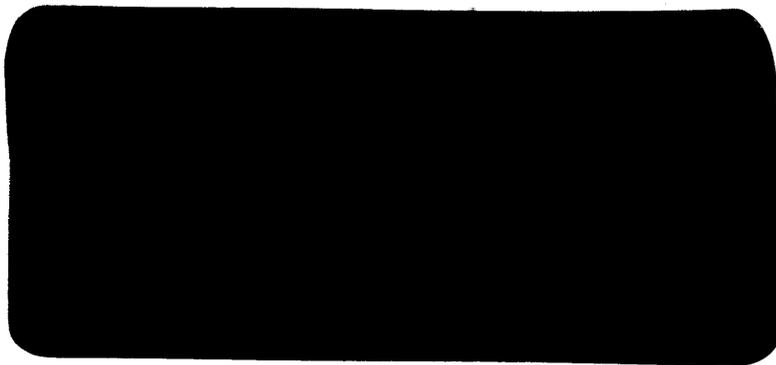


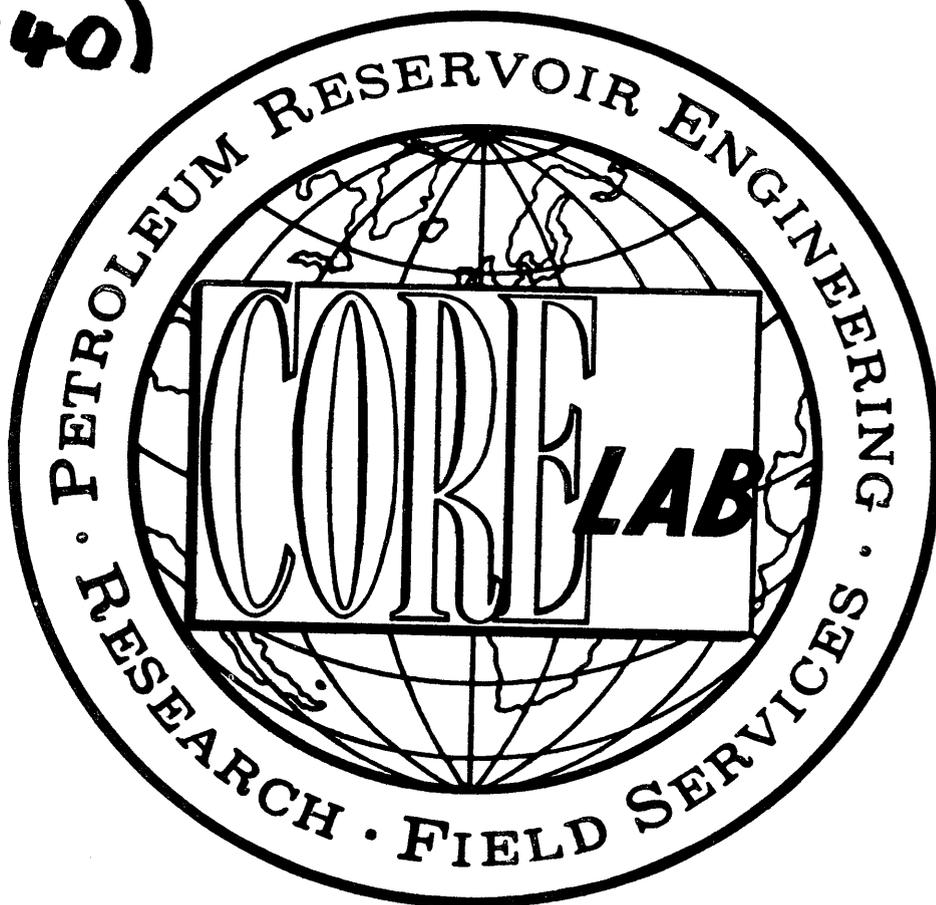
DEPT. NAT. RES & ENV



PE907062



*Attachment to WCR
ES Well Report
Wirrah-3
(W840)*



OIL and GAS DIVISION

18 APR 1984

ESSO AUSTRALIA LTD.

ES WELL REPORT

WIRRAH NO. 3

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INTRODUCTION

WIRRAH NO. 3 was drilled by ESSO AUSTRALIA LTD. in the Bass Strait, Australia.

Well co-ordinates were:

Latitude : 38^o 11' 49.40"S
Longitude : 147^o 48' 27.29"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.

WIRRAH NO. 3 was spudded on 27th November 1983 and reached a total depth of 3257 metres on 17th January 1984, a total drilling time of 52 days. The main objective of the well was to confirm a commercial accumulation of oil in the southern segment of the Wirrah structure. Significant hydrocarbons were discovered, so the well was production tested in four separate or combined zones.

Elevations were:

Kelly bushings to mean sea level 21 metres
Water depth 49 metres
Kelly bushings to mean sea bed 70 metres

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

Core Laboratories personnel involved in the logging of WIRRAH NO. 3 were as follows:

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

2. RIG SPECIFICATIONS



RIG INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.WELL WIRPAH NO.3

OWNER	SOUTH SEAS DRILLING COMPANY
NAME AND NUMBER	SOUTHERN CROSS (N ^o 107)
TYPE	SEMI-SUBMERSIBLE , TWIN HULLED.
DERRICK, DRILL FLOOR & SUBSTRUCTURE	DERRICK: LEE C MOORE, 152' HIGH X 40' AT BASE. LOAD CAPACITY OF 1 000 000 lbs
DRAWWORKS	OILWELL E-2000 DRIVEN BY 2 GE 752 ELECTRIC MOTORS.
CROWN BLOCK	LEE C MOORE 27458 C. CAPACITY 500 SHORT TONS.
TRAVELING BLOCK	OILWELL A 500
SWIVEL	OILWELL PC 425
ELEVATORS	BYRON JACKSON MODEL GG CAPACITY 350 TON
KELLY & KELLY SPINNER	DRILLCO 5 $\frac{1}{4}$ " x 50' HEX KELLY
ROTARY TABLE	OILWELL A 37 $\frac{1}{2}$ SINGLE ELECTRIC MOTOR
ROTARY SLIPS	VARCO DCS-L
MUD PUMPS	TWO OILWELL A 1700PT. RATED AT 1600HP
MUD SYSTEM	FOUR MUD TANKS HAVING A TOTAL CAPACITY OF 1200 BBL, AND ONE PILL TANK HAVING A CAPACITY OF 105 BBL. TWO MUD HOPPERS POWERED BY 2 MISSION 6x8" CENTRIFUGAL BY TWO 100 HP ELECTRIC MOTORS. DESANDER : 1 DEMCO 4 CONE 12" MODEL N ^o 124 DESILTER : 1 DEMCO 4"-16H 16 CONE DEGASSER : 1 SWACO MODEL N ^o 36 SHALE SHAKERS : 2 BRANDT DUAL UNIT TANDEM - GHI DUAL UNIT.
BLOW OUT PREVENTORS	THREE SHAFFER L.W.S. 18 $\frac{3}{4}$ " - 10 000 psi TWO HYDRIL G.L. 18 $\frac{3}{4}$ " - 5000 psi
WELL CONTROL EQUIP.	FOUR VALV CON ACCUMULATORS. 2" - 10 000psi CHOKES: 2 C.I.W. ABJ H2 2 1/16" - 10 000 psi, 1 SWACO SUPER CHOKE
TUBULAR DRILLING EQUIPMENT	DC : 6 $\frac{1}{2}$ " x 2 13/16" (4" IF TJ) 8 " x 2 13/16" (6 5/8" H90 TJ) 9 $\frac{1}{2}$ " x 3" (7 5/8" H90 YJ) HWDP : 5" 50lb/ft GRADE G (6 $\frac{1}{2}$ " OD 4 $\frac{1}{2}$ " IF TJ) DP : 5" 19 $\frac{1}{2}$ lb/ft GRADE G&E (6 3/8" OD 4 $\frac{1}{2}$ " 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'SROKE, 80 000lbs. MUD BULK TANKS: 3x1570cu ft. GUIDE LINE TENSIONERS : 4 WESTERN GEAR 16 000 lbs, 40'SROKE

3. WELL INFORMATION, PROGRESS AND HISTORY



WELL INFORMATION SHEET

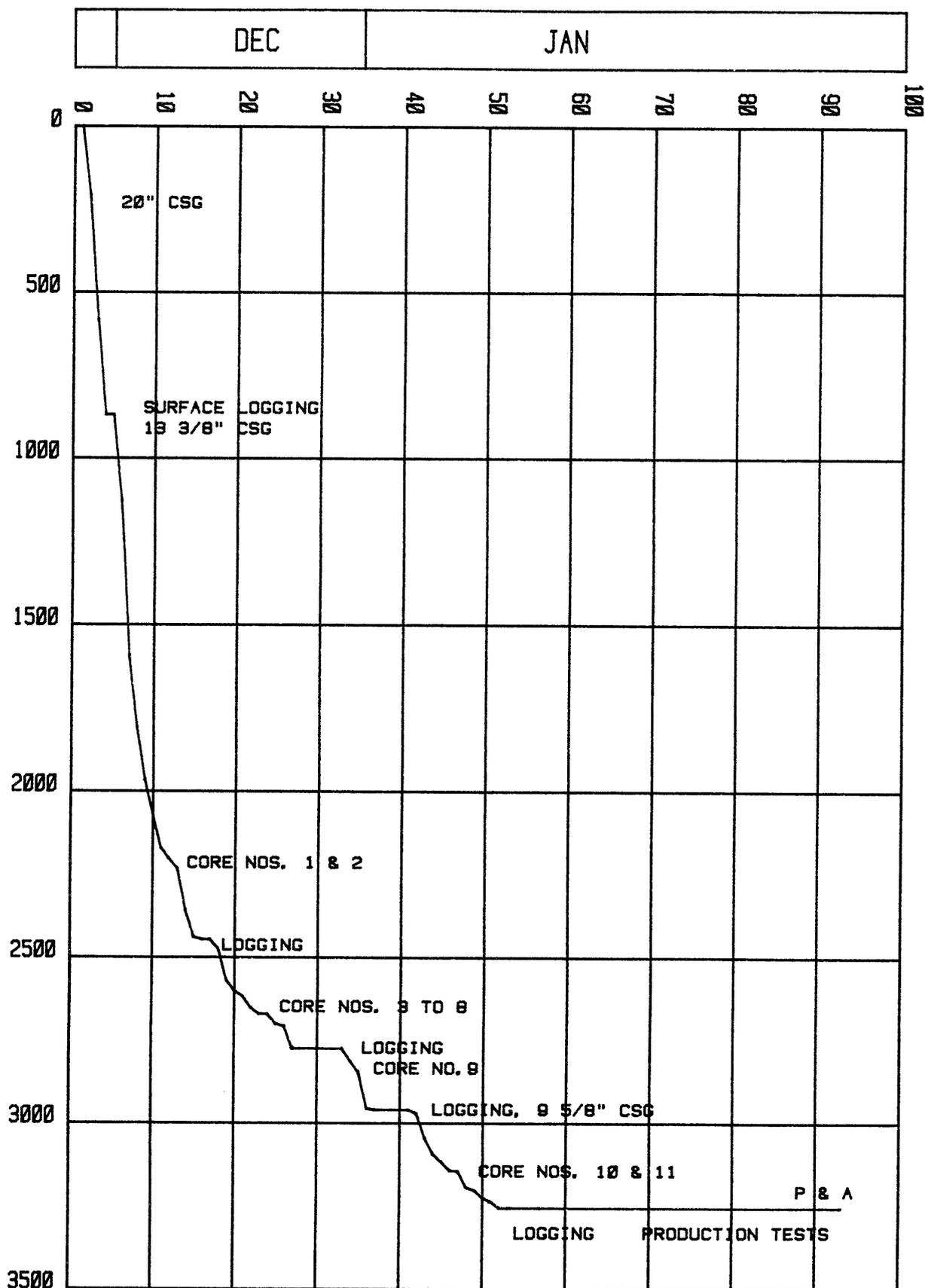
COMPANY ESSO AUSTRALIA LTD.
 WELL WIRRAW NO. 3

Sheet No. 1

WELL NAME		WIRRAW NO. 3									
OPERATOR		ESSO AUSTRALIA LTD.									
PARTNERS		BHP									
RIG	OWNER	SOUTH BEACH DRILLING COMPANY									
	NAME OR NUMBER	SOUTHWIND CROSS									
	TYPE	SPLIT-SHOULDER STEEL									
LOCATION	LATITUDE (X)	39° 11' 49.40" S			LONGITUDE (Y)	147° 48' 27.29" E					
	FIELD	GIPPSLAND BASIN			AREA	RASS STRAIT					
	COUNTRY				STATE	VICTORIA					
	COUNTRY	AUSTRALIA									
	DESCRIPTION	APPRAISAL									
DATUM POINTS	Ground Elevation				RKB to Ground Level						
	Mean Water Depth	49M			RKB to Water Level	21M					
DATES	SPUD	27 NOV 83			TOTAL DEPTH	17 JAN 84					
HOLE SIZES	Depth From	Depth To	Bit Size	No. of Bits	No. of Reamers	Date From	Date To	Cased	Logged		
	70M	208M	26"	1	NONE	27/11/83	27/11/83	Y	N		
	208M	870M	17 1/2"	1	NONE	28/11/83	29/11/83	Y	Y		
	870M	2960M	12 1/2"	11	NONE	1/12/83	2/01/84	Y	Y		
	2960M	3257M	8 1/2"	9	NONE	7/01/84	17/01/84	Y	Y		
DRILLING FLUID	Depth From	Depth To	Weights		Type						
	70M	208M	8.6	TO 8.6	SEAWATER						
	208M	870M	8.6	TO 9.0	SEAWATER - DRILLED SOLIDS MUD						
	870M	1400M	8.7	TO 9.0	SEAWATER - DRILLED SOLIDS MUD						
	1400M	3257M	9.0	TO 12.2	SEAWATER GEL						
				TO							
WIRELINE LOGGING	Depth From	Depth To	Hole Size	Date Run	Logs Run						
	870M	70M	17 1/2"	29/11/83	BHC/IR						
	2430M	855M	12 1/2"	11/12/83	DLI-MSFL-GR						
	2430M	855M	12 1/2"	11/12/83	LDL-CNTH-GR						
	-	-	12 1/2"	11-12/12/83	RFT NOS 1, 2, 3, 4, 5, 6						
	2770M	2430M	12 1/2"	23/12/83	DLI-MSFL-GR						
	2770M	2430M	12 1/2"	23/12/83	LDL-CNTH-GR						
	2770M	2430M	12 1/2"	23/12/83	LDL-CNTH-GR						
2770M	2430M	12 1/2"	23/12/83	LDL-CNTH-GR							
RISER, CASING & LINER	Depth From	Depth To	OD	ID	Weight	Grade	Threads	Date Run	Cement	Stages	Excess
	0M	70M	22"	21"				RISER			
	70M	193M	20"	19.124"	94.4	K52	JV Box	27/11/83	N	1	-
	70M	855M	13 1/2"	12.615"	54.5	K55	BUTT	30/11/83	N	1	-
	70M	2943M	9-5/8"	8.681"	47.0	N80	BUTT	5/01/84	C	2	-

PROGRESS LOG
 ESSO AUSTRALIA LTD

WIRRAH 3



WIRRAH NO. 3 - WELL HISTORY

25th November 1983. Towed to the new location.

26th November 1983. Arrived at the location of WIRRAH NO. 3. Ran anchors and de-ballasted the rig. Final locational fix was:

38° 11' 49.40" S
147° 48' 27.29" E

The water depth was 49 metres. Prepared to spud.

27th November 1983. Ran the T.G.B., prior to spudding in with a 26" hole-opener. Drilled down to 208.5m. Circulated and displaced the hole with 350 bbls of Hi-vis gel. Made a wiper trip, then P.O.O.H. Ran and set the 20" casing (shoe was at 193m). Ran the stack and riser.

28th November 1983. Landed the stack; nipped up; and tested the BOP's. R.I.H. with a 17½" bit (HTC OSC 3AJ); drilled through cement (189 - 208.5m) and then new hole down to 581m. No gas was detected in this section of the Gippsland Limestone.

29th November 1983. Drilled 17½" hole to 847m, the nominated 13-3/8" casing point. However, when bottoms were circulated up, Sandstone was discovered (which is an unfavourable casing seat). So drilling resumed until a suitable seat was found (870m, limestone). A wiper trip to the 20" shoe was then performed. The hole was circulated clean, prior to P.O.O.H. Schlumberger ran a BHC-GR-CAL log. Then the 13-3/8" casing was run.

30th November 1983. Ran and set 13-3/8" casing at 855m. Tested the seal assembly, and stack. R.I.H. with bit No. 2; tagged cement at 810 metres; and drilled cement.

1st December 1983. Drilled through the remainder of the cement, shoe, and 6 metres of new formation. Tested the casing at 842 metres; and conducted a P.I.T. at the 13-3/8" shoe (19.3 ppG E.M.W. without leak-off). Drilled 12¼" hole to 951 metres where the bit was pulled due to a suspected blocked nozzle. R.I.H. with a new J1, and drilled ahead to 1124 metres. Background gas rose slowly to 2 units in the drilled interval. Maximum gas was 2.3 units. No trip gas was observed.

2nd December 1983. Drilled to 1593 metres. Conducted flow-checks at the following drill-breaks: 1515, 1531, and 1539 metres (all negative). Maximum gas was 72 units (Coal and Sandstone, 1513m). Background gas rose with depth, being 3-4 units between 1124 and 1280m, and 15-25 units between 1500-1578m.

3rd December 1983. Drilled to 1598 metres, at which point the bit was pulled due to very low ROP's. R.I.H. with a J22 and drilled ahead to 1808 metres. Trip gas from 1598 metres was 11-1485-14 units. background drill gas decreased with depth from 12 to 2 units, and the maximum was 282 units (Coal, 1690m).

4th December 1983. Drilled 12¼" hole to 1966 metres. Maximum gas was 135 units (1930m, Coal) over a background of 1-7 units.

5th December 1983. Drilled 12¼" hole to 2016m, where the bit was pulled since it had been on-bottom for over 42 hours. R.I.H. with another J22 and drilled down to 2070 metres. Flow-checked a drill-break at 2053m, but there was no flow. Maximum gas was 142 units (Coal, 1970m) over a background of 4-10 units.

6th December 1983. Drilled ahead to 2170 metres. Circulated bottoms-up for the geologist. The bottoms-up sample yielded some fluorescent sandstone cuttings and 68 units of gas. So it was decided to cut a core. P.O.O.H. and R.I.H. with a core barrel.

7th December 1983. Ran the core barrel to bottom and circulated bottoms-up (trip gas was 4-23-2 units). Cut Core No. 1 from 2170 - 2188 metres, and recovered 100%. Maximum gas while cutting the core was 36 units over a background of 3 units. Tested the stack. Cut a second core, from 2188 metres onwards. T.G. from 2188 metres was 7-22-8 units.

8th December 1983. Completed cutting Core No. 2 down to 2205.5 metres. Recovered 100% of Core No. 2. R.I.H. with bit No. 6 (J22) and reamed the core rathole. Trip gas from 2205 metres was 2-31-3 units. Drilled ahead to 2232 metres. Checked for flow at 2222, 2224 and 2231 metres. Circulated bottoms-up for the geologist at 2224 and 2231 metres. (Both no shows.) Maximum gas was 21 units over a background of 2-3 units.

9th December 1983. Drilled 12¼" hole to 2357 metres. Maximum gas was 49 units over a background of 3-6 units.

10th December 1983. Drilled ahead to 2438 metres. Maximum gas was 38 units over a background of 2-4 units.

11th December 1983. Drilled ahead to 2445 metres. P.O.O.H. to run intermediate logs. Conducted a wiper trip. (Wiper trip gas was 5-41-3 units) Schlumberger ran intermediate logs.

12th December 1983. Schlumberger continued to run intermediate logs. Recovered oil/gas/water samples from RFT Nos. 3 and 4.

13th December 1983. Recovered gas/water samples from RFT Nos. 5 and 6. R.I.H. with bit No. 7 (HTC J22, 12¼"). Trip gas from 2445 metres was 6-76-4 units. Drilled ahead to 2473 metres. Maximum gas was 9 units over a background of 2-4 units.

14th December 1983. Drilled ahead to 2569 metres. A flow check (negative) was made at 2494 metres following a drill-break of 4m/hr to 9m/hr. Bottoms were also circulated up at this point (only a poor show was seen, so drilling was resumed). Maximum gas for the day was 31 units (2480 metres) over a background of 5-10 units.

15th December 1983. Drilled ahead to 2597 metres. At this point, the gas had increased to 88 units, so bottoms-up were circulated. The sample contained sandstone with reasonable fluorescence, so a decision was made to core. P.O.O.H. Tested the stack, then R.I.H. with the core barrel. Bottoms-up were circulated (4-16-4 units) prior to cutting Core No. 3 to 2601.6 metres.

16th December 1983. Continued cutting Core No. 3 down to 2602.1 metres. Pulled the core barrel due to low ROP's. Maximum gas was 26 units over a background of 5 units. Recovered 4.3 metres of core (85%). R.I.H. with a new drill-bit (NB 8, HTC J33). Reamed the rathole, then drilled 12¼" hole to 2616.7 metres. At this point, a drill-break prompted a flow-check (negative) plus circulating bottoms-up. The sample manifested sandstone, moderate fluorescence, plus 122 units of gas, so the show was considered good enough to cut another core. Pulled the bit, and R.I.H. with the core barrel and an RC3 bit (Christensen).

17th December 1983. Bottoms-up prior to coring was 1-18-5 units. Cut Core No. 4 from 2616.7 to 2635.2 metres, and recovered 98%. As there were good shows at the bottom of Core No. 4, coring was continued. Cut Core No. 5 from 2635.2 to 2653.0 metres. The core barrel was pulled due to low ROP's. Maximum coring gas was 50 units, and the background gas was 15-20 units.

18th December 1983. Recovered Core No. 5 (100%). Further shows in this core prompted running back in the hole with the core barrel to cut Core No. 6 (2653.0 to 2671.2 metres). Recovered a full barrel of Core No. 6 (100%). Coring operations stopped at this point. R.I.H. with a new bit.

19th December 1983. Reamed the core rathole, then drilled to 2672 metres. At this depth, a drill-break lead to the circulation of bottoms-up. The sample revealed a good hydrocarbon show, so coring was resumed. Maximum reaming gas was 36 units over a background of 20 units.

20th December 1983. R.I.H. with the core barrel, circulated bottoms-up (5-15-3 units), and cut Core No. 7 from 2672 to 2690.5 metres. (Recovered 100%.) Sufficient shows were obtained to continue coring. Cut Core No. 8 from 2690.5 metres, reaching 2700 metres by midnight. Maximum gas was 19 units (2691 metres) over a B.G. of 4-5 units.

21st December 1983. Completed cutting Core No. 8 to 2708.3 metres. Pulled the core barrel and recovered 100% of the core. With no shows in the lower sections of the core, drilling was resumed. R.I.H. with NB 10 (HTC J33). Started reaming the rathole, but a loss in pump pressure necessitated a short trip to look for a possible washout. (Found it after 10 stands.) Broke out the washed out single and ran back in the hole. Continued reaming.

22nd December 1983. Reamed to T.D., and drilled 12¼" hole to 2766 metres. At 2729 metres, a drill-break was flow-checked but there was no flow. At 2765 metres a 10-10-10 test was conducted due to high gas levels. (The result was 10-8-7 units, so normal formation pressure was indicated, negating any need to weight up the mud.) The bit was pulled at 2766 metres due to high torque. This was nominated as an intermediate logging point, so a wiper trip was performed. Circulated bottoms-up (10-23-11 units). Dropped a survey, then P.O.O.H.

23rd December 1983. Continued to pull out, recovered the survey (7°). Schlumberger ran the following logs:

DLL-MSFL-GR
LDTC-CNLH-GR
LDTA-CNLA-GR
HDT

24th December 1983. Schlumberger ran R.F.T. pretests. (Maximum pore pressure measured was 8.5 ppg EMW at 2748 metres.) A wiper trip was made to clean the hole (because of tool-sticking problems). Bottoms-up gas was 3-60-5 units. P.O.O.H. Schlumberger ran R.F.T No. 7, sampling from 2748 metres.

25th December 1983. Schlumberger ran R.F.T. Nos. 8, 9, 10, 11 and 12.

26th December 1983. Schlumberger ran R.F.T. Nos. 13, 14, 15 and 16. Hole problems forced another wiper trip (bottoms-up gas was 11-80-8 units). 18 metres of fill was encountered. P.O.O.H.

27th December 1983. Completed pulling out. Schlumberger continued with R.F.T.'s. The hole bridged at 2619 metres, so another wiper trip was made, reaming between 2620 and 2635 metres, and washing 3 metres of fill at T.D. Circulated bottoms-up (5-33-5 units). Made a short trip of 41 stands, then pulled out of the hole.

28th December 1983. Schlumberger continued running R.F.T.'s until more hole problems forced a further wiper trip. WTG was 2-38-2 units. Made a 10-stand wiper trip after that (SGT was 2-3-2 units), then P.O.O.H.

29th December 1983. Continued P.O.O.H. Schlumberger completed the logging suite with three more R.F.T. runs. R.I.H. to drill ahead to the 9-5/8" casing point.

30th December 1983. Continued R.I.H. with bit No. 11 (J33, 12 $\frac{1}{4}$ "") Drilled 12 $\frac{1}{4}$ " hole to 2806 metres, where the bit was pulled to cut core No. 9. Maximum gas was 103 units over a background of 6-10 units. Shows were seen throughout the drilled section. Cut core No. 9 from 2806.8 metres to 2813 metres.

31st December 1983. Finished cutting core No. 9, down to 2814 metres, pulling out prematurely due to extremely low penetration rates (0.6m/hr). Recovered 98.6% of the 7.2 metres cut (predominantly sandstones and occasional conglomerates). No further core was required. R.I.H. with bit No. 12 (J44) and drilled to 2848 metres, after reaming the rathole. The shows continued in this drilled interval. Maximum gas was 61 units, over a B.G. of 3-5 units.

1st January 1984. Drilled ahead to 2956 metres. Maximum gas was 41 units, over a B.G. of 2-5 units.

2nd January 1984. Drilled down to the 9-5/8" casing point, 2960 metres. Conducted a wiper trip, prior to P.O.O.H. for the next logging suite. Schlumberger logged. (DLL-MSFL-GR; LDT-CNL-GR; RFT No. 23)

3rd January 1984. Schlumberger ran R.F.T.'s, followed by the Sonic log. The divers jumped twice to repair hoses to the subsea accumulators.

4th January 1984. Schlumberger continued logging. (HDT, CST Nos 1, 2 and 3) Conducted a wiper trip prior to the casing run. (Trip gas was 2-77-12 units.)

5th January 1984. P.O.O.H. Ran the 9-5/8" casing string.

6th January 1984. Cemented the 9-5/8" shoe at 2943 metres (2-stage cement job). Tested the casing, cement, and BOP stack.

7th January 1984. R.I.H. with a J7 bit. Drilled through the cement, casing shoe, and 6 metres of new formation. Conducted a P.I.T. (16.5 ppg EMW at 2943 metres), then drilled ahead to 2672m, at which point the bit dulled dramatically (so it was pulled). Maximum gas was 185 units (Coal and Sandstone, 2967 metres) over a B.G. of 3-6 units. Ran back in the hole with a J33 having added some stabilizers to the bottom-hole assembly.

8th January 1984. Reamed down to 2972 metres (Bit No 13 was 3/8" out of gauge). Drilled to 3045 metres, then pulled the bit due to high torque. (This bit graded 8-6-5/8.) Another J33 was run in the hole, reaming the last three singles to bottom. Maximum gas in the drilled interval was 82 units over a B.G. of 3-7 units.

9th January 1984. Drilled to 3091 metres. Trip gas from 3045 metres was 1-1015-20 units. Maximum drilled gas was 58 units over a background of 4-20 units. Connection gas was detected from 3055 metres onwards, and after a 10-10-10 test at 3086 metres (11-89-4 units) the mud was weighted up to 10.1 ppg. It was inferred that the pore pressure was 9.4 ppg. Pulled the bit at 3091 metres. Ran back in with a J44, reaming to bottom before drilling ahead to 3093 metres. Trip gas from 3091 metres was 2-110-3 units.

10th January 1984. Drilled 8½" hole to 3116 metres. Circulated bottoms-up for the geologist. The show (from cuttings) was sufficient to justify cutting a core, so the bit was pulled. R.I.H. with the core barrel and a C-20 bit. Circulated bottoms-up before cutting core No. 10. (Trip gas was 5-334-7 units). A connection was made prior to dropping the ball, and in due course, connection gas was detected:

2-39-9 units (3166 metres). As a result, the pore pressure was estimated to have increased to 9.5 ppg from 9.4 at 3114 metres.

11th January 1984. Continued cutting core No. 10 at drill rates of less than 1 m/hr. Pulled core bit after 1.3 metres due to low rates of penetration. Recovered 1.0 metres (77%) of core consisting of Siltstone/Shale with sand lenses. Ran in hole with a J44. Trip gas from 3117.4 metres was 3-392-2 units. The mud weight was then increased to 10.1/10.2 ppg. Connection gas of 26-119-18 units was detected from 3141 metres. The bit was pulled at 3143.4 metres to cut core No. 11. A 10/10/10 was performed prior to circulating, giving 21/61/17 units. The pore pressures were deduced to be 9.7 ppg (3130-3136 metres) increasing to 9.9 ppg EMW over 3137-3143 metres.

12th January 1984. Continued circulation prior to coring, increasing mud weight to 10.5 ppg. Conducted a 10/10/10 with increased mud weight giving 2-3.8-2. P.O.O.H. and R.I.H. with a C-23 to core.

T.G. from 3143.4 metres was 2-210-2 units. Pulled core bit after 2 metres due to low ROP (0.3m/hr); recovered. 1.62 metres (81%) of Sandstone/Conglomerate. R.I.H. with bit No. 18 (J55).

13th January 1984. Continued to run in the hole, T.G. from 3145.4 metres was 2-1570-11 units. Drilled ahead to 3160 metres where background gas increased to 120 units. Circulated and weighted up to 11.1 ppg. Connection gas (7-117-8 units) was observed at 3160.6 metres. A 10-10-10 was performed at 3170 metres giving 15-256-58 units. From this the pore pressure was estimated at 11.1 ppg, so the mud weight was increased to 11.5ppg. Connection gas was further detected at 3180 metres (15-165-15 units) so the mud weight was increased to 11.8 ppg. Further connection gas was detected at 3189.9 metres (5-46-5 units). A 10-10-10 was carried out at 3191.1 metres giving 2.3-5.8-2.4 units with 11.8 ppg mud.

14th January 1984. Continued drilling 8½" hole to 3202 metres. Connection gas of 3-11-3 at 3199 metres was detected and the mud weight raised to 12.2 ppg while circulating. Drilled ahead to 3203.5 metres where the bit was pulled due to high torque. tested the BOP's.

15th January 1984. R.I.H. T.G. 4-34-4 units. Connection gas of 3-7-3 units was detected at 3209 metres. Pore pressure was estimated to be 11.9 ppg EMW. Drilled ahead to 3225.9 metres. Connection gas 7-10-7 units at 3219 metres. P.O.O.H. R.I.H. with bit No. 20 (J55).

16th January 1984. Continued R.I.H. T.G. 2-98-20 units. Drilled ahead to 3237.6 metres. P.O.O.H. due to low ROP's. R.I.H. bit No. 21 (J22). Drilled ahead to 3238 metres. (T.G. 4-158-2 units from 3237.6 metres.)

17th January 1984. Drilled ahead to 3257 metres. Wiper trip to shoe. W.T.G. 2-28-2 units. P.O.O.H. to log.

18th January 1984. Ran logs. LDT-CNT-GR, DLL-MSFL-CR, BHCS-CBL-GR, RFT R.I.H. for wiper trip.

19th January 1984. W.T.G. was 4-320-8 units; P.O.O.H.; ran logs (RFT's CST, WST).

20th January 1984. Ran vertical and stepout velocity surveys. Ran RFT No. 1 (cased hole). Ran RFT No. 2 (tool failure).

21st January 1984. Continued velocity survey (stepout) and made up production tubing.

22nd January 1984. Continued making up production tubing; ran offset velocity survey No. 3. R.I.H. to cement.

23rd January 1984. Continued R.I.H. Circulated; T.G. 2-172-3 units. Circulated till low gas levels were obtained; set cement plugs; reverse circulated and P.O.O.H. Tested B.O.P. (choke valve failure and lower annular failure). Ran casing scraper. Pulled B.O.P. stack.

- 24th January 1984. Continued to pull B.O.P., inspected, repaired and then ran the stack.
- 25th January 1984. Continued running B.O.P. Tested B.O.P. R.I.H. with the casing scraper and circulated to reduce the mud weight to 9.3 ppg, and to condition the mud's flow properties.
- 26th January 1984. Rig work was suspended for the whole day due to an industrial dispute.
- 27th January 1984. Schlumberger ran cased hole RFT's as part of the production test program.
- 28th January 1984. Ran production tubing and surface lines. Pressure tested all the production equipment. Displaced the tubing.
- 29th January 1984. Commenced PWT No. 1 by perforating between 2883 - 2894 metres. Allowed the well to flow (to clean the hole) - the flow remained weak. (Only traces of hydrocarbon gas were detected; no CO₂, no H₂S).
- 30th January 1984. Continued to flow the well though no fluids came to surface. Reverse circulated and recovered samples of mud/filtrate/water/emulsion. Displaced the tubing again.
- 31st January 1984. Re-perforated the PWT No. 1 zone at dawn, extending the test zone for PWT No. 1A (2861.5 - 2872.5 metres, 2883 - 2894 metres). No formation fluids came to surface.
- 1st February 1984. Otis took samples of formation fluids using their bottom-hole sampling tools. Reverse-circulated and recovered samples of formation oil and water at the surface. (The oil was foamy and waxy, with an API of 26^o. Circulated the hole with mud. (Maximum gas was 1650 units.) Rigged down Otis' equipment and pulled the tubing.
- 2nd February 1984. Set a bridge plug above the PWT No. 1A zone. Schlumberger ran cased-hole RFT's 4, 5 and 6 (No. 6 was a misrun).
- 3rd February 1984. Schlumberger ran cased-hole RFT No. 7. Ran the production tubing; rigged up the OTIS equipment.
- 4th February 1984. Commenced PWT No. 2 by perforating between 2813 and 2822 metres. There was no flow to surface. Otis ran their temperature and pressure probes to gauge downhole conditions.
- 5th February 1984. The open-hole flowed only briefly, with moderate amounts of C₁ and C₂ detected; no CO₂ or H₂S. Reverse circulated, and recovered samples of oil and emulsion/water at the Otis choke manifold. The oil was waxy, with an API of 31^o. Circulated the hole clean with mud. Maximum gas was 1256 units, which dropped off to 4 units after circulating.
- 6th February 1984. Began PWT No. 2A by perforating between 2788 and 2779.5 metres. Well-head pressure rose quickly to around 600 psi. A short clean-up flow was followed by the initial flow of hydrocarbon fluids to the surface, which were flared off. Shut the well in temporarily whilst the pressure and temperature gauges were run. Opened the well for the final flow.

22nd February 1984. Attempted to inject water into the formation ($\frac{1}{2}$ bbls). Reverse circulated (maximum gas was 127 units). Circulated the mud until the gas had dropped to 2 units. That concluded the production testing, so all the production equipment was rigged down. Pulled the tubing. R.I.H. with drill-pipe to commence the P & A program. Circulated bottoms-up prior to setting plug No. 1 (5-970-10 gas units).

23rd - 27th February 1984. Plug and abandoned WIRRAH NO. 3.

22nd February 1984. Attempted to inject water into the formation ($\frac{1}{2}$ bbls). Reverse circulated (maximum gas was 127 units). Circulated the mud until the gas had dropped to 2 units. That concluded the production testing, so all the production equipment was rigged down. Pulled the tubing. R.I.H. with drill-pipe to commence the P & A program. Circulated bottoms-up prior to setting plug No. 1 (5-970-10 gas units).

23rd - 27th February 1984. Plug and abandoned WIRRAH NO. 3.

4. LITHOLOGY AND CORE-O-GRAPHS

LITHOLOGICAL SUMMARY

WIRRAH NO. 3 was drilled to evaluate the hydrocarbon potential of the Latrobe Group sediments as well as confirm a commercial accumulation of oil in the southern segment of the WIRRAH structure. The proposed T.D. was 2821m (KB), however, this was extended to 3257m (KB) to further evaluate the lower Latrobe Group sediments.

(NOTE: All formation tops are open to speculation and are based entirely on examination of cuttings. All depths from RKB.)

GIPPSLAND LIMESTONE (210M - 1340M). The Gippsland Limestone consisted of a white, light to medium grey, slightly argillaceous, occasionally glauconitic, moderately sorted, firm to friable calcisiltite/calcarenite. The formation contained abundant fossils with the top section (210m - 1100m) being more fossiliferous and coarser in grain size (calcarenite). Fossils commonly encountered were typically bryozoa, foraminifera, gastropoda, echinodermata, ostracods, and broken shell fragments. The lower section (1100m - 1340m) had significantly less microfossils, more glauconite and became finer in grain size to calcisiltite/calculutite. Two small Sandstone beds were encountered from 710m to 730m (RKB) and 800m to 850m (RKB). The Sandstones in both cases were clear to opaque, moderately well sorted, unconsolidated to poorly calcareous-cemented. The grain size was fine to medium, subangular to subrounded with minor traces of glauconite. The background gas was 0.2 - 0.5 units to 1050m increasing to 5.0 units from 1050m to 1240m. The gas steadily increased to 10.0 units with only C₁ being recorded.

LAKES ENTRANCE FORMATION (1340M - 1510M). The entire section consisted of light to medium grey, soft to firm, argillaceous, calcareous Claystone. The cuttings were angular to blocky and gummy. At varying depths, trace amounts of silt, glauconite, and pyrite were encountered. The background gas ranged from 10.0 to 25 units with C₁ and C₂ being recorded.

LATROBE GROUP SEDIMENTS (1510M - 3257M T.D.). The Latrobe Group was a stratigraphic sequence of channel deposits consisting of interbedded Sandstone, Sandstone/Conglomerate, Siltstone, Coal, Claystone/Shale and altered volcanics. For all intents and purposes, this formation can be separated into four sections for WIRRAH NO. 3.

1510M - 1830M. This section contained predominantly Sandstone with interbedded Coal and Siltstone. The Sandstone was clear, milky, translucent, medium to very coarse grain in size, occasionally granule size, subangular to subrounded, moderately sorted, loose grains to quartzose aggregates, moderate to well dolomitic and siliceous cement, occasional white clay matrix, slightly calcareous with local concentrations of dolomite, moderate to good porosity, patchy cream dolomitic mineral fluorescence, no shows. The Coal was very dark brown to black, massive, laminated in part, occasionally silty, dull to vitreous, hard, angular to blocky, conchoidal fracture, brittle. The Siltstone was light/medium grey to dark brown, soft to firm, argillaceous, angular to blocky, occasionally splintery, calcareous in part, smooth to gritty, slightly glauconitic slightly

micromicaceous, traces of pyrite and carbonaceous material.

The background gas increased from 15 to 50 units upon entering the coarse clastics at the top of the Latrobe Group. The gas gradually dropped back to an average 5 - 20 units. Occasional peaks ranged from 30 to 300 units associated with coal beds. C₁ - C₄ were recorded throughout this entire top section.

1830M - 2350M. This section was comprised of interbedded Sandstone and Siltstone with minor interbeds of Claystone/Shale, and Coal. The Sandstone was clear to translucent medium to coarse loose grains with associated fine to medium sized quartzose aggregates, moderate sorting, subangular to subrounded, minor dolomitic and pyritic cement, slight to moderately friable, trace clay matrix, slightly micaceous and carbonaceous, grading to siltstone in parts, (2025 - 2070m) and (2145 - 2170m), show a trace of 20% dull to bright cream fluorescence with a slow diffuse milky cut, also a moderate to strong cream crush cut, trace residual cream ring, the Siltstone and Coal bedding are analogous to the top section of the Latrobe Group. The Claystone/Shale was off white to light brown, soft to very firm, occasionally silty, micromicaceous and microcarbonaceous, blocky to subfissile. Core Nos. 1 and 2 were cut in this section at 2170m - 2188m and 2188m - 2205m respectively. Throughout both cores, shows were encountered. 10 - 50% bright cream yellow fluorescence, cuts on various sections ranged from very slow diffuse crush cut to instant streaming cream white cut.

Background gas in this section ranged from 5 to 10 units with occasional peaks of 50 - 200 units associated with Coal seams. C₁ - C₄ were recorded throughout this section with occasional C₅ and C₆ being recorded with hydrocarbon shows.

2350M - 2800M. This section consisted of interbedded Sandstone and Siltstone with minor interbeds of Coal and Shale with occurrences of altered volcanics and dolerite. The Sandstone was of 3 types: 1). medium to coarse translucent quartz grains, angular to subangular, occasional quartz aggregates, hard, dolomitic cement, trace matrix, poor porosity, 30% moderately bright with fluorescence, very slow to weak streaming cut, weak diffuse crush cut, dull white residual film; 2). white to light grey, quartzose aggregates, fine grain size, well sorted, subangular, friable, dolomitic cement, trace clay matrix, poor to moderate porosity, trace mineral fluorescence; 3). clear to light brown quartz aggregates, fine to medium grain size, subangular to subrounded, moderately well sorted, siliceous and rare pyrite cement, very firm, common oil staining, poor to moderate visible porosity, 30 - 50% moderately bright yellow fluorescence, moderate to fast bright white streaming cut, weak white crush cut, dull to white residual ring. The Siltstone was light to medium grey, buff, firm, angular to blocky, occasionally carbonaceous, micromicaceous, slightly arenaceous, blocky, firm to hard. The Coal and Shale bedding is the same as described in the above section. The altered volcanics were cream, medium grey, greyish green, olive brown, and reddish brown, soft to hard, angular to blocky, crystalline texture with alicular crystals common, light brown, clay matrix, common pyrite, occasional silty texture. The dolerite (diabase) was light grey green to very dark green, hard, brittle in part, ophitic texture, light olive grey-green

plagioclase crystals (subhedral to euhedral) in a medium crystalline very dark green pyroxene groundmass matrix, angular to subangular, hard.

Six cores (Nos. 3-8) were cut back to back in this section from 2597m to 2708m. The associated lithology was interbedded Sandstone and Siltstone in all cores. Shows were recorded in all cores ranging from 10 - 90% dull to bright yellow fluorescence, slow, weak to fast yellow white streaming cut, weak to strong yellow white crush cut, thin bright yellow firm to bright yellow residual ring.

The background gas associated with this section averaged between 3 - 20 units with peaks ranging from 50 - 100 units in the hydrocarbon zones. C₁ - C₆ were recorded throughout the entire section.

2800M - 3257M T.D. The bottom section of the Latrobe Group consisted of predominant Sandstone/Conglomerate with minor interbeds of Siltstone. Occasional interbeds of volcanics and rare coal were also encountered.

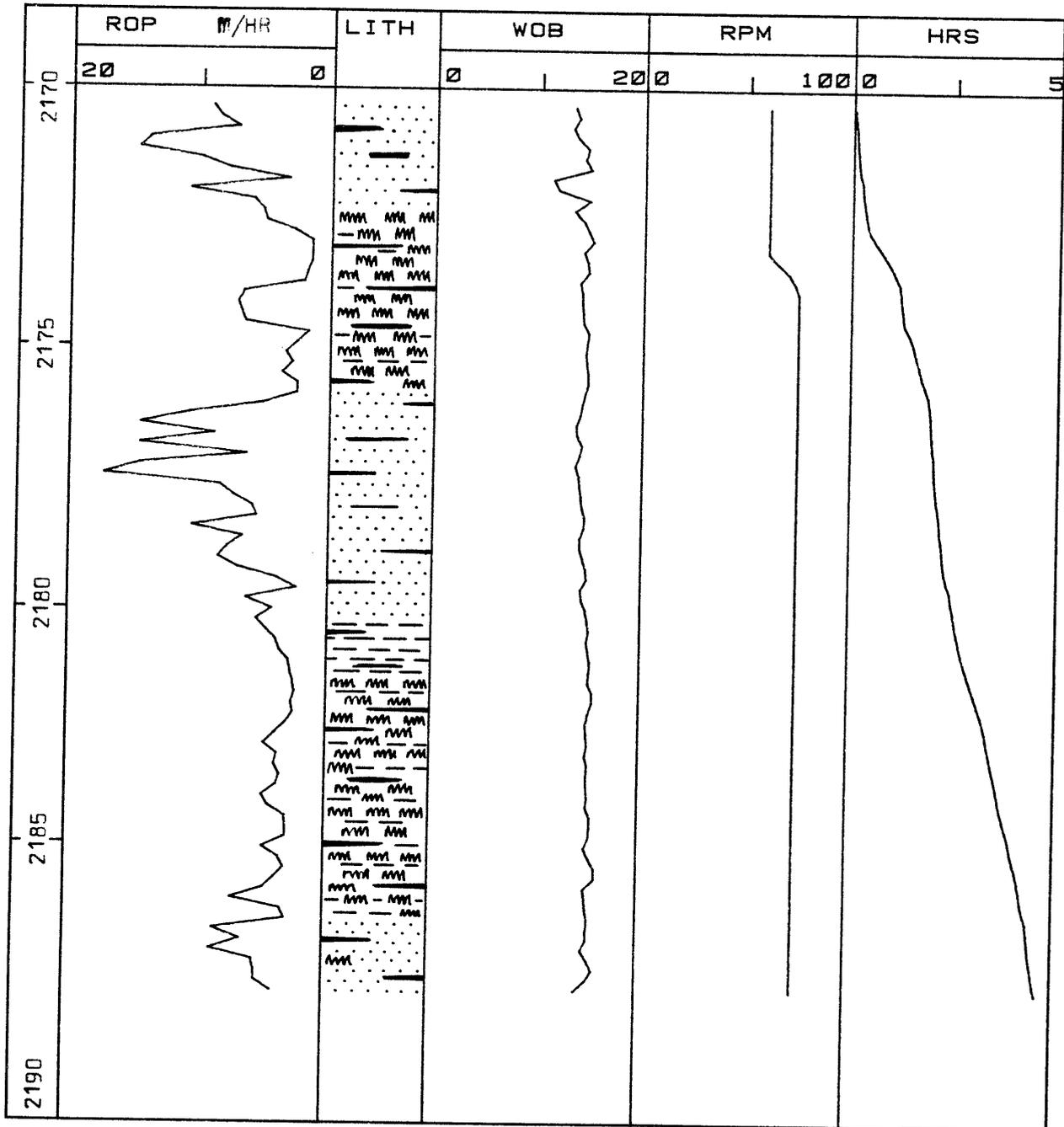
The Sandstone/Conglomerate was dominantly loose quartzose fragments, milky to medium grey, coarse to very coarse, angular to very angular, recrystallized texture, silt and pyrite inclusions, occasional quartz veins in silty fragments, broken quartzite grains, also quartz aggregates, fine to dominantly medium grain size, subangular, hard, moderately sorted, moderately cemented, siliceous cement/ matrix, rare pyrite cement, trace dolomitic cement, common lithics, poor visible porosity slightly silty in part, occasional carbonaceous inclusions 10 - 70% dull to bright cream white fluorescence, slow blooming to diffuse milky white cut, occasional weak to strong milky crush cut, thin residual ring. The Siltstone was light to dark brown, firm to hard. Argillaceous, carbonaceous, arenaceous in part, subangular to blocky, occasionally subfissile, grading to very fine grained Sandstone.

Three cores were cut in this bottom section of the Latrobe: Core No. 9 (2807m - 2814m), Core No. 10 (3116m - 3117.5m), and Core No. 11 (3143m - 3145m). The lithology encountered in all 3 cores were interbedded Sandstone and Conglomerate with minor shale. Hydrocarbon shows in all three cores ranged from 5 - 60%.

The background gas throughout this section ranged between 5 - 10 units. Gas peaks ranged from 20 - 130 units in the hydrocarbon zones. At 3155m - 3165m, three gas peaks, ranging from 400 to 800 units were encountered in an overpressured zone. C₁ - C₄ with traces of C₅ were recorded throughout this section.

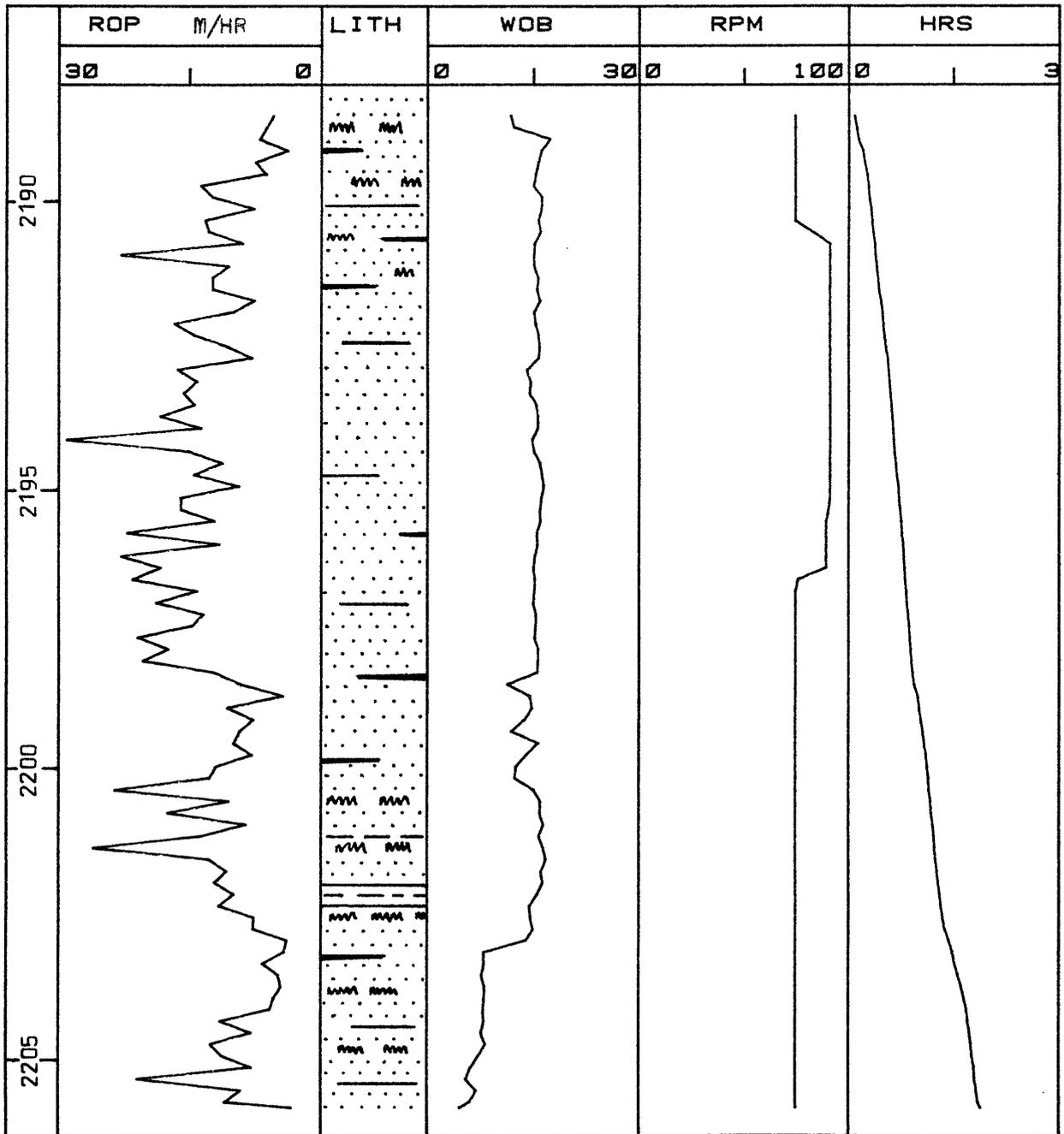
CORE-O-GRAPH

CLIENT: ESSO AUSTRALIA LTD
 WELL: WIRRAH NO. 3
 CORE NO.: 1
 INTERVAL CORED FROM: 2170.0m. TO 2188.0m.
 CUT: 18.0 m. RECOVERED: 18.0m. (100.0%)
 FORMATION: LATROBE GROUP
 BIT MAKE & TYPE: CHRISTENSEN RC4
 CORE BARREL SIZE: 6.75in. x 4.00in. x 19.66m.
 BIT SIZE: 8.50 MUD WT.: 9.6



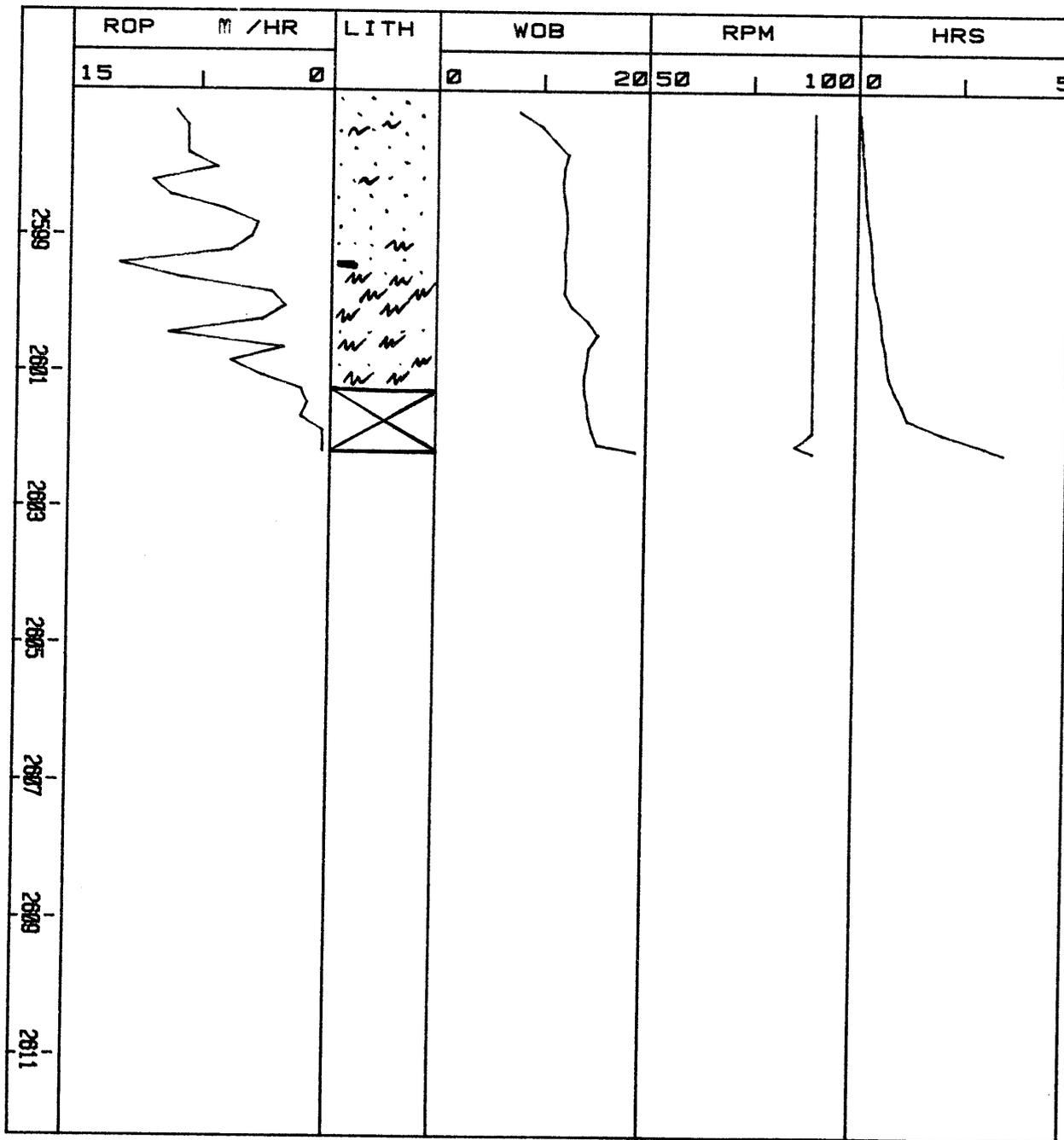
CORE-O-GRAPH

CLIENT: ESSO AUSTRALIA LTD
 WELL: WIRRAH NO. 3
 CORE NO.: 2
 INTERVAL CORED FROM: 2188.0m. TO 2205.5m.
 CUT: 17.5 m RECOVERED: 17.5m. (100.0%)
 FORMATION: LATROBE GROUP
 BIT MAKE & TYPE: CHRISTENSEN RC4
 CORE BARREL SIZE: 6.75in. x 4.00in. x 19.66m.
 BIT SIZE: 8.50 MUD WT.: 9.6



CORE-O-GRAPH

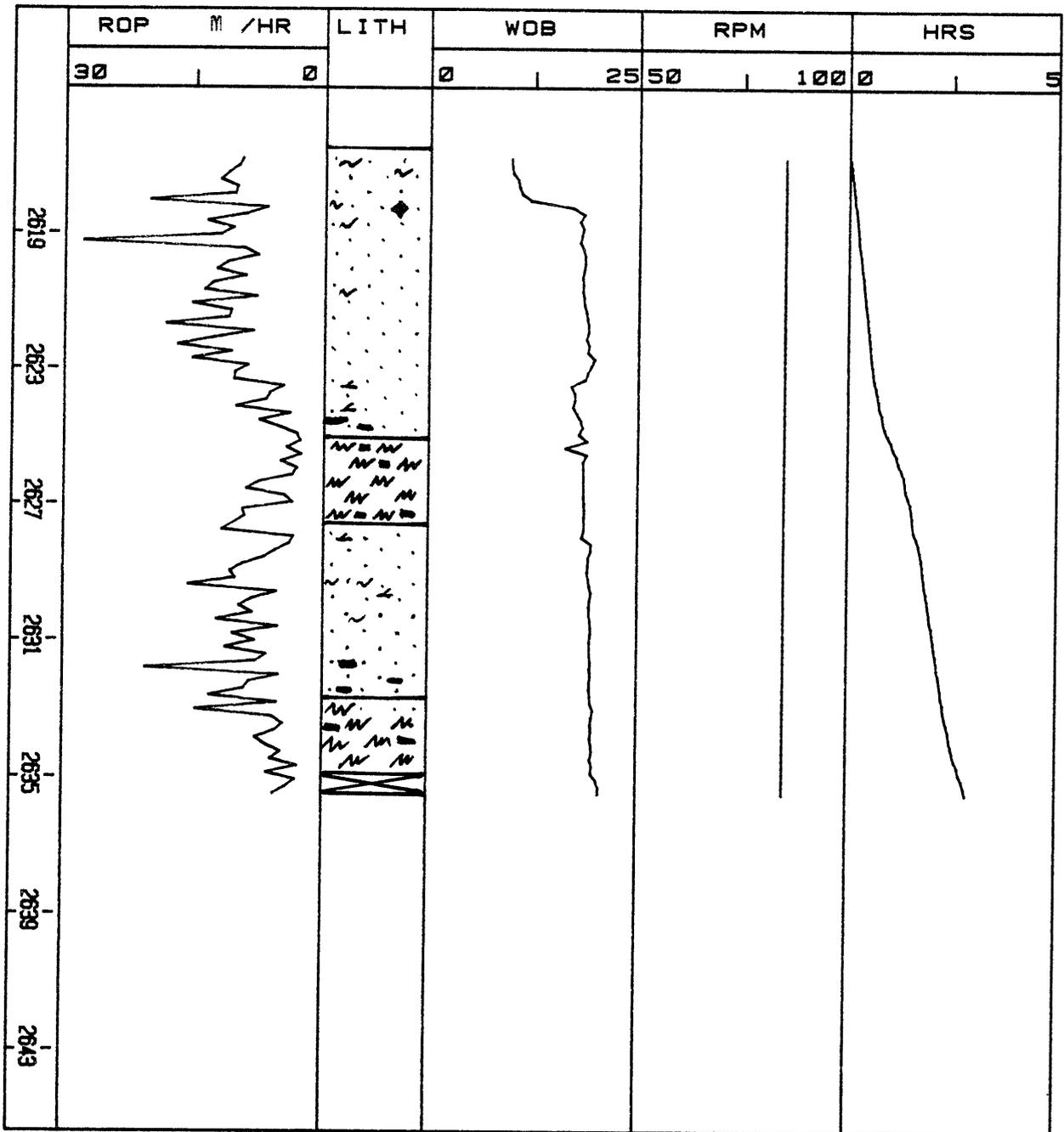
CLIENT: ESSO AUSTRALIA LTD.
 WELL: WIRRAH No. 3
 CORE NO.: 3
 INTERVAL CORED FROM: 2597.0m. TO 2602.1m.
 CUT: 5.1m RECOVERED: 4.3m. (84.3%)
 FORMATION: LATROBE GROUP
 BIT MAKE & TYPE: CHRIS. RC4
 CORE BARREL SIZE: 6.75in. x 4.00in. x 19.92m.
 BIT SIZE: 8.50 MUD WT.: 9.6



1st Mar '81

CORE-O-GRAPH

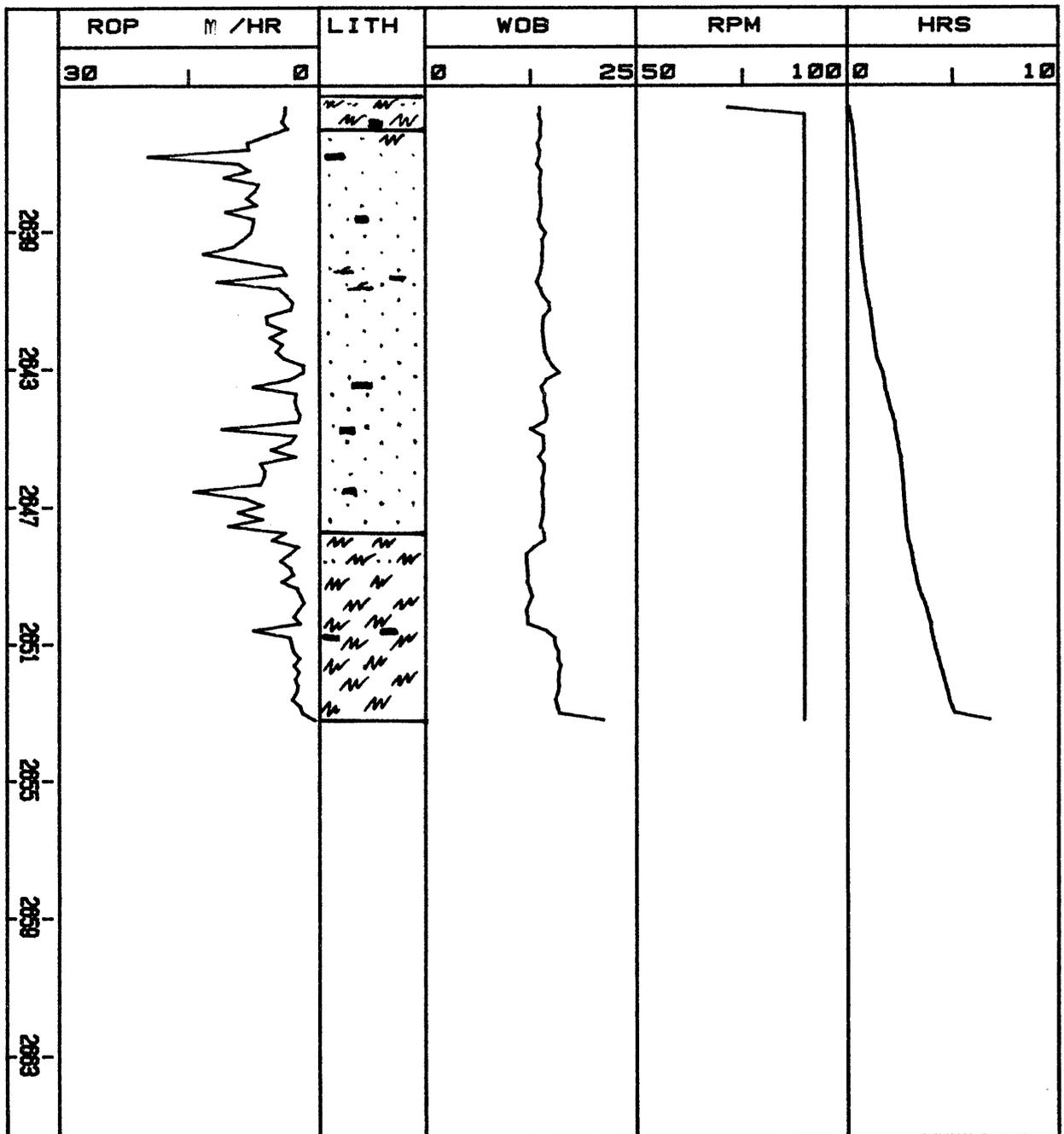
CLIENT: ESSO AUSTRALIA LTD.
 WELL: WIRRAH No. 3
 CORE NO.: 4
 INTERVAL CORED FROM: 2616.7m. TO 2635.2m.
 CUT: 18.5m RECOVERED: 18.2m. (98.2%)
 FORMATION: LATROBE GROUP
 BIT MAKE & TYPE: CHRIS. RC3
 CORE BARREL SIZE: 6.75in. x 4.00in. x 19.92m.
 BIT SIZE: 8.50 MUD WT.: 9.6



1811mer'81

CORE-O-GRAPH

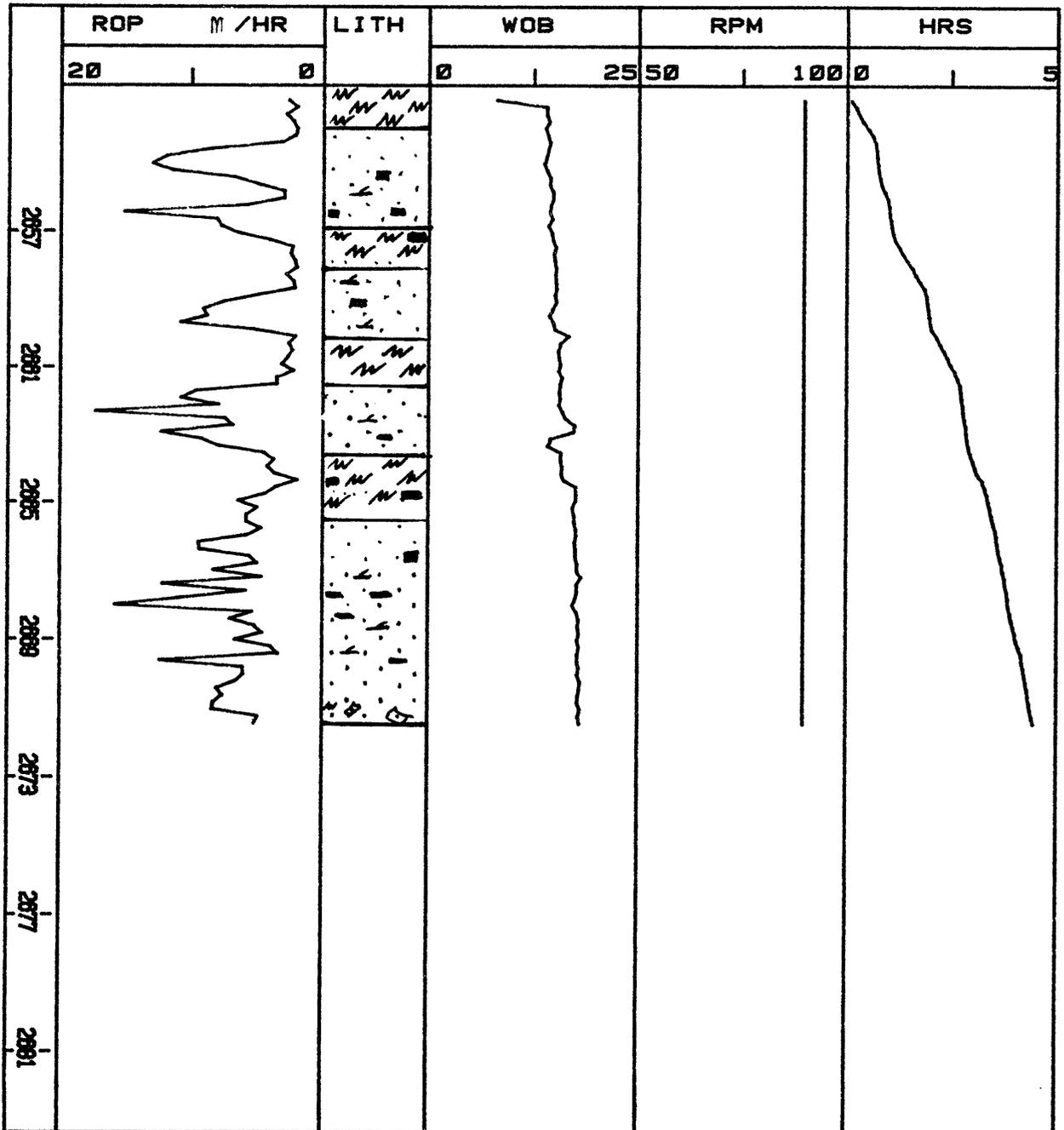
CLIENT: ESSO AUSTRALIA LTD.
 WELL: WIRRAH No. 3
 CORE NO.: 5
 INTERVAL CORED FROM: 2835.2m. TO 2853.0m.
 CUT: 17.8m RECOVERED: 18.5m. (103.9%)
 FORMATION: LATROBE GROUP
 BIT MAKE & TYPE: CHRIS. RC 3
 CORE BARREL SIZE: 6.75in. x 4.00in. x 19.92m.
 BIT SIZE: 8.50 MUD WT.: 9.8



1 Oct 1968

CORE-O-GRAPH

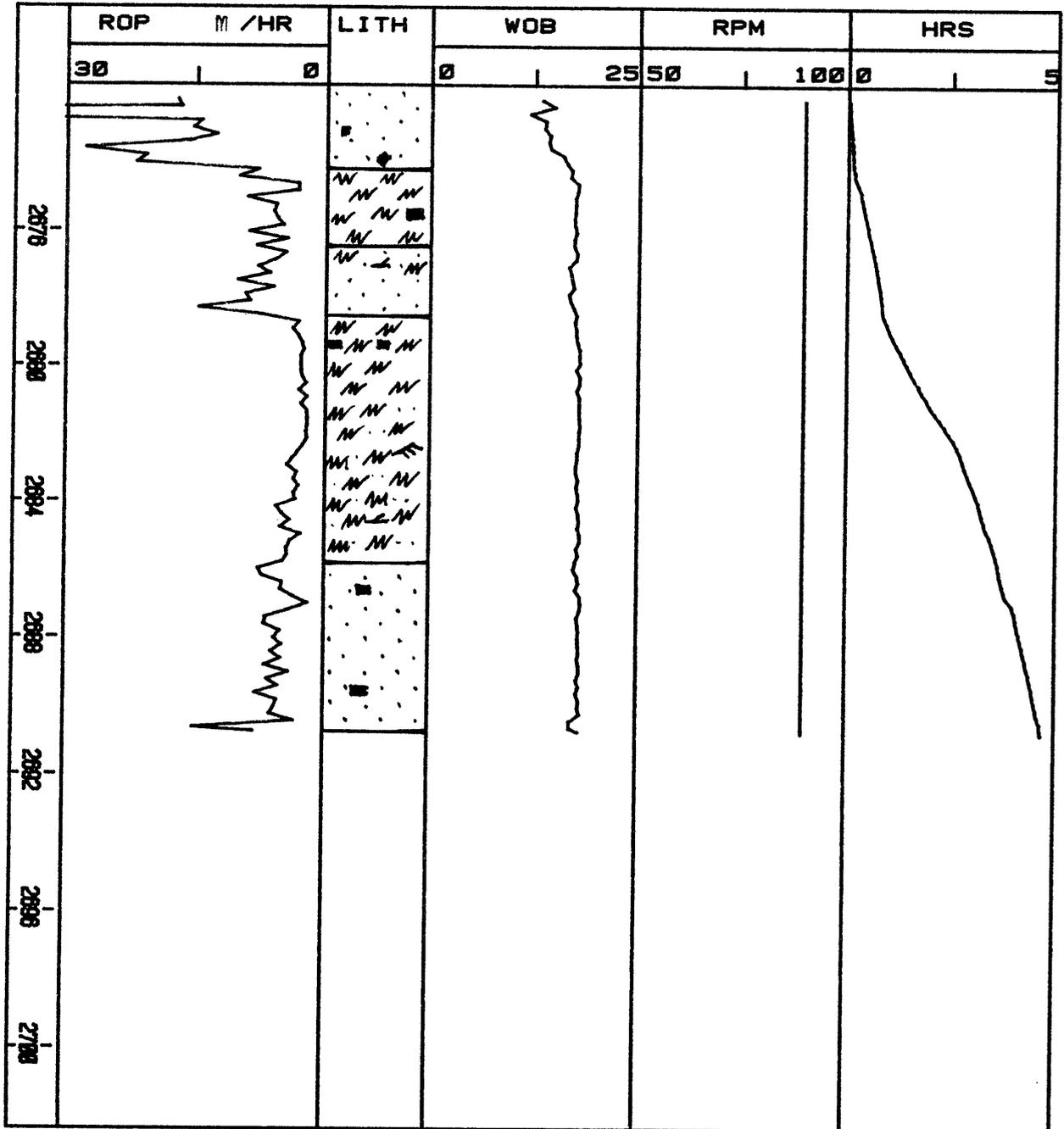
CLIENT: ESSO AUSTRALIA LTD.
 WELL: WIRRAH No. 3
 CORE NO.: 6
 INTERVAL CORED FROM: 2653.0m. TO 2671.2m.
 CUT: 18.2m RECOVERED: 18.2m. (100.0%)
 FORMATION: LATROBE GROUP
 BIT MAKE & TYPE: CHRIS. RC4
 CORE BARREL SIZE: 6.75in. x 4.00in. x 19.92m.
 BIT SIZE: 8.50 MUD WT.: 9.6



1st Mar '81

CORE-O-GRAPH

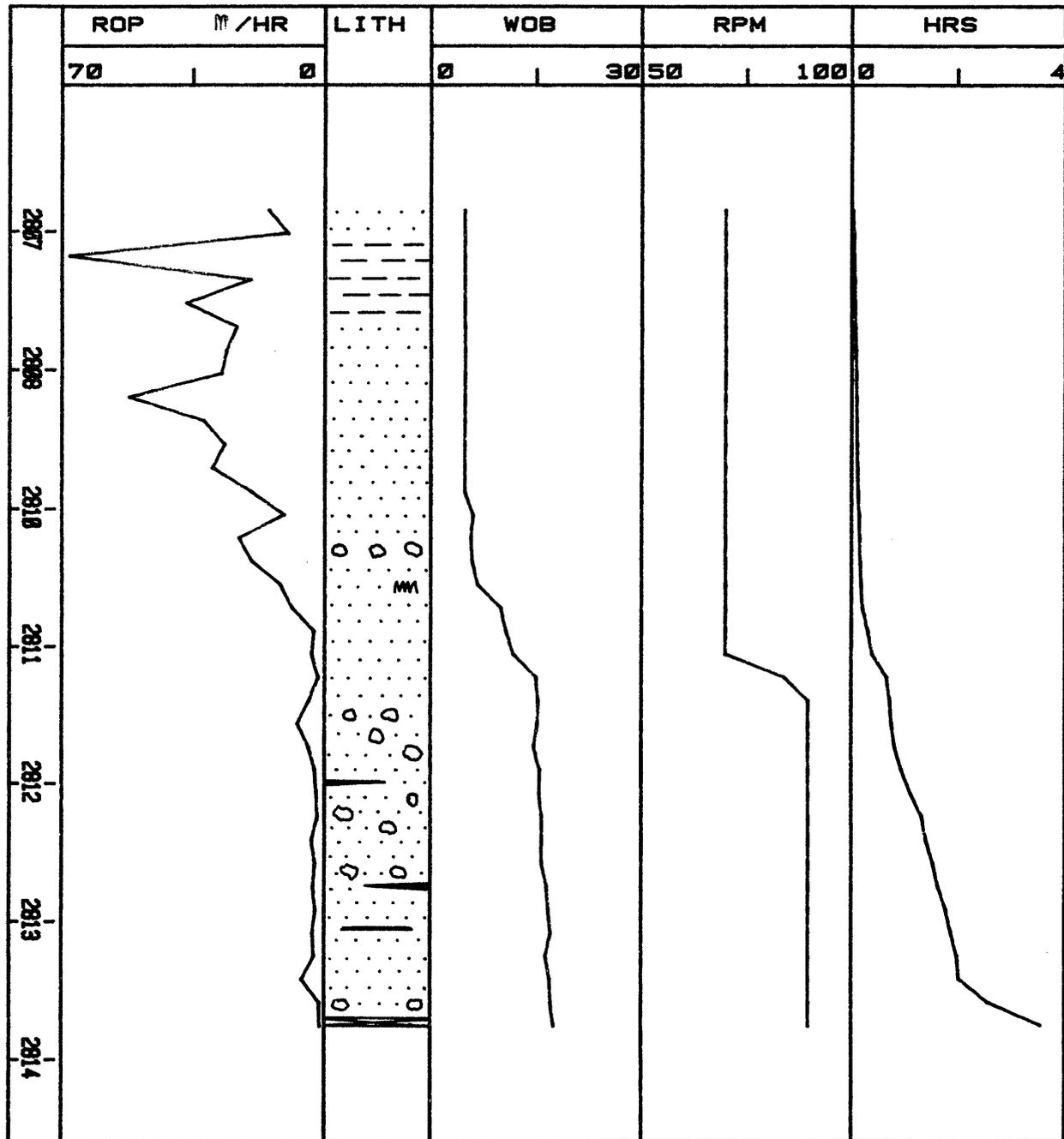
CLIENT:	ESSO AUSTRALIA LTD.
WELL:	WIRRAH No. 3
CORE NO.:	7
INTERVAL CORED FROM	2672.0m. TO 2690.5m.
CUT: 18.5 m	RECOVERED: 18.5m. (100.0%)
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRIS. RC4
CORE BARREL SIZE:	6.75in. x 4.00in. x 19.92m.
BIT SIZE: 8.50	MUD WT.: 9.8



1 oct 1981

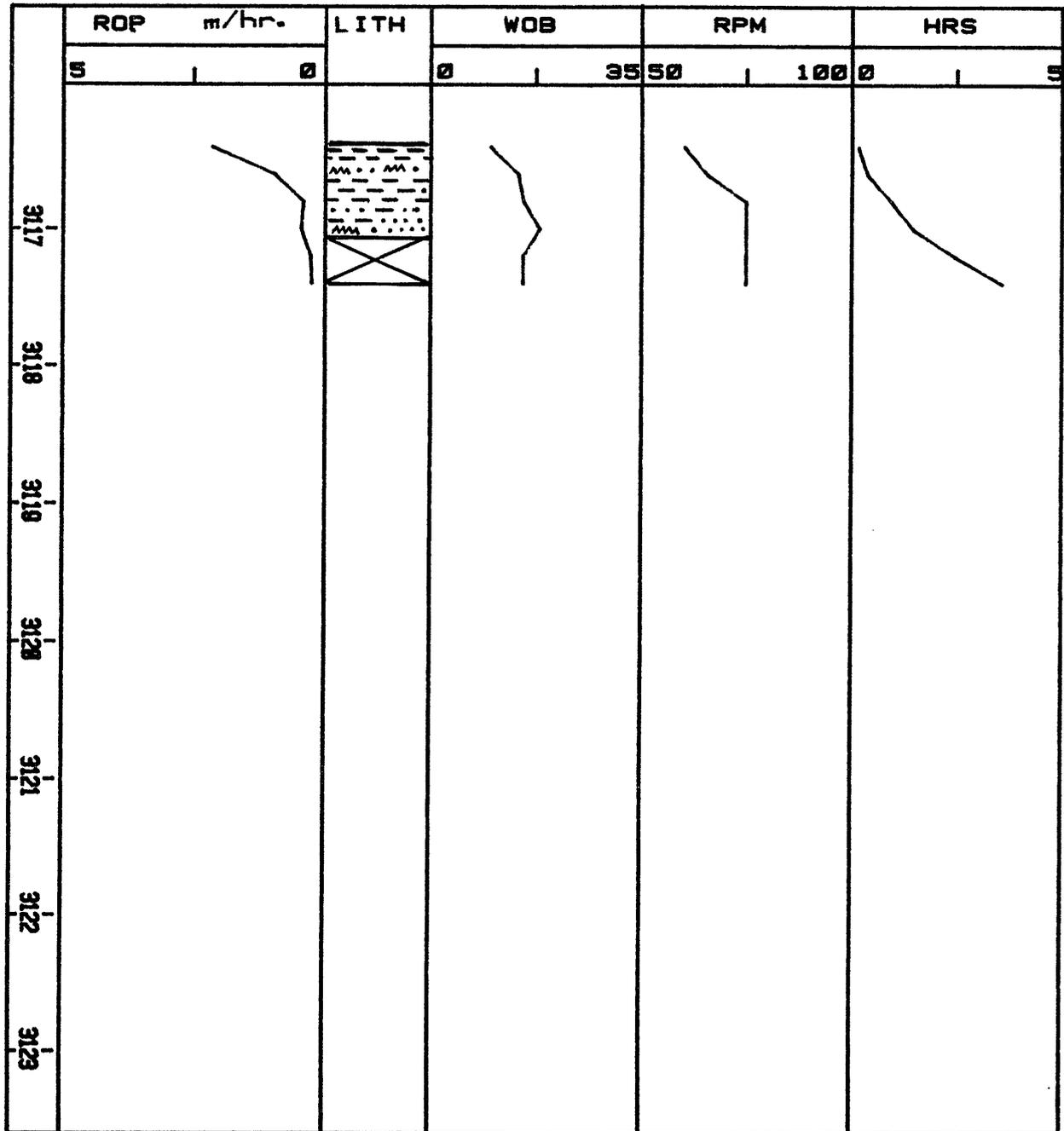
CORE-O-GRAPH

CLIENT: ESSO AUSTRALIA LTD
 WELL: WIRRAH NO. 3
 CORE NO.: 9
 INTERVAL CORED FROM: 2806.8m. TO 2814.0m.
 CUT: 7.2m RECOVERED: 7.1m. (98.6%)
 FORMATION: LATROBE GROUP
 BIT MAKE & TYPE: CHRISTENSEN RC6
 CORE BARREL SIZE: 8.00in. x 4.00in. x 19.66m.
 BIT SIZE: 8.50 MUD WT.: 9.6



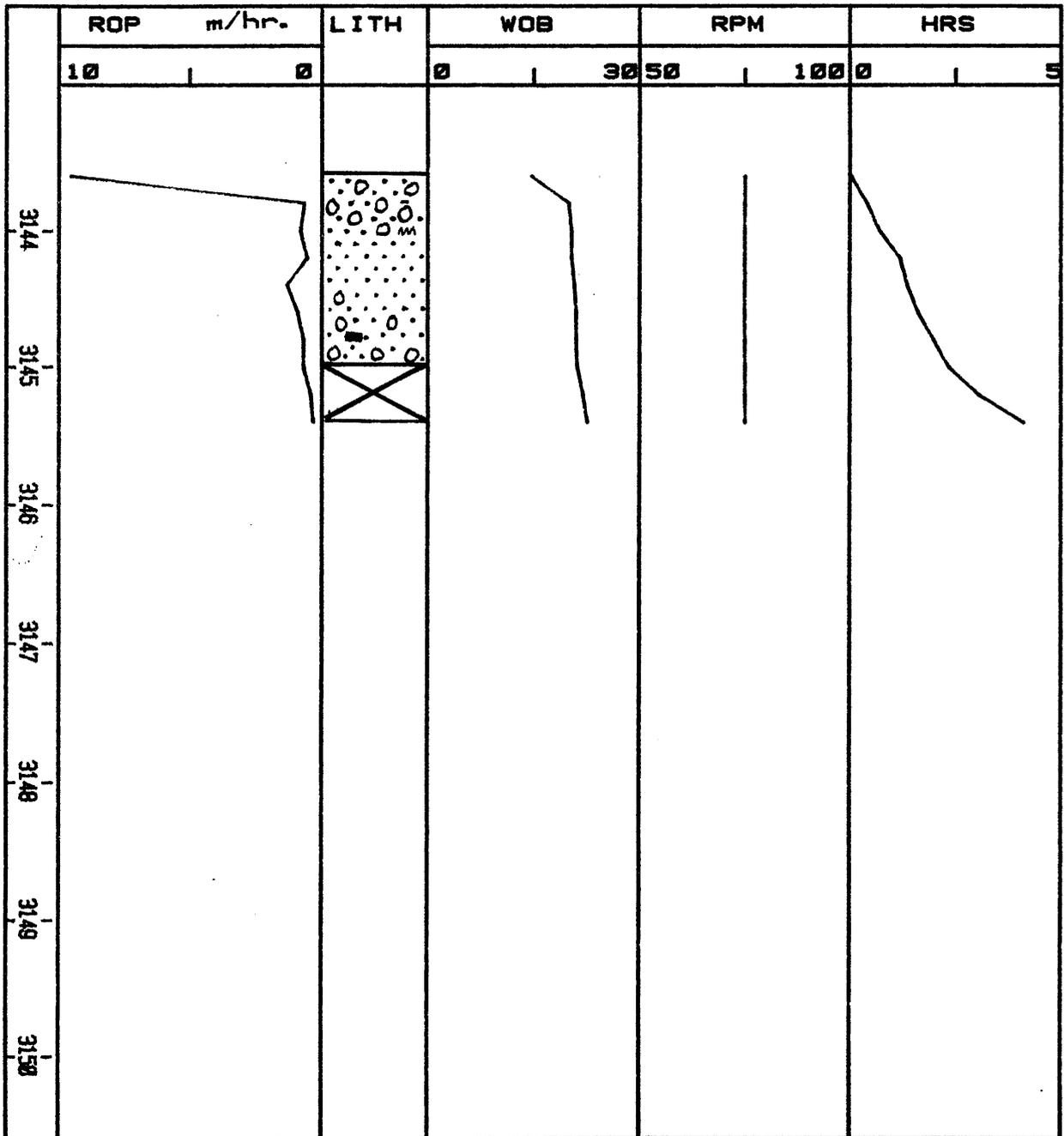
CORE-O-GRAPH

CLIENT:	ESSO AUSTRALIA LTD.
WELL:	WIRRAH No. 3
CORE NO.:	10
INTERVAL CORED FROM	3116.1m. TO 3117.4m.
CUT: 1.3 m.	RECOVERED: 1.0m. (76.9%)
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRISTENSEN C-20
CORE BARREL SIZE:	8.00in. x 4.00in. x 19.66m.
BIT SIZE: 8.50	MUD WT.: 9.9



CORE-O-GRAPH

CLIENT:	ESSO AUSTRALIA LTD.
WELL:	WIRRAH No. 3
CORE NO.:	11
INTERVAL CORED FROM	3143.4m. TO 3145.4m.
CUT: 2.0 m.	RECOVERED: 1.8m. (81.0%)
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRISTENSEN C-23
CORE BARREL SIZE:	8.00in. x 4.00in. x 10.00m.
BIT SIZE: 8.50	MUD WT.: 10.5



5. EXTENDED SERVICE PACKAGE

EXTENDED SERVICE INTRODUCTION

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

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

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

Core Laboratories E.S. logs include the following :

E.S. PRESSURE LOG

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

CORE LAB DRILL DATA PLOT

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

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

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

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

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

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

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

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

E.S. GEO-PLOT LOG

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

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

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

ELECTRIC LOG PLOT

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

PROGRESS LOG

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

DATA RECORDING

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

MUD DATA SHEETS

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

DRILLING PARAMETER PLOT

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

HYDRAULIC ANALYSES

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

GAS COMPOSITION ANALYSIS

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

1. Log plot
2. Triangulation plot

Both plots are included in this report.

GRAPHOLOG

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

MISCELLANEOUS

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

CORE LABORATORIES EQUIPMENT

Core Laboratories Field Laboratory 2007 monitoring equipment includes the following :

A. MUD LOGGING

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

B. EXTENDED SERVICE PACKAGE

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

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

CORE LABORATORIES MONITORING EQUIPMENT

DEPTH

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

WEIGHT-ON-BIT

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

ROTARY SPEED

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

PUMP PRESSURE

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

CASING PRESSURE

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

PIT VOLUME

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

In addition, a sensor is fitted to the rig's trip tank, so that hole fill-up during trips may be closely monitored. A recorder chart displays the levels of the active pits, the pit volume total, and the trip tank.

PUMP STROKES

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

ROTARY TORQUE

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

MUD TEMPERATURE

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

MUD CONDUCTIVITY

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

MUD DENSITY

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

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

CUTTINGS

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

GAS

1. Flame Ionization Total Hydrocarbon gas detector.
The T.H.M. accurately determines hydrocarbon concentrations up to 100% saturation.
2. Flame Ionization Detector chromatograph.
The F.I.D. is capable of accurate determination of hydrocarbon concentration from C1 to C6+.
3. Cuttings gas detector (Wheatstone Bridge type).
An auxiliary system for total gas detection.
4. Hydrogen Sulphide detector.
Two sensors are located at the shale-shakers and in the pit room, linked to a TAC 404B H2S monitor, to detect H2S emanating from the drilling fluid.
5. Carbon Dioxide detector.
An Infra-red gas analyzer determines the percentage of CO2 present in gas samples broken out of the mud by the gas trap.

SHALE DENSITY

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

6. ESP PLOT DISCUSSIONS AND CONCLUSIONS

ESP PLOT DISCUSSION AND CONCLUSIONS
(WITH PARTICULAR REFERENCE TO PORE PRESSURE)

The estimation of formation pressures was one of the prime aims of the Core Laboratories ESP DL2007 package, and a discussion follows.

WIRRAH NO. 3 was drilled in the Gippsland Basin region of the Bass Strait, and evidence of abnormal pressure had been found from this structure on the two previous Wirrah Wells, so abnormal pressure problems were anticipated.

A useful tool in pressure detection is the "Drill Data Plot" (see logs at end of report). The plot shows a number of parameters: ROP, Gas, 'd'c exponent and mud weight, all related to lithology. In the case of WIRRAH NO. 3, all trends manifested from seabed down to 3040 metres were both "normal" and typical of the Gippsland Basin. Any irregularities in this interval such as increases in background gas or drill-offs were all associated with lithological characteristics rather than with abnormal formation pressures.

However, below 3040 metres, the geopressure story is distinctly different. At this point, the background gas increased dramatically from 5 up to 20 units, with a simultaneous lateral shift (albeit a small one) in the 'd'c exponent trend line. There was no recognizable drill-off, but the Trip gas peak from 3045 metres (1-1015-20 units) definitely heralded abnormal formation pressures.

Conclusive connection gas was detected from 3055 metres (10-18-12 units); 3065 metres (19-62-21 units); 3074 metres (13-35-15 units); and 3084 metres (7-49-8 units) with 9.6 ppg mud. Also a 10-10-10 test was performed at 3086 metres, yielding 11-89-4 units of gas with 9.6 ppg mud. Consequently the mud was weighted up to 10.1 ppg. By reviewing these figures the pore pressure was estimated to have increased from 8.5 ppg to 9.0 ppg at 3041 metres; to 9.3 ppg to 3057 metres; and then to 9.4 ppg at 3083 metres.

With 10.0 ppg mud in the hole, connection gas was detected from 3116 metres (2-39-9 units) thereby indicating another step in pore pressure, this time up to 9.5 - 9.5 ppg. (This also corresponded with an increase in background gas.)

Despite another increment in mud weight (10-10.2 ppg) connection gas was detected from 3141 metres (26-119-18 units), and at 3143 metres a 10-10-10 test yielded 21-61-17 units of gas. This suggested that the geopressure had increased to 10.0 ppg by 3138 metres.

From this point down to 3218 metres, further increases in pore pressure were indicated by Trip gas peaks, background gas trends, 10-10-10 tests, and the detection of connection gas. In particular, consider the following table:

DEPTH	CONNECTION GAS	10 - 10 - 10 TEST GAS	TRIP GAS	MUD WEIGHT	ESTIMATED PORE PRESSURE
3143		2-4-2	2-210-2	10.5	10.0
3145			2-1570-11	10.5	10.0
3170		15-256-58		11.1	11.1
3180	15-165-12			11.4	11.3
3189	6-46-7			11.8	11.6
3191		2-6-2		11.8	11.6
3202		1-2-1		12.1	11.6
3203			4-34-4	12.2	11.7
3209	3-7-3			12.2	11.9
3219	7-10-7			12.2	11.8
3225			2-98-20	12.2	11.7

With the presence of conclusive connection gas, the drilling fluid was weighted up in accordance with comfortably overbalanced conditions.

A brief numerical summary of the pore pressures encountered during the well, in tabular form, now follows:

INTERVAL		PORE PRESSURE
FROM	TO	
70	2960	8.4
2961	3040	8.5
3041	3056	9.0
3057	3082	9.3
3083	3108	9.4
3109	3110	9.5
3111		9.6
3112	3116	9.8
3117		9.6
3118	3128	9.5
3129		9.6
3130	3136	9.7
3137		9.9
3138	3145	10.0
3146		10.1
3147		10.2
3148		10.3

INTERVAL		PORE PRESSURE
FROM	TO	
3149		10.4
3150		10.5
3151		10.6
3152	3160	10.7
3161	3162	10.8
3163		10.9
3164	3165	11.0
3166	3171	11.1
3172	3176	11.2
3177	3184	11.3
3185	3187	11.4
3188		11.5
3189	3202	11.6
3203	3204	11.7
3205	3206	11.8
3207	3218	11.9
3219	3222	11.8
3223	3257	11.7

Returning to the "Drill Data Plot", it can be seen that the progressive increase in pore pressure towards the bottom of the hole is not, in general, represented by the archetype drill-off or 'd'c exponent trend. The latter lack of trend is due to the lithology, both its interbedded nature and the very hard composition of the Sandstone/Conglomerate beds. A more homogeneous lithology is required for an objective interpretation of 'd'c exponent trends.

In the overpressured section, overbalanced drilling took place at all times with one possible exception, between 3150 and 3178 metres. However, the largest underbalance in this interval was confined to only 0.1 ppg.

No shale density measurements were made, as there were no beds of true shales encountered.

The Temperature Plot offers no reliable conclusions as to pore pressure, due to the periodic treatment of the mud system (in particular, adding barite to increase the mud weight). The thermal gradient of WIRRAH NO. 3 was calculated to be 1.99^oF/100 feet, and the bottom-hole temperature at 3257 metres was extrapolated to 121.2^oC.

The Pressure Plot is the pressure conclusion log for the well. This plot shows the estimated pore pressure as described above, along with the mud weight and fracture gradient. As mentioned above, the formations

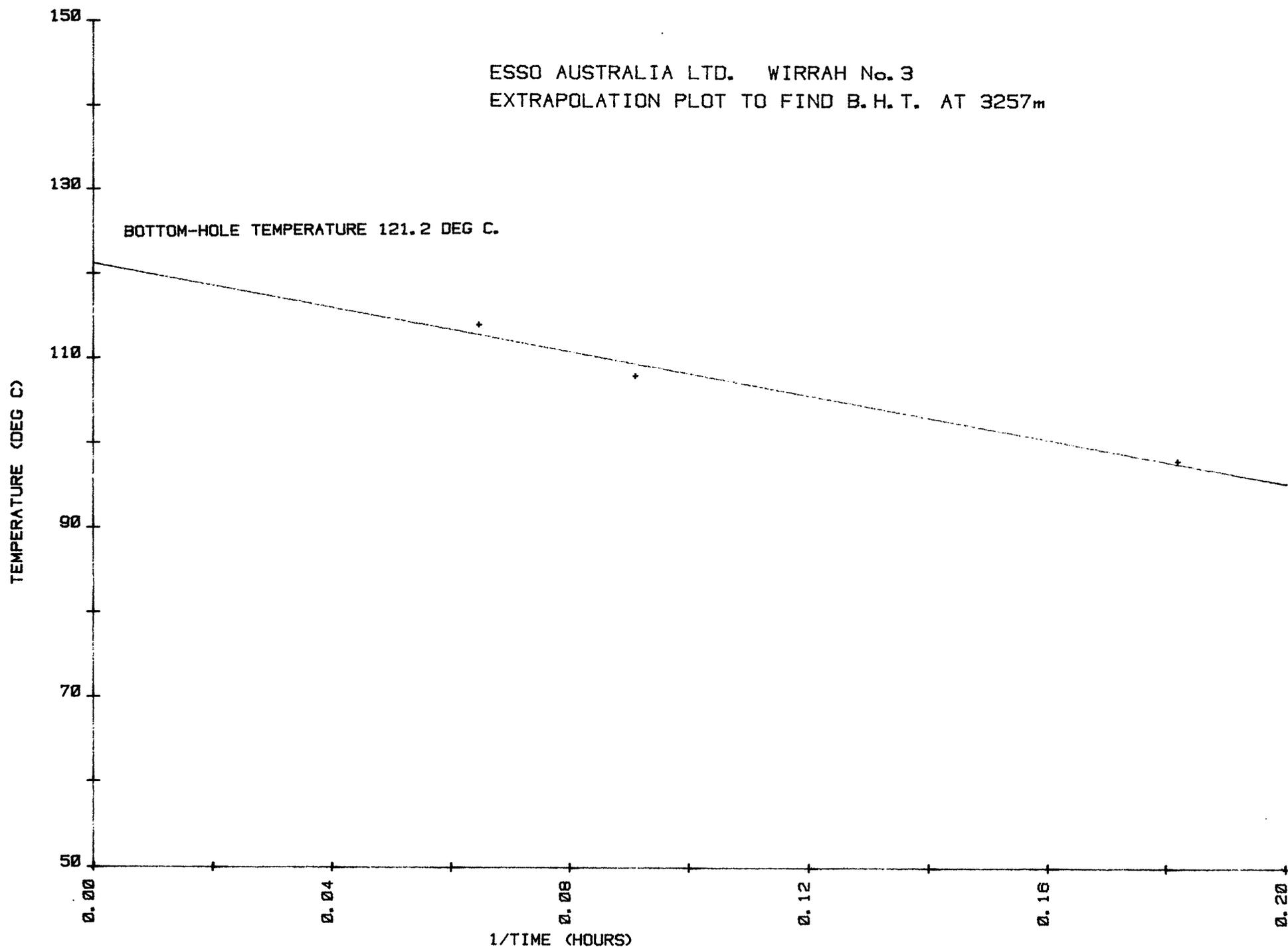
encountered towards the bottom of the well were overpressured, being 8.4 - 8.5 ppg MSL. EMW down to 3040 metres, rising to 9.0 ppg at 3041 metres, 9.5 ppg at 3109 metres, 10.0 ppg at 3138 metres, 11.0 ppg at 3164 metres, and peaking at 11.9 ppg (3207 metres) before dropping back to 11.7 ppg at 3223 metres, and remaining at that level down to T.D.

Overburden gradient calculations and a plot of the gradient are included in the report. It was not possible to derive a true fracture gradient as insufficient leak-off data is available for this Basin. Two P.I.T.'s were made on WIRRAH NO. 3: at the 13-3/8" casing shoe (855 metres 19.3 ppg EMW) and at the 9-5/8" casing shoe (2943 metres 16.5 ppg EMW).

Based on this information, the fracture gradient on the pressure plot was drawn, the shape of which was in turn based on data obtained from wells in the U.S. Gulf Coast Basin. The curve was offset to match local data.

7. B.H.T. ESTIMATION

ESSO AUSTRALIA LTD. WIRRAH No. 3
EXTRAPOLATION PLOT TO FIND B. H. T. AT 3257m



CORE LAB
=====

STRAIGHT LINE LEAST SQUARES BEST FIT

1/TIME ON A LINEAR SCALE AGAINST
TEMP.(DEG C) ON A LINEAR SCALE

ENTERED DATA:

DATA SET #	1/TIME	TEMP.(DEG C)
1	0.0909	108.0
2	0.0645	114.0
3	0.1818	98.0

COEFFICIENT & CONSTANT:

$Y = m.X + c$ where $m = -1.2959163E 02$ and $c = 1.2123277E 02$

INTERPOLATED DATA:

1/TIME	TEMP.(DEG C)
0.0000	121.2

8. OVERBURDEN GRADIENT CALCULATIONS AND PLOT

OVERBURDEN GRADIENT CALCULATIONS

DEPTHmetres

BULK DENSITYgm/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	70	1.02	101.43	101.43	0.442	8.49
70	855	2.00	2230.34	2331.77	0.831	15.99
855	875	2.30	65.35	2397.12	0.835	16.06
875	900	2.40	85.24	2482.36	0.841	16.17
900	925	2.32	82.39	2564.75	0.845	16.25
925	950	2.31	82.04	2646.79	0.849	16.33
950	975	2.30	81.68	2728.47	0.853	16.40
975	1000	2.34	83.11	2811.58	0.857	16.48
1000	1025	2.40	85.24	2896.82	0.861	16.57
1025	1050	2.43	86.30	2983.12	0.866	16.65
1050	1075	2.36	83.82	3066.93	0.870	16.72
1075	1100	2.44	86.66	3153.59	0.874	16.80
1100	1125	2.42	85.95	3239.53	0.878	16.88
1125	1150	2.38	84.53	3324.06	0.881	16.94
1150	1175	2.43	86.30	3410.36	0.885	17.01
1175	1200	2.35	83.46	3493.82	0.887	17.07
1200	1225	2.30	81.68	3575.51	0.890	17.11
1225	1250	2.22	78.84	3654.35	0.891	17.14
1250	1275	2.27	80.62	3734.97	0.893	17.17
1275	1300	2.26	80.26	3815.23	0.895	17.20
1300	1325	2.35	83.46	3898.69	0.897	17.25
1325	1350	2.37	84.17	3982.86	0.899	17.29
1350	1375	2.36	83.82	4066.68	0.901	17.34
1375	1400	2.29	81.33	4148.01	0.903	17.37
1400	1425	2.26	80.26	4228.27	0.904	17.39
1425	1450	2.32	82.39	4310.67	0.906	17.43
1450	1475	2.30	81.68	4392.35	0.908	17.45
1475	1500	2.38	84.53	4476.88	0.910	17.49
1500	1525	2.29	81.33	4558.21	0.911	17.52
1525	1550	2.26	80.26	4638.47	0.912	17.54
1550	1575	2.24	79.55	4718.02	0.913	17.56
1575	1600	2.28	80.97	4799.00	0.914	17.58
1600	1625	2.09	74.23	4873.22	0.914	17.58
1625	1650	2.15	76.36	4949.58	0.914	17.58
1650	1675	2.19	77.78	5027.36	0.915	17.59
1675	1700	2.00	71.03	5098.39	0.914	17.58
1700	1725	2.13	75.65	5174.04	0.914	17.58
1725	1750	2.18	77.42	5251.46	0.915	17.59
1750	1775	2.29	81.33	5332.79	0.916	17.61
1775	1800	2.26	80.26	5413.05	0.917	17.63
1800	1825	2.50	88.79	5501.84	0.919	17.67
1825	1850	2.41	85.59	5587.43	0.921	17.70
1850	1875	2.24	79.55	5666.98	0.921	17.72
1875	1900	2.08	73.87	5740.86	0.921	17.71
1900	1925	2.03	72.10	5812.95	0.920	17.70

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
1925	1950	2.04	72.45	5885.40	0.920	17.69
1950	1975	2.25	79.91	5965.31	0.921	17.70
1975	2000	2.19	77.78	6043.09	0.921	17.71
2000	2025	2.26	80.26	6123.35	0.922	17.72
2025	2050	2.18	77.42	6200.77	0.922	17.73
2050	2075	2.29	81.33	6282.10	0.923	17.75
2075	2100	2.35	83.46	6365.56	0.924	17.77
2100	2125	2.39	84.88	6450.44	0.925	17.79
2125	2150	2.38	84.53	6534.97	0.926	17.82
2150	2175	2.40	85.24	6620.21	0.928	17.84
2175	2200	2.41	85.59	6705.80	0.929	17.87
2200	2225	2.38	84.53	6790.32	0.930	17.89
2225	2250	2.39	84.88	6875.20	0.931	17.91
2250	2275	2.45	87.01	6962.22	0.933	17.94
2275	2300	2.48	88.08	7050.29	0.934	17.97
2300	2325	2.41	85.59	7135.88	0.935	17.99
2325	2350	2.35	83.46	7219.34	0.936	18.01
2350	2375	2.37	84.17	7303.51	0.937	18.03
2375	2400	2.57	91.27	7394.79	0.939	18.06
2400	2430	2.53	107.82	7502.61	0.941	18.10
2430	2450	2.43	69.04	7571.65	0.942	18.11
2450	2475	2.45	87.01	7658.66	0.943	18.14
2475	2500	2.57	91.27	7749.94	0.945	18.17
2500	2525	2.53	89.85	7839.79	0.946	18.20
2525	2550	2.50	88.79	7928.58	0.948	18.23
2550	2575	2.56	90.92	8019.50	0.949	18.26
2575	2600	2.50	88.79	8108.28	0.951	18.28
2600	2625	2.52	89.50	8197.78	0.952	18.31
2625	2650	2.58	91.63	8289.41	0.953	18.34
2650	2675	2.55	90.56	8379.97	0.955	18.36
2675	2700	2.55	90.56	8470.54	0.956	18.39
2700	2725	2.56	90.92	8561.46	0.958	18.42
2725	2750	2.50	88.79	8650.24	0.959	18.44
2750	2770	2.53	71.88	8722.13	0.960	18.46
2770	2800	2.48	105.69	8827.82	0.961	18.48
2800	2825	2.51	89.14	8916.96	0.962	18.50
2825	2850	2.55	90.56	9007.52	0.963	18.53
2850	2875	2.52	89.50	9097.02	0.964	18.55
2875	2900	2.50	88.79	9185.81	0.965	18.57
2900	2925	2.53	89.85	9275.66	0.967	18.59
2925	2950	2.47	87.72	9363.38	0.967	18.60
2950	2960	2.52	35.80	9399.18	0.968	18.61
2960	2975	2.55	54.34	9453.52	0.969	18.63
2975	3000	2.52	89.50	9543.02	0.970	18.65
3000	3025	2.56	90.92	9633.94	0.971	18.67
3025	3050	2.56	90.92	9724.86	0.972	18.69
3050	3075	2.62	93.05	9817.90	0.973	18.71
3075	3100	2.67	94.83	9912.73	0.975	18.74
3100	3125	2.64	93.76	10006.49	0.976	18.77
3125	3150	2.45	87.01	10093.50	0.977	18.78

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
3150	3175	2.42	85.95	10179.45	0.977	18.79
3175	3200	2.43	86.30	10265.75	0.978	18.80
3200	3225	2.50	88.79	10354.54	0.979	18.82
3225	3250	2.65	94.11	10448.65	0.980	18.84
3250	3257	2.67	26.55	10475.20	0.980	18.85

DEPTH (in metres) x 1000

ESSO AUSTRALIA LTD.
WIRRAH No. 3
OVERBURDEN GRADIENT

PSI/FT.

0.5

0.6

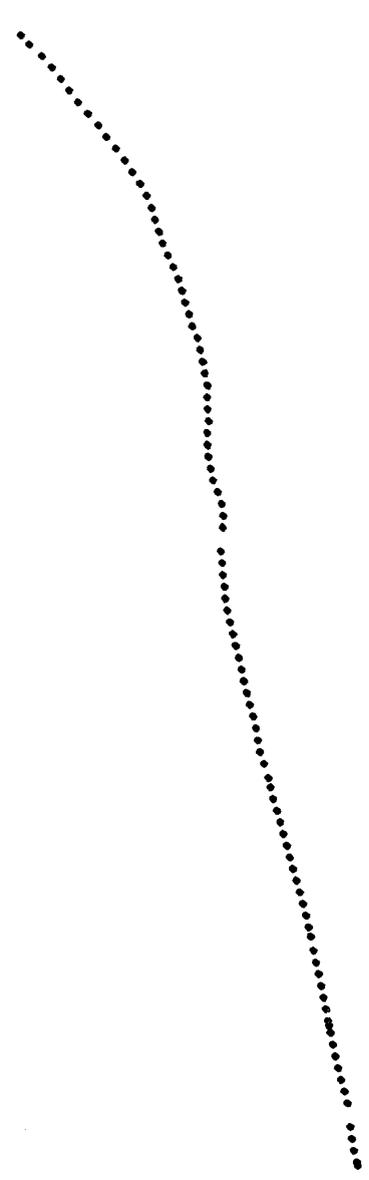
0.7

0.8

0.9

1.0

0
1
2
3
4



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

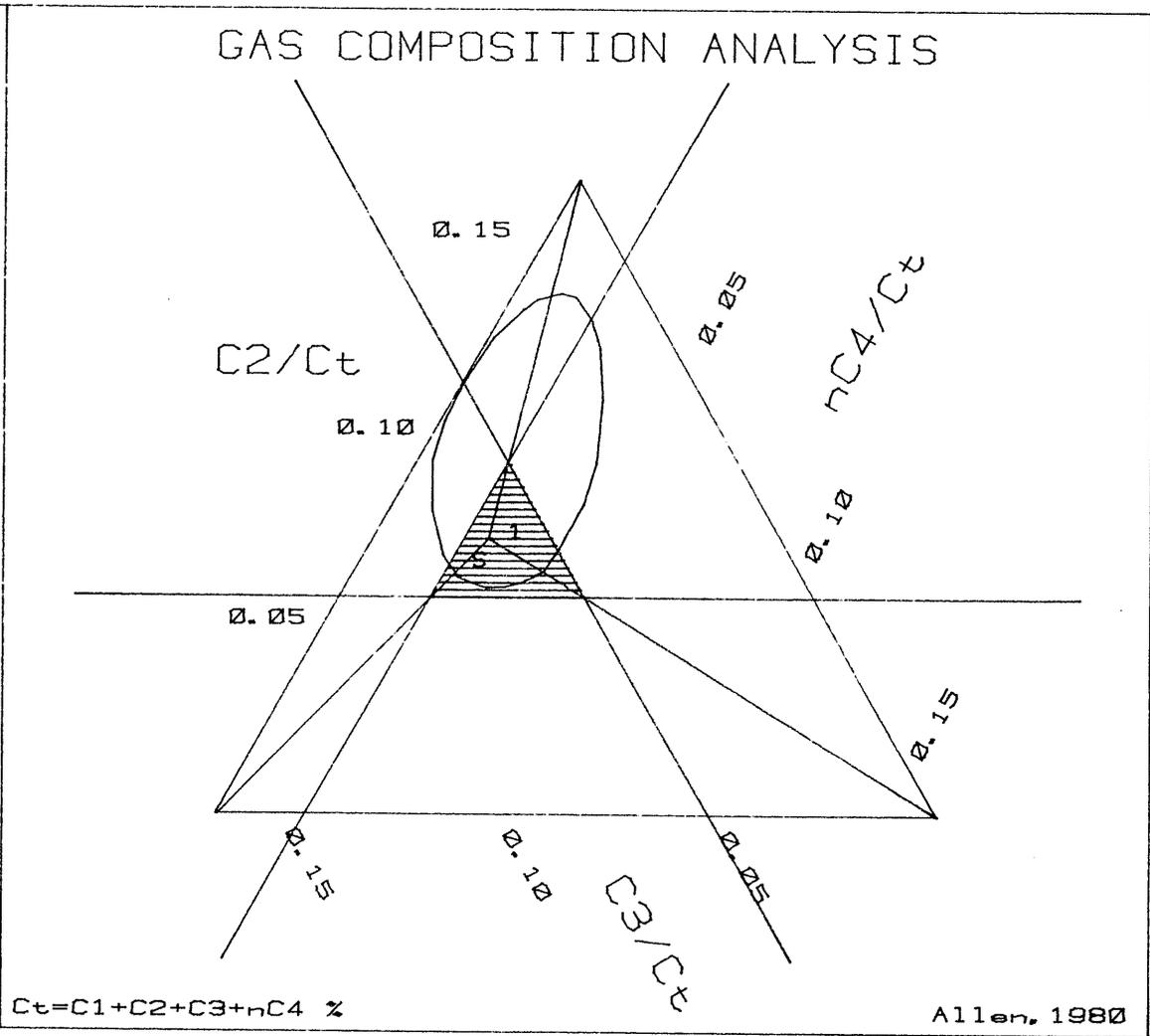
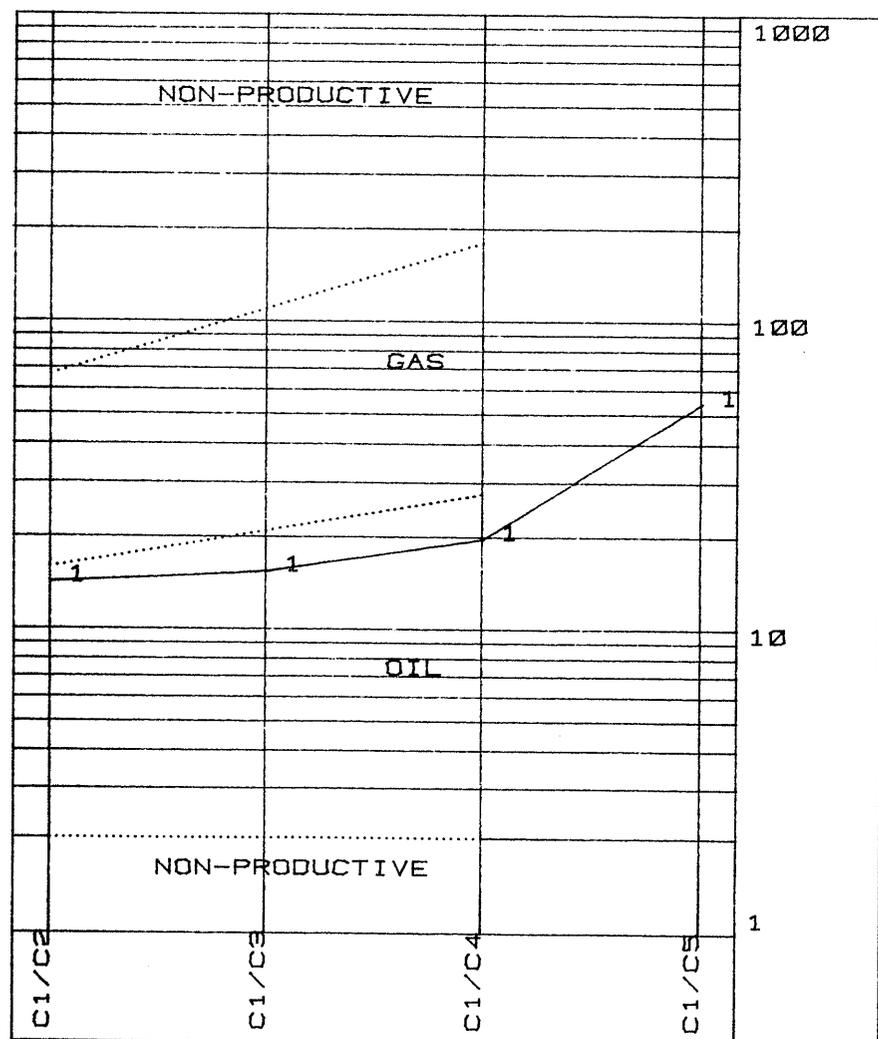
The triangulation diagram is obtained by tracing lines on three scales at 120 degrees to each other, corresponding respectively to the ratios of C2, C3 and normal C4 to the total gas (C1 to C4). The scales are arranged in such a way that if the apex of the triangle is upward, a gas zone is indicated, 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: WIRRAH NO. 3



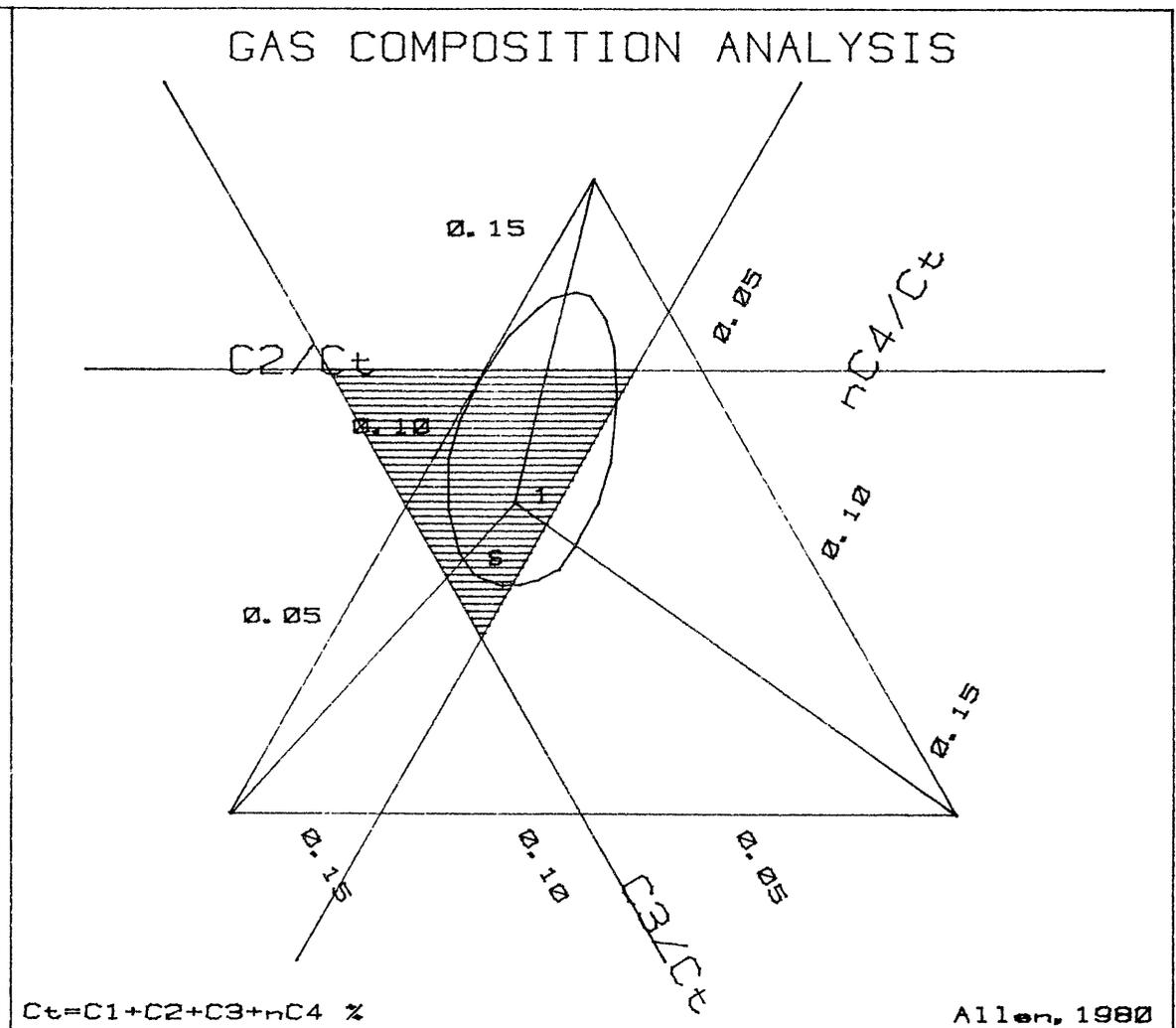
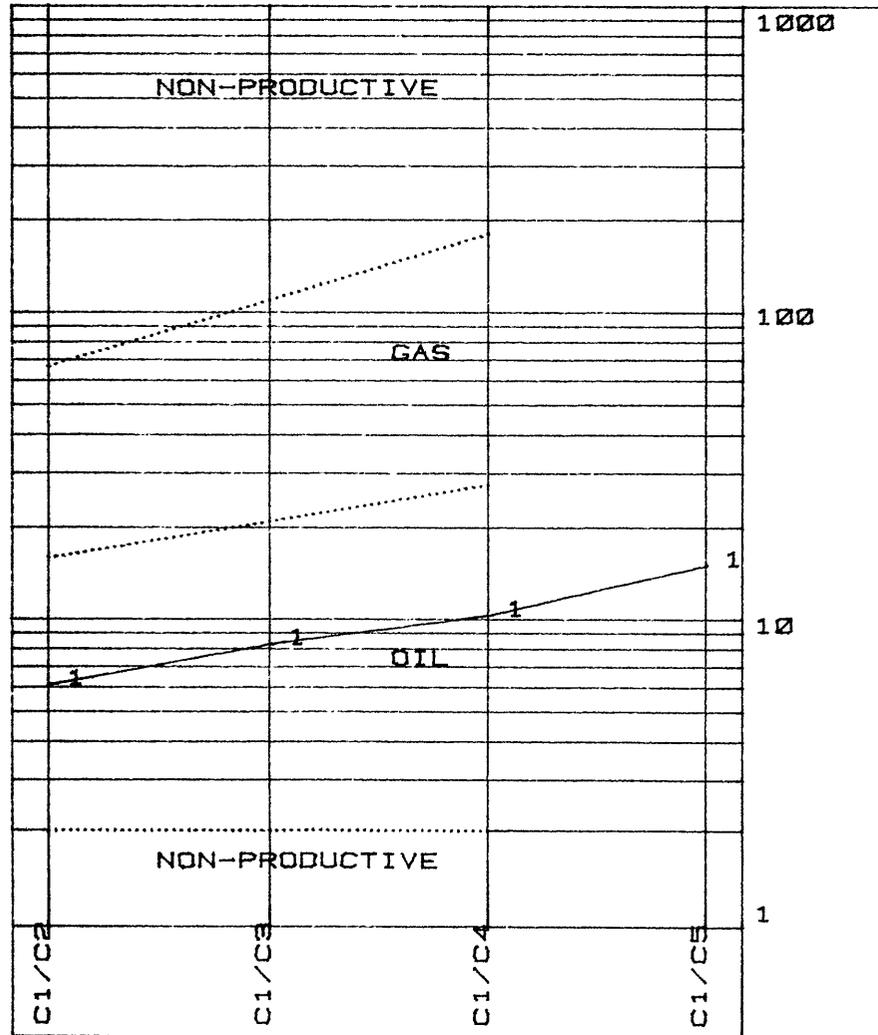
NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	2000	0.523	0.037	0.034	0.013	0.013	0.010	0.002	0.607	14	15	20	54

CONCLUSION: WET GAS ZONE

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD

Well: WIRRAH NO.3



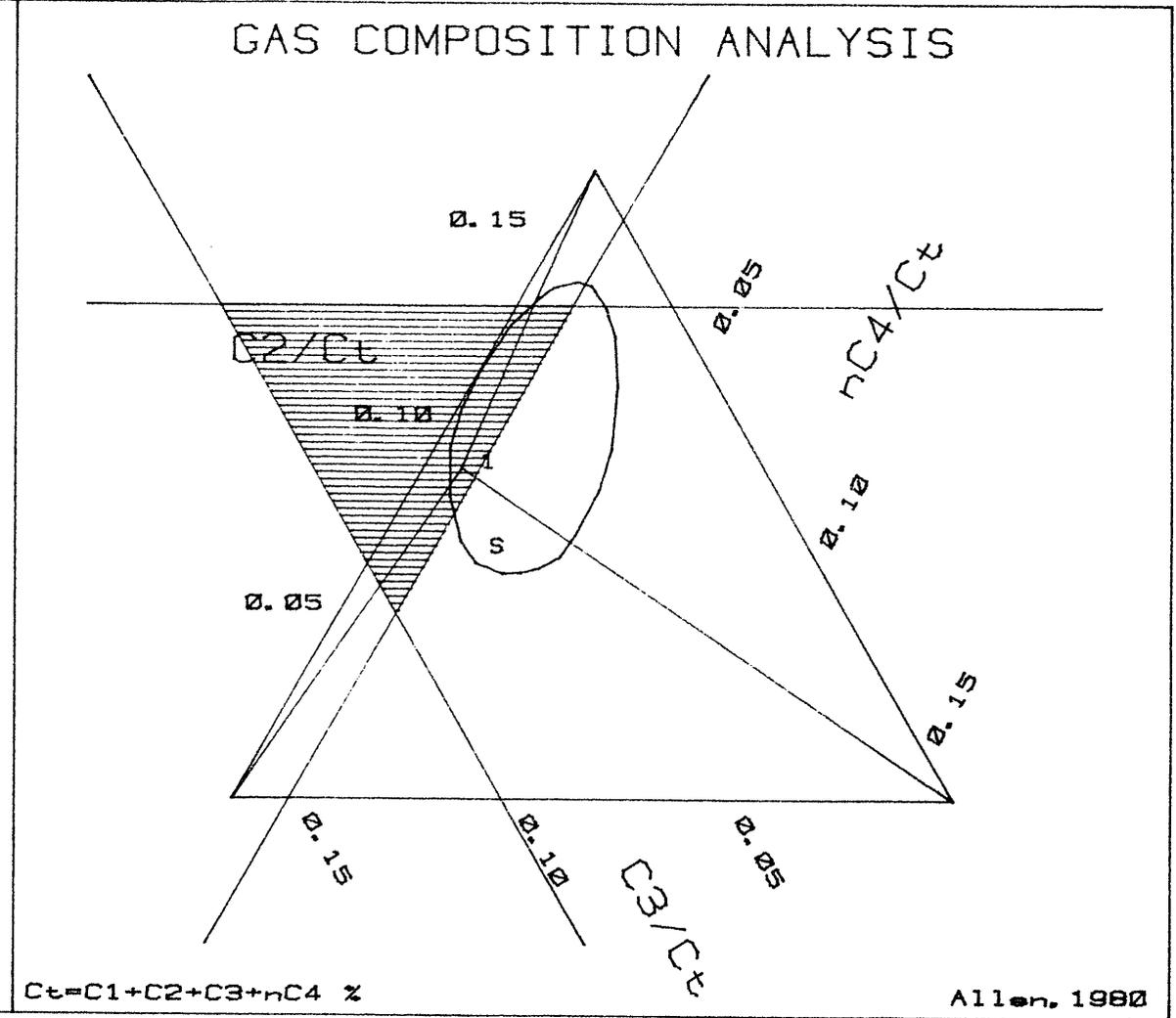
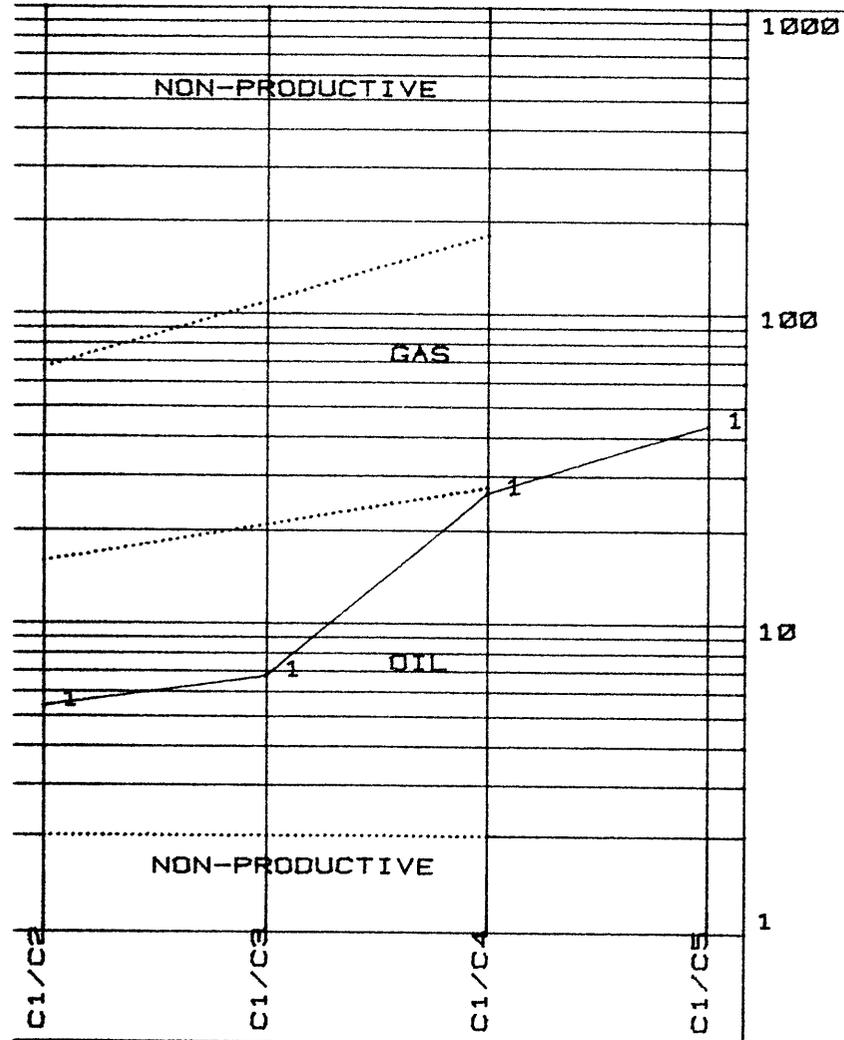
NO. DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1 2090	0.195	0.032	0.023	0.009	0.009	0.013	0.005	0.259	6	8	10	15

CONCLUSION: PRODUCTIVE, PERMEABLE OIL ZONE

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD

Well: WIRRAH NO.3



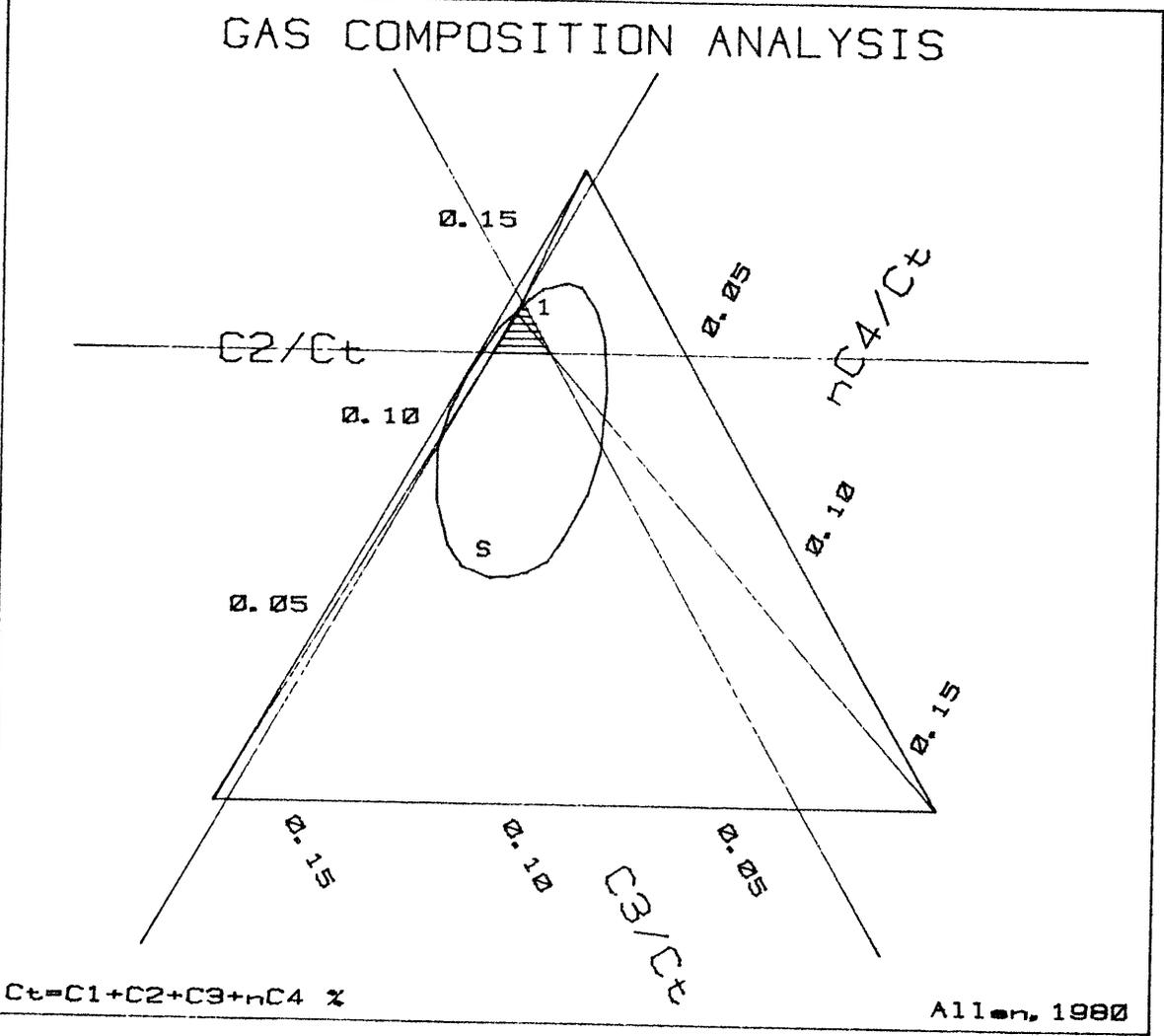
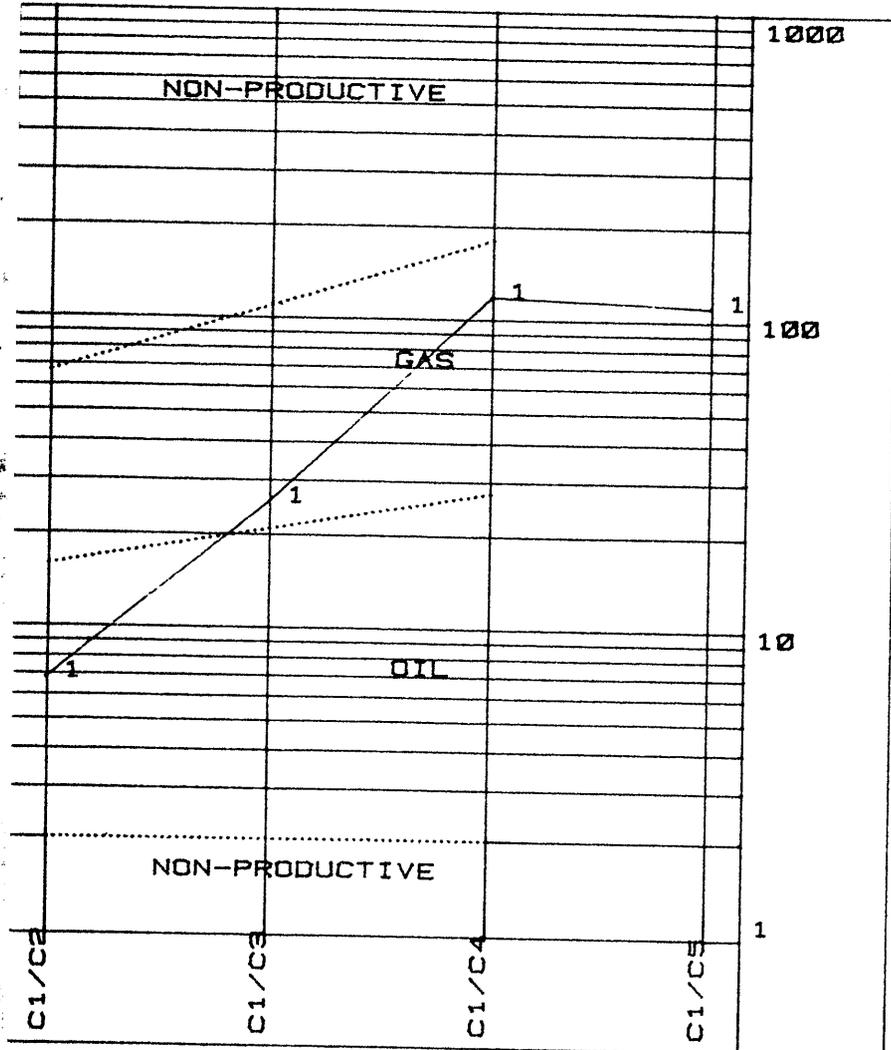
ID. DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1 2102	1.267	0.235	0.188	0.024	0.024	0.029	0.012	1.714	5	7	26	44

CONCLUSION: PRODUCTIVE, PERMEABLE OIL ZONE

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD

Well: WIRRAH NO.3



Allen, 1980

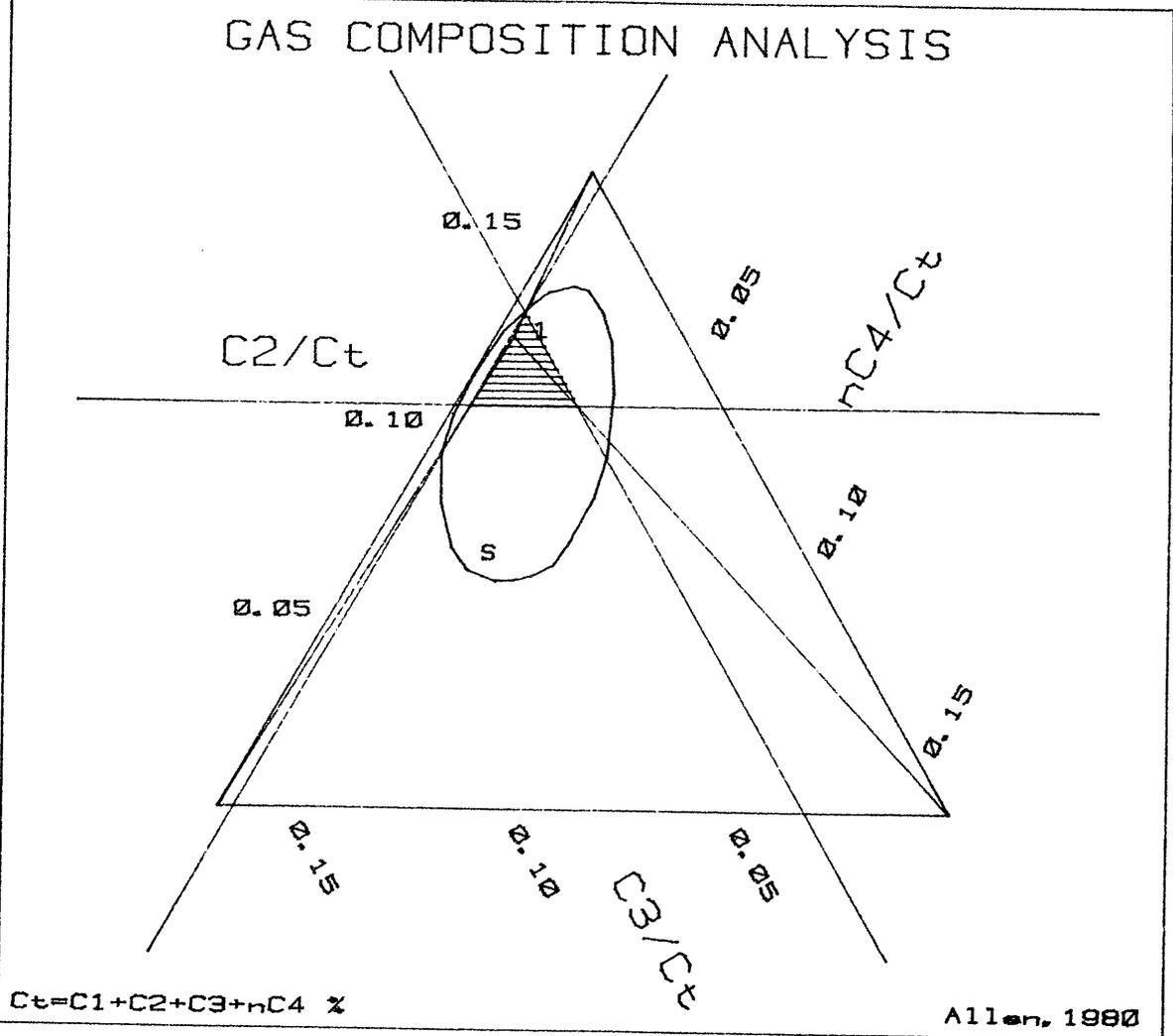
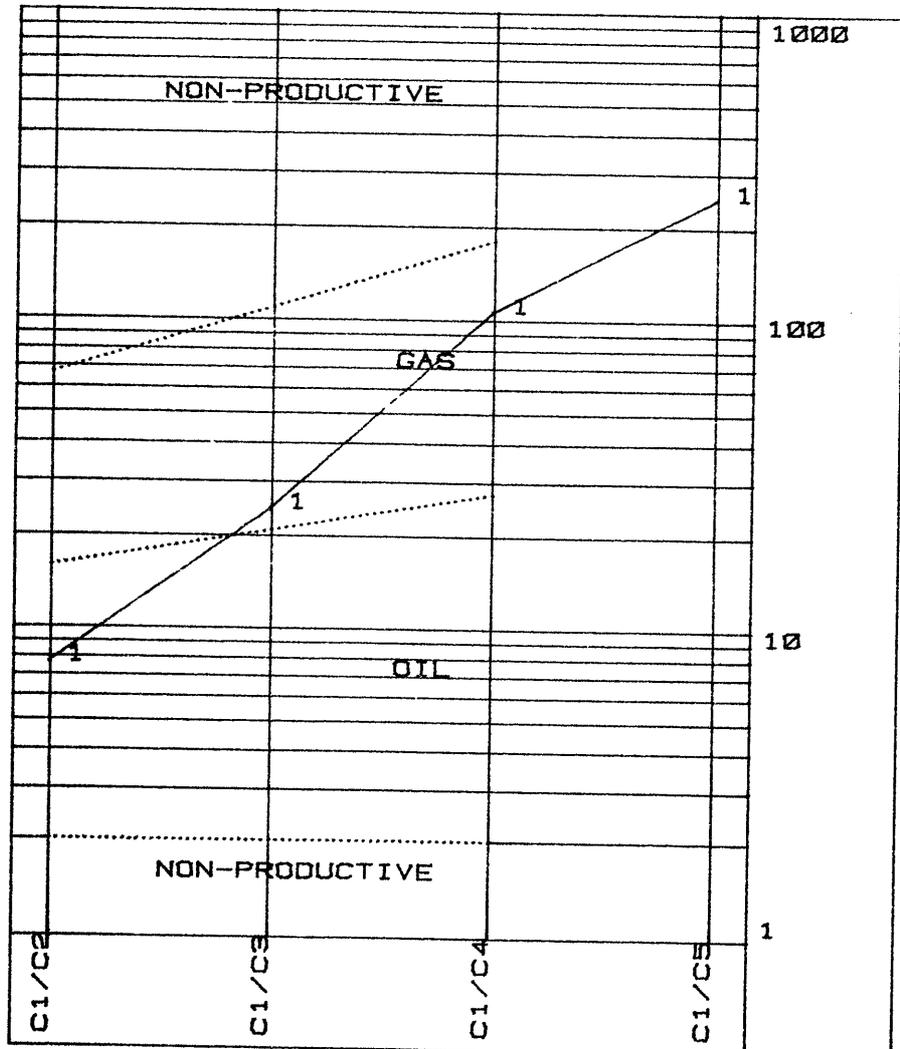
NO. DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1 2145	1.056	0.157	0.042	0.005	0.005	0.010	0.005	1.259	7	25	117	110

CONCLUSION: GAS AND WATER BEARING FORMATION

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD

Well: WIRRAH NO.3



Allen, 1980

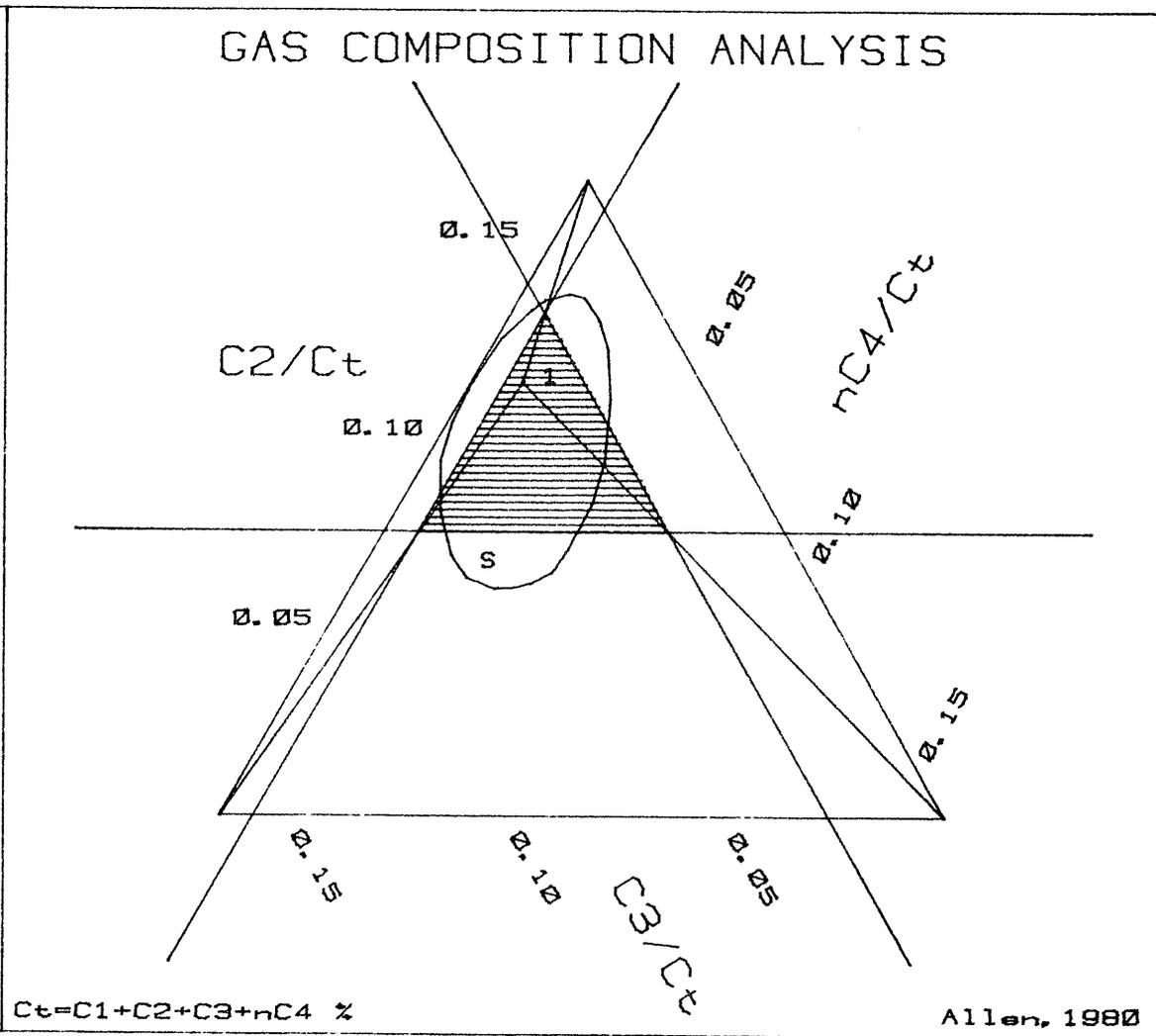
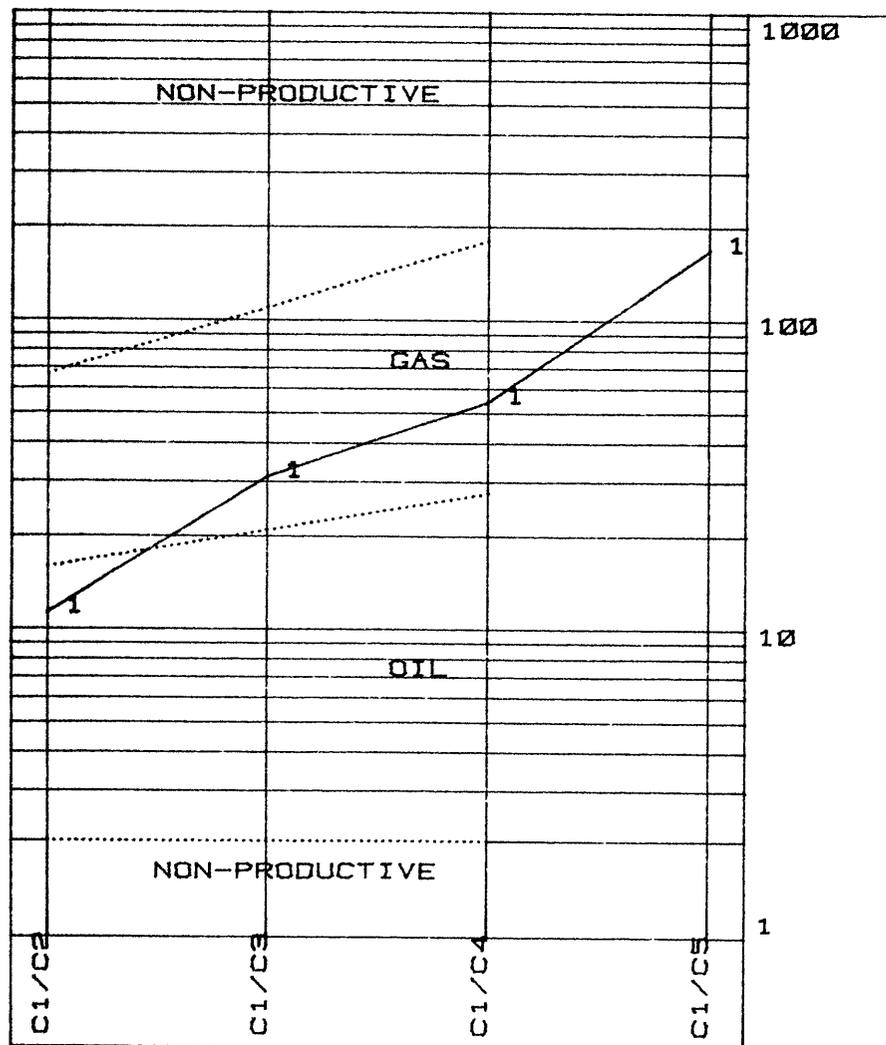
NO. DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1 2480	0.446	0.058	0.018	0.002	0.002	0.002	0.000	0.525	8	25	106	248

CONCLUSION: TIGHT, PRODUCTIVE WET GAS ZONE

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD

Well: WIRRAH NO.3



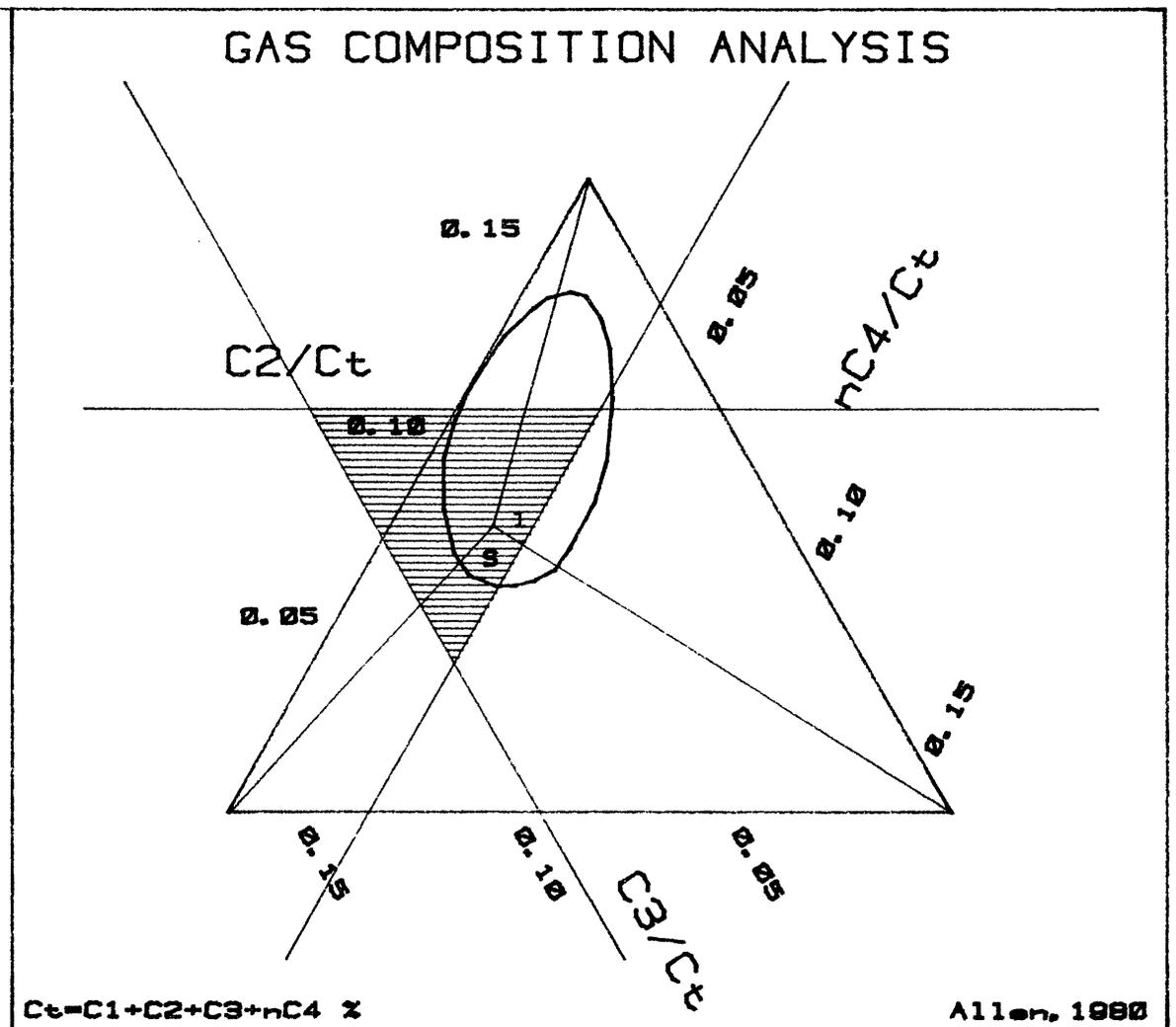
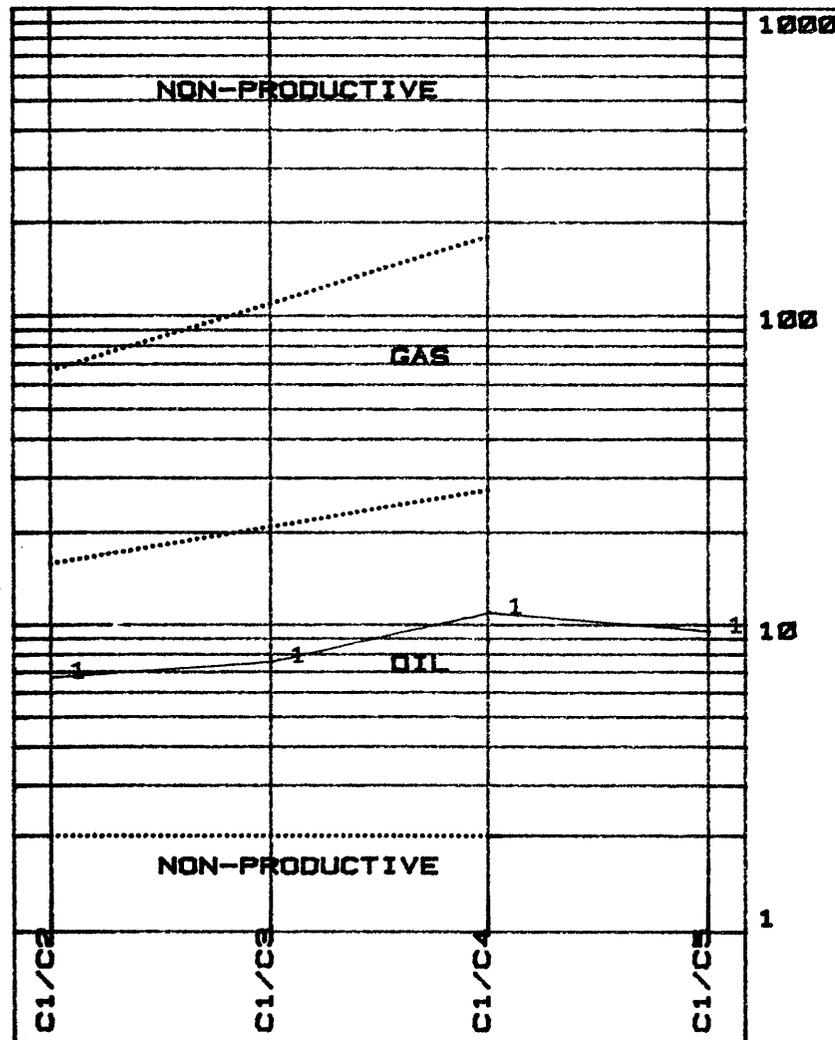
NO. DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1 2672	0.337	0.030	0.011	0.003	0.003	0.002	0.000	0.381	11	31	54	168

CONCLUSION: MODERATELY PERMEABLE GAS RESERVOIR

CORE LAB. INTL. LTD.

Clients: ESSO AUSTRALIA LTD

Well: WIRRAH NO.3



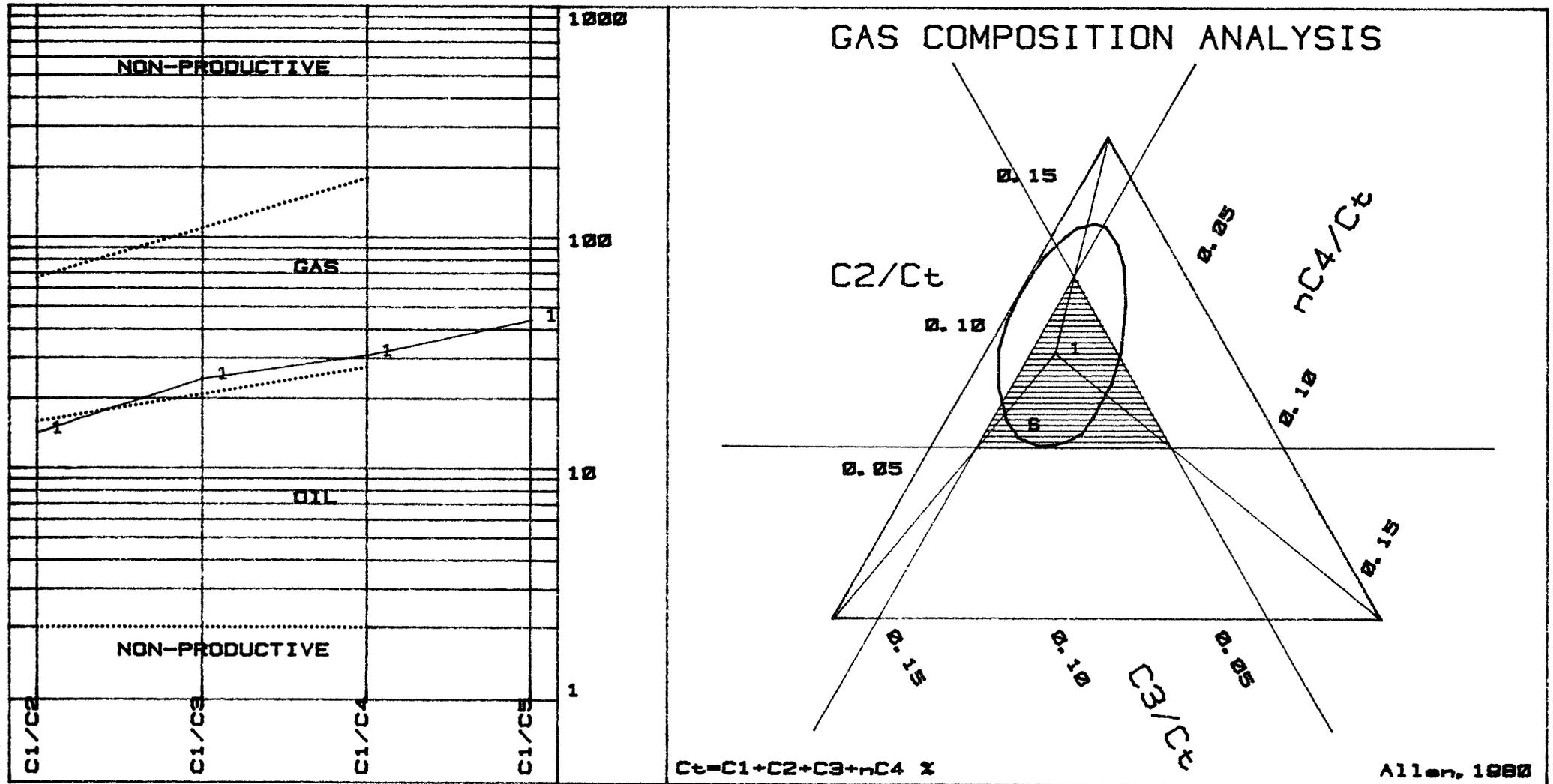
NO. DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1 2730	0.206	0.031	0.027	0.009	0.009	0.022	0.031	0.273	7	8	11	10

CONCLUSION: VERY PERMEABLE, OIL AND WATER BEARING FORMATION

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD

Well: WIRRAH NO. 3



NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	2748	0.762	0.054	0.031	0.012	0.012	0.017	0.003	0.858	14	25	31	44

CONCLUSION: VERY PERMEABLE, PRODUCTIVE GAS ZONE

10. CORELAB DATA SHEETS



COMPANY ESSO AUSTRALIA LTD.
WELL WIRRAH NO. 3

BIT RECORD

Sheet No. 1

S/NOS.	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	111	26	20/20/20	70	138.5	5	1.13	15	2-2-I	POOH FOR 20" CASING.
047 XR	1	HTC	OSC 3AJ	111	17 $\frac{1}{2}$	18/18/18	208.5	661.5	22 $\frac{1}{2}$	15.91	141	2-1-I	POOH FOR 13 $\frac{5}{8}$ " CASING.
820 LS	2	HTC	J1	116	12 $\frac{1}{4}$	18/18/18	870	81	4 $\frac{1}{4}$	2.77	17	2-2-I	PULLED DUE TO BLOCKED NOZZLE.
819 LS	3	HTC	J1	116	12 $\frac{1}{4}$	18/18/18	951	647	37 $\frac{3}{4}$	31.52	217	6-6- $\frac{1}{4}$	POOH DUE TO VERY LOW ROP'S.
921 HS	4	HTC	J22	517	12 $\frac{1}{4}$	16/ /18	1598	418	49 $\frac{3}{4}$	44.49	156	4-4- $\frac{1}{4}$	PULLED AFTER 42 HOURS ON BOTTOM.
269 HK	5	HTC	J22	517	12 $\frac{1}{4}$	16/16/18	2016	154	22 $\frac{1}{2}$	20.48	78	2-2-I	PULLED TO CUT CORE NO. 1.
2W6918	CB 1RR	CHRIS	RC4	4	8 $\frac{1}{2}$	EQUIVALENT 14/15/15	2170	18	4 $\frac{3}{4}$	4.64	20	30%	PULLED TO RECOVER CORE NO. 1.
2W6918	CB 1RR	CHRIS	RC4	4	8 $\frac{1}{2}$	EQUIVALENT 14/15/15	2188	17.5	2	1.88	9	35%	PULLED TO RECOVER CORE NO. 2.
151 WK	6	HTC	J22	517	12 $\frac{1}{4}$	16/16/18	2205.5	239.5	55 $\frac{3}{4}$	53.12	163	3-3-I	PULLED AT INTERMEDIATE LOGGING PRINT.
ZE 851	7	HTC	J22	517	12 $\frac{1}{4}$	16/16/18	2445	159	39 $\frac{3}{4}$	37.28	120	4-4-I	POOH FOR CORE NO. 3.
2W6918	CB 1RR	CHRIS	RC4	4	8 $\frac{1}{2}$	EQUIVALENT 14/15/15	2597	5.1	3 $\frac{3}{4}$	3.50	18	50%	PULLED DUE TO LOW ROP'S.
HC 224	8	HTC	J33	537	12 $\frac{1}{4}$	16/16/18	2601.2	14.6	3 $\frac{3}{4}$	3.52	10	1-5-I	POOH FOR CORE NO. 4.
2W639	CB 2RR	CHRIS	RC3	4	8 $\frac{1}{2}$	EQUIVALENT 14/15/15	2616.7	18.5	3 $\frac{1}{4}$	2.89	15	40%	RECOVERED CORE NO. 4.
2W639	CB 2RR	CHRIS	RC3	4	8 $\frac{1}{2}$	EQUIVALENT 14/15/15	2635.2	17.8	5 $\frac{3}{4}$	6.71	26	80%	RECOVERED CORE NO. 5.
2W6918	CB 1RR	CHRIS	RC4	4	8 $\frac{1}{2}$	EQUIVALENT 14/15/15	2653	18.2	4 $\frac{3}{4}$	4.45	24	60%	RECOVERED CORE NO. 6.
371 SK	9	HTC	J22	517	12 $\frac{1}{4}$	16/16/18	2671.2	0.8	$\frac{1}{4}$	0.10	0.3	2-2- $\frac{1}{8}$	REAMED RATHOLE.
2W6918	CB 1RR	CHRIS	RC4	4	8 $\frac{1}{2}$	EQUIVALENT 14/15/15	2672	18.5	5	4.67	25	90%	RECOVERED CORE NO. 7.
81E1909	CB 3	CHRIS	G20	4	8 $\frac{1}{2}$	EQUIVALENT 14/14/14	2690.5	17.8	9 $\frac{1}{4}$	8.86	40	30%	RECOVERED CORE NO. 8.
019 BL	10	HTC	J33	537	12 $\frac{1}{4}$	16/16/18	2708.3	68	16 $\frac{3}{4}$	15.72	48	3-4- $\frac{1}{8}$	REAMED RATHOLE. PULLED DUE TO HIGH TORQUE.
015 BL	11	HTC	J33	537	12 $\frac{1}{4}$	15/16/16	2776.3	30.5	8 $\frac{3}{4}$	7.68	23	1-1-I	PULLED TO CUT CORE NO. 9.
83B0616	CB 4	CHRIS	RC6	4	8 $\frac{1}{2}$	EQUIVALENT 14/15/15	2806.8	7.2	3 $\frac{3}{4}$	3.54	19	90%	RECOVERED CORE NO. 9 PRE-



COMPANY ESSO AUSTRALIA LTD.
WELL WIRRAH NO. 3

BIT RECORD

Sheet No. 2

S/NOS.

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
												MATURELY DUE TO DECREASED ROP'S.
073 NK	RR 12	HTC	J44	617	12 $\frac{1}{4}$	15/16/16	2814	146.2	35 $\frac{3}{4}$	33.08	93	5-5-I PULLED AT DESIGNATED CASING POINT.
484 HK	13	HTC	J7	316	8 $\frac{1}{2}$	14/14/14	2960.2	12.1	3	2.63	11	8-6- $\frac{3}{8}$ THIS SOFT FORMATION BIT DRILLED THROUGH THE CEMENT
225 MS	14	HTC	J33	537	8 $\frac{1}{2}$	14/14/14	2972.3	73.5	12 $\frac{1}{4}$	10.79	32	8-6- $\frac{5}{8}$ PULLED DUE TO EXCESSIVE TORQUE.
226 MS	15	HTC	J33	537	8 $\frac{1}{2}$	14/14/14	3045.8	45.8	11 $\frac{1}{4}$	10.32	31	8-6- $\frac{1}{8}$ PULLED DUE TO VERY LOW RATES OF PENETRATION.
TL 233	16	HTC	J44	617	8 $\frac{1}{2}$	14/14/14	3091.6	24.5	12	10.96	35	2-2-I PULLED TO CUT CORE NO. 10.
81E1909	CB 3RR	CHRIS	C-20	4	8 $\frac{1}{2}$	EQUIVALENT 14/14/14	3116.1	1.3	4	3.56	16	60% PULLED DUE TO VERY LOW RATES OF PENETRATION.
TL 236	17	HTC	J44	617	8 $\frac{1}{2}$	14/14/14	3117.4	26	8 $\frac{1}{4}$	7.72	23	2-2-I PULLED TO CUT CORE NO. 11.
81F0333	CB 5	CHRIS	C-23	4	8 $\frac{1}{2}$	EQUIVALENT 14/14/14	3143.4	2	4 $\frac{1}{4}$	4.10	18.5	10% PULLED DUE TO VERY LOW ROP'S.
839 MS	18	HTC	J55	637	8 $\frac{1}{2}$	14/14/14	3145.4	58.1	24 $\frac{3}{4}$	23.07	70	8-4-I PULLED DUE TO HIGH TORQUE.
TL 238	19	HTC	J44	617	8 $\frac{1}{2}$	14/14/15	3203.5	22.4	11	10.22	32	2-2-I PULLED DUE TO LOW ROP'S.
838 MS	20	HTC	J55	637	8 $\frac{1}{2}$	14/14/15	3225.9	11.7	11 $\frac{1}{4}$	10.04	31	1-1-I PULLED DUE TO LOW ROP'S.
770 SS	21	HTC	J22	517	8 $\frac{1}{2}$	14/14/15	3237.6	19.4	18	16.44	49	1-1-I PULLED TO LOG, AT T.D.



COMPANY ESSO AUSTRALIA LTD.
WELL WIRRAH NO. 3

BIT RECORD

Sheet No. 1

S/NOS.

LJ 321
047 XR
820 LS
819 LS
921 HS
269 HK
2W6918
2W6918
151 WK
ZE 851
2W6918
HC 224
2W639
2W639
2W6918
371 SK
2W6918
81E1909
019 BL
015 BL
83B0616
073 NK
484 HK
225 MS

Bit No.	Make	Type	IADC Code	Size "	Cost A\$	Jets	Depth In _m	Depth Off _{ft}	Hole m Made	Drilling Time	On Bottom Hours	TurnsK	Average ROP	Average Cost/m A\$	Condition T B G
RR 1	HTC	OSC 3AJ	111	26	0	20/20/20	70	208.5	138.5	5	3.13	15	44.2	148.45	2-2-I
1	HTC	OSC 3AJ	111	17 $\frac{1}{2}$	4857	18/18/18	208.5	870	661.5	22 $\frac{1}{2}$	15.91	141	41.6	115.61	2-1-I
2	HTC	J1	116	12 $\frac{1}{4}$	2694	18/18/18	870	951	81	4 $\frac{1}{4}$	2.77	17	29.2	338.49	2-2-I
3	HTC	J1	116	12 $\frac{1}{4}$	2694	18/18/18	951	1598	647	37 $\frac{3}{4}$	31.52	217	20.5	212.56	6-6- $\frac{1}{4}$
4	HTC	J22	517	12 $\frac{1}{4}$	8516	16/16/18	1598	2016	418	49 $\frac{3}{4}$	44.49	156	9.4	464.12	4-4- $\frac{1}{4}$
5	HTC	J22	517	12 $\frac{1}{4}$	8516	16/16/18	2016	2170	154	22 $\frac{1}{2}$	20.48	78	7.5	697.48	2-2-I
CB 1RR	CHRIS	RC4	4	8 $\frac{1}{2}$	0	EQUIVALENT 14/15/15	2170	2188	18	4 $\frac{3}{4}$	4.64	20	3.8	2359.11	30%
CB 1RR	CHRIS	RC4	4	8 $\frac{1}{2}$	0	EQUIVALENT 14/15/15	2188	2205.5	17.5	2	1.88	9	9.3	1790.52	35%
6	HTC	J22	517	12 $\frac{1}{4}$	8516	16/16/18	2205.5	2445	239.5	55 $\frac{3}{4}$	53.12	163	4.5	955.34	3-3-I
7	HTC	J22	517	12 $\frac{1}{4}$	8516	16/16/18	2445	2597	152	39 $\frac{3}{4}$	37.28	120	4.1	1131.92	4-4-I
CB 1RR	CHRIS	RC4	4	8 $\frac{1}{2}$	0	EQUIVALENT 14/15/15	2597	2602.1	5.1	3 $\frac{3}{4}$	3.50	18	1.5	7876.86	50%
8	HTC	J33	537	12 $\frac{1}{4}$	7774	16/16/18	2602.1	2616.7	14.6	3 $\frac{3}{4}$	3.52	10	4.2	3288.40	1-5-I
CB 2RR	CHRIS	RC3	4	8 $\frac{1}{2}$	0	EQUIVALENT 14/15/15	2616.7	2635.2	18.5	3 $\frac{1}{4}$	2.89	15	6.4	2051.04	40%
CB 2RR	CHRIS	RC3	4	8 $\frac{1}{2}$	0	EQUIVALENT 14/15/15	2635.2	2653	17.8	5 $\frac{3}{4}$	6.72	36	2.6	2979.05	80%
CB 1RR	CHRIS	RC4	4	8 $\frac{1}{2}$	0	EQUIVALENT 14/15/15	2653	2671.2	18.2	4 $\frac{3}{4}$	4.45	24	4.1	2417.95	60%
9	HTC	J22	517	12 $\frac{1}{4}$	8516	16/16/18	2671.2	2672	0.8	$\frac{1}{4}$	0.10	0.3	8.9	545,293	2-2- $\frac{1}{8}$
CB 1RR	CHRIS	RC4	4	8 $\frac{1}{2}$	0	EQUIVALENT 14/15/15	2672	2690.5	18.5	5	4.67	25	4.0	2422.16	90%
CB 3	CHRIS	C20	4	8 $\frac{1}{2}$	16500	EQUIVALENT 14/14/14	2690.5	2708.3	17.8	9 $\frac{1}{4}$	8.86	40	2.0	3397.59	30%
10	HTC	J33		8 $\frac{1}{2}$	7774	16/16/18	2708.3	2776.3	68	16 $\frac{3}{4}$	15.72	48	4.3	1388.23	3-4- $\frac{1}{8}$
11	HTC	J33	537	12 $\frac{1}{4}$	7774	15/16/16	2776.3	2806.8	30.5	8 $\frac{3}{4}$	7.68	23	4.0	2132.37	1-1-I
CB 4	CHRIS	RC6	4	8 $\frac{1}{2}$	18300	EQUIVALENT 14/15/15	2806.8	2814	7.2	3 $\frac{3}{4}$	3.54	19	2.0	8395.01	90%
12	HTC	J44	617	12 $\frac{1}{4}$	6844	15/16/16	2814	2960.2	146.2	35 $\frac{3}{4}$	33.08	93	4.4	1080.46	5-5-I
13	HTC	J7	316	8 $\frac{1}{2}$	1494	14/14/14	2960.2	2972.3	6.1	3	2.63	11	4.6	3422.34	8-6- $\frac{3}{8}$
14	HTC	J33	537	8 $\frac{1}{2}$	4503	14/14/14	2972.3	3045.8	73.5	12 $\frac{1}{4}$	10.79	32	6.8	1019.73	8-6- $\frac{5}{8}$

MUD INFORMATION SHEETS

DEPTH Metres

MUD WEIGHT Pounds per gallon

FUNNEL VISCOSITY A.P.I.seconds

PLASTIC VISCOSITY. . . . Centipoise

YIELD POINT. Pounds/100 square feet

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

FILTRATE A.P.I. c.c.

CAKE THICKNESS Thirty-seconds of an inch

SALINITY : Ca/Cl ppm

SOLIDS/SAND/OIL. . . . Percentage



MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.
WELL WIRRAH NO. 3

Sheet No. 1

DEPTH (M)			870		1020	1580	1792
DATE	27/11/83	28/11/83	29/11/83	30/11/83	01/12/83	02/12/83	03/12/83
TIME			14:00		16:00	23:20	23:00
WEIGHT	S	S	9.0	NO	8.8	9.2	9.2
FUNNEL VISCOSITY	E	E	38		28	35	43
PV/YP	A	A	6/22	MUD	3/7	5/11	8/12
N/K	W	W	.28/4.89		.38/.94	.39/1.39	.49/.97
GEL: INITIAL/10 MIN	A	A	10/21	CHECK	6/7	7/20	9/14
pH	T	T	9.5		10.0	10.0	10.6
FILTRATE: API/API HTHP	E	E	N.C.	PERFORMED	N.C.	10.0/29	6.4/20
CAKE	R	R	3		-	2	1
SALINITY			22,000		20,000	20,000	19,000
SAND			TR		0	0	TR
SOLIDS			4		3	6	6
OIL			-		0	0	0
NITRATES (PPM)					0	110	132

REMARKS:

SPUD 26" HOLE 17½" HOLE 13-3/8" CASING DRILLED 12¼" HOLE

DEPTH (m)	1958	2059	2170	2200	2231	2349	2433
DATE	04/12/83	05/12/83	06/12/83	07/12/83	08/12/83	09/12/83	10/12/83
TIME	22:32	22:53	18:00	23:32	23:30	22:30	22:20
WEIGHT	9.2	9.3	9.6	9.6+	9.6	9.7	9.6+
FUNNEL VISCOSITY	43	40	40	40	41	42	40
PV/YP	8/19	9/15	11/16	10/14	10/16	12/14	13/12
N/K	.37/2.62	.46/1.37	.49/1.25	.50/1.05	.47/1.39	.55/.86	.60/.58
GEL: INITIAL/10 MIN	11/22	10/26	6/25	7/25	7/28	6/24	4/21
pH	10.7	10.8	10.6	11.1	10.0	11.1	10.3
FILTRATE: API/API HTHP	6.4/13.5	7.2/15	6.0/14	6.2/15	6.4/14	6.7/15	6.5/15
CAKE	1	1	1	1	1	1	1
SALINITY	17,000	18,000	17,000	17,000	18,000	20,000	20,000
SAND	TR						
SOLIDS	6	6	9	8	8	9	9
OIL	0	0	0	0	0	0	0
NITRATES (PPM)	44	66	66	220	250	250	250

REMARKS:

DRILLED 12¼" HOLE CUT CORES NO. 1 AND 2 DRILLED 12" HOLE



MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.
WELL WIRRAH NO. 3

Sheet No. 2

DEPTH (M)		2445	2464	2558	2598	2616	2643
DATE	11/12/83	12/12/83	13/12/83	14/12/83	15/12/83	16/12/83	17/12/83
TIME		22:00	21:00	21:00	21:30	20:00	18:30
WEIGHT		9.6	9.6	9.5	9.6	9.6	9.6
FUNNEL VISCOSITY		43	42	48	45	44	42
PV/YP	NO	10/15	13/17	12/29	12/24	11/26	12/18
N/K		.49/1.21	.52/1.18	.37/4.08	.41/2.71	.36/3.56	.49/1.46
GEL: INITIAL/10 MIN	RELEVANT	6/33	10/25	15/38	18/32	16/37	12/33
pH		10.1	10.2	10.7	10.3	10.4	10.6
FILTRATE: API/API HTHP	MUD TEST	5.4/16.3	9.2/21.4	7.5/17.8	6.8/18.2	6.9/17.0	7.3/17.6
CAKE		1	1.5	1.5	1	1	1
SALINITY (PPM)	PERFORMED	19,000	21,000	21,000	21,000	22,000	22,000
SAND		TR	TR	TR	TR	TR	TR
SOLIDS		9	9	9	9	9	9
OIL		0	0	0	-	-	-
NITRATES (PPM)		220	240	200	240	240	200

REMARKS:

LOGGING DRILLED 12 $\frac{1}{4}$ " HOLE CORE 3 CORE 4 CORES

DEPTH (M)		2661	2672	2698	2708	2776	
DATE		18/12/83	19/12/83	20/12/83	21/12/83	22/12/83	23/12/83
TIME		11:00	13:00	22:00	16:00	22:30	
WEIGHT		9.7	9.6	9.7	9.5	9.5	
FUNNEL VISCOSITY		48	41	50	42	43	
PV/YP		12/23	12/18	12/22	11/20	13/20	
N/K		.43/2.47	.49/1.46	.44/2.24	.44/2.02	.48/1.67	
GEL: INITIAL/10 MIN		15/36	15/26	13/34	12/32	9/20	
pH		10.5	10.5	10.5	10.5	10.5	
FILTRATE: API/API HTHP		7.0/12.9	8.2/19.8	7.9/19.0	7.5/16.9	6.8/17.1	
CAKE (MM)		1	1.5	1.5	1	1	
SALINITY (PPM)		22,000	22,000	22,000	22,000	24,000	
SAND		9.2	TR	0.25	TR	TR	
SOLIDS		9	9	9	9	9	
OIL		-	-	-	-	-	
NITRATES (PPM)		220		220	210	240	

REMARKS:

CORE 6 REAMING CORE REAM DRILLED LOGGING
 RATHOLE 7 & 8 RATHOLE 12 $\frac{1}{4}$ " HOLE



MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.
 WELL WIRRAH NO. 3

Sheet No. 4

DEPTH (m)	3143	3145	3151	3193	3217	3237	3251
DATE	11/01/84	12/01/84	13/01/84	13/01/84	15/01/84	16/01/84	17/01/84
TIME	22:30	13:30	04:00	23:00	10:30	22:00	20:00
WEIGHT	10.3	10.5	10.6	12.1	12.2	12.3	12.3
FUNNEL VISCOSITY	51	48	49	58	48	52	52
PV/YP	11/24	15/25	15/25	22/29	18/34	17/25	20/35
N/K	.39/3.00	.46/2.28	.46/2.28	.52/2.03	.43/3.59	.49/1.98	.45/3.38
GEL: INITIAL/10 MIN	19/25	20/28	19/32	21/40	21/38	16/29	21/39
pH	10.9	11.0	10.9	10.2	10.4	10.4	10.4
FILTRATE: API/API HTHP	8/18	9/19	8/17	8/-	7/17	6/16	6/16
CAKE	2	2	2	2	2	2	2
SALINITY	16,000	16,000	16,000	16,000	16,000	16,000	16,000
SAND	0.25	TR	TR	0.25	0.25	0.25	0.25
SOLIDS	12	13	13	25	22	21	20
OIL	-	-	-	-	-	-	-
NITRATES (PPM)	200	160	160	180	200	200	200

REMARKS:

CUT CORE DRILLED 8½" HOLE LOGGING
 NO. 19 CUT CORE NO. 11

DEPTH (m)	3257	3257	3257				
DATE	18/01/84	20/01/84	22/01/84				
TIME	18:00	14:00	14:00				
WEIGHT	12.3	12.3	12.4				
FUNNEL VISCOSITY	50	48	48				
PV/YP	19/34	18/31	17/31				
N/K	.44/3.37	.45/2.94					
GEL: INITIAL/10 MIN	20/36	15/35	16/36				
pH	10.3	10.2	10.7				
FILTRATE: API/API HTHP	6/16	6/16	6/18				
CAKE	2	2	2				
SALINITY	16,000	16,000	16,000				
SAND	0.25	0.25	0.25				
SOLIDS	20	20	20				
OIL	-	-	-				
NITRATES (PPM)	200	200	180				

REMARKS:

LOGGING AT T.D. MUD WEIGHT WAS REDUCED TO 9.3 PPG AFTER PLUGGING BACK, PRIOR TO THE PRODUCTION TESTING.

R.F.T. DATA SHEETS

COMPANY : ESSO AUSTRALIA WELL : WIRRAH NO. 3
LTD.

RUN No. : 3

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2		
CHAMBER CAPACITY (LITRES)	22.7	10.4		
CHOKE SIZE (INCHES)	0.020	0.020		
SEAT No.	3/28	3/32		
DEPTH (M) (from RKB)	2349.2	2142.0		
A RECORDING TIMES				
TOOL SET	17:34:10			
PRETEST OPEN	17:34:30	18:29:30		
TIME OPEN				
CHAMBER OPEN	17:35:55	18:34:10		
CHAMBER FULL		18:41:05		
FILL TIME				
START BUILD UP		18:41:05		
FINISH BUILD UP		18:45:15		
BUILD UP TIME				
SEAL CHAMBER	17:50:35	18:45:15		
TOOL RETRACT	17:55:00	18:46:10		
TOTAL TIME	20:50	16:40		
B SAMPLE PRESSURES				
IHP (PSIG)	392 ^F .6	3562.4		
ISIP (PSIA)	3338.6	3029.9		
IFP (PSIA)	136.8	2208.3		
FFP (PSIA)	778.0	1678.5		
FSIP (PSIA)	2457.0	3036.6		
FHP (FSIA)	3922.2	3576.6		
TEMP. CORR. ()				
COMMENTS				
C TEMPERATURE				
DEPTH TOOL REACHED ()		2349.2		
MAX. REC. TEMP. (°)				
TIME CIRC. STOPPED				
TIME SINCE CIRC.				
D SAMPLE RECOVERY				
SURFACE PRESSURE (PSIG)	380	400		
VOL. GAS (CUFT)	18.60	1.54		
VOL. OIL (LT.)	3.75	0.20		
VOL. WATER (LT.)	11.0	9.00		
VOL. FILTRATE ()				
VOL. CONDENSATE ()				
VOL. OTHER ()				
E SAMPLE PROPERTIES				
(a) G	c1 (PPM)	701,759	426,423	
A	c2 (PPM)	89,407	62,529	
S	c3 (PPM)	25,746	16,580	
	c4 (PPM)	5,054	3,375	
C	c5 (PPM)	2,025	1,403	
O	c6+ (PPM)	841	655	
M	CO ₂ (%)	1.4	1.6	
P	H ₂ S (PPM)	0	0	
(b) OIL PROPERTIES				
DENSITY:	HYDROMETER	37.5	36.4	
(API)	REFRACTOMETER			
REFRACTIVE INDEX				
COLOUR				
		DK BRN	MED BRN	
FLUORESCENCE				
		CRM-YELL	BRT CRM-YEL	
G.O.R. ()				
OIL PROPERTIES CONT.				
ODOUR				
POUR POINT (°C)	26	26.5		
COMMENTS				
(c) WATER PROPERTIES				
RESISTIVITY ()	.298@71°F	.218@71°F		
Cl (frm. resis.) (PPM)	31,500	30,000		
Cl (frm. titrat) (PPM)	17,500	20,000		
NO ₃ (PPM)	88	100		
pH	8.1	7.5		
OTHER TRACERS				
()				
DENSITY ()				
FLUORESCENCE				
COLOUR				
COMMENTS				
(d) OTHER SAMPLE PROPERTIES				
F MUD PROPERTIES				
TYPE		SEAWATER GEL		
RESISTIVITY ()				
Cl (frm. resis.) ()				
Cl (frm. titrat) (PPM)				
19,000				
NO ₃ Drld/1st. circ ()				
250				
pH				
10.0				
OTHER TRACERS				
()				
DENSITY ()				
G GENERAL COMMENTS				
THE SAMPLE CHAMBERS FAILED TO ACTIVATE ON RFT RUN N. 2. THE C.I. WAS WAXY FROM BOTH CHAMBERS.				

COMPANY : ESSO AUSTRALIA WELL : WIRPAH NO. 3
LTD.
RUN No. : 4

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2		
CHAMBER CAPACITY (LITRES)	22.7	10.4		
CHOKE SIZE (INCHES)	0.02	0.02		
SEAT No.	4/35	4/35		
DEPTH (M) (from RKB)	2023.7	2023.7		
A RECORDING TIMES				
TOOL SET	23:50:05			
PRETEST OPEN	23:50:05			
TIME OPEN				
CHAMBER OPEN	23:53:01	00:05:15		
CHAMBER FULL	00:01:15			
FILL TIME	08:14			
START BUILD UP	01:15			
FINISH BUILD UP				
BUILD UP TIME				
SEAL CHAMBER	04:43	22:05		
TOOL RETRACT		23:50		
TOTAL TIME	14:38	19:07		
B SAMPLE PRESSURES				
IHP (PSIG)	3380.3			
ISIP (PSIA)	2872.3			
IFP (PSIA)	97.1	442.0		
FFP (PSIA)	841			
FSIP (PSIA)				
FHP (PSIA)		3380.5		
TEMP. CORR. ()				
COMMENTS				
C TEMPERATURE				
DEPTH TOOL REACHED(M)	2023.7	2023.7		
MAX. REC. TEMP. (°)				
TIME CIRC. STOPPED				
TIME SINCE CIRC.				
D SAMPLE RECOVERY				
SURFACE PRESSURE(PSIG)	210	640		
VOL. GAS (CUFT)	1.15	4.37		
VOL. OIL ()	TRIN SCUM	4.5		
VOL. WATER (LIT.)	21.5	3.98		
VOL. FILTRATE ()				
VOL. CONDENSATE ()				
VOL. OTHER ()				
E SAMPLE PROPERTIES				
(a) G	c1 (PPM)	373,094	684,901	
A	c2 (PPM)	147,397	197,712	
S	c3 (PPM)	73,098	89,521	
	c4 (PPM)	15,680	25,033	
C	c5 (PPM)	1,522	3,027	
O	c6+ (PPM)	-	-	
M	CO ₂ (%)	-	5.3	
P	H ₂ S (PPM)	0	0	
(b) OIL PROPERTIES				
DENSITY: (API)	HYDROMETER			
	REFRACTOMETER			
REFRACTIVE INDEX				
COLOUR		YELL- BRN		
FLUORESCENCE		BRT CRM-YELL		
G.O.R. ()				
OIL PROPERTIES CONT.				
ODOUR				
POUR POINT (°C)				22
COMMENTS				
(c) WATER PROPERTIES				
RESISTIVITY ()		.226 @ 67.5° F	.224 @ 66.5° F	
Cl (frm. resis.) (PPM)	30,000		31,000	
Cl (frm. titrat) (PPM)	22,000		19,000	
NO ₃ (PPM)	120		140	
pH				
OTHER TRACERS ()				
DENSITY ()				
FLUORESCENCE				
COLOUR				
COMMENTS				
(d) OTHER SAMPLE PROPERTIES				
F MUD PROPERTIES				
TYPE		SEAWATER GFL		
RESISTIVITY ()		.246 @ 19.9° C		
Cl (frm. resis.) ()		23,000		
Cl (frm. titrat) ()		19,000		
NO ₃ Drld/1st. circ ()		250		
pH				
OTHER TRACERS ()				
DENSITY ()				
G GENERAL COMMENTS				
<p>FILL POINTS WERE UNDETERMINABLE. DID NOT WAIT FOR BUILD-UPS. THE OIL RECOVERED WAS VERY WAXY/ VISCIOUS AT ROOM TEMPERATURE.</p>				

COMPANY : ESSO AUSTRALIA WELL : WIRRAH NO. 3
LTD.

RUN No. : 5

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2		
CHAMBER CAPACITY (LITRES)	22.7	10.4		
CHOKE SIZE	0.02	0.02		
SEAT No.	5/38	5/38		
DEPTH (M) (from RKB)	2029.0	2029.0		
A RECORDING TIMES			OIL PROPERTIES CONT.	
TOOL SET	04:04:30		ODOUR	
PRETEST OPEN	04:04:30		POUR POINT (°)	
TIME OPEN			COMMENTS	
CHAMBER OPEN	04:05:05	04:34:00	(c) WATER PROPERTIES (FILTRATE)	
CHAMBER FULL	04:32:30	04:45:05	RESISTIVITY ()	.235@69°F .235@69°F
FILL TIME	27:25	10:05	Cl (frm. resis.) (PPM)	29,500 29,500
START BUILD UP			Cl (frm. titrat) (PPM)	19,000 22,000
FINISH BUILD UP			NO ₃ (PPM)	150 120
BUILD UP TIME			pH	7.4 7.1
SEAL CHAMBER	04:33:20	04:45:50	OTHER TRACERS	
TOOL RETRACT		04:47:20	()	
TOTAL TIME		42:50	DENSITY ()	
B SAMPLE PRESSURES			FLUORESCENCE	
IHP (PSIG)	3390.3		COLOUR	
ISIP (PSIA)	2879.1		COMMENTS	
IFP (PSIA)	105.0	217.4		
FFP (PSIA)	2746.0	2529.7	(d) OTHER SAMPLE PROPERTIES	
FSIP (PSIA)		2876.8		
FHP (PSIA)				
TEMP. CORR. ()				
COMMENTS				
C TEMPERATURE			F MUD PROPERTIES	
DEPTH TOOL REACHED (M)	2029.1	2029.1	TYPE	
MAX. REC. TEMP. (°)			RESISTIVITY ()	
TIME CIRC. STOPPED			Cl (frm. resis.) ()	
TIME SINCE CIRC.			Cl (frm. titrat) ()	
D SAMPLE RECOVERY			NO ₃ Drld/1st. circ ()	
SURFACE PRESSURE (PSIG)	260	150	pH	
VOL. GAS (CUFT)	0.35	0.35	OTHER TRACERS	
VOL. OIL ()			()	
VOL. WATER (LIT)	21.25	9.25	DENSITY ()	
VOL. FILTRATE ()			G GENERAL COMMENTS	
VOL. CONDENSATE ()				
VOL. OTHER ()				
E SAMPLE PROPERTIES				
(a) G c1 (PPM)	248,729	244,948		
A c2 (PPM)	17,361	24,802		
S c3 (PPM)	5,711	7,994		
c4 (PPM)	1,416	2,833		
C c5 (PPM)	923	1,847		
O c6+ (PPM)	383	766		
M CO ₂ (%)	7.5	5.3		
P H ₂ S (PPM)	0	0		
(b) OIL PROPERTIES				
DENSITY: HYDROMETER				
() REFRACTOMETER				
REFRACTIVE INDEX				
COLOUR				
FLUORESCENCE				
G.O.R. ()				

COMPANY : ESSO AUSTRALIA WELL : WIRRAH NO. 3
LTD.
RUN No. : 6

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2		
CHAMBER CAPACITY (LITRES)	22.7	10.4		
CHOKE SIZE	0.02	0.02		
SEAT No.	6/39	6/39		
DEPTH (M) (from RKB)	1600.7	1600.7		
A RECORDING TIMES				
TOOL SET	07:23:15			
PRETEST OPEN	07:23:15			
TIME OPEN				
CHAMBER OPEN	07:31:30	07:46:30		
CHAMBER FULL	07:43:35	07:53:20		
FILL TIME	12:05	06:50		
START BUILD UP	07:43:35	07:53:20		
FINISH BUILD UP	07:45:50	07:54:40		
BUILD UP TIME	02:15	01:20		
SEAL CHAMBER	07:46:03	07:55:10		
TOOL RETRACT		07:56:50		
TOTAL TIME		33:35		
B SAMPLE PRESSURES				
IHP (PSIG)	2676.3			
ISIP (PSIA)	2472.6			
IFP (PSIA)	113.1	2067.2		
FFP (PSIA)	1992.6	2089.8		
FSIP (PSIA)		2255.0		
FHP (PSIA)		2676.2		
TEMP. CORR. ()				
COMMENTS				
C TEMPERATURE				
DEPTH TOOL REACHED ()				
MAX. REC. TEMP. (°)				
TIME CIRC. STOPPED				
TIME SINCE CIRC.				
D SAMPLE RECOVERY				
SURFACE PRESSURE (PSIG)	400	0		
VOL. GAS (CUFT)	0.95	0.43		
VOL. OIL ()				
VOL. WATER (LIT.)	21.75	9.6		
VOL. FILTRATE ()				
VOL. CONDENSATE ()				
VOL. OTHER ()				
E SAMPLE PROPERTIES				
(a) G	c1 (PPM)	139,288	323,348	
A	c2 (PPM)	24,944	40,250	
S	c3 (PPM)	1,218	6,243	
	c4 (PPM)	339	1,529	
C	c5 (PPM)	138	923	
O	c6+ (PPM)	10	306	
M	CO ₂ (%)	2.7	10.8	
P	H ₂ S (PPM)	0	8	
(b) OIL PROPERTIES				
DENSITY:	HYDROMETER			
()	REFRACTOMETER			
REFRACTIVE INDEX				
COLOUR				
FLUORESCENCE				
G.O.R. ()				
OIL PROPERTIES CONT.				
ODOUR				
POUR POINT (°)				
COMMENTS				
(c) WATER PROPERTIES (FORMATION WATER)				
RESISTIVITY ()				
Cl (frm. resis.) ()				
Cl (frm. titrat) (PPM)	12,000	10,000		
NO ₃ (PPM)	60	44		
pH	7.5	7.4		
OTHER TRACERS				
()				
DENSITY ()				
FLUORESCENCE				
COLOUR				
COMMENTS				
(d) OTHER SAMPLE PROPERTIES				
F MUD PROPERTIES				
TYPE				
RESISTIVITY ()				
Cl (frm. resis.) ()				
Cl (frm. titrat) ()				
NO ₃ Drld/1st. circ ()				
pH				
OTHER TRACERS				
()				
DENSITY ()				
G GENERAL COMMENTS				

COMPANY : ESSO AUSTRALIA WELL : WIRRAH NO. 3
LTD.

RUN No. : 8

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2		
CHAMBER CAPACITY (LITRES)	22.7	10.4		
CHOKE SIZE (INCHES)	0.03	0.02		
SEAT No.	65	65		
DEPTH (M) (from RKB)	2748.0	2748.0		
A RECORDING TIMES			OIL PROPERTIES CONT.	
TOOL SET	10:30:24		ODOUR	
PRETEST OPEN	10:30:29	11:16:05	POUR POINT (°)	
TIME OPEN	04:55	03:49	COMMENTS	
CHAMBER OPEN	10:35:24	11:19:51	(c) WATER PROPERTIES	
CHAMBER FULL (NOT FULL)	11:15:05	11:48:19	RESISTIVITY ()	
FILL TIME			Cl (frm. resis.) ()	
START BUILD UP			Cl (frm. titrat) (PPM)	.22K 20K
FINISH BUILD UP			NO ₃ (PPM)	40 70
BUILD UP TIME			pH	8 7
SEAL CHAMBER	11:16:05	11:50:07	OTHER TRACERS	
TOOL RETRACT		11:55:00	DENSITY ()	
TOTAL TIME	45:41		FLUORESCENCE	
B SAMPLE PRESSURES			COLOUR	
IHP (PSIG)	4575.52		COMMENTS	
ISIP (PSIA)	3953.93	3953.64	(d) OTHER SAMPLE PROPERTIES	
IFP (PSIA)	800	817		
FFP (PSIA)	1152	1952	F MUD PROPERTIES	
FSIP (PSIA)		3954.76	TYPE	SEAWATER GEL
FHP (PSIA)		4570.75	RESISTIVITY ()	
TEMP. CORR. ()			Cl (frm. resis.) ()	
COMMENTS			Cl (frm. titrat) ()	20,000 20,000
C TEMPERATURE			NO ₃ Drld/1st.circ ()	240/200 240/200
DEPTH TOOL REACHED (M)	2748.0	2748.0	pH	
MAX. REC. TEMP. (°F)	193	203.9	OTHER TRACERS	
TIME CIRC. STOPPED			DENSITY ()	9.7 9.7
TIME SINCE CIRC.			G GENERAL COMMENTS	
D SAMPLE RECOVERY			<p style="text-align: center;"><u>CHAMBER 1</u> <u>CHAMBER 2</u></p> <p style="text-align: center;">NOT FULL AFTER 41 MINS NOT FULL OPEN</p>	
SURFACE PRESSURE (PSIG)	680	1200		
VOL. GAS (CUFT)	17.6	26.9		
VOL. OIL ()				
VOL. WATER ()				
VOL. FILTRATE ()				
VOL. CONDENSATE ()				
VOL. OTHER ()				
E SAMPLE PROPERTIES				
(a) G	c1 (PPM)	329,728	329,730	
A	c2 (PPM)	23,511	26,449	
S	c3 (PPM)	8,763	730	
	c4 (PPM)	3,625	330	
C	c5 (PPM)	1,089	120	
O	c6+ (PPM)	969	23	
M	CO ₂ (%!)	13	16	
P	H ₂ S (PPM)	0	0	
(b) OIL PROPERTIES				
DENSITY:	HYDROMETER			
()	REFRACTOMETER			
REFRACTIVE INDEX				
COLOUR				
FLUORESCENCE				
G.O.R. ()				

COMPANY : ESSO AUSTRALIA WELL : WIRRAH NO. 3
LTD.

RUN No. : 9

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2	
CHAMBER CAPACITY (LITRES)	22.7	10.4	
CHOKE SIZE (INCHES)	0.03	0.02	
SEAT No.	66	66	
DEPTH (m) (from RKB)	2731	2731	
A RECORDING TIMES			
TOOL SET	03:25:51		
PRETEST OPEN	03:25:53	04:15:10	
TIME OPEN	05:18	04:33	
CHAMBER OPEN	03:31:11	04:19:43	
CHAMBER FULL (NOT FULL)	04:15:10	04:39:02	
FILL TIME			
START BUILD UP			
FINISH BUILD UP			
BUILD UP TIME			
SEAL CHAMBER	04:15:10	04:39:02	
TOOL RETRACT		04:40:56	
TOTAL TIME	49:19		
B SAMPLE PRESSURES			
IHP (PSIG)	4538.24		
ISIP (PSIA)	3920.14	3920.14	
IFP (PSIA)	160	157	
FFP (PSIA)	1500	166.25	
FSIP (PSIA)		3909.98	
FHP (PSIA)		4533.73	
TEMP. CORR. ()			
COMMENTS			
C TEMPERATURE			
DEPTH TOOL REACHED(M)	2731	2731	
MAX. REC. TEMP. (°)	209	211	
TIME CIRC. STOPPED			
TIME SINCE CIRC.			
D SAMPLE RECOVERY			
SURFACE PRESSURE()	390	100	
VOL. GAS (CUFT)	0.6	1.5	
VOL. OIL (CC)	10	250	
VOL. WATER ()			
VOL. FILTRATE (CC)	3750	750	
VOL. CONDENSATE ()			
VOL. OTHER ()			
E SAMPLE PROPERTIES			
(a) G	c1 (PPM)	52,756	224,215
A	c2 (PPM)	14,694	35,266
S	c3 (PPM)	339	15,022
	c4 (PPM)	141	896
C	c5 (PPM)	80	226
O	c6+ (PPM)	TR	TR
M	CO ₂ (%)	4.3	5.8
P	H ₂ S (PPM)	NIL	NIL
(b) OIL PROPERTIES			
DENSITY:	HYDROMETER		
()	REFRACTOMETER		
REFRACTIVE INDEX			
COLOUR			
FLUORESCENCE			
G.O.R. ()			
OIL PROPERTIES CONT.			
ODOUR			
POUR POINT (°)			
COMMENTS			
(c) WATER PROPERTIES			
RESISTIVITY ()			
Cl (frm. resis.) ()			
Cl (frm. titrat) (PPM)			16K 16K
NO ₃ (PPM)			80 40
pH			8.0 7.5
OTHER TRACERS			
()			
DENSITY ()			
FLUORESCENCE			
COLOUR			
COMMENTS			
(d) OTHER SAMPLE PROPERTIES			
F MUD PROPERTIES			
TYPE			SEAWATER GEL
RESISTIVITY ()			
Cl (frm. resis.) ()			
Cl (frm. titrat) (PPM)			20,000
NO ₃ Drld/1st. circ (PPM)			240/200
pH			10.5
OTHER TRACERS			
()			
DENSITY (PPG)			9.7
G GENERAL COMMENTS			

COMPANY : ESSO AUSTRALIA WELL : WIRRAH NO. 3
LTD.
RUN No. : 10

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2		
CHAMBER CAPACITY (LITRES)	22.7	10.4		
CHOKE SIZE (INCHES)	0.03	0.02		
SEAT No.	68	68		
DEPTH (m) (from RKB)	2707.8	2707.8		
A RECORDING TIMES				
TOOL SET	09:26:55			
PRETEST OPEN	09:26:59	10:01:01		
TIME OPEN	05:07	:29		
CHAMBER OPEN	09:35:06	10:01:30		
CHAMBER FULL	09:55:30	10:10:32		
FILL TIME	20:24	09:02		
START BUILD UP	09:55:30	10:10:32		
FINISH BUILD UP	10:00:55	10:15:03		
BUILD UP TIME	05:25	04:29		
SEAL CHAMBER	10:01:01	10:15:03		
TOOL RETRACT		10:17:13		
TOTAL TIME	34:00	16:00		
B SAMPLE PRESSURES				
IHP ()	4498.43			
ISIP ()	3879.83	3874.59		
IFP ()	250	956		
FFP ()	1580	1489		
FSIP ()	3874.59	3875.8		
FHP ()		4494.48		
TEMP. CORR. ()				
COMMENTS				
C TEMPERATURE				
DEPTH TOOL REACHED(m)	2707.8	2707.8		
MAX. REC. TEMP. (°F)	210	212		
TIME CIRC. STOPPED				
TIME SINCE CIRC.				
D SAMPLE RECOVERY				
SURFACE PRESSURE(PSI)	960	1130		
VOL. GAS (CU'F)	5.82	8.0		
VOL. OIL (LIT)	1.00	2.00		
VOL. WATER ()				
VOL. FILTRATE/WAT(LIT)	21.0	6.00		
VOL. CONDENSATE ()				
VOL. OTHER ()				
E SAMPLE PROPERTIES				
(a) G	c1 (PPM)	204,421	609,996	
A	c2 (PPM)	41,144	47,022	
S	c3 (PPM)	16,691	10,432	
	c4 (PPM)	2,124	198	
G	c5 (PPM)	1,935	45	
O	c6+ (PPM)	736	14	
M	CO ₂ (%)	27	8	
P	H ₂ S (PPM)	0	0	
(b) OIL PROPERTIES				
DENSITY:	HYDROMETER		37@60 °F	
()	REFRACTOMETER		30.5@33 °C	
REFRACTIVE INDEX				
COLOUR		BROWN WAXY		
FLUORESCENCE		BRI YELL/WH		
G.O.R. ()		925	636	
OIL PROPERTIES CONT.				
ODOUR				
POUR POINT (°)				
COMMENTS				
(c) WATER PROPERTIES				
RESISTIVITY ()				
Cl (frm. resis.) ()				
Cl (frm. titrat) ()	21K		20k	
NO ₃ (PPM)	60		40	
pH	7.5		7.5	
OTHER TRACERS ()				
DENSITY ()				
FLUORESCENCE				
COLOUR				
COMMENTS				
(d) OTHER SAMPLE PROPERTIES				
F MUD PROPERTIES				
TYPE				
RESISTIVITY ()		.090@91 °C		
Cl (frm. resis.) ()				
Cl (frm. titrat) ()		20,000		
NO ₃ Drld/1st. circ ()		240/200		
pH		17.5		
OTHER TRACERS ()				
DENSITY (PPG)		9.7		
G GENERAL COMMENTS				

COMPANY : ESSO AUSTRALIA WELL : WIRRAH NO. 3
LTD.

RUN No. : 12

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2		
CHAMBER CAPACITY (LITRES)	22.7	3.8		
CHOKE SIZE (INCH'S)	0.03	0.02		
SEAT No.	12/70	12/70		
DEPTH (m) (from RKB)	2672	2672		
A RECORDING TIMES				
TOOL SET	07:34:10			
PRETEST OPEN	07:34:31			
TIME OPEN	02:53			
CHAMBER OPEN	07:37:24	07:54:22		
CHAMBER FULL	07:52:30	07:57:44		
FILL TIME	15:06	03:22		
START BUILD UP	07:52:30	07:57:44		
FINISH BUILD UP	07:53:27	07:58:00		
BUILD UP TIME	:53	:16		
SEAL CHAMBER	07:53:27	08:00:39		
TOOL RETRACT		08:01:52		
TOTAL TIME	19:17	07:30		
B SAMPLE PRESSURES				
IHP (PSIG)	4440.8			
ISIP (PSIA)	3839.7			
IFP (PSIA)	1156.5	2114.7		
FFP (PSIA)	1934.3	1951.2		
FSIP (PSIA)		3835.4		
FHP ()		4434.2		
TEMP. CORR. ()				
COMMENTS				
C TEMPERATURE				
DEPTH TOOL REACHED(m)	2672.0	2672.0		
MAX. REC. TEMP. (°F)	213.5	213.5		
TIME CIRC. STOPPED				
TIME SINCE CIRC.				
D SAMPLE RECOVERY				
SURFACE PRESSURE(PSIA)	280	280		
VOL. GAS (CUFT)	1.7	0.4		
VOL. OIL ()				
VOL. WATER/FIL (LIT)	21	3.5		
VOL. FILTRATE ()				
VOL. CONDENSATE ()				
VOL. OTHER ()				
E SAMPLE PROPERTIES				
(a) G	c1 (PPM)	105,512	171,458	
A	c2 (PPM)	13,959	14,694	
S	c3 (PPM)	4,381	3,171	
	c4 (PPM)	962	1,246	
C	c5 (PPM)	702	1,028	
O	c6+ (PPM)	195	200	
M	CO ₂ (%)	5	8	
P	H ₂ S (PPM)	0		
(b) OIL PROPERTIES				
DENSITY:	HYDROMETER			
()	REFRACTOMETER			
REFRACTIVE INDEX				
COLOUR				
FLUORESCENCE				
G.O.R. ()				
OIL PROPERTIES CONT.				
ODOUR				
POUR POINT (°)				
COMMENTS				
(c) WATER PROPERTIES				
RESISTIVITY ()				
Cl (frm. resis.) ()				
Cl (frm. titrat) ()	18,000	18,000		
NO ₃ ()	40	40		
pH	8.1	7.5		
OTHER TRACERS ()				
DENSITY ()				
FLUORESCENCE				
COLOUR				
COMMENTS				
(d) OTHER SAMPLE PROPERTIES				
F MUD PROPERTIES				
TYPE		SEAWATER GEL		
RESISTIVITY ()		0.261@21.1 °C		
Cl (frm. resis.) ()				
Cl (frm. titrat) ()		20,000		
NO ₃ Drld/1st. circ ()				
pH				
OTHER TRACERS ()				
DENSITY ()		9.7		
G GENERAL COMMENTS				

COMPANY : ESSO AUSTRALIA WELL : WIRRAH NO. 3
LTD.

RUN No. : 13

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2		
CHAMBER CAPACITY (LITRES)	22.7	10.4		
CHOKE SIZE (INCHES)	0.03	0.02		
SEAT No.	72	72		
DEPTH (m) (from RKB)	2672	2672		
A RECORDING TIMES			OIL PROPERTIES CONT.	
TOOL SET	12:18:10		ODOUR	
PRETEST OPEN	12:18:30		POUR POINT (°)	
TIME OPEN	02:15		COMMENTS	
CHAMBER OPEN	12:20:45	01:19:00	(c) WATER PROPERTIES	
CHAMBER FULL		01:33:00	RESISTIVITY ()	
FILL TIME		14:00	Cl (frm. resis.) ()	
START BUILD UP		01:33:00	Cl (frm. titrat) ()	18K 17K
FINISH BUILD UP			NO ₃ ()	40 80
BUILD UP TIME			pH	7.3 7
SEAL CHAMBER	01:17:10	01:34:00	OTHER TRACERS	
TOOL RETRACT		01:36:00	()	
TOTAL TIME		01:17:30	DENSITY ()	
B SAMPLE PRESSURES			FLUORESCENCE	
IHP (PSIG)	4433.7		COLOUR	
ISIP (PSIA)	3831.7		COMMENTS	
IFP (PSIA)	2085.9	1068.9	(d) OTHER SAMPLE PROPERTIES	
FFP (PSIA)	2367.6	3682.3		
FSIP (PSIA)		3835.8		
FHP (PSIA)		4439.5		
TEMP. CORR. ()				
COMMENTS				
C TEMPERATURE			F MUD PROPERTIES	
DEPTH TOOL REACHED(m)	2694.5	2694.5	TYPE	S A WATER G L
MAX. REC. TEMP. (°F)	221	224	RESISTIVITY ()	
TIME CIRC. STOPPED			Cl (frm. resis.) ()	
TIME SINCE CIRC.			Cl (frm. titrat) ()	20,000
			NO ₃ Drld/1st. circ ()	240/200
			pH	10.5
			OTHER TRACERS	
			()	
			DENSITY (PPG)	9.7
D SAMPLE RECOVERY			G GENERAL COMMENTS	
SURFACE PRESSURE (PSI)	190	1000		
VOL. GAS (CUFT)	1.7	5.0		
VOL. OIL (CC)	100	500		
VOL. WATER ()				
VOL. FILTRATE (cc)	10,000	8000		
VOL. CONDENSATE ()				
VOL. OTHER ()				
E SAMPLE PROPERTIES				
(a) G	c1 (PPM)	16,486	34,621	
A	c2 (PPM)	60,122	64,655	
S	c3 (PPM)	1,096	1,335	
	c4 (PPM)	796	996	
C	c5 (PPM)	326	526	
O	c6+ (PPM)	96	106	
M	CO ₂ (%)	4.0	7.0	
P	H ₂ S (PPM)	NIL	NIL	
(b) OIL PROPERTIES				
DENSITY:	HYDROMETER		38@60 °F	
()	REFRACTOMETER			
REFRACTIVE INDEX				
COLOUR			BRN WAXY	
FLUORESCENCE			BRI YELL/WHT	
G.O.R. ()				

COMPANY : ESSO AUSTRALIA WELL : WIRRAH NO. 3
LTD.
RUN No. : 14

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2		
CHAMBER CAPACITY (LITRES)	22.7	10.4		
CHOKE SIZE (INCHES)	0.02	0.02		
SEAT No.	76	76		
DEPTH (m) (from RKB)	2644.7	2644.7		
A RECORDING TIMES				
TOOL SET	06:12:14			
PRETEST OPEN	06:12:18			
TIME OPEN	02:49			
CHAMBER OPEN	06:15:07	07:04:00		
CHAMBER FULL	NOT FILLED			
FILL TIME	NOT FILLED			
START BUILD UP				
FINISH BUILD UP				
BUILD UP TIME				
SEAL CHAMBER	07:01:00	07:22:00		
TOOL RETRACT		07:27:00		
TOTAL TIME	48:46	38:46		
B SAMPLE PRESSURES				
IHP (PSIA)	4393.72	-		
ISIP (PSIA)	3805.07	-		
IFP (PSIA)	260.0	98.7		
FFP (PSIA)	603.9	117.7		
FSIP (PSIA)		3794.5		
FHP ()		4396.6		
TEMP. CORR. ()				
COMMENTS				
C TEMPERATURE				
DEPTH TOOL REACHED(m)	2744.7	2744.7		
MAX. REC. TEMP. (°F)	218	220.5		
TIME CIRC. STOPPED				
TIME SINCE CIRC.				
D SAMPLE RECOVERY				
SURFACE PRESSURE(PSI)	53	15		
VOL. GAS (CUFT)	0.2	0.25		
VOL. OIL ()				
VOL. WATER ()				
VOL. FILTRATE ()	4500	3000		
VOL. CONDENSATE ()				
VOL. OTHER ()				
E SAMPLE PROPERTIES				
(a) G	c1 (PPM)	325,133	310,696	
A	c2 (PPM)	41,144	40,691	
S	c3 (PPM)	6,800	5,200	
	c4 (PPM)	220	160	
C	c5 (PPM)	60	30	
O	c6+ (PPM)	44	12	
M	CO ₂ (%)	16	14	
P	H ₂ S ()	-	-	
(b) OIL PROPERTIES				
DENSITY:	HYDROMETER			
()	REFRACTOMETER			
REFRACTIVE INDEX				
COLOUR				
FLUORESCENCE				
G.O.R. ()				
OIL PROPERTIES CONT.				
ODOUR				
POUR POINT (°)				
COMMENTS				
(c) WATER PROPERTIES				
RESISTIVITY ()				
Cl (frm. resis.) ()				
Cl (frm. titrat) ()	17,000	17,000		
NO ₃ ()	60	60		
pH	8.5	8.3		
OTHER TRACERS				
()				
DENSITY ()				
FLUORESCENCE				
COLOUR				
COMMENTS				
(d) OTHER SAMPLE PROPERTIES				
F MUD PROPERTIES				
TYPE	SEAWATER GEL			
RESISTIVITY ()	0.252 @ 18.8 C			
Cl (frm. resis.) ()	27,000			
Cl (frm. titrat) ()	20,000			
NO ₃ Drld/1st. circ ()				
pH				
OTHER TRACERS				
()				
DENSITY ()				
G GENERAL COMMENTS				

COMPANY : ESSO AUSTRALIA WELL : WIRRAH NO. 3
ETD.

RUN No. : 15

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2		
CHAMBER CAPACITY (LITRES)	22.7	10.4		
CHOKE SIZE (INCHES)	0.02	0.02		
SEAT No.	15/78	15/78		
DEPTH (m) (from RKB)	2622	2622		
A RECORDING TIMES			OIL PROPERTIES CONT.	
TOOL SET	10:37:00		ODOUR	
PRETEST OPEN	10:37:04		POUR POINT (°)	
TIME OPEN	01:32		COMMENTS	
CHAMBER OPEN	10:38:36	11:04:20	(c) WATER PROPERTIES	
CHAMBER FULL	10:58:20	11:10:12	RESISTIVITY ()	
FILL TIME	19:44	05:52	Cl (frm. resis.) ()	
START BUILD UP	10:58:20	11:13:43	Cl (frm. titrat) ()	16,000 16,000
FINISH BUILD UP	11:03:01		NO ₃ (PPM)	20 20
BUILD UP TIME			pH	6.2 6.3
SEAL CHAMBER	11:03:01	11:13:43	OTHER TRACERS	
TOOL RETRACT		11:15:08	()	
TOTAL TIME			DENSITY ()	
B SAMPLE PRESSURES			FLUORESCENCE	
IHP ()	4356.74		COLOUR	
ISIP ()	3772.63	3771.09	COMMENTS	
IFP ()	483	3101.49	(d) OTHER SAMPLE PROPERTIES	
FFP ()	3177.5	3048.21		
FSIP ()	3771.09	3770.65	F MUD PROPERTIES	
FHP ()		4357.34	TYPE	
TEMP. CORR. ()			RESISTIVITY ()	0.252 @ 18.8°C
COMMENTS			Cl (frm. resis.) ()	27,000
C TEMPERATURE			Cl (frm. titrat) ()	20,000
DEPTH TOOL REACHED (m)	2622	2622	NO ₃ Drld/1st. circ ()	
MAX. REC. TEMP. (°F)	210	219	pH	
TIME CIRC. STOPPED			OTHER TRACERS	
TIME SINCE CIRC.			()	
D SAMPLE RECOVERY			DENSITY ()	
SURFACE PRESSURE (PSIG)	1950	1900	G GENERAL COMMENTS	
VOL. GAS (CUFT)	74	51.3		
VOL. OIL ()				
VOL. WATER/FILT. (LIT)	11.2	2.25		
VOL. FILTRATE ()				
VOL. CONDENSATE (LIT)	0.2	0.2		
VOL. OTHER ()				
E SAMPLE PROPERTIES				
(a) G	c1 (PPM)	675,942	651,212	
A	c2 (PPM)	33,944	63,185	
S	c3 (PPM)	15,856	18,360	
	c4 (PPM)	2,412	3,398	
C	c5 (PPM)	410	1,693	
O	c6+ (PPM)	70	200	
M	CO ₂ (%)	9.5	12.1	
P	H ₂ S ()	0	0	
(b) OIL PROPERTIES				
DENSITY:	HYDROMETER			
()	REFRACTOMETER			
REFRACTIVE INDEX				
COLOUR				
FLUORESCENCE				
G.O.R. ()				

COMPANY : ESSO AUSTRALIA WELL : WIRRAH NO. 3
LTD.
RUN No. : 17

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2
CHAMBER CAPACITY (LITRES)	22.7	
CHOKE SIZE (INCHES)	0.03	
SEAT No.	93	
DEPTH (m) (from RKB)	2569	
A RECORDING TIMES		
TOOL SET	07:44:00	
PRETEST OPEN	07:44:00	
TIME OPEN	02:00	
CHAMBER OPEN	07:47:00	
CHAMBER FULL	NOT FULL	
FILL TIME		
START BUILD UP		
FINISH BUILD UP		
BUILD UP TIME		
SEAL CHAMBER	08:02:00	
TOOL RETRACT	08:04:00	
TOTAL TIME		
B SAMPLE PRESSURES		
IHP (PSIG)	4254.79	
ISIP ()	DIDN'T WAIT	
IFP (PSIA)	100	
FFP (PSIA)	180	
FSIP ()	DIDN'T WAIT	
FHP ()		
TEMP. CORR. ()		
COMMENTS		
C TEMPERATURE		
DEPTH TOOL REACHED(m)	2619	
MAX. REC. TEMP. (°F)		
TIME CIRC. STOPPED	23:40/26/12/83	
TIME SINCE CIRC.	8HR 4 MINS	
D SAMPLE RECOVERY		
SURFACE PRESSURE(PSIA)	18	
VOL. GAS ()		
VOL. OIL ()		
VOL. WATER ()		
VOL. FILTRATE (CC)	100	
VOL. CONDENSATE ()		
VOL. OTHER ()		
E SAMPLE PROPERTIES		
(a) G	c1 ()	
A	c2 ()	
S	c3 ()	
	c4 ()	
C	c5 ()	
O	c6+ ()	
M	CO ₂ ()	
P	H ₂ S ()	
(b) OIL PROPERTIES		
DENSITY:	HYDROMETER	
()	REFRACTOMETER	
REFRACTIVE INDEX		
COLOUR		
FLUORESCENCE		
G.O.R. ()		
F MUD PROPERTIES		
TYPE		
RESISTIVITY ()		
Cl (frm. resis.) ()		
Cl (frm. titrat) ()		
NO ₃ Dr1d/1st. circ ()		
pH		
OTHER TRACERS ()		
DENSITY ()		
G GENERAL COMMENTS		
(c) WATER PROPERTIES		
ODOUR		
POUR POINT (°)		
COMMENTS		
(d) OTHER SAMPLE PROPERTIES		

COMPANY : ESSO AUSTRALIA WELL : WIRRAH NO. 3
LTD.
RUN No. : 18

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2		
CHAMBER CAPACITY (LITRES)	22.7	10.4		
CHOKE SIZE (INCHES)	0.02	0.02		
SEAT No.				
DEPTH (m) (from RKB)	2645	2645		
A RECORDING TIMES			OIL PROPERTIES CONT.	
TOOL SET	03:09:24		ODOUR	
PRETEST OPEN	03:09:28		POUR POINT (°)	
TIME OPEN	01:23		COMMENTS	
CHAMBER OPEN	03:10:51	04:11:06	(c) WATER PROPERTIES	
CHAMBER FULL		04:23:00	RESISTIVITY ()	
FILL TIME		11:54	Cl (frm. resis.) ()	
START BUILD UP	NOT FILED	04:23:00	Cl (frm. titrat) ()	
FINISH BUILD UP			NO ₃ ()	
BUILD UP TIME		NO WAITING	pH	
SEAL CHAMBER	04:09:56	04:35:28	OTHER TRACERS	
TOOL RETRACT		04:39:16	DENSITY ()	
TOTAL TIME	01:00:32	28:10	FLUORESCENCE	
B SAMPLE PRESSURES			COLOUR	
IHP (PSIA)	4393.35		COMMENTS	
ISIP (PSIA)	3808.19		(d) OTHER SAMPLE PROPERTIES	
IFP (PSIA)	236.0	242.00		
FFP (PSIA)	1602.61	430.00	F MUD PROPERTIES	
FSIP ()			TYPE	
FHP (PSIA)		439	RESISTIVITY ()	
TEMP. CORR. ()			Cl (frm. resis.) ()	
COMMENTS			Cl (frm. titrat) ()	
C TEMPERATURE			NO ₃ Drld/1st. circ ()	
DEPTH TOOL REACHED (m)	2645.0	2645.0	pH	
MAX. REC. TEMP. (°F)	190	190	OTHER TRACERS	
TIME CIRC. STOPPED	17:00/27/12/83		DENSITY ()	
TIME SINCE CIRC.				
D SAMPLE RECOVERY			G GENERAL COMMENTS	
SURFACE PRESSURE (PSI)	200	375		
VOL. GAS (CUFT)	0.5	0.3		
VOL. OIL ()				
VOL. WATER ()				
VOL. FILTRATE (CC)	17,000	9500		
VOL. CONDENSATE ()				
VOL. OTHER ()				
E SAMPLE PROPERTIES				
(a) G	c1 (PPM)	65,945	64,071	
A	c2 (PPM)	7,347	6,903	
S	c3 (PPM)	1,669	1,246	
	c4 (PPM)	56	36	
C	c5 (PPM)	TR	TR	
O	c6+ (PPM)	-	-	
M	CO ₂ (%)	2	2	
P	H ₂ S ()			
(b) OIL PROPERTIES				
DENSITY:	HYDROMETER			
()	REFRACTOMETER			
REFRACTIVE INDEX				
COLOUR				
FLUORESCENCE				
G.O.R. ()				

COMPANY : ESSO AUSTRALIA
LTD.

WELL : WIRRAH NO. 3

RUN No. : 20

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2			
CHAMBER CAPACITY (LITRES)	22.7	10.4			
CHOKE SIZE (INCHES)	0.03	0.02			
SEAT No.	99				
DEPTH (m) (from RKB)	2753.1	2753.1			
A RECORDING TIMES			OIL PROPERTIES CONT.		
TOOL SET	06:29:00		ODOUR		
PRETEST OPEN	06:29:15		POUR POINT (°)		
TIME OPEN	00:15		COMMENTS		
CHAMBER OPEN	06:30:30	06:49:00	(c) WATER PROPERTIES		
CHAMBER FULL	06:44:45	06:56:00	RESISTIVITY ()		
FILL TIME	14:15	07:00	Cl (frm. resis.) ()		
START BUILD UP	06:44:45	06:56:00	Cl (frm. titrat) ()	14000 13000	
FINISH BUILD UP	-	-	NO ₃ ()	80 60	
BUILD UP TIME	-	-	pH	7.0 6.7	
SEAL CHAMBER	06:47:30	06:58:00	OTHER TRACERS		
TOOL RETRACT		07:04:00	DENSITY ()		
TOTAL TIME		35:00	FLUORESCENCE		
B SAMPLE PRESSURES			COLOUR		
IHP (PSIG)	4576.0		COMMENTS		
ISIP (PSIA)	3941.9		(d) OTHER SAMPLE PROPERTIES		
IFP (PSIA)	102.9	2030.2			
FFP (PSIA)	2441.7	2020.3			
FSIP (PSIA)	-	3933.4			
FHP (PSIA)	-	4575.0			
TEMP. CORR. ()	-	-			
COMMENTS					
C TEMPERATURE			F MUD PROPERTIES		
DEPTH TOOL REACHED (m)	2753.1	2753.1	TYPE	STAWATER GEL	
MAX. REC. TEMP. (°F)	180	180	RESISTIVITY ()		
TIME CIRC. STOPPED			Cl (frm. resis.) ()		
TIME SINCE CIRC.	6.5 HRS		Cl (frm. titrat) ()	16000	
D SAMPLE RECOVERY			NO ₃ Drld/1st. circ ()	140	
SURFACE PRESSURE (PSI)	600	1190	pH	10.1	
VOL. GAS (CUFT)	2.0	4.0	OTHER TRACERS		
VOL. OIL (LIT)	0 L SCUM	2	DENSITY ()	9.6+	
VOL. WATER ()			G GENERAL COMMENTS		
VOL. FILTRATE (LIT)	22.0	7.5	VERY GOOD PRETEST		
VOL. CONDENSATE ()					
VOL. OTHER ()					
E SAMPLE PROPERTIES					
(a) G	c1 (PPM)	253,890			260,485
A	c2 (PPM)	24,245			26,817
S	c3 (PPM)	2,295			6,676
	c4 (PPM)	962			1,242
C	c5 (PPM)	574			393
O	c6+ (PPM)	44			30
M	CO ₂ (% V)	0.3	0.4		
P	H ₂ S (PPM)	-	-		
(b) OIL PROPERTIES					
DENSITY:	HYDROMETER				
()	REFRACTOMETER				
REFRACTIVE INDEX					
COLOUR			DRK BRN, - REDDISH BRN, WAXY		
FLUORESCENCE			BRT YELL-WHITE		
G.O.R. ()					

COMPANY : ESSO AUSTRALIA
LTD.

WELL : WIRRAW NO. 3

RUN No. : 21

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2		
CHAMBER CAPACITY (LITRES)	22.6	10.4		
CHOKE SIZE (INCHES)				
SEAT No.	101	101		
DEPTH (m) (from RKB)	2627.1	2627.1		
A RECORDING TIMES			OIL PROPERTIES CONT.	
TOOL SET	10:44:00		ODOUR	
PRETEST OPEN	10:44:15		POUR POINT (°)	
TIME OPEN	02:45		COMMENTS	
CHAMBER OPEN	10:46:00	11:48:15	(c) WATER PROPERTIES	
CHAMBER FULL		12:22:00	RESISTIVITY ()	
FILL TIME		33:45	Cl (frm. resis.) ()	
START BUILD UP		12:22:00	Cl (frm. titrat) ()	16K 16K
FINISH BUILD UP			NO ₃ ()	90 70
BUILD UP TIME			pH	8.7 7.5
SEAL CHAMBER	11:47:30	12:24:15	OTHER TRACERS	
TOOL RETRACT			()	
TOTAL TIME			DENSITY ()	
B SAMPLE PRESSURES			FLUORESCENCE	
IHP (PSI)	4370.5		COLOUR	
ISIP (PSI)	3798.4		COMMENTS	
IFP (PSI)	710.3	188.3	(d) OTHER SAMPLE PROPERTIES	
FFP (PSI)	687.9	1355.8	F MUD PROPERTIES	
FSIP ()			TYPE	SEAWATER GEL
FHP (PSI)		4370.8	RESISTIVITY ()	
TEMP. CORR. ()			Cl (frm. resis.) ()	
COMMENTS			Cl (frm. titrat) ()	16K
C TEMPERATURE			NO ₃ Drld/1st. circ ()	1401
DEPTH TOOL REACHED (M)	2627.1	2627.1	pH	10.1
MAX. REC. TEMP. (° F)	189	200	OTHER TRACERS	
TIME CIRC. STOPPED			()	
TIME SINCE CIRC.			DENSITY ()	9.6+
D SAMPLE RECOVERY			G GENERAL COMMENTS	
SURFACE PRESSURE (PSI)	80	420	GOOD PRETEST SEAT & RT-OPENED TO INTRANCE FLOW	
VOL. GAS ()	0.5	0.4		
VOL. OIL ()		OIL SCUM		
VOL. WATER (LIT)				
VOL. FILTRATE (LIT)	18.5	9.75		
VOL. CONDENSATE ()				
VOL. OTHER ()				
E SAMPLE PROPERTIES				
(a) G	c1 (PPM)	SAMPLE	12,256	
A	c2 (PPM)	TOO SMALL	1,041	
S	c3 (PPM)		202	
	c4 (PPM)	N/A	86	
C	c5 (PPM)		TR	
O	c6+ (PPM)		-	
M	CO ₂ (%)		0.3	
P	H ₂ S (PPM)		-	
(b) OIL PROPERTIES				
DENSITY:	HYDROMETER			
()	REFRACTOMETER			
REFRACTIVE INDEX				
COLOUR				
FLUORESCENCE				
G.O.R. ()				

COMPANY : ESSO AUSTRALIA WELL : WIRRAE NO. 3
LTD.

RUN No. : 22

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2		
CHAMBER CAPACITY (LITRES)	22.6	10.4		
CHOKE SIZE (INCH S)	0.02	0.02		
SEAT No.	22	22		
DEPTH (M) (from RKB)	2627.2	2627.2		
A RECORDING TIMES			OIL PROPERTIES CONT.	
TOOL SET	03:39:00		ODOUR	
PRETEST OPEN	03:39:15		POUR POINT (°)	
TIME OPEN			COMMENTS	
CHAMBER OPEN	03:40:45	04:41:30	(c) WATER PROPERTIES	
CHAMBER FULL		05:23:00	RESISTIVITY ()	
FILL TIME		35:50	Cl (frm. resis.) ()	
START BUILD UP		05:23:00	Cl (frm. titrat) ()	
FINISH BUILD UP			NO ₃ ()	
BUILD UP TIME			pH	
SEAL CHAMBER	04:40:30	02:23:30	OTHER TRACERS	
TOOL RETRACT		05:24:30	DENSITY ()	
TOTAL TIME			FLUORESCENCE	
B SAMPLE PRESSURES			COLOUR	
IHP (FSI)	4367.4		COMMENTS	
ISIP ()	3795.2		(d) OTHER SAMPLE PROPERTIES	
IFP ()	73.0	170.3		
FFP ()	637.4	2717.4		
FSIP ()			F MUD PROPERTIES	
FHP ()		4369.4	TYPE	
TEMP. CORR. ()			SEAWATER G-L	
COMMENTS			RESISTIVITY ()	
C TEMPERATURE			Cl (frm. resis.) ()	
DEPTH TOOL REACHED (m)	2627.2	2627.2	Cl (frm. titrat) ()	
MAX. REC. TEMP. (°F)	203	209	NO ₃ Drld/1st. circ ()	
TIME CIRC. STOPPED	24:00/28	24:00/28	pH	
TIME SINCE CIRC.	15:5	15:5	OTHER TRACERS	
D SAMPLE RECOVERY			DENSITY ()	
SURFACE PRESSURE (PSI)	80	400	9.6+	
VOL. GAS (CUFT)	0.6	0.5	G GENERAL COMMENTS	
VOL. OIL ()	TR OIL	SCUM	GOOD PRETEST	
VOL. WATER ()				
VOL. FILTRATE ()	16.25	9.5		
VOL. CONDENSATE ()				
VOL. OTHER ()				
E SAMPLE PROPERTIES				
(a) G	c1 (PPM)	184,846	333,025	
A	c2 (PPM)	23,959	36,266	
S	c3 (PPM)	3,546	6,050	
	c4 (PPM)	165	623	
C	c5 (PPM)	TR	30	
O	c6+ (PPM)	-	-	
M	CO ₂ (%)	0	0.1	
P	H ₂ S (PTM)	-	-	
(b) OIL PROPERTIES				
DENSITY:	HYDROMETER			
()	REFRACTOMETER			
REFRACTIVE INDEX				
COLOUR				
FLUORESCENCE				
G.O.R. ()				

COMPANY : ESSO AUSTRALIA WELL : WIRRAH NO. 3
LTD.

RUN No. : 25

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2		
CHAMBER CAPACITY (GAL)	6	2 ³		
CHOKE SIZE (INCHES)	0.02	0.02		
SEAT No.	170	170		
DEPTH (m) (from RKB)	2785.5	2785.5		
A RECORDING TIMES				
TOOL SET	03:45:00			
PRETEST OPEN	03:51:00			
TIME OPEN	06:00			
CHAMBER OPEN	03:53:30	04:14:30		
CHAMBER FULL	04:07:00	04:16:45		
FILL TIME	14:30	02:15		
START BUILD UP	04:07:00	04:16:45		
FINISH BUILD UP	04:13:00	04:26:15		
BUILD UP TIME	06:00	09:30		
SEAL CHAMBER	04:13:00	04:26:15		
TOOL RETRACT		04:27:25		
TOTAL TIME	22:00	12:45		
B SAMPLE PRESSURES				
IHP (PSIG)	4573.2			
ISIP (PSIA)	3988.2			
IFP (PSIA)	145.2	1281.09		
FFP (PSIA)	3977.0	1300.42		
FSIP (PSIA)	3977.2	3975.36		
FHP (PSIA)		4568.60		
TEMP. CORR. ()				
COMMENTS				
C TEMPERATURE				
DEPTH TOOL REACHED(M)	2785.5	2785.5		
MAX. REC. TEMP. (°F)	215	215		
TIME CIRC. STOPPED	09:51			
TIME SINCE CIRC.				
D SAMPLE RECOVERY				
SURFACE PRESSURE (PSI)	1250	1100		
VOL. GAS (CUFT)	24.82	15.30		
VOL. OIL (LIT)	4.50	4.50		
VOL. WATER (LIT)	12.40	2.20		
VOL. FILTRATE ()				
VOL. CONDENSATE ()				
VOL. OTHER ()				
E SAMPLE PROPERTIES				
(a) G	c1 (PPM)	228,380	296,570	
A	c2 (PPM)	43,084	51,701	
S	c3 (PPM)	2,957	3,475	
	c4 (PPM)	163	294	
C	c5 (PPM)	TR	TR	
O	c6+ (PPM)	-	-	
M	CO ₂ (%)	1.3	1.4	
P	H ₂ S (PPM)	4	8	
(b) OIL PROPERTIES				
DENSITY: ()	HYDROMETER	36@60	35.4@60	
	REFRACTOMETER			
REFRACTIVE INDEX				
COLOUR			BROWN	
FLUORESCENCE			CRM YEL/BRN	
G.O.R. ()				
OIL PROPERTIES CONT.				
ODOUR				
POUR POINT (°C)			26	21
COMMENTS				
(c) WATER PROPERTIES				
RESISTIVITY ()				
Cl (frm. resis.) ()				
Cl (frm. titrat) (PPM)			21000	21000
NO ₃ (PPM)			40	45
pH			6.5	6.5
OTHER TRACERS ()				
DENSITY ()				
FLUORESCENCE				
COLOUR				
COMMENTS				
(d) OTHER SAMPLE PROPERTIES				
F MUD PROPERTIES				
TYPE			SEAWATER GEL	
RESISTIVITY ()			0.225 @ 86 F	
Cl (frm. resis.) ()				
Cl (frm. titrat) (PPM)			16K	
NO ₃ Drld/1st. circ (PPM)			1601	
pH				
OTHER TRACERS ()				
DENSITY (PPG)			9.6+	
G GENERAL COMMENTS				
CHROMATOGRAPH CALIBRATED W/ALL 6 PEAKS. SAMPLE RUNS DONE 4 TIMES TO CHECK THE PECULIAR COMPOSITIONS.				

COMPANY : ESSO AUSTRALIA WELL : WIRRAF NO. 3
LTD.

RUN No. : CH1

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2			
CHAMBER CAPACITY (LITRES)	45.4	10.4			
CHOKE SIZE (INCHES)	0.02	0.02			
SEAT No.	28/204	28/204			
DEPTH (M) (from RKB)	2936.8	2936.8			
A RECORDING TIMES					
TOOL SET	21:12:00				
PRETEST OPEN					
TIME OPEN	21:18:00				
CHAMBER OPEN	21:37:00	22:10:00			
CHAMBER FULL	21:59:00	22:15:00			
FILL TIME	22:00	05:00			
START BUILD UP	21:59:00	22:15:00			
FINISH BUILD UP					
BUILD UP TIME					
SEAL CHAMBER	22:08:00	22:20:00			
TOOL RETRACT		22:29:00			
TOTAL TIME		01:00:00			
B SAMPLE PRESSURES					
IHP (FSIA)	6115.26				
ISIP (FSIA)	4787.8				
IFP (FSIA)	2550.56	3721.8			
FFP (FSIA)	3034.7	3069.19			
FSIP (FSIA)	4165.14	4338.4			
FHP ()					
TEMP. CORR. ()					
COMMENTS					
C TEMPERATURE					
DEPTH TOOL REACHED ()					
MAX. REC. TEMP. (°)					
TIME CIRC. STOPPED	03:00/19/1/84				
TIME SINCE CIRC.					
D SAMPLE RECOVERY					
SURFACE PRESSURE (PSIG)	1300		P		
VOL. GAS (CUFT)	39.1		R		
VOL. OIL (CC)	650		E		
VOL. WATER (LIT)	34.6		S		
VOL. FILTRATE ()			R		
VOL. CONDENSATE ()			E		
VOL. OTHER ()			B		
E SAMPLE PROPERTIES					
(a) G	c1 (PPM)	280,739			
A	c2 (PPM)	37,703			
S	c3 (PPM)	7,540			
	c4 (PPM)	1,308			
C	c5 (PPM)	326			
O	c6+ (PPM)	15			
M	CO ₂ (%)	1			
P	H ₂ S (PPM)	10			
(b) OIL PROPERTIES					
DENSITY:	HYDROMETER	25@60			
()	REFRACTOMETER				
REFRACTIVE INDEX					
COLOUR					
FLUORESCENCE					
G.O.R. ()					
OIL PROPERTIES CONT.					
ODOUR					
POUR POINT (°)					
COMMENTS					
(c) WATER PROPERTIES					
RESISTIVITY ()					
Cl (frm. resis.) ()					
Cl (frm. titrat) (PPM)					16.5K
NO ₃ (PPM)					30
pH					8.6
OTHER TRACERS					
()					
DENSITY ()					
FLUORESCENCE					
COLOUR					
COMMENTS					
(d) OTHER SAMPLE PROPERTIES					
F MUD PROPERTIES					
TYPE					
RESISTIVITY ()					
Cl (frm. resis.) ()					
Cl (frm. titrat) (PPM)					16K
NO ₃ Drld/1st. circ ()					200
pH					10
OTHER TRACERS					
()					
DENSITY (FPG)					12.3
G GENERAL COMMENTS					
THE OIL RECOVERED FROM CHAMBER NO. 1 WAS LESS THAN 25° API.					

COMPANY : ESSO AUSTRALIA WELL : WIRRAH NO. 3
LTD.
RUN No. : CH 3 (CASED HOLE) PRESSURE GAUGE TYPE : HP



CHAMBER No.	1.	2.		
CHAMBER CAPACITY (LITRES)	45.6	10.5		
CHOKE SIZE (INCHES)	0.02	0.03		
SEAT No.	206	206		
DEPTH (M) (from RKB)	2884.8	2884.8		
A RECORDING TIMES			OIL PROPERTIES CONT.	
TOOL SET	07:57:00		ODOUR	
PRETEST OPEN	08:03:00		POUR POINT (°C)	30
TIME OPEN	05:00		COMMENTS	
CHAMBER OPEN	08:08:00	08:39:00	(c) WATER PROPERTIES	
CHAMBER FULL	08:29:00	NOT FILLED	RESISTIVITY (M)	.69@72°F .696@69°F
FILL TIME	21:00		Cl (frm. resis.)(PPM)	8500 8900
START BUILD UP	08:29:00		Cl (frm. titrat)(PPM)	3200 3350
FINISH BUILD UP	08:33:00		NO ₃ (PPM)	0 0
BUILD UP TIME	04:00		pH	7 7
SEAL CHAMBER	08:33:00	08:54:00	OTHER TRACERS	()
TOOL RETRACT		08:55:00	DENSITY ()	
TOTAL TIME		58:00	FLUORESCENCE	
B SAMPLE PRESSURES			COLOUR	
IHP (PSIG)	4604.7		COMMENTS	
ISIP (PSIA)	-		(d) OTHER SAMPLE PROPERTIES	
IFP (PSIA)	3500	150		
FFP (PSIA)	3850	280		
FSIP (PSIA)	4312			
FHP (PSIA)		4589		
TEMP. CORR. ()				
COMMENTS				
C TEMPERATURE			F MUD PROPERTIES	
DEPTH TOOL REACHED(M)	2885	2885	TYPE	SEAWATER GEL
MAX. REC. TEMP. (°F)	236	236	RESISTIVITY (M)	.204 @ 17.7 C
TIME CIRC. STOPPED	18:15/JAN 26		Cl (frm. resis.)(PPM)	26400
TIME SINCE CIRC.	13:30:00		Cl (frm. titrat)(PPM)	16000
D SAMPLE RECOVERY			NO ₃ Drld/1st. circ()	
SURFACE PRESSURE(PSIG)	680	2	pH	
VOL. GAS (CUFT)	10.5	0.6	OTHER TRACERS	()
VOL. OIL(WAXY) (CC)	220	50(SCUM)	DENSITY ()	
VOL. WATER (LIT.)	40.75	2.13		
VOL. FILTRATE ()				
VOL. CONDENSATE ()				
VOL. OTHER ()				
E SAMPLE PROPERTIES			G GENERAL COMMENTS	
(a) G	c1 (PPM)	439,420	THIS WAS A CASED-HOLE RFT. CHAMBER 2 WAS NOT FILLED.	
A	c2 (PPM)	7,325		
S	c3 (PPM)	3,825		
	c4 (PPM)	140		
C	c5 (PPM)	0		
O	c6+ (PPM)	0		
M	CO ₂ (%)	15.5		
P	H ₂ S ()			
(b) OIL PROPERTIES				
DENSITY: (°API)	HYDROMETER	21@60°F		
	REFRACTOMETER			
REFRACTIVE INDEX				
COLOUR		DARK BROWN		
FLUORESCENCE		BRT MILKY WH		
G.O.R. (SCF/STB)		7590		

"CASED-HOLE"

CORE LABORATORIES

R.F.T. DATA SHEET - SAMPLING DATA

COMPANY : ESSO AUSTRALIA LTD WELL : WIRRAH NO. 3

RUN No. : CH 4

PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2		
CHAMBER CAPACITY (LITRES)	3.8	45.4		
CHOKE SIZE (INCHES)	0.03	0.03		
SEAT No.	4	4		
DEPTH (M) (from RKB)	2834.5	2834.5		
A RECORDING TIMES			OIL PROPERTIES CONT.	
TOOL SET		07:30	ODOUR	
PRETEST OPEN			POUR POINT (°)	
TIME OPEN	08:46	07:36	COMMENTS	
CHAMBER OPEN	08:46	07:36	(c) WATER PROPERTIES	
CHAMBER FULL	08:48	08:00	RESISTIVITY (M)	.387@75°F .402@76°F
FILL TIME	:02	:24	Cl (frm. resis.)(PPM)	15500 14000
START BUILD UP	08:48	08:00	Cl (frm. titrat)(PPM)	16000 13000
FINISH BUILD UP	09:17	08:45	NO ₃ (PPM)	10 0
BUILD UP TIME			pH	11.4 10.5
SEAL CHAMBER	08:52	08:16	OTHER TRACERS	
TOOL RETRACT	09:17		DENSITY ()	
TOTAL TIME	01:47		FLUORESCENCE	
			COLOUR	
			COMMENTS	
B SAMPLE PRESSURES			(d) OTHER SAMPLE PROPERTIES	
IHP (PSIA)		4516.2		
ISIP (PSIA)	4060	4176		
IFP (PSIA)	3100	3000		
FFP (PSIA)	3200	2200		
FSIP (PSIA)	4082	4058		
FHP (PSIA)	4495.9			
TEMP. CORR. ()				
COMMENTS				
C TEMPERATURE			F MUD PROPERTIES	
DEPTH TOOL REACHED(M)	2836	2836	TYPE	SEAWATER GEL
MAX. REC. TEMP. (°)			RESISTIVITY (M)	.357@69°F
TIME CIRC. STOPPED	11:45 1/2	11:45 1/2	Cl (frm. resis.)(PPM)	29,700
TIME SINCE CIRC.	21:30	20:30	Cl (frm. titrat)(PPM)	18,000
			NO ₃ Drld/1st. circ ()	
			pH	
			OTHER TRACERS	
			DENSITY ()	
D SAMPLE RECOVERY			G GENERAL COMMENTS	
SURFACE PRESSURE(P SIG)	690	920	THERE WAS INSUFFICIENT GAS RECOVERED FROM THE 1-GALLON CHAMBER FOR GAS ANALYSES. 2ND FEBRUARY 1984.	
VOL. GAS (CUFT)	0	6.1		
VOL. OIL (CC)	SCUM	90		
VOL. WATER (LIT.)	3.75	43.3		
VOL. FILTRATE ()				
VOL. CONDENSATE ()				
VOL. OTHER ()				
E SAMPLE PROPERTIES				
(a) G	c1 (PPM)	58695		
A	c2 (PPM)	20685		
S	c3 (PPM)	12124		
	c4 (PPM)	6528		
C	c5 (PPM)	325		
O	c6+ (PPM)	TR		
M	CO ₂ (%)	0.2		
P	H ₂ S (PPM)	0		
(b) OIL PROPERTIES				
DENSITY: HYDROMETER		23 @ 60 °F		
(API) REFRACTOMETER				
REFRACTIVE INDEX				
COLOUR		DK BRN		
FLUORESCENCE		BRT MIL-WH		
G.O.R. ()				

"CASED-HOLE"

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

COMPANY : ESSO AUSTRALIA WELL : WIRRAH NO. 3
 LTD.
 RUN No. : CH 5 PRESSURE GAUGE TYPE : HP



CHAMBER No.	1	2		
CHAMBER CAPACITY (LITRES)	45.4	10.4		
CHOKE SIZE (INCHES)	0.03	0.03		
SEAT No.	5	5		
DEPTH (M) (from RKB)	2828.6	2828.6		
A RECORDING TIMES			OIL PROPERTIES CONT.	
TOOL SET	13:14		ODOUR	
PRETEST OPEN			POUR POINT (°)	
TIME OPEN	13:20	14:20	COMMENTS	
CHAMBER OPEN	13:20	14:20	(c) WATER PROPERTIES	
CHAMBER FULL	14:00	14:31	RESISTIVITY (M)	.311@76°F .322@74°F
FILL TIME	:40		Cl (frm. resis.)(PPM)	20,000 19,000
START BUILD UP	14:00	14:31	Cl (frm. titrat)(PPM)	11,000 12,000
FINISH BUILD UP	14:20	14:49	NO ₃ (PPM)	0 TRACE
BUILD UP TIME	:20	:18	pH	8.3 7.4
SEAL CHAMBER	14:20	14:44	OTHER TRACERS	
TOOL RETRACT		14:49	DENSITY ()	
TOTAL TIME		1:35	FLUORESCENCE	
B SAMPLE PRESSURES			COLOUR	
IHP (PSIA)	4509.5		COMMENTS	
ISIP (PSIA)	4149	3829.3	(d) OTHER SAMPLE PROPERTIES	
IFP (PSIA)	3435	3400		
FFP (PSIA)	1895-3600	2497-3742	MUD PROPERTIES	
FSIP (PSIA)	3829.3	3871	TYPE	
FHP (PSIA)		4487	RESISTIVITY (M)	.357@69°F
TEMP. CORR. ()			Cl (frm.resis.)(PPM)	
COMMENTS			Cl (frm.titrat)(PPM)	18000
C TEMPERATURE			NO ₃ Dr1d/1st.circ()	
DEPTH TOOL REACHED(M)	2830	2830	pH	
MAX.REC.TEMP.(°)			OTHER TRACERS	
TIME CIRC. STOPPED	11:45 1/2	11:45 1/2	DENSITY ()	
TIME SINCE CIRC.			G GENERAL COMMENTS	
D SAMPLE RECOVERY			CHAMBER NO. 1 CONTAINED COMPONENTS OF C7 AND C8.	
SURFACE PRESSURE(PSIQ)	1550	1300		
VOL. GAS (CUFT)	54.5	3.5		
VOL. OIL ()	SCUM	SCUM		
VOL. WATER(MUDDY) LIT	40.8	9.2		
VOL. FILTRATE ()				
VOL. CONDENSATE ()				
VOL. OTHER ()				
E SAMPLE PROPERTIES				
(a) G c1 (PPM)	317,358	195,297		
A c2 (PPM)	11,850	18,313		
S c3 (PPM)	7,322	4,035		
c4 (PPM)	2,650	1,877		
G c5 (PPM)	1,113	1,272		
O c6+ (PPM)	160	1,070		
M CO ₂ (%)	3.2	2.8		
P H ₂ S (PPM)	0	0		
(b) OIL PROPERTIES				
DENSITY: HYDROMETER				
() REFRACTOMETER				
REFRACTIVE INDEX				
COLOUR				
FLUORESCENCE				
G.O.R. ()				

"CASED HOLE"

CORE LABORATORIES

R.F.T. DATA SHEET - SAMPLING DATA

COMPANY : ESSO AUSTRALIA WELL : WIRRAH NO. 3
 LTD.
 RUN No. : CH 7 PRESSURE GAUGE TYPE :



CHAMBER No.	1	2		
CHAMBER CAPACITY (LITRES)	45.4	10.4		
CHOKE SIZE (INCHES)	0.03	0.03		
SEAT No.	7	7		
DEPTH (M) (from RKB)	2820.1	2820.1		
A RECORDING TIMES			OIL PROPERTIES CONT.	
TOOL SET	00:13:14		ODOUR	
PRETEST OPEN			POUR POINT (°)	
TIME OPEN			COMMENTS	
CHAMBER OPEN	00:19:36		(c) WATER PROPERTIES	
CHAMBER FULL			RESISTIVITY ()	
FILL TIME			Cl (frm. resis.) ()	
START BUILD UP			Cl (frm. titrat) (PPM)	15,000
FINISH BUILD UP			NO ₃ (PPM)	0
BUILD UP TIME			pH	10.8
SEAL CHAMBER			OTHER TRACERS	
TOOL RETRACT			()	
TOTAL TIME			DENSITY ()	
B SAMPLE PRESSURES			FLUORESCENCE	
IHP (PSIA)	4488.5		COLOUR	
ISIP (PSIA)	4058.4		COMMENTS	
IFP (PSIA)	4211-4280		(d) OTHER SAMPLE PROPERTIES	
FFP ()				
FSIP ()			F MUD PROPERTIES	
FHP ()			TYPE	
TEMP. CORR. ()			RESISTIVITY ()	
COMMENTS			Cl (frm. resis.) ()	
C TEMPERATURE			Cl (frm. titrat) ()	
DEPTH TOOL REACHED ()			NO ₃ Drld/1st. circ ()	
MAX. REC. TEMP. (°)			pH	
TIME CIRC. STOPPED			OTHER TRACERS	
TIME SINCE CIRC.			()	
D SAMPLE RECOVERY			DENSITY ()	
SURFACE PRESSURE (PSIG)	0		G GENERAL COMMENTS	
VOL. GAS (CUFT)	0		ONLY WHOLE MUD RECOVERED. NO GAS/OIL/WATER THERE WAS COMMUNICATION FROM THE HYDROSTATIC COLUMN BEHIND THE CASING. CASED-HOLE R.F.T. NO. 6 WAS A MISRUN. 3RD FEBRUARY 1984.	
VOL. OIL (CC)	0			
VOL. WATER (LIT)	0			
VOL. FILTRATE ()				
VOL. CONDENSATE ()				
VOL. OTHER MUD (LIT)	6.0			
E SAMPLE PROPERTIES				
(a) G	c1 ()			
A	c2 ()			
S	c3 ()			
	c4 ()			
C	c5 ()			
O	c6+ ()			
M	CO ₂ ()			
P	H ₂ S ()			
(b) OIL PROPERTIES				
DENSITY:	HYDROMETER			
()	REFRACTOMETER			
REFRACTIVE INDEX				
COLOUR				
FLUORESCENCE				
G.O.R. ()				

PORE PRESSURE DATA SHEET

COMPANY : ESSO AUSTRALIA LTD.

DATA FROM RFT'S

WELL : WIRRAH No.3

DEPTH (FROM RKB)	DEPTH (FROM MSL)	PORE PRESS	PORE PRESS GRADIENT E.M.W. (MSL)	PORE PRESS GRADIENT
METRES	TVD. METRES	PSIA	PPG	PSI/M
1810.5	1789.5	2551.40	8.357	1.426
1798.6	1777.6	2535.70	8.361	1.426
2395.4	2374.4	3402.10	8.399	1.433
2349.1	2328.1	3616.80	9.106	1.554
2339.5	2318.5	3317.10	8.386	1.431
2314.3	2293.3	3280.40	8.385	1.430
2282.6	2261.6	3238.10	8.393	1.432
2274.2	2253.2	3300.10	8.585	1.465
2243.6	2222.6	3179.30	8.385	1.430
2339.0	2318.0	3315.60	8.384	1.430
2394.5	2373.5	3398.40	8.393	1.432
2479.3	2458.3	3519.05	8.391	1.431
2536.0	2515.0	3596.88	8.383	1.430
2569.5	2548.5	3684.95	8.475	1.446
2617.0	2596.0	3769.18	8.511	1.452
2622.0	2601.0	3770.58	8.497	1.450
2627.2	2606.2	3800.14	8.547	1.458
2630.5	2609.5	3927.68	8.823	1.505
2644.5	2623.5	3800.59	8.492	1.449
2672.0	2651.0	3834.62	8.479	1.446
2029.0	2008.0	2879.10	8.404	1.434
1600.7	1579.7	2472.60	9.175	1.565
2142.0	2121.0	3029.90	8.373	1.429
2022.0	2001.0	2876.10	8.425	1.437
2022.2	2001.2	2869.90	8.406	1.434
2023.7	2002.7	2872.30	8.407	1.434
2147.3	2126.3	3044.00	8.391	1.432
2144.5	2123.5	3040.10	8.392	1.432
2142.0	2121.0	3037.50	8.394	1.432
1780.2	1759.2	2509.70	8.362	1.427
1600.7	1579.7	2255.30	8.368	1.428
1577.8	1556.8	2220.40	8.360	1.426
1535.0	1514.0	2160.40	8.364	1.427
1532.2	1511.2	2157.10	8.367	1.427
2278.5	2257.5	3241.70	8.417	1.436
2080.8	2059.8	2947.10	8.387	1.431
2052.5	2031.5	2908.50	8.392	1.432
2030.8	2009.8	2877.70	8.393	1.432
2028.1	2007.1	2874.80	8.396	1.432
2023.7	2002.7	2872.70	8.408	1.434

DEPTH (FROM RKB)	DEPTH (FROM MSL)	PORE PRESS	PORE PRESS GRADIENT E.M.W.(MSL)	PORE PRESS GRADIENT
METRES	TVD. METRES	PSIA	PPG	PSI/M
2687.5	2666.5	3848.20	8.459	1.443
2691.0	2670.0	3854.06	8.461	1.443
2707.8	2686.8	3874.30	8.452	1.442
2710.5	2689.3	3876.38	8.449	1.441
2730.2	2708.9	3911.25	8.463	1.444
2748.0	2726.6	3953.34	8.499	1.450
2759.3	2737.8	3950.45	8.458	1.443
2785.3	2763.7	3976.10	8.433	1.439
2536.0	2515.0	3402.20	8.396	1.432
2535.0	2514.0	3599.10	8.392	1.432
2748.0	2727.0	3956.50	8.504	1.451
2781.0	2760.0	3998.20	8.491	1.449
2785.5	2764.5	3988.20	8.456	1.443

PRODUCTION TEST DATA

APPENDICES

COMPUTER DATA LISTINGS

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

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

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

the following data lists have been made for this well :

- (a). Bit record and bit initialization data
- (b). Hydraulic analyses
- (c). Data list A
- (d). Data list B
- (e). Data list C
- (f). Data list D

COMPUTER PLOTS

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

GEO PLOT - 1:5000 SCALE - 2m averages

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

(a). BIT RECORD AND BIT INITIALIZATION DATA

BIT SIZE Inches

BIT COST Australian dollars

JET SIZE Thirty-seconds of an inch

DEPTHS Metres

HOLE MADE. Metres

DRILLING TIME. Hours

AVERAGE ROP. Metres/hour

AVERAGE COST/METRE . . Australian dollars

BIT CONDITION. Teeth

Bearings

Gauge Inches

WELL: WIRRAH No.3

BIT RECORD

BIT IADC		SIZE	COST	NOZZLES	DEPTH		BIT RUN	TOTAL HOURS	TRIP		TOTAL CCOST	TOTAL TURNS	CONDITION		
No.	CODE MAKE & TYPE				IN	OUT			AROP	TIME			T	B	G
1	111 HTC OSC3AJ&26"HO	26.000	0.00	20 20 20	70.0	208.5	138.5	3.13	44.2	2.5	148.45	14945	2	2	0.000
1	111 HTC OSC 3AJ	17.500	4857.00	18 18 18	208.5	870.0	661.5	15.91	41.6	3.7	115.61	140631	2	1	0.000
2	116 HTC J1	12.250	2694.00	18 18 18	870.0	951.0	81.0	2.77	29.2	4.0	338.49	16633	2	2	0.000
3	116 HTC J1	12.250	2694.00	18 18 18	951.0	1598.0	647.0	31.52	20.5	5.4	212.56	216592	6	6	0.250
4	517 HTC J22	12.250	8516.00	16 16 18	1598.0	2016.0	418.0	44.49	9.4	6.3	464.12	156262	4	4	0.250
5	517 HTC J22	12.250	8516.00	16 16 18	2016.0	2170.0	154.0	20.48	7.5	6.6	697.48	78127	2	2	0.000
5	4 CHRIS RC4	8.500	0.00	14 15 15	2170.0	2187.4	17.4	4.64	3.8	6.6	2359.11	20046	0	0	0.300
5	4 CHRIS RC4	8.500	0.00	14 15 15	2188.0	2205.5	17.5	1.88	9.3	6.7	1790.52	8918	0	0	0.350
6	517 HTC J22	12.250	8516.00	16 16 18	2205.5	2445.0	239.5	53.12	4.5	7.2	955.34	163054	3	3	0.000

WELL: WIRRAH NO.3

BIT RECORD

BIT IADC		SIZE	COST	NOZZLES	DEPTH		BIT RUN	TOTAL HOURS	TRIP		TOTAL CCOST	TOTAL TURNS	CONDITION		
No.	CODE MAKE & TYPE				IN	OUT			AROP	TIME			T	B	G
7	517 HTC J22	12.250	8516.00	16 16 18	2445.0	2597.0	152.0	37.28	4.1	7.5	1131.92	119866	4	4	0.000
7	4 CHRIS RC4	8.500	0.00	14 15 15	2597.0	2602.1	5.1	3.50	1.5	7.5	7876.86	18614	0	0	0.500
8	537 HTC J33	12.250	7774.00	16 16 18	2602.1	2616.7	14.6	3.52	4.2	7.5	3288.40	18553	1	5	0.000
8	4 CHRIS RC3	8.500	0.00	15 15 14	2616.7	2635.2	18.5	2.89	6.4	7.6	2070.78	14572	0	0	0.400
8	4 CHRIS. RC3	8.500	0.00	15 15 14	2635.2	2653.0	17.8	6.72	2.6	7.8	2979.05	36242	0	0	0.800
8	4 CHRIS. RC4	8.500	0.00	15 15 14	2653.0	2671.2	18.2	4.45	4.1	7.6	2417.95	24028	0	0	0.600
9	517 HTC J22	12.250	8516.00	16 16 18	2671.2	2672.0	0.8	0.09	8.9	7.545293.35	314	2	2	0.125	
9	4 RC4	8.500	0.00	15 15 14	2672.0	2690.5	18.5	4.67	4.0	7.6	2422.16	25234	0	0	0.900
9	4 CHRIS C-20	8.470	0.00	14 14 14	2690.5	2708.3	17.8	8.86	2.0	7.7	3397.59	40488	0	0	0.300
10	537 HTC J33	12.250	7774.00	16 16 18	2708.3	2776.3	68.0	15.72	4.3	8.0	1388.23	48386	3	4	0.125
11	537 HTC J33	12.250	7774.00	15 16 16	2776.3	2806.8	30.5	7.68	4.0	8.0	2132.37	22806	1	1	0.000
11	4 CHRIS RC6	8.500	18300.00	14 15 15	2806.8	2814.0	7.2	3.54	2.0	8.0	8395.01	18565	0	0	0.900
12	617 HTC J44	12.250	6844.00	15 16 16	2814.0	2960.2	146.2	33.08	4.4	8.3	1080.46	93198	5	5	0.000
13	316 HTC J7	8.500	1494.00	14 14 14	2960.2	2972.3	12.1	2.63	4.6	8.3	3422.34	10615	8	6	0.375
14	537 HTC J33	8.500	4503.00	14 14 14	2972.3	3045.8	73.5	10.79	6.8	8.5	1019.73	31858	8	6	0.625
15	537 HTC J33	8.500	4503.00	14 14 14	3045.8	3091.6	45.8	10.32	4.4	8.6	1606.96	30946	8	6	0.125
16	617 HTC J44	8.500	4347.00	14 14 14	3091.6	3116.1	24.5	10.96	2.2	8.6	3093.07	35427	2	2	0.000
16	4 CHRIS C-20	8.500	0.00	14 14 14	3116.1	3117.4	1.3	3.56	0.4	8.634160.25	15784	0	0	0.600	
17	617 HTC J44	8.500	4347.00	14 14 14	3117.4	3143.4	26.0	7.75	3.4	8.7	2477.78	23244	2	2	0.000
17	4 CHRIS C-23	8.500	19000.00	14 14 14	3143.4	3145.4	2.0	4.10	0.5	8.732876.35	18459	0	0	0.100	
18	637 HTC J55	8.500	4350.00	14 14 14	3145.4	3203.5	58.1	23.07	2.5	8.7	2071.84	70096	8	4	0.000
19	617 HTC J44	8.500	4347.00	14 14 15	3203.5	3225.9	22.4	10.22	2.2	8.8	3295.00	31715	2	2	0.000
20	637 HTC J55	8.500	4350.00	14 14 15	3225.9	3237.6	11.7	10.04	1.2	8.8	6252.45	31327	1	1	0.000
21	517 HTC J22	8.500	4139.00	14 14 15	3237.6	3257.0	19.4	16.44	1.2	8.8	4964.72	49328	1	1	0.000

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

STARTING DEPTH.....	70.0		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	2.5		
BIT DIAMETER.....	26.000		
NOZZLES.....	20	20	20
HW DRILL COLLAR LENGTH, OD, ID....	22.74	9.750	3.062
DRILL COLLAR LENGTH, OD, ID.....	39.41	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	3.125
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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.5	2.00	
FINISHING DEPTH.....	208.5		
CUMULATIVE HOURS, TURNS.....	3.13	14945	
BIT CONDITION OUT.....	T 2	B 2	G 0.000

BIT NUMBER: 1 IADC CODE 111 HTC OSC 3AJ

STARTING DEPTH.....	208.5		
BIT COST, RIG COST/HOUR.....	4857.00	3652.00	
TRIP TIME.....	3.7		
BIT DIAMETER.....	17.500		
NOZZLES.....	18	18	18
HW DRILL COLLAR LENGTH, OD, ID....	21.91	9.750	3.062
DRILL COLLAR LENGTH, OD, ID.....	121.55	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.53	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	193.00	19.124	
RISER LENGTH, ID.....	68.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	3.5	2.00	
FINISHING DEPTH.....	870.0		
CUMULATIVE HOURS, TURNS.....	15.91	140631	
BIT CONDITION OUT.....	T 2	B 1	G 0.000

BIT NUMBER: 2 IADC CODE 116 HTC J1

STARTING DEPTH.....	870.0		
BIT COST, RIG COST/HOUR.....	2694.00	3652.00	
TRIP TIME.....	4.0		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	18
DRILL COLLAR LENGTH, OD, ID.....	166.40	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	855.00	12.615	
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	3.0	2.00	
FINISHING DEPTH.....	951.0		
CUMULATIVE HOURS, TURNS.....	2.77	16633	
BIT CONDITION OUT.....	T 2	B 2	G 0.000

BIT NUMBER: 3 IADC CODE 116 HTC J1

STARTING DEPTH.....	951.0		
BIT COST, RIG COST/HOUR.....	2694.00	3652.00	
TRIP TIME.....	5.4		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	18
DRILL COLLAR LENGTH, OD, ID.....	166.40	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	855.00	12.615	
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	3.0	2.00	
FINISHING DEPTH.....	1598.0		
CUMULATIVE HOURS, TURNS.....	31.52	216592	
BIT CONDITION OUT.....	T 6	B 6	G 0.250

BIT NUMBER: 4 IADC CODE 517 HTC J22

STARTING DEPTH.....	1598.0		
BIT COST, RIG COST/HOUR.....	8516.00	3652.00	
TRIP TIME.....	6.3		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	18
DRILL COLLAR LENGTH, OD, ID.....	172.80	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	855.00	12.615	
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	3.0	2.20	
FINISHING DEPTH.....	2016.0		
CUMULATIVE HOURS, TURNS.....	44.49	156262	
BIT CONDITION OUT.....	T 4	B 4	G 0.250

BIT NUMBER: 5 IADC CODE 517 HTC J22

STARTING DEPTH.....	2016.0		
BIT COST, RIG COST/HOUR.....	8516.00	3652.00	
TRIP TIME.....	6.6		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	18
DRILL COLLAR LENGTH, OD, ID.....	173.50	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	855.00	12.615	
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.5	2.40	
FINISHING DEPTH.....	2170.0		
CUMULATIVE HOURS, TURNS.....	20.48	78127	
BIT CONDITION OUT.....	T 2	B 2	G 0.000

BIT NUMBER: 5 IADC CODE 4 CHRIS RC4

STARTING DEPTH.....	2170.0		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	6.6		
BIT DIAMETER.....	8.500		
NOZZLES.....	14	15	15
DRILL COLLAR LENGTH, OD, ID.....	169.44	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	2170.00	855.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.40	
FINISHING DEPTH.....	2187.4		
CUMULATIVE HOURS, TURNS.....	4.64	20046	
BIT CONDITION OUT.....	T 0	B 0	G 0.300

BIT NUMBER: 5 IADC CODE 4 CHRIS RC4

STARTING DEPTH.....	2188.0		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	6.7		
BIT DIAMETER.....	8.500		
NOZZLES.....	14	15	15
HW DRILL COLLAR LENGTH, OD, ID.....	169.44	8.000	2.813
DRILL COLLAR LENGTH, OD, ID.....	19.13	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	2170.00	855.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.40	
FINISHING DEPTH.....	2205.5		
CUMULATIVE HOURS, TURNS.....	1.88	8918	
BIT CONDITION OUT.....	T 0	B 0	G 0.350

BIT NUMBER: 6 IADC CODE 517 HTC J22

STARTING DEPTH.....	2205.5		
BIT COST, RIG COST/HOUR.....	8516.00	3652.00	
TRIP TIME.....	7.2		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	18
DRILL COLLAR LENGTH, OD, ID.....	169.44	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	855.00	12.615	
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.4	2.40	
FINISHING DEPTH.....	2445.0		
CUMULATIVE HOURS, TURNS.....	53.12	163054	
BIT CONDITION OUT.....	T 3	R 3	G 0.000

BIT NUMBER: 7 IADC CODE 517 HTC J22

STARTING DEPTH.....	2445.0		
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.....	172.80	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	855.00	12.615	
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.3	2.50	
FINISHING DEPTH.....	2597.0		
CUMULATIVE HOURS, TURNS.....	37.28	119866	
BIT CONDITION OUT.....	T 4	B 4	G 0.000

BIT NUMBER: 7 IADC CODE 4 CHRIS RC4

STARTING DEPTH.....	2597.0		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	7.5		
BIT DIAMETER.....	8.500		
NOZZLES.....	14	15	15
HW DRILL COLLAR LENGTH, OD, ID....	20.49	6.750	2.813
DRILL COLLAR LENGTH, OD, ID.....	168.25	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	84.75	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	855.00	12.615	
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.3	2.50	
FINISHING DEPTH.....	2602.1		
CUMULATIVE HOURS, TURNS.....	3.50	18614	
BIT CONDITION OUT.....	T 0	B 0	G 0.500

BIT NUMBER: 8 IADC CODE 537 HTC J33

STARTING DEPTH.....	2602.1		
BIT COST, RIG COST/HOUR.....	7774.00	3652.00	
TRIP TIME.....	7.5		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	18
DRILL COLLAR LENGTH, OD, ID.....	172.80	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	855.00	12.615	
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.50	
FINISHING DEPTH.....	2616.7		
CUMULATIVE HOURS, TURNS.....	3.52	10553	
BIT CONDITION OUT.....	T 1	B 5	G 0.000

BIT NUMBER: 8 IADC CODE 4 CHRIS RC3

STARTING DEPTH.....	2616.7		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	7.6		
BIT DIAMETER.....	8.500		
NOZZLES.....	15	15	14
HW DRILL COLLAR LENGTH, OD, ID.....	20.49	6.750	2.813
DRILL COLLAR LENGTH, OD, ID.....	147.76	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	84.75	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	2616.70	855.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.50	
FINISHING DEPTH.....	2635.2		
CUMULATIVE HOURS, TURNS.....	2.89	14572	
BIT CONDITION OUT.....	T 0	B 0	G 0.400

BIT NUMBER: 8 IADC CODE 4 CHRIS. RC3

STARTING DEPTH.....	2635.2		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	7.8		
BIT DIAMETER.....	8.500		
NOZZLES.....	15	15	14
HW DRILL COLLAR LENGTH, OD, ID....	39.05	6.750	2.813
DRILL COLLAR LENGTH, OD, ID.....	149.52	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	2616.70	855.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.50	
FINISHING DEPTH.....	2653.0		
CUMULATIVE HOURS, TURNS.....	6.72	36242	
BIT CONDITION OUT.....	T 0	B 0	G 0.800

BIT NUMBER: 8 IADC CODE 4 CHRIS. RC4

STARTING DEPTH.....	2653.0		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	7.6		
BIT DIAMETER.....	8.500		
NOZZLES.....	15	15	14
HW DRILL COLLAR LENGTH, OD, ID....	57.00	6.750	2.813
DRILL COLLAR LENGTH, OD, ID.....	149.52	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	2616.70	855.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.50	
FINISHING DEPTH.....	2671.2		
CUMULATIVE HOURS, TURNS.....	4.45	24028	
BIT CONDITION OUT.....	T 0	B 0	G 0.600

BIT NUMBER: 9 IADC CODE 517 HTC J22

STARTING DEPTH.....	2671.2		
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.....	172.80	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	855.00	12.615	
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.50	
FINISHING DEPTH.....	2672.0		
CUMULATIVE HOURS, TURNS.....	0.09	314	
BIT CONDITION OUT.....	T 2	R 2	G 0.125

BIT NUMBER: 9 IADC CODE 4 RC4

STARTING DEPTH.....	2672.0		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	7.6		
BIT DIAMETER.....	8.500		
NOZZLES.....	15	15	14
HW DRILL COLLAR LENGTH, OD, ID....	30.03	6.750	2.813
DRILL COLLAR LENGTH, OD, ID.....	148.95	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	2672.00	855.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.50	
FINISHING DEPTH.....	2690.5		
CUMULATIVE HOURS, TURNS.....	4.67	25234	
BIT CONDITION OUT.....	T 0	B 0	G 0.900

BIT NUMBER: 9 IADC CODE 4 CHRIS C-20

STARTING DEPTH.....	2690.5		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	7.7		
BIT DIAMETER.....	8.470		
NOZZLES.....	14	14	14
HW DRILL COLLAR LENGTH, OD, ID.....	39.48	6.750	2.813
DRILL COLLAR LENGTH, OD, ID.....	148.95	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	2672.00	855.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.50	
FINISHING DEPTH.....	2708.3		
CUMULATIVE HOURS, TURNS.....	8.86	40488	
BIT CONDITION OUT.....	T 0	B 0	G 0.300

BIT NUMBER: 10 IADC CODE 537 HTC J33

STARTING DEPTH.....	2708.3		
BIT COST, RIG COST/HOUR.....	7774.00	3652.00	
TRIP TIME.....	8.0		
BIT DIAMETER.....	12.250		
NOZZLES.....	16	16	18
DRILL COLLAR LENGTH, OD, ID.....	172.80	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	855.00	12.615	
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.50	
FINISHING DEPTH.....	2776.3		
CUMULATIVE HOURS, TURNS.....	15.72	48386	
BIT CONDITION OUT.....	T 3	B 4	G 0.125

BIT NUMBER: 11 IADC CODE 537 HTC J33

STARTING DEPTH.....	2776.3		
BIT COST, RIG COST/HOUR.....	7774.00	3652.00	
TRIP TIME.....	8.0		
BIT DIAMETER.....	12.250		
NOZZLES.....	15	16	16
DRILL COLLAR LENGTH, OD, ID.....	173.57	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	855.00	12.615	
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.3	2.50	
FINISHING DEPTH.....	2806.8		
CUMULATIVE HOURS, TURNS.....	7.68	22806	
BIT CONDITION OUT.....	T 1	B 1	G 0.000

BIT NUMBER: 11 IADC CODE 4 CHRIS RC6

STARTING DEPTH.....	2806.8		
BIT COST, RIG COST/HOUR.....	18300.00	3652.00	
TRIP TIME.....	8.0		
BIT DIAMETER.....	8.500		
NOZZLES.....	14	15	15
DRILL COLLAR LENGTH, OD, ID.....	169.42	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	2806.80	855.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.2	2.50	
FINISHING DEPTH.....	2814.0		
CUMULATIVE HOURS, TURNS.....	3.54	18565	
BIT CONDITION OUT.....	T 0	B 0	G 0.900

BIT NUMBER: 12 IADC CODE 617 HTC J44

STARTING DEPTH, TVD.....	2814.0	2813.2	
BIT COST, RIG COST/HOUR.....	6844.00	3652.00	
TRIP TIME.....	8.3		
BIT DIAMETER.....	12.250		
NOZZLES.....	15	16	16
DRILL COLLAR LENGTH, OD, ID.....	173.54	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	855.00	12.615	
RISER LENGTH, ID.....	70.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.50	
FINISHING DEPTH.....	2960.2		
CUMULATIVE HOURS, TURNS.....	33.1	93198	
BIT CONDITION OUT.....	T 5	B 5	G 0.000

BIT NUMBER: 13 IADC CODE 316 HTC J7

STARTING DEPTH, TVD.....	2960.2	2958.8	
BIT COST, RIG COST/HOUR.....	1494.00	3652.00	
TRIP TIME.....	8.3		
BIT DIAMETER.....	8.500		
NOZZLES.....	14	14	14
DRILL COLLAR LENGTH, OD, ID.....	232.74	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2943.00	8.681	
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.2	2.55	
FINISHING DEPTH.....	2972.3		
CUMULATIVE HOURS, TURNS.....	2.6	10615	
BIT CONDITION OUT.....	T 8	B 6	G 0.375

BIT NUMBER: 14 IADC CODE 537 HTC J33

STARTING DEPTH, TVD.....	2972.3	2970.8	
BIT COST, RIG COST/HOUR.....	4503.00	3652.00	
TRIP TIME.....	8.5		
BIT DIAMETER.....	8.500		
NOZZLES.....	14	14	14
DRILL COLLAR LENGTH, OD, ID.....	238.88	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2943.00	8.681	
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.2	2.55	

FINISHING DEPTH.....	3045.8		
CUMULATIVE HOURS, TURNS.....	10.8	31858	
BIT CONDITION OUT.....	T 8	B 6	G 0.625

BIT NUMBER: 15 IADC CODE 537 HTC J33

STARTING DEPTH, TVD.....	3045.8	3043.8	
BIT COST, RIG COST/HOUR.....	4503.00	3652.00	
TRIP TIME.....	8.6		
BIT DIAMETER.....	8.500		
NOZZLES.....	14	14	14
DRILL COLLAR LENGTH, OD, ID.....	258.90	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2943.00	8.681	
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.2	2.50	

FINISHING DEPTH.....	3091.6		
CUMULATIVE HOURS, TURNS.....	10.3	30946	
BIT CONDITION OUT.....	T 8	B 6	G 0.125

BIT NUMBER: 16 IADC CODE 617 HTC J44

STARTING DEPTH, TVD.....	3091.6	3089.2	
BIT COST, RIG COST/HOUR.....	4347.00	3652.00	
TRIP TIME.....	8.6		
BIT DIAMETER.....	8.500		
NOZZLES.....	14	14	14
DRILL COLLAR LENGTH, OD, ID.....	258.90	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2943.00	8.681	
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.2	2.55	
FINISHING DEPTH.....	3116.1		
CUMULATIVE HOURS, TURNS.....	11.0	35427	
BIT CONDITION OUT.....	T 2	B 2	G 0.000

BIT NUMBER: 16 IADC CODE 4 CHRIS C-20

STARTING DEPTH, TVD.....	3116.1	3113.5	
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	8.6		
BIT DIAMETER.....	8.500		
NOZZLES.....	14	14	14
DRILL COLLAR LENGTH, OD, ID.....	258.70	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2943.00	8.681	
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.2	2.55	
FINISHING DEPTH.....	3117.4		
CUMULATIVE HOURS, TURNS.....	3.6	15784	
BIT CONDITION OUT.....	T 0	B 0	G 0.600

BIT NUMBER: 17 IADC CODE 617 HTC J44

STARTING DEPTH, TVD.....	3117.4	3114.8	
BIT COST, RIG COST/HOUR.....	4347.00	3652.00	
TRIP TIME.....	8.7		
BIT DIAMETER.....	8.500		
NOZZLES.....	14	14	14
DRILL COLLAR LENGTH, OD, ID.....	258.70	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.250
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2943.00	8.681	
RISER LENGTH, ID.....	70.00	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.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.2	2.55	
FINISHING DEPTH.....	3143.4		
CUMULATIVE HOURS, TURNS.....	7.8	23244	
BIT CONDITION OUT.....	T 2	B 2	G 0.000

BIT NUMBER: 17 IADC CODE 4 CHRIS C-23

STARTING DEPTH, TVD.....	3143.4	3141.0	
BIT COST, RIG COST/HOUR.....	19000.00	3652.00	
TRIP TIME.....	8.7		
BIT DIAMETER.....	8.500		
NOZZLES.....	14	14	14
DRILL COLLAR LENGTH, OD, ID.....	252.07	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.250
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2943.00	8.681	
RISER LENGTH, ID.....	70.00	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	0.0		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.2	2.55	
FINISHING DEPTH.....	3145.4		
CUMULATIVE HOURS, TURNS.....	4.1	18459	
BIT CONDITION OUT.....	T 0	B 0	G 0.100

BIT NUMBER: 18 IADC CODE 637 HTC J55

STARTING DEPTH, TVD.....	3145.4	3142.8		
BIT COST, RIG COST/HOUR.....	4350.00	3652.00		
TRIP TIME.....	8.7			
BIT DIAMETER.....	8.500			
NOZZLES.....	14	14	14	
DRILL COLLAR LENGTH, OD, ID.....	258.70	6.250	2.813	
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.250	
DRILL PIPE OD, ID.....		5.000	4.276	
CASING DEPTH, ID.....	2943.00	8.681		
RISER LENGTH, ID.....	70.00	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.....	0.04			
"d" EXPONENT CORRECTION FACTOR....	10.0			
CUTTINGS DIAMETER, DENSITY.....	2.0	2.55		
FINISHING DEPTH.....	3203.5			
CUMULATIVE HOURS, TURNS.....	23.1	70096		
BIT CONDITION OUT.....	T 8	B 4	G 0.000	

BIT NUMBER: 19 IADC CODE 617 HTC J44

STARTING DEPTH, TVD.....	3203.5	3200.4		
BIT COST, RIG COST/HOUR.....	4347.00	3652.00		
TRIP TIME.....	8.8			
BIT DIAMETER.....	8.500			
NOZZLES.....	14	14	15	
DRILL COLLAR LENGTH, OD, ID.....	258.70	6.250	2.813	
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.250	
DRILL PIPE OD, ID.....		5.000	4.276	
CASING DEPTH, ID.....	2943.00	8.681		
RISER LENGTH, ID.....	70.00	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.....	0.04			
"d" EXPONENT CORRECTION FACTOR....	10.0			
CUTTINGS DIAMETER, DENSITY.....	2.0	2.55		
FINISHING DEPTH.....	3225.9			
CUMULATIVE HOURS, TURNS.....	10.2	31715		
BIT CONDITION OUT.....	T 2	B 2	G 0.000	

BIT NUMBER: 20 IADC CODE 637 HTC J55

STARTING DEPTH, TVD.....	3225.9	3223.2		
BIT COST, RIG COST/HOUR.....	4350.00	3652.00		
TRIP TIME.....	8.8			
BIT DIAMETER.....	8.500			
NOZZLES.....	14	14	15	
DRILL COLLAR LENGTH, OD, ID.....	258.70	6.250	2.813	
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.250	
DRILL PIPE OD, ID.....		5.000	4.276	
CASING DEPTH, ID.....	2943.00	8.681		
RISER LENGTH, ID.....	70.00	21.000		
PUMP VOLUMES 1 AND 2.....	0.119	0.119		
PORE PRESSURE CALC EXPONENT.....	1.20			
NORMAL PORE PRESSURE.....	0.0			
OVERBURDEN GRADIENT MODIFIER.....	0.00			
STRESS RATIO MODIFIER.....	0.04			
"d" EXPONENT CORRECTION FACTOR....	10.0			
CUTTINGS DIAMETER, DENSITY.....	2.0	2.60		
FINISHING DEPTH.....	3237.6			
CUMULATIVE HOURS, TURNS.....	10.0	31327		
BIT CONDITION OUT.....	T 1	B 1	G 0.000	

BIT NUMBER: 21 IADC CODE 517 HTC J22

STARTING DEPTH, TVD.....	3237.6	3234.8		
BIT COST, RIG COST/HOUR.....	4139.00	3652.00		
TRIP TIME.....	8.8			
BIT DIAMETER.....	8.500			
NOZZLES.....	14	14	15	
DRILL COLLAR LENGTH, OD, ID.....	258.70	6.250	2.813	
HW DRILL PIPE LENGTH, OD, ID.....	83.56	5.000	3.250	
DRILL PIPE OD, ID.....		5.000	4.276	
CASING DEPTH, ID.....	2943.00	8.681		
RISER LENGTH, ID.....	70.00	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.....	0.04			
"d" EXPONENT CORRECTION FACTOR....	10.0			
CUTTINGS DIAMETER, DENSITY.....	2.0	2.60		
FINISHING DEPTH.....	3257.0			
CUMULATIVE HOURS, TURNS.....	16.4	49328		
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

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 100.0 AND TVD 100.0

SPM 1 72 SPM 2 74 FLOW RATE 726

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	1.851	42	9	0	TURBULENT			0.0
DC/OH	1.950	77	9	0	TURBULENT			0.0
HWDP/OH	2.074	78	8	0	TURBULENT			0.0
TOTAL VOLUME		197			TOTAL PRESSURE DROP			0.0

LAG: 11.4 MINUTES 818 STROKES #1 AND 841 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	492.8	HHP	209	IMPACT FORCE	818
% SURFACE PRESSURE	112.0	HHP/sqin	0.39	JET VELOCITY	77

PRESSURE BREAKDOWN:

SURFACE	32.4		
STRING	107.8		
BIT	492.8		
ANNULUS	0.0		
TOTAL	632.9	PUMP PRESSURE	440.1
		% DIFFERENCE	43.8

BOTTOM HOLE PRESSURES:

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

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 200.0 AND TVD 200.0

SPM 1 87 SPM 2 105 FLOW RATE 959

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	1.851	42	12	0	TURBULENT			0.0
DC/OH	1.950	77	12	0	TURBULENT			0.0
HWDP/OH	2.074	173	11	0	TURBULENT			0.0
DP/OH	2.074	113	11	0	TURBULENT			0.0
TOTAL VOLUME		405	TOTAL PRESSURE DROP					0.0

LAG: 17.7 MINUTES 1538 STROKES #1 AND 1864 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	860.1	HHP	481	IMPACT FORCE	1428
% SURFACE PRESSURE	71.1	HHP/sqin	0.91	JET VELOCITY	102

PRESSURE BREAKDOWN:

SURFACE	53.4		
STRING	316.6		
BIT	860.1		
ANNULUS	0.0		
TOTAL	1230.2	PUMP PRESSURE	1210.1
		% DIFFERENCE	1.7

BOTTOM HOLE PRESSURES:

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

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 300.0 AND TVD 300.0

SPM 1 50 SPM 2 50 FLOW RATE 499

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	15	18	1	TURBULENT			0.0
DC/OH	0.772	66	15	1	TURBULENT			0.0
DC/CSG	0.961	35	12	1	TURBULENT			0.0
HWDP/CSG	1.085	91	11	1	TURBULENT			0.0
DP/CSG	1.085	5	11	1	TURBULENT			0.0
DP/RIS	1.325	90	9	0	TURBULENT			0.0
TOTAL VOLUME		302			TOTAL PRESSURE DROP			0.1

LAG: 25.4 MINUTES 1278 STROKES #1 AND 1257 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 354.9 HHP 103 IMPACT FORCE 477
% SURFACE PRESSURE 50.0 HHP/sqin 0.43 JET VELOCITY 65

PRESSURE BREAKDOWN:

SURFACE 16.5
STRING 139.2
BIT 354.9
ANNULUS 0.1
TOTAL 510.7 PUMP PRESSURE 710.0 % DIFFERENCE 28.1

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.60	HYDROSTATIC PRESSURE 440.2
CIRCULATING:	ECD 8.60	CIRCULATING PRESSURE 440.2
PULLING OUT:	TRIP MARGIN 0.00	ESTIMATED SWAB 0.1
	EFFECTIVE MUD WEIGHT 8.60	BOTTOM HOLE PRESSURE 440.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 400.0 AND TVD 400.0

SPM 1 95 SPM 2 94 FLOW RATE 945

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	15	33	85	LAMINAR	1	33	0.2
DC/OH	0.772	94	29	83	LAMINAR	0	29	0.7
HWDP/OH	0.896	57	25	81	LAMINAR	0	25	0.3
HWDP/CSG	1.085	22	21	81	LAMINAR	0	21	0.1
DP/CSG	1.085	114	21	81	LAMINAR	0	21	0.3
DP/RIS	1.325	90	17	80	LAMINAR	0	17	0.2
TOTAL VOLUME		391			TOTAL PRESSURE DROP			1.8

LAG: 17.4 MINUTES 1645 STROKES #1 AND 1643 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1301.7	HHP	718	IMPACT FORCE	1750
% SURFACE PRESSURE	55.1	HHP/sqin	2.98	JET VELOCITY	124

PRESSURE BREAKDOWN:

SURFACE	66.0		
STRING	595.3		
BIT	1301.7		
ANNULUS	1.8		
TOTAL	1964.8	PUMP PRESSURE	2362.4
		% DIFFERENCE	16.8

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.80	HYDROSTATIC PRESSURE 600.5
CIRCULATING:	ECD 8.83	CIRCULATING PRESSURE 602.3
PULLING OUT:	TRIP MARGIN 0.05	ESTIMATED SWAB 3.5
	EFFECTIVE MUD WEIGHT 8.75	BOTTOM HOLE PRESSURE 597.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 500.0 AND TVD 500.0

SPM 1 94 SPM 2 95 FLOW RATE 942

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	15	33	84	LAMINAR	1	33	0.2
DC/OH	0.772	94	29	82	LAMINAR	0	29	0.7
HWDP/OH	0.896	75	25	80	LAMINAR	0	25	0.3
DP/OH	0.896	72	25	80	LAMINAR	0	25	0.3
DP/CSC	1.085	136	21	80	LAMINAR	0	20	0.4
DP/RIS	1.325	90	17	79	LAMINAR	0	17	0.2

TOTAL VOLUME 481 TOTAL PRESSURE DROP 2.2

LAG: 21.4 MINUTES 2013 STROKES #1 AND 2028 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1324.2 HHP 728 IMPACT FORCE 1781
 % SURFACE PRESSURE 54.6 HHP/sqin 3.03 JET VELOCITY 123

PRESSURE BREAKDOWN:

SURFACE 66.9
 STRING 641.8
 BIT 1324.2
 ANNULUS 2.2
 TOTAL 2035.1 PUMP PRESSURE 2423.6 % DIFFERENCE 16.0

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	9.00	HYDROSTATIC PRESSURE 767.7
CIRCULATING: ECD	9.03	CIRCULATING PRESSURE 769.9
PULLING OUT: TRIP MARGIN	0.05	ESTIMATED SWAB 4.4
EFFECTIVE MUD WEIGHT	8.95	BOTTOM HOLE PRESSURE 763.4

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 600.0 AND TVD 600.0

SPM 1 94 SPM 2 95 FLOW RATE 943

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	15	33	80	LAMINAR			
DC/OH	0.772	94	29	77	LAMINAR	0	33	0.2
HWDP/OH	0.896	75	25	74	LAMINAR	0	29	0.7
DP/OH	0.896	161	25	74	LAMINAR	0	25	0.3
DP/CSG	1.085	136	21	73	LAMINAR	0	25	0.7
DP/RIS	1.325	90	17	71	LAMINAR	0	21	0.4
					LAMINAR	0	17	0.1
TOTAL VOLUME		570			TOTAL PRESSURE DROP			2.3

LAG: 25.4 MINUTES 2384 STROKES #1 AND 2410 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1342.3 HHP 739 IMPACT FORCE 1805
% SURFACE PRESSURE 53.8 HHP/sqin 3.07 JET VELOCITY 123

PRESSURE BREAKDOWN:

SURFACE 74.9
STRING 761.9
BIT 1342.3
ANNULUS 2.3
TOTAL 2181.5
PUMP PRESSURE 2494.8 % DIFFERENCE 12.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:		
CIRCULATING:	MUD WEIGHT 9.10	HYDROSTATIC PRESSURE 931.5
PULLING OUT:	ECD 9.12	CIRCULATING PRESSURE 933.8
	TRIP MARGIN 0.05	ESTIMATED SWAB 4.7
	EFFECTIVE MUD WEIGHT 9.05	BOTTOM HOLE PRESSURE 926.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 700.0 AND TVD 700.0

SPM 1 94 SPM 2 94 FLOW RATE 937

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	15	33	120	LAMINAR	0	33	0.4
DC/OH	0.772	94	29	119	LAMINAR	0	29	1.5
HWDP/OH	0.896	75	25	118	LAMINAR	0	25	0.7
DP/OH	0.896	251	25	118	LAMINAR	0	25	2.3
DP/CSG	1.085	136	21	118	LAMINAR	0	20	0.8
DP/RIS	1.325	90	17	117	LAMINAR	0	17	0.4
TOTAL VOLUME		660	TOTAL PRESSURE DROP					6.1

LAG: 29.6 MINUTES 2773 STROKES #1 AND 2774 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1308.2 HHP 715 IMPACT FORCE 1759
% SURFACE PRESSURE 52.6 HHP/sqin 2.97 JET VELOCITY 123

PRESSURE BREAKDOWN:

SURFACE 70.0
STRING 753.1
BIT 1308.2
ANNULUS 6.1
TOTAL 2137.5 PUMP PRESSURE 2488.7 % DIFFERENCE 14.1

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.00	HYDROSTATIC PRESSURE 1074.8
CIRCULATING:	ECD 9.05	CIRCULATING PRESSURE 1080.9
PULLING OUT:	TRIP MARGIN 0.10	ESTIMATED SWAB 12.2
	EFFECTIVE MUD WEIGHT 8.90	BOTTOM HOLE PRESSURE 1062.6

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 800.0 AND TVD 800.0

SPM 1 94 SPM 2 93 FLOW RATE 936

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	15	33	120	LAMINAR	0	33	0.4
DC/OH	0.772	94	29	119	LAMINAR	0	29	1.5
HWDP/OH	0.896	75	25	118	LAMINAR	0	25	0.7
DP/OH	0.896	340	25	118	LAMINAR	0	25	3.2
DP/CSG	1.085	136	21	118	LAMINAR	0	20	0.8
DP/RIS	1.325	90	17	117	LAMINAR	0	17	0.4
TOTAL VOLUME		750			TOTAL PRESSURE DROP		6.9	

LAG: 33.6 MINUTES 3169 STROKES #1 AND 3130 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1306.2 HHP 713 IMPACT FORCE 1756
 % SURFACE PRESSURE 51.1 HHP/sqin 2.97 JET VELOCITY 122

PRESSURE BREAKDOWN:

SURFACE 69.9
 STRING 792.4
 BIT 1306.2
 ANNULUS 6.9
 TOTAL 2175.5 PUMP PRESSURE 2554.3 % DIFFERENCE 14.8

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	9.00	HYDROSTATIC PRESSURE 1228.3
CIRCULATING: ECD	9.05	CIRCULATING PRESSURE 1235.3
PULLING OUT: TRIP MARGIN	0.10	ESTIMATED SWAB 13.9
EFFECTIVE MUD WEIGHT	8.90	BOTTOM HOLE PRESSURE 1214.5

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 900.0 AND TVD 900.0

SPM 1 100 SPM 2 98 FLOW RATE 990

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	12	86	132	LAMINAR	1	85	2.3
DC/CSG	0.303	37	78	132	LAMINAR	1	77	5.4
HWDP/CSG	0.427	36	55	128	LAMINAR	0	55	1.8
DP/CSG	0.427	248	55	128	LAMINAR	0	55	12.2
DP/RIS	1.325	93	18	123	LAMINAR	0	18	0.4
TOTAL VOLUME		425	TOTAL PRESSURE DROP			22.1		

LAG: 18.1 MINUTES 1806 STROKES #1 AND 1770 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1411.8	HHP	815	IMPACT FORCE	1898
% SURFACE PRESSURE	47.1	HHP/sqin	6.92	JET VELOCITY	129

PRESSURE BREAKDOWN:

SURFACE	78.7		
STRING	1029.1		
BIT	1411.8		
ANNULUS	22.0		
TOTAL	2541.7	PUMP PRESSURE	2995.0
		% DIFFERENCE	15.1

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.70	HYDROSTATIC PRESSURE 1335.8
CIRCULATING:	ECD 8.84	CIRCULATING PRESSURE 1357.9
PULLING OUT:	TRIP MARGIN 0.29	ESTIMATED SWAB 44.1
	EFFECTIVE MUD WEIGHT 8.41	BOTTOM HOLE PRESSURE 1291.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1000.0 AND TVD 1000.0

SPM 1 84 SPM 2 98 FLOW RATE 910

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	79	137	LAMINAR	1	78	7.9
DC/CSG	0.303	6	71	137	LAMINAR	1	71	1.0
HWDP/CSG	0.427	36	51	132	LAMINAR	0	50	1.9
DP/CSG	0.427	291	51	132	LAMINAR	0	50	15.3
DP/RIS	1.325	93	16	126	LAMINAR	0	16	0.4
TOTAL VOLUME		465			TOTAL PRESSURE DROP			26.5

LAG: 21.5 MINUTES 1805 STROKES #1 AND 2105 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1220.3	HHP	648	IMPACT FORCE	1641
% SURFACE PRESSURE	45.0	HHP/sqin	5.49	JET VELOCITY	119

PRESSURE BREAKDOWN:

SURFACE	71.4		
STRING	975.1		
BIT	1220.3		
ANNULUS	26.5		
TOTAL	2293.4	PUMP PRESSURE	2710.0
		% DIFFERENCE	15.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.90	HYDROSTATIC PRESSURE 1518.4
CIRCULATING:	ECD 9.06	CIRCULATING PRESSURE 1544.9
PULLING OUT:	TRIP MARGIN 0.31	ESTIMATED SWAB 53.0
	EFFECTIVE MUD WEIGHT 8.59	BOTTOM HOLE PRESSURE 1465.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1100.0 AND TVD 1100.0

SPM 1 83 SPM 2 99 FLOW RATE 908

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	79	136	LAMINAR	1	78	9.1
HWDP/OH	0.398	31	54	132	LAMINAR	0	54	1.9
HWDP/CSG	0.427	2	51	131	LAMINAR	0	50	0.1
DP/CSG	0.427	333	51	131	LAMINAR	0	50	17.5
DP/RIS	1.325	93	16	125	LAMINAR	0	16	0.4
TOTAL VOLUME		505			TOTAL PRESSURE DROP		29.0	

LAG: 23.4 MINUTES 1934 STROKES #1 AND 2311 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1230.1 HHP 652 IMPACT FORCE 1654
 % SURFACE PRESSURE 44.3 HHP/sqin 5.53 JET VELOCITY 119

PRESSURE BREAKDOWN:

SURFACE 71.9
 STRING 1022.5
 BIT 1230.1
 ANNULUS 29.0
 TOTAL 2353.5 PUMP PRESSURE 2775.6 % DIFFERENCE 15.2

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.00	HYDROSTATIC PRESSURE 1689.0
CIRCULATING:	ECD 9.15	CIRCULATING PRESSURE 1718.0
PULLING OUT:	TRIP MARGIN 0.31	ESTIMATED SWAB 58.1
	EFFECTIVE MUD WEIGHT 8.69	BOTTOM HOLE PRESSURE 1630.9

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1200.0 AND TVD 1200.0

SPM 1 83 SPM 2 99 FLOW RATE 910

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	79	123	LAMINAR	1	78	7.3
HWDP/OH	0.398	33	54	121	LAMINAR	0	54	1.7
DP/OH	0.398	38	54	121	LAMINAR	0	54	1.9
DP/CSG	0.427	335	51	121	LAMINAR	0	50	14.7
DP/RIS	1.325	93	16	117	LAMINAR	0	16	0.4

TOTAL VOLUME 545 TOTAL PRESSURE DROP 26.1

LAG: 25.2 MINUTES 2089 STROKES #1 AND 2491 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1234.0	HHP	655	IMPACT FORCE	1659
% SURFACE PRESSURE	43.7	HHP/sq.in	5.56	JET VELOCITY	119

PRESSURE BREAKDOWN:

SURFACE	66.5				
STRING	983.9				
BIT	1234.0				
ANNULUS	26.1				
TOTAL	2310.4	PUMP PRESSURE	2823.0	% DIFFERENCE	18.2

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.00	HYDROSTATIC PRESSURE 1842.5
CIRCULATING:	ECD 9.13	CIRCULATING PRESSURE 1868.6
PULLING OUT:	TRIP MARGIN 0.25	ESTIMATED SWAB 52.2
	EFFECTIVE MUD WEIGHT 8.75	BOTTOM HOLE PRESSURE 1790.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1300.0 AND TVD 1300.0

SPM 1 79 SPM 2 99 FLOW RATE 890

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	77	127	LAMINAR	1	76	7.0
HWDP/OH	0.398	33	53	129	LAMINAR	0	53	1.8
DP/OH	0.398	78	53	129	LAMINAR	0	53	4.1
DP/CSG	0.427	335	50	129	LAMINAR	0	49	15.6
DP/RIS	1.325	93	16	131	LAMINAR	0	16	0.5
TOTAL VOLUME		585	TOTAL PRESSURE DROP			29.0		

LAG: 27.6 MINUTES 2181 STROKES #1 AND 2733 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1180.4 HHP 613 IMPACT FORCE 1587
% SURFACE PRESSURE 41.1 HHP/sqin 5.20 JET VELOCITY 116

PRESSURE BREAKDOWN:

SURFACE 55.6
STRING 855.0
BIT 1180.4
ANNULUS 29.0
TOTAL 2119.9 PUMP PRESSURE 2870.0 % DIFFERENCE 26.1

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.00	HYDROSTATIC PRESSURE 1996.1
CIRCULATING:	ECD 9.13	CIRCULATING PRESSURE 2025.0
PULLING OUT:	TRIP MARGIN 0.26	ESTIMATED SWAB 57.9
	EFFECTIVE MUD WEIGHT 8.74	BOTTOM HOLE PRESSURE 1938.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1400.0 AND TVD 1400.0

SPM 1 79 SPM 2 93 FLOW RATE 860

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	46	75	127	LAMINAR	1	74	6.9
HWDP/OH	0.398	33	51	129	LAMINAR	0	51	1.8
DP/OH	0.398	118	51	129	LAMINAR	0	51	6.2
DP/CSC	0.427	335	48	129	LAMINAR	0	48	15.5
DP/RIS	1.325	93	15	131	LAMINAR	0	15	0.5
TOTAL VOLUME		625			TOTAL PRESSURE DROP			30.9

LAG: 30.5 MINUTES 2419 STROKES #1 AND 2830 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1102.9 HHP 553 IMPACT FORCE 1483
 % SURFACE PRESSURE 38.4 HHP/sqin 4.70 JET VELOCITY 113

PRESSURE BREAKDOWN:

SURFACE 52.3
 STRING 834.5
 BIT 1102.9
 ANNULUS 30.9
 TOTAL 2020.6 PUMP PRESSURE 2871.5 % DIFFERENCE 29.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.00	HYDROSTATIC PRESSURE 2149.6
CIRCULATING:	ECD 9.13	CIRCULATING PRESSURE 2180.5
PULLING OUT:	TRIP MARGIN 0.26	ESTIMATED SWAB 61.9
	EFFECTIVE MUD WEIGHT 8.74	BOTTOM HOLE PRESSURE 2087.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1500.0 AND TVD 1500.0

SPM 1 80 SPM 2 92 FLOW RATE 859

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	46	75	125	LAMINAR	1	74	6.9
HWDP/OH	0.398	33	51	127	LAMINAR	0	51	1.8
DP/OH	0.398	157	51	127	LAMINAR	0	51	8.3
DP/CSG	0.427	335	48	127	LAMINAR	0	48	15.5
DP/RIS	1.325	93	15	129	LAMINAR	0	15	0.5
TOTAL VOLUME		665	TOTAL PRESSURE DROP			33.0		

LAG: 32.5 MINUTES 2588 STROKES #1 AND 2996 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1137.5	HHP	570	IMPACT FORCE	1530
% SURFACE PRESSURE	38.6	HHP/sqin	4.84	JET VELOCITY	112

PRESSURE BREAKDOWN:

SURFACE	53.6		
STRING	886.0		
BIT	1137.5		
ANNULUS	33.0		
TOTAL	2110.2	PUMP PRESSURE	2947.6
		% DIFFERENCE	28.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.30	HYDROSTATIC PRESSURE 2379.9
CIRCULATING:	ECD 9.43	CIRCULATING PRESSURE 2413.0
PULLING OUT:	TRIP MARGIN 0.26	ESTIMATED SWAB 66.1
	EFFECTIVE MUD WEIGHT 9.04	BOTTOM HOLE PRESSURE 2313.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1600.0 AND TVD 1600.0

SPM 1 77 SPM 2 81 FLOW RATE 793

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	69	126	LAMINAR	1	68	7.1
HWDP/OH	0.398	33	47	127	LAMINAR	0	47	1.7
DP/OH	0.398	195	47	127	LAMINAR	0	47	10.2
DP/CSG	0.427	335	44	127	LAMINAR	0	44	15.3
DP/RIS	1.325	93	14	130	LAMINAR	0	14	0.5
TOTAL VOLUME		704	TOTAL PRESSURE DROP					34.8

LAG: 37.3 MINUTES 2884 STROKES #1 AND 3028 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1297.8	HHP	601	IMPACT FORCE	1501
% SURFACE PRESSURE	44.0	HHP/sqin	5.10	JET VELOCITY	121

PRESSURE BREAKDOWN:

SURFACE	46.0		
STRING	798.9		
BIT	1297.8		
ANNULUS	34.8		
TOTAL	2177.6	PUMP PRESSURE	2951.3
		% DIFFERENCE	26.2

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.21	HYDROSTATIC PRESSURE 2514.0
CIRCULATING:	ECD 9.34	CIRCULATING PRESSURE 2548.8
PULLING OUT:	TRIP MARGIN 0.26	ESTIMATED SWAB 69.7
EFFECTIVE MUD WEIGHT	8.95	BOTTOM HOLE PRESSURE 2444.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1700.0 AND TVD 1700.0

SPM 1 80 SPM 2 82 FLOW RATE 811

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	70	114	LAMINAR	1	69	6.8
HWDP/OH	0.398	33	48	110	LAMINAR	0	48	1.4
DP/OH	0.398	235	48	110	LAMINAR	0	48	10.1
DP/CSG	0.427	335	45	109	LAMINAR	0	45	12.4
DP/RIS	1.325	93	15	103	LAMINAR	0	15	0.3
TOTAL VOLUME		743			TOTAL PRESSURE DROP			31.1

LAG: 38.5 MINUTES 3091 STROKES #1 AND 3156 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1355.9	HHP	642	IMPACT FORCE	1568
% SURFACE PRESSURE	45.8	HHP/sqin	5.44	JET VELOCITY	123

PRESSURE BREAKDOWN:

SURFACE	57.5		
STRING	1031.4		
BIT	1355.9		
ANNULUS	31.1		
TOTAL	2475.8	PUMP PRESSURE	2962.2
		% DIFFERENCE	16.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.20	HYDROSTATIC PRESSURE 2668.2
CIRCULATING:	ECD 9.31	CIRCULATING PRESSURE 2699.3
PULLING OUT:	TRIP MARGIN 0.21	ESTIMATED SWAB 62.1
	EFFECTIVE MUD WEIGHT 8.99	BOTTOM HOLE PRESSURE 2606.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1800.0 AND TVD 1800.0

SPM 1 79 SPM 2 82 FLOW RATE 807

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	70	114	LAMINAR	1	69	6.8
HWDP/OH	0.398	33	48	110	LAMINAR	0	48	1.4
DP/OH	0.398	274	48	110	LAMINAR	0	48	11.8
DP/CSG	0.427	335	45	109	LAMINAR	0	45	12.4
DP/RIS	1.325	93	14	103	LAMINAR	0	14	0.3
TOTAL VOLUME		783	TOTAL PRESSURE DROP			32.7		

LAG: 40.8 MINUTES 3231 STROKES #1 AND 3351 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1341.9	HHP	632	IMPACT FORCE	1552
% SURFACE PRESSURE	45.5	HHP/sqin	5.36	JET VELOCITY	123

PRESSURE BREAKDOWN:

SURFACE	57.0		
STRING	1054.6		
BIT	1341.9		
ANNULUS	32.7		
TOTAL	2486.2	PUMP PRESSURE	2950.1
		% DIFFERENCE	15.7

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.20	HYDROSTATIC PRESSURE 2825.2
CIRCULATING:	ECD 9.31	CIRCULATING PRESSURE 2857.9
PULLING OUT:	TRIP MARGIN 0.21	ESTIMATED SWAB 65.5
	EFFECTIVE MUD WEIGHT 8.99	BOTTOM HOLE PRESSURE 2759.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1900.0 AND TVD 1900.0

SPM 1 80 SPM 2 79 FLOW RATE 797

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	69	94	LAMINAR	1	68	5.3
HWDP/OH	0.398	33	48	84	LAMINAR	1	47	1.0
DP/OH	0.398	314	48	84	LAMINAR	1	47	9.1
DP/CSG	0.427	335	44	83	LAMINAR	0	44	8.1
DP/RIS	1.325	93	14	70	LAMINAR	0	14	0.1
TOTAL VOLUME		823			TOTAL PRESSURE DROP			23.6

LAG: 43.4 MINUTES 3477 STROKES #1 AND 3439 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1307.8	HHP	608	IMPACT FORCE	1513
% SURFACE PRESSURE	45.6	HHP/sqin	5.16	JET VELOCITY	121

PRESSURE BREAKDOWN:

SURFACE	61.2		
STRING	1167.4		
BIT	1307.8		
ANNULUS	23.6		
TOTAL	2560.0	PUMP PRESSURE	2869.0
		% DIFFERENCE	10.8

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.19	HYDROSTATIC PRESSURE 2978.9
CIRCULATING:	ECD 9.26	CIRCULATING PRESSURE 3002.5
PULLING OUT:	TRIP MARGIN 0.15	ESTIMATED SWAB 47.1
	EFFECTIVE MUD WEIGHT 9.04	BOTTOM HOLE PRESSURE 2931.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2000.0 AND TVD 2000.0

SPM 1 79 SPM 2 80 FLOW RATE 797

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	47	69	94	LAMINAR	1	68	5.3
HWDP/OH	0.398	33	48	84	LAMINAR	1	47	1.0
DP/OH	0.398	354	48	84	LAMINAR	1	47	10.2
DP/CSG	0.427	335	44	83	LAMINAR	0	44	8.1
DP/RIS	1.325	93	14	70	LAMINAR	0	14	0.1
TOTAL VOLUME		863			TOTAL PRESSURE DROP		24.7	

LAG: 45.5 MINUTES 3612 STROKES #1 AND 3639 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1309.1 HHP 609 IMPACT FORCE 1514
 % SURFACE PRESSURE 45.6 HHP/sqin 5.17 JET VELOCITY 121

PRESSURE BREAKDOWN:

SURFACE 61.2
 STRING 1203.7
 BIT 1309.1
 ANNULUS 24.7
 TOTAL 2598.8 PUMP PRESSURE 2869.5 % DIFFERENCE 9.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.20	HYDROSTATIC PRESSURE 3139.1
CIRCULATING:	ECD 9.27	CIRCULATING PRESSURE 3163.8
PULLING OUT:	TRIP MARGIN 0.14	ESTIMATED SWAB 49.4
	EFFECTIVE MUD WEIGHT 9.06	BOTTOM HOLE PRESSURE 3089.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2100.0 AND TVD 2100.0

SPM 1 80 SPM 2 78 FLOW RATE 788

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	48	68	104	LAMINAR	1	68	6.1
HWDP/OH	0.398	33	47	94	LAMINAR	0	47	1.2
DP/OH	0.398	394	47	94	LAMINAR	0	47	13.7
DP/CSG	0.427	335	44	93	LAMINAR	0	44	9.8
DP/RIS	1.325	93	14	81	LAMINAR	0	14	0.2
TOTAL VOLUME		903	TOTAL PRESSURE DROP			31.0		

LAG: 48.1 MINUTES 3832 STROKES #1 AND 3753 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1293.8	HHP	595	IMPACT FORCE	1496
% SURFACE PRESSURE	44.0	HHP/sqin	5.05	JET VELOCITY	120

PRESSURE BREAKDOWN:

SURFACE	60.5		
STRING	1226.2		
BIT	1293.8		
ANNULUS	31.0		
TOTAL	2611.6	PUMP PRESSURE	2940.3
		% DIFFERENCE	11.2

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.30	HYDROSTATIC PRESSURE 3331.9
CIRCULATING:	ECD 9.39	CIRCULATING PRESSURE 3362.8
PULLING OUT:	TRIP MARGIN 0.17	ESTIMATED SWAB 61.9
EFFECTIVE MUD WEIGHT	9.13	BOTTOM HOLE PRESSURE 3270.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2180.0 AND TVD 2180.0

SPM 1 0 SPM 2 53 FLOW RATE 267

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.026	0	242	175	TURBULENT			28.0
DC/LIN	0.274	44	23	109	LAMINAR	0	23	3.8
HWDP/LIN	0.398	33	16	96	LAMINAR	0	16	0.7
DP/LIN	0.398	427	16	96	LAMINAR	0	16	9.5
DP/CSG	0.427	335	15	95	LAMINAR	0	15	6.3
DP/RIS	1.325	93	5	81	LAMINAR	0	5	0.1
TOTAL VOLUME		933	TOTAL PRESSURE DROP			48.4		

LAG: 146.7 MINUTES 0 STROKES #1 AND 7837 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	256.6	HHP	40	IMPACT FORCE	229
% SURFACE PRESSURE	32.4	HHP/sqin	0.70	JET VELOCITY	53

PRESSURE BREAKDOWN:

SURFACE	9.4		
STRING	193.9		
BIT	256.6		
ANNULUS	48.4		
TOTAL	508.3	PUMP PRESSURE	792.8
		% DIFFERENCE	35.9

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.60	HYDROSTATIC PRESSURE 3570.4
CIRCULATING:	ECD 9.73	CIRCULATING PRESSURE 3618.6
PULLING OUT:	TRIP MARGIN 0.26	ESTIMATED SWAB 96.7
EFFECTIVE MUD WEIGHT	9.34	BOTTOM HOLE PRESSURE 3473.6

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2200.0 AND TVD 2200.0

SPM 1 45 SPM 2 0 FLOW RATE 223

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.026	1	202	164	TURBULENT			59.4
HWDC/LIN	0.274	38	19	100	LAMINAR	0	19	2.6
DC/LIN	0.354	7	15	92	LAMINAR	0	15	0.2
HWDP/LIN	0.398	33	13	88	LAMINAR	0	13	0.6
DP/LIN	0.398	427	13	88	LAMINAR	0	13	7.5
DP/CSG	0.427	335	12	87	LAMINAR	0	12	4.9
DP/RIS	1.325	93	4	73	LAMINAR	0	4	0.1
TOTAL VOLUME		935				TOTAL PRESSURE DROP		75.2

LAG: 176.3 MINUTES 7855 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 178.6 HHP 23 IMPACT FORCE 160
 % SURFACE PRESSURE 31.0 HHP/sqin 0.41 JET VELOCITY 44

PRESSURE BREAKDOWN:

SURFACE 6.7
 STRING 142.8
 BIT 178.6
 ANNULUS 75.2
 TOTAL 403.3 PUMP PRESSURE 576.9 % DIFFERENCE 30.1

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	9.60	HYDROSTATIC PRESSURE 3603.1
CIRCULATING: ECD	9.80	CIRCULATING PRESSURE 3678.4
PULLING OUT: TRIP MARGIN	0.40	ESTIMATED SWAB 150.5
EFFECTIVE MUD WEIGHT	9.20	BOTTOM HOLE PRESSURE 3452.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2300.0 AND TVD 2300.0

SPM 1 73 SPM 2 77 FLOW RATE 750

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	65	109	LAMINAR	1	64	6.7
HWDP/OH	0.398	33	45	96	LAMINAR	0	45	1.2
DP/OH	0.398	475	45	96	LAMINAR	0	45	17.6
DP/CSG	0.427	335	42	95	LAMINAR	0	42	10.4
DP/RIS	1.325	93	13	81	LAMINAR	0	13	0.2
TOTAL VOLUME		983	TOTAL PRESSURE DROP					36.1

LAG: 55.0 MINUTES 4037 STROKES #1 AND 4222 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1210.3 HHP 530 IMPACT FORCE 1400
% SURFACE PRESSURE 42.8 HHP/sqin 4.49 JET VELOCITY 114

PRESSURE BREAKDOWN:

SURFACE 60.6
STRING 1287.4
BIT 1210.3
ANNULUS 36.1
TOTAL 2594.4 PUMP PRESSURE 2830.3 % DIFFERENCE 8.3

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	9.60	HYDROSTATIC PRESSURE 3766.9
CIRCULATING: ECD	9.69	CIRCULATING PRESSURE 3803.1
PULLING OUT: TRIP MARGIN	0.18	ESTIMATED SWAB 72.3
EFFECTIVE MUD WEIGHT	9.42	BOTTOM HOLE PRESSURE 3694.6

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2400.0 AND TVD 2400.0

SPM 1 0 SPM 2 105 FLOW RATE 524

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	46	99	LAMINAR	1	45	4.8
HWDP/OH	0.398	33	31	85	LAMINAR	0	31	0.9
DP/OH	0.398	515	31	85	LAMINAR	0	31	13.1
DP/CSG	0.427	335	29	84	LAMINAR	0	29	7.1
DP/RIS	1.325	93	9	68	LAMINAR	0	9	0.1
TOTAL VOLUME		1023			TOTAL PRESSURE DROP		26.1	

LAG: 81.9 MINUTES 0 STROKES #1 AND 8594 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	591.1	HHP	181	IMPACT FORCE	684
% SURFACE PRESSURE	39.8	HHP/sqin	1.53	JET VELOCITY	80

PRESSURE BREAKDOWN:

SURFACE	32.3		
STRING	706.0		
BIT	591.1		
ANNULUS	26.1		
TOTAL	1355.4	PUMP PRESSURE	1486.0
		% DIFFERENCE	8.8

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.60	HYDROSTATIC PRESSURE 3930.7
CIRCULATING:	ECD 9.66	CIRCULATING PRESSURE 3956.8
PULLING OUT:	TRIP MARGIN 0.13	ESTIMATED SWAB 52.1
	EFFECTIVE MUD WEIGHT 9.47	BOTTOM HOLE PRESSURE 3878.6

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2500.0 AND TVD 2500.0

SPM 1 72 SPM 2 74 FLOW RATE 732

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	109	LAMINAR	1	63	6.7
HWDP/OH	0.398	33	44	98	LAMINAR	0	44	1.2
DP/OH	0.398	553	44	98	LAMINAR	0	44	20.8
DP/CSG	0.427	335	41	97	LAMINAR	0	41	10.6
DP/RIS	1.325	93	13	84	LAMINAR	0	13	0.2
TOTAL VOLUME		1062			TOTAL PRESSURE DROP			39.5

LAG: 60.9 MINUTES 4407 STROKES #1 AND 4519 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1153.6	HHP	493	IMPACT FORCE	1334
% SURFACE PRESSURE	39.7	HHP/sqin	4.18	JET VELOCITY	111

PRESSURE BREAKDOWN:

SURFACE	56.9		
STRING	1282.5		
BIT	1153.6		
ANNULUS	39.5		
TOTAL	2532.5	PUMP PRESSURE	2908.6
		% DIFFERENCE	12.9

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.60	HYDROSTATIC PRESSURE 4094.5
CIRCULATING:	ECD 9.69	CIRCULATING PRESSURE 4134.0
PULLING OUT:	TRIP MARGIN 0.19	ESTIMATED SWAB 79.0
	EFFECTIVE MUD WEIGHT 9.41	BOTTOM HOLE PRESSURE 4015.4

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2600.0 AND TVD 2600.0

SPM 1 0 SPM 2 56 FLOW RATE 279

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP	
HWDC/OH	0.085	2	78	158	LAMINAR	1	77	4.5	
DC/OH	0.026	4	252	194	TURBULENT			516.6	
HWDP/OH	0.151	13	44	141	LAMINAR	0	44	5.4	
DP/OH	0.151	221	44	141	LAMINAR	0	44	93.9	
DP/CSG	0.427	335	16	124	LAMINAR	0	15	10.6	
DP/RIS	1.325	93	5	110	LAMINAR	0	5	0.2	
TOTAL VOLUME		669	TOTAL PRESSURE DROP						631.2

LAG: 100.8 MINUTES 0 STROKES #1 AND 5619 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	279.4	HHP	45	IMPACT FORCE	250
% SURFACE PRESSURE	37.3	HHP/sqin	0.80	JET VELOCITY	55

PRESSURE BREAKDOWN:

SURFACE	10.4		
STRING	245.7		
BIT	279.4		
ANNULUS	631.2		
TOTAL	1166.6	PUMP PRESSURE	749.1
		% DIFFERENCE	55.7

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.60	HYDROSTATIC PRESSURE 4258.3
CIRCULATING:	ECD 11.02	CIRCULATING PRESSURE 4889.4
PULLING OUT:	TRIP MARGIN 2.85	ESTIMATED SWAB 1262.3
	EFFECTIVE MUD WEIGHT 6.75	BOTTOM HOLE PRESSURE 2995.9

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2610.0 AND TVD 2610.0

SPM 1 73 SPM 2 73 FLOW RATE 730

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	63	141	LAMINAR	0	63	10.2
HWDP/OH	0.398	33	44	129	LAMINAR	0	43	2.0
DP/OH	0.398	597	44	129	LAMINAR	0	43	35.6
DP/CSG	0.427	335	41	128	LAMINAR	0	41	16.9
DP/RIS	1.325	93	13	114	LAMINAR	0	13	0.3
TOTAL VOLUME		1106	TOTAL PRESSURE DROP			65.0		

LAG: 63.7 MINUTES 4647 STROKES #1 AND 4647 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1145.1	HHP	487	IMPACT FORCE	1324
% SURFACE PRESSURE	40.1	HHP/sqin	4.14	JET VELOCITY	111

PRESSURE BREAKDOWN:

SURFACE	58.6		
STRING	1358.4		
BIT	1145.1		
ANNULUS	65.0		
TOTAL	2627.1	PUMP PRESSURE	2855.0
		% DIFFERENCE	8.0

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.60	HYDROSTATIC PRESSURE 4274.6
CIRCULATING:	ECD 9.75	CIRCULATING PRESSURE 4339.7
PULLING OUT:	TRIP MARGIN 0.29	ESTIMATED SWAB 130.0
	EFFECTIVE MUD WEIGHT 9.31	BOTTOM HOLE PRESSURE 4144.6

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2620.0 AND TVD 2620.0

SPM 1 45 SPM 2 0 FLOW RATE 226

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.085	0	63	142	LAMINAR	1	62	0.5
HWDC/LIN	0.333	6	16	111	LAMINAR	0	16	0.3
DC/LIN	0.274	41	20	117	LAMINAR	0	19	3.7
HWDP/LIN	0.398	34	13	104	LAMINAR	0	13	0.8
DP/LIN	0.398	602	13	104	LAMINAR	0	13	14.1
DP/CSG	0.427	335	13	103	LAMINAR	0	13	6.6
DP/RIS	1.325	93	4	88	LAMINAR	0	4	0.1
TOTAL VOLUME		1111	TOTAL PRESSURE DROP			26.1		

LAG: 206.9 MINUTES 9335 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 183.2 HHP 24 IMPACT FORCE 164
% SURFACE PRESSURE 29.5 HHP/sqin 0.42 JET VELOCITY 44

PRESSURE BREAKDOWN:

SURFACE 7.1
STRING 163.5
BIT 183.2
ANNULUS 26.1
TOTAL 379.8 PUMP PRESSURE 621.4 % DIFFERENCE 38.9

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	9.60	HYDROSTATIC PRESSURE 4291.0
CIRCULATING: ECD	9.66	CIRCULATING PRESSURE 4317.1
PULLING OUT: TRIP MARGIN	0.12	ESTIMATED SWAB 52.2
EFFECTIVE MUD WEIGHT	9.48	BOTTOM HOLE PRESSURE 4238.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2650.0 AND TVD 2650.0

SPM 1 0 SPM 2 50 FLOW RATE 251

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.085	3	70	166	LAMINAR	1	70	7.6
HWDC/LIN	0.333	2	18	144	LAMINAR	0	18	0.2
DC/LIN	0.274	41	22	148	LAMINAR	0	22	6.5
HWDP/LIN	0.398	33	15	139	LAMINAR	0	15	1.5
DP/LIN	0.398	607	15	139	LAMINAR	0	15	27.5
DP/CSG	0.427	335	14	138	LAMINAR	0	14	12.9
DP/RIS	1.325	93	5	126	LAMINAR	0	5	0.3
TOTAL VOLUME		1114			TOTAL PRESSURE DROP			56.5

LAG: 186.4 MINUTES 0 STROKES #1 AND 9361 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 226.9 HHP 33 IMPACT FORCE 203
% SURFACE PRESSURE 32.7 HHP/sqin 0.59 JET VELOCITY 49

PRESSURE BREAKDOWN:

SURFACE 8.4
STRING 202.4
BIT 226.9
ANNULUS 56.5
TOTAL 494.2 PUMP PRESSURE 693.2 % DIFFERENCE 28.7

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	9.60	HYDROSTATIC PRESSURE 4340.1
CIRCULATING: ECD	9.72	CIRCULATING PRESSURE 4396.6
PULLING OUT: TRIP MARGIN	0.25	ESTIMATED SWAB 112.9
EFFECTIVE MUD WEIGHT	9.35	BOTTOM HOLE PRESSURE 4227.2

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2660.0 AND TVD 2660.0

SPM 1 48 SPM 2 0 FLOW RATE 242

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.085	4	68	142	LAMINAR	1	67	7.3
HWDC/LIN	0.333	5	17	111	LAMINAR	0	17	0.2
DC/LIN	0.274	41	21	117	LAMINAR	0	21	3.8
HWDP/LIN	0.398	33	14	104	LAMINAR	0	14	0.8
DP/LIN	0.398	604	14	104	LAMINAR	0	14	14.6
DP/CSG	0.427	335	13	103	LAMINAR	0	13	6.8
DP/RIS	1.325	93	4	88	LAMINAR	0	4	0.1

TOTAL VOLUME 1114 TOTAL PRESSURE DROP 33.8

LAG: 193.7 MINUTES 9364 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 210.2 HHP 30 IMPACT FORCE 188
% SURFACE PRESSURE 31.0 HHP/sqin 0.52 JET VELOCITY 48

PRESSURE BREAKDOWN:

SURFACE 8.0
STRING 198.1
BIT 210.2
ANNULUS 33.8
TOTAL 450.0 PUMP PRESSURE 677.2 % DIFFERENCE 33.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.60	HYDROSTATIC PRESSURE 4356.5
CIRCULATING:	ECD 9.67	CIRCULATING PRESSURE 4390.3
PULLING OUT:	TRIP MARGIN 0.15	ESTIMATED SWAB 67.5
	EFFECTIVE MUD WEIGHT 9.45	BOTTOM HOLE PRESSURE 4289.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2672.0 AND TVD 2671.9

SPM 1 70 SPM 2 72 FLOW RATE 706

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	61	116	LAMINAR	0	61	7.4
HWDP/OH	0.398	33	42	104	LAMINAR	0	42	1.4
DP/OH	0.398	622	42	104	LAMINAR	0	42	25.4
DP/CSG	0.427	335	39	103	LAMINAR	0	39	11.5
DP/RIS	1.325	93	13	87	LAMINAR	0	13	0.2
TOTAL VOLUME		1131			TOTAL PRESSURE DROP		45.9	

LAG: 67.3 MINUTES 4683 STROKES #1 AND 4819 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1079.8 HHP 445 IMPACT FORCE 1249
 % SURFACE PRESSURE 37.5 HHP/sqin 3.77 JET VELOCITY 107

PRESSURE BREAKDOWN:

SURFACE 55.6
 STRING 1307.3
 BIT 1079.8
 ANNULUS 45.9
 TOTAL 2488.5 PUMP PRESSURE 2882.7 % DIFFERENCE 13.7

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	9.68	HYDROSTATIC PRESSURE 4412.5
CIRCULATING: ECD	9.78	CIRCULATING PRESSURE 4458.3
PULLING OUT: TRIP MARGIN	0.20	ESTIMATED SWAB 91.7
EFFECTIVE MUD WEIGHT	9.48	BOTTOM HOLE PRESSURE 4320.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2680.0 AND TVD 2680.0

SPM 1 49 SPM 2 0 FLOW RATE 247

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.085	1	69	141	LAMINAR	1	68	1.4
HWDC/LIN	0.333	7	18	110	LAMINAR	0	18	0.4
DC/LIN	0.274	41	21	116	LAMINAR	0	21	3.9
HWDP/LIN	0.398	33	15	104	LAMINAR	0	15	0.8
DP/LIN	0.398	622	15	104	LAMINAR	0	15	15.3
DP/CSG	0.427	335	14	103	LAMINAR	0	14	6.9
DP/RIS	1.325	93	4	87	LAMINAR	0	4	0.1
TOTAL VOLUME		1133			TOTAL PRESSURE DROP		28.7	

LAG: 193.0 MINUTES 9520 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 220.7 HHP 32 IMPACT FORCE 197
% SURFACE PRESSURE 32.2 HHP/sqin 0.56 JET VELOCITY 49

PRESSURE BREAKDOWN:

SURFACE 8.4
STRING 199.2
BIT 220.7
ANNULUS 28.7
TOTAL 457.0 PUMP PRESSURE 686.6 % DIFFERENCE 33.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	9.68	HYDROSTATIC PRESSURE 4425.8
CIRCULATING: ECD	9.74	CIRCULATING PRESSURE 4454.4
PULLING OUT: TRIP MARGIN	0.13	ESTIMATED SWAB 57.3
EFFECTIVE MUD WEIGHT	9.55	BOTTOM HOLE PRESSURE 4368.5

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2700.0 AND TVD 2699.9

SPM 1 48 SPM 2 0 FLOW RATE 240

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.083	2	69	155	LAMINAR	1	68	5.7
HWDC/LIN	0.333	4	17	127	LAMINAR	0	17	0.2
DC/LIN	0.274	41	21	132	LAMINAR	0	21	4.9
HWDP/LIN	0.398	33	14	121	LAMINAR	0	14	1.1
DP/LIN	0.398	627	14	121	LAMINAR	0	14	20.6
DP/CSG	0.427	335	13	120	LAMINAR	0	13	9.3
DP/RIS	1.325	93	4	105	LAMINAR	0	4	0.2

TOTAL VOLUME 1135 TOTAL PRESSURE DROP 42.1

LAG: 198.5 MINUTES 9540 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 253.2 HHP 35 IMPACT FORCE 206
% SURFACE PRESSURE 23.9 HHP/sqin 0.63 JET VELOCITY 52

PRESSURE BREAKDOWN:

SURFACE 8.0
STRING 194.1
BIT 253.2
ANNULUS 42.1
TOTAL 497.4 PUMP PRESSURE 1061.5 % DIFFERENCE 53.1

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	9.69	HYDROSTATIC PRESSURE 4463.2
CIRCULATING: ECD	9.78	CIRCULATING PRESSURE 4505.3
PULLING OUT: TRIP MARGIN	0.18	ESTIMATED SWAB 84.2
EFFECTIVE MUD WEIGHT	9.51	BOTTOM HOLE PRESSURE 4379.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2750.0 AND TVD 2749.6

SPM 1 69 SPM 2 73 FLOW RATE 711

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	62	118	LAMINAR	0	61	7.5
HWDP/OH	0.398	33	42	108	LAMINAR	0	42	1.4
DP/OH	0.398	653	42	108	LAMINAR	0	42	28.0
DP/CSG	0.427	335	40	107	LAMINAR	0	39	12.1
DP/RIS	1.325	93	13	93	LAMINAR	0	13	0.2
TOTAL VOLUME		1162			TOTAL PRESSURE DROP			49.4

LAG: 68.6 MINUTES 4733 STROKES #1 AND 5030 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1087.3	HHP	451	IMPACT FORCE	1257
% SURFACE PRESSURE	37.4	HHP/sqin	3.83	JET VELOCITY	108

PRESSURE BREAKDOWN:

SURFACE	54.0		
STRING	1293.6		
BIT	1087.3		
ANNULUS	49.4		
TOTAL	2484.2	PUMP PRESSURE	2904.8
		% DIFFERENCE	14.5

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.60	HYDROSTATIC PRESSURE 4503.3
CIRCULATING:	ECD 9.71	CIRCULATING PRESSURE 4552.6
PULLING OUT:	TRIP MARGIN 0.21	ESTIMATED SWAB 98.7
	EFFECTIVE MUD WEIGHT 9.39	BOTTOM HOLE PRESSURE 4404.5

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2810.0 AND TVD 2809.3

SPM 1 0 SPM 2 58 FLOW RATE 290

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.026	0	263	190	TURBULENT			10.5
DC/LIN	0.274	46	25	126	LAMINAR	0	25	5.3
HWDP/LIN	0.398	33	17	113	LAMINAR	0	17	1.0
DP/LIN	0.398	678	17	113	LAMINAR	0	17	21.0
DP/CSG	0.427	335	16	112	LAMINAR	0	16	8.7
DP/RIS	1.325	93	5	97	LAMINAR	0	5	0.2
TOTAL VOLUME		1185	TOTAL PRESSURE DROP					46.7

LAG: 171.7 MINUTES 0 STROKES #1 AND 9960 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	300.9	HHP	51	IMPACT FORCE	269
% SURFACE PRESSURE	63.7	HHP/sqin	0.90	JET VELOCITY	57

PRESSURE BREAKDOWN:

SURFACE	11.1		
STRING	268.0		
BIT	300.9		
ANNULUS	46.7		
TOTAL	626.7	PUMP PRESSURE	472.4
		% DIFFERENCE	32.7

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.54	HYDROSTATIC PRESSURE 4574.0
CIRCULATING:	ECD 9.64	CIRCULATING PRESSURE 4620.7
PULLING OUT:	TRIP MARGIN 0.20	ESTIMATED SWAB 93.5
	EFFECTIVE MUD WEIGHT 9.35	BOTTOM HOLE PRESSURE 4480.5

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2900.0 AND TVD 2898.9

SPM 1 96 SPM 2 0 FLOW RATE 480

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	48	42	118	LAMINAR	0	41	6.2
HWDP/OH	0.398	33	29	105	LAMINAR	0	29	1.1
DP/OH	0.398	712	29	105	LAMINAR	0	29	24.1
DP/CSG	0.427	335	27	104	LAMINAR	0	27	9.5
DP/RIS	1.325	93	9	88	LAMINAR	0	9	0.2
TOTAL VOLUME		1221	TOTAL PRESSURE DROP			41.1		

LAG: 107.0 MINUTES 10264 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	630.7	HHP	176	IMPACT FORCE	643
% SURFACE PRESSURE	42.5	HHP/sqin	1.50	JET VELOCITY	83

PRESSURE BREAKDOWN:

SURFACE	27.3		
STRING	680.0		
BIT	630.7		
ANNULUS	41.1		
TOTAL	1379.2	PUMP PRESSURE	1485.7
		% DIFFERENCE	7.2

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.52	HYDROSTATIC PRESSURE 4705.7
CIRCULATING:	ECD 9.60	CIRCULATING PRESSURE 4746.8
PULLING OUT:	TRIP MARGIN 0.17	ESTIMATED SWAB 82.2
EFFECTIVE MUD WEIGHT	9.35	BOTTOM HOLE PRESSURE 4623.5

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2970.0 AND TVD 2968.5

SPM 1 58 SPM 2 56 FLOW RATE 568

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	3	128	168	LAMINAR	1	127	5.8
DC/CSG	0.116	24	117	166	LAMINAR	1	116	38.3
HWDP/CSG	0.160	13	84	159	LAMINAR	1	84	7.9
DP/CSG	0.160	415	84	159	LAMINAR	1	84	243.7
DP/RIS	1.325	93	10	135	LAMINAR	0	10	0.4
TOTAL VOLUME		547			TOTAL PRESSURE DROP			296.2

LAG: 40.5 MINUTES 2348 STROKES #1 AND 2251 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1386.8	HHP	459	IMPACT FORCE	1128
% SURFACE PRESSURE	48.6	HHP/sqin	8.10	JET VELOCITY	123

PRESSURE BREAKDOWN:

SURFACE	36.4		
STRING	999.4		
BIT	1386.8		
ANNULUS	296.2		
TOTAL	2718.7	PUMP PRESSURE	2854.8
		% DIFFERENCE	4.8

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.50	HYDROSTATIC PRESSURE 4811.2
CIRCULATING:	ECD 10.08	CIRCULATING PRESSURE 5107.4
PULLING OUT:	TRIP MARGIN 1.17	ESTIMATED SWAB 592.3
	EFFECTIVE MUD WEIGHT 8.33	BOTTOM HOLE PRESSURE 4218.9

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3000.0 AND TVD 2998.3

SPM 1 57 SPM 2 56 FLOW RATE 561

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	126	123	TURBULENT			7.6
DC/CSG	0.116	21	116	121	LAMINAR	2	114	20.2
HWDP/CSG	0.160	13	83	114	LAMINAR	1	82	4.5
DP/CSG	0.160	418	83	114	LAMINAR	1	82	140.9
DP/RIS	1.325	93	10	91	LAMINAR	0	10	0.2
TOTAL VOLUME		552	TOTAL PRESSURE DROP					173.5

LAG: 41.3 MINUTES 2336 STROKES #1 AND 2299 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1366.4	HHP	447	IMPACT FORCE	1112
% SURFACE PRESSURE	49.7	HHP/sqin	7.88	JET VELOCITY	121

PRESSURE BREAKDOWN:

SURFACE	33.6		
STRING	938.0		
BIT	1366.4		
ANNULUS	173.5		
TOTAL	2511.6	PUMP PRESSURE	2751.5
		% DIFFERENCE	8.7

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.59	HYDROSTATIC PRESSURE 4903.6
CIRCULATING:	ECD 9.93	CIRCULATING PRESSURE 5077.1
PULLING OUT:	TRIP MARGIN 0.68	ESTIMATED SWAB 347.0
	EFFECTIVE MUD WEIGHT 8.91	BOTTOM HOLE PRESSURE 4556.6

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3050.0 AND TVD 3048.0

SPM 1 54 SPM 2 58 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	11	126	120	TURBULENT			14.9
DC/CSG	0.116	18	115	118	LAMINAR	2	114	17.0
HWDP/CSG	0.160	13	83	108	LAMINAR	1	82	4.3
DP/CSG	0.160	423	83	108	LAMINAR	1	82	135.9
DP/RIS	1.325	93	10	78	LAMINAR	0	10	0.1
TOTAL VOLUME		558	TOTAL PRESSURE DROP			172.3		

LAG: 41.9 MINUTES 2262 STROKES #1 AND 2429 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1362.1	HHP	445	IMPACT FORCE	1108
% SURFACE PRESSURE	47.3	HHP/sqin	7.84	JET VELOCITY	121

PRESSURE BREAKDOWN:

SURFACE	35.1		
STRING	1014.2		
BIT	1362.1		
ANNULUS	172.3		
TOTAL	2583.7	PUMP PRESSURE	2880.0
		% DIFFERENCE	10.3

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.60	HYDROSTATIC PRESSURE 4991.9
CIRCULATING:	ECD 9.93	CIRCULATING PRESSURE 5164.2
PULLING OUT:	TRIP MARGIN 0.66	ESTIMATED SWAB 344.6
EFFECTIVE MUD WEIGHT	8.94	BOTTOM HOLE PRESSURE 4647.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3100.0 AND TVD 3097.5

SPM 1 55 SPM 2 55 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	17	125	122	TURBULENT			24.3
DC/CSG	0.116	12	114	119	LAMINAR	2	113	12.9
HWDP/CSG	0.160	13	82	105	LAMINAR	1	81	4.5
DP/CSG	0.160	431	82	105	LAMINAR	1	81	145.4
DP/RIS	1.325	93	10	66	LAMINAR	0	10	0.1
TOTAL VOLUME		566						
					TOTAL PRESSURE DROP			187.1

LAG: 42.9 MINUTES 2377 STROKES #1 AND 2377 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1399.9	HHP	452	IMPACT FORCE	1139
% SURFACE PRESSURE	48.7	HHP/sqin	7.97	JET VELOCITY	120

PRESSURE BREAKDOWN:

SURFACE	38.8				
STRING	1133.0				
BIT	1399.9				
ANNULUS	187.1				
TOTAL	2758.8	PUMP PRESSURE	2873.9	% DIFFERENCE	4.0

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	10.08	HYDROSTATIC PRESSURE	5324.2
CIRCULATING:	ECD	10.43	CIRCULATING PRESSURE	5511.4
PULLING OUT:	TRIP MARGIN	0.71	ESTIMATED SWAB	374.3
	EFFECTIVE MUD WEIGHT	9.37	BOTTOM HOLE PRESSURE	4950.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3117.0 AND TVD 3114.4

SPM 1 0 SPM 2 59 FLOW RATE 293

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	66	132	LAMINAR	1	65	20.0
DC/CSG	0.116	10	60	130	LAMINAR	1	60	8.3
HWDP/CSG	0.160	13	44	119	LAMINAR	0	43	3.8
DP/CSG	0.160	434	44	119	LAMINAR	0	43	122.2
DP/RIS	1.325	93	5	86	LAMINAR	0	5	0.1
TOTAL VOLUME		568			TOTAL PRESSURE DROP			154.4

LAG: 81.4 MINUTES 0 STROKES #1 AND 4776 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	383.0	HHP	66	IMPACT FORCE	312
% SURFACE PRESSURE	24.0	HHP/sqin	1.15	JET VELOCITY	63

PRESSURE BREAKDOWN:

SURFACE	11.6		
STRING	339.3		
BIT	383.0		
ANNULUS	154.4		
TOTAL	888.4	PUMP PRESSURE	1594.5
		% DIFFERENCE	44.3

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.84	HYDROSTATIC PRESSURE 5228.4
CIRCULATING:	ECD 10.13	CIRCULATING PRESSURE 5382.9
PULLING OUT:	TRIP MARGIN 0.58	ESTIMATED SWAB 308.9
EFFECTIVE MUD WEIGHT	9.26	BOTTOM HOLE PRESSURE 4919.6

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3120.0 AND TVD 3117.8

SPM 1 111 SPM 2 0 FLOW RATE 555

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	19	125	148	LAMINAR	1	124	33.0
DC/CSG	0.116	9	114	146	LAMINAR	1	113	13.1
HWDP/CSG	0.160	13	82	137	LAMINAR	1	82	6.5
DP/CSG	0.160	434	82	137	LAMINAR	1	82	209.8
DP/RIS	1.325	93	10	107	LAMINAR	0	10	0.3
TOTAL VOLUME		569			TOTAL PRESSURE DROP			262.7

LAG: 43.0 MINUTES 4779 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1399.0	HHP	453	IMPACT FORCE	1138
% SURFACE PRESSURE	48.9	HHP/sqin	7.99	JET VELOCITY	120

PRESSURE BREAKDOWN:

SURFACE	37.1		
STRING	1073.8		
BIT	1399.0		
ANNULUS	262.7		
TOTAL	2772.6	PUMP PRESSURE	2860.4
		% DIFFERENCE	3.1

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.02	HYDROSTATIC PRESSURE 5329.6
CIRCULATING:	ECD 10.51	CIRCULATING PRESSURE 5592.3
PULLING OUT:	TRIP MARGIN 0.99	ESTIMATED SWAR 525.4
	EFFECTIVE MUD WEIGHT 9.03	BOTTOM HOLE PRESSURE 4804.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3145.0 AND TVD 3142.4

SPM 1 51 SPM 2 0 FLOW RATE 257

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	21	58	144	LAMINAR	1	57	27.2
DC/CSG	0.116	6	53	143	LAMINAR	1	52	5.8
HWDP/CSG	0.160	13	38	133	LAMINAR	0	38	4.7
DP/CSG	0.160	439	38	133	LAMINAR	0	38	152.9
DP/RIS	1.325	93	5	105	LAMINAR	0	5	0.2
TOTAL VOLUME		573			TOTAL PRESSURE DROP			190.8

LAG: 93.7 MINUTES 4813 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 313.1 HHP 47 IMPACT FORCE 255
% SURFACE PRESSURE 23.1 HHP/sqin 0.83 JET VELOCITY 56

PRESSURE BREAKDOWN:

SURFACE 9.6
STRING 276.9
BIT 313.1
ANNULUS 190.8
TOTAL 790.4 PUMP PRESSURE 1354.9 % DIFFERFNC 41.7

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.48	HYDROSTATIC PRESSURE 5618.6
CIRCULATING:	ECD 10.84	CIRCULATING PRESSURE 5809.4
PULLING OUT:	TRIP MARGIN 0.71	ESTIMATED SWAB 381.5
	EFFECTIVE MUD WEIGHT 9.77	BOTTOM HOLE PRESSURE 5237.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3150.0 AND TVD 3147.4

SPM 1 0 SPM 2 108 FLOW RATE 538

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	22	121	153	LAMINAR	1	120	43.0
DC/CSG	0.116	6	111	151	LAMINAR	1	110	9.2
HWDP/CSG	0.160	13	80	139	LAMINAR	0	79	7.0
DP/CSG	0.160	439	80	139	LAMINAR	0	79	229.0
DP/RIS	1.325	93	10	105	LAMINAR	0	10	0.3
TOTAL VOLUME		573			TOTAL PRESSURE DROP			288.5

LAG: 44.7 MINUTES 0 STROKES #1 AND 4817 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1382.8	HHP	434	IMPACT FORCE	1125
% SURFACE PRESSURE	47.4	HHP/sqin	7.65	JET VELOCITY	116

PRESSURE BREAKDOWN:

SURFACE	38.2				
STRING	1112.0				
BIT	1382.8				
ANNULUS	288.5				
TOTAL	2821.5	PUMP PRESSURE	2916.3	% DIFFERENCE	3.3

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.55	HYDROSTATIC PRESSURE 5664.0
CIRCULATING:	ECD 11.09	CIRCULATING PRESSURE 5952.5
PULLING OUT:	TRIP MARGIN 1.07	ESTIMATED SWAB 577.0
	EFFECTIVE MUD WEIGHT 9.47	BOTTOM HOLE PRESSURE 5087.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3200.0 AND TVD 3196.9

SPM 1 59 SPM 2 40 FLOW RATE 496

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	112	148	LAMINAR	1	111	55.9
DC/CSG	0.116	0	102	145	LAMINAR	1	102	0.3
HWDP/CSG	0.160	13	74	130	LAMINAR	0	73	6.9
DP/CSG	0.160	447	74	130	LAMINAR	0	73	229.0
DP/RIS	1.325	93	9	89	LAMINAR	0	9	0.2
TOTAL VOLUME		581	TOTAL PRESSURE DROP					292.3

LAG: 49.2 MINUTES 2889 STROKES #1 AND 1992 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1319.3	HHP	382	IMPACT FORCE	1073
% SURFACE PRESSURE	45.4	HHP/sqin	6.73	JET VELOCITY	107

PRESSURE BREAKDOWN:

SURFACE	38.3		
STRING	1127.0		
BIT	1319.3		
ANNULUS	292.3		
TOTAL	2776.9	PUMP PRESSURE	2904.3
		% DIFFERENCE	4.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 11.84	HYDROSTATIC PRESSURE 6459.8
CIRCULATING:	ECD 12.38	CIRCULATING PRESSURE 6752.1
PULLING OUT:	TRIP MARGIN 1.07	ESTIMATED SWAB 584.7
	EFFECTIVE MUD WEIGHT 10.77	BOTTOM HOLE PRESSURE 5875.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3220.0 AND TVD 3217.3

SPM 1 0 SPM 2 101 FLOW RATE 504

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	114	146	LAMINAR	1	113	57.4
HWDP/OH	0.151	3	80	132	LAMINAR	0	79	1.7
HWDP/CSG	0.160	10	75	130	LAMINAR	0	75	5.6
DP/CSG	0.160	450	75	130	LAMINAR	0	75	240.0
DP/RIS	1.325	93	9	92	LAMINAR	0	9	0.2
TOTAL VOLUME		584			TOTAL PRESSURE DROP			305.0

LAG: 48.6 MINUTES 0 STROKES #1 AND 4906 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1282.3	HHP	377	IMPACT FORCE	1095
% SURFACE PRESSURE	43.5	HHP/sqin	6.65	JET VELOCITY	104

PRESSURE BREAKDOWN:

SURFACE	40.2		
STRING	1186.4		
BIT	1282.3		
ANNULUS	305.0		
TOTAL	2814.0	PUMP PRESSURE	2948.9
		% DIFFERENCE	4.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 12.25	HYDROSTATIC PRESSURE 6726.0
CIRCULATING:	ECD 12.81	CIRCULATING PRESSURE 7031.0
PULLING OUT:	TRIP MARGIN 1.11	ESTIMATED SWAB 610.0
	EFFECTIVE MUD WEIGHT 11.14	BOTTOM HOLE PRESSURE 6116.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3230.0 AND TVD 3227.3

SPM 1 0 SPM 2 99 FLOW RATE 496

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	112	149	LAMINAR	1	111	58.2
HWDP/OH	0.151	4	78	137	LAMINAR	0	78	2.8
HWDP/CSG	0.160	9	74	136	LAMINAR	0	73	5.0
DP/CSG	0.160	452	74	136	LAMINAR	0	73	254.5
DP/RIS	1.325	93	9	102	LAMINAR	0	9	0.3
TOTAL VOLUME		585			TOTAL PRESSURE DROP			320.7

LAG: 49.6 MINUTES 0 STROKES #1 AND 4918 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1245.0	HHP	360	IMPACT FORCE	1063
% SURFACE PRESSURE	43.0	HHP/sqin	6.35	JET VELOCITY	102

PRESSURE BREAKDOWN:

SURFACE	38.3		
STRING	1131.6		
BIT	1245.0		
ANNULUS	320.7		
TOTAL	2735.6	PUMP PRESSURE	2897.6
		% DIFFERENCE	5.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 12.30	HYDROSTATIC PRESSURE 6772.6
CIRCULATING:	ECD 12.88	CIRCULATING PRESSURE 7093.4
PULLING OUT:	TRIP MARGIN 1.17	ESTIMATED SWAB 641.5
	EFFECTIVE MUD WEIGHT 11.14	BOTTOM HOLE PRESSURE 6131.2

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3250.0 AND TVD 3247.1

SPM 1 101 SPM 2 0 FLOW RATE 502

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	113	144	LAMINAR	1	112	55.8
HWDP/OH	0.151	7	79	129	LAMINAR	0	79	4.4
HWDP/CSG	0.160	6	75	127	LAMINAR	0	74	2.9
DP/CSG	0.160	455	75	127	LAMINAR	0	74	233.6
DP/RIS	1.325	93	9	88	LAMINAR	0	9	0.2
TOTAL VOLUME		588			TOTAL PRESSURE DROP			296.9

LAG: 49.2 MINUTES 4944 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1270.3 HHP 372 IMPACT FORCE 1084
% SURFACE PRESSURE 43.6 HHP/sqin 6.56 JET VELOCITY 104

PRESSURE BREAKDOWN:

SURFACE 39.9
STRING 1183.4
BIT 1270.3
ANNULUS 296.9
TOTAL 2790.5 PUMP PRESSURE 2916.5 % DIFFERENCE 4.3

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	12.24	HYDROSTATIC PRESSURE 6779.9
CIRCULATING: ECD	12.77	CIRCULATING PRESSURE 7076.8
PULLING OUT: TRIP MARGIN	1.07	ESTIMATED SWAB 593.8
EFFECTIVE MUD WEIGHT	11.17	BOTTOM HOLE PRESSURE 6186.1

(c). COMPUTER DATA LISTING : LIST A

INTERVAL All depth records (data not averaged)

DEPTH. Well depth, in metres

ROP. Rate of penetration, in metres/hour

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

RPM. Rotary speed, in revolutions per minute

MW Mud weight in, in pounds per gallon

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

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

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

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

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

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

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

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

BIT NUMBER	1	IADC CODE	111	INTERVAL	70.0-	208.5
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	20	20 20
COST	0.00	TRIP TIME	2.5	BIT RUN		138.5
TOTAL HOURS	3.13	TOTAL TURNS	14945	CONDITION	T2 B2 G0.000	

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
75.0	111.5	2.0	80	8.6	0.43	0.04	215	33	1859	8.4	11.1
80.0	140.6	1.5	80	8.6	0.38	0.08	386	25.97	942.37	8.4	11.1
85.0	73.8	2.0	80	8.6	0.50	0.15	711	49.45	644.73	8.4	11.1
90.0	69.5	2.0	80	8.6	0.51	0.22	1056	52.55	496.68	8.4	11.1
95.0	72.0	2.6	80	8.6	0.52	0.29	1390	50.72	407.49	8.4	11.2
100.0	60.2	2.8	80	8.6	0.56	0.37	1788	60.66	349.69	8.4	11.2
105.0	81.8	2.5	80	8.6	0.50	0.43	2082	44.64	306.11	8.4	11.2
110.0	87.8	2.3	80	8.6	0.48	0.49	2355	41.59	273.04	8.4	11.2
115.0	104.1	1.6	80	8.6	0.43	0.54	2586	35.08	246.60	8.4	11.2
120.0	116.1	1.1	80	8.6	0.39	0.58	2792	31.45	225.09	8.4	11.3
125.0	50.1	4.8	80	8.6	0.64	0.68	3271	72.84	211.25	8.4	11.3
130.0	46.9	5.7	80	8.6	0.67	0.79	3783	77.91	200.14	8.4	11.3
135.0	48.6	4.5	80	8.6	0.64	0.89	4276	75.07	190.51	8.4	11.3
140.0	54.2	5.3	80	8.6	0.64	0.98	4719	67.36	181.72	8.4	11.3
145.0	32.0	5.6	80	8.6	0.75	1.14	5470	114.23	177.22	8.4	11.4
150.0	18.0	5.2	80	8.6	0.85	1.42	6806	203.29	178.85	8.4	11.4
155.0	61.6	5.0	80	8.6	0.61	1.50	7195	59.24	171.81	8.4	11.4
160.0	82.9	5.8	80	8.6	0.56	1.56	7484	44.03	164.71	8.4	11.4
165.0	34.2	5.6	80	8.6	0.73	1.71	8187	106.92	161.67	8.4	11.4
170.0	21.9	5.2	80	8.6	0.81	1.93	9284	166.98	161.94	8.4	11.5
175.0	55.9	6.0	80	8.6	0.64	2.02	9714	65.33	157.34	8.4	11.5
180.0	58.8	5.3	80	8.6	0.62	2.11	10122	62.08	153.01	8.4	11.5
185.0	41.0	5.1	80	8.6	0.69	2.23	10707	89.07	150.23	8.4	11.5
190.0	37.5	5.0	80	8.6	0.70	2.36	11347	97.39	148.03	8.4	11.5
195.0	43.0	5.4	80	8.6	0.68	2.48	11906	85.01	145.50	8.4	11.5
200.0	21.4	6.3	80	8.6	0.84	2.71	13028	170.83	146.48	8.4	11.6
205.0	25.0	5.2	80	8.6	0.79	2.91	13990	146.28	146.47	8.4	11.6
208.5	47.4	5.7	80	8.6	0.67	2.99	14344	77.12	144.72	8.4	11.6

BIT NUMBER	1	IADC CODE	111	INTERVAL	208.5-	870.0
HTC OSC 3AJ		SIZE	17.500	NOZZLES	18	18 18
COST	4857.00	TRIP TIME	3.7	BIT RUN		661.5
TOTAL HOURS	15.91	TOTAL TURNS	140631	CONDITION	T2 B1 G0.000	

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
210.0	337.5	3.6	105	8.6	0.34	0.00	28	11	12257	8.4	11.6
215.0	146.7	6.6	105	8.6	0.55	0.04	243	25	2848	8.4	11.6
220.0	167.4	6.0	105	8.6	0.52	0.07	431	22	1619	8.4	11.6
225.0	137.8	5.9	105	8.6	0.56	0.10	659	27	1136	8.4	11.7
230.0	189.5	8.6	105	8.6	0.52	0.13	826	19.27	876.65	8.4	11.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
235.0	197.4	6.7	105	8.6	0.49	0.16	985	18.50	714.74	8.4	11.7
240.0	186.5	7.2	105	8.6	0.51	0.18	1154	19.58	604.39	8.4	11.7
245.0	112.5	9.2	105	8.6	0.65	0.23	1434	32.46	526.05	8.4	11.7
250.0	109.9	7.0	105	8.6	0.62	0.27	1721	33.22	466.67	8.4	11.8
255.0	179.1	9.2	105	8.6	0.54	0.30	1897	20.39	418.68	8.4	11.8
260.0	81.1	4.5	105	8.6	0.64	0.36	2285	45.04	382.41	8.4	11.8
265.0	65.7	5.6	105	8.6	0.71	0.44	2765	55.59	353.49	8.4	11.8
270.0	77.3	5.6	105	8.6	0.67	0.50	3172	47.24	328.59	8.4	11.8
275.0	58.6	5.8	105	8.6	0.73	0.59	3709	62.29	308.57	8.4	11.8
280.0	85.9	7.3	105	8.6	0.68	0.65	4076	42.53	289.96	8.4	11.9
285.0	118.4	7.1	105	8.6	0.61	0.69	4342	30.84	273.03	8.4	11.9
290.0	112.5	7.1	105	8.6	0.62	0.73	4622	32.46	258.27	8.4	11.9
295.0	82.2	7.7	111	8.6	0.71	0.79	5028	44.43	245.91	8.4	11.9
300.0	96.8	8.7	130	8.6	0.73	0.85	5431	37.74	234.53	8.4	11.9
305.0	113.9	9.1	130	8.6	0.70	0.89	5774	32.06	224.04	8.4	12.0
310.0	36.8	5.2	130	8.6	0.86	1.03	6833	99.21	217.89	8.4	12.0
315.0	33.8	5.4	136	8.6	0.89	1.17	8041	107.94	212.73	8.4	12.0
320.0	42.8	2.9	150	8.6	0.78	1.29	9094	85.42	207.02	8.4	12.0
325.0	55.9	3.4	150	8.6	0.75	1.38	9899	65.36	200.94	8.4	12.0
330.0	61.9	4.6	150	8.6	0.77	1.46	10626	59.04	195.10	8.4	12.0
335.0	106.5	4.6	150	8.6	0.66	1.51	11049	34.29	188.74	8.4	12.1
340.0	53.1	5.3	150	8.6	0.82	1.60	11896	68.78	184.18	8.4	12.1
345.0	69.5	6.0	150	8.6	0.78	1.67	12544	52.55	179.36	8.4	12.1
350.0	51.9	5.6	150	8.7	0.82	1.77	13411	70.40	175.51	8.4	12.1
355.0	62.5	5.3	150	8.8	0.77	1.85	14132	58.46	171.52	8.4	12.1
360.0	43.8	6.3	150	8.8	0.86	1.96	15159	83.39	168.61	8.4	12.1
365.0	33.7	6.4	150	8.8	0.92	2.11	16494	108.34	166.68	8.4	12.2
370.0	60.4	10.6	150	8.8	0.88	2.20	17239	60.46	163.39	8.4	12.2
375.0	44.3	8.3	150	8.8	0.91	2.31	18254	82.36	160.96	8.4	12.2
380.0	87.4	14.3	150	8.8	0.85	2.37	18769	41.80	157.49	8.4	12.2
385.0	49.6	9.7	150	8.8	0.91	2.47	19677	73.65	155.11	8.4	12.2
390.0	133.3	23.0	150	8.8	0.83	2.50	20014	27.39	151.59	8.4	12.3
395.0	158.9	26.2	150	8.8	0.81	2.54	20297	22.98	148.14	8.4	12.3
400.0	152.5	28.8	150	8.8	0.84	2.57	20592	23.94	144.90	8.4	12.3
405.0	50.0	18.3	150	8.8	1.04	2.67	21492	73.04	143.07	8.4	12.3
410.0	63.8	18.2	150	8.8	0.97	2.75	22197	57.21	140.94	8.4	12.3
415.0	101.1	26.5	150	8.8	0.94	2.80	22642	36.11	138.40	8.4	12.3
420.0	101.7	28.8	150	8.8	0.95	2.85	23085	35.91	135.98	8.4	12.4
425.0	126.8	28.7	150	8.8	0.89	2.88	23440	28.81	133.51	8.4	12.4
430.0	87.0	22.9	150	8.8	0.94	2.94	23957	41.99	131.44	8.4	12.4
435.0	87.4	29.2	150	8.8	1.00	3.00	24472	41.80	129.46	8.4	12.4
440.0	65.7	23.2	150	8.8	1.02	3.08	25158	55.62	127.87	8.4	12.4
445.0	84.5	29.1	150	8.8	1.01	3.13	25690	43.22	126.08	8.4	12.4
450.0	49.0	14.5	150	8.8	0.99	3.24	26609	74.58	125.01	8.4	12.5
455.0	109.8	28.7	150	8.8	0.93	3.28	27019	33.27	123.15	8.4	12.5
460.0	53.1	23.9	150	8.8	1.09	3.38	27867	68.78	122.07	8.4	12.5
465.0	81.8	30.4	150	8.8	1.03	3.44	28417	44.64	120.56	8.4	12.5
470.0	56.4	25.0	150	8.8	1.09	3.53	29214	64.72	119.49	8.4	12.5
475.0	109.8	27.8	150	8.8	0.92	3.57	29624	33.27	117.87	8.4	12.5
480.0	74.4	28.7	150	8.8	1.04	3.64	30229	49.08	116.61	8.4	12.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	TCOST	CCOST	PP	FG
485.0	67.0	28.5	150	8.9	1.05	3.71	30900	54.48	115.48	8.4	12.6
490.0	51.4	26.3	150	9.0	1.10	3.81	31775	71.01	114.69	8.4	12.6
495.0	80.4	27.8	150	9.0	0.99	3.87	32335	45.45	113.49	8.4	12.6
500.0	63.4	27.0	150	9.0	1.05	3.95	33045	57.62	112.53	8.4	12.6
505.0	106.2	33.4	150	9.0	0.96	4.00	33469	34.40	111.21	8.4	12.6
510.0	67.9	37.4	150	9.0	1.12	4.07	34132	53.77	110.26	8.4	12.6
515.0	68.3	36.0	150	9.0	1.11	4.15	34790	53.46	109.33	8.4	12.7
520.0	44.0	32.4	150	9.1	1.19	4.26	35813	82.98	108.91	8.4	12.7
525.0	51.3	30.8	150	9.1	1.13	4.36	36690	71.21	108.31	8.4	12.7
530.0	67.2	37.3	150	9.1	1.11	4.43	37360	54.37	107.47	8.4	12.7
535.0	44.1	33.7	150	9.1	1.20	4.54	38380	82.78	107.10	8.4	12.7
540.0	54.5	39.0	150	9.1	1.19	4.64	39205	66.95	106.49	8.4	12.7
545.0	49.5	32.1	150	9.1	1.16	4.74	40114	73.72	106.00	8.4	12.8
550.0	32.6	37.5	150	9.1	1.33	4.89	41494	111.99	106.09	8.4	12.8
555.0	35.8	38.0	150	9.1	1.31	5.03	42751	102.02	106.03	8.4	12.8
560.0	40.3	38.9	150	9.1	1.28	5.15	43868	90.69	105.81	8.4	12.8
565.0	32.5	34.2	150	9.1	1.30	5.31	45253	112.37	105.91	8.4	12.8
570.0	45.5	38.3	150	9.1	1.24	5.42	46243	80.34	105.55	8.4	12.8
575.0	30.6	36.1	150	9.1	1.34	5.58	47713	119.30	105.74	8.4	12.8
580.0	47.2	39.3	150	9.1	1.23	5.69	48665	77.30	105.36	8.4	12.9
585.0	34.8	34.5	150	9.1	1.28	5.83	49958	104.87	105.35	8.4	12.9
590.0	32.9	36.7	150	9.1	1.32	5.98	51327	111.14	105.43	8.4	12.9
595.0	39.4	36.6	150	9.1	1.27	6.11	52468	92.60	105.26	8.4	12.9
600.0	39.7	32.4	150	9.1	1.22	6.24	53601	91.91	105.09	8.4	12.9
605.0	36.4	36.2	150	9.1	1.28	6.37	54836	100.23	105.03	8.4	12.9
610.0	31.1	32.8	150	9.1	1.30	6.53	56283	117.47	105.18	8.4	12.9
615.0	30.5	35.5	150	9.1	1.33	6.70	57761	119.91	105.36	8.4	13.0
620.0	33.6	31.9	150	9.1	1.27	6.85	59101	108.75	105.41	8.4	13.0
625.0	31.4	36.9	150	9.1	1.34	7.01	60533	116.26	105.54	8.4	13.0
630.0	34.1	36.5	150	9.1	1.31	7.15	61853	107.13	105.55	8.4	13.0
635.0	37.2	37.5	150	9.1	1.29	7.29	63063	98.20	105.47	8.4	13.0
640.0	36.1	36.3	150	9.1	1.29	7.43	64311	101.24	105.42	8.4	13.0
645.0	34.7	36.5	150	9.1	1.30	7.57	65608	105.30	105.42	8.4	13.0
650.0	38.2	35.2	150	9.1	1.27	7.70	66786	95.56	105.31	8.4	13.1
655.0	33.8	36.9	150	9.0	1.33	7.85	68116	107.94	105.34	8.4	13.1
660.0	30.6	36.4	150	9.0	1.35	8.01	69586	119.30	105.49	8.4	13.1
665.0	35.6	36.9	150	9.0	1.31	8.15	70851	102.66	105.46	8.4	13.1
670.0	32.6	37.3	150	9.0	1.34	8.31	72230	111.97	105.53	8.4	13.1
675.0	31.3	37.5	150	9.0	1.36	8.47	73668	116.66	105.65	8.4	13.1
680.0	32.7	37.9	150	9.0	1.35	8.62	75043	111.59	105.71	8.4	13.1
685.0	33.3	39.4	150	9.0	1.36	8.77	76393	109.56	105.75	8.4	13.2
690.0	31.4	36.4	150	9.0	1.35	8.93	77825	116.26	105.86	8.4	13.2
695.0	37.5	35.9	150	9.0	1.29	9.06	79025	97.39	105.77	8.4	13.2
700.0	27.0	36.8	150	9.0	1.40	9.25	80690	135.12	106.07	8.4	13.2
705.0	38.5	35.3	150	9.0	1.27	9.38	81858	94.75	105.96	8.4	13.2
710.0	31.4	35.0	150	9.0	1.33	9.53	83293	116.46	106.06	8.4	13.2
715.0	22.4	35.6	150	9.0	1.44	9.76	85303	163.12	106.63	8.4	13.2
720.0	27.2	35.2	150	9.0	1.38	9.94	86955	134.11	106.90	8.4	13.3
725.0	30.5	37.3	150	9.0	1.36	10.11	88430	119.70	107.02	8.4	13.3
730.0	35.9	37.0	150	9.0	1.31	10.25	89685	101.85	106.97	8.4	13.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
735.0	25.3	36.9	150	9.0	1.42	10.44	91463	144.25	107.32	8.4	13.3
740.0	41.2	37.8	150	9.0	1.28	10.56	92555	88.66	107.15	8.4	13.3
745.0	33.3	35.8	150	9.0	1.32	10.71	93905	109.56	107.17	8.4	13.3
750.0	31.3	38.4	150	9.0	1.37	10.87	95345	116.86	107.26	8.4	13.3
755.0	18.8	37.0	150	9.0	1.51	11.14	97735	193.96	108.05	8.4	13.4
760.0	21.8	35.5	150	9.0	1.45	11.37	99798	167.38	108.59	8.4	13.4
765.0	21.2	35.4	150	9.0	1.45	11.60	101918	172.05	109.16	8.4	13.4
770.0	34.0	34.4	150	9.0	1.30	11.75	103243	107.53	109.15	8.4	13.4
775.0	39.6	34.4	150	9.0	1.26	11.88	104379	92.19	109.08	8.4	13.4
780.0	34.2	35.4	150	9.0	1.31	12.02	105694	106.72	108.98	8.4	13.4
785.0	32.7	35.9	150	9.0	1.33	12.18	107071	111.79	109.00	8.4	13.4
790.0	37.2	35.5	150	9.0	1.29	12.31	108281	98.20	108.91	8.4	13.4
795.0	28.0	36.7	150	9.0	1.38	12.49	109886	130.25	109.09	8.4	13.5
800.0	35.6	36.2	150	9.0	1.31	12.63	111151	102.68	109.04	8.4	13.5
805.0	36.0	37.4	150	9.0	1.31	12.77	112401	101.44	108.97	8.4	13.5
810.0	45.4	36.5	150	9.0	1.24	12.88	113392	80.37	108.74	8.4	13.5
815.0	28.0	38.9	150	9.0	1.41	13.06	114999	130.46	108.91	8.4	13.5
820.0	36.6	36.8	150	9.0	1.30	13.19	116229	99.79	108.84	8.4	13.5
825.0	69.6	31.0	150	9.0	1.06	13.27	116875	52.46	108.38	8.4	13.5
830.0	52.9	33.2	150	9.0	1.16	13.36	117726	69.03	108.07	8.4	13.5
835.0	32.2	37.3	150	9.0	1.35	13.52	119124	113.50	108.11	8.4	13.6
840.0	23.6	33.7	150	9.0	1.40	13.73	121034	155.01	108.48	8.4	13.6
845.0	21.2	37.2	150	9.0	1.47	13.96	123159	172.43	108.98	8.4	13.6
850.0	11.2	37.1	150	9.0	1.66	14.41	127180	326.35	110.68	8.4	13.6
855.0	12.8	38.9	150	9.0	1.65	14.60	130693	285.06	112.03	8.4	13.6
860.0	11.2	37.6	150	9.0	1.67	15.25	134695	324.83	113.66	8.4	13.6
865.0	14.9	38.0	150	9.0	1.59	15.58	137708	244.48	114.66	8.4	13.6
870.0	13.2	39.6	150	9.0	1.64	15.96	141113	276.33	115.88	8.4	13.6

BIT NUMBER	2	IADC CODE	116	INTERVAL	870.0- 951.0
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	4.0	BIT RUN	81.0
TOTAL HOURS	2.77	TOTAL TURNS	16633	CONDITION	T2 B2 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
875.0	18.5	37.9	100	9.1	1.53	0.27	1620	197	3658	8.4	13.7
880.0	28.4	35.8	100	9.0	1.38	0.45	2676	128	1893	8.4	13.7
883.0	34.0	40.3	100	9.0	1.37	0.53	3206	106	1481	8.4	13.7
884.0	33.0	40.0	100	8.9	1.39	0.56	3388	111	1383	8.4	13.7
885.0	31.6	40.0	100	8.9	1.41	0.60	3578	116	1299	8.4	13.7
886.0	42.9	39.9	100	8.9	1.30	0.62	3718	85	1223	8.4	13.7
887.0	34.3	40.7	100	8.8	1.40	0.65	3893	107	1157	8.4	13.7
888.0	29.3	40.4	100	8.8	1.46	0.68	4098	125	1100	8.4	13.7
889.0	37.9	40.3	100	8.8	1.36	0.71	4256	96	1047	8.4	13.7
890.0	32.2	40.0	100	8.8	1.42	0.74	4442	113	1000	8.4	13.7
895.0	28.5	40.0	100	8.8	1.46	0.92	5495	128.14	825.86	8.4	13.7
900.0	28.5	40.0	100	8.7	1.48	1.09	6548	128.14	709.58	8.4	13.7
905.0	41.3	41.3	100	8.7	1.36	1.21	7274	88.43	620.84	8.4	13.7
910.0	38.1	41.3	100	8.7	1.39	1.34	8061	95.85	555.22	8.4	13.7
915.0	34.2	41.0	100	8.7	1.42	1.49	8940	106.94	505.41	8.4	13.8
920.0	39.8	45.0	100	8.7	1.41	1.62	9695	91.87	464.05	8.4	13.8
925.0	59.8	42.0	100	8.7	1.23	1.70	10196	61.07	427.42	8.4	13.8
930.0	35.6	42.0	100	8.8	1.40	1.84	11039	102.58	400.35	8.4	13.8
935.0	28.0	41.0	100	8.8	1.48	2.02	12110	130.43	379.59	8.4	13.8
940.0	19.8	38.5	100	8.8	1.57	2.27	13629	184.82	365.67	8.4	13.8
945.0	15.8	43.0	100	8.8	1.71	2.59	15530	231.43	356.73	8.4	13.8
950.0	37.3	41.0	100	8.8	1.38	2.72	16335	98.01	340.56	8.4	13.8
951.0	20.1	40.0	100	8.8	1.58	2.77	16633	181.69	338.59	8.4	13.8

BIT NUMBER	3	IADC CODE	116	INTERVAL	951.0- 1598.0
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	5.4	BIT RUN	647.0
TOTAL HOURS	31.52	TOTAL TURNS	216592	CONDITION	T6 B6 G0.250

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
956.0	18.0	30.0	100	8.8	1.49	0.28	1667	203	4686	8.4	13.9
960.0	15.8	35.0	100	8.8	1.60	0.53	3186	231	2706	8.4	13.9
965.0	21.4	39.0	100	8.8	1.55	0.76	4588	171	1801	8.4	13.9
970.0	21.2	38.0	100	8.8	1.54	1.00	6003	172	1372	8.4	13.9
975.0	19.5	39.5	100	8.8	1.59	1.26	7541	187	1125	8.4	13.9
980.0	21.4	40.0	100	8.8	1.56	1.49	8943	170.65	960.62	8.4	13.9
985.0	10.0	40.0	100	8.8	1.83	1.99	11943	365.20	873.06	8.4	13.9
990.0	18.8	42.0	70	8.8	1.50	2.26	13060	194.26	786.03	8.4	13.9
995.0	25.7	40.0	70	8.9	1.36	2.45	13877	142.10	712.86	8.4	13.9
996.0	30.5	40.0	70	8.9	1.30	2.48	14015	119.74	699.68	8.4	13.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
997.0	25.4	40.0	70	8.9	1.36	2.52	14180	143.78	687.60	8.4	13.9
998.0	20.9	40.0	70	8.9	1.43	2.57	14381	174.74	676.68	8.4	14.0
999.0	23.5	40.0	70	8.9	1.39	2.61	14560	155.40	665.82	8.4	14.0
1000.0	27.9	40.0	70	8.9	1.33	2.65	14710	130.90	654.91	8.4	14.0
1001.0	26.5	40.0	70	8.9	1.34	2.69	14869	137.81	644.56	8.4	14.0
1002.0	23.7	40.0	70	8.9	1.38	2.73	15046	154.09	634.95	8.4	14.0
1003.0	25.2	40.0	70	8.9	1.36	2.77	15213	144.92	625.52	8.4	14.0
1004.0	18.9	40.2	70	8.9	1.46	2.82	15435	193.23	617.37	8.4	14.0
1005.0	28.8	40.1	70	8.8	1.33	2.86	15581	126.81	608.28	8.4	14.0
1006.0	33.3	39.6	70	8.8	1.28	2.89	15707	109.56	599.22	8.4	14.0
1007.0	19.6	39.4	70	8.8	1.46	2.94	15921	186.66	591.85	8.4	14.0
1008.0	15.4	39.9	70	8.8	1.55	3.00	16194	237.38	585.63	8.4	14.0
1009.0	10.2	41.0	70	8.8	1.71	3.10	16606	358.10	581.71	8.4	14.0
1010.0	14.0	39.9	70	8.8	1.58	3.17	16907	261.73	576.28	8.4	14.0
1011.0	15.3	40.5	70	8.8	1.56	3.24	17181	238.39	570.65	8.4	14.0
1012.0	15.5	41.0	89	8.8	1.65	3.30	17527	235.35	565.15	8.4	14.0
1013.0	13.1	41.7	100	8.8	1.75	3.38	17984	277.96	560.52	8.4	14.0
1014.0	14.2	41.3	100	8.8	1.72	3.45	18405	256.65	555.70	8.4	14.0
1015.0	11.8	42.4	100	8.8	1.80	3.53	18914	309.41	551.85	8.4	14.0
1016.0	17.3	41.7	100	8.8	1.66	3.59	19260	211.00	546.61	8.4	14.0
1017.0	15.0	41.4	100	8.8	1.70	3.66	19660	243.47	542.01	8.4	14.0
1018.0	15.3	41.8	100	8.8	1.70	3.72	20052	238.39	537.48	8.4	14.0
1019.0	18.3	41.6	100	8.8	1.64	3.78	20380	199.51	532.51	8.4	14.0
1020.0	12.8	42.1	100	8.8	1.77	3.86	20850	286.07	528.94	8.4	14.0
1021.0	15.3	41.6	100	8.8	1.70	3.92	21243	239.41	524.80	8.4	14.0
1022.0	8.7	40.7	100	8.8	1.89	4.04	21937	422.01	523.36	8.4	14.0
1023.0	15.9	41.9	100	8.8	1.69	4.10	22313	229.26	519.27	8.4	14.0
1024.0	15.0	42.0	100	8.8	1.71	4.17	22713	243.47	515.49	8.4	14.0
1025.0	20.0	43.1	100	8.9	1.60	4.22	23013	182.60	511.00	8.4	14.0
1026.0	15.3	42.4	118	8.9	1.75	4.28	23477	238.39	507.36	8.4	14.0
1027.0	8.6	40.8	120	8.9	1.94	4.40	24317	426.07	506.29	8.4	14.0
1028.0	17.1	40.7	120	8.9	1.69	4.46	24737	213.03	502.48	8.4	14.0
1029.0	15.3	40.2	120	8.9	1.72	4.52	25207	238.39	499.10	8.4	14.0
1030.0	18.4	40.0	120	8.9	1.66	4.58	25598	198.48	495.29	8.4	14.0
1031.0	16.9	40.1	120	8.9	1.69	4.64	26024	216.09	491.80	8.4	14.0
1032.0	36.0	39.8	120	8.9	1.42	4.66	26224	101.44	486.98	8.4	14.0
1033.0	11.4	39.8	120	8.9	1.82	4.75	26858	321.58	484.97	8.4	14.0
1034.0	11.6	40.9	120	8.9	1.83	4.84	27480	315.49	482.92	8.4	14.0
1035.0	19.6	40.4	120	8.9	1.64	4.89	27848	186.66	479.40	8.4	14.0
1036.0	12.1	40.1	120	8.9	1.81	4.97	28444	302.30	477.31	8.4	14.0
1037.0	14.5	40.6	120	8.9	1.75	5.04	28940	251.58	474.69	8.4	14.0
1038.0	15.2	40.6	120	8.9	1.73	5.11	29414	240.42	472.00	8.4	14.0
1039.0	13.7	40.3	120	8.9	1.77	5.18	29940	266.80	469.66	8.4	14.0
1040.0	14.4	40.1	120	8.9	1.74	5.25	30440	253.61	467.24	8.4	14.0
1041.0	18.3	40.5	120	8.9	1.67	5.30	30834	199.85	464.27	8.4	14.0
1042.0	11.1	38.5	120	9.0	1.79	5.39	31480	327.67	462.76	8.4	14.0
1043.0	13.4	40.1	120	9.0	1.75	5.47	32016	271.87	460.69	8.4	14.1
1044.0	17.8	40.7	120	9.0	1.66	5.52	32420	204.92	457.94	8.4	14.1
1045.0	11.8	41.3	120	9.0	1.81	5.61	33028	308.39	456.35	8.4	14.1
1046.0	10.9	41.8	120	9.0	1.84	5.70	33686	333.75	455.06	8.4	14.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1047.0	20.9	40.9	120	9.0	1.61	5.75	34030	174.48	452.13	8.4	14.1
1048.0	9.4	41.9	120	9.0	1.90	5.85	34800	390.56	451.50	8.4	14.1
1049.0	16.7	40.8	120	9.0	1.68	5.91	35232	219.12	449.13	8.4	14.1
1050.0	18.1	40.7	120	9.0	1.66	5.97	35630	201.87	446.63	8.4	14.1
1051.0	16.5	41.3	120	9.0	1.69	6.03	36066	221.15	444.38	8.4	14.1
1052.0	18.2	40.8	120	9.0	1.65	6.09	36462	200.86	441.97	8.4	14.1
1053.0	17.0	40.9	120	9.0	1.68	6.14	36886	215.06	439.74	8.4	14.1
1054.0	17.1	41.8	120	9.0	1.69	6.20	37308	214.05	437.55	8.4	14.1
1055.0	18.9	41.9	120	9.0	1.65	6.26	37688	192.74	435.20	8.4	14.1
1056.0	16.4	41.7	120	9.0	1.70	6.32	38126	222.16	433.17	8.4	14.1
1057.0	21.8	42.0	120	9.0	1.61	6.36	38456	167.38	430.66	8.4	14.1
1058.0	18.2	41.7	120	9.0	1.67	6.42	38852	200.86	428.51	8.4	14.1
1059.0	24.2	41.8	120	9.0	1.57	6.46	39150	151.15	425.94	8.4	14.1
1060.0	15.2	42.2	120	9.0	1.73	6.52	39624	240.42	424.24	8.4	14.1
1061.0	17.6	42.3	120	9.0	1.68	6.58	40032	206.95	422.27	8.4	14.1
1062.0	40.0	46.7	120	9.0	1.44	6.61	40212	91.30	419.28	8.4	14.1
1063.0	12.2	43.0	120	9.0	1.82	6.69	40804	300.28	418.22	8.4	14.1
1064.0	19.4	43.2	120	9.0	1.66	6.74	41176	188.69	416.19	8.4	14.1
1065.0	20.6	42.4	120	9.0	1.63	6.79	41526	177.53	414.10	8.4	14.1
1066.0	21.6	41.6	120	9.0	1.61	6.84	41860	169.41	411.97	8.4	14.1
1067.0	18.8	42.3	120	9.0	1.66	6.89	42242	193.76	410.09	8.4	14.1
1068.0	21.3	42.2	120	9.0	1.62	6.94	42580	171.44	408.05	8.4	14.1
1069.0	22.2	42.1	120	9.0	1.60	6.98	42904	164.34	405.98	8.4	14.1
1070.0	19.1	42.1	120	9.0	1.65	7.03	43280	190.72	404.17	8.4	14.1
1071.0	15.1	42.1	120	9.0	1.73	7.10	43756	241.44	402.82	8.4	14.1
1072.0	22.2	41.4	120	9.0	1.59	7.14	44080	164.34	400.85	8.4	14.1
1073.0	21.8	42.4	120	9.0	1.61	7.19	44410	167.38	398.93	8.4	14.1
1074.0	14.3	43.1	120	9.0	1.77	7.26	44914	255.64	397.77	8.4	14.1
1075.0	15.1	43.3	120	9.0	1.75	7.33	45390	241.44	396.51	8.4	14.1
1076.0	14.3	43.1	120	9.0	1.77	7.40	45894	255.64	395.38	8.4	14.1
1077.0	14.3	43.8	120	9.0	1.78	7.47	46396	254.63	394.26	8.4	14.1
1078.0	13.0	44.5	120	9.0	1.82	7.54	46950	281.00	393.37	8.4	14.1
1079.0	10.1	43.5	120	9.0	1.90	7.64	47664	362.16	393.13	8.4	14.1
1080.0	12.3	44.4	120	9.0	1.84	7.72	48248	296.22	392.38	8.4	14.1
1081.0	17.5	41.6	120	9.0	1.68	7.78	48660	208.98	390.97	8.4	14.1
1082.0	17.5	42.9	120	9.0	1.69	7.84	49072	208.98	389.58	8.4	14.1
1083.0	19.5	40.3	120	9.0	1.62	7.89	49442	187.67	388.05	8.4	14.1
1084.0	8.6	41.4	120	9.0	1.92	8.00	50282	426.07	388.33	8.4	14.1
1085.0	18.0	42.2	120	9.0	1.68	8.06	50682	202.89	386.95	8.4	14.1
1086.0	12.1	45.2	120	9.0	1.85	8.14	51276	301.29	386.31	8.4	14.1
1087.0	9.4	42.5	120	9.0	1.91	8.25	52044	389.55	386.34	8.4	14.1
1088.0	12.0	41.5	120	9.0	1.81	8.33	52642	303.32	385.73	8.4	14.1
1089.0	12.8	43.0	120	9.0	1.80	8.41	53204	285.06	385.00	8.4	14.2
1090.0	12.4	44.0	120	9.0	1.83	8.49	53784	294.19	384.35	8.4	14.2
1091.0	18.5	45.1	120	9.0	1.70	8.55	54174	197.82	383.02	8.4	14.2
1092.0	13.5	45.2	120	9.0	1.81	8.62	54706	269.84	382.21	8.4	14.2
1093.0	10.6	45.6	120	9.0	1.91	8.71	55388	345.93	381.96	8.4	14.2
1094.0	14.1	45.2	120	9.0	1.80	8.78	55898	258.68	381.10	8.4	14.2
1095.0	22.5	45.8	120	9.0	1.64	8.83	56218	162.31	379.58	8.4	14.2
1096.0	14.8	45.8	120	9.0	1.79	8.90	56706	247.52	378.67	8.4	14.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1097.0	16.3	45.3	120	9.0	1.75	8.96	57148	224.19	377.61	8.4	14.2
1098.0	18.8	45.1	120	9.0	1.70	9.01	57532	194.77	376.37	8.4	14.2
1099.0	9.0	44.1	120	9.0	1.94	9.12	58330	404.76	376.56	8.4	14.2
1100.0	23.1	45.8	120	9.0	1.63	9.17	58642	158.25	375.09	8.4	14.2
1101.0	20.2	46.0	120	9.0	1.68	9.22	58998	180.57	373.80	8.4	14.2
1102.0	16.4	47.7	120	9.0	1.78	9.28	59436	222.16	372.79	8.4	14.2
1103.0	12.8	46.7	120	9.0	1.85	9.35	59998	285.06	372.21	8.4	14.2
1104.0	20.1	47.9	120	9.0	1.70	9.40	60356	181.59	370.97	8.4	14.2
1105.0	13.3	43.9	120	9.0	1.80	9.48	60898	274.91	370.34	8.4	14.2
1106.0	11.5	46.6	120	9.0	1.89	9.57	61524	317.52	370.00	8.4	14.2
1107.0	11.1	46.4	120	9.0	1.90	9.66	62170	327.67	369.73	8.4	14.2
1108.0	13.2	46.2	120	9.0	1.84	9.73	62716	276.94	369.14	8.4	14.2
1109.0	16.6	42.7	120	9.0	1.71	9.79	63149	219.80	368.20	8.4	14.2
1110.0	21.8	42.6	120	9.0	1.61	9.84	63479	167.38	366.93	8.4	14.2
1111.0	20.6	42.3	120	9.0	1.63	9.89	63829	177.53	365.75	8.4	14.2
1112.0	21.2	41.9	120	9.0	1.61	9.93	64169	172.46	364.55	8.4	14.2
1113.0	23.2	41.8	120	9.0	1.58	9.98	64479	157.24	363.27	8.4	14.2
1114.0	22.5	41.8	120	9.0	1.59	10.02	64799	162.31	362.04	8.4	14.2
1115.0	30.0	41.5	120	9.0	1.49	10.05	65039	121.73	360.57	8.4	14.2
1116.0	15.0	42.0	120	9.0	1.74	10.12	65519	243.47	359.86	8.4	14.2
1117.0	13.6	42.4	120	9.0	1.78	10.19	66049	268.83	359.31	8.4	14.2
1118.0	17.6	42.6	120	9.0	1.69	10.25	66459	207.96	358.41	8.4	14.2
1119.0	16.7	42.5	120	9.0	1.70	10.31	66889	218.11	357.57	8.4	14.2
1120.0	17.1	42.5	120	9.0	1.70	10.37	67309	213.03	356.72	8.4	14.2
1121.0	15.7	42.7	120	9.0	1.73	10.43	67769	233.32	355.99	8.4	14.2
1122.0	14.4	42.7	120	9.0	1.76	10.50	68269	253.61	355.39	8.4	14.2
1123.0	1.8	44.1	120	9.0	2.51	11.05	72239	2014	365	8.4	14.2
1124.0	23.2	43.7	120	9.0	1.60	11.10	72549	157.24	363.83	8.4	14.2
1124.6	25.7	43.7	120	9.0	1.57	11.12	72717	142.02	363.06	8.4	14.2
1124.8	18.5	43.5	120	9.0	1.68	11.13	72795	197.82	362.87	8.4	14.2
1125.0	23.2	43.6	120	9.0	1.60	11.14	72857	157.24	362.64	8.4	14.2
1126.0	25.7	43.7	120	9.0	1.57	11.18	73137	142.02	361.38	8.4	14.2
1127.0	19.5	44.4	120	9.0	1.67	11.23	73507	187.67	360.39	8.4	14.2
1128.0	21.2	44.5	120	9.0	1.65	11.28	73847	172.46	359.33	8.4	14.2
1129.0	21.2	44.4	120	9.0	1.65	11.32	74187	172.46	358.28	8.4	14.2
1130.0	23.4	43.9	120	9.0	1.60	11.37	74495	156.22	357.15	8.4	14.2
1131.0	20.2	44.6	120	9.0	1.66	11.42	74851	180.57	356.17	8.4	14.2
1132.0	20.8	44.8	120	9.0	1.66	11.47	75197	175.50	355.17	8.4	14.2
1133.0	18.8	44.9	120	9.0	1.69	11.52	75581	194.77	354.29	8.4	14.2
1134.0	15.2	45.3	120	9.0	1.77	11.58	76055	240.42	353.67	8.4	14.2
1135.0	18.8	45.2	120	9.0	1.70	11.64	76439	194.77	352.80	8.4	14.2
1136.0	13.4	46.4	120	9.0	1.83	11.71	76975	271.87	352.37	8.4	14.2
1137.0	18.2	29.1	120	9.0	1.50	11.77	77371	200.66	351.55	8.4	14.3
1138.0	18.0	45.1	120	9.0	1.71	11.82	77771	202.89	350.76	8.4	14.3
1139.0	18.2	45.3	120	9.0	1.71	11.88	78167	200.86	349.96	8.4	14.3
1140.0	16.3	45.9	120	9.0	1.76	11.94	78609	224.19	349.29	8.4	14.3
1141.0	18.2	45.5	120	9.0	1.71	11.99	79005	200.86	348.51	8.4	14.3
1142.0	14.5	45.9	120	9.0	1.80	12.06	79501	251.58	348.00	8.4	14.3
1143.0	21.4	45.4	120	9.0	1.65	12.11	79837	170.43	347.08	8.4	14.3
1144.0	20.8	45.4	120	9.0	1.66	12.16	80183	175.50	346.19	8.4	14.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1145.0	24.2	45.2	120	9.0	1.61	12.20	80481	151.15	345.18	8.4	14.3
1146.0	23.8	45.0	120	9.0	1.61	12.24	80783	153.18	344.20	8.4	14.3
1147.0	17.4	45.8	120	9.0	1.73	12.30	81197	209.99	343.52	8.4	14.3
1148.0	17.9	46.5	120	9.0	1.73	12.35	81599	203.90	342.81	8.4	14.3
1149.0	21.8	45.8	120	9.0	1.65	12.40	81929	167.38	341.92	8.4	14.3
1150.0	16.9	45.8	120	9.0	1.74	12.46	82355	216.08	341.29	8.4	14.3
1151.0	14.5	46.7	120	9.0	1.81	12.53	82851	251.58	340.84	8.4	14.3
1152.0	15.1	46.9	120	9.0	1.80	12.59	83327	241.44	340.35	8.4	14.3
1153.0	15.1	46.9	120	9.0	1.80	12.66	83805	242.45	339.86	8.4	14.3
1154.0	15.9	46.8	120	9.0	1.77	12.72	84257	229.26	339.32	8.4	14.3
1155.0	16.3	46.5	120	9.0	1.76	12.78	84699	224.19	338.75	8.4	14.3
1156.0	15.3	46.7	120	9.0	1.79	12.85	85169	238.69	338.26	8.4	14.3
1160.0	12.2	49.0	120	9.0	1.90	13.18	87522	298.37	337.50	8.4	14.3
1165.0	25.0	49.0	120	9.0	1.64	13.38	88962	146.08	333.03	8.4	14.3
1170.0	23.5	43.0	120	9.0	1.59	13.59	90496	155.54	328.98	8.4	14.3
1175.0	11.2	42.2	120	9.0	1.84	14.04	93701	325.20	328.89	8.4	14.3
1180.0	17.3	43.2	120	9.0	1.70	14.32	95783	211.22	326.32	8.4	14.3
1185.0	20.1	44.5	120	9.0	1.66	14.57	97572	181.42	323.23	8.4	14.3
1190.0	14.8	45.0	120	9.0	1.78	14.91	100004	246.76	321.63	8.4	14.4
1195.0	20.0	44.7	120	9.0	1.67	15.16	101808	182.97	318.78	8.4	14.4
1200.0	23.4	43.7	120	9.0	1.60	15.37	103344	155.87	315.51	8.4	14.4
1205.0	14.1	47.1	120	9.0	1.82	15.73	105907	259.93	314.42	8.4	14.4
1210.0	18.5	44.2	120	9.0	1.69	16.00	107857	197.83	312.17	8.4	14.4
1215.0	25.3	45.0	120	9.0	1.59	16.20	109280	144.35	308.99	8.4	14.4
1220.0	25.9	44.7	120	9.0	1.58	16.39	110670	141.00	305.87	8.4	14.4
1225.0	29.2	46.2	120	9.0	1.55	16.56	111902	125.03	302.57	8.4	14.4
1230.0	14.0	46.2	120	9.0	1.81	16.92	114474	260.86	301.82	8.4	14.4
1235.0	40.4	44.5	120	9.0	1.42	17.04	115364	90.31	298.10	8.4	14.4
1240.0	29.7	44.5	120	9.0	1.53	17.21	116576	122.96	295.07	8.4	14.5
1245.0	21.4	44.5	120	9.0	1.64	17.45	118262	171.05	292.96	8.4	14.5
1250.0	34.6	43.5	120	9.0	1.46	17.59	119303	105.61	289.82	8.4	14.5
1255.0	24.4	44.7	120	9.0	1.60	17.80	120779	149.73	287.52	8.4	14.5
1260.0	56.7	43.7	120	9.0	1.29	17.88	121414	64.41	283.91	8.4	14.5
1265.0	20.3	44.2	120	9.0	1.66	18.13	123185	179.64	282.25	8.4	14.5
1270.0	33.1	44.2	120	9.0	1.48	18.28	124272	110.30	279.55	8.4	14.5
1275.0	22.9	44.7	120	9.0	1.62	18.50	125846	159.62	277.70	8.4	14.5
1280.0	32.7	44.7	120	9.0	1.49	18.65	126946	111.68	275.18	8.4	14.5
1285.0	32.7	44.7	120	9.0	1.49	18.81	128047	111.68	272.73	8.4	14.5
1290.0	20.0	44.7	120	9.0	1.67	19.06	129847	182.60	271.40	8.4	14.6
1295.0	30.0	44.7	120	9.0	1.52	19.22	131047	121.73	269.23	8.4	14.6
1300.0	23.4	45.0	120	9.0	1.62	19.44	132586	156.07	267.61	8.4	14.6
1305.0	36.7	46.1	120	9.0	1.47	19.57	133567	99.51	265.23	8.4	14.6
1310.0	18.7	45.0	120	9.0	1.70	19.84	135492	195.29	264.26	8.4	14.6
1315.0	39.4	45.3	120	9.0	1.43	19.97	136406	92.69	261.90	8.4	14.6
1320.0	26.5	45.3	120	9.0	1.58	20.16	137764	137.81	260.22	8.4	14.6
1325.0	29.8	45.0	120	9.0	1.53	20.32	138972	122.55	258.38	8.4	14.6
1330.0	21.0	45.0	120	9.0	1.65	20.56	140686	173.90	257.27	8.4	14.6
1335.0	32.8	45.0	120	9.0	1.50	20.71	141784	111.34	255.37	8.4	14.6
1340.0	31.9	46.0	120	9.0	1.52	20.87	142913	114.48	253.55	8.4	14.6
1345.0	33.3	46.0	120	9.0	1.50	21.02	143994	109.67	251.73	8.4	14.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1350.0	21.4	46.0	120	9.0	1.66	21.25	145676	170.65	250.71	8.4	14.7
1355.0	23.1	46.0	120	9.0	1.63	21.47	147234	158.10	249.57	8.4	14.7
1360.0	35.4	46.0	120	9.0	1.48	21.61	148251	103.16	247.78	8.4	14.7
1361.0	36.1	46.0	120	9.0	1.47	21.64	148451	101.16	247.42	8.4	14.7
1362.0	39.9	46.0	120	9.0	1.44	21.66	148631	91.53	247.04	8.4	14.7
1363.0	32.9	46.0	120	9.0	1.51	21.69	148850	111.00	246.71	8.4	14.7
1364.0	33.2	46.0	120	9.0	1.50	21.72	149067	110.00	246.38	8.4	14.7
1365.0	27.3	43.3	120	9.0	1.54	21.76	149331	133.91	246.11	8.4	14.7
1366.0	34.6	45.1	120	9.0	1.48	21.79	149539	105.50	245.77	8.4	14.7
1367.0	29.3	39.3	120	9.0	1.47	21.82	149785	124.78	245.48	8.4	14.7
1368.0	31.6	45.2	120	9.0	1.51	21.86	150013	115.65	245.17	8.4	14.7
1369.0	19.7	47.4	120	9.0	1.71	21.91	150379	185.64	245.02	8.4	14.7
1370.0	40.0	45.4	120	9.0	1.43	21.93	150559	91.30	244.66	8.4	14.7
1371.0	36.4	45.3	120	9.0	1.46	21.96	150757	100.43	244.31	8.4	14.7
1372.0	29.0	45.8	120	9.0	1.55	21.99	151005	125.79	244.03	8.4	14.7
1373.0	31.0	45.2	120	9.0	1.52	22.03	151237	117.68	243.73	8.4	14.7
1374.0	35.3	46.5	120	9.0	1.49	22.05	151441	103.47	243.40	8.4	14.7
1375.0	35.0	46.8	120	9.0	1.49	22.08	151647	104.49	243.07	8.4	14.7
1376.0	30.5	46.9	120	9.0	1.54	22.12	151883	119.70	242.78	8.4	14.7
1377.0	35.6	46.5	120	9.0	1.48	22.14	152085	102.46	242.45	8.4	14.7
1378.0	34.0	46.0	120	9.0	1.49	22.17	152297	107.53	242.14	8.4	14.7
1379.0	33.6	46.5	120	9.0	1.50	22.20	152511	108.55	241.82	8.4	14.7
1380.0	40.4	45.8	120	9.0	1.43	22.23	152689	90.29	241.47	8.4	14.7
1381.0	34.0	46.3	120	9.0	1.50	22.26	152901	107.53	241.16	8.4	14.7
1382.0	45.0	45.6	120	9.0	1.39	22.28	153061	81.16	240.79	8.4	14.7
1383.0	36.7	45.7	120	9.0	1.46	22.31	153257	99.42	240.46	8.4	14.7
1384.0	30.0	45.2	120	9.0	1.53	22.34	153497	121.73	240.19	8.4	14.7
1385.0	36.7	46.8	120	9.0	1.47	22.37	153693	99.42	239.86	8.4	14.7
1386.0	35.6	46.6	120	9.0	1.48	22.40	153895	102.46	239.55	8.4	14.7
1387.0	35.3	46.5	120	9.0	1.49	22.42	154099	103.47	239.24	8.4	14.7
1388.0	33.6	46.7	120	9.0	1.50	22.45	154313	108.55	238.94	8.4	14.7
1389.0	32.1	47.1	120	9.0	1.53	22.48	154537	113.62	238.65	8.4	14.7
1390.0	37.1	46.5	120	9.0	1.47	22.51	154731	98.40	238.33	8.4	14.7
1391.0	32.1	46.3	120	9.0	1.52	22.54	154955	113.62	238.05	8.4	14.7
1392.0	33.3	46.6	120	9.0	1.51	22.57	155171	109.56	237.76	8.4	14.7
1393.0	20.0	47.2	120	9.0	1.70	22.62	155531	182.60	237.63	8.4	14.7
1394.0	25.7	46.0	120	9.0	1.59	22.66	155811	142.10	237.42	8.4	14.7
1395.0	32.1	47.1	120	9.0	1.53	22.69	156035	113.62	237.14	8.4	14.7
1396.0	37.5	47.0	120	9.0	1.47	22.72	156227	97.39	236.82	8.4	14.7
1397.0	37.1	46.3	120	9.0	1.47	22.75	156421	98.40	236.51	8.4	14.7
1398.0	33.6	47.1	120	9.0	1.51	22.78	156635	108.55	236.23	8.4	14.7
1399.0	37.9	47.0	120	9.0	1.46	22.80	156825	96.37	235.91	8.4	14.8
1400.0	34.0	47.1	120	9.0	1.51	22.83	157037	107.53	235.63	8.4	14.8
1401.0	34.6	47.0	120	9.0	1.50	22.86	157245	105.50	235.34	8.4	14.8
1402.0	28.8	46.3	120	9.0	1.56	22.90	157495	126.81	235.10	8.4	14.8
1403.0	36.0	44.8	120	9.0	1.46	22.92	157695	101.44	234.80	8.4	14.8
1404.0	35.0	46.4	120	9.0	1.49	22.95	157901	104.49	234.51	8.4	14.8
1405.0	28.3	43.9	120	9.0	1.54	22.99	158155	128.83	234.28	8.4	14.8
1406.0	31.1	42.0	120	9.1	1.47	23.02	158387	117.43	234.02	8.4	14.8
1407.0	16.7	40.7	120	9.1	1.66	23.08	158817	218.11	233.99	8.4	14.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1408.0	37.9	41.4	120	9.1	1.39	23.11	159007	96.37	233.69	8.4	14.8
1409.0	34.3	41.1	120	9.1	1.42	23.13	159217	106.52	233.41	8.4	14.8
1410.0	42.4	40.7	120	9.1	1.35	23.16	159387	86.23	233.09	8.4	14.8
1411.0	45.0	40.7	120	9.1	1.33	23.18	159547	81.16	232.76	8.4	14.8
1412.0	31.3	40.5	120	9.1	1.45	23.21	159777	116.66	232.51	8.4	14.8
1413.0	36.0	40.7	120	9.1	1.40	23.24	159977	101.44	232.22	8.4	14.8
1414.0	40.0	41.0	120	9.1	1.37	23.27	160157	91.30	231.92	8.4	14.8
1415.0	31.3	40.8	120	9.1	1.45	23.30	160387	116.66	231.67	8.4	14.8
1416.0	36.0	41.1	120	9.1	1.41	23.32	160587	101.44	231.39	8.4	14.8
1417.0	37.9	40.6	120	9.1	1.38	23.35	160777	96.37	231.10	8.4	14.8
1418.0	36.0	40.4	120	9.1	1.40	23.38	160977	101.44	230.82	8.4	14.8
1419.0	32.7	40.4	120	9.1	1.43	23.41	161197	111.59	230.57	8.4	14.8
1420.0	48.0	40.6	120	9.1	1.30	23.43	161347	76.08	230.24	8.4	14.8
1421.0	36.0	40.7	120	9.1	1.40	23.46	161547	101.44	229.97	8.4	14.8
1422.0	37.9	40.3	120	9.1	1.38	23.48	161737	96.37	229.68	8.4	14.8
1423.0	34.3	40.4	120	9.1	1.41	23.51	161947	106.52	229.42	8.4	14.8
1424.0	34.3	40.1	120	9.1	1.41	23.54	162157	106.52	229.16	8.4	14.8
1425.0	40.0	40.4	120	9.1	1.36	23.57	162337	91.30	228.87	8.4	14.8
1426.0	34.3	40.8	120	9.1	1.42	23.60	162547	106.52	228.61	8.4	14.8
1427.0	31.6	41.1	120	9.1	1.45	23.63	162775	115.65	228.38	8.4	14.8
1428.0	30.5	41.1	120	9.1	1.46	23.66	163011	119.70	228.15	8.4	14.8
1429.0	31.6	41.0	120	9.1	1.45	23.69	163239	115.65	227.91	8.4	14.8
1430.0	30.5	41.0	120	9.1	1.46	23.73	163475	119.70	227.69	8.4	14.8
1431.0	23.1	41.5	120	9.1	1.56	23.77	163787	158.25	227.54	8.4	14.8
1432.0	43.4	41.6	120	9.2	1.33	23.79	163953	84.20	227.24	8.4	14.8
1433.0	22.4	42.7	120	9.2	1.57	23.84	164275	163.33	227.11	8.4	14.8
1434.0	18.4	43.1	120	9.2	1.64	23.89	164667	198.83	227.05	8.4	14.8
1435.0	20.3	43.2	120	9.2	1.61	23.94	165021	179.56	226.96	8.4	14.8
1436.0	24.2	42.7	120	9.2	1.54	23.98	165319	151.15	226.80	8.4	14.8
1437.0	25.9	42.3	120	9.2	1.52	24.02	165597	141.01	226.62	8.4	14.8
1438.0	23.2	42.5	120	9.2	1.56	24.06	165907	157.24	226.48	8.4	14.8
1439.0	27.7	42.6	120	9.2	1.50	24.10	166167	131.88	226.29	8.4	14.8
1440.0	17.1	43.1	120	9.2	1.67	24.16	166589	214.05	226.26	8.4	14.8
1441.0	18.6	41.6	120	9.2	1.62	24.21	166977	196.80	226.20	8.4	14.8
1442.0	23.7	43.4	120	9.2	1.56	24.25	167281	154.20	226.05	8.4	14.8
1443.0	26.5	42.7	120	9.2	1.51	24.29	167553	137.96	225.88	8.4	14.8
1444.0	25.9	42.6	120	9.2	1.52	24.33	167831	141.01	225.70	8.4	14.8
1445.0	22.0	42.7	120	9.2	1.58	24.38	168159	166.37	225.58	8.4	14.8
1446.0	25.4	42.7	120	9.2	1.53	24.42	168443	144.05	225.42	8.4	14.8
1447.0	23.7	42.8	120	9.2	1.55	24.46	168747	154.20	225.27	8.4	14.8
1448.0	26.7	42.8	120	9.2	1.51	24.50	169017	136.95	225.10	8.4	14.8
1449.0	22.8	42.9	120	9.2	1.57	24.54	169333	160.28	224.97	8.4	14.8
1450.0	26.5	42.9	120	9.2	1.51	24.58	169605	137.96	224.79	8.4	14.8
1451.0	20.7	43.3	120	9.2	1.60	24.63	169953	176.51	224.70	8.4	14.8
1452.0	22.0	43.9	120	9.2	1.59	24.67	170281	166.37	224.58	8.4	14.8
1453.0	27.3	44.2	120	9.2	1.52	24.71	170545	133.91	224.40	8.4	14.8
1454.0	28.1	45.9	120	9.2	1.53	24.74	170801	129.85	224.21	8.4	14.8
1455.0	25.9	46.8	120	9.2	1.57	24.78	171079	141.01	224.05	8.4	14.8
1456.0	25.0	46.2	120	9.2	1.57	24.82	171367	146.08	223.89	8.4	14.9
1457.0	22.1	42.7	120	9.2	1.57	24.87	171693	165.35	223.78	8.4	14.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1458.0	20.8	41.0	120	9.2	1.58	24.92	172039	175.50	223.68	8.4	14.9
1459.0	25.9	40.8	120	9.2	1.50	24.95	172317	141.01	223.52	8.4	14.9
1460.0	26.9	38.9	120	9.2	1.46	24.99	172585	135.94	223.35	8.4	14.9
1461.0	23.1	42.1	120	9.2	1.55	25.03	172897	158.25	223.22	8.4	14.9
1462.0	22.5	42.1	120	9.2	1.56	25.08	173217	162.31	223.10	8.4	14.9
1463.0	26.1	42.6	120	9.2	1.52	25.12	173493	139.99	222.94	8.4	14.9
1464.0	27.5	42.3	120	9.2	1.50	25.15	173755	132.89	222.76	8.4	14.9
1465.0	28.1	42.6	120	9.2	1.49	25.19	174011	129.85	222.58	8.4	14.9
1466.0	33.3	42.2	120	9.2	1.43	25.22	174227	109.56	222.36	8.4	14.9
1467.0	32.1	42.0	120	9.2	1.44	25.25	174451	113.62	222.15	8.4	14.9
1468.0	33.6	42.7	120	9.2	1.43	25.28	174665	108.55	221.93	8.4	14.9
1469.0	22.6	44.2	120	9.2	1.58	25.32	174983	161.30	221.81	8.4	14.9
1470.0	43.4	43.4	120	9.2	1.35	25.35	175149	84.20	221.55	8.4	14.9
1471.0	29.3	43.1	120	9.2	1.48	25.38	175395	124.78	221.36	8.4	14.9
1472.0	27.5	43.3	120	9.2	1.51	25.42	175657	132.89	221.19	8.4	14.9
1473.0	27.3	43.2	120	9.2	1.51	25.45	175921	133.91	221.02	8.4	14.9
1474.0	28.3	43.4	120	9.2	1.50	25.49	176175	128.83	220.85	8.4	14.9
1475.0	30.8	43.3	120	9.2	1.47	25.52	176409	118.69	220.65	8.4	14.9
1476.0	28.6	43.3	120	9.2	1.49	25.56	176661	127.82	220.48	8.4	14.9
1477.0	28.3	42.9	120	9.2	1.49	25.59	176915	128.83	220.30	8.4	14.9
1478.0	29.5	43.2	120	9.3	1.46	25.63	177159	123.76	220.12	8.4	14.9
1479.0	29.5	42.9	120	9.3	1.46	25.66	177403	123.76	219.94	8.4	14.9
1480.0	18.9	44.4	120	9.3	1.63	25.71	177783	192.74	219.89	8.4	14.9
1481.0	28.8	44.1	120	9.3	1.48	25.75	178033	126.81	219.71	8.4	14.9
1482.0	28.1	43.5	120	9.3	1.48	25.78	178289	129.85	219.54	8.4	14.9
1483.0	29.0	43.4	120	9.3	1.47	25.82	178537	125.79	219.36	8.4	14.9
1484.0	24.2	44.1	120	9.3	1.54	25.86	178835	151.15	219.24	8.4	14.9
1485.0	25.9	44.1	120	9.3	1.52	25.90	179113	141.01	219.09	8.4	14.9
1486.0	21.7	44.5	120	9.3	1.58	25.94	179445	168.40	219.00	8.4	14.9
1487.0	18.1	44.9	120	9.3	1.65	26.00	179843	201.87	218.96	8.4	14.9
1488.0	18.0	44.1	120	9.3	1.64	26.05	180243	202.89	218.93	8.4	14.9
1489.0	20.2	42.7	120	9.3	1.59	26.10	180599	180.57	218.86	8.4	14.9
1490.0	20.8	43.8	120	9.3	1.59	26.15	180945	175.50	218.78	8.4	14.9
1491.0	15.1	45.9	120	9.3	1.72	26.22	181421	241.44	218.82	8.4	14.9
1492.0	10.0	46.4	120	9.3	1.88	26.32	182143	366.21	219.10	8.4	14.9
1493.0	10.4	46.7	120	9.3	1.87	26.42	182837	352.01	219.34	8.4	14.9
1494.0	18.3	46.9	120	9.3	1.67	26.47	183231	199.85	219.31	8.4	14.9
1495.0	21.7	46.3	120	9.3	1.60	26.52	183563	168.40	219.21	8.4	14.9
1496.0	18.1	46.6	120	9.3	1.67	26.57	183961	201.87	219.18	8.4	14.9
1497.0	12.7	46.9	120	9.3	1.80	26.65	184527	287.09	219.30	8.4	14.9
1498.0	26.7	46.4	120	9.3	1.53	26.69	184797	136.95	219.15	8.4	14.9
1499.0	24.2	46.0	120	9.3	1.56	26.73	185095	151.15	219.03	8.4	14.9
1500.0	22.9	46.0	120	9.3	1.58	26.77	185409	159.27	218.92	8.4	14.9
1501.0	23.2	46.3	120	9.3	1.58	26.82	185719	157.24	218.81	8.4	14.9
1502.0	24.2	46.3	120	9.3	1.57	26.86	186017	151.15	218.69	8.4	14.9
1503.0	22.8	46.6	120	9.3	1.59	26.90	186333	160.28	218.58	8.4	14.9
1504.0	19.7	46.8	120	9.3	1.64	26.95	186699	185.64	218.52	8.4	14.9
1505.0	21.4	47.1	120	9.3	1.62	27.00	187035	170.43	218.43	8.4	14.9
1506.0	14.2	47.2	120	9.3	1.76	27.07	187543	257.67	218.50	8.4	14.9
1507.0	17.5	45.0	120	9.3	1.66	27.13	187954	208.69	218.49	8.4	14.9

DEPTH	ROP	WOR	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1508.0	16.4	46.1	120	9.3	1.70	27.19	188392	222.16	218.49	8.4	14.9
1509.0	18.8	45.5	120	9.3	1.65	27.24	188776	194.77	218.45	8.4	14.9
1510.0	21.3	45.1	120	9.3	1.60	27.29	189114	171.44	218.37	8.4	14.9
1511.0	16.8	45.4	120	9.3	1.68	27.35	189542	217.09	218.36	8.4	14.9
1512.0	14.1	45.8	120	9.3	1.75	27.42	190052	258.68	218.44	8.4	14.9
1513.0	36.4	45.6	120	9.3	1.42	27.44	190250	100.43	218.23	8.4	14.9
1514.0	45.0	43.0	120	9.3	1.32	27.47	190410	81.16	217.98	8.4	14.9
1515.0	37.5	42.9	120	9.3	1.38	27.49	190602	97.39	217.77	8.4	14.9
1516.0	28.3	45.1	120	9.3	1.50	27.53	190856	128.83	217.61	8.4	14.9
1517.0	27.1	44.9	120	9.3	1.51	27.57	191122	134.92	217.47	8.4	15.0
1518.0	33.3	45.1	120	9.3	1.44	27.60	191338	109.56	217.28	8.4	15.0
1519.0	40.4	41.7	120	9.3	1.34	27.62	191516	90.29	217.05	8.4	15.0
1520.0	44.4	41.3	120	9.3	1.31	27.64	191678	82.17	216.81	8.4	15.0
1521.0	42.4	42.7	120	9.3	1.34	27.67	191848	86.23	216.59	8.4	15.0
1522.0	40.4	43.3	120	9.3	1.36	27.69	192026	90.29	216.36	8.4	15.0
1523.0	38.7	43.4	120	9.3	1.37	27.72	192212	94.34	216.15	8.4	15.0
1524.0	45.6	46.3	120	9.3	1.35	27.74	192370	80.14	215.91	8.4	15.0
1525.0	49.3	45.9	120	9.3	1.32	27.76	192516	74.05	215.67	8.4	15.0
1526.0	36.4	43.0	120	9.3	1.39	27.79	192714	100.43	215.47	8.4	15.0
1527.0	13.5	46.5	120	9.3	1.77	27.86	193248	270.86	215.56	8.4	15.0
1528.0	30.0	45.9	120	9.3	1.49	27.89	193488	121.73	215.40	8.4	15.0
1529.0	52.2	44.1	120	9.3	1.28	27.91	193626	70.00	215.15	8.4	15.0
1530.0	75.0	42.5	120	9.3	1.14	27.93	193722	48.69	214.86	8.4	15.0
1531.0	120.0	43.4	120	9.3	0.99	27.94	193782	30.43	214.54	8.4	15.0
1532.0	43.9	46.3	120	9.3	1.36	27.96	193946	83.18	214.32	8.4	15.0
1533.0	46.8	47.1	120	9.3	1.35	27.98	194100	78.11	214.08	8.4	15.0
1534.0	42.9	46.8	120	9.3	1.37	28.00	194268	85.21	213.86	8.4	15.0
1535.0	53.7	42.0	120	9.3	1.25	28.02	194402	67.97	213.61	8.4	15.0
1536.0	9.4	47.2	120	9.3	1.91	28.13	195168	388.53	213.91	8.4	15.0
1537.0	111.2	42.7	100	9.3	0.95	28.14	195222	32.84	213.60	8.4	15.0
1538.0	104.9	44.5	115	9.3	1.03	28.15	195288	34.81	213.30	8.4	15.0
1539.0	92.2	43.3	125	9.3	1.09	28.16	195369	39.61	213.00	8.4	15.0
1540.0	53.9	41.9	125	9.3	1.26	28.18	195508	67.76	212.76	8.4	15.0
1541.0	8.8	42.2	125	9.3	1.88	28.29	196361	415.00	213.10	8.4	15.0
1542.0	138.3	42.0	125	9.3	0.95	28.30	196415	26.41	212.78	8.4	15.0
1543.0	105.5	42.1	125	9.3	1.04	28.31	196486	34.62	212.48	8.4	15.0
1544.0	7.0	42.4	125	9.3	1.96	28.45	197557	521.71	213.00	8.4	15.0
1545.0	3.5	43.0	125	9.3	2.20	28.73	199700	1043	214	8.4	15.0
1546.0	14.6	44.2	125	9.3	1.73	28.80	200214	250.14	214.46	8.4	15.0
1547.0	109.0	43.6	125	9.3	1.04	28.81	200283	33.50	214.16	8.4	15.0
1548.0	96.0	42.0	125	9.3	1.07	28.82	200361	38.04	213.86	8.4	15.0
1549.0	57.1	43.1	125	9.3	1.25	28.84	200492	63.91	213.61	8.4	15.0
1550.0	52.2	43.0	125	9.3	1.28	28.86	200636	70.00	213.37	8.4	15.0
1551.0	12.7	36.8	125	9.3	1.68	28.94	201227	288.10	213.50	8.4	15.0
1552.0	27.1	29.0	125	9.3	1.34	28.98	201505	134.92	213.37	8.4	15.0
1553.0	52.9	31.9	125	9.3	1.17	28.99	201646	68.98	213.13	8.4	15.0
1554.0	37.9	27.8	125	9.3	1.22	29.02	201844	96.37	212.93	8.4	15.0
1555.0	33.0	36.2	125	9.3	1.36	29.05	202071	110.57	212.76	8.4	15.0
1556.0	25.0	30.3	125	9.3	1.38	29.09	202371	146.08	212.65	8.4	15.0
1557.0	36.7	31.6	125	9.3	1.28	29.12	202575	99.42	212.47	8.4	15.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1558.0	36.0	36.6	125	9.3	1.34	29.15	202784	101.44	212.28	8.4	15.0
1559.0	42.9	42.3	125	9.2	1.36	29.17	202959	85.21	212.07	8.4	15.0
1560.0	45.0	44.3	125	9.2	1.36	29.19	203125	81.16	211.86	8.4	15.0
1561.0	35.6	43.9	125	9.2	1.44	29.22	203336	102.46	211.68	8.4	15.0
1562.0	41.9	42.6	125	9.2	1.37	29.24	203515	87.24	211.48	8.4	15.0
1563.0	20.3	23.6	125	9.2	1.36	29.29	203884	179.56	211.42	8.4	15.0
1564.0	33.6	41.2	125	9.2	1.43	29.32	204107	108.55	211.26	8.4	15.0
1565.0	22.4	37.9	125	9.2	1.53	29.37	204442	163.33	211.18	8.4	15.0
1566.0	36.4	33.7	125	9.2	1.32	29.39	204648	100.43	211.00	8.4	15.0
1567.0	28.6	36.9	125	9.2	1.43	29.43	204911	127.82	210.86	8.4	15.0
1568.0	27.7	39.6	125	9.2	1.48	29.47	205182	131.88	210.73	8.4	15.0
1569.0	25.9	36.5	125	9.2	1.46	29.50	205471	141.01	210.62	8.4	15.0
1570.0	7.9	21.4	125	9.2	1.59	29.63	206425	464.62	211.03	8.4	15.0
1571.0	35.0	32.2	125	9.2	1.31	29.66	206640	104.49	210.86	8.4	15.0
1572.0	34.6	36.0	125	9.2	1.36	29.69	206857	105.50	210.69	8.4	15.0
1573.0	32.1	33.1	125	9.2	1.35	29.72	207090	113.62	210.53	8.4	15.0
1574.0	27.3	32.4	125	9.2	1.39	29.76	207365	133.91	210.41	8.4	15.0
1575.0	31.9	38.0	125	9.2	1.41	29.79	207600	114.63	210.26	8.4	15.0
1576.0	31.6	36.1	125	9.2	1.39	29.82	207838	115.65	210.11	8.4	15.0
1577.0	46.2	29.9	125	9.2	1.20	29.84	208000	79.13	209.90	8.4	15.0
1578.0	32.1	30.3	125	9.2	1.32	29.87	208234	113.62	209.74	8.4	15.0
1579.0	20.6	31.7	125	9.2	1.47	29.92	208598	177.53	209.69	8.4	15.1
1580.0	25.2	32.3	125	9.2	1.42	29.96	208896	145.07	209.59	8.4	15.1
1581.0	31.6	32.4	125	9.2	1.35	29.99	209134	115.65	209.44	8.4	15.1
1582.0	35.0	32.4	125	9.2	1.32	30.02	209348	104.49	209.27	8.4	15.1
1583.0	18.5	39.4	125	9.2	1.61	30.08	209755	197.82	209.26	8.4	15.1
1584.0	16.2	38.7	125	9.2	1.64	30.14	210217	225.21	209.28	8.4	15.1
1585.0	19.7	38.4	125	9.2	1.57	30.19	210598	185.64	209.24	8.4	15.1
1586.0	25.5	40.0	125	9.2	1.51	30.23	210892	143.04	209.14	8.4	15.1
1587.0	24.8	39.1	106	9.2	1.45	30.27	211147	147.09	209.04	8.4	15.1
1588.0	33.6	38.1	100	9.2	1.32	30.30	211326	108.55	208.88	8.4	15.1
1589.0	31.6	38.3	100	9.2	1.34	30.33	211516	115.65	208.74	8.4	15.1
1590.0	35.0	37.4	100	9.2	1.30	30.36	211687	104.49	208.57	8.4	15.1
1591.0	31.9	39.8	100	9.2	1.36	30.39	211876	114.63	208.43	8.4	15.1
1592.0	25.9	38.5	100	9.2	1.41	30.43	212107	141.01	208.32	8.4	15.1
1593.0	28.8	37.6	100	9.2	1.37	30.46	212316	126.81	208.20	8.4	15.1
1594.0	26.5	40.1	100	9.2	1.42	30.50	212542	137.96	208.09	8.4	15.1
1595.0	5.0	42.1	100	9.2	2.01	30.70	213736	726.34	208.89	8.4	15.1
1596.0	2.9	51.4	70	9.2	2.21	31.04	215167	1248	211	8.4	15.1
1597.0	3.9	49.8	50	9.2	1.96	31.30	215938	939.38	211.63	8.4	15.1
1598.0	4.6	50.4	50	9.2	1.91	31.52	216592	796.34	212.53	8.4	15.1

BIT NUMBER	4	IADC CODE	517	INTERVAL	1598.0- 2016.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	6.3	BIT RUN	418.0
TOTAL HOURS	44.49	TOTAL TURNS	156262	CONDITION	T4 B4 G0.250

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1599.0	7.0	20.0	50	9.2	1.35	0.14	429	522	32045	8.4	15.1
1600.0	13.5	23.1	52	9.2	1.22	0.22	661	271	16158	8.4	15.1
1601.0	13.1	25.0	50	9.2	1.24	0.29	890	279	10865	8.4	15.1
1602.0	35.6	23.8	50	9.2	0.94	0.32	974	102	8174	8.4	15.1
1603.0	14.3	29.1	50	9.2	1.27	0.39	1184	256	6591	8.4	15.1
1604.0	116.1	31.3	50	9.2	0.64	0.40	1210	31	5497	8.4	15.1
1605.0	17.4	28.4	50	9.2	1.20	0.46	1382	210	4742	8.4	15.1
1606.0	18.3	34.3	50	9.2	1.25	0.51	1547	200	4174	8.4	15.1
1607.0	21.4	42.3	50	9.2	1.28	0.56	1687	170	3729	8.4	15.1
1608.0	28.3	42.2	50	9.2	1.18	0.59	1792	129	3369	8.4	15.1
1609.0	65.5	41.4	50	9.2	0.89	0.61	1838	56	3068	8.4	15.1
1610.0	33.6	41.5	52	9.2	1.13	0.64	1931	109	2822	8.4	15.1
1611.0	11.3	42.8	60	9.2	1.57	0.73	2249	323	2629	8.4	15.1
1612.0	10.8	44.4	60	9.2	1.60	0.82	2581	337	2466	8.4	15.1
1613.0	18.8	44.0	60	9.2	1.40	0.87	2772	194	2314	8.4	15.1
1614.0	20.0	42.5	60	9.2	1.37	0.92	2952	183	2181	8.4	15.1
1615.0	30.0	41.2	60	9.2	1.22	0.96	3072	122	2060	8.4	15.1
1616.0	32.7	40.7	60	9.2	1.18	0.99	3182	112	1952	8.4	15.1
1617.0	13.4	43.0	60	9.2	1.51	1.06	3450	272	1863	8.4	15.1
1618.0	22.4	43.3	60	9.2	1.34	1.11	3611	163	1778	8.4	15.1
1619.0	18.2	17.1	60	9.2	1.09	1.16	3809	201	1703	8.4	15.1
1620.0	57.1	20.7	60	9.2	0.82	1.18	3872	64	1629	8.4	15.1
1621.0	69.2	41.3	60	9.2	0.94	1.19	3924	53	1560	8.4	15.1
1622.0	94.7	36.2	60	9.2	0.80	1.20	3962	39	1497	8.4	15.1
1623.0	53.7	30.4	60	9.2	0.93	1.22	4029	68	1439	8.4	15.1
1624.0	60.0	21.7	60	9.2	0.82	1.24	4089	61	1386	8.4	15.1
1625.0	58.1	40.6	60	9.2	0.99	1.26	4151	63	1337	8.4	15.1
1626.0	49.3	39.6	60	9.2	1.04	1.28	4224	74	1292	8.4	15.1
1627.0	60.0	42.5	60	9.2	0.99	1.29	4284	61	1250	8.4	15.1
1628.0	60.0	42.8	60	9.2	0.99	1.31	4344	61	1210	8.4	15.1
1629.0	67.9	41.4	60	9.2	0.94	1.32	4397	54	1173	8.4	15.1
1630.0	58.1	37.6	60	9.2	0.97	1.34	4459	63	1138	8.4	15.1
1631.0	11.5	42.8	60	9.2	1.56	1.43	4773	319	1113	8.4	15.1
1632.0	11.9	42.7	60	9.2	1.55	1.51	5076	307	1090	8.4	15.1
1633.0	36.0	35.9	60	9.2	1.11	1.54	5176	101	1061	8.4	15.1
1634.0	9.2	44.7	60	9.2	1.66	1.65	5567	397	1043	8.4	15.1
1635.0	100.0	42.8	60	9.2	0.82	1.66	5603	37	1016	8.4	15.1
1636.0	102.9	39.7	60	9.2	0.79	1.67	5638	35.51	989.97	8.4	15.1
1637.0	66.7	43.1	60	9.2	0.96	1.68	5692	54.78	965.99	8.4	15.1
1638.0	64.3	42.9	60	9.2	0.97	1.70	5748	56.81	943.26	8.4	15.1
1639.0	63.2	42.6	60	9.2	0.98	1.72	5805	57.82	921.67	8.4	15.1
1640.0	80.0	41.8	60	9.2	0.89	1.73	5850	45.65	900.81	8.4	15.1
1641.0	69.2	43.2	60	9.2	0.95	1.74	5902	52.75	881.09	8.4	15.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1642.0	81.8	42.2	60	9.2	0.88	1.75	5946	44.64	862.08	8.4	15.1
1643.0	61.0	35.4	60	9.2	0.93	1.77	6005	59.85	844.25	8.4	15.2
1644.0	27.7	41.5	60	9.2	1.25	1.81	6135	131.88	828.76	8.4	15.2
1645.0	50.0	38.7	60	9.2	1.02	1.83	6207	73.04	812.68	8.4	15.2
1646.0	58.1	39.4	60	9.2	0.98	1.84	6269	62.90	797.06	8.4	15.2
1647.0	75.0	40.0	60	9.2	0.90	1.86	6317	48.69	781.79	8.4	15.2
1648.0	128.6	41.5	60	9.2	0.73	1.87	6345	28.40	766.72	8.4	15.2
1649.0	72.0	42.7	60	9.2	0.93	1.88	6395	50.72	752.68	8.4	15.2
1650.0	27.3	44.0	60	9.2	1.28	1.92	6527	133.91	740.78	8.4	15.2
1651.0	21.3	41.7	60	9.2	1.34	1.96	6696	171.44	730.04	8.4	15.2
1652.0	14.9	42.1	60	9.2	1.46	2.03	6937	244.48	721.05	8.4	15.2
1653.0	19.5	37.2	60	9.2	1.32	2.08	7122	187.67	711.35	8.4	15.2
1654.0	62.1	43.5	60	9.2	0.99	2.10	7180	58.84	699.70	8.4	15.2
1655.0	27.3	17.9	60	9.2	0.99	2.13	7312	133.91	689.77	8.4	15.2
1656.0	28.8	14.8	60	9.2	0.93	2.17	7437	126.81	680.07	8.4	15.2
1657.0	24.3	6.1	60	9.2	0.81	2.21	7585	150.14	671.09	8.4	15.2
1658.0	24.5	32.4	60	9.2	1.20	2.25	7732	149.12	662.39	8.4	15.2
1659.0	22.9	44.3	66	9.2	1.37	2.29	7905	159.27	654.14	8.4	15.2
1660.0	24.7	43.6	70	9.2	1.36	2.33	8076	148.11	645.98	8.4	15.2
1661.0	9.6	43.7	70	9.2	1.69	2.44	8514	381.43	641.78	8.4	15.2
1662.0	25.5	42.3	70	9.2	1.34	2.48	8679	143.04	633.98	8.4	15.2
1663.0	41.9	40.4	70	9.2	1.15	2.50	8779	87.24	625.57	8.4	15.2
1664.0	41.9	40.7	70	9.2	1.15	2.53	8879	87.24	617.42	8.4	15.2
1665.0	43.9	39.8	70	9.2	1.13	2.55	8975	83.18	609.44	8.4	15.2
1666.0	112.5	33.8	70	9.2	0.77	2.56	9012	32.46	600.96	8.4	15.2
1667.0	6.8	43.2	70	9.2	1.80	2.70	9627	534.61	600.00	8.4	15.2
1668.0	34.0	42.8	70	9.2	1.24	2.73	9751	107.53	592.96	8.4	15.2
1669.0	70.6	46.1	70	9.2	1.02	2.75	9810	51.74	585.34	8.4	15.2
1670.0	19.8	42.9	70	9.2	1.43	2.80	10023	184.63	579.77	8.4	15.2
1671.0	10.3	43.6	70	9.2	1.66	2.90	10431	355.06	576.69	8.4	15.2
1672.0	116.1	35.4	70	9.2	0.78	2.90	10467	31.45	569.33	8.4	15.2
1673.0	112.5	39.1	70	9.2	0.81	2.91	10505	32.46	562.17	8.4	15.2
1674.0	80.0	38.3	70	9.2	0.92	2.93	10557	45.65	555.37	8.4	15.2
1675.0	72.0	39.1	70	9.2	0.96	2.94	10615	50.72	548.82	8.4	15.2
1676.0	20.7	36.9	70	9.2	1.35	2.99	10818	176.51	544.04	8.4	15.2
1677.0	76.6	38.2	70	9.2	0.93	3.00	10873	47.68	537.76	8.4	15.2
1678.0	46.2	41.7	70	9.2	1.13	3.02	10964	79.13	532.03	8.4	15.2
1679.0	46.2	40.8	70	9.2	1.12	3.04	11055	79.13	526.44	8.4	15.2
1680.0	24.8	36.1	70	9.2	1.28	3.08	11224	147.09	521.81	8.4	15.2
1681.0	29.8	43.6	70	9.2	1.30	3.12	11366	122.75	517.00	8.4	15.2
1682.0	38.3	42.8	70	9.2	1.20	3.14	11475	95.36	511.98	8.4	15.2
1683.0	53.7	41.6	70	9.2	1.08	3.16	11553	67.97	506.76	8.4	15.2
1684.0	63.2	41.6	70	9.2	1.02	3.18	11620	57.82	501.54	8.4	15.2
1685.0	43.4	43.0	70	9.2	1.16	3.20	11717	84.20	496.74	8.4	15.2
1686.0	47.4	41.6	70	9.2	1.12	3.22	11805	77.10	491.97	8.4	15.2
1687.0	42.4	41.1	70	9.2	1.15	3.25	11905	86.23	487.41	8.4	15.2
1688.0	37.9	41.7	70	9.2	1.20	3.27	12015	96.37	483.07	8.4	15.2
1689.0	50.0	41.5	70	9.2	1.10	3.29	12099	73.04	478.56	8.4	15.2
1690.0	40.4	37.9	70	9.2	1.14	3.32	12203	90.29	474.34	8.4	15.2
1691.0	25.0	42.8	70	9.2	1.35	3.36	12371	146.08	470.81	8.4	15.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1692.0	22.8	25.1	70	9.2	1.18	3.40	12556	160.28	467.51	8.4	15.2
1693.0	19.5	11.6	70	9.2	1.02	3.45	12771	187.67	464.56	8.4	15.2
1694.0	16.4	8.5	70	9.2	0.99	3.51	13028	223.18	462.05	8.4	15.2
1695.0	37.5	12.5	70	9.2	0.87	3.54	13140	97.39	458.29	8.4	15.2
1696.0	33.6	13.5	70	9.2	0.91	3.57	13265	108.55	454.72	8.4	15.2
1697.0	9.1	20.5	70	9.2	1.37	3.68	13725	399.69	454.17	8.4	15.2
1698.0	5.7	30.4	70	9.2	1.68	3.86	14465	644.17	456.07	8.4	15.2
1699.0	14.8	10.6	70	9.2	1.06	3.92	14749	246.51	453.99	8.4	15.2
1700.0	4.0	43.5	70	9.2	1.99	4.17	15801	915.03	458.51	8.4	15.2
1701.0	10.3	48.3	70	9.2	1.72	4.27	16211	356.07	457.52	8.4	15.2
1702.0	15.2	49.1	70	9.2	1.59	4.34	16487	240.42	455.43	8.4	15.2
1703.0	23.5	47.3	70	9.2	1.41	4.38	16666	155.21	452.57	8.4	15.2
1704.0	12.8	47.8	70	9.2	1.63	4.46	16994	285.06	450.99	8.4	15.2
1705.0	20.7	46.4	70	9.2	1.45	4.51	17197	176.51	448.42	8.4	15.2
1706.0	54.5	48.1	70	9.2	1.12	4.52	17274	66.95	444.89	8.4	15.2
1707.0	20.5	49.0	70	9.2	1.48	4.57	17479	178.54	442.45	8.4	15.2
1708.0	39.6	41.2	70	9.2	1.18	4.60	17585	92.31	439.27	8.4	15.2
1709.0	36.0	39.5	70	9.2	1.19	4.63	17702	101.44	436.22	8.4	15.2
1710.0	64.3	44.5	70	9.2	1.04	4.64	17767	56.81	432.83	8.4	15.3
1711.0	18.7	44.2	70	9.2	1.46	4.70	17992	195.79	430.74	8.4	15.3
1712.0	14.1	46.9	70	9.2	1.59	4.77	18291	259.70	429.24	8.4	15.3
1713.0	14.8	48.1	70	9.2	1.59	4.83	18574	246.51	427.65	8.4	15.3
1714.0	55.4	45.0	70	9.2	1.09	4.85	18650	65.94	424.53	8.4	15.3
1715.0	7.3	45.7	70	9.2	1.81	4.99	19222	497.08	425.15	8.4	15.3
1716.0	15.3	48.5	70	9.2	1.58	5.05	19496	238.39	423.57	8.4	15.3
1717.0	9.2	46.2	70	9.2	1.73	5.16	19951	395.63	423.33	8.4	15.3
1718.0	8.4	47.1	70	9.2	1.78	5.28	20453	436.21	423.44	8.4	15.3
1719.0	7.6	45.9	70	9.2	1.80	5.41	21007	481.86	423.92	8.4	15.3
1720.0	9.1	47.6	70	9.2	1.75	5.52	21468	400.71	423.73	8.4	15.3
1721.0	41.9	48.5	70	9.2	1.22	5.55	21568	87.24	421.00	8.4	15.3
1722.0	90.0	40.2	70	9.2	0.89	5.56	21615	40.58	417.93	8.4	15.3
1723.0	124.1	47.3	70	9.2	0.83	5.57	21649	29.42	414.82	8.4	15.3
1724.0	20.8	48.3	70	9.2	1.47	5.61	21850	175.50	412.92	8.4	15.3
1725.0	12.6	49.0	70	9.2	1.65	5.69	22184	290.13	411.95	8.4	15.3
1726.0	13.7	46.9	70	9.2	1.60	5.77	22490	265.78	410.81	8.4	15.3
1727.0	10.9	48.1	70	9.2	1.70	5.86	22876	335.78	410.23	8.4	15.3
1728.0	25.7	40.3	70	9.2	1.31	5.90	23039	142.02	408.17	8.4	15.3
1729.0	43.4	46.3	70	9.2	1.19	5.92	23136	84.20	405.69	8.4	15.3
1730.0	54.5	49.0	70	9.2	1.13	5.94	23213	66.95	403.13	8.4	15.3
1731.0	52.2	48.7	70	9.2	1.14	5.96	23294	70.00	400.62	8.4	15.3
1732.0	66.7	47.9	70	9.2	1.05	5.97	23357	54.78	398.04	8.4	15.3
1733.0	85.7	43.0	70	9.2	0.93	5.98	23406	42.61	395.41	8.4	15.3
1734.0	94.7	49.4	70	9.2	0.94	6.00	23450	38.55	392.79	8.4	15.3
1735.0	75.0	47.2	70	9.2	1.00	6.01	23506	48.69	390.27	8.4	15.3
1736.0	72.0	47.6	70	9.2	1.02	6.02	23564	50.72	387.81	8.4	15.3
1737.0	26.1	25.6	70	9.2	1.15	6.06	23725	139.99	386.03	8.4	15.3
1738.0	80.0	36.3	70	9.2	0.90	6.07	23778	45.65	383.60	8.4	15.3
1739.0	83.7	34.3	70	9.2	0.87	6.09	23828	43.62	381.19	8.4	15.3
1740.0	12.7	42.5	63	9.2	1.54	6.16	24124	287.09	380.53	8.4	15.3
1741.0	7.9	50.2	60	9.2	1.78	6.29	24579	461.57	381.09	8.4	15.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1742.0	4.3	48.5	60	9.2	1.98	6.52	25413	846.05	384.32	8.4	15.3
1743.0	4.5	49.9	60	9.2	1.98	6.75	26218	816.63	387.30	8.4	15.3
1744.0	5.9	51.3	60	9.2	1.90	6.92	26830	620.84	388.90	8.4	15.3
1745.0	4.7	50.6	60	9.2	1.98	7.13	27598	779.09	391.56	8.4	15.3
1746.0	6.7	49.3	60	9.2	1.83	7.28	28139	548.81	392.62	8.4	15.3
1747.0	8.7	46.9	60	9.2	1.71	7.39	28553	419.98	392.80	8.4	15.3
1748.0	37.1	41.5	60	9.2	1.15	7.42	28650	98.40	390.84	8.4	15.3
1749.0	64.3	36.7	60	9.2	0.93	7.44	28706	56.81	388.63	8.4	15.3
1750.0	85.7	44.3	60	9.2	0.88	7.45	28748	42.61	386.35	8.4	15.3
1751.0	90.0	45.7	60	9.2	0.88	7.46	28788	40.58	384.09	8.4	15.3
1752.0	100.0	39.0	60	9.2	0.80	7.47	28824	36.52	381.83	8.4	15.3
1753.0	72.0	43.0	60	9.2	0.93	7.48	28874	50.72	379.70	8.4	15.3
1754.0	102.9	46.9	60	9.2	0.84	7.49	28909	35.51	377.49	8.4	15.3
1755.0	36.4	48.7	60	9.2	1.22	7.52	29008	100.43	375.73	8.4	15.3
1756.0	2.6	46.4	60	9.2	2.13	7.91	30401	1413	382	8.4	15.3
1757.0	6.2	47.0	60	9.2	1.83	8.07	30979	586.35	383.58	8.4	15.3
1758.0	3.3	51.5	60	9.2	2.11	8.37	32060	1097	388	8.4	15.3
1759.0	2.2	49.2	60	9.2	2.22	8.81	33664	1627	396	8.4	15.3
1760.0	2.8	48.4	60	9.2	2.13	9.17	34940	1294	401	8.4	15.3
1761.0	4.0	47.3	60	9.2	1.98	9.42	35836	908.94	404.39	8.4	15.3
1762.0	2.7	47.9	60	9.2	2.13	9.78	37158	1341	410	8.4	15.3
1763.0	2.6	48.0	60	9.2	2.15	10.17	38533	1395	416	8.4	15.3
1764.0	2.8	50.9	60	9.2	2.16	10.52	39819	1305	421	8.4	15.3
1765.0	2.4	49.9	60	9.2	2.21	10.94	41323	1526	428	8.4	15.3
1766.0	24.8	37.3	60	9.2	1.24	10.98	41468	147.09	426.37	8.4	15.3
1767.0	5.8	30.9	60	9.2	1.63	11.15	42091	632.00	427.58	8.4	15.3
1768.0	4.0	37.4	60	9.2	1.85	11.41	42997	919.09	430.47	8.4	15.3
1769.0	24.2	46.3	60	9.2	1.34	11.45	43146	151.15	428.84	8.4	15.3
1770.0	7.1	49.3	60	9.2	1.81	11.59	43656	517.37	429.36	8.4	15.3
1771.0	3.9	48.0	60	9.2	2.00	11.84	44571	928.22	432.24	8.4	15.3
1772.0	4.2	48.8	60	9.2	1.99	12.08	45438	879.52	434.81	8.4	15.3
1773.0	3.8	49.8	60	9.2	2.04	12.35	46383	958.65	437.80	8.4	15.3
1774.0	11.9	49.9	60	9.2	1.63	12.43	46685	306.36	437.06	8.4	15.3
1775.0	13.9	48.9	60	9.2	1.56	12.50	46944	262.74	436.07	8.4	15.3
1776.0	8.3	51.8	60	9.2	1.77	12.62	47378	440.27	436.09	8.4	15.3
1777.0	5.1	51.9	60	9.3	1.95	12.82	48089	721.27	437.69	8.4	15.3
1778.0	4.7	51.1	60	9.2	1.97	13.03	48850	771.99	439.55	8.4	15.3
1779.0	10.1	46.8	60	9.3	1.64	13.13	49207	362.16	439.12	8.4	15.3
1780.0	24.0	4.0	60	9.3	0.75	13.17	49357	152.17	437.54	8.4	15.4
1781.0	61.0	15.9	60	9.2	0.75	13.19	49416	59.85	435.48	8.4	15.4
1782.0	67.9	23.7	60	9.2	0.80	13.20	49469	53.77	433.40	8.4	15.4
1783.0	66.7	26.3	60	9.3	0.83	13.22	49523	54.78	431.36	8.4	15.4
1784.0	60.0	26.8	60	9.3	0.86	13.24	49583	60.87	429.36	8.4	15.4
1785.0	18.4	10.3	60	9.3	0.96	13.29	49779	198.83	428.13	8.4	15.4
1786.0	97.3	17.4	60	9.3	0.64	13.30	49816	37.53	426.05	8.4	15.4
1787.0	46.2	29.0	60	9.3	0.96	13.32	49894	79.13	424.22	8.4	15.4
1788.0	10.1	31.2	60	9.3	1.46	13.42	50252	363.17	423.90	8.4	15.4
1789.0	6.4	46.3	60	9.2	1.80	13.58	50818	574.18	424.68	8.4	15.4
1790.0	10.7	50.0	60	9.3	1.66	13.67	51155	341.87	424.25	8.4	15.4
1791.0	22.1	49.7	60	9.3	1.40	13.72	51318	165.35	422.91	8.4	15.4

DEPTH	ROP	WOR	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1792.0	53.7	48.6	60	9.2	1.08	13.74	51385	67.97	421.08	8.4	15.4
1793.0	62.6	44.3	60	9.2	0.99	13.75	51443	58.33	419.22	8.4	15.4
1794.0	102.9	50.4	60	9.2	0.86	13.76	51478	35.51	417.26	8.4	15.4
1795.0	8.3	52.5	60	9.2	1.79	13.88	51910	438.24	417.37	8.4	15.4
1796.0	54.5	50.6	60	9.2	1.09	13.90	51976	66.95	415.60	8.4	15.4
1797.0	26.3	34.7	60	9.2	1.20	13.94	52113	138.98	414.21	8.4	15.4
1798.0	120.0	33.1	60	9.2	0.70	13.95	52143	30.43	412.29	8.4	15.4
1799.0	120.0	36.0	60	9.2	0.72	13.96	52173	30.43	410.39	8.4	15.4
1800.0	97.3	36.9	60	9.2	0.79	13.97	52210	37.53	408.55	8.4	15.4
1801.0	124.1	37.5	60	9.2	0.72	13.97	52239	29.42	406.68	8.4	15.4
1802.0	72.0	42.0	60	9.2	0.93	13.99	52289	50.72	404.93	8.4	15.4
1803.0	69.9	43.4	60	9.2	0.95	14.00	52340	52.24	403.21	8.4	15.4
1804.0	41.9	49.8	60	9.2	1.18	14.03	52426	87.24	401.68	8.4	15.4
1805.0	6.5	49.7	76	9.2	1.93	14.18	53126	559.97	402.44	8.4	15.4
1806.0	12.4	36.0	80	9.2	1.55	14.26	53513	294.19	401.92	8.4	15.4
1807.0	2.7	45.5	80	9.2	2.20	14.63	55300	1359	407	8.4	15.4
1808.0	3.7	47.4	80	9.2	2.11	14.90	56581	974.88	409.21	8.4	15.4
1809.0	2.9	51.5	80	9.2	2.27	15.24	58240	1262	413	8.4	15.4
1810.0	3.3	49.0	80	9.2	2.18	15.55	59705	1115	417	8.4	15.4
1811.0	3.4	49.9	70	9.2	2.13	15.84	60927	1063	420	8.4	15.4
1812.0	97.3	23.1	70	9.2	0.74	15.85	60970	37.53	417.81	8.4	15.4
1813.0	102.9	32.4	70	9.2	0.79	15.86	61011	35.51	416.03	8.4	15.4
1814.0	2.4	44.1	56	9.2	2.09	16.28	62401	1515	421	8.4	15.4
1815.0	2.1	51.1	50	9.2	2.20	16.74	63802	1705	427	8.4	15.4
1816.0	3.7	50.0	50	9.2	1.99	17.01	64612	987.03	429.61	8.4	15.4
1817.0	3.2	50.0	50	9.2	2.04	17.33	65550	1141	433	8.4	15.4
1818.0	2.0	50.0	50	9.2	2.21	17.83	67050	1826	439	8.4	15.4
1819.0	2.8	50.7	50	9.2	2.10	18.18	68121	1304	443	8.4	15.4
1820.0	3.3	49.3	50	9.2	2.02	18.49	69030	1107	446	8.4	15.4
1821.0	3.1	49.2	50	9.2	2.04	18.81	69998	1178	449	8.4	15.4
1822.0	2.9	50.1	50	9.2	2.07	19.15	71033	1259	453	8.4	15.4
1823.0	2.6	49.4	50	9.2	2.10	19.54	72187	1405	457	8.4	15.4
1824.0	3.0	49.5	50	9.2	2.05	19.87	73187	1217	461	8.4	15.4
1825.0	3.1	50.0	50	9.2	2.05	20.19	74154	1178	464	8.4	15.4
1826.0	3.3	49.3	50	9.2	2.02	20.50	75063	1107	467	8.4	15.4
1827.0	3.0	50.0	50	9.2	2.06	20.83	76063	1217	470	8.4	15.4
1827.5	5.1	49.9	50	9.2	1.87	20.93	76359	720.26	470.39	8.4	15.4
1828.0	3.9	50.4	50	9.2	1.97	21.06	76746	942.42	471.41	8.4	15.4
1829.0	4.8	48.7	50	9.2	1.88	21.27	77373	762.86	472.67	8.4	15.4
1830.0	4.7	46.1	50	9.2	1.85	21.48	78007	771.99	473.96	8.4	15.4
1831.0	4.9	44.6	50	9.2	1.82	21.68	78622	748.66	475.14	8.4	15.4
1832.0	11.5	27.5	50	9.2	1.32	21.77	78883	317.52	474.47	8.4	15.4
1833.0	12.3	13.5	50	9.2	1.08	21.85	79127	297.23	473.72	8.4	15.4
1834.0	78.3	19.7	50	9.2	0.68	21.86	79165	46.66	471.91	8.4	15.4
1835.0	59.0	13.9	50	9.2	0.69	21.88	79216	61.88	470.18	8.4	15.4
1836.0	56.2	17.5	65	9.2	0.82	21.90	79286	64.92	468.47	8.4	15.4
1837.0	16.1	36.8	70	9.2	1.43	21.96	79547	227.24	467.46	8.4	15.4
1838.0	6.1	46.4	70	9.2	1.88	22.13	80241	603.59	468.03	8.4	15.4
1839.0	8.2	39.3	70	9.2	1.69	22.25	80756	447.37	467.95	8.4	15.4
1840.0	10.7	39.8	70	9.2	1.60	22.34	81149	341.87	467.42	8.4	15.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1841.0	33.6	37.2	70	9.2	1.19	22.37	81274	108.55	465.95	8.4	15.4
1842.0	31.6	36.7	70	9.2	1.21	22.40	81407	115.65	464.51	8.4	15.4
1843.0	28.6	33.5	70	9.2	1.21	22.44	81554	127.82	463.14	8.4	15.4
1844.0	31.3	38.3	70	9.2	1.23	22.47	81688	116.66	461.73	8.4	15.4
1845.0	5.1	38.5	70	9.2	1.84	22.67	82518	722.28	462.78	8.4	15.4
1846.0	8.6	32.8	70	9.2	1.58	22.78	83007	425.05	462.63	8.4	15.4
1847.0	46.8	28.7	70	9.2	1.01	22.81	83097	78.11	461.09	8.4	15.4
1848.0	46.2	33.8	70	9.2	1.06	22.83	83188	79.13	459.56	8.4	15.4
1849.0	6.5	41.6	67	9.2	1.78	22.98	83812	563.02	459.97	8.4	15.4
1850.0	6.4	47.3	60	9.2	1.82	23.14	84372	568.09	460.40	8.4	15.4
1851.0	4.5	43.7	60	9.2	1.89	23.36	85168	807.50	461.77	8.4	15.4
1852.0	6.4	46.0	60	9.2	1.80	23.52	85732	572.15	462.21	8.4	15.5
1853.0	3.4	46.1	60	9.2	2.02	23.81	86798	1081	465	8.4	15.5
1854.0	2.3	45.7	60	9.2	2.16	24.25	88375	1600	469	8.4	15.5
1855.0	4.3	45.2	60	9.2	1.93	24.48	89209	846.05	470.54	8.4	15.5
1856.0	8.3	46.3	60	9.2	1.72	24.60	89642	439.25	470.42	8.4	15.5
1857.0	9.5	49.1	60	9.2	1.70	24.71	90021	384.47	470.08	8.4	15.5
1858.0	2.9	47.5	60	9.2	2.10	25.05	91249	1246	473	8.4	15.5
1859.0	4.5	46.3	60	9.2	1.93	25.27	92051	813.58	474.37	8.4	15.5
1860.0	6.3	46.1	60	9.2	1.81	25.43	92622	579.25	474.77	8.4	15.5
1861.0	7.7	46.0	60	9.2	1.74	25.56	93092	476.79	474.78	8.4	15.5
1862.0	26.1	46.0	60	9.2	1.31	25.60	93230	139.99	473.51	8.4	15.5
1863.0	39.1	38.5	60	9.2	1.11	25.62	93322	93.33	472.08	8.4	15.5
1864.0	85.7	34.7	60	9.2	0.82	25.64	93364	42.61	470.46	8.4	15.5
1865.0	66.7	43.2	60	9.2	0.96	25.65	93418	54.78	468.91	8.4	15.5
1866.0	53.7	42.7	60	9.2	1.03	25.67	93485	67.97	467.41	8.4	15.5
1867.0	36.0	39.4	60	9.2	1.14	25.70	93585	101.44	466.05	8.4	15.5
1868.0	44.4	33.3	60	9.2	1.02	25.72	93666	82.17	464.63	8.4	15.5
1869.0	28.6	33.3	60	9.2	1.16	25.75	93792	127.82	463.38	8.4	15.5
1870.0	60.0	40.5	60	9.2	0.98	25.77	93852	60.87	461.90	8.4	15.5
1871.0	37.9	45.1	60	9.2	1.17	25.80	93947	96.37	460.57	8.4	15.5
1872.0	20.5	45.0	60	9.2	1.39	25.85	94123	178.54	459.54	8.4	15.5
1873.0	50.7	44.2	60	9.2	1.07	25.87	94194	72.03	458.13	8.4	15.5
1874.0	16.0	30.9	60	9.2	1.31	25.93	94419	228.25	457.29	8.4	15.5
1875.0	34.6	23.7	60	9.2	1.00	25.96	94523	105.50	456.02	8.4	15.5
1876.0	48.6	30.8	60	9.2	0.97	25.98	94597	75.07	454.65	8.4	15.5
1877.0	25.4	32.3	60	9.2	1.19	26.02	94739	144.05	453.54	8.4	15.5
1878.0	13.8	30.8	60	9.2	1.36	26.09	94999	263.76	452.86	8.4	15.5
1879.0	12.7	42.8	60	9.2	1.53	26.17	95282	287.09	452.27	8.4	15.5
1880.0	21.2	38.3	60	9.2	1.31	26.22	95452	172.46	451.28	8.4	15.5
1881.0	10.8	41.6	60	9.2	1.57	26.31	95785	337.81	450.88	8.4	15.5
1882.0	10.6	43.0	60	9.2	1.60	26.40	96126	345.93	450.51	8.4	15.5
1883.0	8.2	47.1	60	9.2	1.73	26.52	96567	447.37	450.50	8.4	15.5
1884.0	4.6	43.5	60	9.2	1.89	26.74	97358	802.43	451.73	8.4	15.5
1885.0	6.1	47.2	60	9.2	1.84	26.91	97948	598.52	452.24	8.4	15.5
1886.0	4.4	47.1	60	9.2	1.95	27.14	98766	830.00	453.55	8.4	15.5
1887.0	7.0	47.3	60	9.2	1.79	27.28	99281	521.71	453.79	8.4	15.5
1888.0	3.8	43.2	60	9.2	1.95	27.54	100228	961.05	455.54	8.4	15.5
1889.0	4.7	43.6	60	9.2	1.88	27.75	100994	777.02	456.64	8.4	15.5
1890.0	4.4	43.9	60	9.2	1.91	27.98	101812	830.00	457.92	8.4	15.5

DEPTH	ROP	MOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1891.0	4.7	42.3	60	9.2	1.86	28.19	102578	777.02	459.01	8.4	15.5
1892.0	5.8	44.0	60	9.2	1.81	28.37	103199	629.66	459.59	8.4	15.5
1893.0	15.1	38.7	60	9.2	1.43	28.43	103437	241.85	458.85	8.4	15.5
1894.0	26.3	43.1	60	9.2	1.28	28.47	103574	138.86	457.77	8.4	15.5
1895.0	40.0	40.3	60	9.2	1.11	28.50	103644	91.30	456.54	8.4	15.5
1896.0	40.0	41.6	60	9.2	1.13	28.52	103754	91.30	455.31	8.4	15.5
1897.0	4.4	44.3	60	9.2	1.91	28.75	104572	870.00	456.57	8.4	15.5
1898.0	7.0	48.0	60	9.2	1.80	28.89	105087	521.71	456.78	8.4	15.5
1899.0	51.2	47.2	60	9.2	1.09	28.91	105157	71.33	455.50	8.4	15.5
1900.0	56.8	45.7	60	9.2	1.04	28.93	105220	64.30	454.21	8.4	15.5
1901.0	37.5	44.1	60	9.2	1.17	28.96	105316	97.39	453.03	8.4	15.5
1902.0	8.3	44.3	60	9.2	1.69	29.08	105750	440.00	452.99	8.4	15.5
1903.0	38.7	46.1	60	9.2	1.18	29.10	105843	94.37	451.81	8.4	15.5
1904.0	40.4	44.8	60	9.2	1.15	29.13	105932	90.40	450.63	8.4	15.5
1905.0	35.4	44.7	60	9.2	1.19	29.15	106034	103.16	449.50	8.4	15.5
1906.0	21.1	47.1	59	9.2	1.39	29.20	106202	173.08	448.60	8.4	15.5
1907.0	24.4	48.6	50	9.2	1.29	29.24	106325	149.67	447.63	8.4	15.5
1908.0	44.2	50.1	50	9.2	1.09	29.27	106393	82.62	446.46	8.4	15.5
1909.0	26.4	49.8	50	9.2	1.28	29.30	106507	138.33	445.46	8.4	15.5
1910.0	17.6	50.1	50	9.2	1.43	29.36	106677	267.58	444.70	8.4	15.5
1911.0	19.8	49.2	50	9.2	1.38	29.41	106829	184.44	443.87	8.4	15.5
1912.0	30.9	50.4	50	9.2	1.22	29.44	106926	118.19	442.83	8.4	15.5
1912.5	40.0	49.6	50	9.2	1.13	29.46	106963	91.30	442.27	8.4	15.5
1913.0	25.0	50.4	50	9.2	1.30	29.48	107023	146.08	441.80	8.4	15.5
1914.0	44.4	49.4	50	9.2	1.09	29.50	107091	82.17	440.67	8.4	15.5
1915.0	52.2	49.8	50	9.2	1.03	29.52	107148	70.00	439.50	8.4	15.5
1916.0	30.8	35.2	50	9.2	1.10	29.55	107246	118.69	438.49	8.4	15.5
1917.0	46.2	29.8	50	9.2	0.92	29.57	107311	79.13	437.36	8.4	15.5
1918.0	20.2	38.3	68	9.2	1.36	29.62	107512	180.57	436.56	8.4	15.5
1919.0	22.1	38.0	70	9.2	1.34	29.67	107702	165.35	435.71	8.4	15.5
1920.0	28.3	37.6	70	9.2	1.26	29.70	107850	128.83	434.76	8.4	15.5
1921.0	22.0	40.4	70	9.2	1.37	29.75	108041	166.37	433.93	8.4	15.5
1922.0	24.0	40.6	60	9.2	1.29	29.79	108191	152.17	433.06	8.4	15.5
1923.0	19.4	40.4	60	9.2	1.36	29.84	108377	188.69	432.31	8.4	15.5
1924.0	20.1	40.5	60	9.2	1.35	29.89	108556	181.59	431.54	8.4	15.5
1925.0	8.1	41.2	60	9.2	1.66	30.01	109002	452.44	431.60	8.4	15.5
1926.0	4.3	47.2	50	9.2	1.90	30.24	109700	841.99	432.85	8.4	15.6
1927.0	3.8	48.1	50	9.2	1.95	30.50	110482	951.55	434.43	8.4	15.6
1928.0	6.3	48.8	50	9.2	1.78	30.66	110954	575.19	434.86	8.4	15.6
1929.0	27.1	48.7	50	9.2	1.26	30.70	111065	134.92	433.95	8.4	15.6
1930.0	23.8	48.9	50	9.2	1.30	30.74	111191	153.18	433.11	8.4	15.6
1931.0	5.5	49.7	50	9.2	1.84	30.92	111732	658.37	433.78	8.4	15.6
1932.0	4.2	50.4	50	9.2	1.94	31.16	112446	869.38	435.09	8.4	15.6
1933.0	4.9	50.5	50	9.2	1.89	31.36	113058	744.60	436.01	8.4	15.6
1934.0	8.0	50.0	50	9.2	1.71	31.49	113433	456.50	436.07	8.4	15.6
1935.0	15.0	47.3	50	9.2	1.45	31.56	113633	243.47	435.50	8.4	15.6
1936.0	7.3	48.0	50	9.2	1.72	31.69	114042	498.09	435.68	8.4	15.6
1937.0	6.1	48.3	50	9.2	1.78	31.86	114534	598.52	436.17	8.4	15.6
1938.0	7.2	47.0	50	9.2	1.71	31.99	114951	508.24	436.38	8.4	15.6
1939.0	3.0	49.8	50	9.2	2.05	32.32	115937	1200	439	8.4	15.6

DEPTH	ROP	WOB	RPM	MW	"d"r	HOURS	URNS	ICOST	CCOST	PF	FG
1940.0	3.3	48.9	50	9.2	1.96	32.58	116719	951.55	440.12	8.4	15.6
1941.0	3.3	47.9	50	9.2	1.95	32.85	117507	959.66	441.63	8.4	15.6
1942.0	6.4	49.7	50	9.2	1.77	33.00	117977	572.15	442.01	8.4	15.6
1943.0	11.7	50.3	50	9.2	1.59	33.09	118244	325.64	441.67	8.4	15.6
1944.0	30.2	49.6	50	9.2	1.23	33.13	118344	120.93	440.75	8.4	15.6
1945.0	36.0	49.9	50	9.2	1.17	33.15	118427	101.44	439.77	8.4	15.6
1946.0	43.9	48.6	50	9.2	1.09	33.18	118495	83.18	438.74	8.4	15.6
1947.0	48.6	46.9	50	9.2	1.04	33.20	118557	75.07	437.70	8.4	15.6
1948.0	39.7	48.2	50	9.2	1.13	33.22	118635	94.34	436.72	8.4	15.6
1949.0	44.4	47.2	50	9.2	1.07	33.25	118702	82.17	435.71	8.4	15.6
1950.0	28.1	49.1	50	9.2	1.25	33.28	118809	129.85	434.84	8.4	15.6
1951.0	12.6	48.8	50	9.2	1.53	33.36	119046	289.12	434.43	8.4	15.6
1952.0	5.7	49.6	50	9.2	1.83	33.54	119574	642.14	435.02	8.4	15.6
1953.0	4.9	50.4	50	9.2	1.89	33.74	120183	741.56	435.88	8.4	15.6
1954.0	6.6	46.7	50	9.2	1.74	33.89	120640	556.93	436.22	8.4	15.6
1955.0	4.6	47.0	50	9.2	1.87	34.11	121290	790.25	437.21	8.4	15.6
1956.0	3.6	48.4	50	9.2	1.97	34.38	122116	1006	439	8.4	15.6
1957.0	4.7	48.5	50	9.2	1.88	34.59	122748	768.95	439.72	8.4	15.6
1958.0	4.0	48.6	50	9.2	1.94	34.84	123492	905.90	441.02	8.4	15.6
1959.0	4.0	49.0	50	9.2	1.95	35.09	124249	921.12	442.35	8.4	15.6
1960.0	4.4	50.2	50	9.2	1.93	35.32	124933	832.86	443.42	8.4	15.6
1961.0	3.3	49.6	50	9.2	2.02	35.62	125838	1102	445	8.4	15.6
1962.0	4.8	50.0	50	9.2	1.89	35.83	126469	767.93	446.12	8.4	15.6
1963.0	6.5	50.5	50	9.2	1.79	35.99	126927	557.94	446.43	8.4	15.6
1964.0	19.4	49.0	50	9.2	1.38	36.04	127082	188.69	445.73	8.4	15.6
1965.0	24.3	47.9	50	9.2	1.29	36.08	127205	150.14	444.92	8.4	15.6
1966.0	10.3	46.9	50	9.2	1.58	36.18	127497	355.06	444.68	8.4	15.6
1967.0	10.9	47.0	50	9.2	1.56	36.27	127773	335.78	444.38	8.4	15.6
1968.0	3.3	49.3	50	9.2	2.02	36.57	128683	1108	446	8.4	15.6
1969.0	3.4	50.7	50	9.2	2.03	36.67	129569	1078	448	8.4	15.6
1970.0	12.9	51.6	50	9.2	1.55	36.94	129800	282.02	447.43	8.4	15.6
1971.0	17.6	47.9	50	9.2	1.46	37.00	129971	207.96	446.79	8.4	15.6
1972.0	5.8	50.2	70	9.2	1.95	37.17	130695	628.96	447.28	8.4	15.6
1973.0	4.8	52.6	70	9.2	2.05	37.38	131578	767.93	448.13	8.4	15.6
1974.0	4.2	54.7	70	9.2	2.13	37.62	132588	878.51	449.28	8.4	15.6
1975.0	3.6	54.3	70	9.2	2.17	37.90	133740	1001	451	8.4	15.6
1976.0	4.0	53.2	70	9.2	2.12	38.15	134798	920.10	451.98	8.4	15.6
1977.0	8.7	50.6	70	9.2	1.80	38.27	135280	418.97	451.90	8.4	15.6
1978.0	28.6	44.9	70	9.2	1.32	38.30	135427	127.82	451.04	8.4	15.6
1979.0	21.8	49.8	70	9.2	1.47	38.35	135619	167.38	450.30	8.4	15.6
1980.0	26.5	48.1	70	9.2	1.38	38.38	135778	137.96	449.48	8.4	15.6
1981.0	23.5	43.4	70	9.2	1.38	38.43	135956	155.21	448.71	8.4	15.6
1982.0	15.7	38.4	70	9.2	1.46	38.49	136225	233.32	448.15	8.4	15.6
1983.0	30.3	49.3	70	9.2	1.34	38.52	136363	170.72	447.30	8.4	15.6
1984.0	22.2	41.4	70	9.2	1.38	38.57	136552	164.34	446.57	8.4	15.6
1985.0	30.8	44.2	70	9.2	1.29	38.60	136689	118.69	445.72	8.4	15.6
1986.0	9.1	49.6	70	9.2	1.78	38.71	137150	400.71	445.60	8.4	15.6
1987.0	6.3	49.0	70	9.2	1.90	38.87	137819	582.29	445.96	8.4	15.6
1988.0	5.9	49.9	70	9.2	1.94	39.04	138533	620.84	446.40	8.4	15.6
1989.0	5.3	49.7	70	9.2	1.97	39.23	139328	690.84	447.03	8.4	15.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1990.0	4.1	51.3	70	9.2	2.09	39.48	140360	897.78	448.18	8.4	15.6
1991.0	3.1	51.8	48	9.2	2.06	39.80	141298	1179	450	8.4	15.6
1992.0	5.4	52.8	45	9.2	1.84	39.98	141795	671.56	450.60	8.4	15.6
1993.0	5.3	54.1	45	9.2	1.87	40.17	142302	685.76	451.20	8.4	15.6
1994.0	4.5	52.7	45	9.2	1.91	40.39	142905	815.61	452.12	8.4	15.6
1995.0	5.3	55.0	45	9.2	1.88	40.58	143418	693.88	452.73	8.4	15.6
1996.0	5.4	55.1	45	9.2	1.88	40.77	143922	681.71	453.30	8.4	15.6
1997.0	5.0	53.9	45	9.2	1.89	40.97	144467	737.50	454.01	8.4	15.6
1998.0	4.7	53.5	45	9.2	1.90	41.18	145038	771.99	454.81	8.4	15.6
1999.0	7.8	54.1	45	9.2	1.72	41.31	145383	467.66	454.84	8.4	15.6
2000.0	25.9	52.4	45	9.2	1.27	41.35	145488	141.01	454.06	8.4	15.6
2001.0	36.0	51.4	45	9.2	1.14	41.38	145563	101.44	453.18	8.4	15.6
2002.0	45.0	52.4	45	9.2	1.06	41.40	145623	81.16	452.26	8.4	15.6
2003.0	13.2	54.8	45	9.2	1.54	41.48	145827	275.93	451.83	8.4	15.6
2004.0	4.9	53.9	45	9.2	1.89	41.68	146373	739.53	452.54	8.4	15.7
2005.0	4.2	51.0	45	9.2	1.92	41.92	147020	874.45	453.57	8.4	15.7
2006.0	10.6	49.7	57	9.2	1.65	42.01	147345	344.91	453.31	8.4	15.7
2007.0	17.1	48.7	60	9.2	1.49	42.07	147556	214.05	452.72	8.4	15.7
2008.0	5.6	53.8	60	9.2	1.95	42.25	148195	648.23	453.20	8.4	15.7
2009.0	4.1	51.9	60	9.2	2.04	42.49	149067	884.60	454.25	8.4	15.7
2010.0	3.4	51.5	60	9.2	2.10	42.79	150132	1080	456	8.4	15.7
2011.0	4.0	49.6	60	9.2	2.02	43.04	151040	921.12	456.90	8.4	15.7
2012.0	3.3	51.9	60	9.2	2.12	43.34	152137	1113	458	8.4	15.7
2013.0	3.0	50.8	60	9.2	2.14	43.68	153357	1238	460	8.4	15.7
2014.0	4.2	49.1	60	9.2	1.99	43.92	154208	863.29	461.33	8.4	15.7
2015.0	3.2	50.5	60	9.2	2.11	44.23	155345	1153	463	8.4	15.7
2016.0	3.9	50.1	60	9.2	2.03	44.49	156262	930.25	464.10	8.4	15.7

BIT NUMBER	5	IADC CODE	517	INTERVAL	2016.0- 2170.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	6.6	BIT RUN	154.0
TOTAL HOURS	20.48	TOTAL TURNS	78127	CONDITION	T2 R2 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2017.0	3.1	27.2	47	9.2	1.69	0.32	908	1168	33787	8.4	15.7
2018.0	4.1	33.5	49	9.2	1.71	0.57	1626	897	17342	8.4	15.7
2019.0	4.9	38.6	53	9.2	1.76	0.77	2284	750	11811	8.4	15.7
2020.0	6.3	40.5	60	9.2	1.74	0.93	2860	584	9004	8.4	15.7
2021.0	5.9	41.0	60	9.2	1.77	1.10	3468	617	7327	8.4	15.7
2022.0	6.4	46.6	64	9.2	1.84	1.26	4070	573	6201	8.4	15.7
2023.0	6.1	47.0	65	9.2	1.86	1.42	4715	604	5402	8.4	15.7
2024.0	12.1	46.8	65	9.2	1.62	1.50	5038	302	4764	8.4	15.7
2025.0	14.3	46.8	65	9.2	1.56	1.57	5310	255	4263	8.4	15.7
2026.0	17.2	46.7	65	9.2	1.49	1.63	5536	212	3858	8.4	15.7
2027.0	19.4	46.3	65	9.2	1.45	1.68	5738	189	3524	8.4	15.7
2028.0	15.3	46.7	65	9.2	1.54	1.75	5993	239	3251	8.4	15.7
2029.0	21.3	46.1	65	9.2	1.41	1.80	6176	171	3014	8.4	15.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2030.0	21.6	45.0	65	9.2	1.40	1.84	6357	169	2811	8.4	15.7
2031.0	21.8	43.9	65	9.2	1.38	1.89	6536	168	2634	8.4	15.7
2032.0	21.6	45.6	65	9.2	1.40	1.94	6717	169	2480	8.4	15.7
2033.0	27.7	43.4	65	9.2	1.29	1.97	6858	132	2342	8.4	15.7
2034.0	14.3	44.2	65	9.2	1.53	2.04	7131	256	2226	8.4	15.7
2035.0	4.3	45.3	65	9.2	1.96	2.28	8044	855	2154	8.4	15.7
2036.0	4.4	45.3	65	9.2	1.95	2.50	8928	828	2088	8.4	15.7
2037.0	4.7	45.3	65	9.2	1.93	2.72	9765	783	2026	8.4	15.7
2038.0	4.5	45.3	65	9.2	1.94	2.94	10625	805	1970	8.4	15.7
2039.0	4.4	43.2	65	9.2	1.93	3.16	11511	630	1921	8.4	15.7
2040.0	6.8	43.3	65	9.2	1.78	3.31	12085	537	1863	8.4	15.7
2041.0	4.1	43.3	65	9.2	1.95	3.56	13036	891	1824	8.4	15.7
2042.0	6.5	43.3	65	9.2	1.79	3.71	13636	562	1776	8.4	15.7
2043.0	4.4	43.3	65	9.2	1.93	3.94	14522	830	1741	8.4	15.7
2044.0	4.1	43.4	65	9.2	1.95	4.18	15473	891	1710	8.4	15.7
2045.0	6.7	43.2	65	9.2	1.78	4.33	16054	544	1670	8.4	15.7
2046.0	7.2	43.1	65	9.2	1.75	4.47	16594	505	1631	8.4	15.7
2047.0	6.1	43.1	65	9.2	1.81	4.63	17234	600	1598	8.4	15.7
2048.0	6.0	43.4	65	9.3	1.80	4.80	17882	607	1567	8.4	15.7
2049.0	12.3	45.7	65	9.3	1.58	4.88	18199	297	1528	8.4	15.7
2050.0	7.3	45.8	65	9.3	1.76	5.02	18733	500	1498	8.4	15.7
2051.0	12.4	45.6	65	9.3	1.58	5.10	19047	294	1464	8.4	15.7
2052.0	21.6	44.4	65	9.3	1.37	5.14	19228	169	1428	8.4	15.7
2053.0	27.1	38.5	65	9.3	1.24	5.18	19372	135	1393	8.4	15.7
2054.0	31.0	43.2	65	9.3	1.24	5.21	19498	118	1359	8.4	15.7
2055.0	34.0	43.4	65	9.3	1.21	5.24	19613	108	1327	8.4	15.7
2056.0	24.7	45.7	65	9.3	1.34	5.28	19771	148	1298	8.4	15.7
2057.0	29.8	45.0	65	9.3	1.27	5.32	19902	123	1269	8.4	15.7
2058.0	25.5	43.0	65	9.3	1.30	5.35	20055	143	1242	8.4	15.7
2059.0	27.1	42.5	65	9.3	1.28	5.39	20199	135	1217	8.4	15.7
2060.0	30.8	43.1	65	9.3	1.24	5.42	20325	119	1192	8.4	15.7
2061.0	28.8	43.6	65	9.3	1.27	5.46	20461	127	1168	8.4	15.7
2062.0	30.0	43.3	65	9.3	1.25	5.49	20591	122	1145	8.4	15.7
2063.0	10.0	44.1	65	9.3	1.63	5.59	20981	365	1129	8.4	15.7
2064.0	13.0	44.0	65	9.3	1.54	5.67	21280	280	1111	8.4	15.7
2065.0	21.3	43.7	65	9.3	1.37	5.72	21463	171	1092	8.4	15.7
2066.0	20.9	43.7	65	9.3	1.38	5.76	21649	174	1073	8.4	15.7
2067.0	20.6	43.2	65	9.3	1.38	5.81	21839	178	1056	8.4	15.7
2068.0	18.3	39.9	65	9.3	1.39	5.87	22052	200	1039	8.4	15.7
2069.0	6.5	47.8	65	9.3	1.83	6.02	22649	559	1030	8.4	15.7
2070.0	3.4	49.4	65	9.3	2.07	6.31	23783	1062	1031	8.4	15.7
2071.0	3.8	46.6	65	9.3	2.00	6.57	24797	950	1029	8.4	15.7
2072.0	3.6	47.6	65	9.3	2.03	6.85	25875	1009	1029	8.4	15.7
2073.0	3.1	46.7	65	9.3	2.07	7.17	27121	1167	1031	8.4	15.7
2074.0	3.4	47.4	65	9.3	2.05	7.46	28276	1081	1032	8.4	15.7
2075.0	4.2	46.5	65	9.3	1.97	7.70	29207	871	1030	8.4	15.7
2076.0	5.3	46.3	65	9.3	1.88	7.89	29938	685	1024	8.4	15.7
2077.0	4.9	46.3	65	9.3	1.91	8.09	30730	742	1019	8.4	15.7
2078.0	29.8	44.1	65	9.3	1.26	8.13	30861	123	1005	8.4	15.7
2079.0	41.9	48.7	65	9.3	1.18	8.15	30954	87.24	990.19	8.4	15.7

DEPTH	ROP	WOR	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2130.0	3.6	50.3	65	9.7	1.99	13.77	52880	1014	727	8.4	15.8
2131.0	4.4	50.3	65	9.7	1.92	14.00	53766	830.00	728.20	8.4	15.8
2132.0	4.2	50.2	65	9.7	1.93	14.24	54695	869.52	729.42	8.4	15.8
2133.0	6.2	50.9	65	9.7	1.81	14.40	55324	589.03	728.22	8.4	15.8
2134.0	11.2	46.0	65	9.7	1.55	14.49	55672	326.07	724.61	8.4	15.8
2135.0	16.9	49.6	65	9.7	1.45	14.55	55903	216.09	720.54	8.4	15.8
2136.0	6.0	48.4	65	9.7	1.79	14.71	56553	608.67	719.60	8.4	15.8
2137.0	12.8	49.1	65	9.7	1.54	14.79	56857	285.31	716.02	8.4	15.8
2138.0	3.6	49.3	65	9.7	1.97	15.07	57941	1014	718	8.4	15.8
2139.0	3.1	49.0	65	9.7	2.02	15.39	59199	1178	722	8.4	15.8
2140.0	2.8	48.9	65	9.7	2.05	15.75	60592	1304	727	8.4	15.8
2141.0	2.5	48.6	65	9.7	2.09	16.15	62152	1461	733	8.4	15.8
2142.0	3.9	48.9	65	9.7	1.94	16.41	63152	936.41	734.38	8.4	15.8
2143.0	10.9	48.5	65	9.7	1.59	16.50	63509	335.05	731.24	8.4	15.8
2144.0	13.2	48.5	65	9.7	1.52	16.57	63805	276.67	727.68	8.4	15.8
2145.0	13.4	48.7	65	9.7	1.52	16.65	64096	272.54	724.16	8.4	15.8
2146.0	15.2	48.3	65	9.7	1.47	16.71	64352	240.26	720.43	8.4	15.8
2147.0	18.1	49.0	65	9.7	1.42	16.77	64568	201.77	716.47	8.4	15.8
2148.0	21.8	49.4	65	9.7	1.36	16.81	64747	167.52	712.32	8.4	15.8
2149.0	22.7	50.0	65	9.7	1.35	16.86	64919	160.88	708.17	8.4	15.8
2150.0	14.4	50.0	65	9.7	1.51	16.93	65189	253.61	704.78	8.4	15.8
2151.0	19.6	49.0	65	9.7	1.39	16.98	65389	186.66	700.94	8.4	15.8
2152.0	17.3	49.2	65	9.7	1.44	17.04	65614	211.00	697.34	8.4	15.8
2153.0	4.9	50.0	65	9.7	1.88	17.24	66415	749.67	697.72	8.4	15.8
2154.0	4.5	48.6	65	9.7	1.89	17.47	67288	817.64	698.59	8.4	15.8
2155.0	4.4	49.3	65	9.7	1.91	17.69	68180	835.90	699.58	8.4	15.8
2156.0	8.4	49.3	65	9.7	1.69	17.81	68645	435.20	697.69	8.4	15.8
2157.0	10.6	48.9	65	9.6	1.51	17.91	69014	344.91	695.19	8.4	15.8
2158.0	12.5	44.2	65	9.6	1.53	17.99	69326	292.16	692.35	8.4	15.8
2159.0	11.4	43.2	65	9.6	1.57	18.08	69667	319.55	689.74	8.4	15.8
2160.0	10.2	43.5	65	9.6	1.93	18.17	70050	359.11	687.44	8.4	15.8
2161.0	3.5	44.0	65	9.6	1.90	18.46	71151	1031	690	8.4	15.8
2162.0	3.7	43.0	65	9.6	1.90	18.73	72210	992.13	691.88	8.4	15.8
2163.0	3.9	44.2	65	9.6	1.92	18.99	73216	947.49	693.62	8.4	15.8
2164.0	3.5	47.6	55	9.6	1.92	19.27	74156	1040	696	8.4	15.8
2165.0	3.7	48.3	55	9.6	1.90	19.54	75053	993.14	697.95	8.4	15.8
2166.0	3.9	48.6	55	9.6	1.89	19.80	75890	926.19	699.48	8.4	15.8
2167.0	4.0	48.5	55	9.6	1.82	20.05	76711	908.94	700.86	8.4	15.8
2168.0	4.9	48.4	55	9.6	1.69	20.25	77379	739.53	701.12	8.4	15.9
2169.0	7.2	48.7	55	9.6	1.69	20.39	77836	505.19	699.84	8.4	15.9
2170.0	11.3	48.4	55	9.6	1.53	20.48	78127	322.59	697.39	8.4	15.9

DEPTH	ROP	WOR	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2130.0	3.6	50.3	65	9.7	1.99	13.77	52880	1014	727	8.4	15.8
2131.0	4.4	50.3	65	9.7	1.92	14.00	53766	830.00	728.20	8.4	15.8
2132.0	4.2	50.2	65	9.7	1.93	14.24	54695	869.52	729.42	8.4	15.8
2133.0	6.2	50.9	65	9.7	1.81	14.40	55324	589.03	728.22	8.4	15.8
2134.0	11.2	46.0	65	9.7	1.55	14.49	55672	326.07	724.81	8.4	15.8
2135.0	16.9	49.6	65	9.7	1.45	14.55	55903	216.09	720.54	8.4	15.8
2136.0	6.0	48.4	65	9.7	1.79	14.71	56553	608.67	719.60	8.4	15.8
2137.0	12.8	49.1	65	9.7	1.54	14.79	56857	285.31	716.02	8.4	15.8
2138.0	3.6	49.3	65	9.7	1.97	15.07	57941	1014	718	8.4	15.8
2139.0	3.1	49.0	65	9.7	2.02	15.39	59199	1178	722	8.4	15.8
2140.0	2.8	48.9	65	9.7	2.05	15.75	60592	1304	727	8.4	15.8
2141.0	2.5	48.6	65	9.7	2.09	16.15	62152	1461	733	8.4	15.8
2142.0	3.9	48.9	65	9.7	1.94	16.41	63152	936.41	734.38	8.4	15.8
2143.0	10.9	48.5	65	9.7	1.59	16.50	63509	335.05	731.24	8.4	15.8
2144.0	13.2	48.5	65	9.7	1.52	16.57	63805	276.67	727.68	8.4	15.8
2145.0	13.4	48.7	65	9.7	1.52	16.65	64096	272.54	724.16	8.4	15.8
2146.0	15.2	48.3	65	9.7	1.47	16.71	64352	240.26	720.43	8.4	15.8
2147.0	18.1	49.0	65	9.7	1.42	16.77	64568	201.77	716.47	8.4	15.8
2148.0	21.8	49.4	65	9.7	1.36	16.81	64747	167.52	712.32	8.4	15.8
2149.0	22.7	50.0	65	9.7	1.35	16.86	64919	160.88	708.17	8.4	15.8
2150.0	14.4	50.0	65	9.7	1.51	16.93	65189	253.61	704.78	8.4	15.8
2151.0	19.6	49.0	65	9.7	1.39	16.98	65389	186.66	700.94	8.4	15.8
2152.0	17.3	49.2	65	9.7	1.44	17.04	65614	211.00	697.34	8.4	15.8
2153.0	4.9	50.0	65	9.7	1.88	17.24	66415	749.67	697.72	8.4	15.8
2154.0	4.5	48.6	65	9.7	1.89	17.47	67288	817.64	698.59	8.4	15.8
2155.0	4.4	49.3	65	9.7	1.91	17.69	68180	835.90	699.58	8.4	15.8
2156.0	8.4	49.3	65	9.7	1.69	17.81	68645	435.20	697.69	8.4	15.8
2157.0	10.6	48.9	65	9.7	1.60	17.91	69014	344.91	695.19	8.4	15.8
2158.0	12.5	44.2	65	9.6	1.51	17.99	69326	292.16	692.35	8.4	15.8
2159.0	11.4	43.2	65	9.6	1.53	18.08	69667	319.55	689.74	8.4	15.8
2160.0	10.2	43.5	65	9.6	1.57	18.17	70050	359.11	687.44	8.4	15.8
2161.0	3.5	44.0	65	9.6	1.93	18.46	71151	1031	690	8.4	15.8
2162.0	3.7	43.0	65	9.6	1.90	18.73	72210	992.13	691.88	8.4	15.8
2163.0	3.9	44.2	65	9.6	1.90	18.99	73216	947.49	693.62	8.4	15.8
2164.0	3.5	47.6	55	9.6	1.92	19.27	74156	1040	696	8.4	15.8
2165.0	3.7	48.3	55	9.6	1.92	19.54	75053	993.14	697.95	8.4	15.8
2166.0	3.9	48.6	55	9.6	1.90	19.80	75890	926.19	699.48	8.4	15.8
2167.0	4.0	48.5	55	9.6	1.89	20.05	76711	908.94	700.86	8.4	15.9
2168.0	4.9	48.4	55	9.6	1.82	20.25	77379	739.53	701.12	8.4	15.9
2169.0	7.2	48.7	55	9.6	1.69	20.39	77836	505.19	699.84	8.4	15.9
2170.0	11.3	48.4	55	9.6	1.53	20.48	78127	322.59	697.39	8.4	15.9

BIT NUMBER	5	IADC CODE	4	INTERVAL	2170.0- 2187.4
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	6.6	BIT RUN	17.4
TOTAL HOURS	4.64	TOTAL TURNS	20046	CONDITION	TO RO GO.300

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2170.2	9.0	13.3	60	9.6	1.26	0.02	80	406	120922	8.4	15.9
2170.4	8.4	13.7	60	9.6	1.29	0.05	166	436	60679	8.4	15.9
2170.6	7.0	13.1	60	9.6	1.32	0.07	269	522	40627	8.4	15.9
2170.8	13.8	13.7	60	9.6	1.15	0.09	321	264	30536	8.4	15.9
2171.0	14.7	14.6	60	9.6	1.16	0.10	370	249	24479	8.4	15.9
2171.2	9.9	14.3	60	9.6	1.26	0.12	443	370	20460	8.4	15.9
2171.4	7.7	14.9	60	9.6	1.34	0.15	537	477	17606	8.4	15.9
2171.6	3.1	11.3	60	9.6	1.48	0.21	773	1197	15555	8.4	15.9
2171.8	10.7	11.8	60	9.6	1.18	0.23	840	340	13864	8.4	15.9
2172.0	5.8	14.8	60	9.6	1.41	0.27	965	634	12541	8.4	15.9
2172.2	5.0	13.3	60	9.6	1.41	0.31	1109	730	11467	8.4	15.9
2172.4	4.8	14.3	60	9.6	1.45	0.35	1260	766	10576	8.4	15.9
2172.6	2.6	14.8	60	9.6	1.63	0.43	1540	1420	9871	8.4	15.9
2172.8	1.2	15.2	60	9.6	1.85	0.59	2140	3043	9384	8.4	15.9
2173.0	1.2	14.3	60	9.6	1.82	0.76	2739	3038	8961	8.4	15.9
2173.2	1.3	14.7	65	9.6	1.84	0.92	3352	2881	8581	8.4	15.9
2173.4	1.6	14.8	70	9.6	1.80	1.04	3879	2293	8211	8.4	15.9
2173.6	1.8	14.0	73	9.6	1.75	1.15	4361	2004	7866	8.4	15.9
2173.8	6.5	14.2	75	9.6	1.43	1.18	4500	563	7482	8.4	15.9
2174.0	6.9	14.2	75	9.6	1.41	1.21	4630	528	7134	8.4	15.9
2174.2	6.6	14.3	75	9.6	1.42	1.24	4766	553	6820	8.4	15.9
2174.4	6.3	14.4	75	9.6	1.44	1.28	4908	578	6537	8.4	15.9
2174.6	1.5	14.9	75	9.6	1.85	1.41	5528	2516	6362	8.4	15.9
2174.8	2.3	14.7	75	9.6	1.72	1.50	5917	1577	6163	8.4	15.9
2175.0	3.2	14.6	75	9.6	1.63	1.56	6201	1151	5962	8.4	15.9
2175.2	2.6	14.7	75	9.6	1.68	1.64	6541	1380	5786	8.4	15.9
2175.4	3.5	14.8	75	9.6	1.61	1.70	6801	1055	5611	8.4	15.9
2175.6	2.3	14.9	75	9.6	1.72	1.78	7195	1598	5467	8.4	15.9
2175.8	2.3	14.5	75	9.6	1.71	1.87	7582	1572	5333	8.4	15.9
2176.0	4.9	14.3	75	9.6	1.50	1.91	7766	746	5180	8.4	15.9
2176.2	10.6	14.1	75	9.6	1.29	1.93	7851	345	5024	8.4	15.9
2176.4	14.4	13.8	75	9.6	1.20	1.94	7913	254	4875	8.4	15.9
2176.6	8.7	13.8	75	9.6	1.34	1.97	8017	421	4740	8.4	15.9
2176.8	14.4	14.3	75	9.6	1.22	1.98	8080	254	4608	8.4	15.9
2177.0	6.1	14.1	75	9.6	1.44	2.01	8227	599	4494	8.4	15.9
2177.2	14.4	13.7	75	9.6	1.20	2.03	8290	254	4376	8.4	15.9
2177.4	17.1	14.1	75	9.6	1.16	2.04	8342	213	4263	8.4	15.9
2177.6	8.2	14.1	75	9.6	1.36	2.06	8452	446	4163	8.4	15.9
2177.8	7.1	14.3	75	9.6	1.40	2.09	8578	512	4069	8.4	15.9
2178.0	5.6	14.4	75	9.6	1.47	2.13	8738	649	3984	8.4	15.9
2178.2	5.3	14.7	75	9.6	1.49	2.16	8908	690	3903	8.4	15.9
2178.4	10.3	14.6	75	9.6	1.31	2.18	8996	355	3819	8.4	15.9
2178.6	6.4	14.2	75	9.6	1.43	2.22	9137	573	3743	8.4	15.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2178.8	7.6	14.2	75	9.6	1.39	2.24	9256	482	3669	8.4	15.9
2179.0	8.3	14.5	75	9.6	1.37	2.27	9365	441	3598	8.4	15.9
2179.2	6.7	14.9	75	9.6	1.43	2.30	9498	543	3531	8.4	15.9
2179.4	3.7	15.0	75	9.6	1.60	2.35	9741	984	3477	8.4	15.9
2179.6	2.2	14.4	75	9.6	1.72	2.44	10158	1694	3440	8.4	15.9
2179.8	6.1	14.5	75	9.6	1.45	2.48	10307	604	3382	8.4	15.9
2180.0	4.0	14.9	75	9.6	1.57	2.52	10530	903	3332	8.4	15.9
2180.2	5.2	15.1	75	9.6	1.51	2.56	10702	700	3281	8.4	15.9
2180.4	4.5	15.2	75	9.6	1.55	2.61	10903	817	3233	8.4	15.9
2180.6	3.7	15.0	75	9.6	1.60	2.66	11148	994	3191	8.4	15.9
2180.8	3.4	15.2	75	9.6	1.63	2.72	11413	1075	3152	8.4	15.9
2181.0	2.7	15.4	75	9.6	1.70	2.80	11750	1364	3119	8.4	15.9
2181.2	2.5	15.3	75	9.6	1.71	2.88	12106	1446	3090	8.4	15.9
2181.4	2.3	15.2	75	9.6	1.73	2.96	12493	1572	3063	8.4	15.9
2181.6	2.2	15.7	75	9.6	1.76	3.05	12907	1679	3039	8.4	15.9
2181.8	2.4	15.6	75	9.6	1.73	3.14	13277	1501	3013	8.4	15.9
2182.0	2.3	15.3	75	9.6	1.74	3.22	13671	1598	2989	8.4	15.9
2182.2	2.8	15.0	75	9.6	1.67	3.29	13991	1298	2962	8.4	15.9
2182.4	3.7	15.1	75	9.6	1.61	3.35	14237	999	2930	8.4	15.9
2182.6	4.5	15.2	75	9.6	1.55	3.39	14437	812	2896	8.4	15.9
2182.8	3.5	15.0	75	9.6	1.62	3.45	14697	1055	2868	8.4	15.9
2183.0	3.7	15.3	75	9.6	1.61	3.51	14943	999	2839	8.4	15.9
2183.2	3.2	15.2	75	9.6	1.64	3.57	15222	1131	2813	8.4	15.9
2183.4	3.5	15.2	75	9.6	1.62	3.62	15478	1040	2787	8.4	15.9
2183.6	4.6	15.3	75	9.6	1.55	3.67	15675	796	2757	8.4	15.9
2183.8	4.1	15.2	75	9.6	1.58	3.72	15896	898	2730	8.4	15.9
2184.0	2.8	15.6	75	9.6	1.70	3.79	16222	1324	2710	8.4	15.9
2184.2	2.7	15.6	75	9.6	1.70	3.86	16556	1354	2691	8.4	15.9
2184.4	2.7	15.5	75	9.6	1.69	3.94	16885	1334	2672	8.4	15.9
2184.6	4.5	15.1	75	9.6	1.55	3.98	17085	812	2647	8.4	15.9
2184.8	3.2	15.6	75	9.6	1.65	4.04	17365	1136	2626	8.4	15.9
2185.0	2.8	16.1	75	9.6	1.70	4.11	17685	1298	2609	8.4	15.9
2185.2	3.6	16.1	75	9.6	1.64	4.17	17935	1014	2588	8.4	15.9
2185.4	4.4	15.1	75	9.6	1.55	4.22	18138	827	2565	8.4	15.9
2185.6	6.9	15.2	75	9.6	1.43	4.24	18268	528	2539	8.4	15.9
2185.8	3.1	15.3	75	9.6	1.66	4.31	18563	1197	2522	8.4	15.9
2186.0	2.7	15.5	75	9.6	1.70	4.39	18902	1375	2507	8.4	15.9
2186.2	8.3	15.4	75	9.6	1.39	4.41	19011	441	2482	8.4	15.9
2186.4	6.2	15.4	75	9.6	1.47	4.44	19157	593	2459	8.4	15.9
2186.6	8.5	14.9	75	9.6	1.37	4.47	19263	431	2434	8.4	15.9
2186.8	5.1	15.6	75	9.6	1.52	4.50	19438	710	2414	8.4	15.9
2187.0	5.0	16.0	75	9.6	1.55	4.54	19620	735	2394	8.4	15.9
2187.2	4.9	15.3	75	9.6	1.53	4.59	19802	741	2375	8.4	15.9
2187.4	3.7	14.3	75	9.6	1.58	4.64	20046	989	2359	8.4	15.9

BIT NUMBER	5	IADC CODE	4	INTERVAL	2188.0- 2205.5
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	6.7	BIT RUN	17.5
TOTAL HOURS	1.88	TOTAL TURNS	8918	CONDITION	TO B0 G0.350

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2188.4	5.0	12.0	75	9.6	1.43	0.08	360	730	61901	8.4	15.9
2188.6	5.8	12.4	75	9.6	1.41	0.11	515	629	41477	8.4	15.9
2188.8	6.6	17.5	75	9.6	1.50	0.14	651	553	31246	8.4	15.9
2189.0	3.4	16.3	75	9.6	1.65	0.20	915	1070	25211	8.4	15.9
2189.2	7.1	15.8	75	9.6	1.44	0.23	1043	517	21095	8.4	15.9
2189.4	5.9	15.5	75	9.6	1.48	0.27	1195	619	18170	8.4	15.9
2189.6	13.3	15.2	75	9.6	1.26	0.28	1263	274	15933	8.4	15.9
2189.8	12.0	16.4	75	9.6	1.31	0.30	1338	304	14197	8.4	15.9
2190.0	7.3	16.3	75	9.6	1.45	0.32	1461	502	12827	8.4	15.9
2190.2	12.9	15.9	75	9.6	1.28	0.34	1531	284	11687	8.4	15.9
2190.4	12.4	16.2	84	9.6	1.33	0.36	1612	294	10737	8.4	15.9
2190.6	8.6	15.4	92	9.6	1.44	0.38	1741	426	9944	8.4	15.9
2190.8	22.5	15.2	92	9.6	1.17	0.39	1790	162	9246	8.4	15.9
2191.0	10.1	15.3	92	9.6	1.39	0.41	1899	360	8653	8.4	15.9
2191.2	12.0	15.9	92	9.6	1.36	0.43	1991	304	8131	8.4	15.9
2191.4	12.0	15.7	92	9.6	1.35	0.44	2083	304	7671	8.4	15.9
2191.6	7.2	16.1	92	9.6	1.50	0.47	2236	507	7273	8.4	15.9
2191.8	9.6	15.3	92	9.6	1.40	0.49	2351	380	6910	8.4	15.9
2192.0	16.4	15.5	92	9.6	1.26	0.50	2419	223	6576	8.4	15.9
2192.2	14.1	15.9	92	9.6	1.31	0.52	2497	259	6275	8.4	15.9
2192.4	10.3	16.1	92	9.6	1.40	0.54	2604	355	6006	8.4	15.9
2192.6	7.5	15.9	92	9.6	1.49	0.56	2752	487	5766	8.4	15.9
2192.8	16.0	14.2	92	9.6	1.24	0.58	2821	228	5535	8.4	15.9
2193.0	13.8	14.8	92	9.6	1.29	0.59	2900	264	5324	8.4	15.9
2193.2	15.3	14.6	92	9.6	1.26	0.60	2972	238	5129	8.4	15.9
2193.4	14.1	15.6	92	9.6	1.31	0.62	3051	259	4948	8.4	15.9
2193.6	18.0	15.8	92	9.6	1.24	0.63	3112	203	4779	8.4	15.9
2193.8	13.3	15.8	92	9.6	1.33	0.64	3195	274	4624	8.4	15.9
2194.0	28.8	15.0	92	9.6	1.10	0.65	3233	127	4474	8.4	15.9
2194.2	14.7	15.3	92	9.6	1.29	0.66	3308	249	4337	8.4	15.9
2194.4	10.9	16.1	92	9.6	1.39	0.68	3409	335	4212	8.4	15.9
2194.6	14.1	16.5	92	9.6	1.32	0.70	3488	259	4093	8.4	15.9
2194.8	9.0	16.7	92	9.6	1.45	0.72	3610	406	3984	8.4	15.9
2195.0	15.7	16.3	92	9.6	1.29	0.73	3681	233	3877	8.4	15.9
2195.2	15.7	16.1	91	9.6	1.29	0.74	3751	233	3776	8.4	15.9
2195.4	11.8	16.2	90	9.6	1.36	0.76	3842	309	3682	8.4	15.9
2195.6	21.8	15.7	90	9.6	1.18	0.77	3892	167	3590	8.4	15.9
2195.8	11.3	15.8	90	9.6	1.37	0.79	3988	325	3506	8.4	15.9
2196.0	22.5	15.4	90	9.6	1.17	0.80	4036	162	3422	8.4	15.9
2196.2	18.0	15.2	90	9.6	1.22	0.81	4096	203	3344	8.4	15.9
2196.4	21.2	15.5	76	9.6	1.14	0.82	4139	172	3268	8.4	15.9
2196.6	13.8	15.4	75	9.6	1.25	0.83	4204	264	3198	8.4	15.9
2196.8	18.5	15.2	75	9.6	1.17	0.84	4253	198	3130	8.4	15.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2197.0	13.1	15.6	75	9.6	1.27	0.86	4321	279	3067	8.4	15.9
2197.2	14.4	15.5	75	9.6	1.24	0.87	4384	254	3006	8.4	15.9
2197.4	20.6	15.4	75	9.6	1.14	0.88	4428	178	2945	8.4	15.9
2197.6	17.1	15.9	75	9.6	1.20	0.89	4480	213	2889	8.4	15.9
2197.8	20.0	15.9	75	9.6	1.16	0.90	4525	183	2833	8.4	15.9
2198.0	11.8	15.7	75	9.6	1.30	0.92	4601	309	2783	8.4	15.9
2198.2	8.8	11.6	75	9.6	1.28	0.94	4704	416	2736	8.4	15.9
2198.4	4.0	14.7	75	9.6	1.57	0.99	4931	923	2702	8.4	15.9
2198.6	10.3	15.0	75	9.6	1.32	1.01	5019	355	2657	8.4	15.9
2198.8	7.3	14.0	75	9.6	1.39	1.04	5141	497	2617	8.4	15.9
2199.0	8.9	12.1	75	9.6	1.29	1.06	5243	411	2577	8.4	15.9
2199.2	9.6	15.9	75	9.6	1.36	1.08	5336	380	2538	8.4	15.9
2199.4	7.5	14.2	75	9.6	1.39	1.11	5456	487	2502	8.4	15.9
2199.6	11.6	12.8	75	9.6	1.24	1.13	5534	314	2464	8.4	15.9
2199.8	12.4	12.6	75	9.6	1.22	1.14	5606	294	2427	8.4	15.9
2200.0	23.2	15.3	75	9.6	1.11	1.15	5645	157	2390	8.4	15.9
2200.2	10.1	16.2	75	9.6	1.35	1.17	5734	360	2356	8.4	15.9
2200.4	17.1	16.2	75	9.6	1.21	1.18	5786	213	2322	8.4	15.9
2200.6	8.2	16.6	75	9.6	1.42	1.21	5896	446	2292	8.4	15.9
2200.8	13.3	16.0	75	9.6	1.27	1.22	5964	274	2260	8.4	15.9
2201.0	25.7	16.6	75	9.6	1.10	1.23	5999	142	2228	8.4	15.9
2201.2	12.4	17.0	75	9.6	1.31	1.25	6071	294	2199	8.4	15.9
2201.4	10.4	16.3	75	9.6	1.35	1.27	6158	350	2171	8.4	15.9
2201.6	11.8	16.6	75	9.6	1.32	1.28	6234	309	2144	8.4	15.9
2201.8	9.6	15.7	75	9.6	1.36	1.30	6328	380	2118	8.4	15.9
2202.0	11.3	14.7	75	9.6	1.29	1.32	6408	325	2092	8.4	15.9
2202.2	7.3	14.8	75	9.6	1.41	1.35	6531	502	2070	8.4	15.9
2202.4	7.3	15.2	75	9.6	1.42	1.38	6654	497	2048	8.4	15.9
2202.6	3.5	14.2	75	9.6	1.59	1.43	6911	1045	2034	8.4	15.9
2202.8	3.8	8.2	75	9.6	1.38	1.49	7149	964	2020	8.4	15.9
2203.0	6.2	8.2	75	9.6	1.26	1.52	7294	588	2001	8.4	15.9
2203.2	4.4	7.9	75	9.6	1.33	1.56	7496	822	1985	8.4	15.9
2203.4	4.1	8.4	75	9.6	1.36	1.61	7714	883	1971	8.4	15.9
2203.6	5.0	8.3	75	9.6	1.32	1.65	7895	735	1955	8.4	15.9
2203.8	5.4	8.1	75	9.6	1.29	1.69	8061	675	1939	8.4	15.9
2204.0	11.1	8.3	75	9.6	1.13	1.71	8143	330	1919	8.4	15.9
2204.2	7.6	7.8	75	9.6	1.20	1.73	8261	482	1901	8.4	15.9
2204.4	12.2	8.5	75	9.6	1.11	1.75	8335	299	1882	8.4	15.9
2204.6	10.9	7.5	75	9.6	1.11	1.77	8418	335	1863	8.4	15.9
2204.8	7.6	6.4	75	9.6	1.15	1.79	8536	482	1847	8.4	15.9
2205.0	20.6	5.6	75	9.6	0.90	1.80	8580	178	1827	8.4	15.9
2205.2	8.8	7.1	75	9.6	1.14	1.83	8683	416	1810	8.4	15.9
2205.4	10.6	6.2	75	9.6	1.07	1.85	8768	345	1794	8.4	15.9
2205.5	3.0	4.7	75	9.6	1.27	1.88	8918	1217	1790	8.4	15.9

BIT NUMBER	6	IADC CODE	517	INTERVAL	2205.5- 2445.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	7.2	BIT RUN	239.5
TOTAL HOURS	53.12	TOTAL TURNS	163054	CONDITION	T3 R3 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2206.0	10.9	21.6	75	9.6	1.31	0.05	206	335	69956	8.4	15.9
2207.0	5.4	38.3	56	9.6	1.67	0.23	833	680	23772	8.4	15.9
2208.0	3.2	48.1	53	9.6	1.95	0.55	1825	1146	14722	8.4	15.9
2209.0	4.4	45.6	56	9.6	1.83	0.77	2589	830	10752	8.4	15.9
2210.0	3.2	43.3	56	9.6	1.90	1.08	3634	1136	8616	8.4	15.9
2211.0	3.6	43.3	56	9.6	1.86	1.36	4563	1009	7233	8.4	15.9
2212.0	3.6	41.7	56	9.6	1.84	1.64	5496	1014	6276	8.4	15.9
2213.0	3.6	41.3	56	9.6	1.84	1.92	6429	1014	5574	8.4	15.9
2214.0	3.9	41.8	56	9.6	1.82	2.17	7291	936	5029	8.4	15.9
2215.0	3.5	41.9	56	9.6	1.85	2.46	8251	1043	4609	8.4	15.9
2216.0	5.7	41.5	56	9.6	1.69	2.63	8840	641	4231	8.4	15.9
2217.0	7.2	41.2	56	9.6	1.61	2.77	9307	507	3907	8.4	15.9
2218.0	3.4	41.0	56	9.6	1.85	3.07	10295	1074	3681	8.4	15.9
2219.0	4.1	40.8	56	9.6	1.79	3.31	11115	891	3474	8.4	15.9
2220.0	4.7	41.0	56	9.6	1.74	3.52	11830	777	3288	8.4	15.9
2221.0	9.4	41.4	56	9.6	1.52	3.63	12187	389	3101	8.4	15.9
2221.4	3.6	42.5	56	9.6	1.85	3.74	12560	1014	3049	8.4	15.9
2221.6	3.2	42.5	56	9.6	1.89	3.80	12768	1126	3025	8.4	15.9
2221.8	4.6	42.3	56	9.6	1.77	3.85	12915	801	2997	8.4	15.9
2222.0	6.9	41.9	56	9.6	1.63	3.88	13013	533	2968	8.4	15.9
2223.0	7.0	42.9	56	9.6	1.64	4.02	13492	520	2828	8.4	15.9
2224.0	16.6	43.7	56	9.6	1.36	4.08	13694	220	2687	8.4	15.9
2225.0	10.7	43.2	56	9.6	1.50	4.17	14008	341	2566	8.4	15.9
2226.0	4.4	44.3	56	9.6	1.81	4.40	14771	829	2482	8.4	15.9
2227.0	2.4	44.8	51	9.6	1.99	4.82	16072	1541	2438	8.4	15.9
2228.0	4.9	43.6	50	9.6	1.73	5.03	16690	753	2363	8.4	15.9
2229.0	7.8	44.3	50	9.6	1.58	5.16	17075	469	2282	8.4	15.9
2230.0	18.7	43.1	50	9.6	1.28	5.21	17236	196	2197	8.4	15.9
2231.0	16.6	43.3	50	9.6	1.32	5.27	17417	220	2120	8.4	15.9
2232.0	5.9	43.7	50	9.6	1.67	5.44	17927	621	2063	8.4	15.9
2233.0	6.9	44.3	50	9.6	1.62	5.58	18360	526	2007	8.4	15.9
2234.0	2.7	44.6	50	9.6	1.94	5.96	19477	1360	1985	8.4	15.9
2235.0	3.3	44.7	50	9.6	1.88	6.26	20397	1120	1955	8.4	15.9
2236.0	6.9	44.7	50	9.6	1.63	6.41	20835	533	1909	8.4	15.9
2237.0	4.7	44.9	50	9.6	1.76	6.62	21480	785	1873	8.4	15.9
2238.0	2.1	42.0	50	9.6	1.99	7.11	22942	1780	1870	8.4	15.9
2239.0	1.9	43.2	50	9.6	2.04	7.64	24530	1933	1872	8.4	15.9
2240.0	9.7	44.5	50	9.6	1.51	7.74	24840	377	1829	8.4	15.9
2241.0	11.2	44.2	50	9.6	1.46	7.83	25107	326	1786	8.4	15.9
2242.0	10.8	45.5	50	9.6	1.49	7.93	25385	339	1747	8.4	15.9
2243.0	11.4	45.4	50	9.6	1.47	8.01	25648	320	1709	8.4	15.9
2244.0	11.2	45.4	43	9.6	1.42	8.10	25879	326	1673	8.4	15.9
2245.0	16.0	45.0	40	9.6	1.28	8.16	26029	228	1636	8.4	15.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2246.0	6.9	44.9	35	9.6	1.51	8.31	26332	528	1609	8.4	15.9
2247.0	11.3	45.5	35	9.6	1.35	8.40	26517	323	1578	8.4	15.9
2248.0	4.2	46.3	35	9.6	1.69	8.64	27019	871	1561	8.4	15.9
2249.0	2.6	46.2	37	9.6	1.87	9.02	27869	1402	1557	8.4	15.9
2250.0	4.1	46.0	40	9.6	1.75	9.27	28461	901	1543	8.4	15.9
2251.0	4.2	50.7	40	9.6	1.79	9.51	29039	879	1528	8.4	15.9
2252.0	3.6	58.1	40	9.6	1.93	9.78	29702	1009	1517	8.4	15.9
2253.0	5.1	57.7	40	9.6	1.80	9.98	30175	719	1500	8.4	16.0
2254.0	3.8	59.7	40	9.6	1.93	10.24	30805	959	1489	8.4	16.0
2255.0	2.4	52.2	42	9.6	2.02	10.66	31853	1506	1489	8.4	16.0
2256.0	4.4	47.8	45	9.6	1.78	10.88	32464	826	1476	8.4	16.0
2257.0	2.8	46.7	45	9.6	1.92	11.24	33434	1313	1473	8.4	16.0
2258.0	3.0	46.8	45	9.6	1.90	11.58	34338	1222	1468	8.4	16.0
2259.0	2.5	50.4	45	9.6	2.01	11.97	35417	1459	1468	8.4	16.0
2260.0	3.1	49.7	45	9.6	1.92	12.30	36287	1178	1463	8.4	16.0
2261.0	3.5	49.4	59	9.6	1.97	12.58	37293	1042	1455	8.4	16.0
2262.0	3.8	49.6	60	9.6	1.95	12.85	38247	968	1447	8.4	16.0
2263.0	3.2	50.9	60	9.6	2.03	13.16	39363	1132	1441	8.4	16.0
2264.0	2.4	51.4	60	9.6	2.14	13.58	40874	1533	1443	8.4	16.0
2265.0	3.8	49.7	60	9.6	1.95	13.84	41813	953	1434	8.4	16.0
2266.0	3.0	51.5	60	9.6	2.05	14.17	42998	1202	1431	8.4	16.0
2267.0	3.7	50.3	44	9.6	1.86	14.44	43712	999	1424	8.4	16.0
2268.0	3.0	50.6	48	9.6	1.96	14.77	44651	1200	1420	8.4	16.0
2269.0	3.2	48.1	48	9.6	1.91	15.08	45546	1127	1415	8.4	16.0
2270.0	3.8	47.0	45	9.6	1.82	15.34	46254	958	1408	8.4	16.0
2271.0	3.5	48.6	45	9.6	1.86	15.62	47020	1036	1403	8.4	16.0
2272.0	3.9	46.8	45	9.6	1.81	15.88	47709	932	1396	8.4	16.0
2273.0	6.0	46.1	45	9.6	1.65	16.05	48157	606	1384	8.4	16.0
2274.0	7.5	44.4	45	9.6	1.56	16.18	48516	485	1371	8.4	16.0
2275.0	7.3	48.8	45	9.6	1.62	16.31	48883	497	1358	8.4	16.0
2276.0	9.2	46.8	45	9.6	1.52	16.42	49178	399	1345	8.4	16.0
2277.0	7.3	47.4	41	9.6	1.57	16.56	49513	501	1333	8.4	16.0
2278.0	8.2	48.4	40	9.6	1.53	16.68	49805	444	1320	8.4	16.0
2279.0	9.4	48.4	40	9.6	1.49	16.79	50061	389	1308	8.4	16.0
2280.0	10.7	48.6	40	9.6	1.45	16.88	50285	342	1295	8.4	16.0
2281.0	10.1	48.6	40	9.6	1.46	16.98	50522	360	1282	8.4	16.0
2282.0	8.0	48.1	40	9.6	1.54	17.11	50823	458	1272	8.4	16.0
2283.0	9.1	47.9	40	9.6	1.49	17.22	51085	400	1260	8.4	16.0
2284.0	10.6	46.4	40	9.6	1.43	17.31	51312	345	1249	8.4	16.0
2284.4	17.6	46.3	40	9.6	1.26	17.33	51367	208	1243	8.4	16.0
2285.0	7.4	46.1	40	9.6	1.54	17.41	51561	494	1238	8.4	16.0
2286.0	9.0	45.2	40	9.6	1.47	17.52	51827	404	1227	8.4	16.0
2287.0	8.8	45.0	40	9.6	1.48	17.64	52100	416	1217	8.4	16.0
2288.0	3.4	45.9	40	9.6	1.81	17.93	52812	1084	1216	8.4	16.0
2289.0	3.5	45.7	40	9.6	1.79	18.22	53502	1049	1214	8.4	16.0
2290.0	3.7	46.6	40	9.6	1.79	18.49	54158	996	1211	8.4	16.0
2291.0	3.2	47.4	56	9.6	1.96	18.81	55209	1142	1210	8.4	16.0
2292.0	3.8	47.0	56	9.6	1.89	19.07	56094	963	1208	8.4	16.0
2293.0	10.2	47.6	56	9.6	1.57	19.17	56425	359	1198	8.4	16.0
2294.0	14.1	45.7	56	9.6	1.44	19.24	56664	260	1187	8.4	16.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2295.0	14.9	50.2	56	9.6	1.46	19.31	56889	245	1177	8.4	16.0
2296.0	12.0	51.4	56	9.6	1.55	19.39	57169	304	1167	8.4	16.0
2297.0	5.1	51.3	56	9.6	1.85	19.59	57830	718	1162	8.4	16.0
2298.0	11.5	50.8	56	9.6	1.56	19.67	58121	317	1153	8.4	16.0
2299.0	11.8	50.8	56	9.6	1.55	19.76	58406	309	1144	8.4	16.0
2300.0	7.9	50.1	56	9.6	1.68	19.89	58832	464	1137	8.4	16.0
2301.0	5.0	50.6	56	9.6	1.85	20.09	59504	730	1133	8.4	16.0
2302.0	8.4	50.1	56	9.6	1.66	20.21	59904	434	1125	8.4	16.0
2303.0	9.8	49.2	56	9.6	1.60	20.31	60248	374	1118	8.4	16.0
2304.0	8.0	48.5	56	9.6	1.66	20.43	60668	457	1111	8.4	16.0
2305.0	5.2	50.1	56	9.6	1.82	20.62	61311	699	1107	8.4	16.0
2306.0	9.3	50.1	56	9.6	1.63	20.73	61674	395	1100	8.4	16.0
2307.0	10.6	49.2	56	9.6	1.57	20.83	61991	345	1092	8.4	16.0
2308.0	10.5	49.7	56	9.6	1.58	20.92	62312	348	1085	8.4	16.0
2309.0	9.6	49.9	56	9.6	1.61	21.03	62662	381	1078	8.4	16.0
2310.0	7.0	50.1	56	9.6	1.72	21.17	63138	518	1073	8.4	16.0
2311.0	5.1	50.4	55	9.6	1.83	21.36	63784	715	1069	8.4	16.0
2312.0	8.0	50.4	55	9.6	1.67	21.49	64196	455	1064	8.4	16.0
2313.0	8.3	49.5	55	9.6	1.65	21.61	64594	441	1058	8.4	16.0
2314.0	13.2	50.3	55	9.6	1.50	21.69	64845	277	1051	8.4	16.0
2315.0	12.6	50.1	55	9.6	1.51	21.76	65106	289	1044	8.4	16.0
2316.0	13.3	50.4	55	9.6	1.50	21.84	65353	274	1037	8.4	16.0
2317.0	16.7	51.0	55	9.6	1.42	21.90	65550	218	1029	8.4	16.0
2318.0	12.2	50.9	55	9.6	1.53	21.98	65822	300	1023	8.4	16.0
2319.0	13.1	51.0	55	9.6	1.51	22.06	66073	278	1016	8.4	16.0
2320.0	11.8	51.2	55	9.6	1.55	22.14	66353	310	1010	8.4	16.0
2321.0	11.1	51.1	55	9.6	1.57	22.23	66650	329	1004	8.4	16.0
2322.0	9.1	51.2	55	9.6	1.64	22.34	67012	400.71	999.18	8.4	16.0
2323.0	8.0	51.8	55	9.6	1.69	22.47	67426	457.51	994.57	8.4	16.0
2324.0	18.6	51.3	55	9.6	1.39	22.52	67604	196.80	987.84	8.4	16.0
2325.0	17.9	51.3	55	9.6	1.40	22.58	67788	203.90	981.28	8.4	16.0
2326.0	6.5	52.2	55	9.6	1.77	22.73	68299	566.06	977.83	8.4	16.0
2327.0	7.6	52.0	55	9.6	1.71	22.86	68736	482.88	973.76	8.4	16.0
2328.0	12.5	51.8	55	9.6	1.53	22.94	68999	291.15	968.18	8.4	16.0
2329.0	11.7	51.8	55	9.6	1.56	23.03	69280	311.43	962.87	8.4	16.0
2330.0	8.6	52.2	55	9.6	1.67	23.15	69665	426.07	958.55	8.4	16.0
2331.0	12.4	52.1	55	9.6	1.54	23.23	69932	295.20	953.27	8.4	16.0
2332.0	13.2	50.3	55	9.6	1.50	23.30	70181	275.93	947.91	8.4	16.0
2333.0	4.6	51.7	55	9.6	1.88	23.52	70906	801.41	946.77	8.4	16.0
2334.0	3.3	52.3	55	9.6	2.01	23.83	71907	1109	948	8.4	16.0
2335.0	5.1	51.9	55	9.6	1.85	24.02	72551	712.14	946.20	8.4	16.0
2336.0	10.4	50.8	55	9.6	1.59	24.12	72868	351.00	941.64	8.4	16.0
2337.0	11.0	50.8	55	9.6	1.57	24.21	73167	330.71	937.00	8.4	16.0
2338.0	10.9	50.7	55	9.6	1.57	24.30	73469	334.77	932.45	8.4	16.0
2339.0	13.2	50.5	55	9.6	1.50	24.37	73720	276.94	927.54	8.4	16.0
2340.0	13.8	50.8	55	9.6	1.49	24.45	73959	264.77	922.61	8.4	16.0
2341.0	17.1	49.9	55	9.6	1.41	24.51	74151	213.03	917.38	8.4	16.0
2342.0	12.9	50.9	55	9.6	1.51	24.58	74407	283.03	912.73	8.4	16.1
2343.0	13.1	50.8	55	9.6	1.51	24.66	74659	278.97	908.12	8.4	16.1
2344.0	14.2	50.5	55	9.6	1.48	24.73	74891	256.65	903.42	8.4	16.1

DEPTH	ROP	WOR	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2345.0	6.1	51.4	55	9.6	1.78	24.89	75429	595.48	901.21	8.4	16.1
2346.0	3.4	52.2	55	9.6	2.00	25.19	76407	1082	903	8.4	16.1
2347.0	5.5	51.7	55	9.6	1.82	25.37	77012	669.53	900.85	8.4	16.1
2348.0	5.5	51.9	55	9.6	1.82	25.55	77611	662.43	899.18	8.4	16.1
2349.0	8.5	51.5	55	9.6	1.67	25.67	78001	431.14	895.92	8.4	16.1
2350.0	10.6	49.6	55	9.6	1.57	25.77	78312	344.53	892.10	8.4	16.1
2351.0	6.7	51.2	55	9.6	1.75	25.92	78807	547.80	889.74	8.4	16.1
2352.0	6.6	50.8	55	9.6	1.75	26.07	79309	555.92	887.46	8.4	16.1
2353.0	4.6	51.1	55	9.6	1.88	26.29	80033	801.41	886.87	8.4	16.1
2354.0	5.0	51.0	55	9.6	1.84	26.49	80687	723.30	885.77	8.4	16.1
2355.0	3.5	51.6	55	9.6	1.97	26.77	81619	1032	887	8.4	16.1
2356.0	6.7	51.6	55	9.6	1.75	26.92	82110	542.73	884.46	8.4	16.1
2357.0	3.5	51.8	55	9.6	1.97	27.20	83043	1033	885	8.4	16.1
2358.0	5.5	51.7	55	9.6	1.82	27.38	83640	661.42	883.97	8.4	16.1
2359.0	2.3	50.0	54	9.6	2.09	27.82	85049	1588	889	8.4	16.1
2360.0	1.6	48.4	55	9.6	2.20	28.44	87112	2283	898	8.4	16.1
2361.0	2.8	49.5	46	9.6	1.96	28.79	88082	1282	900	8.4	16.1
2362.0	2.6	51.0	46	9.6	2.01	29.18	89131	1404	903	8.4	16.1
2363.0	2.3	49.6	50	9.6	2.06	29.61	90445	1602	908	8.4	16.1
2364.0	4.5	45.8	55	9.6	1.82	29.84	91182	815.61	907.13	8.4	16.1
2365.0	2.8	46.2	55	9.6	1.98	30.19	92355	1298	910	8.4	16.1
2366.0	3.0	46.2	55	9.6	1.96	30.53	93465	1227	912	8.4	16.1
2367.0	3.2	46.5	55	9.6	1.94	30.84	94494	1139	913	8.4	16.1
2368.0	4.3	46.2	55	9.6	1.84	31.08	95268	856.19	912.62	8.4	16.1
2369.0	4.1	50.0	55	9.6	1.90	31.32	96072	890.73	912.49	8.4	16.1
2370.0	7.1	50.1	55	9.6	1.71	31.46	96537	514.37	910.07	8.4	16.1
2371.0	4.2	51.7	55	9.6	1.91	31.70	97324	870.39	909.83	8.4	16.1
2372.0	2.3	51.5	55	9.6	2.12	32.14	98766	1596	914	8.4	16.1
2373.0	3.2	51.4	55	9.6	2.00	32.45	99785	1128	915	8.4	16.1
2374.0	5.3	51.1	55	9.6	1.83	32.63	100408	689.82	913.89	8.4	16.1
2375.0	4.8	51.3	55	9.6	1.87	32.84	101102	767.93	913.03	8.4	16.1
2376.0	4.8	51.3	55	9.6	1.86	33.05	101789	759.82	912.13	8.4	16.1
2377.0	8.0	51.2	55	9.6	1.68	33.18	102200	454.47	909.46	8.4	16.1
2378.0	2.9	51.8	55	9.6	2.04	33.52	103322	1243	911	8.4	16.1
2379.0	1.5	51.7	54	9.6	2.25	34.17	105418	2378	920	8.4	16.1
2380.0	2.7	52.3	49	9.6	2.03	34.54	106501	1353	922	8.4	16.1
2381.0	3.0	53.9	50	9.6	2.03	34.88	107510	1228	924	8.4	16.1
2382.0	2.9	55.0	50	9.6	2.05	35.22	108532	1244	926	8.4	16.1
2383.0	3.3	56.7	50	9.6	2.03	35.52	109439	1105	927	8.4	16.1
2384.0	2.6	55.0	50	9.6	2.09	35.90	110583	1392	929	8.4	16.1
2385.0	2.9	54.6	50	9.6	2.04	36.24	111605	1245	931	8.4	16.1
2386.0	3.3	56.3	50	9.6	2.02	36.54	112503	1093	932	8.4	16.1
2387.0	3.1	56.6	50	9.6	2.05	36.87	113486	1197	934	8.4	16.1
2388.0	4.1	46.6	50	9.6	1.83	37.11	114224	897.78	933.41	8.4	16.1
2389.0	2.8	48.1	51	9.6	1.99	37.48	115332	1328	936	8.4	16.1
2390.0	2.9	49.2	50	9.6	1.98	37.82	116366	1259	937	8.4	16.1
2391.0	3.4	49.2	50	9.6	1.93	38.12	117260	1087	938	8.4	16.1
2392.0	2.5	51.1	50	9.6	2.05	38.52	118452	1452	941	8.4	16.1
2393.0	5.6	49.7	50	9.6	1.76	38.70	118987	651.27	939.33	8.4	16.1
2394.0	10.4	50.0	50	9.6	1.55	38.79	119276	352.01	936.22	8.4	16.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2395.0	9.5	49.9	50	9.6	1.57	38.90	119590	382.45	933.29	8.4	16.1
2396.0	10.6	49.2	50	9.6	1.53	38.99	119875	345.93	930.21	8.4	16.1
2397.0	10.0	48.5	50	9.6	1.55	39.09	120175	366.21	927.27	8.4	16.1
2398.0	5.2	49.4	50	9.6	1.78	39.28	120753	703.01	926.10	8.4	16.1
2399.0	4.4	49.2	50	9.6	1.84	39.51	121441	837.93	925.65	8.4	16.1
2400.0	3.5	49.3	50	9.6	1.91	39.80	122300	1045	926	8.4	16.1
2401.0	3.9	50.1	50	9.6	1.89	40.06	123076	945.46	926.36	8.4	16.1
2402.0	3.3	50.5	50	9.6	1.94	40.36	123975	1095	927	8.4	16.1
2403.0	6.4	50.3	50	9.6	1.71	40.51	124441	567.07	925.39	8.4	16.1
2404.0	4.4	50.1	50	9.6	1.84	40.74	125125	831.84	924.92	8.4	16.1
2405.0	4.3	50.7	50	9.6	1.86	40.98	125830	858.22	924.58	8.4	16.1
2406.0	5.2	50.9	50	9.6	1.80	41.17	126406	702.00	923.47	8.4	16.1
2407.0	9.3	49.4	50	9.6	1.58	41.28	126730	393.60	920.84	8.4	16.1
2408.0	4.3	49.2	50	9.6	1.84	41.51	127433	856.19	920.52	8.4	16.1
2409.0	4.8	49.1	50	9.6	1.80	41.72	128064	767.93	919.78	8.4	16.1
2410.0	4.8	49.1	50	9.6	1.80	41.93	128688	759.82	918.99	8.4	16.1
2411.0	5.6	49.8	50	9.6	1.76	42.11	129226	655.33	917.71	8.4	16.1
2412.0	3.9	50.8	50	9.6	1.89	42.36	129995	935.32	917.80	8.4	16.1
2413.0	3.1	50.8	50	9.6	1.98	42.69	130974	1192	919	8.4	16.1
2414.0	2.7	49.5	52	9.6	2.02	43.07	132134	1367	921	8.4	16.1
2415.0	3.5	49.3	55	9.6	1.95	43.35	133087	1054	922	8.4	16.1
2416.0	3.5	48.8	55	9.6	1.94	43.64	134025	1038	922	8.4	16.1
2417.0	3.0	48.7	55	9.6	2.00	43.97	135136	1231	924	8.4	16.1
2418.0	2.7	48.6	55	9.6	2.02	44.34	136357	1350	926	8.4	16.1
2419.0	2.8	48.5	55	9.6	2.02	44.71	137552	1323	928	8.4	16.1
2420.0	2.8	48.0	55	9.6	2.00	45.06	138724	1297	929	8.4	16.1
2421.0	3.2	48.7	55	9.6	1.97	45.38	139768	1155	931	8.4	16.1
2422.0	3.4	49.0	55	9.6	1.96	45.68	140750	1086	931	8.4	16.1
2423.0	3.8	48.4	55	9.6	1.91	45.94	141619	961.69	931.41	8.4	16.1
2424.0	2.5	49.2	55	9.6	2.07	46.35	142963	1487	934	8.4	16.1
2425.0	3.7	49.2	55	9.6	1.93	46.62	143862	995.17	934.23	8.4	16.1
2426.0	2.8	49.6	55	9.6	2.02	46.97	145032	1294	936	8.4	16.1
2427.0	3.6	49.7	55	9.6	1.94	47.25	145950	1016	936	8.4	16.1
2428.0	3.9	50.5	55	9.6	1.93	47.51	146807	948.51	936.28	8.4	16.1
2429.0	9.1	50.1	55	9.6	1.63	47.62	147170	400.71	933.88	8.4	16.1
2430.0	4.0	49.0	53	9.6	1.88	47.87	147964	914.01	933.80	8.4	16.1
2431.0	3.5	50.0	50	9.6	1.92	48.15	148814	1035	934	8.4	16.1
2432.0	4.2	50.0	50	9.6	1.86	48.40	149536	878.51	934.00	8.4	16.1
2433.0	3.1	49.5	50	9.6	1.95	48.72	150496	1170	935	8.4	16.2
2434.0	3.2	50.1	50	9.6	1.96	49.03	151437	1145	936	8.4	16.2
2435.0	3.0	50.3	50	9.6	1.98	49.36	152435	1214	937	8.4	16.2
2436.0	2.2	48.0	50	9.6	2.05	49.81	153779	1636	940	8.4	16.2
2437.0	4.7	48.9	50	9.6	1.80	50.02	154410	768.95	939.46	8.4	16.2
2438.0	3.1	52.3	50	9.6	1.99	50.34	155375	1175	940	8.4	16.2
2439.0	4.9	52.9	50	9.6	1.84	50.55	155989	746.63	939.64	8.4	16.2
2440.0	3.1	53.0	50	9.6	2.00	50.86	156944	1163	941	8.4	16.2
2441.0	2.8	53.3	48	9.6	2.02	51.22	157955	1283	942	8.4	16.2
2442.0	3.4	54.2	42	9.6	1.93	51.51	158705	1075	943	8.4	16.2
2443.0	1.8	53.8	45	9.6	2.17	52.06	160199	2020	947	8.4	16.2
2444.0	1.5	53.7	45	9.6	2.23	52.74	162021	2465	954	8.4	16.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2445.0	2.6	49.8	45	9.6	1.98	53.12	163054	1405	955	8.4	16.2

BIT NUMBER	7	IADC CODE	517	INTERVAL	2445.0- 2597.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	7.5	BIT RUN	152.0
TOTAL HOURS	37.28	TOTAL TURNS	119866	CONDITION	T4 R4 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2446.0	2.2	35.0	44	9.5	1.85	0.46	1217	1683	37589	8.4	16.2
2447.0	2.2	35.0	45	9.5	1.85	0.92	2457	1678	19633	8.4	16.2
2448.0	2.3	40.0	45	9.4	1.93	1.35	3621	1574	13614	8.4	16.2
2449.0	2.8	45.0	47	9.4	1.95	1.71	4635	1322	10541	8.4	16.2
2450.0	3.0	44.9	58	9.3	2.02	2.05	5812	1236	8680	8.4	16.2
2451.0	2.9	44.9	58	9.4	2.01	2.40	7016	1263	7444	8.4	16.2
2452.0	1.9	45.3	58	9.4	2.16	2.92	8849	1924	6655	8.4	16.2
2453.0	3.9	45.3	58	9.4	1.92	3.18	9747	942	5941	8.4	16.2
2454.0	3.2	45.2	58	9.5	1.96	3.49	10821	1127	5406	8.4	16.2
2455.0	3.4	47.2	58	9.6	1.96	3.78	11843	1072	4973	8.4	16.2
2456.0	3.0	48.0	58	9.6	2.02	4.12	13022	1238	4633	8.4	16.2
2457.0	3.2	48.0	58	9.6	1.99	4.44	14116	1147	4343	8.4	16.2
2458.0	3.1	48.2	58	9.6	2.00	4.76	15229	1169	4099	8.4	16.2
2459.0	3.0	48.2	58	9.6	2.01	5.09	16373	1200	3892	8.4	16.2
2460.0	2.8	48.4	58	9.6	2.03	5.44	17616	1304	3719	8.4	16.2
2461.0	3.1	48.4	58	9.6	1.99	5.77	18738	1178	3560	8.4	16.2
2462.0	3.2	48.5	58	9.6	1.98	6.08	19826	1141	3418	8.4	16.2
2463.0	5.3	48.2	58	9.6	1.81	6.27	20482	689	3266	8.4	16.2
2464.0	3.7	48.6	58	9.6	1.94	6.54	21428	992	3147	8.4	16.2
2465.0	3.1	39.6	58	9.6	1.87	6.86	22538	1166	3048	8.4	16.2
2466.0	2.5	40.0	58	9.6	1.95	7.26	23935	1466	2972	8.4	16.2
2467.0	2.9	39.9	56	9.6	1.89	7.61	25120	1277	2895	8.4	16.2
2468.0	2.6	40.0	55	9.6	1.91	7.99	26384	1399	2830	8.4	16.2
2469.0	2.7	40.0	55	9.6	1.90	8.36	27595	1341	2768	8.4	16.2
2470.0	3.1	40.1	55	9.6	1.86	8.68	28656	1174	2704	8.4	16.2
2471.0	7.0	39.9	55	9.6	1.59	8.82	29125	519	2620	8.4	16.2
2472.0	4.6	39.8	55	9.6	1.73	9.04	29848	799	2553	8.4	16.2
2473.0	6.9	39.9	55	9.6	1.60	9.19	30328	532	2481	8.4	16.2
2474.0	3.3	42.0	55	9.6	1.87	9.49	31334	1113	2434	8.4	16.2
2475.0	4.2	43.0	55	9.6	1.80	9.73	32111	860	2381	8.4	16.2
2476.0	3.8	43.8	55	9.6	1.85	9.99	32990	973	2336	8.4	16.2
2477.0	3.5	45.4	58	9.6	1.91	10.28	33990	1050	2295	8.4	16.2
2478.0	4.5	45.7	58	9.6	1.83	10.50	34759	807	2250	8.4	16.2
2479.0	3.0	46.6	57	9.6	1.98	10.84	35913	1231	2220	8.4	16.2
2480.0	9.3	47.1	52	9.6	1.57	10.95	36248	393	2168	8.4	16.2
2481.0	9.2	46.8	52	9.6	1.57	11.06	36588	398	2119	8.4	16.2
2482.0	3.1	47.3	52	9.6	1.94	11.38	37593	1177	2094	8.4	16.2
2483.0	2.6	47.5	52	9.6	2.01	11.77	38805	1418	2076	8.4	16.2
2484.0	2.5	45.9	52	9.6	2.00	12.17	40058	1467	2060	8.4	16.2
2485.0	2.2	45.2	53	9.6	2.03	12.62	41467	1631	2049	8.4	16.2
2486.0	2.8	45.5	55	9.6	1.97	12.97	42653	1307	2031	8.4	16.2
2487.0	3.1	45.4	55	9.6	1.93	13.29	43701	1160	2011	8.4	16.2
2488.0	2.8	47.5	55	9.6	2.00	13.65	44896	1323	1995	8.4	16.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2489.0	2.7	47.5	55	9.6	2.01	14.02	46120	1354	1980	8.4	16.2
2490.0	3.7	47.5	55	9.6	1.90	14.29	47015	991	1958	8.4	16.2
2491.0	4.6	47.4	55	9.6	1.83	14.51	47729	790	1933	8.4	16.2
2492.0	5.0	47.5	55	9.6	1.80	14.71	48388	728	1907	8.4	16.2
2493.0	9.4	46.0	55	9.6	1.57	14.82	48739	389	1875	8.4	16.2
2494.0	6.5	45.1	55	9.6	1.68	14.97	49244	559	1849	8.4	16.2
2495.0	4.3	50.2	55	9.6	1.89	15.20	50017	855	1829	8.4	16.2
2496.0	5.9	50.6	55	9.6	1.78	15.37	50580	623	1805	8.4	16.2
2497.0	7.3	50.4	55	9.6	1.71	15.51	51032	501	1780	8.4	16.2
2498.0	8.7	50.4	55	9.6	1.64	15.63	51410	418	1754	8.4	16.2
2499.0	4.1	50.8	55	9.6	1.91	15.87	52207	882	1738	8.4	16.2
2500.0	2.8	50.9	55	9.6	2.04	16.22	53368	1285	1730	8.4	16.2
2501.0	2.8	50.4	55	9.6	2.04	16.58	54546	1304	1722	8.4	16.2
2502.0	3.3	50.6	55	9.6	1.99	16.88	55560	1122	1712	8.4	16.2
2503.0	4.9	50.7	55	9.6	1.85	17.09	56239	752	1695	8.4	16.2
2504.0	3.2	51.6	55	9.6	2.01	17.40	57272	1143	1686	8.4	16.2
2505.0	3.4	51.6	55	9.6	1.99	17.70	58246	1077	1676	8.4	16.2
2506.0	5.9	51.6	55	9.6	1.80	17.87	58809	624	1658	8.4	16.2
2507.0	8.5	51.2	55	9.6	1.66	17.99	59200	432	1639	8.4	16.2
2508.0	4.5	51.8	55	9.6	1.89	18.21	59934	813	1626	8.4	16.2
2509.0	9.7	51.5	55	9.6	1.62	18.31	60275	377	1606	8.4	16.2
2510.0	3.1	51.9	55	9.6	2.03	18.64	61357	1197	1600	8.4	16.2
2511.0	5.3	51.6	55	9.6	1.83	18.83	61982	692	1586	8.4	16.2
2512.0	13.7	51.3	55	9.6	1.50	18.90	62223	267	1566	8.4	16.2
2513.0	7.0	50.6	55	9.6	1.72	19.05	62697	524	1551	8.4	16.2
2514.0	5.5	51.0	55	9.6	1.81	19.23	63297	664	1538	8.4	16.2
2515.0	3.5	51.1	55	9.6	1.97	19.52	64243	1046	1531	8.4	16.2
2516.0	3.0	51.4	55	9.6	2.03	19.85	65345	1220	1527	8.4	16.2
2517.0	3.3	51.7	55	9.6	2.00	20.15	66341	1102	1521	8.4	16.2
2518.0	4.3	51.4	55	9.6	1.90	20.39	67115	857	1512	8.4	16.2
2519.0	3.3	51.7	55	9.6	2.00	20.69	68115	1106	1506	8.4	16.2
2520.0	2.9	51.5	55	9.6	2.04	21.03	69253	1260	1503	8.4	16.2
2521.0	4.8	51.6	55	9.6	1.87	21.24	69945	766	1493	8.4	16.2
2522.0	5.6	49.1	55	9.6	1.78	21.42	70539	657	1482	8.4	16.2
2523.0	8.1	47.0	55	9.6	1.63	21.55	70946	450	1469	8.4	16.2
2524.0	9.3	46.9	55	9.6	1.58	21.65	71302	394	1456	8.4	16.2
2525.0	10.9	46.9	55	9.6	1.53	21.75	71605	336	1442	8.4	16.2
2526.0	8.3	47.1	55	9.6	1.62	21.87	72002	439	1429	8.4	16.2
2527.0	7.3	47.2	55	9.6	1.67	22.00	72451	497	1418	8.4	16.3
2528.0	7.6	47.2	55	9.6	1.66	22.13	72886	481	1407	8.4	16.3
2529.0	7.6	47.2	55	9.6	1.66	22.27	73321	482	1396	8.4	16.3
2530.0	8.3	47.3	55	9.6	1.63	22.39	73717	438	1384	8.4	16.3
2531.0	4.6	46.9	55	9.6	1.82	22.60	74437	796	1377	8.4	16.3
2532.0	9.9	46.1	55	9.6	1.56	22.71	74771	370	1366	8.4	16.3
2533.0	9.1	46.2	55	9.6	1.58	22.82	75133	400	1355	8.4	16.3
2534.0	8.5	46.3	55	9.6	1.61	22.93	75521	430	1344	8.4	16.3
2535.0	10.2	46.4	55	9.6	1.55	23.03	75844	358	1333	8.4	16.3
2536.0	9.5	46.9	55	9.6	1.58	23.14	76190	383	1323	8.4	16.3
2537.0	8.1	46.7	55	9.6	1.63	23.26	76597	450	1314	8.4	16.3
2538.0	7.0	46.7	55	9.6	1.68	23.40	77068	520	1305	8.4	16.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	TCOST	CCOST	PP	FG
2539.0	5.0	47.3	55	9.6	1.80	23.60	77726	728	1299	8.4	16.3
2540.0	2.9	43.6	55	9.6	1.94	23.95	78875	1272	1299	8.4	16.3
2541.0	2.6	47.8	55	9.6	2.02	24.33	80128	1387	1300	8.4	16.3
2542.0	3.6	47.5	55	9.6	1.91	24.61	81049	1019	1297	8.4	16.3
2543.0	4.3	47.5	55	9.6	1.85	24.84	81818	851	1292	8.4	16.3
2544.0	5.5	47.5	55	9.6	1.77	25.02	82417	663	1286	8.4	16.3
2545.0	6.7	47.5	55	9.6	1.70	25.17	82912	548	1278	8.4	16.3
2546.0	6.3	47.7	55	9.6	1.72	25.33	83435	578	1271	8.4	16.3
2547.0	9.1	47.4	55	9.6	1.60	25.44	83797	401	1263	8.4	16.3
2548.0	7.8	47.6	55	9.6	1.65	25.57	84220	468	1255	8.4	16.3
2549.0	7.5	47.7	55	9.6	1.67	25.70	84660	487	1248	8.4	16.3
2550.0	2.1	47.9	55	9.6	2.11	26.19	86259	1770	1253	8.4	16.3
2551.0	5.7	47.8	55	9.6	1.76	26.36	86840	642	1247	8.4	16.3
2552.0	2.7	48.5	55	9.6	2.02	26.73	88051	1340	1248	8.4	16.3
2553.0	2.1	48.0	55	9.6	2.10	27.21	89621	1738	1252	8.4	16.3
2554.0	2.5	49.7	55	9.6	2.06	27.60	90923	1442	1254	8.4	16.3
2555.0	2.9	52.6	55	9.6	2.05	27.95	92062	1260	1254	8.4	16.3
2556.0	3.2	52.3	55	9.6	2.01	28.26	93086	1133	1253	8.4	16.3
2557.0	3.4	52.1	55	9.6	2.00	28.55	94064	1082	1252	8.4	16.3
2558.0	7.9	52.1	55	9.6	1.70	28.68	94483	464	1245	8.4	16.3
2559.0	3.1	52.3	55	9.6	2.03	29.00	95542	1172	1244	8.4	16.3
2560.0	3.4	47.8	55	9.6	1.94	29.29	96508	1069	1242	8.4	16.3
2561.0	2.6	47.0	55	9.6	2.02	29.68	97800	1430	1244	8.4	16.3
2562.0	2.6	46.9	55	9.6	2.02	30.07	99070	1405	1245	8.4	16.3
2563.0	4.6	46.5	53	9.6	1.81	30.29	99764	799	1242	8.5	16.3
2564.0	6.9	46.4	50	9.6	1.65	30.43	100200	532	1236	8.5	16.3
2565.0	5.6	46.6	50	9.6	1.72	30.61	100739	656	1231	8.5	16.3
2566.0	7.5	46.4	50	9.6	1.62	30.75	101138	485	1225	8.5	16.3
2567.0	5.7	46.6	50	9.6	1.72	30.92	101668	645	1220	8.5	16.3
2568.0	3.0	46.9	50	9.6	1.93	31.25	102665	1214	1220	8.5	16.3
2569.0	6.5	48.2	50	9.6	1.69	31.41	103129	564	1215	8.5	16.3
2570.0	7.9	50.7	50	9.6	1.65	31.54	103509	463	1209	8.5	16.3
2571.0	5.8	52.2	50	9.6	1.77	31.71	104030	634	1204	8.5	16.3
2572.0	6.8	51.7	50	9.6	1.71	31.86	104474	541	1199	8.5	16.3
2573.0	6.3	52.3	50	9.6	1.75	32.02	104950	579	1194	8.5	16.3
2574.0	4.9	52.5	50	9.6	1.84	32.22	105562	746	1191	8.5	16.3
2575.0	4.2	52.5	50	9.6	1.89	32.46	106273	865	1188	8.5	16.3
2576.0	3.9	52.6	50	9.6	1.92	32.72	107049	944	1186	8.5	16.3
2577.0	3.8	52.7	50	9.6	1.93	32.98	107847	972	1185	8.5	16.3
2578.0	4.2	52.8	50	9.6	1.90	33.22	108568	877	1182	8.5	16.3
2579.0	5.2	52.7	50	9.6	1.82	33.42	109147	704	1179	8.5	16.3
2580.0	4.0	53.4	50	9.6	1.92	33.67	109902	920	1177	8.5	16.3
2581.0	5.9	54.4	50	9.6	1.79	33.84	110410	618	1173	8.5	16.3
2582.0	3.4	55.2	50	9.6	2.00	34.13	111297	1080	1172	8.5	16.3
2583.0	4.1	54.8	49	9.6	1.92	34.38	112028	900	1170	8.5	16.3
2584.0	6.9	50.5	45	9.6	1.66	34.52	112422	533	1165	8.5	16.3
2585.0	3.2	50.7	45	9.6	1.93	34.84	113269	1145	1165	8.5	16.3
2586.0	3.1	50.3	45	9.6	1.93	35.16	114145	1185	1165	8.5	16.3
2587.0	3.2	50.7	45	9.6	1.92	35.47	114981	1131	1165	8.5	16.3
2588.0	5.7	50.0	45	9.6	1.72	35.65	115456	642	1161	8.5	16.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2589.0	4.9	50.5	45	9.6	1.78	35.85	116007	746	1159	8.5	16.3
2590.0	6.5	50.4	45	9.6	1.68	36.01	116425	565	1155	8.5	16.3
2591.0	7.8	49.8	45	9.6	1.61	36.14	116771	469	1150	8.5	16.3
2592.0	5.3	49.4	45	9.6	1.74	36.33	117284	694	1147	8.5	16.3
2593.0	6.3	49.5	45	9.6	1.68	36.48	117712	578	1143	8.5	16.3
2594.0	4.1	49.6	45	9.6	1.83	36.73	118369	890	1141	8.5	16.3
2595.0	4.4	49.7	45	9.6	1.80	36.95	118983	830	1139	8.5	16.3
2596.0	5.9	49.5	45	9.6	1.70	37.12	119437	615	1136	8.5	16.3
2597.0	6.3	49.3	45	9.6	1.68	37.28	119866	580	1132	8.5	16.3

BIT NUMBER	7	IADC CODE	4	INTERVAL	2597.0- 2602.1
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	7.5	BIT RUN	5.1
TOTAL HOURS	3.50	TOTAL TURNS	18614	CONDITION	TO B0 G0.500

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2597.2	8.8	7.8	90	9.6	1.21	0.02	123	416	137366	8.5	16.4
2597.4	8.1	10.0	90	9.6	1.30	0.05	256	451	68908	8.5	16.4
2597.6	8.1	11.2	90	9.6	1.33	0.07	390	451	46089	8.5	16.4
2597.8	8.1	12.5	90	9.6	1.37	0.10	524	453	34680	8.5	16.4
2598.0	6.4	12.1	90	9.6	1.42	0.13	692	568	27858	8.5	16.4
2598.2	10.1	12.0	90	9.6	1.30	0.15	798	360	23275	8.5	16.4
2598.4	9.1	12.1	90	9.6	1.33	0.17	917	401	20007	8.5	16.4
2598.6	6.0	12.4	90	9.6	1.45	0.20	1098	614	17583	8.5	16.4
2598.8	4.0	12.5	90	9.6	1.55	0.25	1365	903	15730	8.5	16.4
2599.0	4.4	12.4	90	9.6	1.53	0.30	1611	832	14240	8.5	16.4
2599.2	5.6	12.2	90	9.6	1.46	0.33	1805	654	13005	8.5	16.4
2599.4	12.0	12.3	90	9.6	1.27	0.35	1895	304	11946	8.5	16.4
2599.6	8.5	12.4	90	9.6	1.36	0.37	2022	431	11061	8.5	16.4
2599.8	3.2	12.2	90	9.6	1.60	0.44	2361	1146	10352	8.5	16.4
2600.0	2.4	13.0	90	9.6	1.70	0.52	2810	1517	9763	8.5	16.4
2600.2	3.7	14.5	90	9.6	1.63	0.57	3099	979	9214	8.5	16.4
2600.4	9.1	15.5	90	9.6	1.42	0.60	3218	401	8696	8.5	16.4
2600.6	2.5	14.6	90	9.6	1.74	0.68	3654	1476	8295	8.5	16.4
2600.8	5.5	14.4	90	9.6	1.53	0.71	3851	664	7893	8.5	16.4
2601.0	3.8	14.2	90	9.6	1.62	0.77	4136	964	7547	8.5	16.4
2601.2	1.5	14.2	90	9.6	1.87	0.90	4868	2475	7305	8.5	16.4
2601.4	1.1	14.5	90	9.6	1.95	1.08	5829	3251	7121	8.5	16.4
2601.6	1.5	14.6	90	9.6	1.88	1.21	6549	2435	6917	8.5	16.4
2601.8	0.2	15.0	90	9.6	2.38	2.02	10898	14704	7242	8.5	16.4
2602.0	0.2	15.5	86	9.6	2.45	3.05	16196	18808	7704	8.5	16.4
2602.1	0.2	19.2	90	9.6	2.57	3.50	18614	16353	7874	8.5	16.4

BIT NUMBER	8	IADC CODE	537	INTERVAL	2602.1- 2616.7
HTC J33		SIZE	12.250	NOZZLES	16 16 18
COST	7774.00	TRIP TIME	7.5	BIT RUN	14.6
TOTAL HOURS	3.52	TOTAL TURNS	10553	CONDITION	T1 B5 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2603.0	5.3	17.0	50	9.6	1.31	0.17	509	689	39760	8.5	16.4
2604.0	3.5	36.0	50	9.6	1.73	0.46	1367	1043	19383	8.5	16.4
2605.0	3.1	47.0	50	9.6	1.92	0.78	2334	1178	13105	8.5	16.4
2606.0	2.9	46.0	50	9.6	1.93	1.12	3369	1259	10068	8.5	16.4
2607.0	2.9	47.0	50	9.6	1.95	1.47	4403	1259	8270	8.5	16.4
2608.0	3.4	47.0	50	9.6	1.89	1.76	5286	1074	7051	8.5	16.4
2609.0	3.2	47.0	50	9.6	1.91	2.07	6223	1141	6194	8.5	16.4
2610.0	3.1	47.0	50	9.6	1.92	2.40	7191	1178	5559	8.5	16.4
2611.0	3.7	47.0	50	9.6	1.86	2.67	8002	987	5045	8.5	16.4
2612.0	4.8	47.0	50	9.6	1.78	2.88	8627	761	4613	8.5	16.4
2613.0	6.2	47.0	50	9.6	1.69	3.04	9111	589	4244	8.5	16.4
2614.0	7.4	47.0	50	9.6	1.63	3.17	9516	494	3928	8.5	16.4
2615.0	7.0	47.0	50	9.6	1.65	3.31	9945	522	3664	8.5	16.4
2616.0	8.3	47.0	50	9.6	1.59	3.44	10306	440	3432	8.5	16.4
2616.7	8.5	47.0	50	9.6	1.58	3.52	10553	430	3288	8.5	16.4

BIT NUMBER	8	IADC CODE	4	INTERVAL	2616.7- 2635.2
CHRIS RC3		SIZE	8.500	NOZZLES	15 15 14
COST	0.00	TRIP TIME	7.6	BIT RUN	18.5
TOTAL HOURS	2.89	TOTAL TURNS	14572	CONDITION	T0 B0 G0.400

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2616.8	9.2	9.8	85	9.6	1.25	0.01	55	396	277948	8.5	16.4
2617.0	9.7	9.8	85	9.6	1.24	0.03	160	375	92899	8.5	16.4
2617.2	10.9	10.0	85	9.6	1.21	0.05	254	335	55874	8.5	16.4
2617.4	11.8	10.6	85	9.6	1.21	0.07	340	309	39998	8.5	16.4
2617.6	9.9	10.7	85	9.6	1.26	0.09	443	370	31192	8.5	16.4
2617.8	10.1	11.1	85	9.6	1.26	0.11	544	360	25586	8.5	16.4
2618.0	20.0	12.1	85	9.6	1.12	0.12	595	183	21678	8.5	16.4
2618.2	6.3	17.2	85	9.6	1.54	0.15	757	578	18865	8.5	16.4
2618.4	8.8	18.6	85	9.6	1.48	0.17	873	416	16694	8.5	16.4
2618.6	13.3	18.0	85	9.6	1.35	0.19	949	274	14966	8.5	16.4
2618.8	10.3	18.4	85	9.6	1.43	0.21	1048	355	13574	8.5	16.4
2619.0	11.8	18.2	85	9.6	1.39	0.22	1135	309	12421	8.5	16.4
2619.2	27.7	18.1	85	9.6	1.14	0.23	1172	132	11438	8.5	16.4
2619.4	8.9	18.5	85	9.6	1.47	0.25	1286	411	10621	8.5	16.4
2619.6	7.3	18.7	85	9.6	1.53	0.28	1425	497	9923	8.5	16.4
2619.8	10.9	18.7	85	9.6	1.42	0.30	1519	335	9304	8.5	16.4
2620.0	12.2	18.6	85	9.6	1.39	0.31	1602	299	8758	8.5	16.4
2620.2	8.8	18.3	85	9.6	1.48	0.34	1718	416	8282	8.5	16.4

DEPTH	ROP	WOB	RPM	MW	"d"e	HOURS	URNS	ICOST	CCOST	PP	FC
2620.4	12.6	18.4	85	9.6	1.37	0.35	1799	289	7850	8.5	16.4
2620.6	13.6	18.4	85	9.6	1.35	0.37	1874	269	7461	8.5	16.4
2620.8	7.5	18.6	85	9.6	1.53	0.39	2010	487	7121	8.5	16.4
2621.0	15.0	18.6	85	9.6	1.33	0.41	2078	243	6801	8.5	16.4
2621.2	10.4	18.9	85	9.6	1.44	0.43	2176	350	6514	8.5	16.4
2621.4	10.7	19.0	85	9.6	1.43	0.45	2271	340	6251	8.5	16.4
2621.6	18.0	19.1	85	9.6	1.29	0.46	2328	203	6004	8.5	16.4
2621.8	7.8	19.2	85	9.6	1.53	0.48	2458	467	5787	8.5	16.4
2622.0	12.4	18.9	85	9.6	1.39	0.50	2540	294	5580	8.5	16.4
2622.2	16.7	19.2	85	9.6	1.31	0.51	2601	218	5385	8.5	16.4
2622.4	10.4	19.1	85	9.6	1.44	0.53	2699	350	5208	8.5	16.4
2622.6	15.0	19.9	85	9.6	1.35	0.54	2767	243	5040	8.5	16.4
2622.8	8.5	19.5	85	9.6	1.51	0.57	2887	431	4889	8.5	16.4
2623.0	10.0	19.1	85	9.6	1.45	0.59	2989	365	4745	8.5	16.4
2623.2	10.1	18.8	85	9.6	1.44	0.61	3090	360	4610	8.5	16.4
2623.4	4.3	17.1	85	9.6	1.65	0.65	3326	847	4498	8.5	16.4
2623.6	6.0	17.6	85	9.6	1.57	0.69	3498	614	4385	8.5	16.4
2623.8	6.4	17.5	85	9.6	1.55	0.72	3656	568	4278	8.5	16.4
2624.0	9.9	17.3	85	9.6	1.42	0.74	3760	370	4171	8.5	16.4
2624.2	3.6	17.8	85	9.6	1.72	0.79	4046	1025	4087	8.5	16.4
2624.4	7.1	18.3	85	9.6	1.53	0.82	4189	512	3994	8.5	16.4
2624.6	4.7	18.5	85	9.6	1.66	0.86	4406	776	3913	8.5	16.4
2624.8	2.7	18.0	85	9.6	1.80	0.94	4781	1344	3849	8.5	16.4
2625.0	2.3	19.1	85	9.6	1.87	1.02	5216	1557	3794	8.5	16.4
2625.2	3.9	16.5	85	9.6	1.66	1.07	5477	933	3727	8.5	16.4
2625.4	2.3	19.0	85	9.6	1.88	1.16	5930	1623	3678	8.5	16.4
2625.6	4.6	18.6	85	9.6	1.67	1.21	6154	801	3614	8.5	16.4
2625.8	2.7	18.6	85	9.6	1.82	1.28	6531	1349	3564	8.5	16.4
2626.0	3.3	18.7	85	9.6	1.76	1.34	6840	1106	3511	8.5	16.4
2626.2	7.1	18.6	85	9.6	1.54	1.37	6984	517	3448	8.5	16.4
2626.4	8.6	18.7	85	9.6	1.49	1.39	7103	426	3386	8.5	16.4
2626.6	4.1	18.7	85	9.6	1.70	1.44	7353	893	3335	8.5	16.4
2626.8	3.2	18.7	85	9.6	1.77	1.50	7667	1126	3292	8.5	16.4
2627.0	9.0	18.8	85	9.6	1.48	1.53	7780	406	3236	8.5	16.4
2627.2	8.8	18.7	85	9.6	1.48	1.55	7896	415	3182	8.5	16.4
2627.6	11.4	18.7	85	9.6	1.41	1.58	8075	320	3077	8.5	16.4
2627.8	3.1	18.5	85	9.6	1.78	1.65	8409	1197	3043	8.5	16.4
2628.0	3.6	19.6	85	9.6	1.76	1.70	8694	1020	3007	8.5	16.4
2628.2	5.2	19.6	85	9.6	1.66	1.74	8891	705	2967	8.5	16.4
2628.4	6.5	19.3	85	9.6	1.58	1.77	9047	558	2926	8.5	16.4
2628.6	9.0	19.2	85	9.6	1.49	1.80	9160	406	2884	8.5	16.4
2628.8	10.4	19.1	85	9.6	1.44	1.82	9258	350	2842	8.5	16.4
2629.0	9.9	19.3	85	9.6	1.46	1.84	9361	370	2802	8.5	16.4
2629.2	15.3	19.4	85	9.6	1.34	1.85	9428	238	2760	8.5	16.4
2629.4	5.0	19.6	85	9.6	1.67	1.89	9633	735	2729	8.5	16.4
2629.6	7.9	19.5	85	9.6	1.53	1.91	9762	462	2693	8.5	16.4
2629.8	9.4	19.4	85	9.6	1.48	1.94	9871	391	2658	8.5	16.4
2630.0	7.8	19.4	85	9.6	1.53	1.96	10001	467	2625	8.5	16.4
2630.2	12.0	19.6	85	9.6	1.41	1.98	10086	304	2591	8.5	16.4
2630.4	4.9	19.6	85	9.6	1.68	2.02	10296	751	2564	8.5	16.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2630.6	10.1	19.6	85	9.6	1.46	2.04	10397	360	2532	8.5	16.4
2630.8	7.6	19.5	85	9.6	1.54	2.06	10531	482	2503	8.5	16.4
2631.0	11.0	19.5	85	9.6	1.44	2.08	10624	332	2473	8.5	16.4
2631.2	6.2	19.5	85	9.6	1.60	2.12	10788	589	2447	8.5	16.4
2631.4	7.4	19.6	85	9.6	1.55	2.14	10926	494	2420	8.5	16.4
2631.6	20.3	19.5	85	9.6	1.26	2.15	10977	180	2390	8.5	16.4
2631.8	4.7	19.6	85	9.6	1.68	2.19	11194	777	2369	8.5	16.4
2632.0	8.2	19.5	85	9.6	1.52	2.22	11318	445	2344	8.5	16.4
2632.2	8.8	19.5	85	9.6	1.50	2.24	11434	415	2319	8.5	16.4
2632.4	12.8	19.6	85	9.6	1.39	2.26	11514	285	2293	8.5	16.4
2632.6	4.9	19.7	85	9.6	1.67	2.30	11722	745	2274	8.5	16.4
2632.8	14.4	20.0	85	9.6	1.37	2.31	11793	254	2248	8.5	16.4
2633.0	5.5	19.8	85	9.6	1.65	2.35	11980	670	2229	8.5	16.4
2633.2	4.1	19.7	85	9.6	1.72	2.40	12226	883	2213	8.5	16.4
2633.4	5.1	19.7	85	9.6	1.66	2.44	12424	710	2195	8.5	16.4
2633.6	7.3	19.6	85	9.6	1.56	2.46	12563	497	2175	8.5	16.4
2633.8	6.1	19.8	85	9.6	1.61	2.50	12730	599	2156	8.5	16.4
2634.0	4.4	19.9	85	9.6	1.71	2.54	12963	832	2141	8.5	16.4
2634.2	5.6	19.6	85	9.6	1.64	2.58	13145	654	2124	8.5	16.4
2634.4	2.5	19.9	85	9.6	1.88	2.66	13561	1486	2117	8.5	16.4
2634.6	6.1	19.8	85	9.6	1.62	2.69	13729	604	2100	8.5	16.4
2634.8	2.7	20.4	85	9.6	1.87	2.77	14109	1359	2092	8.5	16.4
2635.0	3.8	20.7	85	9.6	1.77	2.82	14378	964	2079	8.5	16.4
2635.2	5.3	20.7	85	9.6	1.68	2.86	14572	695	2064	8.5	16.4

BIT NUMBER	8	IADC CODE	4	INTERVAL	2635.2- 2653.0
CHRIS. RC3		SIZE	8.500	NOZZLES	15 15 14
COST	0.00	TRIP TIME	7.8	BIT RUN	17.8
TOTAL HOURS	6.72	TOTAL TURNS	36242	CONDITION	TO R0 G0.800

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2635.4	3.5	13.7	72	9.7	1.55	0.06	248	1055	143483	8.5	16.4
2635.6	3.5	13.6	90	9.7	1.60	0.11	556	1040	72261	8.5	16.4
2635.8	3.9	13.9	90	9.7	1.59	0.17	833	937	48486	8.5	16.4
2636.0	3.2	13.7	90	9.7	1.64	0.23	1175	1156	36654	8.5	16.4
2636.2	5.6	13.8	90	9.7	1.49	0.26	1367	649	29453	8.5	16.4
2636.4	7.9	13.4	90	9.7	1.39	0.29	1503	462	24621	8.5	16.4
2636.6	7.7	13.6	90	9.7	1.40	0.32	1643	472	21171	8.5	16.4
2636.8	19.5	13.6	90	9.7	1.16	0.33	1698	188	18548	8.5	16.4
2637.0	8.9	13.3	90	9.7	1.36	0.35	1820	411	16533	8.5	16.4
2637.2	7.6	13.9	90	9.7	1.41	0.38	1962	482	14928	8.5	16.4
2637.4	10.6	13.7	90	9.7	1.32	0.39	2064	345	13602	8.5	16.4
2637.6	6.6	13.7	90	9.7	1.44	0.42	2228	553	12515	8.5	16.4
2637.8	7.1	13.6	90	9.7	1.42	0.45	2381	517	11592	8.5	16.4
2638.0	8.0	13.8	90	9.7	1.40	0.48	2516	457	10796	8.5	16.4
2638.2	6.8	13.8	90	9.7	1.44	0.51	2675	538	10113	8.5	16.4
2638.4	10.4	13.7	90	9.7	1.32	0.53	2778	350	9502	8.5	16.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2638.6	7.2	13.5	90	9.7	1.42	0.55	2928	507	8973	8.5	16.4
2638.8	7.3	13.8	90	9.7	1.42	0.58	3077	502	8503	8.5	16.4
2639.0	7.5	14.4	90	9.7	1.43	0.61	3221	487	8081	8.5	16.4
2639.2	8.5	14.0	90	9.7	1.38	0.63	3348	431	7698	8.5	16.4
2639.4	9.6	14.0	90	9.7	1.35	0.65	3461	380	7350	8.5	16.4
2639.6	13.0	13.9	90	9.7	1.27	0.67	3544	281	7028	8.5	16.4
2639.8	8.5	14.0	90	9.7	1.38	0.69	3671	430	6742	8.5	16.4
2640.0	3.9	13.8	90	9.7	1.59	0.74	3948	938	6500	8.5	16.4
2640.2	3.4	13.6	90	9.7	1.62	0.80	4269	1085	6283	8.5	16.4
2640.4	11.4	13.3	90	9.7	1.29	0.82	4364	320	6054	8.5	16.4
2640.6	4.2	13.8	90	9.7	1.56	0.87	4622	872	5862	8.5	16.4
2640.8	3.3	14.1	90	9.7	1.64	0.93	4950	1111	5692	8.5	16.4
2641.0	2.6	14.8	90	9.7	1.72	1.00	5358	1380	5544	8.5	16.4
2641.2	2.9	14.9	90	9.7	1.70	1.07	5735	1273	5401	8.5	16.4
2641.4	5.7	14.1	90	9.7	1.49	1.11	5925	644	5248	8.5	16.4
2641.6	5.6	14.0	90	9.7	1.50	1.14	6119	654	5104	8.5	16.4
2641.8	3.5	14.0	90	9.7	1.62	1.20	6428	1045	4981	8.5	16.4
2642.0	5.3	14.1	90	9.7	1.51	1.24	6633	695	4855	8.5	16.4
2642.2	3.8	14.2	90	9.7	1.60	1.29	6917	959	4744	8.5	16.4
2642.4	4.6	14.3	90	9.7	1.56	1.34	7152	796	4634	8.5	16.4
2642.6	3.6	14.7	90	9.7	1.63	1.39	7449	1004	4536	8.5	16.4
2642.8	1.4	15.2	90	9.7	1.90	1.53	8216	2592	4485	8.5	16.4
2643.0	1.5	16.0	90	9.7	1.91	1.67	8939	2445	4433	8.5	16.4
2643.2	3.0	14.4	90	9.6	1.68	1.73	9294	1202	4352	8.5	16.4
2643.4	7.3	13.8	90	9.6	1.43	1.76	9443	502	4258	8.5	16.4
2643.6	2.3	14.2	90	9.6	1.75	1.85	9917	1603	4195	8.5	16.4
2643.8	2.4	14.1	90	9.6	1.73	1.93	10361	1501	4132	8.5	16.4
2644.0	2.2	14.4	90	9.6	1.77	2.02	10845	1638	4075	8.5	16.4
2644.2	1.8	14.5	90	9.6	1.82	2.13	11432	1983	4029	8.5	16.4
2644.4	2.1	14.2	90	9.6	1.78	2.22	11948	1745	3979	8.5	16.4
2644.6	10.9	12.6	90	9.6	1.30	2.24	12047	335	3902	8.5	16.4
2644.8	2.3	14.1	90	9.6	1.74	2.33	12512	1572	3853	8.5	16.4
2645.0	3.0	14.1	90	9.6	1.68	2.40	12875	1227	3800	8.5	16.4
2645.2	5.2	14.1	90	9.6	1.53	2.43	13083	705	3738	8.5	16.4
2645.4	2.3	13.5	90	9.6	1.73	2.52	13547	1567	3695	8.5	16.4
2645.6	6.4	14.2	90	9.6	1.48	2.55	13715	568	3635	8.5	16.4
2645.8	5.9	14.2	90	9.6	1.50	2.59	13898	619	3578	8.5	16.4
2646.0	6.1	13.9	90	9.6	1.49	2.62	14076	604	3523	8.5	16.4
2646.2	6.4	14.1	90	9.6	1.47	2.65	14244	568	3469	8.5	16.4
2646.4	14.1	13.9	90	9.6	1.26	2.66	14321	259	3412	8.5	16.4
2646.6	8.2	14.1	90	9.6	1.41	2.69	14453	446	3360	8.5	16.4
2646.8	6.1	14.1	90	9.6	1.49	2.72	14630	599	3312	8.5	16.4
2647.0	9.0	14.1	90	9.6	1.38	2.74	14750	406	3263	8.5	16.4
2647.2	6.2	13.9	90	9.6	1.48	2.78	14925	593	3219	8.5	16.4
2647.4	10.1	13.7	90	9.6	1.34	2.80	15032	360	3172	8.5	16.4
2647.6	3.5	14.2	90	9.6	1.64	2.85	15339	1040	3137	8.5	16.4
2647.8	5.0	14.3	90	9.6	1.54	2.89	15554	725	3099	8.5	16.4
2648.0	2.0	13.0	90	9.6	1.75	2.99	16089	1811	3079	8.5	16.4
2648.2	3.0	12.1	90	9.6	1.61	3.06	16448	1212	3050	8.5	16.4
2648.4	4.1	12.1	90	9.6	1.54	3.11	16712	893	3017	8.5	16.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2648.6	3.0	12.2	90	9.6	1.62	3.17	17078	1238	2991	8.5	16.4
2648.8	2.6	12.3	90	9.6	1.66	3.25	17499	1425	2968	8.5	16.4
2649.0	3.9	12.2	90	9.6	1.55	3.30	17774	928	2938	8.5	16.4
2649.2	2.1	12.6	90	9.6	1.72	3.40	18287	1735	2921	8.5	16.4
2649.4	1.8	12.8	90	9.6	1.78	3.51	18900	2075	2909	8.5	16.4
2649.6	1.4	12.5	90	9.6	1.83	3.66	19698	2698	2906	8.5	16.4
2649.8	2.0	12.1	90	9.6	1.72	3.76	20235	1816	2891	8.5	16.4
2650.0	2.6	12.3	90	9.6	1.66	3.84	20657	1425	2872	8.5	16.4
2650.2	1.8	12.2	90	9.6	1.75	3.95	21254	2019	2860	8.5	16.4
2650.4	7.3	14.4	90	9.6	1.45	3.98	21402	502	2829	8.5	16.4
2650.6	3.0	15.5	90	9.6	1.72	4.04	21759	1207	2808	8.5	16.4
2650.8	2.8	15.5	90	9.6	1.74	4.11	22145	1304	2789	8.5	16.4
2651.0	2.6	15.9	90	9.6	1.77	4.19	22560	1405	2771	8.5	16.4
2651.2	1.9	15.9	90	9.6	1.85	4.29	23129	1922	2761	8.5	16.4
2651.4	2.5	16.2	90	9.6	1.78	4.37	23553	1435	2744	8.5	16.4
2651.6	2.0	16.0	90	9.6	1.84	4.47	24095	1831	2733	8.5	16.4
2651.8	2.4	15.9	90	9.6	1.79	4.56	24543	1517	2719	8.5	16.4
2652.0	2.1	16.0	90	9.6	1.83	4.65	25056	1735	2707	8.5	16.4
2652.2	2.3	15.8	90	9.6	1.81	4.74	25535	1618	2694	8.5	16.4
2652.4	2.8	15.5	90	9.6	1.74	4.81	25926	1324	2678	8.5	16.4
2652.6	1.8	15.8	90	9.6	1.87	4.92	26522	2014	2670	8.5	16.4
2652.8	1.5	16.1	90	9.6	1.92	5.05	27233	2404	2667	8.5	16.4
2653.0	0.1	21.2	90	9.6	2.83	6.72	36242	30464	2980	8.5	16.4

BIT NUMBER	8	IADC CODE	4	INTERVAL	2653.0- 2671.2
CHRIS. RC4		SIZE	8.500	NOZZLES	15 15 14
COST	0.00	TRIP TIME	7.6	BIT RUN	18.2
TOTAL HOURS	4.45	TOTAL TURNS	24028	CONDITION	T0 B0 G0.600

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2653.2	2.4	8.2	90	9.6	1.53	0.09	459	1552	140328	8.5	16.4
2653.4	1.7	14.2	90	9.6	1.83	0.20	1094	2148	71238	8.5	16.4
2653.6	2.6	14.2	90	9.6	1.72	0.28	1510	1405	47960	8.5	16.4
2653.8	2.0	14.5	90	9.6	1.80	0.38	2050	1826	36427	8.5	16.4
2654.0	1.7	14.0	90	9.6	1.83	0.50	2685	2148	29571	8.5	16.4
2654.2	1.9	14.3	90	9.6	1.81	0.60	3259	1941	24966	8.5	16.4
2654.4	2.9	14.6	90	9.6	1.70	0.67	3628	1248	21578	8.5	16.4
2654.6	8.4	14.3	90	9.6	1.41	0.70	3757	436	18935	8.5	16.4
2654.8	11.8	14.1	90	9.6	1.31	0.71	3848	309	16865	8.5	16.4
2655.0	12.9	13.8	90	9.6	1.28	0.73	3932	284	15207	8.5	16.4
2655.2	11.3	14.2	90	9.6	1.33	0.75	4028	325	13854	8.5	16.4
2655.4	6.5	14.6	90	9.6	1.48	0.78	4195	563	12747	8.5	16.4
2655.6	4.7	14.5	90	9.6	1.57	0.82	4424	776	11826	8.5	16.4
2655.8	2.7	14.9	90	9.6	1.73	0.89	4825	1354	11078	8.5	16.4
2656.0	2.7	14.9	90	9.6	1.73	0.97	5222	1344	10429	8.5	16.4
2656.2	5.5	14.6	90	9.6	1.53	1.00	5417	659	9818	8.5	16.4
2656.4	15.0	14.5	90	9.6	1.26	1.02	5489	243	9255	8.5	16.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2656.6	7.8	14.9	90	9.6	1.44	1.04	5627	467	8767	8.5	16.4
2656.8	7.5	14.3	90	9.6	1.44	1.07	5771	487	8331	8.5	16.4
2657.0	6.3	14.8	90	9.6	1.50	1.10	5944	583	7944	8.5	16.4
2657.2	3.8	15.0	90	9.6	1.64	1.15	6226	954	7611	8.5	16.4
2657.4	2.0	15.3	90	9.6	1.82	1.25	6755	1790	7346	8.5	16.4
2657.6	2.2	15.1	90	9.6	1.79	1.34	7243	1648	7099	8.5	16.4
2657.8	1.9	15.1	90	9.6	1.84	1.45	7823	1963	6885	8.5	16.4
2658.0	1.7	15.3	90	9.6	1.87	1.57	8459	2151	6695	8.5	16.4
2658.2	2.6	15.2	90	9.6	1.75	1.64	8878	1415	6492	8.5	16.4
2658.4	2.0	15.3	90	9.6	1.83	1.75	9427	1856	6320	8.5	16.4
2658.6	1.9	15.4	90	9.6	1.85	1.85	10009	1968	6165	8.5	16.4
2658.8	4.7	15.2	90	9.6	1.59	1.90	10240	781	5979	8.5	16.4
2659.0	7.3	15.4	90	9.6	1.47	1.92	10387	497	5797	8.5	16.4
2659.2	8.9	14.9	90	9.6	1.41	1.95	10508	411	5623	8.5	16.4
2659.4	8.6	14.5	90	9.6	1.41	1.97	10634	426	5460	8.5	16.4
2659.6	10.6	15.0	90	9.6	1.36	1.99	10736	345	5305	8.5	16.4
2659.8	5.0	15.2	90	9.6	1.57	2.03	10954	735	5171	8.5	16.4
2660.0	1.8	16.9	90	9.6	1.90	2.14	11555	2034	5081	8.5	16.4
2660.2	2.4	15.8	90	9.6	1.79	2.22	12011	1542	4983	8.5	16.4
2660.4	2.1	15.6	90	9.6	1.82	2.32	12533	1765	4896	8.5	16.4
2660.6	2.5	15.7	90	9.6	1.78	2.40	12970	1476	4806	8.5	16.4
2660.8	2.9	15.8	90	9.6	1.74	2.47	13339	1248	4715	8.5	16.4
2661.0	2.0	15.6	90	9.6	1.84	2.57	13891	1867	4644	8.5	16.4
2661.2	3.3	16.1	90	9.6	1.71	2.63	14216	1101	4557	8.5	16.4
2661.4	3.3	15.8	90	9.6	1.70	2.69	14544	1107	4475	8.5	16.4
2661.6	9.5	15.7	90	9.6	1.41	2.71	14657	384	4380	8.5	16.4
2661.8	10.6	15.8	90	9.6	1.38	2.73	14759	345	4288	8.5	16.4
2662.0	7.7	15.6	90	9.6	1.46	2.76	14899	474	4204	8.5	16.4
2662.2	17.2	16.1	90	9.6	1.26	2.77	14962	212	4117	8.5	16.4
2662.4	7.2	16.5	90	9.6	1.51	2.80	15112	507	4040	8.5	16.4
2662.6	6.6	17.6	90	9.6	1.56	2.83	15276	553	3967	8.5	16.4
2662.8	12.1	17.4	90	9.6	1.38	2.85	15365	302	3893	8.5	16.4
2663.0	9.0	14.6	90	9.6	1.40	2.87	15485	406	3823	8.5	16.4
2663.2	7.7	14.3	90	9.6	1.43	2.89	15625	474	3757	8.5	16.4
2663.4	4.2	16.0	90	9.6	1.64	2.94	15880	862	3701	8.5	16.4
2663.6	3.4	15.9	90	9.6	1.69	3.00	16194	1060	3652	8.5	16.4
2663.8	4.0	16.1	90	9.6	1.66	3.05	16465	918	3601	8.5	16.4
2664.0	3.4	16.0	90	9.6	1.70	3.11	16783	1075	3555	8.5	16.4
2664.2	1.7	16.3	90	9.6	1.91	3.23	17437	2211	3531	8.5	16.4
2664.4	3.3	17.8	90	9.6	1.75	3.29	17760	1091	3488	8.5	16.4
2664.6	4.2	17.8	90	9.6	1.69	3.34	18019	877	3443	8.5	16.4
2664.8	6.2	17.7	90	9.6	1.58	3.37	18193	588	3395	8.5	16.4
2665.0	4.7	17.3	90	9.6	1.64	3.41	18423	776	3351	8.5	16.4
2665.2	5.6	17.5	90	9.6	1.60	3.45	18616	654	3307	8.5	16.4
2665.4	5.6	17.6	90	9.6	1.60	3.48	18810	654	3264	8.5	16.4
2665.6	4.4	17.8	90	9.6	1.67	3.53	19054	827	3226	8.5	16.5
2665.8	5.6	17.8	90	9.6	1.61	3.56	19248	654	3185	8.5	16.5
2666.0	9.2	17.6	90	9.6	1.46	3.59	19365	396	3142	8.5	16.5
2666.2	9.1	17.7	90	9.6	1.47	3.61	19483	401	3101	8.5	16.5
2666.4	5.3	17.7	90	9.6	1.62	3.65	19687	690	3065	8.5	16.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2666.6	4.7	17.9	90	9.6	1.66	3.69	19915	771	3031	8.5	16.5
2666.8	8.1	17.9	90	9.6	1.50	3.71	20049	451	2994	8.5	16.5
2667.0	4.4	18.4	90	9.6	1.69	3.76	20296	837	2963	8.5	16.5
2667.2	12.0	17.9	90	9.6	1.39	3.78	20386	304	2926	8.5	16.5
2667.4	5.6	17.9	90	9.6	1.61	3.81	20580	654	2894	8.5	16.5
2667.6	10.6	17.7	90	9.6	1.42	3.83	20682	345	2859	8.5	16.5
2667.8	15.7	17.3	90	9.6	1.31	3.84	20751	233	2824	8.5	16.5
2668.0	5.1	17.9	90	9.6	1.64	3.88	20962	715	2795	8.5	16.5
2668.2	6.8	18.2	90	9.6	1.56	3.91	21121	538	2766	8.5	16.5
2668.4	4.9	18.0	90	9.6	1.65	3.95	21340	741	2739	8.5	16.5
2668.6	4.3	18.2	90	9.6	1.69	4.00	21589	842	2715	8.5	16.5
2668.8	6.4	18.0	90	9.6	1.57	4.03	21757	568	2688	8.5	16.5
2669.0	3.7	18.2	90	9.6	1.74	4.08	22051	994	2667	8.5	16.5
2669.2	3.1	18.0	90	9.6	1.78	4.15	22396	1167	2648	8.5	16.5
2669.4	12.2	17.9	90	9.6	1.39	4.16	22485	299	2620	8.5	16.5
2669.6	5.8	18.2	90	9.6	1.61	4.20	22671	629	2596	8.5	16.5
2669.8	5.8	18.0	90	9.6	1.60	4.23	22858	634	2572	8.5	16.5
2670.0	6.4	18.3	90	9.6	1.58	4.26	23026	568	2549	8.5	16.5
2670.2	7.8	18.2	90	9.6	1.52	4.29	23164	467	2524	8.5	16.5
2670.4	7.3	18.0	90	9.6	1.54	4.32	23311	497	2501	8.5	16.5
2670.6	8.1	18.0	90	9.6	1.51	4.34	23445	451	2478	8.5	16.5
2670.8	8.2	18.3	90	9.6	1.51	4.37	23577	446	2455	8.5	16.5
2671.0	4.6	18.1	90	9.6	1.67	4.41	23809	786	2437	8.5	16.5
2671.2	4.9	18.3	90	9.6	1.65	4.45	24028	741	2418	8.5	16.5

BIT NUMBER	9	IADC CODE	517	INTERVAL	2671.2- 2672.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	7.5	BIT RUN	0.8
TOTAL HOURS	0.09	TOTAL TURNS	314	CONDITION	T2 B2 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2671.4	11.6	32.4	60	9.7	1.36	0.02	62	314	179844	8.5	16.5
2671.6	10.1	36.5	60	9.7	1.45	0.04	133	360	90102	8.5	16.5
2671.8	6.9	35.1	60	9.7	1.56	0.07	238	533	60246	8.5	16.5
2672.0	9.5	37.1	60	9.7	1.48	0.09	314	385	45281	8.5	16.5

BIT NUMBER	9	IADC CODE	4	INTERVAL	2672.0- 2690.5
RC4		SIZE	8.500	NOZZLES	15 15 14
COST	0.00	TRIP TIME	7.6	BIT RUN	18.5
TOTAL HOURS	4.67	TOTAL TURNS	25234	CONDITION	T0 B0 G0.900

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2672.2	16.9	13.5	90	9.7	1.19	0.01	64	216	138992	8.5	16.5
2672.4	16.5	15.0	90	9.7	1.23	0.02	129	221	69607	8.5	16.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2672.6	90.2	12.0	90	9.7	0.73	0.03	141	40	46418	8.5	16.5
2672.8	14.1	13.9	90	9.7	1.25	0.04	218	259	34878	8.5	16.5
2673.0	15.1	13.7	90	9.7	1.23	0.05	289	242	27951	8.5	16.5
2673.2	12.4	14.4	90	9.7	1.30	0.07	376	294	23341	8.5	16.5
2673.4	15.7	14.2	90	9.7	1.23	0.08	445	233	20040	8.5	16.5
2673.6	27.7	14.5	90	9.7	1.09	0.09	484	132	17552	8.5	16.5
2673.8	20.6	16.1	90	9.7	1.20	0.10	537	178	15621	8.5	16.5
2674.0	21.8	16.4	90	9.7	1.19	0.11	586	167	14076	8.5	16.5
2674.2	7.5	17.0	90	9.7	1.49	0.14	730	487	12841	8.5	16.5
2674.4	9.7	16.9	90	9.7	1.42	0.16	841	375	11802	8.5	16.5
2674.6	2.9	17.8	90	9.7	1.78	0.23	1219	1278	10992	8.5	16.5
2674.8	2.8	17.8	90	9.7	1.79	0.30	1605	1304	10300	8.5	16.5
2675.0	8.8	17.5	90	9.7	1.46	0.32	1728	416	9641	8.5	16.5
2675.2	5.4	17.5	90	9.7	1.59	0.36	1928	676	9081	8.5	16.5
2675.4	5.7	17.5	90	9.7	1.58	0.39	2117	639	8584	8.5	16.5
2675.6	5.2	17.4	90	9.7	1.60	0.43	2324	700	8146	8.5	16.5
2675.8	4.6	17.5	90	9.7	1.64	0.47	2561	801	7760	8.5	16.5
2676.0	8.6	17.7	90	9.7	1.47	0.50	2687	426	7393	8.5	16.5
2676.2	4.0	17.4	90	9.7	1.67	0.55	2954	903	7084	8.5	16.5
2676.4	7.7	17.4	90	9.7	1.50	0.57	3095	477	6784	8.5	16.5
2676.6	4.2	17.8	90	9.7	1.67	0.62	3351	867	6526	8.5	16.5
2676.8	5.4	17.6	90	9.7	1.60	0.66	3551	675	6283	8.5	16.5
2677.0	7.5	16.8	90	9.7	1.49	0.68	3695	487	6051	8.5	16.5
2677.2	6.1	17.1	90	9.7	1.55	0.72	3873	604	5841	8.5	16.5
2677.4	9.9	17.2	90	9.7	1.42	0.74	3983	370	5639	8.5	16.5
2677.6	5.6	17.4	90	9.7	1.59	0.77	4176	654	5461	8.5	16.5
2677.8	8.9	16.8	90	9.7	1.44	0.80	4298	411	5287	8.5	16.5
2678.0	8.4	17.0	90	9.7	1.46	0.82	4427	436	5125	8.5	16.5
2678.2	14.4	17.5	90	9.7	1.32	0.83	4502	254	4968	8.5	16.5
2678.4	7.1	17.8	90	9.7	1.53	0.86	4655	517	4829	8.5	16.5
2678.6	2.6	17.6	90	9.7	1.80	0.94	5064	1385	4724	8.5	16.5
2678.8	3.4	17.8	90	9.7	1.73	1.00	5381	1070	4617	8.5	16.5
2679.0	2.7	17.8	90	9.7	1.79	1.07	5775	1334	4523	8.5	16.5
2679.2	2.3	17.9	90	9.7	1.85	1.16	6245	1588	4441	8.5	16.5
2679.4	2.1	18.2	90	9.7	1.88	1.25	6765	1760	4369	8.5	16.5
2679.6	2.4	18.2	90	9.7	1.84	1.34	7209	1501	4294	8.5	16.5
2679.8	2.5	18.3	90	9.7	1.84	1.42	7646	1476	4221	8.5	16.5
2680.0	2.4	17.8	90	9.7	1.83	1.50	8090	1501	4153	8.5	16.5
2680.2	2.3	18.2	90	9.7	1.85	1.58	8556	1577	4090	8.5	16.5
2680.4	1.8	18.2	90	9.7	1.92	1.69	9152	2014	4041	8.5	16.5
2680.6	2.7	17.8	90	9.7	1.80	1.77	9554	1359	3979	8.5	16.5
2680.8	1.7	18.1	90	9.7	1.94	1.89	10185	2135	3937	8.5	16.5
2681.0	2.5	18.1	90	9.7	1.83	1.97	10620	1471	3882	8.5	16.5
2681.2	1.8	18.1	90	9.7	1.93	2.08	11235	2080	3843	8.5	16.5
2681.4	1.7	18.2	90	9.7	1.94	2.20	11879	2176	3807	8.5	16.5
2681.6	1.7	18.3	90	9.7	1.95	2.32	12525	2186	3774	8.5	16.5
2681.8	1.9	18.1	90	9.7	1.91	2.43	13098	1938	3736	8.5	16.5
2682.0	1.7	18.1	90	9.7	1.93	2.54	13725	2120	3704	8.5	16.5
2682.2	2.2	18.1	90	9.7	1.86	2.63	14216	1660	3664	8.5	16.5
2682.4	2.8	17.9	90	9.7	1.79	2.70	14602	1304	3618	8.5	16.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2682.6	3.4	17.9	90	9.7	1.73	2.76	14920	1074	3570	8.5	16.5
2682.8	4.0	17.7	90	9.7	1.69	2.81	15190	913	3521	8.5	16.5
2683.0	2.8	17.8	90	9.7	1.78	2.88	15569	1283	3480	8.5	16.5
2683.2	3.2	18.0	90	9.7	1.75	2.94	15902	1126	3438	8.5	16.5
2683.4	2.6	17.8	90	9.7	1.81	3.02	16318	1405	3403	8.5	16.5
2683.6	3.2	18.0	90	9.7	1.75	3.08	16654	1136	3364	8.5	16.5
2683.8	3.0	18.1	90	9.7	1.78	3.15	17017	1227	3327	8.5	16.5
2684.0	5.2	17.8	90	9.7	1.61	3.19	17224	700	3284	8.5	16.5
2684.2	4.5	18.1	90	9.7	1.66	3.23	17462	806	3243	8.5	16.5
2684.4	3.6	18.2	90	9.7	1.73	3.29	17761	1009	3207	8.5	16.5
2684.6	4.8	18.0	90	9.7	1.64	3.33	17987	766	3168	8.5	16.5
2684.8	2.4	18.3	90	9.7	1.85	3.42	18446	1552	3143	8.5	16.5
2685.0	3.6	18.3	90	9.7	1.73	3.47	18748	1020	3110	8.5	16.5
2685.2	4.0	17.9	90	9.7	1.69	3.52	19018	913	3077	8.5	16.5
2685.4	3.9	18.1	90	9.7	1.70	3.57	19295	938	3045	8.5	16.5
2685.6	4.5	17.7	90	9.7	1.66	3.62	19537	817	3012	8.5	16.5
2685.8	7.3	17.5	90	9.7	1.51	3.65	19685	502	2976	8.5	16.5
2686.0	6.8	18.0	90	9.7	1.55	3.67	19844	538	2941	8.5	16.5
2686.2	4.5	18.2	90	9.7	1.67	3.72	20086	817	2911	8.5	16.5
2686.4	4.7	17.8	90	9.7	1.64	3.76	20317	781	2882	8.5	16.5
2686.6	3.2	18.4	90	9.7	1.77	3.82	20653	1136	2858	8.5	16.5
2686.8	1.4	18.5	90	9.7	1.99	3.96	21398	2521	2853	8.5	16.5
2687.0	3.7	18.3	90	9.7	1.72	4.02	21689	984	2828	8.5	16.5
2687.2	6.4	18.0	90	9.7	1.56	4.05	21857	568	2798	8.5	16.5
2687.4	6.6	18.2	90	9.7	1.56	4.08	22021	553	2769	8.5	16.5
2687.6	4.6	18.2	90	9.7	1.66	4.12	22253	786	2744	8.5	16.5
2687.8	5.5	18.1	90	9.7	1.61	4.16	22451	670	2718	8.5	16.5
2688.0	4.4	18.2	90	9.7	1.67	4.20	22694	822	2694	8.5	16.5
2688.2	5.8	18.3	90	9.7	1.60	4.24	22882	634	2669	8.5	16.5
2688.4	4.6	18.1	90	9.7	1.66	4.28	23119	801	2646	8.5	16.5
2688.6	6.5	18.3	90	9.7	1.56	4.31	23285	563	2621	8.5	16.5
2688.8	3.6	18.3	90	9.7	1.73	4.37	23582	1004	2601	8.5	16.5
2689.0	6.2	18.0	90	9.7	1.57	4.40	23758	593	2578	8.5	16.5
2689.2	4.9	18.3	90	9.7	1.64	4.44	23980	751	2557	8.5	16.5
2689.4	7.5	18.0	90	9.7	1.52	4.47	24124	487	2533	8.5	16.5
2689.6	5.0	18.3	90	9.7	1.64	4.51	24341	735	2512	8.5	16.5
2689.8	5.3	18.2	90	9.7	1.62	4.55	24545	689	2492	8.5	16.5
2690.0	5.8	18.5	90	9.7	1.60	4.58	24731	630	2471	8.5	16.5
2690.2	3.0	17.2	90	9.7	1.75	4.65	25091	1217	2457	8.5	16.5
2690.4	14.8	17.2	90	9.7	1.31	4.66	25164	247	2433	8.5	16.5
2690.5	7.7	18.3	90	9.7	1.51	4.67	25234	474	2423	8.5	16.5

BIT NUMBER	9	IADC CODE	4	INTERVAL	2690.5- 2708.3
CHRIS C-20		SIZE	8.470	NOZZLES	14 14 14
COST	0.00	TRIP TIME	7.7	BIT RUN	17.8
TOTAL HOURS	8.86	TOTAL TURNS	40488	CONDITION	TO B0 G0.300

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2690.6	3.9	16.3	80	9.7	1.62	0.03	123	933	282137	8.5	16.5
2690.8	12.0	15.0	80	9.7	1.29	0.04	203	304	94249	8.5	16.5
2691.0	12.0	15.0	80	9.7	1.29	0.06	283	304	56671	8.5	16.5
2691.2	12.0	15.0	80	9.7	1.29	0.08	363	304	40566	8.5	16.5
2691.4	12.0	15.0	80	9.7	1.29	0.09	443	304	31619	8.5	16.5
2691.6	12.0	15.0	80	9.7	1.29	0.11	523	304	25926	8.5	16.5
2691.8	12.0	15.0	80	9.7	1.29	0.13	603	304	21984	8.5	16.5
2692.0	12.0	15.0	80	9.7	1.29	0.14	683	304	19093	8.5	16.5
2692.2	12.0	15.0	80	9.7	1.29	0.16	763	304	16883	8.5	16.5
2692.4	12.0	15.0	80	9.7	1.29	0.18	843	304	15138	8.5	16.5
2692.6	9.7	12.8	80	9.7	1.29	0.20	941	375	13732	8.5	16.5
2692.8	4.8	14.5	80	9.7	1.52	0.24	1141	761	12604	8.5	16.5
2693.0	4.3	14.5	80	9.7	1.55	0.28	1365	852	11664	8.5	16.5
2693.2	4.3	14.3	80	9.7	1.54	0.33	1588	847	10862	8.5	16.5
2693.4	3.0	15.1	80	9.7	1.67	0.40	1913	1238	10199	8.5	16.5
2693.6	3.3	14.9	80	9.7	1.63	0.46	2201	1096	9611	8.5	16.5
2693.8	3.3	16.2	80	9.7	1.67	0.52	2493	1111	9096	8.5	16.5
2694.0	8.3	17.6	80	9.7	1.45	0.54	2609	441	8602	8.5	16.5
2694.2	2.8	18.2	80	9.7	1.76	0.62	2953	1309	8207	8.5	16.5
2694.4	1.9	18.0	80	9.7	1.87	0.72	3464	1943	7886	8.5	16.5
2694.6	3.1	19.0	80	9.7	1.76	0.79	3779	1197	7560	8.5	16.5
2694.8	2.0	17.2	80	9.7	1.83	0.89	4263	1841	7294	8.5	16.5
2695.0	1.6	17.2	80	9.7	1.90	1.02	4873	2323	7073	8.5	16.5
2695.2	2.8	18.3	80	9.7	1.77	1.09	5213	1293	6827	8.5	16.5
2695.4	1.5	22.3	80	9.7	2.05	1.22	5852	2430	6648	8.5	16.5
2695.6	0.9	22.3	80	9.7	2.22	1.45	6964	4230	6553	8.5	16.5
2695.8	1.5	21.3	80	9.7	2.02	1.58	7596	2404	6396	8.5	16.5
2696.0	0.5	18.6	80	9.7	2.25	1.97	9452	7061	6420	8.5	16.5
2696.2	1.1	16.7	78	9.7	1.99	2.16	10340	3444	6316	8.5	16.5
2696.4	1.1	14.4	75	9.7	1.88	2.33	11130	3206	6210	8.5	16.5
2696.6	1.4	23.5	75	9.7	2.08	2.47	11756	2541	6090	8.5	16.5
2696.8	0.7	14.2	75	9.7	1.99	2.75	12983	4976	6055	8.5	16.5
2697.0	0.7	14.6	75	9.7	2.01	3.03	14268	5217	6029	8.5	16.5
2697.2	1.3	14.6	75	9.7	1.85	3.18	14961	2809	5933	8.5	16.5
2697.4	2.4	15.0	75	9.7	1.70	3.27	15336	1522	5805	8.5	16.5
2697.6	0.6	15.1	75	9.7	2.07	3.60	16836	6087	5813	8.5	16.5
2697.8	1.1	14.8	75	9.7	1.90	3.78	17661	3348	5745	8.5	16.5
2698.0	1.6	15.0	75	9.7	1.81	3.91	18221	2272	5653	8.5	16.5
2698.2	0.8	15.2	75	9.7	2.00	4.16	19364	4641	5627	8.5	16.5
2698.4	3.5	15.2	75	9.7	1.60	4.22	19622	1043	5511	8.5	16.5
2698.6	0.8	15.1	75	9.7	2.00	4.47	20747	4565	5487	8.5	16.5
2698.8	0.6	15.3	75	9.7	2.08	4.80	22244	6077	5501	8.5	16.5
2699.0	1.5	14.9	75	9.7	1.83	4.94	22849	2455	5430	8.5	16.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2699.2	0.6	16.1	75	9.7	2.10	5.26	24289	5843	5439	8.5	16.5
2699.4	1.5	16.2	75	9.7	1.86	5.39	24890	2440	5372	8.5	16.5
2699.6	0.6	15.6	75	9.7	2.08	5.71	26337	5869	5383	8.5	16.5
2699.8	0.5	16.3	75	9.7	2.16	6.10	28087	7101	5420	8.5	16.5
2700.0	0.9	17.7	75	9.7	2.06	6.33	29122	4200	5394	8.5	16.5
2700.2	1.2	11.6	75	9.7	1.78	6.50	29892	3124	5347	8.5	16.5
2700.4	2.1	15.7	75	9.7	1.76	6.60	30322	1745	5274	8.5	16.5
2700.6	2.1	15.6	75	9.7	1.76	6.69	30754	1755	5205	8.5	16.5
2700.8	0.6	15.9	75	9.7	2.10	7.02	32228	5980	5220	8.5	16.5
2701.0	1.0	15.5	75	9.7	1.94	7.22	33107	3566	5188	8.5	16.5
2701.2	1.1	18.4	75	9.7	2.02	7.40	33925	3320	5153	8.5	16.5
2701.4	0.7	19.2	75	9.7	2.17	7.68	35210	5217	5155	8.5	16.5
2701.6	5.9	19.1	75	9.7	1.56	7.72	35363	619	5073	8.5	16.5
2701.8	8.7	19.7	75	9.7	1.46	7.74	35466	420	4990	8.5	16.5
2702.0	12.0	20.0	75	9.7	1.37	7.76	35541	304	4909	8.5	16.5
2702.2	46.9	19.7	75	9.7	0.97	7.76	35561	78	4826	8.5	16.5
2702.4	4.9	19.6	75	9.7	1.62	7.80	35744	745	4758	8.5	16.5
2702.6	2.7	19.7	75	9.7	1.79	7.88	36078	1353	4701	8.5	16.5
2702.8	4.4	19.7	75	9.7	1.65	7.92	36282	830	4639	8.5	16.5
2703.0	6.0	19.7	75	9.7	1.56	7.96	36432	609	4574	8.5	16.5
2703.2	4.4	19.9	75	9.7	1.66	8.00	36637	830	4515	8.5	16.5
2703.4	36.4	19.7	75	9.7	1.05	8.01	36661	100	4447	8.5	16.5
2703.6	4.8	19.6	75	9.7	1.63	8.05	36850	766	4390	8.5	16.5
2703.8	12.2	19.4	75	9.7	1.36	8.07	36924	299	4329	8.5	16.5
2704.0	14.4	19.4	75	9.7	1.31	8.08	36986	254	4269	8.5	16.5
2704.2	42.3	19.3	75	9.7	1.00	8.08	37008	86	4208	8.5	16.5
2704.4	11.5	19.3	75	9.7	1.37	8.10	37086	317	4152	8.5	16.5
2704.6	6.1	19.7	75	9.7	1.56	8.13	37235	604	4101	8.5	16.5
2704.8	8.7	20.1	75	9.7	1.47	8.16	37338	421	4050	8.5	16.5
2705.0	4.4	20.3	75	9.7	1.67	8.20	37541	822	4005	8.5	16.5
2705.2	1.4	20.2	75	9.7	1.99	8.34	38170	2551	3985	8.5	16.5
2705.4	1.5	20.2	75	9.7	1.98	8.48	38771	2440	3965	8.5	16.5
2705.6	2.3	20.1	75	9.7	1.86	8.56	39170	1618	3934	8.5	16.5
2705.8	10.0	19.4	75	9.7	1.41	8.58	39260	365	3887	8.5	16.5
2706.0	12.6	19.4	75	9.7	1.35	8.60	39331	289	3841	8.5	16.5
2706.2	27.7	19.5	75	9.7	1.12	8.61	39363	132	3793	8.5	16.5
2706.4	6.7	19.1	75	9.7	1.52	8.64	39497	543	3752	8.5	16.5
2706.6	16.0	18.4	75	9.7	1.26	8.65	39553	228	3709	8.5	16.5
2706.8	24.0	19.0	75	9.7	1.16	8.66	39591	152	3665	8.5	16.5
2707.0	26.7	19.3	75	9.7	1.13	8.67	39625	137	3622	8.5	16.5
2707.2	10.7	19.8	75	9.7	1.40	8.68	39708	340	3583	8.5	16.5
2707.4	7.7	19.7	75	9.7	1.49	8.71	39825	472	3546	8.5	16.5
2707.6	7.4	19.8	75	9.7	1.51	8.74	39946	492	3510	8.5	16.5
2707.8	5.2	20.1	75	9.7	1.62	8.78	40120	705	3478	8.5	16.5
2708.0	7.5	20.0	75	9.7	1.51	8.80	40240	487	3444	8.5	16.5
2708.2	6.9	20.0	75	9.7	1.53	8.83	40370	529	3411	8.5	16.5
2708.3	3.8	20.0	75	9.7	1.70	8.86	40488	961	3397	8.5	16.5

BIT NUMBER	10	IADC CODE	537	INTERVAL	2708.3- 2776.3
HTC J33		SIZE	12.250	NOZZLES	16 16 18
COST	7774.00	TRIP TIME	8.0	BIT RUN	68.0
TOTAL HOURS	15.72	TOTAL TURNS	48386	CONDITION	T3 R4 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2709.0	4.8	12.6	50	9.7	1.23	0.15	437	760	53603	8.5	16.5
2710.0	13.0	41.5	50	9.7	1.37	0.22	668	281	22237	8.5	16.5
2711.0	10.4	43.3	50	9.7	1.46	0.32	955	350	14131	8.5	16.5
2712.0	4.8	44.0	50	9.7	1.72	0.53	1583	764	10518	8.5	16.5
2713.0	2.7	43.8	50	9.6	1.92	0.90	2700	1360	8570	8.5	16.5
2714.0	2.8	45.4	50	9.6	1.93	1.25	3754	1283	7291	8.5	16.5
2715.0	2.7	46.9	50	9.6	1.97	1.62	4866	1353	6405	8.5	16.5
2716.0	2.8	47.0	50	9.6	1.96	1.98	5944	1313	5744	8.5	16.5
2717.0	2.1	47.3	50	9.6	2.07	2.47	7404	1777	5288	8.5	16.5
2718.0	5.6	46.5	50	9.6	1.72	2.65	7939	651	4810	8.5	16.5
2719.0	3.2	47.1	50	9.6	1.91	2.96	8865	1127	4466	8.5	16.5
2720.0	2.1	47.4	50	9.6	2.06	3.43	10303	1750	4233	8.5	16.5
2721.0	2.3	47.3	50	9.6	2.03	3.87	11600	1579	4025	8.5	16.5
2722.0	4.2	46.2	50	9.6	1.81	4.11	12319	875	3795	8.5	16.5
2723.0	2.9	47.3	50	9.6	1.95	4.45	13353	1258	3622	8.5	16.5
2724.0	2.2	47.3	50	9.6	2.04	4.90	14697	1636	3496	8.5	16.5
2725.0	3.2	47.3	50	9.6	1.92	5.21	15636	1143	3355	8.5	16.5
2726.0	2.9	47.2	50	9.6	1.95	5.56	16672	1261	3236	8.5	16.5
2727.0	4.0	47.2	50	9.6	1.84	5.81	17427	919	3113	8.5	16.5
2728.0	6.7	47.2	50	9.6	1.67	5.96	17876	547	2982	8.5	16.5
2729.0	10.8	47.2	50	9.6	1.50	6.05	18154	339	2855	8.5	16.5
2730.0	8.6	44.0	50	9.6	1.55	6.17	18504	425	2743	8.5	16.5
2731.0	26.3	34.6	50	9.6	1.09	6.21	18618	139	2628	8.5	16.5
2732.0	10.8	46.0	50	9.6	1.49	6.30	18896	339	2531	8.5	16.5
2733.0	12.6	47.2	50	9.6	1.45	6.38	19134	289	2441	8.5	16.5
2734.0	10.7	47.2	50	9.6	1.51	6.47	19413	340	2359	8.5	16.5
2735.0	10.3	47.2	50	9.6	1.52	6.57	19705	356	2284	8.5	16.5
2736.0	12.5	47.0	50	9.6	1.45	6.65	19946	293	2212	8.5	16.5
2737.0	8.6	47.7	50	9.6	1.59	6.77	20295	425	2150	8.5	16.5
2738.0	11.9	47.1	50	9.6	1.47	6.85	20548	307	2088	8.5	16.5
2739.0	8.5	47.4	50	9.6	1.59	6.97	20901	430	2034	8.5	16.5
2740.0	7.5	47.5	50	9.6	1.63	7.10	21299	485	1985	8.5	16.5
2741.0	5.3	47.2	50	9.6	1.75	7.29	21870	695	1945	8.5	16.5
2742.0	3.4	47.9	50	9.6	1.90	7.58	22749	1069	1919	8.5	16.5
2743.0	2.4	47.8	50	9.6	2.02	8.00	24007	1532	1908	8.5	16.5
2744.0	3.8	47.7	50	9.6	1.86	8.26	24788	951	1881	8.5	16.5
2745.0	3.8	47.8	50	9.6	1.87	8.53	25586	972	1857	8.5	16.5
2746.0	2.5	47.3	50	9.6	2.00	8.93	26788	1463	1846	8.5	16.5
2747.0	3.0	47.7	50	9.6	1.94	9.26	27788	1217	1830	8.5	16.5
2748.0	5.7	48.2	50	9.6	1.73	9.44	28318	645	1800	8.5	16.5
2749.0	8.9	48.1	50	9.6	1.58	9.55	28656	412	1766	8.5	16.5
2750.0	8.5	48.3	50	9.6	1.60	9.67	29008	428	1734	8.5	16.5
2751.0	2.4	48.7	50	9.6	2.03	10.08	30254	1518	1729	8.5	16.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2752.0	2.6	47.7	50	9.6	2.00	10.47	31424	1423	1722	8.5	16.5
2753.0	2.9	47.6	50	9.6	1.95	10.82	32450	1250	1711	8.5	16.5
2754.0	4.1	47.6	50	9.6	1.84	11.06	33180	889	1693	8.5	16.5
2755.0	9.5	47.9	50	9.6	1.55	11.16	33494	382	1665	8.5	16.5
2756.0	6.1	48.9	50	9.6	1.72	11.33	33984	595	1643	8.5	16.5
2757.0	7.4	48.9	50	9.6	1.65	11.46	34389	493	1619	8.5	16.5
2758.0	6.7	47.0	50	9.6	1.66	11.61	34834	543	1597	8.5	16.5
2759.0	6.6	48.8	55	9.6	1.72	11.76	35334	553	1577	8.5	16.5
2760.0	7.2	48.7	55	9.6	1.69	11.90	35793	507	1556	8.5	16.5
2761.0	7.0	47.5	55	9.6	1.69	12.04	36264	522	1537	8.5	16.5
2762.0	7.6	46.3	55	9.6	1.64	12.18	36698	481	1517	8.5	16.5
2763.0	10.0	44.6	55	9.6	1.53	12.28	37028	365	1496	8.5	16.5
2764.0	3.8	48.3	55	9.6	1.90	12.54	37897	961	1486	8.5	16.5
2765.0	2.1	47.8	55	9.6	2.10	13.02	39468	1739	1491	8.5	16.5
2766.0	5.4	48.7	55	9.6	1.79	13.20	40079	676	1477	8.5	16.6
2767.0	8.5	47.8	55	9.6	1.62	13.32	40468	430	1459	8.5	16.6
2768.0	11.7	49.8	55	9.6	1.54	13.40	40749	312	1440	8.5	16.6
2769.0	8.5	49.8	55	9.6	1.65	13.52	41137	429	1423	8.5	16.6
2770.0	4.3	49.7	55	9.6	1.88	13.75	41907	852	1414	8.5	16.6
2771.0	3.4	49.3	55	9.6	1.96	14.05	42887	1084	1408	8.5	16.6
2772.0	10.4	47.8	55	9.6	1.55	14.15	43203	350	1392	8.5	16.6
2773.0	3.6	48.8	55	9.6	1.93	14.43	44127	1023	1386	8.5	16.6
2774.0	3.4	49.4	55	9.6	1.96	14.72	45094	1070	1381	8.5	16.6
2775.0	3.4	49.6	55	9.6	1.96	15.02	46079	1090	1377	8.5	16.6
2776.0	2.2	49.8	55	9.6	2.12	15.48	47602	1686	1381	8.5	16.6
2776.3	1.3	50.1	55	9.6	2.31	15.72	48386	2891	1388	8.5	16.6

BIT NUMBER	11	IADC CODE	537	INTERVAL	2776.3- 2806.8
HTC J33		SIZE	12.250	NOZZLES	15 16 16
COST	7774.00	TRIP TIME	8.0	BIT RUN	30.5
TOTAL HOURS	7.68	TOTAL TURNS	22806	CONDITION	T1 B1 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2777.0	2.6	28.5	37	9.6	1.62	0.27	596	1418	54261	8.5	16.5
2778.0	2.1	45.5	50	9.4	2.07	0.74	2012	1724	23357	8.5	16.5
2779.0	2.7	45.9	50	9.6	1.95	1.11	3110	1336	15201	8.5	16.5
2780.0	2.7	44.6	50	9.5	1.96	1.48	4221	1353	11458	8.5	16.5
2781.0	7.3	48.1	50	9.4	1.69	1.62	4630	497	9126	8.5	16.5
2782.0	6.7	48.2	50	9.3	1.73	1.76	5075	543	7620	8.5	16.5
2783.0	7.4	48.2	50	9.4	1.67	1.90	5480	492	6556	8.5	16.5
2784.0	7.3	48.4	50	9.5	1.66	2.04	5888	497	5769	8.5	16.5
2785.0	8.4	50.0	50	9.5	1.64	2.15	6245	435	5156	8.5	16.5
2786.0	8.7	49.4	50	9.5	1.62	2.27	6590	419	4668	8.5	16.5
2787.0	10.5	49.5	50	9.5	1.55	2.36	6875	347	4264	8.5	16.5
2788.0	3.4	51.3	50	9.5	1.97	2.66	7760	1078	3992	8.5	16.5
2789.0	5.7	51.1	50	9.6	1.77	2.83	8285	639	3728	8.5	16.5
2790.0	3.9	50.5	50	9.6	1.90	3.09	9054	935	3524	8.5	16.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2791.0	2.7	50.8	50	9.6	2.04	3.47	10179	1370	3377	8.5	16.5
2792.0	8.0	49.4	50	9.5	1.64	3.59	10553	455	3191	8.5	16.5
2793.0	9.4	50.1	50	9.5	1.60	3.70	10874	391	3024	8.5	16.5
2794.0	16.8	49.4	50	9.5	1.39	3.76	11052	217	2865	8.5	16.5
2795.0	3.6	50.4	50	9.5	1.94	4.03	11884	1012	2766	8.5	16.5
2796.0	2.2	49.8	50	9.4	2.12	4.50	13279	1698	2712	8.5	16.5
2797.0	2.5	49.7	50	9.4	2.08	4.90	14489	1473	2652	8.5	16.5
2798.0	3.1	50.8	50	9.3	2.04	5.22	15455	1177	2584	8.5	16.5
2799.0	2.7	50.1	50	9.3	2.08	5.59	16554	1337	2529	8.5	16.5
2800.0	4.8	49.4	50	9.7	1.79	5.80	17175	756	2454	8.5	16.5
2801.0	3.2	49.1	50	9.7	1.93	6.11	18116	1146	2401	8.5	16.5
2802.0	3.3	51.7	50	9.7	1.94	6.41	19016	1096	2350	8.5	16.5
2803.0	3.9	49.9	50	9.6	1.88	6.67	19785	936	2297	8.5	16.5
2804.0	3.0	50.4	50	9.5	2.00	7.00	20785	1217	2258	8.5	16.5
2805.0	2.0	47.5	50	9.5	2.10	7.50	22285	1826	2243	8.5	16.6
2806.0	7.7	47.5	50	9.5	1.64	7.63	22675	474	2184	8.5	16.6
2806.8	18.3	46.6	50	9.5	1.33	7.68	22806	200	2132	8.5	16.6

BIT NUMBER 11 IADC CODE 4 INTERVAL 2806.8- 2814.0
 CHRIS RC6 SIZE 8.500 NOZZLES 14 15 15
 COST 18300.00 TRIP TIME 8.0 BIT RUN 7.2
 TOTAL HOURS 3.54 TOTAL TURNS 18565 CONDITION TO R0 G0.900

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2807.0	13.8	5.0	70	9.5	0.96	0.01	61	264	237844	8.5	16.6
2807.2	8.8	5.0	70	9.5	1.06	0.04	156	416	119130	8.5	16.6
2807.4	67.5	5.0	70	9.5	0.63	0.04	169	54	79438	8.5	16.6
2807.6	18.7	5.0	70	9.5	0.90	0.05	214	195	59627	8.5	16.6
2807.8	36.0	5.0	70	9.5	0.76	0.06	237	101	47722	8.5	16.6
2808.0	22.5	5.0	70	9.5	0.86	0.07	274	162	39795	8.5	16.6
2808.2	25.3	5.0	70	9.5	0.83	0.07	308	144	34131	8.5	16.6
2808.4	26.7	5.0	70	9.5	0.82	0.08	339	137	29882	8.5	16.6
2808.6	51.4	5.0	70	9.5	0.68	0.08	355	71	26569	8.5	16.6
2808.8	31.3	5.0	70	9.5	0.79	0.09	382	117	23924	8.5	16.6
2809.0	25.7	5.0	70	9.5	0.83	0.10	415	142	21762	8.5	16.6
2809.2	29.0	5.0	70	9.5	0.80	0.11	444	126	19959	8.5	16.6
2809.4	18.7	5.0	70	9.5	0.89	0.12	489	195	18439	8.5	16.6
2809.6	9.9	6.2	70	9.5	1.08	0.14	574	370	17148	8.5	16.6
2809.8	21.8	5.9	70	9.6	0.89	0.15	612	167	16016	8.5	16.6
2810.0	18.5	6.1	70	9.5	0.93	0.16	658	198	15028	8.5	16.6
2810.2	10.9	6.9	70	9.5	1.08	0.17	735	335	14163	8.5	16.6
2810.4	7.7	10.2	70	9.5	1.26	0.20	843	472	13403	8.5	16.6
2810.6	1.9	10.9	70	9.5	1.63	0.31	1282	1907	12798	8.5	16.6
2810.8	2.4	12.0	70	9.6	1.60	0.39	1625	1491	12232	8.5	16.6
2811.0	0.7	15.3	84	9.6	2.09	0.66	3020	5037	11890	8.5	16.6
2811.2	3.2	15.5	90	9.5	1.71	0.72	3353	1126	11400	8.5	16.6
2811.4	6.3	15.4	90	9.5	1.53	0.76	3524	578	10930	8.5	16.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2811.6	3.3	14.9	90	9.5	1.69	0.82	3850	1101	10520	8.5	16.6
2811.8	1.6	15.8	90	9.5	1.92	0.94	4513	2242	10189	8.5	16.6
2812.0	1.2	15.7	90	9.5	2.02	1.11	5446	3155	9919	8.5	16.6
2812.2	0.9	16.0	90	9.4	2.09	1.33	6601	3906	9696	8.5	16.6
2812.4	2.5	16.0	90	9.4	1.82	1.41	7037	1476	9402	8.5	16.6
2812.6	1.5	16.0	90	9.5	1.94	1.54	7751	2414	9161	8.5	16.6
2812.8	2.0	16.8	90	9.6	1.87	1.64	8281	1790	8916	8.5	16.6
2813.0	1.4	17.0	90	9.6	1.99	1.78	9073	2678	8714	8.5	16.6
2813.2	2.1	17.4	90	9.6	1.88	1.88	9580	1714	8496	8.5	16.6
2813.4	1.8	16.6	90	9.5	1.91	1.99	10192	2069	8301	8.5	16.6
2813.6	5.0	17.2	90	9.5	1.63	2.03	10406	725	8078	8.5	16.6
2813.8	0.4	17.3	90	9.5	2.37	2.56	13283	9729	8125	8.5	16.6
2814.0	0.2	17.7	90	9.6	2.54	3.54	18565	17859	8396	8.5	16.6

BIT NUMBER	12	IADC CODE	617	INTERVAL	2814.0- 2960.2
HTC J44		SIZE	12.250	NOZZLES	15 16 16
COST	6844.00	TRIP TIME	8.3	BIT RUN	146.2
TOTAL HOURS	33.08	TOTAL TURNS	93198	CONDITION	T5 B5 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2814.5	2.5	23.5	50	9.6	1.63	0.20	608	1479	75790	8.5	16.6
2815.0	4.4	40.4	50	9.6	1.72	0.32	949	832	38311	8.5	16.6
2816.0	10.2	48.6	50	9.6	1.54	0.41	1244	359	19335	8.5	16.6
2817.0	28.8	48.2	50	9.6	1.18	0.45	1348	127	12932	8.5	16.6
2818.0	6.7	48.9	50	9.6	1.69	0.60	1796	545	9835	8.5	16.6
2819.0	12.9	51.8	50	9.6	1.49	0.68	2028	283	7925	8.5	16.6
2820.0	12.8	51.8	50	9.6	1.49	0.75	2263	285	6652	8.5	16.6
2821.0	14.9	51.8	50	9.6	1.44	0.82	2463	244	5736	8.5	16.6
2822.0	2.2	50.0	50	9.6	2.09	1.28	3845	1682	5230	8.5	16.6
2823.0	2.1	50.0	50	9.6	2.10	1.76	5292	1761	4844	8.5	16.6
2824.0	1.8	51.6	50	9.6	2.18	2.33	6995	2074	4567	8.5	16.6
2825.0	2.7	51.2	50	9.6	2.02	2.70	8093	1336	4273	8.5	16.6
2826.0	2.1	50.6	50	9.6	2.10	3.17	9513	1730	4061	8.5	16.6
2827.0	2.1	54.0	50	9.6	2.16	3.65	10954	1754	3884	8.5	16.6
2828.0	2.3	52.6	50	9.6	2.10	4.08	12254	1583	3720	8.5	16.6
2829.0	3.8	49.3	50	9.6	1.88	4.35	13038	955	3535	8.5	16.6
2830.0	10.6	48.7	50	9.6	1.53	4.44	13322	345	3336	8.5	16.6
2831.0	7.7	46.0	50	9.6	1.61	4.57	13712	475	3167	8.5	16.6
2832.0	5.2	49.4	50	9.6	1.78	4.76	14288	702	3031	8.5	16.6
2833.0	4.3	49.8	50	9.6	1.85	4.99	14984	847	2916	8.5	16.6
2834.0	2.7	50.3	50	9.6	2.02	5.37	16109	1370	2838	8.5	16.6
2835.0	6.3	49.1	50	9.6	1.71	5.53	16588	582	2731	8.5	16.6
2836.0	4.8	48.0	50	9.6	1.79	5.74	17218	768	2642	8.5	16.6
2837.0	2.7	51.2	50	9.6	2.03	6.11	18323	1345	2585	8.5	16.6
2838.0	2.2	50.2	50	9.6	2.08	6.55	19663	1631	2546	8.5	16.6
2839.0	1.9	48.7	50	9.6	2.12	7.09	21257	1940	2521	8.5	16.6
2840.0	6.8	50.3	50	9.6	1.70	7.23	21701	541	2445	8.5	16.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2841.0	8.7	48.6	50	9.6	1.59	7.35	22047	421	2370	8.5	16.6
2842.0	6.3	50.5	50	9.6	1.73	7.51	22526	583	2306	8.5	16.6
2843.0	3.9	50.4	50	9.6	1.89	7.77	23304	947	2259	8.5	16.6
2844.0	5.5	50.7	50	9.6	1.77	7.95	23850	664	2206	8.5	16.6
2845.0	3.8	51.5	50	9.6	1.92	8.22	24648	972	2166	8.5	16.6
2846.0	5.4	50.6	50	9.6	1.78	8.40	25203	676	2120	8.5	16.6
2847.0	2.1	53.4	50	9.6	2.15	8.88	26639	1748	2109	8.5	16.6
2848.0	2.0	53.8	50	9.6	2.16	9.37	28108	1788	2099	8.5	16.6
2849.0	1.1	48.4	50	9.6	2.29	10.26	30792	3268	2133	8.5	16.6
2850.0	1.9	48.4	50	9.6	2.10	10.79	32361	1909	2126	8.5	16.6
2851.0	9.9	47.5	45	9.6	1.50	10.89	32633	367	2079	8.5	16.6
2852.0	6.5	47.7	40	9.6	1.60	11.04	33005	566	2039	8.5	16.6
2853.0	3.6	47.9	40	9.6	1.81	11.32	33672	1014	2013	8.5	16.6
2854.0	2.8	49.8	40	9.6	1.92	11.68	34545	1328	1996	8.5	16.6
2855.0	13.1	49.7	40	9.6	1.38	11.76	34728	279	1954	8.5	16.6
2856.0	8.2	50.0	40	9.6	1.55	11.88	35022	447	1918	8.5	16.6
2857.0	5.6	49.6	40	9.6	1.67	12.06	35450	651	1888	8.5	16.6
2858.0	8.9	49.5	40	9.6	1.51	12.17	35721	412	1855	8.5	16.6
2859.0	9.5	49.4	40	9.6	1.49	12.28	35972	382	1822	8.5	16.6
2860.0	7.6	49.5	40	9.6	1.57	12.41	36288	481	1793	8.5	16.6
2861.0	3.0	50.5	40	9.6	1.90	12.74	37082	1208	1781	8.5	16.6
2862.0	2.7	50.7	40	9.6	1.94	13.11	37963	1340	1771	8.5	16.6
2863.0	12.5	49.6	40	9.6	1.40	13.19	38155	292	1741	8.5	16.6
2864.0	5.4	50.0	40	9.6	1.70	13.37	38600	678	1720	8.5	16.6
2865.0	13.6	49.6	40	9.6	1.37	13.45	38777	269	1691	8.5	16.6
2866.0	21.4	48.6	40	9.6	1.21	13.49	38889	170	1662	8.5	16.6
2867.0	16.1	49.2	40	9.6	1.31	13.56	39038	227	1635	8.5	16.6
2868.0	13.8	49.2	40	9.6	1.36	13.63	39211	264	1610	8.5	16.6
2869.0	10.6	50.8	40	9.6	1.47	13.72	39437	344	1587	8.5	16.6
2870.0	12.9	50.9	40	9.6	1.40	13.80	39623	283	1563	8.5	16.6
2871.0	7.6	51.2	40	9.6	1.59	13.93	39939	480	1544	8.5	16.6
2872.0	4.1	51.5	46	9.6	1.85	14.18	40612	898	1533	8.5	16.6
2873.0	1.3	51.9	50	9.6	2.30	14.95	42941	2834	1555	8.5	16.6
2874.0	2.0	51.0	50	9.6	2.13	15.46	44451	1839	1560	8.5	16.6
2875.0	2.9	51.1	50	9.6	2.00	15.80	45475	1246	1555	8.5	16.6
2876.0	2.3	51.9	49	9.6	2.08	16.23	46729	1561	1555	8.5	16.6
2877.0	2.8	52.7	40	9.6	1.96	16.58	47587	1306	1551	8.5	16.6
2878.0	3.9	53.5	40	9.6	1.86	16.84	48207	943	1542	8.5	16.6
2879.0	4.0	53.6	40	9.6	1.85	17.09	48809	916	1532	8.5	16.6
2880.0	4.1	53.4	40	9.6	1.84	17.34	49398	896	1522	8.5	16.6
2881.0	4.1	53.5	40	9.6	1.83	17.58	49978	883	1513	8.5	16.6
2882.0	3.9	52.6	40	9.6	1.85	17.84	50593	935	1504	8.5	16.6
2883.0	4.2	52.3	40	9.6	1.81	18.08	51169	876	1495	8.5	16.6
2884.0	9.9	51.1	40	9.6	1.50	18.18	51411	368	1479	8.5	16.6
2885.0	10.4	51.6	40	9.6	1.49	18.27	51642	352	1463	8.5	16.6
2886.0	8.7	51.8	40	9.6	1.55	18.39	51918	420	1449	8.5	16.6
2887.0	6.1	52.2	40	9.6	1.68	18.55	52313	601	1437	8.5	16.6
2888.0	6.3	51.8	40	9.6	1.67	18.71	52693	578	1425	8.5	16.6
2889.0	6.7	52.9	40	9.6	1.66	18.86	53051	545	1414	8.5	16.6
2890.0	5.8	52.9	40	9.5	1.72	19.03	53468	635	1403	8.5	16.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2891.0	4.6	54.1	40	9.5	1.81	19.25	53985	787	1395	8.5	16.6
2892.0	5.0	54.8	40	9.5	1.79	19.45	54467	732	1387	8.5	16.6
2893.0	4.0	54.0	40	9.5	1.87	19.70	55071	920	1381	8.5	16.6
2894.0	7.6	48.9	40	9.5	1.58	19.83	55385	478	1370	8.5	16.6
2895.0	5.0	50.3	47	9.5	1.80	20.03	55951	730	1362	8.5	16.6
2896.0	4.6	51.3	50	9.5	1.86	20.25	56599	789	1355	8.5	16.6
2897.0	5.1	50.7	50	9.5	1.81	20.44	57182	710	1347	8.5	16.6
2898.0	4.1	50.3	50	9.5	1.89	20.68	57908	884	1342	8.5	16.6
2899.0	5.8	51.1	50	9.5	1.78	20.86	58425	629	1333	8.5	16.6
2900.0	4.8	49.6	50	9.5	1.82	21.06	59044	754	1326	8.5	16.6
2901.0	3.9	52.2	50	9.5	1.93	21.32	59813	936	1322	8.5	16.6
2902.0	3.7	51.9	50	9.5	1.94	21.59	60629	993	1318	8.5	16.6
2903.0	4.7	53.4	50	9.5	1.87	21.80	61262	770	1312	8.5	16.6
2904.0	3.1	53.5	47	9.5	2.01	22.13	62183	1190	1311	8.5	16.6
2905.0	4.9	52.7	45	9.5	1.82	22.33	62735	747	1305	8.5	16.6
2906.0	7.5	52.4	45	9.5	1.66	22.47	63096	489	1296	8.5	16.6
2907.0	7.5	53.8	45	9.5	1.68	22.60	63458	489	1287	8.5	16.6
2908.0	6.9	53.1	45	9.5	1.70	22.74	63848	528	1279	8.5	16.7
2909.0	4.8	52.0	45	9.6	1.80	22.95	64410	761	1273	8.5	16.7
2910.0	4.8	51.7	45	9.6	1.80	23.16	64973	761	1268	8.5	16.7
2911.0	4.3	51.8	43	9.5	1.83	23.39	65572	846	1264	8.5	16.7
2912.0	4.4	53.0	40	9.6	1.81	23.62	66114	825	1259	8.5	16.7
2913.0	5.4	53.4	40	9.5	1.74	23.80	66556	673	1253	8.5	16.7
2914.0	4.3	53.0	40	9.5	1.82	24.04	67117	854	1249	8.5	16.7
2915.0	5.0	53.2	40	9.5	1.77	24.24	67595	727	1244	8.5	16.7
2916.0	3.9	53.9	40	9.5	1.87	24.49	68207	931	1241	8.5	16.7
2917.0	3.9	52.3	40	9.5	1.85	24.75	68828	945	1238	8.5	16.7
2918.0	3.6	51.3	40	9.5	1.87	25.03	69500	1023	1236	8.5	16.7
2919.0	4.7	51.3	40	9.5	1.77	25.24	70006	770	1232	8.5	16.7
2920.0	4.8	51.7	40	9.5	1.78	25.45	70508	764	1227	8.5	16.7
2921.0	5.0	51.6	40	9.5	1.76	25.65	70986	726	1223	8.5	16.7
2922.0	7.3	51.6	42	9.5	1.64	25.79	71331	503	1216	8.5	16.7
2923.0	5.3	50.1	50	9.5	1.80	25.98	71895	687	1211	8.5	16.7
2924.0	4.8	50.2	50	9.5	1.83	26.18	72517	757	1207	8.5	16.7
2925.0	5.3	49.4	50	9.5	1.78	26.37	73082	688	1202	8.5	16.7
2926.0	5.0	50.4	50	9.5	1.81	26.57	73677	724	1198	8.5	16.7
2927.0	6.3	50.3	50	9.5	1.73	26.73	74151	577	1193	8.5	16.7
2928.0	4.7	50.6	50	9.5	1.84	26.94	74787	774	1189	8.5	16.7
2929.0	7.2	50.3	50	9.6	1.67	27.08	75203	506	1183	8.5	16.7
2930.0	6.1	50.6	50	9.6	1.74	27.24	75692	595	1178	8.5	16.7
2931.0	5.3	50.7	50	9.6	1.79	27.43	76261	693	1174	8.5	16.7
2932.0	9.0	49.1	50	9.6	1.59	27.54	76594	405	1167	8.5	16.7
2933.0	3.8	49.8	50	9.6	1.89	27.81	77388	967	1166	8.5	16.7
2934.0	2.9	50.5	50	9.6	1.99	28.15	78424	1261	1166	8.5	16.7
2935.0	3.1	50.9	50	9.6	1.98	28.48	79399	1188	1167	8.5	16.7
2936.0	2.6	50.8	50	9.6	2.03	28.86	80543	1392	1168	8.5	16.7
2937.0	5.3	50.9	50	9.6	1.79	29.05	81109	690	1164	8.5	16.7
2938.0	7.6	50.9	50	9.6	1.67	29.18	81506	483	1159	8.5	16.7
2939.0	5.4	51.4	50	9.6	1.79	29.36	82057	671	1155	8.5	16.7
2940.0	5.0	51.4	50	9.6	1.81	29.56	82656	729	1152	8.5	16.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2941.0	2.6	52.0	50	9.6	2.05	29.95	83805	1399	1154	8.5	16.7
2942.0	5.3	51.0	50	9.6	1.79	30.13	84367	684	1150	8.5	16.7
2943.0	17.1	51.6	50	9.6	1.39	30.19	84542	213	1143	8.5	16.7
2944.0	11.3	49.6	50	9.6	1.51	30.28	84807	323	1136	8.5	16.7
2945.0	17.6	49.0	50	9.6	1.36	30.34	84978	208	1129	8.5	16.7
2946.0	9.1	49.3	50	9.6	1.58	30.45	85307	401	1124	8.5	16.7
2947.0	8.9	49.5	50	9.6	1.59	30.56	85644	410	1118	8.5	16.7
2948.0	11.3	49.8	50	9.6	1.51	30.65	85909	323	1113	8.5	16.7
2949.0	6.1	49.9	50	9.6	1.73	30.81	86404	604	1109	8.5	16.7
2950.0	5.4	50.1	50	9.6	1.77	31.00	86963	680	1106	8.5	16.7
2951.0	6.6	49.2	50	9.6	1.69	31.15	87416	551	1102	8.5	16.7
2952.0	5.0	50.5	50	9.6	1.81	31.35	88021	736	1099	8.5	16.7
2953.0	5.4	50.3	50	9.6	1.78	31.54	88576	676	1096	8.5	16.7
2954.0	5.6	50.3	50	9.6	1.77	31.71	89115	656	1093	8.5	16.7
2955.0	5.5	51.1	50	9.6	1.78	31.90	89659	662	1090	8.5	16.7
2956.0	3.9	52.1	50	9.6	1.91	32.16	90438	949	1089	8.5	16.7
2957.0	4.7	52.8	50	9.6	1.85	32.37	91071	770	1086	8.5	16.7
2958.0	3.6	53.7	50	9.6	1.96	32.65	91912	1025	1086	8.5	16.7
2959.0	7.4	52.8	50	9.6	1.69	32.78	92316	491	1082	8.5	16.7
2960.0	5.2	50.5	50	9.6	1.79	32.97	92895	705	1079	8.5	16.7
2960.2	2.0	51.9	50	9.6	2.14	33.08	93198	1846	1080	8.5	16.7

BIT NUMBER	13	IADC CODE	316	INTERVAL	2960.2- 2972.3
HTC J7		SIZE	8.500	NOZZLES	14 14 14
COST	1494.00	TRIP TIME	8.3	BIT RUN	12.1
TOTAL HOURS	2.63	TOTAL TURNS	10615	CONDITION	T8 R6 G0.375

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2961.0	12.9	26.6	70	9.5	1.48	0.06	260	283	40040	8.5	16.7
2962.0	7.4	37.3	70	9.5	1.84	0.20	827	493	18069	8.5	16.7
2963.0	7.6	41.2	70	9.5	1.90	0.33	1383	483	11789	8.5	16.7
2964.0	5.7	42.2	70	9.5	2.02	0.50	2115	637	8854	8.5	16.7
2965.0	8.0	42.4	70	9.5	1.90	0.63	2643	459	7105	8.5	16.7
2966.0	5.2	41.7	70	9.5	2.05	0.82	3455	706	6002	8.5	16.7
2967.0	5.3	32.4	70	9.5	1.87	1.01	4253	694	5221	8.5	16.7
2968.0	6.7	41.4	70	9.5	1.95	1.16	4882	547	4622	8.5	16.7
2969.0	3.6	38.5	65	9.5	2.09	1.44	5957	1005	4211	8.5	16.7
2970.0	5.0	40.2	65	9.5	2.01	1.64	6743	736	3856	8.5	16.7
2971.0	5.6	38.9	65	9.5	1.94	1.82	7434	647	3559	8.5	16.7
2972.0	3.9	39.8	65	9.5	2.09	2.07	8433	935	3337	8.5	16.7
2972.3	0.5	39.0	66	9.5	2.80	2.63	10615	6743	3421	8.5	16.7

BIT NUMBER	14	IADC CODE	537	INTERVAL	2972.3- 3045.8
HTC J33		SIZE	8.500	NOZZLES	14 14 14
COST	4503.00	TRIP TIME	8.5	BIT RUN	73.5
TOTAL HOURS	10.79	TOTAL TURNS	31858	CONDITION	T8 R6 G0.625

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2973.0	9.8	45.3	50	9.6	1.72	0.07	215	374	51152	8.5	16.7
2974.0	7.1	34.8	40	9.6	1.61	0.21	553	514	21365	8.5	16.7
2975.0	6.8	33.4	40	9.6	1.60	0.36	906	537	13651	8.5	16.7
2976.0	5.4	33.5	40	9.6	1.68	0.54	1350	676	10144	8.5	16.7
2977.0	5.0	33.7	40	9.6	1.71	0.74	1830	730	8141	8.5	16.7
2978.0	5.9	33.7	40	9.6	1.66	0.91	2237	619	6822	8.5	16.7
2979.0	5.3	34.5	40	9.6	1.71	1.10	2690	689	5906	8.5	16.7
2980.0	6.2	35.7	40	9.6	1.67	1.26	3077	589	5216	8.5	16.7
2981.0	6.1	36.2	40	9.6	1.68	1.43	3470	599	4685	8.5	16.7
2981.8	15.7	35.8	40	9.6	1.35	1.48	3593	233	4310	8.5	16.7
2982.0	25.0	35.7	40	9.6	1.18	1.49	3612	146	4224	8.5	16.7
2983.0	5.7	37.0	45	9.6	1.76	1.66	4086	640	3889	8.5	16.7
2984.0	7.0	36.9	50	9.6	1.72	1.80	4512	519	3601	8.5	16.7
2985.0	7.2	36.9	50	9.5	1.72	1.94	4930	508	3358	8.5	16.7
2986.0	5.6	37.4	50	9.6	1.82	2.12	5469	656	3161	8.5	16.7
2987.0	13.7	37.7	50	9.6	1.49	2.20	5688	267	2964	8.5	16.7
2988.0	7.5	37.2	50	9.6	1.70	2.33	6090	489	2806	8.5	16.7
2989.0	9.6	37.9	50	9.6	1.62	2.43	6402	380	2661	8.5	16.7
2990.0	8.8	36.3	50	9.6	1.63	2.55	6742	414	2534	8.5	16.7
2991.0	6.9	38.0	50	9.6	1.74	2.69	7176	528	2427	8.5	16.7
2992.0	7.6	38.5	50	9.6	1.72	2.82	7569	479	2328	8.5	16.7
2993.0	4.1	40.5	50	9.6	1.97	3.07	8298	888	2258	8.5	16.7
2994.0	6.4	39.5	50	9.7	1.78	3.22	8765	568	2180	8.5	16.7
2995.0	3.6	41.2	50	9.7	2.01	3.50	9591	1005	2129	8.5	16.7
2996.0	2.5	42.5	50	9.7	2.17	3.90	10806	1479	2101	8.5	16.7
2997.0	10.2	38.2	50	9.7	1.59	4.00	11099	357	2031	8.5	16.7
2998.0	6.4	41.2	50	9.7	1.80	4.16	11566	568	1974	8.5	16.7
2999.0	8.6	40.8	50	9.6	1.70	4.27	11913	423	1916	8.5	16.7
3000.0	8.1	42.1	50	9.6	1.75	4.40	12286	453	1863	8.5	16.7
3001.0	11.0	42.5	50	9.6	1.64	4.49	12557	331	1809	8.5	16.7
3002.0	10.7	42.6	50	9.6	1.65	4.58	12837	341	1760	8.5	16.7
3003.0	7.2	43.1	50	9.6	1.81	4.72	13255	508	1719	8.5	16.7
3004.0	8.5	42.9	50	9.6	1.74	4.84	13609	431	1679	8.5	16.7
3005.0	8.6	44.7	50	9.6	1.76	4.95	13957	424	1640	8.5	16.7
3006.0	7.7	44.7	50	9.6	1.80	5.08	14348	476	1606	8.5	16.7
3007.0	8.0	42.1	50	9.6	1.75	5.21	14721	454	1572	8.5	16.7
3008.0	7.1	39.5	50	9.6	1.75	5.35	15141	511	1543	8.5	16.7
3009.0	6.3	40.7	50	9.6	1.81	5.51	15615	576	1516	8.5	16.7
3010.0	11.0	38.7	50	9.6	1.58	5.60	15887	332	1485	8.5	16.7
3011.0	15.5	30.7	50	9.6	1.35	5.66	16081	235	1453	8.5	16.7
3012.0	9.6	33.3	50	9.6	1.55	5.76	16392	379	1426	8.5	16.8
3013.0	10.5	36.8	50	9.6	1.57	5.86	16677	347	1399	8.5	16.8
3014.0	11.7	40.2	50	9.6	1.58	5.95	16935	313	1373	8.5	16.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
3015.0	8.6	41.7	50	9.6	1.71	6.06	17282	423	1351	8.5	16.8
3016.0	4.7	41.5	50	9.6	1.94	6.28	17924	781	1338	8.5	16.8
3017.0	8.2	40.0	50	9.6	1.71	6.40	18290	445	1318	8.5	16.8
3018.0	12.3	40.2	50	9.6	1.57	6.48	18534	298	1296	8.5	16.8
3019.0	6.1	40.3	50	9.6	1.82	6.64	19026	599	1281	8.5	16.8
3020.0	6.9	41.8	46	9.6	1.77	6.79	19427	532	1265	8.5	16.8
3021.0	7.2	37.9	45	9.6	1.69	6.93	19804	510	1249	8.5	16.8
3022.0	6.8	38.2	45	9.6	1.71	7.07	20200	536	1235	8.5	16.8
3023.0	7.1	38.5	45	9.6	1.70	7.22	20581	514	1221	8.5	16.8
3024.0	10.7	33.8	46	9.6	1.50	7.31	20840	340	1204	8.5	16.8
3025.0	9.8	39.0	60	9.6	1.70	7.41	21208	373	1188	8.5	16.8
3026.0	8.2	39.1	60	9.6	1.76	7.53	21645	443	1174	8.5	16.8
3027.0	6.1	41.2	60	9.6	1.90	7.70	22236	600	1164	8.5	16.8
3028.0	2.9	48.2	60	9.6	2.30	8.04	23464	1246	1165	8.5	16.8
3029.0	5.7	48.3	60	9.6	2.04	8.21	24099	644	1156	8.5	16.8
3030.0	4.6	43.2	51	9.6	1.98	8.43	24766	793	1150	8.5	16.8
3031.0	5.2	42.2	50	9.6	1.91	8.62	25343	702	1142	8.5	16.8
3032.0	5.7	42.0	50	9.6	1.87	8.80	25871	643	1134	8.5	16.8
3033.0	7.9	41.6	50	9.6	1.74	8.92	26249	460	1123	8.5	16.8
3034.0	8.1	42.3	50	9.6	1.75	9.05	26619	450	1112	8.5	16.8
3035.0	7.3	42.4	50	9.6	1.78	9.18	27028	498	1102	8.5	16.8
3036.0	7.0	42.5	50	9.6	1.80	9.33	27459	524	1093	8.5	16.8
3037.0	7.5	42.6	50	9.6	1.78	9.46	27857	484	1083	8.5	16.8
3038.0	7.3	42.0	50	9.6	1.78	9.60	28269	502	1075	8.5	16.8
3039.0	6.8	42.1	50	9.6	1.81	9.74	28708	535	1066	8.5	16.8
3040.0	6.2	41.7	50	9.6	1.83	9.91	29189	585	1059	8.5	16.8
3041.0	9.4	42.0	50	9.6	1.69	10.01	29510	391	1050	9.0	16.9
3042.0	8.1	43.4	50	9.6	1.76	10.14	29879	449	1041	9.0	16.9
3043.0	7.2	43.5	50	9.6	1.81	10.27	30298	510	1034	9.0	16.9
3044.0	6.5	43.7	50	9.6	1.85	10.43	30758	560	1027	9.0	16.9
3045.0	7.8	41.8	50	9.6	1.76	10.56	31142	467	1019	9.0	16.9
3045.8	3.4	31.1	50	9.6	1.87	10.79	31858	1089	1020	9.0	16.9

BIT NUMBER	15	IADC CODE	537	INTERVAL	3045.8- 3091.6
HTC J33		SIZE	8.500	NOZZLES	14 14 14
COST	4503.00	TRIP TIME	8.6	BIT RUN	45.8
TOTAL HOURS	10.32	TOTAL TURNS	30946	CONDITION	T8 B6 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
3046.0	7.0	25.0	50	9.6	1.52	0.03	86	522	180073	9.0	16.9
3047.0	8.6	30.0	50	9.6	1.54	0.14	435	425	30366	9.0	16.9
3048.0	7.8	30.0	50	9.6	1.57	0.27	819	468	16776	9.0	16.9
3049.0	9.7	30.0	50	9.6	1.50	0.38	1128	376	11651	9.0	16.9
3050.0	9.0	30.0	50	9.6	1.52	0.49	1462	406	8974	9.0	16.9
3051.0	7.7	30.0	50	9.6	1.57	0.62	1851	474	7339	9.0	16.9
3052.0	5.3	30.0	50	9.6	1.70	0.81	2417	689	6267	9.0	16.9
3053.0	6.4	30.0	50	9.6	1.63	0.96	2886	571	5476	9.0	16.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
3054.0	6.2	30.0	50	9.5	1.66	1.12	3370	589	4880	9.0	16.9
3055.0	6.5	30.0	50	9.5	1.65	1.28	3832	562	4410	9.0	16.9
3056.0	6.3	30.0	50	9.5	1.66	1.44	4308	580	4035	9.0	16.9
3057.0	6.9	30.0	50	9.5	1.63	1.58	4743	529	3722	9.3	16.9
3058.0	5.9	30.0	50	9.5	1.68	1.75	5251	619	3467	9.3	16.9
3059.0	4.8	30.0	50	9.5	1.75	1.96	5876	761	3262	9.3	16.9
3060.0	8.6	30.0	50	9.5	1.55	2.07	6225	425	3063	9.3	16.9
3061.0	6.5	30.0	50	9.5	1.65	2.23	6686	562	2898	9.3	16.9
3062.0	4.4	30.0	50	9.5	1.78	2.46	7368	830	2770	9.3	16.9
3063.0	4.7	30.0	50	9.5	1.75	2.67	8007	777	2654	9.3	16.9
3064.0	7.6	30.0	50	9.5	1.59	2.80	8401	481	2535	9.3	16.9
3065.0	4.5	30.0	50	9.5	1.77	3.02	9068	812	2445	9.3	16.9
3066.0	6.7	30.1	50	9.6	1.63	3.17	9516	545	2351	9.3	16.9
3067.0	5.5	30.4	50	9.5	1.70	3.35	10061	663	2272	9.3	16.9
3068.0	4.6	29.6	50	9.5	1.75	3.57	10708	788	2205	9.3	16.9
3069.0	6.5	30.2	50	9.5	1.64	3.72	11167	558	2134	9.3	16.9
3070.0	4.7	29.9	50	9.6	1.74	3.93	11799	770	2077	9.3	16.9
3071.0	5.6	29.4	50	9.6	1.68	4.11	12336	653	2021	9.3	16.9
3072.0	3.6	30.8	50	9.6	1.85	4.39	13181	1029	1983	9.3	16.9
3073.0	4.8	32.7	50	9.5	1.79	4.60	13802	757	1938	9.3	16.9
3074.0	4.8	32.9	50	9.5	1.79	4.81	14432	767	1896	9.3	16.9
3075.0	4.1	32.6	50	9.5	1.84	5.05	15160	886	1862	9.3	16.9
3076.0	4.9	32.6	50	9.5	1.79	5.26	15776	750	1825	9.3	16.9
3077.0	5.1	33.2	50	9.5	1.78	5.45	16359	710	1789	9.3	16.9
3078.0	4.8	33.1	50	9.5	1.80	5.66	16981	757	1757	9.3	16.9
3079.0	4.7	33.2	50	9.5	1.81	5.87	17618	776	1728	9.3	16.9
3080.0	4.8	33.5	50	9.5	1.81	6.08	18239	756	1699	9.3	16.9
3081.0	4.9	33.0	50	9.6	1.78	6.28	18848	742	1672	9.3	16.9
3082.0	3.7	32.7	50	9.6	1.86	6.55	19652	978	1653	9.3	16.9
3083.0	4.9	33.0	50	9.6	1.78	6.75	20265	747	1628	9.4	16.9
3084.0	6.9	34.1	50	9.6	1.68	6.90	20702	533	1600	9.4	17.0
3085.0	6.1	35.5	50	9.6	1.74	7.06	21193	598	1574	9.4	17.0
3086.0	6.9	38.3	50	9.6	1.75	7.21	21631	533	1548	9.4	17.0
3087.0	5.8	34.7	50	9.8	1.71	7.38	22151	633	1526	9.4	17.0
3088.0	5.2	34.1	50	10.0	1.70	7.58	22727	702	1507	9.4	17.0
3089.0	1.5	35.5	50	10.1	2.13	8.26	24777	2496	1529	9.4	17.0
3090.0	1.7	35.6	50	10.1	2.09	8.86	26569	2181	1544	9.4	17.0
3091.0	1.4	36.7	50	10.1	2.16	9.56	28690	2582	1567	9.4	17.0
3091.6	0.8	38.4	50	10.1	2.40	10.32	30946	4577	1607	9.4	17.0

BIT NUMBER	16	IADC CODE	617	INTERVAL	3091.6- 3116.1
HTC J44		SIZE	8.500	NOZZLES	14 14 14
COST	4347.00	TRIP TIME	8.6	BIT RUN	24.5
TOTAL HOURS	10.96	TOTAL TURNS	35427	CONDITION	T2 B2 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
3092.0	6.7	15.2	50	10.3	1.24	0.06	179	544	89930	9.4	17.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
3093.0	2.3	34.8	50	10.3	1.94	0.50	1506	1616	26849	9.4	17.0
3094.0	1.7	39.7	50	10.0	2.19	1.09	3257	2131	16550	9.4	17.0
3095.0	1.7	42.2	50	10.1	2.20	1.67	5020	2146	12313	9.4	17.0
3096.0	1.5	40.8	50	10.4	2.18	2.36	7086	2516	10087	9.4	17.0
3097.0	1.6	39.8	50	10.0	2.19	2.97	8913	2224	8630	9.4	17.0
3098.0	1.6	40.7	50	10.0	2.22	3.59	10765	2254	7634	9.4	17.0
3099.0	1.5	40.2	50	10.0	2.23	4.25	12744	2409	6928	9.4	17.0
3100.0	2.3	36.8	53	10.1	2.04	4.69	14166	1618	6296	9.4	17.0
3101.0	2.1	35.8	60	10.0	2.09	5.17	15890	1749	5812	9.4	17.0
3102.0	1.8	35.7	60	10.0	2.14	5.72	17866	2005	5446	9.4	17.0
3103.0	2.0	35.8	60	10.1	2.10	6.23	19704	1865	5132	9.4	17.0
3104.0	1.5	33.5	60	10.2	2.13	6.91	22138	2469	4917	9.4	17.0
3105.0	2.1	39.2	60	10.0	2.16	7.39	23867	1754	4681	9.4	17.0
3106.0	2.0	40.1	60	10.0	2.20	7.88	25658	1817	4482	9.4	17.0
3107.0	2.3	41.0	60	9.9	2.18	8.32	27220	1585	4294	9.4	17.0
3108.0	2.5	40.8	53	9.9	2.10	8.71	28467	1433	4120	9.4	17.0
3109.0	2.5	40.6	50	9.9	2.09	9.12	29684	1481	3968	9.5	17.0
3110.0	2.6	39.8	50	9.9	2.05	9.50	30838	1405	3829	9.5	17.0
3111.0	5.4	38.8	50	9.9	1.78	9.69	31398	682	3666	9.6	17.0
3112.0	4.7	37.4	50	9.9	1.81	9.90	32041	782	3525	9.8	17.0
3113.0	5.5	35.6	50	9.9	1.73	10.08	32590	669	3392	9.8	17.0
3114.0	4.4	37.7	50	9.9	1.83	10.31	33271	830	3277	9.8	17.0
3115.0	2.9	40.8	52	9.9	2.05	10.66	34353	1274	3192	9.8	17.0
3116.0	4.4	40.9	60	9.9	1.95	10.89	35179	838	3095	9.8	17.0
3116.1	1.5	40.9	60	9.9	2.34	10.96	35427	2516	3093	9.8	17.0

BIT NUMBER	16	IADC CODE	4	INTERVAL	3116.1- 3117.4
CHRIS C-20		SIZE	8.500	NOZZLES	14 14 14
COST	0.00	TRIP TIME	8.6	BIT RUN	1.3
TOTAL HOURS	3.56	TOTAL TURNS	15784	CONDITION	T0 B0 G0.600

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
3116.4	2.1	10.1	60	9.9	1.49	0.14	516	1745	106436	9.6	17.0
3116.6	0.9	14.8	66	9.9	1.88	0.37	1388	4048	65480	9.6	17.0
3116.8	0.3	15.6	75	9.9	2.20	0.94	3976	10505	49773	9.6	17.0
3117.0	0.4	18.3	75	9.8	2.27	1.46	6316	9495	40822	9.6	17.0
3117.2	0.2	15.6	75	9.9	2.34	2.45	10750	17991	36671	9.6	17.0
3117.4	0.2	15.5	75	9.9	2.35	3.56	15784	20426	34172	9.6	17.0

BIT NUMBER	17	IADC CODE	617	INTERVAL	3117.4- 3143.4
HTC J44		SIZE	8.500	NOZZLES	14 14 14
COST	4347.00	TRIP TIME	8.7	BIT RUN	26.0
TOTAL HOURS	7.75	TOTAL TURNS	23244	CONDITION	T2 B2 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3118.0	5.5	31.5	50	10.2	1.60	0.11	328	664	60863	9.5	17.0
3119.0	4.7	35.6	50	10.2	1.72	0.32	963	773	23307	9.5	17.0
3120.0	4.2	35.8	50	10.0	1.80	0.56	1669	860	14674	9.5	17.0
3121.0	4.2	36.3	50	9.8	1.84	0.79	2378	862	10837	9.5	17.0
3122.0	3.2	37.5	50	9.8	1.96	1.11	3318	1145	8730	9.5	17.0
3123.0	2.0	37.5	50	9.8	2.13	1.61	4830	1840	7500	9.5	17.0
3124.0	2.4	40.2	50	9.8	2.12	2.03	6087	1530	6595	9.5	17.0
3125.0	9.1	38.4	50	9.8	1.62	2.14	6417	402	5780	9.5	17.0
3126.0	3.6	39.0	50	10.1	1.89	2.41	7240	1002	5225	9.5	17.0
3127.0	2.3	39.4	50	10.1	2.05	2.84	8526	1565	4844	9.5	17.0
3128.0	1.2	38.9	50	10.1	2.27	3.70	11114	3151	4684	9.5	17.0
3129.0	1.7	39.0	50	10.0	2.15	4.29	12856	2120	4463	9.6	17.0
3130.0	2.6	39.2	50	10.1	2.01	4.67	14014	1410	4221	9.7	17.0
3131.0	3.6	39.4	50	10.1	1.90	4.95	14839	1004	3984	9.7	17.0
3132.0	3.2	39.5	50	10.1	1.94	5.26	15778	1142	3789	9.7	17.0
3133.0	1.8	40.1	50	10.1	2.15	5.81	17430	2012	3675	9.7	17.0
3134.0	3.2	40.1	50	10.1	1.95	6.12	18358	1129	3522	9.7	17.0
3135.0	4.8	39.8	50	10.1	1.81	6.33	18985	764	3365	9.7	17.0
3136.0	8.2	39.4	50	10.1	1.62	6.45	19352	446	3208	9.7	17.0
3137.0	7.1	39.7	50	10.1	1.67	6.59	19775	515	3071	9.9	17.1
3138.0	6.4	39.9	50	10.1	1.71	6.75	20246	573	2950	10.0	17.1
3139.0	3.6	40.3	50	10.1	1.91	7.03	21077	1011	2860	10.0	17.1
3140.0	4.7	40.2	50	10.1	1.82	7.24	21714	776	2768	10.0	17.1
3141.0	6.0	40.1	50	10.1	1.74	7.40	22215	610	2676	10.0	17.1
3142.0	5.0	39.8	50	10.1	1.79	7.61	22817	733	2597	10.0	17.1
3143.0	12.1	39.3	50	10.1	1.48	7.69	23066	302	2508	10.0	17.1
3143.4	6.7	39.1	50	10.1	1.68	7.75	23244	543	2478	10.0	17.1

BIT NUMBER	17	IADC CODE	4	INTERVAL	3143.4- 3145.4
CHRIS C-23		SIZE	8.500	NOZZLES	14 14 14
COST	19000.00	TRIP TIME	8.7	BIT RUN	2.0
TOTAL HOURS	4.10	TOTAL TURNS	18459	CONDITION	T0 B0 G0.100

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3143.6	9.5	14.8	75	10.6	1.22	0.02	95	385	254247	10.0	17.1
3143.8	0.5	20.1	75	10.5	2.10	0.41	1823	7010	130629	10.0	17.1
3144.0	0.7	20.5	75	10.5	2.05	0.70	3164	5442	88900	10.0	17.1
3144.2	0.4	20.6	75	10.5	2.19	1.19	5363	8922	68905	10.0	17.1
3144.4	1.2	21.0	75	10.5	1.92	1.36	6130	3114	55747	10.0	17.1
3144.6	0.8	21.2	75	10.5	2.03	1.62	7285	4687	47237	10.0	17.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
3144.8	0.6	21.2	75	10.5	2.13	1.98	8905	6574	41428	10.0	17.1
3145.0	0.6	21.3	75	10.5	2.12	2.33	10503	6482	37060	10.0	17.1
3145.2	0.3	22.2	75	10.5	2.34	3.04	13660	12812	34366	10.0	17.1
3145.4	0.2	22.8	75	10.5	2.48	4.10	18459	19472	32876	10.0	17.1

BIT NUMBER	18	IADC CODE	637	INTERVAL	3145.4- 3203.5
HTC J55		SIZE	8.500	NOZZLES	14 14 14
COST	4350.00	TRIP TIME	8.7	BIT RUN	58.1
TOTAL HOURS	23.07	TOTAL TURNS	70096	CONDITION	T8 R4 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
3146.0	2.7	21.6	50	10.6	1.58	0.23	679	1378	61582	10.1	17.1
3147.0	3.3	32.6	50	10.6	1.71	0.53	1580	1097	23778	10.2	17.1
3148.0	2.9	35.1	50	10.6	1.80	0.87	2625	1272	15122	10.3	17.1
3149.0	3.0	36.6	50	10.6	1.83	1.21	3636	1231	11263	10.4	17.2
3150.0	3.1	37.0	50	10.5	1.83	1.54	4607	1183	9072	10.5	17.2
3151.0	2.1	39.0	50	10.5	2.00	2.02	6062	1770	7768	10.6	17.2
3152.0	2.7	39.0	50	10.6	1.90	2.39	7180	1362	6797	10.7	17.2
3153.0	3.4	38.7	50	10.6	1.82	2.69	8059	1070	6044	10.7	17.2
3154.0	3.4	39.3	50	10.6	1.83	2.98	8941	1073	5466	10.7	17.2
3155.0	4.6	40.5	50	10.6	1.75	3.20	9591	791	4979	10.7	17.2
3156.0	7.6	38.9	50	10.6	1.56	3.33	9985	480	4555	10.7	17.2
3157.0	4.1	37.5	50	10.6	1.74	3.57	10716	890	4239	10.7	17.2
3158.0	3.2	37.7	50	10.5	1.83	3.88	11651	1138	3993	10.7	17.2
3159.0	3.6	37.9	50	10.6	1.78	4.16	12489	1021	3774	10.7	17.2
3160.0	1.8	40.1	50	10.7	2.02	4.71	14128	1994	3652	10.7	17.2
3161.0	4.0	40.2	50	10.9	1.74	4.96	14883	919	3477	10.8	17.2
3162.0	3.2	37.9	50	11.1	1.74	5.27	15820	1141	3336	10.8	17.2
3163.0	3.5	38.0	50	11.1	1.71	5.56	16677	1043	3206	10.9	17.2
3164.0	3.2	37.9	50	11.1	1.74	5.87	17615	1141	3095	11.0	17.2
3165.0	2.4	38.7	50	11.1	1.84	6.29	18865	1522	3015	11.0	17.2
3166.0	2.7	39.3	50	11.1	1.82	6.66	19976	1353	2934	11.1	17.3
3167.0	2.3	39.4	50	11.1	1.87	7.09	21280	1588	2872	11.1	17.3
3168.0	2.8	39.0	50	11.1	1.80	7.45	22352	1304	2802	11.1	17.3
3169.0	3.4	39.0	50	11.1	1.74	7.74	23234	1074	2729	11.1	17.3
3170.0	3.1	38.6	50	11.1	1.76	8.07	24202	1178	2666	11.1	17.3
3171.0	3.0	38.0	50	11.1	1.76	8.40	25202	1217	2609	11.1	17.3
3172.0	3.6	39.0	50	11.1	1.72	8.68	26035	1014	2549	11.2	17.3
3173.0	3.0	39.4	50	11.1	1.78	9.01	27031	1212	2501	11.2	17.3
3174.0	3.2	38.6	50	11.2	1.73	9.32	27965	1137	2453	11.2	17.3
3175.0	2.1	38.9	50	11.2	1.87	9.81	29415	1765	2430	11.2	17.3
3176.0	2.2	38.7	50	11.2	1.86	10.26	30784	1666	2405	11.2	17.3
3177.0	2.9	38.7	50	11.3	1.76	10.60	31814	1254	2369	11.3	17.3
3178.0	2.5	39.2	50	11.3	1.80	11.00	33012	1459	2341	11.3	17.3
3179.0	2.8	39.4	50	11.4	1.76	11.36	34086	1308	2310	11.3	17.3
3180.0	2.9	39.4	50	11.4	1.75	11.70	35113	1250	2279	11.3	17.3
3181.0	2.6	39.3	50	11.4	1.77	12.09	36266	1404	2255	11.3	17.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
3182.0	2.0	39.4	50	11.5	1.86	12.60	37794	1860	2244	11.3	17.3
3183.0	3.2	39.4	50	11.6	1.69	12.91	38734	1144	2215	11.3	17.3
3184.0	2.3	39.7	50	11.6	1.78	13.34	40014	1557	2198	11.3	17.3
3185.0	2.2	40.5	50	11.7	1.80	13.78	41351	1628	2183	11.4	17.3
3186.0	2.7	40.4	50	11.7	1.74	14.15	42456	1345	2163	11.4	17.3
3187.0	2.4	40.3	50	11.7	1.77	14.57	43718	1536	2148	11.4	17.3
3188.0	2.4	40.5	50	11.7	1.77	14.98	44954	1505	2133	11.5	17.3
3189.0	2.7	39.2	50	11.8	1.71	15.35	46064	1351	2115	11.6	17.4
3190.0	5.9	36.5	50	11.8	1.44	15.52	46569	615	2081	11.6	17.4
3191.0	2.5	40.0	50	11.7	1.75	15.92	47761	1451	2067	11.6	17.4
3192.0	2.6	39.8	50	11.8	1.73	16.31	48926	1418	2053	11.6	17.4
3193.0	2.1	40.1	50	11.9	1.78	16.79	50362	1748	2047	11.6	17.4
3194.0	1.8	40.2	50	11.9	1.83	17.35	52059	2065	2047	11.6	17.4
3195.0	2.2	40.2	50	11.9	1.77	17.81	53417	1654	2039	11.6	17.4
3196.0	1.8	40.2	52	11.9	1.83	18.35	55114	2005	2039	11.6	17.4
3197.0	2.0	40.2	54	11.9	1.82	18.87	56771	1868	2035	11.6	17.4
3198.0	1.8	40.1	54	11.9	1.84	19.41	58546	2000	2035	11.6	17.4
3199.0	1.8	39.7	54	11.9	1.84	19.97	60343	2026	2034	11.6	17.4
3200.0	1.6	40.1	54	11.8	1.89	20.58	62338	2248	2038	11.6	17.4
3201.0	1.8	40.3	54	11.9	1.86	21.15	64180	2077	2039	11.6	17.4
3202.0	1.6	39.4	54	11.9	1.88	21.79	66245	2327	2044	11.6	17.4
3203.0	1.1	37.3	50	12.1	1.89	22.68	68915	3251	2065	11.7	17.4
3203.5	1.3	37.0	50	12.1	1.84	23.07	70096	2875	2072	11.7	17.4

BIT NUMBER	19	IADC CODE	617	INTERVAL	3203.5- 3225.9
HTC J44		SIZE	8.500	NOZZLES	14 14 15
COST	4347.00	TRIP TIME	8.8	BIT RUN	22.4
TOTAL HOURS	10.22	TOTAL TURNS	31715	CONDITION	T2 B2 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
3204.0	8.5	18.4	50	12.2	1.05	0.06	176	429	73398	11.7	17.4
3205.0	2.9	28.9	50	12.2	1.48	0.41	1225	1277	25317	11.8	17.4
3206.0	2.2	35.0	50	12.2	1.64	0.85	2562	1627	15841	11.8	17.4
3207.0	2.0	36.8	50	12.2	1.70	1.36	4083	1847	11843	11.9	17.4
3208.0	1.9	40.4	52	12.2	1.78	1.88	5706	1900	9633	11.9	17.4
3209.0	1.8	40.7	52	12.2	1.80	2.43	7417	2003	8246	11.9	17.4
3210.0	2.7	41.9	52	12.2	1.71	2.80	8591	1375	7189	11.9	17.4
3211.0	2.6	42.0	52	12.2	1.71	3.18	9770	1380	6414	11.9	17.4
3212.0	3.8	42.2	52	12.2	1.60	3.44	10583	952	5772	11.9	17.4
3213.0	2.3	43.7	52	12.2	1.77	3.87	11928	1574	5330	11.9	17.4
3214.0	5.4	42.4	52	12.2	1.51	4.06	12510	682	4887	11.9	17.4
3215.0	2.8	44.3	52	12.2	1.72	4.42	13624	1304	4576	11.9	17.4
3216.0	2.9	42.9	52	12.2	1.69	4.76	14690	1248	4309	11.9	17.4
3217.0	2.9	43.0	52	12.2	1.69	5.10	15767	1261	4084	11.9	17.4
3218.0	3.7	42.6	52	12.2	1.62	5.37	16605	981	3870	11.9	17.4
3219.0	3.2	42.8	52	12.2	1.67	5.69	17589	1151	3694	11.8	17.4
3220.0	2.3	43.1	52	12.2	1.77	6.13	18958	1603	3567	11.8	17.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3221.0	1.9	43.3	52	12.2	1.83	6.66	20626	1952	3475	11.8	17.4
3222.0	2.0	43.6	52	12.2	1.82	7.17	22212	1856	3388	11.8	17.4
3223.0	1.2	43.3	52	12.2	1.96	8.00	24787	3014	3368	11.7	17.4
3224.0	1.4	41.9	52	12.2	1.90	8.73	27093	2699	3336	11.7	17.4
3225.0	1.4	43.2	52	12.2	1.90	9.43	29261	2537	3299	11.7	17.4
3225.9	1.1	43.3	52	12.2	1.97	10.22	31715	3192	3294	11.7	17.4

BIT NUMBER	20	IADC CODE	637	INTERVAL	3225.9- 3237.6
HTC J55		SIZE	8.500	NOZZLES	14 14 15
COST	4350.00	TRIP TIME	8.8	BIT RUN	11.7
TOTAL HOURS	10.04	TOTAL TURNS	31327	CONDITION	T1 B1 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3226.0	1.2	18.8	52	12.2	1.51	0.08	257	3008	367884	11.7	17.4
3227.0	2.1	37.1	52	12.2	1.70	0.56	1758	1758	35042	11.7	17.4
3228.0	2.3	40.7	52	12.2	1.73	1.00	3110	1582	19108	11.7	17.4
3229.0	1.9	41.5	52	12.2	1.80	1.52	4755	1925	13565	11.7	17.4
3230.0	1.4	42.2	52	12.2	1.90	2.24	7001	2629	10898	11.7	17.4
3231.0	1.8	41.9	52	12.2	1.82	2.81	8778	2081	9169	11.7	17.4
3232.0	1.8	42.0	52	12.2	1.82	3.37	10511	2028	7998	11.7	17.4
3233.0	1.4	42.5	52	12.2	1.90	4.09	12756	2628	7242	11.7	17.4
3234.0	1.1	42.6	52	12.2	1.97	4.99	15575	3299	6755	11.7	17.4
3235.0	1.3	41.7	52	12.2	1.90	5.74	17917	2741	6314	11.7	17.4
3236.0	0.6	43.5	52	12.2	2.17	7.44	23199	6183	6301	11.7	17.4
3237.0	0.7	41.7	52	12.2	2.09	8.89	27741	5317	6213	11.7	17.4
3237.6	0.5	42.0	52	12.2	2.18	10.04	31327	6996	6253	11.7	17.4

BIT NUMBER	21	IADC CODE	517	INTERVAL	3237.6- 3257.0
HTC J22		SIZE	8.500	NOZZLES	14 14 15
COST	4139.00	TRIP TIME	8.8	BIT RUN	19.4
TOTAL HOURS	16.44	TOTAL TURNS	49328	CONDITION	T1 B1 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3238.0	0.4	28.5	50	12.3	1.94	0.97	2904	8853	99544	11.7	17.4
3239.0	1.1	37.3	50	12.3	1.87	1.89	5662	3358	30840	11.7	17.4
3240.0	1.0	38.3	50	12.2	1.92	2.91	8712	3713	19537	11.7	17.4
3241.0	0.9	39.0	50	12.2	1.97	4.08	12237	4291	15053	11.7	17.4
3242.0	0.8	39.6	50	12.2	1.99	5.30	15886	4442	12641	11.7	17.4
3243.0	0.6	39.2	50	12.2	2.05	6.84	20510	5629	11343	11.7	17.4
3244.0	0.7	39.2	50	12.3	2.03	8.30	24894	5336	10404	11.7	17.4
3245.0	0.8	38.9	50	12.3	1.99	9.60	28799	4754	9641	11.7	17.4
3246.0	1.0	38.7	50	12.3	1.92	10.64	31924	3805	8946	11.7	17.4
3247.0	1.7	39.0	50	12.2	1.78	11.23	33689	2148	8223	11.7	17.4
3248.0	2.7	40.9	50	12.3	1.67	11.61	34811	1366	7563	11.7	17.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3249.0	1.7	41.7	50	12.3	1.82	12.20	36598	2176	7091	11.7	17.4
3250.0	1.9	41.8	50	12.2	1.78	12.73	38172	1915	6673	11.7	17.4
3251.0	1.9	42.3	50	12.3	1.78	13.25	39739	1908	6318	11.7	17.4
3252.0	2.1	42.8	50	12.3	1.76	13.72	41154	1723	5999	11.7	17.4
3253.0	2.2	42.2	50	12.2	1.74	14.17	42502	1640	5716	11.7	17.4
3254.0	2.0	43.1	50	12.3	1.79	14.67	44004	1829	5479	11.7	17.4
3255.0	1.7	42.9	50	12.2	1.84	15.27	45799	2185	5289	11.7	17.4
3256.0	1.7	43.4	50	12.2	1.84	15.87	47594	2185	5121	11.7	17.4
3257.0	1.7	42.4	50	12.2	1.82	16.44	49328	2110	4966	11.7	17.4

(d). COMPUTER DATA LISTING ; LIST B

INTERVAL 10m averages.

DEPTH. Well depth, in metres.

ROP. Rate of penetration, in metres per hour.

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

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

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

TOTAL COST Cumulative bit cost, in A dollars.

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

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

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

BIT NUMBER	1	IADC CODE	111	INTERVAL	70.0-	208.5
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	20	20 20
COST	0.00	TRIP TIME	2.5	BIT RUN		138.5
TOTAL HOURS	3.13	TOTAL TURNS	14945	CONDITION	T2	R2 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
80.0	124.4	10.0	0.08	386	9423.68	29.37	942.37	-
90.0	71.6	20.0	0.22	1056	9933.69	51.00	496.68	-
100.0	65.6	30.0	0.37	1788	10490.62	55.69	349.69	-
110.0	84.7	40.0	0.49	2355	10921.76	43.11	273.04	-
120.0	109.8	50.0	0.58	2792	11254.39	33.26	225.09	-
130.0	48.5	60.0	0.79	3783	12008.12	75.37	200.14	-
140.0	51.3	70.0	0.98	4719	12720.26	71.21	181.72	-
150.0	23.0	80.0	1.42	6806	14307.87	158.76	178.85	-
160.0	70.7	90.0	1.56	7484	14824.22	51.64	164.71	-
170.0	26.7	100.0	1.93	9284	16193.72	136.95	161.94	-
180.0	57.3	110.0	2.11	10122	16830.79	63.71	153.01	-
190.0	39.2	120.0	2.36	11347	17763.06	93.23	148.03	-
200.0	28.5	130.0	2.71	13028	19042.28	127.92	146.48	-
208.5	31.0	138.5	2.99	14344	20043.60	117.80	144.72	-

BIT NUMBER	1	IADC CODE	111	INTERVAL	208.5-	870.0
HTC OSC 3AJ		SIZE	17.500	NOZZLES	18	18 18
COST	4857.00	TRIP TIME	3.7	BIT RUN		661.5
TOTAL HOURS	15.91	TOTAL TURNS	140631	CONDITION	T2	B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
210.0	337.5	1.5	0.00	28	18385.63	11	12257	-
220.0	156.4	11.5	0.07	431	18619.12	23	1619	-
230.0	159.5	21.5	0.13	826	18848.04	22.89	876.65	-
240.0	191.8	31.5	0.18	1154	19038.42	19.04	604.39	-
250.0	111.2	41.5	0.27	1721	19366.83	32.84	466.67	-
260.0	111.6	51.5	0.36	2285	19693.99	32.72	382.41	-
270.0	71.0	61.5	0.50	3172	20208.14	51.42	328.59	-
280.0	69.7	71.5	0.65	4076	20732.22	52.41	289.96	-
290.0	115.4	81.5	0.73	4622	21048.73	31.65	258.27	-
300.0	88.9	91.5	0.85	5431	21459.58	41.09	234.53	-
310.0	55.6	101.5	1.03	6833	22115.93	65.63	217.89	-
320.0	37.8	111.5	1.29	9094	23082.69	96.68	207.02	-
330.0	58.7	121.5	1.46	10626	23704.70	62.20	195.10	-
340.0	70.9	131.5	1.60	11896	24220.04	51.53	184.18	-
350.0	59.4	141.5	1.77	13411	24834.79	61.48	175.51	-
360.0	51.5	151.5	1.96	15159	25544.02	70.92	168.61	-
370.0	43.3	161.5	2.20	17239	26388.04	84.40	163.39	-
380.0	58.8	171.5	2.37	18769	27008.80	62.08	157.49	-
390.0	72.3	181.5	2.50	20014	27513.99	50.52	151.59	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
400.0	155.7	191.5	2.57	20592	27748.60	23.46	144.90	-
410.0	56.1	201.5	2.75	22197	28399.88	65.13	140.94	-
420.0	101.4	211.5	2.85	23085	28760.00	36.01	135.98	-
430.0	103.2	221.5	2.94	23957	29114.03	35.40	131.44	-
440.0	75.0	231.5	3.08	25158	29601.11	48.71	127.87	-
450.0	62.0	241.5	3.24	26609	30190.11	58.90	125.01	-
460.0	71.6	251.5	3.38	27867	30700.38	51.03	122.07	-
470.0	66.8	261.5	3.53	29214	31247.16	54.68	119.49	-
480.0	88.7	271.5	3.64	30229	31658.93	41.18	116.61	-
490.0	58.2	281.5	3.81	31775	32286.37	62.74	114.69	-
500.0	70.9	291.5	3.95	33045	32801.70	51.53	112.53	-
510.0	82.8	301.5	4.07	34132	33242.54	44.08	110.26	-
520.0	53.5	311.5	4.26	35813	33924.75	68.22	108.91	-
530.0	58.2	321.5	4.43	37360	34552.70	62.79	107.47	-
540.0	48.8	331.5	4.64	39205	35301.36	74.87	106.49	-
550.0	39.3	341.5	4.89	41494	36229.91	92.86	106.09	-
560.0	37.9	351.5	5.15	43868	37193.49	96.36	105.81	-
570.0	37.9	361.5	5.42	46243	38157.08	96.36	105.55	-
580.0	37.2	371.5	5.69	48665	39140.07	98.30	105.36	-
590.0	33.8	381.5	5.98	51327	40220.10	108.00	105.43	+
600.0	39.6	391.5	6.24	53601	41142.65	92.25	105.09	-
610.0	33.6	401.5	6.53	56283	42231.15	108.85	105.18	+
620.0	31.9	411.5	6.85	59101	43374.43	114.33	105.41	+
630.0	32.7	421.5	7.15	61853	44491.33	111.69	105.55	+
640.0	36.6	431.5	7.43	64311	45488.53	99.72	105.42	-
650.0	36.4	441.5	7.70	66786	46492.83	100.43	105.31	-
660.0	32.1	451.5	8.01	69586	47629.01	113.62	105.49	+
670.0	34.0	461.5	8.31	72230	48702.17	107.32	105.53	+
680.0	32.0	471.5	8.62	75043	49843.42	114.13	105.71	+
690.0	32.3	481.5	8.93	77825	50972.49	112.91	105.86	+
700.0	31.4	491.5	9.25	80690	52135.05	116.26	106.07	+
710.0	34.6	501.5	9.53	83293	53191.07	105.60	106.06	-
720.0	24.6	511.5	9.94	86955	54677.23	148.62	106.90	+
730.0	33.0	521.5	10.25	89685	55785.00	110.78	106.97	+
740.0	31.4	531.5	10.56	92555	56949.59	116.46	107.15	+
750.0	32.3	541.5	10.87	95345	58081.71	113.21	107.26	+
760.0	20.2	551.5	11.37	99798	59888.43	180.67	108.59	+
770.0	26.1	561.5	11.75	103243	61286.34	139.79	109.15	+
780.0	36.7	571.5	12.02	105694	62280.88	99.45	108.98	-
790.0	34.8	581.5	12.31	108281	63330.83	105.00	108.91	-
800.0	31.4	591.5	12.63	111151	64495.52	116.47	109.04	+
810.0	40.2	601.5	12.88	113392	65404.59	90.91	108.74	-
820.0	31.7	611.5	13.19	116229	66555.82	115.12	108.84	+
830.0	60.1	621.5	13.36	117726	67163.26	60.74	108.07	-
840.0	27.2	631.5	13.73	121034	68505.78	134.25	108.48	+
850.0	14.6	641.5	14.41	127180	70999.69	249.39	110.68	+
860.0	12.0	651.5	15.25	134695	74049.11	304.94	113.66	+
870.0	14.0	661.5	15.96	141113	76653.19	260.41	115.88	+

BIT NUMBER	2	IADC CODE	116	INTERVAL	870.0-	951.0
HTC J1		SIZE	12.250	NOZZLES	18	18 18
COST	2694.00	TRIP TIME	4.0	BIT RUN		81.0
TOTAL HOURS	2.77	TOTAL TURNS	16633	CONDITION	T2 B2 G0.000	

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
880.0	22.4	10.0	0.45	2676	18930.75	163	1893	-
890.0	34.0	20.0	0.74	4442	20005.86	108	1000	-
900.0	28.5	30.0	1.09	6548	21287.26	128.14	709.58	-
910.0	39.6	40.0	1.34	8061	22208.66	92.14	555.22	-
920.0	36.7	50.0	1.62	9695	23202.73	99.41	464.05	-
930.0	44.6	60.0	1.84	11039	24021.00	81.83	400.35	-
940.0	23.2	70.0	2.27	13629	25597.23	157.62	365.67	-
950.0	22.2	80.0	2.72	16335	27244.46	164.72	340.56	-
951.0	20.1	81.0	2.77	16633	27426.15	181.69	338.59	-

BIT NUMBER	3	IADC CODE	116	INTERVAL	951.0-	1598.0
HTC J1		SIZE	12.250	NOZZLES	18	18 18
COST	2694.00	TRIP TIME	5.4	BIT RUN		647.0
TOTAL HOURS	31.52	TOTAL TURNS	216592	CONDITION	T6 B6 G0.250	

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
960.0	17.0	9.0	0.53	3186	24353.80	215	2706	-
970.0	21.3	19.0	1.00	6003	26068.39	171	1372	-
980.0	20.4	29.0	1.49	8943	27858.07	178.97	960.62	-
990.0	13.1	39.0	2.26	13060	30655.35	279.73	786.03	-
1000.0	25.4	49.0	2.65	14710	32090.41	143.51	654.91	-
1010.0	19.1	59.0	3.17	16907	34000.69	191.03	576.28	-
1020.0	14.6	69.0	3.86	20850	36496.90	249.62	528.94	-
1030.0	13.9	79.0	4.58	25598	39128.02	263.11	495.29	-
1040.0	14.9	89.0	5.25	30440	41584.01	245.60	467.24	-
1050.0	13.9	99.0	5.97	35630	44216.49	263.25	446.63	-
1060.0	18.0	109.0	6.52	39624	46242.34	202.58	424.24	-
1070.0	19.7	119.0	7.03	43280	48096.74	185.44	404.17	-
1080.0	14.5	129.0	7.72	48248	50616.62	251.99	392.38	-
1090.0	13.0	139.0	8.49	53784	53424.60	280.80	384.35	-
1100.0	14.8	149.0	9.17	58642	55888.69	246.41	375.09	-
1110.0	14.9	159.0	9.84	63479	58342.29	245.36	366.93	-
1120.0	18.8	169.0	10.37	67309	60284.95	194.27	356.72	-
1130.0	10.0	179.0	11.37	74495	63929.85	364.49	357.15	+
1140.0	17.5	189.0	11.94	78609	66016.36	208.65	349.29	-
1150.0	19.2	199.0	12.46	82355	67916.42	190.01	341.29	-
1160.0	13.9	209.0	13.18	87522	70537.50	262.11	337.50	-
1170.0	24.2	219.0	13.59	90496	72045.59	150.81	328.98	-
1180.0	13.6	229.0	14.32	95783	74727.69	268.21	326.32	-
1190.0	17.1	239.0	14.91	100004	76868.58	214.09	321.63	-

DEPTH	ROP	BIT RUN	HOURS	URNS	TOTAL COST	ICOST	CCOST	I-C
1200.0	21.6	249.0	15.37	103344	78562.75	169.42	315.51	-
1210.0	16.0	259.0	16.00	107857	80851.56	228.88	312.17	-
1220.0	25.6	269.0	16.39	110670	82278.32	142.68	305.87	-
1230.0	18.9	279.0	16.92	114474	84207.73	192.94	301.82	-
1240.0	34.2	289.0	17.21	116576	85274.08	106.63	295.07	-
1250.0	26.4	299.0	17.59	119303	86657.40	138.33	289.82	-
1260.0	34.1	309.0	17.88	121414	87728.11	107.07	283.91	-
1270.0	25.2	319.0	18.28	124272	89177.79	144.97	279.55	-
1280.0	26.9	329.0	18.65	126946	90534.27	135.65	275.18	-
1290.0	24.8	339.0	19.06	129847	92005.68	147.14	271.40	-
1300.0	26.3	349.0	19.44	132586	93394.69	138.90	267.61	-
1310.0	24.8	359.0	19.84	135492	94868.71	147.40	264.26	-
1320.0	31.7	369.0	20.16	137764	96021.22	115.25	260.22	-
1330.0	24.6	379.0	20.56	140686	97503.49	148.23	257.27	-
1340.0	32.3	389.0	20.87	142913	98632.62	112.91	253.55	-
1350.0	26.1	399.0	21.25	145676	100034.24	140.16	250.71	-
1360.0	28.0	409.0	21.61	148251	101340.53	130.63	247.78	-
1370.0	31.2	419.0	21.93	150559	102511.00	117.05	244.66	-
1380.0	33.8	429.0	22.23	152689	103591.38	108.04	241.47	-
1390.0	35.3	439.0	22.51	154731	104627.13	103.57	238.33	-
1400.0	31.2	449.0	22.83	157037	105796.87	116.97	235.63	-
1410.0	30.6	459.0	23.16	159387	106988.59	119.17	233.09	-
1420.0	36.7	469.0	23.43	161347	107982.75	99.42	230.24	-
1430.0	33.8	479.0	23.73	163475	109062.11	107.94	227.69	-
1440.0	23.1	489.0	24.16	166589	110641.60	157.95	226.26	-
1450.0	23.9	499.0	24.58	169605	112171.39	152.98	224.79	-
1460.0	24.2	509.0	24.99	172585	113682.91	151.15	223.35	-
1470.0	28.1	519.0	25.35	175149	114983.43	130.05	221.55	-
1480.0	27.3	529.0	25.71	177783	116319.45	133.60	219.89	-
1490.0	22.8	539.0	26.15	180945	117923.29	160.38	218.78	-
1500.0	16.1	549.0	26.77	185409	120187.53	226.42	218.92	+
1510.0	19.4	559.0	27.29	189114	122067.00	187.95	218.37	-
1520.0	28.1	569.0	27.64	191678	123367.52	130.05	216.81	-
1530.0	35.2	579.0	27.93	193722	124404.28	103.68	214.86	-
1540.0	40.2	589.0	28.18	195508	125312.75	90.85	212.76	-
1550.0	14.6	599.0	28.86	200636	127809.50	249.68	213.37	+
1560.0	30.1	609.0	29.19	203125	129021.76	121.23	211.86	-
1570.0	22.7	619.0	29.63	206425	130628.64	160.69	211.03	-
1580.0	30.4	629.0	29.96	208896	131831.77	120.31	209.59	-
1590.0	25.2	639.0	30.36	211687	133279.39	144.76	208.57	-
1598.0	6.9	647.0	31.52	216592	137509.62	528.78	212.53	+

BIT NUMBER	4	IADC CODE	517	INTERVAL	1598.0- 2016.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	6.3	BIT RUN	418.0
TOTAL HOURS	44.49	TOTAL TURNS	156262	CONDITION	T4 B4 G0.250

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1600.0	9.2	2.0	0.22	661	32316.40	396	16158	-
1610.0	23.7	12.0	0.64	1931	33858.35	154	2822	-
1620.0	18.5	22.0	1.18	3872	35827.39	197	1629	-
1630.0	61.3	32.0	1.34	4459	36422.87	60	1138	-
1640.0	25.9	42.0	1.73	5850	37833.96	141.11	900.81	-
1650.0	53.2	52.0	1.92	6527	38520.74	68.68	740.78	-
1660.0	23.9	62.0	2.33	8076	40050.52	152.98	645.98	-
1670.0	21.6	72.0	2.80	10023	41743.63	169.31	579.77	-
1680.0	35.0	82.0	3.08	11224	42788.51	104.49	521.81	-
1690.0	42.9	92.0	3.32	12203	43639.63	85.11	474.34	-
1700.0	11.7	102.0	4.17	15801	46768.17	312.85	458.51	-
1710.0	21.4	112.0	4.64	17767	48477.51	170.93	432.83	-
1720.0	11.3	122.0	5.52	21468	51695.33	321.78	423.73	-
1730.0	24.1	132.0	5.94	23213	53212.94	151.76	403.13	-
1740.0	44.4	142.0	6.16	24124	54034.64	82.17	380.53	-
1750.0	7.8	152.0	7.45	28748	58725.43	469.08	386.35	+
1760.0	5.8	162.0	9.17	34940	65007.21	628.18	401.28	+
1770.0	4.1	172.0	11.59	43656	73849.10	884.19	429.36	+
1780.0	6.3	182.0	13.17	49357	79632.45	578.33	437.54	+
1790.0	20.0	192.0	13.67	51155	81456.42	182.40	424.25	-
1800.0	34.1	202.0	13.97	52210	82526.16	106.97	408.55	-
1810.0	6.3	212.0	15.55	59705	88311.02	578.49	416.56	+
1820.0	3.4	222.0	18.49	69030	99032.28	1072	446	+
1830.0	3.3	232.0	21.48	78007	109959.86	1093	474	+
1840.0	11.6	242.0	22.34	81149	113116.81	315.70	467.42	-
1850.0	12.6	252.0	23.14	84372	116021.16	290.44	460.40	-
1860.0	4.4	262.0	25.43	92622	124390.33	836.92	474.77	+
1870.0	29.3	272.0	25.77	93852	125638.10	124.78	461.90	-
1880.0	22.5	282.0	26.22	95452	127261.21	162.31	451.28	-
1890.0	5.7	292.0	27.98	101812	133713.05	645.18	457.92	+
1900.0	10.6	302.0	28.93	105220	137170.38	345.73	454.21	-
1910.0	23.2	312.0	29.36	106677	138746.90	157.65	444.70	-
1920.0	29.3	322.0	29.70	107850	139992.97	124.61	434.76	-
1930.0	9.6	332.0	30.74	111191	143791.05	379.81	433.11	-
1940.0	5.4	342.0	32.58	116719	150519.86	672.88	440.12	+
1950.0	14.4	352.0	33.28	118809	153064.29	254.44	434.84	-
1960.0	4.9	362.0	35.32	124933	160519.44	745.52	443.42	+
1970.0	6.2	372.0	36.94	129800	166444.81	592.54	447.43	+
1980.0	6.9	382.0	38.38	135778	171701.67	525.69	449.48	+
1990.0	9.2	392.0	39.48	140360	175686.40	398.47	448.18	-
2000.0	5.3	402.0	41.35	145488	182531.87	684.55	454.06	+
2010.0	7.0	412.0	42.79	150132	187776.55	524.47	455.77	+
2016.0	3.5	418.0	44.49	156262	193995.10	1036	464	+

BIT NUMBER	5	IADC CODE	517	INTERVAL	2016.0- 2170.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	6.6	BIT RUN	154.0
TOTAL HOURS	20.48	TOTAL TURNS	78127	CONDITION	T2 B2 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2020.0	4.3	4.0	0.93	2860	36017.70	850	9004	-
2030.0	11.0	14.0	1.84	6357	39348.80	333	2811	-
2040.0	6.8	24.0	3.31	12085	44712.26	536	1863	-
2050.0	5.9	34.0	5.02	18733	50937.87	623	1498	-
2060.0	24.5	44.0	5.42	20325	52429.10	149	1192	-
2070.0	11.3	54.0	6.31	23783	55667.21	324	1031	-
2080.0	5.4	64.0	8.18	31059	62480.21	681.30	976.25	-
2090.0	6.1	74.0	9.83	37491	68502.97	602.28	925.72	-
2100.0	9.5	84.0	10.87	41577	72329.46	382.65	861.06	-
2110.0	12.8	94.0	11.65	44616	75174.97	284.55	799.73	-
2120.0	9.8	104.0	12.67	48595	78901.03	372.61	758.66	-
2130.0	9.1	114.0	13.77	52880	82913.14	401.21	727.31	-
2140.0	5.1	124.0	15.75	60592	90134.63	722.15	726.89	-
2150.0	8.5	134.0	16.93	65189	94440.14	430.55	704.78	-
2160.0	8.0	144.0	18.17	70050	98991.95	455.18	687.44	-
2170.0	4.3	154.0	20.48	78127	107397.64	840.57	697.39	+

BIT NUMBER	5	IADC CODE	4	INTERVAL	2170.0- 2187.4
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	6.6	BIT RUN	17.4
TOTAL HOURS	4.64	TOTAL TURNS	20046	CONDITION	T0 B0 G0.300

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2180.0	4.0	10.0	2.52	10530	33323.49	922	3332	-
2187.4	3.5	17.4	4.64	20046	41046.45	1044	2359	-

BIT NUMBER	5	IADC CODE	4	INTERVAL	2188.0- 2205.5
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	6.7	BIT RUN	17.5
TOTAL HOURS	1.88	TOTAL TURNS	8918	CONDITION	T0 B0 G0.350

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2190.0	6.2	2.0	0.32	1461	25654.29	593	12827	-
2200.0	12.1	12.0	1.15	5645	28675.30	302	2390	-
2205.5	7.6	17.5	1.88	8918	31331.12	483	1790	-

BIT NUMBER	6	IADC CODE	517	INTERVAL	2205.5- 2445.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	7.2	BIT RUN	239.5
TOTAL HOURS	53.12	TOTAL TURNS	163054	CONDITION	T3 B3 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2210.0	4.2	4.5	1.08	3634	38769.78	880	8616	-
2220.0	4.1	14.5	3.52	11830	47677.67	891	3288	-
2230.0	5.9	24.5	5.21	17236	53832.28	615	2197	-
2240.0	3.9	34.5	7.74	24840	63088.08	926	1829	-
2250.0	6.6	44.5	9.27	28461	68650.27	556	1543	-
2260.0	3.3	54.5	12.30	36287	79719.89	1107	1463	-
2270.0	3.3	64.5	15.34	46254	90833.13	1111	1408	-
2280.0	6.5	74.5	16.88	50285	96463.30	563	1295	-
2290.0	6.2	84.5	18.49	54158	102353.92	589	1211	-
2300.0	7.2	94.5	19.89	58832	107434.51	508	1137	-
2310.0	7.8	104.5	21.17	63138	112116.18	468	1073	-
2320.0	10.3	114.5	22.14	66353	115674.85	356	1010	-
2330.0	10.0	124.5	23.15	69665	119340.03	366.52	958.55	-
2340.0	7.7	134.5	24.45	73959	124091.69	475.17	922.61	-
2350.0	7.6	144.5	25.77	78312	128908.91	481.72	892.10	-
2360.0	3.7	154.5	26.44	87112	138676.20	976.73	897.58	+
2370.0	3.3	164.5	31.46	96537	149706.34	1103	910	+
2380.0	3.2	174.5	34.54	106501	160946.39	1124	922	+
2390.0	3.0	184.5	37.82	116366	172934.46	1199	937	+
2400.0	5.1	194.5	39.80	122300	180157.31	722.28	926.26	-
2410.0	4.7	204.5	41.93	128688	187934.04	777.67	918.99	-
2420.0	3.2	214.5	45.06	138724	199376.97	1144	929	-
2430.0	3.6	224.5	47.87	147964	209637.06	1026	934	+
2440.0	3.3	234.5	50.86	156944	220568.21	1093	941	+
2445.0	2.2	239.5	53.12	163054	228816.27	1650	955	+

BIT NUMBER	7	IADC CODE	517	INTERVAL	2445.0- 2597.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	7.5	BIT RUN	152.0
TOTAL HOURS	37.28	TOTAL TURNS	119866	CONDITION	T4 B4 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2450.0	2.4	5.0	2.05	5812	43398.57	1499	8680	-
2460.0	2.9	15.0	5.44	17616	55785.67	1239	3719	-
2470.0	3.1	25.0	8.68	28656	67608.54	1182	2704	-
2480.0	4.4	35.0	10.95	36248	75885.40	828	2168	-
2490.0	3.0	45.0	14.29	47015	88110.47	1223	1958	-
2500.0	5.2	55.0	16.22	53368	95140.90	703	1730	-
2510.0	4.1	65.0	18.64	61357	103981.79	884	1600	-
2520.0	4.2	75.0	21.03	69253	112720.21	874	1503	-
2530.0	7.4	85.0	22.39	73717	117660.56	494	1384	-
2540.0	6.4	95.0	23.95	78875	123368.87	571	1299	-
2550.0	4.5	105.0	26.19	86259	131540.22	817	1253	-
2560.0	3.2	115.0	29.29	96508	142882.04	1134	1242	-
2570.0	4.5	125.0	31.54	103509	151076.39	819	1209	-
2580.0	4.7	135.0	33.67	109902	158859.20	778	1177	-
2590.0	4.3	145.0	36.01	116425	167403.87	854	1155	-
2597.0	5.5	152.0	37.28	119866	172058.58	665	1132	-

BIT NUMBER	7	IADC CODE	4	INTERVAL	2597.0- 2602.1
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	7.5	BIT RUN	5.1
TOTAL HOURS	3.50	TOTAL TURNS	18614	CONDITION	T0 B0 G0.500

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2600.0	5.8	3.0	0.52	2810	29290.17	633	9763	-
2602.1	0.7	5.1	3.50	18614	40156.90	5175	7874	-

BIT NUMBER	8	IADC CODE	537	INTERVAL	2602.1- 2616.7
HTC J33		SIZE	12.250	NOZZLES	16 16 18
COST	7774.00	TRIP TIME	7.5	BIT RUN	14.6
TOTAL HOURS	3.52	TOTAL TURNS	10553	CONDITION	T1 B5 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2610.0	3.3	7.9	2.40	7191	43917.70	1108	5559	-
2616.7	6.0	14.6	3.52	10553	48010.57	611	3288	-

BIT NUMBER	8	IADC CODE	4	INTERVAL	2616.7- 2635.2
CHRIS RC3		SIZE	8.500	NOZZLES	15 15 14
COST	0.00	TRIP TIME	7.6	BIT RUN	18.5
TOTAL HOURS	2.89	TOTAL TURNS	14572	CONDITION	T0 B0 G0.400

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2620.0	10.5	3.3	0.31	1602	28902.54	348	8758	-
2630.0	6.1	13.3	1.96	10001	34916.99	601	2625	-
2635.2	5.8	18.5	2.86	14572	38189.95	629	2064	.

BIT NUMBER	8	IADC CODE	4	INTERVAL	2635.2- 2653.0
CHRIS, RC3		SIZE	8.500	NOZZLES	15 15 14
COST	0.00	TRIP TIME	7.8	BIT RUN	17.8
TOTAL HOURS	6.72	TOTAL TURNS	36242	CONDITION	T0 B0 G0.800

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2640.0	6.5	4.8	0.74	3948	31198.99	565	6500	-
2650.0	3.2	14.8	3.84	20657	42498.89	1130	2872	-
2653.0	1.0	17.8	6.72	36242	53038.98	3513	2980	+

BIT NUMBER	8	IADC CODE	4	INTERVAL	2653.0- 2671.2
CHRIS, RC4		SIZE	8.500	NOZZLES	15 15 14
COST	0.00	TRIP TIME	7.6	BIT RUN	18.2
TOTAL HOURS	4.45	TOTAL TURNS	24028	CONDITION	T0 B0 G0.600

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2660.0	3.3	7.0	2.14	11555	35570.06	1116	5081	-
2670.0	4.7	17.0	4.26	23026	43327.88	776	2549	-
2671.2	6.5	18.2	4.45	24028	44005.53	565	2418	-

BIT NUMBER	9	IADC CODE	517	INTERVAL	2671.2- 2672.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	7.5	BIT RUN	0.8
TOTAL HOURS	0.09	TOTAL TURNS	314	CONDITION	T2 B2 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2672.0	9.2	0.8	0.09	314	36224.54	398	45281	-

BIT NUMBER	9	IADC CODE	4	INTERVAL	2672.0- 2690.5
RC4		SIZE	8.500	NOZZLES	15 15 14
COST	0.00	TRIP TIME	7.6	BIT RUN	18.5
TOTAL HOURS	4.67	TOTAL TURNS	25234	CONDITION	T0 B0 G0.900

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2680.0	5.3	8.0	1.50	8090	33226.40	684	4153	-
2690.0	3.2	18.0	4.58	24731	44480.82	1125	2471	-
2690.5	5.4	18.5	4.67	25234	44821.07	680	2423	-

BIT NUMBER	9	IADC CODE	4	INTERVAL	2690.5- 2708.3
CHRIS C-20		SIZE	8.470	NOZZLES	14 14 14
COST	0.00	TRIP TIME	7.7	BIT RUN	17.8
TOTAL HOURS	8.86	TOTAL TURNS	40488	CONDITION	T0 B0 G0.300

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2700.0	1.5	9.5	6.33	29122	51242.77	2434	5394	-
2708.3	3.3	17.8	8.86	40488	60467.64	1111	3397	-

BIT NUMBER	10	IADC CODE	537	INTERVAL	2708.3- 2776.3
HTC J33		SIZE	12.250	NOZZLES	16 16 16
COST	7774.00	TRIP TIME	8.0	BIT RUN	68.0
TOTAL HOURS	15.72	TOTAL TURNS	48386	CONDITION	T3 B4 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2710.0	7.6	1.7	0.22	668	37802.87	478	22237	-
2720.0	3.1	11.7	3.43	10303	49531.88	1173	4233	-
2730.0	3.7	21.7	6.17	18504	59515.03	998	2743	-
2740.0	10.7	31.7	7.10	21299	62918.49	340	1985	-
2750.0	3.9	41.7	9.67	29008	72302.10	938	1734	-
2760.0	4.5	51.7	11.90	35793	80455.65	815	1556	-
2770.0	5.4	61.7	13.75	41907	87222.32	677	1414	-
2776.3	3.2	68.0	15.72	48386	94392.41	1138	1388	-

BIT NUMBER	11	IADC CODE	537	INTERVAL	2776.3- 2806.8
HTC J33		SIZE	12.250	NOZZLES	15 16 16
COST	7774.00	TRIP TIME	8.0	BIT RUN	30.5
TOTAL HOURS	7.68	TOTAL TURNS	22806	CONDITION	T1 B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2780.0	2.5	3.7	1.48	4221	42395.57	1461	11458	-
2790.0	6.2	13.7	3.09	9054	48278.33	588	3524	-
2800.0	3.7	23.7	5.80	17175	58164.09	989	2454	-
2806.8	3.6	30.5	7.68	22806	65019.69	1008	2132	-

BIT NUMBER	11	IADC CODE	4	INTERVAL	2806.8- 2814.0
CHRIS RC6		SIZE	8.500	NOZZLES	14 15 15
COST	18300.00	TRIP TIME	8.0	BIT RUN	7.2
TOTAL HOURS	3.54	TOTAL TURNS	18565	CONDITION	T0 B0 G0.900

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2810.0	20.4	3.2	0.16	658	48088.10	179	15028	-
2814.0	1.2	7.2	3.54	18565	60449.10	3090	8396	-

BIT NUMBER	12	IADC CODE	617	INTERVAL	2814.0- 2960.2
HTC J44		SIZE	12.250	NOZZLES	15 16 16
COST	6844.00	TRIP TIME	8.3	BIT RUN	146.2
TOTAL HOURS	33.08	TOTAL TURNS	93198	CONDITION	T5 B5 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2820.0	8.0	6.0	0.75	2263	39909.82	459	6652	-
2830.0	2.7	16.0	4.44	13322	53372.51	1346	3336	-
2840.0	3.6	26.0	7.23	21701	63572.75	1020	2445	-
2850.0	2.8	36.0	10.79	32361	76549.52	1298	2126	-
2860.0	6.2	46.0	12.41	36288	82477.93	593	1793	-
2870.0	7.2	56.0	13.80	39623	87553.20	508	1563	-
2880.0	2.8	66.0	17.34	49398	100472.15	1292	1522	-
2890.0	5.9	76.0	19.03	53468	106665.33	619	1403	-
2900.0	4.9	86.0	21.06	59044	114078.89	741	1326	-
2910.0	4.8	96.0	23.16	64973	121742.01	766	1268	-
2920.0	4.4	106.0	25.45	70508	130100.47	836	1227	-
2930.0	5.6	116.0	27.24	75692	136638.56	654	1178	-
2940.0	4.3	126.0	29.56	82656	145116.27	848	1152	-
2950.0	7.0	136.0	31.00	86963	150358.92	524	1106	-
2960.0	5.1	146.0	32.97	92895	157580.07	722	1079	-
2960.2	2.0	146.2	33.08	93198	157949.33	1846	1080	+

BIT NUMBER	13	IADC CODE	316	INTERVAL	2960.2-2972.3
HTC J7		SIZE	8.500	NOZZLES	14 14 14
COST	1494.00	TRIP TIME	8.3	BIT RUN	12.1
TOTAL HOURS	2.63	TOTAL TURNS	10615	CONDITION	T8 B6 G0.375

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2970.0	6.0	9.8	1.64	6743	37792.04	610.86	3856.33	-
2972.3	2.3	12.1	2.63	10615	41397.38	1567.54	3421.27	-

BIT NUMBER	14	IADC CODE	537	INTERVAL	2972.3-3045.8
HTC J33		SIZE	8.500	NOZZLES	14 14 14
COST	4503.00	TRIP TIME	8.5	BIT RUN	73.5
TOTAL HOURS	10.79	TOTAL TURNS	31858	CONDITION	T8 B6 G0.625

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2980.0	6.1	7.7	1.26	3077	40161.75	599.58	5215.81	-
2990.0	7.8	17.7	2.55	6742	44849.91	468.82	2533.89	-
3000.0	5.4	27.7	4.40	12286	51597.99	674.81	1862.74	-
3010.0	8.3	37.7	5.60	15887	55982.42	438.44	1484.94	-
3020.0	8.4	47.7	6.79	19427	60334.75	435.23	1264.88	-
3030.0	6.1	57.7	8.43	24766	66334.18	599.94	1149.64	-
3040.0	6.8	67.7	9.91	29189	71718.34	538.42	1059.36	-
3045.8	6.5	73.5	10.79	31858	74966.59	560.04	1019.95	-

BIT NUMBER	15	IADC CODE	537	INTERVAL	3045.8-3091.6
HTC J33		SIZE	8.500	NOZZLES	14 14 14
COST	4503.00	TRIP TIME	8.6	BIT RUN	45.8
TOTAL HOURS	10.32	TOTAL TURNS	30946	CONDITION	T8 B6 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3050.0	8.6	4.2	0.49	1462	37689.67	423.68	8973.73	-
3060.0	6.3	14.2	2.07	6225	43487.94	579.83	3062.53	-
3070.0	5.4	24.2	3.93	11799	50273.54	678.56	2077.42	-
3080.0	4.7	34.2	6.08	18239	58113.17	783.96	1699.22	-
3090.0	3.6	44.2	8.86	26569	68253.56	1014.04	1544.20	-
3091.6	1.1	45.8	10.32	30946	73581.42	3329.91	1606.58	+

BIT NUMBER	16	IADC CODE	617	INTERVAL	3091.6-3116.1
HTC J44		SIZE	8.500	NOZZLES	14 14 14
COST	4347.00	TRIP TIME	8.6	BIT RUN	24.5
TOTAL HOURS	10.96	TOTAL TURNS	35427	CONDITION	T2 B2 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3100.0	1.8	8.4	4.69	14166	52885.80	2039.48	6295.93	-
3110.0	2.1	18.4	9.50	30838	70447.86	1756.21	3828.69	-
3116.1	4.2	24.5	10.96	35427	75773.70	873.09	3092.80	-

BIT NUMBER	16	IADC CODE	4	INTERVAL	3116.1-3117.4
CHRIS C-20		SIZE	8.500	NOZZLES	14 14 14
COST	0.00	TRIP TIME	8.6	BIT RUN	1.3
TOTAL HOURS	3.56	TOTAL TURNS	15784	CONDITION	T0 B0 G0.600

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3117.4	0.4	1.3	3.56	15784	44423.54	10013	34172	-

BIT NUMBER	17	IADC CODE	617	INTERVAL	3117.4-3143.4
HTC J44		SIZE	8.500	NOZZLES	14 14 14
COST	4347.00	TRIP TIME	8.7	BIT RUN	26.0
TOTAL HOURS	7.75	TOTAL TURNS	23244	CONDITION	T2 B2 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3120.0	4.7	2.6	0.56	1669	38151.33	781.51	14674	-
3130.0	2.4	12.6	4.67	14014	53179.31	1502.80	4220.58	-
3140.0	3.9	22.6	7.24	21714	62552.78	937.35	2767.82	-
3143.4	6.7	26.0	7.75	23244	64415.30	547.80	2477.51	-

BIT NUMBER	17	IADC CODE	4	INTERVAL	3143.4-3145.4
CHRIS C-23		SIZE	8.500	NOZZLES	14 14 14
COST	19000.00	TRIP TIME	8.7	BIT RUN	2.0
TOTAL HOURS	4.10	TOTAL TURNS	18459	CONDITION	T0 B0 G0.100

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3145.4	0.5	2.0	4.10	18459	65752.70	7490.15	32876	-

BIT NUMBER	18	IADC CODE	637	INTERVAL	3145.4-3203.5
HTC J55		SIZE	8.500	NOZZLES	14 14 14
COST	4350.00	TRIP TIME	8.7	BIT RUN	58.1
TOTAL HOURS	23.07	TOTAL TURNS	70096	CONDITION	T8 B4 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3150.0	3.0	4.6	1.54	4607	41731.06	1219.27	9071.97	-
3160.0	3.2	14.6	4.71	14128	53320.58	1158.95	3652.09	-
3170.0	3.0	24.6	8.07	24202	65584.15	1226.36	2666.02	-
3180.0	2.7	34.6	11.70	35113	78866.27	1328.21	2279.37	-
3190.0	2.6	44.6	15.52	46569	92812.85	1394.66	2081.01	-
3200.0	2.0	54.6	20.58	62338	111295.02	1848.22	2038.37	-
3203.5	1.4	58.1	23.07	70096	120387.48	2597.85	2072.07	+

BIT NUMBER	19	IADC CODE	617	INTERVAL	3203.5-3225.9
HTC J44		SIZE	8.500	NOZZLES	14 14 15
COST	4347.00	TRIP TIME	8.8	BIT RUN	22.4
TOTAL HOURS	10.22	TOTAL TURNS	31715	CONDITION	T2 B2 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3210.0	2.3	6.5	2.80	8591	46727.70	1575.86	7188.88	-
3220.0	3.0	16.5	6.13	18958	58862.48	1213.48	3567.42	-
3225.9	1.4	22.4	10.22	31715	73794.09	2530.78	3294.38	-

BIT NUMBER	20	IADC CODE	637	INTERVAL	3225.9-3237.6
HTC J55		SIZE	8.500	NOZZLES	14 14 15
COST	4350.00	TRIP TIME	8.8	BIT RUN	11.7
TOTAL HOURS	10.04	TOTAL TURNS	31327	CONDITION	T1 B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3230.0	1.8	4.1	2.24	7001	44682.28	1998.70	10898	-
3237.6	1.0	11.7	10.04	31327	73156.72	3746.64	6252.71	-

BIT NUMBER	21	IADC CODE	517	INTERVAL	3237.6-3257.0
HTC J22		SIZE	8.500	NOZZLES	14 14 15
COST	4139.00	TRIP TIME	8.8	BIT RUN	19.4
TOTAL HOURS	16.44	TOTAL TURNS	49328	CONDITION	T1 B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3240.0	0.8	2.4	2.91	8712	46888.37	4421.57	19537	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3250.0	1.0	12.4	12.73	38172	82750.90	3586.25	6673.46	-
3257.0	1.9	19.4	16.44	49328	96331.27	1940.05	4965.53	-

(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.

ZPSP 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	70.0- 208.5
HTC OSC3AJ&26"HO		SIZE	26,000	NOZZLES	20 20 20
COST	0.00	TRIP TIME	2.5	BIT RUN	138.5
TOTAL HOURS	3.13	TOTAL TURNS	14945	CONDITION	T2 B2 G0.000

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
80.0	690	389.0	444.8	114.3	179	0.34	738	73
90.0	695	539.7	451.6	83.7	183	0.34	750	74
100.0	726	440.1	492.8	112.0	209	0.39	818	77
110.0	793	725.3	587.3	81.0	272	0.51	975	84
120.0	866	871.0	701.3	80.5	354	0.67	1164	92
130.0	847	879.3	670.4	76.2	331	0.62	1113	90
140.0	837	897.4	655.6	73.1	320	0.60	1088	89
150.0	754	774.8	531.1	68.6	234	0.44	882	80
160.0	757	787.3	535.8	68.0	237	0.45	889	80
170.0	802	877.1	602.1	68.7	282	0.53	1000	85
180.0	808	900.7	610.3	67.8	288	0.54	1013	86
190.0	801	874.8	599.6	68.5	280	0.53	995	85
200.0	959	1210.1	860.1	71.1	481	0.91	1428	102
208.5	955	1220.0	852.1	69.8	475	0.89	1415	101

BIT NUMBER	1	IADC CODE	111	INTERVAL	208.5- 870.0
HTC OSC 3AJ		SIZE	17,500	NOZZLES	18 18 18
COST	4857.00	TRIP TIME	3.7	BIT RUN	661.5
TOTAL HOURS	15.91	TOTAL TURNS	140631	CONDITION	T2 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
210.0	919	1937.5	1202.4	62.1	644	2.68	1617	120
220.0	920	1976.9	1205.3	61.0	647	2.69	1621	120
230.0	942	2107.4	1264.9	60.0	695	2.89	1701	123
240.0	940	2147.7	1260.5	58.7	692	2.88	1695	123
250.0	935	2156.0	1244.8	57.7	679	2.82	1674	122
260.0	939	2186.4	1256.5	57.5	688	2.86	1690	123
270.0	942	2218.4	1264.8	57.0	695	2.89	1701	123
280.0	936	2197.3	1249.8	56.9	683	2.84	1681	123
290.0	935	2204.5	1246.1	56.5	680	2.83	1676	122
300.0	499	710.0	354.9	50.0	103	0.43	477	65
310.0	940	2240.9	1259.3	56.2	691	2.87	1693	123
320.0	930	2230.0	1233.9	55.3	670	2.78	1659	122
330.0	941	2268.9	1262.2	55.6	693	2.88	1697	123
340.0	939	2266.3	1256.8	55.5	689	2.86	1690	123
350.0	922	2201.9	1240.1	56.3	667	2.77	1668	121
360.0	930	2249.9	1261.3	56.1	684	2.85	1696	122
370.0	932	2269.1	1267.3	55.9	689	2.87	1704	122
380.0	939	2310.8	1285.0	55.6	704	2.93	1728	123
390.0	937	2312.5	1280.4	55.4	700	2.91	1722	123

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
400.0	945	2362.4	1301.7	55.1	718	2.98	1750	124
410.0	940	2358.0	1288.4	54.6	707	2.94	1733	123
420.0	936	2403.0	1277.4	53.2	698	2.90	1718	122
430.0	940	2344.8	1287.4	54.9	706	2.93	1731	123
440.0	937	2350.7	1278.9	54.4	699	2.91	1720	123
450.0	933	2344.3	1268.2	54.1	690	2.87	1705	122
460.0	930	2349.1	1261.4	53.7	685	2.85	1696	122
470.0	943	2412.2	1296.8	53.8	714	2.97	1744	123
480.0	950	2452.2	1316.2	53.7	730	3.03	1770	124
490.0	928	2356.2	1283.6	54.5	695	2.89	1726	121
500.0	942	2423.6	1324.2	54.6	728	3.03	1781	123
510.0	937	2463.6	1308.3	53.1	715	2.97	1759	123
520.0	936	2398.6	1321.2	55.1	722	3.00	1777	122
530.0	933	2403.3	1313.4	54.7	715	2.97	1766	122
540.0	946	2468.3	1349.8	54.7	745	3.10	1815	124
550.0	932	2409.7	1310.9	54.4	713	2.96	1763	122
560.0	925	2399.8	1289.6	53.7	696	2.89	1734	121
570.0	933	2561.9	1311.4	51.2	713	2.97	1763	122
580.0	935	2423.7	1318.9	54.4	720	2.99	1774	122
590.0	945	2495.0	1345.5	53.9	742	3.08	1809	124
600.0	943	2494.8	1342.3	53.8	739	3.07	1805	123
610.0	939	2474.4	1329.1	53.7	728	3.03	1787	123
620.0	934	2462.3	1314.5	53.4	716	2.98	1768	122
630.0	949	2537.0	1358.5	53.5	752	3.13	1827	124
640.0	933	2465.7	1313.1	53.3	715	2.97	1766	122
650.0	933	2561.6	1297.8	50.7	706	2.94	1745	122
660.0	932	2459.9	1296.6	52.7	705	2.93	1744	122
670.0	934	2483.6	1300.5	52.4	709	2.95	1749	122
680.0	936	2490.2	1307.4	52.5	714	2.97	1758	122
690.0	934	2483.5	1302.0	52.4	710	2.95	1751	122
700.0	937	2488.7	1308.2	52.6	715	2.97	1759	123
710.0	933	2476.4	1298.9	52.5	707	2.94	1747	122
720.0	940	2532.4	1318.8	52.1	724	3.01	1773	123
730.0	934	2497.6	1301.3	52.1	709	2.95	1750	122
740.0	937	2553.0	1310.2	51.3	716	2.98	1762	123
750.0	935	2529.7	1304.0	51.5	711	2.96	1754	122
760.0	941	2557.6	1322.0	51.7	726	3.02	1778	123
770.0	929	2500.7	1287.9	51.5	698	2.90	1732	122
780.0	934	2526.0	1300.7	51.5	709	2.95	1749	122
790.0	935	2541.4	1303.5	51.3	711	2.96	1753	122
800.0	936	2554.3	1306.2	51.1	713	2.97	1756	122
810.0	934	2561.7	1302.2	50.8	710	2.95	1751	122
820.0	940	2578.0	1316.7	51.1	722	3.00	1771	123
830.0	933	2579.7	1299.0	50.4	707	2.94	1747	122
840.0	943	2626.3	1326.2	50.5	730	3.03	1783	123
850.0	941	2587.5	1321.6	51.1	726	3.02	1777	123
860.0	930	2524.3	1290.5	51.1	700	2.91	1735	122
870.0	936	2580.6	1306.0	50.6	713	2.96	1756	122

BIT NUMBER	2	IADC CODE	116	INTERVAL	870.0- 951.0
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	4.0	BIT RUN	81.0
TOTAL HOURS	2.77	TOTAL TURNS	16633	CONDITION	T2 B2 G0.000

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
880.0	984	2905.8	1445.4	49.7	830	7.04	1944	129
890.0	990	2989.0	1428.1	47.8	825	7.00	1920	129
900.0	990	2995.0	1411.8	47.1	815	6.92	1898	129
910.0	990	2983.0	1411.8	47.3	815	6.92	1898	129
920.0	990	2983.0	1411.8	47.3	815	6.92	1898	129
930.0	990	2983.0	1428.1	47.9	825	7.00	1920	129
940.0	990	2983.0	1428.1	47.9	825	7.00	1920	129
950.0	990	2983.0	1428.1	47.9	825	7.00	1920	129
951.0	990	3002.0	1428.1	47.6	825	7.00	1920	129

BIT NUMBER	3	IADC CODE	116	INTERVAL	951.0- 1598.0
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	5.4	BIT RUN	647.0
TOTAL HOURS	31.52	TOTAL TURNS	216592	CONDITION	T6 B6 G0.250

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
960.0	910	2660.0	1206.6	45.4	640	5.43	1622	119
970.0	910	2800.0	1206.6	43.1	640	5.43	1622	119
980.0	910	2800.0	1206.6	43.1	640	5.43	1622	119
990.0	910	2800.0	1206.6	43.1	640	5.43	1622	119
1000.0	910	2710.0	1220.3	45.0	648	5.49	1641	119
1010.0	919	2712.5	1232.4	45.4	661	5.61	1657	120
1020.0	911	2683.6	1209.1	45.1	642	5.45	1626	119
1030.0	770	3000.0	873.7	29.1	392	3.33	1175	101
1040.0	918	2786.2	1243.2	44.6	666	5.65	1672	120
1050.0	908	2714.0	1228.4	45.3	650	5.52	1652	119
1060.0	917	2782.5	1254.9	45.1	672	5.70	1687	120
1070.0	911	2757.7	1237.5	44.9	658	5.58	1664	119
1080.0	914	2778.1	1247.1	44.9	665	5.65	1677	120
1090.0	912	2779.5	1241.5	44.7	661	5.61	1669	119
1100.0	908	2775.6	1230.1	44.3	652	5.53	1654	119
1110.0	918	2838.2	1257.6	44.3	674	5.72	1691	120
1120.0	918	2839.1	1256.4	44.3	673	5.71	1690	120
1130.0	914	2812.9	1245.0	44.3	664	5.63	1674	120
1140.0	913	2814.0	1242.5	44.2	662	5.61	1671	119
1150.0	916	2842.6	1251.6	44.0	669	5.68	1683	120
1160.0	910	2823.0	1234.0	43.7	655	5.56	1659	119
1170.0	910	2823.0	1234.0	43.7	655	5.56	1659	119
1180.0	910	2823.0	1234.0	43.7	655	5.56	1659	119
1190.0	910	2823.0	1234.0	43.7	655	5.56	1659	119

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1200.0	910	2823.0	1234.0	43.7	655	5.56	1659	119
1210.0	910	2823.0	1234.0	43.7	655	5.56	1659	119
1220.0	910	2823.0	1234.0	43.7	655	5.56	1659	119
1230.0	910	2823.0	1234.0	43.7	655	5.56	1659	119
1240.0	910	2823.0	1234.0	43.7	655	5.56	1659	119
1250.0	910	2823.0	1234.0	43.7	655	5.56	1659	119
1260.0	910	2823.0	1234.0	43.7	655	5.56	1659	119
1270.0	910	2823.0	1234.0	43.7	655	5.56	1659	119
1280.0	910	2823.0	1234.0	43.7	655	5.56	1659	119
1290.0	910	2823.0	1234.0	43.7	655	5.56	1659	119
1300.0	890	2870.0	1180.4	41.1	613	5.20	1587	116
1310.0	885	2870.0	1167.1	40.7	602	5.11	1569	116
1320.0	885	2870.0	1167.1	40.7	602	5.11	1569	116
1330.0	885	2870.0	1167.1	40.7	602	5.11	1569	116
1340.0	880	2900.0	1154.0	39.8	592	5.02	1552	115
1350.0	880	2900.0	1154.0	39.8	592	5.02	1552	115
1360.0	880	2900.0	1154.0	39.8	592	5.02	1552	115
1370.0	889	2998.2	1177.7	39.3	611	5.18	1584	116
1380.0	871	2917.5	1131.5	38.8	575	4.88	1521	114
1390.0	859	2873.9	1100.5	38.3	552	4.68	1480	112
1400.0	860	2871.5	1102.9	38.4	553	4.70	1483	113
1410.0	860	2860.0	1114.0	39.0	559	4.74	1498	112
1420.0	859	2864.8	1111.5	38.8	557	4.72	1495	112
1430.0	859	2870.3	1111.9	38.7	557	4.73	1495	112
1440.0	869	2947.0	1151.4	39.1	584	4.95	1548	114
1450.0	867	2933.1	1145.7	39.1	579	4.92	1541	113
1460.0	862	2948.6	1132.2	38.4	569	4.83	1522	113
1470.0	860	2898.7	1128.1	38.9	566	4.80	1517	113
1480.0	863	2942.7	1147.8	39.0	578	4.90	1543	113
1490.0	858	2928.1	1134.5	38.7	568	4.82	1526	112
1500.0	859	2947.6	1137.5	38.6	570	4.84	1530	112
1510.0	860	2978.4	1138.9	38.2	571	4.85	1531	112
1520.0	857	2931.1	1132.1	38.6	566	4.80	1522	112
1530.0	857	2951.0	1132.7	38.4	567	4.81	1523	112
1540.0	855	2900.4	1125.3	38.8	561	4.76	1513	112
1550.0	853	2893.4	1120.3	38.7	557	4.73	1506	112
1560.0	859	2926.3	1126.8	38.5	565	4.79	1515	112
1570.0	861	2923.5	1130.6	38.7	568	4.82	1520	113
1580.0	855	2890.2	1116.6	38.6	557	4.73	1501	112
1590.0	861	2934.4	1130.5	38.5	568	4.82	1520	113
1598.0	781	2462.9	930.9	37.8	424	3.60	1252	102

BIT NUMBER	4	IADC CODE	517	INTERVAL	1598.0- 2016.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	6.3	BIT RUN	418.0
TOTAL HOURS	44.49	TOTAL TURNS	156262	CONDITION	T4 B4 G0.250

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1600.0	793	2951.3	1297.8	44.0	601	5.10	1501	121
1610.0	804	2966.6	1334.8	45.0	626	5.31	1544	122
1620.0	807	2966.8	1344.7	45.3	633	5.37	1555	123
1630.0	807	2975.0	1342.8	45.1	632	5.36	1553	123
1640.0	806	2980.1	1340.9	45.0	631	5.35	1551	123
1650.0	809	3008.0	1350.3	44.9	637	5.41	1562	123
1660.0	809	2973.5	1351.7	45.5	638	5.42	1563	123
1670.0	808	2982.9	1348.3	45.2	636	5.40	1559	123
1680.0	562	1534.2	652.0	42.5	214	1.81	754	86
1690.0	667	2103.3	917.8	43.6	357	3.03	1061	102
1700.0	811	2962.2	1355.9	45.8	642	5.44	1568	123
1710.0	816	2990.9	1371.8	45.9	653	5.54	1587	124
1720.0	813	2968.2	1361.9	45.9	646	5.48	1575	124
1730.0	814	3036.9	1364.0	44.9	648	5.50	1578	124
1740.0	817	3031.3	1375.5	45.4	656	5.57	1591	124
1750.0	811	2963.2	1356.4	45.8	642	5.45	1569	123
1760.0	811	2933.3	1354.7	46.2	641	5.44	1567	123
1770.0	818	3002.0	1380.5	46.0	659	5.59	1597	124
1780.0	819	2991.5	1388.7	46.4	663	5.63	1606	125
1790.0	812	2982.2	1366.9	45.8	648	5.50	1581	124
1800.0	807	2950.1	1341.9	45.5	632	5.36	1552	123
1810.0	798	2872.9	1311.7	45.7	611	5.18	1517	121
1820.0	795	2848.0	1301.5	45.7	603	5.12	1505	121
1830.0	788	2730.8	1279.7	46.9	588	4.99	1480	120
1840.0	560	1457.2	646.7	44.4	211	1.79	748	85
1850.0	784	2746.3	1265.7	46.1	579	4.91	1464	119
1860.0	798	2825.2	1309.8	46.4	610	5.17	1515	121
1870.0	795	2804.0	1301.4	46.4	604	5.12	1505	121
1880.0	803	2873.0	1328.6	46.2	623	5.28	1537	122
1890.0	796	2812.4	1303.2	46.3	605	5.13	1507	121
1900.0	797	2869.0	1307.8	45.6	608	5.16	1513	121
1910.0	794	2856.3	1297.7	45.4	601	5.10	1501	121
1920.0	794	2844.4	1298.4	45.6	602	5.10	1502	121
1930.0	793	2849.2	1294.4	45.4	598	5.08	1497	121
1940.0	516	1289.5	549.2	42.6	165	1.40	635	79
1950.0	793	2866.6	1297.3	45.3	601	5.10	1500	121
1960.0	697	2275.9	999.8	43.9	406	3.45	1156	106
1970.0	784	2781.8	1265.6	45.5	579	4.91	1464	119
1980.0	800	2884.7	1318.3	45.7	615	5.22	1525	122
1990.0	790	2810.2	1287.6	45.8	594	5.04	1489	120
2000.0	797	2869.5	1309.1	45.6	609	5.17	1514	121
2010.0	794	2886.1	1300.6	45.1	603	5.11	1504	121
2016.0	794	2855.2	1297.7	45.5	601	5.10	1501	121

BIT NUMBER	5	IADC CODE	517	INTERVAL	2016.0- 2170.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	6.6	BIT RUN	154.0
TOTAL HOURS	20.48	TOTAL TURNS	78127	CONDITION	T2 B2 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2020.0	790	2928.8	1286.1	43.9	593	5.03	1487	120
2030.0	790	2915.0	1285.1	44.1	592	5.02	1486	120
2040.0	788	2894.0	1280.4	44.2	589	5.00	1481	120
2050.0	787	2892.9	1291.2	44.6	593	5.03	1493	120
2060.0	777	2840.4	1259.0	44.3	571	4.84	1456	118
2070.0	790	2929.4	1298.6	44.3	598	5.08	1502	120
2080.0	799	2991.9	1330.2	44.5	620	5.26	1538	122
2090.0	791	2956.3	1302.2	44.0	601	5.10	1506	120
2100.0	788	2940.3	1293.8	44.0	595	5.05	1496	120
2110.0	791	2979.3	1304.8	43.8	602	5.11	1509	120
2120.0	778	2996.0	1312.8	43.8	596	5.05	1518	118
2130.0	764	2877.0	1267.4	44.1	565	4.79	1466	116
2140.0	767	2902.7	1279.3	44.1	573	4.86	1480	117
2150.0	765	2892.0	1270.6	43.9	567	4.81	1470	116
2160.0	767	2869.0	1264.7	44.1	566	4.80	1463	117
2170.0	770	2883.5	1274.7	44.2	573	4.86	1474	117

BIT NUMBER	5	IADC CODE	4	INTERVAL	2170.0- 2187.4
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	6.6	BIT RUN	17.4
TOTAL HOURS	4.64	TOTAL TURNS	20046	CONDITION	T0 B0 G0.300

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2180.0	267	792.8	256.6	32.4	40	0.70	229	53
2187.4	232	564.9	193.9	34.3	26	0.46	173	46

BIT NUMBER	5	IADC CODE	4	INTERVAL	2188.0- 2205.5
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	6.7	BIT RUN	17.5
TOTAL HOURS	1.88	TOTAL TURNS	8918	CONDITION	T0 B0 G0.350

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2190.0	221	528.4	176.4	33.4	23	0.40	158	44
2200.0	223	576.9	178.6	31.0	23	0.41	160	44
2205.5	194	447.6	135.8	30.3	15	0.27	121	38

BIT NUMBER	6	IADC CODE	517	INTERVAL	2205.5- 2445.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	7.2	BIT RUN	239.5
TOTAL HOURS	53.12	TOTAL TURNS	163054	CONDITION	T3 B3 G0.000

DEPTH	FLOW RATE	PSP	PBIT	XPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2210.0	752	2851.3	1216.1	42.7	534	4.53	1406	114
2220.0	520	1440.7	581.6	40.4	176	1.50	673	79
2230.0	747	2831.2	1198.4	42.3	522	4.43	1386	114
2240.0	748	2815.5	1202.4	42.7	525	4.45	1391	114
2250.0	747	2819.1	1201.1	42.6	524	4.44	1389	114
2260.0	740	2776.4	1178.6	42.5	509	4.32	1363	113
2270.0	746	2809.2	1195.3	42.5	520	4.41	1382	113
2280.0	757	2896.0	1233.4	42.6	545	4.62	1426	115
2290.0	749	2819.7	1207.3	42.8	528	4.48	1396	114
2300.0	750	2830.3	1210.3	42.8	530	4.49	1400	114
2310.0	754	2887.2	1222.3	42.3	538	4.56	1414	115
2320.0	750	2841.3	1210.4	42.6	530	4.50	1400	114
2330.0	749	2850.3	1204.9	42.3	526	4.46	1394	114
2340.0	747	2870.3	1199.4	41.8	523	4.43	1387	114
2350.0	748	2882.3	1203.0	41.7	525	4.45	1391	114
2360.0	720	2688.5	1116.0	41.5	469	3.98	1291	110
2370.0	760	2958.0	1241.1	42.0	550	4.67	1435	116
2380.0	756	2905.0	1228.5	42.3	542	4.60	1421	115
2390.0	757	2961.3	1232.8	41.6	545	4.62	1426	115
2400.0	524	1486.0	591.1	39.8	181	1.53	684	80
2410.0	748	2913.6	1203.9	41.3	526	4.46	1392	114
2420.0	750	2921.7	1209.8	41.4	529	4.49	1399	114
2430.0	747	2911.8	1200.8	41.2	524	4.44	1389	114
2440.0	619	2000.4	823.0	41.1	297	2.52	952	94
2445.0	612	2390.5	804.8	33.7	287	2.44	931	93

BIT NUMBER	7	IADC CODE	517	INTERVAL	2445.0- 2597.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	7.5	BIT RUN	152.0
TOTAL HOURS	37.28	TOTAL TURNS	119866	CONDITION	T4 B4 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2450.0	727	2838.3	1102.7	38.9	467	3.97	1275	111
2460.0	730	2919.4	1145.9	39.3	488	4.14	1325	111
2470.0	731	2936.2	1148.0	39.1	489	4.15	1328	111
2480.0	727	2913.9	1137.3	39.0	483	4.09	1315	111
2490.0	729	2926.6	1142.8	39.1	486	4.12	1322	111
2500.0	732	2908.6	1153.6	39.7	493	4.18	1334	111
2510.0	730	2898.8	1145.9	39.5	488	4.14	1325	111
2520.0	730	2892.9	1145.7	39.6	488	4.14	1325	111
2530.0	725	2889.5	1130.9	39.1	478	4.06	1308	110
2540.0	671	2683.8	968.3	36.1	379	3.22	1120	102
2550.0	728	2923.5	1138.5	38.9	483	4.10	1317	111
2560.0	732	2912.9	1152.0	39.5	492	4.17	1332	111
2570.0	731	2872.5	1150.4	40.0	491	4.17	1331	111
2580.0	734	2872.6	1159.5	40.4	497	4.21	1341	112
2590.0	733	2853.9	1155.8	40.5	494	4.19	1337	112
2597.0	731	2883.2	1147.9	39.8	489	4.15	1328	111

BIT NUMBER	7	IADC CODE	4	INTERVAL	2597.0- 2602.1
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	7.5	BIT RUN	5.1
TOTAL HOURS	3.50	TOTAL TURNS	18614	CONDITION	T0 B0 G0.500

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2600.0	279	749.1	279.4	37.3	45	0.80	250	55
2602.1	276	635.5	274.8	43.2	44	0.78	246	54

BIT NUMBER	8	IADC CODE	537	INTERVAL	2602.1- 2616.7
HTC J33		SIZE	12.250	NOZZLES	16 16 18
COST	7774.00	TRIP TIME	7.5	BIT RUN	14.6
TOTAL HOURS	3.52	TOTAL TURNS	10553	CONDITION	T1 B5 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2610.0	730	2855.0	1145.1	40.1	487	4.14	1324	111
2616.7	730	2855.0	1145.1	40.1	487	4.14	1324	111

BIT NUMBER	8	IADC CODE	4	INTERVAL	2616.7- 2635.2
CHRIS RC3		SIZE	8.500	NOZZLES	15 15 14
COST	0.00	TRIP TIME	7.6	BIT RUN	18.5
TOTAL HOURS	2.89	TOTAL TURNS	14572	CONDITION	T0 B0 G0.400

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2620.0	226	621.4	183.2	29.5	24	0.42	164	44
2630.0	242	560.6	211.5	37.7	30	0.53	189	48
2635.2	243	514.2	213.2	41.5	30	0.53	191	48

BIT NUMBER	8	IADC CODE	4	INTERVAL	2635.2- 2653.0
CHRIS, RC3		SIZE	8.500	NOZZLES	15 15 14
COST	0.00	TRIP TIME	7.8	BIT RUN	17.8
TOTAL HOURS	6.72	TOTAL TURNS	36242	CONDITION	T0 B0 G0.800

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2640.0	218	786.7	173.5	22.1	22	0.39	155	43
2650.0	251	693.2	226.9	32.7	33	0.59	203	49
2653.0	251	542.9	227.8	42.0	33	0.59	204	50

BIT NUMBER	8	IADC CODE	4	INTERVAL	2653.0- 2671.2
CHRIS, RC4		SIZE	8.500	NOZZLES	15 15 14
COST	0.00	TRIP TIME	7.6	BIT RUN	18.2
TOTAL HOURS	4.45	TOTAL TURNS	24028	CONDITION	T0 B0 G0.600

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2660.0	242	677.2	210.2	31.0	30	0.52	188	48
2670.0	248	735.9	220.8	30.0	32	0.56	197	49
2671.2	248	734.2	220.8	30.1	32	0.56	197	49

BIT NUMBER	9	IADC CODE	517	INTERVAL	2671.2- 2672.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	7.5	BIT RUN	0.8
TOTAL HOURS	0.09	TOTAL TURNS	314	CONDITION	T2 B2 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2672.0	706	2882.7	1079.8	37.5	445	3.77	1249	107

BIT NUMBER	9	IADC CODE	4	INTERVAL	2672.0- 2690.5
RC4		SIZE	8.500	NOZZLES	15 15 14
COST	0.00	TRIP TIME	7.6	BIT RUN	18.5
TOTAL HOURS	4.67	TOTAL TURNS	25234	CONDITION	T0 B0 G0.900

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2680.0	247	686.6	220.7	32.2	32	0.56	197	49
2690.0	245	626.0	218.3	34.9	31	0.55	195	48
2690.5	245	642.0	218.3	34.0	31	0.55	195	48

BIT NUMBER	9	IADC CODE	4	INTERVAL	2690.5- 2708.3
CHRIS C-20		SIZE	8.470	NOZZLES	14 14 14
COST	0.00	TRIP TIME	7.7	BIT RUN	17.8
TOTAL HOURS	8.86	TOTAL TURNS	40488	CONDITION	T0 B0 G0.300

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2700.0	240	1061.5	253.2	23.9	35	0.63	206	52
2708.3	235	986.0	242.4	24.6	33	0.59	197	51

BIT NUMBER	10	IADC CODE	537	INTERVAL	2708.3- 2776.3
HTC J33		SIZE	12.250	NOZZLES	16 16 18
COST	7774.00	TRIP TIME	8.0	BIT RUN	68.0
TOTAL HOURS	15.72	TOTAL TURNS	48386	CONDITION	T3 B4 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2710.0	711	2830.8	1098.1	38.8	456	3.87	1270	108
2720.0	709	2880.6	1082.3	37.6	448	3.80	1252	108
2730.0	648	2462.5	902.8	36.7	341	2.90	1044	99
2740.0	708	2894.1	1078.8	37.3	446	3.78	1248	108
2750.0	711	2904.8	1087.3	37.4	451	3.83	1257	108
2760.0	710	2953.2	1084.9	36.7	450	3.81	1255	108
2770.0	705	2930.9	1069.1	36.5	440	3.73	1236	107
2776.3	704	2883.0	1065.6	37.0	438	3.71	1232	107

BIT NUMBER	11	IADC CODE	537	INTERVAL	2776.3- 2806.8
HTC J33		SIZE	12.250	NOZZLES	15 16 16
COST	7774.00	TRIP TIME	8.0	BIT RUN	30.5
TOTAL HOURS	7.68	TOTAL TURNS	22806	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2780.0	669	2852.2	1224.9	42.9	478	4.06	1249	115
2790.0	681	2905.0	1279.5	44.0	508	4.31	1305	118
2800.0	798	2826.5	1776.1	62.8	827	7.02	1811	138
2806.8	685	2920.0	1283.8	44.0	513	4.35	1309	118

BIT NUMBER	11	IADC CODE	4	INTERVAL	2806.8- 2814.0
CHRIS RC6		SIZE	8.500	NOZZLES	14 15 15
COST	18300.00	TRIP TIME	8.0	BIT RUN	7.2
TOTAL HOURS	3.54	TOTAL TURNS	18565	CONDITION	T0 B0 G0.900

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2810.0	290	472.4	300.9	63.7	51	0.90	269	57
2814.0	287	589.1	297.3	50.5	50	0.88	266	57

BIT NUMBER	12	IADC CODE	617	INTERVAL	2814.0- 2960.2
HTC J44		SIZE	12.250	NOZZLES	15 16 16
COST	6844.00	TRIP TIME	8.3	BIT RUN	146.2
TOTAL HOURS	33.08	TOTAL TURNS	93198	CONDITION	T5 B5 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2820.0	688	2875.9	1308.2	45.5	525	4.45	1334	119
2830.0	688	2882.6	1308.5	45.4	525	4.45	1334	119
2840.0	683	2859.7	1290.0	45.1	514	4.36	1315	118
2850.0	683	2896.2	1293.7	44.7	516	4.38	1319	118
2860.0	681	2891.0	1286.4	44.5	511	4.34	1312	118
2870.0	681	2903.2	1286.2	44.3	511	4.34	1311	118
2880.0	675	2857.8	1258.4	44.0	496	4.21	1283	116
2890.0	677	2867.4	1262.1	44.0	499	4.23	1287	117
2900.0	480	1485.7	630.7	42.5	176	1.50	643	83
2910.0	680	2890.0	1278.4	44.2	507	4.30	1303	117
2920.0	686	2924.0	1286.1	44.0	515	4.37	1311	118
2930.0	685	2912.3	1295.7	44.5	518	4.39	1321	118
2940.0	683	2890.9	1291.5	44.7	515	4.37	1317	118
2950.0	684	2906.5	1296.0	44.6	517	4.39	1321	118
2960.0	682	2895.4	1290.1	44.6	514	4.36	1315	118
2960.2	682	2899.2	1293.4	44.6	515	4.37	1319	118

BIT NUMBER	13	IADC CODE	316	INTERVAL	2960.2-2972.3
HTC J7		SIZE	8.500	NOZZLES	14 14 14
COST	1494.00	TRIP TIME	8.3	BIT RUN	12.1
TOTAL HOURS	2.63	TOTAL TURNS	10615	CONDITION	T8 B6 G0.375

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/sqin	IMPACT FORCE	JET VELOCITY
2970.0	568	2854.8	1386.8	48.6	459	8.10	1128	123
2972.3	567	2862.4	1383.4	48.3	458	8.07	1125	123

BIT NUMBER	14	IADC CODE	537	INTERVAL	2972.3-3045.8
HTC J33		SIZE	8.500	NOZZLES	14 14 14
COST	4503.00	TRIP TIME	8.5	BIT RUN	73.5
TOTAL HOURS	10.79	TOTAL TURNS	31858	CONDITION	T8 B6 G0.625

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/sqin	IMPACT FORCE	JET VELOCITY
2980.0	559	2716.6	1349.7	49.7	440	7.75	1098	121
2990.0	565	2769.5	1384.3	50.0	456	8.04	1126	122
3000.0	561	2751.5	1366.4	49.7	447	7.88	1112	121
3010.0	564	2770.0	1381.2	49.9	454	8.00	1124	122
3020.0	459	1872.3	913.8	48.8	244	4.31	743	99
3030.0	567	2784.2	1399.1	50.2	463	8.16	1138	123
3040.0	564	2748.5	1381.3	50.3	454	8.00	1124	122
3045.8	563	2760.1	1372.1	49.7	450	7.94	1116	122

BIT NUMBER	15	IADC CODE	537	INTERVAL	3045.8-3091.6
HTC J33		SIZE	8.500	NOZZLES	14 14 14
COST	4503.00	TRIP TIME	8.6	BIT RUN	45.8
TOTAL HOURS	10.32	TOTAL TURNS	30946	CONDITION	T8 B6 G0.125

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/sqin	IMPACT FORCE	JET VELOCITY
3050.0	560	2880.0	1362.1	47.3	445	7.84	1108	121
3060.0	565	2900.0	1372.1	47.3	452	7.97	1116	122
3070.0	564	2862.2	1376.2	48.1	453	7.98	1120	122
3080.0	568	2870.9	1386.8	48.3	460	8.10	1128	123
3090.0	554	2916.6	1404.6	48.2	454	8.00	1143	120
3091.6	558	2898.4	1419.3	49.0	462	8.14	1155	121

BIT NUMBER	16	IADC CODE	617	INTERVAL	3091.6-3116.1
HTC J44		SIZE	8.500	NOZZLES	14 14 14
COST	4347.00	TRIP TIME	8.6	BIT RUN	24.5
TOTAL HOURS	10.96	TOTAL TURNS	35427	CONDITION	T2 B2 G0.000

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/sqin	IMPACT FORCE	JET VELOCITY
3100.0	554	2873.9	1399.9	48.7	452	7.97	1139	120
3110.0	557	2787.7	1394.5	50.0	453	7.99	1134	120
3116.1	565	2907.2	1436.8	49.4	474	8.35	1169	122

BIT NUMBER	16	IADC CODE	4	INTERVAL	3116.1-3117.4
CHRIS C-20		SIZE	8.500	NOZZLES	14 14 14
COST	0.00	TRIP TIME	8.6	BIT RUN	1.3
TOTAL HOURS	3.56	TOTAL TURNS	15784	CONDITION	T0 B0 G0.600

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/sqin	IMPACT FORCE	JET VELOCITY
3117.4	295	1425.3	392.3	27.5	68	1.19	319	64

BIT NUMBER	17	IADC CODE	617	INTERVAL	3117.4-3143.4
HTC J44		SIZE	8.500	NOZZLES	14 14 14
COST	4347.00	TRIP TIME	8.7	BIT RUN	26.0
TOTAL HOURS	7.75	TOTAL TURNS	23244	CONDITION	T2 B2 G0.000

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/sqin	IMPACT FORCE	JET VELOCITY
3120.0	555	2860.4	1399.0	48.9	453	7.99	1138	120
3130.0	574	2967.6	1505.7	50.7	504	8.88	1225	124
3140.0	560	2908.8	1433.1	49.3	468	8.25	1166	121
3143.4	564	2961.6	1457.5	49.2	480	8.46	1186	122

BIT NUMBER	17	IADC CODE	4	INTERVAL	3143.4-3145.4
CHRIS C-23		SIZE	8.500	NOZZLES	14 14 14
COST	19000.00	TRIP TIME	8.7	BIT RUN	2.0
TOTAL HOURS	4.10	TOTAL TURNS	18459	CONDITION	T0 B0 G0.100

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/sqin	IMPACT FORCE	JET VELOCITY
3145.4	258	1236.3	316.3	25.6	48	0.84	257	56

BIT NUMBER	18	IADC CODE	637	INTERVAL	3145.4-3203.5
HTC J55		SIZE	8.500	NOZZLES	14 14 14
COST	4350.00	TRIP TIME	8.7	BIT RUN	58.1
TOTAL HOURS	23.07	TOTAL TURNS	70096	CONDITION	T8 B4 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3150.0	538	2916.3	1382.8	47.4	434	7.65	1125	116
3160.0	541	2942.0	1422.2	48.3	449	7.91	1157	117
3170.0	530	2994.5	1410.1	47.1	436	7.68	1147	115
3180.0	531	3052.8	1447.8	47.4	448	7.90	1178	115
3190.0	505	2944.3	1357.5	46.1	400	7.05	1104	109
3200.0	496	2904.3	1319.3	45.4	382	6.73	1073	107
3203.5	497	2844.0	1353.6	47.6	392	6.92	1101	107

BIT NUMBER	19	IADC CODE	617	INTERVAL	3203.5-3225.9
HTC J44		SIZE	8.500	NOZZLES	14 14 15
COST	4347.00	TRIP TIME	8.8	BIT RUN	22.4
TOTAL HOURS	10.22	TOTAL TURNS	31715	CONDITION	T2 B2 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3210.0	505	2932.7	1283.7	43.8	378	6.67	1096	104
3220.0	504	2948.9	1282.3	43.5	377	6.65	1095	104
3225.9	504	2924.9	1272.4	43.5	374	6.59	1086	104

BIT NUMBER	20	IADC CODE	637	INTERVAL	3225.9-3237.6
HTC J55		SIZE	8.500	NOZZLES	14 14 15
COST	4350.00	TRIP TIME	8.8	BIT RUN	11.7
TOTAL HOURS	10.04	TOTAL TURNS	31327	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3230.0	496	2897.6	1245.0	43.0	360	6.35	1063	102
3237.6	505	2971.0	1269.2	42.7	374	6.58	1083	104

BIT NUMBER	21	IADC CODE	517	INTERVAL	3237.6-3257.0
HTC J22		SIZE	8.500	NOZZLES	14 14 15
COST	4139.00	TRIP TIME	8.8	BIT RUN	19.4
TOTAL HOURS	16.44	TOTAL TURNS	49328	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3240.0	507	2911.8	1292.1	44.4	382	6.74	1103	105

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3250.0	502	2916.5	1270.3	43.6	372	6.56	1084	104
3257.0	505	2967.6	1280.6	43.2	377	6.64	1093	104

(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
 HTC OSC3AJ&26"HO SIZE 26.000
 COST 0.00 TRIP TIME 2.5
 TOTAL HOURS 3.13 TOTAL TURNS 14945
 INTERVAL 70.0- 208.5
 NOZZLES 20 20 20
 BIT RUN 138.5
 CONDITION T2 B2 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
80.0	67	71	690	8						
90.0	68	71	695	8		8				
100.0	72	74	726	9		8				
110.0	77	81	793	10		8				
120.0	85	88	866	11		9				
130.0	85	85	847	10		10				
140.0	81	87	837	10		10				
150.0	80	71	754	9		10				
160.0	80	72	757	9		9				
170.0	81	79	802	10		9		9		
180.0	78	83	808	10		9		9		
190.0	79	81	801	10		9		9		
200.0	87	105	959	12		9		9		
208.5	87	104	955	12		11		11		
						11		11		

BIT NUMBER 1 IADC CODE 111
 HTC OSC 3AJ SIZE 17.500
 COST 4857.00 TRIP TIME 3.7
 TOTAL HOURS 15.91 TOTAL TURNS 140631
 INTERVAL 208.5- 870.0
 NOZZLES 18 18 18
 BIT RUN 661.5
 CONDITION T2 B1 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
210.0	93	91	919							
220.0	92	92	920	28	23					
230.0	94	94	942	29	23		20			
240.0	94	94	940	29	23		21			
250.0	94	93	935	29	23		21			17
260.0	95	93	939	29	23		21			17
270.0	95	93	942	29	23		21			17
280.0	94	93	936	29	23		21			17
290.0	93	94	935	29	23		21			17
300.0	50	50	499	15	12		21			17
310.0	94	94	940	29	23		11			
320.0	94	92	930	29	23		21		11	
330.0	94	94	941	29	23		20		21	17
340.0	94	94	939	29	23		21		20	17
350.0	92	92	922	28		25	21		21	17
360.0	93	93	930	29		25	20		21	17
370.0	95	92	932	29		25	20		20	17
380.0	95	93	939	29		25	20		20	17
390.0	95	93	937	29		25	21		21	17
						25	21		21	17

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
400.0	95	94	945	29		25	21		21	17
410.0	94	94	940	29		25	21		21	17
420.0	94	93	936	29		25		25	21	17
430.0	95	93	940	29		25		25	21	17
440.0	95	93	937	29		25		25	21	17
450.0	94	92	933	29		25		25	20	17
460.0	94	92	930	29		25		25	20	17
470.0	95	94	943	29		25		25	21	17
480.0	95	95	950	29		25		25	21	17
490.0	94	92	928	29		25		25	20	17
500.0	94	95	942	29		25		25	21	17
510.0	95	92	937	29		25		25	21	17
520.0	95	93	936	29		25		25	21	17
530.0	93	94	933	29		25		25	20	17
540.0	94	95	946	29		25		25	21	17
550.0	94	92	932	29		25		25	20	17
560.0	94	91	925	29		25		25	20	17
570.0	95	92	933	29		25		25	20	17
580.0	94	93	935	29		25		25	21	17
590.0	94	95	945	29		25		25	21	17
600.0	94	95	943	29		25		25	21	17
610.0	95	93	939	29		25		25	21	17
620.0	94	93	934	29		25		25	20	17
630.0	94	96	949	29		25		25	21	17
640.0	93	94	933	29		25		25	20	17
650.0	94	93	933	29		25		25	20	17
660.0	93	93	932	29		25		25	20	17
670.0	94	93	934	29		25		25	20	17
680.0	93	94	936	29		25		25	21	17
690.0	94	93	934	29		25		25	20	17
700.0	94	94	937	29		25		25	21	17
710.0	94	93	933	29		25		25	20	17
720.0	95	93	940	29		25		25	21	17
730.0	95	92	934	29		25		25	20	17
740.0	95	93	937	29		25		25	21	17
750.0	94	93	935	29		25		25	21	17
760.0	96	93	941	29		25		25	21	17
770.0	93	93	929	29		25		25	20	17
780.0	94	93	934	29		25		25	20	17
790.0	94	93	935	29		25		25	21	17
800.0	94	93	936	29		25		25	21	17
810.0	93	94	934	29		25		25	20	17
820.0	94	94	940	29		25		25	21	17
830.0	93	93	933	29		25		25	20	17
840.0	95	94	943	29		25		25	21	17
850.0	94	94	941	29		25		25	21	17
860.0	95	92	930	29		25		25	20	17
870.0	94	93	936	29		25		25	21	17

BIT NUMBER	2	IADC CODE	116	INTERVAL	870.0- 951.0
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	4.0	BIT RUN	81.0
TOTAL HOURS	2.77	TOTAL TURNS	16633	CONDITION	T2 B2 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
880.0	99	98	984	85	77		55		55	18
890.0	100	98	990	86	78		55		55	18
900.0	100	98	990	86	78		55		55	18
910.0	100	98	990	86	78		55		55	18
920.0	100	98	990	86	78		55		55	18
930.0	100	98	990	86	78		55		55	18
940.0	100	98	990	86	78		55		55	18
950.0	100	98	990	86	78		55		55	18
951.0	100	98	990	86	78		55		55	18

BIT NUMBER	3	IADC CODE	116	INTERVAL	951.0- 1598.0
HTC J1		SIZE	12.250	NOZZLES	18 18 18
COST	2694.00	TRIP TIME	5.4	BIT RUN	647.0
TOTAL HOURS	31.52	TOTAL TURNS	216592	CONDITION	T6 B6 G0.250

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
960.0	84	98	910	79	71		51		51	16
970.0	84	98	910	79	71		51		51	16
980.0	84	98	910	79	71		51		51	16
990.0	84	98	910	79	71		51		51	16
1000.0	84	98	910	79	71		51		51	16
1010.0	84	100	919	80	72		51		51	17
1020.0	84	99	911	79	72		51		51	16
1030.0	74	80	770	67		46	43		43	14
1040.0	84	99	918	80		55	51		51	16
1050.0	83	99	908	79		54	51		51	16
1060.0	84	99	917	80		55	51		51	16
1070.0	84	99	911	79		54	51		51	16
1080.0	84	99	914	79		55	51		51	16
1090.0	84	99	912	79		55	51		51	16
1100.0	83	99	908	79		54	51		51	16
1110.0	83	100	918	80		55		55	51	16
1120.0	84	100	918	80		55		55	51	16
1130.0	84	99	914	79		55		55	51	16
1140.0	83	99	913	79		55		55	51	16
1150.0	84	99	916	80		55		55	51	16
1160.0	83	99	910	79		54		54	51	16
1170.0	83	99	910	79		54		54	51	16
1180.0	83	99	910	79		54		54	51	16
1190.0	83	99	910	79		54		54	51	16

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1200.0	83	99	910	79		54		54	51	16
1210.0	83	99	910	79		54		54	51	16
1220.0	83	99	910	79		54		54	51	16
1230.0	83	99	910	79		54		54	51	16
1240.0	83	99	910	79		54		54	51	16
1250.0	83	99	910	79		54		54	51	16
1260.0	83	99	910	79		54		54	51	16
1270.0	83	99	910	79		54		54	51	16
1280.0	83	99	910	79		54		54	51	16
1290.0	83	99	910	79		54		54	51	16
1300.0	79	99	890	77		53		53	50	16
1310.0	78	99	885	77		53		53	49	16
1320.0	78	99	885	77		53		53	49	16
1330.0	78	99	885	77		53		53	49	16
1340.0	78	98	880	76		53		53	49	16
1350.0	78	98	880	76		53		53	49	16
1360.0	78	98	880	76		53		53	49	16
1370.0	79	99	889	77		53		53	50	16
1380.0	80	94	871	76		52		52	49	16
1390.0	79	93	859	75		51		51	48	15
1400.0	79	93	860	75		51		51	48	15
1410.0	79	93	860	75		51		51	48	15
1420.0	79	93	859	75		51		51	48	15
1430.0	79	93	859	75		51		51	48	15
1440.0	79	95	869	75		52		52	48	16
1450.0	81	93	867	75		52		52	48	16
1460.0	79	93	862	75		52		52	48	15
1470.0	79	93	860	75		51		51	48	15
1480.0	79	93	863	75		52		52	48	16
1490.0	80	92	858	75		51		51	48	15
1500.0	80	92	859	75		51		51	48	15
1510.0	79	93	860	75		51		51	48	15
1520.0	78	93	857	74		51		51	48	15
1530.0	79	92	857	74		51		51	48	15
1540.0	79	92	855	74		51		51	48	15
1550.0	79	92	853	74		51		51	48	15
1560.0	79	93	859	75		51		51	48	15
1570.0	79	93	861	75		51		51	48	15
1580.0	79	92	855	74		51		51	48	15
1590.0	79	93	861	75		51		51	48	15
1598.0	86	70	781	68		47		47	44	14

BIT NUMBER	4	IADC CODE	517	INTERVAL	1598.0- 2016.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	6.3	BIT RUN	418.0
TOTAL HOURS	44.49	TOTAL TURNS	156262	CONDITION	T4 B4 G0.250

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1600.0	77	81	793	69		47		47	44	14
1610.0	79	82	804	70		48		48	45	14
1620.0	79	82	807	70		48		48	45	15
1630.0	79	82	807	70		48		48	45	14
1640.0	79	82	806	70		48		48	45	14
1650.0	80	82	809	70		48		48	45	15
1660.0	80	81	809	70		48		48	45	15
1670.0	79	82	808	70		48		48	45	15
1680.0	107	6	562	49		34		34	31	10
1690.0	72	62	667	58		40		40	37	12
1700.0	80	82	811	70		48		48	45	15
1710.0	81	83	816	71		49		49	45	15
1720.0	80	82	813	71		49		49	45	15
1730.0	81	82	814	71		49		49	45	15
1740.0	81	82	817	71		49		49	46	15
1750.0	80	82	811	70		48		48	45	15
1760.0	80	83	811	70		48		48	45	15
1770.0	80	84	818	71		49		49	46	15
1780.0	80	84	819	71		49		49	46	15
1790.0	80	83	812	71		49		49	45	15
1800.0	79	82	807	70		48		48	45	14
1810.0	80	80	798	69		48		48	44	14
1820.0	80	79	795	69		47		47	44	14
1830.0	79	79	788	68		47		47	44	14
1840.0	112	0	560	49		33		33	31	10
1850.0	80	77	784	68		47		47	44	14
1860.0	81	79	798	69		48		48	44	14
1870.0	80	80	795	69		48		48	44	14
1880.0	80	80	803	70		48		48	45	14
1890.0	80	79	796	69		48		48	44	14
1900.0	80	79	797	69		48		48	44	14
1910.0	80	79	794	69		47		47	44	14
1920.0	80	79	794	69		47		47	44	14
1930.0	79	79	793	69		47		47	44	14
1940.0	0	103	516	45		31		31	29	9
1950.0	80	79	793	69		47		47	44	14
1960.0	88	51	697	60		42		42	39	13
1970.0	81	76	784	68		47		47	44	14
1980.0	81	79	800	69		48		48	45	14
1990.0	80	79	790	69		47		47	44	14
2000.0	79	80	797	69		48		48	44	14
2010.0	80	79	794	69		47		47	44	14
2016.0	80	79	794	69		47		47	44	14

BIT NUMBER	5	IADC CODE	517	INTERVAL	2016.0- 2170.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	6.6	BIT RUN	154.0
TOTAL HOURS	20.48	TOTAL TURNS	78127	CONDITION	T2 B2 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2020.0	80	78	790	69		47		47	44	14
2030.0	79	79	790	69		47		47	44	14
2040.0	79	79	788	68		47		47	44	14
2050.0	80	78	787	68		47		47	44	14
2060.0	78	78	777	68		46		46	43	14
2070.0	80	78	790	69		47		47	44	14
2080.0	82	78	799	69		48		48	45	14
2090.0	79	79	791	69		47		47	44	14
2100.0	80	78	788	68		47		47	44	14
2110.0	80	78	791	69		47		47	44	14
2120.0	79	76	778	68		46		46	43	14
2130.0	76	77	764	66		46		46	43	14
2140.0	76	77	767	67		46		46	43	14
2150.0	76	77	765	66		46		46	43	14
2160.0	76	78	767	67		46		46	43	14
2170.0	76	78	770	67		46		46	43	14

BIT NUMBER	5	IADC CODE	4	INTERVAL	2170.0- 2187.4
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	6.6	BIT RUN	17.4
TOTAL HOURS	4.64	TOTAL TURNS	20046	CONDITION	T0 B0 G0.300

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2180.0	0	53	267	242					15	5
2187.4	46	0	232	210					13	4

BIT NUMBER	5	IADC CODE	4	INTERVAL	2188.0- 2205.5
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	6.7	BIT RUN	17.5
TOTAL HOURS	1.88	TOTAL TURNS	8918	CONDITION	T0 B0 G0.350

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2190.0	44	0	221						12	4
2200.0	45	0	223						12	4
2205.5	39	0	194						11	3

BIT NUMBER	6	IADC CODE	517	INTERVAL	2205.5- 2445.0
MTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	7.2	BIT RUN	239.5
TOTAL HOURS	53.12	TOTAL TURNS	163054	CONDITION	T3 B3 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2210.0	73	77	752	65		45		45	42	14
2220.0	0	104	520	45		31		31	29	9
2230.0	73	76	747	65		45		45	42	13
2240.0	75	75	748	65		45		45	42	13
2250.0	74	76	747	65		45		45	42	13
2260.0	72	76	740	64		44		44	41	13
2270.0	73	76	746	65		45		45	42	13
2280.0	74	77	757	66		45		45	42	14
2290.0	73	77	749	65		45		45	42	13
2300.0	73	77	750	65		45		45	42	13
2310.0	74	77	754	65		45		45	42	14
2320.0	73	77	750	65		45		45	42	13
2330.0	74	76	749	65		45		45	42	13
2340.0	73	77	747	65		45		45	42	13
2350.0	72	77	748	65		45		45	42	13
2360.0	63	81	720	63		43		43	40	13
2370.0	75	77	760	66		45		45	42	14
2380.0	76	75	756	66		45		45	42	14
2390.0	76	75	757	66		45		45	42	14
2400.0	0	105	524	46		31		31	29	9
2410.0	75	75	748	65		45		45	42	13
2420.0	75	75	750	65		45		45	42	13
2430.0	74	75	747	65		45		45	42	13
2440.0	86	38	619	54		37		37	34	11
2445.0	62	61	612	53		37		37	34	11

BIT NUMBER	7	IADC CODE	517	INTERVAL	2445.0- 2597.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	7.5	BIT RUN	152.0
TOTAL HOURS	37.28	TOTAL TURNS	119866	CONDITION	T4 B4 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2450.0	72	73	727	63		43		43	40	13
2460.0	73	73	730	63		44		44	41	13
2470.0	73	73	731	63		44		44	41	13
2480.0	72	74	727	63		43		43	41	13
2490.0	72	73	729	63		44		44	41	13
2500.0	72	74	732	64		44		44	41	13
2510.0	72	74	730	63		44		44	41	13
2520.0	72	74	730	63		44		44	41	13
2530.0	71	74	725	63		43		43	40	13
2540.0	66	68	671	58		40		40	37	12
2550.0	72	74	728	63		43		43	41	13
2560.0	73	74	732	64		44		44	41	13
2570.0	73	74	731	64		44		44	41	13
2580.0	73	74	734	64		44		44	41	13
2590.0	73	74	733	64		44		44	41	13
2597.0	73	73	731	63		44		44	41	13

BIT NUMBER	7	IADC CODE	4	INTERVAL	2597.0- 2602.1
CHRIS RC4		SIZE	8.500	NOZZLES	14 15 15
COST	0.00	TRIP TIME	7.5	BIT RUN	5.1
TOTAL HOURS	3.50	TOTAL TURNS	18614	CONDITION	T0 B0 G0.500

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2600.0	0	56	279	252		44		44	16	5
2602.1	0	55	276	250		44		44	15	5

BIT NUMBER	8	IADC CODE	537	INTERVAL	2602.1- 2616.7
HTC J33		SIZE	12.250	NOZZLES	16 16 18
COST	7774.00	TRIP TIME	7.5	BIT RUN	14.6
TOTAL HOURS	3.52	TOTAL TURNS	10553	CONDITION	T1 B5 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2610.0	73	73	730	63		44		44	41	13
2616.7	73	73	730	63		44		44	41	13

BIT NUMBER	8	IADC CODE	4	INTERVAL	2616.7- 2635.2
CHRIS RC3		SIZE	8.500	NOZZLES	15 15 14
COST	0.00	TRIP TIME	7.6	BIT RUN	18.5
TOTAL HOURS	2.89	TOTAL TURNS	14572	CONDITION	T0 B0 G0.400

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2620.0	45	0	226						13	4
2630.0	48	0	242						14	4
2635.2	49	0	243						14	4

BIT NUMBER	8	IADC CODE	4	INTERVAL	2635.2- 2653.0
CHRIS. RC3		SIZE	8.500	NOZZLES	15 15 14
COST	0.00	TRIP TIME	7.8	BIT RUN	17.8
TOTAL HOURS	6.72	TOTAL TURNS	36242	CONDITION	T0 B0 G0.800

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2640.0	0	44	218						12	4
2650.0	0	50	251						14	5
2653.0	0	50	251						14	5

BIT NUMBER	8	IADC CODE	4	INTERVAL	2653.0- 2671.2
CHRIS. RC4		SIZE	8.500	NOZZLES	15 15 14
COST	0.00	TRIP TIME	7.6	BIT RUN	18.2
TOTAL HOURS	4.45	TOTAL TURNS	24028	CONDITION	T0 B0 G0.600

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2660.0	48	0	242						13	4
2670.0	50	0	248						14	.
2671.2	50	0	248						14	4

BIT NUMBER	9	IADC CODE	517	INTERVAL	2671.2- 2672.0
HTC J22		SIZE	12.250	NOZZLES	16 16 18
COST	8516.00	TRIP TIME	7.5	BIT RUN	0.8
TOTAL HOURS	0.09	TOTAL TURNS	314	CONDITION	T2 B2 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2672.0	70	72	706	61		42		42	39	13

BIT NUMBER	9	IADC CODE	4	INTERVAL	2672.0- 2690.5
RC4		SIZE	8.500	NOZZLES	15 15 14
COST	0.00	TRIP TIME	7.6	BIT RUN	18.5
TOTAL HOURS	4.67	TOTAL TURNS	25234	CONDITION	T0 B0 G0.900

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2680.0	49	0	247						14	4
2690.0	49	0	245						14	4
2690.5	49	0	245						14	4

BIT NUMBER	9	IADC CODE	4	INTERVAL	2690.5- 2708.3
CHRIS C-20		SIZE	8.470	NOZZLES	14 14 14
COST	0.00	TRIP TIME	7.7	BIT RUN	17.8
TOTAL HOURS	8.86	TOTAL TURNS	40488	CONDITION	T0 B0 G0.300

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2700.0	48	0	240						13	4
2708.3	47	0	235						13	4

BIT NUMBER	10	IADC CODE	537	INTERVAL	2708.3- 2776.3
HTC J33		SIZE	12.250	NOZZLES	16 16 18
COST	7774.00	TRIP TIME	8.0	BIT RUN	68.0
TOTAL HOURS	15.72	TOTAL TURNS	48386	CONDITION	T3 B4 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2710.0	71	72	711	62		43		43	40	13
2720.0	69	73	709	62		42		42	40	13
2730.0	82	47	648	56		39		39	36	12
2740.0	68	73	708	62		42		42	39	13
2750.0	69	73	711	62		42		42	40	13
2760.0	69	73	710	62		42		42	40	13
2770.0	68	73	705	61		42		42	39	13
2776.3	68	73	704	61		42		42	39	13

BIT NUMBER	11	IADC CODE	537	INTERVAL	2776.3- 2806.8
HTC J33		SIZE	12.250	NOZZLES	15 16 16
COST	7774.00	TRIP TIME	8.0	BIT RUN	30.5
TOTAL HOURS	7.68	TOTAL TURNS	22806	CONDITION	T1 B1 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2780.0	65	69	669	58		40		40	37	12
2790.0	66	70	681	59		41		41	38	12
2800.0	75	84	798	69		48		48	44	14
2806.8	69	68	685	59		41		41	38	12

BIT NUMBER	11	IADC CODE	4	INTERVAL	2806.8- 2814.0
CHRIS RC6		SIZE	8.500	NOZZLES	14 15 15
COST	18300.00	TRIP TIME	8.0	BIT RUN	7.2
TOTAL HOURS	3.54	TOTAL TURNS	18565	CONDITION	T0 B0 G0.900

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2810.0	0	58	290	263					16	5
2814.0	0	58	287	260					16	5

BIT NUMBER	12	IADC CODE	617	INTERVAL	2814.0- 2960.2
HTC J44		SIZE	12.250	NOZZLES	15 16 16
COST	6844.00	TRIP TIME	8.3	BIT RUN	146.2
TOTAL HOURS	33.08	TOTAL TURNS	93198	CONDITION	T5 B5 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2820.0	71	67	688	60		41		41	38	12
2830.0	70	68	688	60		41		41	38	12
2840.0	69	68	683	59		41		41	38	12
2850.0	68	69	683	59		41		41	38	12
2860.0	68	69	681	59		41		41	38	12
2870.0	68	69	681	59		41		41	38	12
2880.0	68	67	675	59		40		40	38	12
2890.0	69	67	677	59		40		40	38	12
2900.0	96	0	480	42		29		29	27	9
2910.0	68	68	680	59		41		41	38	12
2920.0	69	68	686	60		41		41	38	12
2930.0	69	68	685	59		41		41	38	12
2940.0	68	68	683	59		41		41	38	12
2950.0	68	69	684	59		41		41	38	12
2960.0	68	69	682	59		41		41	38	12
2960.2	68	68	682	59		41		41	38	12

BIT NUMBER	13	IADC CODE	316	INTERVAL	2960.2-2972.3
HTC J7		SIZE	8.500	NOZZLES	14 14 14
COST	1494.00	TRIP TIME	8.3	BIT RUN	12.1
TOTAL HOURS	2.63	TOTAL TURNS	10615	CONDITION	T8 B6 G0.375

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2970.0	58	56	568	128	117	0	84	0	84	10
2972.3	57	56	567	128	117	0	84	0	84	10

BIT NUMBER	14	IADC CODE	537	INTERVAL	2972.3-3045.8
HTC J33		SIZE	8.500	NOZZLES	14 14 14
COST	4503.00	TRIP TIME	8.5	BIT RUN	73.5
TOTAL HOURS	10.79	TOTAL TURNS	31858	CONDITION	T8 B6 G0.625

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2980.0	55	57	559	126	115	0	83	0	83	10
2990.0	57	56	565	127	116	0	84	0	84	10
3000.0	57	56	561	126	116	0	83	0	83	10
3010.0	56	57	564	127	116	0	84	0	84	10
3020.0	92	0	459	103	94	0	68	0	68	8
3030.0	57	57	567	128	117	0	84	0	84	10
3040.0	56	57	564	127	116	0	84	0	84	10
3045.8	56	56	563	127	116	0	83	0	83	10

BIT NUMBER	15	IADC CODE	537	INTERVAL	3045.8-3091.6
HTC J33		SIZE	8.500	NOZZLES	14 14 14
COST	4503.00	TRIP TIME	8.6	BIT RUN	45.8
TOTAL HOURS	10.32	TOTAL TURNS	30946	CONDITION	T8 B6 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
3050.0	54	58	560	126	115	0	83	0	83	10
3060.0	57	56	565	127	116	0	84	0	84	10
3070.0	57	56	564	127	116	0	84	0	84	10
3080.0	57	57	568	128	117	0	84	0	84	10
3090.0	55	55	554	125	114	0	82	0	82	10
3091.6	56	56	558	126	115	0	83	0	83	10

BIT NUMBER	16	IADC CODE	617	INTERVAL	3091.6-3116.1
HTC J44		SIZE	8.500	NOZZLES	14 14 14
COST	4347.00	TRIP TIME	8.6	BIT RUN	24.5
TOTAL HOURS	10.96	TOTAL TURNS	35427	CONDITION	T2 B2 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
3100.0	55	55	554	125	114	0	82	0	82	10
3110.0	0	111	557	125	115	0	83	0	83	10
3116.1	0	113	565	127	116	0	84	0	84	10

BIT NUMBER	16	IADC CODE	4	INTERVAL	3116.1-3117.4
CHRIS C-20		SIZE	8.500	NOZZLES	14 14 14
COST	0.00	TRIP TIME	8.6	BIT RUN	1.3
TOTAL HOURS	3.56	TOTAL TURNS	15784	CONDITION	T0 B0 G0.600

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
3117.4	0	59	295	66	61	0	44	0	44	5

BIT NUMBER	17	IADC CODE	617	INTERVAL	3117.4-3143.4
HTC J44		SIZE	8.500	NOZZLES	14 14 14
COST	4347.00	TRIP TIME	8.7	BIT RUN	26.0
TOTAL HOURS	7.75	TOTAL TURNS	23244	CONDITION	T2 B2 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
3120.0	111	0	555	125	114	0	82	0	82	10
3130.0	115	0	574	129	118	0	85	0	85	10
3140.0	112	0	560	126	115	0	83	0	83	10
3143.4	113	0	564	127	116	0	84	0	84	10

BIT NUMBER	17	IADC CODE	4	INTERVAL	3143.4-3145.4
CHRIS C-23		SIZE	8.500	NOZZLES	14 14 14
COST	19000.00	TRIP TIME	8.7	BIT RUN	2.0
TOTAL HOURS	4.10	TOTAL TURNS	18459	CONDITION	T0 B0 G0.100

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
3145.4	52	0	258	58	53	0	38	0	38	5

BIT NUMBER	18	IADC CODE	637	INTERVAL	3145.4-3203.5
HTC J55		SIZE	8.500	NOZZLES	14 14 14
COST	4350.00	TRIP TIME	8.7	BIT RUN	58.1
TOTAL HOURS	23.07	TOTAL TURNS	70096	CONDITION	T8 B4 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
3150.0	0	108	538	121	111	0	80	0	80	10
3160.0	0	108	541	122	111	0	80	0	80	10
3170.0	106	0	530	119	109	0	79	0	79	10
3180.0	106	0	531	120	109	0	79	0	79	10
3190.0	101	0	505	114	104	0	75	0	75	9
3200.0	59	40	496	112	102	0	74	0	74	9
3203.5	0	99	497	112	0	79	74	0	74	9

BIT NUMBER	19	IADC CODE	617	INTERVAL	3203.5-3225.9
HTC J44		SIZE	8.500	NOZZLES	14 14 15
COST	4347.00	TRIP TIME	8.8	BIT RUN	22.4
TOTAL HOURS	10.22	TOTAL TURNS	31715	CONDITION	T2 B2 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
3210.0	0	101	505	114	0	80	75	0	75	9
3220.0	0	101	504	114	0	80	75	0	75	9
3225.9	0	101	504	113	0	80	75	0	75	9

BIT NUMBER	20	IADC CODE	637	INTERVAL	3225.9-3237.6
HTC J55		SIZE	8.500	NOZZLES	14 14 15
COST	4350.00	TRIP TIME	8.8	BIT RUN	11.7
TOTAL HOURS	10.04	TOTAL TURNS	31327	CONDITION	T1 B1 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
3230.0	0	99	496	112	0	78	74	0	74	9
3237.6	0	101	505	114	0	80	75	0	75	9

BIT NUMBER	21	IADC CODE	517	INTERVAL	3237.6-3257.0
HTC J22		SIZE	8.500	NOZZLES	14 14 15
COST	4139.00	TRIP TIME	8.8	BIT RUN	19.4
TOTAL HOURS	16.44	TOTAL TURNS	49328	CONDITION	T1 B1 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
3240.0	101	0	507	114	0	80	75	0	75	9

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
3250.0	101	0	502	113	0	79	75	0	75	9
3257.0	101	0	505	114	0	80	75	0	75	9

PE604585

This is an enclosure indicator page.
The enclosure PE604585 is enclosed within the
container PE907062 at this location in this
document.

The enclosure PE604585 has the following characteristics:

ITEM_BARCODE = PE604585
CONTAINER_BARCODE = PE907062
NAME = Drill Data Plot
BASIN = GIPPSLAND
PERMIT = VIC/L2
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Drill Data Plot (from ES Well
Report/Final Well Report--attachment to
WCR) for Wirrah-3
REMARKS =
DATE_CREATED = 17/01/84
DATE_RECEIVED = 18/04/84
W_NO = W840
WELL_NAME = Wirrah-3
CONTRACTOR = CORE LABORATORIES
CLIENT_OP_CO = ESSO AUSTRALIA LTD

(Inserted by DNRE - Vic Govt Mines Dept)

PE604585

Drill Data Plot

PE604586

This is an enclosure indicator page.
The enclosure PE604586 is enclosed within the
container PE907062 at this location in this
document.

The enclosure PE604586 has the following characteristics:

ITEM_BARCODE = PE604586
CONTAINER_BARCODE = PE907062
 NAME = Temperature Plot
 BASIN = GIPPSLAND
 PERMIT = VIC/L2
 TYPE = WELL
 SUBTYPE = WELL_LOG
DESCRIPTION = Temperature Plot (from ES Well
 Report/Final Well Report--attachment to
 WCR) for Wirrah-3
REMARKS =
DATE_CREATED = 17/01/84
DATE_RECEIVED = 18/04/84
 W_NO = W840
 WELL_NAME = Wirrah-3
CONTRACTOR = CORE LABORATORIES
CLIENT_OP_CO = ESSO AUSTRALIA LTD

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PE604586

Temperature Plot

PE604587

This is an enclosure indicator page.
The enclosure PE604587 is enclosed within the
container PE907062 at this location in this
document.

The enclosure PE604587 has the following characteristics:

ITEM_BARCODE = PE604587
CONTAINER_BARCODE = PE907062
NAME = Pressure Plot
BASIN = GIPPSLAND
PERMIT = VIC/L2
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Pressure Plot (from ES Well
Report/Final Well Report--attachment to
WCR) for Wirrah-3
REMARKS =
DATE_CREATED = 17/01/84
DATE_RECEIVED = 18/04/84
W_NO = W840
WELL_NAME = Wirrah-3
CONTRACTOR = CORE LABORATORIES
CLIENT_OP_CO = ESSO AUSTRALIA LTD

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PE604587
Pressure Plot

PE604588

This is an enclosure indicator page.
The enclosure PE604588 is enclosed within the
container PE907062 at this location in this
document.

The enclosure PE604588 has the following characteristics:

ITEM_BARCODE = PE604588
CONTAINER_BARCODE = PE907062
NAME = Geo-Plot
BASIN = GIPPSLAND
PERMIT = VIC/L2
TYPE = WELL
SUBTYPE = WELL_LOG
DESCRIPTION = Geo-Plot (from ES Well Report/Final
Well Report--attachment to WCR) for
Wirrah-3
REMARKS =
DATE_CREATED = 17/01/84
DATE_RECEIVED = 18/04/84
W_NO = W840
WELL_NAME = Wirrah-3
CONTRACTOR = CORE LABORATORIES
CLIENT_OP_CO = ESSO AUSTRALIA LTD

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PE604588

Geoplot

PE604589

This is an enclosure indicator page.
The enclosure PE604589 is enclosed within the
container PE907062 at this location in this
document.

The enclosure PE604589 has the following characteristics:

- ITEM_BARCODE = PE604589
- CONTAINER_BARCODE = PE907062
- NAME = Grapholog/Mud Log
- BASIN = GIPPSLAND
- PERMIT = VIC/L2
- TYPE = WELL
- SUBTYPE = MUD_LOG
- DESCRIPTION = Grapholog/Mud Log (from ES Well
Report/Final Well Report--attachment to
WCR) for Wirrah-3
- REMARKS =
- DATE_CREATED = 17/01/84
- DATE_RECEIVED = 18/04/84
- W_NO = W840
- WELL_NAME = Wirrah-3
- CONTRACTOR = CORE LABORATORIES
- CLIENT_OP_CO = ESSO AUSTRALIA LTD

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PE604589

Grapholog