15.2
1355.0	41.4	44.5	150	9.6	1.39	11.40	93834	88.26	114.38	8.4	15.2
1356.0	37.5	44.4	150	9.6	1.43	11.43	94074	97.39	114.34	8.4	15.2
1357.0	38.7	44.4	150	9.6	1.42	11.45	94307	94.34	114.31	8.4	15.2
1358.0	40.4	44.5	150	9.6	1.40	11.48	94529	90.29	114.26	8.4	15.2
1359.0	44.4	44.8	150	9.6	1.37	11.50	94732	82.17	114.21	8.4	15.2
1360.0	38.3	45.0	150	9.6	1.43	11.53	94967	95.36	114.17	8.4	15.2
1361.0	31.3	45.0	150	9.6	1.49	11.56	95254	116.66	114.18	8.4	15.2
1362.0	37.5	44.9	150	9.6	1.43	11.58	95494	97.39	114.15	8.4	15.2
1363.0	41.4	45.2	150	9.6	1.40	11.61	95712	88.26	114.10	8.4	15.2
1364.0	24.8	22.5	150	9.7	1.27	11.65	96074	147.09	114.16	8.4	15.2
1365.0	37.9	44.8	150	9.7	1.41	11.67	96312	96.37	114.13	8.4	15.2
1366.0	35.3	45.1	150	9.7	1.44	11.70	96567	103.47	114.11	8.4	15.2
1367.0	20.6	42.1	150	9.7	1.58	11.75	97004	177.53	114.22	8.4	15.2
1368.0	29.3	44.6	150	9.7	1.49	11.79	97312	124.78	114.24	8.4	15.2
1369.0	29.8	44.9	150	9.7	1.49	11.82	97614	122.75	114.25	8.4	15.2
1370.0	21.8	45.2	150	9.7	1.60	11.87	98027	167.38	114.35	8.4	15.2
1371.0	16.2	43.4	150	9.7	1.68	11.93	98582	225.21	114.55	8.4	15.2
1372.0	30.8	47.0	150	9.7	1.50	11.96	98874	118.69	114.56	8.4	15.2
1373.0	49.3	46.7	150	9.7	1.34	11.98	99057	74.05	114.48	8.4	15.2
1374.0	25.4	43.7	150	9.7	1.53	12.02	99412	144.05	114.54	8.4	15.2
1375.0	31.6	41.7	150	9.7	1.44	12.05	99697	115.65	114.54	8.4	15.2
1376.0	67.9	43.1	150	9.7	1.20	12.07	99829	53.77	114.43	8.7	15.3
1377.0	180.0	36.9	150	9.7	0.85	12.07	99879	20.29	114.26	8.7	15.3
1378.0	189.5	38.5	150	9.7	0.84	12.08	99927	19.27	114.10	8.7	15.3
1379.0	116.1	38.5	150	9.7	0.99	12.09	100004	31.45	113.95	8.7	15.3
1380.0	189.5	35.6	150	9.7	0.82	12.09	100052	19.27	113.78	8.7	15.3
1381.0	52.0	36.0	150	9.7	1.22	12.11	100225	70.23	113.71	8.7	15.3

BIT NUMBER	2	IADC CODE	4	INTERVAL	1380.0- 1389.6
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 15
COST	14500.00	TRIP TIME	5.0	BIT RUN	9.6
TOTAL HOURS	1.08	TOTAL TURNS	6261	CONDITION	T0 B0 G0.050

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1380.2	36.0	4.1	82	9.7	0.73	0.01	27	101	163901	8.7	15.3
1380.6	9.2	3.8	81	9.7	0.98	0.05	238	398	54899	8.7	15.3
1380.8	51.4	2.7	82	9.7	0.61	0.05	258	71	41192	8.7	15.3
1381.0	48.0	1.8	84	9.7	0.58	0.06	279	76	32969	8.7	15.3
1381.4	32.0	0.4	85	9.7	0.53	0.07	342	114	23582	8.7	15.3
1381.6	24.0	1.6	84	9.7	0.69	0.08	385	152	20653	8.7	15.3
1381.8	22.5	2.2	84	9.7	0.74	0.09	429	162	18376	8.7	15.3
1382.0	34.3	3.0	84	9.7	0.70	0.09	459	107	16549	8.7	15.3
1382.2	31.3	3.0	84	9.7	0.71	0.10	491	117	15056	8.7	15.3
1382.4	36.0	2.9	84	9.7	0.68	0.10	519	101	13809	8.7	15.3
1382.6	28.8	2.4	84	9.7	0.70	0.11	554	127	12757	8.7	15.3
1382.8	28.8	2.0	84	9.7	0.68	0.12	589	127	11855	8.7	15.3
1383.0	15.7	2.2	84	9.7	0.80	0.13	653	233	11080	8.7	15.3
1383.2	26.7	2.6	84	9.7	0.73	0.14	691	137	10396	8.7	15.3
1383.4	10.1	2.8	89	9.7	0.92	0.16	797	360	9806	8.7	15.3
1383.6	16.7	2.3	96	9.7	0.81	0.17	865	218	9273	8.7	15.3
1383.8	4.4	3.1	97	9.7	1.11	0.22	1131	837	8829	8.7	15.3
1384.0	1.8	6.7	99	9.7	1.48	0.33	1800	2064	8491	8.7	15.3
1384.2	1.2	13.6	99	9.7	1.84	0.50	2809	3094	8234	8.7	15.3
1384.4	4.1	16.2	99	9.7	1.60	0.55	3099	893	7900	8.7	15.3
1384.6	2.5	16.3	99	9.7	1.73	0.63	3578	1471	7621	8.7	15.3
1384.8	4.2	16.3	99	9.7	1.59	0.68	3860	867	7339	8.7	15.3
1385.0	3.4	16.5	99	9.7	1.65	0.73	4207	1070	7088	8.7	15.3
1385.2	6.1	19.4	95	9.7	1.56	0.77	4396	604	6839	8.7	15.3
1385.4	11.8	20.0	90	9.7	1.37	0.78	4487	309	6597	8.7	15.3
1385.6	13.6	19.0	92	9.7	1.32	0.80	4568	269	6371	8.7	15.3
1385.8	4.6	19.7	101	9.7	1.65	0.84	4829	786	6179	8.7	15.3
1386.0	3.6	21.3	102	9.7	1.77	0.90	5171	1025	6007	8.7	15.3
1386.2	2.0	22.2	101	9.7	1.95	1.00	5776	1816	5872	8.7	15.3
1386.4	10.4	21.7	97	9.7	1.46	1.02	5888	350	5699	8.7	15.3
1386.6	31.3	21.1	82	9.7	1.09	1.02	5919	117	5530	8.7	15.3
1386.8	55.4	20.3	84	9.7	0.93	1.03	5937	66	5369	8.7	15.3
1387.0	45.0	19.6	85	9.7	0.98	1.03	5960	81	5218	8.7	15.3
1387.4	57.6	17.9	91	9.7	0.91	1.04	5998	63	4939	8.7	15.3
1387.8	55.4	16.2	94	9.7	0.90	1.05	6039	66	4690	8.7	15.3
1388.0	51.4	15.0	94	9.7	0.90	1.05	6061	71	4574	8.7	15.3
1388.4	53.3	14.5	94	9.7	0.89	1.06	6103	68	4360	8.7	15.3
1388.6	48.0	13.8	97	9.7	0.91	1.06	6127	76	4260	8.7	15.3
1389.0	62.6	13.4	98	9.7	0.84	1.07	6165	58	4073	8.7	15.3
1389.4	38.9	12.3	100	9.7	0.94	1.08	6226	94	3904	8.7	15.3
1389.6	34.3	9.3	99	9.7	0.91	1.08	6261	107	3825	8.7	15.3

BIT NUMBER	2	IADC CODE	4	INTERVAL	1389.6- 1399.0
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 15
COST	0.00	TRIP TIME	5.0	BIT RUN	9.4
TOTAL HOURS	1.35	TOTAL TURNS	7608	CONDITION	T0 B0 G0.100

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1389.8	20.0	4.8	89	9.7	0.88	1.09	6314	183	2269	8.6	15.3
1390.0	13.4	6.6	88	9.7	1.02	1.10	6393	273	2230	8.6	15.3
1390.4	14.1	10.1	92	9.7	1.12	1.13	6550	259	2154	8.6	15.3
1390.6	27.7	12.4	93	9.7	1.01	1.14	6591	132	2116	8.6	15.3
1390.8	21.2	17.6	93	9.7	1.17	1.15	6643	172	2080	8.6	15.3
1391.0	75.8	17.6	93	9.7	0.83	1.15	6658	48	2043	8.6	15.3
1391.4	110.8	17.7	93	9.7	0.73	1.16	6678	33	1972	8.6	15.3
1391.8	21.8	17.2	52	9.7	1.00	1.17	6735	167	1911	8.6	15.3
1392.0	7.3	19.4	88	9.7	1.48	1.20	6879	497	1887	8.6	15.3
1392.4	34.3	20.7	69	9.7	1.01	1.21	6927	107	1830	8.6	15.3
1392.8	57.6	17.8	79	9.7	0.87	1.22	6960	63	1775	8.6	15.3
1393.0	42.4	16.2	84	9.7	0.94	1.23	6984	86	1749	8.6	15.3
1393.4	46.5	15.2	87	9.7	0.91	1.23	7029	79	1699	8.6	15.3
1393.6	30.0	14.6	90	9.7	1.02	1.24	7064	122	1676	8.6	15.3
1393.8	51.4	13.7	91	9.7	0.88	1.24	7086	71	1652	8.6	15.3
1394.0	48.0	13.2	91	9.7	0.88	1.25	7108	76	1630	8.6	15.3
1394.4	57.6	14.2	90	9.7	0.85	1.26	7146	63	1586	8.6	15.3
1394.8	57.6	15.6	82	9.7	0.85	1.26	7180	63	1545	8.6	15.3
1395.0	51.4	14.6	88	9.7	0.88	1.27	7200	71	1526	8.6	15.3
1395.4	45.0	15.1	85	9.7	0.91	1.28	7246	81	1488	8.6	15.3
1395.6	55.4	15.6	84	9.7	0.86	1.28	7264	66	1470	8.6	15.3
1396.0	68.6	14.6	87	9.7	0.81	1.28	7294	53	1434	8.6	15.3
1396.4	46.5	16.6	85	9.7	0.93	1.29	7338	79	1401	8.6	15.3
1396.6	60.0	15.3	86	9.7	0.85	1.30	7355	61	1385	8.6	15.3
1396.8	55.4	15.8	82	9.7	0.86	1.30	7373	66	1370	8.6	15.3
1397.0	45.0	15.4	86	9.7	0.92	1.30	7396	81	1354	8.6	15.3
1397.4	42.4	14.9	90	9.7	0.94	1.31	7447	86	1325	8.6	15.3
1397.6	51.4	15.6	83	9.7	0.88	1.32	7466	71	1311	8.6	15.3
1397.8	55.4	17.7	74	9.7	0.86	1.32	7482	66	1297	8.6	15.3
1398.0	36.0	17.1	81	9.7	0.99	1.33	7509	101	1284	8.6	15.3
1398.4	48.0	17.1	83	9.7	0.92	1.34	7551	76	1257	8.6	15.3
1398.6	45.0	15.6	84	9.7	0.92	1.34	7573	81	1245	8.6	15.3
1399.0	57.6	15.8	83	9.7	0.85	1.35	7608	63	1220	8.6	15.3

BIT NUMBER	2	IADC CODE	4	INTERVAL	1399.0- 1408.2
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 15
COST	0.00	TRIP TIME	5.0	BIT RUN	9.2
TOTAL HOURS	1.73	TOTAL TURNS	9742	CONDITION	T0 B0 G0.150

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1399.5	27.7	21.4	93	9.7	1.16	1.37	7709	132	1193	8.6	15.3
1400.0	45.0	21.9	93	9.7	1.03	1.38	7771	81	1165	8.6	15.3
1400.5	51.4	22.4	94	9.7	1.00	1.39	7826	71	1138	8.6	15.3
1401.0	32.7	20.1	94	9.7	1.10	1.40	7912	112	1114	8.6	15.3
1401.5	48.0	17.9	95	9.7	0.97	1.41	7971	76	1090	8.6	15.3
1402.0	55.4	16.9	94	9.7	0.91	1.42	8022	66	1066	8.6	15.3
1402.5	55.4	20.3	94	9.7	0.96	1.43	8073	66	1044	8.6	15.3
1403.0	27.7	21.1	94	9.7	1.16	1.45	8176	132	1024	8.6	15.3
1403.5	60.0	19.6	94	9.7	0.92	1.46	8223	61	1004	8.6	15.3
1404.0	45.0	18.3	93	9.7	0.99	1.47	8285	81.16	984.54	8.6	15.3
1404.5	17.6	22.8	94	9.7	1.32	1.50	8445	207.96	968.69	8.6	15.3
1405.0	18.0	24.4	94	9.7	1.34	1.53	8603	202.89	953.37	8.6	15.3
1405.2	14.7	23.1	94	9.7	1.38	1.54	8680	248.54	947.78	8.6	15.3
1405.4	9.9	21.7	95	9.7	1.47	1.56	8795	370.27	943.23	8.6	15.3
1405.6	7.7	21.9	95	9.7	1.54	1.59	8943	476.79	939.59	8.6	15.3
1405.8	7.1	21.3	95	9.7	1.55	1.61	9103	512.29	936.28	8.6	15.3
1406.0	18.9	27.5	95	9.7	1.37	1.63	9163	192.74	930.56	8.6	15.3
1406.4	20.0	25.7	94	9.7	1.33	1.65	9276	182.60	919.23	8.6	15.3
1406.8	90.0	21.3	93	9.7	0.83	1.65	9301	40.58	906.11	8.6	15.3
1407.0	55.4	21.4	94	9.7	0.97	1.65	9321	65.94	899.89	8.6	15.3
1407.2	11.1	20.9	95	9.7	1.42	1.67	9424	329.69	895.69	8.6	15.3
1407.4	6.6	22.4	95	9.7	1.59	1.70	9596	552.87	893.19	8.6	15.3
1407.6	24.8	19.8	93	9.7	1.17	1.71	9641	147.09	887.79	8.6	15.3
1407.8	34.3	19.5	94	9.7	1.08	1.72	9674	106.52	882.17	8.6	15.4
1408.0	27.2	18.5	95	9.7	1.13	1.72	9716	134.41	876.82	8.6	15.4
1408.2	42.4	19.1	93	9.7	1.01	1.73	9742	86.23	871.22	8.6	15.4

BIT NUMBER	2	IADC CODE	4	INTERVAL	1408.2- 1414.0
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 15
COST	0.00	TRIP TIME	5.0	BIT RUN	5.8
TOTAL HOURS	1.87	TOTAL TURNS	10452	CONDITION	T0 B0 G0.200

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1408.4	45.0	22.2	101	9.8	1.05	1.73	9769	81.16	865.99	8.6	15.4
1408.8	42.4	21.6	101	9.8	1.06	1.74	9826	86.23	855.16	8.6	15.4
1409.0	55.4	22.3	100	9.8	0.99	1.75	9848	65.94	849.72	8.6	15.4
1409.4	55.4	23.3	83	9.8	0.95	1.75	9884	65.94	839.06	8.6	15.4
1409.6	31.3	24.0	42	9.8	0.93	1.76	9900	116.66	834.17	8.6	15.4
1409.8	28.8	22.9	30	9.8	0.84	1.77	9912	126.81	829.43	8.6	15.4
1410.0	31.3	21.4	49	9.8	0.94	1.77	9931	116.66	824.68	8.6	15.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1410.4	48.0	19.2	74	9.8	0.91	1.78	9968	76.08	814.83	8.6	15.4
1410.8	49.7	17.6	90	9.8	0.93	1.79	10012	73.55	805.20	8.6	15.4
1411.0	48.0	16.7	94	9.8	0.94	1.79	10036	76.08	800.49	8.6	15.4
1411.4	51.4	16.1	97	9.8	0.92	1.80	10081	71.01	791.20	8.6	15.4
1411.6	40.0	15.8	94	9.8	0.97	1.81	10109	91.30	786.77	8.6	15.4
1412.0	42.4	16.2	95	9.8	0.97	1.82	10163	86.23	778.02	8.6	15.4
1412.2	72.0	15.4	97	9.8	0.82	1.82	10179	50.72	773.50	8.6	15.4
1412.6	75.8	15.0	96	9.8	0.80	1.83	10209	48.19	764.60	8.6	15.4
1412.8	40.0	15.2	99	9.8	0.97	1.83	10239	91.30	760.49	8.6	15.4
1413.0	84.7	14.8	98	9.8	0.78	1.83	10253	43.11	756.15	8.6	15.4
1413.5	42.4	14.3	100	9.8	0.95	1.84	10324	86.23	746.15	8.6	15.4
1414.0	23.2	16.9	99	9.8	1.15	1.87	10452	157.24	737.49	8.6	15.4

BIT NUMBER	3	IADC CODE	517	INTERVAL	1414.0- 1885.3
HTC J22		SIZE	12.250	NOZZLES	18 18 18
COST	8516.00	TRIP TIME	6.0	BIT RUN	471.3
TOTAL HOURS	24.71	TOTAL TURNS	107006	CONDITION	T2 B3 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1415.0	92.3	19.6	84	9.8	0.73	0.01	55	40	30468	8.5	15.3
1416.0	83.7	20.7	84	9.8	0.76	0.02	115	44	15256	8.5	15.3
1417.0	63.2	23.2	84	9.8	0.86	0.04	195	58	10190	8.5	15.3
1418.0	85.7	19.1	85	9.8	0.74	0.05	254	43	7653	8.5	15.3
1419.0	128.6	23.0	84	9.8	0.67	0.06	293	28	6128	8.5	15.3
1420.0	97.3	23.6	84	9.8	0.75	0.07	345	38	5113	8.5	15.3
1421.0	73.5	23.3	84	9.8	0.82	0.08	414	50	4390	8.5	15.4
1422.0	72.0	20.7	85	9.8	0.80	0.10	484	51	3847	8.5	15.4
1423.0	90.0	23.8	84	9.8	0.77	0.11	540	41	3424	8.5	15.4
1424.0	72.0	17.9	90	9.8	0.79	0.12	615	51	3087	8.5	15.4
1425.0	133.3	24.8	93	9.8	0.70	0.13	657	27	2809	8.5	15.4
1426.0	138.5	23.3	93	9.8	0.68	0.14	698	26	2577	8.5	15.4
1427.0	45.0	27.1	93	9.8	1.02	0.16	822	81	2385	8.5	15.4
1428.0	144.0	20.8	95	9.8	0.65	0.16	862	25	2216	8.5	15.4
1429.0	90.0	23.0	94	9.8	0.79	0.18	925	41	2071	8.5	15.4
1430.0	62.1	24.3	94	9.8	0.91	0.19	1016	59	1946	8.5	15.4
1431.0	60.0	23.0	94	9.8	0.90	0.21	1110	61	1835	8.5	15.4
1432.0	116.1	21.9	94	9.8	0.72	0.22	1159	31	1735	8.5	15.4
1433.0	87.8	21.3	95	9.8	0.79	0.23	1224	42	1645	8.5	15.4
1434.0	116.1	24.1	95	9.8	0.74	0.24	1273	31	1565	8.5	15.4
1435.0	109.1	20.0	96	9.8	0.72	0.25	1326	33	1492	8.5	15.4
1436.0	128.6	28.8	95	9.8	0.75	0.25	1370	28	1425	8.5	15.4
1437.0	105.9	23.9	95	9.8	0.76	0.26	1424	34	1365	8.5	15.4
1438.0	100.0	21.9	96	9.8	0.76	0.27	1482	37	1309	8.5	15.4
1439.0	116.1	22.7	96	9.8	0.73	0.28	1531	31	1258	8.5	15.4
1440.0	105.9	15.2	97	9.8	0.68	0.29	1586	34	1211	8.5	15.4
1441.0	102.9	18.9	88	9.8	0.70	0.30	1638	36	1168	8.5	15.4
1442.0	124.1	26.3	95	9.8	0.74	0.31	1684	29	1127	8.5	15.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1443.0	85.7	15.3	97	9.8	0.74	0.32	1751	43	1090	8.5	15.4
1444.0	100.0	19.3	96	9.8	0.74	0.33	1809	37	1055	8.5	15.4
1445.0	112.5	19.1	96	9.8	0.70	0.34	1860	32	1022	8.5	15.4
1446.0	171.4	24.4	94	9.8	0.63	0.35	1893	21.30	990.34	8.5	15.4
1447.0	138.5	23.8	95	9.8	0.69	0.35	1934	26.38	961.13	8.5	15.4
1448.0	133.3	22.5	95	9.8	0.69	0.36	1977	27.39	933.67	8.5	15.4
1449.0	128.6	25.5	95	9.8	0.72	0.37	2022	28.40	907.80	8.5	15.4
1450.0	128.6	25.7	95	9.8	0.72	0.38	2066	28.40	883.38	8.5	15.4
1451.0	80.0	24.0	95	9.8	0.84	0.39	2137	45.65	860.74	8.5	15.4
1452.0	46.8	11.5	95	9.8	0.82	0.41	2259	78.11	840.14	8.5	15.4
1453.0	150.0	22.4	94	9.8	0.65	0.42	2297	24.35	819.22	8.5	15.4
1454.0	124.1	25.5	93	9.8	0.72	0.42	2342	29.42	799.48	8.5	15.4
1455.0	144.0	25.6	93	9.8	0.68	0.43	2381	25.36	780.60	8.5	15.4
1456.0	15.3	29.9	88	9.8	1.34	0.50	2724	238.39	767.69	8.5	15.4
1457.0	18.5	29.0	90	9.8	1.29	0.55	3016	197.82	754.43	8.5	15.4
1458.0	171.4	23.4	92	9.8	0.62	0.56	3048	21.30	737.77	8.5	15.4
1459.0	105.9	23.4	93	9.8	0.75	0.57	3101	34.49	722.14	8.5	15.4
1460.0	133.3	22.3	92	9.8	0.68	0.57	3142	27.39	707.04	8.5	15.4
1461.0	133.3	26.9	92	9.8	0.71	0.58	3184	27.39	692.58	8.5	15.4
1462.0	138.5	17.8	95	9.8	0.64	0.59	3225	26.38	678.70	8.5	15.4
1463.0	124.1	26.5	98	9.8	0.75	0.60	3272	29.42	665.45	8.5	15.4
1464.0	94.7	21.6	99	9.8	0.78	0.61	3335	38.55	652.91	8.5	15.4
1465.0	97.3	25.0	98	9.8	0.80	0.62	3395	37.53	640.85	8.5	15.4
1466.0	133.3	22.8	98	9.8	0.70	0.63	3439	27.39	629.05	8.5	15.4
1467.0	112.5	19.6	99	9.8	0.72	0.63	3492	32.46	617.79	8.5	15.4
1468.0	54.5	9.2	100	9.8	0.76	0.65	3602	66.95	607.59	8.5	15.4
1469.0	120.0	17.9	98	9.8	0.68	0.66	3651	30.43	597.10	8.5	15.4
1470.0	163.6	21.6	98	9.8	0.63	0.67	3687	22.32	586.83	8.5	15.4
1471.0	112.5	16.5	99	9.8	0.69	0.68	3740	32.46	577.11	8.5	15.4
1472.0	50.7	14.2	79	9.8	0.80	0.70	3833	72.03	568.40	8.5	15.4
1473.0	94.7	22.9	96	9.8	0.78	0.71	3893	38.55	559.42	8.5	15.4
1474.0	97.3	23.0	96	9.8	0.78	0.72	3952	37.53	550.72	8.5	15.4
1475.0	94.7	23.0	96	9.8	0.78	0.73	4013	38.55	542.32	8.5	15.4
1476.0	109.1	21.7	96	9.8	0.73	0.74	4065	33.48	534.12	8.5	15.4
1477.0	81.8	19.8	96	9.8	0.79	0.75	4136	44.64	526.35	8.5	15.4
1478.0	87.8	18.9	96	9.8	0.77	0.76	4201	41.59	518.77	8.5	15.4
1479.0	100.0	18.0	96	9.8	0.72	0.77	4259	36.52	511.35	8.5	15.5
1480.0	92.3	23.7	84	9.8	0.76	0.78	4313	39.56	504.21	8.5	15.5
1481.0	97.3	22.0	88	9.8	0.74	0.79	4367	37.53	497.24	8.5	15.5
1482.0	92.3	21.5	94	9.8	0.77	0.80	4428	39.56	490.51	8.5	15.5
1483.0	72.0	19.0	94	9.8	0.81	0.82	4507	50.72	484.14	8.5	15.5
1484.0	72.0	20.2	94	9.8	0.83	0.83	4586	50.72	477.94	8.5	15.5
1485.0	102.9	20.5	94	9.8	0.74	0.84	4641	35.51	471.71	8.5	15.5
1486.0	64.3	21.4	94	9.8	0.87	0.85	4728	56.81	465.95	8.5	15.5
1487.0	72.0	21.4	94	9.8	0.84	0.87	4807	50.72	460.26	8.5	15.5
1488.0	67.9	21.2	94	9.8	0.85	0.88	4890	53.77	454.77	8.5	15.5
1489.0	64.3	21.8	94	9.8	0.87	0.90	4978	56.81	449.46	8.5	15.5
1490.0	78.3	20.7	94	9.8	0.81	0.91	5050	46.66	444.16	8.5	15.5
1491.0	72.0	20.6	95	9.8	0.83	0.93	5129	50.72	439.05	8.5	15.5
1492.0	70.6	22.8	96	9.8	0.86	0.94	5211	51.74	434.09	8.5	15.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	TCOST	CCOST	PP	FG
1493.0	73.5	24.8	95	9.8	0.87	0.95	5288	49.71	429.22	8.5	15.5
1494.0	81.8	25.7	95	9.8	0.85	0.97	5358	44.64	424.41	8.5	15.5
1495.0	78.3	26.2	95	9.8	0.86	0.98	5431	46.66	419.75	8.5	15.5
1496.0	92.3	26.1	95	9.8	0.82	0.99	5493	39.56	415.11	8.5	15.5
1497.0	75.0	26.3	95	9.8	0.88	1.00	5569	48.69	410.70	8.5	15.5
1498.0	83.7	26.3	95	9.8	0.85	1.01	5638	43.62	406.33	8.5	15.5
1499.0	75.0	26.4	95	9.8	0.88	1.03	5714	48.69	402.12	8.5	15.5
1500.0	65.5	26.5	95	9.8	0.92	1.04	5801	55.79	398.10	8.5	15.5
1501.0	43.9	26.0	92	9.8	1.01	1.07	5926	83.18	394.48	8.5	15.5
1502.0	27.7	30.1	96	9.8	1.20	1.10	6135	131.88	391.49	8.5	15.5
1503.0	29.0	28.4	96	9.8	1.17	1.14	6334	125.79	388.51	8.5	15.5
1504.0	24.5	28.4	96	9.8	1.22	1.18	6570	149.12	385.85	8.5	15.5
1505.0	24.0	28.3	97	9.8	1.22	1.22	6812	152.17	383.28	8.5	15.5
1506.0	59.0	26.8	97	9.8	0.95	1.24	6911	61.88	379.79	8.5	15.5
1507.0	55.4	25.4	97	9.8	0.96	1.25	7016	65.94	376.41	8.5	15.5
1508.0	87.8	25.1	97	9.8	0.83	1.26	7083	41.59	372.85	8.5	15.5
1509.0	53.7	24.8	97	9.8	0.96	1.28	7192	67.97	369.64	8.5	15.5
1510.0	54.5	25.0	97	9.8	0.96	1.30	7299	66.95	366.49	8.5	15.5
1511.0	34.3	24.4	92	9.8	1.07	1.33	7460	106.52	363.81	8.5	15.5
1512.0	42.9	26.4	91	9.7	1.03	1.35	7587	85.21	360.96	8.5	15.5
1513.0	50.0	26.0	87	9.7	0.97	1.37	7691	73.04	358.06	8.5	15.5
1514.0	50.7	26.4	94	9.7	0.99	1.39	7802	72.03	355.19	8.5	15.5
1515.0	58.1	26.5	94	9.7	0.96	1.41	7900	62.90	352.30	8.5	15.5
1516.0	52.9	26.3	94	9.7	0.98	1.43	8006	68.98	349.52	8.5	15.5
1517.0	48.6	26.8	94	9.7	1.01	1.45	8123	75.07	346.86	8.5	15.5
1518.0	53.7	26.5	94	9.7	0.98	1.47	8228	67.97	344.18	8.5	15.5
1519.0	51.4	26.4	94	9.7	0.99	1.49	8338	71.01	341.58	8.5	15.5
1520.0	15.7	27.6	91	9.7	1.33	1.55	8686	233.32	340.55	8.5	15.5
1521.0	14.3	25.1	91	9.7	1.33	1.62	9070	255.64	339.76	8.5	15.5
1522.0	6.8	29.5	92	9.7	1.60	1.77	9876	533.60	341.56	8.5	15.5
1523.0	9.6	34.1	97	9.7	1.58	1.87	10481	380.42	341.91	8.5	15.5
1524.0	11.0	35.3	97	9.7	1.55	1.96	11006	330.71	341.81	8.5	15.5
1525.0	12.5	35.6	97	9.7	1.52	2.04	11470	292.16	341.36	8.5	15.5
1526.0	9.7	31.6	83	9.7	1.50	2.15	11982	375.34	341.67	8.5	15.5
1527.0	12.5	33.8	96	9.7	1.49	2.23	12440	291.15	341.22	8.5	15.5
1528.0	9.6	29.5	65	9.7	1.40	2.33	12846	379.40	341.55	8.5	15.5
1529.0	7.4	28.0	67	9.7	1.46	2.46	13389	492.01	342.86	8.5	15.5
1530.0	7.4	38.5	46	9.7	1.49	2.60	13763	490.99	344.14	8.5	15.5
1531.0	9.9	39.2	58	9.6	1.50	2.70	14115	370.27	344.36	8.5	15.5
1532.0	15.6	40.6	53	9.6	1.34	2.76	14321	234.34	343.43	8.5	15.5
1533.0	12.3	40.6	54	9.6	1.41	2.85	14582	296.22	343.03	8.5	15.5
1534.0	23.1	40.2	53	9.6	1.21	2.89	14721	158.25	341.49	8.5	15.5
1535.0	14.2	40.4	54	9.6	1.37	2.96	14947	256.65	340.79	8.5	15.5
1536.0	19.1	40.3	54	9.6	1.27	3.01	15115	190.72	339.56	8.5	15.5
1537.0	35.3	39.3	53	9.6	1.06	3.04	15206	103.47	337.64	8.5	15.5
1538.0	48.0	36.7	54	9.6	0.94	3.06	15273	76.08	335.53	8.5	15.5
1539.0	45.6	33.1	67	9.6	1.00	3.08	15361	80.14	333.49	8.5	15.6
1540.0	39.1	34.7	66	9.6	1.05	3.11	15462	93.33	331.58	8.5	15.6
1541.0	45.0	36.1	61	9.6	1.00	3.13	15543	81.16	329.61	8.5	15.6
1542.0	43.9	37.0	71	9.6	1.06	3.15	15641	83.18	327.69	8.5	15.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1543.0	53.7	35.2	71	9.6	0.98	3.17	15720	67.97	325.67	8.5	15.6
1544.0	40.4	33.6	71	9.6	1.06	3.20	15826	90.29	323.86	8.5	15.6
1545.0	52.2	34.1	57	9.6	0.92	3.22	15892	70.00	321.93	8.5	15.6
1546.0	34.6	35.7	54	9.6	1.04	3.24	15986	105.50	320.29	8.5	15.6
1547.0	43.4	35.6	54	9.6	0.97	3.27	16061	84.20	318.51	8.5	15.6
1548.0	41.9	35.2	54	9.6	0.98	3.29	16138	87.24	316.78	8.5	15.6
1549.0	27.9	35.4	45	9.6	1.05	3.33	16236	130.86	315.41	8.5	15.6
1550.0	30.5	36.5	55	9.6	1.09	3.36	16344	119.70	313.97	8.5	15.6
1551.0	33.3	36.5	55	9.6	1.07	3.39	16443	109.56	312.48	8.5	15.6
1552.0	34.6	36.6	55	9.6	1.06	3.42	16539	105.50	310.98	8.5	15.6
1553.0	27.5	37.2	55	9.6	1.13	3.46	16660	132.89	309.70	8.5	15.6
1554.0	27.7	37.0	55	9.6	1.13	3.49	16779	131.88	308.43	8.5	15.6
1555.0	28.3	37.3	55	9.6	1.12	3.53	16896	128.83	307.15	8.5	15.6
1556.0	24.2	37.5	55	9.6	1.18	3.57	17033	151.15	306.05	8.5	15.6
1557.0	26.5	37.3	55	9.6	1.14	3.61	17157	137.96	304.88	8.5	15.6
1558.0	22.6	37.0	55	9.6	1.19	3.65	17304	161.30	303.88	8.5	15.6
1559.0	20.0	37.0	56	9.6	1.24	3.70	17472	182.60	303.04	8.5	15.6
1560.0	27.7	37.8	66	9.6	1.19	3.74	17615	131.88	301.87	8.5	15.6
1561.0	29.0	37.8	66	9.6	1.18	3.77	17751	125.79	300.67	8.5	15.6
1562.0	30.8	37.6	67	9.6	1.16	3.80	17882	118.69	299.44	8.5	15.6
1563.0	22.4	37.8	67	9.6	1.26	3.85	18060	163.33	298.53	8.5	15.6
1564.0	8.8	39.4	62	9.6	1.55	3.96	18478	412.88	299.29	8.5	15.6
1565.0	10.2	39.4	48	9.6	1.42	4.06	18760	357.08	299.68	8.5	15.6
1566.0	6.1	39.5	48	9.6	1.59	4.22	19235	596.49	301.63	8.5	15.6
1567.0	12.6	36.9	53	9.6	1.36	4.30	19488	290.13	301.55	8.5	15.6
1568.0	28.6	36.2	48	9.6	1.07	4.34	19590	127.82	300.43	8.5	15.6
1569.0	55.4	35.2	56	9.6	0.91	4.35	19651	65.94	298.91	8.5	15.6
1570.0	42.9	39.8	57	9.6	1.02	4.38	19730	85.21	297.54	8.5	15.6
1571.0	36.7	36.6	57	9.6	1.04	4.41	19823	99.42	296.28	8.5	15.6
1572.0	46.2	36.5	57	9.6	0.97	4.43	19896	79.13	294.91	8.5	15.6
1573.0	48.0	35.3	57	9.6	0.95	4.45	19967	76.08	293.53	8.5	15.6
1574.0	67.9	35.5	57	9.6	0.85	4.46	20017	53.77	292.03	8.5	15.6
1575.0	59.0	34.2	57	9.6	0.88	4.48	20076	61.88	290.60	8.5	15.6
1576.0	22.2	37.5	61	9.6	1.23	4.52	20239	164.34	289.82	8.5	15.6
1577.0	16.5	37.4	58	9.6	1.31	4.58	20450	221.15	289.40	8.5	15.6
1578.0	19.3	32.7	69	9.6	1.26	4.64	20663	189.70	288.79	8.5	15.6
1579.0	8.5	35.8	61	9.6	1.52	4.75	21093	430.12	289.65	8.5	15.6
1580.0	8.2	38.5	51	9.6	1.51	4.88	21468	444.33	290.58	8.5	15.6
1581.0	14.6	39.3	55	9.6	1.35	4.94	21694	250.57	290.34	8.5	15.6
1582.0	12.7	39.4	55	9.6	1.40	5.02	21952	287.09	290.32	8.5	15.6
1583.0	10.7	39.8	55	9.6	1.46	5.12	22257	339.84	290.62	8.5	15.6
1584.0	28.3	38.8	47	9.6	1.09	5.15	22357	128.83	289.66	8.5	15.6
1585.0	9.9	39.9	47	9.6	1.44	5.25	22643	368.24	290.12	8.5	15.6
1586.0	29.5	39.7	46	9.6	1.08	5.29	22737	123.76	289.16	8.5	15.6
1587.0	48.0	37.3	46	9.6	0.90	5.31	22795	74.08	287.92	8.5	15.6
1588.0	45.0	34.8	57	9.6	0.97	5.33	22871	81.16	286.74	8.5	15.6
1589.0	22.9	38.4	59	9.6	1.22	5.37	23024	159.27	286.01	8.5	15.6
1590.0	25.2	39.9	58	9.6	1.20	5.41	23162	145.07	285.21	8.5	15.6
1591.0	51.4	37.7	59	9.6	0.96	5.43	23231	71.01	284.00	8.5	15.6
1592.0	15.3	40.5	57	9.6	1.36	5.50	23454	238.39	283.74	8.5	15.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	TCOST	CCOST	PP	FG
1593.0	7.7	40.7	58	9.6	1.59	5.63	23905	476.79	284.82	8.5	15.6
1594.0	4.7	39.4	53	9.6	1.71	5.84	24582	776.05	287.55	8.5	15.6
1595.0	6.4	39.7	46	9.6	1.56	6.00	25010	570.12	289.11	8.5	15.6
1596.0	15.0	34.5	66	9.6	1.35	6.06	25273	243.47	288.86	8.5	15.6
1597.0	11.3	37.7	65	9.6	1.47	6.15	25620	322.59	289.04	8.5	15.6
1598.0	6.1	38.0	66	9.6	1.68	6.32	26274	598.52	290.73	8.5	15.6
1598.5	10.9	38.2	85	9.6	1.57	6.36	26508	334.77	290.84	8.5	15.6
1599.0	8.9	38.8	73	9.6	1.60	6.42	26754	409.84	291.17	8.5	15.6
1600.0	8.1	40.4	78	9.6	1.67	6.54	27335	451.43	292.03	8.5	15.6
1601.0	7.8	43.5	49	9.6	1.57	6.67	27712	465.63	292.96	8.5	15.7
1602.0	6.4	42.6	36	9.6	1.52	6.83	28054	574.18	294.45	8.5	15.7
1603.0	15.4	42.9	47	9.6	1.32	6.89	28237	237.38	294.15	8.5	15.7
1604.0	10.2	47.7	46	9.6	1.50	6.99	28507	358.10	294.49	8.5	15.7
1605.0	7.5	49.5	45	9.6	1.62	7.12	28870	486.93	295.49	8.5	15.7
1606.0	11.4	49.4	50	9.6	1.51	7.21	29133	319.55	295.62	8.5	15.7
1607.0	13.8	49.2	45	9.6	1.40	7.28	29328	264.77	295.46	8.5	15.7
1608.0	9.7	51.6	40	9.6	1.51	7.39	29575	376.36	295.88	8.5	15.7
1609.0	24.3	59.6	44	9.6	1.28	7.43	29684	150.14	295.13	8.5	15.7
1610.0	14.2	59.3	42	9.6	1.46	7.50	29863	257.67	294.94	8.5	15.7
1611.0	13.2	59.5	45	9.6	1.52	7.57	30068	275.93	294.84	8.5	15.7
1612.0	6.0	47.0	43	9.6	1.65	7.74	30496	611.71	296.44	8.5	15.7
1613.0	18.8	47.0	36	9.6	1.20	7.79	30610	194.77	295.93	8.5	15.7
1614.0	18.3	47.0	37	9.6	1.23	7.85	30733	199.85	295.45	8.5	15.7
1615.0	12.0	47.0	48	9.6	1.45	7.93	30971	304.33	295.49	8.5	15.7
1616.0	22.1	47.0	49	9.6	1.26	7.98	31105	165.35	294.85	8.5	15.7
1617.0	13.6	47.0	52	9.6	1.43	8.05	31332	267.81	294.72	8.5	15.7
1618.0	13.1	47.0	49	9.6	1.43	8.13	31558	278.97	294.64	8.5	15.7
1619.0	23.7	47.0	51	9.6	1.24	8.17	31688	154.20	293.96	8.5	15.7
1620.0	11.1	47.0	53	9.6	1.51	8.26	31973	328.68	294.12	8.5	15.7
1621.0	10.3	47.0	62	9.6	1.59	8.36	32334	354.04	294.41	8.5	15.7
1622.0	15.0	47.0	60	9.6	1.45	8.42	32573	243.47	294.17	8.5	15.7
1623.0	24.3	47.0	56	9.6	1.26	8.46	32710	150.14	293.48	8.5	15.7
1624.0	35.3	47.0	56	9.6	1.14	8.49	32806	103.47	292.57	8.5	15.7
1625.0	9.6	47.0	56	9.6	1.58	8.60	33156	379.40	292.99	8.5	15.7
1626.0	20.7	47.0	76	9.6	1.42	8.64	33377	176.51	292.44	8.5	15.7
1627.0	24.8	47.0	77	9.6	1.37	8.68	33563	147.09	291.75	8.5	15.7
1628.0	10.4	47.0	76	9.6	1.66	8.78	34004	351.00	292.03	8.5	15.7
1629.0	10.1	47.0	84	9.6	1.70	8.88	34507	363.17	292.36	8.5	15.7
1630.0	15.3	47.0	88	9.6	1.58	8.95	34853	239.41	292.12	8.5	15.7
1631.0	14.8	47.0	88	9.6	1.59	9.01	35212	247.52	291.91	8.5	15.7
1632.0	10.6	47.0	88	9.6	1.70	9.11	35713	345.93	292.16	8.5	15.7
1633.0	10.8	42.8	88	9.6	1.64	9.20	36200	336.80	292.36	8.5	15.7
1634.0	10.9	39.0	88	9.6	1.59	9.29	36684	333.75	292.55	8.5	15.7
1635.0	6.2	39.0	89	9.6	1.78	9.45	37552	591.42	293.90	8.5	15.7
1636.0	7.3	39.0	92	9.6	1.73	9.59	38304	497.08	294.82	8.5	15.7
1637.0	7.6	39.0	89	9.6	1.71	9.72	39001	478.82	295.64	8.5	15.7
1638.0	7.7	39.0	92	9.6	1.72	9.85	39713	471.72	296.43	8.5	15.7
1639.0	7.9	39.0	91	9.6	1.71	9.98	40407	462.59	297.17	8.5	15.7
1640.0	8.9	39.0	87	9.6	1.65	10.09	40994	409.84	297.67	8.5	15.7
1641.0	48.6	39.0	89	9.6	1.12	10.11	41103	75.07	296.69	8.5	15.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1642.0	26.5	39.0	89	9.6	1.31	10.15	41305	137.96	295.99	8.5	15.7
1643.0	13.2	39.0	91	9.6	1.54	10.22	41721	276.94	295.91	8.5	15.7
1644.0	27.3	39.0	91	9.6	1.31	10.26	41922	133.91	295.20	8.5	15.7
1645.0	17.9	39.0	92	9.6	1.45	10.32	42229	203.90	294.81	8.5	15.7
1646.0	11.7	39.0	95	9.6	1.60	10.40	42715	311.10	294.88	8.5	15.7
1647.0	25.4	39.0	95	9.6	1.35	10.44	42940	144.05	294.23	8.5	15.7
1648.0	12.0	39.0	95	9.6	1.59	10.52	43417	304.33	294.27	8.5	15.7
1649.0	21.2	39.0	95	9.6	1.41	10.57	43686	172.46	293.75	8.5	15.7
1650.0	22.1	39.0	96	9.6	1.39	10.62	43945	165.35	293.21	8.5	15.7
1651.0	25.0	39.0	96	9.6	1.36	10.66	44175	146.08	292.59	8.5	15.7
1652.0	37.9	39.0	95	9.6	1.22	10.68	44325	96.37	291.77	8.5	15.7
1653.0	39.1	39.0	95	9.6	1.21	10.71	44470	93.33	290.94	8.5	15.7
1654.0	32.4	39.0	95	9.6	1.27	10.74	44646	112.60	290.19	8.5	15.7
1655.0	25.2	39.0	95	9.6	1.35	10.78	44872	145.07	289.59	8.5	15.7
1656.0	24.5	39.0	76	9.6	1.29	10.82	45058	149.12	289.01	8.5	15.7
1657.0	19.9	39.0	93	9.6	1.42	10.87	45339	183.61	288.58	8.5	15.7
1658.0	15.4	39.0	94	9.6	1.50	10.93	45704	237.38	288.37	8.5	15.7
1659.0	38.3	39.0	93	9.6	1.21	10.96	45850	95.36	287.58	8.5	15.7
1660.0	9.2	39.0	94	9.6	1.67	11.07	46458	395.63	288.02	8.5	15.7
1661.0	10.6	39.3	88	9.6	1.61	11.16	46956	344.91	288.25	8.5	15.7
1662.0	28.1	40.0	97	9.6	1.33	11.20	47163	129.85	287.61	8.5	15.7
1663.0	44.4	40.0	96	9.6	1.18	11.22	47293	82.17	286.78	8.5	15.7
1664.0	46.8	40.0	97	9.6	1.17	11.24	47417	78.11	285.95	8.5	15.7
1665.0	58.1	40.0	79	9.6	1.03	11.26	47498	62.90	285.06	8.5	15.8
1666.0	78.3	40.0	94	9.6	0.99	11.27	47570	46.66	284.11	8.5	15.8
1667.0	78.3	40.0	94	9.6	0.99	11.29	47642	46.66	283.18	8.5	15.8
1668.0	35.3	40.0	95	9.6	1.25	11.31	47803	103.47	282.47	8.5	15.8
1669.0	11.3	40.0	90	9.6	1.60	11.40	48278	322.59	282.63	8.5	15.8
1670.0	20.3	40.0	95	9.6	1.43	11.45	48556	179.56	282.22	8.5	15.8
1671.0	28.6	40.0	94	9.6	1.32	11.49	48754	127.82	281.62	8.5	15.8
1672.0	50.0	40.0	94	9.6	1.14	11.51	48867	73.04	280.81	8.5	15.8
1673.0	14.8	40.0	95	9.6	1.53	11.57	49252	247.52	280.69	8.5	15.8
1674.0	20.2	40.0	94	9.6	1.43	11.62	49531	180.57	280.30	8.5	15.8
1675.0	12.5	40.0	89	9.6	1.56	11.70	49955	292.16	280.35	8.5	15.8
1676.0	15.5	40.0	94	9.6	1.51	11.77	50320	235.35	280.17	8.5	15.8
1677.0	12.0	40.0	94	9.6	1.60	11.85	50789	303.32	280.26	8.5	15.8
1678.0	19.8	40.0	94	9.6	1.44	11.90	51073	184.63	279.90	8.5	15.8
1679.0	60.0	40.0	94	9.6	1.08	11.92	51167	60.87	279.07	8.5	15.8
1680.0	32.1	40.0	94	9.6	1.28	11.95	51342	113.62	278.45	8.5	15.8
1681.0	20.1	40.0	94	9.6	1.43	12.00	51623	181.59	278.09	8.5	15.8
1682.0	25.5	40.0	94	9.6	1.35	12.04	51844	143.04	277.58	8.5	15.8
1683.0	14.1	40.0	94	9.6	1.54	12.11	52244	258.68	277.51	8.5	15.8
1684.0	19.4	40.0	97	9.6	1.45	12.16	52546	188.69	277.19	8.5	15.8
1685.0	16.8	40.0	92	9.6	1.48	12.22	52875	217.09	276.96	8.5	15.8
1686.0	55.4	40.0	98	9.6	1.12	12.24	52981	65.94	276.19	8.5	15.8
1687.0	69.2	40.0	99	9.6	1.05	12.25	53067	52.75	275.37	8.5	15.8
1688.0	76.6	40.0	98	9.6	1.01	12.27	53143	47.68	274.54	8.5	15.8
1689.0	61.0	40.0	98	9.6	1.09	12.28	53240	59.85	273.76	8.5	15.8
1690.0	60.0	40.0	98	9.6	1.09	12.30	53338	60.87	272.99	8.5	15.8
1691.0	63.2	40.0	98	9.6	1.08	12.31	53432	57.82	272.21	8.5	15.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1692.0	20.6	40.0	98	9.6	1.04	12.33	53515	51.74	271.42	8.5	15.8
1693.0	31.6	40.0	99	9.6	1.30	12.36	53703	115.65	270.86	8.5	15.8
1694.0	52.2	40.0	98	9.6	1.14	12.38	53816	69.96	270.14	8.5	15.8
1695.0	64.3	40.0	98	9.6	1.07	12.40	53907	56.81	269.38	8.5	15.8
1696.0	51.4	40.0	95	9.7	1.12	12.41	54018	71.01	268.68	8.5	15.8
1697.0	39.6	40.0	95	9.7	1.20	12.44	54162	92.31	268.05	8.5	15.8
1698.0	17.6	40.0	95	9.7	1.46	12.50	54487	207.96	267.84	8.5	15.8
1699.0	19.8	40.0	95	9.7	1.42	12.55	54775	184.63	267.55	8.5	15.8
1700.0	13.3	40.0	95	9.7	1.55	12.62	55204	274.91	267.58	8.5	15.8
1701.0	61.0	40.0	95	9.7	1.06	12.64	55297	59.85	266.85	8.5	15.8
1702.0	39.6	40.0	94	9.7	1.20	12.66	55440	92.31	266.25	8.5	15.8
1703.0	49.3	40.0	93	9.7	1.13	12.68	55553	74.05	265.58	8.5	15.8
1704.0	34.0	40.0	93	9.7	1.25	12.71	55717	107.53	265.04	8.5	15.8
1705.0	11.8	40.0	89	9.7	1.57	12.80	56170	309.41	265.19	8.5	15.8
1706.0	11.0	40.0	93	9.7	1.60	12.89	56677	331.72	265.42	8.5	15.8
1707.0	11.1	40.0	94	9.7	1.60	12.98	57184	328.68	265.63	8.5	15.8
1708.0	12.8	40.0	98	9.7	1.57	13.06	57645	285.06	265.70	8.5	15.8
1709.0	25.4	40.0	98	9.7	1.36	13.10	57877	144.05	265.29	8.5	15.8
1710.0	15.4	40.0	98	9.7	1.51	13.16	58260	237.38	265.19	8.5	15.8
1711.0	12.3	40.0	98	9.7	1.59	13.24	58739	297.23	265.30	8.5	15.8
1712.0	15.9	40.0	98	9.7	1.50	13.31	59108	229.26	265.18	8.5	15.8
1713.0	27.5	40.0	98	9.7	1.33	13.34	59322	132.89	264.74	8.5	15.8
1714.0	14.9	40.0	98	9.7	1.52	13.41	59717	244.48	264.67	8.5	15.8
1715.0	13.4	40.0	99	9.7	1.56	13.48	60161	272.89	264.70	8.5	15.8
1716.0	12.9	40.0	99	9.7	1.57	13.56	60622	284.04	264.76	8.5	15.8
1717.0	12.3	40.0	99	9.7	1.59	13.64	61106	297.23	264.87	8.5	15.8
1718.0	12.2	40.0	99	9.7	1.59	13.73	61596	300.28	264.98	8.5	15.8
1719.0	14.2	40.0	99	9.7	1.54	13.80	62015	256.65	264.96	8.5	15.8
1720.0	17.0	40.0	99	9.7	1.49	13.86	62365	215.06	264.79	8.5	15.8
1721.0	42.9	40.0	98	9.7	1.19	13.88	62503	85.21	264.21	8.5	15.8
1722.0	43.4	40.0	99	9.7	1.19	13.90	62640	84.20	263.63	8.5	15.8
1723.0	50.7	40.0	98	9.7	1.14	13.92	62756	72.03	263.00	8.5	15.8
1724.0	19.6	40.0	98	9.7	1.44	13.97	63056	186.66	262.76	8.5	15.8
1725.0	14.8	40.0	98	9.7	1.52	14.04	63452	246.51	262.71	8.5	15.8
1726.0	12.8	40.0	97	9.7	1.57	14.12	63907	285.06	262.78	8.5	15.8
1727.0	30.3	40.0	97	9.7	1.29	14.15	64099	120.72	262.32	8.5	15.8
1728.0	52.2	40.0	96	9.7	1.12	14.17	64210	70.00	261.71	8.5	15.8
1729.0	20.8	40.0	97	9.7	1.42	14.22	64490	175.50	261.44	8.5	15.8
1730.0	18.2	40.0	97	9.7	1.46	14.27	64810	200.86	261.25	8.5	15.8
1731.0	27.5	40.0	97	9.7	1.33	14.31	65022	132.89	260.84	8.5	15.8
1732.0	9.6	40.0	97	9.7	1.66	14.41	65627	379.40	261.21	8.5	15.9
1733.0	10.8	40.0	97	9.7	1.62	14.51	66167	338.82	261.46	8.5	15.9
1734.0	13.0	40.0	90	9.7	1.54	14.58	66579	279.99	261.52	8.5	15.9
1735.0	48.0	40.0	94	9.7	1.14	14.60	66696	76.08	260.94	8.5	15.9
1736.0	19.7	40.0	99	9.7	1.44	14.65	66998	185.64	260.70	8.5	15.9
1737.0	39.6	40.0	99	9.7	1.22	14.68	67149	92.31	260.18	8.5	15.9
1738.0	22.4	40.0	100	9.7	1.40	14.72	67416	163.33	259.88	8.5	15.9
1739.0	18.8	40.0	99	9.7	1.45	14.78	67732	193.76	259.68	8.5	15.9
1740.0	17.7	40.0	99	9.7	1.47	14.83	68069	205.93	259.52	8.5	15.9
1741.0	35.3	40.0	99	9.7	1.25	14.86	68238	103.47	259.04	8.5	15.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	TCOST	CCOST	PP	FG
1742.0	40.0	40.0	99	9.7	1.21	14.89	68386	91.30	258.53	8.5	15.9
1743.0	18.1	40.0	93	9.7	1.45	14.94	68695	201.87	258.35	8.5	15.9
1744.0	58.1	40.0	93	9.7	1.07	14.96	68791	62.90	257.76	8.5	15.9
1745.0	53.7	40.0	92	9.7	1.10	14.98	68894	67.97	257.19	8.5	15.9
1746.0	40.4	40.0	93	9.7	1.19	15.00	69032	90.29	256.69	8.5	15.9
1747.0	26.1	40.0	93	9.7	1.33	15.04	69246	139.99	256.34	8.5	15.9
1748.0	11.8	40.0	94	9.7	1.59	15.13	69724	310.42	256.50	8.5	15.9
1749.0	26.3	40.0	93	9.7	1.33	15.16	69937	138.98	256.15	8.5	15.9
1750.0	40.0	40.0	93	9.7	1.19	15.19	70077	91.30	255.66	8.5	15.9
1751.0	43.9	40.0	93	9.7	1.16	15.21	70203	83.18	255.14	8.5	15.9
1752.0	16.6	40.0	93	9.7	1.47	15.27	70540	220.13	255.04	8.5	15.9
1753.0	31.6	40.0	92	9.7	1.27	15.30	70715	115.65	254.63	8.5	15.9
1754.0	19.6	40.0	92	9.7	1.42	15.36	70997	186.66	254.43	8.5	15.9
1755.0	40.9	40.0	92	9.7	1.18	15.38	71131	89.27	253.95	8.5	15.9
1756.0	52.2	40.0	91	9.7	1.10	15.40	71236	70.00	253.41	8.5	15.9
1757.0	39.6	40.0	91	9.7	1.19	15.42	71374	92.31	252.94	8.5	15.9
1758.0	52.2	40.0	91	9.7	1.10	15.44	71479	70.00	252.41	8.5	15.9
1759.0	40.9	40.0	91	9.7	1.18	15.47	71613	89.27	251.93	8.5	15.9
1760.0	39.1	40.0	91	9.7	1.20	15.49	71753	93.33	251.47	8.5	15.9
1761.0	23.8	40.0	92	9.7	1.35	15.54	71984	153.18	251.19	8.5	15.9
1762.0	19.1	40.0	99	9.7	1.45	15.59	72294	190.72	251.02	8.5	15.9
1763.0	17.2	40.0	98	9.7	1.48	15.65	72635	212.02	250.91	8.5	15.9
1764.0	20.2	40.0	98	9.7	1.43	15.70	72926	180.57	250.71	8.5	15.9
1765.0	17.0	40.0	98	9.7	1.48	15.75	73272	215.06	250.60	8.5	15.9
1766.0	50.0	40.0	98	9.7	1.14	15.77	73390	73.04	250.10	8.5	15.9
1767.0	32.1	40.0	98	9.7	1.28	15.81	73573	113.62	249.71	8.5	15.9
1768.0	20.1	40.0	98	9.7	1.43	15.85	73866	181.59	249.52	8.5	15.9
1769.0	28.3	40.0	98	9.7	1.32	15.89	74073	128.83	249.18	8.5	15.9
1770.0	40.9	40.0	98	9.7	1.20	15.91	74217	89.27	248.73	8.5	15.9
1771.0	17.4	40.0	98	9.7	1.48	15.97	74556	209.99	248.62	8.5	15.9
1772.0	15.9	40.0	88	9.7	1.47	16.04	74890	230.28	248.57	8.5	15.9
1773.0	76.6	40.0	98	9.7	1.00	16.05	74967	47.68	248.01	8.5	15.9
1774.0	51.4	40.0	98	9.7	1.13	16.07	75081	71.01	247.52	8.5	15.9
1775.0	54.5	40.0	98	9.7	1.11	16.09	75189	66.95	247.02	8.5	15.9
1776.0	18.8	40.0	98	9.7	1.45	16.14	75502	193.76	246.87	8.5	15.9
1777.0	65.5	40.0	98	9.7	1.05	16.15	75591	55.79	246.35	8.5	15.9
1778.0	70.6	40.0	98	9.7	1.03	16.17	75674	51.74	245.81	8.5	15.9
1779.0	11.7	40.0	98	9.7	1.60	16.25	76182	313.46	246.00	8.5	15.9
1780.0	17.0	40.0	98	9.7	1.48	16.31	76529	215.06	245.91	8.5	15.9
1781.0	61.0	40.0	98	9.7	1.08	16.33	76626	59.85	245.41	8.5	15.9
1782.0	42.9	40.0	98	9.7	1.19	16.35	76763	85.21	244.97	8.5	15.9
1783.0	72.0	40.0	98	9.7	1.02	16.37	76844	50.72	244.44	8.5	15.9
1784.0	13.3	40.0	99	9.7	1.56	16.44	77290	274.91	244.53	8.5	15.9
1785.0	11.5	40.0	90	9.7	1.58	16.53	77760	318.54	244.73	8.5	15.9
1786.0	9.5	40.0	88	9.7	1.63	16.63	78311	382.45	245.10	8.5	15.9
1787.0	13.4	40.0	98	9.7	1.56	16.71	78747	271.87	245.17	8.5	15.9
1788.0	19.3	40.0	103	9.7	1.46	16.76	79068	189.70	245.02	8.5	15.9
1789.0	21.6	40.0	103	9.7	1.42	16.81	79354	169.41	244.82	8.5	15.9
1790.0	12.7	40.0	103	9.7	1.59	16.89	79841	288.10	244.93	8.5	15.9
1791.5	14.6	40.0	96	9.7	1.52	16.99	80432	249.55	244.95	8.5	15.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1792.0	13.4	40.0	91	9.7	1.54	17.03	80636	271.87	244.99	8.5	15.9
1793.0	29.3	40.0	92	9.7	1.29	17.06	80826	124.78	244.67	8.5	15.9
1794.0	10.1	40.0	53	9.7	1.45	17.16	81138	360.13	244.97	8.5	15.9
1795.0	25.2	40.0	60	9.7	1.20	17.20	81280	145.07	244.71	8.5	15.9
1796.0	21.7	40.0	57	9.7	1.23	17.24	81437	168.40	244.51	8.5	15.9
1797.0	25.7	40.0	41	9.7	1.07	17.28	81533	142.02	244.24	8.5	15.9
1798.0	17.3	40.0	72	9.7	1.38	17.34	81782	211.00	244.16	8.5	15.9
1799.0	7.0	40.0	58	9.7	1.59	17.48	82274	518.38	244.87	8.5	15.9
1800.0	14.8	40.0	50	9.7	1.31	17.55	82475	246.37	244.87	8.5	15.9
1801.0	38.3	40.0	92	9.7	1.20	17.58	82619	95.36	244.49	8.5	16.0
1802.0	39.6	40.0	92	9.7	1.19	17.60	82758	92.31	244.09	8.5	16.0
1803.0	58.1	40.0	102	9.7	1.10	17.62	82863	62.90	243.63	8.5	16.0
1804.0	17.6	40.0	69	9.7	1.36	17.68	83097	206.95	243.53	8.5	16.0
1805.0	15.4	40.0	62	9.7	1.37	17.74	83339	237.38	243.52	8.5	16.0
1806.0	35.0	40.0	56	9.7	1.07	17.77	83434	104.49	243.16	8.5	16.0
1807.0	11.3	40.0	59	9.7	1.45	17.86	83745	322.59	243.37	8.5	16.0
1808.0	19.6	40.0	111	9.7	1.48	17.91	84087	186.66	243.22	8.5	16.0
1809.0	26.5	40.0	112	9.7	1.38	17.95	84342	137.96	242.96	8.5	16.0
1810.0	20.3	40.0	101	9.7	1.43	18.00	84639	179.56	242.80	8.5	16.0
1811.0	21.4	40.0	112	9.7	1.45	18.04	84953	170.43	242.61	8.5	16.0
1812.0	12.2	40.0	112	9.7	1.63	18.12	85503	299.26	242.76	8.5	16.0
1813.0	16.4	40.0	112	9.7	1.53	18.18	85911	222.16	242.70	8.5	16.0
1814.0	28.3	40.0	111	9.7	1.36	18.22	86147	128.83	242.42	8.5	16.0
1815.0	22.6	40.0	112	9.7	1.43	18.26	86443	161.30	242.22	8.5	16.0
1816.0	8.7	40.0	112	9.7	1.74	18.38	87212	417.95	242.65	8.5	16.0
1817.0	9.0	40.0	112	9.7	1.73	18.49	87955	403.75	243.05	8.5	16.0
1818.0	9.0	40.0	112	9.7	1.73	18.60	88707	407.81	243.46	8.5	16.0
1819.0	16.1	40.0	105	9.7	1.52	18.66	89098	226.83	243.42	8.5	16.0
1820.0	16.9	40.0	93	9.7	1.47	18.72	89427	216.58	243.36	8.5	16.0
1821.0	8.7	40.0	64	9.7	1.56	18.84	89865	418.97	243.79	8.5	16.0
1822.0	11.4	50.0	49	9.7	1.49	18.92	90123	319.55	243.97	8.5	16.0
1823.0	25.7	50.0	47	9.7	1.20	18.96	90232	142.02	243.72	8.5	16.0
1824.0	24.0	50.0	47	9.7	1.22	19.01	90349	152.17	243.50	8.5	16.0
1825.0	21.4	50.0	47	9.7	1.26	19.05	90480	170.43	243.32	8.5	16.0
1826.0	25.4	50.0	47	9.7	1.20	19.09	90590	144.05	243.08	8.5	16.0
1827.0	12.9	50.0	48	9.7	1.44	19.17	90810	282.02	243.18	8.5	16.0
1828.0	9.8	50.0	44	9.7	1.51	19.27	91081	372.30	243.49	8.5	16.0
1829.0	15.8	48.6	42	9.7	1.32	19.33	91239	231.29	243.46	8.5	16.0
1830.0	17.1	51.1	38	9.6	1.29	19.39	91373	213.03	243.38	8.5	16.0
1831.0	17.6	49.9	41	9.6	1.29	19.45	91512	207.96	243.30	8.5	16.0
1832.0	10.3	48.3	39	9.6	1.45	19.55	91741	353.03	243.56	8.5	16.0
1833.0	10.2	50.2	46	9.6	1.53	19.64	92013	358.10	243.84	8.5	16.0
1834.0	9.0	50.5	48	9.6	1.59	19.76	92333	406.79	244.22	8.5	16.0
1835.0	9.6	50.8	46	9.6	1.55	19.86	92620	381.43	244.55	8.5	16.0
1836.0	7.9	45.1	48	9.6	1.57	19.99	92985	464.62	245.07	8.5	16.0
1837.0	8.4	43.1	41	9.6	1.47	20.11	93274	433.17	245.52	8.5	16.0
1838.0	13.5	49.0	45	9.6	1.41	20.18	93476	270.86	245.58	8.5	16.0
1839.0	15.2	50.5	48	9.6	1.41	20.25	93667	240.42	245.56	8.5	16.0
1840.0	23.4	50.4	48	9.6	1.25	20.29	93790	156.22	245.35	8.5	16.0
1841.0	27.7	49.1	49	9.6	1.19	20.32	93895	131.88	245.09	8.5	16.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	TCOST	CCOST	PP	FG
1842.0	9.2	50.7	49	9.6	1.59	20.43	94218	397.66	245.44	8.5	16.0
1843.0	6.8	50.8	49	9.6	1.69	20.58	94651	537.66	246.13	8.5	16.0
1844.0	6.3	49.0	49	9.6	1.70	20.74	95119	577.22	246.90	8.5	16.0
1845.0	15.9	49.7	48	9.6	1.38	20.80	95301	230.28	246.86	8.5	16.0
1846.0	23.5	48.6	48	9.6	1.24	20.84	95423	155.55	246.65	8.5	16.0
1847.0	9.5	50.4	49	9.6	1.57	20.95	95732	382.45	246.96	8.5	16.0
1848.0	13.7	51.6	56	9.6	1.50	21.02	95976	266.80	247.00	8.5	16.0
1849.0	15.9	52.7	52	9.6	1.44	21.08	96170	229.26	246.96	8.5	16.0
1850.0	17.4	50.4	65	9.6	1.46	21.14	96394	209.99	246.88	8.5	16.0
1851.0	10.4	50.8	54	9.6	1.58	21.24	96705	351.00	247.12	8.5	16.0
1852.0	21.8	49.1	49	9.6	1.28	21.28	96840	167.52	246.94	8.5	16.0
1853.0	29.7	48.6	50	9.6	1.17	21.32	96940	122.86	246.65	8.5	16.0
1854.0	30.8	49.0	50	9.6	1.16	21.35	97037	118.69	246.36	8.5	16.0
1855.0	29.8	49.2	50	9.6	1.17	21.38	97137	122.75	246.08	8.5	16.0
1856.0	7.4	51.2	50	9.6	1.68	21.52	97546	493.02	246.64	8.5	16.0
1857.0	7.0	51.5	50	9.6	1.70	21.66	97971	521.42	247.26	8.5	16.0
1858.0	7.1	46.7	41	9.6	1.57	21.80	98315	516.35	247.87	8.5	16.0
1859.0	7.0	47.5	41	9.6	1.58	21.95	98663	519.40	248.48	8.5	16.0
1860.0	8.4	48.8	45	9.6	1.57	22.06	98985	433.17	248.89	8.5	16.0
1861.0	7.3	39.7	46	9.6	1.52	22.20	99363	499.11	249.45	8.5	16.0
1862.0	23.1	28.7	71	9.6	1.18	22.24	99548	158.25	249.25	8.5	16.0
1863.0	19.1	46.5	54	9.6	1.33	22.30	99719	190.72	249.12	8.5	16.0
1864.0	37.9	50.6	61	9.6	1.17	22.32	99815	96.37	248.78	8.5	16.0
1865.0	40.4	51.3	61	9.6	1.15	22.35	99904	90.29	248.43	8.5	16.0
1866.0	37.1	50.0	61	9.6	1.17	22.37	100003	98.40	248.09	8.5	16.0
1867.0	15.0	52.1	47	9.6	1.42	22.44	100191	243.47	248.08	8.5	16.0
1868.0	13.1	51.1	60	9.6	1.54	22.52	100465	277.96	248.15	8.5	16.0
1869.0	7.0	50.7	53	9.6	1.71	22.66	100921	523.45	248.75	8.5	16.0
1870.0	7.0	50.5	53	9.6	1.71	22.80	101376	523.45	249.36	8.5	16.0
1871.0	8.0	50.1	46	9.6	1.61	22.93	101721	455.49	249.81	8.5	16.0
1872.0	8.7	54.2	53	9.6	1.67	23.04	102085	418.97	250.18	8.5	16.0
1873.0	8.8	50.0	52	9.6	1.62	23.16	102438	412.88	250.53	8.5	16.1
1874.0	10.9	50.3	55	9.6	1.57	23.25	102743	335.78	250.72	8.5	16.1
1875.0	18.7	49.6	55	9.6	1.37	23.30	102920	195.79	250.60	8.5	16.1
1876.0	9.6	50.5	56	9.6	1.61	23.41	103266	379.40	250.88	8.5	16.1
1877.0	12.5	49.9	55	9.6	1.52	23.49	103532	291.15	250.96	8.5	16.1
1878.0	8.8	50.4	56	9.6	1.65	23.60	103919	416.94	251.32	8.5	16.1
1879.0	8.5	52.0	49	9.6	1.63	23.72	104265	431.14	251.71	8.5	16.1
1880.0	7.9	51.6	42	9.6	1.60	23.84	104581	460.56	252.16	8.5	16.1
1881.0	6.5	51.5	39	9.6	1.64	24.00	104944	559.97	252.82	8.5	16.1
1882.0	9.2	51.1	43	9.6	1.55	24.11	105225	396.65	253.12	8.5	16.1
1883.0	8.1	51.4	51	9.6	1.66	24.23	105603	451.43	253.55	8.5	16.1
1884.0	4.5	50.4	43	9.6	1.79	24.45	106181	811.56	254.73	8.5	16.1
1885.0	5.2	49.5	54	9.6	1.81	24.64	106806	702.00	255.68	8.5	16.1
1885.3	4.5	50.0	50	9.6	1.84	24.71	107006	811.56	256.04	8.5	16.1

BIT NUMBER	4	IADC CODE	517	INTERVAL	1885.3- 2258.2
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	6.8	BIT RUN	372.9
TOTAL HOURS	43.84	TOTAL TURNS	205424	CONDITION	T5 B6 G0.250

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1886.0	6.0	15.0	70	9.6	1.33	0.12	493	609	48251	8.5	16.1
1887.0	9.1	20.0	70	9.6	1.31	0.23	955	401	20104	8.5	16.1
1888.0	6.8	26.4	78	9.6	1.52	0.37	1635	534	12856	8.5	16.1
1889.0	10.5	28.4	77	9.6	1.43	0.47	2077	348	9475	8.5	16.1
1890.0	10.0	29.0	77	9.6	1.44	0.57	2543	366	7537	8.5	16.1
1891.0	26.3	28.0	77	9.7	1.14	0.61	2718	139	6239	8.5	16.1
1892.0	9.0	39.2	80	9.7	1.61	0.72	3256	408	5369	8.5	16.1
1893.0	8.9	39.8	81	9.7	1.63	0.83	3803	412	4725	8.5	16.1
1894.0	9.3	40.3	81	9.7	1.62	0.94	4324	393	4227	8.5	16.1
1895.0	8.2	36.3	86	9.7	1.62	1.06	4954	447	3837	8.5	16.1
1896.0	6.8	34.0	93	9.7	1.67	1.21	5773	535	3529	8.5	16.1
1897.0	7.9	36.0	90	9.7	1.65	1.33	6458	463	3267	8.5	16.1
1898.0	7.8	36.1	87	9.7	1.64	1.46	7125	469	3046	8.5	16.1
1899.0	9.7	36.2	98	9.7	1.61	1.57	7734	376	2852	8.5	16.1
1900.0	10.3	40.3	98	9.7	1.64	1.66	8304	353	2682	8.5	16.1
1901.0	10.5	40.2	98	9.7	1.64	1.76	8866	348	2533	8.5	16.1
1902.0	9.3	38.9	95	9.7	1.65	1.86	9477	393	2405	8.5	16.1
1903.0	13.4	38.2	98	9.7	1.54	1.94	9914	272	2284	8.5	16.1
1904.0	23.2	38.0	97	9.7	1.36	1.98	10164	157	2170	8.5	16.1
1905.0	11.1	38.6	97	9.7	1.59	2.07	10684	328	2077	8.5	16.1
1906.0	14.3	40.5	96	9.7	1.54	2.14	11087	255	1989	8.5	16.1
1907.0	22.8	40.4	96	9.7	1.39	2.19	11340	160	1905	8.5	16.1
1908.0	6.1	40.9	97	9.7	1.82	2.35	12291	596	1847	8.5	16.1
1909.0	10.7	40.8	97	9.7	1.64	2.44	12835	343	1784	8.5	16.1
1910.0	10.4	41.0	97	9.7	1.65	2.54	13394	352	1726	8.5	16.1
1911.0	9.2	41.4	92	9.7	1.68	2.65	13998	399	1674	8.5	16.1
1912.0	9.0	40.7	76	9.7	1.61	2.76	14500	404	1626	8.5	16.1
1913.0	21.7	40.7	81	9.7	1.35	2.80	14725	168	1574	8.5	16.1
1914.0	8.4	42.1	84	9.7	1.68	2.92	15325	435	1534	8.5	16.1
1915.0	6.2	41.7	94	9.7	1.81	3.09	16238	590	1502	8.5	16.1
1916.0	6.8	41.6	94	9.7	1.78	3.23	17064	535	1471	8.5	16.1
1917.0	6.9	47.8	94	9.7	1.86	3.38	17880	531	1441	8.5	16.1
1918.0	3.8	47.2	57	9.7	1.88	3.64	18782	957	1426	8.5	16.1
1919.0	5.4	42.2	70	9.7	1.77	3.82	19559	677	1404	8.5	16.1
1920.0	12.7	38.3	71	9.7	1.45	3.90	19894	288	1372	8.5	16.1
1921.0	6.1	44.7	57	9.7	1.69	4.07	20456	602	1350	8.5	16.1
1922.0	5.0	49.9	52	9.7	1.79	4.27	21080	735	1334	8.5	16.1
1923.0	5.9	51.3	66	9.7	1.84	4.44	21753	622	1315	8.5	16.1
1924.0	7.7	48.8	69	9.7	1.73	4.57	22296	477	1293	8.5	16.1
1925.0	4.8	52.3	60	9.7	1.88	4.78	23041	760	1280	8.5	16.1
1926.0	6.6	52.1	60	9.7	1.77	4.93	23587	556	1262	8.5	16.1
1927.0	5.9	51.9	60	9.7	1.81	5.10	24193	617	1246	8.5	16.1
1928.0	6.8	52.3	59	9.7	1.76	5.25	24718	537	1230	8.5	16.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1929.0	14.0	51.6	59	9.7	1.50	5.32	24971	261	1208	8.5	16.1
1930.0	22.6	50.0	60	9.7	1.33	5.36	25130	161	1184	8.5	16.1
1931.0	20.8	51.2	54	9.7	1.33	5.41	25287	176	1162	8.5	16.1
1932.0	7.8	53.4	53	9.7	1.68	5.54	25694	469	1147	8.5	16.1
1932.5	7.1	53.5	50	9.7	1.70	5.61	25907	513	1141	8.5	16.1
1933.0	9.7	53.0	55	9.7	1.62	5.66	26078	377	1133	8.5	16.1
1934.0	5.1	55.1	56	9.7	1.88	5.86	26744	720	1124	8.5	16.1
1935.0	4.0	52.8	57	9.7	1.93	6.11	27596	910	1120	8.5	16.1
1936.0	21.6	38.7	74	9.7	1.30	6.15	27801	169	1101	8.5	16.1
1937.0	24.3	40.9	94	9.7	1.37	6.19	28034	150	1083	8.5	16.1
1938.0	31.6	40.3	94	9.7	1.28	6.23	28213	116	1064	8.5	16.1
1939.0	27.3	40.7	95	9.7	1.33	6.26	28421	134	1047	8.5	16.1
1940.0	13.8	41.5	95	9.7	1.55	6.33	28831	264	1033	8.5	16.1
1941.0	12.9	40.2	88	9.7	1.54	6.41	29239	282	1019	8.5	16.1
1942.0	10.4	38.8	96	9.7	1.62	6.51	29794	351	1007	8.5	16.1
1943.0	10.1	38.7	96	9.7	1.62	6.61	30363	360.13	996.15	8.5	16.1
1944.0	7.9	38.5	96	9.7	1.70	6.73	31092	460.56	987.03	8.5	16.1
1945.0	17.7	38.3	96	9.7	1.44	6.79	31418	205.93	973.95	8.5	16.1
1946.0	33.0	36.2	96	9.7	1.23	6.82	31593	110.57	959.72	8.5	16.1
1947.0	34.6	36.6	96	9.7	1.22	6.85	31760	105.50	945.88	8.5	16.2
1948.0	33.3	36.3	96	9.7	1.23	6.88	31933	109.56	932.54	8.5	16.2
1949.0	15.9	37.8	97	9.7	1.47	6.94	32297	229.26	921.50	8.5	16.2
1950.0	15.5	51.0	96	9.7	1.63	7.01	32667	235.35	910.89	8.5	16.2
1951.0	17.0	48.1	86	9.7	1.53	7.06	32971	215.06	900.30	8.5	16.2
1952.0	8.1	51.9	92	9.7	1.85	7.19	33651	450.41	893.56	8.5	16.2
1953.0	12.4	51.4	92	9.7	1.69	7.27	34094	294.19	884.70	8.5	16.2
1954.0	10.5	51.6	92	9.7	1.75	7.36	34617	346.94	876.88	8.5	16.2
1955.0	15.3	51.0	88	9.7	1.60	7.43	34961	238.39	867.72	8.5	16.2
1956.0	17.4	51.1	80	9.7	1.53	7.49	35237	209.99	858.41	8.5	16.2
1957.0	11.1	51.6	80	9.7	1.69	7.58	35671	328.68	851.03	8.5	16.2
1958.0	9.1	51.9	80	9.7	1.76	7.69	36199	399.69	844.82	8.5	16.2
1959.0	10.4	51.9	80	9.7	1.71	7.78	36664	352.01	838.13	8.5	16.2
1960.0	12.1	51.8	75	9.7	1.64	7.86	37037	302.30	830.96	8.5	16.2
1961.0	22.6	50.6	78	9.7	1.42	7.91	37243	161.30	822.11	8.5	16.2
1962.0	45.0	49.2	78	9.7	1.17	7.93	37347	81.16	812.45	8.5	16.2
1963.0	34.3	49.2	76	9.7	1.26	7.96	37481	106.52	803.37	8.5	16.2
1964.0	40.4	49.3	78	9.7	1.21	7.99	37596	90.29	794.30	8.5	16.2
1965.0	32.1	49.3	78	9.7	1.29	8.02	37742	113.62	785.76	8.5	16.2
1966.0	26.3	50.5	78	9.7	1.37	8.05	37920	138.98	777.75	8.5	16.2
1967.0	48.0	49.1	78	9.7	1.15	8.08	38017	76.08	769.16	8.5	16.2
1968.0	40.4	49.0	78	9.7	1.21	8.10	38132	90.29	760.95	8.5	16.2
1969.0	9.7	52.6	74	9.7	1.72	8.20	38593	378.39	756.38	8.5	16.2
1970.0	4.4	52.3	83	9.7	2.03	8.43	39737	837.93	757.34	8.5	16.2
1971.0	4.6	49.4	85	9.7	1.98	8.65	40845	795.32	757.79	8.5	16.2
1972.0	6.1	49.4	84	9.7	1.88	8.81	41674	599.54	755.96	8.5	16.2
1973.0	6.1	49.1	75	9.7	1.84	8.98	42407	594.46	754.12	8.5	16.2
1974.0	6.3	49.2	78	9.7	1.85	9.14	43157	584.32	752.21	8.5	16.2
1975.0	6.5	49.2	81	9.7	1.84	9.29	43901	558.96	750.05	8.5	16.2
1976.0	8.9	49.2	81	9.7	1.74	9.40	44446	409.84	746.30	8.5	16.2
1977.0	6.9	47.8	83	9.7	1.81	9.55	45163	528.53	743.93	8.5	16.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1978.0	8.5	54.0	58	9.7	1.69	9.67	45571	430.12	740.54	8.5	16.2
1979.0	10.9	57.7	59	9.7	1.65	9.76	45897	333.75	736.20	8.5	16.2
1980.0	6.3	58.9	64	9.7	1.69	9.92	46512	580.26	734.55	8.5	16.2
1981.0	17.2	58.4	64	9.7	1.52	9.97	46736	212.02	729.09	8.5	16.2
1982.0	40.0	55.7	64	9.7	1.20	10.00	46832	91.30	722.50	8.5	16.2
1983.0	37.5	54.3	64	9.7	1.21	10.03	46934	97.39	716.10	8.5	16.2
1984.0	7.1	58.6	65	9.7	1.65	10.17	47481	516.35	714.08	8.5	16.2
1985.0	4.5	59.4	51	9.7	1.93	10.39	48163	810.54	715.04	8.5	16.2
1986.0	6.1	59.1	51	9.7	1.82	10.55	48663	598.52	713.89	8.5	16.2
1987.0	6.3	59.3	51	9.7	1.81	10.71	49143	575.19	712.52	8.5	16.2
1988.0	9.0	60.3	62	9.7	1.77	10.82	49560	405.78	709.54	8.5	16.2
1989.0	5.4	46.8	85	9.7	1.89	11.01	50505	674.61	709.20	8.5	16.2
1990.0	10.8	37.1	93	9.7	1.57	11.10	51021	337.81	705.65	8.5	16.2
1991.0	24.5	38.0	92	9.7	1.33	11.14	51247	149.12	700.39	8.5	16.2
1992.0	21.8	33.0	93	9.7	1.31	11.19	51502	167.38	695.39	8.5	16.2
1993.0	9.2	32.3	93	9.7	1.56	11.29	52110	395.63	692.61	8.5	16.2
1994.0	23.5	33.2	92	9.7	1.28	11.34	52343	155.21	687.66	8.5	16.2
1995.0	7.8	36.9	90	9.7	1.66	11.46	53031	467.66	685.66	8.5	16.2
1996.0	10.3	35.9	93	9.7	1.57	11.56	53576	355.06	682.67	8.5	16.2
1997.0	8.9	34.0	94	9.7	1.59	11.67	54205	408.82	680.22	8.5	16.2
1998.0	5.2	33.8	91	9.7	1.75	11.87	55255	702.00	680.41	8.5	16.2
1999.0	5.4	34.7	97	9.7	1.76	12.05	56321	670.55	680.33	8.5	16.2
2000.0	5.3	33.7	97	9.7	1.75	12.24	57410	684.75	680.36	8.5	16.2
2001.0	7.3	37.9	96	9.7	1.72	12.37	58201	499.11	678.80	8.5	16.2
2002.0	15.0	35.0	97	9.7	1.46	12.44	58588	243.47	675.07	8.5	16.2
2003.0	5.6	36.1	97	9.7	1.77	12.62	59616	647.22	674.83	8.5	16.2
2004.0	8.5	34.4	97	9.7	1.62	12.73	60298	428.10	672.75	8.5	16.2
2005.0	27.5	31.7	97	9.7	1.24	12.77	60509	132.89	668.24	8.5	16.2
2006.0	7.2	34.2	97	9.7	1.67	12.91	61319	508.24	666.92	8.5	16.2
2007.0	10.2	32.6	97	9.7	1.54	13.01	61889	358.10	664.38	8.5	16.2
2008.0	6.3	35.9	90	9.7	1.71	13.17	62739	576.20	663.66	8.5	16.2
2009.0	10.1	37.8	91	9.7	1.60	13.26	63281	361.14	661.22	8.5	16.2
2010.0	6.1	38.9	91	9.7	1.77	13.43	64181	599.54	660.72	8.5	16.2
2011.0	7.2	38.6	91	9.7	1.72	13.57	64944	509.25	659.52	8.5	16.2
2012.0	5.1	36.4	91	9.7	1.79	13.76	66018	714.17	659.95	8.5	16.2
2013.0	6.1	37.0	94	9.7	1.75	13.93	66939	599.54	659.47	8.5	16.2
2014.0	11.5	36.8	93	9.7	1.55	14.01	67424	316.51	656.81	8.5	16.2
2015.0	8.6	35.7	94	9.7	1.63	14.13	68075	423.02	655.01	8.5	16.2
2016.0	22.2	34.0	93	9.7	1.32	14.18	68326	164.34	651.25	8.5	16.2
2017.0	12.9	35.4	93	9.7	1.50	14.25	68759	282.02	648.45	8.5	16.2
2018.0	7.7	35.4	95	9.7	1.66	14.38	69502	475.77	647.15	8.5	16.2
2019.0	6.9	36.3	98	9.7	1.71	14.53	70346	526.50	646.24	8.5	16.2
2020.0	6.1	36.8	96	9.7	1.76	14.69	71286	596.49	645.88	8.5	16.2
2021.0	6.4	36.3	96	9.7	1.73	14.85	72184	570.12	645.32	8.5	16.2
2022.0	11.0	36.1	96	9.7	1.56	14.94	72706	331.72	643.02	8.5	16.2
2023.0	6.1	36.7	96	9.7	1.76	15.10	73653	600.55	642.71	8.5	16.3
2024.0	8.5	37.3	96	9.7	1.66	15.22	74329	430.12	641.18	8.5	16.3
2025.0	7.4	37.4	96	9.7	1.70	15.35	75107	494.03	640.13	8.5	16.3
2026.0	17.7	36.5	96	9.7	1.42	15.41	75430	205.93	637.04	8.5	16.3
2027.0	11.1	38.9	93	9.7	1.59	15.50	75931	328.68	634.87	8.5	16.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2028.0	12.1	37.5	93	9.7	1.54	15.58	76390	301.29	632.53	8.5	16.3
2029.0	24.8	37.7	96	9.7	1.33	15.62	76621	147.09	629.15	8.5	16.3
2030.0	9.0	38.8	96	9.7	1.66	15.74	77259	405.78	627.61	8.5	16.3
2031.0	6.7	38.5	96	9.7	1.75	15.88	78115	543.74	627.03	8.5	16.3
2032.0	12.6	38.5	96	9.7	1.55	15.96	78570	290.13	624.74	8.5	16.3
2033.0	11.5	39.0	100	9.7	1.60	16.05	79091	318.54	622.66	8.5	16.3
2034.0	18.4	38.8	100	9.7	1.45	16.11	79418	198.83	619.81	8.5	16.3
2035.0	37.1	37.7	100	9.7	1.22	16.13	79580	98.40	616.33	8.5	16.3
2036.0	9.0	39.1	100	9.7	1.68	16.24	80253	407.81	614.95	8.5	16.3
2037.0	17.8	38.3	94	9.7	1.43	16.30	80568	204.92	612.24	8.5	16.3
2038.0	36.0	38.2	91	9.7	1.20	16.33	80721	101.44	608.90	8.5	16.3
2039.0	26.7	37.2	92	9.7	1.29	16.37	80927	136.95	605.83	8.5	16.3
2040.0	34.0	38.9	91	9.7	1.23	16.39	81088	107.53	602.61	8.5	16.3
2041.0	31.9	38.9	91	9.7	1.25	16.43	81260	114.63	599.47	8.5	16.3
2042.0	33.0	40.0	91	9.7	1.25	16.46	81426	110.57	596.35	8.5	16.3
2043.0	27.7	39.9	91	9.7	1.30	16.49	81624	131.88	593.41	8.5	16.3
2044.0	22.8	37.7	92	9.7	1.34	16.54	81865	160.28	590.68	8.5	16.3
2045.0	33.0	40.3	91	9.7	1.25	16.57	82031	110.57	587.67	8.5	16.3
2046.0	22.0	39.7	83	9.7	1.34	16.61	82257	166.37	585.05	8.5	16.3
2047.0	34.3	39.3	94	9.7	1.24	16.64	82421	106.52	582.09	8.5	16.3
2048.0	32.1	37.5	94	9.7	1.24	16.67	82596	113.62	579.21	8.5	16.3
2049.0	37.1	39.9	94	9.7	1.22	16.70	82748	98.40	576.27	8.5	16.3
2050.0	35.3	37.6	97	9.7	1.22	16.73	82913	103.47	573.40	8.5	16.3
2051.0	36.0	41.1	97	9.7	1.25	16.76	83074	101.44	570.55	8.5	16.3
2052.0	25.5	40.0	97	9.7	1.35	16.79	83303	143.04	567.99	8.5	16.3
2053.0	28.1	41.0	97	9.7	1.33	16.83	83510	129.85	565.38	8.5	16.3
2054.0	25.5	39.4	97	9.7	1.34	16.87	83739	143.04	562.87	8.5	16.3
2055.0	31.7	40.0	95	9.7	1.27	16.90	83919	115.21	560.24	8.5	16.3
2056.0	36.4	39.1	86	9.7	1.19	16.93	84060	100.43	557.54	8.5	16.3
2057.0	28.8	39.8	95	9.7	1.30	16.96	84258	126.81	555.03	8.5	16.3
2058.0	24.8	39.1	95	9.7	1.34	17.00	84487	147.09	552.67	8.5	16.3
2059.0	24.7	41.0	95	9.7	1.36	17.04	84718	148.11	550.34	8.5	16.3
2060.0	18.3	39.7	95	9.7	1.45	17.10	85031	199.85	548.34	8.5	16.3
2061.0	27.3	39.4	95	9.7	1.32	17.14	85241	133.91	545.98	8.5	16.3
2062.0	22.8	40.4	96	9.7	1.39	17.18	85495	160.28	543.79	8.5	16.3
2063.0	19.0	40.7	96	9.7	1.45	17.23	85799	191.73	541.81	8.5	16.3
2064.0	11.4	40.8	97	9.7	1.61	17.32	86308	319.55	540.57	8.5	16.3
2065.0	9.7	41.4	96	9.7	1.67	17.42	86902	375.34	539.65	8.5	16.3
2066.0	7.7	40.0	94	9.7	1.72	17.55	87635	475.77	539.30	8.5	16.3
2067.0	8.1	39.1	96	9.7	1.70	17.68	88341	449.40	538.80	8.5	16.3
2068.0	7.9	39.2	96	9.7	1.71	17.80	89062	459.54	538.37	8.5	16.3
2069.0	7.7	39.6	96	9.7	1.72	17.93	89808	474.76	538.02	8.5	16.3
2070.0	13.7	47.8	75	9.7	1.55	18.00	90136	266.80	536.55	8.5	16.3
2071.0	12.6	52.0	64	9.7	1.57	18.08	90442	290.13	535.23	8.5	16.3
2072.0	9.5	52.7	54	9.7	1.61	18.19	90782	385.49	534.42	8.5	16.3
2073.0	12.9	52.7	52	9.7	1.50	18.27	91025	282.02	533.08	8.5	16.3
2074.0	32.7	52.3	53	9.7	1.18	18.30	91122	111.59	530.85	8.5	16.3
2075.0	65.5	41.0	42	9.7	0.79	18.31	91161	55.79	528.34	8.5	16.3
2076.0	11.1	41.5	69	9.7	1.53	18.40	91536	329.69	527.30	8.5	16.3
2077.0	8.3	36.5	92	9.7	1.65	18.52	92208	442.30	526.86	8.5	16.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2078.0	10.1	36.9	92	9.7	1.59	18.62	92759	363.17	526.01	8.5	16.3
2079.0	10.1	36.4	92	9.7	1.58	18.72	93307	361.14	525.16	8.5	16.3
2080.0	10.3	36.3	92	9.7	1.57	18.82	93842	353.03	524.27	8.5	16.3
2081.0	17.4	36.2	92	9.7	1.41	18.88	94159	209.99	522.67	8.5	16.3
2082.0	14.6	36.3	92	9.7	1.47	18.94	94536	249.55	521.28	8.5	16.3
2083.0	19.4	35.4	92	9.7	1.37	19.00	94821	188.69	519.59	8.5	16.3
2084.0	22.0	35.5	92	9.7	1.33	19.04	95072	166.37	517.82	8.5	16.3
2085.0	9.3	38.3	51	9.7	1.45	19.15	95400	394.62	517.20	8.5	16.3
2086.0	9.5	38.5	47	9.7	1.41	19.25	95695	382.45	516.53	8.5	16.3
2087.0	10.0	38.6	63	9.7	1.49	19.35	96074	364.19	515.77	8.5	16.3
2088.0	11.0	37.0	94	9.7	1.57	19.45	96589	331.72	514.87	8.5	16.3
2089.0	9.5	37.1	95	9.7	1.62	19.55	97186	384.47	514.23	8.5	16.3
2090.0	11.0	37.0	95	9.7	1.57	19.64	97703	332.74	513.34	8.5	16.3
2091.0	6.7	37.3	95	9.7	1.73	19.79	98551	544.76	513.49	8.5	16.3
2092.0	8.1	37.8	95	9.7	1.68	19.91	99249	449.40	513.18	8.5	16.3
2093.0	5.8	37.5	94	9.7	1.78	20.09	100226	629.97	513.74	8.5	16.3
2094.0	7.8	36.6	93	9.7	1.67	20.21	100940	469.69	513.53	8.5	16.3
2095.0	13.9	38.1	95	9.7	1.51	20.29	101350	262.74	512.34	8.5	16.3
2096.0	11.3	37.7	95	9.7	1.57	20.38	101855	322.59	511.44	8.5	16.3
2097.0	8.1	37.4	95	9.7	1.67	20.50	102561	451.43	511.15	8.5	16.3
2098.0	7.6	37.6	95	9.7	1.70	20.63	103317	482.88	511.02	8.5	16.3
2099.0	6.6	37.6	95	9.7	1.74	20.78	104183	553.89	511.22	8.5	16.3
2100.0	6.4	37.5	95	9.7	1.75	20.94	105074	569.10	511.49	8.5	16.3
2101.0	8.0	37.5	95	9.7	1.68	21.06	105786	455.49	511.23	8.5	16.3
2102.0	9.5	37.7	95	9.7	1.63	21.17	106383	382.45	510.64	8.5	16.3
2103.0	17.0	37.2	95	9.7	1.44	21.23	106720	215.06	509.28	8.5	16.4
2104.0	10.9	37.4	93	9.7	1.58	21.32	107232	334.77	508.48	8.5	16.4
2105.0	14.6	37.3	98	9.7	1.50	21.39	107634	249.55	507.30	8.5	16.4
2106.0	7.0	37.8	98	9.7	1.74	21.53	108477	522.44	507.37	8.5	16.4
2107.0	7.6	38.1	98	9.7	1.71	21.66	109249	478.82	507.24	8.5	16.4
2108.0	9.2	37.7	98	9.7	1.65	21.77	109892	398.68	506.75	8.5	16.4
2109.0	9.4	37.9	98	9.7	1.65	21.88	110520	390.56	506.23	8.5	16.4
2110.0	8.6	38.3	98	9.7	1.68	21.99	111205	425.05	505.87	8.5	16.4
2111.0	15.3	37.6	98	9.7	1.49	22.06	111589	239.41	504.69	8.5	16.4
2112.0	16.2	37.7	98	9.7	1.47	22.12	111951	225.21	503.46	8.5	16.4
2113.0	6.7	39.1	98	9.7	1.77	22.27	112827	542.73	503.63	8.5	16.4
2114.0	10.7	38.0	82	9.7	1.55	22.36	113285	340.85	502.92	8.5	16.4
2115.0	6.3	38.8	94	9.7	1.77	22.52	114172	577.22	503.24	8.5	16.4
2116.0	6.2	38.0	94	9.7	1.76	22.68	115075	586.35	503.60	8.5	16.4
2117.0	6.2	53.1	58	9.7	1.80	22.84	115643	593.45	503.99	8.5	16.4
2118.0	6.2	52.9	53	9.7	1.76	23.01	116163	592.44	504.37	8.5	16.4
2119.0	5.2	46.6	71	9.7	1.84	23.20	116983	702.00	505.22	8.5	16.4
2120.0	11.4	47.9	86	9.7	1.66	23.29	117434	319.55	504.43	8.5	16.4
2121.0	7.5	48.2	85	9.7	1.80	23.42	118119	489.98	504.37	8.5	16.4
2122.0	12.2	47.7	85	9.7	1.63	23.50	118539	300.28	503.50	8.5	16.4
2123.0	9.4	48.9	81	9.7	1.71	23.61	119052	386.50	503.01	8.5	16.4
2124.0	6.8	50.0	60	9.7	1.74	23.75	119581	535.63	503.15	8.5	16.4
2125.0	6.8	50.8	59	9.7	1.74	23.90	120101	540.70	503.30	8.5	16.4
2126.0	4.6	50.7	62	9.7	1.89	24.12	120911	797.35	504.53	8.5	16.4
2127.0	6.6	50.7	61	9.7	1.77	24.27	121472	555.92	504.74	8.5	16.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2128.0	5.3	50.8	62	9.7	1.84	24.46	122168	688.81	505.50	8.5	16.4
2129.0	5.7	50.7	61	9.7	1.81	24.64	122816	641.13	506.05	8.5	16.4
2130.0	5.5	50.8	61	9.7	1.82	24.82	123472	658.37	506.68	8.5	16.4
2131.0	5.0	50.9	58	9.7	1.84	25.02	124171	736.49	507.61	8.5	16.4
2132.0	12.9	50.1	61	9.7	1.52	25.10	124452	282.02	506.70	8.5	16.4
2133.0	24.7	46.6	55	9.7	1.24	25.14	124586	148.11	505.25	8.5	16.4
2134.0	5.3	49.5	60	9.7	1.82	25.33	125266	694.89	506.01	8.5	16.4
2135.0	5.5	48.9	52	9.7	1.75	25.51	125830	660.40	506.63	8.5	16.4
2136.0	37.5	46.4	67	9.7	1.16	25.53	125938	97.39	505.00	8.5	16.4
2137.0	8.7	48.2	61	9.7	1.64	25.65	126362	420.99	504.66	8.5	16.4
2138.0	5.8	52.1	62	9.7	1.83	25.82	127003	632.00	505.17	8.5	16.4
2139.0	5.3	49.6	62	9.7	1.83	26.01	127705	687.79	505.89	8.5	16.4
2140.0	7.7	48.1	62	9.7	1.68	26.14	128185	472.73	505.76	8.5	16.4
2141.0	7.7	49.0	62	9.7	1.69	26.27	128665	474.76	505.64	8.5	16.4
2142.0	5.0	49.0	68	9.7	1.87	26.47	129484	734.46	506.53	8.5	16.4
2143.0	4.6	49.6	75	9.7	1.94	26.69	130464	795.32	507.65	8.5	16.4
2144.0	7.1	48.1	62	9.7	1.71	26.83	130990	513.31	507.67	8.5	16.4
2145.0	6.5	49.0	62	9.7	1.75	26.98	131566	562.00	507.88	8.5	16.4
2146.0	5.7	49.9	62	9.7	1.81	27.16	132224	642.14	508.39	8.5	16.4
2147.0	5.9	49.9	62	9.7	1.80	27.33	132865	623.88	508.84	8.5	16.4
2148.0	4.8	50.4	63	9.7	1.88	27.54	133646	759.82	509.79	8.5	16.4
2149.0	7.0	50.5	63	9.7	1.75	27.68	134186	523.45	509.84	8.5	16.4
2150.0	5.4	50.6	55	9.7	1.80	27.87	134803	677.65	510.48	8.5	16.4
2151.0	4.3	45.3	82	9.7	1.94	28.10	135955	857.21	511.78	8.5	16.4
2152.0	9.5	42.7	95	9.7	1.69	28.21	136553	384.47	511.30	8.5	16.4
2153.0	17.3	44.1	68	9.7	1.40	28.27	136790	211.00	510.18	8.5	16.4
2154.0	27.9	41.3	66	9.7	1.21	28.30	136932	130.86	508.77	8.5	16.4
2155.0	8.1	43.8	67	9.7	1.64	28.43	137426	451.43	508.56	8.5	16.4
2156.0	4.2	46.5	58	9.7	1.85	28.67	138266	879.52	509.93	8.5	16.4
2157.0	6.1	47.1	77	9.7	1.82	28.83	139026	597.51	510.25	8.5	16.4
2158.0	9.5	47.0	77	9.7	1.67	28.93	139511	383.46	509.79	8.5	16.4
2159.0	6.6	47.7	77	9.7	1.80	29.09	140209	551.86	509.94	8.5	16.4
2160.0	5.2	48.0	77	9.7	1.89	29.28	141108	709.10	510.66	8.5	16.4
2161.0	5.2	47.0	84	9.7	1.91	29.47	142084	704.02	511.37	8.5	16.4
2162.0	5.6	46.3	83	9.7	1.87	29.65	142982	654.32	511.88	8.5	16.4
2163.0	5.3	47.1	70	9.7	1.84	29.84	143781	692.87	512.53	8.5	16.4
2164.0	4.4	48.6	70	9.7	1.92	30.07	144748	837.93	513.70	8.5	16.4
2165.0	4.6	48.8	56	9.7	1.83	30.29	145474	794.31	514.71	8.5	16.4
2166.0	4.8	49.9	58	9.7	1.84	30.50	146201	767.93	515.61	8.5	16.4
2167.0	9.8	50.2	57	9.7	1.59	30.60	146546	371.29	515.10	8.5	16.4
2168.0	6.9	50.9	56	9.7	1.72	30.75	147031	528.53	515.14	8.5	16.4
2169.0	4.5	51.4	54	9.7	1.86	30.97	147756	818.66	516.21	8.5	16.4
2170.0	3.3	49.7	49	9.7	1.92	31.28	148662	1119	518	8.5	16.4
2171.0	4.9	49.0	49	9.7	1.77	31.48	149266	750.69	519.14	8.5	16.4
2172.0	5.5	48.4	53	9.7	1.75	31.66	149839	664.46	519.65	8.5	16.4
2173.0	5.5	49.2	53	9.7	1.76	31.85	150413	664.46	520.15	8.5	16.4
2174.0	4.5	49.5	53	9.7	1.83	32.07	151115	808.51	521.15	8.5	16.4
2175.0	5.0	48.8	54	9.7	1.79	32.27	151765	730.40	521.87	8.5	16.4
2176.0	4.5	48.3	61	9.7	1.86	32.49	152580	818.66	522.90	8.5	16.4
2177.0	6.9	48.0	83	9.7	1.82	32.64	153297	527.51	522.91	8.5	16.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2178.0	6.1	47.2	83	9.7	1.85	32.80	154105	594.46	523.16	8.5	16.4
2179.0	10.0	46.4	83	9.7	1.67	32.90	154601	365.20	522.62	8.5	16.4
2180.0	10.9	47.5	82	9.7	1.65	32.99	155053	333.75	521.98	8.5	16.4
2181.0	14.7	47.3	75	9.7	1.52	33.06	155360	248.54	521.05	8.5	16.4
2182.0	10.0	46.8	81	9.7	1.67	33.16	155850	366.21	520.53	8.5	16.4
2183.0	18.3	39.9	92	9.7	1.44	33.21	156152	199.85	519.45	8.5	16.4
2184.0	16.4	37.7	87	9.7	1.43	33.27	156472	223.18	518.46	8.5	16.4
2185.0	11.1	37.7	88	9.7	1.56	33.36	156950	329.69	517.83	8.5	16.5
2186.0	4.2	38.8	90	9.7	1.88	33.60	158230	868.36	519.00	8.5	16.5
2187.0	4.1	38.7	88	9.7	1.88	33.84	159520	887.64	520.22	8.5	16.5
2188.0	4.0	40.0	89	9.7	1.91	34.09	160845	908.94	521.50	8.5	16.5
2189.0	10.4	40.0	85	9.7	1.59	34.19	161336	351.15	520.94	8.5	16.5
2190.0	7.6	40.2	67	9.7	1.62	34.32	161869	481.86	520.81	8.5	16.5
2191.0	5.4	40.1	65	9.7	1.71	34.51	162582	670.66	521.30	8.5	16.5
2192.0	3.6	40.2	70	9.7	1.87	34.79	163752	1023	523	8.5	16.5
2193.0	6.0	40.3	85	9.7	1.77	34.95	164597	606.64	523.21	8.5	16.5
2194.0	3.9	39.7	77	9.7	1.87	35.21	165789	937.35	524.55	8.5	16.5
2195.0	13.4	34.3	85	9.7	1.44	35.28	166170	272.89	523.74	8.5	16.5
2196.0	15.9	33.8	85	9.7	1.39	35.35	166490	229.26	522.79	8.5	16.5
2197.0	18.2	33.8	85	9.7	1.34	35.40	166769	200.86	521.76	8.5	16.5
2198.0	16.7	33.7	85	9.7	1.37	35.46	167073	218.11	520.79	8.5	16.5
2199.0	21.0	33.7	75	9.7	1.26	35.51	167289	173.90	519.68	8.5	16.5
2200.0	24.4	33.6	83	9.7	1.25	35.55	167494	149.91	518.51	8.5	16.5
2201.0	9.0	34.0	84	9.7	1.56	35.66	168055	406.79	518.15	8.5	16.5
2202.0	3.4	34.6	84	9.7	1.86	35.95	169531	1067	520	8.5	16.5
2203.0	4.0	34.8	84	9.7	1.82	36.20	170805	921.12	521.15	8.5	16.5
2204.0	6.4	38.1	84	9.7	1.72	36.36	171594	571.13	521.31	8.5	16.5
2205.0	8.2	37.6	79	9.7	1.61	36.48	172169	444.33	521.07	8.5	16.5
2206.0	18.8	34.7	81	9.7	1.33	36.54	172427	194.77	520.05	8.5	16.5
2207.0	20.0	38.5	80	9.7	1.35	36.59	172667	182.60	519.00	8.4	16.5
2208.0	12.8	36.5	72	9.7	1.43	36.66	173003	285.06	518.27	8.4	16.5
2209.0	28.1	32.9	85	9.7	1.20	36.70	173183	129.85	517.07	8.4	16.5
2210.0	17.2	32.1	86	9.7	1.34	36.76	173482	212.02	516.13	8.4	16.5
2211.0	13.7	32.9	81	9.7	1.40	36.83	173833	265.78	515.37	8.4	16.5
2212.0	15.6	33.5	83	9.7	1.38	36.89	174153	234.34	514.51	8.4	16.5
2213.0	19.8	33.2	83	9.7	1.31	36.95	174405	184.63	513.50	8.4	16.5
2214.0	10.2	32.2	84	9.7	1.49	37.04	174898	357.08	513.02	8.4	16.5
2215.0	16.5	31.8	84	9.7	1.35	37.10	175203	221.15	512.14	8.4	16.5
2216.0	15.5	32.4	84	9.7	1.37	37.17	175528	235.35	511.30	8.4	16.5
2217.0	17.1	32.8	84	9.7	1.35	37.23	175823	214.05	510.41	8.4	16.5
2218.0	16.3	32.8	84	9.7	1.36	37.29	176131	224.19	509.54	8.4	16.5
2219.0	20.3	33.3	84	9.7	1.30	37.34	176378	179.56	508.56	8.4	16.5
2220.0	8.6	35.3	81	9.7	1.58	37.45	176944	427.08	508.31	8.4	16.5
2221.0	4.5	37.4	84	9.7	1.82	37.67	178057	804.45	509.19	8.4	16.5
2222.0	7.0	37.4	84	9.7	1.68	37.82	178773	519.40	509.22	8.4	16.5
2223.0	19.5	36.8	83	9.7	1.35	37.87	179029	187.67	508.27	8.4	16.5
2224.0	19.1	36.7	83	9.7	1.36	37.92	179289	190.72	507.34	8.4	16.5
2225.0	16.1	37.2	73	9.7	1.38	37.98	179562	227.24	506.51	8.4	16.5
2226.0	23.8	38.9	84	9.7	1.31	38.02	179773	153.18	505.47	8.4	16.5
2227.0	6.5	39.4	85	9.7	1.73	38.18	180549	557.94	505.63	8.4	16.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2228.0	4.6	39.7	85	9.7	1.84	38.39	181644	786.19	506.45	8.4	16.5
2229.0	5.3	40.2	83	9.7	1.80	38.58	182580	690.84	506.98	8.4	16.5
2230.0	6.1	40.1	84	9.7	1.76	38.75	183410	599.54	507.25	8.4	16.5
2231.0	4.1	40.1	85	9.7	1.89	38.99	184655	895.75	508.37	8.4	16.5
2232.0	4.0	39.5	85	9.7	1.89	39.24	185937	918.07	509.56	8.4	16.5
2233.0	4.1	39.4	85	9.7	1.88	39.49	187193	899.81	510.68	8.4	16.5
2234.0	4.2	39.4	85	9.7	1.88	39.73	188422	879.52	511.74	8.4	16.5
2235.0	4.1	39.4	85	9.7	1.88	39.98	189678	898.80	512.84	8.4	16.5
2236.0	4.8	39.8	85	9.7	1.84	40.18	190737	757.79	513.54	8.4	16.5
2237.0	4.7	39.6	85	9.7	1.84	40.40	191827	781.12	514.30	8.4	16.5
2238.0	7.0	39.6	85	9.7	1.71	40.54	192552	520.41	514.32	8.4	16.5
2239.0	8.0	37.5	61	9.7	1.54	40.66	193006	455.49	514.15	8.4	16.5
2240.0	5.3	35.9	57	9.7	1.62	40.85	193654	690.84	514.65	8.4	16.5
2241.0	14.8	35.3	84	9.8	1.41	40.92	193996	247.52	513.90	8.4	16.5
2242.0	6.8	36.1	84	9.8	1.66	41.07	194742	537.66	513.97	8.4	16.5
2243.0	7.2	36.9	80	9.8	1.64	41.21	195414	508.24	513.95	8.4	16.5
2244.0	6.6	44.8	54	9.8	1.64	41.36	195907	555.92	514.07	8.4	16.5
2245.0	17.6	49.5	56	9.8	1.37	41.42	196098	207.96	513.22	8.4	16.5
2246.0	8.1	49.5	53	9.8	1.62	41.54	196492	451.43	513.05	8.4	16.5
2247.0	5.1	50.2	56	9.8	1.79	41.74	197144	714.17	513.60	8.4	16.5
2248.0	8.6	51.7	51	9.8	1.60	41.85	197500	424.04	513.36	8.4	16.5
2249.0	6.0	51.3	53	9.8	1.74	42.02	198032	610.70	513.62	8.4	16.5
2250.0	4.8	51.7	58	9.8	1.85	42.23	198761	766.92	514.32	8.4	16.5
2251.0	3.8	48.3	55	9.8	1.87	42.49	199633	960.68	515.54	8.4	16.5
2252.0	6.6	47.2	65	9.8	1.72	42.64	200226	551.86	515.64	8.4	16.5
2253.0	4.8	49.9	60	9.8	1.84	42.85	200982	762.86	516.31	8.4	16.5
2254.0	4.9	48.5	62	9.8	1.82	43.06	201742	744.60	516.93	8.4	16.5
2255.0	5.1	47.3	75	9.7	1.87	43.25	202619	715.18	517.46	8.4	16.5
2256.0	7.3	45.2	79	9.7	1.75	43.39	203267	499.11	517.42	8.4	16.5
2257.0	6.3	47.6	82	9.7	1.84	43.55	204051	582.29	517.59	8.4	16.5
2258.0	4.1	45.3	81	9.7	1.95	43.79	205242	897.78	518.61	8.4	16.5
2258.2	4.0	49.2	61	9.7	1.91	43.84	205424	907.93	518.82	8.4	16.5

BIT NUMBER	5	IADC CODE	517	INTERVAL	2258.2- 2445.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	7.5	BIT RUN	186.8
TOTAL HOURS	30.22	TOTAL TURNS	125215	CONDITION	T6 B5 G0.250

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2259.0	3.5	23.0	63	9.7	1.57	0.23	860	1032	45914	8.4	16.5
2260.0	9.0	29.8	69	9.7	1.44	0.34	1321	405	20631	8.4	16.5
2261.0	14.9	33.5	69	9.7	1.34	0.40	1599	245	13351	8.4	16.5
2262.0	12.4	35.0	58	9.7	1.36	0.48	1881	294	9915	8.4	16.5
2263.0	6.7	35.3	74	9.7	1.63	0.63	2545	548	7963	8.4	16.5
2264.0	6.7	43.8	83	9.7	1.77	0.78	3284	544	6684	8.4	16.5
2265.0	5.5	44.8	82	9.7	1.85	0.97	4176	665	5799	8.4	16.5
2266.0	5.8	44.4	88	9.7	1.85	1.14	5081	628	5136	8.4	16.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2267.0	8.1	46.3	81	9.7	1.74	1.26	5682	453	4604	8.4	16.5
2268.0	11.1	46.1	81	9.7	1.63	1.35	6120	330	4168	8.4	16.5
2269.0	5.0	45.8	78	9.7	1.88	1.55	7051	731	3850	8.4	16.5
2270.0	8.9	36.6	80	9.7	1.58	1.66	7588	411	3558	8.4	16.5
2271.0	10.5	46.8	79	9.7	1.65	1.76	8040	349	3307	8.4	16.5
2272.0	6.4	47.1	81	9.7	1.83	1.92	8807	574	3109	8.4	16.5
2273.0	7.6	39.6	84	9.7	1.68	2.05	9467	478	2932	8.4	16.5
2274.0	13.5	39.0	85	9.7	1.50	2.12	9846	271	2763	8.4	16.5
2275.0	10.3	36.2	81	9.7	1.53	2.22	10315	353	2620	8.4	16.5
2276.0	8.6	34.9	78	9.7	1.56	2.34	10855	424	2496	8.4	16.5
2277.5	14.0	36.9	83	9.7	1.46	2.44	11392	262	2323	8.4	16.5
2278.0	14.6	34.5	68	9.7	1.35	2.48	11531	250	2270	8.4	16.5
2279.0	12.5	34.8	58	9.7	1.36	2.56	11811	291	2175	8.4	16.5
2280.0	12.9	34.8	57	9.7	1.34	2.63	12077	284	2088	8.4	16.5
2281.0	12.8	34.9	57	9.7	1.34	2.71	12344	285	2009	8.4	16.6
2282.0	19.6	40.0	68	9.7	1.32	2.76	12554	187	1933	8.4	16.6
2283.0	19.8	47.0	59	9.7	1.34	2.81	12731	185	1862	8.4	16.6
2284.0	8.6	50.9	66	9.7	1.70	2.93	13191	427	1807	8.4	16.6
2285.0	12.0	51.1	82	9.7	1.66	3.01	13598	303	1751	8.4	16.6
2286.0	5.6	51.6	72	9.7	1.88	3.19	14363	651	1711	8.4	16.6
2287.0	6.5	50.6	55	9.7	1.73	3.35	14869	560	1671	8.4	16.6
2288.0	4.1	44.8	49	9.7	1.78	3.59	15592	897	1645	8.4	16.6
2289.0	5.0	47.9	55	9.7	1.78	3.79	16242	723	1615	8.4	16.6
2290.0	4.1	51.1	56	9.7	1.90	4.04	17061	898	1593	8.4	16.6
2291.0	6.0	51.0	57	9.7	1.77	4.20	17623	605	1562	8.4	16.6
2292.0	6.0	51.5	53	9.7	1.76	4.37	18156	608	1534	8.4	16.6
2293.0	10.4	54.1	50	9.7	1.57	4.46	18442	350	1500	8.4	16.6
2294.0	8.6	54.2	50	9.7	1.64	4.58	18793	423	1470	8.4	16.6
2295.0	12.5	54.1	52	9.7	1.52	4.66	19042	291	1438	8.4	16.6
2296.0	7.2	54.6	53	9.7	1.72	4.80	19481	506	1413	8.4	16.6
2297.0	10.8	52.8	53	9.7	1.56	4.89	19774	338	1386	8.4	16.6
2298.0	4.8	53.1	52	9.7	1.85	5.10	20429	768	1370	8.4	16.6
2299.0	5.9	53.1	53	9.7	1.78	5.27	20969	622	1352	8.4	16.6
2300.0	5.2	53.3	53	9.6	1.83	5.46	21578	701	1336	8.4	16.6
2301.0	5.1	53.4	53	9.8	1.82	5.66	22203	716	1322	8.4	16.6
2302.0	5.4	54.4	54	9.8	1.82	5.84	22809	677	1307	8.4	16.6
2303.0	5.0	54.6	52	9.8	1.82	6.04	23425	726	1294	8.4	16.6
2304.0	4.4	54.5	54	9.8	1.88	6.27	24156	825	1284	8.4	16.6
2305.0	6.4	54.2	53	9.8	1.75	6.42	24655	569	1269	8.4	16.6
2306.0	5.2	55.4	53	9.8	1.83	6.62	25265	702	1257	8.4	16.6
2307.0	7.4	54.6	53	9.8	1.70	6.75	25691	493	1241	8.4	16.6
2308.0	4.5	54.6	57	9.8	1.90	6.97	26456	811	1232	8.4	16.6
2309.0	3.6	54.7	57	9.8	1.97	7.25	27401	1005	1228	8.4	16.6
2310.0	5.7	53.4	51	9.8	1.76	7.43	27936	644	1217	8.4	16.6
2311.0	5.5	54.3	59	9.8	1.84	7.61	28583	666	1206	8.4	16.6
2312.0	7.4	54.2	59	9.8	1.73	7.74	29059	492	1193	8.4	16.6
2313.0	11.5	54.0	58	9.8	1.57	7.83	29362	318	1177	8.4	16.6
2314.0	10.0	54.1	58	9.8	1.62	7.93	29711	364	1162	8.4	16.6
2315.0	7.0	54.5	59	9.8	1.75	8.07	30216	522	1151	8.4	16.6
2316.0	6.2	54.8	54	9.8	1.77	8.23	30745	591	1141	8.4	16.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2317.0	4.7	55.2	58	9.8	1.90	8.45	31496	784	1135	8.4	16.6
2318.0	6.9	54.8	58	9.8	1.76	8.59	31997	526	1125	8.4	16.6
2319.0	6.2	55.0	58	9.7	1.82	8.76	32560	592	1116	8.4	16.6
2320.0	7.5	54.8	58	9.7	1.75	8.89	33025	489	1106	8.4	16.6
2321.0	6.1	55.0	58	9.7	1.82	9.05	33596	602	1098	8.4	16.6
2322.0	5.7	54.9	57	9.7	1.84	9.23	34200	641	1091	8.4	16.6
2323.0	14.7	54.3	57	9.7	1.50	9.30	34432	249	1078	8.4	16.6
2324.0	14.2	54.8	57	9.7	1.52	9.37	34674	257	1066	8.4	16.6
2325.0	4.2	56.4	58	9.7	1.97	9.60	35497	863	1063	8.4	16.6
2326.0	4.8	53.9	49	9.7	1.84	9.81	36115	765	1058	8.4	16.6
2327.0	4.5	49.4	51	9.7	1.81	10.03	36784	804	1054	8.4	16.6
2328.0	4.7	53.7	58	9.7	1.90	10.25	37522	772	1050	8.4	16.6
2329.0	5.8	53.4	58	9.7	1.82	10.42	38122	628	1044	8.4	16.6
2330.0	5.2	53.6	58	9.7	1.86	10.61	38797	699	1040	8.4	16.6
2331.0	8.2	53.2	58	9.7	1.70	10.73	39218	445	1032	8.4	16.6
2332.0	5.7	54.8	58	9.7	1.84	10.91	39829	642	1026	8.4	16.6
2333.0	4.9	55.9	58	9.7	1.90	11.11	40530	739	1022	8.4	16.6
2334.0	5.5	55.6	58	9.7	1.86	11.29	41158	663	1018	8.4	16.6
2335.0	4.4	48.7	60	9.7	1.87	11.52	41985	832	1015	8.4	16.6
2336.0	5.3	35.0	71	9.7	1.68	11.71	42783	686	1011	8.4	16.6
2337.0	3.7	36.5	65	9.7	1.79	11.98	43838	984	1011	8.4	16.6
2338.0	4.4	36.2	70	9.7	1.75	12.20	44800	833	1008	8.4	16.6
2339.0	9.2	37.0	70	9.7	1.53	12.31	45255	397	1001	8.4	16.6
2340.0	15.9	38.2	70	9.7	1.38	12.37	45518	230.28	991.43	8.4	16.6
2341.0	12.9	35.7	66	9.7	1.39	12.45	45824	284.04	982.89	8.4	16.6
2342.0	6.7	37.2	70	9.7	1.64	12.60	46451	545.77	977.67	8.4	16.6
2343.0	4.9	37.4	51	9.7	1.64	12.81	47084	749.67	974.98	8.4	16.6
2344.0	10.3	36.5	54	9.7	1.41	12.90	47398	354.04	967.75	8.4	16.6
2345.0	7.4	35.7	61	9.7	1.54	13.04	47896	493.02	962.28	8.4	16.6
2346.0	6.1	36.5	68	9.7	1.65	13.20	48564	595.48	958.10	8.4	16.6
2347.0	10.3	36.7	67	9.7	1.48	13.30	48954	356.07	951.32	8.4	16.6
2348.0	7.8	36.9	66	9.7	1.56	13.43	49457	465.63	945.91	8.4	16.6
2349.0	6.6	36.9	60	9.7	1.58	13.58	49997	551.86	941.57	8.4	16.6
2350.0	4.9	37.1	60	9.7	1.68	13.78	50723	741.56	939.39	8.4	16.6
2351.0	5.5	37.2	60	9.7	1.65	13.96	51376	660.40	936.39	8.4	16.6
2352.0	3.7	37.7	74	9.7	1.84	14.23	52578	992.13	936.98	8.4	16.6
2353.0	4.6	38.3	70	9.7	1.77	14.45	53493	794.31	935.48	8.4	16.6
2354.0	5.2	38.0	70	9.7	1.72	14.64	54301	702.00	933.04	8.4	16.6
2355.0	11.4	38.0	74	9.7	1.50	14.73	54690	320.35	926.71	8.4	16.6
2356.0	8.5	37.9	74	9.7	1.59	14.85	55210	428.10	921.61	8.4	16.6
2357.0	5.0	37.8	74	9.7	1.75	15.05	56096	727.36	919.65	8.4	16.6
2358.0	5.3	38.8	74	9.7	1.75	15.24	56939	690.84	917.35	8.4	16.6
2359.0	5.1	37.8	75	9.7	1.75	15.43	57818	710.11	915.30	8.4	16.6
2360.0	5.0	37.6	78	9.7	1.77	15.63	58761	731.41	913.49	8.4	16.6
2361.0	6.5	37.7	78	9.7	1.69	15.79	59485	562.00	910.07	8.4	16.6
2362.0	5.3	37.9	73	9.7	1.73	15.98	60314	694.89	908.00	8.4	16.6
2363.0	6.9	38.1	67	9.7	1.62	16.12	60892	526.50	904.36	8.4	16.6
2364.0	3.9	39.0	68	9.8	1.80	16.38	61936	931.26	904.61	8.4	16.6
2365.0	5.4	37.0	73	9.8	1.70	16.56	62752	679.68	902.51	8.4	16.6
2366.0	5.4	38.0	74	9.8	1.71	16.75	63579	676.63	900.41	8.4	16.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	JCOST	CCOST	PP	FG
2367.0	6.6	38.8	74	9.8	1.66	16.90	64252	550.84	897.20	8.4	16.6
2368.0	4.7	40.8	76	9.8	1.81	17.11	65235	782.14	896.15	8.4	16.7
2369.0	7.7	39.9	73	9.8	1.62	17.24	65804	472.73	892.33	8.4	16.7
2370.0	15.2	40.2	69	9.8	1.40	17.31	66078	240.42	886.50	8.4	16.7
2371.0	6.6	40.9	74	9.8	1.69	17.46	66753	554.90	883.56	8.4	16.7
2372.0	5.2	40.7	78	9.8	1.78	17.65	67657	708.08	882.02	8.4	16.7
2373.0	6.1	40.8	78	9.8	1.73	17.82	68420	594.46	879.51	8.4	16.7
2374.0	4.6	41.1	78	9.8	1.82	18.03	69433	788.22	878.72	8.4	16.7
2375.0	5.2	38.9	77	9.8	1.75	18.22	70326	707.07	877.25	8.4	16.7
2376.0	4.8	37.7	78	9.8	1.76	18.43	71304	762.86	876.28	8.4	16.7
2377.0	4.5	37.6	78	9.8	1.78	18.66	72340	812.57	875.75	8.4	16.7
2378.0	4.2	38.6	78	9.8	1.82	18.90	73453	872.42	875.72	8.4	16.7
2379.0	5.6	38.6	77	9.8	1.72	19.07	74279	649.24	873.84	8.4	16.7
2380.0	9.1	38.4	77	9.8	1.57	19.18	74790	402.73	869.98	8.4	16.7
2381.0	5.5	38.9	77	9.8	1.73	19.36	75630	663.45	868.29	8.4	16.7
2382.0	4.1	39.9	74	9.8	1.83	19.61	76727	899.81	868.55	8.4	16.7
2383.0	6.7	42.4	78	9.8	1.72	19.76	77432	546.79	865.97	8.4	16.7
2384.0	4.0	43.4	78	9.8	1.90	20.01	78600	911.99	866.34	8.4	16.7
2385.0	5.2	45.8	78	9.8	1.85	20.20	79502	707.07	865.08	8.4	16.7
2386.0	4.5	46.3	75	9.8	1.89	20.43	80504	809.53	864.65	8.4	16.7
2387.0	5.0	46.3	77	9.8	1.86	20.63	81423	730.40	863.60	8.4	16.7
2388.0	5.0	46.0	77	9.8	1.85	20.83	82339	728.37	862.56	8.4	16.7
2389.0	9.4	46.0	76	9.8	1.65	20.93	82828	389.55	858.94	8.4	16.7
2390.0	7.3	46.1	77	9.8	1.73	21.07	83460	501.14	856.23	8.4	16.7
2391.0	13.1	45.5	76	9.8	1.53	21.15	83809	278.97	851.88	8.4	16.7
2392.0	6.6	45.9	73	9.8	1.75	21.30	84476	556.93	849.68	8.4	16.7
2393.0	12.1	45.1	73	9.8	1.54	21.38	84840	301.29	845.61	8.4	16.7
2394.0	10.7	39.7	78	9.8	1.53	21.47	85273	339.84	841.89	8.4	16.7
2395.0	6.4	40.3	79	9.8	1.71	21.63	86010	568.09	839.88	8.5	16.7
2396.0	7.6	40.5	79	9.8	1.66	21.76	86633	479.83	837.27	8.5	16.7
2397.0	9.6	42.1	79	9.8	1.60	21.86	87125	379.40	833.97	8.5	16.7
2398.0	12.0	42.9	78	9.8	1.54	21.95	87516	304.33	830.18	8.5	16.7
2399.0	15.5	42.9	78	9.8	1.46	22.01	87819	235.35	825.96	8.5	16.7
2400.0	14.9	42.7	78	9.8	1.47	22.08	88133	244.48	821.86	8.5	16.7
2401.0	14.9	42.0	79	9.7	1.48	22.15	88450	245.50	817.82	8.5	16.7
2402.0	13.4	42.7	78	9.7	1.52	22.22	88802	272.89	814.03	8.5	16.7
2403.0	10.2	43.7	73	9.7	1.60	22.32	89233	358.10	810.88	8.5	16.7
2404.0	6.7	44.2	77	9.7	1.75	22.47	89916	541.71	809.04	8.5	16.7
2405.0	12.5	44.1	76	9.7	1.55	22.55	90285	293.17	805.52	8.5	16.7
2406.0	10.5	44.0	76	9.7	1.60	22.64	90723	348.97	802.44	8.5	16.7
2407.0	15.3	44.2	77	9.7	1.48	22.71	91024	239.41	798.65	8.5	16.7
2408.0	15.4	44.2	76	9.7	1.48	22.77	91321	237.38	794.90	8.5	16.7
2409.0	10.5	44.5	76	9.7	1.61	22.87	91757	346.94	791.93	8.5	16.7
2410.0	5.5	45.1	77	9.7	1.83	23.05	92601	668.52	791.12	8.5	16.7
2411.0	4.6	45.1	77	9.7	1.89	23.27	93597	788.22	791.10	8.5	16.7
2412.0	3.8	45.5	77	9.7	1.96	23.53	94814	961.69	792.21	8.5	16.7
2413.0	10.2	41.8	74	9.7	1.58	23.63	95253	359.11	789.41	8.5	16.7
2414.0	11.3	43.9	76	9.7	1.58	23.72	95659	323.61	786.42	8.5	16.7
2415.0	5.1	45.2	76	9.7	1.86	23.92	96561	719.24	786.00	8.5	16.7
2416.0	4.2	45.5	77	9.7	1.93	24.15	97654	867.35	786.51	8.5	16.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2417.0	6.9	44.8	76	9.7	1.75	24.30	98317	528.53	784.89	8.5	16.7
2418.0	5.2	45.7	77	9.7	1.85	24.49	99192	695.91	784.33	8.5	16.7
2419.0	4.1	46.4	78	9.7	1.95	24.73	100337	893.73	785.01	8.5	16.7
2420.0	4.8	46.5	78	9.7	1.90	24.94	101315	764.89	784.89	8.5	16.7
2421.0	4.8	46.6	78	9.7	1.90	25.15	102288	759.82	784.73	8.5	16.7
2422.0	5.4	46.5	77	9.7	1.86	25.34	103145	675.62	784.07	8.5	16.7
2423.0	5.9	46.3	77	9.7	1.82	25.51	103929	621.85	783.08	8.5	16.7
2424.0	4.5	46.5	77	9.7	1.92	25.73	104965	819.67	783.30	8.5	16.7
2425.0	5.0	47.0	77	9.7	1.89	25.93	105892	735.47	783.02	8.5	16.7
2426.0	4.3	47.0	77	9.7	1.94	26.16	106967	850.10	783.41	8.5	16.7
2427.0	7.9	44.9	75	9.7	1.71	26.29	107543	464.62	781.53	8.5	16.7
2428.0	7.3	47.4	77	9.7	1.77	26.43	108175	500.12	779.87	8.5	16.7
2429.0	4.9	47.1	75	9.7	1.89	26.63	109088	738.52	779.63	8.5	16.7
2430.0	5.3	43.9	79	9.7	1.84	26.82	109979	687.79	779.09	8.5	16.7
2431.0	8.1	47.4	79	9.7	1.74	26.94	110564	453.46	777.21	8.5	16.7
2432.0	9.8	46.5	78	9.7	1.66	27.05	111043	373.32	774.88	8.5	16.7
2433.0	9.0	45.7	76	9.7	1.67	27.16	111546	404.76	772.77	8.5	16.7
2434.0	4.2	46.3	78	9.7	1.94	27.39	112648	862.28	773.28	8.5	16.7
2435.0	5.0	46.1	78	9.7	1.88	27.59	113576	726.34	773.01	8.5	16.7
2436.0	8.8	45.8	77	9.7	1.69	27.70	114104	414.91	771.00	8.5	16.7
2437.0	5.5	46.1	77	9.7	1.84	27.89	114940	660.40	770.38	8.5	16.7
2438.0	4.0	46.4	77	9.7	1.96	28.14	116104	915.03	771.18	8.5	16.7
2439.0	5.7	46.4	78	9.7	1.84	28.31	116918	637.07	770.44	8.5	16.7
2440.0	5.8	46.4	77	9.7	1.83	28.48	117718	628.96	769.66	8.5	16.7
2441.0	4.7	46.6	78	9.7	1.90	28.69	118701	770.98	769.67	8.5	16.7
2442.0	4.2	46.8	78	9.7	1.95	28.93	119815	869.38	770.21	8.5	16.7
2443.0	3.7	47.9	74	9.7	1.99	29.20	121012	986.04	771.38	8.5	16.7
2444.0	1.9	48.4	69	9.7	2.20	29.73	123184	1923	778	8.5	16.7
2445.0	2.1	46.8	69	9.7	2.15	30.22	125215	1780	783	8.5	16.7

BIT NUMBER	6	IADC CODE	347	INTERVAL	2445.0- 2464.0
HTC JD8		SIZE	8.500	NOZZLES	14 14 14
COST	1700.00	TRIP TIME	7.4	BIT RUN	19.0
TOTAL HOURS	4.92	TOTAL TURNS	18701	CONDITION	T6 B3 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2446.0	3.8	40.9	62	9.4	2.12	0.26	974	954	29678	8.6	16.8
2447.0	4.7	37.4	62	9.4	1.99	0.47	1769	778	15228	8.6	16.8
2448.0	4.2	38.9	67	9.3	2.11	0.71	2731	873	10443	8.6	16.8
2449.0	7.1	36.8	68	9.3	1.88	0.85	3303	515	7961	8.6	16.8
2450.0	8.7	39.1	68	9.3	1.84	0.97	3771	422	6453	8.6	16.8
2451.0	8.8	36.5	67	9.3	1.79	1.08	4229	415	5447	8.6	16.8
2452.0	4.8	39.7	61	9.3	2.04	1.29	5000	765	4778	8.6	16.8
2453.0	4.5	38.9	64	9.3	2.06	1.52	5855	815	4283	8.6	16.8
2454.0	7.1	38.7	63	9.3	1.88	1.66	6388	514	3864	8.6	16.8
2455.0	3.0	39.6	65	9.3	2.23	1.99	7674	1206	3598	8.6	16.8
2456.0	3.0	39.6	66	9.3	2.23	2.32	8973	1198	3380	8.6	16.8
2457.0	3.9	40.0	60	9.3	2.11	2.57	9907	940	3177	8.6	16.8
2458.0	4.0	37.9	60	9.3	2.07	2.82	10818	919	3003	8.6	16.8
2459.0	3.2	39.3	58	9.3	2.16	3.14	11915	1154	2871	8.6	16.8
2460.0	3.4	39.6	66	9.3	2.19	3.44	13095	1082	2752	8.6	16.8
2461.0	4.3	39.5	66	9.3	2.10	3.67	14013	842	2632	8.6	16.8
2462.0	2.5	40.0	65	9.3	2.31	4.07	15571	1455	2563	8.6	16.8
2463.0	2.4	39.5	61	9.3	2.28	4.48	17059	1495	2504	8.6	16.8
2464.0	2.2	39.9	61	9.3	2.32	4.92	18701	1637	2458	8.6	16.8

BIT NUMBER	7	IADC CODE	517	INTERVAL	2464.0- 2481.2
HTC J22		SIZE	8.500	NOZZLES	14 14 14
COST	4139.00	TRIP TIME	7.5	BIT RUN	17.2
TOTAL HOURS	1.43	TOTAL TURNS	4447	CONDITION	T1 B1 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2465.0	11.4	30.7	57	9.3	1.54	0.09	297	320	31849	8.6	16.8
2466.0	20.2	48.0	66	9.3	1.64	0.14	494	181	16015	8.6	16.8
2467.0	9.9	43.4	49	9.3	1.74	0.24	791	368	10799	8.6	16.8
2468.0	15.0	44.1	48	9.3	1.57	0.30	982	243	8160	8.6	16.8
2469.0	19.4	43.9	48	9.3	1.47	0.36	1129	189	6566	8.6	16.8
2470.0	23.1	43.1	46	9.3	1.39	0.40	1250	158	5498	8.6	16.8
2471.0	20.5	40.3	48	9.3	1.41	0.45	1390	179	4738	8.6	16.8
2472.0	32.7	41.5	57	9.3	1.31	0.48	1494	112	4160	8.6	16.8
2473.0	21.7	38.3	51	9.3	1.39	0.53	1635	168	3716	8.6	16.8
2474.0	25.7	35.6	57	9.3	1.33	0.56	1768	142	3359	8.6	16.8
2475.0	17.6	28.1	50	9.3	1.31	0.62	1937	207	3072	8.6	16.8
2477.0	8.9	38.6	52	9.3	1.73	0.85	2639	411	2663	8.6	16.8
2478.0	5.4	42.5	52	9.3	1.98	1.03	3221	681	2521	8.6	16.8
2479.0	7.5	44.5	52	9.3	1.88	1.17	3638	488	2386	8.6	16.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2480.0	6.5	45.1	52	9.3	1.95	1.32	4117	561	2272	8.6	16.8
2481.0	10.2	42.0	52	9.3	1.73	1.42	4425	359	2159	8.6	16.8
2481.2	16.4	43.5	29	9.3	1.34	1.43	4447	223	2137	8.6	16.8

BIT NUMBER	7	IADC CODE	4	INTERVAL	2481.2- 2499.0
CHRIST RC6		SIZE	8.500	NOZZLES	14 15 15
COST	11019.00	TRIP TIME	7.5	BIT RUN	17.8
TOTAL HOURS	1.45	TOTAL TURNS	8248	CONDITION	T0 B0 G0.050

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2481.3	5.5	21.6	93	9.4	1.75	0.02	102	670	384760	8.6	16.8
2481.4	12.4	20.9	93	9.4	1.49	0.03	147	294	192527	8.6	16.8
2481.5	25.7	21.8	93	9.4	1.28	0.03	169	142	128399	8.6	16.8
2481.6	10.3	22.5	92	9.4	1.57	0.04	223	355	96308	8.6	16.8
2481.7	12.0	23.1	93	9.4	1.54	0.05	269	304	77171	8.6	16.8
2481.8	9.2	22.6	93	9.4	1.61	0.06	330	396	64375	8.6	16.8
2481.9	15.7	22.4	93	9.4	1.44	0.07	365	233	55219	8.6	16.8
2482.0	11.6	21.8	93	9.4	1.52	0.07	413	314	48350	8.6	16.8
2482.1	12.9	22.4	93	9.4	1.50	0.08	457	284	43009	8.6	16.8
2482.2	10.9	22.3	93	9.4	1.55	0.09	508	335	38747	8.6	16.8
2482.3	14.4	22.9	92	9.4	1.48	0.10	546	254	35243	8.6	16.8
2482.4	15.7	22.5	93	9.4	1.45	0.10	582	233	32325	8.6	16.8
2482.5	10.3	21.7	93	9.4	1.56	0.11	636	355	29866	8.6	16.8
2482.6	12.9	21.9	93	9.4	1.50	0.12	680	284	27753	8.6	16.8
2482.7	7.8	22.3	93	9.4	1.66	0.13	751	467	25934	8.6	16.8
2482.9	28.8	21.8	93	9.4	1.25	0.14	789	127	22898	8.6	16.8
2483.0	8.6	22.6	93	9.4	1.63	0.15	855	426	21649	8.6	16.8
2483.1	14.4	21.9	93	9.4	1.46	0.16	893	254	20523	8.6	16.8
2483.2	9.5	22.9	93	9.4	1.61	0.17	952	385	19514	8.6	16.8
2483.3	12.0	22.1	93	9.4	1.52	0.18	999	304	18602	8.6	16.8
2483.4	21.2	22.6	93	9.4	1.35	0.18	1025	172	17764	8.6	16.8
2483.5	10.6	23.9	92	9.4	1.59	0.19	1078	345	17007	8.6	16.8
2483.6	18.9	23.2	92	9.4	1.40	0.20	1107	193	16306	8.6	16.8
2483.7	15.0	21.9	92	9.4	1.45	0.21	1144	243	15663	8.6	16.8
2484.0	67.5	21.2	92	9.4	0.98	0.21	1168	54	13991	8.6	16.8
2484.1	10.6	21.8	94	9.4	1.55	0.22	1221	345	13520	8.6	16.8
2484.2	20.0	22.9	93	9.4	1.38	0.22	1249	183	13076	8.6	16.8
2484.3	11.6	22.7	94	9.4	1.54	0.23	1298	314	12664	8.6	16.8
2484.4	11.6	22.1	94	9.4	1.53	0.24	1346	314	12278	8.6	16.8
2484.5	15.0	26.1	94	9.4	1.53	0.25	1384	243	11914	8.6	16.8
2484.6	12.0	26.9	93	9.4	1.61	0.26	1431	304	11572	8.6	16.8
2484.7	9.5	25.8	94	9.4	1.67	0.27	1490	385	11253	8.6	16.8
2484.8	14.4	25.0	94	9.4	1.52	0.27	1529	254	10947	8.6	16.8
2484.9	10.6	22.6	94	9.4	1.57	0.28	1582	345	10660	8.6	16.8
2485.0	10.6	21.6	94	9.4	1.55	0.29	1636	345	10389	8.6	16.8
2485.2	14.4	21.8	94	9.4	1.46	0.31	1714	254	9882	8.6	16.8
2485.3	14.4	20.3	94	9.4	1.43	0.31	1753	254	9647	8.6	16.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2485.4	16.4	19.3	94	9.4	1.37	0.32	1787	223	9423	8.6	16.8
2485.6	45.0	21.3	93	9.4	1.10	0.32	1812	81	8998	8.6	16.8
2485.8	16.0	22.3	92	9.4	1.43	0.34	1881	228	8617	8.6	16.8
2486.1	60.0	24.2	88	9.4	1.04	0.34	1907	61	8093	8.6	16.8
2486.2	9.5	23.0	89	9.4	1.60	0.35	1964	385	7939	8.6	16.8
2486.4	37.9	20.9	88	9.4	1.13	0.36	1991	96	7637	8.6	16.8
2486.6	21.2	21.7	87	9.4	1.32	0.37	2041	172	7361	8.6	16.8
2487.0	45.0	19.1	87	9.4	1.05	0.38	2087	81	6859	8.6	16.8
2487.4	41.1	20.6	87	9.4	1.10	0.39	2138	89	6422	8.6	16.8
2487.5	20.0	20.0	87	9.4	1.31	0.39	2164	183	6323	8.6	16.8
2487.6	18.9	20.4	87	9.4	1.33	0.40	2191	193	6227	8.6	16.8
2487.7	6.8	20.3	87	9.4	1.63	0.41	2268	538	6140	8.6	16.8
2488.0	20.4	21.3	87	9.4	1.32	0.43	2345	179	5877	8.6	16.8
2488.2	21.8	19.3	87	9.4	1.27	0.43	2392	167	5714	8.6	16.8
2488.4	31.3	17.1	88	9.4	1.12	0.44	2426	117	5550	8.6	16.8
2488.6	24.0	20.3	87	9.4	1.26	0.45	2469	152	5412	8.6	16.8
2488.8	19.5	20.1	87	9.4	1.32	0.46	2523	188	5275	8.6	16.8
2489.0	15.3	20.7	87	9.4	1.40	0.47	2591	238	5145	8.6	16.8
2489.4	29.4	20.6	86	9.4	1.20	0.49	2661	124	4901	8.6	16.8
2489.6	24.8	18.7	87	9.4	1.22	0.49	2703	147	4787	8.6	16.8
2489.8	20.6	19.1	87	9.4	1.28	0.50	2754	178	4680	8.6	16.8
2490.0	12.2	19.6	81	9.4	1.42	0.52	2834	299	4581	8.6	16.8
2490.2	1.7	19.2	90	9.4	2.02	0.64	3461	2120	4526	8.6	16.8
2490.4	9.2	21.1	94	9.4	1.58	0.66	3583	396	4436	8.6	16.8
2490.6	10.7	21.1	94	9.4	1.54	0.68	3680	340	4349	8.6	16.8
2490.8	14.1	21.1	93	9.4	1.45	0.69	3767	259	4264	8.6	16.8
2491.0	31.3	22.0	93	9.4	1.22	0.70	3803	117	4179	8.6	16.8
2491.2	12.4	21.1	94	9.4	1.49	0.71	3893	294	4101	8.6	16.8
2491.4	18.9	20.9	94	9.4	1.36	0.72	3953	193	4025	8.6	16.8
2491.6	8.7	21.4	94	9.4	1.61	0.75	4083	421	3955	8.6	16.8
2491.8	11.4	21.2	94	9.4	1.52	0.76	4182	320	3887	8.6	16.8
2492.0	13.1	20.7	94	9.4	1.47	0.78	4268	279	3820	8.6	16.8
2492.2	16.4	20.8	94	9.4	1.40	0.79	4338	223	3755	8.6	16.8
2492.4	16.7	20.6	94	9.4	1.39	0.80	4405	218	3692	8.6	16.8
2492.6	21.2	20.2	92	9.4	1.31	0.81	4457	172	3630	8.6	16.8
2492.8	24.0	21.4	91	9.4	1.29	0.82	4502	152	3570	8.6	16.8
2493.0	5.3	17.1	92	9.4	1.64	0.86	4711	690	3521	8.6	16.8
2493.2	25.7	23.0	95	9.4	1.31	0.87	4755	142	3465	8.6	16.8
2493.4	10.7	22.7	93	9.4	1.57	0.89	4859	340	3413	8.6	16.8
2493.6	9.1	22.0	95	9.4	1.61	0.91	4985	401	3365	8.6	16.8
2493.8	6.2	22.9	100	9.4	1.76	0.94	5179	508	3321	8.6	16.8
2494.0	6.7	22.4	93	9.4	1.70	0.97	5344	543	3277	8.6	16.8
2494.2	15.0	21.4	93	9.4	1.44	0.98	5419	243	3231	8.6	16.8
2494.4	6.1	21.4	100	9.4	1.74	1.02	5617	604	3191	8.6	16.8
2494.6	7.6	22.6	102	9.4	1.70	1.04	5778	482	3150	8.6	16.8
2494.8	6.4	22.9	101	9.4	1.76	1.07	5968	573	3113	8.6	16.8
2495.0	18.0	22.0	101	9.4	1.42	1.09	6035	203	3070	8.6	16.8
2495.2	12.4	22.0	101	9.4	1.53	1.10	6133	294	3031	8.6	16.8
2495.4	12.0	22.7	101	9.4	1.56	1.12	6234	304	2992	8.6	16.8
2495.6	12.0	21.8	101	9.4	1.54	1.13	6335	304	2955	8.6	16.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2495.8	10.7	22.6	101	9.4	1.59	1.15	6447	340	2919	8.6	16.8
2496.0	13.8	23.5	101	9.4	1.53	1.17	6535	264	2883	8.6	16.8
2496.2	8.8	22.2	100	9.4	1.64	1.19	6672	416	2850	8.6	16.8
2496.4	31.3	20.7	101	9.4	1.23	1.20	6710	117	2814	8.6	16.8
2496.6	15.7	21.7	101	9.4	1.46	1.21	6787	233	2781	8.6	16.8
2496.8	21.2	22.9	101	9.4	1.38	1.22	6845	172	2747	8.6	16.8
2497.0	7.5	23.1	102	9.4	1.71	1.25	7008	487	2719	8.6	16.8
2497.2	5.6	23.4	103	9.4	1.81	1.28	7227	649	2693	8.6	16.8
2497.4	10.9	22.0	102	9.4	1.57	1.30	7339	335	2664	8.6	16.8
2497.6	37.9	20.8	101	9.4	1.17	1.30	7371	96	2633	8.6	16.8
2497.8	40.0	23.9	101	9.4	1.20	1.31	7401	91	2602	8.6	16.8
2497.9	7.2	20.4	101	9.4	1.66	1.32	7485	507	2589	8.6	16.8
2498.0	8.5	20.0	101	9.4	1.60	1.34	7556	430	2577	8.6	16.8
2498.2	12.2	21.2	101	9.4	1.52	1.35	7656	299	2550	8.6	16.8
2498.4	6.8	24.1	101	9.4	1.76	1.38	7834	537	2526	8.6	16.8
2498.6	7.5	23.2	101	9.4	1.71	1.41	7996	487	2503	8.6	16.8
2498.8	11.0	21.1	101	9.4	1.55	1.43	8106	332	2478	8.6	16.8
2499.0	8.5	21.1	101	9.4	1.63	1.45	8248	430	2455	8.6	16.8

BIT NUMBER	7	IADC CODE	4	INTERVAL	2499.0- 2517.1
CHRIST RC6		SIZE	8.500	NOZZLES	15 14 15
COST	0.00	TRIP TIME	7.5	BIT RUN	18.1
TOTAL HOURS	4.27	TOTAL TURNS	23867	CONDITION	T0 B0 G0.200

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2499.2	27.7	15.1	88	9.4	1.12	1.41	8286	132	1787	8.6	16.8
2499.4	35.5	15.2	95	9.4	1.08	1.41	8318	103	1769	8.6	16.8
2499.6	32.0	14.8	91	9.4	1.09	1.42	8353	114	1751	8.6	16.8
2499.8	18.5	14.9	94	9.4	1.25	1.43	8414	198	1735	8.6	16.8
2500.0	17.6	15.1	94	9.4	1.27	1.44	8478	208	1719	8.6	16.8
2500.2	14.4	15.0	103	9.4	1.34	1.46	8564	254	1703	8.6	16.8
2500.4	9.7	15.2	103	9.4	1.46	1.48	8691	375	1690	8.6	16.8
2500.6	21.2	14.8	97	9.4	1.22	1.49	8746	172	1674	8.6	16.8
2500.8	13.1	14.7	95	9.4	1.34	1.50	8833	279	1660	8.6	16.8
2501.0	14.7	15.1	104	9.4	1.34	1.51	8918	249	1646	8.6	16.8
2501.2	18.0	15.2	96	9.4	1.27	1.53	8982	203	1632	8.6	16.8
2501.4	30.0	15.4	93	9.4	1.12	1.53	9019	122	1617	8.6	16.8
2501.6	42.4	14.9	95	9.4	1.02	1.54	9046	86	1602	8.6	16.8
2501.8	40.0	14.8	95	9.4	1.04	1.54	9074	91	1587	8.6	16.8
2502.0	22.5	14.8	94	9.4	1.19	1.55	9125	162	1574	8.6	16.8
2502.2	13.1	14.6	94	9.4	1.34	1.57	9211	279	1562	8.6	16.8
2502.4	9.4	15.0	94	9.4	1.44	1.59	9332	391	1551	8.6	16.8
2502.6	7.1	15.1	95	9.4	1.52	1.62	9491	512	1541	8.6	16.8
2502.8	9.4	15.4	94	9.4	1.45	1.64	9612	391	1531	8.6	16.8
2503.0	6.8	15.0	95	9.4	1.53	1.67	9779	538	1522	8.6	16.8
2503.2	9.5	15.2	95	9.4	1.44	1.69	9899	385	1511	8.6	16.8
2503.4	8.8	14.8	95	9.4	1.45	1.71	10029	416	1502	8.6	16.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2503.6	11.6	14.9	95	9.4	1.38	1.73	10127	314	1491	8.6	16.8
2503.8	14.7	15.7	95	9.4	1.33	1.74	10204	249	1480	8.6	16.8
2504.0	7.6	16.2	92	9.4	1.52	1.77	10350	482	1471	8.6	16.8
2504.2	8.8	15.0	91	9.4	1.45	1.79	10474	416	1462	8.6	16.8
2504.4	18.0	15.1	91	9.4	1.25	1.80	10535	203	1452	8.6	16.8
2504.6	17.6	15.3	91	9.4	1.26	1.81	10597	208	1441	8.6	16.8
2504.8	15.0	15.1	90	9.4	1.30	1.83	10670	243	1431	8.6	16.8
2505.0	17.1	15.3	91	9.4	1.27	1.84	10733	213	1421	8.6	16.8
2505.2	13.8	14.9	91	9.4	1.32	1.85	10812	264	1411	8.6	16.8
2505.4	15.7	14.4	91	9.4	1.27	1.86	10881	233	1402	8.6	16.8
2505.6	31.3	14.4	91	9.4	1.09	1.87	10916	117	1391	8.6	16.8
2505.8	28.8	14.2	91	9.4	1.10	1.88	10954	127	1381	8.6	16.8
2506.0	26.7	13.1	91	9.4	1.10	1.89	10995	137	1371	8.6	16.8
2506.2	28.8	12.8	91	9.4	1.08	1.89	11033	127	1361	8.6	16.8
2506.4	36.9	12.7	92	9.4	1.01	1.90	11063	99	1351	8.6	16.8
2506.6	28.8	12.5	92	9.4	1.07	1.90	11101	127	1342	8.6	16.8
2506.8	28.8	14.1	92	9.4	1.10	1.91	11139	127	1332	8.6	16.8
2507.0	21.8	13.3	92	9.4	1.16	1.92	11190	167	1323	8.6	16.8
2507.2	19.5	13.8	91	9.4	1.20	1.93	11246	188	1315	8.6	16.8
2507.4	30.0	14.3	91	9.4	1.09	1.94	11282	122	1306	8.6	16.8
2507.6	14.1	14.5	91	9.4	1.31	1.95	11360	259	1298	8.6	16.8
2507.8	26.7	14.6	92	9.4	1.13	1.96	11401	137	1289	8.6	16.8
2508.0	21.8	14.3	92	9.4	1.18	1.97	11451	167	1281	8.6	16.8
2508.2	26.7	14.5	91	9.4	1.13	1.98	11492	137	1272	8.6	16.8
2508.4	18.9	14.2	91	9.4	1.22	1.99	11550	193	1264	8.6	16.8
2508.6	13.1	15.6	91	9.4	1.35	2.00	11633	279	1257	8.6	16.8
2508.8	8.2	16.1	92	9.4	1.50	2.03	11768	446	1251	8.6	16.8
2509.0	6.7	16.2	91	9.4	1.56	2.06	11932	548	1246	8.6	16.8
2509.2	3.7	15.9	91	9.4	1.71	2.11	12229	989	1245	8.6	16.8
2509.4	4.7	15.4	91	9.4	1.63	2.15	12463	781	1241	8.6	16.8
2509.6	4.7	16.7	91	9.4	1.67	2.20	12696	776	1238	8.6	16.8
2509.8	5.5	16.4	98	9.4	1.63	2.23	12909	659	1234	8.6	16.8
2510.0	6.7	16.6	90	9.4	1.56	2.26	13070	543	1229	8.6	16.8
2510.2	7.2	16.5	90	9.4	1.54	2.29	13220	507	1224	8.6	16.8
2510.4	9.0	16.7	89	9.4	1.48	2.31	13339	406	1219	8.6	16.8
2510.6	12.9	15.9	89	9.4	1.36	2.33	13422	284	1212	8.6	16.8
2510.8	10.3	16.3	90	9.4	1.43	2.35	13527	355	1207	8.6	16.8
2511.0	8.1	16.0	90	9.4	1.49	2.37	13660	451	1202	8.6	16.8
2511.2	15.0	15.8	89	9.4	1.31	2.38	13732	243	1195	8.6	16.8
2511.4	14.7	16.6	89	9.4	1.33	2.40	13804	249	1189	8.6	16.8
2511.6	13.1	15.8	89	9.4	1.35	2.41	13886	279	1183	8.6	16.8
2511.8	16.7	15.1	89	9.4	1.27	2.43	13950	218	1177	8.6	16.8
2512.0	20.6	15.4	89	9.4	1.22	2.44	14002	178	1170	8.6	16.8
2512.2	13.1	15.8	90	9.4	1.35	2.45	14084	279	1165	8.6	16.8
2512.4	5.6	16.8	89	9.4	1.61	2.49	14275	649	1161	8.6	16.8
2512.6	7.4	16.2	88	9.4	1.52	2.51	14418	492	1157	8.6	16.8
2512.8	8.9	16.5	88	9.4	1.47	2.54	14537	411	1153	8.6	16.8
2513.0	8.2	16.5	89	9.4	1.50	2.56	14667	446	1148	8.6	16.8
2513.2	6.3	13.4	73	9.4	1.44	2.59	14807	583	1145	8.6	16.8
2513.4	7.1	12.2	92	9.4	1.43	2.62	14961	512	1141	8.6	16.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2513.6	3.9	11.5	93	9.4	1.57	2.67	15248	938	1139	8.6	16.8
2513.8	3.5	12.3	92	9.4	1.62	2.73	15564	1045	1139	8.6	16.8
2514.0	8.1	12.6	93	9.4	1.41	2.75	15702	451	1135	8.6	16.8
2514.2	5.3	12.0	92	9.4	1.50	2.79	15908	685	1132	8.6	16.8
2514.4	3.7	13.2	92	9.4	1.64	2.85	16207	989	1131	8.6	16.8
2514.6	2.1	13.9	91	9.4	1.81	2.94	16741	1780	1135	8.6	16.8
2514.8	2.6	13.5	91	9.4	1.74	3.02	17169	1430	1137	8.6	16.8
2515.0	2.0	13.8	91	9.4	1.81	3.12	17708	1806	1141	8.6	16.8
2515.2	1.9	15.6	91	9.4	1.89	3.23	18288	1943	1145	8.6	16.8
2515.4	1.3	15.5	91	9.4	2.00	3.38	19152	2876	1155	8.6	16.8
2515.6	2.0	13.1	89	9.4	1.79	3.48	19682	1801	1159	8.6	16.8
2515.8	0.9	13.9	90	9.4	2.04	3.71	20913	4164	1176	8.6	16.8
2516.0	2.3	13.8	90	9.4	1.78	3.80	21385	1598	1179	8.6	16.8
2516.2	1.7	13.8	90	9.4	1.85	3.91	22008	2110	1184	8.6	16.8
2516.4	1.7	13.7	90	9.4	1.85	4.03	22641	2146	1190	8.6	16.8
2516.6	2.2	13.8	90	9.4	1.79	4.12	23137	1679	1192	8.6	16.8
2516.8	6.2	13.0	90	9.4	1.49	4.16	23311	588	1189	8.6	16.8
2517.0	3.6	13.6	90	9.4	1.65	4.21	23612	1014	1188	8.6	16.8
2517.1	1.7	15.3	72	9.4	1.85	4.27	23867	2140	1191	8.6	16.8

BIT NUMBER	7	IADC CODE	4	INTERVAL	2517.1- 2531.0
CHRIST RC6		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	7.5	BIT RUN	13.9
TOTAL HOURS	6.34	TOTAL TURNS	34899	CONDITION	T0 B0 G0.500

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2517.4	5.5	7.6	87	9.4	1.33	4.32	24151	664	1190	8.6	16.8
2517.6	6.2	17.2	89	9.4	1.59	4.36	24324	593	1186	8.6	16.8
2517.8	6.0	17.0	90	9.4	1.60	4.39	24504	609	1183	8.6	16.8
2518.0	8.6	21.4	90	9.4	1.60	4.41	24629	426	1179	8.6	16.8
2518.2	6.2	22.6	89	9.4	1.72	4.45	24804	593	1176	8.6	16.8
2518.4	4.5	21.9	90	9.4	1.81	4.49	25045	817	1174	8.6	16.8
2518.6	5.3	21.6	90	9.4	1.75	4.53	25248	685	1171	8.6	16.8
2518.8	4.7	22.0	90	9.4	1.79	4.57	25477	776	1169	8.6	16.8
2519.0	7.6	21.9	90	9.4	1.65	4.60	25619	482	1166	8.6	16.8
2519.2	4.9	21.7	89	9.4	1.77	4.64	25837	746	1163	8.6	16.8
2519.4	5.3	21.8	89	9.4	1.75	4.68	26038	690	1161	8.6	16.8
2519.6	7.4	22.1	88	9.4	1.65	4.70	26180	492	1158	8.6	16.8
2519.8	7.0	21.8	88	9.4	1.66	4.73	26331	522	1154	8.6	16.8
2520.0	10.9	21.7	88	9.4	1.53	4.75	26429	335	1150	8.6	16.8
2520.2	7.9	21.7	88	9.4	1.62	4.78	26562	462	1147	8.6	16.8
2520.4	15.0	21.6	87	9.4	1.42	4.79	26632	243	1142	8.6	16.8
2520.6	6.9	21.5	87	9.4	1.66	4.82	26783	528	1139	8.6	16.8
2520.8	13.6	21.3	87	9.4	1.45	4.83	26860	269	1134	8.6	16.8
2521.0	13.1	21.5	86	9.4	1.46	4.85	26939	279	1130	8.6	16.8
2521.2	14.7	21.4	87	9.4	1.42	4.86	27010	249	1126	8.6	16.8
2521.4	9.9	21.6	87	9.4	1.55	4.88	27116	370	1122	8.6	16.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2521.6	11.4	21.7	87	9.4	1.51	4.90	27207	320	1118	8.6	16.8
2521.8	19.5	21.2	86	9.4	1.33	4.91	27260	188	1113	8.6	16.8
2522.0	13.6	21.2	87	9.4	1.44	4.92	27337	269	1109	8.6	16.8
2522.2	13.6	21.5	86	9.4	1.45	4.94	27413	269	1105	8.6	16.8
2522.4	18.9	20.8	85	9.4	1.33	4.95	27467	193	1101	8.6	16.8
2522.6	24.8	21.0	86	9.4	1.25	4.96	27508	147	1096	8.6	16.8
2522.8	32.7	20.3	88	9.4	1.17	4.96	27541	112	1092	8.6	16.8
2523.0	45.0	19.8	88	9.4	1.06	4.97	27564	81	1087	8.6	16.8
2523.2	25.7	19.9	87	9.4	1.23	4.98	27605	142	1082	8.6	16.8
2523.4	17.1	20.5	87	9.4	1.36	4.99	27666	213	1078	8.6	16.8
2523.6	8.8	21.9	87	9.4	1.59	5.01	27784	416	1075	8.6	16.8
2523.8	11.3	21.5	86	9.4	1.50	5.03	27876	325	1071	8.6	16.8
2524.0	14.7	21.6	85	9.4	1.42	5.04	27946	249	1068	8.6	16.8
2524.2	19.5	21.3	85	9.4	1.33	5.05	27998	188	1064	8.6	16.8
2524.4	20.0	21.1	85	9.4	1.32	5.06	28049	183	1059	8.6	16.8
2524.6	20.0	21.3	86	9.4	1.32	5.07	28100	183	1055	8.6	16.8
2524.8	32.7	20.6	88	9.4	1.17	5.08	28133	112	1051	8.6	16.8
2525.0	24.8	20.5	89	9.4	1.26	5.09	28176	147	1047	8.6	16.8
2525.2	31.3	19.9	100	9.4	1.21	5.09	28214	117	1043	8.6	16.8
2525.4	42.4	18.6	100	9.4	1.10	5.10	28242	86	1038	8.6	16.8
2525.6	51.4	18.5	100	9.4	1.04	5.10	28265	71	1034	8.6	16.8
2526.0	37.9	18.6	99	9.4	1.13	5.11	28328	96	1026	8.6	16.8
2526.2	26.7	19.3	96	9.4	1.24	5.12	28371	137	1022	8.6	16.8
2526.8	28.8	19.5	97	9.4	1.22	5.14	28493	127	1010	8.6	16.9
2527.0	30.0	19.6	98	9.4	1.21	5.15	28532	122	1006	8.6	16.9
2527.2	18.0	20.5	99	9.4	1.38	5.16	28598	203	1003	8.6	16.9
2527.4	28.8	20.6	99	9.4	1.25	5.16	28639	126.81	998.92	8.6	16.9
2527.6	8.9	21.6	99	9.4	1.62	5.19	28772	410.85	996.39	8.6	16.9
2527.8	14.7	22.1	99	9.4	1.48	5.20	28853	248.54	993.19	8.6	16.9
2528.0	5.6	22.5	101	9.4	1.79	5.24	29070	654.32	991.74	8.6	16.9
2528.2	6.9	22.0	100	9.4	1.71	5.27	29244	527.51	989.77	8.6	16.9
2528.4	6.3	22.3	101	9.4	1.75	5.30	29437	583.31	988.05	8.6	16.9
2528.6	9.6	23.8	101	9.4	1.65	5.32	29564	380.42	985.50	8.6	16.9
2528.8	11.8	25.8	100	9.4	1.62	5.33	29666	309.41	982.66	8.6	16.9
2529.0	12.0	24.3	100	9.4	1.59	5.35	29766	304.33	979.83	8.6	16.9
2529.2	9.2	22.2	100	9.4	1.63	5.37	29896	395.63	977.40	8.6	16.9
2529.4	2.0	20.8	80	9.4	1.99	5.48	30384	1867	981	8.6	16.9
2529.6	3.2	22.6	87	9.4	1.92	5.54	30710	1131	982	8.6	16.9
2529.8	2.4	23.1	87	9.4	2.02	5.62	31150	1547	984	8.6	16.9
2530.0	1.8	23.1	87	9.4	2.12	5.74	31741	2075	988	8.6	16.9
2530.2	0.9	22.3	87	9.4	2.30	5.96	32893	4032	1001	8.6	16.9
2530.4	0.7	23.2	87	9.4	2.42	6.26	34484	5569	1019	8.6	16.9
2530.6	3.3	23.2	86	9.4	1.92	6.32	34802	1121	1020	8.6	16.9
2530.8	22.5	19.3	85	9.4	1.25	6.33	34848	162	1016	8.6	16.9
2531.0	20.0	19.8	86	9.4	1.30	6.34	34899	183	1013	8.6	16.9

BIT NUMBER	7	IADC CODE	4	INTERVAL	2531.0- 2549.0
CHRIST RC4		SIZE	8.500	NOZZLES	14 15 15
COST	21210.00	TRIP TIME	7.6	BIT RUN	18.0
TOTAL HOURS	1.18	TOTAL TURNS	6796	CONDITION	T0 B0 G0.150

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2531.2	10.6	17.1	85	9.4	1.43	0.02	96	345	245171	8.6	16.9
2531.4	4.1	16.5	90	9.4	1.70	0.07	361	893	123032	8.6	16.9
2531.6	7.7	16.1	91	9.4	1.51	0.09	503	472	82178	8.6	16.9
2531.8	4.5	15.0	84	9.4	1.61	0.14	728	817	61838	8.6	16.9
2532.0	7.6	15.4	81	9.4	1.47	0.16	856	482	49567	8.6	16.9
2532.2	8.4	17.2	80	9.4	1.48	0.19	971	436	41378	8.6	16.9
2532.4	10.1	17.6	83	9.4	1.44	0.21	1069	360	35519	8.6	16.9
2532.6	15.7	16.2	84	9.4	1.29	0.22	1134	233	31108	8.6	16.9
2532.8	17.1	15.9	85	9.4	1.26	0.23	1193	213	27675	8.6	16.9
2533.0	20.0	15.9	84	9.4	1.22	0.24	1244	183	24926	8.6	16.9
2533.2	14.1	16.0	84	9.4	1.32	0.26	1315	259	22683	8.6	16.9
2533.4	26.7	16.4	86	9.4	1.15	0.26	1354	137	20805	8.6	16.9
2533.6	17.1	16.0	86	9.4	1.27	0.28	1414	213	19221	8.6	16.9
2533.8	26.7	15.7	86	9.4	1.14	0.28	1453	137	17857	8.6	16.9
2534.0	18.9	16.2	86	9.4	1.25	0.29	1507	193	16680	8.6	16.9
2534.2	22.5	16.1	86	9.4	1.19	0.30	1553	162	15647	8.6	16.9
2534.4	21.8	15.6	86	9.4	1.19	0.31	1600	167	14737	8.6	16.9
2534.6	22.5	16.2	86	9.4	1.19	0.32	1646	162	13927	8.6	16.9
2534.8	18.5	16.5	86	9.4	1.26	0.33	1702	198	13205	8.6	16.9
2535.0	13.3	17.0	88	9.4	1.37	0.35	1781	274	12558	8.6	16.9
2535.2	16.4	16.5	88	9.4	1.30	0.36	1846	223	11971	8.6	16.9
2535.4	18.5	16.7	89	9.4	1.27	0.37	1904	198	11436	8.6	16.9
2535.6	10.1	17.2	89	9.4	1.45	0.39	2009	360	10954	8.6	16.9
2535.8	9.4	17.5	90	9.4	1.48	0.41	2124	391	10514	8.6	16.9
2536.0	15.7	17.0	89	9.4	1.33	0.42	2193	233	10103	8.6	16.9
2536.2	9.9	16.9	89	9.4	1.46	0.44	2301	370	9720	8.6	16.9
2536.4	7.8	17.5	89	9.4	1.53	0.47	2438	467	9385	8.6	16.9
2536.6	11.8	17.2	89	9.4	1.41	0.49	2529	309	9061	8.6	16.9
2536.8	6.8	17.2	89	9.4	1.57	0.52	2686	538	8767	8.6	16.9
2537.0	11.8	17.1	89	9.4	1.41	0.53	2777	309	8485	8.6	16.9
2537.2	12.0	17.0	94	9.4	1.42	0.55	2871	304	8221	8.6	16.9
2537.4	14.7	16.9	102	9.4	1.38	0.56	2954	249	7972	8.6	16.9
2537.6	11.6	16.9	104	9.4	1.45	0.58	3061	314	7740	8.6	16.9
2537.8	30.0	16.1	105	9.4	1.17	0.59	3103	122	7516	8.6	16.9
2538.0	14.7	16.6	104	9.4	1.38	0.60	3188	249	7308	8.6	16.9
2538.2	18.0	16.3	102	9.4	1.31	0.61	3256	203	7111	8.6	16.9
2538.4	14.4	16.7	103	9.4	1.38	0.63	3342	254	6926	8.6	16.9
2538.6	16.7	16.8	104	9.4	1.35	0.64	3416	218	6749	8.6	16.9
2538.8	14.7	16.1	104	9.4	1.37	0.65	3501	249	6583	8.6	16.9
2539.0	23.2	16.2	103	9.4	1.24	0.66	3554	157	6422	8.6	16.9
2539.2	15.7	16.2	102	9.4	1.35	0.67	3633	233	6271	8.6	16.9
2539.4	20.6	16.2	103	9.4	1.27	0.68	3693	178	6126	8.6	16.9
2539.6	12.4	16.5	102	9.4	1.42	0.70	3791	294	5990	8.6	16.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2539.8	13.3	16.6	103	9.4	1.40	0.71	3883	274	5860	8.6	16.9
2540.0	14.4	17.1	102	9.4	1.39	0.73	3968	254	5736	8.6	16.9
2540.2	12.0	16.9	101	9.4	1.43	0.74	4069	304	5618	8.6	16.9
2540.4	15.3	16.4	104	9.4	1.36	0.76	4151	238	5503	8.6	16.9
2540.6	24.8	16.4	105	9.4	1.23	0.77	4202	147	5392	8.6	16.9
2540.8	15.7	15.9	104	9.4	1.35	0.78	4281	233	5286	8.6	16.9
2541.0	20.6	16.2	106	9.4	1.28	0.79	4343	178	5184	8.6	16.9
2541.2	22.5	15.9	107	9.4	1.25	0.80	4400	162	5086	8.6	16.9
2541.4	31.3	15.9	110	9.4	1.17	0.80	4442	117	4990	8.6	16.9
2541.6	19.5	15.9	109	9.4	1.30	0.81	4510	188	4900	8.6	16.9
2541.8	21.8	15.5	108	9.4	1.25	0.82	4569	167	4812	8.6	16.9
2542.0	36.0	15.0	107	9.4	1.10	0.83	4605	101	4726	8.6	16.9
2542.2	20.0	15.1	108	9.4	1.27	0.84	4670	183	4645	8.6	16.9
2542.4	30.0	15.0	108	9.4	1.16	0.84	4713	122	4566	8.6	16.9
2542.6	20.6	15.6	108	9.4	1.27	0.85	4776	178	4490	8.6	16.9
2542.8	18.0	15.5	109	9.4	1.31	0.87	4848	203	4417	8.6	16.9
2543.0	23.2	15.3	108	9.4	1.23	0.87	4904	157	4346	8.6	16.9
2543.2	27.7	15.1	108	9.4	1.18	0.88	4951	132	4277	8.6	16.9
2543.4	34.3	14.3	107	9.4	1.10	0.89	4988	107	4210	8.6	16.9
2543.6	25.7	14.6	108	9.4	1.19	0.90	5039	142	4146	8.6	16.9
2543.8	18.0	15.5	107	9.4	1.31	0.91	5110	203	4084	8.6	16.9
2544.0	14.7	16.5	106	9.4	1.38	0.92	5197	249	4025	8.6	16.9
2544.2	30.0	15.8	106	9.4	1.17	0.93	5240	122	3966	8.6	16.9
2544.4	24.8	15.3	107	9.4	1.21	0.93	5291	147	3909	8.6	16.9
2544.6	18.9	15.9	108	9.4	1.30	0.95	5360	193	3854	8.6	16.9
2544.8	20.0	16.0	109	9.4	1.29	0.96	5425	183	3801	8.6	16.9
2545.0	28.8	15.9	110	9.4	1.19	0.96	5471	127	3748	8.6	16.9
2545.2	20.6	15.7	110	9.4	1.28	0.97	5536	178	3698	8.6	16.9
2545.4	26.7	15.5	111	9.4	1.21	0.98	5585	137	3649	8.6	16.9
2545.6	20.0	15.8	97	9.4	1.25	0.99	5643	183	3601	8.6	16.9
2545.8	10.9	16.7	60	9.4	1.31	1.01	5709	335	3557	8.6	16.9
2546.0	15.7	19.4	104	9.4	1.42	1.02	5789	233	3513	8.6	16.9
2546.2	24.0	20.3	106	9.4	1.32	1.03	5842	152	3469	8.6	16.9
2546.4	17.6	20.6	106	9.4	1.41	1.04	5914	208	3426	8.6	16.9
2546.6	18.0	21.3	106	9.4	1.42	1.05	5985	203	3385	8.6	16.9
2546.8	20.6	21.2	106	9.4	1.38	1.06	6047	178	3344	8.6	16.9
2547.0	18.0	21.8	106	9.4	1.43	1.07	6117	203	3305	8.6	16.9
2547.2	12.2	21.7	105	9.4	1.55	1.09	6220	299	3268	8.6	16.9
2547.4	25.7	21.4	105	9.4	1.31	1.10	6270	142	3230	8.6	16.9
2547.6	17.6	21.4	104	9.4	1.42	1.11	6341	208	3193	8.6	16.9
2547.8	17.6	21.3	104	9.4	1.42	1.12	6411	208	3158	8.6	16.9
2548.0	12.4	21.5	104	9.4	1.53	1.14	6512	294	3124	8.6	16.9
2548.2	24.8	20.9	104	9.4	1.31	1.14	6562	147	3090	8.6	16.9
2548.4	31.3	20.4	104	9.4	1.23	1.15	6602	117	3055	8.6	16.9
2548.6	17.1	21.2	104	9.4	1.43	1.16	6675	213	3023	8.6	16.9
2548.8	21.8	21.3	104	9.4	1.36	1.17	6732	167	2991	8.6	16.9
2549.0	19.5	21.1	104	9.4	1.39	1.18	6796	188	2960	8.6	16.9

BIT NUMBER	7	IADC CODE	4	INTERVAL	2549.0- 2564.4
CHRIST RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	7.5	BIT RUN	15.4
TOTAL HOURS	3.05	TOTAL TURNS	17528	CONDITION	T0 B0 G0.300

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2549.2	4.1	5.4	94	9.4	1.32	1.25	7070	883	159745	8.6	16.9
2549.4	13.3	6.2	94	9.4	1.09	1.26	7154	274	80009	8.6	16.9
2549.6	5.3	6.4	94	9.4	1.30	1.30	7365	685	53568	8.6	16.9
2549.8	8.4	8.5	94	9.4	1.28	1.32	7500	436	40285	8.6	16.9
2550.0	10.1	8.3	94	9.4	1.23	1.34	7611	360	32300	8.6	16.9
2550.2	10.3	8.2	93	9.4	1.22	1.36	7720	355	26976	8.6	16.9
2550.4	13.1	8.0	93	9.4	1.16	1.38	7805	279	23162	8.6	16.9
2550.6	8.3	11.8	93	9.4	1.38	1.40	7939	441	20322	8.6	16.9
2550.8	14.7	15.7	91	9.4	1.32	1.42	8014	249	18091	8.6	16.9
2551.0	11.3	13.2	92	9.4	1.34	1.43	8112	325	16315	8.6	16.9
2551.2	14.4	10.6	93	9.4	1.21	1.45	8190	254	14855	8.6	16.9
2551.4	21.2	11.0	93	9.4	1.12	1.46	8242	172	13631	8.6	16.9
2551.6	11.6	14.6	92	9.4	1.36	1.48	8338	314	12607	8.6	16.9
2551.8	19.5	13.1	93	9.4	1.19	1.49	8395	188	11720	8.6	16.9
2552.0	18.0	14.4	93	9.4	1.24	1.50	8457	203	10952	8.6	16.9
2552.2	22.5	15.3	93	9.4	1.20	1.51	8506	162	10278	8.6	16.9
2552.4	18.5	15.7	92	9.4	1.26	1.52	8566	198	9685	8.6	16.9
2552.6	11.6	16.3	93	9.4	1.41	1.53	8662	314	9164	8.6	16.9
2552.8	8.2	14.1	93	9.4	1.45	1.56	8798	446	8705	8.6	16.9
2553.0	34.3	12.3	93	9.4	1.03	1.56	8831	107	8275	8.6	16.9
2553.2	17.6	12.7	93	9.4	1.21	1.58	8894	208	7891	8.6	16.9
2553.4	14.7	12.9	93	9.4	1.26	1.59	8970	249	7544	8.6	16.9
2553.6	26.7	12.1	93	9.4	1.09	1.60	9012	137	7222	8.6	16.9
2553.8	13.8	12.3	92	9.4	1.26	1.61	9092	264	6932	8.6	16.9
2554.0	15.3	13.1	91	9.4	1.25	1.62	9163	238	6664	8.6	16.9
2554.2	13.8	13.3	100	9.4	1.30	1.64	9249	264	6418	8.6	16.9
2554.4	16.4	13.5	100	9.4	1.27	1.65	9323	223	6188	8.6	16.9
2554.6	11.4	13.7	99	9.4	1.37	1.67	9427	320	5979	8.6	16.9
2554.8	15.0	13.3	99	9.4	1.28	1.68	9506	243	5781	8.6	16.9
2555.0	15.3	13.5	103	9.4	1.29	1.69	9587	238	5596	8.6	16.9
2555.2	12.4	13.2	105	9.4	1.35	1.71	9688	294	5425	8.6	16.9
2555.4	10.7	13.8	106	9.4	1.40	1.73	9806	340	5266	8.6	16.9
2555.6	8.9	13.8	109	9.4	1.46	1.75	9953	411	5119	8.6	16.9
2555.8	4.7	15.0	104	9.4	1.66	1.79	10220	781	4992	8.6	16.9
2556.0	3.7	15.2	102	9.4	1.72	1.85	10551	984	4877	8.6	16.9
2556.2	8.5	14.5	105	9.4	1.49	1.87	10700	431	4754	8.6	16.9
2556.4	8.7	14.8	105	9.4	1.48	1.89	10845	421	4637	8.6	16.9
2556.6	8.9	16.1	103	9.4	1.51	1.92	10984	411	4525	8.6	16.9
2556.8	8.3	16.4	104	9.4	1.54	1.94	11136	441	4421	8.6	16.9
2557.0	6.4	14.4	105	9.4	1.56	1.97	11333	573	4324	8.6	16.9
2557.2	12.6	14.2	105	9.4	1.37	1.99	11433	289	4226	8.6	16.9
2557.4	19.5	14.5	106	9.4	1.26	2.00	11498	188	4130	8.6	16.9
2557.6	13.6	14.2	104	9.4	1.35	2.01	11590	269	4040	8.6	16.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2557.8	27.7	14.4	105	9.4	1.16	2.02	11635	132	3951	8.6	16.9
2558.0	11.4	14.7	104	9.4	1.40	2.04	11745	320	3871	8.6	16.9
2558.2	12.0	14.7	104	9.4	1.39	2.06	11849	304	3793	8.6	16.9
2558.4	22.5	13.7	105	9.4	1.20	2.06	11904	162	3716	8.6	16.9
2558.6	8.9	11.4	106	9.4	1.39	2.09	12047	411	3647	8.6	16.9
2558.8	10.0	9.2	106	9.4	1.29	2.11	12174	365	3580	8.6	16.9
2559.0	14.4	8.7	106	9.4	1.19	2.12	12262	254	3513	8.6	16.9
2559.2	20.0	8.8	106	9.4	1.11	2.13	12326	183	3448	8.6	16.9
2559.4	20.6	8.8	105	9.4	1.10	2.14	12387	178	3385	8.6	16.9
2559.6	12.2	8.6	104	9.4	1.22	2.16	12490	299	3327	8.6	16.9
2559.8	24.0	8.7	104	9.4	1.06	2.16	12541	152	3268	8.6	16.9
2560.0	19.5	8.2	105	9.4	1.09	2.18	12606	188	3212	8.6	16.9
2560.2	24.0	7.9	105	9.4	1.04	2.18	12659	152	3158	8.6	16.9
2560.4	20.0	8.3	105	9.4	1.09	2.19	12721	183	3105	8.6	16.9
2560.6	17.6	8.3	105	9.4	1.12	2.20	12793	208	3055	8.6	16.9
2560.8	16.7	8.7	106	9.4	1.15	2.22	12870	218	3007	8.6	16.9
2561.0	16.0	8.5	106	9.4	1.16	2.23	12949	228	2961	8.6	16.9
2561.2	30.0	8.0	107	9.4	0.99	2.24	12992	122	2914	8.6	16.9
2561.4	14.7	8.1	107	9.4	1.16	2.25	13079	249	2871	8.6	16.9
2561.6	16.7	7.8	107	9.4	1.12	2.26	13156	218	2829	8.6	16.9
2561.8	10.0	9.4	86	9.4	1.24	2.28	13259	365	2791	8.6	16.9
2562.0	3.7	11.4	74	9.4	1.52	2.34	13497	984	2763	8.6	16.9
2562.2	13.6	8.8	100	9.4	1.19	2.35	13586	269	2725	8.6	16.9
2562.4	10.4	9.6	99	9.4	1.28	2.37	13700	350	2690	8.6	16.9
2562.6	14.4	9.4	100	9.4	1.19	2.38	13783	254	2654	8.6	16.9
2562.8	9.1	9.7	100	9.4	1.31	2.41	13914	401	2621	8.6	16.9
2563.0	31.3	9.5	100	9.4	1.00	2.41	13952	117	2586	8.6	16.9
2563.2	11.4	9.5	99	9.4	1.25	2.43	14057	320	2554	8.6	16.9
2563.4	24.0	8.7	100	9.4	1.05	2.44	14106	152	2520	8.6	16.9
2563.6	17.1	8.9	99	9.4	1.13	2.45	14175	213	2489	8.6	16.9
2563.8	4.1	10.5	100	9.4	1.54	2.50	14467	888	2467	8.6	16.9
2564.0	0.9	15.5	95	9.4	2.11	2.72	15729	4027	2488	8.6	16.9
2564.2	1.0	20.2	88	9.4	2.21	2.92	16804	3728	2504	8.6	16.9
2564.4	1.5	18.0	93	9.4	2.03	3.05	17528	2374	2502	8.6	16.9

BIT NUMBER	7	IADC CODE	517	INTERVAL	2564.4- 2650.0
HTC J22		SIZE	8.500	NOZZLES	14 14 14
COST	0.00	TRIP TIME	7.6	BIT RUN	85.6
TOTAL HOURS	10.79	TOTAL TURNS	42370	CONDITION	T2 B3 G0.062

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2565.0	56.8	16.0	63	9.4	0.84	1.37	4248	64	1861	8.6	16.9
2566.0	63.5	16.0	67	9.4	0.83	1.39	4311	57	1764	8.6	16.9
2567.0	22.5	12.4	67	9.4	1.05	1.43	4490	162	1683	8.6	16.9
2568.0	10.3	28.1	63	9.4	1.56	1.53	4859	355	1618	8.6	16.9
2569.0	6.2	40.9	62	9.4	1.94	1.69	5461	588	1571	8.6	16.9
2570.0	4.3	41.5	63	9.4	2.10	1.92	6347	855	1539	8.6	16.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2571.0	4.1	39.8	64	9.4	2.09	2.17	7281	895	1512	8.6	16.9
2572.0	5.0	39.8	63	9.4	2.01	2.37	8037	730	1480	8.6	16.9
2573.0	6.2	39.9	64	9.4	1.94	2.53	8657	589	1445	8.6	16.9
2574.0	5.9	39.8	63	9.4	1.95	2.70	9299	618	1414	8.6	16.9
2575.0	7.3	39.9	64	9.4	1.88	2.84	9824	502	1381	8.6	16.9
2576.0	5.5	38.7	64	9.4	1.96	3.02	10516	659	1356	8.6	16.9
2577.0	12.5	37.3	64	9.4	1.64	3.10	10820	291	1320	8.6	16.9
2578.0	13.6	37.2	63	9.4	1.60	3.17	11099	268	1285	8.6	16.9
2579.0	13.8	37.2	64	9.4	1.60	3.24	11374	264	1253	8.6	16.9
2580.0	13.8	36.9	64	9.4	1.60	3.31	11651	265	1223	8.6	16.9
2581.0	18.5	36.3	63	9.4	1.48	3.37	11857	198	1192	8.6	16.9
2582.0	19.4	36.3	63	9.4	1.47	3.42	12053	189	1163	8.6	16.9
2583.0	7.1	39.6	62	9.4	1.87	3.56	12574	511	1145	8.6	16.9
2584.0	8.1	40.1	65	9.4	1.85	3.68	13059	453	1126	8.6	16.9
2585.0	6.2	40.2	65	9.4	1.95	3.85	13686	591	1112	8.6	16.9
2586.0	7.5	40.1	65	9.4	1.88	3.98	14206	490	1096	8.6	16.9
2587.0	4.8	40.0	65	9.4	2.04	4.19	15008	756	1087	8.6	16.9
2588.0	5.6	40.1	65	9.4	1.98	4.37	15700	653	1076	8.6	16.9
2589.0	7.2	40.0	65	9.4	1.88	4.50	16235	504	1063	8.6	16.9
2590.0	14.9	38.5	62	9.4	1.58	4.57	16486	245	1043	8.6	16.9
2591.0	20.2	38.7	66	9.4	1.50	4.62	16682	181	1024	8.6	16.9
2592.0	17.1	38.8	63	9.4	1.54	4.68	16903	214	1006	8.6	16.9
2593.0	19.7	38.4	62	9.4	1.48	4.73	17093	185.64	987.53	8.6	16.9
2594.0	18.8	39.2	62	9.4	1.51	4.78	17291	193.76	970.50	8.6	16.9
2595.0	21.1	39.2	62	9.4	1.47	4.83	17469	173.47	953.75	8.6	16.9
2596.0	14.4	40.6	63	9.4	1.63	4.90	17729	253.61	939.35	8.6	16.9
2597.0	16.9	40.6	62	9.4	1.57	4.96	17951	216.08	924.76	8.6	16.9
2598.0	12.9	35.3	66	9.4	1.61	5.04	18259	283.03	912.08	8.6	16.9
2599.0	12.2	29.1	72	9.4	1.56	5.12	18615	300.28	900.23	8.6	16.9
2600.0	12.6	29.0	72	9.4	1.55	5.20	18958	290.13	888.63	8.6	16.9
2601.0	15.2	28.7	72	9.4	1.48	5.26	19242	240.42	876.53	8.6	16.9
2602.0	10.6	29.4	70	9.4	1.61	5.36	19641	344.91	866.80	8.6	16.9
2603.0	8.1	31.6	71	9.4	1.74	5.48	20170	453.46	859.36	8.6	16.9
2604.0	8.0	43.9	62	9.4	1.89	5.61	20634	455.49	852.23	8.6	16.9
2605.0	4.2	37.0	69	9.4	2.06	5.85	21623	872.42	852.58	8.6	16.9
2606.0	4.0	31.2	70	9.4	1.97	6.10	22681	916.04	853.66	8.6	16.9
2607.0	6.3	31.2	70	9.4	1.81	6.26	23349	579.25	849.06	8.6	16.9
2608.0	7.0	31.4	70	9.4	1.78	6.40	23951	522.44	843.67	8.6	16.9
2609.0	16.6	34.5	70	9.4	1.53	6.46	24205	220.13	833.54	8.6	16.9
2610.0	22.9	36.3	71	9.4	1.44	6.50	24390	159.27	822.77	8.6	16.9
2611.0	22.0	36.8	71	9.4	1.47	6.55	24584	166.37	812.45	8.6	16.9
2612.0	12.1	35.4	69	9.4	1.65	6.63	24927	302.30	804.55	8.6	16.9
2613.0	10.8	35.5	71	9.4	1.70	6.72	25319	337.81	797.44	8.6	16.9
2614.0	10.5	34.1	71	9.4	1.69	6.82	25728	348.97	790.71	8.6	16.9
2615.0	10.9	35.6	71	9.4	1.70	6.91	26117	333.75	783.95	8.6	16.9
2616.0	20.5	35.4	71	9.4	1.47	6.96	26325	178.54	775.12	8.6	16.9
2617.0	13.3	36.2	71	9.4	1.64	7.04	26643	273.90	767.92	8.6	16.9
2618.0	11.3	36.3	70	9.4	1.70	7.12	27016	323.61	761.63	8.6	16.9
2619.0	5.3	37.5	70	9.4	1.98	7.31	27797	682.72	760.52	8.6	16.9
2620.0	10.0	37.0	70	9.4	1.75	7.41	28217	365.20	755.08	8.6	16.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2621.0	17.1	39.2	70	9.4	1.59	7.47	28463	213.03	747.71	8.6	16.9
2622.0	18.7	36.1	70	9.4	1.51	7.52	28688	195.79	740.32	8.6	17.0
2623.0	20.2	36.3	70	9.4	1.49	7.57	28897	180.57	732.91	8.6	17.0
2624.0	7.5	37.4	70	9.4	1.86	7.71	29457	487.95	729.71	8.6	17.0
2625.0	7.4	37.2	71	9.4	1.87	7.84	30036	496.06	726.70	8.6	17.0
2626.0	6.3	37.2	70	9.4	1.92	8.00	30701	576.20	724.79	8.6	17.0
2627.0	5.0	37.4	70	9.4	2.01	8.20	31541	725.33	724.80	8.6	17.0
2628.0	5.4	36.8	70	9.4	1.97	8.38	32319	671.56	724.13	8.6	17.0
2629.0	8.5	34.2	70	9.4	1.76	8.50	32812	428.10	720.51	8.6	17.0
2630.0	15.9	33.6	70	9.4	1.53	8.56	33077	229.26	714.56	8.6	17.0
2631.0	13.3	34.9	68	9.4	1.60	8.64	33384	274.91	709.30	8.6	17.0
2632.0	12.5	34.1	70	9.4	1.62	8.72	33720	291.15	704.36	8.6	17.0
2633.0	5.8	34.8	70	9.4	1.90	8.89	34441	624.90	703.43	8.6	17.0
2634.0	5.5	35.0	70	9.4	1.93	9.07	35204	659.39	702.92	8.6	17.0
2635.0	8.3	34.6	68	9.4	1.76	9.19	35695	439.25	699.91	8.6	17.0
2636.0	10.1	34.3	69	9.4	1.70	9.29	36105	360.13	696.08	8.6	17.0
2637.0	12.2	34.4	69	9.4	1.63	9.37	36446	300.28	691.66	8.6	17.0
2638.0	22.4	33.4	69	9.4	1.41	9.41	36632	163.33	685.83	8.6	17.0
2639.0	22.2	33.2	69	9.4	1.40	9.46	36818	164.34	680.13	8.6	17.0
2640.0	16.0	36.0	67	9.4	1.55	9.52	37070	228.25	675.25	8.6	17.0
2641.0	8.9	35.1	70	9.4	1.76	9.63	37543	410.85	672.43	8.6	17.0
2642.0	10.1	35.2	70	9.4	1.72	9.73	37960	362.16	669.15	8.6	17.0
2643.0	9.7	35.6	70	9.4	1.74	9.84	38393	376.36	666.09	8.6	17.0
2644.0	20.1	35.4	70	9.4	1.47	9.89	38602	181.59	661.07	8.6	17.0
2645.0	9.8	35.6	70	9.4	1.73	9.99	39030	371.29	658.10	8.6	17.0
2646.0	7.8	34.8	70	9.4	1.80	10.12	39572	469.69	656.19	8.6	17.0
2647.0	4.5	35.9	70	9.4	2.01	10.34	40492	804.45	657.68	8.6	17.0
2648.0	6.1	35.5	69	9.4	1.89	10.50	41169	596.49	657.07	8.6	17.0
2649.0	6.6	35.5	69	9.4	1.87	10.65	41799	553.89	656.06	8.6	17.0
2650.0	7.3	35.5	69	9.4	1.83	10.79	42370	503.16	654.57	8.6	17.0

BIT NUMBER	8	IADC CODE	517	INTERVAL	2650.0- 2731.0
HTC J22		SIZE	8.500	NOZZLES	13 13 13
COST	4139.00	TRIP TIME	7.8	BIT RUN	81.0
TOTAL HOURS	18.26	TOTAL TURNS	61996	CONDITION	TR B6 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2651.0	4.9	36.5	57	9.4	1.92	0.20	696	742	33367	8.6	17.0
2652.0	4.8	37.7	58	9.4	1.96	0.41	1418	758	17062	8.6	17.0
2653.0	5.3	40.6	57	9.4	1.96	0.60	2061	687	11604	8.6	17.0
2654.0	8.1	40.6	57	9.4	1.81	0.72	2485	450	8815	8.6	17.0
2655.0	9.5	40.8	57	9.4	1.75	0.83	2845	383	7129	8.6	17.0
2656.0	9.4	40.7	57	9.4	1.76	0.93	3212	390	6006	8.6	17.0
2657.0	13.5	40.5	57	9.4	1.62	1.01	3467	271	5186	8.6	17.0
2658.0	14.8	40.4	57	9.4	1.58	1.08	3698	247	4569	8.6	17.0
2659.0	17.7	40.0	57	9.4	1.51	1.13	3892	206	4084	8.6	17.0
2660.0	12.5	40.7	57	9.4	1.65	1.21	4168	293	3705	8.6	17.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2661.0	20.5	39.3	55	9.4	1.43	1.26	4329	179	3385	8.6	17.0
2662.0	13.1	41.5	56	9.4	1.63	1.34	4584	278	3126	8.6	17.0
2663.0	5.7	43.6	57	9.4	1.98	1.51	5176	638	2934	8.6	17.0
2664.0	6.5	43.5	57	9.4	1.94	1.67	5708	565	2765	8.6	17.0
2665.0	6.4	43.8	57	9.4	1.95	1.82	6246	571	2619	8.6	17.0
2666.0	10.8	42.9	57	9.4	1.74	1.92	6564	338	2476	8.6	17.0
2667.0	15.0	43.0	57	9.4	1.61	1.98	6794	243	2345	8.6	17.0
2668.0	10.9	43.4	58	9.4	1.74	2.07	7111	335	2233	8.6	17.0
2669.0	16.0	44.7	58	9.4	1.61	2.14	7327	228	2128	8.6	17.0
2670.0	15.9	45.3	57	9.4	1.62	2.20	7543	230	2033	8.6	17.0
2671.0	13.4	44.4	56	9.4	1.66	2.27	7793	273	1949	8.6	17.0
2672.0	16.4	45.3	58	9.4	1.61	2.34	8005	223	1871	8.6	17.0
2673.0	5.1	47.8	58	9.4	2.11	2.53	8689	717	1820	8.6	17.0
2674.0	5.2	46.5	58	9.4	2.08	2.72	9354	698	1774	8.6	17.0
2675.0	9.5	46.4	58	9.4	1.84	2.83	9720	385	1718	8.6	17.0
2676.0	11.1	46.2	58	9.4	1.78	2.92	10033	330	1665	8.6	17.0
2677.0	16.8	44.9	58	9.4	1.60	2.98	10239	217	1611	8.6	17.0
2678.0	10.9	45.3	58	9.4	1.77	3.07	10558	336	1566	8.6	17.0
2679.0	10.1	44.8	58	9.4	1.79	3.17	10902	361	1524	8.6	17.0
2680.0	11.5	45.2	58	9.4	1.75	3.26	11205	318	1484	8.6	17.0
2681.0	16.3	46.1	57	9.4	1.62	3.32	11414	224	1443	8.6	17.0
2682.0	17.1	44.1	58	9.4	1.58	3.38	11619	214	1405	8.6	17.0
2683.0	5.2	44.7	57	9.4	2.04	3.57	12283	708	1384	8.6	17.0
2684.0	9.9	45.7	58	9.4	1.81	3.67	12633	367	1354	8.6	17.0
2685.0	16.9	44.4	58	9.4	1.59	3.73	12839	216	1321	8.6	17.0
2686.0	21.6	42.0	58	9.4	1.47	3.78	13001	169	1289	8.6	17.0
2687.0	15.5	42.9	58	9.4	1.61	3.84	13226	236	1261	8.6	17.0
2688.0	13.7	45.1	58	9.4	1.68	3.91	13481	267	1235	8.6	17.0
2689.0	12.1	45.1	58	9.4	1.73	4.00	13769	301	1211	8.6	17.0
2690.0	7.8	45.8	57	9.4	1.90	4.12	14205	469	1192	8.6	17.0
2691.0	11.0	45.1	58	9.4	1.77	4.21	14521	331	1171	8.6	17.0
2692.0	16.2	45.6	58	9.4	1.62	4.28	14736	225	1149	8.6	17.0
2693.0	17.5	45.1	58	9.4	1.59	4.33	14935	209	1127	8.6	17.0
2694.0	8.0	47.8	58	9.4	1.93	4.46	15373	459	1112	8.6	17.0
2695.0	7.0	47.2	58	9.4	1.97	4.60	15870	519	1098	8.6	17.0
2696.0	4.0	45.2	58	9.4	2.16	4.85	16745	915	1094	8.6	17.0
2697.0	3.7	41.6	58	9.4	2.13	5.12	17699	994	1092	8.6	17.0
2698.0	2.9	41.9	58	9.4	2.22	5.47	18898	1248	1096	8.6	17.0
2699.0	3.3	41.5	58	9.4	2.17	5.77	19969	1115	1096	8.6	17.0
2700.0	3.2	39.7	58	9.4	2.14	6.09	21065	1157	1097	8.6	17.0
2701.0	5.2	39.8	58	9.4	1.96	6.28	21729	697	1089	8.6	17.0
2702.0	4.1	40.9	58	9.4	2.07	6.52	22571	884	1085	8.6	17.0
2703.0	4.7	40.4	58	9.4	2.02	6.74	23318	784	1080	8.6	17.0
2704.0	4.0	45.8	58	9.4	2.17	6.98	24183	906	1076	8.6	17.0
2705.0	4.0	45.3	58	9.4	2.16	7.23	25055	913	1073	8.6	17.0
2706.0	4.2	47.3	58	9.4	2.17	7.47	25884	868	1070	8.6	17.0
2707.0	5.7	46.3	58	9.4	2.04	7.65	26494	638	1067	8.6	17.0
2708.0	3.8	47.6	58	9.4	2.22	7.91	27420	970	1061	8.6	17.0
2709.0	3.5	46.9	58	9.4	2.24	8.20	28418	1055	1061	8.6	17.0
2710.0	3.8	46.7	58	9.4	2.20	8.47	29337	969	1059	8.6	17.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2711.0	2.9	46.5	58	9.4	2.31	8.81	30540	1268	1062	8.6	17.0
2712.0	2.6	46.4	51	9.4	2.30	9.20	31733	1422	1068	8.6	17.0
2713.0	3.0	46.6	58	9.4	2.30	9.54	32910	1233	1071	8.6	17.0
2714.0	3.1	46.0	58	9.4	2.27	9.86	34037	1180	1073	8.6	17.0
2715.0	3.1	46.0	58	9.4	2.27	10.19	35163	1178	1074	8.6	17.0
2716.0	2.7	45.7	58	9.4	2.33	10.56	36473	1371	1079	8.6	17.0
2717.0	3.1	46.0	58	9.4	2.27	10.88	37592	1169	1080	8.6	17.0
2718.0	3.2	46.3	58	9.4	2.26	11.19	38669	1125	1081	8.6	17.1
2719.0	2.9	45.4	57	9.4	2.28	11.53	39838	1249	1083	8.6	17.1
2720.0	3.3	43.9	53	9.4	2.18	11.83	40808	1109	1083	8.6	17.1
2721.0	4.2	44.2	58	9.4	2.12	12.07	41639	869	1080	8.6	17.1
2722.0	4.1	43.8	58	9.4	2.12	12.32	42489	891	1078	8.6	17.1
2723.0	4.4	43.7	58	9.4	2.10	12.55	43287	835	1075	8.6	17.1
2724.0	2.5	45.3	58	9.4	2.34	12.94	44679	1453	1080	8.6	17.1
2725.0	1.1	45.0	57	9.4	2.66	13.89	47945	3473	1112	8.6	17.1
2726.0	1.3	45.7	58	9.4	2.60	14.67	50628	2820	1134	8.6	17.1
2727.0	2.0	45.1	58	9.4	2.42	15.16	52351	1805	1143	8.6	17.1
2728.0	2.3	40.9	51	9.4	2.24	15.59	53666	1565	1148	8.6	17.1
2729.0	5.0	40.4	42	9.4	1.88	15.79	54178	736	1143	8.6	17.1
2730.0	0.8	40.6	54	9.4	2.67	17.11	58482	4817	1189	8.6	17.1
2731.0	0.9	39.5	51	9.4	2.57	18.26	61996	4199	1226	8.6	17.1

BIT NUMBER	9	IADC CODE	537	INTERVAL	2731.0- 2822.5
HTC J33		SIZE	8.500	NOZZLES	13 13 13
COST	4503.00	TRIP TIME	8.0	BIT RUN	91.5
TOTAL HOURS	12.33	TOTAL TURNS	42031	CONDITION	T1 B2 G0.062

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2732.0	1.5	10.7	36	9.5	1.52	0.65	1404	2370	36089	8.6	17.1
2733.0	3.6	19.9	46	9.5	1.61	0.93	2163	1015	18552	8.6	17.1
2734.0	6.0	29.6	59	9.5	1.72	1.09	2756	610	12572	8.8	17.1
2735.0	13.0	34.5	59	9.5	1.54	1.17	3029	280	9499	8.9	17.1
2736.0	11.9	39.9	59	9.5	1.65	1.25	3329	307	7660	9.0	17.1
2737.0	9.0	39.0	56	9.5	1.72	1.37	3701	406	6451	9.1	17.1
2738.0	22.6	37.9	56	9.5	1.37	1.41	3849	161	5553	9.1	17.1
2739.0	40.9	21.8	60	9.5	0.99	1.43	3937	89	4870	9.1	17.1
2740.0	18.2	39.4	59	9.5	1.49	1.49	4133	201	4351	9.1	17.1
2741.0	23.8	36.8	55	9.5	1.33	1.53	4272	153	3931	9.1	17.1
2742.0	12.9	41.5	59	9.5	1.65	1.61	4548	284	3600	9.1	17.1
2743.0	4.2	39.2	59	9.5	2.02	1.85	5389	861	3371	9.1	17.1
2744.0	14.9	39.7	59	9.5	1.57	1.91	5627	244	3131	9.1	17.1
2745.0	16.8	39.6	53	9.5	1.48	1.97	5816	217	2923	9.1	17.1
2746.0	16.8	38.3	58	9.5	1.50	2.03	6023	217	2742	9.1	17.1
2747.0	6.8	38.7	58	9.5	1.83	2.18	6537	537	2605	9.1	17.1
2748.0	11.8	40.8	56	9.5	1.65	2.26	6823	308	2469	9.1	17.1
2749.0	13.7	40.1	60	9.5	1.61	2.34	7088	267	2347	9.1	17.1
2750.0	17.3	39.7	60	9.5	1.52	2.39	7297	211	2235	9.1	17.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2751.0	21.6	41.8	60	9.5	1.46	2.44	7465	169	2131	9.1	17.1
2752.0	24.8	39.8	60	9.5	1.39	2.48	7611	147	2037	9.1	17.1
2753.0	29.5	36.6	60	9.5	1.28	2.51	7733	124	1950	9.1	17.1
2754.0	21.8	40.5	59	9.5	1.44	2.56	7896	167	1872	9.1	17.1
2755.0	10.5	43.5	59	9.5	1.75	2.66	8236	349	1809	9.1	17.1
2756.0	18.0	40.2	59	9.5	1.50	2.71	8432	203	1745	9.1	17.1
2757.0	12.2	38.3	54	9.5	1.59	2.79	8699	299	1689	9.1	17.1
2758.0	19.7	34.2	55	9.5	1.37	2.84	8868	186	1633	9.1	17.1
2759.0	6.8	25.5	48	9.5	1.54	2.99	9289	535	1594	9.1	17.1
2760.0	9.6	25.3	53	9.5	1.46	3.09	9620	380	1552	9.1	17.1
2761.0	11.5	17.7	61	9.5	1.30	3.18	9937	317	1511	9.1	17.1
2762.0	12.5	20.1	61	9.5	1.33	3.26	10232	292	1472	9.1	17.1
2763.0	10.5	34.5	53	9.5	1.58	3.36	10535	347	1437	9.1	17.1
2764.0	5.6	40.1	62	9.5	1.95	3.53	11201	650	1413	9.1	17.1
2765.0	4.4	40.6	62	9.5	2.04	3.76	12049	827	1396	9.1	17.2
2766.0	6.5	38.7	55	9.5	1.83	3.91	12560	561	1372	9.1	17.2
2767.0	4.6	39.2	58	9.5	1.98	4.13	13318	793	1356	9.1	17.2
2768.0	20.1	37.9	54	9.5	1.40	4.18	13478	182	1324	9.1	17.2
2769.0	17.8	31.9	48	9.5	1.33	4.24	13640	205	1295	9.1	17.2
2770.0	14.8	35.4	51	9.5	1.45	4.30	13846	247	1268	9.1	17.2
2771.0	17.6	33.2	59	9.5	1.41	4.36	14045	207	1241	9.1	17.2
2772.0	11.1	38.9	60	9.5	1.66	4.45	14368	330	1219	9.1	17.2
2773.0	7.7	41.5	60	9.5	1.84	4.58	14834	475	1201	9.1	17.2
2774.0	11.3	40.2	60	9.4	1.70	4.67	15153	324	1181	9.1	17.2
2775.0	14.6	41.4	58	9.4	1.60	4.74	15390	251	1160	9.1	17.2
2776.0	10.6	39.3	60	9.4	1.71	4.83	15728	344	1142	9.1	17.2
2777.0	5.4	41.0	58	9.4	1.98	5.02	16382	682	1132	9.1	17.2
2778.0	10.3	39.8	58	9.4	1.72	5.12	16724	356	1115	9.1	17.2
2779.0	8.4	40.4	58	9.4	1.80	5.24	17141	434	1101	9.1	17.2
2780.0	3.9	40.5	59	9.4	2.09	5.49	18035	927	1097	9.1	17.2
2781.0	3.4	41.3	59	9.4	2.15	5.78	19061	1063	1097	9.1	17.2
2782.0	3.3	40.7	54	9.5	2.11	6.09	20047	1113	1097	9.1	17.2
2783.0	8.7	40.4	59	9.5	1.77	6.20	20455	419	1084	9.1	17.2
2784.0	8.9	40.5	59	9.5	1.77	6.31	20856	412	1071	9.1	17.2
2785.0	15.7	39.8	59	9.5	1.55	6.38	21081	233	1056	9.1	17.2
2786.0	5.2	41.1	58	9.5	1.96	6.57	21742	697	1049	9.1	17.2
2787.0	3.4	41.5	59	9.5	2.14	6.86	22778	1074	1050	9.1	17.2
2788.0	7.6	41.1	58	9.5	1.83	6.99	23236	479	1040	9.1	17.2
2789.0	9.4	40.9	58	9.5	1.75	7.10	23610	390	1028	9.1	17.2
2790.0	13.2	40.7	58	9.5	1.61	7.18	23873	277	1016	9.1	17.2
2791.0	3.2	41.5	59	9.5	2.15	7.48	24962	1128	1018	9.1	17.2
2792.0	2.3	41.5	56	9.5	2.26	7.91	26413	1566	1027	9.1	17.2
2793.0	3.9	41.5	59	9.5	2.09	8.17	27317	932	1025	9.1	17.2
2794.0	4.9	41.5	59	9.5	2.00	8.37	28037	746	1021	9.1	17.2
2795.0	4.4	41.7	58	9.5	2.04	8.60	28826	831	1018	9.1	17.2
2796.0	6.1	40.6	59	9.5	1.91	8.77	29414	603	1011	9.1	17.2
2797.0	4.0	41.0	59	9.5	2.07	9.01	30303	911	1010	9.1	17.2
2798.0	3.7	41.7	59	9.5	2.11	9.29	31267	991	1009	9.1	17.2
2799.0	2.5	41.8	59	9.5	2.26	9.69	32713	1488	1016	9.1	17.2
2800.0	6.3	41.7	60	9.5	1.91	9.85	33276	575	1010	9.1	17.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2801.0	13.9	40.9	59	9.5	1.61	9.92	33532	262.74	999.40	9.1	17.2
2802.0	12.9	41.1	59	9.5	1.64	10.00	33807	282.02	989.29	9.1	17.2
2803.0	13.1	41.1	59	9.5	1.63	10.08	34080	278.97	979.43	9.1	17.2
2804.0	12.8	41.6	57	9.5	1.64	10.15	34350	286.07	969.93	9.1	17.2
2805.0	10.1	41.7	59	9.6	1.73	10.25	34703	363.17	961.73	9.1	17.2
2806.0	14.2	41.0	59	9.6	1.58	10.32	34952	256.65	952.33	9.1	17.2
2807.0	12.9	41.4	59	9.6	1.62	10.40	35225	283.03	943.52	9.1	17.2
2808.0	10.5	41.5	60	9.6	1.70	10.50	35564	346.94	935.77	9.1	17.2
2809.0	12.6	41.8	60	9.6	1.64	10.58	35848	290.13	927.50	9.1	17.2
2810.0	5.8	42.6	60	9.6	1.94	10.75	36469	632.00	923.76	9.1	17.2
2811.0	6.4	42.2	60	9.6	1.90	10.91	37028	568.09	919.31	9.1	17.2
2812.0	11.9	41.7	59	9.6	1.66	10.99	37327	306.36	911.74	9.2	17.2
2813.0	11.5	41.7	59	9.6	1.67	11.08	37637	318.54	904.51	9.2	17.2
2814.0	7.5	42.5	55	9.6	1.82	11.21	38078	487.95	899.49	9.2	17.2
2815.0	5.1	43.8	59	9.6	2.01	11.41	38776	721.27	897.37	9.2	17.2
2816.0	6.4	42.5	59	9.6	1.90	11.56	39326	569.10	893.51	9.2	17.2
2817.0	6.8	42.4	59	9.6	1.88	11.71	39847	538.67	889.38	9.2	17.2
2818.0	5.5	42.4	59	9.6	1.95	11.89	40490	663.45	886.78	9.2	17.2
2819.0	9.3	41.9	59	9.6	1.74	12.00	40869	392.59	881.17	9.2	17.2
2820.0	9.7	42.2	59	9.7	1.72	12.10	41235	378.39	875.52	9.2	17.2
2821.0	9.5	43.6	59	9.7	1.75	12.21	41605	382.45	870.04	9.2	17.2
2822.0	13.2	41.8	59	9.7	1.60	12.28	41871	276.94	863.52	9.2	17.2
2822.5	10.9	42.1	58	9.7	1.67	12.33	42031	333.75	860.63	9.2	17.2

BIT NUMBER	9	IADC CODE	4	INTERVAL	2822.5- 2828.0
CHRIS MC23		SIZE	8.469	NOZZLES	14 14 14
COST	18067.00	TRIP TIME	8.0	BIT RUN	5.5
TOTAL HOURS	1.17	TOTAL TURNS	5131	CONDITION	T0 B0 G1.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2822.8	90.0	5.2	51	9.7	0.49	0.00	10	41	157651	9.2	17.2
2823.0	24.8	7.4	57	9.7	0.84	0.01	38	147	94649	9.2	17.2
2823.2	4.8	9.5	63	9.7	1.31	0.05	193	756	67822	9.2	17.2
2823.4	2.6	13.2	71	9.7	1.60	0.13	516	1380	53057	9.2	17.2
2823.6	3.7	17.5	78	9.7	1.66	0.18	770	989	43590	9.2	17.2
2823.8	4.1	19.1	78	9.7	1.68	0.23	1001	898	37022	9.2	17.2
2824.0	8.1	19.5	78	9.7	1.49	0.26	1117	451	32146	9.2	17.2
2824.2	6.7	19.5	78	9.7	1.54	0.29	1258	548	28429	9.2	17.2
2824.4	5.8	19.7	78	9.7	1.59	0.32	1419	629	25502	9.2	17.2
2824.6	6.5	19.5	78	9.7	1.55	0.35	1563	558	23127	9.2	17.2
2824.8	6.4	19.6	78	9.7	1.56	0.38	1710	573	21166	9.2	17.2
2825.0	5.9	19.6	78	9.7	1.58	0.42	1869	619	19522	9.2	17.2
2825.2	6.5	19.5	78	9.7	1.55	0.45	2014	563	18118	9.2	17.2
2825.4	16.7	18.5	78	9.7	1.26	0.46	2070	218	16883	9.2	17.2
2825.6	25.7	18.4	78	9.7	1.14	0.47	2106	142	15803	9.2	17.2
2825.8	14.1	18.8	78	9.7	1.31	0.48	2173	259	14861	9.2	17.2
2826.0	13.1	18.9	78	9.7	1.34	0.50	2245	279	14028	9.2	17.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2826.2	13.3	19.0	78	9.7	1.33	0.51	2315	274	13284	9.2	17.2
2826.4	16.7	19.3	78	9.7	1.27	0.52	2371	218	12614	9.2	17.2
2826.6	7.7	19.2	78	9.7	1.50	0.55	2494	477	12022	9.2	17.2
2826.8	10.6	19.0	78	9.7	1.40	0.57	2582	345	11479	9.2	17.2
2827.0	10.1	19.3	78	9.7	1.42	0.59	2675	360	10985	9.2	17.2
2827.2	10.1	18.5	78	9.7	1.40	0.61	2767	360	10533	9.2	17.2
2827.4	8.6	18.2	78	9.7	1.44	0.63	2877	426	10120	9.2	17.2
2827.6	6.0	19.3	78	9.7	1.57	0.67	3034	614	9747	9.2	17.2
2827.8	1.3	20.1	78	9.7	2.02	0.82	3744	2759	9484	9.2	17.2
2828.0	0.6	19.9	66	9.7	2.21	1.17	5131	6427	9372	9.2	17.2

BIT NUMBER	9	IADC CODE	4	INTERVAL	2828.0- 2833.0
CHRIS C-23		SIZE	8.469	NOZZLES	14 14 14
COST	18067.00	TRIP TIME	8.0	BIT RUN	5.0
TOTAL HOURS	3.58	TOTAL TURNS	16019	CONDITION	T0 B0 G0.150

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2828.2	4.9	21.0	81	9.7	1.67	0.04	196	741	237156	9.2	17.2
2828.4	3.8	19.0	80	9.7	1.70	0.09	453	974	119065	9.2	17.2
2828.6	4.3	16.4	80	9.7	1.60	0.14	678	852	79661	9.2	17.2
2828.8	2.6	19.0	80	9.7	1.81	0.22	1053	1420	60100	9.2	17.2
2829.0	1.3	20.1	80	9.7	2.03	0.37	1783	2769	48634	9.2	17.2
2829.2	1.4	20.2	80	9.7	2.02	0.52	2485	2658	40972	9.2	17.2
2829.4	1.1	23.6	75	9.7	2.17	0.70	3309	3353	35597	9.2	17.2
2829.6	1.5	23.7	73	9.7	2.06	0.83	3887	2409	31449	9.2	17.2
2829.8	1.2	23.8	73	9.7	2.15	1.00	4646	3160	28306	9.2	17.2
2830.0	2.3	23.5	73	9.8	1.91	1.09	5035	1613	25636	9.2	17.2
2830.2	1.8	24.3	73	9.8	2.00	1.20	5515	1993	23487	9.2	17.2
2830.4	0.8	23.3	73	9.8	2.21	1.44	6554	4316	21889	9.2	17.2
2830.6	1.6	22.5	73	9.8	1.99	1.56	7092	2232	20377	9.2	17.2
2830.8	1.2	23.6	76	9.8	2.13	1.73	7879	3170	19148	9.2	17.2
2831.0	1.0	25.0	76	9.8	2.22	1.94	8824	3769	18123	9.2	17.2
2831.2	1.8	26.5	77	9.7	2.08	2.05	9331	1993	17115	9.2	17.2
2831.4	0.9	24.7	82	9.7	2.27	2.27	10414	4022	16345	9.2	17.2
2831.6	1.2	23.9	71	9.7	2.12	2.44	11123	3023	15605	9.2	17.2
2831.8	1.2	23.2	71	9.7	2.10	2.60	11822	2982	14940	9.2	17.2
2832.0	0.9	24.8	71	9.7	2.21	2.81	12724	3845	14386	9.2	17.2
2833.0	1.3	23.1	71	9.7	2.08	3.58	16019	2810	12070	9.2	17.2

BIT NUMBER	10	IADC CODE	537	INTERVAL	2833.0- 2975.5
HTC J33		SIZE	8.500	NOZZLES	13 13 13
COST	4503.00	TRIP TIME	8.3	BIT RUN	142.5
TOTAL HOURS	29.05	TOTAL TURNS	102918	CONDITION	T4 B4 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2834.0	2.2	27.1	59	9.7	1.95	0.45	1619	1659	36474	9.2	17.2
2835.0	4.3	37.8	59	9.8	1.94	0.69	2450	859	18667	9.2	17.2
2836.0	3.2	37.4	58	9.7	2.02	1.00	3535	1131	12821	9.2	17.2
2837.0	3.4	37.7	59	9.7	2.02	1.29	4586	1076	9885	9.2	17.2
2838.0	6.1	37.5	59	9.8	1.81	1.46	5166	594	8027	9.2	17.2
2839.0	6.4	36.4	59	9.7	1.78	1.61	5726	574	6785	9.2	17.2
2840.0	8.6	35.1	59	9.7	1.65	1.73	6142	426	5876	9.2	17.2
2841.0	11.1	36.0	59	9.8	1.58	1.82	6462	329	5183	9.2	17.2
2842.0	3.6	36.0	58	9.7	1.96	2.10	7441	1020	4720	9.2	17.2
2843.0	3.8	37.9	58	9.8	1.98	2.36	8367	964	4345	9.2	17.2
2844.0	2.9	36.0	59	9.8	2.03	2.70	9561	1242	4063	9.2	17.2
2845.0	3.1	36.9	59	9.7	2.03	3.03	10690	1175	3822	9.2	17.2
2846.0	2.3	37.2	59	9.7	2.14	3.45	12191	1559	3648	9.2	17.2
2847.0	2.9	36.4	58	9.7	2.05	3.79	13383	1245	3476	9.2	17.2
2848.0	2.6	36.1	51	9.7	2.04	4.18	14557	1400	3338	9.2	17.2
2849.0	4.8	34.5	57	9.7	1.83	4.38	15265	761	3177	9.2	17.2
2850.0	9.3	34.5	59	9.7	1.63	4.49	15650	395	3013	9.2	17.2
2851.0	8.7	34.7	58	9.7	1.64	4.61	16051	419	2869	9.2	17.2
2852.0	8.2	34.6	59	9.7	1.66	4.73	16478	444	2741	9.2	17.2
2853.0	5.2	36.3	59	9.7	1.85	4.92	17157	705	2640	9.2	17.2
2854.0	5.1	36.9	59	9.7	1.86	5.12	17842	710	2548	9.2	17.2
2855.0	3.0	38.1	59	9.7	2.07	5.45	19002	1201	2486	9.2	17.2
2856.0	2.7	37.8	59	9.7	2.10	5.81	20303	1348	2437	9.2	17.2
2857.0	2.5	36.2	59	9.7	2.11	6.22	21736	1478	2397	9.2	17.3
2858.0	4.2	38.6	59	9.7	1.97	6.46	22585	872	2336	9.2	17.3
2859.0	3.9	45.1	59	9.7	2.11	6.72	23502	939	2282	9.2	17.3
2860.0	4.8	43.9	59	9.7	2.01	6.93	24245	768	2226	9.2	17.3
2861.0	8.4	42.0	59	9.7	1.78	7.05	24671	436	2162	9.2	17.3
2862.0	7.2	42.5	59	9.7	1.84	7.18	25164	506	2105	9.2	17.3
2863.0	6.5	42.6	59	9.7	1.88	7.34	25712	562	2054	9.2	17.3
2864.0	7.1	42.6	59	9.7	1.84	7.48	26211	511	2004	9.2	17.3
2865.0	12.5	42.2	59	9.7	1.63	7.56	26495	291	1950	9.2	17.3
2866.0	9.1	42.9	59	9.7	1.76	7.67	26888	403	1904	9.2	17.3
2867.0	5.5	43.7	59	9.7	1.96	7.85	27539	668	1867	9.2	17.3
2868.0	6.3	44.4	59	9.7	1.91	8.01	28096	577	1830	9.2	17.3
2869.0	6.9	44.6	59	9.7	1.89	8.15	28613	533	1794	9.2	17.3
2870.0	9.7	43.8	57	9.7	1.73	8.26	28967	378	1756	9.2	17.3
2871.0	4.5	44.1	58	9.7	2.03	8.48	29738	816	1731	9.2	17.3
2872.0	3.9	43.5	58	9.7	2.07	8.74	30630	941	1711	9.2	17.3
2873.0	3.8	44.5	58	9.7	2.10	9.01	31562	971	1693	9.2	17.3
2874.0	4.2	43.8	59	9.7	2.05	9.24	32395	863	1672	9.2	17.3
2875.0	3.1	43.3	59	9.7	2.15	9.56	33524	1171	1660	9.2	17.3
2876.0	3.2	41.0	59	9.7	2.11	9.88	34640	1156	1649	9.2	17.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2877.0	3.7	43.2	58	9.7	2.08	10.15	35577	976	1633	9.2	17.3
2878.0	3.1	43.8	58	9.7	2.16	10.47	36700	1170	1623	9.2	17.3
2879.0	4.7	43.5	58	9.7	2.00	10.68	37432	770	1605	9.2	17.3
2880.0	4.1	44.1	59	9.7	2.08	10.92	38312	901	1590	9.2	17.3
2881.0	4.8	43.8	59	9.7	2.01	11.13	39061	768	1572	9.2	17.3
2882.0	3.3	44.0	59	9.7	2.15	11.44	40136	1101	1563	9.2	17.3
2883.0	3.7	44.1	60	9.7	2.11	11.70	41091	977	1551	9.2	17.3
2884.0	4.4	44.1	59	9.7	2.05	11.93	41907	836	1537	9.2	17.3
2885.0	4.7	44.3	59	9.7	2.02	12.14	42667	778	1522	9.2	17.3
2886.0	4.7	44.2	59	9.7	2.02	12.36	43422	774	1508	9.2	17.3
2887.0	4.2	44.5	59	9.7	2.07	12.59	44269	866	1496	9.3	17.3
2888.0	4.6	44.8	60	9.7	2.04	12.81	45045	793	1484	9.3	17.3
2889.0	7.6	44.4	57	9.7	1.84	12.94	45501	483	1466	9.3	17.3
2890.0	12.2	44.5	59	9.7	1.67	13.03	45793	300	1445	9.3	17.3
2891.0	12.7	44.4	59	9.7	1.66	13.10	46074	288	1425	9.3	17.3
2892.0	14.2	44.1	59	9.7	1.61	13.18	46325	258	1406	9.3	17.3
2893.0	10.9	44.4	59	9.7	1.71	13.27	46651	334	1388	9.3	17.3
2894.0	4.6	45.2	59	9.7	2.05	13.48	47424	792	1378	9.3	17.3
2895.0	10.0	44.5	59	9.7	1.75	13.58	47781	365	1362	9.3	17.3
2896.0	9.9	44.7	59	9.7	1.75	13.68	48142	370	1346	9.3	17.3
2897.0	4.4	45.3	59	9.7	2.07	13.91	48959	837	1338	9.3	17.3
2898.0	3.6	45.3	59	9.7	2.14	14.19	49942	1006	1333	9.3	17.3
2899.0	4.0	45.5	60	9.7	2.10	14.44	50830	906	1326	9.3	17.3
2900.0	4.3	45.6	60	9.8	2.07	14.67	51670	846	1319	9.3	17.3
2901.0	5.4	45.8	60	9.8	1.98	14.85	52338	675	1310	9.3	17.3
2902.0	3.6	45.1	60	9.8	2.12	15.13	53354	1026	1306	9.3	17.3
2903.0	3.9	45.5	60	9.8	2.10	15.39	54283	945	1300	9.3	17.3
2904.0	4.7	45.5	60	9.8	2.03	15.61	55042	777	1293	9.3	17.3
2905.0	4.5	45.8	60	9.7	2.07	15.83	55835	810	1286	9.3	17.3
2906.0	3.0	45.2	60	9.7	2.21	16.16	57026	1206	1285	9.3	17.3
2907.0	3.4	43.7	60	9.7	2.14	16.45	58077	1059	1282	9.3	17.3
2908.0	3.5	44.5	59	9.7	2.14	16.74	59108	1058	1279	9.3	17.3
2909.0	4.4	44.9	59	9.7	2.06	16.97	59918	833	1273	9.3	17.3
2910.0	3.4	45.1	59	9.7	2.15	17.26	60955	1062	1271	9.4	17.3
2911.0	4.7	45.0	59	9.7	2.04	17.47	61718	782	1264	9.4	17.3
2912.0	7.0	44.9	59	9.7	1.89	17.61	62229	523	1255	9.4	17.3
2913.0	14.0	44.3	59	9.7	1.62	17.69	62483	261	1243	9.4	17.3
2914.0	6.0	45.3	59	9.7	1.95	17.85	63081	613	1235	9.4	17.3
2915.0	7.2	45.1	59	9.7	1.88	17.99	63578	509	1224	9.4	17.3
2916.0	12.2	44.7	59	9.7	1.68	18.08	63870	300	1215	9.4	17.3
2917.0	10.6	44.6	57	9.7	1.71	18.17	64195	345	1204	9.4	17.3
2918.0	12.2	44.4	59	9.7	1.67	18.25	64486	299	1194	9.4	17.3
2919.0	6.2	45.0	59	9.7	1.93	18.41	65060	589	1187	9.4	17.3
2920.0	10.4	44.9	59	9.7	1.73	18.51	65400	350	1177	9.4	17.3
2921.0	9.0	45.0	59	9.7	1.79	18.62	65794	406	1168	9.4	17.3
2922.0	7.6	44.9	59	9.7	1.85	18.75	66260	478	1161	9.4	17.3
2923.0	13.1	44.6	59	9.7	1.64	18.83	66529	278	1151	9.4	17.3
2924.0	5.2	45.4	59	9.7	2.01	19.02	67215	706	1146	9.4	17.3
2925.0	4.6	45.5	59	9.7	2.04	19.24	67979	787	1142	9.4	17.3
2926.0	5.1	45.5	59	9.8	2.00	19.43	68672	715	1137	9.4	17.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2927.0	5.2	45.3	58	9.8	1.98	19.62	69343	701	1133	9.4	17.3
2928.0	7.8	45.3	58	9.8	1.83	19.75	69788	471	1126	9.4	17.3
2929.0	12.3	46.2	62	9.8	1.70	19.83	70093	297	1117	9.4	17.3
2930.0	11.5	45.5	62	9.8	1.72	19.92	70418	317	1109	9.4	17.3
2931.0	6.1	48.3	62	9.7	2.00	20.09	71035	602	1104	9.4	17.3
2932.0	11.9	42.5	62	9.8	1.66	20.17	71349	306	1096	9.4	17.3
2933.0	6.3	43.6	62	9.8	1.91	20.33	71939	575	1090	9.4	17.3
2934.0	3.5	45.8	62	9.8	2.17	20.61	73010	1044	1090	9.4	17.3
2935.0	10.8	45.4	62	9.8	1.74	20.71	73357	339	1083	9.4	17.3
2936.0	6.9	45.7	62	9.7	1.91	20.85	73897	526	1077	9.4	17.3
2937.0	11.5	45.3	60	9.8	1.70	20.94	74211	317	1070	9.4	17.3
2938.0	12.3	45.8	61	9.8	1.69	21.02	74507	297	1063	9.4	17.3
2939.0	13.4	45.7	60	9.8	1.65	21.09	74777	272	1055	9.4	17.3
2940.0	8.1	46.0	60	9.7	1.85	21.22	75228	453	1049	9.4	17.3
2941.0	7.0	44.4	60	9.8	1.87	21.36	75745	520	1045	9.4	17.3
2942.0	6.0	45.8	60	9.8	1.95	21.52	76347	606	1041	9.4	17.4
2943.0	6.1	45.8	60	9.7	1.95	21.69	76945	602	1037	9.4	17.4
2944.0	12.1	45.7	60	9.8	1.69	21.77	77245	302	1030	9.4	17.4
2945.0	3.7	46.6	60	9.7	2.14	22.04	78215	976	1029	9.4	17.4
2946.0	3.6	46.5	60	9.8	2.16	22.32	79234	1024	1029	9.4	17.4
2947.0	7.6	45.8	56	9.7	1.83	22.45	79674	481	1025	9.4	17.4
2948.0	17.9	45.8	59	9.8	1.53	22.51	79870	204	1018	9.4	17.4
2949.0	20.5	44.9	58	9.8	1.47	22.56	80041	179	1010	9.4	17.4
2950.0	8.5	46.5	58	9.8	1.82	22.67	80452	430	1005	9.4	17.4
2951.0	3.8	46.9	59	9.7	2.13	22.94	81384	967	1005	9.4	17.4
2952.0	5.3	46.6	59	9.8	2.00	23.13	82041	683	1002	9.4	17.4
2953.0	4.0	46.5	58	9.7	2.10	23.38	82915	910	1002	9.4	17.4
2954.0	4.3	47.2	58	9.8	2.09	23.61	83731	850	1000	9.4	17.4
2955.0	4.4	47.0	58	9.7	2.08	23.84	84533	834.89	998.90	9.4	17.4
2956.0	5.5	47.0	58	9.8	1.99	24.02	85173	666.49	996.20	9.4	17.4
2957.0	5.9	45.6	58	9.8	1.94	24.19	85766	618.81	993.15	9.4	17.4
2958.0	7.7	44.7	59	9.7	1.83	24.32	86222	473.75	989.00	9.4	17.4
2959.0	5.8	44.8	58	9.7	1.93	24.49	86818	624.90	986.11	9.4	17.4
2960.0	3.2	45.4	59	9.7	2.18	24.80	87921	1140	987	9.4	17.4
2961.0	3.3	45.2	59	9.7	2.17	25.10	88998	1106	988	9.4	17.4
2962.0	5.9	45.0	59	9.7	1.95	25.28	89604	623.88	985.42	9.4	17.4
2963.0	4.0	45.2	59	9.7	2.10	25.53	90493	920.10	984.92	9.4	17.4
2964.0	3.1	45.2	59	9.7	2.19	25.85	91619	1167	986	9.4	17.4
2965.0	3.1	45.3	59	9.7	2.20	26.17	92773	1193	988	9.4	17.4
2966.0	3.6	45.6	59	9.7	2.13	26.45	93743	1004	988	9.4	17.4
2967.0	2.6	45.8	58	9.7	2.27	26.84	95103	1423	991	9.4	17.4
2968.0	3.2	45.8	58	9.7	2.19	27.15	96208	1153	992	9.4	17.4
2969.0	6.3	45.0	58	9.7	1.92	27.31	96768	584.32	989.44	9.4	17.4
2970.0	3.5	45.7	58	9.7	2.15	27.60	97768	1044	990	9.4	17.4
2971.0	4.1	45.3	59	9.7	2.08	27.84	98628	887.64	989.10	9.4	17.4
2972.0	3.9	46.2	59	9.7	2.12	28.10	99526	926.19	988.65	9.4	17.4
2973.0	7.8	44.2	59	9.7	1.83	28.22	99980	469.69	984.94	9.4	17.4
2974.0	4.1	45.3	59	9.7	2.08	28.47	100840	887.64	984.25	9.4	17.4
2975.0	3.8	45.8	59	9.7	2.13	28.73	101782	971.84	984.16	9.4	17.4
2975.5	1.6	46.0	59	9.7	2.46	29.05	102918	2343	989	9.4	17.4

BIT NUMBER	11	IADC CODE	617	INTERVAL	2975.5- 3011.0
HTC J44		SIZE	8.500	NOZZLES	13 13 13
COST	4357.00	TRIP TIME	8.4	BIT RUN	35.5
TOTAL HOURS	10.65	TOTAL TURNS	36514	CONDITION	T1 B1 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2976.0	1.9	26.4	51	9.7	1.93	0.26	785	1879	71947	9.4	17.4
2977.0	3.7	38.9	58	9.7	2.01	0.53	1737	1000	24649	9.4	17.4
2978.0	3.0	44.4	56	9.7	2.17	0.86	2858	1216	15276	9.4	17.4
2979.0	2.2	44.4	57	9.7	2.29	1.32	4403	1654	11384	9.4	17.4
2980.0	2.7	42.2	55	9.7	2.16	1.68	5616	1341	9152	9.4	17.4
2981.0	2.9	43.5	51	9.7	2.13	2.03	6667	1265	7718	9.4	17.4
2982.0	3.7	44.3	53	9.7	2.08	2.30	7542	998	6684	9.4	17.4
2983.0	2.4	44.7	59	9.7	2.28	2.72	9005	1507	5994	9.4	17.4
2984.0	3.1	46.4	59	9.7	2.22	3.04	10154	1178	5427	9.4	17.4
2985.0	2.6	47.6	59	9.7	2.30	3.42	11502	1390	5002	9.4	17.4
2986.0	2.7	48.4	59	9.7	2.29	3.79	12789	1335	4653	9.4	17.4
2987.0	2.8	46.8	59	9.7	2.26	4.14	14064	1312	4363	9.4	17.4
2988.0	2.4	47.5	60	9.7	2.34	4.57	15580	1551	4138	9.4	17.4
2989.0	3.4	46.1	60	9.6	2.19	4.87	16642	1085	3912	9.4	17.4
2990.0	3.3	47.0	60	9.6	2.22	5.17	17739	1122	3719	9.4	17.4
2991.0	2.2	46.5	55	9.6	2.33	5.63	19254	1683	3588	9.4	17.4
2992.0	2.4	46.6	52	9.7	2.27	6.04	20544	1498	3461	9.4	17.4
2993.0	2.5	46.3	52	9.6	2.27	6.45	21825	1486	3348	9.4	17.4
2994.0	4.8	45.3	52	9.7	1.99	6.66	22475	755	3208	9.5	17.4
2995.0	7.0	44.1	52	9.6	1.84	6.80	22926	524	3071	9.6	17.4
2996.0	4.1	47.3	58	9.7	2.12	7.04	23765	883	2964	9.6	17.4
2997.0	3.6	48.2	59	9.7	2.18	7.32	24733	1006	2873	9.6	17.4
2998.0	3.1	48.0	59	9.7	2.24	7.64	25859	1171	2797	9.6	17.4
2999.0	4.0	43.4	58	9.7	2.06	7.89	26737	914	2717	9.6	17.4
3000.0	4.4	38.4	58	9.7	1.93	8.11	27526	821	2640	9.6	17.4
3001.0	2.9	48.8	58	9.8	2.25	8.46	28738	1262	2586	9.6	17.4
3002.0	3.7	48.5	58	9.8	2.16	8.73	29692	993	2525	9.6	17.4
3003.0	3.5	47.1	58	9.8	2.15	9.02	30690	1039	2471	9.6	17.4
3004.0	6.2	47.2	58	9.8	1.94	9.18	31258	591	2405	10.1	17.5
3005.0	3.3	47.5	58	9.8	2.19	9.49	32335	1121	2362	10.1	17.5
3006.0	5.5	47.1	58	9.8	1.99	9.67	32976	668	2306	10.1	17.5
3007.0	8.0	47.0	59	9.8	1.84	9.79	33419	457	2248	10.1	17.5
3008.0	5.1	47.3	60	9.8	2.03	9.99	34125	712	2200	10.1	17.5
3009.0	3.6	47.1	60	9.8	2.15	10.26	35122	1004	2165	10.1	17.5
3010.0	11.3	46.0	60	9.8	1.71	10.35	35444	325	2111	10.1	17.5
3011.0	3.3	44.3	59	9.8	2.13	10.65	36514	1105	2083	10.1	17.5

BIT NUMBER	12	IADC CODE	347	INTERVAL	3011.0- 3013.1
HTC JD8		SIZE	8.500	NOZZLES	13 13 13
COST	1500.00	TRIP TIME	7.0	BIT RUN	2.1
TOTAL HOURS	0.50	TOTAL TURNS	2175	CONDITION	T7 B3 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3012.0	5.0	20.0	58	10.9	1.38	0.20	696	730	27794	10.1	17.5
3013.0	2.9	26.1	56	10.9	1.63	0.54	1836	1240	14517	10.1	17.5
3013.1	1.0	39.6	55	10.9	2.21	0.64	2175	3733	14004	10.1	17.5

BIT NUMBER	13	IADC CODE	537	INTERVAL	3013.1- 3140.4
HTC J33		SIZE	8.500	NOZZLES	13 13 13
COST	4503.00	TRIP TIME	7.0	BIT RUN	127.3
TOTAL HOURS	39.96	TOTAL TURNS	127844	CONDITION	T4 B5 G0.063

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3015.0	1.4	20.4	57	10.9	1.72	1.40	4802	2686	18510	10.1	17.5
3016.0	1.5	36.6	55	10.9	2.00	2.04	6919	2357	12940	10.1	17.5
3017.0	5.6	39.2	50	10.9	1.62	2.22	7462	657	9791	10.1	17.5
3018.0	4.4	38.9	54	10.9	1.71	2.45	8194	830	7962	10.1	17.5
3019.0	1.4	37.2	56	10.9	2.06	3.18	10644	2684	7067	10.1	17.5
3020.0	2.6	37.3	55	10.9	1.86	3.57	11914	1394	6245	10.1	17.5
3021.0	1.8	43.8	48	10.9	2.04	4.12	13528	2035	5712	10.1	17.5
3022.0	2.3	43.8	48	10.9	1.96	4.55	14773	1567	5247	10.1	17.5
3023.0	2.5	43.0	51	10.9	1.94	4.95	15991	1456	4864	10.1	17.5
3024.0	2.1	44.0	52	10.9	2.02	5.43	17477	1739	4577	10.1	17.5
3025.0	2.0	44.2	56	10.9	2.06	5.93	19157	1826	4346	10.1	17.5
3026.0	2.5	43.5	56	10.9	1.98	6.33	20504	1469	4123	10.1	17.5
3027.0	3.7	44.2	56	10.9	1.86	6.60	21399	979	3897	10.1	17.5
3028.0	4.3	44.1	56	10.9	1.81	6.83	22183	858	3693	10.1	17.5
3029.0	11.9	42.9	55	10.9	1.45	6.92	22461	306	3480	10.1	17.5
3030.0	7.9	42.9	55	10.8	1.60	7.04	22881	462	3301	10.1	17.5
3031.0	6.7	41.3	55	10.7	1.65	7.19	23379	546	3147	10.1	17.5
3032.0	3.7	44.3	55	10.7	1.89	7.46	24270	985	3033	10.1	17.5
3033.0	2.8	44.4	56	10.7	1.99	7.82	25467	1310	2946	10.1	17.5
3034.0	5.1	43.8	56	10.7	1.78	8.02	26124	720	2840	10.1	17.5
3035.0	15.7	44.2	56	10.7	1.41	8.08	26338	233	2721	10.1	17.5
3036.0	2.8	44.7	52	10.7	1.96	8.43	27426	1282	2658	10.1	17.5
3037.0	5.6	44.2	52	10.7	1.73	8.61	27981	655	2574	10.1	17.5
3038.0	3.1	44.1	52	10.7	1.93	8.94	28984	1183	2518	10.1	17.5
3039.0	2.7	44.9	53	10.7	1.99	9.30	30145	1334	2472	10.1	17.5
3040.0	2.2	44.3	56	10.7	2.07	9.75	31653	1633	2441	10.1	17.5
3041.0	3.5	45.0	56	10.7	1.93	10.04	32623	1052	2391	10.1	17.5
3042.0	2.8	44.6	56	10.7	1.99	10.39	33814	1291	2353	10.1	17.5
3043.0	2.3	44.9	56	10.7	2.08	10.83	35313	1623	2329	10.1	17.5
3044.0	2.8	44.8	56	10.7	2.00	11.19	36526	1315	2296	10.1	17.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3045.0	3.0	46.0	55	10.7	1.99	11.53	37628	1209	2262	10.1	17.5
3046.0	2.5	45.0	54	10.7	2.03	11.93	38955	1488	2239	10.1	17.5
3047.0	3.8	44.9	54	10.7	1.89	12.20	39823	974	2201	10.1	17.5
3048.0	3.2	44.8	54	10.7	1.94	12.51	40828	1128	2170	10.1	17.5
3049.0	2.4	45.4	54	10.7	2.05	12.93	42189	1527	2153	10.1	17.5
3050.0	1.9	45.1	54	10.6	2.14	13.47	43949	1972	2148	10.1	17.5
3051.0	3.7	44.7	54	10.5	1.93	13.74	44836	996	2117	10.1	17.5
3052.0	5.2	44.7	54	10.5	1.81	13.93	45461	701	2081	10.1	17.5
3053.0	5.2	44.4	54	10.5	1.81	14.13	46091	707	2046	10.1	17.5
3054.0	7.6	44.9	53	10.5	1.67	14.26	46505	478	2008	10.1	17.5
3055.0	10.8	43.6	55	10.5	1.55	14.35	46808	339	1968	10.1	17.5
3056.0	4.4	44.8	55	10.6	1.86	14.58	47563	835	1942	10.1	17.5
3057.0	7.0	44.2	55	10.7	1.67	14.72	48030	520	1909	10.1	17.5
3058.0	11.7	43.4	55	10.7	1.49	14.81	48311	313	1874	10.1	17.5
3059.0	5.0	42.8	48	10.5	1.75	15.00	48887	724	1849	10.1	17.5
3060.0	10.3	43.9	52	10.5	1.55	15.10	49190	353	1817	10.1	17.5
3061.0	2.6	45.1	53	10.5	2.04	15.49	50404	1404	1808	10.1	17.5
3062.0	2.4	45.1	53	10.5	2.08	15.91	51737	1543	1803	10.1	17.5
3063.0	2.6	45.1	53	10.5	2.05	16.30	52972	1427	1795	10.1	17.5
3064.0	3.7	42.3	54	10.5	1.89	16.57	53854	987	1780	10.1	17.5
3065.0	2.8	42.1	50	10.5	1.95	16.93	54926	1304	1770	10.1	17.5
3066.0	1.4	41.4	52	10.5	2.19	17.64	57175	2609	1786	10.1	17.5
3067.0	1.6	42.5	54	10.5	2.18	18.27	59212	2283	1795	10.1	17.5
3068.0	1.3	41.4	54	10.5	2.23	19.03	61721	2809	1814	10.1	17.5
3069.0	1.6	42.2	54	10.5	2.17	19.66	63760	2283	1822	10.1	17.5
3070.0	1.2	41.9	54	10.5	2.26	20.49	66477	3043	1844	10.1	17.5
3071.0	1.4	42.4	54	10.5	2.22	21.21	68807	2609	1857	10.1	17.5
3072.0	1.8	42.6	54	10.5	2.14	21.76	70618	2029	1860	10.1	17.5
3073.0	2.2	42.2	54	10.5	2.06	22.22	72101	1660	1857	10.1	17.5
3074.0	1.7	42.3	54	10.5	2.15	22.81	74020	2148	1861	10.1	17.5
3075.0	2.5	43.6	54	10.5	2.04	23.21	75325	1461	1855	10.1	17.5
3076.0	1.3	41.6	54	10.5	2.23	23.97	77835	2809	1870	10.1	17.5
3077.0	2.5	41.6	54	10.5	2.01	24.37	79139	1461	1864	10.1	17.5
3078.0	1.8	42.2	52	10.5	2.11	24.93	80858	2029	1866	10.1	17.5
3079.0	2.5	42.6	54	10.5	2.02	25.33	82145	1461	1860	10.1	17.5
3080.0	1.8	44.0	54	10.5	2.16	25.89	83933	2029	1863	10.1	17.5
3081.0	2.4	44.4	54	10.6	2.05	26.30	85268	1517	1857	10.1	17.5
3082.0	2.3	44.4	54	10.6	2.06	26.74	86663	1586	1853	10.1	17.5
3083.0	38.6	45.0	56	10.6	1.12	26.76	86751	95	1828	10.1	17.5
3084.0	1.7	44.7	56	10.6	2.19	27.35	88728	2139	1833	10.1	17.5
3085.0	7.9	44.3	56	10.6	1.66	27.47	89153	462	1814	10.1	17.5
3086.0	7.6	43.4	56	10.6	1.66	27.61	89595	481	1795	10.1	17.5
3087.0	11.8	43.4	44	10.6	1.43	27.69	89820	310	1775	10.1	17.5
3088.0	8.2	43.4	53	10.6	1.61	27.81	90208	447	1758	10.1	17.5
3089.0	7.5	44.2	49	10.6	1.63	27.95	90605	489	1741	10.1	17.5
3090.0	5.8	44.2	52	10.6	1.73	28.12	91138	630	1726	10.1	17.5
3091.0	5.2	44.0	51	10.6	1.76	28.31	91729	699	1713	10.1	17.5
3092.0	8.2	43.7	51	10.6	1.61	28.43	92105	445	1697	10.1	17.5
3093.0	7.2	44.3	53	10.6	1.67	28.57	92547	510	1682	10.1	17.6
3094.0	7.1	44.1	53	10.6	1.67	28.71	92999	515	1668	10.1	17.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	TCOST	CCOST	PP	FG
3095.0	8.9	43.8	53	10.6	1.59	28.83	93359	411	1652	10.1	17.6
3096.0	2.8	44.6	53	10.6	2.00	29.18	94502	1303	1648	10.1	17.6
3097.0	3.0	44.7	53	10.6	1.98	29.52	95572	1219	1643	10.1	17.6
3098.0	2.2	44.9	53	10.6	2.09	29.98	97043	1678	1644	10.1	17.6
3099.0	2.7	44.7	53	10.6	2.01	30.35	98233	1355	1640	10.1	17.6
3100.0	2.3	44.9	53	10.6	2.07	30.78	99600	1584	1640	10.1	17.6
3101.0	3.7	44.7	53	10.5	1.92	31.05	100457	992	1632	10.1	17.6
3102.0	5.0	44.5	52	10.5	1.80	31.25	101074	726	1622	10.1	17.6
3103.0	8.6	40.8	50	10.5	1.56	31.37	101422	425	1609	10.1	17.6
3104.0	11.3	40.7	49	10.5	1.46	31.46	101683	324	1595	10.1	17.6
3105.0	11.2	42.0	49	10.5	1.48	31.55	101945	327	1581	10.1	17.6
3106.0	2.3	39.6	49	10.5	1.97	31.98	103238	1593	1581	10.1	17.6
3107.0	3.4	37.7	50	10.5	1.82	32.28	104121	1077	1576	10.1	17.6
3108.0	2.0	38.3	51	10.5	2.01	32.77	105644	1812	1578	10.1	17.6
3109.0	2.9	38.1	51	10.5	1.89	33.12	106708	1266	1575	10.1	17.6
3110.0	10.0	36.5	48	10.5	1.44	33.22	106996	364	1562	10.1	17.6
3111.0	4.6	34.9	49	10.5	1.67	33.44	107645	799	1554	10.1	17.6
3112.0	6.1	34.8	49	10.5	1.58	33.60	108128	595	1545	10.1	17.6
3113.0	4.1	35.0	52	10.5	1.72	33.84	108884	885	1538	10.1	17.6
3114.0	3.3	35.3	52	10.5	1.80	34.15	109846	1119	1534	10.1	17.6
3115.0	2.8	35.2	52	10.5	1.85	34.51	110965	1302	1532	10.1	17.6
3116.0	6.1	34.5	52	10.5	1.59	34.67	111480	599	1523	10.1	17.6
3117.0	6.9	34.5	52	10.5	1.55	34.81	111932	526	1513	10.1	17.6
3118.0	9.3	34.4	52	10.5	1.46	34.92	112270	393	1502	10.1	17.6
3119.0	8.1	34.6	52	10.5	1.51	35.05	112660	453	1492	10.1	17.6
3120.0	7.2	34.9	52	10.5	1.55	35.19	113099	510	1483	10.1	17.6
3121.0	2.9	35.2	52	10.5	1.84	35.53	114175	1256	1481	10.1	17.6
3122.0	2.3	35.8	52	10.5	1.92	35.96	115525	1569	1482	10.1	17.6
3123.0	2.8	35.7	52	10.5	1.86	36.31	116639	1292	1480	10.1	17.6
3124.0	2.4	35.4	52	10.5	1.91	36.74	117974	1552	1481	10.1	17.6
3125.0	4.3	35.7	52	10.5	1.72	36.97	118705	849	1475	10.1	17.6
3126.0	4.9	35.1	52	10.5	1.67	37.17	119345	744	1469	10.1	17.6
3127.0	8.2	35.2	52	10.5	1.51	37.30	119729	446	1460	10.1	17.6
3128.0	1.7	35.6	52	10.5	2.02	37.90	121620	2198	1466	10.1	17.6
3129.0	6.0	34.8	52	10.5	1.60	38.06	122141	606	1459	10.1	17.6
3130.0	9.3	33.7	51	10.5	1.44	38.17	122472	392	1450	10.1	17.6
3131.0	7.7	35.0	51	10.5	1.52	38.30	122872	474	1441	10.1	17.6
3132.0	6.0	34.7	50	10.5	1.59	38.47	123377	612	1434	10.1	17.6
3133.0	4.1	35.8	49	10.5	1.72	38.71	124102	895	1430	10.1	17.6
3134.0	2.8	35.5	49	10.5	1.83	39.06	125143	1283	1429	10.1	17.6
3135.0	6.8	35.0	50	10.5	1.55	39.21	125580	537	1421	10.1	17.6
3136.0	9.4	34.8	51	10.5	1.45	39.32	125906	390	1413	10.1	17.6
3137.0	7.7	34.6	51	10.5	1.51	39.45	126303	474	1405	10.1	17.6
3138.0	6.3	35.6	51	10.5	1.59	39.61	126790	579	1399	10.1	17.6
3139.0	5.8	35.0	51	10.5	1.61	39.78	127321	632	1393	10.1	17.6
3140.0	11.1	35.0	50	10.5	1.39	39.87	127589	328	1384	10.1	17.6
3140.4	4.4	34.6	46	10.5	1.66	39.96	127844	839	1383	10.1	17.6

BIT NUMBER	14	IADC CODE	537	INTERVAL	3140.4- 3273.9
HTC J33		SIZE	8.500	NOZZLES	13 13 13
COST	4503.00	TRIP TIME	8.9	BIT RUN	133.5
TOTAL HOURS	49.34	TOTAL TURNS	140579	CONDITION	T4 B4 G0.062

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3141.0	4.2	22.9	47	10.5	1.48	0.14	403	862	62539	10.2	17.6
3142.0	2.9	41.8	55	10.5	1.96	0.48	1523	1249	24232	10.2	17.6
3143.0	2.6	42.0	56	10.5	2.01	0.87	2811	1397	15450	10.2	17.6
3144.0	12.4	41.0	56	10.5	1.48	0.95	3083	294	11240	10.2	17.6
3145.0	3.6	42.1	56	10.5	1.90	1.22	4009	1001	9014	10.2	17.6
3146.0	2.4	43.2	56	10.5	2.06	1.64	5410	1514	7675	10.2	17.6
3147.0	1.3	44.0	56	10.5	2.28	2.39	7970	2772	6932	10.2	17.6
3148.0	1.8	43.9	56	10.5	2.17	2.95	9833	2024	6286	10.2	17.6
3149.0	4.5	44.0	52	10.5	1.83	3.17	10527	812	5649	10.2	17.6
3150.0	2.8	38.7	51	10.5	1.91	3.53	11629	1304	5197	10.2	17.6
3151.0	1.8	40.1	49	10.5	2.06	4.08	13243	2012	4896	10.2	17.6
3152.0	2.4	41.1	46	10.5	1.96	4.49	14389	1500	4604	10.2	17.6
3153.0	1.8	42.7	48	10.5	2.10	5.04	15974	1998	4397	10.2	17.6
3154.0	10.3	41.3	47	10.5	1.49	5.13	16252	355	4100	10.2	17.6
3155.0	6.9	41.4	47	10.5	1.62	5.28	16665	530	3855	10.2	17.6
3156.0	11.3	41.3	47	10.5	1.46	5.37	16917	324	3629	10.2	17.6
3157.0	5.1	41.9	46	10.5	1.72	5.56	17458	715	3453	10.2	17.6
3158.0	5.1	41.5	46	10.5	1.71	5.76	18001	715	3298	10.2	17.6
3159.0	14.5	43.0	48	10.5	1.39	5.83	18199	252	3134	10.2	17.6
3160.0	2.7	42.6	47	10.5	1.96	6.20	19256	1368	3044	10.2	17.6
3161.0	1.7	42.5	47	10.5	2.11	6.80	20942	2181	3002	10.2	17.6
3162.0	1.9	42.8	46	10.5	2.06	7.32	22385	1897	2951	10.2	17.6
3163.0	1.3	42.9	47	10.5	2.20	8.09	24542	2804	2944	10.2	17.6
3164.0	1.8	43.0	47	10.5	2.09	8.63	26094	1990	2904	10.2	17.6
3165.0	1.2	43.1	47	10.5	2.23	9.44	28395	2949	2906	10.2	17.6
3166.0	2.2	43.2	47	10.5	2.04	9.90	29702	1676	2858	10.2	17.6
3167.0	1.6	43.2	47	10.5	2.14	10.51	31449	2240	2834	10.2	17.6
3168.0	1.8	43.0	47	10.5	2.10	11.06	33014	2007	2804	10.2	17.6
3169.0	1.8	43.5	47	10.5	2.11	11.62	34607	2045	2778	10.2	17.6
3170.0	2.7	44.2	47	10.5	1.97	11.99	35643	1329	2729	10.2	17.6
3171.0	1.7	41.3	47	10.5	2.08	12.56	37293	2116	2709	10.2	17.6
3172.0	2.7	42.8	47	10.5	1.96	12.94	38359	1368	2667	10.2	17.6
3173.0	1.8	42.8	47	10.5	2.10	13.51	39977	2074	2648	10.2	17.6
3174.0	3.5	42.4	47	10.5	1.86	13.79	40782	1032	2600	10.2	17.6
3175.0	5.6	42.1	47	10.5	1.70	13.97	41286	647	2544	10.2	17.6
3176.0	4.9	42.8	47	10.5	1.75	14.17	41862	740	2493	10.2	17.6
3177.0	1.1	43.4	47	10.5	2.29	15.10	44525	3414	2518	10.2	17.6
3178.0	1.6	43.6	47	10.5	2.15	15.73	46300	2274	2512	10.2	17.6
3179.0	2.3	40.5	47	10.5	1.97	16.15	47500	1555	2487	10.2	17.6
3180.0	3.4	41.8	48	10.5	1.87	16.45	48356	1090	2452	10.2	17.6
3181.0	3.3	41.7	48	10.5	1.88	16.76	49240	1116	2419	10.2	17.6
3182.0	6.2	41.6	48	10.5	1.66	16.92	49702	585	2375	10.2	17.6
3183.0	4.3	41.7	48	10.5	1.79	17.15	50377	856	2339	10.2	17.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3184.0	4.1	41.7	48	10.5	1.81	17.40	51092	900	2306	10.2	17.6
3185.0	2.1	42.1	48	10.5	2.03	17.87	52452	1713	2293	10.2	17.6
3186.0	2.8	41.9	48	10.5	1.94	18.23	53491	1311	2271	10.2	17.6
3187.0	3.8	42.1	48	10.5	1.84	18.49	54258	968	2243	10.2	17.6
3188.0	4.3	42.2	48	10.5	1.80	18.72	54928	845	2214	10.2	17.6
3189.0	6.9	41.9	47	10.5	1.63	18.87	55342	532	2179	10.2	17.6
3190.0	7.0	42.3	46	10.5	1.62	19.01	55738	518	2146	10.2	17.6
3191.0	2.5	42.3	42	10.5	1.94	19.41	56767	1479	2133	10.2	17.6
3192.0	2.2	42.5	46	10.5	2.02	19.87	58048	1678	2124	10.2	17.6
3193.0	4.3	42.2	46	10.5	1.79	20.11	58701	856	2100	10.2	17.6
3194.0	6.2	42.1	46	10.5	1.66	20.27	59154	593	2072	10.2	17.6
3195.0	1.9	42.9	46	10.5	2.07	20.79	60598	1891	2068	10.2	17.6
3196.0	3.2	42.8	46	10.5	1.89	21.10	61469	1140	2052	10.2	17.6
3197.0	1.7	43.4	47	10.5	2.12	21.69	63115	2153	2053	10.2	17.6
3198.0	3.1	41.2	46	10.5	1.88	22.02	64017	1187	2038	10.2	17.7
3199.0	4.7	40.5	47	10.5	1.73	22.23	64615	769	2017	10.2	17.7
3200.0	4.1	40.8	47	10.5	1.79	22.47	65307	890	1998	10.2	17.7
3201.0	4.7	40.6	47	10.5	1.74	22.68	65907	771	1978	10.2	17.7
3202.0	2.5	41.1	47	10.5	1.96	23.08	67045	1464	1969	10.2	17.7
3203.0	2.3	41.8	47	10.5	1.99	23.51	68251	1556	1963	10.2	17.7
3204.0	2.1	41.2	47	10.5	2.02	23.99	69617	1778	1960	10.2	17.7
3205.0	3.1	42.5	47	10.5	1.91	24.32	70532	1178	1948	10.2	17.7
3206.0	1.5	40.8	47	10.5	2.12	24.99	72427	2441	1955	10.2	17.7
3207.0	2.0	40.9	47	10.5	2.03	25.48	73847	1820	1953	10.2	17.7
3208.0	2.3	41.9	46	10.5	1.99	25.92	75049	1581	1948	10.2	17.7
3209.0	2.0	41.7	46	10.5	2.04	26.43	76466	1862	1946	10.2	17.7
3210.0	3.0	41.5	46	10.5	1.89	26.76	77377	1202	1936	10.2	17.7
3211.0	5.5	42.0	46	10.5	1.70	26.94	77879	664	1918	10.2	17.7
3212.0	7.1	42.0	46	10.5	1.61	27.08	78268	514	1898	10.2	17.7
3213.0	3.0	42.0	46	10.5	1.90	27.41	79188	1217	1889	10.2	17.7
3214.0	2.2	42.6	46	10.5	2.02	27.87	80472	1684	1886	10.2	17.7
3215.0	2.6	42.3	47	10.5	1.96	28.26	81558	1403	1879	10.2	17.7
3216.0	1.7	42.9	47	10.5	2.12	28.85	83260	2182	1883	10.2	17.7
3217.0	2.3	43.2	47	10.5	2.02	29.29	84492	1583	1879	10.2	17.7
3218.0	1.7	43.2	47	10.5	2.12	29.88	86166	2170	1883	10.2	17.7
3219.0	1.8	43.0	47	10.5	2.10	30.44	87742	2053	1885	10.2	17.7
3220.0	2.7	43.5	47	10.5	1.97	30.82	88795	1371	1879	10.2	17.7
3221.0	1.8	43.3	47	10.5	2.10	31.37	90339	2008	1880	10.2	17.7
3222.0	2.2	43.7	47	10.5	2.05	31.83	91644	1695	1878	10.2	17.7
3223.0	2.3	43.5	47	10.5	2.03	32.28	92886	1618	1875	10.2	17.7
3224.0	2.8	43.5	47	10.5	1.96	32.64	93903	1324	1868	10.2	17.7
3225.0	2.3	43.3	47	10.5	2.02	33.08	95150	1621	1866	10.2	17.7
3226.0	2.7	43.5	47	10.5	1.96	33.45	96183	1341	1859	10.2	17.7
3227.0	1.4	43.9	46	10.5	2.19	34.15	98122	2539	1867	10.2	17.7
3228.0	2.0	43.5	46	10.5	2.06	34.63	99482	1783	1866	10.2	17.7
3229.0	2.8	43.2	46	10.5	1.94	34.99	100462	1285	1860	10.2	17.7
3230.0	2.7	43.2	46	10.5	1.95	35.35	101483	1339	1854	10.2	17.7
3231.0	3.6	43.3	46	10.5	1.86	35.63	102249	1006	1845	10.2	17.7
3232.0	5.6	43.4	46	10.5	1.71	35.81	102744	649	1832	10.2	17.7
3233.0	5.8	43.3	46	10.5	1.70	35.98	103225	631	1819	10.2	17.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	TCOST	CCOST	PP	FG
3234.0	9.8	42.8	46	10.5	1.51	36.08	103508	371	1803	10.2	17.7
3235.0	2.8	45.0	45	10.5	1.96	36.44	104472	1300	1798	10.5	17.7
3236.0	14.4	40.6	47	10.5	1.37	36.51	104669	254	1782	10.5	17.7
3237.0	4.9	43.5	47	10.5	1.77	36.71	105255	752	1771	10.5	17.7
3238.0	7.3	44.0	47	10.6	1.62	36.85	105646	503	1758	10.5	17.7
3239.0	4.2	40.4	51	10.9	1.74	37.09	106384	877	1749	10.5	17.7
3240.0	2.8	39.8	51	10.9	1.85	37.44	107472	1292	1744	10.5	17.7
3241.0	3.2	40.2	48	10.9	1.79	37.76	108370	1148	1739	10.5	17.7
3242.0	1.8	40.1	46	10.9	1.97	38.32	109932	2047	1742	10.5	17.7
3243.0	2.4	40.5	46	10.9	1.89	38.74	111107	1542	1740	10.5	17.7
3244.0	2.7	40.8	46	10.9	1.85	39.11	112144	1363	1736	10.5	17.7
3245.0	3.1	40.6	46	10.9	1.80	39.44	113043	1177	1731	10.5	17.7
3246.0	3.6	40.7	46	10.9	1.76	39.72	113820	1024	1724	10.5	17.7
3247.0	2.0	40.9	47	10.9	1.96	40.23	115266	1870	1725	10.5	17.7
3248.0	3.0	40.5	47	10.9	1.81	40.54	116198	1210	1721	10.5	17.7
3249.0	2.3	40.7	47	10.9	1.91	41.00	117444	1617	1720	10.5	17.7
3250.0	2.9	40.8	47	10.9	1.83	41.35	118417	1262	1715	10.5	17.7
3251.0	1.5	40.9	47	10.9	2.04	42.00	120270	2379	1721	10.5	17.7
3252.0	1.9	41.3	48	10.9	1.99	42.53	121819	1948	1723	10.5	17.7
3253.0	3.1	40.8	48	10.9	1.82	42.86	122762	1187	1719	10.5	17.7
3254.0	6.8	18.7	47	10.9	1.22	43.00	123181	537	1708	10.5	17.7
3255.0	9.3	39.4	47	10.9	1.44	43.11	123484	393	1697	10.5	17.7
3256.0	3.1	39.5	46	10.9	1.78	43.43	124367	1168	1692	10.5	17.7
3257.0	6.3	38.5	45	10.9	1.54	43.59	124798	580	1683	10.5	17.7
3258.0	3.1	39.6	45	10.9	1.78	43.92	125688	1193	1679	10.5	17.7
3259.0	2.8	38.7	45	10.9	1.80	44.28	126674	1327	1676	10.5	17.7
3260.0	3.1	39.2	45	10.9	1.77	44.60	127539	1162	1671	10.5	17.7
3261.0	3.1	39.9	45	10.9	1.78	44.92	128416	1180	1667	10.5	17.7
3262.0	2.5	40.3	45	10.9	1.86	45.32	129508	1470	1666	10.5	17.7
3263.0	3.2	40.8	45	10.9	1.79	45.64	130366	1152	1661	10.5	17.7
3264.0	3.0	40.3	45	10.9	1.80	45.98	131288	1238	1658	10.5	17.7
3265.0	1.5	40.3	45	10.9	2.02	46.64	133095	2429	1664	10.5	17.7
3266.0	3.6	40.4	47	10.9	1.75	46.93	133880	1027	1659	10.5	17.7
3267.0	2.1	40.8	48	10.9	1.94	47.40	135242	1738	1660	10.5	17.7
3268.0	4.8	39.3	48	10.9	1.65	47.61	135832	756	1653	10.5	17.7
3269.0	2.0	40.4	47	10.9	1.94	48.11	137253	1845	1654	10.5	17.7
3270.0	2.1	41.1	47	10.9	1.93	48.58	138564	1714	1655	10.5	17.7
3271.0	3.0	38.4	47	10.9	1.77	48.91	139483	1201	1651	10.5	17.7
3272.0	6.5	36.2	47	10.9	1.50	49.07	139913	562	1643	10.5	17.7
3273.0	8.4	37.0	47	10.9	1.44	49.18	140245	434	1634	10.5	17.7
3273.9	5.8	34.2	36	10.9	1.43	49.34	140579	629	1627	10.5	17.7

BIT NUMBER	14	IADC CODE	4	INTERVAL	3273.9- 3282.5						
CHRIS C23		SIZE	8.470	NOZZLES	14 14 14						
COST	0.00	TRIP TIME	9.0	BIT RUN	8.6						
TOTAL HOURS	7.57	TOTAL TURNS	36538	CONDITION	T0 B0 G1.000						

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3274.0	26.8	10.0	65	11.4	0.78	3.58	16034	136	9011	10.8	17.8
3274.2	12.0	12.7	86	11.4	1.06	3.60	16120	304	8682	10.8	17.8
3274.4	5.1	17.1	90	11.4	1.36	3.64	16331	716	8393	10.8	17.8
3274.6	14.5	18.0	103	11.4	1.16	3.65	16417	252	8107	10.8	17.8
3274.8	14.5	20.0	90	11.4	1.16	3.67	16491	252	7841	10.8	17.8
3275.0	14.2	21.2	86	11.4	1.18	3.68	16564	257	7592	10.8	17.8
3275.2	2.9	22.0	88	11.4	1.60	3.75	16928	1259	7391	10.8	17.8
3275.4	1.4	22.0	88	11.4	1.78	3.89	17682	2609	7244	10.8	17.8
3275.6	2.3	22.0	88	11.4	1.66	3.98	18141	1588	7075	10.8	17.8
3275.8	2.5	22.0	88	11.4	1.64	4.06	18564	1461	6912	10.8	17.8
3276.0	2.6	22.0	87	11.4	1.62	4.14	18965	1405	6757	10.8	17.8
3276.2	2.9	22.0	88	11.4	1.60	4.21	19329	1259	6607	10.8	17.8
3276.4	2.7	22.0	88	11.4	1.62	4.28	19720	1353	6466	10.8	17.8
3276.6	2.0	22.1	88	11.4	1.69	4.38	20248	1826	6346	10.8	17.8
3276.8	2.6	22.0	88	11.4	1.63	4.46	20655	1405	6221	10.8	17.8
3277.0	3.4	22.0	88	11.4	1.56	4.52	20965	1074	6094	10.8	17.8
3277.2	2.5	22.0	88	11.4	1.64	4.60	21388	1461	5982	10.8	17.8
3277.4	2.9	21.0	85	11.4	1.57	4.66	21739	1259	5871	10.8	17.8
3277.6	1.0	21.0	85	11.4	1.83	4.86	22759	3652	5820	10.8	17.8
3277.8	3.2	22.0	85	11.4	1.56	4.93	23078	1141	5715	10.8	17.8
3278.0	3.3	22.0	85	11.4	1.56	4.99	23387	1107	5614	10.8	17.8
3278.2	2.1	22.0	85	11.4	1.67	5.08	23873	1739	5530	10.8	17.8
3278.4	1.4	22.0	85	11.4	1.77	5.23	24601	2609	5469	10.8	17.8
3278.6	1.4	22.0	85	11.4	1.77	5.37	25330	2609	5410	10.8	17.8
3278.8	3.8	22.0	85	11.4	1.52	5.42	25598	961	5320	10.8	17.8
3279.0	1.8	23.0	86	11.4	1.74	5.53	26172	2029	5255	10.8	17.8
3279.2	1.9	23.5	90	11.4	1.74	5.64	26740	1922	5190	10.8	17.8
3279.4	1.1	24.0	87	11.4	1.89	5.82	27689	3320	5154	10.8	17.8
3279.6	3.3	25.0	86	11.4	1.62	5.88	28002	1107	5079	10.8	17.8
3279.8	1.9	25.3	86	11.4	1.77	5.99	28545	1922	5021	10.8	17.8
3280.0	1.5	26.0	86	11.4	1.85	6.12	29233	2435	4974	10.8	17.8
3280.2	2.1	26.0	86	11.4	1.76	6.21	29725	1739	4917	10.8	17.8
3280.4	2.3	27.0	86	11.4	1.75	6.30	30173	1588	4859	10.8	17.8
3280.6	4.1	27.0	86	11.4	1.60	6.35	30425	891	4791	10.8	17.8
3280.8	2.4	27.0	85	11.4	1.74	6.43	30850	1522	4736	10.8	17.8
3281.0	2.4	27.0	85	11.4	1.74	6.52	31275	1522	4683	10.8	17.8
3281.2	1.9	27.0	89	11.4	1.82	6.62	31837	1922	4638	10.8	17.8
3281.4	0.6	27.0	81	11.4	2.10	6.96	33457	6087	4661	10.8	17.8
3281.6	3.9	27.0	85	11.4	1.61	7.01	33719	936	4603	10.8	17.8
3281.8	4.6	22.0	76	11.4	1.44	7.05	33917	794	4544	10.8	17.8
3282.0	2.3	25.0	84	11.4	1.71	7.14	34355	1588	4499	10.8	17.8
3282.2	1.0	28.0	85	11.4	2.00	7.34	35375	3652	4486	10.8	17.8
3282.5	1.3	28.0	84	11.4	1.92	7.57	36538	2809	4449	10.8	17.8

BIT NUMBER	15	IADC CODE	617	INTERVAL	3282.5- 3321.0
HTC J44		SIZE	8.500	NOZZLES	13 13 13
COST	4347.00	TRIP TIME	9.1	BIT RUN	38.5
TOTAL HOURS	18.84	TOTAL TURNS	55509	CONDITION	T1 B1 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3283.0	3.6	20.0	47	11.5	1.34	0.14	395	1014	76175	10.8	17.8
3284.0	5.5	29.9	47	11.5	1.38	0.32	903	664	25834	10.8	17.8
3285.0	4.3	39.0	46	11.5	1.59	0.56	1557	856	15843	10.8	17.8
3286.0	3.7	40.0	47	11.5	1.64	0.82	2306	980	11596	10.8	17.8
3287.0	3.7	40.1	47	11.5	1.65	1.09	3070	991	9240	10.8	17.8
3288.0	3.4	40.5	47	11.5	1.68	1.39	3903	1069	7754	10.8	17.8
3289.0	1.5	39.8	47	11.5	1.91	2.05	5781	2414	6933	10.8	17.8
3290.0	2.9	40.1	47	11.6	1.72	2.40	6776	1277	6179	10.8	17.8
3291.0	2.0	39.7	52	11.6	1.85	2.89	8309	1804	5664	10.8	17.8
3292.0	3.8	39.3	52	11.6	1.66	3.16	9135	961	5169	10.8	17.8
3293.0	3.8	41.2	51	11.6	1.68	3.42	9946	961	4768	10.8	17.8
3294.0	3.6	41.0	51	11.6	1.69	3.70	10796	1014	4442	10.8	17.8
3295.0	1.0	40.9	51	11.6	2.06	4.65	13739	3498	4366	10.8	17.8
3296.0	3.5	39.9	51	11.6	1.68	4.94	14620	1048	4120	10.8	17.8
3297.0	1.7	41.4	51	11.6	1.92	5.53	16409	2148	3984	10.8	17.8
3298.0	2.1	40.4	50	11.6	1.83	6.00	17827	1724	3838	10.8	17.8
3299.0	1.6	40.1	48	11.5	1.91	6.62	19632	2269	3743	10.8	17.8
3300.0	1.0	40.7	51	11.5	2.09	7.65	22789	3749	3744	10.8	17.8
3301.0	2.0	32.2	50	11.5	1.73	8.16	24309	1854	3642	10.8	17.8
3302.0	1.3	38.4	48	11.5	1.95	8.93	26553	2821	3599	10.8	17.8
3303.0	3.0	39.1	48	11.5	1.71	9.27	27535	1234	3484	10.8	17.8
3304.0	2.8	39.1	48	11.5	1.73	9.63	28578	1311	3383	10.8	17.8
3305.0	3.5	40.2	49	11.5	1.68	9.92	29424	1058	3280	10.8	17.8
3306.0	1.5	39.6	48	11.5	1.92	10.58	31364	2437	3244	10.8	17.8
3307.0	1.2	39.7	48	11.5	1.99	11.42	33782	3040	3235	10.8	17.8
3308.0	2.5	41.8	48	11.5	1.80	11.81	34941	1457	3166	10.8	17.8
3309.0	2.2	42.0	48	11.5	1.84	12.27	36250	1660	3109	10.8	17.8
3310.0	1.1	43.4	48	11.5	2.08	13.18	38868	3320	3117	10.8	17.8
3311.0	1.0	43.6	49	11.5	2.12	14.18	41808	3652	3135	10.8	17.8
3312.0	0.7	42.4	49	11.5	2.21	15.61	46008	5217	3206	10.8	17.8
3313.0	5.0	41.7	48	11.5	1.59	15.81	46584	730	3125	10.8	17.8
3314.0	2.9	43.5	49	11.5	1.79	16.15	47598	1259	3066	10.8	17.8
3315.0	2.7	43.2	49	11.5	1.80	16.52	48686	1353	3013	10.8	17.8
3316.0	6.7	43.7	49	11.5	1.53	16.67	49125	545	2939	10.8	17.8
3317.0	2.3	42.6	49	11.5	1.85	17.11	50404	1588	2900	10.8	17.8
3318.0	5.5	41.7	49	11.5	1.56	17.29	50938	664	2837	10.8	17.8
3319.0	3.8	41.9	49	11.5	1.68	17.55	51712	961	2786	10.8	17.8
3320.0	1.6	42.3	49	11.5	1.95	18.18	53549	2283	2772	10.8	17.8
3321.0	1.5	42.6	49	11.5	1.98	18.84	55509	2435	2763	10.8	17.8

(d). COMPUTER DATA LISTING : LIST B

INTERVAL . . . . . 10m averages.

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

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

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

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

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

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

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

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

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

BIT NUMBER	1	IADC CODE	111	INTERVAL	82.0- 219.0
HTC OSC3AJ+26"HO		SIZE	26.000	NOZZLES	20 20 20
COST	0.00	TRIP TIME	2.5	BIT RUN	137.0
TOTAL HOURS	3.96	TOTAL TURNS	13521	CONDITION	T2 B3 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
90.0	30.9	8.0	0.26	791	10076.07	118	1260	-
100.0	43.0	18.0	0.49	1517	10925.37	84.93	606.96	-
110.0	18.6	28.0	1.03	3191	12888.81	196.34	460.31	-
120.0	12.4	38.0	1.84	5707	15833.97	294.52	416.68	-
130.0	26.0	48.0	2.22	6930	17238.59	140.46	359.14	-
140.0	29.0	58.0	2.57	8295	18497.90	125.93	318.93	-
150.0	49.0	68.0	2.77	8932	19243.20	74.53	282.99	-
160.0	58.0	78.0	2.94	9646	19872.86	62.97	254.78	-
170.0	44.0	88.0	3.17	10532	20702.86	83.00	235.26	-
180.0	70.0	98.0	3.31	11004	21224.57	52.17	216.58	-
190.0	53.0	108.0	3.50	11774	21913.63	68.91	202.90	-
200.0	57.0	118.0	3.68	12500	22554.33	64.07	191.14	-
210.0	61.0	128.0	3.84	13198	23153.07	59.87	180.88	-
219.0	72.0	137.0	3.96	13521	23609.52	50.72	172.33	-

BIT NUMBER	1	IADC CODE	111	INTERVAL	219.0- 811.0
HTC OSC 3AJ		SIZE	17.500	NOZZLES	20 20 20
COST	4857.00	TRIP TIME	3.7	BIT RUN	592.0
TOTAL HOURS	11.56	TOTAL TURNS	104012	CONDITION	T2 B4 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
220.0	102.0	1.0	0.01	85	18405.20	36	18405	-
230.0	189.0	11.0	0.06	561	18598.43	19	1691	-
240.0	130.0	21.0	0.14	1254	18879.35	28.09	899.02	-
250.0	142.0	31.0	0.21	1888	19136.54	25.72	617.31	-
260.0	146.0	41.0	0.28	2504	19386.67	25.01	472.85	-
270.0	127.0	51.0	0.36	3213	19674.23	28.76	385.77	-
280.0	174.0	61.0	0.41	3730	19884.12	20.99	325.97	-
290.0	321.0	71.0	0.45	4010	19997.89	11.38	281.66	-
300.0	423.0	81.0	0.47	4223	20084.22	8.63	247.95	-
310.0	382.0	91.0	0.50	4459	20179.83	9.56	221.76	-
320.0	458.0	101.0	0.52	4655	20259.56	7.97	200.59	-
330.0	98.2	111.0	0.62	5541	20631.53	37.20	185.87	-
340.0	177.3	121.0	0.68	6040	20837.50	20.60	172.21	-
350.0	171.4	131.0	0.73	6565	21050.53	21.30	160.69	-
360.0	194.6	141.0	0.79	7027	21238.20	18.77	150.63	-
370.0	127.2	151.0	0.86	7735	21525.29	28.71	142.55	-
380.0	176.5	161.0	0.92	8245	21732.24	20.69	134.98	-
390.0	160.0	171.0	0.98	8807	21960.49	22.83	128.42	
400.0	147.5	181.0	1.05	9417	22208.01	24.75	122.70	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
410.0	182.2	191.0	1.11	9911	22408.41	20.04	117.32	-
420.0	113.6	201.0	1.19	10704	22729.99	32.16	113.08	-
430.0	61.2	211.0	1.36	12174	23326.48	59.65	110.55	-
440.0	79.6	221.0	1.48	13304	23785.22	45.87	107.63	-
450.0	70.3	231.0	1.63	14584	24304.62	51.94	105.21	-
460.0	76.8	241.0	1.76	15757	24780.39	47.58	102.82	-
470.0	85.5	251.0	1.87	16809	25207.47	42.71	100.43	-
480.0	55.0	261.0	2.05	18444	25870.92	66.34	99.12	-
490.0	50.6	271.0	2.25	20222	26592.19	72.13	98.13	-
500.0	70.3	281.0	2.39	21502	27111.58	51.94	96.48	-
510.0	49.2	291.0	2.60	23329	27853.14	74.16	95.72	-
520.0	44.8	301.0	2.82	25337	28667.74	81.46	95.24	-
530.0	70.9	311.0	2.96	26606	29182.93	51.52	93.84	-
540.0	40.1	321.0	3.21	28850	30093.23	91.03	93.75	
550.0	40.9	331.0	3.45	31050	30985.94	89.27	93.61	-
560.0	42.7	341.0	3.69	33160	31842.13	85.62	93.38	-
570.0	52.3	351.0	3.88	34880	32540.07	69.79	92.71	-
580.0	43.2	361.0	4.11	36965	33386.12	84.60	92.48	-
590.0	57.1	371.0	4.29	38542	34026.23	64.01	91.71	-
600.0	48.3	381.0	4.49	40407	34783.01	75.68	91.29	-
610.0	52.3	391.0	4.69	42127	35480.65	69.76	90.74	-
620.0	49.5	401.0	4.89	43947	36219.17	73.85	90.32	-
630.0	39.1	411.0	5.14	46249	37153.33	93.42	90.40	+
640.0	27.8	421.0	5.50	49489	38468.05	131.47	91.37	+
650.0	35.1	431.0	5.79	52056	39509.88	104.18	91.67	+
660.0	35.4	441.0	6.07	54601	40542.59	103.27	91.93	+
670.0	36.8	451.0	6.34	57044	41533.70	99.11	92.09	+
680.0	32.1	461.0	6.65	59849	42671.91	113.82	92.56	+
690.0	30.6	471.0	6.98	62789	43864.89	119.30	93.13	+
700.0	27.5	481.0	7.35	66064	45193.81	132.89	93.96	+
710.0	25.5	491.0	7.74	69591	46625.20	143.14	94.96	+
720.0	24.1	501.0	8.15	73321	48138.75	151.36	96.09	+
730.0	27.0	511.0	8.52	76651	49489.99	135.12	96.85	+
740.0	29.3	521.0	8.86	79719	50734.71	124.47	97.38	+
750.0	27.6	531.0	9.22	82981	52058.56	132.39	98.04	+
760.0	29.2	541.0	9.57	86061	53308.36	124.98	98.54	+
770.0	26.5	551.0	9.95	89464	54689.01	138.07	99.25	+
780.0	28.1	561.0	10.30	92666	55988.52	129.95	99.80	+
790.0	23.0	571.0	10.74	96586	57579.17	159.06	100.84	+
800.0	26.7	581.0	11.11	99961	58948.67	136.95	101.46	+
810.0	24.8	591.0	11.52	103594	60422.65	147.40	102.24	+
811.0	21.5	592.0	11.56	104012	60592.57	169.92	102.35	+

BIT NUMBER	2	IADC CODE	116	INTERVAL	811.0- 1381.0
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	4.9	BIT RUN	570.0
TOTAL HOURS	12.11	TOTAL TURNS	100225	CONDITION	T4 B2 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
820.0	27.5	9.0	0.33	1671	21785.34	133	2421	-
830.0	42.2	19.0	0.56	3355	22651.00	87	1192	-
840.0	57.2	29.0	0.74	4612	23289.08	63.81	803.07	-
850.0	46.4	39.0	0.95	6193	24076.29	78.72	617.34	-
860.0	55.3	49.0	1.14	7493	24736.69	66.04	504.83	-
870.0	54.1	59.0	1.32	8833	25411.30	67.46	430.70	-
880.0	53.2	69.0	1.51	10191	26098.08	68.68	378.23	-
890.0	51.5	79.0	1.70	11583	26807.18	70.91	339.33	-
900.0	48.1	89.0	1.91	13059	27565.98	75.88	309.73	-
910.0	48.3	99.0	2.12	14555	28322.25	75.63	286.08	-
920.0	46.5	109.0	2.33	16116	29108.44	78.62	267.05	-
930.0	52.6	119.0	2.52	17474	29802.32	69.39	250.44	-
940.0	58.7	129.0	2.69	18688	30424.18	62.19	235.85	-
950.0	53.1	139.0	2.88	20033	31111.97	68.78	223.83	-
960.0	51.8	149.0	3.07	21424	31817.01	70.50	213.54	-
970.0	54.6	159.0	3.26	22753	32485.53	66.85	204.31	-
980.0	44.2	169.0	3.48	24790	33312.30	82.68	197.11	-
990.0	50.2	179.0	3.68	26583	34039.66	72.74	190.17	-
1000.0	62.7	189.0	3.84	28018	34621.95	58.23	183.18	-
1010.0	56.6	199.0	4.02	29608	35267.13	64.52	177.22	-
1020.0	52.5	209.0	4.21	31321	35962.54	69.54	172.07	-
1030.0	55.6	219.0	4.39	32941	36619.90	65.74	167.21	-
1040.0	62.2	229.0	4.55	34388	37206.92	58.70	162.48	-
1050.0	53.9	239.0	4.74	36058	37884.57	67.76	158.51	-
1060.0	55.9	249.0	4.91	37668	38537.87	65.33	154.77	-
1070.0	57.3	259.0	5.09	39238	39174.94	63.71	151.25	-
1080.0	58.4	269.0	5.26	40778	39799.84	62.49	147.95	
1090.0	57.9	279.0	5.43	42333	40430.83	63.10	144.91	-
1100.0	62.3	289.0	5.59	43778	41017.18	58.63	141.93	-
1110.0	50.1	299.0	5.79	45573	41745.55	72.84	139.62	-
1120.0	54.9	309.0	5.98	47213	42411.02	66.55	137.25	-
1130.0	52.2	319.0	6.17	48936	43110.31	69.93	135.14	-
1140.0	57.5	329.0	6.34	50501	43745.35	63.50	132.96	-
1150.0	39.4	339.0	6.59	52786	44672.56	92.72	131.78	
1160.0	52.1	349.0	6.79	54514	45373.54	70.10	130.01	-
1170.0	51.4	359.0	6.98	56266	46084.66	71.11	128.37	-
1180.0	52.6	369.0	7.17	57979	46779.56	69.49	126.77	
1190.0	55.6	379.0	7.35	59599	47436.92	65.74	125.16	-
1200.0	52.6	389.0	7.54	61309	48130.80	69.39	123.73	-
1210.0	55.1	399.0	7.72	62941	48793.23	66.24	122.29	-
1220.0	58.1	409.0	7.90	64491	49422.19	62.90	120.84	-
1230.0	56.8	419.0	8.07	66076	50065.34	64.32	119.49	-
1240.0	45.6	429.0	8.29	68049	50865.74	80.04	118.57	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1250.0	51.1	439.0	8.49	69809	51579.91	71.42	117.49	-
1260.0	47.2	449.0	8.70	71714	52352.92	77.30	116.60	-
1270.0	33.2	459.0	9.00	73871	53451.56	109.86	116.45	-
1280.0	25.6	469.0	9.39	76276	54877.87	142.63	117.01	+
1290.0	32.0	479.0	9.70	78554	56020.13	114.23	116.95	-
1300.0	36.1	489.0	9.98	81049	57032.55	101.24	116.63	-
1310.0	36.9	499.0	10.25	83489	58022.65	99.01	116.28	-
1320.0	40.3	509.0	10.50	85722	58928.54	90.59	115.77	-
1330.0	41.2	519.0	10.74	87904	59814.15	88.56	115.25	-
1340.0	34.9	529.0	11.03	90484	60861.06	104.69	115.05	-
1350.0	39.8	539.0	11.28	92747	61779.13	91.81	114.62	-
1360.0	40.5	549.0	11.53	94967	62679.96	90.08	114.17	-
1370.0	29.4	559.0	11.87	98027	63921.64	124.17	114.35	+
1380.0	44.4	569.0	12.09	100052	64743.34	82.17	113.78	-
1381.0	52.0	570.0	12.11	100225	64813.57	70.23	113.71	-

BIT NUMBER	2	IADC CODE	4	INTERVAL	1380.0- 1389.6
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 15
COST	14500.00	TRIP TIME	5.0	BIT RUN	9.6
TOTAL HOURS	1.08	TOTAL TURNS	6261	CONDITION	T0 B0 G0.050

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1389.6	8.9	9.6	1.08	6261	36717.35	412	3825	-

BIT NUMBER	2	IADC CODE	4	INTERVAL	1389.6- 1399.0
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 15
COST	0.00	TRIP TIME	5.0	BIT RUN	9.4
TOTAL HOURS	1.35	TOTAL TURNS	7608	CONDITION	T0 B0 G0.100

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1390.0	16.0	10.0	1.10	6393	22295.19	228	2230	-
1399.0	37.2	19.0	1.35	7608	23178.26	98	1220	-

BIT NUMBER	2	IADC CODE	4	INTERVAL	1399.0- 1408.2
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 15
COST	0.00	TRIP TIME	5.0	BIT RUN	9.2
TOTAL HOURS	1.73	TOTAL TURNS	9742	CONDITION	T0 B0 G0.150

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1400.0	34.3	20.0	1.38	7771	23296.72	107	1165	-
1408.2	23.6	28.2	1.73	9742	24568.32	155.07	871.22	-

BIT NUMBER	2	IADC CODE	4	INTERVAL	1408.2- 1414.0
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 15
COST	0.00	TRIP TIME	5.0	BIT RUN	5.8
TOTAL HOURS	1.87	TOTAL TURNS	10452	CONDITION	T0 B0 G0.200

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1410.0	40.5	30.0	1.77	9931	24740.27	90.17	824.68	-
1414.0	43.7	34.0	1.87	10452	25074.53	83.56	737.49	-

BIT NUMBER	3	IADC CODE	517	INTERVAL	1414.0- 1885.3
HTC J22		SIZE	12.250	NOZZLES	18 18 18
COST	8516.00	TRIP TIME	6.0	BIT RUN	471.3
TOTAL HOURS	24.71	TOTAL TURNS	107006	CONDITION	T2 B3 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1420.0	87.8	6.0	0.07	345	30677.55	42	5113	-
1430.0	80.9	16.0	0.19	1016	31128.98	45	1946	-
1440.0	100.3	26.0	0.29	1586	31493.17	36	1211	-
1450.0	118.4	36.0	0.38	2066	31801.56	30.84	883.38	-
1460.0	50.6	46.0	0.57	3142	32523.84	72.23	707.04	-
1470.0	107.8	56.0	0.67	3687	32862.67	33.88	586.83	-
1480.0	88.0	66.0	0.78	4313	33277.57	41.49	504.21	-
1490.0	76.3	76.0	0.91	5050	33756.39	47.88	444.16	-
1500.0	76.1	86.0	1.04	5801	34236.22	47.98	398.10	-
1510.0	38.6	96.0	1.30	7299	35182.70	94.65	366.49	-
1520.0	39.9	106.0	1.55	8686	36098.74	91.60	340.55	
1530.0	9.6	116.0	2.60	13763	39920.16	382.14	344.14	+
1540.0	19.6	126.0	3.11	15462	41779.63	185.95	331.58	-
1550.0	39.7	136.0	3.36	16344	42699.73	92.01	313.97	
1560.0	26.6	146.0	3.74	17615	44073.29	137.36	301.87	-
1570.0	15.6	156.0	4.38	19730	46416.66	234.34	297.54	-
1580.0	20.1	166.0	4.88	21468	48236.57	181.99	290.58	-
1590.0	18.6	176.0	5.41	23162	50196.48	195.99	285.21	-
1600.0	8.9	186.0	6.54	27335	54317.15	412.07	292.03	+
1610.0	10.5	196.0	7.50	29863	57807.86	349.07	294.94	+
1620.0	13.1	206.0	8.26	31973	60589.46	278.16	294.12	-
1630.0	14.6	216.0	8.95	34853	63097.17	250.77	292.12	-
1640.0	8.7	226.0	10.09	40994	67272.62	417.55	297.67	+
1650.0	19.0	236.0	10.62	43945	69197.70	192.51	293.21	-
1660.0	22.1	246.0	11.07	46458	70852.26	165.46	288.02	-
1670.0	26.1	256.0	11.45	48556	72249.15	139.69	282.22	-
1680.0	20.1	266.0	11.95	51342	74068.05	181.89	278.45	
1690.0	28.6	276.0	12.30	53338	75344.22	127.62	272.99	-
1700.0	30.9	286.0	12.62	55204	76527.03	118.28	267.58	-
1710.0	18.5	296.0	13.16	58260	78497.08	197.01	265.19	-
1720.0	14.4	306.0	13.86	62365	81027.10	253.00	264.79	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1730.0	23.9	316.0	14.27	64810	82553.84	152.67	261.25	-
1740.0	17.8	326.0	14.83	68069	84602.00	204.82	259.52	-
1750.0	28.1	336.0	15.19	70077	85900.49	129.85	255.66	-
1760.0	32.9	346.0	15.49	71753	87010.29	110.98	251.47	-
1770.0	23.7	356.0	15.91	74217	88548.19	153.79	248.73	-
1780.0	25.1	366.0	16.31	76529	90003.92	145.57	245.91	-
1790.0	17.5	376.0	16.89	79841	92094.69	209.08	244.93	-
1800.0	15.1	386.0	17.55	82475	94521.10	242.64	244.87	-
1810.0	22.5	396.0	18.00	84639	96147.25	162.62	242.80	-
1820.0	13.8	406.0	18.72	89427	98802.16	265.49	243.36	+
1830.0	14.9	416.0	19.39	91373	101247.98	244.58	243.38	+
1840.0	11.2	426.0	20.79	93790	104520.58	327.26	245.35	+
1850.0	11.7	436.0	21.14	96394	107639.32	311.87	246.88	+
1860.0	10.8	446.0	22.06	98985	111005.50	336.62	248.89	+
1870.0	13.5	456.0	22.80	101376	113706.96	270.15	249.36	+
1880.0	9.6	466.0	23.84	104581	117505.04	379.81	252.16	+
1885.3	6.1	471.3	24.71	107006	120670.11	597.18	256.04	+

BIT NUMBER	4	IADC CODE	517	INTERVAL	1885.3- 2258.2
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	6.8	BIT RUN	372.9
TOTAL HOURS	43.84	TOTAL TURNS	205424	CONDITION	T5 B6 G0.250

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1890.0	8.3	4.7	0.57	2543	35424.75	442	7537	-
1900.0	9.1	14.7	1.66	8304	39418.62	399	2682	-
1910.0	11.4	24.7	2.54	13394	42622.24	320	1726	-
1920.0	7.3	34.7	3.90	19894	47605.19	498	1372	-
1930.0	6.9	44.7	5.36	25130	52932.03	533	1184	-
1940.0	10.3	54.7	6.33	28831	56484.96	355	1033	-
1950.0	14.9	64.7	7.01	32667	58934.84	244.99	910.89	-
1960.0	11.6	74.7	7.86	37037	62072.52	313.77	830.96	-
1970.0	17.6	84.7	8.43	39737	64147.06	207.45	757.34	-
1980.0	6.7	94.7	9.92	46512	69562.16	541.51	734.55	-
1990.0	8.5	104.7	11.10	51021	73881.66	431.95	705.65	-
2000.0	8.8	114.7	12.24	57410	78037.84	415.62	680.36	-
2010.0	8.4	124.7	13.43	64181	82391.84	435.40	660.72	-
2020.0	7.9	134.7	14.69	71286	86999.45	460.76	645.88	-
2030.0	9.6	144.7	15.74	77259	90814.77	381.53	627.61	-
2040.0	15.2	154.7	16.39	81088	93223.06	240.83	602.61	-
2050.0	30.0	164.7	16.73	82913	94439.38	121.63	573.40	-
2060.0	27.0	174.7	17.10	85031	95794.24	135.49	548.34	
2070.0	11.0	184.7	18.00	90136	99101.33	330.71	536.55	-
2080.0	12.3	194.7	18.82	93842	102075.68	297.44	524.27	-
2090.0	12.2	204.7	19.64	97703	105080.46	300.48	513.34	-
2100.0	7.7	214.7	20.94	105074	109816.90	473.64	511.49	-
2110.0	9.5	224.7	21.99	111205	113669.76	385.29	505.87	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2120.0	7.7	234.7	23.29	117434	118388.96	471.92	504.43	-
2130.0	6.5	244.7	24.82	123472	123983.62	559.47	506.68	+
2140.0	7.6	254.7	26.14	128185	128816.43	483.28	505.76	-
2150.0	5.8	264.7	27.87	134803	135123.23	630.68	510.48	+
2160.0	7.1	274.7	29.28	141108	140279.66	515.64	510.66	+
2170.0	5.0	284.7	31.28	148662	147568.44	728.88	518.33	+
2180.0	5.8	294.7	32.99	155053	153826.55	625.81	521.98	+
2190.0	7.5	304.7	34.32	161869	158691.98	486.54	520.81	-
2200.0	8.1	314.7	35.55	167494	163174.12	448.21	518.51	-
2210.0	8.3	324.7	36.76	173482	167588.98	441.49	516.13	-
2220.0	14.4	334.7	37.45	176944	170132.19	254.32	508.31	-
2230.0	7.7	344.7	38.75	183410	174849.36	471.72	507.25	-
2240.0	4.7	354.7	40.85	193654	182546.96	769.76	514.65	+
2250.0	7.3	364.7	42.23	198761	187571.50	502.45	514.32	-
2258.2	5.1	372.9	43.84	205424	193467.46	719.02	518.82	+

BIT NUMBER	5	IADC CODE	517	INTERVAL	2258.2- 2445.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	7.5	BIT RUN	186.8
TOTAL HOURS	30.22	TOTAL TURNS	125215	CONDITION	T6 B5 G0.250

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2260.0	5.3	1.8	0.34	1321	37136.23	683	20631	-
2270.0	7.5	11.8	1.66	7588	41986.29	485	3558	-
2280.0	10.3	21.8	2.63	12077	45527.72	354	2088	-
2290.0	7.1	31.8	4.04	17061	50643.56	512	1593	-
2300.0	7.0	41.8	5.46	21578	55854.76	521	1336	-
2310.0	5.1	51.8	7.43	27936	63022.82	717	1217	-
2320.0	6.8	61.8	8.89	33025	68368.95	535	1106	-
2330.0	5.8	71.8	10.61	38792	74648.36	628	1040	-
2340.0	5.7	81.8	12.37	45518	81099.21	645.09	991.43	-
2350.0	7.1	91.8	13.78	50723	86236.36	513.71	939.39	-
2360.0	5.4	101.8	15.63	58761	92993.36	675.70	913.49	-
2370.0	6.0	111.8	17.31	66078	99110.46	611.71	886.50	-
2380.0	5.3	121.8	19.18	74790	105963.03	685.26	869.98	-
2390.0	5.3	131.8	21.07	83460	112851.11	688.81	856.23	-
2400.0	9.9	141.8	22.08	88133	116539.63	368.85	821.86	-
2410.0	10.3	151.8	23.05	92601	120092.21	355.26	791.12	-
2420.0	5.3	161.8	24.94	101315	126994.49	690.23	784.89	-
2430.0	5.3	171.8	26.82	109979	133848.08	685.36	779.09	-
2440.0	6.0	181.8	28.48	117718	139924.60	607.65	769.66	-
2445.0	2.9	186.8	30.22	125215	146254.73	1266	783	+

BIT NUMBER	6	IADC CODE	347	INTERVAL	2445.0- 2464.0
HTC JD8		SIZE	8.500	NOZZLES	14 14 14
COST	1700.00	TRIP TIME	7.4	BIT RUN	19.0
TOTAL HOURS	4.92	TOTAL TURNS	18701	CONDITION	T6 B3 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2450.0	5.2	5.0	0.97	3771	32267.24	708	6453	-
2460.0	4.1	15.0	3.44	13095	41276.27	901	2752	-
2464.0	2.7	19.0	4.92	18701	46705.57	1357	2458	-

BIT NUMBER	7	IADC CODE	517	INTERVAL	2464.0- 2481.2
HTC J22		SIZE	8.500	NOZZLES	14 14 14
COST	4139.00	TRIP TIME	7.5	BIT RUN	17.2
TOTAL HOURS	1.43	TOTAL TURNS	4447	CONDITION	T1 B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2470.0	15.0	6.0	0.40	1250	32988.33	243	5498	-
2480.0	10.9	16.0	1.32	4117	36347.16	336	2272	-
2481.2	10.9	17.2	1.43	4447	36750.91	336	2137	

BIT NUMBER	7	IADC CODE	4	INTERVAL	2481.2- 2499.0
CHRIST RC6		SIZE	8.500	NOZZLES	14 15 15
COST	11019.00	TRIP TIME	7.5	BIT RUN	17.8
TOTAL HOURS	1.45	TOTAL TURNS	8248	CONDITION	T0 B0 G0.050

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2490.0	16.9	8.8	0.52	2834	40309.05	216	4581	-
2499.0	9.7	17.8	1.45	8248	43702.79	377	2455	-

BIT NUMBER	7	IADC CODE	4	INTERVAL	2499.0- 2517.1
CHRIST RC6		SIZE	8.500	NOZZLES	15 14 15
COST	0.00	TRIP TIME	7.5	BIT RUN	18.1
TOTAL HOURS	4.27	TOTAL TURNS	23867	CONDITION	T0 B0 G0.200

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2500.0	24.2	19.0	1.44	8478	32653.73	151	1719	-
2510.0	12.2	29.0	2.26	13070	35649.89	300	1229	-
2517.1	3.5	36.1	4.27	23867	42981.28	1033	1191	-

BIT NUMBER	7	IADC CODE	4	INTERVAL	2517.1- 2531.0
CHRIST RC6		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	7.5	BIT RUN	13.9
TOTAL HOURS	6.34	TOTAL TURNS	34899	CONDITION	T0 B0 G0.500

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2520.0	6.0	38.9	4.75	26429	44736.49	604	1150	-
2530.0	10.1	48.9	5.74	31741	48336.76	360.03	988.48	-
2531.0	1.6	49.9	6.34	34899	50550.27	2214	1013	+

BIT NUMBER	7	IADC CODE	4	INTERVAL	2531.0- 2549.0
CHRIST RC4		SIZE	8.500	NOZZLES	14 15 15
COST	21210.00	TRIP TIME	7.6	BIT RUN	18.0
TOTAL HOURS	1.18	TOTAL TURNS	6796	CONDITION	T0 B0 G0.150

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2540.0	12.4	9.0	0.73	3968	51622.03	295	5736	-
2549.0	19.9	18.0	1.18	6796	53276.59	184	2960	

BIT NUMBER	7	IADC CODE	4	INTERVAL	2549.0- 2564.4
CHRIST RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	7.5	BIT RUN	15.4
TOTAL HOURS	3.05	TOTAL TURNS	17528	CONDITION	T0 B0 G0.300

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2550.0	6.9	1.0	1.34	7611	32299.91	528	32300	-
2560.0	12.0	11.0	2.18	12606	35334.11	303	3212	-
2564.4	5.0	15.4	3.05	17528	38537.73	728	2502	-

BIT NUMBER	7	IADC CODE	517	INTERVAL	2564.4- 2650.0
HTC J22		SIZE	8.500	NOZZLES	14 14 14
COST	0.00	TRIP TIME	7.6	BIT RUN	85.6
TOTAL HOURS	10.79	TOTAL TURNS	42370	CONDITION	T2 B3 G0.062

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2570.0	9.9	22.6	1.92	6347	34778.88	367	1539	-
2580.0	7.2	32.6	3.31	11651	39859.75	508	1223	-
2590.0	8.0	42.6	4.57	16486	44451.13	459	1043	-
2600.0	15.9	52.6	5.20	18958	46741.75	229.06	888.63	-
2610.0	7.7	62.6	6.50	24390	51505.58	476.38	822.77	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2620.0	11.0	72.6	7.41	28217	54818.75	331.32	755.08	-
2630.0	8.7	82.6	8.56	33077	59022.61	420.39	714.56	-
2640.0	10.4	92.6	9.52	37070	62528.53	350.59	675.25	-
2650.0	7.9	102.6	10.79	42370	67158.45	462.99	654.57	

BIT NUMBER	8	IADC CODE	517	INTERVAL	2650.0- 2731.0
HTC J22		SIZE	8.500	NOZZLES	13 13 13
COST	4139.00	TRIP TIME	7.8	BIT RUN	81.0
TOTAL HOURS	18.26	TOTAL TURNS	61996	CONDITION	T8 B6 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2660.0	8.3	10.0	1.21	4168	37051.06	443	3705	-
2670.0	10.1	20.0	2.20	7543	40656.39	361	2033	-
2680.0	9.5	30.0	3.26	11205	44514.32	386	1484	-
2690.0	11.5	40.0	4.12	14205	47686.49	317	1192	-
2700.0	5.1	50.0	6.09	21065	54858.61	717	1097	-
2710.0	4.2	60.0	8.47	29337	63542.26	868	1059	-
2720.0	3.0	70.0	11.03	40808	75844.43	1230	1083	+
2730.0	1.9	80.0	17.11	58482	95108.73	1926	1189	+
2731.0	0.9	81.0	18.26	61996	99307.51	4199	1226	+

BIT NUMBER	9	IADC CODE	537	INTERVAL	2731.0- 2822.5
HTC J33		SIZE	8.500	NOZZLES	13 13 13
COST	4503.00	TRIP TIME	8.0	BIT RUN	91.5
TOTAL HOURS	12.33	TOTAL TURNS	42031	CONDITION	T1 B2 G0.062

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2740.0	6.0	9.0	1.49	4133	39159.13	604	4351	-
2750.0	11.1	19.0	2.39	7297	42459.12	330	2235	-
2760.0	14.3	29.0	3.09	9620	45018.56	256	1552	-
2770.0	8.3	39.0	4.30	13846	49438.49	442	1268	-
2780.0	8.4	49.0	5.49	18035	53767.13	433	1097	-
2790.0	5.9	59.0	7.18	23873	59923.79	616	1016	-
2800.0	3.7	69.0	9.85	33276	69694.92	977	1010	-
2810.0	11.1	79.0	10.75	36469	72976.65	328.17	923.76	-
2820.0	7.4	89.0	12.10	41235	77921.05	494.44	875.52	-
2822.5	11.0	91.5	12.33	42031	78747.31	330.51	860.63	-

BIT NUMBER	9	IADC CODE	4	INTERVAL	2822.5- 2828.0
CHRIS MC23		SIZE	8.469	NOZZLES	14 14 14
COST	18067.00	TRIP TIME	8.0	BIT RUN	5.5
TOTAL HOURS	1.17	TOTAL TURNS	5131	CONDITION	T0 B0 G1.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2828.0	4.7	5.5	1.17	5131	51548.74	776	9372	-

BIT NUMBER	9	IADC CODE	4	INTERVAL	2828.0- 2833.0
CHRIS C-23		SIZE	8.469	NOZZLES	14 14 14
COST	18067.00	TRIP TIME	8.0	BIT RUN	5.0
TOTAL HOURS	3.58	TOTAL TURNS	16019	CONDITION	T0 B0 G0.150

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2830.0	1.8	2.0	1.09	5035	51272.81	1995	25636	-
2833.0	1.2	5.0	3.58	16019	60352.09	3026	12070	-

BIT NUMBER	10	IADC CODE	537	INTERVAL	2833.0- 2975.5
HTC J33		SIZE	8.500	NOZZLES	13 13 13
COST	4503.00	TRIP TIME	8.3	BIT RUN	142.5
TOTAL HOURS	29.05	TOTAL TURNS	102918	CONDITION	T4 B4 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2840.0	4.0	7.0	1.73	6142	41135.15	903	5876	-
2850.0	3.6	17.0	4.49	15650	51222.79	1009	3013	-
2860.0	4.1	27.0	6.93	24245	60108.31	889	2226	-
2870.0	7.5	37.0	8.26	28967	64973.58	487	1756	-
2880.0	3.8	47.0	10.92	38312	74708.19	973	1590	-
2890.0	4.8	57.0	13.03	45793	82384.49	768	1445	-
2900.0	6.1	67.0	14.67	51670	88386.96	600	1319	-
2910.0	3.9	77.0	17.26	60955	97837.52	945	1271	-
2920.0	8.0	87.0	18.51	65400	102409.63	457	1177	-
2930.0	7.1	97.0	19.92	70418	107565.03	516	1109	-
2940.0	7.7	107.0	21.22	75228	112296.40	473	1049	-
2950.0	6.9	117.0	22.67	80452	117621.22	532	1005	-
2960.0	4.7	127.0	24.80	87921	125389.84	776.86	987.32	-
2970.0	3.6	137.0	27.60	97768	135608.33	1022	990	+
2975.5	3.8	142.5	29.05	102918	140923.01	966.30	988.93	-

BIT NUMBER	11	IADC CODE	617	INTERVAL	2975.5- 3011.0
HTC J44		SIZE	8.500	NOZZLES	13 13 13
COST	4357.00	TRIP TIME	8.4	BIT RUN	35.5
TOTAL HOURS	10.65	TOTAL TURNS	36514	CONDITION	T1 B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2980.0	2.7	4.5	1.68	5616	41184.63	1367	9152	-
2990.0	2.9	14.5	5.17	17739	53928.08	1274	3719	-
3000.0	3.4	24.5	8.11	27526	64669.02	1074	2640	-
3010.0	4.5	34.5	10.35	35444	72840.37	817	2111	-
3011.0	3.3	35.5	10.65	36514	73945.10	1105	2083	-

BIT NUMBER	12	IADC CODE	347	INTERVAL	3011.0- 3013.1
HTC JD8		SIZE	8.500	NOZZLES	13 13 13
COST	1500.00	TRIP TIME	7.0	BIT RUN	2.1
TOTAL HOURS	0.50	TOTAL TURNS	2175	CONDITION	T7 B3 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3013.1	3.3	2.1	0.64	2175	29407.37	1116	14004	-

BIT NUMBER	13	IADC CODE	537	INTERVAL	3013.1- 3140.4
HTC J33		SIZE	8.500	NOZZLES	13 13 13
COST	4503.00	TRIP TIME	7.0	BIT RUN	127.3
TOTAL HOURS	39.96	TOTAL TURNS	127844	CONDITION	T4 B5 G0.063

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3020.0	1.9	6.9	3.57	11914	43091.71	1888	6245	-
3030.0	2.9	16.9	7.04	22881	55788.56	1270	3301	-
3040.0	3.7	26.9	9.75	31653	65669.55	988	2441	-
3050.0	2.7	36.9	13.47	43949	79248.90	1358	2148	-
3060.0	6.1	46.9	15.10	49190	85215.87	597	1817	-
3070.0	1.9	56.9	20.49	66477	104907.60	1969	1844	+
3080.0	1.9	66.9	25.89	83933	124602.70	1970	1863	+
3090.0	4.5	76.9	28.12	91138	132758.16	816	1726	-
3100.0	3.8	86.9	30.78	99600	142477.55	972	1640	-
3110.0	4.1	96.9	33.22	106996	151383.36	891	1562	-
3120.0	5.1	106.9	35.19	113099	158564.61	718	1483	
3130.0	3.3	116.9	38.17	122472	169468.87	1090	1450	-
3140.0	5.9	126.9	39.87	127589	175671.19	620	1384	-
3140.4	4.4	127.3	39.96	127844	176006.97	839	1383	-

BIT NUMBER	14	IADC CODE	537	INTERVAL	3140.4- 3273.9
HTC J33		SIZE	8.500	NOZZLES	13 13 13
COST	4503.00	TRIP TIME	8.9	BIT RUN	133.5
TOTAL HOURS	49.34	TOTAL TURNS	140579	CONDITION	T4 B4 G0.062

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3150.0	2.7	9.6	3.53	11629	49889.97	1342	5197	-
3160.0	3.7	19.6	6.20	19256	59659.35	977	3044	-
3170.0	1.7	29.6	11.99	35643	80777.04	2112	2729	-
3180.0	2.2	39.6	16.45	48356	97086.26	1631	2452	-
3190.0	3.9	49.6	19.01	55738	106430.31	934	2146	-
3200.0	2.9	59.6	22.47	65307	119066.23	1264	1998	-
3210.0	2.3	69.6	26.76	77377	134718.09	1565	1936	-
3220.0	2.5	79.6	30.82	88795	149559.00	1484	1879	-
3230.0	2.2	89.6	35.35	101483	166112.70	1655	1854	-
3240.0	4.8	99.6	37.44	107472	173748.43	764	1744	-
3250.0	2.6	109.6	41.35	118417	188008.47	1426	1715	-
3260.0	3.1	119.6	44.60	127539	199861.04	1187	1671	-
3270.0	2.5	129.6	48.58	138564	214429.19	1455	1655	-
3273.9	5.2	133.5	49.34	140579	217192.54	709	1627	-

BIT NUMBER	14	IADC CODE	4	INTERVAL	3273.9- 3282.5
CHRIS C23		SIZE	8.470	NOZZLES	14 14 14
COST	0.00	TRIP TIME	9.0	BIT RUN	8.6
TOTAL HOURS	7.57	TOTAL TURNS	36538	CONDITION	T0 B0 G1.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3280.0	2.4	11.1	6.12	29233	55213.94	1520	4974	-
3282.5	1.7	13.6	7.57	36538	60504.68	2116	4449	-

BIT NUMBER	15	IADC CODE	617	INTERVAL	3282.5- 3321.0
HTC J44		SIZE	8.500	NOZZLES	13 13 13
COST	4347.00	TRIP TIME	9.1	BIT RUN	38.5
TOTAL HOURS	18.84	TOTAL TURNS	55509	CONDITION	T1 B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3290.0	3.1	7.5	2.40	6776	46339.47	1168	6179	-
3300.0	1.9	17.5	7.65	22789	65514.50	1918	3744	-
3310.0	1.8	27.5	13.18	38868	85705.22	2019	3117	-
3320.0	2.0	37.5	18.18	53549	103957.12	1825	2772	-
3321.0	1.5	38.5	18.84	55509	106391.79	2435	2763	-

(e). COMPUTER DATA LISTING : LIST C

INTERVAL . . . . . 10m averages.

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

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

PSP. . . . . Pump pressure, in pounds per square inch.

PBIT . . . . . Bit pressure drop, in pounds per square inch.

%PSP . . . . . Percentage of surface pressure dropped at the bit.

H.H.P. . . . . Bit hydraulic horsepower.

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

IMPACT FORCE . . . . . Bit impact force, in foot-pounds per second squared.

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

BIT NUMBER	1	IADC CODE	111	INTERVAL	82.0- 219.0
HTC OSC3AJ+26"HO		SIZE	26.000	NOZZLES	20 20 20
COST	0.00	TRIP TIME	2.5	BIT RUN	137.0
TOTAL HOURS	3.96	TOTAL TURNS	13521	CONDITION	T2 B3 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
90.0	439	186.3	181.4	97.4	46	0.09	301	47
100.0	795	277.0	594.6	214.7	276	0.52	987	84
110.0	775	467.0	565.0	121.0	255	0.48	938	82
120.0	730	353.0	501.3	142.0	213	0.40	832	77
130.0	825	884.0	640.3	72.4	308	0.58	1063	87
140.0	1035	1293.0	1012.4	78.3	611	1.15	1681	110
150.0	1015	1234.0	973.7	78.9	576	1.09	1616	108
160.0	1005	1228.0	954.6	77.7	559	1.05	1585	106
170.0	1000	1230.0	945.1	76.8	551	1.04	1569	106
180.0	1000	1238.0	945.1	76.3	551	1.04	1569	106
190.0	1005	1239.0	954.6	77.0	559	1.05	1585	106
200.0	1005	1213.0	954.6	78.7	559	1.05	1585	106
210.0	1015	1201.0	973.7	81.1	576	1.09	1616	108
219.0	1010	1212.0	964.1	79.5	568	1.07	1601	107

BIT NUMBER	1	IADC CODE	111	INTERVAL	219.0- 811.0
HTC OSC 3AJ		SIZE	17.500	NOZZLES	20 20 20
COST	4857.00	TRIP TIME	3.7	BIT RUN	592.0
TOTAL HOURS	11.56	TOTAL TURNS	104012	CONDITION	T2 B4 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
220.0	995	2150.0	957.2	44.5	555	2.31	1589	105
230.0	995	2150.0	957.2	44.5	555	2.31	1589	105
240.0	990	2100.0	947.6	45.1	547	2.27	1573	105
250.0	990	2100.0	947.6	45.1	547	2.27	1573	105
260.0	990	2100.0	947.6	45.1	547	2.27	1573	105
270.0	990	2140.0	947.6	44.3	547	2.27	1573	105
280.0	1000	2170.0	966.8	44.6	564	2.34	1605	106
290.0	1000	2180.0	966.8	44.4	564	2.34	1605	106
300.0	1000	2200.0	966.8	43.9	564	2.34	1605	106
310.0	1000	2240.0	966.8	43.2	564	2.34	1605	106
320.0	1000	2240.0	966.8	43.2	564	2.34	1605	106
330.0	979	2197.2	927.3	42.2	530	2.20	1540	104
340.0	990	2247.3	949.1	42.2	548	2.28	1576	105
350.0	728	1394.6	512.1	36.7	217	0.90	850	77
360.0	651	1052.4	410.4	39.0	156	0.65	681	69
370.0	981	2250.4	930.6	41.4	532	2.21	1545	104
380.0	550	775.4	292.7	37.7	94	0.39	486	58
390.0	514	695.7	256.0	36.8	77	0.32	425	55
400.0	495	680.0	239.8	35.3	69	0.29	398	52

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
410.0	982	2320.6	944.3	40.7	541	2.25	1568	104
420.0	998	2395.1	984.4	41.1	573	2.38	1634	106
430.0	988	2347.7	975.4	41.5	562	2.34	1619	105
440.0	990	2369.3	979.8	41.4	566	2.35	1627	105
450.0	1001	2421.7	991.2	40.9	579	2.41	1646	106
460.0	992	2383.7	974.4	40.9	564	2.35	1618	105
470.0	987	2377.7	975.3	41.0	562	2.34	1619	105
480.0	992	2398.5	984.9	41.1	570	2.37	1635	105
490.0	988	2386.9	977.0	40.9	563	2.34	1622	105
500.0	996	2426.6	993.1	40.9	577	2.40	1649	106
510.0	988	2389.0	975.8	40.8	562	2.34	1620	105
520.0	987	2391.1	974.8	40.8	561	2.33	1618	105
530.0	999	2441.6	999.1	40.9	583	2.42	1659	106
540.0	991	2389.0	981.5	41.1	567	2.36	1629	105
550.0	989	2391.8	977.8	40.9	564	2.35	1623	105
560.0	991	2381.0	982.6	41.3	568	2.36	1631	105
570.0	991	2392.1	982.2	41.1	568	2.36	1631	105
580.0	988	2393.4	975.9	40.8	562	2.34	1620	105
590.0	991	2417.0	983.0	40.7	569	2.36	1632	105
600.0	992	2434.4	984.5	40.4	570	2.37	1634	105
610.0	988	2416.1	976.2	40.4	563	2.34	1621	105
620.0	544	794.9	296.4	37.3	94	0.39	492	58
630.0	568	868.4	322.8	37.2	107	0.44	536	60
640.0	983	2403.9	965.7	40.2	554	2.30	1603	104
650.0	985	2427.2	959.5	39.5	551	2.29	1593	104
660.0	993	2457.9	974.8	39.7	564	2.35	1618	105
670.0	996	2449.2	982.3	40.1	571	2.37	1631	106
680.0	1001	2489.2	991.8	39.8	579	2.41	1646	106
690.0	992	2460.1	973.3	39.6	563	2.34	1616	105
700.0	576	874.7	328.0	37.5	110	0.46	545	61
710.0	982	2417.8	954.1	39.5	547	2.27	1584	104
720.0	982	2421.8	954.0	39.4	547	2.27	1584	104
730.0	991	2463.5	970.7	39.4	561	2.33	1611	105
740.0	983	2439.3	956.1	39.2	548	2.28	1587	104
750.0	985	2416.5	960.5	39.7	552	2.30	1595	104
760.0	986	2424.2	962.0	39.7	553	2.30	1597	104
770.0	983	2430.1	956.5	39.4	549	2.28	1588	104
780.0	980	2418.9	950.1	39.3	543	2.26	1577	104
790.0	983	2437.2	955.1	39.2	547	2.28	1586	104
800.0	982	2447.7	954.2	39.0	547	2.27	1584	104
810.0	1034	2738.9	1057.4	38.6	638	2.65	1755	110
811.0	1015	2643.3	1020.0	38.6	604	2.51	1693	108

BIT NUMBER	2	IADC CODE	116	INTERVAL	811.0- 1381.0
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	4.9	BIT RUN	570.0
TOTAL HOURS	12.11	TOTAL TURNS	100225	CONDITION	T4 B2 G0.125

DEPTH	FLOW RATE	PSP	PRIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
820.0	957	2885.3	1395.9	48.4	779	6.61	1877	125
830.0	969	2836.3	1432.2	50.5	810	6.87	1926	127
840.0	975	2889.1	1448.9	50.2	824	6.99	1948	128
850.0	974	2858.2	1445.3	50.6	821	6.97	1943	127
860.0	970	2840.3	1435.0	50.5	812	6.89	1930	127
870.0	978	2858.8	1457.9	51.0	832	7.06	1960	128
880.0	977	2822.4	1454.1	51.5	829	7.03	1955	128
890.0	968	2762.6	1429.8	51.8	808	6.85	1923	127
900.0	976	2803.4	1451.2	51.8	826	7.01	1951	128
910.0	976	2804.9	1451.7	51.8	826	7.01	1952	128
920.0	982	2883.2	1439.4	49.9	825	7.00	1936	129
930.0	992	2915.2	1466.2	50.3	848	7.20	1972	130
940.0	992	2925.3	1468.5	50.2	850	7.21	1975	130
950.0	991	2901.1	1464.8	50.5	847	7.19	1970	130
960.0	989	2933.7	1457.3	49.7	840	7.13	1960	129
970.0	801	1835.1	956.2	52.1	447	3.79	1286	105
980.0	661	1167.3	650.9	55.8	251	2.13	875	86
990.0	992	2973.4	1467.6	49.4	849	7.21	1974	130
1000.0	984	2990.9	1475.2	49.3	847	7.18	1984	129
1010.0	961	2827.7	1407.4	49.8	789	6.69	1893	126
1020.0	971	2899.0	1437.3	49.6	814	6.91	1933	127
1030.0	977	2934.2	1455.0	49.6	829	7.04	1957	128
1040.0	974	2940.2	1446.4	49.2	822	6.97	1945	127
1050.0	976	2914.6	1452.5	49.8	827	7.02	1953	128
1060.0	972	2967.7	1439.4	48.5	816	6.92	1936	127
1070.0	938	2907.5	1354.6	46.6	741	6.29	1822	123
1080.0	947	2966.3	1381.0	46.6	763	6.47	1857	124
1090.0	930	2874.5	1333.1	46.4	723	6.14	1793	122
1100.0	931	2840.1	1335.5	47.0	725	6.15	1796	122
1110.0	933	2877.6	1341.4	46.6	730	6.20	1804	122
1120.0	934	2846.2	1345.7	47.3	734	6.23	1810	122
1130.0	920	2751.4	1305.1	47.4	701	5.95	1755	120
1140.0	939	2797.5	1360.0	48.6	745	6.32	1829	123
1150.0	907	2729.2	1266.8	46.4	670	5.69	1703	119
1160.0	906	2754.5	1265.3	45.9	669	5.68	1701	119
1170.0	938	2887.4	1356.3	47.0	742	6.30	1824	123
1180.0	926	2858.6	1322.2	46.3	715	6.06	1778	121
1190.0	921	2912.2	1308.3	44.9	703	5.97	1759	121
1200.0	865	2554.1	1152.9	45.1	582	4.94	1550	113
1210.0	916	3030.2	1306.0	43.1	698	5.92	1756	120
1220.0	923	3092.6	1326.6	42.9	714	6.06	1784	121
1230.0	887	2898.0	1239.7	42.8	642	5.45	1667	116
1240.0	890	2934.7	1247.5	42.5	648	5.50	1677	116

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1250.0	878	2830.8	1212.8	42.8	621	5.27	1631	115
1260.0	899	2927.1	1270.9	43.4	666	5.65	1709	118
1270.0	616	1490.1	597.0	40.1	215	1.82	803	81
1280.0	620	1522.2	605.5	39.8	219	1.86	814	81
1290.0	878	2930.9	1213.1	41.4	621	5.27	1631	115
1300.0	876	2916.2	1209.3	41.5	618	5.25	1626	115
1310.0	873	2918.2	1200.2	41.1	611	5.19	1614	114
1320.0	856	2825.2	1153.2	40.8	576	4.89	1551	112
1330.0	872	2945.0	1196.7	40.6	609	5.16	1609	114
1340.0	869	2934.6	1188.4	40.5	602	5.11	1598	114
1350.0	863	2928.7	1183.9	40.4	596	5.06	1592	113
1360.0	867	2928.3	1195.9	40.8	605	5.13	1608	113
1370.0	868	2960.8	1211.7	40.9	614	5.21	1629	114
1380.0	871	2958.4	1218.3	41.2	619	5.25	1638	114
1381.0	870	2960.0	1215.6	41.1	617	5.23	1635	114

BIT NUMBER	2	IADC CODE	4	INTERVAL	1380.0- 1389.6
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 15
COST	14500.00	TRIP TIME	5.0	BIT RUN	9.6
TOTAL HOURS	1.08	TOTAL TURNS	6261	CONDITION	T0 B0 G0.050

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1389.6	179	234.8	107.4	45.7	11	0.15	100	34

BIT NUMBER	2	IADC CODE	4	INTERVAL	1389.6- 1399.0
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 15
COST	0.00	TRIP TIME	5.0	BIT RUN	9.4
TOTAL HOURS	1.35	TOTAL TURNS	7608	CONDITION	T0 B0 G0.100

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1390.0	234	424.3	183.0	43.1	25	0.33	171	44
1399.0	248	320.0	205.0	64.1	30	0.39	191	47

BIT NUMBER	2	IADC CODE	4	INTERVAL	1399.0- 1408.2
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 15
COST	0.00	TRIP TIME	5.0	BIT RUN	9.2
TOTAL HOURS	1.73	TOTAL TURNS	9742	CONDITION	T0 B0 G0.150

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1400.0	191	465.0	121.6	26.2	14	0.18	114	36
1408.2	97	317.8	31.5	9.9	2	0.02	29	18

BIT NUMBER	2	IADC CODE	4	INTERVAL	1408.2- 1414.0
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 15
COST	0.00	TRIP TIME	5.0	BIT RUN	5.8
TOTAL HOURS	1.87	TOTAL TURNS	10452	CONDITION	T0 B0 G0.200

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1410.0	239	363.0	192.6	53.1	27	0.35	180	45
1414.0	170	263.4	97.8	37.1	10	0.13	91	32

BIT NUMBER	3	IADC CODE	517	INTERVAL	1414.0- 1885.3
HTC J22		SIZE	12.250	NOZZLES	18 18 18
COST	8516.00	TRIP TIME	6.0	BIT RUN	471.3
TOTAL HOURS	24.71	TOTAL TURNS	107006	CONDITION	T2 B3 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1420.0	857	2895.7	1193.4	41.2	597	5.06	1605	112
1430.0	858	2908.3	1195.5	41.1	598	5.08	1608	112
1440.0	862	2944.0	1206.3	41.0	607	5.15	1622	113
1450.0	854	2908.7	1185.3	40.8	591	5.01	1594	112
1460.0	860	2906.4	1200.7	41.3	602	5.11	1615	112
1470.0	857	2892.8	1192.5	41.2	596	5.06	1604	112
1480.0	866	2930.9	1218.9	41.6	616	5.23	1639	113
1490.0	860	2907.9	1200.8	41.3	602	5.11	1615	113
1500.0	866	2907.5	1217.6	41.9	615	5.22	1637	113
1510.0	852	2826.5	1179.6	41.7	587	4.98	1586	112
1520.0	866	2924.0	1206.2	41.3	610	5.17	1622	113
1530.0	864	2885.9	1199.0	41.5	604	5.13	1612	113
1540.0	862	2893.4	1181.6	40.8	594	5.04	1589	113
1550.0	860	2902.2	1177.4	40.6	591	5.01	1583	113
1560.0	861	2895.3	1178.4	40.7	592	5.02	1585	113
1570.0	871	2919.4	1207.3	41.4	614	5.21	1623	114
1580.0	866	2919.4	1192.2	40.8	602	5.11	1603	113
1590.0	870	2944.5	1203.5	40.9	611	5.18	1618	114
1600.0	851	2800.5	1151.3	41.1	571	4.85	1548	111
1610.0	860	2855.8	1176.5	41.2	590	5.01	1582	113
1620.0	873	2929.9	1211.8	41.4	617	5.24	1629	114
1630.0	850	2776.2	1148.4	41.4	569	4.83	1544	111
1640.0	866	2878.9	1194.1	41.5	604	5.12	1606	113
1650.0	868	2898.7	1198.8	41.4	607	5.15	1612	114
1660.0	859	2884.4	1174.4	40.7	589	5.00	1579	112
1670.0	856	2846.7	1164.3	40.9	581	4.93	1566	112
1680.0	857	2876.1	1169.5	40.7	585	4.96	1573	112
1690.0	868	2947.5	1199.4	40.7	608	5.16	1613	114
1700.0	865	2939.9	1203.3	40.9	607	5.15	1618	113
1710.0	854	2871.0	1173.3	40.9	585	4.96	1578	112
1720.0	858	2894.1	1183.2	40.9	592	5.03	1591	112

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1730.0	857	2901.6	1181.8	40.7	591	5.02	1589	112
1740.0	858	2892.4	1184.1	40.9	593	5.03	1592	112
1750.0	861	2910.6	1191.5	40.9	598	5.08	1602	113
1760.0	854	2922.8	1172.0	40.1	584	4.95	1576	112
1770.0	859	2928.9	1186.6	40.5	595	5.05	1596	112
1780.0	854	2909.7	1173.6	40.3	585	4.96	1578	112
1790.0	854	2908.0	1173.3	40.3	585	4.96	1578	112
1800.0	852	2900.7	1167.5	40.2	580	4.93	1570	112
1810.0	848	2871.9	1156.1	40.3	572	4.85	1555	111
1820.0	847	2848.0	1154.3	40.5	571	4.84	1552	111
1830.0	844	2834.4	1133.2	40.0	558	4.73	1524	110
1840.0	857	2794.8	1167.5	41.8	584	4.95	1570	112
1850.0	832	2809.0	1101.4	39.2	535	4.54	1481	109
1860.0	848	2909.1	1143.8	39.3	566	4.80	1538	111
1870.0	839	2867.3	1120.7	39.1	549	4.66	1507	110
1880.0	853	2950.7	1157.2	39.2	576	4.89	1556	112
1885.3	850	2950.0	1148.4	38.9	569	4.83	1544	111

BIT NUMBER	4	IADC CODE	517	INTERVAL	1885.3- 2258.2
HTC J22		SIZE	12.250	NOZZLES	16 16 16
COST	8516.00	TRIP TIME	6.8	BIT RUN	372.9
TOTAL HOURS	43.84	TOTAL TURNS	205424	CONDITION	T5 B6 G0.250

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1890.0	781	2883.5	1317.7	45.7	601	5.10	1524	119
1900.0	785	2879.7	1339.5	46.5	614	5.21	1549	119
1910.0	788	2873.1	1348.3	46.9	620	5.26	1559	120
1920.0	788	2878.0	1350.0	46.9	621	5.27	1561	120
1930.0	785	2863.3	1338.8	46.8	613	5.20	1548	119
1940.0	495	1240.4	532.7	42.9	154	1.31	616	75
1950.0	791	2908.4	1358.2	46.7	626	5.32	1571	120
1960.0	791	2907.8	1361.2	46.8	629	5.33	1574	120
1970.0	786	2890.4	1342.8	46.5	616	5.23	1553	120
1980.0	787	2885.2	1347.2	46.7	619	5.25	1558	120
1990.0	497	1248.8	536.2	42.9	155	1.32	620	76
2000.0	505	1287.5	554.7	43.1	164	1.39	642	77
2010.0	783	2878.1	1331.7	46.3	608	5.16	1540	119
2020.0	513	1332.8	571.5	42.9	171	1.45	661	78
2030.0	500	1280.1	542.3	42.4	158	1.34	627	76
2040.0	784	2909.9	1336.6	45.9	612	5.19	1546	119
2050.0	782	2899.0	1327.2	45.8	605	5.13	1535	119
2060.0	783	2915.9	1333.3	45.7	609	5.17	1542	119
2070.0	775	2844.8	1306.0	45.9	591	5.01	1510	118
2080.0	521	1397.0	589.8	42.2	179	1.52	682	79
2090.0	536	1475.4	624.0	42.3	195	1.66	722	82
2100.0	521	1411.1	589.5	41.8	179	1.52	682	79
2110.0	518	1404.0	582.9	41.5	176	1.49	674	79

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2120.0	780	2926.8	1321.5	45.2	601	5.10	1528	119
2130.0	784	2948.8	1335.0	45.3	611	5.18	1544	119
2140.0	781	2928.0	1324.2	45.2	603	5.12	1532	119
2150.0	771	2901.7	1290.4	44.5	580	4.92	1492	117
2160.0	770	2933.0	1287.2	43.9	578	4.90	1489	117
2170.0	781	2938.8	1324.7	45.1	603	5.12	1532	119
2180.0	771	2886.7	1291.4	44.7	581	4.93	1494	117
2190.0	476	1229.4	491.9	40.0	137	1.16	569	72
2200.0	550	1600.1	657.9	41.1	211	1.79	761	84
2210.0	743	2848.6	1200.6	42.1	521	4.42	1389	113
2220.0	756	2860.5	1242.9	43.5	548	4.65	1438	115
2230.0	542	1559.3	638.2	40.9	202	1.71	738	82
2240.0	541	1555.5	638.2	41.0	201	1.71	738	82
2250.0	540	1551.3	640.8	41.3	202	1.71	741	82
2258.2	770	2950.0	1289.4	43.7	580	4.92	1491	117

BIT NUMBER	5	IADC CODE	517	INTERVAL	2258.2- 2445.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	7.5	BIT RUN	186.8
TOTAL HOURS	30.22	TOTAL TURNS	125215	CONDITION	T4 B5 G0.250

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2260.0	731	2854.9	1160.9	40.7	495	4.20	1343	111
2270.0	740	2929.5	1188.9	40.6	513	4.35	1375	113
2280.0	741	2897.2	1194.3	41.2	517	4.38	1381	113
2290.0	747	2914.8	1211.6	41.6	528	4.48	1401	114
2300.0	739	2851.6	1181.0	41.4	509	4.32	1366	112
2310.0	742	2865.6	1209.4	42.2	524	4.44	1399	113
2320.0	747	2884.0	1211.7	42.0	528	4.48	1401	114
2330.0	727	2753.6	1147.4	41.7	486	4.13	1327	111
2340.0	535	1586.4	620.8	39.1	194	1.64	718	81
2350.0	534	1596.5	620.7	38.9	194	1.64	718	81
2360.0	528	1571.2	605.8	38.6	187	1.58	701	80
2370.0	526	1563.7	607.1	38.8	186	1.58	702	80
2380.0	750	2939.3	1233.3	42.0	539	4.58	1426	114
2390.0	745	2901.8	1217.1	41.9	529	4.49	1408	113
2400.0	744	2910.1	1213.7	41.7	527	4.47	1404	113
2410.0	740	2910.1	1191.3	40.9	515	4.37	1378	113
2420.0	740	2894.5	1188.5	41.1	513	4.35	1375	112
2430.0	739	2898.6	1186.3	40.9	511	4.34	1372	112
2440.0	741	2908.5	1193.7	41.0	516	4.38	1381	113
2445.0	739	2884.2	1186.2	41.1	511	4.34	1372	112

BIT NUMBER	6	IADC CODE	347	INTERVAL	2445.0- 2464.0
HTC JD8		SIZE	8.500	NOZZLES	14 14 14
COST	1700.00	TRIP TIME	7.4	BIT RUN	19.0
TOTAL HOURS	4.92	TOTAL TURNS	18701	CONDITION	T6 B3 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2450.0	554	2186.2	1290.6	59.0	417	7.35	1050	120
2460.0	643	2957.7	1740.5	58.8	653	11.51	1416	139
2464.0	649	2960.5	1771.2	59.8	670	11.81	1441	140

BIT NUMBER	7	IADC CODE	517	INTERVAL	2464.0- 2481.2
HTC J22		SIZE	8.500	NOZZLES	14 14 14
COST	4139.00	TRIP TIME	7.5	BIT RUN	17.2
TOTAL HOURS	1.43	TOTAL TURNS	4447	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2470.0	624	2935.7	1637.5	55.8	596	10.50	1332	135
2480.0	617	2906.3	1601.3	55.1	576	10.15	1303	133
2481.2	614	2984.4	1587.6	53.2	569	10.02	1291	133

BIT NUMBER	7	IADC CODE	4	INTERVAL	2481.2- 2499.0
CHRIST RC6		SIZE	8.500	NOZZLES	14 15 15
COST	11019.00	TRIP TIME	7.5	BIT RUN	17.8
TOTAL HOURS	1.45	TOTAL TURNS	8248	CONDITION	T0 B0 G0.050

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2490.0	246	370.0	213.7	57.8	31	0.54	191	48
2499.0	125	124.0	55.1	44.4	4	0.07	49	25

BIT NUMBER	7	IADC CODE	4	INTERVAL	2499.0- 2517.1
CHRIST RC6		SIZE	8.500	NOZZLES	15 14 15
COST	0.00	TRIP TIME	7.5	BIT RUN	18.1
TOTAL HOURS	4.27	TOTAL TURNS	23867	CONDITION	T0 B0 G0.200

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2500.0	222	241.4	173.4	71.8	22	0.40	155	44
2510.0	238	477.0	199.3	41.8	28	0.49	178	47
2517.1	156	165.5	85.6	51.8	8	0.14	77	31

BIT NUMBER	7	IADC CODE	4	INTERVAL	2517.1- 2531.0
CHRIST RC6		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	7.5	BIT RUN	13.9
TOTAL HOURS	6.34	TOTAL TURNS	34899	CONDITION	T0 B0 G0.500

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2520.0	241	454.0	205.4	45.2	29	0.51	184	48
2530.0	199	239.0	140.2	58.7	16	0.29	125	39
2531.0	198	250.3	138.6	55.4	16	0.28	124	39

BIT NUMBER	7	IADC CODE	4	INTERVAL	2531.0- 2549.0
CHRIST RC4		SIZE	8.500	NOZZLES	14 15 15
COST	21210.00	TRIP TIME	7.6	BIT RUN	18.0
TOTAL HOURS	1.18	TOTAL TURNS	6794	CONDITION	T0 B0 G0.150

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2540.0	197	400.0	136.8	34.2	16	0.28	123	39
2549.0	202	356.2	143.9	40.4	17	0.30	129	40

BIT NUMBER	7	IADC CODE	4	INTERVAL	2549.0- 2564.4
CHRIST RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	7.5	BIT RUN	15.4
TOTAL HOURS	3.05	TOTAL TURNS	17528	CONDITION	T0 B0 G0.300

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2550.0	201	531.5	142.2	26.8	17	0.29	127	40
2560.0	205	385.0	148.5	38.6	18	0.31	133	40
2564.4	198	392.7	138.7	35.3	16	0.28	124	39

BIT NUMBER	7	IADC CODE	517	INTERVAL	2564.4- 2650.0
HTC J22		SIZE	8.500	NOZZLES	14 14 14
COST	0.00	TRIP TIME	7.6	BIT RUN	85.6
TOTAL HOURS	10.79	TOTAL TURNS	42370	CONDITION	T2 B3 G0.062

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2570.0	581	2918.4	1435.7	49.2	486	8.57	1168	126
2580.0	565	2932.6	1360.3	46.4	449	7.91	1107	122
2590.0	560	2981.7	1334.0	44.7	436	7.68	1085	121
2600.0	557	2973.0	1319.1	44.4	428	7.55	1073	120
2610.0	558	2968.3	1325.5	44.7	432	7.60	1079	121

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2620.0	490	2811.0	1021.1	36.3	292	5.14	831	106
2630.0	554	2950.6	1304.4	44.2	421	7.42	1061	120
2640.0	553	2953.0	1302.4	44.1	420	7.41	1059	120
2650.0	548	2943.0	1280.1	43.5	410	7.22	1041	119

BIT NUMBER	8	IADC CODE	517	INTERVAL	2650.0- 2731.0
HTC J22		SIZE	8.500	NOZZLES	13 13 13
COST	4139.00	TRIP TIME	7.8	BIT RUN	81.0
TOTAL HOURS	18.26	TOTAL TURNS	61996	CONDITION	T8 B6 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2660.0	547	2961.4	1713.9	57.9	547	9.64	1202	137
2670.0	560	2995.6	1793.3	59.9	586	10.32	1250	140
2680.0	554	2999.1	1757.8	58.6	568	10.01	1233	139
2690.0	553	2986.2	1750.2	58.6	565	9.95	1228	139
2700.0	560	2983.9	1795.0	60.2	586	10.33	1259	140
2710.0	564	2984.5	1822.2	61.1	600	10.57	1278	142
2720.0	648	1964.7	2405.2	122.4	910	16.03	1687	163
2730.0	563	2666.2	1817.8	68.2	598	10.53	1275	141
2731.0	597	2766.3	2043.5	73.9	712	12.55	1433	150

BIT NUMBER	9	IADC CODE	537	INTERVAL	2731.0- 2822.5
HTC J33		SIZE	8.500	NOZZLES	13 13 13
COST	4503.00	TRIP TIME	8.0	BIT RUN	91.5
TOTAL HOURS	12.33	TOTAL TURNS	42031	CONDITION	T1 B2 G0.062

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2740.0	559	2945.7	1806.9	61.3	589	10.38	1267	140
2750.0	554	2969.4	1774.9	59.8	574	10.11	1245	139
2760.0	566	2828.1	1856.6	65.6	614	10.81	1302	142
2770.0	555	2932.6	1781.1	60.7	577	10.16	1249	139
2780.0	557	2934.9	1775.7	60.5	577	10.17	1245	140
2790.0	559	2866.1	1808.6	63.1	590	10.40	1269	140
2800.0	545	2980.3	1720.7	57.7	547	9.65	1207	137
2810.0	548	2889.0	1759.0	60.9	563	9.92	1234	138
2820.0	545	2957.2	1755.9	59.4	558	9.84	1232	137
2822.5	545	2971.5	1757.1	59.1	559	9.85	1232	137

BIT NUMBER	9	IADC CODE	4	INTERVAL	2822.5- 2828.0
CHRIS MC23		SIZE	8.469	NOZZLES	14 14 14
COST	18067.00	TRIP TIME	8.0	BIT RUN	5.5
TOTAL HOURS	1.17	TOTAL TURNS	5131	CONDITION	T0 B0 G1.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2828.0	248	1235.3	271.0	21.9	39	0.70	220	54

BIT NUMBER	9	IADC CODE	4	INTERVAL	2828.0- 2833.0
CHRIS C-23		SIZE	8.469	NOZZLES	14 14 14
COST	18067.00	TRIP TIME	8.0	BIT RUN	5.0
TOTAL HOURS	3.58	TOTAL TURNS	16019	CONDITION	T0 B0 G0.150

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2830.0	295	1405.4	386.5	27.5	67	1.18	314	64
2833.0	296	1336.9	386.7	28.9	67	1.19	315	64

BIT NUMBER	10	IADC CODE	537	INTERVAL	2833.0- 2975.5
HTC J33		SIZE	8.500	NOZZLES	13 13 13
COST	4503.00	TRIP TIME	8.3	BIT RUN	142.5
TOTAL HOURS	29.05	TOTAL TURNS	102918	CONDITION	T4 B4 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2840.0	554	2892.0	1825.5	63.1	591	10.41	1280	139
2850.0	553	2901.7	1806.1	62.2	583	10.27	1267	139
2860.0	545	2965.6	1757.9	59.3	559	9.86	1233	137
2870.0	670	917.2	2653.3	289.3	1037	18.28	1861	168
2880.0	544	2997.7	1751.3	58.4	556	9.80	1228	137
2890.0	529	2865.3	1656.4	57.8	512	9.02	1162	133
2900.0	534	2905.5	1697.2	58.4	529	9.33	1190	134
2910.0	530	2661.5	1656.8	62.2	512	9.02	1162	133
2920.0	534	2891.6	1685.4	58.3	525	9.26	1182	134
2930.0	542	2959.3	1744.9	59.0	552	9.72	1224	136
2940.0	488	2480.5	1415.1	57.1	403	7.10	993	122
2950.0	546	2974.2	1769.6	59.5	564	9.93	1241	137
2960.0	534	2951.0	1688.9	57.2	527	9.28	1185	134
2970.0	529	2954.3	1654.2	56.0	510	8.99	1160	133
2975.5	530	2950.0	1661.6	56.3	514	9.05	1165	133

BIT NUMBER	11	IADC CODE	617	INTERVAL	2975.5- 3011.0
HTC J44		SIZE	8.500	NOZZLES	13 13 13
COST	4357.00	TRIP TIME	8.4	BIT RUN	35.5
TOTAL HOURS	10.65	TOTAL TURNS	36514	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2980.0	524	2939.6	1620.5	55.1	495	8.73	1137	131
2990.0	520	2963.4	1587.6	53.6	481	8.48	1114	130
3000.0	521	2981.1	1610.7	54.0	490	8.63	1130	131
3010.0	520	3023.4	1612.1	53.3	489	8.61	1131	130
3011.0	521	3036.4	1619.7	53.3	492	8.67	1136	131

BIT NUMBER	12	IADC CODE	347	INTERVAL	3011.0- 3013.1
HTC JD8		SIZE	8.500	NOZZLES	13 13 13
COST	1500.00	TRIP TIME	7.0	BIT RUN	2.1
TOTAL HOURS	0.50	TOTAL TURNS	2175	CONDITION	T7 B3 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3013.1	511	2951.1	1735.1	58.8	518	9.12	1217	128

BIT NUMBER	13	IADC CODE	537	INTERVAL	3013.1- 3140.4
HTC J33		SIZE	8.500	NOZZLES	13 13 13
COST	4503.00	TRIP TIME	7.0	BIT RUN	127.3
TOTAL HOURS	39.96	TOTAL TURNS	127844	CONDITION	T4 B5 G0.063

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3020.0	493	2973.5	1611.1	54.2	463	8.16	1130	124
3030.0	493	2938.7	1599.8	54.4	460	8.10	1122	124
3040.0	499	2905.5	1620.2	55.8	471	8.31	1136	125
3050.0	501	2911.6	1627.4	55.9	476	8.38	1141	126
3060.0	508	3005.9	1653.1	55.0	490	8.64	1159	128
3070.0	504	2945.8	1624.6	55.1	478	8.42	1139	126
3080.0	514	2819.2	1687.0	59.8	506	8.91	1183	129
3090.0	512	3066.0	1692.0	55.2	505	8.91	1187	128
3100.0	506	2990.8	1651.9	55.2	488	8.60	1159	127
3110.0	499	2895.1	1594.5	55.1	465	8.19	1118	125
3120.0	502	2952.0	1609.2	54.5	471	8.30	1129	126
3130.0	500	2916.3	1601.4	54.9	468	8.24	1123	126
3140.0	495	2958.3	1567.7	53.0	453	7.98	1100	124
3140.4	490	2943.5	1534.0	52.1	438	7.72	1076	123

BIT NUMBER	14	IADC CODE	537	INTERVAL	3140.4- 3273.9
HTC J33		SIZE	8.500	NOZZLES	13 13 13
COST	4503.00	TRIP TIME	8.9	BIT RUN	133.5
TOTAL HOURS	49.34	TOTAL TURNS	140579	CONDITION	T4 B4 G0.062

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3150.0	496	2964.0	1573.6	53.1	455	8.03	1104	124
3160.0	495	2971.4	1565.1	52.7	452	7.96	1098	124
3170.0	489	2936.5	1530.4	52.1	437	7.70	1073	123
3180.0	486	2941.9	1513.5	51.4	430	7.57	1062	122
3190.0	484	2925.4	1495.6	51.1	422	7.44	1049	121
3200.0	486	2928.4	1507.8	51.5	427	7.53	1058	122
3210.0	482	2899.0	1485.4	51.2	418	7.36	1042	121
3220.0	469	2734.2	1405.5	51.4	384	6.77	986	118
3230.0	482	2857.7	1483.2	51.9	417	7.34	1040	121
3240.0	477	2926.7	1510.9	51.6	421	7.41	1060	120
3250.0	476	2966.8	1501.3	50.6	417	7.34	1053	119
3260.0	470	2950.4	1468.0	49.8	403	7.10	1030	118
3270.0	474	2936.0	1492.9	50.8	413	7.28	1047	119
3273.9	474	2900.7	1494.4	51.5	414	7.29	1048	119

BIT NUMBER	14	IADC CODE	4	INTERVAL	3273.9- 3282.5
CHRIS C23		SIZE	8.470	NOZZLES	14 14 14
COST	0.00	TRIP TIME	9.0	BIT RUN	8.6
TOTAL HOURS	7.57	TOTAL TURNS	36538	CONDITION	T0 B0 G1.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3280.0	270	1500.0	376.0	25.1	59	1.05	306	58
3282.5	280	1700.0	404.4	23.8	66	1.17	329	61

BIT NUMBER	15	IADC CODE	617	INTERVAL	3282.5- 3321.0
HTC J44		SIZE	8.500	NOZZLES	13 13 13
COST	4347.00	TRIP TIME	9.1	BIT RUN	38.5
TOTAL HOURS	18.84	TOTAL TURNS	55509	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3290.0	447	2928.3	1404.6	48.0	366	6.45	985	112
3300.0	450	2905.8	1420.9	48.9	373	6.58	997	113
3310.0	445	2973.0	1385.9	46.6	360	6.34	972	112
3320.0	445	2944.0	1385.9	47.1	360	6.34	972	112
3321.0	445	2921.0	1385.9	47.4	360	6.34	972	112

(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	82.0- 219.0
HTC OSC3AJ+26"HO		SIZE	24.000	NOZZLES	20 20 20
COST	0.00	TRIP TIME	2.5	BIT RUN	137.0
TOTAL HOURS	3.96	TOTAL TURNS	13521	CONDITION	T2 B3 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
90.0	0	88	439	5		5				
100.0	80	79	795	10		9				
110.0	77	78	775	9		9				
120.0	73	73	730	9		8		8		
130.0	83	82	825	10		9		9		
140.0	104	103	1035	13		12		12		
150.0	101	102	1015	12		12		12		
160.0	100	101	1005	12		12		12		
170.0	99	101	1000	12		11		11		
180.0	100	100	1000	12		11		11		
190.0	100	101	1005	12		12		12		
200.0	100	101	1005	12		12		12		
210.0	101	102	1015	12		12		12		
219.0	100	102	1010	12		12		12		

BIT NUMBER	1	IADC CODE	111	INTERVAL	219.0- 811.0
HTC OSC 3AJ		SIZE	17.500	NOZZLES	20 20 20
COST	4857.00	TRIP TIME	3.7	BIT RUN	592.0
TOTAL HOURS	11.56	TOTAL TURNS	104012	CONDITION	T2 B4 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
220.0	99	100	995		25		22			18
230.0	99	100	995	31	25		22			18
240.0	100	98	990	31	25		22			18
250.0	100	98	990	31	25		22			18
260.0	100	98	990	31	25		22			18
270.0	100	98	990	31	25		22			18
280.0	100	100	1000	31	25		22		22	18
290.0	100	100	1000	31	25		22		22	18
300.0	100	100	1000	31	25		22		22	18
310.0	100	100	1000	31	25		22		22	18
320.0	100	100	1000	31		27	22		22	18
330.0	97	99	979	30		26	21		21	18
340.0	99	100	990	31		26	22		22	18
350.0	77	69	728	22		19	16		16	13
360.0	65	65	651	20		17	14		14	12
370.0	97	99	981	30		26	22		22	18
380.0	49	61	550	17		15	12		12	10
390.0	53	50	514	16		14	11		11	9
400.0	99	0	495	15		13	11		11	9

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
410.0	98	99	982	30		26		26	22	18
420.0	98	101	998	31		27		27	22	18
430.0	97	101	988	30		26		26	22	18
440.0	98	100	990	31		26		26	22	18
450.0	100	100	1001	31		27		27	22	18
460.0	98	101	992	31		26		26	22	18
470.0	98	100	987	30		26		26	22	18
480.0	99	100	992	31		26		26	22	18
490.0	99	99	988	30		26		26	22	18
500.0	99	100	996	31		26		26	22	18
510.0	98	100	988	30		26		26	22	18
520.0	98	100	987	30		26		26	22	18
530.0	99	101	999	31		27		27	22	18
540.0	98	100	991	31		26		26	22	18
550.0	98	99	989	31		26		26	22	18
560.0	99	100	991	31		26		26	22	18
570.0	99	100	991	31		26		26	22	18
580.0	99	99	988	30		26		26	22	18
590.0	99	99	991	31		26		26	22	18
600.0	99	100	992	31		26		26	22	18
610.0	99	99	988	30		26		26	22	18
620.0	109	0	544	17		14		14	12	10
630.0	114	0	568	18		15		15	12	10
640.0	99	98	983	30		26		26	22	18
650.0	98	99	985	30		26		26	22	18
660.0	99	100	993	31		26		26	22	18
670.0	100	100	996	31		26		26	22	18
680.0	99	101	1001	31		27		27	22	18
690.0	99	100	992	31		26		26	22	18
700.0	115	0	576	18		15		15	13	10
710.0	99	98	982	30		26		26	22	18
720.0	98	98	982	30		26		26	22	18
730.0	100	98	991	31		26		26	22	18
740.0	99	98	983	30		26		26	22	18
750.0	99	99	985	30		26		26	22	18
760.0	99	98	986	30		26		26	22	18
770.0	99	98	983	30		26		26	22	18
780.0	99	97	980	30		26		26	21	18
790.0	99	98	983	30		26		26	22	18
800.0	98	98	982	30		26		26	22	18
810.0	101	106	1034	32		27		27	23	19
811.0	102	101	1015	31		27		27	22	18

BIT NUMBER	2	IADC CODE	116	INTERVAL	811.0- 1381.0
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	4.9	BIT RUN	570.0
TOTAL HOURS	12.11	TOTAL TURNS	100225	CONDITION	T4 B2 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
820.0	96	96	957	83	75		53		53	17
830.0	97	97	969	84	76		54		54	17
840.0	98	97	975	85	77		54		54	18
850.0	97	97	974	85	76		54		54	17
860.0	97	97	970	84	76		54		54	17
870.0	98	98	978	85	77		54		54	18
880.0	98	98	977	85	77		54		54	18
890.0	96	98	968	84	76		54		54	17
900.0	98	98	976	85	77		54		54	18
910.0	98	97	976	85	77		54		54	18
920.0	99	98	982	85	77		55		55	18
930.0	100	98	992	86	78		55		55	18
940.0	99	99	992	86	78		55		55	18
950.0	99	99	991	86	78		55		55	18
960.0	100	98	989	86	78		55		55	18
970.0	53	107	801	70		48	45		45	14
980.0	17	115	661	57		39	37		37	12
990.0	99	99	992	86		59	55		55	18
1000.0	100	97	984	85		59	55		55	18
1010.0	98	94	961	83		57	54		54	17
1020.0	99	95	971	84		58	54		54	17
1030.0	100	95	977	85		58	54		54	18
1040.0	100	95	974	85		58	54		54	17
1050.0	100	95	976	85		58		58	54	18
1060.0	100	95	972	84		58		58	54	17
1070.0	97	91	938	81		56		56	52	17
1080.0	97	93	947	82		57		57	53	17
1090.0	93	93	930	81		56		56	52	17
1100.0	94	93	931	81		56		56	52	17
1110.0	95	91	933	81		56		56	52	17
1120.0	96	91	934	81		56		56	52	17
1130.0	93	91	920	80		55		55	51	17
1140.0	96	92	939	82		56		56	52	17
1150.0	96	86	907	79		54		54	51	16
1160.0	96	86	906	79		54		54	50	16
1170.0	95	92	938	81		56		56	52	17
1180.0	93	92	926	80		55		55	52	17
1190.0	93	92	921	80		55		55	51	17
1200.0	88	85	865	75		52		52	48	16
1210.0	92	92	916	80		55		55	51	16
1220.0	95	90	923	80		55		55	51	17
1230.0	90	87	887	77		53		53	49	16
1240.0	90	88	890	77		53		53	50	16

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1250.0	88	87	878	76		52		52	49	16
1260.0	91	89	899	78		54		54	50	16
1270.0	123	0	616	53		37		37	34	11
1280.0	124	0	620	54		37		37	35	11
1290.0	91	84	878	76		52		52	49	16
1300.0	91	84	876	76		52		52	49	16
1310.0	88	86	873	76		52		52	49	16
1320.0	88	83	856	74		51		51	48	15
1330.0	87	87	872	76		52		52	49	16
1340.0	87	86	869	75		52		52	48	16
1350.0	87	86	863	75		52		52	48	15
1360.0	88	86	867	75		52		52	48	16
1370.0	88	86	868	75		52		52	48	16
1380.0	89	85	871	76		52		52	49	16
1381.0	89	85	870	76		52		52	48	16

BIT NUMBER	2	IADC CODE	4	INTERVAL	1380.0- 1389.6
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 15
COST	14500.00	TRIP TIME	5.0	BIT RUN	9.6
TOTAL HOURS	1.08	TOTAL TURNS	6261	CONDITION	T0 B0 G0.050

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1389.6	36	0	179	40					10	3

BIT NUMBER	2	IADC CODE	4	INTERVAL	1389.6- 1399.0
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 15
COST	0.00	TRIP TIME	5.0	BIT RUN	9.4
TOTAL HOURS	1.35	TOTAL TURNS	7608	CONDITION	T0 B0 G0.100

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1390.0	47	0	234	52					13	4
1399.0	0	50	248	55					14	4

BIT NUMBER	2	IADC CODE	4	INTERVAL	1399.0- 1408.2
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 15
COST	0.00	TRIP TIME	5.0	BIT RUN	9.2
TOTAL HOURS	1.73	TOTAL TURNS	9742	CONDITION	T0 B0 G0.150

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1400.0	38	0	191	43					11	3
1408.2	19	0	97	22					5	2

BIT NUMBER	2	IADC CODE	4	INTERVAL	1408.2- 1414.0
CHRIS RC4		SIZE	9.875	NOZZLES	15 15 15
COST	0.00	TRIP TIME	5.0	BIT RUN	5.8
TOTAL HOURS	1.87	TOTAL TURNS	10452	CONDITION	T0 B0 G0.200

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1410.0	48	0	239	53					13	4
1414.0	34	0	170	38					9	3

BIT NUMBER	3	IADC CODE	517	INTERVAL	1414.0- 1885.3
HTC J22		SIZE	12.250	NOZZLES	18 18 18
COST	8516.00	TRIP TIME	6.0	BIT RUN	471.3
TOTAL HOURS	24.71	TOTAL TURNS	107006	CONDITION	T2 B3 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1420.0	86	85	857	74		51		51	48	15
1430.0	86	86	858	75		51		51	48	15
1440.0	86	86	862	75		52		52	48	15
1450.0	86	85	854	74		51		51	48	15
1460.0	86	86	860	75		51		51	48	15
1470.0	86	85	857	74		51		51	48	15
1480.0	88	85	866	75		52		52	48	16
1490.0	87	85	860	75		51		51	48	15
1500.0	87	86	866	75		52		52	48	16
1510.0	85	85	852	74		51		51	47	15
1520.0	87	86	866	75		52		52	48	16
1530.0	86	87	864	75		52		52	48	16
1540.0	86	87	862	75		52		52	48	15
1550.0	86	86	860	75		51		51	48	15
1560.0	86	86	861	75		51		51	48	15
1570.0	87	87	871	76		52		52	49	16
1580.0	88	85	866	75		52		52	48	16
1590.0	88	86	870	76		52		52	48	16
1600.0	93	78	851	74		51		51	47	15
1610.0	86	86	860	75		51		51	48	15
1620.0	87	88	873	76		52		52	49	16
1630.0	85	85	850	74		51		51	47	15
1640.0	87	87	866	75		52		52	48	16
1650.0	87	87	868	75		52		52	48	16
1660.0	86	86	859	75		51		51	48	15
1670.0	86	85	856	74		51		51	48	15
1680.0	87	85	857	74		51		51	48	15
1690.0	88	86	868	75		52		52	48	16
1700.0	87	86	865	75		52		52	48	16
1710.0	86	85	854	74		51		51	48	15
1720.0	86	86	858	75		51		51	48	15

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1730.0	86	86	857	74		51		51	48	15
1740.0	87	85	858	75		51		51	48	15
1750.0	87	86	861	75		51		51	48	15
1760.0	86	85	854	74		51		51	48	15
1770.0	86	86	859	75		51		51	48	15
1780.0	86	85	854	74		51		51	48	15
1790.0	86	85	854	74		51		51	48	15
1800.0	85	85	852	74		51		51	47	15
1810.0	85	85	848	74		51		51	47	15
1820.0	85	84	847	74		51		51	47	15
1830.0	85	84	844	73		50		50	47	15
1840.0	87	84	857	74		51		51	48	15
1850.0	83	84	832	72		50		50	46	15
1860.0	85	84	848	74		51		51	47	15
1870.0	85	83	839	73		50		50	47	15
1880.0	85	85	853	74		51		51	48	15
1885.3	85	85	850	74		51		51	47	15

BIT NUMBER	4	IADC CODE	517	INTERVAL	1885.3- 2258.2
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	6.8	BIT RUN	372.9
TOTAL HOURS	43.84	TOTAL TURNS	205424	CONDITION	T5 B6 G0.250

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1890.0	79	78	781	68		47		47	44	14
1900.0	79	78	785	68		47		47	44	14
1910.0	80	78	788	68		47		47	44	14
1920.0	79	79	788	68		47		47	44	14
1930.0	79	78	785	68		47		47	44	14
1940.0	0	99	495	43		30		30	28	9
1950.0	77	81	791	69		47		47	44	14
1960.0	79	79	791	69		47		47	44	14
1970.0	79	78	786	68		47		47	44	14
1980.0	80	78	787	68		47		47	44	14
1990.0	0	99	497	43		30		30	28	9
2000.0	0	101	505	44		30		30	28	9
2010.0	80	77	783	68		47		47	44	14
2020.0	0	103	513	45		31		31	29	9
2030.0	0	100	500	43		30		30	28	9
2040.0	88	69	784	68		47		47	44	14
2050.0	89	68	782	68		47		47	44	14
2060.0	87	70	783	68		47		47	44	14
2070.0	81	74	775	67		46		46	43	14
2080.0	0	104	521	45		31		31	29	9
2090.0	0	107	536	47		32		32	30	10
2100.0	0	104	521	45		31		31	29	9
2110.0	0	104	518	45		31		31	29	9

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2120.0	79	77	780	68		47		47	43	14
2130.0	80	77	784	68		47		47	44	14
2140.0	80	76	781	68		47		47	43	14
2150.0	76	78	771	67		46		46	43	14
2160.0	78	76	770	67		46		46	43	14
2170.0	83	73	781	68		47		47	44	14
2180.0	80	74	771	67		46		46	43	14
2190.0	0	95	476	41		28		28	27	9
2200.0	0	110	550	48		33		33	31	10
2210.0	90	59	743	65		44		44	41	13
2220.0	75	76	756	66		45		45	42	14
2230.0	0	108	542	47		32		32	30	10
2240.0	0	108	541	47		32		32	30	10
2250.0	0	108	540	47		32		32	30	10
2258.2	82	73	770	67		46		46	43	14

BIT NUMBER	5	JADC CODE	517	INTERVAL	2258.2- 2445.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	7.5	BIT RUN	186.8
TOTAL HOURS	30.22	TOTAL TURNS	125215	CONDITION	T6 B5 G0.250

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2260.0	72	74	731	63		44		44	41	13
2270.0	73	75	740	64		44		44	41	13
2280.0	73	75	741	64		44		44	41	13
2290.0	74	75	747	65		45		45	42	13
2300.0	73	75	739	64		44		44	41	13
2310.0	74	75	742	64		44		44	41	13
2320.0	74	75	747	65		45		45	42	13
2330.0	71	75	727	63		43		43	40	13
2340.0	0	107	535	46		32		32	30	10
2350.0	0	107	534	46		32		32	30	10
2360.0	0	106	528	46		32		32	29	9
2370.0	0	105	526	46		31		31	29	9
2380.0	75	75	750	65		45		45	42	13
2390.0	74	75	745	65		44		44	41	13
2400.0	74	75	744	65		44		44	41	13
2410.0	74	75	740	64		44		44	41	13
2420.0	74	74	740	64		44		44	41	13
2430.0	74	74	739	64		44		44	41	13
2440.0	73	75	741	64		44		44	41	13
2445.0	73	75	739	64		44		44	41	13

BIT NUMBER	6	IADC CODE	347	INTERVAL	2445.0- 2464.0
HTC JD8		SIZE	8.500	NOZZLES	14 14 14
COST	1700.00	TRIP TIME	7.4	BIT RUN	19.0
TOTAL HOURS	4.92	TOTAL TURNS	18701	CONDITION	T6 R3 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2450.0	110	1	554	125	114		82		82	10
2460.0	65	64	643	145	132		95		95	12
2464.0	65	64	649	146	134		96		96	12

BIT NUMBER	7	IADC CODE	517	INTERVAL	2464.0- 2481.2
HTC J22		SIZE	8.500	NOZZLES	14 14 14
COST	4139.00	TRIP TIME	7.5	BIT RUN	17.2
TOTAL HOURS	1.43	TOTAL TURNS	4447	CONDITION	T1 R1 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2470.0	63	62	624	140	128		93		93	11
2480.0	61	62	617	139	127		92		92	11
2481.2	62	61	614	138	126		91		91	11

BIT NUMBER	7	IADC CODE	4	INTERVAL	2481.2- 2499.0
CHRIST RC6		SIZE	8.500	NOZZLES	14 15 15
COST	11019.00	TRIP TIME	7.5	BIT RUN	17.8
TOTAL HOURS	1.45	TOTAL TURNS	8248	CONDITION	T0 B0 G0.050

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2490.0	49	0	246	55	51		37		37	4
2499.0	25	0	125	28	26		19		19	2

BIT NUMBER	7	IADC CODE	4	INTERVAL	2499.0- 2517.1
CHRIST RC6		SIZE	8.500	NOZZLES	15 14 15
COST	0.00	TRIP TIME	7.5	BIT RUN	18.1
TOTAL HOURS	4.27	TOTAL TURNS	23867	CONDITION	T0 B0 G0.200

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2500.0	44	0	222	50	46		33		33	4
2510.0	48	0	238	54	49		35		35	4
2517.1	31	0	156	35	32		23		23	3

BIT NUMBER	7	IADC CODE	4	INTERVAL	2517.1- 2531.0
CHRIST RC6		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	7.5	BIT RUN	13.9
TOTAL HOURS	6.34	TOTAL TURNS	34099	CONDITION	T0 B0 G0.500

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2520.0	241	454.0	205.4	45.2	29	0.51	184	48
2530.0	199	239.0	140.2	58.7	16	0.29	125	39
2531.0	198	250.3	138.6	55.4	16	0.28	124	39

BIT NUMBER	7	IADC CODE	4	INTERVAL	2531.0- 2549.0
CHRIST RC4		SIZE	8.500	NOZZLES	14 15 15
COST	21210.00	TRIP TIME	7.6	BIT RUN	18.0
TOTAL HOURS	1.18	TOTAL TURNS	6796	CONDITION	T0 B0 G0.150

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2540.0	197	400.0	136.8	34.2	16	0.28	122	39
2549.0	202	356.2	143.9	40.4	17	0.30	129	40

BIT NUMBER	7	IADC CODE	4	INTERVAL	2549.0- 2564.4
CHRIST RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	7.5	BIT RUN	15.4
TOTAL HOURS	3.05	TOTAL TURNS	17528	CONDITION	T0 B0 G0.300

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2550.0	201	531.5	142.2	26.8	17	0.29	127	40
2560.0	205	385.0	148.5	38.6	18	0.31	133	40
2564.4	198	392.7	138.7	35.3	16	0.28	124	39

BIT NUMBER	7	IADC CODE	517	INTERVAL	2564.4- 2650.0
HTC J22		SIZE	8.500	NOZZLES	14 14 14
COST	0.00	TRIP TIME	7.6	BIT RUN	85.6
TOTAL HOURS	10.79	TOTAL TURNS	42370	CONDITION	T2 B3 G0.062

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2570.0	581	2918.4	1435.7	49.2	486	8.57	1168	126
2580.0	565	2932.6	1360.3	46.4	449	7.91	1107	122
2590.0	560	2981.7	1334.0	44.7	436	7.68	1085	121
2600.0	557	2973.0	1319.1	44.4	428	7.55	1073	120
2610.0	559	2969.7	1325.5	44.7	432	7.60	1078	121

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2620.0	490	2811.0	1021.1	36.3	292	5.14	831	106
2630.0	554	2950.6	1304.4	44.2	421	7.42	1061	120
2640.0	553	2953.0	1302.4	44.1	420	7.41	1059	120
2650.0	548	2943.0	1280.1	43.5	410	7.22	1041	119

BIT NUMBER	8	IADC CODE	517	INTERVAL	2650.0- 2731.0
HTC J22		SIZE	8.500	NOZZLES	13 13 13
COST	4139.00	TRIP TIME	7.8	BIT RUN	81.0
TOTAL HOURS	18.26	TOTAL TURNS	61996	CONDITION	T8 B6 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2660.0	547	2961.4	1713.9	57.9	547	9.64	1202	137
2670.0	560	2995.6	1793.3	59.9	586	10.32	1258	140
2680.0	554	2999.1	1757.8	58.6	568	10.01	1233	139
2690.0	553	2986.2	1750.2	58.6	565	9.95	1228	139
2700.0	560	2983.9	1795.0	60.2	586	10.33	1259	140
2710.0	564	2984.5	1822.2	61.1	600	10.57	1278	142
2720.0	648	1964.7	2405.2	122.4	910	16.03	1687	163
2730.0	563	2666.2	1817.8	68.2	598	10.53	1275	141
2731.0	597	2766.3	2043.5	73.9	712	12.55	1433	150

BIT NUMBER	9	IADC CODE	537	INTERVAL	2731.0- 2822.5
HTC J33		SIZE	8.500	NOZZLES	13 13 13
COST	4503.00	TRIP TIME	8.0	BIT RUN	91.5
TOTAL HOURS	12.33	TOTAL TURNS	42031	CONDITION	T1 B2 G0.062

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2740.0	559	2945.7	1806.9	61.3	589	10.38	1267	140
2750.0	554	2969.4	1774.9	59.8	574	10.11	1245	139
2760.0	566	2828.1	1856.6	65.6	614	10.81	1302	142
2770.0	555	2932.6	1781.1	60.7	577	10.16	1249	139
2780.0	557	2934.9	1775.7	60.5	577	10.17	1245	140
2790.0	559	2866.1	1808.6	63.1	590	10.40	1269	140
2800.0	545	2980.3	1720.7	57.7	547	9.65	1207	137
2810.0	548	2889.0	1759.0	60.9	563	9.92	1234	138
2820.0	545	2957.2	1755.9	59.4	558	9.84	1232	137
2822.5	545	2971.5	1757.1	59.1	559	9.85	1232	137

BIT NUMBER	9	IADC CODE	4	INTERVAL	2822.5- 2828.0
CHRIS MC23		SIZE	8.469	NOZZLES	14 14 14
COST	18067.00	TRIP TIME	8.0	BIT RUN	5.5
TOTAL HOURS	1.17	TOTAL TURNS	5131	CONDITION	T0 B0 G1.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2828.0	248	1235.3	271.0	21.9	39	0.70	220	54

BIT NUMBER	9	IADC CODE	4	INTERVAL	2828.0- 2833.0
CHRIS C-23		SIZE	8.469	NOZZLES	14 14 14
COST	18067.00	TRIP TIME	8.0	BIT RUN	5.0
TOTAL HOURS	3.58	TOTAL TURNS	16019	CONDITION	T0 B0 G0.150

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2830.0	295	1405.4	386.5	27.5	67	1.18	314	64
2833.0	296	1336.9	386.7	28.9	67	1.19	315	64

BIT NUMBER	10	IADC CODE	537	INTERVAL	2833.0- 2975.5
HTC J33		SIZE	8.500	NOZZLES	13 13 13
COST	4503.00	TRIP TIME	8.3	BIT RUN	142.5
TOTAL HOURS	29.05	TOTAL TURNS	102918	CONDITION	T4 B4 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2840.0	554	2892.0	1825.5	63.1	591	10.41	1280	139
2850.0	553	2901.7	1806.1	62.2	583	10.27	1267	139
2860.0	545	2965.6	1757.9	59.3	559	9.86	1233	137
2870.0	670	917.2	2653.3	289.3	1037	18.28	1861	168
2880.0	544	2997.7	1751.3	58.4	556	9.80	1228	137
2890.0	529	2865.3	1656.4	57.8	512	9.02	1162	133
2900.0	534	2905.5	1697.2	58.4	529	9.33	1190	134
2910.0	530	2661.5	1656.8	62.2	512	9.02	1162	133
2920.0	534	2891.6	1685.4	58.3	525	9.26	1182	134
2930.0	542	2959.3	1744.9	59.0	552	9.72	1224	136
2940.0	488	2480.5	1415.1	57.1	403	7.10	993	122
2950.0	546	2974.2	1769.6	59.5	564	9.93	1241	137
2960.0	534	2951.0	1688.9	57.2	527	9.28	1185	134
2970.0	529	2954.3	1654.2	56.0	510	8.99	1160	133
2975.5	530	2950.0	1661.6	56.3	514	9.05	1165	133

BIT NUMBER	11	IADC CODE	617	INTERVAL	2975.5- 3011.0
HTC J44		SIZE	8.500	NOZZLES	13 13 13
COST	4357.00	TRIP TIME	8.4	BIT RUN	35.5
TOTAL HOURS	10.65	TOTAL TURNS	36514	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2980.0	524	2939.6	1620.5	55.1	495	8.73	1137	131
2990.0	520	2963.4	1587.6	53.6	481	8.48	1114	130
3000.0	521	2981.1	1610.7	54.0	490	8.63	1130	131
3010.0	520	3023.4	1612.1	53.3	489	8.61	1131	130
3011.0	521	3036.4	1619.7	53.3	492	8.67	1136	131

BIT NUMBER	12	IADC CODE	347	INTERVAL	3011.0- 3013.1
HTC JD8		SIZE	8.500	NOZZLES	13 13 13
COST	1500.00	TRIP TIME	7.0	BIT RUN	2.1
TOTAL HOURS	0.50	TOTAL TURNS	2175	CONDITION	T7 B3 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3013.1	511	2951.1	1735.1	58.8	518	9.12	1217	128

BIT NUMBER	13	IADC CODE	537	INTERVAL	3013.1- 3140.4
HTC J33		SIZE	8.500	NOZZLES	13 13 13
COST	4503.00	TRIP TIME	7.0	BIT RUN	127.3
TOTAL HOURS	39.96	TOTAL TURNS	127844	CONDITION	T4 B5 G0.063

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3020.0	493	2973.5	1611.1	54.2	463	8.16	1130	124
3030.0	493	2938.7	1599.8	54.4	460	8.10	1122	124
3040.0	499	2905.5	1620.2	55.8	471	8.31	1136	125
3050.0	501	2911.6	1627.4	55.9	476	8.38	1141	126
3060.0	508	3005.9	1653.1	55.0	490	8.64	1159	128
3070.0	504	2945.8	1624.6	55.1	478	8.42	1139	126
3080.0	514	2819.2	1687.0	59.8	506	8.91	1183	129
3090.0	512	3066.0	1692.0	55.2	505	8.91	1187	128
3100.0	506	2990.8	1651.9	55.2	488	8.60	1159	127
3110.0	499	2895.1	1594.5	55.1	465	8.19	1118	125
3120.0	502	2952.0	1609.2	54.5	471	8.30	1129	126
3130.0	500	2916.3	1601.4	54.9	468	8.24	1123	126
3140.0	495	2958.3	1567.7	53.0	453	7.98	1100	124
3140.4	490	2943.5	1534.0	52.1	438	7.72	1076	123

BIT NUMBER	14	IADC CODE	537	INTERVAL	3140.4- 3273.9
HTC J33		SIZE	8.500	NOZZLES	13 13 13
COST	4503.00	TRIP TIME	8.9	BIT RUN	133.5
TOTAL HOURS	49.34	TOTAL TURNS	140579	CONDITION	T4 B4 G0.062

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3150.0	496	2964.0	1573.6	53.1	455	8.03	1104	124
3160.0	495	2971.4	1565.1	52.7	452	7.96	1098	124
3170.0	489	2936.5	1530.4	52.1	437	7.70	1073	123
3180.0	486	2941.9	1513.5	51.4	430	7.57	1062	122
3190.0	484	2925.4	1495.6	51.1	422	7.44	1049	121
3200.0	486	2928.4	1507.8	51.5	427	7.53	1058	122
3210.0	482	2899.0	1485.4	51.2	418	7.36	1042	121
3220.0	469	2734.2	1405.5	51.4	384	6.77	986	118
3230.0	482	2857.7	1483.2	51.9	417	7.34	1040	121
3240.0	477	2926.7	1510.9	51.6	421	7.41	1060	120
3250.0	476	2966.8	1501.3	50.6	417	7.34	1053	119
3260.0	470	2950.4	1468.0	49.8	403	7.10	1030	118
3270.0	474	2936.0	1492.9	50.8	413	7.28	1047	119
3273.9	474	2900.7	1494.4	51.5	414	7.29	1048	119

BIT NUMBER	14	IADC CODE	4	INTERVAL	3273.9- 3282.5
CHRIS C23		SIZE	8.470	NOZZLES	14 14 14
COST	0.00	TRIP TIME	9.0	BIT RUN	8.6
TOTAL HOURS	7.57	TOTAL TURNS	36538	CONDITION	T0 B0 G1.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3280.0	270	1500.0	376.0	25.1	59	1.05	306	58
3282.5	280	1700.0	404.4	23.8	66	1.17	329	61

BIT NUMBER	15	IADC CODE	617	INTERVAL	3282.5- 3321.0
HTC J44		SIZE	8.500	NOZZLES	13 13 13
COST	4347.00	TRIP TIME	9.1	BIT RUN	38.5
TOTAL HOURS	18.84	TOTAL TURNS	55509	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3290.0	447	2928.3	1404.6	48.0	366	6.45	985	112
3300.0	450	2905.8	1420.9	48.9	373	6.58	997	113
3310.0	445	2973.0	1385.9	46.6	360	6.34	972	112
3320.0	445	2944.0	1385.9	47.1	360	6.34	972	112
3321.0	445	2921.0	1385.9	47.4	360	6.34	972	112

PE604579

This is an enclosure indicator page.
The enclosure PE604579 is enclosed within the container PE907050 at this location in this document.

The enclosure PE604579 has the following characteristics:

ITEM_BARCODE	= PE604579
CONTAINER_BARCODE	= PE907050
NAME	= Drill Data Plot
BASIN	= GIPPSLAND
PERMIT	= VIC/L4
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Drill Data Plot (enclosure from Final Well Report) for Tuna-4
REMARKS	=
DATE_CREATED	= 7/07/84
DATE_RECEIVED	= 30/01/85
W_NO	= W868
WELL_NAME	= TUNA-4
CONTRACTOR	= CORE LABORATORIES
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604579

Drill Data Plot

PE604580

This is an enclosure indicator page.
The enclosure PE604580 is enclosed within the container PE907050 at this location in this document.

The enclosure PE604580 has the following characteristics:

ITEM_BARCODE	= PE604580
CONTAINER_BARCODE	= PE907050
NAME	= Temperature Plot
BASIN	= GIPPSLAND
PERMIT	= VIC/L4
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Temperature Plot (enclosure from Final Well Report) for Tuna-4
REMARKS	=
DATE_CREATED	= 7/07/84
DATE_RECEIVED	= 30/01/85
W_NO	= W868
WELL_NAME	= TUNA-4
CONTRACTOR	= CORE LABORATORIES
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604580

Temperature Plot

PE604581

This is an enclosure indicator page.
The enclosure PE604581 is enclosed within the container PE907050 at this location in this document.

The enclosure PE604581 has the following characteristics:

ITEM_BARCODE	= PE604581
CONTAINER_BARCODE	= PE907050
NAME	= Pressure Plot
BASIN	= GIPPSLAND
PERMIT	= VIC/L4
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Pressure Plot (enclosure from Final Well Report) for Tuna-4
REMARKS	=
DATE_CREATED	= 7/07/84
DATE_RECEIVED	= 30/01/85
W_NO	= W868
WELL_NAME	= TUNA-4
CONTRACTOR	= CORE LABORATORIES
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604581

Pressure Plot

PE604582

This is an enclosure indicator page.
The enclosure PE604582 is enclosed within the container PE907050 at this location in this document.

The enclosure PE604582 has the following characteristics:

ITEM_BARCODE	= PE604582
CONTAINER_BARCODE	= PE907050
NAME	= Geo-Plot
BASIN	= GIPPSLAND
PERMIT	= VIC/L4
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Geo-Plot (enclosure from Final Well Report) for Tuna-4
REMARKS	=
DATE_CREATED	= 7/07/84
DATE_RECEIVED	= 30/01/85
W_NO	= W868
WELL_NAME	= TUNA-4
CONTRACTOR	= ESSO
CLIENT_OP_CO	= ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604582
Geoplot

PE601202

Grapholog / Mud Log

* Located In WCR vol. 2