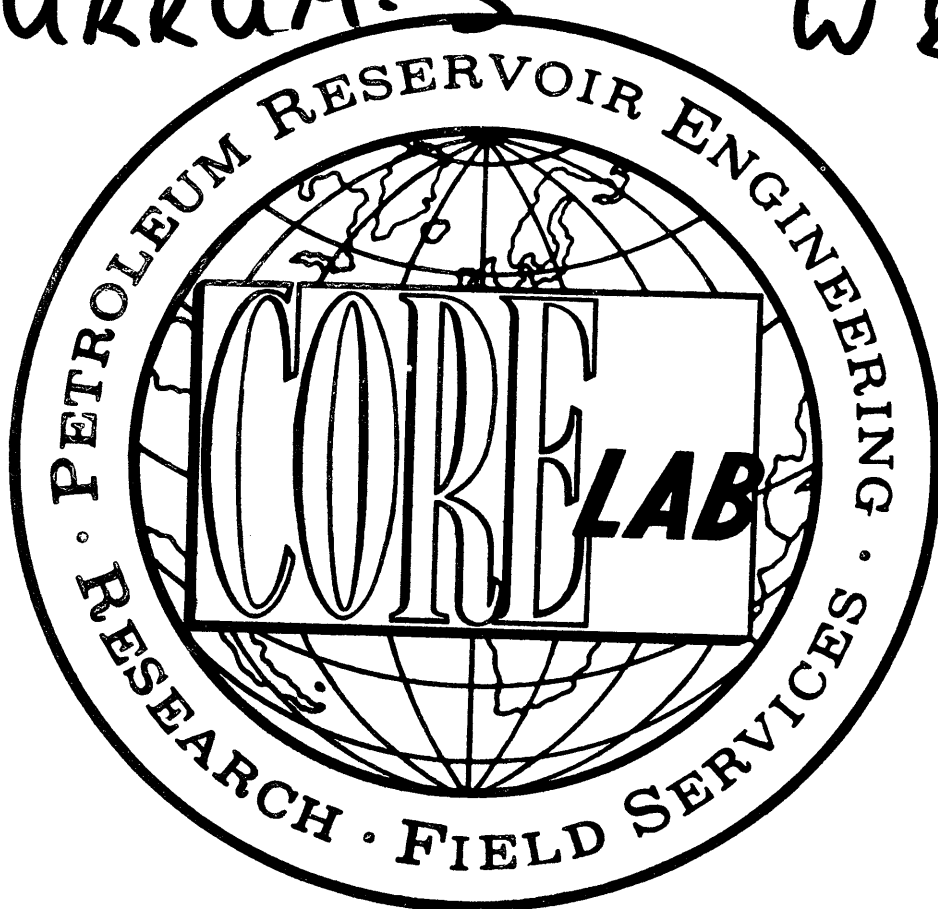


DEPT. NAT. RES & ENV



PE906486

ATTACHMENT TO  
WCR VOL 1  
TURRUM-3 W 899



OIL and GAS DIVISION

FINAL WELL REPORT

ESSO AUSTRALIA LIMITED

24 JUN 1985 TURRUM #3

INDEX

1. INTRODUCTION
2. RIG SPECIFICATIONS
3. WELL INFORMATION, PROGRESS AND HISTORY
4. LITHOLOGY AND CORE-O-GRAPHS
5. EXTENDED SERVICE PACKAGE :
  - A. INTRODUCTION
  - B. EQUIPMENT
  - C. MONITORING EQUIPMENT
6. ESP PLOT DESCRIPTIONS AND CONCLUSIONS
7. B.H.T. ESTIMATION
8. OVERBURDEN GRADIENT CALCULATIONS AND PLOT
9. GAS ANALYSES :
  - A. COMPOSITION GRAPHICS
  - B. SIDEWALL CORES
10. CORELAB DATA SHEETS :
  - A. BIT RECORDS
  - B. MUD DATA
  - C. R.F.T. DATA

COMPUTER DATA LISTINGS :

BIT RECORD AND INITIALIZATION DATA  
HYDRAULIC ANALYSES  
DATA LIST A  
DATA LIST B  
DATA LIST C  
DATA LIST D

APPENDED PLOTS :

DRILL DATA PLOT  
TEMPERATURE PLOT  
PRESSURE PLOT  
GEO PLOT  
GRAPHOLOG  
TRITIUM PLOT

## INTRODUCTION

Turrum #3 was drilled by ESSO AUSTRALIA LIMITED, in the Bass Strait, Australia.

Well co-ordinates were :

Latitude : 38°15' 41.052"S  
Longitude : 148°14' 58.995"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.

Turrum #3 was spudded on 8th March 1985 and reached a total depth of 2995 metres on 6th April 1985, a total drilling time of 30 days. The main objectives of the well were to:

1. Further delineate the L-1.4.2 oil reservoir and overlying oil and gas reservoirs in the Turrum field.
2. Test the Cretaceous below the deepest Turrum reservoirs previously seen.

Elevations were :

Kelly bushings to mean sea level 21 metres  
Water depth 60 metres  
Kelly bushings to mean sea bed 81 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 Turrum #3 were as follows :

B Paulet	-	Unit Supervisor
T Wyeth	-	Pressure Engineer
B Giftson	-	Logging Crew Chief
P Landry	-	Well Logger
D Mackay	-	Well Logger
P Gribben	-	Well Logger

2. RIG SPECIFICATIONS

RIG INFORMATION SHEET

COMPANY ESSO AUSTRALIA LIMITED

WELL TURRUM #3

OWNER	SOUTH SEAS DRILLING COMPANY
NAME AND NUMBER	SOUTHERN CROSS (N <sup>o</sup> 107)
TYPE	SEMI-SUBMERSIBLE, TWIN HULLED
DERRICK, DRILL FLOOR & SUBSTRUCTURE	DERRICK: LEE C MOORE, 152' HIGH X 40' AT BASE. LOAD CAPACITY OF 1,000,000 lbs
DRAWWORKS	OILWELL E-2000 DRIVEN BY 2 GE 752 ELECTRIC MOTORS
CROWN BLOCK	LEE C MOORE 27458 C. CAPACITY 500 SHORT TONS
TRAVELING BLOCK	OILWELL A 500
SWIVEL	OILWELL PC 425
ELEVATORS	BYRON JACKSON MODEL GG CAPACITY 350 TON
KELLY & KELLY SPINNER	DRILLCO 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 6 x 8" CENTRIFUGAL BY TWO 100HP ELECTRIC MOTORS. DESANDER: 1 DEMCO 4 CONE 12" MODEL N <sup>o</sup> 124 DESILTER: 1 DEMCO 4"-16H 16 CONE DEGASSER: 1 SWACO MODEL N <sup>o</sup> 36 SHALE SHAKERS: 2 BRANDT DUAL UNIT TANDEM - GHI DUAL UNIT THREE SHAFFER L.W.S. 18 3/4" - 10,000 psi TWO HYDRIL G.L. 18 3/4" - 5,000 psi FOUR VALV CON ACCUMULATORS CHOKES: 2 C.I.W. ABJ H2 2 1/16" - 10,000 psi, 1 SWACO SUPER CHOKE 2" - 10,000 psi DC: 6 $\frac{1}{4}$ " x 2 13/16" (4" IF TJ) 8" x 2 13/16" (6 5/8" H90 TJ) 9 3/4" x 3" (7 5/8" H90 YJ) HWDP: 5" 50lb/ft GRADE G (6 $\frac{1}{2}$ " ) 4 $\frac{1}{2}$ " IF TJ DP : 5" 19 $\frac{1}{2}$ lb/ft GRADE G & E (6 3/8" OO 4 $\frac{1}{2}$ " IF TJ) CEMENTING UNIT MONITORING EQUIPMENT HALLIBURTON HT-400 UNIT MARTIN DECKER: MUD VOLUME TOTALIZER 6 CHANNEL DRILLING RECORDER 4 PRESSURE GAUGES FLOWSHOW INDICATOR POWER SUPPLY 2 EMD MD 18 DIESEL ENGINES RATED AT 1950 HP EACH 1 EMD MD 13 DIESEL ENGINE RATED AT 1500 HP DIRECTIONAL EQUIP. - MISCELLANEOUS (E.G. RISER, COMPENSATION SYSTEM, PIPE RACKER, DP EQUIPMENT) RISER: REGAN FC-7 TELESCOPIC 21" ID. PLUS FLOW DIVERTOR. CASING POWER TONGS: ECKEL 13 3/8" (20,000 ft lbs), 20" (35,000 ft lbs) CMT BULK TANKS: 3 x 1570 cu ft. RISER TENSIONER: 6 WESTERN GEAR, 50' STROKE, 80,000 lbs. MUD BULK TANKS: 3 x 1570 cu ft. GUIDE LINE TENSIONERS: 4 WESTERN GEAR 16,000 lbs, 40' STROKE

3. WELL INFORMATION, PROGRESS AND HISTORY

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COMPANY ESSO AUSTRALIA LIMITED  
 WELL TURRUM #3

WELL INFORMATION SHEET

Sheet No. 1

WELL NAME Turrum #3

OPERATOR Esso Exploration and Production Australia Inc.  
 PARTNERS B.H.P.

RIG OWNER Santa Fe (South Seas Drilling Co.)  
 NAME OR NUMBER Southern Cross  
 TYPE Semi-submersible

LOCATION LATITUDE (X) 30°15'41.052"S LONGITUDE (Y) 148°14'58.995"E  
 FIELD Gippsland Basin AREA Bass Strait  
 COUNTY STATE Victoria  
 COUNTRY Australia  
 DESCRIPTION Exploration Well

DATUM Mean Water Depth 60 metres RKB to Water Level 21 metres

DATES SPUD 8th March 1985 TOTAL DEPTH

HOLE SIZES	Depth From	Depth To	Bit Size (Inches)	No. of Bits	No. of Reamers	Date From	Date To	Cased Logged	
	81 m	219 m	26	1	0	8/3/85	8/3/85	Y	N
219 m	806 m	17½	1	0	10/3/85	11/3/85	Y	Y	
806 m	2995.4 m	12¼	11	0	12/3/85	6/4/85	N	Y	

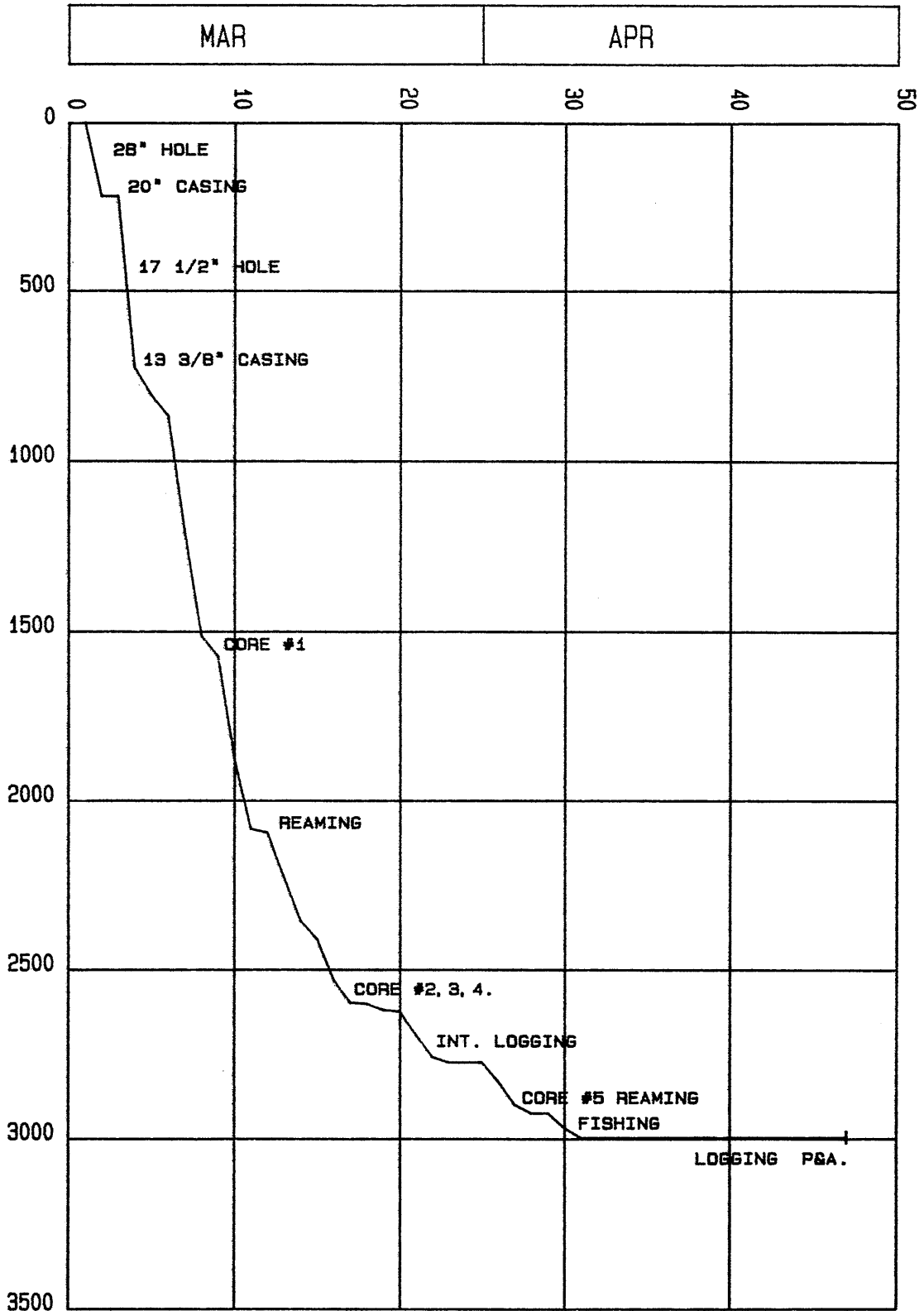
DRILLING FLUIDS	Depth From	Depth To	Weights TO	Type
	81 m	219 m	8.7 TO 8.7	Seawater
	219 m	806 m	8.7 TO 9.1	Seawater - Drilled Solids
	806 m	2995.4 m	8.7 TO 10.5	Seawater - Gel

WIRELINE LOGGING	Depth From	Depth To	Hole Size	Date Run	Logs Run
	806 m	203 m	17½"	11/3/85	BHC-GR
	2775 m	780 m	12¼"	29/3/85	DLT-MSFL-GR-CAL/LDT-CNL-GR-CAL
	-	-	12¼"	30-31/3/85	RFT's 1-8
	2688 m	791 m	12¼"	15/4/85	SONIC-GR
	2619.8 m	-	12¼"	15/4/85	RFT No. 9
	2695 m	600 m	12¼"	15/4/85	WST 12 levels
	2647 m	1604.5 m	12¼"	16/4/85	CST No. 1 51 shots
	-	-	12¼"	16/4/85	CST No. 2

RISER CASING & LINER	Depth From	Depth To	OD (Ins)	ID (Ins)	Weight	Grade	Thread	Date Run	Cement	Stages	Exce.
	0 m	81 m	22	21	-----Riser-----						
	81 m	203 m	20	19.124	94.4	X52	JV Box	9/3/85	"G"	1	-
	81 m	791 m	13 3/8	12.615	54.5	K55	Butt	12/3/85	"G"	1	-



PROGRESS LOG  
 ESSO AUSTRALIA LTD.      TURRUM 3



WELL HISTORY  
TURRUM #3

7TH MAR 1985 Towed to the location of Turrum #3 and ran anchors.

8TH MAR 1985 Spudded the well, and drilled 26" hole down to 219 metres.

9TH MAR 1985 Ran 20" casing, set at 203 metres. Ran stack and riser.

10TH MAR 1985 R.I.H. with 17½" bit (HTC OSC 3AJ) and tagged cement at 197 metres. Drilled out the cement and shoe. Drilled 17½" hole to 724 metres.

11TH MAR 1985 Drilled 17½" hole to 806 metres, circulated out and ran wiper trip to shoe. Wiper trip gas was 2-51-3 units. P.O.O.H. and Schlumberger logged the hole. Ran wiper trip to bottom; trip gas was 2-17-3 units.

12TH MAR 1985 Ran 13 3/8" casing, cemented shoe at 790.68 metres. R.I.H. with X3A bit (Hughes) and drilled out cement and shoe. Conducted a P.I.T. after drilling 6 metres of new formation, to give a leak-off of 19.5 ppg E.M.W. Drilled 12¼" hole to 867 metres.

13TH MAR 1985 Drilled 12¼" hole to 1206 metres.

14TH MAR 1985 Drilled 12¼" hole to 1512 metres.

15TH MAR 1985 12¼" hole was drilled to 1572 metres where a bit change was made due to high torque on bottom (NB3 J22 18/18/16). Drilled ahead to 1577 metres where a drilling break occurred, the sample was circulated out and the geologist decided to cut a core. An RC4 was run into the hole and core #1 was cut (1577 - 1586 metres; 81.7% recovery). Bit number 3 was then re-run into the hole.

16TH MAR 1985 Drilled 12¼" hole to 1874 metres.

17TH MAR 1985 Drilled 12¼" hole to 2084 metres.

18TH MAR 1985 Drilled 12¼" hole to 2094 metres where torque increased. On pulling the bit tight hole was encountered; a five stand wiper trip was made prior to pulling the bit from the hole. A new bit was run into the hole (NB4 J22 18/18/16) and a precautionary ream was made from 2022 - 2094 metres.

19TH MAR 1985 Drilled 12 $\frac{1}{4}$ " hole 2094 - 2226 metres.

20TH MAR 1985 Drilled 12 $\frac{1}{4}$ " hole 2226 - 2355 metres.

21ST MAR 1985 Drilled 12 $\frac{1}{4}$ " hole to 2383 metres where a bit change was made due to low R.O.P. A phase 3 P.I.T. was carried out (360 psi) giving E.M.W. of 13.3 ppg E.M.W. at shoe (11.5 ppg E.M.W. @ 2383 metres). A B.O.P. test was carried out prior to running NB5 (J22 18/18/16). New hole was drilled to 2409 metres.

22ND MAR 1985 Drilled 12 $\frac{1}{4}$ " hole 2409 - 2530 metres.

23RD MAR 1985 Drilled 12 $\frac{1}{4}$ " hole 2530 - 2597.3 metres where the cuttings were circulated out and a decision was made to cut core #2.

24TH MAR 1985 R.I.H. to cut core #2 (2597.3 - 2599.3 metres; 58% recovery). Core #2 was retrieved and the core barrel run back into the hole to cut core #3 (2599.3 - 2601.5 metres; 90.9% recovery).

25TH MAR 1985 New bit #6 was run into the hole (J33 18/18/16) and 12 $\frac{1}{4}$ " hole drilled between 2601.5 and 2618 metres, at which point it was pulled to cut core #4. Cut core #4.

26TH MAR 1985 Cut core #4 and ran NB7 into the hole, reaming the rathole.

27TH MAR 1985 Reamed to bottom and drilled 12 $\frac{1}{4}$ " hole to 2693 metres.

28TH MAR 1985 Drilled 12 $\frac{1}{4}$ " hole to 2757 metres.

29TH MAR 1985 Drilled 12 $\frac{1}{4}$ " hole to 2773 metres prior to pulling bit #7 due to high hours. A phase 3 P.I.T. was carried out, whilst pulling out, at the shoe. This gave a leak-off of 13.1 ppg E.M.W. at the shoe and 11.2 ppg E.M.W. @ 2773 metres with a 10.4 ppg mud weight. Schlumberger logged the hole. Ran R.F.T. nos. 1 to 26.

30TH MAR 1985 Ran R.F.T. nos. 27 to 42. Ran wiper trip to bottom and circulated out. Wiper trip gas was 2-66-10 units. P.O.O.H. Ran R.F.T. nos. 43 to 44 (43 was a misrun).

31ST MAR 1985 Ran R.F.T. nos. 45 to 55. Tested B.O.P.'s, ran the wear bushing.

1ST APR 1985 R.I.H. with NB8, 12 $\frac{1}{4}$ " HTC J22 and drilled 12 $\frac{1}{4}$ " hole to 2829 metres.

2ND APR 1985 Drilled 12 $\frac{1}{4}$ " hole to 2898 metres.

3RD APR 1985 Drilled to 2907.8 metres and circulated bottoms up on a drill break; bottoms up gas was 8-52-18 units. P.O.O.H. to cut core #5. Cut core #5 from 2907.8 to 2924 metres; cut 16.5 metres, recovered 16.5 metres (100%).

4TH APR 1985 R.I.H. with NB9, 12 $\frac{1}{4}$ " HTC J22; tight hole at 2610 metres due to worn stabilizer on previous bit run. Reamed from 2621 metres to 2909 metres.

5TH APR 1985 Reamed from 2909 to 2924 metres, drilled 12 $\frac{1}{4}$ " hole to 2968 metres.

6TH APR 1985 Drilled to 2995.4 metres; pump failed on yellow pod of B.O.P.; so P.O.O.H. to change bit while repairs were carried out.

7TH APR 1985 Dropped drill string from hanger; R.I.H. with fishing tool, encountered fill at 1578 metres. Circulated out, B.U. gas was 20-140-6 units, P.O.O.H.

8TH APR 1985 R.I.H. with bit and wash down from 2272 metres to 2288 metres, gas 3-974-8 units, P.O.O.H. R.I.H. with fishing tool; unsuccessful; P.O.O.H.

9TH APR 1985 R.I.H. with second fishing tool, hole bridged off at 1035 metres. Circulated out, gas was 3-66-5 units first circulation, 5-6-3 units, second circulation. P.O.O.H. R.I.H. with bit and washed down to fish. P.O.O.H. R.I.H. with fishing tool and attached the fish; could not free the fish. P.O.O.H.

10TH APR 1985 R.I.H. with fishing tool, grappled fish at 2292 metres, freed fish and P.O.O.H., fish released from grapple at 2924 metres and dropped back to bottom; P.O.O.H. R.I.H. with fishing tool. The fish was picked up and on attempting to pull fish, 80K lbs overpull was encountered releasing fish. The fishing assembly was then pulled and a wash pipe assembly was picked up to wash the fish.

11TH APR 1985 On running the wash pipe into the hole it was found that the top of the fish would not fit into the wash pipe. The wash pipe assembly was pulled and a milling assembly was run into the hole and the fish milled.

12TH APR 1985 Milling of the fish continued until the mill was dulled and a new mill assembly was then run into the hole. On completion of milling, a 5" cutting assembly was made up to cut the 5" D.P. below the Texas Iron Works Valve to enable circulation through the bit. 48 metres of 5" drill pipe was cut and recovered. The B.O.P. stack was then tested.

13TH APR 1985 Ran in the hole with 5" grapple assembly and picked up the fish. On picking up the fish and pulling out it was found that the fish had separated from the B.H.A. at the heavy weight drill pipe/5" intersection; 48 stands of 'G' grade pipe was recovered. A new mill assembly was made up and run into the hole.

14TH APR 1985 The fish was milled prior to running a grapple assembly. The fish was picked up but lost on trying to lift it from the bottom. The fishing assembly was pulled from the hole and it was found that the assembly grapple was lost on the fish. A decision was then made to log and P & A.

15TH APR 1985 A wiper trip was made prior to running logs.

Sonic - GR	2688 - 791 metres
R.F.T. #9	@ 2619.8 metres
W.S.T 12 levels	2695 - 600 metres
C.S.T #1	51 shots

16TH APR 1985 Continued to log.

C.S.T. #2	30 shots
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Carried out a wiper trip prior to starting to P & A.

17TH APR 1985 P & A.

18TH APR 1985 W.O.W.

19TH APR 1985 W.O.W./P & A.

20TH APR 1985 P & A.

4. LITHOLOGY AND CORE-O-GRAPHS

## LITHOLOGY SUMMARY

The main objectives of Turrum #3 were to:

1. To further delineate the L-1.4.2 oil reservoir and overlying L.balmei hydrocarbons within the Turrum field.
2. To test the Cretaceous section beneath the Turrum "L" reservoirs.
3. To provide data on the fluid contacts of the producing Marlin "N-1" reservoir.

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

### Seaspray Group (81 metres - 1572 metres)

Calcarenite, calcisiltite and calcilutite, dominantly calcarenite and calcilutite down to 810 metres. The calcarenite was light to medium grey and occasionally pale brown, friable to hard, predominantly moderately hard, very fine to fine grained, occasionally medium grained, angular to rounded, predominantly sub-angular, poorly sorted, fossiliferous glauconitic in places, grades to calcisiltite.

The calcisiltite was light to medium grey and yellow brown to pale brown, friable to moderately hard, occasionally glauconitic, grading to calcilutite, light to medium grey, very soft to soft, occasionally fossiliferous and glauconitic.

Below 810 metres the Seaspray Group consisted predominantly of calcareous siltstone and claystone with minor sandstone. The siltstone was light to medium, grey and pale brown, soft to moderately hard with sub-angular to sub-rounded blocky cuttings, occasionally carbonaceous and glauconitic, fossiliferous in places. The claystone was light to medium grey and pale brown, very soft to soft, sticky, rounded to blocky cuttings, very calcareous, glauconitic and fossiliferous in places. The sandstone makes up to 30% of the sample from 1295 metres to 1320 metres but was only found in trace amounts in the rest of the section. It was light grey to pale brown, moderately hard to very hard, very fine to medium grained, predominantly very fine grained, calcareous cement, glauconitic.

Background gas was 2 - 5 units down to 1400 metres with occasional peaks up to 40 units. Below 1400 metres background gas was 5 - 9 units, with up to C<sub>4</sub> being recorded.

### Labrobe Group (1572 metres - T.D.)

The top of the Labrobe Group over the Turrum area is an erosional surface, deeply incised in places by the Marlin Channel and its sub-channels.

The Labrobe Group in this area can be divided into four generalised intervals.

Interval 1 (1572 metres - 1865 metres)

This interval was characterised by well developed coal seams and thick sandstone and siltstone intervals with minor claystone. The coals were dark grey to black, earthy to vitreous, firm to brittle, angular to sub-angular with a conchoidal fracture in places.

The sandstone consisted of two types:

Type (1)            Loose quartz grains, clear to translucent, medium to very coarse grained, moderate to moderately well sorted, sub-angular to sub-rounded, good visible porosity.

Type (2)            Quartz aggregates, very light grey to translucent, very fine to fine grained, sub-angular to sub-rounded, poorly to moderately well sorted, calcareous cement, carbonaceous in places, poor visible porosity.

The siltstone was light to dark grey and brown to green, soft to predominantly moderately hard, angular to blocky cuttings, glauconitic and carbonaceous, calcareous in places. Grading to a light grey to brown red claystone, very soft to soft, sticky, carbonaceous in places, occasionally pyritic.

Background gas was generally in the 15 - 30 units range, with peaks up to 1000 units associated with the coals. Up to C<sub>6</sub> was recorded in this section.

One core was cut in this section from 1577 to 1586 metres, having interbedded siltstone and silty sandstone lithologies. The sandstone was light grey to translucent, medium grained, sub-rounded, predominantly friable, weakly cemented with siliceous cement and had (5 - 30%) white fluorescence with a fast streaming diffuse cut.

Interval 2 (1865 metres - 2130 metres)

This interval was characterised by interbedded siltstone and silty sandstone with minor coals and claystone.

The siltstone was medium grey to reddish grey and pale brown, very soft to firm, blocky, slightly calcareous, carbonaceous, pyritic in places. The sandstone was light grey to translucent, very fine to fine grained quartz aggregates, predominantly well sorted, friable to moderately hard, dolomitic or calcareous cement, poor visible porosity.

In the interval from 1974 to 2050 metres a second sandstone type occurs with that above, this consisted of loose translucent quartz grains, medium to very coarse grained, sub-angular to rounded, poorly to moderately well sorted. The coal was black, firm to brittle, vitreous, earthy in places grading to carbonaceous siltstone. The claystone was white to light grey and grey brown, very soft to soft, sticky, carbonaceous.



Background gas for this interval was generally in the range 12 - 20 units down to 2000 metres and 20 to 40 units below 2000 metres, however numerous peaks over 50 units were recorded with a maximum of 690 units at 2018 metres. Up to C<sub>6</sub> was recorded throughout the interval.

Fluorescence with cut was observed in sandstones from 1930 to 2095 metres.

#### Interval 3 (2130 metres - 2590 metres)

This interval is similar to interval 1 in that it contains many well developed coal seams and thick channel sandstones.

The sandstones were of two types:

Type (1)            Loose quartz grains, translucent to milky white and light grey, medium to very coarse grained, angular to sub-rounded, poorly to moderately well sorted.

Type (2)            Quartz aggregates, translucent to milky white and light grey to red-grey, very fine to medium grained, well to moderately well sorted, calcareous to dolomitic cement, poor visible porosity.

The siltstones were light to dark grey and red-brown-grey, predominantly firm to moderately hard, occasionally soft, carbonaceous calcareous or dolomitic in places, occasionally pyritic. The coals were black to dark grey brown, vitreous, sub-fissile, brittle with a conchoidal fracture.

Background gas was in the range 12 - 20 units down to 2290 metres, and 20 - 50 units for the rest of the interval. Many peaks in the 100 to 300 unit range were recorded with a maximum of 740 units at 2480 metres. Up to C<sub>6</sub> was recorded for the interval.

Fluorescence with cut was observed in the sandstones between the intervals 2130 - 2135 metres, 2250 - 2270 metres and 2410 - 2470 metres.

#### Interval 4 (2590 metres - 2710 metres)

Characterised by predominantly coarse to very coarse grained dolomitic sandstone with siltstone interbeds and minor coal, mudstone and claystone inclusions.

#### General Lithologies

Sandstone            Clear, translucent to milky white, coarse to very coarse grain quartz with occasional fine to very fine grain aggregates, moderately to well sorted, sub-angular to sub-rounded grains, friable to moderately hard, siliceous to dolomitic cement matrix, tight, poor visual porosity, very faint, very weak, slow diffused milky cut in part.

Siltstone Grey brown, abundant carbonaceous laminations, grading to coal in part.

Background gas of between 2 to 4 units with a maximum peak of 50 units associated with coal at 2650 metres. Generally few peaks with total gas rarely rising above 5 units and C<sub>1</sub> to C<sub>3</sub> on chromatograph.

Also: Three cores cut in interval:

Core #2 - 2598 metres to 2599.5 metres  
Core #3 - 2599.5 metres to 2601.8 metres  
Core #4 - 2618 metres to 2623.3 metres

### General Lithology

Sandstone Translucent to milky quartz, coarse to very coarse grained, very hard, sub-round to sub-angular, predominantly sub-angular, poor sorting, dolomitic cement, poor visual porosity, pyrite common, 20% to 30% fluorescence, white.

### Interval 5 (2710 metres - 2910 metres)

Characterised by sandstone interbedded with siltstone becoming siltier towards base with thin coal seams and occasional mudstone.

### General Lithologies

Sandstone Clear, translucent, white to light grey, fine to very fine grained, well sorted, friable to hard, silty matrix common, carbonaceous in part, poor porosity, no shows. Trace dull white fluorescence with slow diffuse cut @ 2755 metres. Towards base @ 2830 metres 10% bright blue-white fluorescence with diffuse milky white cut.

Siltstone Grey brown to grey-tan to dark grey, argillaceous, carbonaceous in parts, firm, blocky to sub-fissile cuttings, occasional coal inclusions, grading to very fine grained sandstone in part.

Coal Black to dark brown, vitreous to sub-vitreous, brittle with poor to moderate conchoidal fracture.

Gas Background of between 5 to 10 units with numerous peaks above 50 units with a maximum of 130 units at 2800 metres. Chromatograph readings between C<sub>1</sub> to C<sub>5</sub> predominantly C<sub>1</sub> to C<sub>3</sub> with occasional C<sub>6</sub> shows. Above 2840 metres peaks associated with coals; below with minor coals and sandstones.

Core #5 - 2907.7 metres to 2924 metres

Interbedded carbonaceous siltstone with silty coal, minor sandstone with blue-white fluorescence with diffuse milky white cut.

Interval 6 (2910 metres - 2995 metres)

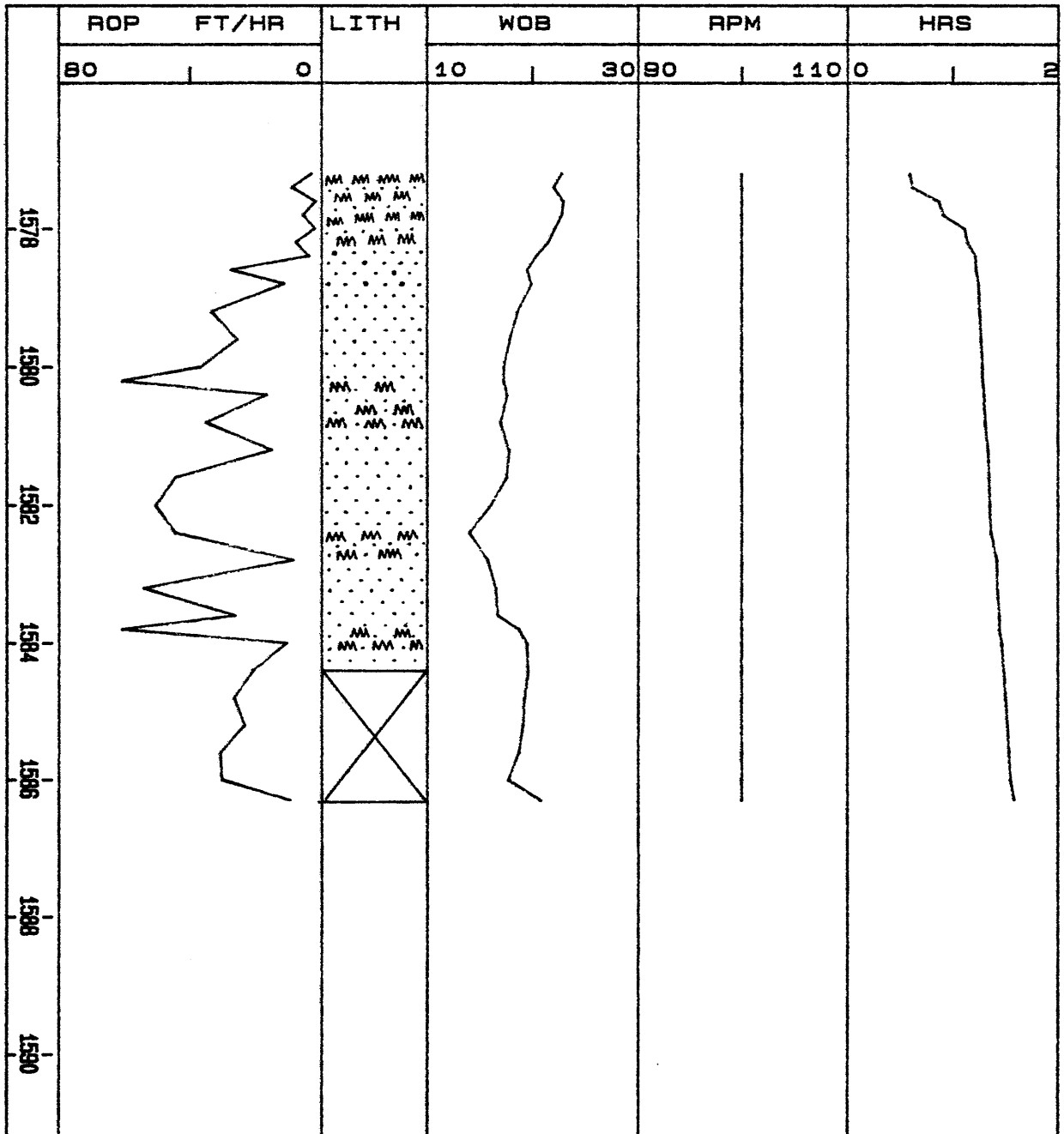
Characterised by carbonaceous siltstone with interbedded sandstone with thin to medium coal seams.

General Lithologies

- Siltstone Light grey, sub-fissile, hard, increasingly carbonaceous occasionally grading to very fine sandstone.
- Sandstone Clear, translucent to buff-white, brown, coarse angular quartz grains to medium to fine grained, sub-angular to sub-rounded, siliceous cement. Fluorescence 10% - 20% bright white to yellow, slow diffuse cut @ 2930 metres.
- Gas Background gas of 10 units, common peaks of 20+ units occasionally over 50. C<sub>1</sub> through C<sub>4</sub> present, occasionally C<sub>5</sub> and C<sub>6</sub>.<sup>1</sup> Maximum peak 120 units, with coal at 2947 metres.

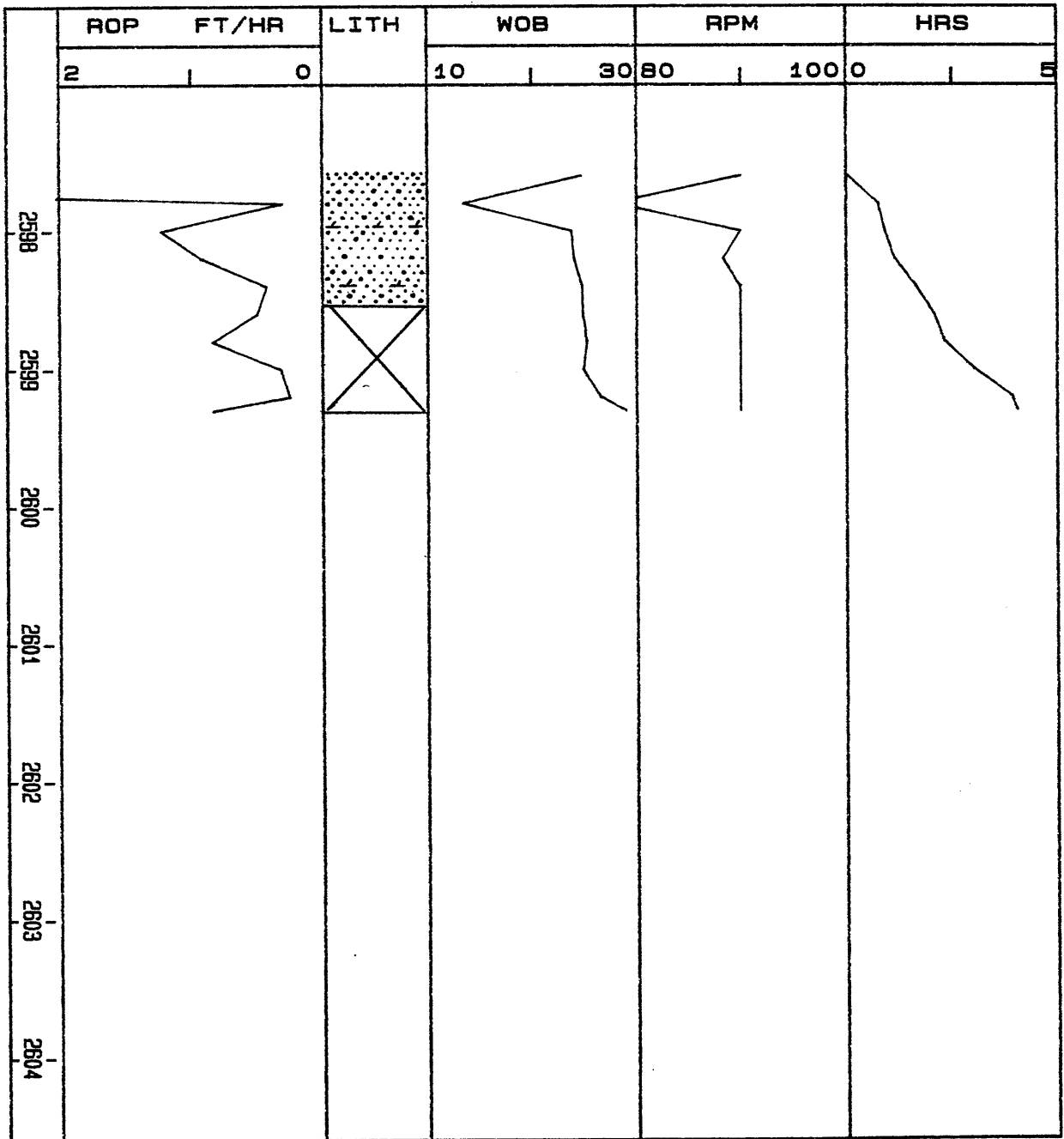
# CORE-O-GRAPH

CLIENT: ESSO AUSTRALIA LTD.  
 WELL: TURRUM NO.3  
 CORE NO.: 1  
 INTERVAL CORED FROM 1576.0m. TO 1588.3m.  
 CUT: 10.3ft. RECOVERED: 8.4m. ( 81.7% )  
 FORMATION: LATROBE GROUP  
 BIT MAKE & TYPE: CHRISTENSEN RC4  
 CORE BARREL SIZE: 8.00in.x 5.25in.x 10.86m.  
 BIT SIZE: 9.88 MUD WT.: 9.5



# CORE-O-GRAPH

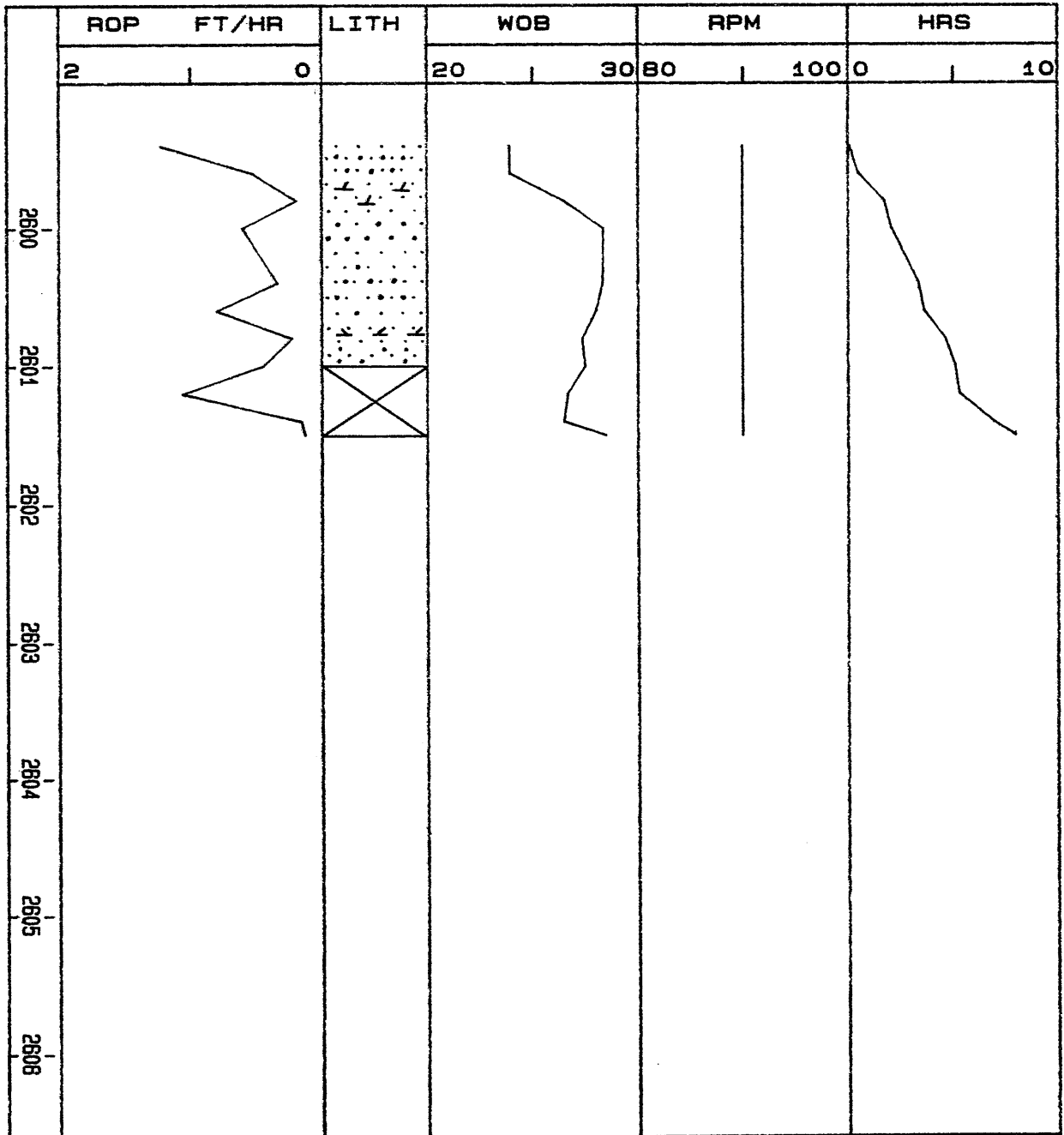
CLIENT:	ESSO AUSTRALIA LTD.
WELL:	TURRUM NO.3
CORE NO.:	2
INTERVAL CORED FROM	2597.3m. TO 2599.3m.
CUT: 2.0ft.	RECOVERED: 1.2m. ( 58.0% )
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRISTENSEN C23
CORE BARREL SIZE:	8.00in.x 5.00in.x 19.78m.
BIT SIZE: 8.88	MUD WT.: 10.5



Jettimer '81

# CORE-O-GRAPH

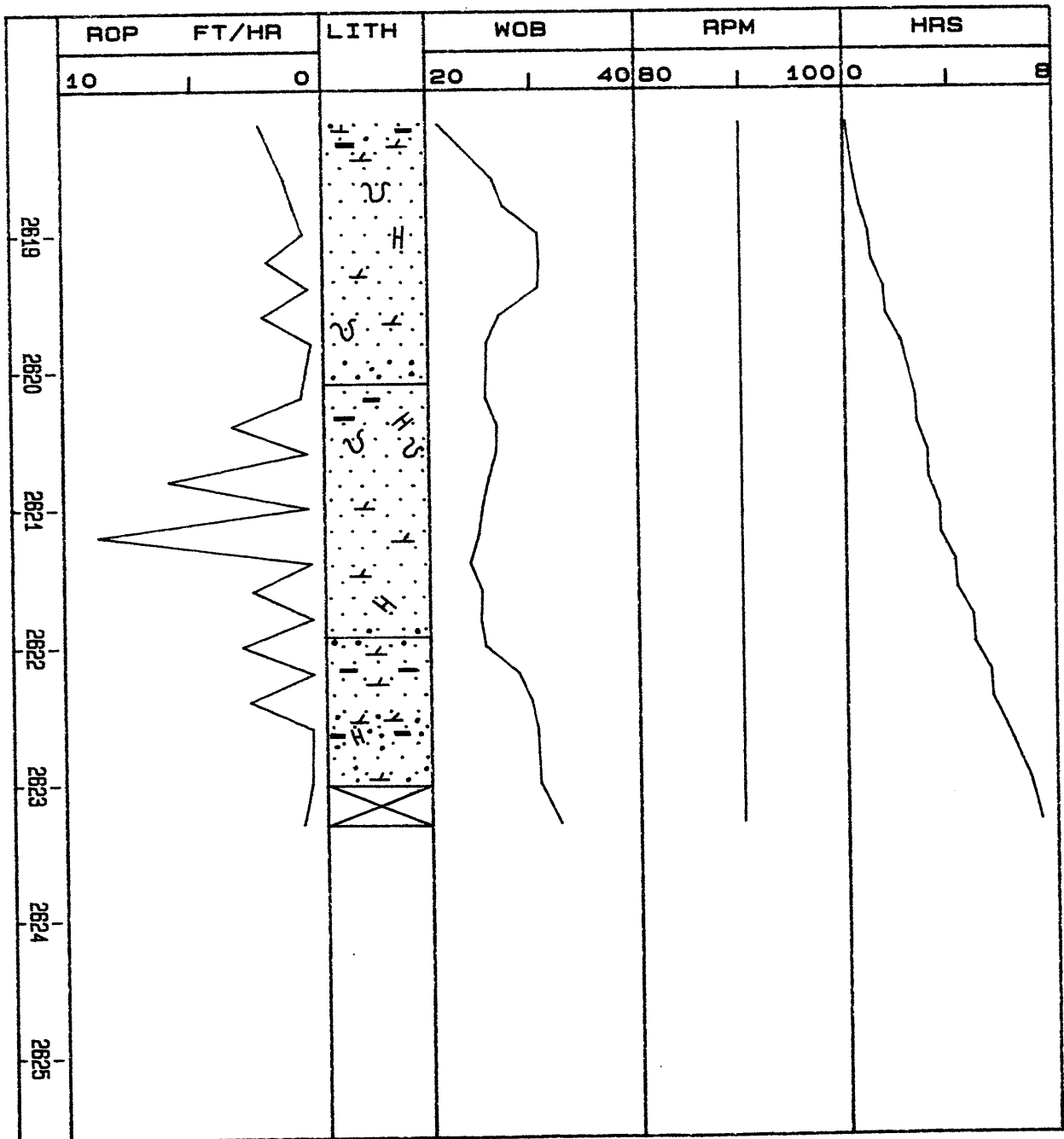
CLIENT:	ESSO AUSTRALIA LTD.
WELL:	TURRUM NO.3
CORE NO.:	3
INTERVAL CORED FROM	2599.3m. TO 2601.5m.
CUT: 2.2ft.	RECOVERED: 1.7m. ( 77.3% )
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRISTENSEN C20
CORE BARREL SIZE:	8.00in.x 5.00in.x 19.78m.
BIT SIZE: 9.88	MUD WT.: 10.5



Jettmer '84

# CORE-O-GRAPH

CLIENT:	ESSO AUSTRALIA LTD.
WELL:	TURRUM NO.3
CORE NO.:	4
INTERVAL CORED FROM	2818.0m. TO 2823.3m.
CUT: 5.3ft.	RECOVERED: 5.0m. ( 94.3% )
FORMATION:	LATROBE GROUP
BIT MAKE & TYPE:	CHRISTENSEN C23
CORE BARREL SIZE:	8.00in.x 5.00in.x 19.78m.
BIT SIZE: 9.88	MUD WT.: 10.5



Jettmer '81





5. EXTENDED SERVICE PACKAGE

## EXTENDED SERVICE INTRODUCTION

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

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

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

Core Laboratories E.S. logs include the following :

### E.S. PRESSURE LOG

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

### CORE LAB DRILL DATA PLOT

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

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

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

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

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

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### DEPTH

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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

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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

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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

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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

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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

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

### ROTARY TORQUE

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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

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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

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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

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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

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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

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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

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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)

A prime aim during the drilling of Turrum #3 was utilization of data collected by Core Laboratories DL2007 to provide an estimation of formation pressures. This is described in detail below.

The main pressure indicators that were used while drilling the well were those of rates of penetration, gas levels, 'd' c exponent, mud weight, flowline temperature and lithology.

The "Drill Data Plot" (see attached plots inside back cover), shows the rate of penetration, corrected 'd' exponent and mud density plotted against lithology. This plot indicates a normal pressure profile throughout the well with any irregularities in rate of penetration, corrected 'd' exponent and gas levels being due to lithology changes. No conclusive connection gas was observed. Shale densities were not performed during the drilling of the well as no large beds of shale were encountered.

The "Temperature Plot" displays the flowline temperature in and out and their differential plotted against depth. The temperature plot of Turrum #3 shows a temperature gradient of 2.36°C/100 m. It shows a normal trend with depth, only differing from the expected gradient of points where the mud system was being treated to maintain specifications. The bottom hole temperature was not determined due to insufficient wireline logging data being available.

The "Pressure Plot" is a summary of the pressures found in the drilling of Turrum #3. On this plot, estimated pore pressure is plotted along with mud weight and the fracture gradient in pounds per gallon. The pore pressure of the well is drawn from pressure observations made while drilling and information from R.F.T. pretests. The pore pressure profile of the well is set out below.

Depth Interval RKB - TVD (m)	Pore Pressure (ppg)
82 - 1500	8.3
1500 - 1700	8.2
1700 - 2150	8.6
2150 - 2550	8.7
2550 - 2990	8.5

The pore pressure changes indicated by the R.F.T. pretest data were not observed during the drilling of the well due to a high overbalance throughout the well (0.5 - 1.6 ppg).

It was not possible to derive a true fracture gradient as insufficient leak off data is available for the basin. A P.I.T. was conducted on Turrum #3 at the 13 3/8" casing shoe (791 metres), yielding 19.5 ppg E.M.W. with no leak off. A phase 3 open hole P.I.T. was carried out with the hole drilled to 2383 metres. This gave leak off values of 13.3 ppg E.M.W. at the 13 3/8" casing show and 11.5 ppg E.M.W. at 2383 metres. The fracture gradient curve is based on the US Gulf Coast Curve and offset to match local data.

7. B.H.T. ESTIMATION

B.H.T. Estimation

Due to lack of wireline data an estimation of the Bottom Hole Temperature was unable to be performed.

8. OVERBURDEN GRADIENT CALCULATIONS AND PLOT

Overburden Gradient

Due to insufficient wireline data the overburden gradient and plot could not be determined for Turrum #3.

9. GAS ANALYSES



## GAS COMPOSITION ANALYSIS

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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

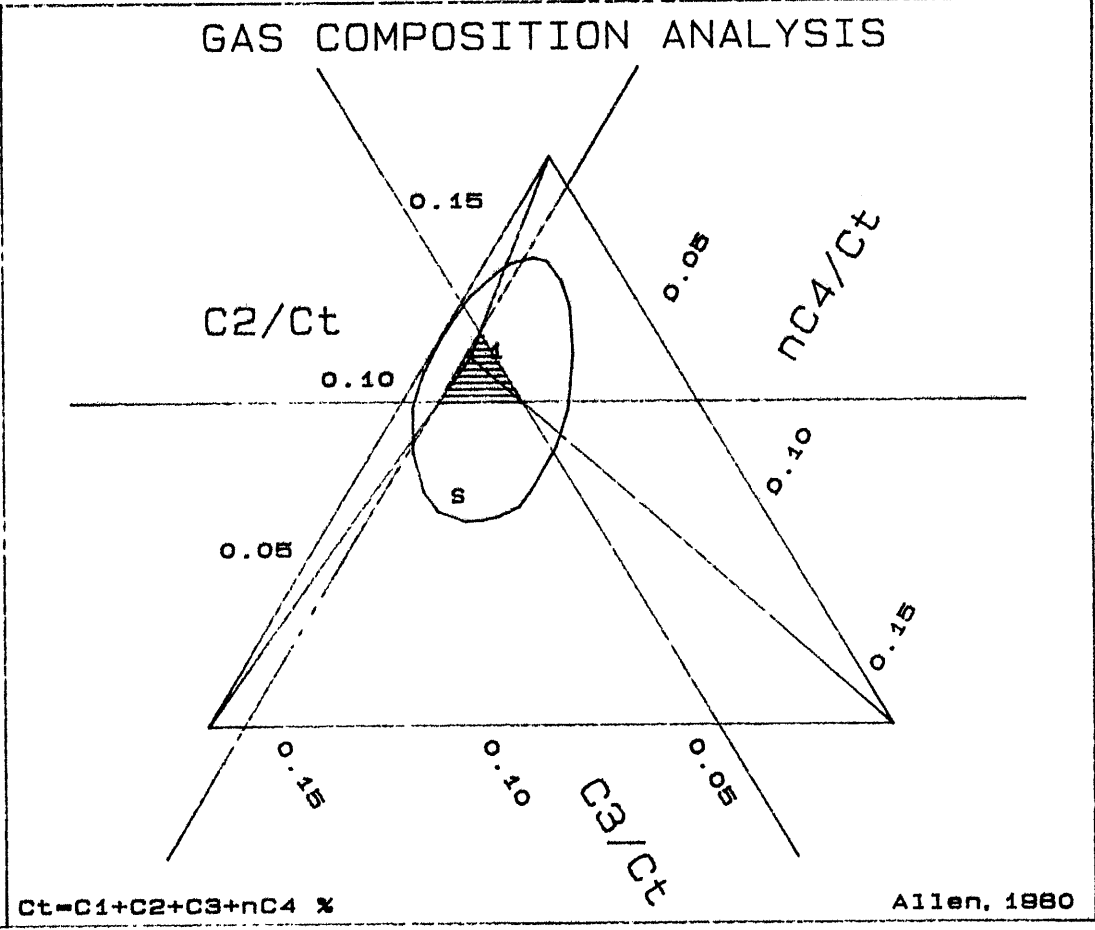
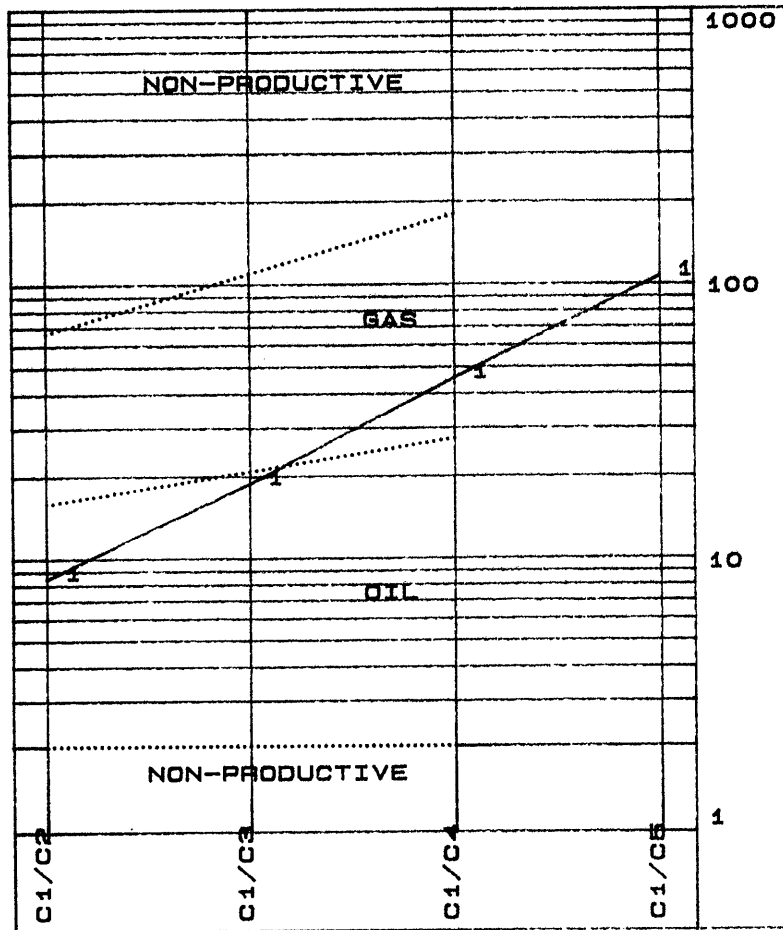
The triangulation diagram is obtained by tracing lines on three scales at 120 degrees to each other, corresponding respectively to the ratios of C2, C3 and normal C4 to the total gas (C1 to C4). The scales are arranged in such a way that if the apex of the triangle is upward, a gas zone is indicated,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



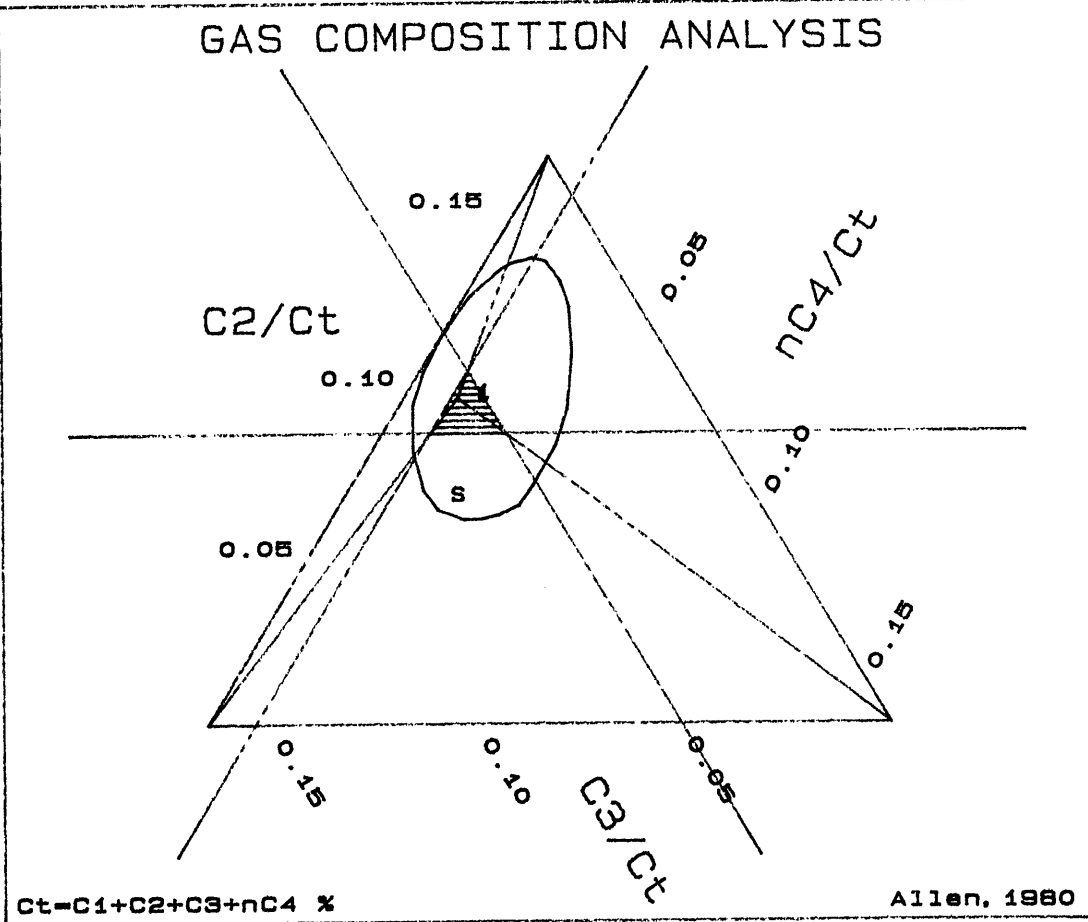
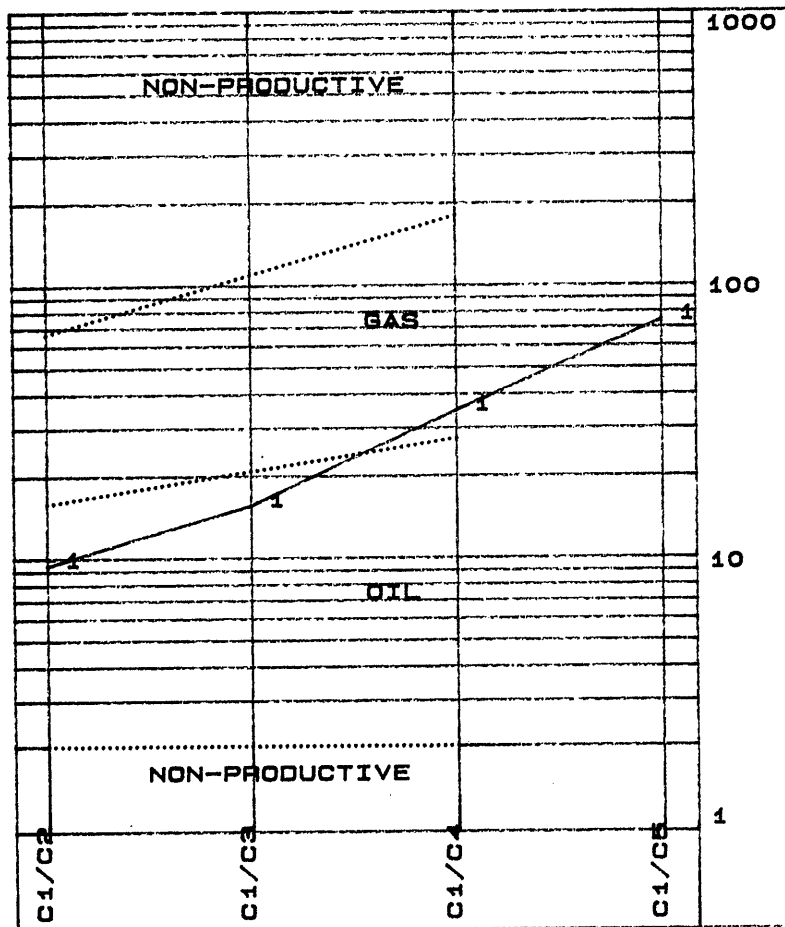
NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	1574	28.898	3.380	1.520	0.314	0.314	0.288	0.110	33.812	8	18	48	107

CONCLUSION: WET GAS ZONE PRODUCTIVE

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD.

Well: TURRUM NO.3



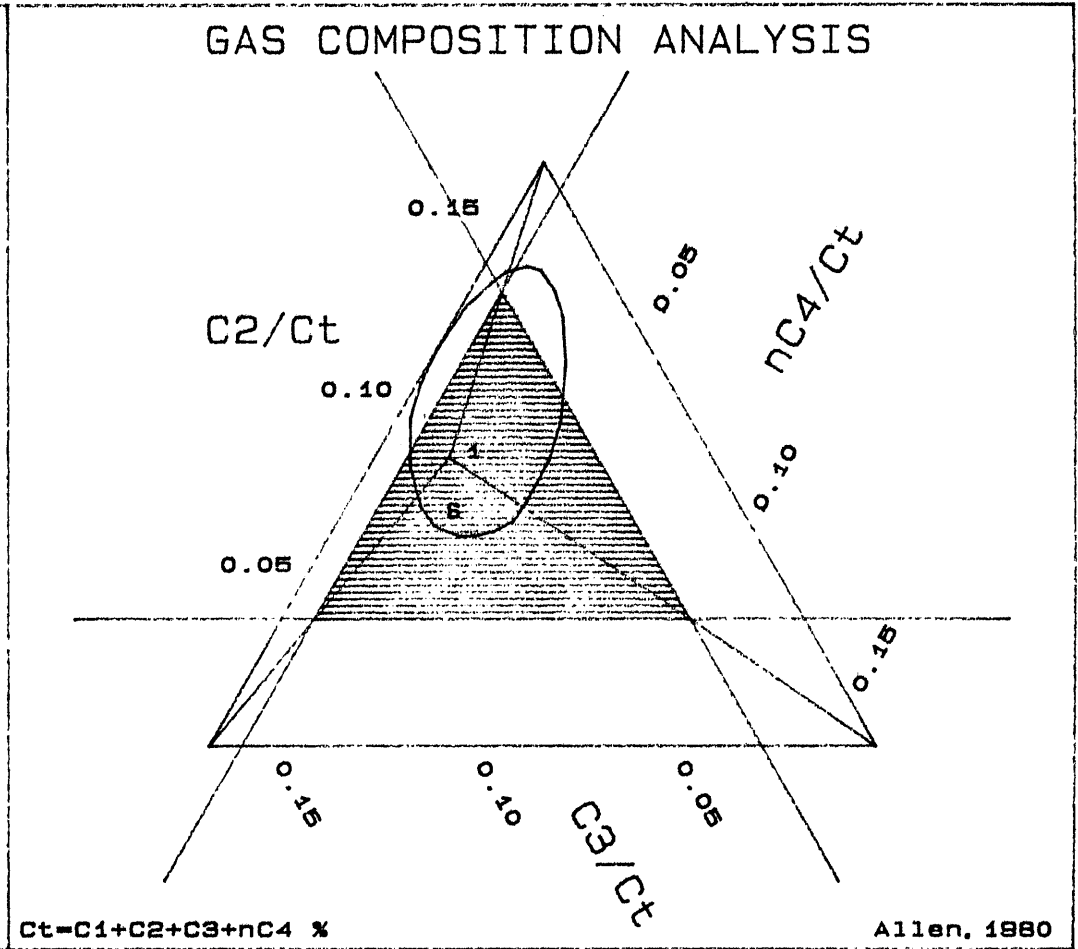
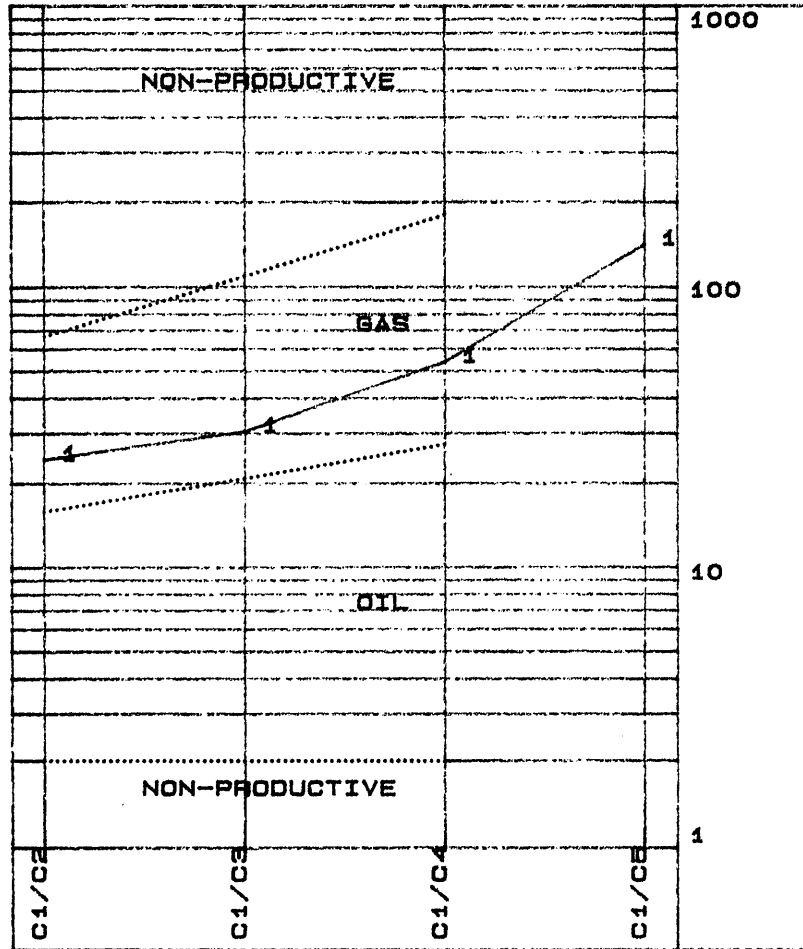
NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	1938	15.818	1.858	1.000	0.224	0.224	0.210	0.151	18.498	9	18	35	74

CONCLUSION: WET GAS ZONE PRODUCTIVE

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD.

Well: TURRUM NO.3



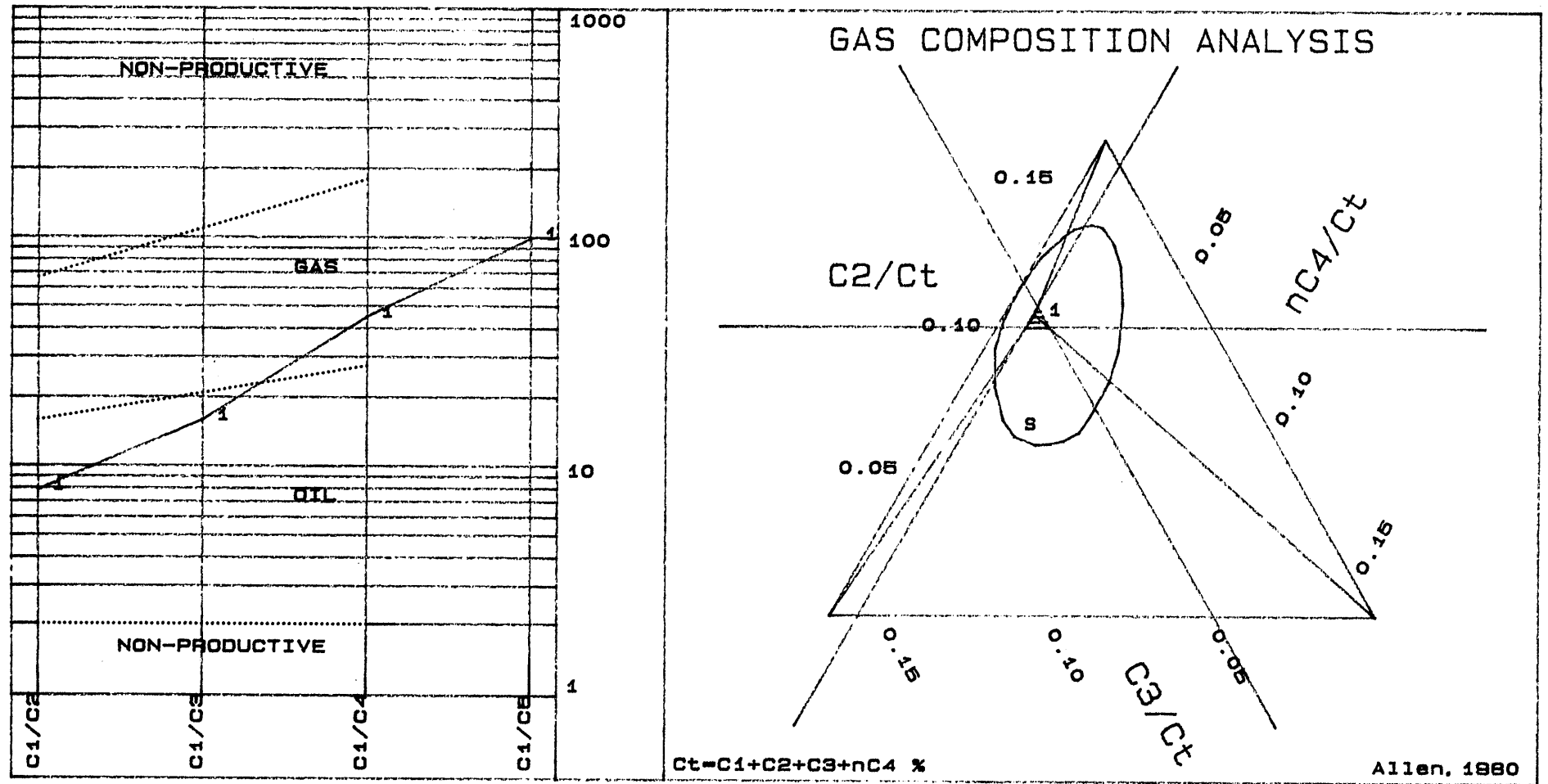
NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	2020	118.318	4.780	3.800	1.075	1.075	0.820	0.575	125.971	24	31	54	142

CONCLUSION: DRY GAS PRODUCTIVE

CORE LAB. INTL. LTD.

Client: ESSO AUSTRALIA LTD.

Well: TURRUM NO.3



NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	2908	8.844	1.125	0.554	0.088	0.088	0.088	0.048	10.821	8	18	45	88

CONCLUSION: WET GAS PRODUCTIVE

SIDEWALL CORE GAS ANALYSIS DATA SHEET

SHEET NO.

COMPANY ESSO AUSTRALIA LIMITED  
WELL TURRUM #3

LOGGING SUITE NO. 2

No.	DEPTH (M)	C1	C2	C3	C4	C5	C6	COMMENTS
		PPM	PPM	PPM	PPM	PPM	PPM	
6	2,604	637	352	624	140	243	207	C <sub>7</sub> +
20	2,301	849	13,171	10,649	5,120	2,598	1,420	C <sub>7</sub> +
28	2,157	1,699	1,088	3,244	4,320	2,969	1,930	C <sub>7</sub> +
24	2,166	212	106	176	298	359	325	C <sub>7</sub> +
25	2,162	212	121	145	195	209	214	C <sub>7</sub> +
26	2,160.5	247	105	130	192	168	148	C <sub>7</sub> +
57		25,676	19,084	11,648	4,800	1,577	592	Tr C <sub>7</sub> +

10. CORELAB DATA SHEETS

COMPANY ESSO AUSTRALIA LIMITED  
WELL TURRUM #3

BIT RECORD

Sheet No.

Ser No.	Bit No.	Make	Type	IADC Code	Size (Inches)	Cost A\$	Jets	Depth In (m)	Depth Out (m)	Hole Made m	Drill Time	On Bottom Hours	TurnsK	Avg ROP	Avg Cost/m	Condition T B G
LJ321	RR1	HTC	OSC 3AJ + 26" H/O	111	26	0	20/20/20	81	219	138	4.1	2.66	11.2	51.9	140.20	7-7-I
113TR	NB1	HTC	OSC 3AJ	111	17½	4978	18/18/18	219	806	587	30.4	23.23	157.6	25.3	169.21	2-2-I
920 TR	NB2	HTC	X3A	114	12½	2445	18/18/18	806	1572.2	766.2	55½	45.61	324.0	16.5	242.51	5-7-1/8
WXO 61	NB3	HTC	J22	517	12½	8520	18/18/16	1572.2	1576.0	2.8	3/4	0.06	0.306	46.7	10946.83	1-1-I
	3	CHRIS	RC4	4	9 7/8	-	14/14/15	1576.0	1586.4	10.4	1	1.58	9.48	6.5	2687.59	60% goo
WXO61	RR3	HTC	J22	517	12½	-	18/18/16	1586.4	2094.0	507.6	50½	44.76	208.5	11.9	368.76	5-8-½
2F047	NB4	HTC	J22	517	12½	8520	18/18/16	2094.0	2383.0	289	49 3/4	45.65	188.8	6.3	708.42	3-3-I
ZC956	NB5	HTC	J22	517	12½	8520	18/18/16	2383.0	2597.3	214.3	48½	43.77	152.5	4.9	922.00	4-5-1/8
8E505	5	CHRIS	C23	4	9 7/8	-	14/14/14	2597.3	2599.3	2	4½	4.06	21.4	0.49	22027	65% goo
80E507	5	CHRIS	C20	4	9 27/32	-	14/14/14	2599.3	2601.5	2.2	7½	8.01	43.2	0.27	27074	5% on r
WN556	NB6	HTC	J33	537	12½	8266	18/18/16	2601.5	2618.0	15.5	6 3/4	11.92	33.8	1.3	4250	3-5-1/8
8E505	6	CHRIS	C23	4	9 27/32	-	14/14/14	2618.0	2623.3	5.3	7 3/4	7.38	39.9	0.72	10806	5% worn on run
356BL	NB7	HTC	J33	537	12½	8266	18/18/16	2623.3	2773	149.7	51	48.6	143.8	3.08	1442	4-4-I
ZC951	NB8	HTC	J22	517	12½	8520	18/18/16	2773	2907.8	134.8	46½	41.39	109.9	3.26	1398	3-3-½
83B0333	8	CHRIS	RC4	4	9 27/32	-	15/15/14	2907.8	2924.3	16.5	5½	5.09	17.9	3.24	2997	15% wor on run
217XS	NB9	HTC	J22	517	12½	8520	18/18/16	2924.3	2995.4	71.1	31½	26.47	99.6	2.69	1901	3-8-½



COMPANY ESSO AUSTRALIA LIMITED  
WELL TURRUM #3

BIT RECORD

Sheet No.

Ser No.	Bit No.	Make	Type	IADC Code	Size (Inches)	Jets	Depth In Metres	Hole Made (m)	Drill Time	On Bottom Hours	Turns K	Condition T B G	Remarks
	RR1	HTC	OSC 3AJ +26" H/O	111	26	20/20/20	81	138	4.1	2.66	11.2	7-7-I	Pulled at 20" casing point
	NB1	HTC	OSC 3AJ	111	17½	18/18/18	219	587	30	23.23	157.6	2-2-I	Pulled at 13 3/8" casing point.
	NB2	HTC	X 3A	114	12½	18/18/18	806	766.2	55½	46.51	324.0	5-7-1/8	Pulled due to increase in torque.
	NB3	HTC	J22	517	12½	18/18/16	1572.2	2.8	3/4	0.06	0.306	1-1-I	Pulled to cut core #1.
	3	CHRIS	RC4	4	9.875	14/14/15	1576.0	10.4	1	1.58	9.48	60% good	Core #1.
	RR3	HTC	J22	517	12½	18/18/16	1586.4	507.6	50½	44.76	208.5	5-8-½	Pulled due to increase in torque.
	NB4	HTC	J22	517	12½	18/18/16	2094.0	289.0	49 3/4	45.65	188.8	3-3-I	Pulled due to low R.O.P.
	NB5	HTC	J22	517	12½	18/18/16	2383.0	214.3	48½	43.77	152.5	4-5-1/8	Pulled to cut core #2.
	5	CHRIS	C23	4	9.875	14/14/14	2597.3	2.0	4½	4.06	21.4	65% good	Core #2.
	5	CHRIS	C20	4	9 27/32	14/14/14	2599.3	2.2	7½	8.01	43.2	5% on run	Core #3.
	NB6	HTC	J33	537	12½	18/18/16	2601.5	15.5	6 3/4	11.92	33.8	3-5-1/8	Pulled to cut core #4.
	6	CHRIS	C23	4	9 27/32	14/14/14	2618.0	5.3	7 3/4	7.38	39.9	5% on run	Core #4.
	NB7	HTC	J33	537	12½	18/18/16	2623.3	149.7	51	48.6	143.8	4-4-I	Pulled due to high hours.
	NB8	HTC	J22	517	12½	18/18/16	2773	134.8	46½	41.39	109.9	3-3-½	Pulled to cut core #5.
	8	CHRIS	RC4	4	9 27/32	15/15/14	2907.8	16.5	5½	5.09	17.9	15% on run	Core #5.
	NB9	HTC	J22	517	12½	18/18/16	2924.3	71.1	31½	26.47	99.6	3-8-½	Pulled due to BOP failure.

MUD INFORMATION SHEETS

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DEPTH . . . . . Metres

MUD WEIGHT . . . . . Pounds per gallon

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

PLASTIC VISCOSITY. . . Centipoise

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

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

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

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

SALINITY : Ca/Cl . . . ppm

SOLIDS/SAND/OIL. . . . Percentage

## MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LIMITED

WELL TURRUM #3

Sheet No. 1

DEPTH			565	806	830	1128
DATE	8/3/85	9/3/85	10/3/85	11/3/85	12/3/85	13/3/85
TIME			15:30	11:45	22:10	17:15
WEIGHT			9.0+	9.0	8.6+	9.1
FUNNEL VISCOSITY			29	37	29	31
PV/YP			3/6	4/15	2/6	3/8
N/K			0.41/0.68	0.28/3.41	0.32/1.08	0.35/1.26
GEL: INITIAL/10 MIN			4/6	9/11	1/1	1/1
pH	Seawater	Seawater	9.5	9.4	9.7	9.7
FILTRATE:API/API HTHP		Plus	-	-	-	-
CAKE		Drilled	-	-	-	-
SALINITY (PPM)		Solids	20,000	20,000	21,000	20,000
SAND			Tr	Tr	Tr	Tr
SOLIDS			6	6	1.5	5
OIL			0	0	0	0
NITRATES (PPM)						

REMARKS: Spudded In 20" Casing Ran Stack Drilled 17½" hole Logged 13 3/8" Casing Drilled 12¼" Hole

DEPTH	1381	1579	1823	2049	2044	2188
DATE	14/3/85	15/3/85	16/3/85	17/3/85	18/3/85	19/3/85
TIME	15:00	18:45	19:00	19:45	20:00	17:20
WEIGHT	9.1	9.4+	9.4+	10.5	10.5+	10.5
FUNNEL VISCOSITY	35	43	39	45	56	45
PV/YP	4/17	6/26	6/24	12/20	11/25	13/26
N/K	0.25/4.38	0.25/6.82	0.26/5.82	0.46/1.87	0.38/3.27	0.41/2.94
GEL: INITIAL/10 MIN	5/7	24/34	23/40	8/38	20/44	20/37
pH	10	10.9	10.6	10.5	10.2	10.2
FILTRATE:API/API HTHP	-	11/23	8.5/18	11/23.5	10.5/22.5	8.5/18
CAKE	-	2	1	1	1	1
SALINITY (PPM)	20,000	20,000	20,000	20,000	20,000	20,000
SAND	Tr	Tr	Tr	Tr	Tr	Tr
SOLIDS	5	7.5	7	12	15	12
OIL	0	0	0	0	0	0
NITRATES (PPM)						

REMARKS: 13 3/8" Casing Drilled 12¼" hole ----- Drilled 12¼" Hole -----

## MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LIMITED

WELL TURRUM #3

Sheet No. 2

DEPTH	2310	2383	2507	2592		2602
DATE	20/3/85	21/3/85	22/3/85	23/3/85	24/3/85	25/3/85
TIME	17:45	17:00	19:00	18:30		14:45
WEIGHT	10.6	10.5+	10.4	10.4+		10.5
FUNNEL VISCOSITY	46	45	41	40		56
PV/YP	13/28	14/20	12/20	14/20		14/18
N/K	0.40/3.45	0.50/1.53	0.46/1.83	0.50/1.53		0.52/1.22
GEL: INITIAL/10 MIN	23/38	10/22	13/35	10/25		12/38
pH	10.1	10.3	10.5	10.2		10.5
FILTRATE:API/API HTHP	8.0/17.5	7.2/17.5	7.2/20	8.5/19		9.5/21.0
CAKE	1	1	1	1		1
SALINITY (PPM)	20,000	20,000	20,000	20,000		20,000
SAND	Tr	Tr	0.25	0.25		Tr
SOLIDS	14	13	11.5	12		13
OIL	0	0	0	0		0
NITRATES (PPM)						

REMARKS: -----Drilled 12½" Hole-----

DEPTH	2622	2663	2729	2761	2773	2773
DATE	26/3/85	27/3/85	28/3/85	29/3/85	30/3/85	31/3/85
TIME	13:00	13:00	13:10	01:00	01:00	01:00
WEIGHT	10.5	10.4	10.4	10.4	10.4	10.4
FUNNEL VISCOSITY	47	48	44	44	44	44
PV/YP	14/22	12/26	12/25	12/26	12/26	11/28
N/K	0.47/1.88	0.40/3.22	0.41/2.96	0.40/3.22	0.40/3.22	0.36/4.18
GEL: INITIAL/10 MIN	14/41	21/54	17/51	21/56	16/45	17/48
pH	10.6	10.4	10.4	10.2	10.4	10.4
FILTRATE:API/API HTHP	9.0/20.0	10/20	11/21	8.5/16	8/15	8/15
CAKE	1	1	1	1	1	1
SALINITY (PPM)	20,000	20,000	20,000	20,000	20,000	20,000
SAND	Tr	Tr	Tr	Tr	Tr	Tr
SOLIDS	13	13	12	12	10	10
OIL	0	0	0	0	0	0
NITRATES (PPM)						

REMARKS: -----Drilled 12½" Hole----- -----Logging-----

## MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LIMITED

WELL TURRUM #3

Sheet No. 3

DEPTH	2803	2867	2908	2924	2950	2970
DATE	1/4/85	2/4/85	3/4/85	4/4/85	5/4/85	6/4/85
TIME	14:00	13:00	15:00	13:00	13:00	01:00
WEIGHT	10.3+	10.3+	10.2+	10.2+	10.2	10.3
FUNNEL VISCOSITY	42	44	42	41	39	39
PV/YP	9/26	10/32	9/23	10/35	10/21	10/22
N/K	0.33/4.47	0.32/5.38	0.36/3.45	0.36/3.65	0.40/2.51	0.39/2.77
GEL: INITIAL/10 MIN	15/43	34/56	16/38	19/38	15/34	15/37
pH	10.2	10.5	10.5	10.6	10.4	10.3
FILTRATE:API/API HTHP	9/18	11/20	10/19	13/24	14/25	13/24
CAKE	1	1	1	1	1	1
SALINITY (PPM)	20,000	20,000	20,000	19,000	19,000	19,000
SAND	Tr	Tr	Tr	Tr	Tr	Tr
SOLIDS	10	10	9	9	8	8
OIL	0	0	0	0	0	0
NITRATES (PPM)						
REMARKS:	Drilled 12 $\frac{1}{4}$ " Hole		Core #5	Reaming	Drilled 12 $\frac{1}{4}$ " Hole	

DEPTH	2996	2996	2996	2996	2996	2996
DATE	7/4/85	8/4/85	9/4/85	10/4/85	11/4/85	12/4/85
TIME	01:00	01:00	09:30	20:00	23:07	21:00
WEIGHT	10.3	10.3	10.3	10.3	10.3	10.3
FUNNEL VISCOSITY	44	45	42	41	40	40
PV/YP	9/25	9/26	8/20	10/22	8/22	8/20
N/K	0.34/4.12	0.33/4.47	0.36/2.92	0.39/2.77	0.34/3.58	0.36/2.92
GEL: INITIAL/10 MIN	20/35	15/40	16/26	14/26	12/20	13/22
pH	10.4	10.4	10.2	10.4	10.5	10.2
FILTRATE:API/API HTHP	14/25	14/25	11/22	10/20	9/19	9/20
CAKE	1	1	1	1	1	1
SALINITY (PPM)	19,000	19,000	20,000	20,000	20,000	20,000
SAND	Tr	Tr	Tr	Tr	Tr	Tr
SOLIDS	8	8	10	10	10	10
OIL	0	0	0	0	0	0
NITRATES (PPM)						
REMARKS:	-----Fishing-----					

## MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LIMITED

WELL TURRUM #3

Sheet No. 4

DEPTH	2996	2996	2996
DATE	13/4/85	14/4/85	15/4/85
TIME	09:30	22:00	04:40
WEIGHT	10.2+	10.3	10.3+
FUNNEL VISCOSITY	41	41	47
PV/YP	10/22	9/19	12/29
N/K	0.39/2.77	0.40/2.28	0.37/4.08
GEL: INITIAL/10 MIN	16/28	13/22	19/30
pH	10.5	10.2	10.6
FILTRATE:API/API HTHP	10.5/22	13/26	14/27
CAKE	1	1	1
SALINITY (PPM)	19,000	19,000	21,000
SAND	Tr	Tr	Tr
SOLIDS	10	10	10
OIL	0	0	0
NITRATES (PPM)			

REMARKS: -----Fishing----- Logging

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

REMARKS:

COMPANY : ESSO AUSTRALIA LTD.

DATA FROM RFT'S

WELL : TURRUM 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
2495.2	2474.2	3857.90	8.456	1.443
2644.3	2623.3	3785.60	8.459	1.443
2635.0	2614.0	3772.40	8.459	1.443
2621.5	2600.5	3755.10	8.464	1.444
2609.5	2588.5	3737.80	8.464	1.444
2595.2	2574.2	3729.10	8.491	1.449
2587.7	2566.7	3727.60	8.513	1.452
2551.5	2530.5	3734.10	8.650	1.476
2547.5	2526.5	3734.40	8.664	1.478
2526.2	2505.2	3731.00	8.730	1.489
2518.0	2497.0	3713.80	8.718	1.487
2502.8	2481.8	3707.30	8.756	1.494
2491.5	2470.5	3704.90	8.790	1.500
2475.5	2454.5	3594.20	8.583	1.464
2442.0	2421.0	3534.20	8.557	1.460
2435.9	2414.9	3531.70	8.572	1.462
2423.2	2402.2	3526.20	8.604	1.468
2377.0	2356.0	3486.80	8.675	1.480
2350.4	2329.4	3456.50	8.698	1.484
2343.9	2322.9	3454.00	8.716	1.487
2331.1	2310.1	3425.20	8.691	1.483
2320.0	2299.0	3429.80	8.745	1.492
2301.3	2280.3	3417.90	8.786	1.499
2266.8	2245.8	3363.10	8.778	1.498
2201.0	2180.0	3233.60	8.695	1.483
2189.9	2168.9	3227.90	8.724	1.488
2181.2	2160.2	3230.70	8.766	1.496
2162.5	2141.5	3097.30	8.478	1.446
2156.5	2135.5	3092.50	8.488	1.448
2152.5	2131.5	3091.30	8.501	1.450
2114.0	2093.0	3079.20	8.624	1.471
2105.0	2084.0	3067.60	8.628	1.472
2021.0	2000.0	2922.10	8.564	1.461
2008.4	1987.4	2914.40	8.596	1.466
1971.4	1950.4	2843.10	8.544	1.458
1810.0	1789.0	2574.40	8.435	1.439
1694.5	1673.5	2377.20	8.326	1.420
1631.0	1610.0	2269.10	8.261	1.409
1585.0	1564.0	2190.70	8.210	1.401
1582.5	1561.5	2187.30	8.211	1.401

R.F.T. SAMPLING DATA SHEET

COMPANY    ESSO AUSTRALIA LIMITED  
WELL        TURRUM #3

Sheet No. 1

RUN No.	3	3	4	4	5	5
SEAT No.	44	44	45	45	46	46
CHAMBER CAPACITY (litres)	22.2	10.2	22.2	10.2	22.2	10.2
DEPTH (metres)	2609.5	2609.5	2551.5	2551.5	2442.0	2442.0

RECOVERY VOLUMES

GAS (Cu Ft)	25.2		138.5		Valve Failed	43.4
OIL (cc)	5,250		-		-	-
WATER/FILTRATE (cc)	13,500		3,200		6,000	1,000
OTHER (cc) (Condensate)	-		1,000		200	220
SURFACE PRESSURE (PSI)	1,500		2,150		1,250	1,500

GAS COMPOSITION

C1 (PPM)	624,640		574,669		612,147	687,104
C2 (PPM)	93,180		81,536		86,912	93,184
C3 (PPM)	37,270		50,176		50,176	52,326
C4 (PPM)	13,110		16,384		15,565	15,564
C5 (PPM)	26,110		5,222		5,875	5,548
C6 (PPM)	16,700		1,670		1,670	1,949
CO2 (%)	5		9		11	12
H2S (PPM)	Tr		Tr		-	-

OIL PROPERTIES

DENSITY (°API at 60°)	36.5		51		49.5	49
COLOUR	Dk brown		Yellow		Yellow	Yellow
FLUORESCENCE	Wht/yel		Brt wht		Brt wht	Brt wht
POUR POINT (°C)	-		-		-	-

WATER PROPERTIES

RESISTIVITY (Ωm)	0.208		0.216		0.214	0.224
Cl (frm resis) (PPM)	30,000		30,000		30,000	30,000
Cl (frm titrat) (PPM)	16,500		18,500		16,800	18,200
NITRATES (PPM)	-		-		-	-
pH	-		-		-	-
TRITIUM (DPM)	2,860		2,186		2,764	2,298

COMMENTS

Sample  
Preserved

Sample  
Preserved



R.F.T. SAMPLING DATA SHEET

COMPANY ESSO AUSTRALIA LIMITED  
WELL TURRUM #3

Sheet No. 2

RUN No.	6	6	7	7	8	8
SEAT No.	51	51	52	52	55	55
CHAMBER CAPACITY (litres)	22.2	10.2	22.2	10.2	22.2	10.2
DEPTH (metres)	1579.0	1579.0	2156.5	2156.5	2619.6	2619.6

RECOVERY VOLUMES

GAS (Cu Ft)	22.4	1.4(lost)	14.5	18.4	3.2	1.3
OIL (cc)	-	-	-	1,000	Scum	-
WATER/FILTRATE (cc)	18,000	9,250	19,400	6,000	21,250	9,250
OTHER (cc) (Condensate)	-	-	Film	-	-	100
SURFACE PRESSURE (PSI)	1,450	<100	1,400	1,600	500	400

GAS COMPOSITION

C1 (PPM)	637,133	-	32,481	45,969	343,552	487,219
C2 (PPM)	86,016	-	28,672	32,789	64,512	78,848
C3 (PPM)	54,477	-	14,336	18,396	68,813	45,875
C4 (PPM)	16,384	-	6,553	9,462	32,768	22,937
C5 (PPM)	6,528	-	3,427	3,826	9,792	7,507
C6 (PPM)	2,227	-	1,949	2,016	3,340	2,784
CO2 (%)	7	-	5	7	2	2
H2S (PPM)	Tr	-	Tr	Tr	7	5

OIL PROPERTIES

DENSITY (°API at 60°)	-	-	-	42	-	37
COLOUR	-	-	-	Yel/brn	-	Yellow
FLUORESCENCE	-	-	-	Wht/yel	-	Brn wht
POUR POINT (°C)	-	-	-	-	-	-

WATER PROPERTIES

RESISTIVITY ( $\Omega$ m)	0.218	0.392	0.209	0.197	0.200	0.197
Cl (frm resis) (PPM)	30,000	-	-	-	-	-
Cl (frm titrat) (PPM)	18,200	11,500	20,000	20,000	20,000	20,000
NITRATES (PPM)	-	-	-	-	-	-
pH	-	-	-	-	-	-
TRITIUM (DPM)	2,654	1,226	3,037	3,087	3,168	3,226

COMMENTS

Gas Sample  
lost to  
Atmosphere

COMPANY ESSO AUSTRALIA LIMITED  
WELL TURRUM #3

Sheet No. 3

RUN No.	9	9
SEAT No.	9/56	56
CHAMBER CAPACITY (L.)	22.2	10.4
DEPTH (metres)	2619.8	2619.8

## RECOVERY VOLUMES

GAS (Cu Ft)	0.55	Tr
OIL (cc)	Yellow	Tr yellow waxy scum waxy scum
WATER/FILTRATE (cc)	21.4	9.4
OTHER (cc)	-	-
SURFACE PRESSURE (PSI)	300	250

## GAS COMPOSITION

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

## OIL PROPERTIES

DENSITY (°API at 60°)	38-39	25°C -
COLOUR	Yell waxy	Tr yell waxy
FLUORESCENCE	Brn wht	-
POUR POINT (°C)	-	-

## WATER PROPERTIES

RESISTIVITY ( $\Omega$ m)	0.23	0.225
Cl (frm resis) (PPM)	27,000	32,000
Cl (frm titrat) (PPM)	-	-
NITRATES (PPM)	22,500	23,000
pH	8.6	8.6
TRITIUM (DPM)	3,083	3,153

## COMMENTS

R.F.T. SAMPLING DATA SHEET

COMPANY ESSO AUSTRALIA LIMITED  
WELL TURRUM #3

Sheet No. 4

RUN No.	6	6	7	7	8	8
SEAT No.	51	51	52	52	55	55
CHAMBER CAPACITY (Gal)	6	2 3/4	6	2 3/4	6	2 3/4
DEPTH (metres)	1579.0	1579.0	2156.5	2156.5	2619.6	2619.6

RECOVERY VOLUMES

GAS (Cu Ft)	22.4	1.4	14.5	18.4	3.2	1.3
OIL (cc)	-	-	0	1,000	Scum	0
WATER/FILTRATE (cc)	18,000	9,250	19,400	6,000	21,250	9,250
OTHER (cc)	-	-	Film/cond	-	-	250
SURFACE PRESSURE (PSI)	14.50	100	1,460	1,600	500	400

GAS COMPOSITION

C1 (PPM)	637,133	Tr	32,481	45,969	343,552	487,219
C2 (PPM)	86,016	Tr	28,672	32,789	64,512	78,848
C3 (PPM)	54,477	Tr	14,336	18,396	68,813	45,875
C4 (PPM)	16,384	Tr	6,553	9,462	32,768	22,937
C5 (PPM)	6,528	Tr	3,427	3,826	9,792	7,507
C6 (PPM)	2,227	Tr	1,949	2,016	3,340	2,784
CO2 (%)	7	Tr	5	7	2	2
H2S (PPM)	Tr	Tr	Tr	Tr	7	5

OIL PROPERTIES

DENSITY (°API at 60°)	45.3
COLOUR	Pale yell brn
FLUORESCENCE	Yell/wht
POUR POINT (°C)	16.5

WATER PROPERTIES

RESISTIVITY (Ωm)	0.218	0.392	0.209	0.197		
Cl (frm resis) (PPM)	30,000	24,000				
Cl (frm titrat) (PPM)	18,200	11,500	20,000	20,000	20,000	20,000
NITRATES (PPM)						
pH						
TRITIUM (DPM) (3,025)	2,654	1,226	3,037	3,087		

COMMENTS

R.F.T. SAMPLING DATA SHEET

COMPANY ESSO AUSTRALIA LIMITED  
WELL TURRUM #3

Sheet No. 5

RUN No.	3/44	3/44	4/45	4/45	5/46	5/46
SEAT No.						
CHAMBER CAPACITY (Gal)	6 + 1		6 + 2 3/4		6	2 3/4
DEPTH (metres)	2609.5		2551.5		2442.0	

RECOVERY VOLUMES

GAS (Cu Ft)	25.2		138.5		-	43.4
OIL (cc)	5,250		0		0	
WATER/FILTRATE (cc)	13,500		3,200			1,000
OTHER (cc) (Condensate)	-		1,000		200	220
SURFACE PRESSURE (PSI)	1,500		2,150		1,250	1,500

GAS COMPOSITION

C1 (PPM)	624,640		574,669		612,147	687,104
C2 (PPM)	93,184		81,536		86,912	93,184
C3 (PPM)	37,273		50,176		50,176	52,326
C4 (PPM)	13,107		16,384		15,565	15,564
C5 (PPM)	26,112		5,222		5,875	5,548
C6 (PPM)	16,704		1,670		1,670	1,949
CO2 (%)	5		9		11	12
H2S (PPM)	Tr		-		-	-

OIL PROPERTIES

DENSITY (°API at 60°)	38		58.3		55.8	63.6
COLOUR	Dark brn					
FLUORESCENCE	B1/wh, yell					
POUR POINT (°C)	26+					

WATER PROPERTIES

RESISTIVITY (Ωm)	0.208 @	25.5			0.214	23.5
C1 (frm resis) (PPM)	30,000				30,000	
C1 (frm titrat) (PPM)			18,500		16,800	
NITRATES (PPM)						
pH						
TRITIUM (DPM)	3287	2680			3122/2764	2298

COMMENTS

## COMPUTER DATA LISTINGS

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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

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

GEOPLOT - 1:5000 SCALE - 2m averages

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



WELL: TURRUM No.3

BIT RECORD

BIT IADC		SIZE	COST	NOZZLES			DEPTH	DEPTH	BIT RUN	TOTAL	TRIP		CCOST	TOTAL	CONDITION
No.	CODE MAKE & TYPE			IN	OUT	HOURS	AROP	TIME		Turns	T B G				
1	111 HTC OSC3AJ+26*HD	26.000	0.00	20	20	20	82.0	219.0	137.0	2.66	51.5	2.6	140.22	11170	7 7 0.000
1	111 HTC OSC 3AJ	17.500	4978.00	18	18	18	219.0	806.0	587.0	23.23	25.3	2.6	169.21	157569	0 0 0.000
2	114 HTC X3A	12.250	2445.00	18	18	18	806.0	1572.2	766.2	46.51	16.5	3.7	242.51	324067	5 7 0.125
3	517 HTC J22	12.250	8520.00	18	18	16	1572.2	1575.0	2.8	0.06	46.7	6.0	10946.83	306	1 1 0.000
3	4 CHRIS RC4	9.875	0.00	14	14	15	1576.0	1586.3	10.3	1.58	6.5	6.0	2687.59	9482	0 0 0.600
3	517 HTC J22	12.250	0.00	18	18	16	1586.4	2094.0	507.6	44.76	11.9	7.0	368.76	208560	5 8 0.250

WELL: TURRUM No.3

BIT RECORD

BIT IADC No.	CODE MAKE & TYPE	SIZE	COST	NOZZLES	DEPTH IN	DEPTH OUT	BIT RUN	TOTAL HOURS	TRIP AROP TIME	CCOST	TOTAL TURNS	CONDITION T B G
4	517 HTC J22	12.250	8520.00	18 18 16	2094.0	2382.6	288.6	45.65	6.3 8.0	708.42	188835	3 3 0.000
5	517 HTC J22	12.250	8520.00	18 18 16	2383.0	2597.3	214.3	43.77	4.9 8.0	922.00	152495	4 5 0.125
5	4 CHRIS C23	9.875	0.00	14 14 14	2597.3	2599.3	2.0	4.06	0.5 8.0	221.56	21379	0 0 0.000
5	4 CHRIS C20	9.875	0.00	14 14 14	2599.3	2601.5	2.2	8.01	0.3 8.3	27074.60	43251	0 0 0.000
6	537 HTC J33	12.250	8266.00	18 18 16	2601.5	2618.0	16.5	11.92	1.4 8.3	4976.33	33789	3 5 0.125
6	4 CHRIS C20	9.875	0.00	14 14 14	2618.0	2623.3	5.3	7.38	0.7 8.3	10804.41	39867	0 0 0.000
7	537 HTC J33	12.250	8266.00	18 18 16	2623.3	2773.0	149.7	48.64	3.1 8.2	1441.85	143838	4 4 0.000
8	517 HTC J22	12.250	8520.00	18 18 16	2773.0	2907.8	134.8	42.51	3.2 7.9	1428.91	127561	3 3 0.250
8	4 CHRIS RC4	9.840	0.00	14 15 15	2907.8	2924.3	16.5	5.09	3.2 8.2	2941.52	17926	0 0 0.000
9	517 HTC J22	12.250	8520.00	18 18 16	2924.3	2995.4	71.1	26.47	2.7 8.2	1900.63	99551	3 8 0.250



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

STARTING DEPTH.....	82.0		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	2.6		
BIT DIAMETER.....	26.000		
NOZZLES.....	20	20	20
HW DRILL COLLAR LENGTH, OD, ID....	18.96	9.750	3.062
DRILL COLLAR LENGTH, OD, ID.....	66.09	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	55.32	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	0.00	0.000	
RISER LENGTH, ID.....	81.00	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.....	0.14		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	5.0	2.00	
FINISHING DEPTH.....	219.0		
CUMULATIVE HOURS, TURNS.....	2.66	11170	
BIT CONDITION OUT.....	T 7	B 7	G 0.000

BIT NUMBER: 1 IADC CODE 111 HTC OSC 3AJ

STARTING DEPTH.....	219.0		
BIT COST, RIG COST/HOUR.....	4978.00	3652.00	
TRIP TIME.....	2.6		
BIT DIAMETER.....	17.500		
NOZZLES.....	18	18	18
HW DRILL COLLAR LENGTH, OD, ID....	18.96	9.750	3.062
DRILL COLLAR LENGTH, OD, ID.....	98.08	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.44	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	203.00	19.124	
RISER LENGTH, ID.....	81.00	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.....	0.14		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	3.5	2.00	
FINISHING DEPTH.....	806.0		
CUMULATIVE HOURS, TURNS.....	23.23	157569	
BIT CONDITION OUT.....	T 0	B 0	G 0.000

BIT NUMBER: 2 IADC CODE 114 HTC X3A

STARTING DEPTH.....	806.0		
BIT COST, RIG COST/HOUR.....	2445.00	3652.00	
TRIP TIME.....	3.7		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	18
DRILL COLLAR LENGTH, OD, ID.....	173.33	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.44	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	791.00	12.415	
RISER LENGTH, ID.....	81.00	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.....	0.14		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.5	2.20	
FINISHING DEPTH.....	1572.2		
CUMULATIVE HOURS, TURNS.....	46.51	324067	
BIT CONDITION OUT.....	T 5	B 7	G 0.125

BIT NUMBER: 3 IADC CODE 517 HTC J22

STARTING DEPTH.....	1572.2		
BIT COST, RIG COST/HOUR.....	8520.00	3652.00	
TRIP TIME.....	6.0		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	16
DRILL COLLAR LENGTH, OD, ID.....	173.33	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.44	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	791.00	12.415	
RISER LENGTH, ID.....	81.00	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.....	0.14		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.10	
FINISHING DEPTH.....	1575.0		
CUMULATIVE HOURS, TURNS.....	0.06	306	
BIT CONDITION OUT.....	T 1	B 1	G 0.000

BIT NUMBER: 3 IADC CODE 4 CHRIS RC4

STARTING DEPTH.....	1576.0		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	6.0		
BIT DIAMETER.....	9.875		
NOZZLES.....	14	14	15
DRILL COLLAR LENGTH, OD, ID.....	154.13	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.41	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	1576.00	791.00	12.250
CASING ID.....	12.415		
RISER LENGTH, ID.....	81.00	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.....	0.14		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	1.0	2.10	
FINISHING DEPTH.....	1586.3		
CUMULATIVE HOURS, TURNS.....	1.58	9482	
BIT CONDITION OUT.....	T 0	B 0	G 0.600

BIT NUMBER: 3 IADC CODE 517 HTC J22

STARTING DEPTH.....	1586.4		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	7.0		
PREVIOUS HOLE MADE.....	5.0		
PREVIOUS HOURS, TURNS.....	2.00	1200	
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	16
DRILL COLLAR LENGTH, OD, ID.....	173.33	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.44	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	791.00	12.415	
RISER LENGTH, ID.....	81.00	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.....	0.14		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.20	
FINISHING DEPTH.....	2094.0		
CUMULATIVE HOURS, TURNS.....	44.76	208560	
BIT CONDITION OUT.....	T 5	B 8	G 0.250

BIT NUMBER: 4 IADC CODE 517 HTC J22

STARTING DEPTH.....	2094.0		
BIT COST, RIG COST/HOUR.....	8520.00	3652.00	
TRIP TIME.....	8.0		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	16
DRILL COLLAR LENGTH, OD, ID.....	174.01	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.44	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	791.00	12.415	
RISER LENGTH, ID.....	81.00	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.....	0.14		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.30	
FINISHING DEPTH.....	2382.6		
CUMULATIVE HOURS, TURNS.....	45.65	188835	
BIT CONDITION OUT.....	T 3	B 3	G 0.000

BIT NUMBER: 5 IADC CODE 517 HTC J22

STARTING DEPTH.....	2383.0		
BIT COST, RIG COST/HOUR.....	8520.00	3652.00	
TRIP TIME.....	8.0		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	16
DRILL COLLAR LENGTH, OD, ID.....	173.33	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.44	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	791.00	12.415	
RISER LENGTH, ID.....	81.00	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.....	0.14		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.20	
FINISHING DEPTH.....	2597.3		
CUMULATIVE HOURS, TURNS.....	43.77	152495	
BIT CONDITION OUT.....	T 4	B 5	G 0.125

BIT NUMBER: 5 IADC CODE 4 CHRIS C23

STARTING DEPTH.....	2597.3		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	8.0		
BIT DIAMETER.....	9.875		
NOZZLES.....	14	14	14
DRILL COLLAR LENGTH, OD, ID.....	163.01	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.44	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	2597.00	791.00	12.250
CASING ID.....	12.415		
RISER LENGTH, ID.....	81.00	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.....	0.14		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	1.0	2.30	
FINISHING DEPTH.....	2599.3		
CUMULATIVE HOURS, TURNS.....	4.06	21379	
BIT CONDITION OUT.....	T 0	B 0	G 0.000

BIT NUMBER: 5 IADC CODE 4 CHRIS C20

STARTING DEPTH.....	2599.3		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	8.3		
BIT DIAMETER.....	9.875		
NOZZLES.....	14	14	14
DRILL COLLAR LENGTH, OD, ID.....	163.01	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.44	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	2597.00	791.00	12.250
CASING ID.....	12.415		
RISER LENGTH, ID.....	81.00	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.....	0.14		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.40	
FINISHING DEPTH.....	2601.5		
CUMULATIVE HOURS, TURNS.....	8.01	43251	
BIT CONDITION OUT.....	T 0	B 0	G 0.000

BIT NUMBER: 6 IADC CODE 537 HTC J33

STARTING DEPTH.....	2601.5		
BIT COST, RIG COST/HOUR.....	8266.00	3652.00	
TRIP TIME.....	8.3		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	16
DRILL COLLAR LENGTH, OD, ID.....	173.33	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.44	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	791.00	12.415	
RISER LENGTH, ID.....	81.00	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.....	0.14		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.30	
FINISHING DEPTH.....	2618.0		
CUMULATIVE HOURS, TURNS.....	11.92	33789	
BIT CONDITION OUT.....	T 3	B 5	G 0.125

BIT NUMBER: 6 IADC CODE 4 CHRIS C20

STARTING DEPTH.....	2618.0		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	8.3		
BIT DIAMETER.....	9.875		
NOZZLES.....	14	14	14
DRILL COLLAR LENGTH, OD, ID.....	163.01	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.44	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	2618.00	791.00	12.250
CASING ID.....	12.415		
RISER LENGTH, ID.....	81.00	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.....	0.14		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.30	
FINISHING DEPTH.....	2623.3		
CUMULATIVE HOURS, TURNS.....	7.38	39867	
BIT CONDITION OUT.....	T 0	B 0	G 0.000

BIT NUMBER: 7 IADC CODE 537 HTC J33

STARTING DEPTH.....	2623.3		
BIT COST, RIG COST/HOUR.....	8266.00	3652.00	
TRIP TIME.....	8.2		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	16
DRILL COLLAR LENGTH, OD, ID.....	173.33	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.44	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	791.00	12.415	
RISER LENGTH, ID.....	81.00	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.....	0.14		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.30	
FINISHING DEPTH.....	2773.0		
CUMULATIVE HOURS, TURNS.....	48.64	143838	
BIT CONDITION OUT.....	T 4	B 4	G 0.000

BIT NUMBER: 8 IADC CODE 517 HTC J22

STARTING DEPTH.....	2773.0		
BIT COST, RIG COST/HOUR.....	8520.00	3652.00	
TRIP TIME.....	7.9		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	16
DRILL COLLAR LENGTH, OD, ID.....	173.33	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.44	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	791.00	12.415	
RISER LENGTH, ID.....	81.00	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.....	0.14		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.40	
FINISHING DEPTH.....	2907.8		
CUMULATIVE HOURS, TURNS.....	42.51	127561	
BIT CONDITION OUT.....	T 3	B 3	G 0.250

BIT NUMBER: 8 IADC CODE 4 CHRIS RC4

STARTING DEPTH.....	2907.8		
BIT COST, RIG COST/HOUR.....	0.00	3652.00	
TRIP TIME.....	8.2		
BIT DIAMETER.....	9.840		
NOZZLES.....	14	15	15
DRILL COLLAR LENGTH, OD, ID.....	163.01	7.750	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.44	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	791.00	12.415	
RISER LENGTH, ID.....	81.00	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.....	0.14		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.60	
FINISHING DEPTH.....	2924.3		
CUMULATIVE HOURS, TURNS.....	5.09	17926	
BIT CONDITION OUT.....	T 0	B 0	G 0.000

BIT NUMBER: 9 IADC CODE 517 HTC J22

STARTING DEPTH.....	2924.3		
BIT COST, RIG COST/HOUR.....	8520.00	3652.00	
TRIP TIME.....	8.2		
BIT DIAMETER.....	12.250		
NOZZLES.....	18	18	16
DRILL COLLAR LENGTH, OD, ID.....	173.33	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	83.44	5.000	3.125
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	791.00	12.415	
RISER LENGTH, ID.....	81.00	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.....	0.14		
"d" EXPONENT CORRECTION FACTOR.....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.5	2.60	
FINISHING DEPTH.....	2995.4		
CUMULATIVE HOURS, TURNS.....	26.47	99551	
BIT CONDITION OUT.....	T 3	B 8	G 0.250



(b). HYDRAULIC ANALYSIS

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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 91 SPM 2 87 FLOW RATE 891

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	1.851	35	11	12	LAMINAR	2	10	0.0
DC/OH	1.950	0	11	12	LAMINAR	2	9	0.0
DC/RIS	1.201	79	18	13	TURBULENT			0.0
HWDP/RIS	1.325	20	16	12	TURBULENT			0.0
TOTAL VOLUME		134	TOTAL PRESSURE DROP					0.0

LAG: 6.3 MINUTES 577 STROKES #1 AND 551 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	733.5	HHP	381	IMPACT FORCE	1218
% SURFACE PRESSURE	244.5	HHP/sqin	0.72	JET VELOCITY	94

PRESSURE BREAKDOWN:

SURFACE	46.4		
STRING	174.9		
BIT	733.5		
ANNULUS	0.0		
TOTAL	954.9	PUMP PRESSURE	300.0
		% DIFFERENCE	218.3

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.50	HYDROSTATIC PRESSURE 145.0
CIRCULATING:	ECD 8.50	CIRCULATING PRESSURE 145.0
PULLING OUT:	TRIP MARGIN 0.00	ESTIMATED SWAB 0.0
	EFFECTIVE MUD WEIGHT 8.50	BOTTOM HOLE PRESSURE 145.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 200.0 AND TVD 200.0

SPM 1 65          SPM 2 69          FLOW RATE 670

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL.	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	1.851	35	9	12	LAMINAR	1	7	0.0
DC/OH	1.950	129	8	12	LAMINAR	1	7	0.0
HWDP/OH	2.074	70	8	11	LAMINAR	1	7	0.0
HWDP/RIS	1.325	28	12	12	LAMINAR	2	10	0.0
DP/RIS	1.325	79	12	12	LAMINAR	2	10	0.0
TOTAL VOLUME		342	TOTAL PRESSURE DROP			0.0		

LAG: 21.4 MINUTES          1398 STROKES #1 AND 1473 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	415.4	HHP	162	IMPACT FORCE	690
% SURFACE PRESSURE	138.5	HHP/sqin	0.31	JET VELOCITY	71

PRESSURE BREAKDOWN:

SURFACE	27.8		
STRING	143.5		
BIT	415.4		
ANNULUS	0.0		
TOTAL	586.7	PUMP PRESSURE	300.0
		% DIFFERENCE	95.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	8.50	HYDROSTATIC PRESSURE 290.0
CIRCULATING: ECD	8.50	CIRCULATING PRESSURE 290.0
PULLING OUT: TRIP MARGIN	0.00	ESTIMATED SWAB 0.0
EFFECTIVE MUD WEIGHT	8.50	BOTTOM HOLE PRESSURE 290.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 300.0 AND TVD 300.0

SPM 1 102          SPM 2 98          FLOW RATE 997

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/DH	0.673	13	35	24	TURBULENT			0.0
DC/DH	0.772	60	31	23	TURBULENT			0.1
DC/CSG	0.961	19	25	22	TURBULENT			0.0
HWDP/CSG	1.085	91	22	20	TURBULENT			0.0
DP/CSG	1.085	20	22	20	TURBULENT			0.0
DP/RIS	1.325	107	18	19	LAMINAR	1	17	0.0
TOTAL VOLUME		310			TOTAL PRESSURE DROP			0.2

LAG: 13.1 MINUTES          1331 STROKES #1 AND 1276 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1432.6          HHP 833          IMPACT FORCE 1926  
% SURFACE PRESSURE 71.6          HHP/sqin 3.46          JET VELOCITY 130

PRESSURE BREAKDOWN:

SURFACE 66.4  
STRING 498.2  
BIT 1432.6  
ANNULUS 0.2  
TOTAL 1997.4          PUMP PRESSURE 2000.0          % DIFFERENCE 0.1

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	8.70	HYDROSTATIC PRESSURE 445.3
CIRCULATING: ECD	8.70	CIRCULATING PRESSURE 445.5
PULLING OUT: TRIP MARGIN	0.01	ESTIMATED SWAB 0.5
EFFECTIVE MUD WEIGHT	8.69	BOTTOM HOLE PRESSURE 444.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 400.0 AND TVD 400.0

SPM 1 100          SPM 2 98          FLOW RATE 985

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	13	35	24	TURBULENT			0.0
DC/OH	0.772	76	30	23	TURBULENT			0.1
HWDP/OH	0.896	72	26	21	TURBULENT			0.1
HWDP/CSG	1.085	4	22	20	TURBULENT			0.0
DP/CSG	1.085	129	22	20	TURBULENT			0.1
DP/RIS	1.325	107	18	19	LAMINAR	1	17	0.0
TOTAL VOLUME		400			TOTAL PRESSURE DROP			0.3

LAG: 17.1 MINUTES          1697 STROKES #1 AND 1663 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1397.7	HHP	803	IMPACT FORCE	1880
% SURFACE PRESSURE	63.5	HHP/sqin	3.34	JET VELOCITY	129

PRESSURE BREAKDOWN:

SURFACE	64.9				
STRING	524.6				
BIT	1397.7				
ANNULUS	0.3				
TOTAL	1987.6	PUMP PRESSURE	2200.0	% DIFFERENCE	9.7

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.70	HYDROSTATIC PRESSURE 593.7
CIRCULATING:	ECD 8.70	CIRCULATING PRESSURE 594.0
PULLING OUT:	TRIP MARGIN 0.01	ESTIMATED SWAB 0.6
	EFFECTIVE MUD WEIGHT 8.69	BOTTOM HOLE PRESSURE 593.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 500.0 AND TVD 500.0

SPM 1 109            SPM 2 105            FLOW RATE 1070

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	13	38	47	LAMINAR	1	36	0.1
DC/OH	0.772	76	33	46	LAMINAR	1	32	0.2
HWDP/OH	0.896	75	28	44	LAMINAR	1	28	0.1
DP/OH	0.896	86	28	44	LAMINAR	1	28	0.1
DP/CSG	1.085	132	23	43	LAMINAR	0	23	0.1
DP/RIS	1.325	107	19	42	LAMINAR	0	19	0.1
TOTAL VOLUME		489			TOTAL PRESSURE DROP			0.8

LAG: 19.2 MINUTES            2093 STROKES #1 AND 2020 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1707.3	HHP	1066	IMPACT FORCE	2296
% SURFACE PRESSURE	71.1	HHP/sqin	4.43	JET VELOCITY	140

PRESSURE BREAKDOWN:

SURFACE	77.5		
STRING	670.7		
BIT	1707.3		
ANNULUS	0.8		
TOTAL	2456.3	PUMP PRESSURE	2400.0
		% DIFFERENCE	2.3

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.00	HYDROSTATIC PRESSURE 767.7
CIRCULATING:	ECD 9.01	CIRCULATING PRESSURE 768.5
PULLING OUT:	TRIP MARGIN 0.02	ESTIMATED SWAB 1.6
	EFFECTIVE MUD WEIGHT 8.98	BOTTOM HOLE PRESSURE 766.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 600.0 AND TVD 600.0

SPM 1 109            SPM 2 106            FLOW RATE 1077

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	13	38	60	LAMINAR	1	37	0.1
DC/OH	0.772	76	33	58	LAMINAR	1	33	0.4
NWDP/OH	0.896	75	29	55	LAMINAR	0	28	0.2
DP/OH	0.896	176	29	55	LAMINAR	0	28	0.5
DP/CSG	1.085	132	24	54	LAMINAR	0	23	0.2
DP/RIS	1.325	107	19	53	LAMINAR	0	19	0.1
TOTAL VOLUME		579	TOTAL PRESSURE DROP			1.4		

LAG: 22.6 MINUTES            2470 STROKES #1 AND 2396 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP            1729.7            HHP            1087            IMPACT FORCE            2326  
% SURFACE PRESSURE    64.1            HHP/sqin    4.52            JET VELOCITY            141

PRESSURE BREAKDOWN:

SURFACE            85.0  
STRING            784.9  
BIT            1729.7  
ANNULUS            1.4  
TOTAL            2601.0            PUMP PRESSURE            2700.0            % DIFFERENCE            3.7

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:            MUD WEIGHT	9.00	HYDROSTATIC PRESSURE            921.3
CIRCULATING:            ECD	9.01	CIRCULATING PRESSURE            922.7
PULLING OUT:            TRIP MARGIN	0.03	ESTIMATED SWAB            2.9
EFFECTIVE MUD WEIGHT	8.97	BOTTOM HOLE PRESSURE            918.4

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 700.0 AND TVD 700.0

SPM 1 93 SPM 2 89 FLOW RATE 911

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	13	32	59	LAMINAR	1	31	0.1
DC/OH	0.772	76	28	57	LAMINAR	1	28	0.3
HWDP/OH	0.896	75	24	55	LAMINAR	0	24	0.2
DP/OH	0.896	266	24	55	LAMINAR	0	24	0.6
DP/CSG	1.085	132	20	54	LAMINAR	0	20	0.2
DP/RIS	1.325	107	16	53	LAMINAR	0	16	0.1
TOTAL VOLUME		669	TOTAL PRESSURE DROP					1.5

LAG: 30.8 MINUTES 2872 STROKES #1 AND 2747 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1257.8 HHP 668 IMPACT FORCE 1691  
% SURFACE PRESSURE 55.9 HHP/sqin 2.78 JET VELOCITY 119

PRESSURE BREAKDOWN:

SURFACE 63.7  
STRING 625.0  
BIT 1257.8  
ANNULUS 1.5  
TOTAL 1948.1 PUMP PRESSURE 2250.0 % DIFFERENCE 13.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	9.15	HYDROSTATIC PRESSURE 1092.7
CIRCULATING: ECD	9.16	CIRCULATING PRESSURE 1094.3
PULLING OUT: TRIP MARGIN	0.03	ESTIMATED SWAB 3.1
EFFECTIVE MUD WEIGHT	9.12	BOTTOM HOLE PRESSURE 1089.6



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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 800.0 AND TVD 800.0

SPM 1 108 SPM 2 105 FLOW RATE 1066

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	0.673	13	38	59	LAMINAR	1	37	0.1
DC/OH	0.772	76	33	57	LAMINAR	1	32	0.4
HWDP/OH	0.896	75	28	55	LAMINAR	0	28	0.2
DP/OH	0.896	355	28	55	LAMINAR	0	28	0.9
DP/CSG	1.085	132	23	54	LAMINAR	0	23	0.2
DP/RIS	1.325	107	17	53	LAMINAR	0	19	0.1
TOTAL VOLUME		758				TOTAL PRESSURE DROP		1.9

LAG: 29.9 MINUTES 3224 STROKES #1 AND 3148 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1741.4 HHP 1083 IMPACT FORCE 2342  
% SURFACE PRESSURE 60.0 HHP/sqin 4.50 JET VELOCITY 139

PRESSURE BREAKDOWN:

SURFACE 85.3  
STRING 885.9  
BIT 1741.4  
ANNULUS 1.9  
TOTAL 2714.5 PUMP PRESSURE 2900.0 % DIFFERENCE 6.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	9.25	HYDROSTATIC PRESSURE 1262.5
CIRCULATING: ECD	9.26	CIRCULATING PRESSURE 1264.3
PULLING OUT: TRIP MARGIN	0.03	ESTIMATED SWAB 3.8
EFFECTIVE MUD WEIGHT	9.22	BOTTOM HOLE PRESSURE 1258.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 900.0 AND TVD 900.0

SPM 1 106          SPM 2 104          FLOW RATE 1050

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	30	91	72	TURBULENT			2.7
DC/CSG	0.287	18	87	72	TURBULENT			1.4
HWDP/CSG	0.411	34	61	69	LAMINAR	1	60	0.6
DP/CSG	0.411	231	61	69	LAMINAR	1	60	4.0
DP/RIS	1.325	107	19	64	LAMINAR	0	19	0.1
TOTAL VOLUME		421			TOTAL PRESSURE DROP			8.8

LAG: 16.8 MINUTES          1791 STROKES #1 AND 1750 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1590.3	HHP	975	IMPACT FORCE	2138
% SURFACE PRESSURE	53.9	HHP/sqin	8.27	JET VELOCITY	137

PRESSURE BREAKDOWN:

SURFACE	72.9		
STRING	972.4		
BIT	1590.3		
ANNULUS	8.8		
TOTAL	2644.4	PUMP PRESSURE	2950.0
		% DIFFERENCE	10.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 8.70	HYDROSTATIC PRESSURE 1335.8
CIRCULATING:	ECD 8.76	CIRCULATING PRESSURE 1344.6
PULLING OUT:	TRIP MARGIN 0.11	ESTIMATED SWAB 17.6
	EFFECTIVE MUD WEIGHT 8.59	BOTTOM HOLE PRESSURE 1318.2

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1000.0 AND TVD 1000.0

SPM 1 105            SPM 2 102            FLOW RATE 1034

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	90	71	TURBULENT			4.2
HWDP/OH	0.398	14	62	68	LAMINAR	1	61	0.3
HWDP/CSG	0.411	20	60	68	LAMINAR	1	59	0.3
DP/CSG	0.411	272	60	68	LAMINAR	1	59	4.7
DP/RIS	1.325	107	19	64	LAMINAR	0	18	0.1
TOTAL VOLUME		461			TOTAL PRESSURE DROP			9.7

LAG: 18.7 MINUTES            1961 STROKES #1 AND 1915 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1577.5	HHP	952	IMPACT FORCE	2121
% SURFACE PRESSURE	53.5	HHP/sqin	8.08	JET VELOCITY	135

PRESSURE BREAKDOWN:

SURFACE	72.2			
STRING	1004.7			
BIT	1577.5			
ANNULUS	9.7			
TOTAL	2664.2	PUMP PRESSURE	2950.0	% DIFFERENCE 9.7

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.90	HYDROSTATIC PRESSURE	1518.4
CIRCULATING:	ECD	8.96	CIRCULATING PRESSURE	1528.0
PULLING OUT:	TRIP MARGIN	0.11	ESTIMATED SWAB	19.4
	EFFECTIVE MUD WEIGHT	8.79	BOTTOM HOLE PRESSURE	1499.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1100.0 AND TVD 1100.0

SPM 1 102            SPM 2 101            FLOW RATE 1016

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	88	70	TURBULENT			4.1
HWDP/OH	0.398	33	61	67	LAMINAR	1	60	0.6
DP/OH	0.398	21	61	67	LAMINAR	1	60	0.4
DP/CSG	0.411	292	59	67	LAMINAR	1	58	5.1
DP/RIS	1.325	107	18	63	LAMINAR	0	18	0.1
TOTAL VOLUME		501	TOTAL PRESSURE DROP			10.3		

LAG: 20.7 MINUTES            2110 STROKES #1 AND 2100 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP            1557.7            HHP            924            IMPACT FORCE    2095  
% SURFACE PRESSURE    52.8            HHP/sqin    7.84            JET VELOCITY    133

PRESSURE BREAKDOWN:

SURFACE            71.3  
STRING            1032.3  
BIT                1557.7  
ANNULUS            10.3  
TOTAL            2671.5            PUMP PRESSURE    2950.0            % DIFFERENCE    9.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:            MUD WEIGHT	9.10	HYDROSTATIC PRESSURE 1707.7
CIRCULATING:                ECD	9.16	CIRCULATING PRESSURE 1718.1
PULLING OUT:                TRIP MARGIN	0.11	ESTIMATED SWAB 20.7
EFFECTIVE MUD WEIGHT	8.99	BOTTOM HOLE PRESSURE 1687.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1200.0 AND TVD 1200.0

SPM 1 101          SPM 2 99          FLOW RATE 1001

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	87	80	TURBULENT			4.4
HWDP/OH	0.398	33	60	76	LAMINAR	1	59	0.8
DP/OH	0.398	61	60	76	LAMINAR	1	59	1.5
DP/CSG	0.411	292	58	76	LAMINAR	1	57	6.5
DP/RIS	1.325	107	18	70	LAMINAR	0	18	0.2
TOTAL VOLUME		541	TOTAL PRESSURE DROP			13.3		

LAG: 22.7 MINUTES          2297 STROKES #1 AND 2248 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP          1510.3          HHP          882          IMPACT FORCE          2031  
% SURFACE PRESSURE          51.2          HHP/sqin          7.48          JET VELOCITY          131

PRESSURE BREAKDOWN:

SURFACE          75.2  
STRING          1132.1  
BIT          1510.3  
ANNULUS          13.3  
TOTAL          2730.9          PUMP PRESSURE          2950.0          % DIFFERENCE          7.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:          MUD WEIGHT	9.10	HYDROSTATIC PRESSURE          1863.0
CIRCULATING:          ECD	9.17	CIRCULATING PRESSURE          1876.3
PULLING OUT:          TRIP MARGIN	0.13	ESTIMATED SWAB          26.6
EFFECTIVE MUD WEIGHT	8.97	BOTTOM HOLE PRESSURE          1836.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1300.0 AND TVD 1300.0

SPM 1 100            SPM 2 98            FLOW RATE 987

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	86	80	TURBULENT			4.2
HWDP/OH	0.398	33	59	76	LAMINAR	1	58	0.8
DP/OH	0.398	100	59	76	LAMINAR	1	58	2.4
DP/CSG	0.411	292	57	76	LAMINAR	1	56	6.5
DP/RIS	1.325	107	18	70	LAMINAR	0	18	0.2
TOTAL VOLUME		581	TOTAL PRESSURE DROP					14.1

LAG: 24.7 MINUTES            2464 STROKES #1 AND 2416 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP            1469.2            HHP            846            IMPACT FORCE            1976  
% SURFACE PRESSURE            49.8            HHP/sqin            7.18            JET VELOCITY            129

PRESSURE BREAKDOWN:

SURFACE            73.3  
STRING            1146.6  
BIT            1469.2  
ANNULUS            14.1  
TOTAL            2703.2            PUMP PRESSURE            2950.0            % DIFFERENCE            8.4

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.10	HYDROSTATIC PRESSURE 2018.2
CIRCULATING:	ECD 9.16	CIRCULATING PRESSURE 2032.4
PULLING OUT:	TRIP MARGIN 0.13	ESTIMATED SWAB 28.2
	EFFECTIVE MUD WEIGHT 8.97	BOTTOM HOLE PRESSURE 1990.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1500.0 AND TVD 1500.0

SPM 1 95 SPM 2 92 FLOW RATE 935

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	81	80	TURBULENT			3.9
HWDP/OH	0.398	33	56	76	LAMINAR	1	55	0.8
DP/OH	0.398	180	56	76	LAMINAR	1	55	4.2
DP/CSG	0.411	292	54	76	LAMINAR	1	53	6.4
DP/RIS	1.325	107	17	70	LAMINAR	0	17	0.2
TOTAL VOLUME		660				TOTAL PRESSURE DROP		15.5

LAG: 29.7 MINUTES 2811 STROKES #1 AND 2738 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1333.0 HHP 727 IMPACT FORCE 1793  
% SURFACE PRESSURE 45.2 HHP/sqin 6.17 JET VELOCITY 122

PRESSURE BREAKDOWN:

SURFACE 67.1  
STRING 1126.7  
BIT 1333.0  
ANNULUS 15.5  
TOTAL 2542.3 PUMP PRESSURE 2950.0 % DIFFERENCE 13.8

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS:
NOT CIRCULATING:	MUD WEIGHT 9.20	HYDROSTATIC PRESSURE 2354.3
CIRCULATING:	ECD 9.26	CIRCULATING PRESSURE 2369.8
PULLING OUT:	TRIP MARGIN 0.12	ESTIMATED SWAB 30.9
	EFFECTIVE MUD WEIGHT 9.08	BOTTOM HOLE PRESSURE 2323.4

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1600.0 AND TVD 1600.0

SPM 1 90 SPM 2 86 FLOW RATE 880

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	76	124	LAMINAR	0	76	7.7
HWDP/OH	0.396	33	53	123	LAMINAR	0	52	1.8
DP/OH	0.398	220	53	123	LAMINAR	0	52	11.8
DP/CSG	0.411	292	51	123	LAMINAR	0	51	14.7
DP/RIS	1.325	107	16	123	LAMINAR	0	16	0.5
TOTAL VOLUME		700						
					TOTAL PRESSURE DROP			36.5

LAG: 33.4 MINUTES 3011 STROKES #1 AND 2873 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1400.4	HHP	719	IMPACT FORCE	1751
% SURFACE PRESSURE	47.6	HHP/sq.in	6.10	JET VELOCITY	124

PRESSURE BREAKDOWN:

SURFACE	61.4				
STRING	1066.3				
BIT	1400.4				
ANNULUS	36.5				
TOTAL	2564.5	PUMP PRESSURE	2941.6	% DIFFERENCE	12.8

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.45	HYDROSTATIC PRESSURE 2579.5
CIRCULATING:	ECD 9.58	CIRCULATING PRESSURE 2616.0
PULLING OUT:	TRIP MARGIN 0.27	ESTIMATED SWAR 72.9
	EFFECTIVE MUD WEIGHT 9.18	BOTTOM HOLE PRESSURE 2506.6



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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1700.0 AND TVD 1700.0

SPM 1 92 SPM 2 78 FLOW RATE 850

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	74	133	LAMINAR	0	73	9.3
HWDP/OH	0.398	33	51	128	LAMINAR	0	51	2.0
DP/OH	0.398	260	51	128	LAMINAR	0	51	15.6
DP/CSG	0.411	292	49	128	LAMINAR	0	49	16.3
DP/RIS	1.325	107	15	122	LAMINAR	0	15	0.5
TOTAL VOLUME		740			TOTAL PRESSURE DROP			43.7

LAG: 36.6 MINUTES 3355 STROKES #1 AND 2864 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1307.9	HHP	649	IMPACT FORCE	1636
% SURFACE PRESSURE	46.6	HHP/sqin	5.50	JET VELOCITY	120

PRESSURE BREAKDOWN:

SURFACE	66.3		
STRING	1190.1		
BIT	1307.9		
ANNULUS	43.7		
TOTAL	2608.0	PUMP PRESSURE	2808.7
		% DIFFERENCE	7.1

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.45	HYDROSTATIC PRESSURE 2740.7
CIRCULATING:	ECD 9.60	CIRCULATING PRESSURE 2784.5
PULLING OUT:	TRIP MARGIN 0.30	ESTIMATED SWAB 87.5
	EFFECTIVE MUD WEIGHT 9.15	BOTTOM HOLE PRESSURE 2653.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1800.0 AND TVD 1800.0

SPM 1 88 SPM 2 87 FLOW RATE 873

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	48	74	133	LAMINAR	0	75	9.4
HWDP/OH	0.398	33	52	128	LAMINAR	0	52	2.0
DP/OH	0.398	300	50	128	LAMINAR	0	52	18.1
DP/CSG	0.411	292	51	128	LAMINAR	0	50	16.5
DP/RIS	1.325	107	14	122	LAMINAR	0	14	0.5
TOTAL VOLUME		780						
					TOTAL PRESSURE DROP			46.5

LAG: 37.5 MINUTES 3287 STROKES #1 AND 3266 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1378.3	MHP	702	IMPACT FORCE	1724
% SURFACE PRESSURE	46.5	MHP/sqin	5.25	JET VELOCITY	123

PRESSURE BREAKDOWN:

SURFACE	69.5				
STRING	1287.6				
BIT	1378.3				
ANNULUS	46.5				
TOTAL	2781.9	PUMP PRESSURE	2963.8	% DIFFERENCE	6.1

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.45	HYDROSTATIC PRESSURE 2902.0
CIRCULATING:	ECD 9.60	CIRCULATING PRESSURE 2948.4
PULLING OUT:	TRIP MARGIN 0.30	ESTIMATED SNAR 93.0
	EFFECTIVE MUD WEIGHT 9.15	BOTTOM HOLE PRESSURE 2809.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1900.0 AND TVD 1900.0

SPM 1 89 SPM 2 85 FLOW RATE 869

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	75	133	LAMINAR	0	75	9.3	
HWDP/OH	0.398	33	52	128	LAMINAR	0	52	2.0	
DP/OH	0.398	340	52	178	LAMINAR	0	52	20.5	
DP/CSG	0.411	292	50	128	LAMINAR	0	50	16.5	
DP/RIS	1.325	107	16	122	LAMINAR	0	16	0.5	
TOTAL VOLUME		820	TOTAL PRESSURE DROP						48.8

LAG: 39.6 MINUTES 3535 STROKES #1 AND 3353 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1367.6	HHP	693	IMPACT FORCE	1710
% SURFACE PRESSURE	45.6	HHP/sqin	5.88	JET VELOCITY	122

PRESSURE BREAKDOWN:

SURFACE	69.0				
STRING	1318.4				
BIT	1367.6				
ANNULUS	48.8				
TOTAL	2803.8	PUMP PRESSURE	3001.9	% DIFFERENCE	6.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 9.45	HYDROSTATIC PRESSURE 3063.2
CIRCULATING:	ECD 9.60	CIRCULATING PRESSURE 3112.0
PULLING OUT:	TRIP MARGIN 0.30	ESTIMATED SWAB 97.7
	EFFECTIVE MUD WEIGHT 9.15	BOTTOM HOLE PRESSURE 2965.5

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2000.0 AND TVD 2000.0

SPM 1 84 SPM 2 84 FLOW RATE 836

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	33	129	LAMINAR	0	72	9.2
HWDP/OH	0.398	33	50	125	LAMINAR	0	50	2.0
DP/OH	0.398	379	50	125	LAMINAR	0	50	22.7
DP/CSG	0.411	292	40	124	LAMINAR	0	40	16.3
DP/RIS	1.325	107	15	118	LAMINAR	0	15	0.5
TOTAL VOLUME		840			TOTAL PRESSURE DROP			50.6

LAG: 43.2 MINUTES 3612 STROKES #1 AND 3612 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1337.8 HHP 652 IMPACT FORCE 1673  
% SURFACE PRESSURE 44.3 HHP/sqin 5.53 JET VELOCITY 118

PRESSURE BREAKDOWN:

SURFACE 67.3  
STRING 1324.0  
BIT 1337.8  
ANNULUS 50.6  
TOTAL 2779.8 PUMP PRESSURE 3023.0 % DIFFERENCE 8.0

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	10.00	HYDROSTATIC PRESSURE 3412.1
CIRCULATING: ECD	10.15	CIRCULATING PRESSURE 3462.7
PULLING OUT: TRIP MARGIN	0.30	ESTIMATED SWAB 101.3
EFFECTIVE MUD WEIGHT	9.70	BOTTOM HOLE PRESSURE 3310.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2100.0 AND TVD 2100.0

SPM 1 80 SPM 2 77 FLOW RATE 786

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	137	LAMINAR	0	68	11.1
HWDP/OH	0.398	33	47	128	LAMINAR	0	47	2.2
DP/OH	0.398	419	47	128	LAMINAR	0	47	27.7
DP/CSG	0.411	292	45	128	LAMINAR	0	45	17.9
DP/RIS	1.325	107	14	116	LAMINAR	0	14	0.5
TOTAL VOLUME		899			TOTAL PRESSURE DROP			59.4

LAG: 48.1 MINUTES 3846 STROKES #1 AND 3711 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1247.2	HHP	572	IMPACT FORCE	1560
% SURFACE PRESSURE	42.9	HHP/sqin	4.85	JET VELOCITY	111

PRESSURE BREAKDOWN:

SURFACE	71.0		
STRING	1438.4		
BIT	1247.2		
ANNULUS	59.4		
TOTAL	2816.0	PUMP PRESSURE	2905.7
		% DIFFERENCE	3.1

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.55	HYDROSTATIC PRESSURE 3779.7
CIRCULATING:	ECD 10.72	CIRCULATING PRESSURE 3839.2
PULLING OUT:	TRIP MARGIN 0.33	ESTIMATED SWAB 118.9
	EFFECTIVE MUD WEIGHT 10.22	BOTTOM HOLE PRESSURE 3660.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2200.0 AND TVD 2200.0

SPM 1 76            SPM 2 75            FLOW RATE 753

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	45	137	LAMINAR	0	65	10.9
HWDP/OH	0.398	33	45	128	LAMINAR	0	45	2.2
DP/OH	0.398	459	45	128	LAMINAR	0	45	29.9
DP/CSG	0.411	292	44	128	LAMINAR	0	43	17.6
DP/RIS	1.325	107	14	114	LAMINAR	0	14	0.4
TOTAL VOLUME		939			TOTAL PRESSURE DROP		61.1	

LAG: 52.4 MINUTES            3972 STROKES #1 AND 3920 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1145.8            HHP 503            IMPACT FORCE 1433  
 % SURFACE PRESSURE 41.5            HHP/sqin 4.27            JET VELOCITY 106

PRESSURE BREAKDOWN:

SURFACE 65.7  
 STRING 1370.6  
 BIT 1145.8  
 ANNULUS 61.1  
 TOTAL 2643.3            PUMP PRESSURE 2763.4            % DIFFERENCE 4.3

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	10.55	HYDROSTATIC PRESSURE 3959.6
CIRCULATING: ECD	10.71	CIRCULATING PRESSURE 4020.7
PULLING OUT: TRIP MARGIN	0.33	ESTIMATED SWAR 122.2
EFFECTIVE MUD WEIGHT	10.22	BOTTOM HOLE PRESSURE 3837.5

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2300.0 AND TVD 2292.9

SPM 1 76          SPM 2 78          FLOW RATE 770

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	67	139	LAMINAR	0	67	11.4	
HWDP/OH	0.398	33	46	128	LAMINAR	0	46	2.2	
DP/OH	0.398	499	46	128	LAMINAR	0	46	32.9	
DP/CSG	0.411	292	45	128	LAMINAR	0	44	17.9	
DP/RIS	1.325	107	14	114	LAMINAR	0	14	0.4	
TOTAL VOLUME		979	TOTAL PRESSURE DROP						64.8

LAG: 53.4 MINUTES          4043 STROKES #1 AND 4184 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1198.0	HHP	538	IMPACT FORCE	1498
% SURFACE PRESSURE	40.8	HHP/sqin	4.57	JET VELOCITY	108

PRESSURE BREAKDOWN:

SURFACE	70.8				
STRING	1516.0				
BIT	1198.0				
ANNULUS	64.8				
TOTAL	2849.5	PUMP PRESSURE	2938.8	% DIFFERENCE	3.0

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	10.55	HYDROSTATIC PRESSURE 4139.6
CIRCULATING: ECD	10.72	CIRCULATING PRESSURE 4204.4
PULLING OUT: TRIP MARGIN	0.33	ESTIMATED SWAB 129.6
EFFECTIVE MUD WEIGHT	10.22	BOTTOM HOLE PRESSURE 4010.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2400.0 AND TVD 2392.9

SPM 1 76 SPM 2 75 FLOW RATE 758

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	67	136	LAMINAR	0	66	10.8
HWDP/OH	0.398	33	45	124	LAMINAR	0	45	2.1
DP/OH	0.398	539	45	124	LAMINAR	0	45	33.6
DP/CSG	0.411	292	44	124	LAMINAR	0	44	16.9
DP/RIS	1.325	107	14	109	LAMINAR	0	14	0.4
TOTAL VOLUME		1019			TOTAL PRESSURE DROP			63.8

LAG: 56.5 MINUTES 4310 STROKES #1 AND 4252 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1165.4 HHP 515 IMPACT FORCE 1458  
% SURFACE PRESSURE 40.3 HHP/sqin 4.37 JET VELOCITY 107

PRESSURE BREAKDOWN:

SURFACE 69.0  
STRING 1516.1  
BIT 1165.4  
ANNULUS 63.8  
TOTAL 2814.3 PUMP PRESSURE 2890.2 % DIFFERENCE 2.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	10.60	HYDROSTATIC PRESSURE 4340.0
CIRCULATING: ECD	10.76	CIRCULATING PRESSURE 4403.7
PULLING OUT: TRIP MARGIN	0.31	ESTIMATED SWAB 127.6
EFFECTIVE MUD WEIGHT	10.29	BOTTOM HOLE PRESSURE 4212.4



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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2500.0 AND TVD 2499.9

SPM 1 78 SPM 2 74 FLOW RATE 762

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	66	111	LAMINAR	0	66	7.8
HWDP/OH	0.398	33	46	98	LAMINAR	0	45	1.4
DP/OH	0.398	579	46	98	LAMINAR	0	45	24.1
DP/CSG	0.411	292	44	97	LAMINAR	0	44	11.2
DP/RIS	1.325	107	14	61	LAMINAR	0	14	0.2
TOTAL VOLUME		1059	TOTAL PRESSURE DROP		44.7			

LAG: 58.3 MINUTES 4554 STROKES #1 AND 4343 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1158.1 HHP 515 IMPACT FORCE 1448  
% SURFACE PRESSURE 40.3 HHP/sqin 4.37 JET VELOCITY 107

PRESSURE BREAKDOWN:

SURFACE 68.7  
STRING 1550.0  
BIT 1158.1  
ANNULUS 44.7  
TOTAL 2821.4 PUMP PRESSURE 2873.7 % DIFFERENCE 1.8

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.40	HYDROSTATIC PRESSURE 4435.4
CIRCULATING:	ECD 10.50	CIRCULATING PRESSURE 4480.1
PULLING OUT:	TRIP MARGIN 0.21	ESTIMATED SWAB 89.3
	EFFECTIVE MUD WEIGHT 10.19	BOTTOM HOLE PRESSURE 4346.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2600.0 AND TVD 2599.9

SPM 1 0 SPM 2 55 FLOW RATE 274

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.107	0	51	139	LAMINAR	1	50	0.5
DC/LIN	0.274	44	24	119	LAMINAR	0	24	5.0
HWDP/LIN	0.398	33	14	107	LAMINAR	0	14	1.0
DP/LIN	0.398	623	16	107	LAMINAR	0	16	18.8
DP/CSG	0.411	292	14	107	LAMINAR	0	16	0.1
DP/RIS	1.325	107	5	92	LAMINAR	0	5	0.2
TOTAL VOLUME		1099			TOTAL PRESSURE DROP			33.5

LAG: 168.8 MINUTES 0 STROKES #1 AND 9239 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	354.3	HHP	57	IMPACT FORCE	288
% SURFACE PRESSURE	23.3	HHP/sain	0.74	JET VELOCITY	59

PRESSURE BREAKDOWN:

SURFACE	10.7		
STRING	244.2		
BIT	354.3		
ANNULUS	33.5		
TOTAL	642.7	PUMP PRESSURE	1523.6
		% DIFFERENCE	57.8

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.45	HYDROSTATIC PRESSURE 4634.9
CIRCULATING:	ECD 10.53	CIRCULATING PRESSURE 4668.5
PULLING OUT:	TRIP MARGIN 0.15	ESTIMATED SWAB 67.1
	EFFECTIVE MUD WEIGHT 10.30	BOTTOM HOLE PRESSURE 4567.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2700.0 AND TVD 2699.7

SPM 1 75 SPM 2 78 FLOW RATE 765

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	66	148	LAMINAR	0	66	12.3
HWDP/OH	0.398	33	46	138	LAMINAR	0	46	2.5
DP/OH	0.398	658	46	138	LAMINAR	0	46	48.7
DP/CSG	0.411	292	44	138	LAMINAR	0	44	20.0
DP/RIS	1.325	107	14	125	LAMINAR	0	14	0.5
TOTAL VOLUME		1138			TOTAL PRESSURE DROP			84.0

LAG: 62.5 MINUTES 4681 STROKES #1 AND 4886 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1164.5 HHP 519 IMPACT FORCE 1456  
% SURFACE PRESSURE 36.3 HHP/sqin 4.41 JET VELOCITY 108

PRESSURE BREAKDOWN:

SURFACE 68.0  
STRING 1611.4  
BIT 1164.5  
ANNULUS 84.0  
TOTAL 2927.8 PUMP PRESSURE 3204.2 % DIFFERENCE 8.6

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	10.40	HYDROSTATIC PRESSURE 4790.1
CIRCULATING: ECD	10.58	CIRCULATING PRESSURE 4874.0
PULLING OUT: TRIP MARGIN	0.36	ESTIMATED SWAB 167.9
EFFECTIVE MUD WEIGHT	10.04	BOTTOM HOLE PRESSURE 4622.1

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2800.0 AND TVD 3299.7

SPM 1 74 SPM 2 77 FLOW RATE 759

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	66	143	LAMINAR	0	66	11.5
HWDP/OH	0.398	33	45	135	LAMINAR	0	45	2.3
DP/OH	0.398	698	45	135	LAMINAR	0	45	49.3
DP/CSG	0.411	292	44	135	LAMINAR	0	44	19.1
DP/RIS	1.325	107	14	124	LAMINAR	0	14	0.5
TOTAL VOLUME		1178			TOTAL PRESSURE DROP			82.7

LAG: 65.2 MINUTES 4852 STROKES #1 AND 5049 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1148.5 HHP 509 IMPACT FORCE 1436  
% SURFACE PRESSURE 39.2 HHP/sein 4.32 JET VELOCITY 107

PRESSURE BREAKDOWN:

SURFACE 64.7  
STRING 1571.7  
BIT 1148.5  
ANNULUS 82.7  
TOTAL 2867.7 PUMP PRESSURE 2926.3 % DIFFERENCE 2.0

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING: MUD WEIGHT	10.40	HYDROSTATIC PRESSURE 4967.4
CIRCULATING: ECD	10.57	CIRCULATING PRESSURE 5050.1
PULLING OUT: TRIP MARGIN	0.35	ESTIMATED SWAB 165.4
EFFECTIVE MUD WEIGHT	10.05	BOTTOM HOLE PRESSURE 4802.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2900.0 AND TVD 2895.7

SPM 1 72 SPM 2 78 FLOW RATE 753

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	65	162	LAMINAR	0	65	14.3
HWDP/OH	0.398	33	45	156	LAMINAR	0	45	3.0
DP/OH	0.398	738	45	156	LAMINAR	0	45	67.7
DP/CSG	0.411	292	44	156	LAMINAR	0	43	24.9
DP/RIS	1.325	107	14	147	LAMINAR	0	14	0.7
TOTAL VOLUME		1218	TOTAL PRESSURE DROP			110.6		

LAG: 68.0 MINUTES 4925 STROKES #1 AND 5311 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP 1129.1 HHP 496 IMPACT FORCE 1412  
% SURFACE PRESSURE 39.1 HHP/sqin 4.21 JET VELOCITY 106

PRESSURE BREAKDOWN:

SURFACE 63.7  
STRING 1584.5  
BIT 1129.1  
ANNULUS 110.6  
TOTAL 2888.0 PUMP PRESSURE 2885.9 % DIFFERENCE 0.1

BOTTOM HOLE PRESSURES:

	DENSITY UNITS	PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT 10.40	HYDROSTATIC PRESSURE 5144.8
CIRCULATING:	ECD 10.62	CIRCULATING PRESSURE 5255.5
PULLING OUT:	TRIP MARGIN 0.45	ESTIMATED SWAB 221.3
	EFFECTIVE MUD WEIGHT 9.95	BOTTOM HOLE PRESSURE 4923.5

(c). COMPUTER DATA LISTING : LIST A

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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	82.0-	219.0
HTC OSC3AJ+26"HO		SIZE	26.000	NOZZLES	20	20 20
COST	0.00	TRIP TIME	2.6	BIT RUN		137.0
TOTAL HOURS	2.66	TOTAL TURNS	11170	CONDITION	T7 B7 G0.000	

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
83.0	79.0	4.0	70	8.5	0.52	0.01	53	46	9541	8.4	11.9
86.0	129.6	4.0	70	8.5	0.43	0.04	150	28	2406	8.4	11.9
91.0	95.8	4.0	70	8.5	0.48	0.09	370	38	1091	8.4	11.9
92.0	150.0	4.0	70	8.5	0.40	0.09	398	24.35	984.09	8.4	11.9
93.0	216.0	4.0	70	8.5	0.33	0.10	417	16.91	896.16	8.4	11.9
95.0	92.3	4.0	70	8.5	0.49	0.12	508	39.56	764.38	8.4	11.9
97.0	196.8	4.7	70	8.5	0.36	0.13	551	18.56	664.94	8.4	12.0
99.0	55.0	6.1	70	8.5	0.63	0.17	704	66.45	594.53	8.4	12.0
100.0	27.5	6.4	70	8.5	0.78	0.20	856	132.89	568.88	8.4	12.0
101.0	56.2	5.5	70	8.5	0.61	0.22	931	64.92	542.36	8.4	12.0
102.0	60.0	5.8	70	8.5	0.61	0.24	1001	60.87	518.28	8.4	12.0
103.0	63.5	5.2	70	8.5	0.59	0.25	1067	57.49	496.34	8.4	12.0
104.0	27.5	5.6	70	8.5	0.76	0.29	1220	132.89	479.82	8.4	12.0
105.0	52.9	5.1	70	8.5	0.62	0.31	1299	68.98	461.96	8.4	12.0
106.0	38.3	5.8	70	8.5	0.70	0.34	1409	95.36	446.68	8.4	12.0
107.0	72.0	6.5	70	8.5	0.58	0.35	1467	50.72	430.84	8.4	12.0
108.0	83.7	6.0	70	8.5	0.54	0.36	1517	43.62	415.95	8.4	12.0
109.0	45.0	5.4	70	8.5	0.66	0.38	1611	81.16	403.55	8.4	12.0
110.0	41.1	8.0	70	8.5	0.72	0.41	1713	88.86	392.31	8.4	12.0
111.0	45.0	5.9	70	8.5	0.67	0.43	1806	81.16	381.58	8.4	12.0
133.0	51.4	6.1	70	8.5	0.64	0.86	3603	71.01	247.61	8.4	12.1
134.0	85.7	9.3	70	8.5	0.58	0.87	3652	42.61	243.67	8.4	12.1
135.0	72.0	9.5	70	8.5	0.62	0.88	3710	50.72	240.03	8.4	12.1
136.0	102.9	7.5	70	8.5	0.52	0.89	3751	35.51	236.24	8.4	12.1
137.0	100.0	6.4	70	8.5	0.51	0.90	3793	36.52	232.61	8.4	12.1
139.0	61.5	5.6	70	8.5	0.60	0.94	3930	59.35	226.53	8.4	12.1
144.0	73.6	6.8	70	8.5	0.58	1.00	4215	49.60	212.26	8.4	12.1
146.0	91.1	6.5	70	8.5	0.53	1.03	4307	40.07	206.88	8.4	12.2
147.0	112.5	7.6	70	8.5	0.51	1.03	4344	32.46	204.20	8.4	12.2
148.0	64.3	5.5	70	8.5	0.59	1.05	4410	56.81	201.96	8.4	12.2
149.0	144.0	6.7	70	8.5	0.44	1.06	4439	25.36	199.33	8.4	12.2
150.0	55.4	5.9	70	8.5	0.63	1.07	4515	65.94	197.37	8.4	12.2
151.0	78.9	4.3	70	8.5	0.53	1.09	4568	46.29	195.18	8.4	12.2
152.0	46.8	6.4	70	8.5	0.67	1.11	4658	78.11	193.50	8.4	12.2
153.0	92.3	6.9	70	8.5	0.54	1.12	4703	39.56	191.34	8.4	12.2
154.0	100.0	7.1	70	8.5	0.52	1.13	4745	36.52	189.18	8.4	12.2
156.0	114.3	7.7	70	8.5	0.50	1.15	4819	31.95	184.94	8.4	12.2
157.0	85.7	7.2	70	8.5	0.56	1.16	4868	42.61	183.04	8.4	12.2
158.0	97.3	6.7	70	8.5	0.53	1.17	4911	37.53	181.12	8.4	12.2
159.0	90.0	8.0	70	8.5	0.56	1.18	4958	40.58	179.30	8.4	12.2
160.0	102.9	6.5	70	8.5	0.51	1.19	4998	35.51	177.45	8.4	12.2
161.0	73.5	5.8	70	8.5	0.57	1.20	5056	49.71	175.84	8.4	12.2
162.0	138.5	7.3	70	8.5	0.46	1.21	5086	26.38	173.97	8.4	12.2

DEPTH	ROP	WOB	RPM	MW	"d"%"c	HOURS	TURNS	ICOST	CCOST	PP	FG
164.0	180.0	6.9	70	8.5	0.40	1.22	5133	20.29	170.22	8.4	12.2
166.0	81.8	6.5	70	8.5	0.56	1.25	5235	44.64	167.23	8.4	12.2
167.0	171.4	8.3	70	8.5	0.42	1.25	5260	21.30	165.51	8.4	12.2
168.0	83.7	4.7	70	8.5	0.52	1.26	5310	43.62	164.10	8.4	12.2
169.0	144.0	5.5	70	8.5	0.43	1.27	5339	25.36	162.50	8.4	12.2
171.0	22.9	3.5	70	8.5	0.74	1.36	5705	159.27	162.43	8.4	12.3
173.0	36.7	7.6	70	8.5	0.74	1.41	5934	99.42	161.04	8.4	12.3
175.0	58.9	6.4	70	8.5	0.62	1.45	6077	61.99	158.91	8.4	12.3
176.0	97.3	6.0	70	8.5	0.51	1.46	6120	37.53	157.62	8.4	12.3
180.0	27.7	5.0	70	8.5	0.74	1.60	6727	131.88	156.57	8.4	12.3
181.0	25.2	5.7	70	8.5	0.78	1.64	6893	145.07	156.46	8.4	12.3
182.0	38.4	5.5	70	8.5	0.69	1.67	7003	95.10	155.84	8.4	12.3
183.0	33.6	5.2	70	8.5	0.71	1.70	7128	108.55	155.37	8.4	12.3
185.0	46.2	5.8	70	8.5	0.66	1.74	7310	79.13	153.89	8.4	12.3
186.0	59.0	5.8	70	8.5	0.61	1.76	7381	61.88	153.01	8.4	12.3
187.0	60.0	6.5	70	8.5	0.62	1.77	7451	60.87	152.13	8.4	12.3
188.0	58.1	5.8	70	8.5	0.61	1.79	7523	62.90	151.29	8.4	12.3
189.0	50.7	5.4	70	8.5	0.63	1.81	7606	72.03	150.55	8.4	12.3
190.0	25.4	4.5	70	8.5	0.75	1.85	7772	144.05	150.49	8.4	12.3
191.0	26.3	4.3	70	8.5	0.74	1.89	7931	138.98	150.38	8.4	12.3
192.0	27.1	6.0	70	8.5	0.77	1.93	8087	134.92	150.24	8.4	12.3
193.0	20.5	4.9	70	8.5	0.80	1.97	8292	178.54	150.50	8.4	12.3
194.0	31.6	4.3	70	8.5	0.70	2.01	8425	115.65	150.19	8.4	12.3
195.0	29.8	4.3	70	8.5	0.71	2.04	8566	122.75	149.94	8.4	12.4
196.0	40.0	4.9	70	8.5	0.67	2.06	8671	91.30	149.43	8.4	12.4
197.0	42.4	5.1	70	8.5	0.66	2.09	8770	86.23	148.88	8.4	12.4
198.0	48.9	6.0	70	8.5	0.65	2.11	8856	74.68	148.24	8.4	12.4
199.0	50.7	4.9	70	8.5	0.62	2.13	8939	72.03	147.59	8.4	12.4
200.0	45.6	5.5	70	8.5	0.66	2.15	9031	80.14	147.02	8.4	12.4
201.0	41.4	6.0	70	8.5	0.69	2.17	9133	88.26	146.52	8.4	12.4
203.0	43.9	5.4	70	8.5	0.66	2.22	9324	83.18	145.48	8.4	12.4
204.0	62.1	5.4	70	8.5	0.59	2.24	9392	58.84	144.77	8.4	12.4
205.0	75.8	4.8	70	8.5	0.54	2.25	9447	48.19	143.98	8.4	12.4
206.0	60.0	4.5	70	8.5	0.58	2.27	9517	60.87	143.31	8.4	12.4
207.0	42.4	4.7	70	8.5	0.65	2.29	9616	86.23	142.85	8.4	12.4
208.0	26.5	4.3	70	8.5	0.73	2.33	9775	137.96	142.81	8.4	12.4
209.0	66.7	4.3	70	8.5	0.56	2.34	9838	54.78	142.12	8.4	12.4
210.0	39.6	5.8	70	8.5	0.69	2.37	9944	92.31	141.73	8.4	12.4
212.0	28.2	5.9	70	8.5	0.76	2.44	10242	129.34	141.54	8.4	12.4
213.0	54.5	4.5	70	8.5	0.60	2.46	10319	66.95	140.97	8.4	12.4
214.0	14.0	3.5	70	8.5	0.83	2.53	10618	260.71	141.88	8.4	12.4
215.0	34.0	3.5	70	8.5	0.67	2.56	10742	107.53	141.62	8.4	12.4
216.0	32.4	6.0	70	8.5	0.73	2.59	10872	112.60	141.40	8.4	12.4
217.0	36.7	4.4	70	8.5	0.67	2.62	10986	99.42	141.09	8.4	12.4
218.0	27.1	2.8	70	8.5	0.68	2.65	11141	134.92	141.05	8.4	12.4
219.0	144.0	4.9	70	8.5	0.42	2.66	11170	25.36	140.20	8.4	12.4



BIT NUMBER	1	TADC CODE	111	INTERVAL	219.0-	806.0
HTC DSC 3AT		SIZE	17.500	NOZZLES		18 18 18
COST	4978.00	TRIP TIME	2.6	BIT RUN		587.0
TOTAL HOURS	23.23	TOTAL TURNS	157569	CONDITION		TO RO GO.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
220.0	24.2	7.3	100	8.7	0.94	0.04	248	151	14624	8.4	12.4
221.0	66.7	7.0	100	8.7	0.71	0.06	338	55	7340	8.4	12.5
224.0	69.7	8.3	100	8.7	0.73	0.10	597	52	2967	8.4	12.5
225.0	112.5	7.2	100	8.7	0.60	0.11	650	32	2478	8.4	12.5
226.0	51.0	6.8	100	8.7	0.73	0.12	748	60	2133	8.4	12.5
227.0	56.2	6.7	100	8.7	0.74	0.14	855	65	1874	8.4	12.5
228.0	38.3	6.1	100	8.7	0.81	0.17	1012	95	1677	8.4	12.5
229.0	39.1	6.3	100	8.7	0.81	0.19	1165	93	1518	8.4	12.5
230.0	37.1	5.5	100	8.7	0.80	0.22	1327	98	1389	8.4	12.5
233.0	120.0	8.2	100	8.7	0.60	0.25	1477	30	1098	8.4	12.5
234.0	51.4	5.3	100	8.7	0.73	0.27	1593	71	1030	8.4	12.5
235.0	35.3	5.6	100	8.7	0.81	0.29	1763	103.47	971.66	8.4	12.5
236.0	31.3	5.2	100	8.7	0.83	0.33	1955	116.66	921.36	8.4	12.5
237.0	37.5	5.7	100	8.7	0.81	0.35	2115	97.39	875.58	8.4	12.5
238.0	48.0	6.0	100	8.7	0.76	0.37	2240	76.08	833.51	8.4	12.5
239.0	85.7	6.1	100	8.7	0.64	0.38	2310	42.61	793.96	8.4	12.5
240.0	29.3	5.4	100	8.7	0.85	0.42	2515	124.78	762.10	8.4	12.5
241.0	67.9	5.3	100	8.7	0.67	0.43	2603	53.77	729.90	8.4	12.5
242.0	22.5	5.7	100	8.7	0.91	0.48	2870	162.31	705.22	8.4	12.5
243.0	62.0	7.8	100	8.7	0.74	0.49	2967	58.90	678.29	8.4	12.5
244.0	34.3	4.4	100	8.7	0.79	0.52	3142	106.52	655.42	8.4	12.5
245.0	24.3	7.3	100	8.7	0.94	0.56	3388	150.14	635.99	8.4	12.5
246.0	105.9	3.9	100	8.7	0.55	0.57	3445	34.49	613.71	8.4	12.5
248.0	40.0	4.2	100	8.7	0.75	0.62	3745	91.30	577.68	8.4	12.6
249.0	52.0	3.7	100	8.7	0.68	0.64	3860	70.23	560.77	8.4	12.6
250.0	33.0	5.2	100	8.7	0.82	0.67	4042	110.57	546.24	8.4	12.6
251.0	51.4	4.7	100	8.7	0.72	0.69	4159	71.01	531.39	8.4	12.6
252.0	123.2	6.3	100	8.7	0.57	0.70	4208	29.64	516.19	8.4	12.6
253.0	147.8	6.1	100	8.7	0.53	0.71	4248	24.71	501.73	8.4	12.6
255.0	160.9	3.7	100	8.7	0.47	0.72	4323	22.70	475.12	8.4	12.6
259.0	195.4	5.9	100	8.7	0.47	0.74	4446	18.69	429.48	8.4	12.6
260.0	26.3	5.2	100	8.7	0.87	0.78	4674	138.98	422.39	8.4	12.6
261.0	40.4	5.9	100	8.7	0.80	0.80	4822	90.29	414.48	8.4	12.6
262.0	64.3	4.3	100	8.7	0.66	0.82	4916	56.81	406.17	8.4	12.6
263.0	163.6	5.3	100	8.7	0.49	0.83	4952	22.32	397.44	8.4	12.6
264.0	102.9	4.6	100	8.7	0.57	0.84	5011	35.51	389.40	8.4	12.6
266.0	122.0	4.0	100	8.7	0.53	0.85	5109	29.93	374.10	8.4	12.6
267.0	73.5	4.5	100	8.7	0.64	0.87	5191	49.71	367.34	8.4	12.6
268.0	120.0	4.7	100	8.7	0.55	0.87	5241	30.43	360.47	8.4	12.6
269.0	100.0	5.4	100	8.7	0.60	0.88	5301	36.52	353.99	8.4	12.6
271.0	127.7	5.9	100	8.7	0.55	0.90	5394	28.59	341.47	8.4	12.6
272.0	22.4	4.9	100	8.7	0.89	0.94	5663	163.33	338.11	8.4	12.6
274.0	69.2	9.4	100	8.7	0.75	0.97	5836	52.75	327.74	8.4	12.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	TCOST	CCOST	PP	FG
276.0	28.1	7.5	100	8.7	0.91	1.04	6263	129.85	320.79	8.4	12.7
278.0	20.1	6.6	100	8.7	0.96	1.14	6859	181.59	316.07	8.4	12.7
279.0	25.7	6.5	100	8.7	0.91	1.18	7093	142.02	313.17	8.4	12.7
280.0	13.7	6.4	100	8.7	1.04	1.26	7531	266.80	312.41	8.4	12.7
282.0	32.7	7.1	100	8.7	0.87	1.32	7898	111.59	306.04	8.4	12.7
283.0	28.6	5.7	100	8.7	0.86	1.35	8108	127.82	303.25	8.4	12.7
284.0	17.5	5.9	100	8.7	0.97	1.41	8451	208.98	301.80	8.4	12.7
285.0	76.6	6.7	100	8.7	0.68	1.42	8529	47.68	297.95	8.4	12.7
286.0	58.1	7.9	100	8.7	0.76	1.44	8633	62.90	294.44	8.4	12.7
287.0	67.9	7.5	100	8.7	0.72	1.45	8721	53.77	290.90	8.4	12.7
290.0	26.7	6.2	100	8.7	0.89	1.57	9396	136.95	284.40	8.4	12.7
291.0	31.6	6.6	100	8.7	0.86	1.60	9586	115.65	282.05	8.4	12.7
292.0	36.4	7.6	100	8.7	0.84	1.63	9751	100.43	279.57	8.4	12.7
293.0	48.6	7.1	100	8.7	0.78	1.65	9874	75.07	276.80	8.4	12.7
294.0	29.5	7.5	100	8.7	0.90	1.68	10078	123.76	274.76	8.4	12.7
295.0	55.4	7.9	100	8.7	0.77	1.70	10186	65.94	272.02	8.4	12.7
296.0	30.8	6.9	100	8.7	0.88	1.73	10381	118.69	270.02	8.4	12.7
297.0	40.4	6.9	100	8.7	0.82	1.75	10529	90.29	267.72	8.4	12.7
298.0	30.8	8.2	100	8.7	0.91	1.79	10724	118.69	265.83	8.4	12.7
299.0	64.3	8.3	100	8.7	0.74	1.80	10818	56.81	263.22	8.4	12.7
300.0	24.3	6.8	100	8.7	0.92	1.84	11064	150.14	261.82	8.4	12.8
302.0	35.6	4.8	100	8.7	0.79	1.90	11401	102.46	257.98	8.4	12.8
303.0	59.0	5.9	100	8.7	0.72	1.92	11503	61.88	255.65	8.4	12.8
304.0	38.3	5.7	100	8.7	0.80	1.94	11659	95.36	253.76	8.4	12.8
306.0	170.3	11.6	100	8.7	0.56	1.95	11730	21.44	248.42	8.4	12.8
308.0	130.9	10.9	100	8.7	0.62	1.97	11822	27.90	243.47	8.4	12.8
309.0	85.3	13.9	100	8.7	0.76	1.98	11892	42.81	241.24	8.4	12.8
310.0	72.0	5.4	100	8.7	0.66	2.00	11975	50.72	239.14	8.4	12.8
311.0	17.8	4.3	100	8.7	0.91	2.05	12312	204.92	238.77	8.4	12.8
312.0	102.9	4.6	100	8.7	0.57	2.06	12370	35.51	236.59	8.4	12.8
313.0	29.0	5.0	100	8.7	0.84	2.10	12577	125.79	235.41	8.4	12.8
314.0	28.8	4.9	100	8.7	0.84	2.13	12785	126.81	234.26	8.4	12.8
315.0	28.1	5.1	100	8.7	0.85	2.17	12999	129.85	233.18	8.4	12.8
317.0	23.4	5.0	100	8.7	0.88	2.25	13512	156.22	231.61	8.4	12.8
319.0	26.8	5.2	100	8.7	0.86	2.33	13960	136.44	229.70	8.4	12.8
320.0	94.7	3.9	100	8.7	0.58	2.34	14024	38.55	227.81	8.4	12.8
321.0	30.3	5.9	100	8.7	0.86	2.37	14222	120.72	226.76	8.4	12.8
322.0	25.9	5.5	100	8.7	0.88	2.41	14454	141.01	225.93	8.4	12.8
323.0	40.9	5.6	100	8.7	0.78	2.43	14600	89.27	224.61	8.4	12.8
324.0	52.9	7.1	100	8.7	0.76	2.45	14714	68.98	223.13	8.4	12.8
325.0	124.1	9.1	100	8.7	0.61	2.46	14762	29.42	221.30	8.4	12.8
326.0	83.7	9.8	100	8.7	0.71	2.47	14834	43.62	219.64	8.4	12.8
327.0	105.9	8.6	100	8.7	0.64	2.48	14890	34.49	217.93	8.4	12.8
328.0	47.4	7.1	100	8.7	0.79	2.50	15017	77.10	216.64	8.4	12.9
329.0	33.0	5.8	100	8.7	0.84	2.53	15199	110.57	215.67	8.4	12.9
330.0	35.3	7.8	100	8.7	0.87	2.56	15369	103.47	214.66	8.4	12.9
331.0	52.9	8.2	100	8.7	0.79	2.58	15482	68.98	213.36	8.4	12.9
332.0	46.2	8.1	100	8.7	0.81	2.60	15612	79.13	212.17	8.4	12.9
333.0	67.9	7.7	100	8.7	0.72	2.62	15700	53.77	210.78	8.4	12.9
334.0	54.5	7.8	100	8.7	0.77	2.64	15810	66.95	209.53	8.4	12.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
335.0	100.0	9.5	100	8.7	0.66	2.65	15870	76.52	208.04	8.4	12.9
336.0	57.1	9.1	100	8.7	0.78	2.66	15975	63.91	206.81	8.4	12.9
337.0	30.0	7.0	100	8.7	0.88	2.70	16175	121.73	206.09	8.4	12.9
338.0	34.6	7.7	100	8.7	0.87	2.72	16349	105.50	205.24	8.4	12.9
339.0	36.0	7.5	100	8.7	0.86	2.75	16515	101.44	204.38	8.4	12.9
340.0	43.4	9.4	100	8.7	0.85	2.78	16654	84.20	203.39	8.4	12.9
341.0	36.0	7.3	100	8.7	0.85	2.80	16820	101.44	202.55	8.4	12.9
342.0	52.2	10.7	100	8.7	0.83	2.82	16935	70.00	201.47	8.4	12.9
344.0	49.3	9.2	100	8.7	0.82	2.86	17179	74.05	199.43	8.4	12.9
346.0	37.9	8.2	100	8.7	0.86	2.92	17495	96.37	197.81	8.4	12.9
347.0	52.2	10.6	100	8.7	0.83	2.94	17610	70.00	196.81	8.4	12.9
350.0	26.5	8.3	100	8.7	0.94	3.05	18290	137.96	195.46	8.4	12.9
351.0	17.8	8.5	100	8.7	1.03	3.10	18627	204.92	195.54	8.4	12.9
352.0	48.6	9.3	100	8.7	0.82	3.13	18750	75.07	194.63	8.4	12.9
353.0	28.6	8.2	100	8.7	0.92	3.16	18960	127.82	194.13	8.4	12.9
354.0	41.4	8.3	100	8.7	0.84	3.18	19105	88.26	193.35	8.4	12.9
355.0	22.5	8.3	100	8.7	0.98	3.23	19372	162.31	193.12	8.4	12.9
356.0	29.8	7.7	100	8.7	0.90	3.26	19574	122.75	192.61	8.4	13.0
357.0	28.3	8.7	100	8.7	0.93	3.30	19785	128.83	192.14	8.4	13.0
358.0	35.3	8.4	100	8.7	0.88	3.33	19955	103.47	191.51	8.4	13.0
359.0	12.0	7.4	100	8.7	1.09	3.41	20454	303.32	192.30	8.4	13.0
360.0	36.0	12.6	100	8.7	0.95	3.44	20620	101.44	191.66	8.4	13.0
361.0	38.3	11.1	100	8.7	0.91	3.46	20777	95.36	190.98	8.4	13.0
362.0	48.6	10.7	100	8.7	0.85	3.48	20900	75.07	190.17	8.4	13.0
363.0	69.2	11.0	100	8.7	0.77	3.50	20987	52.75	189.22	8.4	13.0
364.0	64.3	12.3	100	8.7	0.81	3.51	21080	56.81	188.30	8.4	13.0
365.0	70.6	11.0	100	8.7	0.77	3.53	21165	51.74	187.37	8.4	13.0
366.0	64.3	12.0	100	8.7	0.80	3.54	21259	56.81	186.48	8.4	13.0
367.0	90.0	12.5	100	8.7	0.73	3.55	21325	40.58	185.49	8.4	13.0
368.0	29.0	7.5	100	8.7	0.90	3.59	21532	125.79	185.09	8.4	13.0
369.0	32.7	7.4	100	8.7	0.87	3.62	21715	111.59	184.60	8.4	13.0
370.0	19.3	6.8	100	8.7	0.98	3.67	22027	189.70	184.64	8.4	13.0
371.0	24.8	5.8	100	8.7	0.89	3.71	22269	147.09	184.39	8.4	13.0
372.0	12.0	5.8	100	8.7	1.04	3.79	22767	303.32	185.17	8.4	13.0
373.0	14.8	5.4	100	8.7	0.99	3.86	23172	246.51	185.57	8.4	13.0
374.0	10.4	5.1	100	8.7	1.05	3.96	23747	349.98	186.63	8.4	13.0
375.0	28.1	6.1	100	8.7	0.88	3.99	23960	129.85	186.26	8.4	13.0
376.0	14.3	5.8	100	8.7	1.01	4.06	24379	254.63	186.70	8.4	13.0
377.0	14.3	5.1	100	8.7	0.99	4.13	24797	254.63	187.13	8.4	13.0
378.0	81.8	6.0	100	8.7	0.65	4.15	24870	44.64	186.23	8.4	13.0
379.0	30.0	7.7	100	8.7	0.90	4.18	25070	121.73	185.83	8.4	13.0
380.0	94.7	12.0	100	8.7	0.71	4.19	25134	38.55	184.91	8.4	13.0
381.0	138.5	12.9	100	8.7	0.63	4.20	25177	26.38	183.94	8.4	13.0
382.0	46.8	11.2	100	8.7	0.86	4.22	25305	78.11	183.29	8.4	13.0
383.0	48.6	9.8	100	8.7	0.83	4.24	25429	75.07	182.63	8.4	13.0
384.0	58.1	12.6	100	8.7	0.83	4.26	25532	62.90	181.90	8.4	13.1
385.0	38.7	9.2	100	8.7	0.87	4.28	25687	94.34	181.37	8.4	13.1
386.0	45.6	11.3	100	8.7	0.87	4.30	25819	80.14	180.77	8.4	13.1
387.0	65.5	8.3	100	8.7	0.74	4.32	25910	55.79	180.02	8.4	13.1
388.0	58.1	10.5	100	8.7	0.80	4.34	26014	62.90	179.33	8.4	13.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
390.0	84.7	10.6	100	8.7	0.71	4.36	26152	42.10	177.73	8.4	13.1
391.0	69.2	12.0	100	8.7	0.78	4.37	26239	52.75	177.00	8.4	13.1
392.0	102.9	13.2	100	8.7	0.70	4.38	26297	35.51	176.18	8.4	13.1
393.0	80.0	13.8	100	8.7	0.77	4.40	26372	45.65	175.43	8.4	13.1
394.0	59.0	12.5	100	8.7	0.83	4.41	26474	61.88	174.78	8.4	13.1
396.0	75.8	12.1	100	8.7	0.76	4.44	26632	48.19	173.35	8.4	13.1
397.0	65.5	9.8	100	8.7	0.77	4.45	26724	55.79	172.69	8.4	13.1
398.0	27.2	15.1	100	8.7	1.06	4.49	26944	134.26	172.48	8.4	13.1
399.0	39.1	12.8	100	8.7	0.93	4.52	27098	93.33	172.04	8.4	13.1
400.0	45.6	10.0	100	8.7	0.85	4.54	27229	80.14	171.53	8.4	13.1
401.0	41.4	12.4	100	8.7	0.91	4.56	27374	88.26	171.07	8.4	13.1
402.0	38.3	13.2	100	8.7	0.94	4.59	27531	95.36	170.66	8.4	13.1
403.0	45.6	12.7	100	8.7	0.90	4.61	27663	80.14	170.17	8.4	13.1
404.0	50.0	14.4	100	8.7	0.90	4.63	27783	73.04	169.64	8.4	13.1
405.0	48.0	11.7	100	8.7	0.87	4.65	27908	76.08	169.14	8.4	13.1
408.0	85.7	12.0	100	8.7	0.73	4.69	28118	42.61	167.13	8.4	13.1
409.0	29.5	14.7	100	8.7	1.03	4.72	28321	123.76	166.90	8.4	13.1
410.0	96.9	14.2	100	8.7	0.73	4.73	28383	37.69	166.22	8.4	13.1
411.0	65.5	13.2	100	8.7	0.81	4.75	28474	55.79	165.65	8.4	13.1
412.0	69.2	11.7	100	8.7	0.78	4.76	28561	52.75	165.06	8.4	13.1
413.0	50.0	10.0	100	8.7	0.83	4.78	28681	73.04	164.59	8.4	13.2
414.0	70.6	12.9	100	8.7	0.79	4.79	28766	51.74	164.01	8.4	13.2
415.0	33.3	12.5	100	8.7	0.97	4.82	28946	109.56	163.73	8.4	13.2
416.0	99.4	14.0	100	8.8	0.71	4.83	29006	36.74	163.09	8.4	13.2
417.0	60.0	12.2	100	8.8	0.81	4.85	29106	60.87	162.57	8.4	13.2
418.0	25.5	6.9	100	8.8	0.91	4.89	29341	143.04	162.47	8.4	13.2
419.0	28.8	5.1	100	8.8	0.83	4.92	29550	126.81	162.30	8.4	13.2
420.0	24.2	4.7	100	8.8	0.86	4.97	29798	151.15	162.24	8.4	13.2
421.0	21.4	8.9	100	8.8	0.99	5.01	30078	170.43	162.28	8.4	13.2
422.0	20.8	5.4	100	8.8	0.91	5.06	30366	175.50	162.35	8.4	13.2
423.0	16.2	7.9	100	8.8	1.03	5.12	30736	225.21	162.65	8.4	13.2
424.0	33.0	4.3	100	8.8	0.78	5.15	30918	110.57	162.40	8.4	13.2
425.0	19.1	5.6	100	8.8	0.93	5.21	31231	190.72	162.54	8.4	13.2
426.0	20.0	5.4	100	8.8	0.92	5.26	31531	182.60	162.63	8.4	13.2
427.0	26.2	13.1	100	8.8	1.02	5.29	31761	139.49	162.52	8.4	13.2
428.0	72.0	10.4	100	8.8	0.74	5.31	31844	50.72	161.99	8.4	13.2
429.0	19.3	10.8	100	8.8	1.05	5.36	32156	189.70	162.12	8.4	13.2
430.0	50.7	9.7	100	8.8	0.81	5.38	32274	72.03	161.69	8.4	13.2
432.0	31.6	11.8	100	8.8	0.96	5.44	32654	115.65	161.26	8.4	13.2
433.0	50.3	12.3	100	8.8	0.86	5.46	32773	72.60	160.85	8.4	13.2
434.0	78.3	9.9	100	8.8	0.72	5.47	32850	46.66	160.32	8.4	13.2
436.0	76.6	9.2	100	8.8	0.71	5.50	33007	47.68	159.28	8.4	13.2
437.0	35.6	12.7	100	8.8	0.94	5.53	33175	102.46	159.02	8.4	13.2
438.0	97.3	11.8	100	8.8	0.69	5.54	33237	37.53	158.46	8.4	13.2
439.0	58.1	11.1	100	8.8	0.80	5.56	33340	62.90	158.03	8.4	13.2
440.0	42.4	12.3	100	8.8	0.90	5.58	33482	86.23	157.70	8.4	13.2
441.0	64.3	11.8	100	8.8	0.79	5.60	33575	56.81	157.25	8.4	13.2
442.0	89.2	10.9	100	8.8	0.70	5.61	33642	40.94	156.73	8.4	13.2
444.0	35.1	12.5	100	8.8	0.94	5.66	33984	103.98	156.26	8.4	13.3
446.0	74.5	6.8	100	8.8	0.68	5.69	34145	49.03	155.31	8.4	13.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
447.0	46.2	6.7	100	8.8	0.78	5.71	34275	79.13	154.98	8.4	13.3
448.0	14.1	11.2	134	8.8	1.20	5.78	34843	258.68	155.43	8.4	13.3
449.0	21.6	9.5	140	8.8	1.08	5.83	35233	169.41	155.49	8.4	13.3
450.0	38.3	11.4	140	8.9	0.97	5.86	35452	95.36	155.23	8.4	13.3
451.0	42.4	8.2	140	8.9	0.89	5.88	35651	86.23	154.93	8.4	13.3
452.0	17.0	10.9	140	8.9	1.15	5.94	36145	215.06	155.19	8.4	13.3
453.0	41.9	8.3	140	8.9	0.89	5.96	36346	87.24	154.90	8.4	13.3
454.0	50.7	8.1	140	8.9	0.85	5.98	36512	72.03	154.55	8.4	13.3
455.0	13.3	12.3	140	8.9	1.24	6.06	37142	273.90	155.06	8.4	13.3
456.0	90.0	9.9	140	8.9	0.75	6.07	37235	40.58	154.57	8.4	13.3
457.0	42.9	8.4	140	8.9	0.89	6.09	37431	85.21	154.28	8.4	13.3
458.0	105.9	8.0	140	8.9	0.69	6.10	37510	34.49	153.78	8.4	13.3
459.0	45.0	6.6	140	8.9	0.84	6.12	37697	81.16	153.48	8.4	13.3
460.0	13.8	12.9	140	8.9	1.24	6.20	38306	264.77	153.94	8.4	13.3
461.0	76.6	10.4	140	8.9	0.80	6.21	38416	47.68	153.50	8.4	13.3
462.0	80.0	8.6	140	8.9	0.76	6.22	38521	45.65	153.06	8.4	13.3
463.0	30.8	11.0	140	8.9	1.02	6.25	38794	118.69	152.92	8.4	13.3
464.0	85.7	8.8	140	8.9	0.75	6.27	38892	42.61	152.47	8.4	13.3
465.0	57.1	7.6	140	8.9	0.81	6.28	39039	63.91	152.11	8.4	13.3
466.0	62.1	7.1	140	8.9	0.79	6.30	39174	58.84	151.73	8.4	13.3
467.0	81.8	7.2	140	8.9	0.73	6.31	39277	44.64	151.30	8.4	13.3
468.0	24.5	10.4	140	8.9	1.06	6.35	39620	149.12	151.29	8.4	13.3
469.0	124.1	11.5	140	8.9	0.70	6.36	39687	29.42	150.80	8.4	13.3
470.0	56.2	9.1	140	8.9	0.84	6.38	39837	64.92	150.46	8.4	13.3
471.0	33.6	10.6	140	8.9	0.99	6.41	40086	108.55	150.29	8.4	13.3
472.0	73.5	10.5	140	8.9	0.81	6.42	40201	49.71	149.89	8.4	13.3
473.0	73.5	8.8	140	8.9	0.78	6.43	40315	49.71	149.50	8.4	13.4
475.0	52.2	10.2	140	8.9	0.88	6.47	40637	70.00	148.88	8.4	13.4
476.0	35.3	9.3	140	8.9	0.95	6.50	40875	103.47	148.70	8.4	13.4
477.0	49.3	11.5	140	8.9	0.92	6.52	41045	74.05	148.41	8.4	13.4
478.0	67.9	13.3	140	8.9	0.87	6.54	41169	53.77	148.05	8.4	13.4
479.0	43.4	13.2	140	8.9	0.97	6.56	41363	84.20	147.80	8.4	13.4
480.0	7.7	12.4	140	9.0	1.35	6.69	42448	471.72	149.04	8.4	13.4
481.0	27.5	10.2	140	9.0	1.01	6.72	42753	132.89	148.98	8.4	13.4
482.0	35.3	9.6	140	9.0	0.95	6.75	42991	103.47	148.81	8.4	13.4
483.0	26.5	10.0	140	9.0	1.02	6.79	43309	137.96	148.77	8.4	13.4
484.0	21.3	12.1	140	9.0	1.11	6.84	43703	171.44	148.85	8.4	13.4
486.0	36.5	10.3	140	9.0	0.95	6.89	44163	99.92	148.49	8.4	13.4
487.0	36.7	10.0	140	9.0	0.95	6.92	44391	99.42	148.30	8.4	13.4
488.0	32.1	13.0	140	9.0	1.03	6.95	44653	113.62	148.17	8.4	13.4
490.0	49.7	12.0	140	9.0	0.91	6.99	44991	73.55	147.62	8.4	13.4
491.0	45.6	10.9	140	9.0	0.91	7.01	45175	80.14	147.37	8.4	13.4
492.0	56.2	10.7	140	9.0	0.86	7.03	45325	64.92	147.07	8.4	13.4
493.0	25.0	9.6	140	9.0	1.02	7.07	45661	146.08	147.07	8.4	13.4
494.0	27.3	13.5	140	9.0	1.08	7.11	45969	133.91	147.02	8.4	13.4
495.0	82.3	11.2	140	9.0	0.79	7.12	46071	44.37	146.65	8.4	13.4
496.0	56.2	7.6	140	9.0	0.81	7.14	46220	64.92	146.35	8.4	13.4
497.0	41.4	11.5	140	9.0	0.95	7.16	46423	88.26	146.15	8.4	13.4
499.0	44.7	10.0	140	9.0	0.90	7.21	46799	81.66	145.68	8.4	13.4
500.0	40.0	11.5	140	9.0	0.95	7.23	47009	91.30	145.49	8.4	13.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
501.0	83.7	10.3	140	9.0	0.77	7.24	47109	43.62	145.13	8.4	13.4
502.0	34.6	10.6	140	9.0	0.97	7.27	47352	105.50	144.99	8.4	13.4
504.0	8.6	11.7	140	9.0	1.31	7.51	49312	426.07	146.96	8.4	13.5
507.0	40.3	13.2	140	9.0	0.98	7.58	49937	90.62	146.38	8.4	13.5
508.0	38.3	10.6	140	9.0	0.95	7.61	50156	95.36	146.20	8.4	13.5
510.0	36.4	12.3	140	9.0	0.99	7.66	50618	100.43	145.88	8.4	13.5
511.0	45.6	12.4	140	9.0	0.94	7.68	50803	80.14	145.66	8.4	13.5
512.0	49.3	11.9	140	9.0	0.91	7.70	50973	74.05	145.41	8.4	13.5
513.0	22.8	12.6	140	9.0	1.11	7.75	51342	160.28	145.47	8.4	13.5
514.0	45.0	11.5	140	9.0	0.93	7.77	51528	81.16	145.25	8.4	13.5
515.0	38.7	11.1	140	9.0	0.95	7.80	51745	94.34	145.08	8.4	13.5
516.0	59.0	11.4	140	9.0	0.86	7.81	51888	61.88	144.80	8.4	13.5
517.0	35.0	11.5	140	9.0	0.98	7.84	52128	104.49	144.66	8.4	13.5
518.0	42.9	11.6	140	9.0	0.94	7.86	52324	85.21	144.46	8.4	13.5
519.0	42.4	11.6	140	9.0	0.94	7.89	52522	86.23	144.27	8.4	13.5
520.0	38.7	11.5	140	9.0	0.96	7.91	52739	94.34	144.10	8.4	13.5
521.0	34.6	13.6	140	9.0	1.02	7.94	52982	105.50	143.97	8.4	13.5
522.0	65.5	11.9	140	9.0	0.85	7.96	53110	55.79	143.68	8.4	13.5
523.0	21.8	10.9	140	9.0	1.08	8.00	53495	167.38	143.76	8.4	13.5
524.0	67.8	8.2	140	9.0	0.72	8.02	53591	41.59	143.43	8.4	13.5
525.0	34.3	11.2	140	9.0	0.98	8.04	53836	106.52	143.30	8.4	13.5
526.0	39.1	8.0	140	9.0	0.89	8.07	54051	93.33	143.14	8.4	13.5
527.0	14.5	9.4	140	9.0	1.14	8.14	54629	251.58	143.49	8.4	13.5
528.0	59.0	6.2	140	9.0	0.77	8.16	54772	61.88	143.23	8.4	13.5
529.0	45.0	5.1	140	9.0	0.79	8.18	54958	81.16	143.03	8.4	13.5
530.0	58.1	5.0	140	9.0	0.74	8.20	55103	62.90	142.77	8.4	13.5
531.0	20.2	8.2	140	9.0	1.04	8.24	55518	180.57	142.89	8.4	13.5
533.0	39.3	8.1	140	9.0	0.89	8.30	55945	92.82	142.57	8.4	13.5
534.0	70.6	7.1	140	9.0	0.75	8.31	56064	51.74	142.29	8.4	13.6
535.0	66.7	7.3	140	9.0	0.76	8.32	56190	54.78	142.01	8.4	13.6
536.0	50.0	7.9	140	9.0	0.84	8.34	56358	73.04	141.79	8.4	13.6
537.0	26.3	13.2	140	9.0	1.08	8.38	56678	138.98	141.78	8.4	13.6
539.0	35.8	12.2	140	9.0	0.99	8.44	57147	101.95	141.53	8.4	13.6
541.0	43.4	11.8	140	9.0	0.94	8.48	57534	84.20	141.18	8.4	13.6
542.0	51.4	17.1	140	9.0	0.98	8.50	57698	71.01	140.96	8.4	13.6
543.0	85.7	16.7	140	9.0	0.84	8.52	57796	42.61	140.66	8.4	13.6
544.0	58.1	16.5	140	9.0	0.94	8.53	57940	62.90	140.42	8.4	13.6
546.0	43.1	17.2	140	9.0	1.02	8.58	58330	84.71	140.08	8.4	13.6
548.0	42.9	19.0	140	9.0	1.05	8.63	58722	85.21	139.74	8.4	13.6
550.0	50.7	18.0	140	9.0	0.99	8.67	59053	72.03	139.33	8.4	13.6
552.0	47.7	16.8	140	9.0	0.99	8.71	59406	76.59	138.96	8.4	13.6
553.0	30.5	17.5	140	9.0	1.11	8.74	59681	119.70	138.90	8.4	13.6
555.0	47.1	17.3	140	9.0	1.00	8.78	60038	77.61	138.53	8.4	13.6
556.0	70.6	16.6	140	9.0	0.89	8.80	60157	51.74	138.28	8.4	13.6
557.0	35.6	16.9	140	9.0	1.06	8.82	60393	102.46	138.17	8.4	13.6
560.0	69.7	16.0	140	9.0	0.89	8.87	60754	52.41	137.42	8.4	13.6
561.0	36.0	17.6	140	9.0	1.07	8.90	60988	101.44	137.31	8.4	13.6
562.0	48.0	18.1	140	9.0	1.01	8.92	61163	76.08	137.13	8.4	13.6
563.0	66.7	17.8	140	9.0	0.92	8.93	61289	54.78	136.89	8.4	13.6
564.0	67.9	17.6	140	9.0	0.91	8.95	61412	53.77	136.65	8.4	13.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
565.0	48.6	17.0	140	9.0	0.99	8.97	61585	75.07	136.47	8.4	13.6
566.0	51.4	17.3	140	9.0	0.98	8.99	61748	71.01	136.29	8.4	13.7
567.0	48.4	19.2	140	9.0	1.02	9.01	61922	75.45	136.11	8.4	13.7
569.0	51.4	18.7	140	9.0	1.00	9.05	62249	71.01	135.74	8.4	13.7
570.0	41.1	18.1	140	9.0	1.05	9.07	62453	88.76	135.61	8.4	13.7
571.0	48.0	15.7	140	9.0	0.98	9.09	62628	76.08	135.44	8.4	13.7
572.0	30.8	19.2	140	9.0	1.13	9.12	62901	118.69	135.39	8.4	13.7
574.0	45.0	14.9	140	9.0	0.98	9.17	63274	81.16	135.08	8.4	13.7
575.0	38.7	15.1	140	9.0	1.02	9.19	63491	94.34	134.97	8.4	13.7
576.0	35.6	14.5	140	9.0	1.03	9.22	63727	102.46	134.88	8.4	13.7
578.0	39.3	15.0	140	9.0	1.01	9.27	64154	92.82	134.64	8.4	13.7
579.0	50.0	15.1	140	9.0	0.96	9.29	64322	73.04	134.47	8.4	13.7
580.0	22.8	18.2	140	9.0	1.20	9.34	64690	160.28	134.54	8.4	13.7
581.0	55.4	15.6	140	9.0	0.94	9.35	64842	65.94	134.35	8.4	13.7
582.0	39.1	15.7	140	9.0	1.03	9.38	65057	93.33	134.24	8.4	13.7
583.0	34.0	15.7	140	9.0	1.06	9.41	65304	107.53	134.17	8.4	13.7
584.0	45.6	15.4	140	9.0	0.98	9.43	65488	80.14	134.02	8.4	13.7
585.0	37.5	15.3	140	9.0	1.03	9.46	65712	97.39	133.92	8.4	13.7
586.0	56.2	15.6	140	9.0	0.93	9.48	65862	64.92	133.73	8.4	13.7
587.0	48.6	15.5	140	9.0	0.97	9.50	66034	75.07	133.57	8.4	13.7
590.0	61.3	16.8	140	9.0	0.93	9.55	66446	59.60	132.97	8.4	13.7
591.0	41.9	14.5	140	9.0	0.99	9.57	66646	87.24	132.85	8.4	13.7
593.0	67.9	14.6	140	9.0	0.88	9.60	66894	53.77	132.43	8.4	13.7
594.0	39.6	15.3	140	9.0	1.02	9.62	67106	92.31	132.32	8.4	13.7
595.0	75.0	17.0	140	9.0	0.88	9.64	67218	48.69	132.10	8.4	13.7
596.0	64.3	14.7	140	9.0	0.89	9.65	67349	56.81	131.90	8.4	13.7
597.0	70.6	14.9	140	9.0	0.87	9.67	67468	51.74	131.69	8.4	13.7
598.0	20.8	18.7	140	9.0	1.23	9.72	67871	175.50	131.80	8.4	13.7
599.0	65.5	18.7	140	9.0	0.94	9.73	68000	55.79	131.60	8.4	13.8
600.0	40.9	17.6	140	9.0	1.04	9.75	68205	89.27	131.49	8.4	13.8
601.0	41.4	16.7	140	9.0	1.03	9.78	68408	88.26	131.38	8.4	13.8
602.0	42.9	17.2	140	9.0	1.02	9.80	68604	85.21	131.26	8.4	13.8
604.0	48.6	17.3	140	9.0	0.99	9.84	68949	75.07	130.97	8.4	13.8
606.0	46.8	17.2	140	9.0	1.00	9.89	69309	78.11	130.69	8.4	13.8
607.0	50.7	18.0	140	9.0	0.99	9.91	69474	72.03	130.54	8.4	13.8
608.0	36.0	18.1	140	9.0	1.08	9.93	69708	101.44	130.47	8.4	13.8
609.0	57.1	18.0	140	9.0	0.96	9.95	69855	63.91	130.30	8.4	13.8
610.0	46.2	18.0	140	9.0	1.02	9.97	70037	79.13	130.17	8.4	13.8
611.0	37.5	18.4	140	9.0	1.07	10.00	70261	97.39	130.08	8.4	13.8
612.0	50.7	18.3	140	9.0	1.80	10.02	70426	72.03	129.93	8.4	13.8
614.0	43.4	18.6	140	9.0	1.04	10.07	70814	84.20	129.70	8.4	13.8
615.0	32.4	18.6	140	9.0	1.11	10.10	71073	112.60	129.66	8.4	13.8
616.0	52.2	18.6	140	9.0	0.99	10.12	71234	70.00	129.51	8.4	13.8
617.0	18.2	20.0	140	9.0	1.28	10.17	71696	200.86	129.69	8.4	13.8
618.0	27.5	19.1	140	9.0	1.16	10.21	72001	132.89	129.70	8.4	13.8
619.0	27.3	18.1	140	9.0	1.15	10.24	72309	133.91	129.71	8.4	13.8
620.0	46.2	18.9	140	9.0	1.03	10.27	72491	79.13	129.58	8.4	13.8
621.0	36.4	17.8	140	9.0	1.07	10.29	72722	100.43	129.51	8.4	13.8
622.0	45.6	16.7	140	9.0	1.00	10.31	72907	80.14	129.39	8.4	13.8
623.0	45.0	16.4	140	9.0	1.00	10.34	73093	81.16	129.27	8.4	13.8

DEPTH	ROP	WOB	RPM	MW	"d"e	HOURS	URNS	TCOST	CCOST	PP	FG
625.0	51.8	15.4	140	9.0	0.95	10.38	73418	70.50	128.98	8.4	13.8
626.0	58.1	15.5	140	9.0	0.93	10.39	73562	62.90	128.81	8.4	13.8
628.0	49.5	16.1	140	9.0	0.97	10.43	73902	73.78	128.55	8.4	13.8
629.0	8.6	18.2	140	9.0	1.44	10.55	74882	426.07	129.27	8.4	13.8
630.0	34.0	17.4	140	9.0	1.08	10.58	75129	107.53	129.22	8.4	13.8
631.0	24.2	17.2	140	9.0	1.17	10.62	75477	151.15	129.27	8.4	13.8
632.0	30.0	17.3	140	9.0	1.11	10.65	75757	121.73	129.25	8.4	13.9
633.0	22.4	17.2	140	9.0	1.19	10.70	76132	163.33	129.34	8.4	13.9
634.0	31.6	17.0	140	9.0	1.10	10.73	76398	115.65	129.30	8.4	13.9
635.0	20.3	17.4	140	9.0	1.21	10.78	76811	179.56	129.42	8.4	13.9
637.0	24.7	17.1	140	9.0	1.16	10.86	77490	147.60	129.51	8.4	13.9
638.0	28.8	17.3	140	9.0	1.12	10.90	77782	126.81	129.50	8.4	13.9
639.0	34.0	17.4	140	9.0	1.09	10.92	78029	107.53	129.45	8.4	13.9
640.0	24.2	17.5	140	9.1	1.16	10.97	78377	151.15	129.50	8.4	13.9
642.0	30.0	17.1	140	9.1	1.10	11.03	78937	121.73	129.47	8.4	13.9
644.0	26.2	17.0	140	9.1	1.13	11.11	79579	139.49	129.51	8.4	13.9
645.0	30.8	16.9	140	9.1	1.09	11.14	79852	118.69	129.49	8.4	13.9
646.0	23.4	17.1	140	9.1	1.16	11.18	80211	156.22	129.55	8.4	13.9
647.0	30.5	17.3	140	9.1	1.10	11.22	80486	119.70	129.53	8.4	13.9
648.0	36.0	15.2	140	9.1	1.03	11.24	80720	101.44	129.46	8.4	13.9
649.0	40.9	15.4	140	9.1	1.00	11.27	80925	89.27	129.37	8.4	13.9
650.0	29.3	16.6	140	9.1	1.10	11.30	81212	124.78	129.36	8.4	13.9
651.0	36.7	16.0	140	9.1	1.02	11.33	81429	94.34	129.28	8.4	13.9
652.0	29.8	16.2	140	9.1	1.09	11.36	81711	122.75	129.26	8.4	13.9
653.0	30.5	16.4	140	9.1	1.09	11.40	81987	119.70	129.24	8.4	13.9
654.0	29.8	16.4	140	9.1	1.09	11.43	82269	122.75	129.22	8.4	13.9
655.0	39.1	16.5	140	9.1	1.02	11.45	82484	93.33	129.14	8.4	13.9
656.0	37.5	16.6	140	9.1	1.04	11.48	82708	97.39	129.07	8.4	13.9
657.0	23.5	16.4	140	9.1	1.15	11.52	83065	155.21	129.13	8.4	13.9
658.0	23.7	19.2	140	9.1	1.19	11.57	83419	154.20	129.19	8.4	13.9
659.0	14.2	18.1	140	9.1	1.30	11.64	84010	256.65	129.48	8.4	13.9
660.0	29.5	17.9	140	9.1	1.11	11.67	84294	123.76	129.46	8.4	13.9
661.0	23.2	17.5	140	9.1	1.17	11.71	84656	157.24	129.53	8.4	13.9
663.0	32.4	16.7	140	9.1	1.07	11.78	85174	112.60	129.45	8.4	13.9
664.0	26.2	17.3	140	9.1	1.14	11.81	85495	139.39	129.47	8.4	13.9
665.0	21.3	17.6	140	9.1	1.19	11.86	85889	171.44	129.57	8.4	13.9
666.0	27.5	18.1	140	9.1	1.14	11.90	86195	132.89	129.57	8.4	14.0
667.0	13.9	17.9	140	9.1	1.30	11.97	86799	262.74	129.87	8.4	14.0
668.0	38.3	15.7	140	9.1	1.02	11.99	87018	95.36	129.79	8.4	14.0
669.0	25.9	15.7	140	9.1	1.11	12.03	87343	141.00	129.82	8.4	14.0
670.0	36.4	16.0	140	9.1	1.04	12.06	87574	100.43	129.75	8.4	14.0
671.0	44.4	16.0	140	9.1	0.99	12.08	87763	82.17	129.65	8.4	14.0
672.0	31.3	16.3	140	9.1	1.08	12.12	88031	116.66	129.62	8.4	14.0
673.0	31.3	17.7	140	9.1	1.10	12.15	88299	116.66	129.59	8.4	14.0
675.0	28.6	18.0	140	9.1	1.12	12.22	88887	127.82	129.58	8.4	14.0
676.0	34.3	18.0	140	9.1	1.08	12.25	89132	106.52	129.53	8.4	14.0
677.0	25.2	17.9	140	9.1	1.15	12.29	89466	145.07	129.57	8.4	14.0
678.0	23.7	19.1	140	9.1	1.19	12.33	89821	154.20	129.62	8.4	14.0
679.0	22.5	18.6	140	9.1	1.19	12.37	90194	162.31	129.69	8.4	14.0
680.0	17.0	18.2	140	9.1	1.26	12.43	90689	215.06	129.88	8.4	14.0



DEPTH	ROP	WOB	RPM	MW	"d" "c	HOURS	TURNS	ICOST	CCOST	PP	FG
681.0	19.9	17.1	140	9.1	1.20	12.48	91111	183.61	129.99	8.4	14.0
682.0	26.1	16.0	140	9.1	1.12	12.52	91433	139.99	130.02	8.4	14.0
683.0	15.4	16.1	140	9.1	1.25	12.59	91979	237.38	130.25	8.4	14.0
684.0	23.2	15.9	140	9.1	1.14	12.63	92341	157.24	130.30	8.4	14.0
685.0	15.8	16.2	140	9.1	1.24	12.69	92873	231.29	130.52	8.4	14.0
686.0	28.8	15.8	140	9.1	1.09	12.73	93164	126.81	130.51	8.4	14.0
687.0	17.6	14.4	140	9.1	1.18	12.78	93643	207.96	130.68	8.4	14.0
688.0	26.1	12.4	140	9.2	1.05	12.82	93965	139.99	130.70	8.4	14.0
689.0	9.5	19.6	140	9.2	1.42	12.93	94844	382.45	131.23	8.4	14.0
690.0	16.8	23.4	140	9.2	1.33	12.99	95344	217.09	131.42	8.4	14.0
691.0	16.5	23.2	140	9.2	1.33	13.05	95852	221.15	131.61	8.4	14.0
692.0	12.5	22.8	140	9.2	1.40	13.13	96522	291.15	131.94	8.4	14.0
694.0	17.4	22.7	140	9.2	1.31	13.24	97488	209.99	132.27	8.4	14.0
695.0	22.5	20.4	140	9.1	1.21	13.29	97861	162.31	132.34	8.4	14.0
696.0	16.1	18.2	140	9.2	1.26	13.35	98384	227.24	132.53	8.4	14.0
697.0	18.0	16.5	140	9.2	1.21	13.40	98851	202.89	132.68	8.4	14.0
698.0	17.9	18.8	140	9.2	1.25	13.46	99321	204.58	132.83	8.4	14.0
699.0	11.0	16.5	140	9.2	1.33	13.55	100087	332.74	133.25	8.4	14.0
700.0	16.5	18.6	140	9.2	1.26	13.61	100595	221.15	133.43	8.4	14.0
701.0	9.1	17.5	140	9.1	1.39	13.72	101517	400.71	133.99	8.4	14.1
703.0	10.5	17.7	140	9.2	1.36	13.91	103120	348.46	134.87	8.4	14.1
704.0	14.1	17.5	140	9.2	1.29	13.98	103717	259.70	135.13	8.4	14.1
705.0	12.0	17.4	140	9.2	1.32	14.07	104420	305.35	135.48	8.4	14.1
707.0	18.3	16.7	140	9.3	1.19	14.18	105337	199.34	135.74	8.4	14.1
708.0	13.0	18.0	140	9.3	1.30	14.25	105983	281.00	136.04	8.4	14.1
709.0	24.7	17.8	140	9.2	1.14	14.29	106324	148.11	136.06	8.4	14.1
711.0	19.7	17.4	140	9.3	1.19	14.39	107175	185.14	136.26	8.4	14.1
713.0	14.8	17.9	140	9.3	1.27	14.53	108312	247.02	136.71	8.4	14.1
714.0	10.5	18.0	140	9.3	1.35	14.62	109112	347.95	137.14	8.4	14.1
715.0	14.0	18.0	140	9.3	1.28	14.70	109714	261.73	137.39	8.4	14.1
716.0	11.3	17.3	140	9.3	1.32	14.79	110458	323.61	137.76	8.4	14.1
717.0	13.8	18.4	140	9.3	1.29	14.86	111067	264.77	138.02	8.4	14.1
718.0	9.9	17.9	140	9.3	1.37	14.96	111917	369.26	138.48	8.4	14.1
719.0	14.5	18.3	140	9.2	1.28	15.03	112495	251.58	138.71	8.4	14.1
720.0	13.0	18.1	140	9.3	1.30	15.10	113142	281.00	138.99	8.4	14.1
721.0	17.3	18.1	140	9.3	1.23	15.16	113627	211.00	139.14	8.4	14.1
722.0	6.4	18.6	140	9.3	1.49	15.32	114943	572.15	140.00	8.4	14.1
724.0	10.9	18.3	140	9.3	1.35	15.50	116478	333.75	140.76	8.4	14.1
725.0	9.2	17.5	140	9.3	1.38	15.61	117391	396.65	141.27	8.4	14.1
726.0	11.8	18.3	140	9.3	1.33	15.70	118102	309.49	141.60	8.4	14.1
727.0	8.3	18.0	140	9.3	1.41	15.82	119117	441.28	142.19	8.4	14.1
728.0	13.3	17.5	140	9.3	1.29	15.89	119750	274.91	142.45	8.4	14.1
729.0	12.6	19.4	140	9.3	1.33	15.97	120417	290.13	142.74	8.4	14.1
730.0	16.7	19.3	140	9.3	1.26	16.03	120921	219.12	142.89	8.4	14.1
731.0	10.8	19.7	140	9.3	1.37	16.12	121698	337.81	143.27	8.4	14.1
732.0	14.3	19.6	140	9.3	1.30	16.19	122286	255.64	143.49	8.4	14.1
733.0	10.2	19.6	140	9.3	1.39	16.29	123110	358.10	143.91	8.4	14.1
734.0	14.1	19.7	140	9.3	1.31	16.36	123707	259.70	144.13	8.4	14.1
735.0	11.6	17.7	132	9.3	1.31	16.45	124391	315.49	144.47	8.4	14.1
736.0	10.5	17.5	100	9.3	1.26	16.54	124961	346.94	144.86	8.4	14.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
737.0	9.9	18.0	100	9.3	1.28	16.64	125564	367.23	145.29	8.4	14.2
738.0	11.8	18.5	100	9.3	1.25	16.73	126071	308.39	145.60	8.4	14.2
739.0	12.5	18.2	100	9.3	1.23	16.81	126551	292.16	145.88	8.4	14.2
740.0	18.0	20.7	100	9.2	1.17	16.86	126884	202.89	145.99	8.4	14.2
741.0	10.7	22.5	99	9.3	1.33	16.96	127440	341.87	146.37	8.4	14.2
742.0	18.7	23.8	80	9.3	1.15	17.01	127697	195.79	146.46	8.4	14.2
743.0	11.8	22.9	80	9.3	1.26	17.10	128105	310.42	146.77	8.4	14.2
744.0	15.1	24.0	80	9.2	1.20	17.16	128424	242.45	146.96	8.4	14.2
745.0	7.3	22.7	80	9.3	1.38	17.30	129085	503.16	147.63	8.4	14.2
746.0	12.9	23.6	80	9.3	1.24	17.38	129457	283.03	147.89	8.4	14.2
747.0	12.5	23.2	80	9.2	1.24	17.46	129842	293.17	148.17	8.4	14.2
748.0	11.7	23.5	80	9.3	1.27	17.54	130253	312.45	148.48	8.4	14.2
749.0	8.8	23.5	80	9.3	1.34	17.66	130801	416.94	148.98	8.4	14.2
751.0	11.4	23.5	80	9.2	1.27	17.83	131644	320.56	149.63	8.4	14.2
752.0	13.2	23.6	80	9.3	1.23	17.91	132006	275.93	149.86	8.4	14.2
753.0	9.1	23.4	80	9.3	1.33	18.02	132534	401.72	150.34	8.4	14.2
755.0	14.8	23.8	80	9.3	1.21	18.15	133182	246.51	150.70	8.4	14.2
756.0	9.0	23.8	80	9.2	1.34	18.26	133713	403.75	151.17	8.4	14.2
757.0	15.1	23.8	80	9.2	1.20	18.33	134032	242.45	151.34	8.4	14.2
758.0	9.3	23.8	80	9.3	1.33	18.44	134550	394.62	151.79	8.4	14.2
759.0	14.2	23.8	80	9.3	1.22	18.51	134889	257.67	151.98	8.4	14.2
760.0	9.9	23.9	80	9.3	1.31	18.61	135376	370.27	152.39	8.4	14.2
761.0	12.3	23.9	80	9.3	1.26	18.69	135765	296.22	152.65	8.4	14.2
762.0	7.8	24.0	80	9.3	1.38	18.82	136382	469.69	153.24	8.4	14.2
763.0	11.9	24.0	80	9.3	1.27	18.91	136786	307.38	153.52	8.4	14.2
764.0	6.3	23.8	80	9.3	1.43	19.06	137544	576.20	154.30	8.4	14.2
765.0	17.9	23.1	80	9.3	1.15	19.12	137812	204.58	154.39	8.4	14.2
766.0	10.1	25.7	80	9.3	1.33	19.22	138286	360.13	154.76	8.4	14.2
768.0	9.9	23.9	80	9.2	1.31	19.42	139256	369.26	155.54	8.4	14.2
769.0	15.3	24.3	80	9.3	1.20	19.49	139571	239.41	155.70	8.4	14.2
770.0	10.9	24.1	80	9.3	1.29	19.58	140012	335.78	156.02	8.4	14.2
771.0	7.3	24.7	80	9.3	1.40	19.71	140670	500.12	156.65	8.4	14.2
772.0	10.0	24.2	80	9.3	1.31	19.81	141148	364.19	157.02	8.4	14.2
773.0	16.9	24.0	80	9.3	1.17	19.87	141432	216.08	157.13	8.4	14.3
775.0	10.1	24.3	80	9.2	1.31	20.07	142379	360.13	157.86	8.4	14.3
777.0	12.3	24.2	80	9.3	1.26	20.23	143156	295.71	158.35	8.4	14.3
778.0	13.7	24.3	80	9.3	1.23	20.31	143506	265.78	158.55	8.4	14.3
779.0	8.3	21.5	80	9.2	1.33	20.43	144084	440.27	159.05	8.4	14.3
781.0	8.0	19.8	80	9.3	1.31	20.68	145284	456.50	160.11	8.4	14.3
782.0	13.6	21.6	80	9.3	1.20	20.75	145636	267.81	160.30	8.4	14.3
783.0	9.6	21.8	80	9.3	1.29	20.85	146136	380.42	160.69	8.4	14.3
785.0	37.9	22.7	80	9.3	0.95	20.91	146390	96.37	160.46	8.4	14.3
786.0	23.8	21.5	80	9.3	1.06	20.95	146591	153.18	160.45	8.4	14.3
787.0	16.1	22.1	80	9.3	1.16	21.01	146888	226.22	160.56	8.4	14.3
789.0	8.6	22.0	80	9.3	1.32	21.24	148000	423.02	161.49	8.4	14.3
790.0	8.7	21.9	80	9.2	1.32	21.36	148551	418.97	161.94	8.4	14.3
791.0	14.2	21.7	80	9.3	1.19	21.43	148890	257.67	162.10	8.4	14.3
792.0	8.6	22.0	80	9.3	1.32	21.54	149447	424.04	162.56	8.4	14.3
793.0	10.3	22.0	80	9.3	1.28	21.64	149914	355.06	162.90	8.4	14.3
794.0	6.6	22.2	80	9.3	1.39	21.79	150638	550.84	163.57	8.4	14.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
795.0	9.8	22.3	80	9.3	1.29	21.89	151126	371.29	163.93	8.4	14.3
796.0	6.8	22.1	80	9.3	1.38	22.04	151827	533.60	164.57	8.4	14.3
797.0	11.5	21.9	80	9.3	1.25	22.13	152243	316.51	164.84	8.4	14.3
798.0	7.9	21.8	80	9.2	1.34	22.25	152850	461.57	165.35	8.4	14.3
799.0	10.3	22.1	80	9.3	1.28	22.35	153314	353.03	165.67	8.4	14.3
800.0	6.7	22.2	80	9.3	1.39	22.50	154031	545.77	166.33	8.4	14.3
801.0	9.9	22.1	80	9.3	1.29	22.60	154514	367.23	166.67	8.4	14.3
803.0	8.5	21.5	80	9.3	1.32	22.84	155650	432.15	167.58	8.4	14.3
804.0	6.7	18.8	80	9.3	1.34	22.98	156367	545.77	168.23	8.4	14.3
805.0	9.3	16.8	80	9.3	1.23	23.09	156883	392.69	168.61	8.4	14.3
806.0	7.0	17.0	80	9.3	1.29	23.23	157569	521.71	169.21	8.4	14.3

BIT NUMBER	2	IADC CODE	114	INTERVAL	806.0- 1572.2
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2445.00	TRIP TIME	3.7	BIT RUN	766.2
TOTAL HOURS	46.51	TOTAL TURNS	324067	CONDITION	T5 B7 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
808.0	11.9	13.5	80	8.8	1.26	0.17	805	306	8285	8.4	14.3
809.0	9.0	16.0	80	8.8	1.39	0.28	1341	408	5659	8.4	14.3
810.0	18.4	14.7	80	8.8	1.17	0.33	1603	199	4294	8.4	14.4
811.0	14.8	16.2	80	8.8	1.26	0.40	1928	248	3485	8.4	14.4
812.0	18.3	18.2	80	8.8	1.24	0.46	2191	200	2937	8.4	14.4
813.0	21.6	19.1	81	8.7	1.22	0.50	2416	169	2542	8.4	14.4
814.0	34.3	27.6	100	8.7	1.27	0.53	2591	107	2238	8.4	14.4
815.0	21.8	24.9	100	8.7	1.37	0.58	2865	167	2007	8.4	14.4
816.0	36.0	23.7	100	8.7	1.20	0.61	3032	101	1817	8.4	14.4
817.0	23.4	24.7	100	8.7	1.35	0.65	3288	156	1666	8.4	14.4
818.0	25.9	23.7	100	8.7	1.30	0.69	3520	141	1539	8.4	14.4
821.0	42.7	25.8	100	8.7	1.17	0.76	3941	86	1248	8.4	14.4
822.0	27.1	25.6	100	8.7	1.31	0.79	4163	135	1179	8.4	14.4
823.0	38.7	25.5	100	8.7	1.20	0.82	4317	94	1115	8.4	14.4
824.0	22.5	26.3	100	8.7	1.38	0.86	4584	162	1062	8.4	14.4
825.0	28.6	26.1	100	8.7	1.30	0.90	4794	128	1013	8.4	14.4
826.0	25.9	26.0	100	8.7	1.33	0.94	5025	141.01	969.15	8.4	14.4
827.0	31.3	24.7	100	8.7	1.26	0.97	5217	116.66	928.56	8.4	14.4
828.0	17.8	24.0	100	8.7	1.42	1.03	5553	204.92	895.66	8.4	14.4
829.0	31.9	24.9	100	8.7	1.25	1.06	5741	114.63	861.71	8.4	14.4
830.0	24.5	23.4	100	8.7	1.31	1.10	5986	149.12	832.02	8.4	14.4
831.0	33.0	27.8	100	8.7	1.28	1.13	6168	110.57	803.16	8.4	14.4
832.0	19.9	27.3	100	8.7	1.44	1.18	6469	183.61	779.33	8.4	14.4
833.0	30.3	26.9	100	8.7	1.30	1.21	6667	120.72	754.94	8.4	14.4
834.0	21.4	21.5	100	8.7	1.32	1.26	6947	170.43	734.06	8.4	14.4
835.0	26.9	22.1	100	8.7	1.27	1.30	7170	135.94	713.44	8.4	14.4
836.0	17.3	24.7	100	8.7	1.44	1.35	7517	211.00	696.69	8.4	14.4
837.0	27.5	25.7	100	8.7	1.31	1.39	7735	132.89	678.50	8.4	14.4
838.0	18.6	25.7	100	8.7	1.43	1.44	8058	196.80	663.45	8.4	14.4
839.0	28.3	25.7	100	8.7	1.30	1.48	8270	128.83	647.25	8.4	14.4
841.0	19.5	24.5	100	8.7	1.40	1.58	8884	187.17	620.96	8.4	14.4
843.0	29.6	25.4	100	8.7	1.28	1.65	9289	123.26	594.05	8.4	14.4
844.0	38.3	24.7	100	8.7	1.19	1.68	9445	95.36	580.93	8.4	14.4
845.0	22.9	25.4	100	8.7	1.36	1.72	9707	159.27	570.12	8.4	14.4
846.0	35.6	26.0	100	8.7	1.23	1.75	9875	102.46	558.43	8.4	14.4
847.0	20.7	26.4	100	8.7	1.41	1.80	10165	176.51	549.11	8.4	14.4
848.0	26.9	27.3	100	8.7	1.34	1.83	10388	135.94	539.27	8.4	14.4
850.0	20.3	26.9	100	8.7	1.42	1.93	10979	180.06	522.95	8.4	14.5
851.0	22.1	26.6	100	8.7	1.39	1.98	11251	165.35	515.00	8.4	14.5
852.0	28.1	26.8	100	8.7	1.32	2.01	11464	129.85	506.63	8.4	14.5
853.0	22.8	26.6	100	8.7	1.38	2.06	11727	160.28	499.26	8.4	14.5
854.0	32.1	26.7	100	8.7	1.27	2.09	11913	113.62	491.22	8.4	14.5
855.0	23.4	26.7	100	8.7	1.38	2.13	12170	156.22	484.39	8.4	14.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
856.0	30.8	26.6	100	8.7	1.29	2.16	12365	118.69	477.07	8.4	14.5
857.0	21.8	26.6	100	8.7	1.40	2.21	12640	167.38	471.00	8.4	14.5
858.0	28.1	26.8	100	8.7	1.32	2.24	12853	129.85	464.44	8.4	14.5
859.0	24.2	25.9	100	8.7	1.35	2.28	13101	151.15	458.53	8.4	14.5
860.0	15.5	20.8	100	8.7	1.41	2.35	13487	235.35	454.40	8.4	14.5
862.0	24.8	23.2	100	8.7	1.31	2.43	13970	147.09	443.42	8.4	14.5
864.0	34.1	25.8	100	8.7	1.24	2.49	14322	107.24	431.83	8.4	14.5
865.0	43.4	25.8	100	8.7	1.17	2.51	14461	84.20	425.94	8.4	14.5
866.0	22.1	26.5	100	8.7	1.39	2.56	14732	165.35	421.59	8.4	14.5
867.0	22.0	26.0	100	8.7	1.38	2.60	15005	166.37	417.41	8.4	14.5
868.0	18.2	24.1	100	8.7	1.41	2.66	15334	200.35	413.91	8.4	14.5
870.0	29.6	21.6	100	8.7	1.23	2.72	15739	123.29	404.83	8.4	14.5
871.0	25.4	22.0	100	8.7	1.28	2.76	15975	144.05	400.82	8.4	14.5
872.0	18.3	22.5	100	8.7	1.39	2.82	16303	199.85	397.77	8.4	14.5
874.0	20.5	22.5	100	8.7	1.35	2.92	16888	178.04	391.31	8.4	14.5
875.0	22.6	22.3	100	8.7	1.32	2.96	17153	161.30	387.97	8.4	14.5
876.0	16.5	23.1	100	8.7	1.43	3.02	17516	221.15	385.59	8.4	14.5
877.0	26.1	22.9	100	8.7	1.29	3.06	17746	139.99	382.13	8.4	14.5
879.0	11.4	23.0	100	8.7	1.54	3.24	18797	320.35	380.44	8.4	14.5
880.0	18.8	23.7	100	8.7	1.40	3.29	19115	193.76	377.92	8.4	14.5
882.0	19.6	22.9	100	8.7	1.37	3.39	19728	186.66	372.88	8.4	14.5
883.0	28.1	22.7	100	8.7	1.26	3.43	19941	129.85	369.73	8.4	14.5
884.0	21.8	22.4	100	8.7	1.33	3.47	20216	167.38	367.13	8.4	14.5
885.0	23.1	23.5	100	8.7	1.33	3.52	20476	158.25	364.49	8.4	14.5
886.0	21.2	23.7	100	8.7	1.36	3.56	20759	172.46	362.09	8.4	14.5
887.0	27.7	24.6	100	8.7	1.29	3.60	20975	131.88	359.25	8.4	14.5
888.0	21.8	23.6	100	8.7	1.35	3.64	21250	167.38	356.91	8.4	14.6
889.0	23.7	23.3	100	8.7	1.32	3.69	21503	154.20	354.46	8.4	14.6
890.0	34.3	23.5	100	8.7	1.21	3.72	21678	106.52	351.51	8.4	14.6
891.0	21.2	21.7	100	8.7	1.33	3.76	21961	172.46	349.41	8.4	14.6
892.0	23.1	22.2	100	8.7	1.31	3.81	22221	158.25	347.18	8.4	14.6
893.0	10.3	24.9	100	8.7	1.60	3.90	22802	354.04	347.26	8.4	14.6
894.0	15.0	25.2	100	8.7	1.49	3.97	23202	243.47	346.08	8.4	14.6
895.0	14.9	24.9	100	8.7	1.49	4.04	23605	245.50	344.95	8.4	14.6
896.0	25.9	24.4	100	8.7	1.31	4.08	23837	141.01	342.69	8.4	14.6
897.0	15.1	24.1	100	8.7	1.47	4.14	24233	241.44	341.57	8.4	14.6
898.0	20.0	35.9	100	8.7	1.55	4.19	24533	182.60	339.85	8.4	14.6
899.0	14.0	23.6	100	8.7	1.49	4.26	24963	261.73	339.01	8.4	14.6
900.0	26.9	24.0	100	8.7	1.29	4.30	25186	135.94	336.85	8.4	14.6
901.0	22.2	23.4	100	8.7	1.34	4.35	25456	164.34	335.03	8.4	14.6
902.0	30.8	22.7	100	8.7	1.23	4.38	25650	118.69	332.78	8.4	14.6
903.0	17.2	23.1	100	8.7	1.41	4.44	25998	212.02	331.53	8.4	14.6
904.0	22.9	24.0	100	8.7	1.34	4.48	26260	159.27	329.77	8.4	14.6
905.0	20.5	24.1	100	8.7	1.38	4.53	26553	178.54	328.25	8.4	14.6
906.0	19.1	24.7	100	8.7	1.41	4.58	26866	190.72	326.87	8.4	14.6
907.0	14.2	25.5	100	8.7	1.51	4.65	27287	256.65	326.18	8.4	14.6
909.0	17.1	23.8	100	8.7	1.43	4.77	27990	213.88	323.99	8.4	14.6
911.0	23.1	20.1	100	8.7	1.28	4.86	28509	158.25	320.84	8.4	14.6
913.0	28.0	20.6	100	8.7	1.23	4.93	28937	130.36	317.28	8.4	14.6
914.0	20.0	22.0	100	8.7	1.35	4.98	29237	182.60	316.03	8.4	14.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
915.0	24.5	21.4	100	8.7	1.28	5.02	29482	149.12	314.50	8.4	14.6
917.0	18.8	23.2	100	8.7	1.39	5.12	30118	193.76	312.32	8.4	14.6
918.0	12.9	17.8	100	8.7	1.41	5.20	30584	284.04	312.07	8.4	14.6
919.0	13.2	17.2	100	8.7	1.39	5.28	31039	277.28	311.76	8.4	14.6
920.0	12.3	24.0	100	8.7	1.53	5.36	31526	296.22	311.63	8.4	14.6
921.0	15.7	24.6	100	8.7	1.47	5.42	31907	232.31	310.94	8.4	14.6
922.0	16.4	23.9	100	8.7	1.44	5.48	32272	222.16	310.17	8.4	14.6
923.0	26.5	23.5	100	8.7	1.29	5.52	32498	137.96	308.70	8.4	14.6
924.0	16.4	24.0	100	8.7	1.44	5.58	32865	223.18	307.98	8.4	14.6
925.0	19.4	24.8	100	8.7	1.41	5.63	33174	188.69	306.97	8.4	14.6
926.0	13.2	25.3	100	8.7	1.53	5.71	33629	276.94	306.72	8.4	14.6
927.0	21.2	25.1	100	8.7	1.38	5.76	33912	172.46	305.61	8.4	14.6
928.0	19.3	23.7	100	8.7	1.39	5.81	34224	189.70	304.66	8.4	14.7
929.0	18.7	25.4	100	8.7	1.43	5.86	34545	195.79	303.78	8.4	14.7
930.0	12.7	25.0	100	8.7	1.54	5.94	35018	288.10	303.65	8.4	14.7
931.0	18.8	25.2	100	8.7	1.42	5.99	35336	193.76	302.77	8.4	14.7
933.0	27.1	25.2	100	8.7	1.31	6.07	35778	134.78	300.13	8.4	14.7
935.0	22.2	24.2	100	8.7	1.36	6.16	36320	164.85	298.03	8.4	14.7
936.0	14.3	24.7	100	8.7	1.50	6.23	36739	255.64	297.70	8.4	14.7
937.0	19.1	25.4	100	8.7	1.42	6.28	37052	190.72	296.89	8.4	14.7
938.0	11.5	25.8	100	8.7	1.58	6.37	37574	317.52	297.04	8.4	14.7
939.0	15.6	26.3	100	8.7	1.50	6.43	37958	234.34	296.57	8.4	14.7
940.0	14.0	25.5	100	8.7	1.52	6.50	38386	260.71	296.30	8.4	14.7
941.0	17.9	23.1	100	8.7	1.40	6.56	38721	203.90	295.62	8.4	14.7
942.0	11.1	20.0	100	8.7	1.49	6.65	39262	329.69	295.87	8.4	14.7
943.0	19.3	21.1	100	8.7	1.35	6.70	39574	189.70	295.09	8.4	14.7
944.0	11.3	21.4	100	8.7	1.51	6.79	40103	322.59	295.29	8.4	14.7
945.0	17.1	24.0	100	8.7	1.43	6.85	40453	213.03	294.70	8.4	14.7
946.0	12.2	25.3	100	8.7	1.56	6.93	40944	299.26	294.73	8.4	14.7
947.0	20.3	26.4	100	8.7	1.41	6.98	41239	179.56	293.92	8.4	14.7
948.0	15.7	26.0	100	8.7	1.49	7.04	41622	233.32	293.49	8.4	14.7
949.0	30.8	24.8	100	8.7	1.26	7.07	41817	118.69	292.27	8.4	14.7
951.0	15.5	25.6	100	8.7	1.49	7.20	42593	236.37	291.50	8.4	14.7
952.0	12.6	25.9	100	8.7	1.56	7.28	43068	289.12	291.48	8.4	14.7
953.0	20.9	25.8	100	8.7	1.40	7.33	43354	174.48	290.69	8.4	14.7
954.0	13.4	25.9	100	8.7	1.54	7.41	43800	271.87	290.56	8.4	14.7
955.0	21.4	25.6	100	8.7	1.39	7.45	44080	170.43	289.75	8.4	14.7
956.0	17.6	25.2	100	8.7	1.44	7.51	44420	206.95	289.20	8.4	14.7
957.0	18.4	24.2	100	8.7	1.41	7.56	44746	198.83	288.60	8.4	14.7
958.0	16.7	25.6	100	8.7	1.46	7.62	45106	219.12	288.14	8.4	14.7
959.0	20.0	25.9	100	8.7	1.41	7.67	45406	182.60	287.45	8.4	14.7
960.0	11.6	26.6	100	8.7	1.59	7.76	45923	315.49	287.64	8.4	14.7
962.0	15.2	26.4	100	8.7	1.51	7.89	46711	239.92	287.02	8.4	14.7
963.0	19.4	26.3	100	8.7	1.43	7.94	47021	188.69	286.40	8.4	14.7
964.0	10.4	26.8	100	8.7	1.63	8.04	47599	352.01	286.81	8.4	14.7
965.0	17.1	26.7	100	8.7	1.47	8.10	47948	213.03	286.35	8.4	14.7
966.0	18.4	24.7	100	8.7	1.42	8.15	48275	198.83	285.80	8.4	14.7
967.0	19.1	27.7	100	8.7	1.45	8.20	48588	190.72	285.21	8.4	14.7
968.0	14.8	29.3	100	8.7	1.56	8.27	48994	247.52	284.98	8.4	14.7
970.0	16.6	26.7	100	8.7	1.48	8.39	49719	220.64	284.20	8.4	14.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
971.0	26.5	26.3	100	8.7	1.33	8.43	49945	137.96	283.31	8.4	14.8
972.0	13.2	26.8	103	8.7	1.57	8.51	50412	275.93	283.26	8.4	14.8
973.0	21.6	30.1	120	8.7	1.51	8.55	50746	169.41	282.58	8.4	14.8
974.0	14.2	29.9	120	8.7	1.64	8.62	51254	257.67	282.43	8.4	14.8
975.0	19.7	30.9	120	8.7	1.55	8.67	51620	185.64	281.86	8.4	14.8
976.0	16.4	30.1	120	8.7	1.60	8.74	52060	223.18	281.52	8.4	14.8
977.0	15.5	30.5	120	8.7	1.62	8.80	52524	235.35	281.25	8.4	14.8
979.0	17.3	27.3	120	8.7	1.54	8.91	53354	210.50	280.43	8.4	14.8
981.0	17.3	27.1	120	8.7	1.53	9.03	54184	210.50	279.63	8.4	14.8
982.0	19.5	26.4	120	8.7	1.49	9.08	54554	187.67	279.11	8.4	14.8
983.0	17.9	27.7	120	8.7	1.53	9.14	54956	203.90	278.68	8.4	14.8
984.0	23.5	28.8	120	8.7	1.46	9.18	55262	155.21	277.99	8.4	14.8
985.0	16.5	29.9	120	8.7	1.59	9.24	55698	221.15	277.67	8.4	14.8
986.0	20.0	28.9	120	8.7	1.52	9.29	56058	182.60	277.14	8.4	14.8
987.0	13.7	29.9	120	8.8	1.63	9.36	56584	266.80	277.09	8.4	14.8
989.0	16.0	29.5	120	8.9	1.56	9.49	57484	228.25	276.55	8.4	14.8
990.0	12.2	29.5	120	8.9	1.65	9.57	58076	300.28	276.68	8.4	14.8
992.0	23.2	28.8	120	8.9	1.43	9.66	58696	157.24	275.40	8.4	14.8
993.0	23.8	29.1	120	8.9	1.43	9.70	58998	153.18	274.74	8.4	14.8
994.0	13.7	30.2	120	8.9	1.62	9.77	59522	265.78	274.70	8.4	14.8
996.0	16.2	29.9	120	8.9	1.56	9.89	60411	225.35	274.18	8.4	14.8
998.0	18.2	30.3	120	8.9	1.53	10.00	61201	200.35	273.41	8.4	14.8
999.0	22.6	30.2	120	8.9	1.46	10.05	61519	161.30	272.83	8.4	14.8
1000.0	17.1	30.6	120	8.9	1.55	10.11	61939	213.03	272.52	8.4	14.8
1001.0	24.5	30.1	120	8.9	1.43	10.15	62233	149.12	271.88	8.4	14.8
1002.0	15.3	30.6	120	8.9	1.59	10.21	62705	239.41	271.72	8.4	14.8
1003.0	23.4	30.7	120	8.9	1.46	10.26	63013	156.22	271.13	8.4	14.8
1004.0	20.1	29.7	120	8.9	1.49	10.31	63371	181.59	270.68	8.4	14.8
1006.0	20.4	29.2	120	8.9	1.48	10.40	64077	179.05	269.76	8.4	14.8
1007.0	21.2	30.1	120	8.9	1.48	10.45	64417	172.46	269.28	8.4	14.8
1008.0	15.1	31.3	120	8.9	1.61	10.52	64895	242.45	269.15	8.4	14.8
1009.0	19.5	31.3	120	8.9	1.52	10.57	65265	187.67	268.75	8.4	14.8
1010.0	16.1	31.2	120	8.9	1.58	10.63	65711	226.22	268.54	8.4	14.8
1011.0	25.5	30.7	120	8.9	1.43	10.67	65993	143.04	267.93	8.4	14.8
1012.0	19.4	30.2	120	8.9	1.51	10.72	66365	188.69	267.54	8.4	14.9
1013.0	19.5	31.6	120	8.9	1.53	10.77	66735	187.67	267.15	8.4	14.9
1014.0	22.2	31.2	120	8.9	1.48	10.82	67060	164.85	266.66	8.4	14.9
1015.0	28.3	31.6	120	8.9	1.41	10.85	67314	128.83	266.00	8.4	14.9
1016.0	17.2	31.2	120	8.9	1.56	10.91	67732	212.02	265.75	8.4	14.9
1017.0	22.8	30.9	120	8.9	1.47	10.96	68048	160.28	265.25	8.4	14.9
1018.0	18.4	30.8	120	8.9	1.54	11.01	68440	198.83	264.93	8.4	14.9
1019.0	34.3	29.8	120	8.9	1.32	11.04	68650	106.52	264.19	8.4	14.9
1020.0	15.3	31.2	120	8.9	1.60	11.10	69122	239.41	264.07	8.4	14.9
1021.0	19.4	32.2	120	8.9	1.54	11.16	69494	188.69	263.72	8.4	14.9
1022.0	15.7	32.1	120	8.9	1.61	11.22	69954	233.32	263.58	8.4	14.9
1024.0	11.3	31.4	120	9.1	1.66	11.40	71226	322.59	264.12	8.4	14.9
1025.0	22.6	32.0	120	9.1	1.45	11.44	71544	161.30	263.65	8.4	14.9
1026.0	16.7	31.6	120	9.1	1.54	11.50	71976	219.12	263.45	8.4	14.9
1027.0	24.7	31.1	120	9.1	1.41	11.54	72268	148.11	262.93	8.4	14.9
1028.0	17.2	30.5	120	9.1	1.52	11.60	72686	212.02	262.70	8.4	14.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1029.0	23.4	31.3	120	9.1	1.43	11.64	72994	156.22	262.22	8.4	14.9
1030.0	14.5	31.0	120	9.1	1.58	11.71	73492	252.60	262.18	8.4	14.9
1031.0	21.7	32.2	120	9.1	1.47	11.76	73824	168.40	261.76	8.4	14.9
1032.0	15.9	32.5	120	9.1	1.57	11.82	74278	230.28	261.62	8.4	14.9
1033.0	25.4	31.5	120	9.1	1.41	11.86	74562	144.05	261.11	8.4	14.9
1034.0	10.7	33.6	120	9.1	1.71	11.95	75236	341.87	261.46	8.4	14.9
1035.0	16.0	33.0	120	9.1	1.58	12.02	75686	228.25	261.32	8.4	14.9
1036.0	22.0	33.4	120	9.1	1.48	12.06	76014	166.37	260.90	8.4	14.9
1038.0	20.3	32.0	120	9.1	1.49	12.16	76722	179.56	260.20	8.4	14.9
1039.0	15.5	30.0	120	9.1	1.54	12.22	77188	236.37	260.10	8.4	14.9
1040.0	25.5	32.5	120	9.1	1.42	12.26	77470	143.04	259.60	8.4	14.9
1041.0	17.0	33.0	120	9.1	1.56	12.32	77894	215.06	259.41	8.4	14.9
1042.0	26.9	32.8	120	9.1	1.41	12.36	78162	135.94	258.89	8.4	14.9
1043.0	27.1	32.9	120	9.1	1.41	12.40	78428	134.92	258.36	8.4	14.9
1044.0	18.9	33.3	120	9.1	1.53	12.45	78808	192.74	258.09	8.4	14.9
1045.0	26.5	33.0	120	9.1	1.41	12.49	79080	137.96	257.58	8.4	14.9
1046.0	20.7	32.2	120	9.1	1.48	12.54	79428	176.51	257.25	8.4	14.9
1047.0	34.3	30.4	120	9.1	1.30	12.57	79638	106.52	256.62	8.4	14.9
1048.0	25.7	30.1	120	9.1	1.39	12.60	79918	142.02	256.15	8.4	14.9
1049.0	35.0	30.7	120	9.1	1.30	12.63	80124	104.49	255.52	8.4	14.9
1050.0	24.5	31.3	120	9.1	1.42	12.67	80418	149.12	255.09	8.4	14.9
1051.0	31.0	31.5	120	9.1	1.35	12.71	80650	117.68	254.53	8.4	14.9
1052.0	16.2	32.7	120	9.1	1.57	12.77	81094	225.21	254.41	8.4	14.9
1053.0	17.8	33.6	120	9.1	1.55	12.82	81498	204.92	254.21	8.4	14.9
1055.0	19.3	34.3	120	9.1	1.53	12.93	82246	189.70	253.69	8.4	14.9
1056.0	13.9	34.1	120	9.1	1.64	13.00	82764	262.74	253.73	8.4	15.0
1057.0	19.0	34.2	120	9.1	1.54	13.05	83142	191.73	253.48	8.4	15.0
1058.0	15.9	33.6	120	9.1	1.59	13.11	83596	230.28	253.39	8.4	15.0
1059.0	26.5	33.4	120	9.1	1.42	13.15	83868	137.96	252.93	8.4	15.0
1060.0	18.4	32.9	120	9.1	1.53	13.21	84260	198.83	252.72	8.4	15.0
1062.0	19.9	33.1	120	9.1	1.51	13.31	84984	183.61	252.18	8.4	15.0
1063.0	23.8	28.7	120	9.1	1.39	13.35	85286	153.18	251.79	8.4	15.0
1064.0	20.5	29.9	120	9.1	1.46	13.40	85638	178.54	251.51	8.4	15.0
1065.0	27.1	30.7	120	9.1	1.38	13.44	85904	134.92	251.06	8.4	15.0
1066.0	16.1	29.6	120	9.1	1.53	13.50	86352	227.24	250.97	8.4	15.0
1068.0	18.0	32.0	120	9.1	1.52	13.61	87150	202.38	250.60	8.4	15.0
1070.0	16.7	31.4	120	9.1	1.54	13.73	88014	219.12	250.36	8.4	15.0
1071.0	22.5	32.2	120	9.1	1.46	13.77	88334	162.31	250.02	8.4	15.0
1073.0	23.4	31.1	120	9.1	1.43	13.86	88950	156.22	249.32	8.4	15.0
1074.0	15.6	31.0	120	9.1	1.56	13.92	89412	234.34	249.27	8.4	15.0
1075.0	28.1	30.4	120	9.1	1.36	13.96	89668	129.85	248.82	8.4	15.0
1077.0	21.4	30.3	120	9.1	1.45	14.05	90340	170.43	248.24	8.4	15.0
1078.0	17.6	30.6	120	9.1	1.51	14.11	90748	206.95	248.09	8.4	15.0
1079.0	20.2	31.3	120	9.1	1.48	14.16	91104	180.57	247.84	8.4	15.0
1080.0	16.3	31.2	120	9.1	1.54	14.22	91546	224.19	247.76	8.4	15.0
1081.0	20.3	31.4	120	9.1	1.48	14.27	91900	179.56	247.51	8.4	15.0
1083.0	18.0	31.8	120	9.1	1.52	14.38	92702	203.40	247.19	8.4	15.0
1084.0	23.2	31.2	120	9.1	1.43	14.42	93012	157.24	246.87	8.4	15.0
1085.0	13.9	31.5	120	9.1	1.60	14.49	93530	262.74	246.92	8.4	15.0
1087.0	14.0	32.1	120	9.1	1.61	14.64	94558	260.71	247.02	8.4	15.0



DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1088.0	17.6	32.2	120	9.1	1.54	14.69	94968	207.96	246.88	8.4	15.0
1089.0	19.6	31.9	120	9.1	1.50	14.75	95336	186.66	246.67	8.4	15.0
1090.0	30.5	31.7	120	9.1	1.35	14.78	95572	119.70	246.22	8.4	15.0
1091.0	13.8	31.1	120	9.1	1.59	14.85	96092	263.76	246.29	8.4	15.0
1093.0	15.5	32.0	120	9.1	1.57	14.98	97020	235.35	246.21	8.4	15.0
1095.0	13.5	32.2	120	9.1	1.62	15.13	98084	269.84	246.37	8.4	15.0
1096.0	18.7	32.2	120	9.1	1.52	15.18	98470	195.79	246.20	8.4	15.0
1097.0	21.5	31.4	120	9.1	1.46	15.23	98805	169.92	245.94	8.4	15.0
1098.0	22.8	31.9	120	9.1	1.45	15.27	99121	160.28	245.64	8.4	15.0
1099.0	16.1	31.2	120	9.1	1.55	15.33	99569	227.24	245.58	8.4	15.0
1100.0	14.6	33.4	120	9.1	1.61	15.40	100063	250.57	245.60	8.4	15.0
1101.0	21.2	32.6	120	9.1	1.48	15.45	100403	172.46	245.35	8.4	15.1
1102.0	7.4	28.1	120	9.1	1.74	15.58	101373	492.01	246.18	8.4	15.1
1103.0	22.4	30.9	120	9.1	1.44	15.63	101695	163.33	245.90	8.4	15.1
1105.0	23.7	32.4	120	9.1	1.44	15.71	102302	154.01	245.29	8.4	15.1
1106.0	26.9	31.3	120	9.1	1.39	15.75	102570	135.94	244.92	8.4	15.1
1107.0	24.2	31.4	120	9.1	1.42	15.79	102868	151.15	244.61	8.4	15.1
1108.0	13.8	32.7	120	9.1	1.62	15.86	103388	263.76	244.68	8.4	15.1
1109.0	23.4	32.5	120	9.1	1.45	15.91	103696	156.22	244.38	8.4	15.1
1111.0	20.6	32.9	120	9.1	1.49	16.00	104396	177.53	243.95	8.4	15.1
1112.0	19.0	32.7	120	9.1	1.52	16.06	104774	191.73	243.78	8.4	15.1
1113.0	13.2	32.8	120	9.1	1.63	16.13	105318	275.93	243.88	8.4	15.1
1114.0	18.4	33.1	120	9.1	1.53	16.19	105710	198.83	243.73	8.4	15.1
1115.0	13.5	33.0	120	9.1	1.63	16.26	106244	270.86	243.82	8.4	15.1
1116.0	22.5	32.8	120	9.1	1.46	16.31	106564	162.31	243.56	8.4	15.1
1117.0	17.6	33.0	120	9.1	1.55	16.36	106974	207.96	243.44	8.4	15.1
1118.0	15.3	32.9	120	9.1	1.59	16.43	107446	239.41	243.43	8.4	15.1
1119.0	18.3	33.1	120	9.1	1.53	16.48	107840	199.85	243.29	8.4	15.1
1121.0	12.3	32.6	120	9.1	1.65	16.65	109014	297.57	243.64	8.4	15.1
1122.0	17.8	32.9	120	9.1	1.54	16.70	109418	204.92	243.51	8.4	15.1
1123.0	13.5	33.2	120	9.1	1.63	16.78	109952	270.86	243.60	8.4	15.1
1125.0	15.8	33.2	120	9.1	1.58	16.90	110866	231.80	243.53	8.4	15.1
1126.0	19.5	33.3	120	9.1	1.52	16.95	111236	187.67	243.35	8.4	15.1
1128.0	18.2	33.0	120	9.1	1.53	17.06	112026	200.35	243.09	8.4	15.1
1129.0	16.4	32.7	120	9.1	1.56	17.12	112466	223.18	243.02	8.4	15.1
1130.0	28.8	32.2	120	9.1	1.38	17.16	112716	126.81	242.66	8.4	15.1
1131.0	14.6	32.1	120	9.1	1.59	17.23	113210	250.57	242.69	8.4	15.1
1132.0	24.7	32.7	120	9.1	1.43	17.27	113502	148.11	242.40	8.4	15.1
1133.0	13.5	33.3	120	9.1	1.63	17.34	114036	270.86	242.49	8.4	15.1
1134.0	21.4	33.6	120	9.1	1.49	17.39	114372	170.43	242.27	8.4	15.1
1135.0	15.5	33.2	120	9.1	1.59	17.45	114836	235.35	242.25	8.4	15.1
1136.0	26.5	32.9	120	9.1	1.41	17.49	115108	137.96	241.93	8.4	15.1
1137.0	16.9	31.9	120	9.1	1.54	17.55	115534	216.08	241.85	8.4	15.1
1138.0	19.5	33.8	120	9.1	1.52	17.60	115904	187.67	241.69	8.4	15.1
1140.0	15.2	32.3	120	9.1	1.58	17.73	116854	240.93	241.68	8.4	15.1
1142.0	16.0	28.2	120	9.1	1.51	17.86	117752	227.74	241.60	8.4	15.1
1143.0	23.5	28.3	120	9.1	1.39	17.90	118058	155.21	241.34	8.4	15.1
1144.0	16.2	28.3	120	9.1	1.50	17.96	118502	225.21	241.30	8.4	15.1
1145.0	22.0	27.9	120	9.1	1.41	18.01	118830	166.37	241.08	8.4	15.1
1146.0	13.1	28.4	120	9.1	1.57	18.08	119378	277.96	241.18	8.4	15.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1147.0	15.1	28.9	120	9.1	1.53	18.15	119854	241.44	241.18	8.4	15.2
1148.0	10.8	28.8	120	9.1	1.64	18.24	120518	336.80	241.46	8.4	15.2
1150.0	13.5	27.8	120	9.1	1.55	18.39	121588	271.36	241.64	8.4	15.2
1151.0	15.7	29.2	120	9.1	1.53	18.46	122048	233.32	241.61	8.4	15.2
1152.0	12.4	28.7	120	9.1	1.59	18.54	122630	295.20	241.77	8.4	15.2
1153.0	16.1	28.8	120	9.1	1.51	18.60	123076	226.22	241.72	8.4	15.2
1154.0	13.0	28.8	120	9.1	1.58	18.68	123630	281.00	241.84	8.4	15.2
1155.0	16.2	28.9	120	9.1	1.51	18.74	124074	225.21	241.79	8.4	15.2
1156.0	11.7	29.1	120	9.1	1.62	18.82	124688	311.43	241.99	8.4	15.2
1157.0	17.1	29.0	120	9.1	1.50	18.88	125110	214.05	241.91	8.4	15.2
1158.0	13.9	29.0	120	9.1	1.56	18.95	125628	262.74	241.97	8.4	15.2
1161.0	16.5	28.6	120	9.1	1.50	19.13	126938	221.49	241.79	8.4	15.2
1163.0	14.5	29.2	120	9.1	1.55	19.27	127930	251.58	241.85	8.4	15.2
1164.0	13.7	29.4	120	9.1	1.56	19.35	128454	265.78	241.92	8.4	15.2
1165.0	11.9	29.3	120	9.2	1.60	19.43	129058	306.36	242.10	8.4	15.2
1166.0	19.6	28.9	120	9.2	1.44	19.48	129426	186.66	241.94	8.4	15.2
1167.0	12.7	29.4	120	9.2	1.58	19.56	129994	288.10	242.07	8.4	15.2
1169.0	17.2	28.8	120	9.2	1.48	19.68	130830	212.02	241.90	8.4	15.2
1170.0	12.7	28.1	120	9.2	1.56	19.75	131396	287.09	242.03	8.4	15.2
1171.0	16.1	25.9	120	9.2	1.45	19.82	131844	227.24	241.99	8.4	15.2
1172.0	12.4	25.9	120	9.2	1.53	19.90	132426	295.20	242.13	8.4	15.2
1173.0	18.8	25.3	120	9.2	1.40	19.95	132810	194.77	242.00	8.4	15.2
1174.0	13.6	25.8	120	9.2	1.50	20.02	133338	267.81	242.07	8.4	15.2
1176.0	15.4	25.5	120	9.2	1.46	20.15	134273	237.13	242.05	8.4	15.2
1177.0	18.0	26.1	120	9.2	1.42	20.21	134673	202.89	241.94	8.4	15.2
1178.0	14.4	25.9	120	9.2	1.49	20.28	135173	253.61	241.97	8.4	15.2
1180.0	13.0	26.0	120	9.2	1.52	20.43	136281	281.00	242.18	8.4	15.2
1181.0	14.6	26.2	120	9.2	1.49	20.50	136773	249.55	242.20	8.4	15.2
1182.0	11.2	26.3	120	9.2	1.57	20.59	137417	326.65	242.43	8.4	15.2
1183.0	14.6	26.4	120	9.2	1.49	20.66	137909	249.55	242.45	8.4	15.2
1184.0	10.4	25.8	120	9.2	1.58	20.75	138603	352.01	242.74	8.4	15.2
1185.0	13.2	26.7	120	9.2	1.53	20.83	139149	276.94	242.83	8.4	15.2
1186.0	10.8	26.2	120	9.2	1.58	20.92	139813	336.80	243.07	8.4	15.2
1189.0	18.7	26.6	120	9.2	1.42	21.08	140970	195.64	242.70	8.4	15.2
1190.0	9.8	26.9	120	9.1	1.63	21.19	141702	371.29	243.04	8.4	15.2
1191.0	13.2	26.9	120	9.1	1.55	21.26	142248	276.94	243.12	8.4	15.2
1192.0	9.9	26.9	120	9.1	1.63	21.36	142972	367.23	243.45	8.4	15.2
1193.0	13.9	27.2	120	9.1	1.53	21.43	143490	262.74	243.50	8.4	15.2
1194.0	9.7	26.9	120	9.1	1.64	21.54	144234	377.37	243.84	8.4	15.2
1195.0	15.7	26.9	120	9.1	1.49	21.60	144692	232.31	243.81	8.4	15.3
1196.0	10.0	27.0	120	9.1	1.63	21.70	145414	366.21	244.12	8.4	15.3
1198.0	13.1	27.0	120	9.1	1.55	21.85	146512	278.46	244.30	8.4	15.3
1199.0	16.4	26.7	120	9.1	1.48	21.91	146950	222.16	244.24	8.4	15.3
1200.0	9.3	27.2	120	9.1	1.66	22.02	147726	393.60	244.62	8.4	15.3
1201.0	18.8	26.3	120	9.1	1.43	22.07	148108	193.76	244.49	8.4	15.3
1202.0	11.7	26.9	120	9.1	1.58	22.16	148726	313.46	244.67	8.4	15.3
1203.0	17.1	26.8	120	9.1	1.47	22.22	149146	213.03	244.59	8.4	15.3
1204.0	9.8	26.8	120	9.1	1.63	22.32	149884	374.33	244.91	8.4	15.3
1205.0	14.3	27.3	120	9.1	1.53	22.39	150386	254.63	244.94	8.4	15.3
1207.0	17.4	27.0	120	9.1	1.46	22.51	151214	210.13	244.77	8.4	15.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1208.0	10.4	27.8	120	9.1	1.63	22.60	151906	351.00	245.03	8.4	15.3
1209.0	13.5	32.3	120	9.1	1.62	22.68	152440	270.86	245.09	8.4	15.3
1210.0	10.8	32.2	120	9.1	1.69	22.77	153104	336.80	245.32	8.4	15.3
1211.0	17.8	32.1	120	9.1	1.53	22.83	153508	204.92	245.22	8.4	15.3
1212.0	13.3	32.2	120	9.1	1.62	22.90	154050	274.91	245.29	8.4	15.3
1213.0	18.0	32.0	120	9.1	1.52	22.96	154450	202.89	245.19	8.4	15.3
1214.0	10.4	32.4	120	9.1	1.70	23.05	155144	352.01	245.45	8.4	15.3
1217.0	21.4	31.1	120	9.1	1.46	23.19	156152	170.43	244.90	8.4	15.3
1218.0	15.1	32.2	120	9.1	1.58	23.26	156628	241.44	244.90	8.4	15.3
1219.0	12.5	32.0	120	9.1	1.64	23.34	157206	293.17	245.01	8.4	15.3
1220.0	13.1	32.8	120	9.1	1.64	23.42	157756	278.97	245.09	8.4	15.3
1221.0	9.7	32.7	120	9.1	1.73	23.52	158496	375.34	245.41	8.4	15.3
1222.0	14.3	32.6	120	9.1	1.61	23.59	158998	254.63	245.43	8.4	15.3
1223.0	9.0	32.8	120	9.1	1.76	23.70	159800	406.79	245.82	8.4	15.3
1224.0	14.2	32.7	120	9.1	1.61	23.77	160306	256.65	245.84	8.4	15.3
1226.0	4.9	28.8	120	9.1	1.88	24.18	163266	750.69	248.25	8.4	15.3
1227.0	15.9	33.2	120	9.1	1.58	24.24	163718	229.26	248.20	8.4	15.3
1228.0	10.8	32.4	120	9.1	1.69	24.34	164382	336.80	248.41	8.4	15.3
1230.0	13.7	30.9	120	9.1	1.60	24.48	165436	267.31	248.50	8.4	15.3
1231.0	16.3	31.0	120	9.1	1.54	24.54	165878	224.19	248.44	8.4	15.3
1232.0	12.3	31.1	120	9.1	1.63	24.62	166464	297.23	248.56	8.4	15.3
1235.0	15.1	31.1	120	9.1	1.57	24.82	167894	241.78	248.51	8.4	15.3
1236.0	34.0	30.3	120	9.1	1.30	24.85	168106	107.53	248.18	8.4	15.3
1237.0	12.7	30.4	120	9.1	1.61	24.93	168674	288.10	248.28	8.4	15.3
1238.0	18.3	30.3	120	9.1	1.50	24.99	169068	199.85	248.16	8.4	15.3
1239.0	10.8	30.3	120	9.1	1.66	25.08	169732	336.80	248.37	8.4	15.3
1240.0	18.4	30.5	120	9.1	1.50	25.13	170124	198.83	248.25	8.4	15.3
1241.0	11.8	30.5	120	9.1	1.64	25.22	170736	310.42	248.40	8.4	15.3
1242.0	15.7	30.7	120	9.1	1.55	25.28	171194	232.31	248.36	8.4	15.3
1243.0	12.6	30.5	120	9.1	1.61	25.36	171764	289.12	248.45	8.4	15.3
1244.0	18.7	30.6	120	9.1	1.49	25.41	172150	195.79	248.33	8.4	15.4
1245.0	13.5	30.1	120	9.1	1.59	25.49	172684	270.86	248.38	8.4	15.4
1246.0	14.3	29.6	120	9.1	1.56	25.56	173188	255.64	248.40	8.4	15.4
1247.0	15.9	31.6	120	9.1	1.56	25.62	173642	230.28	248.36	8.4	15.4
1248.0	13.4	33.6	120	9.1	1.64	25.70	174180	272.89	248.42	8.4	15.4
1249.0	20.3	34.7	120	9.1	1.52	25.75	174534	179.56	248.26	8.4	15.4
1250.0	11.3	35.1	120	9.1	1.72	25.83	175174	324.62	248.43	8.4	15.4
1251.0	16.9	35.1	120	9.1	1.59	25.89	175600	216.08	248.36	8.4	15.4
1252.0	10.3	35.3	120	9.1	1.75	25.99	176296	353.03	248.59	8.4	15.4
1253.0	15.7	35.0	120	9.1	1.61	26.05	176754	232.31	248.56	8.4	15.4
1254.0	10.2	35.6	120	9.1	1.76	26.15	177460	358.10	248.80	8.4	15.4
1255.0	18.0	35.0	120	9.1	1.56	26.21	177860	202.89	248.70	8.4	15.4
1256.0	15.1	34.4	120	9.1	1.61	26.27	178336	241.44	248.68	8.4	15.4
1257.0	7.2	30.9	120	9.1	1.80	26.41	179336	507.22	249.26	8.4	15.4
1258.0	13.4	32.0	120	9.1	1.62	26.49	179872	271.87	249.31	8.4	15.4
1259.0	9.8	31.9	120	9.1	1.72	26.59	180604	371.29	249.58	8.4	15.4
1260.0	15.3	32.7	120	9.1	1.59	26.65	181076	239.41	249.55	8.4	15.4
1261.0	9.2	31.7	120	9.1	1.73	26.76	181858	396.65	249.88	8.4	15.4
1262.0	14.8	32.1	120	9.1	1.59	26.83	182346	247.52	249.87	8.4	15.4
1263.0	9.4	33.3	120	9.1	1.75	26.94	183112	388.53	250.18	8.4	15.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1264.0	16.4	34.2	120	9.1	1.58	27.00	183550	222.16	250.11	8.4	15.4
1265.0	14.3	34.5	120	9.1	1.63	27.07	184052	254.63	250.12	8.4	15.4
1266.0	12.7	31.3	120	9.1	1.62	27.15	184618	287.09	250.20	8.4	15.4
1267.0	10.0	32.2	120	9.1	1.71	27.25	185340	366.21	250.46	8.4	15.4
1268.0	14.8	31.8	120	9.1	1.58	27.31	185828	247.52	250.45	8.4	15.4
1269.0	9.3	29.6	120	9.1	1.69	27.42	186600	391.58	250.75	8.4	15.4
1270.0	12.6	29.8	120	9.1	1.60	27.50	187170	289.12	250.84	8.4	15.4
1272.0	10.5	30.1	120	9.1	1.67	27.69	188544	348.46	251.26	8.4	15.4
1273.0	7.8	31.1	120	9.1	1.78	27.82	189472	470.70	251.73	8.4	15.4
1274.0	11.9	31.1	120	9.1	1.64	27.90	190076	306.36	251.84	8.4	15.4
1275.0	10.3	31.2	120	9.1	1.69	28.00	190774	354.04	252.06	8.4	15.4
1276.0	9.0	31.8	120	9.1	1.74	28.11	191576	406.79	252.39	8.4	15.4
1278.0	12.5	31.7	120	9.1	1.64	28.27	192730	292.67	252.56	8.4	15.4
1279.0	15.8	31.7	120	9.1	1.56	28.34	193186	231.29	252.52	8.4	15.4
1280.0	12.2	31.8	120	9.1	1.64	28.42	193774	298.25	252.61	8.4	15.4
1281.0	9.8	31.9	120	9.1	1.71	28.52	194506	371.29	252.86	8.4	15.4
1282.0	14.8	31.7	120	9.1	1.58	28.59	194994	247.52	252.85	8.4	15.4
1283.0	10.6	31.8	120	9.1	1.69	28.68	195676	345.93	253.05	8.4	15.4
1285.0	14.5	32.1	120	9.1	1.59	28.82	196666	251.07	253.04	8.4	15.4
1286.0	15.7	32.1	120	9.1	1.57	28.88	197124	232.31	252.99	8.4	15.4
1287.0	10.1	32.2	120	9.1	1.71	28.98	197834	360.13	253.22	8.4	15.4
1288.0	14.7	32.5	120	9.1	1.60	29.05	198324	248.54	253.21	8.4	15.4
1289.0	11.3	32.3	120	9.1	1.68	29.14	198960	322.59	253.35	8.4	15.4
1290.0	10.4	32.5	120	9.1	1.71	29.23	199654	352.01	253.56	8.4	15.4
1291.0	9.9	32.4	120	9.1	1.72	29.34	200384	370.27	253.80	8.4	15.4
1292.0	15.0	32.6	120	9.1	1.59	29.40	200864	243.47	253.77	8.4	15.4
1293.0	16.1	32.0	120	9.1	1.56	29.46	201312	227.24	253.72	8.4	15.4
1295.0	12.1	32.6	120	9.1	1.66	29.63	202502	301.80	253.92	8.4	15.5
1296.0	12.6	35.4	120	9.1	1.69	29.71	203074	290.13	253.99	8.4	15.5
1297.0	17.1	35.6	120	9.1	1.59	29.77	203494	213.03	253.91	8.4	15.5
1298.0	13.2	35.6	120	9.1	1.68	29.84	204040	276.94	253.95	8.4	15.5
1299.0	19.8	35.7	120	9.1	1.54	29.89	204404	184.63	253.81	8.4	15.5
1300.0	17.3	35.1	120	9.1	1.58	29.95	204820	211.00	253.73	8.4	15.5
1301.0	24.0	35.0	120	9.1	1.47	29.99	205120	152.17	253.52	8.4	15.5
1303.0	16.3	35.2	120	9.1	1.60	30.12	206006	224.70	253.41	8.4	15.5
1304.0	13.1	36.0	120	9.1	1.68	30.19	206556	278.97	253.46	8.4	15.5
1305.0	20.7	35.5	120	9.1	1.53	30.24	206904	176.51	253.30	8.4	15.5
1306.0	11.0	36.5	120	9.1	1.75	30.33	207560	332.74	253.46	8.4	15.5
1307.0	25.4	35.6	120	9.1	1.46	30.37	207844	144.05	253.24	8.4	15.5
1308.0	14.4	35.7	120	9.1	1.65	30.44	208344	253.61	253.24	8.4	15.5
1309.0	17.6	33.7	120	9.1	1.55	30.50	208752	206.95	253.15	8.4	15.5
1310.0	14.5	33.6	120	9.1	1.62	30.57	209248	251.58	253.15	8.4	15.5
1311.0	16.8	34.2	120	9.1	1.58	30.63	209676	217.09	253.08	8.4	15.5
1312.0	13.0	34.1	120	9.1	1.66	30.70	210228	279.99	253.13	8.4	15.5
1313.0	23.5	34.5	120	9.1	1.47	30.75	210534	155.21	252.94	8.4	15.5
1314.0	9.8	34.7	120	9.1	1.76	30.85	211268	372.30	253.17	8.4	15.5
1315.0	16.7	34.5	120	9.1	1.58	30.91	211698	218.11	253.10	8.4	15.5
1316.0	9.5	34.7	120	9.1	1.77	31.01	212456	384.47	253.36	8.4	15.5
1318.0	11.8	34.5	120	9.1	1.70	31.18	213680	310.42	253.58	8.4	15.5
1319.0	8.8	34.6	120	9.1	1.79	31.30	214498	414.91	253.90	8.4	15.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1320.0	13.7	34.7	120	9.1	1.65	31.37	215022	265.78	253.92	8.4	15.5
1321.0	10.6	34.6	120	9.1	1.73	31.46	215702	344.91	254.10	8.4	15.5
1322.0	20.0	35.7	120	9.1	1.54	31.51	216062	182.60	253.96	8.4	15.5
1323.0	8.4	34.6	120	9.1	1.81	31.63	216922	436.21	254.31	8.4	15.5
1324.0	15.1	34.7	120	9.1	1.62	31.70	217400	242.45	254.29	8.4	15.5
1325.0	20.8	33.5	120	9.1	1.50	31.75	217746	175.50	254.14	8.4	15.5
1326.0	29.3	33.3	120	9.1	1.39	31.78	217992	124.78	253.89	8.4	15.5
1327.0	18.2	33.2	120	9.1	1.54	31.84	218388	200.86	253.79	8.4	15.5
1328.0	24.8	33.3	120	9.1	1.44	31.88	218678	147.09	253.58	8.4	15.5
1329.0	14.9	33.9	120	9.1	1.61	31.94	219162	245.50	253.57	8.4	15.5
1330.0	17.2	35.0	120	9.1	1.58	32.00	219580	212.02	253.49	8.4	15.5
1332.0	16.4	34.3	120	9.1	1.59	32.12	220458	222.67	253.37	8.4	15.5
1333.0	18.2	33.2	120	9.1	1.54	32.18	220854	200.86	253.27	8.4	15.5
1334.0	27.1	32.8	120	9.1	1.41	32.22	221120	134.92	253.05	8.4	15.5
1335.0	12.0	34.4	120	9.1	1.69	32.30	221720	304.33	253.14	8.4	15.5
1336.0	19.6	34.9	120	9.1	1.54	32.35	222088	186.66	253.02	8.4	15.5
1337.0	17.7	34.6	120	9.1	1.56	32.41	222494	205.93	252.93	8.4	15.5
1338.0	30.8	33.9	120	9.1	1.38	32.44	222728	118.69	252.68	8.4	15.5
1339.0	19.8	33.6	120	9.1	1.52	32.49	223092	184.63	252.55	8.4	15.5
1340.0	25.5	34.3	120	9.1	1.44	32.53	223374	143.04	252.34	8.4	15.5
1341.0	13.8	35.6	120	9.1	1.66	32.60	223894	263.76	252.37	8.4	15.5
1342.0	28.8	34.5	120	9.1	1.41	32.64	224144	126.81	252.13	8.4	15.5
1343.0	14.6	35.0	120	9.1	1.63	32.70	224636	249.55	252.13	8.4	15.5
1344.0	14.9	32.0	120	9.1	1.58	32.77	225120	245.10	252.11	8.4	15.5
1345.0	23.6	32.0	120	9.1	1.44	32.81	225425	154.75	251.93	8.4	15.5
1346.0	17.5	32.0	120	9.1	1.53	32.87	225836	208.69	251.85	8.4	15.5
1347.0	20.5	32.0	120	9.1	1.48	32.92	226187	178.15	251.72	8.4	15.6
1348.0	14.6	32.0	120	9.1	1.59	32.99	226680	250.14	251.71	8.4	15.6
1349.0	20.9	32.0	120	9.1	1.48	33.04	227025	174.74	251.57	8.4	15.6
1350.0	22.0	32.0	120	9.1	1.46	33.08	227352	166.00	251.41	8.4	15.6
1351.0	9.0	32.0	120	9.1	1.74	33.19	228152	405.78	251.70	8.4	15.6
1352.0	15.8	32.0	120	9.1	1.57	33.26	228608	231.14	251.66	8.4	15.6
1353.0	24.4	32.0	120	9.1	1.43	33.30	228903	149.67	251.47	8.4	15.6
1354.0	14.0	32.0	120	9.1	1.60	33.37	229417	260.86	251.49	8.4	15.6
1355.0	23.1	32.0	120	9.1	1.45	33.41	229729	158.10	251.32	8.4	15.6
1356.0	15.0	32.0	120	9.1	1.58	33.48	230209	243.47	251.31	8.4	15.6
1357.0	22.6	32.0	120	9.1	1.45	33.52	230528	161.59	251.14	8.4	15.6
1358.0	14.5	32.0	120	9.1	1.59	33.59	231024	251.86	251.15	8.4	15.6
1359.0	20.0	32.0	120	9.1	1.49	33.64	231384	182.60	251.02	8.4	15.6
1360.0	36.8	32.0	120	9.1	1.30	33.67	231580	99.24	250.75	8.4	15.6
1361.0	17.2	32.0	120	9.1	1.54	33.73	231998	212.33	250.68	8.4	15.6
1362.0	10.2	32.0	120	9.1	1.70	33.82	232704	358.04	250.87	8.4	15.6
1363.0	11.4	32.0	120	9.1	1.67	33.91	233336	320.35	251.00	8.4	15.6
1364.0	23.4	32.0	120	9.1	1.44	33.95	233644	156.07	250.83	8.4	15.6
1365.0	18.0	32.0	120	9.1	1.52	34.01	234044	202.89	250.74	8.4	15.6
1366.0	18.9	32.0	120	9.1	1.51	34.06	234424	193.23	250.64	8.4	15.6
1367.0	14.6	32.0	120	9.1	1.59	34.13	234918	250.14	250.64	8.4	15.6
1368.0	19.8	32.0	120	9.1	1.49	34.18	235281	184.44	250.52	8.4	15.6
1369.0	25.3	32.0	120	9.1	1.42	34.22	235566	144.35	250.33	8.4	15.6
1370.0	18.6	32.0	120	9.1	1.51	34.28	235953	196.34	250.23	8.4	15.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1371.0	18.6	32.0	120	9.1	1.51	34.33	236340	196.34	250.14	8.4	15.6
1372.0	14.3	32.0	120	9.1	1.60	34.40	236844	255.38	250.15	8.4	15.6
1373.0	18.5	32.0	120	9.1	1.52	34.45	237233	197.41	250.06	8.4	15.6
1374.0	13.7	32.0	120	9.1	1.61	34.53	237758	266.57	250.08	8.4	15.6
1375.0	20.3	32.0	120	9.1	1.49	34.58	238113	179.90	249.96	8.4	15.6
1376.0	18.3	32.0	120	9.1	1.52	34.63	238506	199.56	249.87	8.4	15.6
1378.0	14.7	31.9	120	9.1	1.59	34.77	239486	248.54	249.87	8.4	15.6
1380.0	14.5	32.7	120	9.1	1.60	34.90	240476	251.07	249.87	8.4	15.6
1382.0	15.7	32.2	120	9.1	1.57	35.03	241396	233.32	249.81	8.4	15.6
1384.0	15.2	32.6	120	9.1	1.59	35.16	242346	240.93	249.78	8.4	15.6
1385.0	18.9	32.4	120	9.1	1.51	35.22	242726	192.74	249.69	8.4	15.6
1386.0	13.2	32.5	120	9.1	1.63	35.29	243270	275.93	249.73	8.4	15.6
1387.0	19.1	32.5	120	9.1	1.51	35.34	243646	190.72	249.63	8.4	15.6
1388.0	13.8	32.6	120	9.1	1.62	35.42	244166	263.76	249.65	8.4	15.6
1390.0	15.0	32.5	120	9.1	1.59	35.55	245126	243.47	249.63	8.4	15.6
1392.0	17.5	32.4	120	9.1	1.54	35.66	245950	208.98	249.49	8.4	15.6
1394.0	18.1	32.1	120	9.1	1.52	35.77	246746	201.87	249.33	8.4	15.6
1395.0	19.9	31.8	120	9.1	1.49	35.83	247108	183.61	249.22	8.4	15.6
1396.0	15.3	33.0	120	9.1	1.59	35.89	247580	239.41	249.20	8.4	15.6
1397.0	18.8	33.0	120	9.1	1.52	35.94	247962	193.76	249.11	8.4	15.6
1398.0	15.7	33.0	120	9.1	1.58	36.01	248420	232.31	249.08	8.4	15.6
1399.0	16.5	33.0	120	9.1	1.57	36.07	248858	221.91	249.04	8.4	15.6
1401.0	16.2	33.5	120	9.1	1.58	36.19	249746	225.21	248.96	8.4	15.7
1402.0	18.4	33.4	120	9.1	1.54	36.25	250138	198.83	248.87	8.4	15.7
1403.0	11.3	33.9	120	9.1	1.70	36.33	250774	322.59	248.99	8.4	15.7
1404.0	18.0	34.1	120	9.1	1.55	36.39	251174	202.89	248.92	8.4	15.7
1405.0	12.0	34.1	120	9.1	1.68	36.47	251774	304.33	249.01	8.4	15.7
1406.0	20.3	33.9	120	9.1	1.51	36.52	252128	179.56	248.89	8.4	15.7
1407.0	12.3	34.0	120	9.1	1.67	36.60	252713	296.91	248.97	8.4	15.7
1408.0	14.7	34.0	120	9.1	1.62	36.67	253203	248.54	248.97	8.4	15.7
1409.0	16.1	34.3	120	9.1	1.59	36.73	253649	226.22	248.94	8.4	15.7
1410.0	18.1	33.9	120	9.1	1.55	36.79	254047	201.87	248.86	8.4	15.7
1411.0	21.6	33.9	120	9.1	1.49	36.84	254381	169.41	248.73	8.4	15.7
1412.0	15.1	33.9	120	9.1	1.61	36.90	254857	241.44	248.71	8.4	15.7
1413.0	22.5	33.1	120	9.1	1.47	36.95	255177	162.31	248.57	8.4	15.7
1414.0	15.7	33.7	120	9.1	1.59	37.01	255637	233.32	248.55	8.4	15.7
1415.0	22.4	34.1	120	9.1	1.48	37.05	255959	163.33	248.41	8.4	15.7
1416.0	15.5	34.0	120	9.1	1.60	37.12	256423	235.35	248.39	8.4	15.7
1417.0	19.7	34.1	120	9.1	1.52	37.17	256789	185.64	248.28	8.4	15.7
1418.0	16.5	33.8	120	9.1	1.58	37.23	257225	221.15	248.24	8.4	15.7
1419.0	22.1	33.2	120	9.1	1.48	37.28	257551	165.35	248.10	8.4	15.7
1420.0	15.8	34.3	120	9.1	1.60	37.34	258007	231.29	248.08	8.4	15.7
1421.0	20.0	34.2	120	9.1	1.52	37.39	258367	182.60	247.97	8.4	15.7
1422.0	14.4	34.1	120	9.1	1.62	37.46	258867	253.61	247.98	8.4	15.7
1423.0	21.2	34.2	120	9.1	1.50	37.51	259207	172.46	247.86	8.4	15.7
1424.0	15.7	34.0	120	9.1	1.60	37.57	259665	232.31	247.83	8.4	15.7
1425.0	20.5	34.1	120	9.1	1.51	37.62	260017	178.54	247.72	8.4	15.7
1426.0	15.9	34.1	120	9.1	1.59	37.68	260471	230.28	247.69	8.4	15.7
1427.0	22.4	34.1	120	9.1	1.48	37.73	260793	163.33	247.56	8.4	15.7
1428.0	16.4	34.1	120	9.1	1.58	37.79	261233	223.18	247.52	8.4	15.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1429.0	23.7	34.7	120	9.1	1.47	37.83	261537	154.20	247.37	8.4	15.7
1430.0	25.9	33.6	120	9.1	1.43	37.87	261815	147.01	247.20	8.4	15.7
1431.0	14.3	31.9	120	9.1	1.60	37.94	262319	255.64	247.21	8.4	15.7
1432.0	21.1	30.3	120	9.1	1.45	37.99	262661	173.47	247.09	8.4	15.7
1433.0	14.8	31.4	120	9.1	1.58	38.05	263147	246.51	247.09	8.4	15.7
1434.0	23.2	31.3	120	9.1	1.43	38.10	263457	157.24	246.95	8.4	15.7
1435.0	14.7	31.4	120	9.1	1.58	38.16	263947	248.54	246.95	8.4	15.7
1436.0	22.0	31.4	120	9.1	1.45	38.21	264275	166.37	246.82	8.4	15.7
1437.0	14.5	31.5	120	9.1	1.59	38.28	264773	252.60	246.83	8.4	15.7
1438.0	17.8	28.8	120	9.1	1.48	38.33	265177	204.92	246.76	8.4	15.7
1439.0	13.2	30.3	120	9.1	1.60	38.41	265723	276.94	246.81	8.4	15.7
1440.0	15.4	29.0	120	9.1	1.53	38.48	266191	237.38	246.80	8.4	15.7
1441.0	11.8	29.6	120	9.1	1.62	38.56	266803	310.42	246.90	8.4	15.7
1442.0	19.0	30.0	120	9.1	1.48	38.61	267181	191.73	246.81	8.4	15.7
1443.0	12.3	29.9	120	9.1	1.61	38.69	267765	296.22	246.89	8.4	15.7
1444.0	20.1	29.8	120	9.1	1.46	38.74	268123	181.59	246.79	8.4	15.7
1445.0	12.9	29.9	120	9.1	1.60	38.82	268683	284.04	246.84	8.4	15.7
1446.0	17.3	29.8	120	9.1	1.51	38.88	269099	211.00	246.79	8.4	15.7
1447.0	12.0	30.0	120	9.1	1.62	38.96	269699	304.33	246.88	8.4	15.7
1448.0	15.2	29.9	120	9.1	1.55	39.03	270174	240.93	246.87	8.4	15.7
1449.0	17.9	30.4	120	9.1	1.50	39.08	270576	203.90	246.80	8.4	15.7
1450.0	14.3	29.9	120	9.1	1.57	39.15	271078	254.63	246.81	8.4	15.7
1451.0	18.1	30.0	120	9.1	1.49	39.21	271476	201.87	246.74	8.4	15.7
1452.0	15.1	30.0	120	9.1	1.55	39.28	271952	241.44	246.74	8.4	15.7
1453.0	18.9	30.0	120	9.1	1.48	39.33	272332	192.74	246.65	8.4	15.7
1454.0	15.3	30.0	120	9.1	1.55	39.39	272804	239.41	246.64	8.4	15.7
1455.0	19.0	30.1	120	9.1	1.48	39.45	273182	191.73	246.56	8.4	15.7
1456.0	13.0	30.2	120	9.1	1.60	39.52	273734	279.99	246.61	8.4	15.7
1457.0	16.8	30.3	120	9.1	1.52	39.58	274162	217.09	246.56	8.4	15.8
1458.0	14.1	30.3	120	9.1	1.58	39.65	274672	258.68	246.58	8.4	15.8
1459.0	19.1	30.5	120	9.1	1.48	39.71	275048	190.72	246.50	8.4	15.8
1460.0	11.1	30.4	120	9.1	1.65	39.80	275698	329.69	246.62	8.4	15.8
1461.0	21.2	30.3	120	9.1	1.45	39.84	276038	172.46	246.51	8.4	15.8
1462.0	12.8	30.4	120	9.1	1.61	39.92	276602	286.07	246.57	8.4	15.8
1463.0	21.6	30.3	120	9.1	1.44	39.97	276936	169.41	246.45	8.4	15.8
1464.0	13.5	30.4	120	9.1	1.59	40.04	277470	270.86	246.49	8.4	15.8
1465.0	20.2	30.5	120	9.1	1.47	40.09	277826	180.57	246.39	8.4	15.8
1466.0	8.7	30.9	120	9.1	1.74	40.21	278652	418.97	246.65	8.4	15.8
1467.0	23.5	31.0	120	9.1	1.43	40.25	278959	155.40	246.51	8.4	15.8
1468.0	18.6	28.7	120	9.1	1.47	40.30	279345	196.13	246.44	8.4	15.8
1469.0	13.9	30.6	120	9.1	1.59	40.37	279863	262.74	246.46	8.4	15.8
1470.0	17.7	30.8	120	9.1	1.51	40.43	280269	205.93	246.40	8.4	15.8
1471.0	12.6	30.9	120	9.1	1.62	40.51	280841	290.13	246.47	8.4	15.8
1472.0	19.6	30.7	120	9.1	1.48	40.56	281209	186.66	246.38	8.4	15.8
1473.0	13.7	30.7	120	9.1	1.59	40.63	281735	266.80	246.41	8.4	15.8
1474.0	22.0	30.5	120	9.1	1.44	40.68	282063	166.37	246.29	8.4	15.8
1475.0	11.8	31.0	120	9.1	1.64	40.76	282675	310.42	246.38	8.4	15.8
1476.0	16.7	31.0	120	9.1	1.53	40.82	283105	218.11	246.34	8.4	15.8
1477.0	15.1	28.5	120	9.1	1.53	40.89	283583	242.45	246.34	8.4	15.8
1478.0	12.7	32.1	120	9.1	1.64	40.97	284151	288.10	246.40	8.4	15.8

DEPTH	ROP	WOR	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1479.0	11.0	31.2	120	9.1	1.67	41.06	284805	331.72	246.52	8.4	15.8
1480.0	21.7	30.2	120	9.1	1.44	41.11	285137	168.40	246.41	8.4	15.8
1481.0	21.6	30.8	120	9.1	1.45	41.15	285471	169.41	246.29	8.4	15.8
1482.0	16.1	30.8	120	9.1	1.54	41.22	285917	226.22	246.27	8.4	15.8
1483.0	19.5	30.9	120	9.1	1.48	41.27	286287	187.67	246.18	8.4	15.8
1484.0	16.7	31.0	120	9.1	1.53	41.33	286717	218.11	246.14	8.4	15.8
1485.0	9.9	31.5	120	9.2	1.69	41.43	287447	370.27	246.32	8.4	15.8
1486.0	25.0	32.0	120	9.2	1.40	41.47	287735	146.08	246.17	8.4	15.8
1487.0	14.4	32.0	120	9.1	1.60	41.54	288235	253.61	246.18	8.4	15.8
1488.0	18.0	31.3	120	9.2	1.50	41.59	288636	203.40	246.12	8.4	15.8
1489.0	15.5	31.0	120	9.2	1.54	41.66	289102	236.37	246.11	8.4	15.8
1490.0	22.8	31.2	120	9.2	1.42	41.70	289418	160.28	245.98	8.4	15.8
1491.0	16.2	31.3	120	9.2	1.53	41.76	289862	225.21	245.95	8.4	15.8
1492.0	20.5	31.4	120	9.2	1.46	41.81	290214	178.54	245.85	8.4	15.8
1493.0	14.7	31.3	120	9.2	1.56	41.88	290704	248.54	245.86	8.4	15.8
1494.0	20.5	31.3	120	9.2	1.46	41.93	291056	178.54	245.76	8.4	15.8
1495.0	12.9	31.1	120	9.2	1.60	42.01	291612	282.02	245.81	8.4	15.8
1496.0	24.8	31.7	120	9.2	1.40	42.05	291902	147.09	245.67	8.4	15.8
1497.0	12.7	31.7	120	9.2	1.61	42.13	292470	288.10	245.73	8.4	15.8
1498.0	22.8	31.3	120	9.2	1.42	42.17	292786	160.28	245.61	8.4	15.8
1499.0	14.1	31.6	120	9.2	1.58	42.24	293296	258.68	245.62	8.4	15.8
1500.0	17.9	31.2	120	9.2	1.50	42.30	293698	203.90	245.56	8.4	15.8
1501.0	14.3	31.6	120	9.2	1.57	42.37	294200	254.63	245.58	8.4	15.8
1502.0	21.1	31.3	120	9.2	1.45	42.41	294542	173.47	245.47	8.4	15.8
1503.0	12.5	31.6	120	9.2	1.62	42.49	295116	291.15	245.54	8.4	15.8
1504.0	22.2	31.6	120	9.2	1.44	42.54	295440	164.34	245.42	8.4	15.8
1505.0	12.4	32.9	120	9.2	1.64	42.62	296022	295.20	245.49	8.4	15.8
1506.0	22.4	31.6	120	9.2	1.43	42.66	296344	163.33	245.38	8.4	15.8
1507.0	18.2	31.4	120	9.2	1.50	42.72	296740	200.86	245.31	8.4	15.8
1508.0	24.8	30.8	120	9.2	1.39	42.76	297030	147.09	245.17	8.4	15.8
1509.0	18.7	30.7	120	9.2	1.48	42.81	297416	195.79	245.10	8.4	15.8
1510.0	25.9	29.8	120	9.2	1.37	42.85	297694	141.01	244.96	8.4	15.8
1511.0	18.8	29.1	120	9.2	1.45	42.90	298076	193.76	244.88	8.4	15.8
1512.0	22.6	30.0	120	9.2	1.41	42.95	298394	161.30	244.76	8.4	15.8
1513.0	16.1	30.7	120	9.2	1.52	43.01	298840	226.22	244.74	8.4	15.8
1514.0	48.0	32.0	120	9.2	1.20	43.03	298990	76.08	244.50	8.4	15.8
1515.0	20.4	32.1	120	9.2	1.47	43.08	299343	178.80	244.41	8.4	15.9
1516.0	25.5	31.1	120	9.2	1.39	43.12	299625	143.04	244.26	8.4	15.9
1517.0	15.6	30.8	120	9.2	1.53	43.18	300087	234.34	244.25	8.4	15.9
1518.0	18.0	30.5	120	9.3	1.47	43.24	300487	202.89	244.19	8.4	15.9
1519.0	19.7	30.7	120	9.3	1.45	43.29	300853	185.64	244.11	8.4	15.9
1520.0	24.8	30.9	120	9.3	1.38	43.33	301143	147.09	243.97	8.4	15.9
1521.0	17.6	32.0	120	9.4	1.48	43.39	301552	207.50	243.92	8.4	15.9
1522.0	20.0	32.0	120	9.4	1.44	43.44	301912	182.60	243.84	8.4	15.9
1523.0	19.6	31.4	120	9.3	1.46	43.49	302279	186.15	243.76	8.4	15.9
1524.0	22.4	30.0	120	9.3	1.40	43.53	302600	162.99	243.65	8.4	15.9
1525.0	25.4	31.8	120	9.3	1.38	43.57	302884	144.05	243.51	8.4	15.9
1526.0	17.2	31.1	120	9.3	1.49	43.63	303302	212.02	243.46	8.4	15.9
1527.0	26.5	29.8	120	9.3	1.34	43.67	303574	137.96	243.32	8.4	15.9
1528.0	15.7	29.9	120	9.3	1.51	43.73	304034	233.32	243.30	8.4	15.9



DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1529.0	17.0	29.8	120	9.3	1.48	43.79	304458	215.06	243.26	8.4	15.9
1530.0	19.9	29.9	120	9.3	1.43	43.84	304820	183.61	243.18	8.4	15.9
1531.0	24.7	29.7	120	9.3	1.36	43.88	305112	148.11	243.05	8.4	15.9
1532.0	20.9	28.9	120	9.3	1.40	43.93	305456	174.48	242.96	8.4	15.9
1533.0	25.9	28.2	120	9.3	1.33	43.97	305734	141.01	242.82	8.4	15.9
1534.0	23.5	28.5	120	9.3	1.36	44.01	306040	155.21	242.70	8.4	15.9
1535.0	22.6	31.0	120	9.3	1.41	44.05	306358	161.30	242.58	8.4	15.9
1536.0	22.2	30.8	120	9.3	1.41	44.10	306683	164.85	242.48	8.4	15.9
1537.0	20.5	31.0	120	9.4	1.42	44.15	307034	178.15	242.39	8.4	15.9
1538.0	17.8	30.5	120	9.3	1.47	44.20	307438	204.92	242.34	8.4	15.9
1539.0	18.9	31.2	120	9.3	1.47	44.26	307818	192.74	242.27	8.4	15.9
1540.0	14.6	30.8	120	9.3	1.54	44.33	308310	249.55	242.28	8.4	15.9
1541.0	21.2	32.0	120	9.4	1.43	44.37	308650	172.26	242.18	8.4	15.9
1542.0	20.0	31.7	120	9.4	1.45	44.42	309010	182.60	242.10	8.4	15.9
1543.0	25.7	32.5	120	9.4	1.37	44.46	309290	142.02	241.97	8.4	15.9
1544.0	35.3	33.0	120	9.4	1.28	44.49	309494	103.46	241.78	8.4	15.9
1545.0	27.8	32.0	120	9.4	1.34	44.53	309753	131.37	241.63	8.4	15.9
1546.0	20.1	33.3	120	9.4	1.46	44.58	310111	181.59	241.55	8.4	15.9
1547.0	30.8	33.5	120	9.4	1.33	44.61	310345	118.69	241.38	8.4	15.9
1548.0	20.2	32.9	120	9.4	1.45	44.66	310701	180.57	241.30	8.4	15.9
1549.0	31.3	32.9	120	9.4	1.32	44.69	310931	116.66	241.13	8.4	15.9
1550.0	20.2	33.5	120	9.4	1.46	44.74	311287	180.57	241.05	8.4	15.9
1551.0	25.4	34.1	120	9.4	1.40	44.78	311571	144.05	240.92	8.4	15.9
1552.0	19.0	34.4	120	9.4	1.49	44.83	311949	191.73	240.86	8.4	15.9
1553.0	29.5	34.1	120	9.4	1.35	44.86	312193	123.76	240.70	8.4	15.9
1554.0	12.0	34.0	120	9.4	1.63	44.95	312793	304.33	240.78	8.4	15.9
1555.0	21.4	34.6	120	9.4	1.46	44.99	313129	170.43	240.69	8.4	15.9
1556.0	19.9	35.4	120	9.4	1.49	45.04	313491	183.61	240.61	8.4	15.9
1557.0	22.6	34.7	120	9.4	1.44	45.09	313809	161.30	240.51	8.4	15.9
1558.0	15.5	30.3	120	9.4	1.50	45.15	314274	235.61	240.50	8.4	15.9
1559.0	30.4	30.9	120	9.4	1.30	45.19	314511	120.28	240.34	8.4	15.9
1560.0	13.8	31.0	120	9.4	1.54	45.26	315033	264.77	240.38	8.4	15.9
1561.0	22.1	30.8	120	9.4	1.40	45.30	315359	165.35	240.28	8.4	15.9
1562.0	13.7	31.5	120	9.4	1.55	45.38	315884	266.57	240.31	8.4	15.9
1563.0	7.7	32.6	120	9.4	1.75	45.51	316824	476.79	240.62	8.4	15.9
1564.0	17.2	32.9	120	9.4	1.50	45.57	317242	212.02	240.59	8.4	15.9
1565.0	10.0	33.4	120	9.4	1.68	45.67	317962	365.20	240.75	8.4	15.9
1566.0	12.5	33.5	120	9.4	1.61	45.75	318540	293.17	240.82	8.4	15.9
1567.0	15.7	33.4	120	9.4	1.54	45.81	318998	232.31	240.81	8.4	15.9
1568.0	11.7	33.4	120	9.4	1.63	45.90	319614	312.45	240.90	8.4	15.9
1569.0	11.3	33.9	120	9.4	1.65	45.98	320250	322.59	241.01	8.4	15.9
1571.0	8.4	33.7	120	9.4	1.73	46.22	321955	432.41	241.51	8.4	15.9
1572.2	4.1	32.4	120	9.4	1.94	46.51	324067	892.71	242.53	8.4	15.9

BIT NUMBER	3	IADC CODE	517	INTERVAL	1572.2- 1575.0
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	6.0	BIT RUN	2.8
TOTAL HOURS	0.06	TOTAL TURNS	306	CONDITION	T1 B1 G0.000

DEPTH	ROP	WOB	RPM	MW "d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1575.0	43.9	26.4	80	9.4 1.02	0.06	306	83	10952	8.4	16.0

BIT NUMBER	3	IADC CODE	4	INTERVAL	1576.0- 1586.3
CHRIS RC4		SIZE	9.875	NOZZLES	14 14 15
COST	0.00	TRIP TIME	6.0	BIT RUN	10.3
TOTAL HOURS	1.58	TOTAL TURNS	9482	CONDITION	T0 B0 G0.600

DEPTH	ROP	WOB	RPM	MW "d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1577.2	2.0	22.9	100	9.5 2.01	0.59	3560	1806	20066	8.4	16.0
1577.4	8.0	22.1	100	9.5 1.59	0.62	3710	457	17264	8.4	16.0
1577.6	0.8	23.0	100	9.5 2.29	0.87	5207	4555	15676	8.4	16.0
1577.8	4.6	22.9	100	9.5 1.77	0.91	5467	791	14022	8.4	16.0
1578.0	1.0	22.2	100	9.5 2.20	1.11	6680	3693	12989	8.4	16.0
1578.2	6.9	21.6	100	9.4 1.62	1.14	6855	533	11857	8.4	16.0
1578.4	2.7	20.5	100	9.5 1.86	1.22	7295	1339	10980	8.4	16.0
1578.6	26.7	19.6	100	9.5 1.20	1.22	7340	137	10146	8.4	16.0
1578.8	10.4	20.0	100	9.4 1.47	1.24	7455	350	9446	8.4	16.0
1579.2	32.7	18.7	100	9.5 1.12	1.25	7528	112	8279	8.4	16.0
1579.6	24.8	17.9	100	9.5 1.19	1.27	7625	147	7376	8.4	16.0
1580.0	36.0	17.4	100	9.5 1.08	1.28	7692	101	6648	8.4	16.0
1580.2	60.0	17.4	100	9.5 0.94	1.29	7712	61	6335	8.4	16.0
1580.4	15.7	17.7	100	9.4 1.31	1.30	7788	233	6057	8.4	16.0
1580.8	34.3	17.1	100	9.4 1.09	1.31	7858	107	5561	8.4	16.0
1581.2	14.1	17.9	100	9.5 1.34	1.34	8028	259	5154	8.4	16.0
1581.6	43.6	17.7	100	9.5 1.03	1.35	8083	84	4791	8.4	16.0
1582.0	49.7	16.2	100	9.4 0.97	1.36	8132	74	4477	8.4	16.0
1582.4	43.6	14.1	100	9.5 0.97	1.36	8187	84	4202	8.4	16.0
1582.8	7.5	15.8	100	9.5 1.47	1.42	8508	489	3984	8.4	16.0
1583.2	53.3	16.6	100	9.5 0.96	1.43	8553	68	3766	8.4	16.0
1583.6	25.3	16.8	100	9.5 1.17	1.44	8648	145	3576	8.4	16.0
1583.8	60.0	18.8	100	9.5 0.96	1.44	8668	61	3486	8.4	16.0
1584.0	9.6	19.6	100	9.5 1.49	1.47	8793	380	3408	8.4	16.0
1584.4	20.0	19.7	100	9.5 1.28	1.49	8913	183	3254	8.4	16.0
1584.8	25.7	19.4	100	9.4 1.20	1.50	9007	142	3113	8.4	16.0
1585.2	22.5	19.2	100	9.4 1.24	1.52	9113	162	2985	8.4	16.0
1585.6	30.0	18.8	100	9.5 1.15	1.53	9193	122	2865	8.4	16.0
1586.0	29.4	17.8	100	9.5 1.14	1.55	9275	124	2756	8.4	16.0
1586.3	8.7	20.9	100	9.5 1.54	1.58	9482	419	2688	8.4	16.0

BIT NUMBER	3	IADC CODE	517	INTERVAL	1586.4- 2094.0
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	0.00	TRIP TIME	7.0	BIT RUN	507.6
TOTAL HOURS	44.76	TOTAL TURNS	208560	CONDITION	T5 R8 G0.250

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1587.0	7.8	18.7	80	9.5	1.39	2.08	1571	470	5920	8.4	16.0
1588.0	10.2	27.2	80	9.5	1.45	2.18	2040	357	5077	8.4	16.0
1589.0	15.1	28.7	80	9.5	1.35	2.24	2357	241	4441	8.4	16.0
1590.0	11.5	30.8	80	9.5	1.47	2.33	2776	319	3961	8.4	16.0
1591.0	7.1	29.2	80	9.5	1.58	2.47	3448	511	3602	8.4	16.0
1592.0	10.5	36.2	80	9.5	1.57	2.56	3907	349	3295	8.4	16.0
1593.0	97.3	34.0	80	9.5	0.84	2.57	3956	38	3014	8.4	16.0
1594.0	124.1	26.7	80	9.5	0.72	2.58	3995	29	2777	8.4	16.0
1595.0	83.7	27.8	80	9.5	0.84	2.59	4052	44	2576	8.4	16.0
1596.0	128.6	33.4	80	9.5	0.75	2.60	4089	28	2402	8.4	16.0
1597.0	85.7	31.7	80	9.4	0.86	2.61	4145	43	2251	8.4	16.0
1598.0	81.8	32.2	80	9.5	0.88	2.63	4204	45	2118	8.4	16.0
1599.0	70.6	29.0	80	9.4	0.90	2.64	4272	52	2000	8.4	16.0
1600.0	45.6	33.4	80	9.5	1.07	2.66	4377	80	1897	8.4	16.0
1602.0	12.9	36.7	80	9.5	1.51	2.82	5121	283	1740	8.4	16.0
1603.0	8.2	37.8	80	9.5	1.66	2.94	5707	445	1680	8.4	16.0
1604.0	16.8	37.2	80	9.4	1.43	3.00	5992	217	1616	8.4	16.0
1605.0	7.0	37.6	80	9.5	1.71	3.14	6681	524	1569	8.4	16.0
1606.0	5.8	37.9	80	9.4	1.78	3.31	7505	627	1531	8.4	16.0
1607.0	9.3	38.2	80	9.4	1.63	3.42	8023	394	1487	8.4	16.0
1608.0	33.6	36.1	80	9.5	1.19	3.45	8165	109	1435	8.4	16.0
1610.0	25.3	33.2	80	9.5	1.25	3.53	8545	144	1345	8.4	16.0
1611.0	25.2	34.3	80	9.5	1.27	3.57	8735	145	1304	8.4	16.0
1612.0	11.1	36.8	80	9.5	1.55	3.66	9169	330	1272	8.4	16.0
1613.0	18.6	37.6	80	9.5	1.40	3.71	9427	197	1238	8.4	16.0
1614.0	12.4	38.2	80	9.5	1.54	3.79	9814	294	1209	8.4	16.0
1615.0	15.9	38.4	80	9.4	1.46	3.86	10117	230	1180	8.4	16.0
1616.0	6.3	39.1	80	9.5	1.77	4.02	10877	578	1163	8.4	16.0
1617.0	96.0	31.4	80	9.5	0.83	4.03	10927	38	1131	8.4	16.0
1619.0	37.9	31.9	80	9.5	1.12	4.08	11180	96	1076	8.4	16.0
1620.0	29.8	34.5	80	9.5	1.22	4.11	11341	123	1051	8.4	16.0
1621.0	22.2	35.1	80	9.5	1.32	4.16	11557	164	1029	8.4	16.0
1622.0	30.0	36.1	80	9.5	1.23	4.19	11717	122	1007	8.4	16.0
1623.0	24.3	36.6	80	9.5	1.30	4.23	11915	150.14	986.06	8.4	16.0
1624.0	16.8	37.2	80	9.4	1.43	4.29	12200	217.09	968.01	8.4	16.0
1625.0	11.0	38.8	80	9.5	1.58	4.38	12636	331.72	953.41	8.4	16.0
1626.0	74.2	37.6	80	9.5	1.32	4.42	12835	151.15	935.43	8.4	16.0
1627.0	28.3	35.3	80	9.4	1.24	4.46	13004	128.83	917.74	8.4	16.0
1628.0	3.4	39.6	80	9.5	1.97	4.75	14408	1068	921	8.4	16.0
1629.0	43.4	35.7	80	9.4	1.11	4.77	14519	84.20	903.39	8.4	16.0
1630.0	105.9	29.7	80	9.5	0.79	4.78	14564	34.49	885.51	8.4	16.0
1631.0	83.7	27.1	80	9.5	0.83	4.80	14621	43.62	868.54	8.4	16.0
1632.0	72.0	36.5	80	9.4	0.96	4.81	14688	50.72	852.37	8.4	16.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1633.0	105.9	32.9	80	9.5	0.81	4.82	14733	34.49	836.52	8.4	16.0
1634.0	360.0	34.0	80	9.4	0.44	4.82	14747	10.14	820.81	8.4	16.0
1636.0	55.4	36.1	80	9.5	1.04	4.86	14920	65.94	793.16	8.4	16.0
1637.0	216.0	37.4	80	9.5	0.61	4.86	14942	16.91	779.20	8.4	16.1
1638.0	72.0	37.4	80	9.4	0.96	4.88	15009	50.72	766.33	8.4	16.1
1639.0	90.0	38.7	80	9.5	0.90	4.89	15062	40.58	753.73	8.4	16.1
1640.0	180.0	21.5	80	9.4	0.57	4.89	15089	20.29	741.21	8.4	16.1
1641.0	90.0	39.9	80	9.5	0.91	4.90	15142	40.58	729.46	8.4	16.1
1642.0	50.7	38.5	80	9.5	1.09	4.92	15237	72.03	718.61	8.4	16.1
1643.0	17.7	38.1	80	9.5	1.42	4.98	15507	205.93	710.29	8.4	16.1
1644.0	14.3	37.4	80	9.5	1.48	5.05	15842	254.63	703.01	8.4	16.1
1645.0	9.1	38.7	80	9.5	1.64	5.16	16369	400.71	698.25	8.4	16.1
1646.0	16.7	41.1	80	9.5	1.47	5.22	16655	218.11	690.82	8.4	16.1
1647.0	14.0	39.2	80	9.5	1.51	5.29	16998	260.71	684.26	8.4	16.1
1648.0	19.0	40.7	80	9.5	1.43	5.34	17250	191.73	676.87	8.4	16.1
1649.0	12.1	39.5	80	9.5	1.56	5.43	17646	301.29	671.31	8.4	16.1
1650.0	4.4	34.1	80	9.5	1.81	5.65	18726	821.70	673.51	8.4	16.1
1651.0	25.0	38.2	80	9.5	1.31	5.69	18918	146.08	665.93	8.4	16.1
1652.0	75.0	33.7	80	9.5	0.92	5.70	18982	48.69	657.18	8.4	16.1
1653.0	30.8	34.1	80	9.5	1.20	5.74	19138	118.69	649.66	8.4	16.1
1654.0	15.6	36.5	80	9.5	1.44	5.80	19446	234.34	643.94	8.4	16.1
1655.0	21.6	37.7	80	9.5	1.35	5.85	19669	169.41	637.50	8.4	16.1
1656.0	19.6	38.6	80	9.5	1.39	5.90	19914	186.66	631.45	8.4	16.1
1657.0	22.8	38.5	80	9.5	1.34	5.94	20125	160.28	625.22	8.4	16.1
1658.0	36.0	36.2	80	9.4	1.17	5.97	20258	101.44	618.38	8.4	16.1
1659.0	14.2	37.9	80	9.5	1.49	6.04	20597	257.67	613.73	8.4	16.1
1660.0	22.2	36.2	80	9.5	1.33	6.09	20813	164.34	608.02	8.4	16.1
1661.0	28.6	36.4	80	9.5	1.25	6.12	20981	127.82	601.98	8.4	16.1
1662.0	12.7	38.0	80	9.5	1.53	6.20	21358	287.09	598.08	8.4	16.1
1663.0	12.8	36.4	80	9.5	1.50	6.28	21733	285.06	594.24	8.4	16.1
1664.0	25.5	37.5	80	9.4	1.30	6.32	21921	143.04	588.78	8.4	16.1
1665.0	16.4	39.9	80	9.5	1.47	6.38	22214	223.18	584.41	8.4	16.1
1666.0	97.3	37.5	80	9.5	0.87	6.39	22263	37.53	577.94	8.4	16.1
1667.0	21.3	38.5	80	9.5	1.37	6.44	22489	171.44	573.19	8.4	16.1
1668.0	16.6	39.8	80	9.4	1.46	6.50	22778	220.13	569.12	8.4	16.1
1669.0	19.9	38.5	80	9.5	1.39	6.55	23019	183.61	564.71	8.4	16.1
1670.0	47.4	37.2	80	9.5	1.10	6.57	23121	77.10	559.21	8.4	16.1
1671.0	19.7	40.1	80	9.5	1.41	6.62	23365	185.64	555.04	8.4	16.1
1672.0	14.0	40.9	80	9.5	1.53	6.69	23707	260.71	551.79	8.4	16.1
1673.0	32.4	36.1	80	9.5	1.21	6.72	23855	112.60	547.00	8.4	16.1
1674.0	12.0	42.2	80	9.5	1.60	6.80	24257	305.35	544.39	8.4	16.1
1675.0	21.6	38.8	80	9.5	1.36	6.85	24479	169.41	540.38	8.4	16.1
1676.0	16.5	38.3	80	9.4	1.44	6.91	24770	221.15	537.01	8.4	16.1
1677.0	16.5	38.5	80	9.4	1.45	6.97	25061	221.15	533.70	8.4	16.1
1678.0	48.0	34.5	80	9.5	1.07	6.99	25161	76.08	528.97	8.4	16.1
1680.0	13.2	38.6	80	9.4	1.52	7.14	25887	276.44	523.84	8.4	16.1
1682.0	25.9	40.1	80	9.5	1.32	7.22	26258	141.01	516.23	8.4	16.1
1683.0	12.9	42.6	80	9.5	1.57	7.30	26629	282.02	513.93	8.4	16.1
1684.0	9.4	40.8	80	9.5	1.66	7.40	27138	387.52	512.70	8.4	16.1
1685.0	24.8	39.7	80	9.4	1.33	7.44	27331	147.09	509.17	8.4	16.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1686.0	11.5	37.5	80	9.5	1.55	7.53	27750	318.54	507.34	8.4	16.1
1687.0	17.8	39.1	80	9.5	1.43	7.59	28019	204.92	504.48	8.4	16.1
1688.0	26.7	37.0	80	9.5	1.28	7.62	28199	136.95	501.03	8.4	16.1
1689.0	52.2	33.6	80	9.4	1.03	7.64	28291	70.00	497.03	8.4	16.1
1690.0	50.0	37.1	80	9.5	1.08	7.66	28387	73.04	493.12	8.4	16.1
1691.0	108.0	36.8	80	9.5	0.83	7.67	28432	33.81	488.93	8.4	16.1
1693.0	104.3	38.1	80	9.4	0.85	7.69	28524	35.00	480.80	8.4	16.1
1694.0	87.8	35.4	80	9.4	0.89	7.70	28579	41.59	476.90	8.4	16.1
1695.0	156.5	37.9	80	9.5	0.72	7.71	28609	23.33	472.90	8.4	16.1
1696.0	80.0	40.4	80	9.5	0.95	7.72	28669	45.65	469.18	8.4	16.1
1697.0	56.2	38.2	80	9.4	1.05	7.74	28755	64.92	465.68	8.4	16.1
1699.0	42.9	32.6	80	9.4	1.08	7.79	28979	85.21	459.21	8.4	16.1
1700.0	75.0	33.8	80	9.5	0.92	7.80	29043	48.69	455.75	8.4	16.1
1701.0	14.8	42.4	80	9.5	1.53	7.87	29368	247.52	454.01	8.4	16.2
1702.0	12.5	41.2	80	9.5	1.57	7.95	29751	291.15	452.66	8.4	16.2
1703.0	12.0	41.6	80	9.5	1.59	8.03	30149	303.32	451.43	8.4	16.2
1705.0	35.3	40.8	80	9.4	1.22	8.09	30421	103.47	445.80	8.4	16.2
1706.0	22.6	40.5	80	9.4	1.37	8.13	30633	161.30	443.51	8.4	16.2
1707.0	41.9	39.1	80	9.5	1.15	8.16	30748	87.24	440.68	8.4	16.2
1708.0	19.8	39.1	80	9.4	1.40	8.21	30991	184.63	438.65	8.4	16.2
1709.0	13.8	40.8	80	9.5	1.53	8.28	31337	263.76	437.28	8.4	16.2
1710.0	9.3	40.6	80	9.5	1.66	8.39	31852	391.58	436.93	8.4	16.2
1712.0	22.0	39.7	80	9.5	1.37	8.48	32288	165.86	432.78	8.4	16.2
1713.0	18.9	41.2	80	9.4	1.43	8.53	32541	192.74	430.95	8.4	16.2
1714.0	10.2	40.3	80	9.5	1.63	8.63	33012	358.10	430.40	8.4	16.2
1715.0	10.9	40.1	80	9.4	1.60	8.72	33453	335.78	429.70	8.4	16.2
1716.0	8.0	40.4	80	9.4	1.71	8.84	34055	457.51	429.90	8.4	16.2
1717.0	42.4	37.8	80	9.5	1.14	8.87	34168	86.23	427.37	8.4	16.2
1718.0	21.8	37.8	80	9.5	1.35	8.91	34388	167.38	425.46	8.4	16.2
1719.0	16.5	40.2	80	9.4	1.47	8.97	34679	221.15	423.98	8.4	16.2
1720.0	14.1	40.1	80	9.5	1.52	9.05	35020	259.70	422.79	8.4	16.2
1722.0	18.2	40.0	80	9.5	1.43	9.16	35548	200.86	419.64	8.4	16.2
1724.0	25.3	38.5	80	9.5	1.31	9.23	35928	144.56	415.78	8.4	16.2
1726.0	52.3	37.1	80	9.5	1.06	9.27	36112	69.88	411.00	8.4	16.2
1727.0	41.5	32.8	80	9.4	1.10	9.30	36227	87.92	408.78	8.4	16.2
1728.0	57.1	36.3	80	9.5	1.03	9.31	36311	63.91	406.42	8.4	16.2
1729.0	20.3	37.7	80	9.4	1.37	9.36	36547	179.56	404.89	8.4	16.2
1730.0	38.7	38.0	80	9.5	1.17	9.39	36671	94.34	402.80	8.4	16.2
1732.0	19.5	38.8	80	9.5	1.40	9.49	37163	187.17	399.93	8.4	16.2
1733.0	42.9	36.7	80	9.5	1.12	9.52	37275	85.21	397.86	8.4	16.2
1734.0	43.9	35.9	80	9.4	1.11	9.54	37385	83.18	395.80	8.4	16.2
1735.0	50.7	34.4	80	9.5	1.05	9.56	37479	72.03	393.69	8.4	16.2
1736.0	48.0	33.8	80	9.5	1.06	9.58	37579	76.08	391.63	8.4	16.2
1737.0	11.4	40.7	80	9.5	1.59	9.67	37999	319.55	391.17	8.4	16.2
1738.0	9.0	41.3	80	9.4	1.68	9.78	38530	403.75	391.25	8.4	16.2
1739.0	7.5	41.3	80	9.4	1.74	9.91	39169	485.92	391.85	8.4	16.2
1741.0	7.6	39.1	80	9.5	1.71	10.17	40433	480.85	392.97	8.4	16.2
1742.0	9.9	38.2	80	9.5	1.61	10.27	40917	368.24	392.81	8.4	16.2
1743.0	7.2	38.3	80	9.4	1.71	10.41	41585	508.24	393.53	8.4	16.2
1744.0	9.8	38.4	80	9.5	1.61	10.52	42073	371.29	393.39	8.4	16.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1745.0	8.8	38.3	80	9.4	1.65	10.63	42615	412.88	393.51	8.4	16.2
1746.0	13.6	39.3	80	9.5	1.52	10.70	42967	267.81	392.75	8.4	16.2
1747.0	6.2	38.7	80	9.5	1.77	10.86	43745	591.42	393.94	8.4	16.2
1748.0	17.3	38.4	80	9.5	1.43	10.92	44022	211.00	392.85	8.4	16.2
1749.0	21.2	35.5	80	9.5	1.33	10.97	44249	172.46	391.53	8.4	16.2
1750.0	19.8	37.4	80	9.4	1.38	11.02	44491	184.63	390.30	8.4	16.2
1751.0	8.2	38.5	80	9.5	1.67	11.14	45077	445.34	390.63	8.4	16.2
1752.0	12.1	38.6	80	9.4	1.55	11.22	45474	302.30	390.11	8.4	16.2
1753.0	8.3	38.5	80	9.5	1.67	11.34	46055	442.30	390.42	8.4	16.2
1754.0	18.4	38.1	80	9.5	1.41	11.40	46317	198.83	389.31	8.4	16.2
1755.0	31.0	36.8	80	9.5	1.23	11.43	46471	117.68	387.74	8.4	16.2
1757.0	18.7	37.8	80	9.5	1.40	11.54	46985	195.28	385.55	8.4	16.2
1758.0	17.0	38.4	80	9.5	1.44	11.60	47267	214.72	384.58	8.4	16.2
1759.0	9.4	38.7	80	9.4	1.63	11.70	47779	389.55	384.61	8.4	16.2
1760.0	9.5	38.9	80	9.5	1.63	11.81	48283	383.46	384.60	8.4	16.2
1761.0	12.0	37.5	80	9.5	1.54	11.89	48684	305.35	384.16	8.4	16.2
1762.0	24.7	35.0	80	9.4	1.28	11.93	48879	148.11	382.85	8.4	16.2
1763.0	9.8	38.4	80	9.5	1.62	12.04	49368	372.30	382.80	8.4	16.2
1764.0	13.8	38.5	80	9.5	1.50	12.11	49715	263.76	382.14	8.4	16.2
1766.0	12.0	39.0	80	9.4	1.56	12.27	50515	304.33	381.30	8.4	16.2
1767.0	6.7	39.1	80	9.4	1.75	12.42	51229	543.74	382.18	8.4	16.3
1768.0	16.3	38.9	80	9.5	1.46	12.48	51524	224.19	381.33	8.4	16.3
1769.0	11.1	38.6	80	9.5	1.58	12.57	51956	328.68	381.05	8.4	16.3
1770.0	22.8	38.1	80	9.5	1.34	12.62	52167	160.28	379.88	8.4	16.3
1771.0	10.7	38.6	80	9.5	1.59	12.71	52617	342.88	379.68	8.4	16.3
1772.0	10.9	38.9	80	9.4	1.59	12.80	53059	335.78	379.45	8.4	16.3
1773.0	6.4	39.0	80	9.5	1.76	12.96	53808	570.12	380.45	8.4	16.3
1774.0	15.2	38.8	80	9.5	1.48	13.03	54124	240.42	379.72	8.4	16.3
1775.0	11.4	39.7	80	9.5	1.58	13.11	54544	319.55	379.41	8.4	16.3
1776.0	19.6	36.9	80	9.5	1.38	13.16	54789	186.66	378.42	8.4	16.3
1777.0	11.6	37.4	80	9.5	1.55	13.25	55203	314.48	378.09	8.4	16.3
1778.0	9.1	37.5	80	9.4	1.63	13.36	55732	402.73	378.22	8.4	16.3
1780.0	14.3	37.1	80	9.5	1.48	13.50	56403	255.13	376.98	8.4	16.3
1781.0	19.7	37.1	80	9.5	1.38	13.55	56647	185.64	376.02	8.4	16.3
1783.0	23.9	35.7	80	9.5	1.30	13.64	57048	152.67	373.80	8.4	16.3
1784.0	12.1	37.3	80	9.4	1.53	13.72	57445	302.30	373.45	8.4	16.3
1785.0	31.0	38.3	80	9.5	1.24	13.75	57600	117.68	372.20	8.4	16.3
1786.0	36.7	35.9	80	9.5	1.16	13.78	57731	99.42	370.86	8.4	16.3
1787.0	7.2	38.8	80	9.4	1.72	13.92	58393	504.18	371.51	8.4	16.3
1788.0	18.8	38.8	80	9.4	1.41	13.97	58648	193.76	370.65	8.4	16.3
1789.0	8.3	39.2	80	9.4	1.68	14.09	59227	440.27	370.99	8.4	16.3
1790.0	14.5	39.2	80	9.5	1.50	14.16	59559	252.60	370.42	8.4	16.3
1791.0	13.6	38.6	80	9.5	1.51	14.23	59912	268.83	369.93	8.4	16.3
1792.0	35.3	34.7	80	9.5	1.17	14.26	60048	103.47	368.67	8.4	16.3
1793.0	16.5	36.7	80	9.4	1.43	14.32	60339	221.15	367.97	8.4	16.3
1794.0	25.4	36.4	80	9.5	1.29	14.36	60528	144.05	366.92	8.4	16.3
1795.0	18.9	37.5	80	9.4	1.39	14.41	60781	192.74	366.10	8.4	16.3
1797.0	20.5	37.3	80	9.5	1.37	14.51	61251	178.54	364.36	8.4	16.3
1798.0	9.6	38.4	80	9.5	1.62	14.61	61749	379.40	364.43	8.4	16.3
1799.0	12.9	38.6	80	9.5	1.53	14.69	62121	283.03	364.06	8.4	16.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1800.0	8.3	38.1	80	9.5	1.67	14.81	62703	442.30	364.42	8.4	16.3
1801.0	13.5	38.0	80	9.5	1.51	14.89	63057	269.84	363.99	8.4	16.3
1802.0	12.5	38.0	80	9.5	1.53	14.97	63440	291.15	363.66	8.4	16.3
1803.0	18.6	37.2	80	9.5	1.40	15.02	63699	196.80	362.90	8.4	16.3
1804.0	21.1	36.0	80	9.5	1.34	15.07	63927	173.47	362.05	8.4	16.3
1806.0	8.2	38.8	80	9.5	1.68	15.31	65091	442.81	362.77	8.4	16.3
1807.0	8.1	38.7	80	9.5	1.68	15.43	65684	451.43	363.16	8.4	16.3
1808.0	10.7	36.0	80	9.5	1.56	15.53	66132	340.85	363.06	8.4	16.3
1809.0	21.2	37.7	80	9.5	1.36	15.57	66359	172.46	362.23	8.4	16.3
1810.0	28.6	29.6	80	9.5	1.18	15.61	66527	127.82	361.20	8.4	16.3
1811.0	38.3	28.7	80	9.5	1.08	15.64	66652	95.36	360.04	8.4	16.3
1812.0	19.9	31.5	80	9.5	1.31	15.69	66893	183.61	359.28	8.4	16.3
1813.0	17.0	32.0	80	9.5	1.35	15.74	67176	214.82	358.66	8.4	16.3
1814.0	10.5	33.8	80	9.5	1.53	15.84	67635	349.26	358.61	8.4	16.3
1815.0	12.0	33.1	80	9.5	1.48	15.92	68036	305.35	358.39	8.4	16.3
1816.0	7.6	33.7	80	9.5	1.63	16.06	68664	477.80	358.90	8.4	16.3
1817.0	8.0	34.0	80	9.5	1.61	16.18	69264	456.50	359.31	8.4	16.3
1818.0	14.4	33.8	80	9.5	1.44	16.25	69597	253.61	358.86	8.4	16.3
1819.0	30.8	31.1	80	9.5	1.17	16.28	69753	118.69	357.85	8.4	16.3
1820.0	19.5	32.8	80	9.5	1.33	16.33	70000	187.67	357.14	8.4	16.3
1821.0	17.0	32.8	80	9.5	1.37	16.39	70283	215.06	356.55	8.4	16.3
1822.0	16.1	34.9	80	9.4	1.41	16.45	70580	226.22	356.00	8.4	16.3
1823.0	9.0	33.8	80	9.5	1.58	16.57	71112	404.76	356.21	8.4	16.3
1824.0	11.9	34.3	80	9.5	1.50	16.65	71515	306.36	356.00	8.4	16.3
1825.0	13.0	34.1	80	9.4	1.47	16.73	71883	279.99	355.69	8.4	16.3
1826.0	10.3	31.7	80	9.5	1.51	16.82	72348	354.04	355.68	8.4	16.3
1827.0	14.8	34.3	80	9.5	1.43	16.89	72673	247.52	355.24	8.4	16.3
1828.0	6.7	33.0	80	9.5	1.66	17.04	73385	541.71	356.00	8.4	16.3
1829.0	11.1	27.0	80	9.5	1.42	17.13	73817	328.68	355.89	8.4	16.3
1830.0	12.6	29.0	80	9.5	1.41	17.21	74199	290.13	355.62	8.4	16.3
1831.0	11.3	30.7	80	9.5	1.47	17.30	74625	324.62	355.50	8.4	16.3
1832.0	7.1	32.9	80	9.4	1.64	17.44	75304	516.35	356.14	8.4	16.3
1833.0	16.0	32.4	80	9.5	1.38	17.50	75604	228.25	355.63	8.4	16.3
1834.0	14.9	32.6	80	9.5	1.41	17.57	75925	244.48	355.19	8.4	16.3
1835.0	18.3	31.5	80	9.5	1.33	17.62	76188	199.85	354.58	8.4	16.3
1836.0	12.8	32.4	80	9.5	1.45	17.70	76564	286.07	354.31	8.4	16.4
1837.0	9.0	30.8	80	9.5	1.54	17.81	77096	404.76	354.51	8.4	16.4
1838.0	11.4	32.7	80	9.5	1.49	17.90	77516	319.55	354.37	8.4	16.4
1839.0	8.0	32.5	80	9.5	1.60	18.02	78113	454.47	354.76	8.4	16.4
1840.0	10.5	32.8	80	9.5	1.52	18.12	78569	346.94	354.73	8.4	16.4
1841.0	6.4	33.0	80	9.5	1.68	18.28	79323	573.16	355.57	8.4	16.4
1842.0	8.0	33.1	80	9.5	1.61	18.40	79920	454.47	355.95	8.4	16.4
1843.0	11.5	32.6	80	9.5	1.49	18.49	80339	318.54	355.81	8.4	16.4
1844.0	19.4	30.1	80	9.4	1.30	18.54	80587	188.69	355.17	8.4	16.4
1845.0	12.0	32.6	80	9.5	1.48	18.62	80985	303.32	354.98	8.4	16.4
1846.0	14.0	32.3	80	9.5	1.42	18.69	81328	260.71	354.62	8.4	16.4
1847.0	8.6	33.8	80	9.5	1.59	18.81	81885	424.04	354.88	8.4	16.4
1848.0	10.0	35.0	80	9.5	1.56	18.91	82365	365.20	354.92	8.4	16.4
1849.0	13.2	34.4	80	9.5	1.47	18.99	82729	276.94	354.63	8.4	16.4
1850.0	37.9	30.2	80	9.5	1.10	19.01	82856	96.37	353.67	8.4	16.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1851.0	20.0	32.0	80	9.5	1.30	19.06	83096	182.60	353.03	8.4	16.4
1852.0	11.5	32.0	80	9.5	1.48	19.15	83514	318.03	352.90	8.4	16.4
1853.0	16.6	32.9	80	9.4	1.38	19.21	83803	220.13	352.41	8.4	16.4
1854.0	11.9	32.4	80	9.5	1.48	19.29	84206	306.36	352.24	8.4	16.4
1855.0	12.7	32.9	80	9.5	1.46	19.37	84583	287.09	352.01	8.4	16.4
1856.0	13.6	32.6	80	9.5	1.44	19.44	84935	267.81	351.70	8.4	16.4
1857.0	11.4	32.8	80	9.5	1.49	19.53	85355	319.04	351.58	8.4	16.4
1858.0	11.0	33.0	80	9.5	1.50	19.62	85791	332.00	351.51	8.4	16.4
1859.0	10.0	33.0	80	9.5	1.53	19.72	86271	365.20	351.56	8.4	16.4
1860.0	8.9	33.1	80	9.5	1.57	19.84	86809	408.82	351.77	8.4	16.4
1861.0	10.3	33.4	80	9.5	1.53	19.93	87277	356.07	351.78	8.4	16.4
1862.0	18.1	33.0	80	9.5	1.35	19.99	87542	201.87	351.25	8.4	16.4
1863.0	10.8	31.4	80	9.5	1.49	20.08	87986	337.81	351.20	8.4	16.4
1864.0	11.7	32.5	80	9.5	1.48	20.17	88397	312.45	351.06	8.4	16.4
1865.0	17.0	33.0	80	9.5	1.37	20.22	88679	214.82	350.58	8.4	16.4
1866.0	13.3	33.1	80	9.5	1.45	20.30	89041	275.42	350.32	8.4	16.4
1867.0	10.7	33.0	80	9.5	1.51	20.39	89488	339.84	350.28	8.4	16.4
1868.0	11.1	33.3	80	9.5	1.51	20.48	89921	329.69	350.21	8.4	16.4
1869.0	8.6	32.9	80	9.4	1.58	20.60	90481	426.07	350.47	8.4	16.4
1870.0	10.5	33.6	80	9.5	1.53	20.70	90937	346.94	350.46	8.4	16.4
1871.0	9.6	33.3	80	9.5	1.55	20.80	91438	381.43	350.57	8.4	16.4
1872.0	15.7	33.0	80	9.5	1.40	20.86	91745	233.32	350.16	8.4	16.4
1873.0	12.7	32.2	80	9.5	1.45	20.94	92122	287.09	349.95	8.4	16.4
1874.0	13.8	31.7	80	9.5	1.42	21.01	92469	263.76	349.65	8.4	16.4
1875.0	8.1	33.8	80	9.4	1.61	21.14	93058	448.38	349.99	8.4	16.4
1876.0	10.2	33.8	80	9.5	1.54	21.23	93528	357.08	350.01	8.4	16.4
1877.0	6.5	33.9	80	9.4	1.68	21.39	94261	557.94	350.72	8.4	16.4
1878.0	7.0	34.0	80	9.5	1.65	21.53	94947	521.71	351.29	8.4	16.4
1879.0	9.4	33.6	80	9.5	1.56	21.64	95455	386.50	351.41	8.4	16.4
1880.0	11.5	33.7	80	9.4	1.50	21.72	95871	316.51	351.29	8.4	16.4
1881.0	9.1	34.2	80	9.4	1.58	21.83	96400	402.73	351.47	8.4	16.4
1882.0	12.2	35.1	80	9.5	1.50	21.91	96792	298.25	351.29	8.4	16.4
1883.0	6.9	34.9	80	9.4	1.68	22.06	97489	530.55	351.88	8.4	16.4
1884.0	10.6	35.1	80	9.5	1.55	22.15	97944	345.93	351.86	8.4	16.4
1885.0	7.0	35.2	80	9.4	1.68	22.30	98629	521.42	352.42	8.4	16.4
1886.0	13.1	39.3	80	9.5	1.53	22.37	98995	277.96	352.18	8.4	16.4
1887.0	7.0	40.3	80	9.5	1.75	22.52	99684	524.47	352.74	8.4	16.4
1888.0	12.1	39.3	80	9.4	1.56	22.60	100081	302.30	352.58	8.4	16.4
1889.0	8.1	40.3	80	9.4	1.70	22.72	100671	448.38	352.89	8.4	16.4
1890.0	10.5	40.1	80	9.5	1.62	22.82	101129	348.97	352.88	8.4	16.4
1891.0	12.0	30.0	80	9.5	1.43	22.90	101529	304.33	352.72	8.4	16.4
1892.0	9.8	39.5	80	9.5	1.63	23.00	102019	372.30	352.78	8.4	16.4
1893.0	8.9	40.0	80	9.5	1.67	23.12	102557	409.84	352.97	8.4	16.4
1894.0	10.2	40.3	80	9.5	1.62	23.21	103027	357.08	352.98	8.4	16.4
1895.0	8.0	40.0	80	9.5	1.69	23.34	103627	456.50	353.31	8.4	16.4
1896.0	10.6	40.2	80	9.5	1.61	23.43	104080	344.91	353.28	8.4	16.4
1897.0	8.2	40.1	80	9.5	1.69	23.56	104667	446.36	353.58	8.4	16.4
1898.0	12.1	40.4	80	9.4	1.57	23.64	105064	302.30	353.41	8.4	16.4
1899.0	10.3	39.7	80	9.5	1.62	23.74	105531	355.06	353.42	8.4	16.4
1900.0	8.6	37.0	80	9.5	1.64	23.85	106092	427.08	353.65	8.4	16.4



DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1901.0	32.1	34.3	80	9.5	1.19	23.88	106241	113.62	352.90	8.4	16.4
1902.0	15.2	35.1	80	9.5	1.43	23.95	106557	240.42	352.55	8.4	16.4
1903.0	11.7	35.1	80	9.5	1.52	24.03	106967	311.43	352.42	8.4	16.4
1904.0	9.4	35.7	80	9.4	1.59	24.14	107477	388.53	352.53	8.4	16.4
1905.0	7.8	35.4	80	9.4	1.65	24.27	108092	467.66	352.89	8.4	16.4
1906.0	12.6	35.5	80	9.4	1.50	24.35	108472	289.12	352.69	8.4	16.4
1907.0	11.0	35.2	80	9.5	1.54	24.44	108909	332.74	352.63	8.4	16.5
1908.0	11.8	35.5	80	9.5	1.52	24.52	109315	308.39	352.50	8.4	16.5
1909.0	8.3	35.7	80	9.4	1.63	24.64	109893	440.27	352.76	8.4	16.5
1910.0	10.6	35.7	80	9.5	1.55	24.74	110345	343.90	352.74	8.4	16.5
1911.0	8.7	35.5	80	9.5	1.61	24.85	110895	417.95	352.93	8.4	16.5
1912.0	11.5	33.3	80	9.4	1.50	24.94	111311	316.51	352.82	8.4	16.5
1913.0	10.4	32.6	80	9.5	1.52	25.04	111771	349.98	352.82	8.4	16.5
1914.0	10.8	35.4	80	9.5	1.54	25.13	112213	336.80	352.77	8.4	16.5
1915.0	14.6	33.5	80	9.5	1.43	25.20	112541	249.55	352.46	8.4	16.5
1916.0	26.7	29.9	80	9.5	1.20	25.23	112721	136.95	351.81	8.4	16.5
1917.0	15.9	32.2	80	9.5	1.38	25.30	113023	229.26	351.45	8.4	16.5
1918.0	15.1	35.6	80	9.5	1.44	25.36	113340	241.44	351.12	8.4	16.5
1919.0	11.3	36.2	80	9.5	1.54	25.45	113767	324.62	351.04	8.4	16.5
1920.0	18.3	34.0	80	9.5	1.36	25.51	114029	199.85	350.60	8.4	16.5
1921.0	8.8	37.6	80	9.5	1.64	25.62	114573	413.89	350.78	8.4	16.5
1922.0	13.7	38.9	80	9.5	1.51	25.69	114923	265.78	350.53	8.4	16.5
1923.0	9.7	38.7	80	9.5	1.62	25.79	115416	375.34	350.61	8.4	16.5
1924.0	13.0	38.9	80	9.4	1.53	25.87	115784	279.99	350.40	8.4	16.5
1926.0	10.2	38.3	80	9.4	1.60	26.07	116723	357.08	350.44	8.4	16.5
1927.0	10.0	39.0	80	9.5	1.61	26.17	117203	365.20	350.48	8.4	16.5
1928.0	13.0	34.0	80	9.5	1.46	26.24	117572	280.92	350.28	8.4	16.5
1929.0	11.5	37.3	80	9.5	1.55	26.33	117991	318.87	350.19	8.4	16.5
1930.0	12.0	37.9	80	9.5	1.54	26.42	118392	305.35	350.06	8.4	16.5
1931.0	8.8	38.3	80	9.4	1.65	26.53	118935	412.88	350.24	8.4	16.5
1932.0	13.4	38.4	80	9.5	1.51	26.60	119294	272.89	350.02	8.4	16.5
1933.0	9.0	38.6	80	9.4	1.65	26.71	119830	407.81	350.19	8.4	16.5
1934.0	14.0	38.5	80	9.5	1.50	26.79	120172	260.71	349.93	8.4	16.5
1935.0	12.0	38.1	80	9.5	1.54	26.87	120571	303.32	349.80	8.4	16.5
1936.0	8.8	38.0	80	9.5	1.64	26.98	121116	415.00	349.98	8.4	16.5
1937.0	9.8	38.6	80	9.5	1.60	27.08	121606	372.30	350.05	8.4	16.5
1938.0	21.3	37.5	80	9.6	1.33	27.13	121831	171.44	349.55	8.4	16.5
1939.0	17.1	37.2	80	9.6	1.39	27.19	122111	213.03	349.16	8.4	16.5
1940.0	8.7	37.5	80	9.7	1.61	27.30	122663	419.98	349.36	8.4	16.5
1941.0	11.8	38.6	80	9.7	1.52	27.39	123070	309.41	349.25	8.4	16.5
1942.0	9.4	38.2	80	9.6	1.59	27.50	123578	386.50	349.35	8.4	16.5
1943.0	12.6	38.5	80	9.7	1.50	27.57	123958	289.12	349.19	8.4	16.5
1944.0	9.0	38.3	80	9.7	1.61	27.69	124488	403.75	349.34	8.4	16.5
1945.0	13.6	38.1	80	9.7	1.47	27.76	124842	268.83	349.12	8.4	16.5
1946.0	10.0	38.0	80	9.7	1.56	27.86	125322	365.20	349.16	8.4	16.5
1947.0	11.9	38.1	80	9.7	1.51	27.94	125725	306.87	349.04	8.4	16.5
1948.0	12.2	35.0	80	9.7	1.46	28.02	126118	299.34	348.91	8.4	16.5
1949.0	14.9	37.4	80	9.7	1.43	28.09	126440	244.48	348.63	8.4	16.5
1950.0	9.1	39.1	80	9.7	1.61	28.20	126966	400.71	348.77	8.4	16.5
1951.0	12.9	39.3	80	9.7	1.50	28.28	127340	284.04	348.59	8.4	16.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
1952.0	8.1	38.6	80	9.7	1.64	28.40	127936	453.46	348.87	8.4	16.5
1953.0	11.8	38.2	80	9.7	1.51	28.49	128344	310.42	348.77	8.4	16.5
1954.0	7.4	39.2	80	9.7	1.67	28.62	128993	494.03	349.16	8.4	16.5
1955.0	21.8	38.6	80	9.7	1.32	28.67	129213	167.38	348.67	8.4	16.5
1956.0	17.0	35.0	80	9.7	1.36	28.73	129495	214.82	348.32	8.4	16.5
1957.0	14.2	35.8	80	9.7	1.43	28.80	129833	256.65	348.07	8.4	16.5
1958.0	8.2	35.6	80	9.7	1.59	28.92	130418	445.34	348.33	8.4	16.5
1959.0	12.1	30.4	80	9.7	1.41	29.00	130814	301.29	348.21	8.4	16.5
1960.0	10.9	31.6	80	9.7	1.45	29.09	131254	334.77	348.17	8.4	16.5
1961.0	18.8	31.1	80	9.9	1.26	29.15	131509	193.76	347.76	8.4	16.5
1962.0	11.1	31.2	80	9.9	1.41	29.24	131941	328.68	347.71	8.4	16.5
1963.0	11.6	32.1	80	9.9	1.41	29.32	132355	315.49	347.63	8.4	16.5
1964.0	7.4	32.5	80	9.9	1.55	29.46	133007	496.06	348.02	8.4	16.5
1965.0	10.3	32.5	80	9.9	1.45	29.56	133473	354.04	348.03	8.4	16.5
1966.0	7.2	32.4	80	10.0	1.54	29.70	134142	509.25	348.45	8.4	16.5
1967.0	12.0	32.6	80	10.0	1.40	29.78	134543	305.35	348.34	8.4	16.5
1968.0	13.1	34.2	80	10.0	1.39	29.86	134909	277.96	348.16	8.4	16.5
1969.0	15.1	33.1	80	10.0	1.33	29.92	135226	241.44	347.88	8.4	16.5
1970.0	10.8	32.2	80	10.0	1.42	30.01	135670	337.81	347.86	8.4	16.5
1971.0	16.3	31.1	80	10.0	1.29	30.08	135965	224.19	347.54	8.4	16.5
1972.0	18.6	29.3	80	10.0	1.23	30.13	136223	196.80	347.15	8.4	16.5
1973.0	31.0	28.4	80	10.0	1.08	30.16	136378	117.68	346.57	8.4	16.5
1974.0	5.9	32.8	80	10.0	1.61	30.33	137198	623.88	347.27	8.4	16.5
1975.0	21.4	31.6	80	10.0	1.22	30.38	137422	170.43	346.83	8.4	16.5
1976.0	8.2	32.8	80	10.0	1.51	30.50	138009	446.36	347.08	8.4	16.5
1977.0	10.0	33.2	80	10.0	1.46	30.60	138489	365.20	347.12	8.4	16.5
1978.0	10.6	33.2	80	10.0	1.44	30.70	138942	344.91	347.12	8.4	16.5
1979.0	7.1	33.2	80	10.0	1.56	30.84	139621	516.35	347.54	8.4	16.5
1980.0	13.7	32.9	80	10.0	1.36	30.91	139970	265.78	347.34	8.4	16.6
1981.0	7.0	33.2	80	10.0	1.56	31.05	140651	518.38	347.77	8.4	16.6
1982.0	8.3	34.4	80	10.0	1.53	31.17	141231	441.28	348.00	8.4	16.6
1983.0	9.3	34.2	80	10.0	1.49	31.28	141746	391.58	348.11	8.4	16.6
1984.0	6.5	33.6	80	10.0	1.58	31.43	142481	558.96	348.63	8.4	16.6
1985.0	1.9	35.7	80	10.0	1.98	31.95	144965	1890	352	8.4	16.6
1986.0	5.0	39.4	80	10.0	1.75	32.15	145931	735.47	353.40	8.4	16.6
1987.0	11.5	43.1	80	10.0	1.53	32.24	146347	316.51	353.31	8.4	16.6
1988.0	8.0	42.0	80	10.0	1.63	32.36	146947	456.50	353.56	8.4	16.6
1989.0	10.0	42.0	80	10.0	1.56	32.46	147427	365.20	353.59	8.4	16.6
1990.0	8.5	42.6	80	10.0	1.62	32.58	147995	431.70	353.78	8.4	16.6
1991.0	9.0	42.7	80	10.0	1.60	32.69	148526	403.75	353.90	8.4	16.6
1992.0	7.0	40.0	80	10.0	1.65	32.84	149211	521.71	354.31	8.4	16.6
1993.0	8.2	42.2	80	10.0	1.63	32.96	149797	445.34	354.53	8.4	16.6
1994.0	6.9	42.8	80	10.0	1.69	33.10	150491	528.53	354.95	8.4	16.6
1995.0	11.8	43.0	80	10.0	1.52	33.19	150898	309.41	354.84	8.4	16.6
1996.0	7.3	43.9	80	10.0	1.68	33.32	151554	499.11	355.19	8.4	16.6
1997.0	11.8	43.0	80	10.0	1.52	33.41	151959	308.39	355.08	8.4	16.6
1998.0	6.7	43.3	80	10.0	1.70	33.56	152671	541.71	355.53	8.4	16.6
1999.0	11.5	43.3	80	10.0	1.53	33.64	153087	316.51	355.43	8.4	16.6
2000.0	7.4	43.3	80	10.0	1.67	33.78	153735	493.02	355.76	8.4	16.6
2001.0	11.8	43.5	80	10.0	1.53	33.86	154142	309.41	355.65	8.4	16.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2002.0	8.0	40.0	80	10.0	1.61	33.99	154742	456.50	355.89	8.4	16.6
2003.0	10.8	43.2	80	10.0	1.55	34.08	155185	336.80	355.85	8.4	16.6
2004.0	7.9	43.5	80	10.0	1.66	34.21	155794	463.60	356.10	8.4	16.6
2005.0	10.6	43.5	80	10.0	1.56	34.30	156247	344.91	356.07	8.4	16.6
2006.0	11.0	40.0	80	10.0	1.51	34.39	156684	332.00	356.02	8.4	16.6
2007.0	13.5	43.4	80	10.0	1.48	34.47	157039	270.21	355.82	8.4	16.6
2008.0	9.9	43.2	80	10.0	1.58	34.57	157521	367.23	355.84	8.4	16.6
2009.0	25.0	42.5	80	10.0	1.28	34.61	157713	146.08	355.35	8.4	16.6
2010.0	9.3	43.1	80	10.0	1.60	34.71	158229	392.59	355.44	8.4	16.6
2011.0	9.5	43.8	80	10.0	1.60	34.82	158735	384.47	355.51	8.4	16.6
2012.0	11.0	42.0	80	10.0	1.53	34.91	159171	332.00	355.45	8.4	16.6
2013.0	11.0	43.5	80	10.0	1.55	35.00	159608	332.23	355.40	8.4	16.6
2014.0	8.3	43.5	80	10.0	1.64	35.12	160184	438.24	355.59	8.4	16.6
2015.0	12.2	43.5	80	10.0	1.52	35.20	160577	299.26	355.46	8.4	16.6
2016.0	9.7	42.0	80	10.0	1.57	35.31	161072	376.36	355.51	8.4	16.6
2017.0	17.3	41.7	80	10.0	1.39	35.36	161349	211.00	355.18	8.4	16.6
2028.0	30.0	42.0	80	10.2	1.19	35.73	163109	121.73	349.43	8.4	16.6
2029.0	13.0	38.0	80	10.2	1.41	35.81	163478	280.92	349.27	8.4	16.6
2030.0	27.4	38.3	80	10.2	1.19	35.84	163654	133.33	348.79	8.4	16.6
2031.0	13.3	38.3	80	10.2	1.40	35.92	164014	273.90	348.63	8.4	16.6
2032.0	7.5	39.1	80	10.2	1.58	36.05	164654	486.93	348.93	8.4	16.6
2033.0	9.5	38.7	80	10.2	1.51	36.16	165159	384.47	349.01	8.4	16.6
2034.0	9.0	39.3	80	10.2	1.53	36.27	165695	407.81	349.14	8.4	16.6
2035.0	7.5	39.2	80	10.5	1.54	36.40	166335	486.93	349.44	8.4	16.6
2036.0	9.5	39.5	80	10.5	1.47	36.51	166839	383.46	349.52	8.4	16.6
2037.0	11.3	39.1	80	10.5	1.42	36.60	167263	322.59	349.46	8.4	16.6
2038.0	7.3	39.3	80	10.5	1.55	36.73	167920	500.12	349.79	8.4	16.6
2039.0	9.6	39.4	80	10.5	1.47	36.84	168419	379.40	349.86	8.4	16.6
2040.0	7.7	39.4	80	10.5	1.54	36.97	169044	475.77	350.13	8.4	16.6
2041.0	9.0	39.5	80	10.5	1.49	37.08	169576	404.76	350.25	8.4	16.6
2042.0	5.9	39.5	80	10.5	1.62	37.25	170392	620.84	350.84	8.4	16.6
2043.0	6.6	39.9	80	10.5	1.59	37.40	171122	554.90	351.28	8.4	16.6
2044.0	6.9	39.6	80	10.5	1.57	37.55	171818	530.05	351.66	8.4	16.6
2045.0	10.0	39.3	80	10.5	1.46	37.65	172297	364.19	351.69	8.4	16.6
2046.0	6.5	40.1	80	10.5	1.60	37.80	173040	565.05	352.15	8.4	16.6
2047.0	7.0	39.6	80	10.5	1.57	37.94	173725	521.42	352.51	8.4	16.6
2048.0	9.5	39.6	80	10.5	1.48	38.05	174229	383.46	352.58	8.4	16.6
2049.0	8.7	39.5	80	10.5	1.50	38.16	174781	419.98	352.72	8.4	16.6
2050.0	19.8	38.7	80	10.5	1.25	38.21	175024	184.63	352.37	8.4	16.6
2051.0	12.4	38.5	80	10.5	1.39	38.29	175412	295.20	352.24	8.4	16.6
2052.0	14.2	39.4	80	10.5	1.36	38.36	175750	257.67	352.04	8.4	16.6
2054.0	7.0	40.0	80	10.5	1.57	38.65	177122	521.71	352.76	8.4	16.6
2055.0	9.4	39.3	80	10.5	1.48	38.76	177633	389.04	352.84	8.4	16.6
2056.0	9.7	39.8	80	10.5	1.47	38.86	178130	378.39	352.89	8.4	16.7
2057.0	16.0	39.4	80	10.5	1.32	38.92	178430	228.25	352.63	8.4	16.7
2058.0	12.8	39.4	80	10.5	1.39	39.00	178805	285.06	352.49	8.4	16.7
2059.0	15.5	39.7	80	10.5	1.33	39.07	179116	236.37	352.25	8.4	16.7
2060.0	11.8	39.0	80	10.5	1.41	39.15	179521	308.39	352.15	8.4	16.7
2062.0	11.0	39.7	80	10.5	1.43	39.33	180390	330.71	352.06	8.4	16.7
2063.0	12.0	40.0	80	10.5	1.41	39.41	180790	304.33	351.97	8.4	16.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	TCOST	CCOST	PP	FG
2064.0	11.1	39.4	80	10.5	1.43	39.51	181224	330.20	351.92	8.4	16.7
2065.0	10.2	39.7	80	10.5	1.46	39.60	181695	358.10	351.93	8.4	16.7
2066.0	6.2	40.5	80	10.5	1.61	39.76	182467	587.36	352.42	8.4	16.7
2067.0	5.0	40.0	80	10.5	1.67	39.96	183427	730.40	353.20	8.4	16.7
2068.0	8.3	39.9	80	10.6	1.51	40.08	184004	439.25	353.37	8.4	16.7
2069.0	14.2	39.3	80	10.6	1.35	40.15	184342	256.65	353.18	8.4	16.7
2070.0	7.1	40.5	85	10.6	1.58	40.30	185060	513.31	353.50	8.4	16.7
2071.0	7.8	40.2	90	10.6	1.57	40.42	185752	467.66	353.74	8.4	16.7
2072.0	5.7	40.3	90	10.6	1.66	40.60	186703	643.16	354.33	8.4	16.7
2073.0	6.6	40.6	90	10.6	1.62	40.75	187520	552.87	354.73	8.4	16.7
2074.0	24.6	40.0	90	10.6	1.22	40.79	187740	148.46	354.31	8.4	16.7
2075.0	12.8	39.7	90	10.6	1.42	40.87	188163	286.30	354.17	8.4	16.7
2076.0	8.4	38.9	90	10.6	1.53	40.99	188804	433.17	354.33	8.4	16.7
2077.0	12.7	40.0	90	10.6	1.42	41.07	189228	287.09	354.20	8.4	16.7
2078.0	8.2	40.4	90	10.6	1.56	41.19	189885	444.33	354.38	8.4	16.7
2079.0	10.7	40.2	90	10.6	1.48	41.28	190391	341.87	354.35	8.4	16.7
2080.0	7.9	40.4	90	10.6	1.57	41.41	191072	460.56	354.57	8.4	16.7
2081.0	11.2	40.6	90	10.6	1.47	41.50	191553	325.64	354.51	8.4	16.7
2082.0	7.1	40.5	90	10.6	1.60	41.64	192311	512.29	354.82	8.4	16.7
2083.0	9.6	40.5	90	10.6	1.51	41.74	192872	379.40	354.87	8.4	16.7
2084.0	6.7	39.9	90	10.6	1.61	41.89	193683	548.81	355.26	8.4	16.7
2085.0	10.5	38.7	90	10.6	1.46	41.99	194199	348.97	355.25	8.4	16.7
2086.0	7.4	38.8	90	10.6	1.57	42.12	194933	496.06	355.53	8.4	16.7
2087.0	8.4	39.5	90	10.6	1.54	42.24	195579	437.23	355.69	8.4	16.7
2088.0	7.5	39.2	90	10.6	1.57	42.38	196296	484.90	355.94	8.4	16.7
2089.0	7.0	40.0	90	10.6	1.59	42.52	197068	521.71	356.27	8.4	16.7
2090.0	7.5	40.2	90	10.6	1.58	42.65	197784	484.40	356.52	8.4	16.7
2091.0	6.3	40.9	90	10.6	1.64	42.81	198639	578.23	356.96	8.4	16.7
2092.0	7.8	40.3	90	10.6	1.57	42.94	199333	469.69	357.18	8.4	16.7
2093.0	1.6	40.4	90	10.6	2.04	43.56	202717	2289	361	8.4	16.7
2094.0	6.6	35.8	90	10.6	1.56	43.72	203532	550.84	361.32	8.4	16.7

RIT NUMBER	4	IADC CODE	517	INTERVAL	2094.0- 2382.6
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	8.0	BIT RUN	288.6
TOTAL HOURS	45.65	TOTAL TURNS	188835	CONDITION	T3 B3 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2095.0	5.4	14.9	160	10.6	1.41	0.19	1781	678	38414	8.6	16.7
2096.0	4.4	34.3	96	10.6	1.67	0.41	3101	834	19624	8.6	16.7
2097.0	9.2	39.3	90	10.6	1.51	0.52	3690	399	13215	8.6	16.7
2098.0	8.1	38.9	90	10.6	1.54	0.65	4356	450	10024	8.6	16.7
2099.0	12.9	38.6	90	10.6	1.40	0.72	4776	284	8076	8.6	16.7
2100.0	5.7	39.5	90	10.6	1.65	0.90	5717	636	6836	8.6	16.7
2101.0	6.6	39.8	90	10.6	1.61	1.05	6537	555	5939	8.6	16.7
2102.0	6.8	40.0	90	10.6	1.61	1.20	7331	537	5264	8.6	16.7
2103.0	10.5	39.1	90	10.6	1.47	1.29	7844	347	4717	8.6	16.7
2104.0	25.7	39.5	90	10.6	1.21	1.33	8054	142	4260	8.6	16.7
2105.0	21.3	38.5	90	10.6	1.26	1.38	8307	171	3888	8.6	16.7
2106.0	7.0	40.0	90	10.6	1.59	1.52	9079	522	3608	8.6	16.7
2107.0	7.4	39.8	90	10.6	1.58	1.66	9806	492	3368	8.6	16.7
2108.0	10.2	38.4	90	10.6	1.47	1.75	10334	357	3153	8.6	16.7
2109.0	11.7	39.4	90	10.6	1.44	1.84	10795	311	2963	8.6	16.7
2110.0	5.4	40.0	90	10.6	1.67	2.02	11786	671	2820	8.6	16.7
2111.0	8.2	40.2	90	10.6	1.55	2.14	12443	444	2680	8.6	16.7
2112.0	7.0	40.0	90	10.6	1.59	2.29	13215	522	2560	8.6	16.7
2113.0	5.0	40.0	90	10.6	1.69	2.49	14295	730	2464	8.6	16.7
2114.0	12.5	36.0	90	10.6	1.38	2.57	14725	291	2355	8.6	16.7
2115.0	9.9	33.6	90	10.6	1.42	2.67	15268	367	2261	8.6	16.7
2116.0	9.5	34.3	90	10.6	1.44	2.77	15834	382	2175	8.6	16.7
2117.0	4.3	35.7	90	10.6	1.68	3.01	17095	853	2118	8.6	16.8
2118.0	7.5	37.7	90	10.6	1.55	3.14	17820	490	2050	8.6	16.8
2119.0	7.0	8.0	90	10.6	1.06	3.28	18591	522	1989	8.6	16.8
2120.0	9.0	36.3	90	10.6	1.48	3.39	19188	404	1928	8.6	16.8
2121.0	6.1	37.4	90	10.6	1.60	3.56	20069	595	1879	8.6	16.8
2122.0	5.5	38.0	90	10.6	1.64	3.74	21057	669	1835	8.6	16.8
2123.0	6.8	37.6	90	10.6	1.58	3.89	21854	539	1791	8.6	16.8
2124.0	6.5	38.5	90	10.6	1.60	4.04	22680	559	1750	8.6	16.8
2125.0	8.0	41.0	90	10.6	1.56	4.16	23355	457	1708	8.6	16.8
2126.0	7.0	40.0	90	10.6	1.59	4.31	24127	522	1671	8.6	16.8
2127.0	7.8	41.7	90	10.6	1.58	4.44	24816	466	1634	8.6	16.8
2128.0	7.0	40.9	90	10.6	1.61	4.58	25585	520	1602	8.6	16.8
2129.0	7.4	41.9	90	10.6	1.60	4.71	26312	492	1570	8.6	16.8
2130.0	7.4	42.1	90	10.6	1.61	4.85	27044	495	1540	8.6	16.8
2131.0	7.4	41.6	90	10.6	1.60	4.98	27775	494	1512	8.6	16.8
2132.0	13.3	40.3	90	10.6	1.41	5.06	28180	274	1479	8.6	16.8
2133.0	9.7	40.0	70	10.6	1.42	5.16	28613	376	1451	8.6	16.8
2134.0	8.7	41.0	90	10.6	1.55	5.28	29233	419	1425	8.6	16.8
2135.0	10.3	40.4	90	10.6	1.49	5.37	29758	355	1399	8.6	16.8
2136.0	17.3	40.0	90	10.6	1.33	5.43	30070	211	1371	8.6	16.8
2137.0	8.7	40.1	90	10.6	1.54	5.55	30690	419	1349	8.6	16.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2138.0	7.8	41.9	90	10.6	1.59	5.67	31383	469	1329	8.6	16.8
2139.0	6.0	41.6	90	10.6	1.66	5.84	32284	610	1313	8.6	16.8
2140.0	14.5	40.2	90	10.6	1.39	5.91	32658	253	1290	8.6	16.8
2141.0	10.0	40.5	90	10.6	1.50	6.01	33196	364	1270	8.6	16.8
2142.0	14.8	39.8	90	10.6	1.38	6.08	33562	248	1249	8.6	16.8
2143.0	20.1	40.5	90	10.6	1.29	6.13	33831	182	1227	8.6	16.8
2144.0	3.4	42.9	90	10.6	1.85	6.42	35424	1077	1224	8.6	16.8
2145.0	6.9	42.6	90	10.6	1.64	6.57	36211	533	1210	8.6	16.8
2146.0	12.9	40.3	90	10.6	1.42	6.65	36630	283	1192	8.6	16.8
2147.0	15.1	40.3	90	10.6	1.38	6.71	36987	241	1174	8.6	16.8
2148.0	16.0	40.4	90	10.6	1.36	6.77	37324	228	1157	8.6	16.8
2149.0	18.9	40.3	90	10.6	1.31	6.83	37609	193	1139	8.6	16.8
2150.0	7.2	41.0	90	10.6	1.59	6.97	38359	507	1128	8.6	16.8
2151.0	4.9	42.6	90	10.6	1.74	7.17	39469	751	1122	8.5	16.8
2152.0	23.1	40.7	90	10.6	1.26	7.22	39703	158	1105	8.5	16.8
2153.0	4.4	43.1	90	10.6	1.77	7.44	40923	825	1100	8.5	16.8
2154.0	5.2	41.8	90	10.6	1.71	7.63	41959	701	1094	8.5	16.8
2155.0	10.0	40.0	70	10.6	1.41	7.73	42379	365	1082	8.5	16.8
2156.0	10.9	40.4	73	10.6	1.41	7.82	42778	334	1070	8.5	16.8
2157.0	13.9	40.4	70	10.6	1.33	7.90	43080	263	1057	8.5	16.8
2158.0	6.6	39.3	70	10.6	1.53	8.05	43716	553	1049	8.5	16.8
2159.0	4.4	41.0	70	10.6	1.67	8.27	44665	826	1045	8.5	16.8
2160.0	7.0	40.0	70	10.6	1.52	8.42	45265	522	1037	8.5	16.8
2161.0	10.6	38.2	70	10.6	1.38	8.51	45660	343	1027	8.5	16.8
2162.0	23.2	38.8	70	10.6	1.16	8.55	45841	157	1014	8.5	16.8
2163.0	10.8	36.0	70	10.6	1.35	8.65	46231	339	1005	8.5	16.8
2164.0	7.4	40.4	70	10.6	1.51	8.78	46798	493.02	997.23	8.5	16.8
2165.0	8.6	40.2	70	10.6	1.47	8.90	47286	424.04	989.16	8.5	16.8
2166.0	13.4	40.6	70	10.6	1.34	8.97	47599	272.89	979.21	8.5	16.8
2167.0	7.2	39.6	70	10.6	1.51	9.11	48180	505.19	972.71	8.5	16.8
2168.0	5.7	40.2	70	10.6	1.58	9.28	48912	636.06	968.16	8.5	16.8
2169.0	4.6	41.7	70	10.6	1.67	9.50	49830	798.37	965.90	8.5	16.8
2170.0	6.4	40.7	70	10.6	1.56	9.66	50488	572.15	960.72	8.5	16.8
2171.0	8.4	40.4	70	10.6	1.48	9.78	50989	435.20	953.89	8.8	16.8
2172.0	28.3	40.7	70	10.6	1.12	9.81	51137	128.83	943.32	8.8	16.8
2173.0	13.3	42.4	70	10.6	1.36	9.89	51453	274.91	934.86	8.8	16.8
2174.0	11.6	40.9	70	10.6	1.39	9.98	51816	315.49	927.11	8.8	16.8
2175.0	13.5	42.0	70	10.6	1.35	10.05	52126	269.84	919.00	8.8	16.8
2176.0	19.8	37.6	70	10.6	1.20	10.10	52338	184.63	910.04	8.8	16.8
2177.0	1.8	41.0	70	10.6	1.93	10.65	54627	1990	923	8.8	16.8
2178.0	5.0	40.2	70	10.6	1.63	10.85	55467	730.40	920.77	8.8	16.8
2194.0	4.9	42.3	70	10.6	1.66	14.09	69103	741.05	892.01	8.8	16.9
2195.0	7.2	41.2	70	10.6	1.53	14.23	69683	504.18	888.17	8.8	16.9
2196.0	7.9	41.1	70	10.6	1.50	14.36	70216	463.60	884.01	8.8	16.9
2197.0	4.1	41.6	70	10.6	1.70	14.60	71250	898.80	884.15	8.8	16.9
2198.0	8.0	41.0	70	10.6	1.49	14.73	71775	456.50	880.04	8.8	16.9
2199.0	5.9	40.1	70	10.6	1.57	14.90	72484	616.28	877.53	8.8	16.9
2200.0	28.3	39.6	70	10.6	1.11	14.93	72632	128.83	870.47	8.8	16.9
2201.0	12.9	41.6	70	10.6	1.36	15.01	72956	282.02	864.97	8.8	16.9
2202.0	7.0	40.0	70	10.6	1.52	15.15	73556	521.71	861.79	8.8	16.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	TCOST	CCOST	PP	FG
2203.0	12.4	41.8	70	10.6	1.38	15.23	73896	295.20	856.59	8.8	16.9
2204.0	5.5	44.2	70	10.6	1.64	15.41	74653	658.37	854.79	8.8	16.9
2205.0	2.5	44.1	70	10.6	1.89	15.82	76367	1490	861	8.8	16.9
2206.0	4.0	43.4	70	10.6	1.73	16.07	77407	904.88	860.91	8.8	16.9
2207.0	8.1	41.5	70	10.6	1.50	16.19	77929	453.46	857.30	8.8	16.9
2208.0	6.0	41.0	70	10.6	1.57	16.36	78629	608.67	855.12	8.8	16.9
2209.0	5.0	40.0	70	10.6	1.61	16.56	79469	730.40	854.04	8.8	16.9
2210.0	4.4	41.0	70	10.6	1.66	16.79	80423	830.00	853.83	8.8	16.9
2211.0	7.3	40.9	70	10.6	1.52	16.92	80995	497.08	850.78	8.8	16.9
2212.0	7.9	41.0	70	10.6	1.50	17.05	81528	463.60	847.50	8.8	16.9
2213.0	9.1	42.3	70	10.6	1.47	17.16	81991	402.73	843.76	8.8	16.9
2214.0	4.2	41.6	70	10.6	1.69	17.40	82989	867.35	843.96	8.8	16.9
2215.0	4.3	42.8	70	10.6	1.70	17.63	83968	851.12	844.02	8.8	16.9
2216.0	3.4	41.9	70	10.6	1.76	17.93	85216	1085	846	8.8	16.9
2217.0	4.1	41.0	70	10.6	1.69	18.17	86233	884.60	846.31	8.8	16.9
2218.0	3.7	42.2	70	10.6	1.74	18.44	87383	999.23	847.54	8.8	16.9
2219.0	4.0	42.9	70	10.6	1.72	18.69	88426	906.91	848.02	8.8	16.9
2220.0	4.5	42.4	70	10.6	1.68	18.91	89358	810.54	847.72	8.8	16.9
2221.0	5.0	41.3	70	10.6	1.64	19.12	90201	733.44	846.82	8.8	16.9
2222.0	9.5	40.9	70	10.6	1.45	19.22	90645	385.49	843.22	8.8	16.9
2223.0	9.5	41.3	70	10.6	1.45	19.33	91088	385.49	839.67	8.8	16.9
2224.0	9.8	40.6	70	10.6	1.43	19.43	91517	373.32	836.08	8.8	16.9
2225.0	5.1	39.7	70	10.6	1.62	19.63	92348	722.28	835.21	8.8	16.9
2226.0	5.2	40.0	70	10.6	1.61	19.82	93159	705.04	834.23	8.8	16.9
2227.0	5.2	39.8	70	10.6	1.61	20.01	93971	706.05	833.26	8.8	16.9
2228.0	5.3	40.0	70	10.6	1.61	20.20	94764	689.82	832.19	8.8	16.9
2229.0	3.4	40.8	70	10.6	1.75	20.50	96015	1087	834	8.8	16.9
2230.0	8.5	40.1	70	10.6	1.47	20.62	96509	430.12	831.11	8.8	16.9
2231.0	4.1	40.1	70	10.6	1.68	20.86	97526	883.58	831.50	8.8	16.9
2232.0	5.4	40.1	70	10.6	1.60	21.04	98303	675.62	830.37	8.8	16.9
2233.0	6.1	39.5	70	10.6	1.56	21.21	98991	598.52	828.70	8.8	16.9
2234.0	20.6	38.6	70	10.6	1.20	21.26	99195	177.53	824.05	8.8	16.9
2235.0	4.9	39.7	70	10.6	1.63	21.46	100057	749.67	823.52	8.8	16.9
2236.0	6.0	39.9	70	10.6	1.57	21.63	100755	606.64	821.99	8.8	16.9
2237.0	5.8	39.8	70	10.6	1.58	21.80	101485	635.04	820.69	8.8	16.9
2238.0	8.7	40.0	60	10.6	1.41	21.92	101899	419.77	817.90	8.8	16.9
2239.0	4.0	42.0	70	10.6	1.71	22.17	102949	913.00	818.56	8.8	16.9
2240.0	3.8	40.2	70	10.6	1.71	22.43	104061	966.77	819.57	8.8	16.9
2241.0	4.5	41.0	70	10.6	1.67	22.66	104999	815.61	819.55	8.8	16.9
2242.0	3.6	41.7	70	10.6	1.74	22.93	106173	1021	821	8.8	16.9
2243.0	4.3	39.9	70	10.6	1.67	23.17	107160	858.22	821.15	8.8	16.9
2244.0	3.0	40.1	70	10.6	1.78	23.51	108581	1236	824	8.8	16.9
2245.0	4.4	39.9	70	10.6	1.66	23.74	109543	836.92	824.00	8.8	16.9
2246.0	3.6	39.9	70	10.6	1.71	24.01	110695	1001	825	8.8	16.9
2247.0	4.6	40.0	70	10.6	1.65	24.23	111602	789.24	824.93	8.8	16.9
2249.0	9.4	40.9	69	10.6	1.44	24.44	112479	387.52	819.29	8.8	16.9
2250.0	5.9	39.5	60	10.6	1.52	24.61	113086	615.77	817.99	8.8	16.9
2252.0	6.3	39.8	60	10.6	1.51	24.92	114222	576.20	814.92	8.8	16.9
2253.0	8.1	39.9	60	10.6	1.44	25.05	114668	452.44	812.65	8.8	16.9
2254.0	4.3	39.8	60	10.6	1.62	25.28	115508	852.13	812.89	8.8	16.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2255.0	4.4	39.9	60	10.6	1.61	25.51	116327	830.83	813.00	8.8	16.9
2256.0	2.9	39.8	60	10.6	1.74	25.86	117589	1280	816	8.8	16.9
2257.0	8.6	39.4	60	10.6	1.41	25.98	118009	426.07	813.50	8.8	16.9
2258.0	8.5	39.7	60	10.6	1.42	26.09	118434	431.14	811.16	8.8	16.9
2259.0	5.0	40.0	60	10.6	1.57	26.29	119154	730.40	810.68	8.8	16.9
2260.0	6.0	40.0	60	10.6	1.52	26.46	119754	608.67	809.46	8.8	16.9
2261.0	5.4	40.0	60	10.6	1.56	26.65	120425	680.19	808.68	8.8	16.9
2262.0	3.9	40.2	60	10.6	1.65	26.90	121350	938.36	809.46	8.8	16.9
2263.0	4.4	40.2	60	10.6	1.62	27.13	122172	833.87	809.60	8.8	16.9
2264.0	3.4	39.9	60	10.6	1.69	27.42	123217	1060	811	8.8	16.9
2265.0	5.0	40.0	60	10.6	1.58	27.62	123936	729.39	810.60	8.8	16.9
2266.0	5.9	40.0	60	10.6	1.53	27.79	124545	617.80	809.48	8.8	17.0
2267.0	10.4	39.3	60	10.6	1.35	27.89	124890	349.98	806.82	8.8	17.0
2268.0	13.3	39.7	60	10.6	1.29	27.96	125161	274.91	803.76	8.8	17.0
2269.0	6.4	40.3	60	10.6	1.51	28.12	125724	571.13	802.43	8.8	17.0
2270.0	5.4	39.8	60	10.6	1.55	28.30	126394	679.68	801.74	8.8	17.0
2271.0	5.1	42.0	60	10.6	1.60	28.50	127102	718.23	801.26	8.8	17.0
2272.0	2.6	40.6	60	10.6	1.77	28.88	128469	1387	805	8.8	17.0
2273.0	3.7	40.4	60	10.6	1.67	29.15	129451	996.18	805.62	8.8	17.0
2274.0	5.3	40.4	60	10.6	1.56	29.34	130125	683.74	804.95	8.8	17.0
2275.0	8.4	40.3	60	10.6	1.43	29.46	130552	433.17	802.89	8.8	17.0
2276.0	3.3	40.5	60	10.6	1.70	29.76	131628	1092	804	8.8	17.0
2277.0	5.0	40.7	60	10.6	1.59	29.96	132353	735.47	804.10	8.8	17.0
2278.0	3.1	41.1	60	10.6	1.73	30.28	133498	1162	806	8.8	17.0
2279.0	4.8	40.4	60	10.6	1.59	30.49	134245	757.79	805.78	8.8	17.0
2280.0	3.6	40.6	60	10.6	1.68	30.76	135232	1001	807	8.8	17.0
2281.0	3.4	40.3	60	10.6	1.70	31.06	136303	1086	808	8.8	17.0
2282.0	3.6	40.3	60	10.6	1.68	31.33	137301	1012	809	8.8	17.0
2283.0	4.7	40.4	60	10.6	1.60	31.55	138065	775.04	809.23	8.8	17.0
2284.0	8.1	40.4	60	10.6	1.44	31.67	138511	452.44	807.36	8.8	17.0
2285.0	10.0	40.2	60	10.6	1.38	31.77	138871	365.20	805.04	8.8	17.0
2286.0	9.0	39.8	60	10.6	1.41	31.88	139273	407.81	802.97	8.8	17.0
2287.0	13.7	40.0	60	10.6	1.28	31.96	139536	266.80	800.19	8.8	17.0
2288.0	11.3	40.0	60	10.6	1.34	32.04	139856	324.62	797.74	8.8	17.0
2289.0	15.7	39.9	60	10.6	1.24	32.11	140086	233.32	794.85	8.8	17.0
2290.0	14.7	38.9	60	10.6	1.25	32.18	140331	248.54	792.06	8.8	17.0
2291.0	7.7	40.1	60	10.6	1.45	32.31	140799	474.76	790.45	8.8	17.0
2292.0	4.6	40.4	60	10.6	1.61	32.52	141580	792.28	790.46	8.8	17.0
2293.0	3.9	41.2	60	10.6	1.67	32.78	142506	939.38	791.21	8.8	17.0
2294.0	5.4	41.5	60	10.6	1.57	32.96	143170	673.59	790.62	8.8	17.0
2295.0	6.1	40.9	60	10.6	1.53	33.13	143765	603.59	789.69	8.8	17.0
2296.0	7.8	41.9	60	10.6	1.47	33.26	144227	468.67	788.10	8.8	17.0
2297.0	11.2	42.0	60	10.6	1.36	33.35	144548	326.07	785.82	8.8	17.0
2298.0	8.0	41.7	60	10.6	1.46	33.47	144996	454.47	784.20	8.8	17.0
2299.0	6.1	41.2	60	10.6	1.53	33.64	145587	599.54	783.30	8.8	17.0
2300.0	9.4	41.3	60	10.6	1.41	33.74	145972	390.56	781.39	8.8	17.0
2301.0	7.7	41.7	60	10.6	1.47	33.87	146440	474.76	779.91	8.8	17.0
2302.0	10.5	41.8	60	10.6	1.38	33.97	146783	347.95	777.83	8.8	17.0
2303.0	6.3	42.0	60	10.6	1.53	34.13	147355	579.68	776.89	8.8	17.0
2304.0	7.6	42.0	60	10.6	1.47	34.26	147828	480.53	775.47	8.8	17.0



DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2305.0	5.9	42.1	60	10.6	1.55	34.43	148437	617.80	774.73	8.8	17.0
2306.0	5.5	43.4	60	10.6	1.59	34.61	149094	665.98	774.21	8.8	17.0
2307.0	6.5	43.1	60	10.6	1.54	34.77	149651	565.05	773.23	8.8	17.0
2308.0	3.6	42.3	60	10.6	1.70	35.04	150642	1005	774	8.8	17.0
2309.0	5.6	42.5	60	10.6	1.57	35.22	151281	648.23	773.73	8.8	17.0
2310.0	4.1	42.4	60	10.6	1.67	35.46	152166	897.78	774.30	8.8	17.0
2311.0	6.0	42.4	60	10.6	1.54	35.63	152766	608.67	773.54	8.8	17.0
2312.0	5.3	42.4	60	10.6	1.59	35.82	153444	687.79	773.15	8.8	17.0
2313.0	6.2	42.4	60	10.6	1.54	35.98	154027	591.42	772.32	8.8	17.0
2314.0	7.8	42.7	60	10.6	1.48	36.11	154486	465.63	770.92	8.8	17.0
2315.0	17.1	37.6	60	10.6	1.20	36.17	154697	214.05	768.40	8.8	17.0
2316.0	13.2	39.3	60	10.6	1.29	36.24	154970	276.94	766.19	8.8	17.0
2317.0	9.2	43.8	60	10.6	1.44	36.35	155363	398.68	764.54	8.8	17.0
2318.0	15.1	43.2	60	10.6	1.29	36.42	155602	242.45	762.21	8.7	17.0
2319.0	7.1	43.2	60	10.6	1.51	36.56	156112	517.37	761.12	8.7	17.0
2320.0	10.5	43.0	60	10.6	1.38	36.66	156455	347.81	759.29	8.7	17.0
2321.0	9.7	43.1	60	10.6	1.42	36.76	156827	377.37	757.61	8.7	17.0
2322.0	10.2	43.2	60	10.6	1.40	36.86	157181	359.11	755.86	8.7	17.0
2323.0	19.4	43.3	60	10.6	1.21	36.91	157367	188.69	753.39	8.7	17.0
2324.0	7.1	43.4	60	10.6	1.51	37.05	157871	511.28	752.33	8.7	17.0
2325.0	15.3	42.6	60	10.6	1.20	37.11	158107	239.41	750.11	8.7	17.0
2326.0	8.7	43.6	60	10.6	1.45	37.23	158519	417.95	748.68	8.7	17.0
2327.0	6.2	43.7	60	10.6	1.56	37.39	159103	592.44	748.01	8.7	17.0
2328.0	8.6	43.9	60	10.6	1.46	37.51	159522	425.05	746.63	8.7	17.0
2329.0	6.1	43.8	60	10.6	1.56	37.67	160109	595.48	745.99	8.7	17.0
2330.0	12.3	43.5	60	10.6	1.35	37.75	160401	296.22	744.08	8.7	17.0
2331.0	8.3	43.5	60	10.6	1.47	37.87	160835	440.27	742.80	8.7	17.0
2332.0	8.4	43.7	60	10.6	1.46	37.99	161262	433.17	741.50	8.7	17.0
2333.0	13.3	43.2	60	10.6	1.32	38.07	161532	273.90	739.54	8.7	17.0
2334.0	22.2	43.1	60	10.6	1.17	38.11	161694	164.34	737.15	8.7	17.0
2335.0	13.5	43.5	60	10.6	1.32	38.18	161961	270.86	735.21	8.7	17.0
2336.0	11.3	44.3	60	10.6	1.38	38.27	162279	322.59	733.51	8.7	17.0
2337.0	16.6	41.8	60	10.6	1.24	38.33	162496	220.13	731.39	8.7	17.0
2338.0	12.2	44.1	60	10.6	1.36	38.42	162791	299.26	729.62	8.7	17.0
2339.0	4.3	44.4	60	10.6	1.67	38.65	163623	844.02	730.09	8.7	17.0
2340.0	9.1	44.0	60	10.6	1.45	38.76	164020	402.73	728.76	8.7	17.0
2341.0	7.4	44.1	60	10.6	1.51	38.89	164506	493.02	727.81	8.7	17.0
2342.0	11.1	43.1	60	10.6	1.38	38.98	164831	329.69	726.20	8.7	17.0
2343.0	8.9	43.9	60	10.6	1.45	39.09	165237	411.86	724.94	8.7	17.0
2344.0	11.9	43.6	60	10.6	1.36	39.18	165539	306.36	723.26	8.7	17.0
2345.0	9.2	42.1	60	10.6	1.42	39.29	165932	398.68	721.97	8.7	17.0
2346.0	14.2	44.1	60	10.6	1.31	39.36	166185	256.65	720.12	8.7	17.0
2347.0	8.5	43.9	60	10.6	1.46	39.48	166608	429.11	718.97	8.7	17.0
2348.0	12.5	44.1	60	10.6	1.35	39.56	166896	292.16	717.29	8.7	17.0
2349.0	8.0	44.1	60	10.6	1.48	39.68	167346	456.50	716.27	8.7	17.0
2350.0	12.0	44.3	60	10.6	1.36	39.76	167646	304.33	714.66	8.7	17.0
2351.0	8.2	44.2	60	10.6	1.48	39.89	168086	446.36	713.62	8.7	17.0
2352.0	12.5	44.2	60	10.6	1.35	39.97	168374	292.16	711.98	8.7	17.0
2353.0	8.5	44.4	60	10.6	1.47	40.08	168797	429.11	710.89	8.7	17.0
2354.0	11.9	44.2	60	10.6	1.37	40.17	169100	307.38	709.34	8.7	17.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2355.0	3.1	45.0	60	10.6	1.77	40.49	170261	1178	711	8.7	17.0
2356.0	7.0	45.0	60	10.6	1.53	40.63	170775	521.71	710.41	8.7	17.0
2357.0	3.6	45.0	60	10.6	1.73	40.91	171775	1014	712	8.7	17.0
2358.0	4.8	45.2	60	10.6	1.65	41.12	172531	766.92	711.78	8.7	17.0
2359.0	4.4	47.3	60	10.6	1.70	41.35	173349	829.82	712.22	8.7	17.0
2360.0	8.1	46.9	60	10.6	1.51	41.47	173793	450.41	711.24	8.7	17.0
2361.0	5.0	47.4	60	10.6	1.67	41.67	174518	735.47	711.33	8.7	17.1
2362.0	5.2	47.6	60	10.6	1.66	41.87	175214	706.05	711.31	8.7	17.1
2363.0	3.9	47.5	60	10.6	1.74	42.12	176135	934.30	712.14	8.7	17.1
2364.0	5.8	47.4	60	10.6	1.62	42.30	176761	635.04	711.85	8.7	17.1
2365.0	4.6	47.7	60	10.6	1.69	42.51	177546	796.34	712.17	8.7	17.1
2366.0	4.4	47.5	60	10.6	1.71	42.74	178368	833.87	712.61	8.7	17.1
2367.0	3.0	47.5	60	10.6	1.82	43.07	179553	1202	714	8.7	17.1
2368.0	3.6	47.8	60	10.6	1.77	43.35	180553	1014	716	8.7	17.1
2369.0	8.1	46.8	60	10.6	1.51	43.47	180996	449.40	714.53	8.7	17.1
2370.0	18.0	46.0	60	10.6	1.25	43.53	181196	202.89	712.68	8.7	17.1
2371.0	12.3	45.4	60	10.6	1.37	43.61	181488	295.71	711.17	8.7	17.1
2372.0	18.7	45.7	60	10.6	1.24	43.66	181681	195.79	709.32	8.7	17.1
2373.0	9.9	47.0	60	10.6	1.45	43.76	182045	369.26	708.10	8.7	17.1
2374.0	3.8	47.7	60	10.6	1.75	44.03	182995	963.72	709.01	8.7	17.1
2375.0	5.3	47.3	60	10.6	1.65	44.22	183677	691.85	708.95	8.7	17.1
2376.0	10.2	47.1	60	10.6	1.44	44.32	184031	359.11	707.71	8.7	17.1
2377.0	8.0	47.0	60	10.6	1.52	44.44	184481	456.50	706.82	8.7	17.1
2378.0	7.7	47.0	60	10.6	1.52	44.57	184948	474.29	706.01	8.7	17.1
2379.0	6.6	47.2	60	10.6	1.58	44.72	185492	551.86	705.47	8.7	17.1
2380.0	3.6	48.0	60	10.6	1.77	45.00	186486	1008	707	8.7	17.1
2381.0	3.1	47.7	60	10.6	1.81	45.32	187648	1179	708	8.7	17.1
2382.0	4.2	47.5	60	10.6	1.71	45.56	188514	878.51	708.76	8.7	17.1
2382.6	6.7	39.1	60	10.6	1.47	45.65	188835	542.73	708.42	8.7	17.1

BIT NUMBER	5	IADC CODE	517	INTERVAL	2383.0- 2597.3
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	8.0	BIT RUN	214.3
TOTAL HOURS	43.77	TOTAL TURNS	152495	CONDITION	T4 B5 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2384.0	4.6	34.6	47	10.6	1.45	0.22	604	786	38522	8.7	17.1
2385.0	9.0	38.7	50	10.6	1.33	0.33	936	404	19463	8.6	17.1
2386.0	3.4	40.0	50	10.6	1.63	0.62	1807	1061	13329	8.6	17.1
2388.0	4.0	40.5	50	10.6	1.59	1.12	3325	924	8367	8.6	17.1
2389.0	5.0	49.0	50	10.6	1.62	1.32	3921	725	7093	8.6	17.1
2390.0	2.6	48.3	50	10.6	1.81	1.70	5064	1392	6279	8.6	17.1
2391.0	4.7	51.2	50	10.6	1.66	1.91	5696	769	5590	8.6	17.1
2392.0	8.3	50.5	50	10.6	1.47	2.03	6056	439	5018	8.6	17.1
2393.0	5.3	49.3	50	10.6	1.60	2.22	6621	688	4585	8.6	17.1
2394.0	7.6	48.4	50	10.6	1.48	2.35	7015	479	4211	8.6	17.1
2395.0	3.2	48.2	50	10.6	1.75	2.66	7946	1133	3955	8.6	17.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2396.0	3.3	48.5	50	10.6	1.74	2.97	8858	1111	3736	8.6	17.1
2397.0	2.4	48.9	50	10.6	1.84	3.38	10100	1512	3577	8.6	17.1
2398.0	3.7	49.9	50	10.6	1.72	3.65	10912	989	3405	8.6	17.1
2399.0	5.0	49.3	50	10.6	1.62	3.85	11516	735	3238	8.6	17.1
2400.0	4.9	49.4	50	10.6	1.63	4.06	12127	744	3091	8.6	17.1
2401.0	3.1	49.2	50	10.6	1.77	4.38	13100	1184	2985	8.6	17.1
2402.0	7.3	49.1	50	10.6	1.50	4.52	13510	499	2854	8.6	17.1
2403.0	27.1	46.6	50	10.6	1.08	4.55	13621	135	2718	8.6	17.1
2404.0	4.0	48.4	50	10.6	1.68	4.81	14380	924	2633	8.6	17.1
2405.0	8.1	48.2	50	10.6	1.46	4.93	14748	448	2534	8.6	17.1
2406.0	7.0	50.0	50	10.6	1.52	5.07	15177	522	2446	8.6	17.1
2407.0	7.8	48.1	50	10.6	1.47	5.20	15562	469	2364	8.6	17.1
2408.0	3.9	48.5	50	10.6	1.69	5.46	16326	930	2306	8.6	17.1
2409.0	5.2	48.3	50	10.6	1.60	5.65	16906	706	2245	8.6	17.1
2410.0	6.9	48.2	50	10.6	1.51	5.79	17343	533	2181	8.6	17.1
2411.0	13.0	47.8	50	10.6	1.31	5.87	17574	281	2114	8.6	17.1
2412.0	5.2	47.7	50	10.6	1.59	6.07	18156	708	2065	8.6	17.1
2413.0	4.6	48.9	59	10.6	1.70	6.28	18930	795	2023	8.6	17.1
2414.0	3.0	48.2	60	10.6	1.82	6.62	20130	1217	1997	8.6	17.1
2415.0	4.2	50.0	60	10.4	1.77	6.85	20987	870	1962	8.6	17.1
2416.0	4.1	47.4	50	10.6	1.66	7.10	21714	885	1929	8.6	17.1
2417.0	5.2	46.6	50	10.6	1.59	7.29	22294	707	1893	8.6	17.1
2418.0	2.8	47.9	50	10.4	1.82	7.65	23374	1315	1876	8.6	17.1
2419.0	3.8	48.2	50	10.4	1.73	7.92	24174	974	1851	8.6	17.1
2420.0	2.8	50.0	60	10.4	1.90	8.27	25460	1304	1837	8.6	17.1
2421.0	4.4	48.6	50	10.4	1.68	8.50	26138	825	1810	8.6	17.1
2422.0	8.7	48.1	50	10.4	1.46	8.62	26482	419	1774	8.6	17.1
2423.0	10.9	47.9	50	10.4	1.39	8.71	26757	335	1738	8.6	17.1
2424.0	7.8	48.2	50	10.4	1.50	8.84	27142	469	1707	8.6	17.1
2425.0	8.4	48.0	50	10.4	1.48	8.95	27500	435	1677	8.6	17.1
2426.0	11.1	48.1	50	10.4	1.39	9.04	27770	329	1646	8.6	17.1
2427.0	13.0	50.0	60	10.4	1.41	9.12	28047	281	1615	8.6	17.1
2428.0	8.0	48.2	50	10.4	1.49	9.25	28423	458	1589	8.6	17.1
2429.0	5.3	48.5	50	10.4	1.63	9.44	28989	690	1569	8.6	17.1
2430.0	5.5	47.4	55	10.4	1.63	9.62	29592	666	1550	8.6	17.1
2431.0	12.2	48.8	60	10.4	1.42	9.70	29886	298	1524	8.6	17.1
2432.0	8.8	47.8	60	10.4	1.52	9.81	30297	417	1502	8.6	17.1
2433.0	11.5	47.3	60	10.4	1.43	9.90	30611	319	1478	8.6	17.1
2434.0	8.4	47.8	60	10.4	1.53	10.02	31040	435	1457	8.6	17.1
2435.0	12.9	48.0	60	10.4	1.40	10.10	31319	283	1435	8.6	17.1
2436.0	8.1	47.0	60	10.4	1.53	10.22	31766	453	1416	8.6	17.1
2437.0	13.0	48.1	60	10.4	1.40	10.30	32043	281	1395	8.6	17.1
2438.0	9.1	49.0	60	10.4	1.52	10.41	32438	401	1377	8.6	17.1
2439.0	9.9	48.3	60	10.4	1.49	10.51	32803	370	1359	8.6	17.1
2440.0	480.0	28.5	60	10.4	0.22	10.51	32811	8	1336	8.6	17.1
2441.0	8.4	48.7	60	10.4	1.54	10.63	33241	436	1320	8.6	17.1
2442.0	27.7	48.2	60	10.4	1.16	10.67	33371	132	1300	8.6	17.1
2443.0	4.5	48.7	60	10.4	1.74	10.89	34172	813	1292	8.6	17.1
2444.0	4.5	49.1	60	10.4	1.74	11.11	34972	812	1284	8.6	17.1
2445.0	4.0	48.6	60	10.4	1.77	11.36	35864	905	1278	8.6	17.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2446.0	23.7	46.0	60	10.4	1.19	11.40	36016	154	1260	8.6	17.1
2447.0	13.8	47.2	60	10.4	1.37	11.48	36277	265	1244	8.6	17.1
2448.0	21.1	43.1	60	10.4	1.20	11.52	36448	173	1228	8.6	17.1
2449.0	6.0	48.8	60	10.4	1.65	11.69	37051	612	1219	8.6	17.1
2450.0	10.3	49.8	60	10.4	1.49	11.79	37401	355	1206	8.6	17.1
2451.0	6.8	49.2	60	10.4	1.61	11.93	37927	534	1196	8.6	17.1
2452.0	3.3	49.1	60	10.4	1.84	12.23	39002	1091	1194	8.6	17.1
2453.0	6.3	48.9	60	10.4	1.63	12.39	39570	576	1185	8.6	17.1
2454.0	6.2	48.4	60	10.4	1.63	12.55	40149	587	1177	8.6	17.1
2455.0	13.1	48.5	60	10.4	1.40	12.63	40423	278	1165	8.6	17.1
2456.0	6.9	48.4	60	10.4	1.60	12.77	40944	529	1156	8.6	17.1
2457.0	7.9	48.9	60	10.4	1.56	12.90	41398	460	1146	8.6	17.1
2458.0	10.8	50.0	60	10.4	1.47	12.99	41731	338	1136	8.6	17.2
2459.0	4.1	50.0	60	10.4	1.78	13.23	42609	891	1132	8.6	17.2
2460.0	6.3	49.4	60	10.4	1.64	13.39	43176	575	1125	8.6	17.2
2461.0	7.4	48.6	60	10.4	1.58	13.53	43665	496	1117	8.6	17.2
2462.0	4.1	49.8	60	10.4	1.78	13.77	44547	895	1114	8.6	17.2
2463.0	5.0	49.5	60	10.4	1.71	13.97	45264	727	1110	8.6	17.2
2464.0	4.1	50.0	60	10.4	1.78	14.22	46142	891	1107	8.6	17.2
2465.0	4.5	48.0	60	10.4	1.73	14.44	46946	816	1103	8.6	17.2
2466.0	4.7	49.6	60	10.4	1.73	14.65	47708	773	1099	8.6	17.2
2467.0	5.9	49.3	60	10.4	1.66	14.82	48321	622	1094	8.6	17.2
2468.0	3.3	48.8	60	10.4	1.83	15.12	49397	1092	1094	8.6	17.2
2469.0	4.9	48.6	60	10.4	1.71	15.33	50138	752	1090	8.6	17.2
2470.0	2.9	44.4	60	10.4	1.82	15.67	51383	1263	1092	8.6	17.2
2471.0	4.1	45.0	60	10.4	1.72	15.92	52261	891	1089	8.6	17.2
2472.0	5.0	47.2	60	10.4	1.69	16.12	52987	736	1085	8.6	17.2
2473.0	6.5	47.8	60	10.4	1.61	16.27	53542	563	1080	8.6	17.2
2474.0	7.6	47.6	60	10.4	1.56	16.40	54015	480	1073	8.6	17.2
2475.0	12.5	47.5	60	10.4	1.40	16.48	54304	293	1064	8.6	17.2
2476.0	8.7	47.7	60	10.4	1.52	16.60	54718	420	1058	8.6	17.2
2477.0	10.2	48.4	60	10.4	1.48	16.70	55071	358	1050	8.8	17.2
2478.0	7.1	47.8	60	10.4	1.58	16.84	55580	516	1044	8.8	17.2
2479.0	25.7	47.5	60	10.4	1.18	16.88	55720	142	1035	8.8	17.2
2480.0	14.0	47.9	60	10.4	1.37	16.95	55978	262	1027	8.8	17.2
2481.0	24.2	46.9	60	10.4	1.19	16.99	56127	151	1018	8.8	17.2
2482.0	15.5	47.2	60	10.4	1.33	17.05	56359	235	1010	8.8	17.2
2483.0	9.8	48.3	60	10.4	1.49	17.16	56725	371	1004	8.8	17.2
2484.0	4.2	48.8	60	10.4	1.76	17.40	57592	880	1003	8.8	17.2
2485.0	4.8	48.8	60	10.4	1.72	17.61	58347	766	1000	8.8	17.2
2486.0	2.5	49.4	60	10.4	1.93	18.00	59778	1452	1005	8.8	17.2
2487.0	3.7	49.5	60	10.4	1.81	18.28	60761	997	1005	8.8	17.2
2488.0	3.4	49.0	60	10.4	1.83	18.57	61824	1078	1005	8.8	17.2
2489.0	7.5	50.3	60	10.4	1.59	18.71	62306	489	1000	8.8	17.2
2490.0	6.3	48.4	60	10.4	1.63	18.86	62876	578.23	996.51	8.8	17.2
2491.0	9.5	48.8	60	10.4	1.50	18.97	63254	383.46	990.83	8.8	17.2
2492.0	5.2	48.9	60	10.4	1.69	19.16	63941	696.92	988.14	8.8	17.2
2493.0	2.0	50.0	60	10.4	2.01	19.66	65727	1812	996	8.8	17.2
2494.0	2.2	50.0	60	10.4	1.98	20.11	67363	1660	1002	8.8	17.2
2495.0	7.4	50.5	60	10.4	1.60	20.25	67852	495.63	997.09	8.8	17.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2496.0	5.0	55.1	60	10.4	1.77	20.45	68570	728.37	994.71	8.8	17.2
2497.0	2.7	54.1	60	10.4	1.96	20.81	69885	1334	998	8.8	17.2
2498.0	4.5	52.4	60	10.4	1.78	21.04	70693	819.67	996.14	8.8	17.2
2499.0	3.5	50.3	60	10.4	1.84	21.32	71725	1047	997	8.8	17.2
2500.0	4.9	50.2	60	10.4	1.73	21.53	72461	746.63	994.44	8.8	17.2
2501.0	7.0	50.0	60	10.4	1.61	21.67	72975	521.71	990.44	8.8	17.2
2502.0	8.1	49.8	60	10.4	1.56	21.79	73419	449.91	985.90	8.8	17.2
2503.0	6.7	49.8	60	10.4	1.62	21.94	73955	543.74	982.21	8.8	17.2
2504.0	9.9	50.0	60	10.4	1.50	22.04	74319	369.26	977.14	8.8	17.2
2505.0	6.2	49.7	60	10.4	1.65	22.20	74904	593.45	974.00	8.8	17.2
2506.0	9.0	49.9	60	10.4	1.53	22.32	75305	406.79	969.39	8.8	17.2
2507.0	5.5	49.3	60	10.4	1.68	22.50	75960	664.46	966.93	8.8	17.2
2508.0	8.3	49.7	60	10.4	1.56	22.62	76396	442.30	962.73	8.8	17.2
2509.0	6.3	50.1	60	10.4	1.64	22.78	76965	577.22	959.67	8.8	17.2
2510.0	9.9	50.0	60	10.4	1.50	22.88	77330	370.27	955.03	8.8	17.2
2511.0	7.1	49.8	60	10.4	1.61	23.02	77838	515.34	951.60	8.7	17.2
2512.0	9.2	50.1	60	10.4	1.53	23.13	78231	398.68	947.31	8.7	17.2
2513.0	1.8	50.7	60	10.4	2.06	23.69	80251	2049	956	8.7	17.2
2514.0	3.0	50.7	60	10.4	1.89	24.03	81464	1231	958	8.7	17.2
2515.0	2.1	50.0	60	10.4	2.00	24.50	83178	1739	964	8.7	17.2
2516.0	216.0	51.3	60	10.4	0.52	24.51	83195	16.91	956.68	8.7	17.2
2517.0	6.8	50.9	60	10.4	1.63	24.65	83722	534.61	953.53	8.7	17.2
2518.0	9.4	49.8	60	10.4	1.52	24.76	84107	390.56	949.36	8.7	17.2
2519.0	10.4	50.2	60	10.4	1.49	24.86	84453	351.00	944.96	8.7	17.2
2520.0	7.5	50.7	60	10.4	1.59	24.99	84930	483.89	941.60	8.7	17.2
2521.0	8.9	50.2	60	10.4	1.54	25.10	85334	409.84	937.74	8.7	17.2
2522.0	3.1	51.1	60	10.4	1.88	25.42	86483	1166	939	8.7	17.2
2523.0	6.5	50.9	60	10.4	1.64	25.57	87034	558.96	936.67	8.7	17.2
2524.0	6.0	50.7	60	10.4	1.67	25.74	87639	613.74	934.38	8.7	17.2
2525.0	5.7	50.0	60	10.5	1.66	25.92	88270	640.70	932.31	8.7	17.2
2526.0	6.0	50.7	60	10.4	1.67	26.08	88870	608.16	930.04	8.7	17.2
2527.0	5.8	50.5	60	10.4	1.68	26.26	89490	628.96	927.95	8.7	17.2
2528.0	6.7	50.7	60	10.4	1.63	26.41	90027	544.76	925.31	8.7	17.2
2529.0	4.4	51.0	60	10.4	1.77	26.63	90850	834.89	924.69	8.7	17.2
2530.0	8.4	50.9	60	10.4	1.56	26.75	91281	437.23	921.37	8.7	17.2
2531.0	7.1	50.6	60	10.4	1.61	26.90	91789	515.34	918.63	8.7	17.2
2532.0	4.8	51.2	60	10.4	1.75	27.10	92541	762.86	917.58	8.7	17.2
2533.0	2.9	51.3	60	10.4	1.91	27.45	93789	1266	920	8.7	17.2
2534.0	5.0	51.0	60	10.4	1.73	27.65	94509	730.40	918.65	8.7	17.2
2535.0	3.5	51.3	60	10.4	1.85	27.94	95551	1057	920	8.7	17.2
2536.0	7.8	48.0	60	10.5	1.54	28.07	96013	468.21	916.61	8.7	17.2
2537.0	8.6	48.8	60	10.5	1.53	28.19	96434	427.08	913.43	8.7	17.2
2538.0	3.0	44.8	60	10.5	1.80	28.51	97617	1200	915	8.7	17.2
2539.0	5.8	44.9	60	10.5	1.61	28.69	98243	635.04	913.49	8.7	17.2
2540.0	7.0	44.3	60	10.5	1.54	28.83	98755	519.40	910.98	8.7	17.2
2541.0	6.0	44.2	60	10.5	1.59	29.00	99354	607.65	909.06	8.7	17.2
2542.0	2.7	44.5	60	10.5	1.83	29.36	100676	1341	912	8.7	17.3
2543.0	3.8	44.8	60	10.5	1.73	29.62	101614	951.55	912.02	8.7	17.3
2544.0	3.0	45.0	60	10.5	1.80	29.96	102814	1217	914	8.7	17.3
2545.0	4.7	44.3	60	10.5	1.67	30.17	103583	780.62	913.10	8.7	17.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2546.0	5.9	44.8	60	10.5	1.60	30.34	104195	620.84	911.30	8.7	17.3
2547.0	8.2	45.0	60	10.5	1.50	30.46	104634	445.34	908.46	8.7	17.3
2548.0	5.2	44.8	60	10.5	1.64	30.66	105333	709.10	907.25	8.7	17.3
2549.0	10.2	44.4	60	10.5	1.43	30.76	105687	359.11	903.95	8.7	17.3
2550.0	7.9	50.3	60	10.5	1.57	30.88	106142	461.57	901.30	8.7	17.3
2551.0	12.2	50.0	60	10.5	1.42	30.96	106437	299.34	897.72	8.5	17.2
2552.0	6.1	50.3	60	10.5	1.65	31.13	107027	598.52	895.95	8.5	17.2
2553.0	18.8	50.0	60	10.5	1.29	31.18	107219	194.44	891.82	8.5	17.2
2554.0	12.2	50.0	60	10.5	1.42	31.26	107514	299.34	888.36	8.5	17.2
2555.0	14.9	49.8	60	10.5	1.36	31.33	107756	245.50	884.62	8.5	17.2
2556.0	5.5	51.6	60	10.5	1.69	31.51	108405	658.37	883.31	8.5	17.2
2557.0	2.2	50.9	60	10.5	1.98	31.96	110021	1639	888	8.5	17.3
2558.0	2.6	51.1	60	10.5	1.93	32.35	111419	1418	891	8.5	17.3
2559.0	2.2	50.8	60	10.5	1.98	32.80	113043	1647	895	8.5	17.3
2560.0	3.8	50.6	60	10.5	1.81	33.06	113993	963.72	895.38	8.5	17.3
2561.0	2.6	50.9	60	10.5	1.93	33.45	115401	1428	898	8.5	17.3
2562.0	3.8	50.6	60	10.5	1.81	33.72	116353	965.75	898.75	8.5	17.3
2563.0	3.1	50.4	60	10.5	1.87	34.04	117513	1177	900	8.5	17.3
2564.0	3.8	51.0	60	10.5	1.81	34.30	118454	954.59	900.59	8.5	17.3
2565.0	3.9	51.3	60	10.5	1.80	34.56	119374	933.29	900.77	8.5	17.3
2566.0	4.0	52.3	60	10.5	1.80	34.80	120264	902.86	900.78	8.5	17.3
2567.0	2.7	51.7	60	10.5	1.93	35.18	121599	1354	903	8.5	17.3
2568.0	3.7	51.2	60	10.5	1.82	35.44	122561	975.90	903.64	8.5	17.3
2569.0	3.1	51.1	60	10.5	1.88	35.77	123735	1191	905	8.5	17.3
2570.0	4.2	51.2	60	10.5	1.78	36.01	124595	872.42	905.01	8.5	17.3
2571.0	9.6	51.1	60	10.5	1.52	36.11	124971	381.43	902.22	8.5	17.3
2572.0	18.6	49.2	60	10.5	1.29	36.17	125165	196.80	898.49	8.5	17.3
2573.0	23.1	50.2	60	10.5	1.23	36.21	125321	158.25	894.60	8.5	17.3
2574.0	10.2	51.1	60	10.5	1.49	36.31	125673	357.08	891.78	8.5	17.3
2575.0	7.1	51.7	60	10.5	1.62	36.45	126180	514.32	889.82	8.5	17.3
2576.0	3.4	51.6	60	10.5	1.85	36.74	127233	1068	891	8.5	17.3
2577.0	4.2	51.8	60	10.5	1.79	36.98	128093	872.42	890.65	8.5	17.3
2578.0	2.6	49.0	60	10.5	1.91	37.37	129485	1412	893	8.5	17.3
2579.0	4.6	51.2	60	10.5	1.75	37.58	130260	786.19	892.77	8.5	17.3
2580.0	3.0	51.6	60	10.5	1.89	37.92	131467	1224	894	8.5	17.3
2581.0	5.1	51.4	60	10.5	1.72	38.11	132172	715.18	893.55	8.5	17.3
2582.0	4.2	52.2	60	10.5	1.79	38.35	133036	876.48	893.47	8.5	17.3
2583.0	12.2	50.0	60	10.5	1.42	38.43	133331	299.34	890.50	8.5	17.3
2584.0	8.0	51.2	60	10.5	1.57	38.56	133780	455.49	888.33	8.5	17.3
2585.0	7.3	50.2	60	10.5	1.59	38.70	134271	498.09	886.40	8.5	17.3
2586.0	2.9	54.2	60	10.5	1.94	39.04	135527	1274	888	8.5	17.3
2587.0	4.1	53.4	60	10.5	1.81	39.29	136411	896.77	888.35	8.5	17.3
2588.0	2.9	53.4	60	10.5	1.92	39.63	137651	1258	890	8.5	17.3
2589.0	2.9	50.3	60	10.5	1.89	39.99	138914	1281	892	8.5	17.3
2590.0	2.2	49.3	60	10.5	1.96	40.44	140540	1649	896	8.5	17.3
2591.0	1.9	49.4	60	10.5	2.00	40.96	142408	1895	901	8.5	17.3
2591.5	2.7	49.9	60	10.5	1.90	41.14	143076	1355	902	8.5	17.3
2592.0	1.4	52.6	60	10.5	2.14	41.49	144322	2528	905	8.5	17.3
2592.5	2.2	52.7	60	10.5	2.01	41.72	145148	1676	907	8.5	17.3
2593.5	2.4	52.5	60	10.5	1.97	42.13	146622	1495	910	8.5	17.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2594.0	2.0	52.5	60	10.5	2.04	42.38	147545	1873	912	8.5	17.3
2594.5	4.2	53.2	60	10.5	1.80	42.50	147972	866.34	912.30	8.5	17.3
2595.0	3.4	51.6	60	10.5	1.85	42.65	148496	1063	913	8.5	17.3
2595.5	6.2	54.5	60	10.5	1.69	42.73	148785	586.35	911.89	8.5	17.3
2596.0	2.4	54.9	60	10.5	2.00	42.93	149526	1503	913	8.5	17.3
2596.5	1.3	53.1	60	10.5	2.18	43.31	150886	2759	918	8.5	17.3
2597.3	1.7	44.6	58	10.5	1.96	43.77	152495	2109	922	8.5	17.3

BIT NUMBER	5	IADC CODE	4	INTERVAL	2597.3- 2599.3
CHRIS C23		SIZE	9.875	NOZZLES	14 14 14
COST	0.00	TRIP TIME	8.0	BIT RUN	2.0
TOTAL HOURS	4.06	TOTAL TURNS	21379	CONDITION	TO BO GO.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2597.6	8.0	24.9	90	10.5	1.46	0.04	203	457	97843	8.5	17.3
2597.8	0.3	13.6	78	10.5	2.00	0.77	3622	13391	64062	8.5	17.3
2598.0	1.2	24.0	90	10.5	1.95	0.94	4522	3043	46628	8.5	17.3
2598.2	0.9	24.2	88	10.5	2.04	1.16	5710	4093	37176	8.5	17.3
2598.4	0.4	25.0	90	10.5	2.27	1.66	8410	9130	32077	8.5	17.3
2598.6	0.5	25.1	90	10.5	2.24	2.09	10697	7733	28331	8.5	17.3
2598.8	0.8	25.4	90	10.5	2.10	2.33	12028	4499	25154	8.5	17.3
2599.0	0.3	25.1	90	10.5	2.37	3.03	15794	12736	23693	8.5	17.3
2599.2	0.2	26.7	90	10.5	2.49	3.94	20711	16627	22949	8.5	17.3
2599.3	0.8	29.2	90	10.5	2.18	4.06	21379	4514	22027	8.5	17.3

BIT NUMBER	5	IADC CODE	4	INTERVAL	2599.3- 2601.5
CHRIS C20		SIZE	9.875	NOZZLES	14 14 14
COST	0.00	TRIP TIME	8.3	BIT RUN	2.2
TOTAL HOURS	8.01	TOTAL TURNS	43251	CONDITION	TO BO GO.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2599.4	1.2	24.0	90	10.5	1.95	0.08	450	3043	306159	8.5	17.3
2599.6	0.5	24.0	90	10.5	2.18	0.48	2610	7304	106922	8.5	17.3
2599.8	0.2	26.5	90	10.5	2.57	1.72	9261	22490	73150	8.5	17.3
2600.0	0.6	28.4	90	10.5	2.26	2.06	11130	6320	54055	8.5	17.3
2600.4	0.3	28.4	90	10.5	2.44	3.36	18149	11866	38714	8.5	17.3
2600.6	0.8	28.1	90	10.5	2.17	3.62	19539	4702	33481	8.5	17.3
2600.8	0.2	27.4	90	10.5	2.54	4.64	25064	18681	31508	8.5	17.3
2601.0	0.4	27.6	90	10.5	2.33	5.12	27641	8714	28826	8.5	17.3
2601.2	1.0	26.7	90	10.5	2.06	5.31	28680	3515	26162	8.5	17.3
2601.4	0.1	26.5	90	10.5	2.65	6.95	37505	29840	26512	8.5	17.3
2601.5	0.1	28.6	90	10.5	2.78	8.01	43251	38863	27074	8.5	17.3

BIT NUMBER	6	IADC CODE	537	INTERVAL	2601.5- 2618.0
HTC J33		SIZE	12.250	NOZZLES	18 18 16
COST	8266.00	TRIP TIME	8.3	BIT RUN	16.5
TOTAL HOURS	11.92	TOTAL TURNS	33789	CONDITION	T3 B5 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2601.6	0.6	19.1	50	10.5	1.75	0.16	483	5884	391660	8.5	17.3
2602.0	1.2	44.4	50	10.5	2.02	0.50	1500	3094	80807	8.5	17.3
2602.5	2.2	49.4	50	10.5	1.90	0.73	2183	1664	41235	8.5	17.3
2603.0	8.8	49.1	50	10.5	1.46	0.78	2354	416	27629	8.5	17.3
2604.0	1.5	49.8	50	10.5	2.02	1.44	4326	2400	17537	8.5	17.3
2604.5	1.0	49.9	50	10.5	2.15	1.94	5811	3616	15217	8.5	17.3
2605.0	4.9	49.8	45	10.5	1.62	2.04	6089	751	13151	8.5	17.3
2606.5	1.6	49.9	45	10.5	1.98	3.00	8674	2331	9905	8.5	17.3
2607.0	2.9	49.8	45	10.5	1.78	3.17	9143	1268	9120	8.5	17.3
2607.5	3.4	50.0	45	10.5	1.73	3.32	9539	1071	8449	8.5	17.3
2608.5	1.7	49.6	45	10.5	1.94	3.89	11097	2108	7543	8.5	17.3
2609.0	1.5	49.7	45	10.5	1.99	4.23	11995	2431	7202	8.5	17.3
2610.5	0.7	57.9	45	10.5	2.35	6.41	17879	5306	6886	8.5	17.3
2611.0	4.6	58.1	45	10.5	1.73	6.52	18175	799	6566	8.5	17.3
2611.5	6.0	57.9	45	10.5	1.63	6.60	18400	611	6268	8.5	17.3
2612.5	1.4	58.4	45	10.5	2.13	7.34	20395	2698	5943	8.5	17.3
2613.5	3.5	58.6	45	10.5	1.82	7.63	21178	1058	5536	8.5	17.3
2614.5	1.7	57.4	45	10.5	2.04	8.20	22723	2090	5271	8.5	17.3
2615.0	15.0	56.7	45	10.5	1.32	8.23	22813	243	5085	8.5	17.3
2616.5	8.0	57.1	45	10.5	1.53	8.42	23319	457	4622	8.5	17.3
2617.0	6.8	54.4	45	10.5	1.56	8.50	23519	540	4490	8.5	17.3
2618.0	7.0	55.0	45	10.5	1.55	8.64	23904	522	4250	8.5	17.3

BIT NUMBER	6	IADC CODE	4	INTERVAL	2618.0- 2623.3
CHRIS C20		SIZE	9.875	NOZZLES	14 14 14
COST	0.00	TRIP TIME	8.3	BIT RUN	5.3
TOTAL HOURS	7.38	TOTAL TURNS	39867	CONDITION	T0 B0 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2618.2	2.3	21.3	90	10.5	1.72	0.09	477	1613	153171	8.5	17.3
2618.6	1.3	26.4	90	10.5	1.97	0.39	2097	2739	52883	8.5	17.3
2618.8	1.0	27.4	90	10.5	2.07	0.59	3177	3652	40575	8.5	17.3
2619.0	0.6	30.7	90	10.5	2.29	0.91	4937	5950	33650	8.5	17.3
2619.2	2.0	30.8	90	10.5	1.94	1.01	5472	1811	28344	8.5	17.3
2619.4	0.4	30.7	90	10.5	2.38	1.47	7952	8384	25492	8.5	17.3
2619.6	2.2	26.9	90	10.5	1.84	1.56	8445	1669	22514	8.5	17.3
2619.8	0.3	25.7	90	10.5	2.33	2.15	11613	10713	21203	8.5	17.3
2620.2	0.7	25.6	90	10.5	2.11	2.69	14499	4879	18235	8.5	17.3
2620.4	3.4	26.6	90	10.5	1.72	2.74	14819	1080	16806	8.5	17.3
2620.6	0.5	26.6	90	10.5	2.25	3.14	16971	7279	16073	8.5	17.3



DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2620.8	5.9	25.8	90	10.5	1.55	3.18	17156	624	14969	8.5	17.3
2621.0	0.5	25.2	90	10.5	2.23	3.60	19428	7684	14484	8.5	17.3
2621.2	8.6	24.8	90	10.5	1.43	3.62	19554	426	13605	8.5	17.3
2621.4	0.4	24.0	90	10.5	2.27	4.17	22517	10018	13394	8.5	17.3
2621.6	2.6	25.1	90	10.5	1.76	4.25	22928	1390	12727	8.5	17.3
2621.8	0.3	25.0	90	10.5	2.32	4.84	26147	10885	12630	8.5	17.3
2622.0	3.1	25.4	90	10.5	1.72	4.91	26501	1197	12058	8.5	17.3
2622.2	0.3	28.6	90	10.5	2.41	5.51	29730	10920	12004	8.5	17.3
2622.4	2.8	29.8	90	10.5	1.83	5.58	30120	1319	11519	8.5	17.3
2622.6	0.4	30.4	90	10.5	2.41	6.09	32870	9297	11422	8.5	17.3
2623.0	0.4	30.6	90	10.5	2.38	6.99	37769	8283	11171	8.5	17.3
2623.3	0.8	32.5	90	10.5	2.26	7.38	39867	4731	10806	8.5	17.3

BIT NUMBER	7	IADC CODE	537	INTERVAL	2623.3- 2773.0
HTC J33		SIZE	12.250	NOZZLES	18 18 16
COST	8266.00	TRIP TIME	8.2	BIT RUN	149.7
TOTAL HOURS	48.64	TOTAL TURNS	143838	CONDITION	T4 B4 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2624.0	4.0	49.0	50	10.5	1.70	0.17	524	911	55500	8.5	17.3
2626.0	4.8	49.3	50	10.5	1.65	0.59	1780	764	14955	8.5	17.3
2627.0	5.1	49.4	50	10.5	1.63	0.79	2367	714	11106	8.5	17.3
2628.0	3.5	49.5	50	10.5	1.75	1.08	3228	1049	8966	8.5	17.3
2629.0	5.4	48.7	50	10.5	1.61	1.26	3782	675	7512	8.5	17.3
2630.0	3.4	49.3	50	10.5	1.76	1.55	4662	1070	6550	8.5	17.3
2631.0	4.4	49.2	50	10.5	1.68	1.78	5348	836	5808	8.5	17.3
2632.0	3.0	49.5	50	10.5	1.80	2.11	6338	1205	5279	8.5	17.3
2633.0	4.9	49.1	50	10.5	1.64	2.32	6953	749	4812	8.5	17.3
2634.0	5.2	49.3	50	10.5	1.62	2.51	7526	697	4427	8.5	17.3
2635.0	3.2	49.6	50	10.5	1.78	2.82	8453	1129	4146	8.5	17.3
2636.0	3.9	49.6	50	10.5	1.72	3.08	9229	944	3893	8.5	17.3
2637.0	2.7	49.7	50	10.5	1.83	3.44	10325	1334	3707	8.5	17.3
2638.0	3.5	49.6	50	10.5	1.75	3.73	11188	1051	3526	8.5	17.3
2639.0	3.0	49.5	50	10.5	1.81	4.07	12205	1238	3380	8.5	17.3
2640.0	3.8	49.5	50	10.5	1.73	4.33	12995	962	3235	8.5	17.3
2641.0	3.3	50.4	50	10.5	1.78	4.64	13912	1116	3116	8.5	17.3
2642.0	6.3	49.5	50	10.5	1.57	4.80	14387	578	2980	8.5	17.3
2643.0	5.5	49.4	50	10.5	1.61	4.98	14929	660	2862	8.5	17.3
2644.0	5.6	49.5	50	10.5	1.60	5.16	15466	653	2756	8.5	17.3
2645.0	3.4	56.9	48	10.5	1.84	5.45	16321	1083	2678	8.5	17.3
2646.0	6.4	58.9	45	10.5	1.62	5.61	16741	568	2585	8.5	17.3
2647.0	2.2	59.6	45	10.5	1.99	6.07	17987	1685	2548	8.5	17.3
2648.0	3.3	59.6	45	10.5	1.85	6.37	18795	1093	2489	8.5	17.3
2649.0	3.2	59.6	45	10.5	1.86	6.68	19639	1141	2436	8.5	17.3
2650.0	5.0	60.0	45	10.5	1.72	6.88	20179	730	2372	8.5	17.4
2651.0	4.0	60.0	45	10.5	1.79	7.13	20854	913	2320	8.5	17.4
2652.0	3.4	59.7	45	10.5	1.84	7.42	21649	1075	2276	8.5	17.4

DEPTH	ROP	WOR	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2653.0	6.1	58.8	45	10.5	1.64	7.59	22094	603	2220	8.5	17.4
2654.0	4.2	59.7	45	10.5	1.77	7.83	22737	869	2176	8.5	17.4
2655.0	6.7	59.9	45	10.5	1.62	7.98	23143	549	2125	8.5	17.4
2656.0	4.1	60.1	45	10.5	1.78	8.22	23804	895	2087	8.5	17.4
2657.0	6.2	59.7	45	10.5	1.64	8.39	24242	592	2043	8.5	17.4
2658.0	3.2	58.1	45	10.5	1.85	8.70	25089	1145	2017	8.5	17.4
2659.0	4.7	58.0	45	10.5	1.71	8.91	25663	776	1982	8.5	17.4
2660.0	3.1	58.2	45	10.5	1.86	9.24	26546	1195	1961	8.5	17.4
2661.0	4.6	58.1	45	10.5	1.72	9.46	27132	792	1930	8.5	17.4
2662.0	4.0	58.0	45	10.5	1.77	9.71	27807	913	1903	8.5	17.4
2663.0	2.7	57.9	45	10.5	1.90	10.08	28807	1352	1889	8.5	17.4
2664.0	2.8	58.1	45	10.5	1.89	10.44	29785	1323	1876	8.5	17.4
2665.0	2.6	58.0	45	10.5	1.92	10.83	30835	1420	1865	8.5	17.4
2666.0	3.6	58.0	45	10.5	1.80	11.11	31585	1015	1845	8.5	17.4
2667.0	3.1	58.2	45	10.5	1.86	11.43	32461	1185	1830	8.5	17.4
2668.0	3.2	58.0	45	10.5	1.84	11.74	33305	1141	1814	8.5	17.4
2669.0	3.3	58.2	45	10.5	1.84	12.05	34127	1112	1799	8.5	17.4
2670.0	3.4	58.4	45	10.5	1.82	12.34	34913	1062	1783	8.5	17.4
2671.0	2.7	58.4	45	10.4	1.92	12.71	35930	1377	1775	8.5	17.4
2672.0	3.9	58.2	45	10.4	1.80	12.97	36623	936	1757	8.5	17.4
2673.0	4.7	58.2	45	10.4	1.73	13.18	37194	773	1738	8.5	17.4
2674.0	2.9	58.2	45	10.4	1.89	13.52	38117	1249	1728	8.5	17.4
2675.0	3.6	58.4	45	10.4	1.83	13.80	38868	1015	1714	8.5	17.4
2676.0	2.3	58.5	45	10.4	1.98	14.24	40040	1585	1712	8.5	17.4
2677.0	4.2	58.5	45	10.4	1.78	14.48	40688	877	1696	8.5	17.4
2678.0	2.0	58.7	45	10.4	2.02	14.97	42011	1789	1698	8.5	17.4
2679.0	3.7	58.6	45	10.4	1.82	15.24	42736	980	1685	8.5	17.4
2679.5	4.3	58.6	45	10.4	1.77	15.35	43053	858	1678	8.5	17.4
2680.0	2.4	58.5	45	10.4	1.97	15.56	43619	1530	1676	8.5	17.4
2680.5	3.5	58.7	45	10.4	1.84	15.71	44006	1047	1671	8.5	17.4
2681.0	2.7	59.0	45	10.4	1.93	15.89	44511	1367	1668	8.5	17.4
2681.5	5.1	58.0	45	10.4	1.71	15.99	44777	718	1660	8.5	17.4
2682.0	3.6	58.5	45	10.4	1.83	16.13	45151	1012	1654	8.5	17.4
2682.5	1.8	58.7	45	10.4	2.06	16.40	45890	2000	1657	8.5	17.4
2683.0	3.1	58.5	45	10.4	1.88	16.57	46328	1183	1653	8.5	17.4
2683.5	4.3	58.4	45	10.4	1.76	16.68	46640	844	1647	8.5	17.4
2684.0	3.1	58.6	45	10.4	1.88	16.84	47081	1193	1643	8.5	17.4
2684.5	2.1	58.6	45	10.4	2.01	17.09	47731	1759	1644	8.5	17.4
2685.0	5.4	58.4	45	10.4	1.69	17.18	47980	674	1636	8.5	17.4
2685.5	6.4	58.3	45	10.4	1.63	17.26	48191	572	1627	8.5	17.4
2686.0	7.9	58.3	45	10.4	1.56	17.32	48362	461	1618	8.5	17.4
2686.5	3.4	58.2	45	10.4	1.84	17.46	48754	1061	1614	8.5	17.4
2687.0	5.8	58.3	45	10.4	1.67	17.55	48989	635	1606	8.5	17.4
2687.5	6.0	58.2	45	10.4	1.65	17.63	49212	605	1598	8.5	17.4
2688.0	6.4	57.8	45	10.4	1.63	17.71	49424	574	1590	8.5	17.4
2688.5	3.7	58.3	45	10.4	1.82	17.85	49789	986	1586	8.5	17.4
2689.0	2.4	59.0	45	10.4	1.96	18.05	50345	1503	1585	8.5	17.4
2689.5	2.9	59.1	45	10.4	1.90	18.23	50809	1256	1583	8.5	17.4
2690.0	2.5	59.3	45	10.4	1.96	18.42	51347	1457	1582	8.5	17.4
2691.0	1.7	59.1	45	10.4	2.08	19.01	52918	2124	1590	8.5	17.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2691.5	1.3	59.4	45	10.4	2.17	19.38	53938	2759	1598	8.5	17.4
2692.0	2.4	58.0	45	10.4	1.96	19.60	54512	1552	1598	8.5	17.4
2692.5	2.3	57.6	45	10.4	1.96	19.81	55094	1574	1598	8.5	17.4
2693.0	1.5	57.3	45	10.4	2.11	20.15	56014	2489	1604	8.5	17.4
2694.0	2.2	57.6	45	10.4	1.98	20.60	57227	1640	1605	8.5	17.4
2694.5	2.5	57.5	45	10.4	1.93	20.80	57757	1434	1603	8.5	17.4
2695.0	1.4	57.5	45	10.4	2.13	21.16	58727	2625	1611	8.5	17.4
2695.5	2.2	57.7	45	10.4	1.98	21.38	59330	1631	1611	8.5	17.4
2696.5	3.8	57.6	45	10.4	1.80	21.64	60041	962	1602	8.5	17.4
2697.0	1.8	57.5	45	10.4	2.05	21.92	60796	2041	1605	8.5	17.4
2697.5	1.6	58.8	45	10.4	2.10	22.23	61622	2236	1609	8.5	17.4
2698.0	2.0	57.7	45	10.4	2.01	22.48	62285	1794	1610	8.5	17.4
2698.5	3.3	57.6	45	10.4	1.84	22.63	62691	1098	1607	8.5	17.4
2699.0	2.4	57.6	45	10.4	1.96	22.84	63259	1536	1606	8.5	17.4
2699.5	2.2	58.4	45	10.4	1.99	23.07	63877	1672	1607	8.5	17.4
2700.0	3.2	58.2	45	10.4	1.87	23.22	64304	1156	1604	8.5	17.4
2700.5	7.6	55.2	45	10.4	1.54	23.29	64482	481	1597	8.5	17.4
2701.0	4.8	59.0	45	10.4	1.74	23.39	64766	767	1591	8.5	17.4
2702.0	5.7	60.5	45	10.4	1.69	23.57	65243	646	1579	8.5	17.4
2702.5	4.7	61.4	45	10.4	1.76	23.68	65529	773	1574	8.5	17.4
2703.0	2.9	59.8	45	10.4	1.92	23.85	65996	1262	1572	8.5	17.4
2703.5	4.7	59.3	45	10.4	1.75	23.96	66285	783	1567	8.5	17.4
2704.5	3.6	60.6	45	10.4	1.85	24.24	67040	1022	1561	8.5	17.4
2705.0	1.4	60.5	45	10.4	2.16	24.59	67983	2550	1567	8.5	17.4
2705.5	3.3	61.1	45	10.4	1.89	24.74	68393	1110	1564	8.5	17.4
2706.0	3.1	60.8	45	10.4	1.91	24.90	68834	1193	1562	8.5	17.4
2706.5	6.3	61.6	45	10.4	1.67	24.98	69050	582	1556	8.5	17.4
2707.0	2.5	60.8	45	10.4	1.97	25.18	69581	1438	1555	8.5	17.4
2707.5	2.9	59.4	45	10.4	1.91	25.35	70052	1272	1553	8.5	17.4
2708.0	5.8	58.2	45	10.4	1.67	25.44	70286	635	1548	8.5	17.4
2708.5	9.0	56.9	45	10.4	1.51	25.49	70437	408	1541	8.5	17.4
2709.0	2.6	57.5	45	10.4	1.93	25.69	70963	1422	1541	8.5	17.4
2709.5	6.5	56.9	45	10.4	1.62	25.77	71172	566	1535	8.5	17.4
2710.0	6.4	57.1	45	10.4	1.62	25.84	71382	568	1529	8.5	17.4
2711.0	7.5	54.3	45	10.4	1.54	25.98	71741	485	1517	8.5	17.4
2711.5	1.3	58.3	45	10.4	2.17	26.36	72782	2816	1525	8.5	17.4
2712.0	4.1	60.5	45	10.4	1.80	26.49	73112	893	1521	8.5	17.4
2712.5	3.7	59.4	45	10.4	1.82	26.62	73474	980	1518	8.5	17.4
2713.0	3.0	59.3	45	10.4	1.89	26.78	73919	1203	1516	8.5	17.4
2713.5	2.2	59.3	45	10.4	2.01	27.02	74546	1698	1517	8.5	17.4
2714.0	2.7	59.6	45	10.4	1.94	27.20	75046	1351	1517	8.5	17.4
2715.0	4.5	59.0	45	10.4	1.76	27.43	75650	817	1509	8.5	17.4
2715.5	3.8	59.0	45	10.4	1.81	27.56	76001	952	1506	8.5	17.4
2716.0	12.2	60.2	45	10.4	1.43	27.60	76112	300	1499	8.5	17.4
2716.5	3.5	60.3	45	10.4	1.86	27.74	76498	1043	1497	8.5	17.4
2717.0	3.3	59.6	45	10.4	1.87	27.89	76910	1114	1495	8.5	17.4
2717.5	1.4	58.9	45	10.4	2.14	28.24	77848	2538	1500	8.5	17.4
2718.0	2.0	54.5	45	10.4	1.97	28.49	78521	1820	1502	8.5	17.4
2719.0	3.1	58.8	45	10.4	1.88	28.81	79392	1179	1499	8.5	17.4
2719.5	1.6	58.5	45	10.4	2.11	29.13	80252	2325	1503	8.5	17.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2720.0	2.2	57.6	45	10.4	1.99	29.36	80872	1678	1504	8.5	17.4
2720.5	3.3	60.2	45	10.4	1.87	29.51	81280	1104	1502	8.5	17.4
2721.0	3.2	58.9	45	10.4	1.87	29.67	81707	1154	1500	8.5	17.4
2721.5	4.1	58.9	45	10.4	1.79	29.79	82034	887	1497	8.5	17.4
2722.0	2.5	57.9	45	10.4	1.95	29.99	82580	1477	1497	8.5	17.4
2722.5	3.2	59.6	45	10.4	1.88	30.15	83008	1156	1495	8.5	17.4
2723.0	3.5	58.4	45	10.4	1.83	30.29	83390	1033	1493	8.5	17.4
2723.5	5.0	58.2	45	10.4	1.71	30.39	83657	724	1489	8.5	17.4
2724.0	1.6	59.0	45	10.4	2.10	30.70	84485	2240	1493	8.5	17.4
2725.0	4.1	60.3	45	10.4	1.80	30.94	85148	896	1487	8.5	17.4
2725.5	3.9	59.4	45	10.4	1.81	31.07	85490	927	1484	8.5	17.4
2726.0	2.1	59.4	45	10.4	2.02	31.31	86135	1743	1485	8.5	17.4
2727.5	2.4	59.1	45	10.4	1.97	31.94	87833	1531	1486	8.5	17.4
2728.0	1.3	59.2	45	10.4	2.18	32.33	88886	2851	1493	8.5	17.4
2728.5	2.0	58.7	45	10.4	2.02	32.57	89549	1794	1494	8.5	17.4
2729.0	3.6	58.7	45	10.4	1.83	32.71	89926	1019	1492	8.5	17.4
2730.0	3.4	58.9	45	10.4	1.85	33.01	90724	1079	1488	8.5	17.4
2730.5	2.0	58.8	45	10.4	2.03	33.26	91395	1816	1489	8.5	17.4
2731.0	2.3	59.1	45	10.4	1.98	33.47	91981	1585	1490	8.5	17.4
2731.5	2.0	59.4	45	10.4	2.04	33.73	92666	1854	1492	8.5	17.4
2732.0	6.5	58.2	45	10.4	1.62	33.80	92873	558	1487	8.5	17.4
2732.5	2.1	58.1	45	10.4	2.00	34.04	93505	1710	1488	8.5	17.4
2733.0	2.8	58.5	45	10.4	1.91	34.22	93992	1317	1488	8.5	17.4
2733.5	1.9	59.1	45	10.4	2.04	34.48	94685	1877	1489	8.5	17.4
2734.0	1.6	58.9	45	10.4	2.09	34.78	95505	2218	1493	8.5	17.4
2734.5	1.6	58.8	45	10.4	2.10	35.09	96332	2236	1496	8.5	17.4
2735.0	2.3	58.6	45	10.4	1.98	35.30	96921	1595	1496	8.5	17.4
2736.0	4.8	58.5	45	10.4	1.73	35.51	97486	764	1490	8.5	17.4
2736.5	3.6	58.3	45	10.4	1.83	35.65	97862	1019	1488	8.5	17.4
2737.0	4.4	58.4	45	10.4	1.76	35.77	98167	824	1485	8.5	17.4
2738.0	2.8	58.7	45	10.4	1.92	36.13	99146	1324	1483	8.5	17.4
2738.5	1.2	57.2	45	10.4	2.17	36.53	100243	2968	1490	8.5	17.4
2739.0	2.5	45.1	60	10.4	1.88	36.74	100969	1477	1490	8.5	17.4
2739.5	4.8	45.0	60	10.4	1.67	36.84	101346	765	1487	8.5	17.4
2740.0	4.6	44.7	60	10.4	1.68	36.95	101735	789	1484	8.5	17.4
2740.5	2.3	44.5	60	10.4	1.89	37.17	102520	1593	1484	8.5	17.4
2741.0	1.8	45.0	60	10.4	1.98	37.45	103525	2039	1487	8.5	17.4
2741.5	6.3	44.6	60	10.4	1.59	37.53	103812	582	1483	8.5	17.4
2742.0	3.5	45.0	60	10.4	1.77	37.67	104324	1039	1481	8.5	17.4
2742.5	3.0	44.6	60	10.4	1.82	37.84	104933	1236	1480	8.5	17.4
2743.0	2.1	45.2	60	10.4	1.93	38.07	105774	1706	1481	8.5	17.4
2744.0	3.1	44.8	60	10.4	1.80	38.39	106932	1175	1478	8.5	17.4
2744.5	2.1	44.7	60	10.4	1.93	38.63	107801	1763	1479	8.5	17.5
2745.5	3.1	44.9	60	10.4	1.81	38.96	108960	1176	1477	8.5	17.5
2746.0	3.0	45.0	60	10.4	1.81	39.12	109551	1199	1476	8.5	17.5
2746.5	1.1	45.1	60	10.4	2.12	39.56	111130	3204	1483	8.5	17.5
2747.0	7.2	44.4	60	10.4	1.54	39.63	111381	509	1479	8.5	17.5
2747.5	6.3	44.3	60	10.4	1.58	39.71	111667	580	1475	8.5	17.5
2748.0	5.7	42.9	60	10.4	1.59	39.80	111981	637	1472	8.5	17.5
2748.5	6.5	44.1	60	10.4	1.57	39.87	112260	566	1468	8.5	17.5

DEPTH	ROP	WOR	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2749.0	5.7	44.6	60	10.4	1.62	39.96	112578	645	1465	8.5	17.5
2749.5	3.0	44.6	60	10.4	1.82	40.13	113186	1234	1464	8.5	17.5
2750.0	1.3	45.0	60	10.4	2.07	40.50	114527	2721	1469	8.5	17.5
2750.5	2.5	45.1	60	10.4	1.88	40.71	115259	1485	1469	8.5	17.5
2751.5	3.1	44.8	60	10.4	1.81	41.03	116432	1190	1467	8.5	17.5
2752.0	1.3	45.4	60	10.4	2.09	41.43	117859	2895	1472	8.5	17.5
2752.5	3.9	44.7	60	10.4	1.74	41.56	118323	941	1470	8.5	17.5
2753.0	4.9	44.7	60	10.4	1.66	41.66	118691	747	1468	8.5	17.5
2753.5	5.6	44.6	60	10.4	1.62	41.75	119014	655	1465	8.5	17.5
2754.0	2.9	44.7	60	10.4	1.82	41.92	119634	1258	1464	8.5	17.5
2754.5	2.5	44.8	60	10.4	1.87	42.12	120344	1441	1464	8.5	17.5
2755.0	2.2	44.8	60	10.4	1.91	42.34	121151	1637	1464	8.5	17.5
2755.5	4.9	44.2	60	10.4	1.66	42.44	121516	741	1462	8.5	17.5
2756.0	2.6	44.4	60	10.4	1.86	42.64	122214	1416	1461	8.5	17.5
2756.5	4.2	45.7	60	10.4	1.73	42.76	122647	879	1459	8.5	17.5
2757.0	6.2	45.1	60	10.4	1.60	42.84	122937	588	1456	8.5	17.5
2758.0	5.6	44.3	60	10.4	1.62	43.02	123584	656	1450	8.5	17.5
2758.5	2.1	45.4	60	10.4	1.93	43.25	124425	1706	1451	8.5	17.5
2759.0	1.8	46.0	60	10.4	1.98	43.52	125406	1990	1453	8.5	17.5
2760.0	4.5	45.1	60	10.4	1.69	43.75	126207	813	1448	8.5	17.5
2760.5	8.5	46.0	60	10.4	1.51	43.81	126418	428	1445	8.5	17.5
2761.0	4.9	45.1	60	10.4	1.67	43.91	126783	741	1442	8.5	17.5
2761.5	1.8	46.1	60	10.4	1.99	44.18	127782	2027	1444	8.5	17.5
2762.5	2.2	45.5	60	10.4	1.92	44.64	129432	1674	1446	8.5	17.5
2763.0	1.8	44.1	60	10.4	1.96	44.92	130435	2035	1448	8.5	17.5
2763.5	4.6	43.6	60	10.4	1.67	45.03	130828	797	1446	8.5	17.5
2764.0	4.1	44.0	60	10.4	1.71	45.15	131263	883	1444	8.5	17.5
2764.5	3.2	44.2	60	10.4	1.78	45.31	131817	1124	1442	8.5	17.5
2765.0	2.1	43.6	60	10.4	1.91	45.54	132675	1741	1443	8.5	17.5
2766.5	2.3	45.2	60	10.4	1.90	46.19	135019	1585	1445	8.5	17.5
2767.0	1.5	46.5	60	10.4	2.05	46.53	136221	2439	1448	8.5	17.5
2767.5	2.0	46.6	60	10.4	1.97	46.78	137127	1838	1450	8.5	17.5
2768.0	1.7	45.6	60	10.4	2.01	47.08	138216	2209	1452	8.5	17.5
2768.5	3.1	46.4	60	10.4	1.82	47.24	138791	1167	1451	8.5	17.5
2769.0	8.4	44.9	60	10.4	1.50	47.30	139005	434	1448	8.5	17.5
2769.5	2.7	45.3	60	10.4	1.85	47.49	139671	1351	1448	8.5	17.5
2770.0	5.7	45.0	60	10.4	1.62	47.58	139989	645	1445	8.5	17.5
2771.0	6.4	45.0	60	10.4	1.58	47.73	140549	568	1439	8.5	17.5
2771.5	3.1	45.3	60	10.4	1.81	47.89	141134	1187	1438	8.5	17.5
2772.0	2.2	45.5	60	10.4	1.92	48.12	141958	1672	1439	8.5	17.5
2773.0	1.9	45.7	60	10.4	1.97	48.64	143838	1907	1442	8.5	17.5

BIT NUMBER	8	IADC CODE	517	INTERVAL	2773.0- 2907.8
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	7.9	BIT RUN	134.8
TOTAL HOURS	42.51	TOTAL TURNS	127561	CONDITION	T3 B3 G0.250

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2774.0	2.6	42.0	50	10.4	1.77	0.38	1150	1400	38771	8.5	17.5
2775.0	3.5	45.8	47	10.4	1.71	0.67	1970	1056	19913	8.5	17.5
2776.0	6.3	45.3	48	10.4	1.52	0.83	2422	577	13468	8.5	17.5
2777.0	4.4	49.1	50	10.4	1.69	1.06	3104	823	10307	8.5	17.5
2778.0	3.1	50.5	50	10.4	1.82	1.37	4064	1165	8478	8.5	17.5
2780.0	3.2	49.8	50	10.4	1.80	2.00	5952	1143	6382	8.5	17.5
2781.0	4.0	50.0	50	10.4	1.73	2.25	6704	910	5698	8.5	17.5
2782.0	7.2	48.6	50	10.4	1.53	2.39	7126	510	5122	8.5	17.5
2783.0	7.8	49.3	50	10.4	1.52	2.52	7516	471	4657	8.5	17.5
2784.0	2.8	49.8	50	10.4	1.84	2.87	8577	1284	4350	8.5	17.5
2785.0	3.8	49.8	50	10.4	1.75	3.14	9382	974	4069	8.5	17.5
2786.0	3.0	44.1	47	10.4	1.73	3.47	10320	1217	3849	8.5	17.5
2787.0	5.0	41.7	46	10.4	1.54	3.67	10870	731	3627	8.5	17.5
2788.0	2.8	42.2	50	10.4	1.75	4.03	11965	1327	3473	8.5	17.5
2789.0	6.8	41.8	50	10.4	1.48	4.18	12412	541	3290	8.5	17.5
2790.0	3.6	42.0	50	10.4	1.67	4.46	13244	1008	3156	8.5	17.5
2791.0	3.8	42.2	50	10.4	1.66	4.72	14038	962	3034	8.5	17.5
2792.0	2.9	42.0	50	10.4	1.74	5.07	15089	1271	2941	8.5	17.5
2793.0	3.0	42.3	50	10.4	1.73	5.41	16106	1235	2856	8.5	17.5
2795.0	3.4	42.4	50	10.4	1.69	5.99	17878	1072	2694	8.5	17.5
2796.0	3.2	42.4	50	10.4	1.71	6.31	18815	1149	2627	8.5	17.5
2797.0	4.0	42.6	50	10.4	1.64	6.56	19562	905	2555	8.5	17.5
2798.0	3.8	43.1	50	10.4	1.66	6.82	20347	957	2491	8.5	17.5
2799.0	8.0	42.2	50	10.4	1.43	6.94	20724	455	2413	8.5	17.5
2800.0	11.4	38.0	47	10.4	1.26	7.03	20971	321	2335	8.5	17.5
2801.0	12.0	39.2	51	10.4	1.28	7.11	21225	305	2263	8.5	17.5
2802.0	3.9	41.2	49	10.4	1.63	7.37	21974	928	2217	8.5	17.5
2803.0	3.2	41.7	50	10.4	1.70	7.68	22912	1138	2181	8.5	17.5
2804.0	3.3	41.8	50	10.4	1.69	7.98	23819	1100	2146	8.5	17.5
2805.0	2.8	41.8	50	10.4	1.74	8.34	24888	1296	2119	8.5	17.5
2806.0	4.2	42.3	49	10.4	1.62	8.58	25597	875	2082	8.5	17.5
2807.0	5.8	42.1	50	10.4	1.53	8.75	26118	632	2039	8.5	17.5
2808.0	1.9	42.2	50	10.4	1.86	9.26	27671	1882	2034	8.5	17.5
2809.0	5.4	41.9	50	10.4	1.54	9.45	28226	674	1997	8.5	17.5
2810.0	2.5	42.0	50	10.4	1.78	9.85	29422	1450	1982	8.5	17.5
2811.0	11.2	43.0	50	10.4	1.34	9.94	29691	327	1938	8.5	17.5
2813.0	3.4	43.8	50	10.4	1.71	10.53	31480	1084	1896	8.5	17.5
2813.5	1.8	43.6	50	10.4	1.90	10.81	32326	2053	1898	8.5	17.5
2814.0	4.2	43.5	50	10.4	1.64	10.93	32687	874	1885	8.5	17.5
2815.0	11.7	42.2	44	10.4	1.28	11.02	32913	313	1848	8.5	17.5
2815.5	13.6	40.5	41	10.4	1.19	11.05	33003	268	1829	8.5	17.5
2816.0	10.0	46.0	50	10.4	1.40	11.10	33154	366	1812	8.5	17.5
2817.0	1.6	43.8	50	10.4	1.94	11.73	35054	2295	1823	8.5	17.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2817.5	1.6	44.0	50	10.4	1.95	12.05	36015	2321	1829	8.5	17.5
2818.0	3.7	43.3	50	10.4	1.68	12.18	36426	992	1819	8.5	17.5
2818.5	2.6	43.9	50	10.4	1.80	12.38	37010	1418	1815	8.5	17.5
2819.0	1.6	45.4	50	10.4	1.97	12.70	37984	2356	1821	8.5	17.5
2819.5	2.2	45.7	50	10.4	1.87	12.93	38664	1645	1819	8.5	17.5
2820.0	2.4	45.6	50	10.4	1.83	13.13	39282	1491	1815	8.5	17.5
2820.5	4.5	45.4	50	10.4	1.64	13.24	39616	810	1805	8.5	17.5
2821.0	1.5	45.6	50	10.4	1.99	13.58	40637	2463	1812	8.5	17.5
2821.5	2.8	45.5	50	10.4	1.80	13.76	41184	1325	1807	8.5	17.5
2822.0	4.2	45.8	50	10.4	1.67	13.88	41539	860	1797	8.5	17.5
2822.5	3.5	49.5	50	10.4	1.77	14.02	41974	1051	1789	8.5	17.5
2823.0	1.7	50.0	50	10.4	2.01	14.32	42865	2153	1793	8.5	17.5
2823.5	3.8	49.8	51	10.4	1.75	14.45	43263	958	1785	8.5	17.5
2824.0	2.9	50.0	50	10.4	1.84	14.62	43785	1261	1780	8.5	17.5
2825.0	2.1	49.6	48	10.4	1.92	15.10	45183	1765	1779	8.5	17.5
2826.0	2.5	50.6	50	10.4	1.88	15.50	46368	1434	1773	8.5	17.5
2826.5	3.0	50.2	50	10.4	1.82	15.66	46868	1209	1768	8.5	17.5
2827.0	1.6	50.3	50	10.4	2.02	15.97	47795	2244	1772	8.5	17.5
2827.5	2.5	50.5	50	10.4	1.89	16.17	48394	1455	1769	8.5	17.5
2828.0	3.0	50.2	50	10.4	1.83	16.34	48898	1219	1764	8.5	17.5
2828.5	3.0	50.1	50	10.4	1.83	16.50	49401	1217	1759	8.5	17.5
2829.0	2.0	50.1	50	10.4	1.95	16.75	50140	1789	1759	8.5	17.5
2830.0	3.3	50.1	50	10.4	1.80	17.05	51064	1120	1748	8.5	17.5
2830.5	3.1	50.3	50	10.4	1.82	17.22	51554	1189	1743	8.5	17.5
2831.0	1.7	50.0	50	10.4	2.01	17.52	52455	2183	1747	8.5	17.5
2831.5	4.0	49.9	50	10.4	1.73	17.64	52831	911	1740	8.5	17.5
2832.0	8.9	49.7	50	10.4	1.48	17.70	53000	410	1729	8.5	17.5
2832.5	4.3	49.9	50	10.4	1.71	17.81	53347	840	1721	8.5	17.5
2833.0	3.2	50.0	50	10.4	1.81	17.97	53821	1148	1717	8.5	17.5
2833.5	6.6	49.6	48	10.4	1.56	18.04	54039	552	1707	8.5	17.5
2834.0	4.8	50.0	50	10.4	1.68	18.15	54356	767	1699	8.5	17.5
2834.5	4.1	50.2	48	10.4	1.71	18.27	54705	889	1693	8.5	17.5
2835.0	1.6	51.2	50	10.4	2.05	18.59	55672	2345	1698	8.5	17.5
2835.5	2.5	50.7	50	10.4	1.89	18.79	56274	1461	1696	8.5	17.5
2836.0	3.1	50.4	50	10.4	1.82	18.95	56764	1187	1692	8.5	17.5
2836.5	3.4	50.4	50	10.4	1.79	19.10	57207	1073	1687	8.5	17.5
2837.0	2.1	50.6	50	10.4	1.95	19.34	57940	1777	1688	8.5	17.5
2837.5	3.1	50.3	50	10.4	1.82	19.51	58435	1195	1684	8.5	17.5
2838.0	4.3	50.3	50	10.4	1.71	19.62	58786	850	1678	8.5	17.5
2838.5	4.1	50.3	50	10.4	1.73	19.75	59156	895	1672	8.5	17.5
2839.0	1.4	50.6	50	10.4	2.08	20.11	60245	2640	1679	8.5	17.5
2840.0	3.4	50.8	50	10.4	1.80	20.41	61139	1082	1670	8.5	17.5
2840.5	3.5	50.3	50	10.4	1.78	20.55	61568	1037	1665	8.5	17.5
2841.0	1.5	50.7	50	10.4	2.05	20.87	62544	2364	1670	8.5	17.6
2841.5	1.5	50.7	50	10.4	2.05	21.20	63530	2392	1676	8.5	17.6
2842.0	1.8	52.4	56	10.4	2.05	21.48	64464	2029	1678	8.5	17.6
2843.0	2.0	50.3	49	10.4	1.94	21.97	65906	1794	1680	8.5	17.6
2843.5	4.9	50.5	50	10.4	1.67	22.07	66212	743	1673	8.5	17.6
2844.0	5.2	51.3	50	10.4	1.67	22.17	66504	708	1666	8.5	17.6
2844.5	3.7	52.0	50	10.4	1.78	22.30	66913	992	1662	8.5	17.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2845.0	4.0	52.1	50	10.4	1.76	22.43	67292	917	1657	8.5	17.6
2845.5	3.2	52.4	50	10.4	1.83	22.58	67759	1130	1653	8.5	17.6
2846.0	4.0	51.9	50	10.4	1.75	22.71	68134	909	1648	8.5	17.6
2846.5	2.2	52.2	50	10.4	1.96	22.94	68830	1686	1648	8.5	17.6
2847.0	2.8	52.2	50	10.4	1.88	23.12	69376	1323	1646	8.5	17.6
2847.5	3.9	52.0	50	10.4	1.76	23.25	69759	929	1641	8.5	17.6
2848.0	2.9	51.2	45	10.4	1.81	23.42	70225	1256	1639	8.5	17.6
2848.5	2.6	52.2	50	10.4	1.90	23.61	70803	1402	1637	8.5	17.6
2849.0	3.0	51.5	50	10.4	1.84	23.78	71307	1219	1634	8.5	17.6
2849.5	1.6	51.0	50	10.4	2.04	24.09	72267	2329	1639	8.5	17.6
2850.0	3.2	50.8	50	10.4	1.81	24.25	72730	1126	1635	8.5	17.6
2850.5	3.2	51.1	50	10.4	1.82	24.40	73200	1136	1632	8.5	17.6
2851.0	3.5	51.5	50	10.4	1.79	24.55	73626	1035	1628	8.5	17.6
2851.5	3.0	50.9	50	10.4	1.83	24.71	74128	1217	1626	8.5	17.6
2852.0	6.2	48.8	50	10.4	1.58	24.79	74371	588	1619	8.5	17.6
2853.0	14.6	48.6	50	10.4	1.31	24.86	74579	251	1602	8.5	17.6
2853.5	6.1	48.5	40	10.4	1.51	24.94	74776	594	1596	8.5	17.6
2854.0	5.3	50.2	50	10.4	1.65	25.04	75061	692	1590	8.5	17.6
2854.5	9.1	50.1	51	10.4	1.47	25.09	75228	400	1583	8.5	17.6
2855.0	3.1	50.9	51	10.4	1.83	25.25	75718	1181	1581	8.5	17.6
2856.0	2.7	51.6	50	10.4	1.88	25.63	76853	1374	1578	8.5	17.6
2856.5	2.9	51.8	50	10.4	1.85	25.80	77367	1246	1576	8.5	17.6
2857.0	1.6	52.0	50	10.4	2.05	26.11	78312	2285	1580	8.5	17.6
2857.5	2.5	51.8	50	10.4	1.91	26.32	78927	1485	1580	8.5	17.6
2858.0	4.6	51.5	50	10.4	1.70	26.43	79254	789	1575	8.5	17.6
2858.5	5.1	51.4	50	10.4	1.67	26.52	79551	720	1570	8.5	17.6
2859.0	2.6	51.3	50	10.4	1.89	26.72	80130	1402	1569	8.5	17.6
2859.5	3.2	51.7	50	10.4	1.83	26.87	80604	1148	1567	8.5	17.6
2860.0	12.5	52.1	50	10.4	1.39	26.91	80724	292	1559	8.5	17.6
2860.5	2.5	52.0	50	10.4	1.90	27.11	81322	1447	1559	8.5	17.6
2861.0	2.0	51.6	50	10.4	1.98	27.36	82077	1824	1560	8.5	17.6
2862.0	4.1	51.6	50	10.4	1.74	27.60	82808	885	1553	8.5	17.6
2862.5	3.1	52.1	50	10.4	1.84	27.77	83301	1191	1551	8.5	17.6
2863.0	1.4	52.3	50	10.4	2.10	28.13	84389	2631	1557	8.5	17.6
2863.5	1.9	52.1	49	10.4	1.99	28.39	85171	1942	1559	8.5	17.6
2864.0	2.4	52.4	50	10.4	1.92	28.60	85795	1512	1558	8.5	17.6
2865.0	3.1	52.6	50	10.4	1.84	28.92	86762	1172	1554	8.5	17.6
2865.5	2.0	52.2	50	10.4	1.98	29.17	87520	1840	1556	8.5	17.6
2866.0	5.1	52.2	50	10.4	1.68	29.27	87817	722	1551	8.5	17.6
2866.5	9.3	51.2	50	10.4	1.48	29.32	87979	394	1545	8.5	17.6
2867.0	14.4	50.3	33	10.4	1.20	29.36	88049	254	1538	8.5	17.6
2868.0	2.2	51.0	50	10.4	1.94	29.81	89415	1654	1539	8.5	17.6
2868.5	2.9	51.4	50	10.4	1.86	29.99	89944	1280	1538	8.5	17.6
2869.0	6.5	50.1	50	10.4	1.58	30.06	90177	564	1533	8.5	17.6
2869.5	1.5	51.2	50	10.4	2.06	30.40	91179	2427	1538	8.5	17.6
2870.0	4.2	51.2	50	10.4	1.73	30.52	91535	862	1534	8.5	17.6
2871.0	5.0	50.8	50	10.4	1.67	30.72	92144	736	1526	8.5	17.6
2871.5	1.6	51.4	50	10.4	2.04	31.02	93067	2240	1530	8.5	17.6
2872.0	2.7	52.0	50	10.4	1.89	31.21	93631	1365	1529	8.5	17.6
2873.0	3.1	49.4	49	10.4	1.80	31.53	94578	1179	1525	8.5	17.6



DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2873.5	2.3	47.6	50	10.4	1.87	31.75	95224	1564	1525	8.5	17.6
2874.0	4.4	47.3	50	10.4	1.67	31.86	95568	834	1522	8.5	17.6
2875.0	4.7	47.2	50	10.4	1.65	32.08	96215	784	1515	8.5	17.6
2875.5	2.8	47.3	50	10.4	1.82	32.26	96761	1317	1514	8.5	17.6
2876.0	2.9	47.4	50	10.4	1.80	32.43	97280	1258	1513	8.5	17.6
2877.0	3.6	47.5	50	10.4	1.74	32.71	98114	1012	1508	8.5	17.6
2877.5	1.8	47.6	50	10.4	1.96	32.99	98968	2074	1511	8.5	17.6
2878.0	2.9	47.5	50	10.4	1.80	33.16	99485	1252	1509	8.5	17.6
2879.0	2.8	47.9	50	10.4	1.83	33.52	100578	1322	1508	8.5	17.6
2879.5	2.0	49.8	50	10.4	1.95	33.77	101322	1800	1509	8.5	17.6
2880.0	4.1	50.2	50	10.4	1.73	33.89	101689	885	1506	8.5	17.6
2881.0	3.3	50.4	50	10.4	1.80	34.19	102593	1096	1502	8.5	17.6
2882.0	2.6	50.4	50	10.4	1.88	34.58	103767	1420	1501	8.5	17.6
2883.0	3.1	50.2	50	10.4	1.81	34.90	104730	1168	1498	8.5	17.6
2884.0	1.9	50.7	50	10.4	1.98	35.43	106319	1925	1502	8.5	17.6
2885.0	2.4	50.5	50	10.4	1.90	35.85	107574	1532	1503	8.5	17.6
2886.0	2.5	50.0	50	10.4	1.88	36.24	108770	1447	1502	8.5	17.6
2886.5	2.8	49.6	50	10.4	1.85	36.42	109313	1317	1501	8.5	17.6
2887.0	4.5	49.7	50	10.4	1.69	36.53	109648	812	1498	8.5	17.6
2888.0	3.5	49.7	50	10.4	1.78	36.82	110521	1057	1494	8.5	17.6
2888.5	1.9	50.0	50	10.4	1.97	37.08	111311	1909	1496	8.5	17.6
2889.0	4.6	49.7	50	10.4	1.69	37.19	111639	795	1493	8.5	17.6
2889.5	3.6	50.0	50	10.4	1.77	37.33	112062	1025	1491	8.5	17.6
2890.0	3.6	49.8	50	10.4	1.76	37.47	112480	1010	1489	8.5	17.6
2890.5	1.7	50.2	50	10.4	2.01	37.77	113366	2145	1492	8.5	17.6
2891.0	3.3	49.8	50	10.4	1.79	37.92	113824	1108	1490	8.5	17.6
2892.0	2.7	50.1	50	10.4	1.86	38.28	114934	1343	1489	8.5	17.6
2892.5	1.8	49.9	50	10.4	1.99	38.57	115788	2065	1491	8.5	17.6
2893.0	4.4	50.3	50	10.4	1.71	38.68	116130	826	1489	8.5	17.6
2893.5	2.9	50.9	50	10.4	1.84	38.85	116645	1242	1488	8.5	17.6
2894.0	3.2	50.0	50	10.4	1.81	39.01	117121	1150	1486	8.5	17.6
2894.5	4.8	50.0	50	10.4	1.68	39.11	117436	761	1483	8.5	17.6
2895.0	6.1	49.8	50	10.4	1.60	39.19	117685	601	1480	8.5	17.6
2895.5	8.3	49.7	50	10.4	1.50	39.26	117867	440	1475	8.5	17.6
2896.0	6.0	49.4	50	10.4	1.60	39.34	118119	607	1472	8.5	17.6
2896.5	12.9	49.2	50	10.4	1.35	39.38	118235	282	1467	8.5	17.6
2897.0	4.3	49.8	50	10.4	1.70	39.49	118578	842	1464	8.5	17.6
2898.0	3.5	50.1	50	10.4	1.77	39.78	119431	1037	1461	8.5	17.6
2898.5	3.1	50.3	49	10.4	1.81	39.94	119902	1167	1460	8.5	17.6
2899.0	4.8	50.3	50	10.4	1.68	40.04	120216	764	1457	8.5	17.6
2900.0	2.2	50.3	50	10.4	1.93	40.50	121595	1674	1459	8.5	17.6
2901.0	4.8	50.2	50	10.4	1.68	40.71	122222	763	1453	8.5	17.6
2901.5	6.0	50.1	50	10.4	1.61	40.79	122476	613	1450	8.5	17.6
2902.0	6.6	48.8	47	10.4	1.54	40.87	122691	556	1447	8.5	17.6
2902.5	3.9	50.4	50	10.4	1.74	40.99	123074	925	1445	8.5	17.6
2903.0	5.7	49.9	51	10.4	1.62	41.08	123342	645	1442	8.5	17.6
2904.0	4.0	50.6	50	10.4	1.74	41.33	124101	921	1438	8.5	17.6
2904.5	2.8	50.8	50	10.4	1.86	41.52	124645	1319	1437	8.5	17.6
2905.0	1.7	50.5	50	10.4	2.01	41.80	125516	2108	1440	8.5	17.6
2905.5	2.2	50.7	50	10.4	1.93	42.03	126206	1672	1441	8.5	17.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2906.0	3.1	50.6	51	10.3	1.84	42.19	126688	1161	1440	8.5	17.6
2906.5	2.6	50.7	50	10.3	1.89	42.38	127264	1396	1439	8.5	17.6
2907.0	9.7	49.6	50	10.3	1.46	42.43	127420	377	1435	8.5	17.6
2907.5	10.2	48.4	50	10.3	1.43	42.48	127568	359	1431	8.5	17.6
2907.8	12.7	39.9	50	10.3	1.28	42.51	127639	287	1429	8.5	17.6

BIT NUMBER	8	IADC CODE	4	INTERVAL	2907.8- 2924.3
CHRIS RC4		SIZE	9.840	NOZZLES	14 15 15
COST	0.00	TRIP TIME	8.2	BIT RUN	16.5
TOTAL HOURS	5.09	TOTAL TURNS	17926	CONDITION	T0 B0 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2908.0	1.7	27.6	90	10.3	1.97	0.12	646	2191	151923	8.5	17.6
2908.5	1.4	25.8	90	10.3	1.97	0.47	2503	2520	45207	8.5	17.6
2909.0	1.1	28.1	90	10.3	2.11	0.93	4990	3378	27778	8.5	17.6
2910.0	1.6	27.2	90	10.3	1.97	1.53	8254	2216	16159	8.5	17.6
2910.4	1.6	26.8	90	10.3	1.97	1.78	9598	2283	14024	8.5	17.6
2910.8	1.6	28.9	90	10.3	2.02	2.04	10976	2338	12466	8.5	17.6
2911.2	1.6	29.9	90	10.3	2.02	2.28	12282	2217	11260	8.5	17.6
2911.6	2.5	29.6	90	10.3	1.90	2.44	13142	1458	10228	8.5	17.6
2911.8	2.1	29.3	90	10.3	1.94	2.54	13663	1770	9805	8.5	17.6
2912.2	3.3	29.1	90	10.3	1.80	2.66	14308	1096	9014	8.5	17.6
2912.6	7.3	28.7	90	10.3	1.57	2.71	14601	497	8304	8.5	17.6
2913.0	4.4	28.8	90	10.3	1.72	2.80	15090	829	7729	8.5	17.6
2913.4	4.0	29.1	90	10.3	1.75	2.90	15626	910	7242	8.5	17.6
2914.0	6.0	29.0	90	10.3	1.63	3.00	16165	610	6600	8.5	17.6
2914.2	3.1	28.6	90	10.3	1.81	3.07	16513	1177	6431	8.5	17.6
2914.6	3.4	29.1	90	10.3	1.80	3.19	17146	1073	6115	8.5	17.6
2915.0	4.9	28.8	89	10.3	1.68	3.27	17582	743	5817	8.5	17.6
2915.4	4.8	28.9	90	10.3	1.69	3.35	18033	766	5551	8.5	17.6
2915.8	3.6	29.1	90	10.3	1.78	3.46	18639	1027	5325	8.5	17.6
2916.2	3.9	28.1	90	10.3	1.74	3.57	19194	938	5116	8.5	17.6
2916.6	10.3	25.0	90	10.3	1.41	3.61	19404	355	4900	8.5	17.6
2917.0	3.8	26.6	94	10.3	1.73	3.71	19998	966	4729	8.5	17.6
2917.6	3.7	26.9	90	10.3	1.73	3.87	20865	979	4499	8.5	17.6
2918.0	2.5	26.7	90	10.3	1.84	4.03	21732	1473	4380	8.5	17.6
2918.4	1.9	29.4	86	10.3	1.96	4.24	22808	1894	4287	8.5	17.6
2918.6	7.3	29.1	90	10.3	1.58	4.27	22955	497	4216	8.5	17.6
2918.8	2.8	24.8	90	10.3	1.78	4.34	23342	1314	4164	8.5	17.6
2919.0	21.2	22.3	90	10.3	1.18	4.35	23393	172	4092	8.5	17.6
2919.2	1.7	25.8	90	10.3	1.94	4.47	24039	2196	4059	8.5	17.6
2919.4	3.7	26.3	90	10.3	1.73	4.52	24328	979	4006	8.5	17.6
2919.6	1.4	23.2	90	10.3	1.93	4.67	25096	2602	3982	8.5	17.6
2919.8	12.9	23.2	89	10.3	1.32	4.68	25179	284	3921	8.5	17.6
2920.0	2.7	23.1	90	10.3	1.75	4.76	25580	1364	3879	8.5	17.6
2920.2	18.5	23.3	88	10.3	1.23	4.77	25638	198	3819	8.5	17.6
2920.4	4.2	23.1	90	10.3	1.63	4.82	25894	867	3772	8.5	17.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	TCOST	CCOST	PP	FG
2920.6	14.4	22.1	89	10.3	1.28	4.83	25968	254	3717	8.5	17.6
2920.8	4.0	22.7	89	10.3	1.63	4.88	26233	903	3674	8.5	17.6
2921.0	20.0	23.1	89	10.3	1.20	4.89	26287	183	3621	8.5	17.6
2921.2	3.6	22.8	89	10.3	1.66	4.94	26582	1004	3582	8.5	17.6
2921.4	20.6	23.6	90	10.3	1.20	4.95	26634	178	3532	8.5	17.6
2921.6	4.4	22.5	90	10.3	1.61	5.00	26878	827	3493	8.5	17.6
2921.8	10.7	23.2	90	10.3	1.38	5.02	26978	340	3448	8.5	17.6
2922.0	3.6	22.8	90	10.3	1.67	5.07	27275	1009	3414	8.5	17.6
2922.2	19.5	23.7	90	10.3	1.22	5.08	27330	188	3369	8.5	17.6
2922.4	3.2	23.1	90	10.3	1.71	5.15	27668	1146	3338	8.5	17.6
2922.6	17.6	23.1	89	10.3	1.24	5.16	27729	208	3296	8.5	17.6
2922.8	4.8	22.6	90	10.3	1.59	5.20	27955	766	3262	8.5	17.6
2923.0	16.0	22.3	89	10.3	1.25	5.21	28021	228	3222	8.5	17.6
2923.2	7.2	22.0	90	10.3	1.46	5.24	28171	507	3187	8.5	17.6
2923.4	16.7	22.6	90	10.3	1.25	5.25	28235	218	3149	8.5	17.6
2923.6	5.7	22.3	89	10.3	1.53	5.29	28423	639	3117	8.5	17.6
2923.8	17.6	22.3	90	10.3	1.23	5.30	28484	208	3081	8.5	17.6
2924.0	7.8	27.4	90	10.3	1.53	5.32	28622	467	3049	8.5	17.6

BIT NUMBER	9	IADC CODE	517	INTERVAL	2924.3- 2995.4
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	8.2	BIT RUN	71.1
TOTAL HOURS	26.47	TOTAL TURNS	99551	CONDITION	T3 B8 G0.250

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2925.0	5.4	49.0	49	10.4	1.61	0.13	375	673	55625	8.5	17.6
2926.0	10.1	49.0	50	10.4	1.43	0.23	671	360	23116	8.5	17.6
2927.0	1.9	49.5	50	10.4	1.96	0.74	2216	1875	15249	8.5	17.6
2928.0	3.1	49.6	50	10.4	1.81	1.07	3194	1188	11449	8.5	17.6
2929.0	3.3	49.3	50	10.4	1.79	1.37	4104	1103	9247	8.5	17.6
2930.0	7.3	48.9	50	10.4	1.53	1.50	4512	499	7713	8.5	17.6
2931.0	6.0	48.0	50	10.4	1.58	1.67	5012	609	6652	8.5	17.6
2932.0	13.6	46.4	50	10.4	1.31	1.75	5233	269	5823	8.5	17.6
2933.0	27.9	45.8	50	10.4	1.08	1.78	5340	131	5169	8.5	17.6
2934.0	3.2	49.1	50	10.4	1.79	2.09	6270	1128	4752	8.5	17.6
2935.0	4.8	49.6	50	10.4	1.67	2.30	6901	763	4380	8.5	17.6
2936.0	2.1	49.9	50	10.4	1.94	2.78	8341	1742	4154	8.5	17.6
2937.0	2.5	49.7	50	10.4	1.88	3.17	9528	1438	3940	8.5	17.6
2938.0	1.9	48.9	50	10.3	1.97	3.69	11078	1894	3791	8.5	17.6
2939.0	3.6	49.1	50	10.3	1.78	3.97	11928	1029	3603	8.5	17.6
2940.0	3.7	48.6	50	10.3	1.76	4.24	12739	987	3436	8.5	17.7
2941.0	4.6	49.2	50	10.3	1.69	4.46	13384	788	3278	8.5	17.7
2942.0	2.1	49.6	50	10.3	1.95	4.93	14828	1748	3191	8.5	17.7
2943.0	3.6	49.4	50	10.3	1.78	5.21	15662	1010	3075	8.5	17.7
2944.0	3.5	49.1	50	10.3	1.79	5.50	16531	1054	2972	8.5	17.7
2945.0	3.2	49.5	50	10.3	1.82	5.82	17489	1158	2885	8.5	17.7
2946.0	3.8	49.3	50	10.3	1.76	6.08	18276	954	2796	8.5	17.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	URNS	ICOST	CCOST	PP	FG
2947.0	3.2	49.8	50	10.3	1.82	6.39	19216	1136	2722	8.5	17.7
2948.0	1.9	48.4	50	10.3	1.97	6.91	20793	1909	2688	8.5	17.7
2949.0	3.9	47.1	50	10.3	1.73	7.17	21570	938	2617	8.5	17.7
2950.0	2.9	47.2	49	10.3	1.81	7.51	22579	1248	2564	8.5	17.7
2951.0	1.4	46.9	50	10.3	2.05	8.23	24747	2639	2567	8.5	17.7
2952.0	3.0	50.2	50	10.3	1.84	8.56	25743	1212	2518	8.5	17.7
2953.0	3.9	50.1	50	10.3	1.75	8.82	26503	925	2462	8.5	17.7
2954.0	2.8	50.1	60	10.3	1.92	9.17	27767	1287	2423	8.5	17.7
2955.0	2.6	50.1	61	10.3	1.95	9.55	29155	1389	2389	8.5	17.7
2956.0	3.1	50.2	65	10.3	1.92	9.88	30423	1187	2351	8.5	17.7
2957.0	2.8	49.9	65	10.3	1.95	10.23	31816	1305	2319	8.5	17.7
2958.0	1.3	50.7	65	10.3	2.21	11.00	34818	2811	2334	8.5	17.7
2959.0	2.3	50.7	65	10.3	2.01	11.43	36481	1557	2311	8.5	17.7
2960.0	1.4	50.3	68	10.3	2.19	12.15	39412	2631	2320	8.5	17.7
2961.0	2.5	48.5	70	10.3	1.99	12.55	41107	1474	2297	8.5	17.7
2962.0	1.2	48.6	70	10.3	2.21	13.36	44487	2939	2314	8.5	17.7
2963.0	1.8	48.3	70	10.3	2.08	13.90	46778	1992	2306	8.5	17.7
2964.0	4.2	47.6	70	10.3	1.81	14.14	47780	871	2270	8.5	17.7
2965.0	2.0	48.6	70	10.3	2.06	14.64	49880	1826	2259	8.5	17.7
2966.0	1.5	48.7	70	10.3	2.16	15.33	52760	2504	2265	8.5	17.7
2967.0	1.8	48.4	70	10.3	2.09	15.88	55086	2022	2259	8.5	17.7
2968.0	5.5	48.0	70	10.3	1.73	16.07	55856	670	2223	8.5	17.7
2969.0	2.6	48.7	70	10.3	1.98	16.45	57489	1420	2205	8.5	17.7
2970.0	1.4	49.4	70	10.3	2.19	17.18	60527	2642	2214	8.5	17.7
2971.0	1.3	49.6	70	10.3	2.21	17.95	63760	2811	2227	8.5	17.7
2972.0	2.8	50.1	70	10.3	1.98	18.31	65271	1314	2208	8.5	17.7
2973.0	1.5	50.2	70	10.3	2.17	18.95	67992	2367	2211	8.5	17.7
2974.0	5.5	49.3	70	10.3	1.75	19.14	68762	670	2180	8.5	17.7
2975.0	1.2	49.8	70	10.3	2.23	19.94	72135	2933	2195	8.5	17.7
2976.0	3.3	49.7	70	10.3	1.92	20.25	73427	1123	2174	8.5	17.7
2977.0	3.1	49.0	70	10.3	1.93	20.57	74782	1178	2155	8.5	17.7
2978.0	2.2	50.1	70	10.3	2.05	21.03	76691	1661	2146	8.5	17.7
2979.0	2.7	47.7	70	10.3	1.96	21.40	78264	1367	2132	8.5	17.7
2980.0	2.9	49.4	70	10.3	1.95	21.75	79718	1264	2116	8.5	17.7
2981.0	5.1	48.0	70	10.3	1.76	21.94	80548	722	2092	8.5	17.7
2982.0	9.8	48.0	70	10.3	1.55	22.05	80977	372	2062	8.5	17.7
2983.0	3.3	49.6	70	10.3	1.92	22.35	82261	1117	2046	8.5	17.7
2984.0	6.9	48.5	70	10.3	1.66	22.50	82870	529	2021	8.5	17.7
2985.0	4.9	50.4	70	10.3	1.80	22.70	83732	750	2000	8.5	17.7
2986.0	2.4	48.0	70	10.3	1.99	23.12	85482	1522	1992	8.5	17.7
2987.0	2.9	51.4	70	10.3	1.98	23.47	86936	1263	1980	8.5	17.7
2988.0	5.6	47.5	70	10.3	1.72	23.64	87682	649	1959	8.5	17.7
2989.0	5.5	48.0	70	10.3	1.73	23.82	88446	664	1939	8.5	17.7
2990.0	2.3	49.9	70	10.3	2.04	24.26	90287	1601	1934	8.5	17.7
2991.0	4.3	48.6	70	10.3	1.81	24.49	91258	844	1918	8.5	17.7
2992.0	1.5	49.2	70	10.3	2.17	25.17	94093	2465	1926	8.5	17.7
2993.0	2.3	50.2	70	10.3	2.03	25.60	95899	1570	1921	8.5	17.7
2994.0	2.2	48.6	70	10.3	2.03	26.05	97784	1639	1917	8.5	17.7
2995.0	3.3	48.1	70	10.3	1.89	26.35	99042	1094	1905	8.5	17.7
2995.4	3.3	49.0	70	10.3	1.91	26.47	99551	1107	1901	8.5	17.7

(d). COMPUTER DATA LISTING : LIST B

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INTERVAL . . . . . 10m averages.

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

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

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

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

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

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

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

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

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

BIT NUMBER	1	IADC CODE	111	INTERVAL	82.0-	219.0
HTC OSC3AJ+26"HO		SIZE	26.000	NOZZLES	20	20 20
COST	0.00	TRIP TIME	2.6	BIT RUN		137.0
TOTAL HOURS	2.66	TOTAL TURNS	11170	CONDITION	T7	B7 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
100.0	88.3	18.0	0.20	856	10239.84	41.37	568.88	-
110.0	49.0	28.0	0.41	1713	10984.70	74.49	392.31	-
150.0	60.0	68.0	1.07	4515	13420.83	60.90	197.37	-
160.0	86.8	78.0	1.19	4998	13841.45	42.06	177.45	-
180.0	48.6	98.0	1.60	6727	15344.06	75.13	156.57	-
190.0	40.2	108.0	1.85	7772	16252.75	90.87	150.49	-
200.0	33.3	118.0	2.15	9031	17347.97	109.52	147.02	-
210.0	46.0	128.0	2.37	9944	18141.77	79.38	141.73	-
219.0	30.8	137.0	2.66	11170	19207.95	118.46	140.20	-

BIT NUMBER	1	IADC CODE	111	INTERVAL	219.0-	806.0
HTC OSC 3AJ		SIZE	17.500	NOZZLES	18	18 18
COST	4978.00	TRIP TIME	2.6	BIT RUN		587.0
TOTAL HOURS	23.23	TOTAL TURNS	157569	CONDITION	T0	B0 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
220.0	24.2	1.0	0.04	248	14624.35	151	14624	-
230.0	55.6	11.0	0.22	1327	15280.70	66	1389	-
240.0	50.5	21.0	0.42	2515	16004.00	72.33	762.10	-
250.0	39.3	31.0	0.67	4042	16933.53	92.95	546.24	-
260.0	95.0	41.0	0.78	4674	17318.01	38.45	422.39	-
280.0	42.0	61.0	1.26	7531	19057.14	86.96	312.41	-
290.0	32.2	71.0	1.57	9396	20192.30	113.52	284.40	-
300.0	36.0	81.0	1.84	11064	21207.76	101.55	261.82	-
310.0	65.9	91.0	2.00	11975	21762.14	55.44	239.14	-
320.0	29.3	101.0	2.34	14024	23008.89	124.68	227.81	-
330.0	44.6	111.0	2.56	15369	23827.55	81.87	214.66	-
340.0	46.7	121.0	2.78	16654	24609.68	78.21	203.39	-
350.0	36.7	131.0	3.05	18290	25605.87	99.62	195.46	-
360.0	25.8	141.0	3.44	20620	27024.06	141.82	191.66	-
370.0	42.7	151.0	3.67	22027	27880.25	85.62	184.64	-
380.0	19.3	161.0	4.19	25134	29771.18	189.09	184.91	+
390.0	58.9	171.0	4.36	26152	30391.00	61.98	177.73	-
400.0	55.7	181.0	4.54	27229	31046.69	65.57	171.53	-
410.0	52.0	191.0	4.73	28383	31748.84	70.21	166.22	-
420.0	42.4	201.0	4.97	29798	32610.32	86.15	162.24	-
430.0	24.2	211.0	5.38	32274	34117.28	150.70	161.69	-
440.0	49.7	221.0	5.58	33482	34852.32	73.50	157.70	-
450.0	36.3	231.0	5.86	35452	35858.67	100.64	155.23	-
460.0	29.4	241.0	6.20	38306	37099.34	124.07	153.94	-

DEPTH	ROP	BIT RUN	HOURS	URNS	TOTAL COST	ICOST	CCOST	I-C
470.0	54.9	251.0	6.38	39837	37764.81	66.55	150.46	-
480.0	32.2	261.0	6.69	42448	38899.98	113.52	149.04	-
490.0	33.0	271.0	6.99	44991	40005.72	110.57	147.62	-
500.0	41.6	281.0	7.23	47009	40882.95	87.72	145.49	-
510.0	23.3	291.0	7.66	50618	42452.30	156.93	145.88	+
520.0	39.6	301.0	7.91	52739	43374.43	92.21	144.10	-
530.0	35.5	311.0	8.20	55103	44402.06	102.76	142.77	-
550.0	42.5	331.0	8.67	59053	46119.52	85.87	139.33	-
560.0	49.4	341.0	8.87	60754	46859.05	73.95	137.42	-
570.0	49.5	351.0	9.07	62453	47597.44	73.84	135.61	-
580.0	37.5	361.0	9.34	64690	48570.29	97.29	134.54	-
590.0	47.9	371.0	9.55	66446	49333.41	76.31	132.97	-
600.0	47.7	381.0	9.75	68205	50098.30	76.49	131.49	-
610.0	45.9	391.0	9.97	70037	50894.64	79.63	130.17	-
620.0	34.2	401.0	10.27	72491	51961.83	106.72	129.58	-
630.0	31.8	411.0	10.58	75129	53108.62	114.68	129.22	-
640.0	25.9	421.0	10.97	78377	54520.72	141.21	129.50	+
650.0	29.6	431.0	11.30	81212	55753.27	123.26	129.36	-
660.0	27.3	441.0	11.67	84294	57093.35	134.01	129.46	+
670.0	25.6	451.0	12.06	87574	58519.06	142.57	129.75	+
680.0	27.0	461.0	12.43	90689	59873.34	135.43	129.88	+
690.0	18.0	471.0	12.99	95344	61897.16	202.38	131.42	+
700.0	16.0	481.0	13.61	100595	64180.33	228.32	133.43	+
720.0	13.4	501.0	15.10	113142	69635.00	272.73	138.99	+
730.0	10.8	511.0	16.03	120921	73017.24	338.22	142.89	+
740.0	12.0	521.0	16.86	126884	76061.59	304.43	145.99	+
760.0	11.4	541.0	18.61	135376	82441.43	318.99	152.39	+
770.0	10.4	551.0	19.58	140012	85969.33	352.79	156.02	+
790.0	11.2	571.0	21.36	148551	92465.83	324.83	161.94	+
800.0	8.8	581.0	22.50	154031	96635.20	416.94	166.33	+
806.0	8.1	587.0	23.23	157569	99326.91	448.62	169.21	+

BIT NUMBER	2	IADC CODE	114	INTERVAL	806.0- 1572.2
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2445.00	TRIP TIME	3.7	BIT RUN	766.2
TOTAL HOURS	46.51	TOTAL TURNS	324067	CONDITION	T5 B7 G0.125

DEPTH	ROP	BIT RUN	HOURS	URNS	TOTAL COST	ICOST	CCOST	I-C
810.0	12.0	4.0	0.33	1603	17176.76	305	4294	-
830.0	26.2	24.0	1.10	5986	19968.37	139.58	832.02	-
850.0	24.0	44.0	1.93	10979	23009.67	152.07	522.95	-
860.0	23.9	54.0	2.35	13487	24537.43	152.78	454.40	-
870.0	26.6	64.0	2.72	15739	25908.96	137.15	404.83	-
880.0	17.8	74.0	3.29	19115	27965.83	205.69	377.92	-
890.0	23.4	84.0	3.72	21678	29527.06	156.12	351.51	-
900.0	17.1	94.0	4.30	25186	31663.48	213.64	336.85	-
920.0	18.9	114.0	5.36	31526	35525.47	193.10	311.63	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
930.0	17.2	124.0	5.94	35018	37652.76	212.73	303.65	-
940.0	17.8	134.0	6.50	38386	39704.69	205.19	296.30	-
960.0	15.9	154.0	7.76	45923	44296.06	229.57	287.64	-
970.0	15.8	164.0	8.39	49719	46607.98	231.19	284.20	-
990.0	17.0	184.0	9.57	58076	50909.23	215.06	276.68	-
1000.0	18.6	194.0	10.11	61939	52868.41	195.92	272.52	-
1010.0	19.1	204.0	10.63	65711	54781.65	191.32	268.54	-
1020.0	21.1	214.0	11.10	69122	56511.79	173.01	264.07	-
1030.0	16.5	224.0	11.71	73492	58728.35	221.66	262.18	-
1040.0	18.1	234.0	12.26	77470	60746.08	201.77	259.60	-
1050.0	24.4	244.0	12.67	80418	62241.37	149.53	255.09	-
1060.0	18.7	254.0	13.21	84260	64190.12	194.87	252.72	-
1070.0	19.2	264.0	13.73	88014	66094.23	190.41	250.36	-
1080.0	20.4	274.0	14.22	91546	67885.74	179.15	247.76	-
1090.0	17.9	284.0	14.78	95572	69927.81	204.21	246.22	-
1100.0	16.0	294.0	15.40	100063	72205.75	227.79	245.60	-
1130.0	17.1	324.0	17.16	112716	78623.43	213.92	242.66	-
1140.0	17.4	334.0	17.73	116854	80722.32	209.89	241.68	-
1150.0	15.2	344.0	18.39	121588	83123.51	240.12	241.64	-
1170.0	14.7	364.0	19.75	131396	88098.34	248.74	242.03	+
1180.0	14.7	374.0	20.43	136281	90576.12	247.78	242.18	+
1190.0	13.3	384.0	21.19	141702	93325.85	274.97	243.04	+
1200.0	12.0	394.0	22.02	147726	96381.35	305.55	244.62	+
1210.0	13.4	404.0	22.77	153104	99109.49	272.81	245.32	+
1220.0	15.5	414.0	23.42	157756	101469.08	235.96	245.09	-
1230.0	9.4	424.0	24.48	165436	105364.55	389.55	248.50	+
1240.0	15.4	434.0	25.13	170124	107742.41	237.79	248.25	-
1250.0	14.3	444.0	25.83	175174	110303.88	256.15	248.43	+
1260.0	12.2	454.0	26.65	181076	113297.51	299.36	249.55	+
1270.0	11.8	464.0	27.50	187170	116388.52	309.10	250.84	+
1280.0	10.9	474.0	28.42	193774	119738.21	334.97	252.61	+
1290.0	12.2	484.0	29.23	199654	122720.68	298.25	253.56	+
1300.0	13.9	494.0	29.95	204820	125340.99	262.03	253.73	+
1310.0	16.3	504.0	30.57	209248	127586.97	224.60	253.15	-
1320.0	12.5	514.0	31.37	215022	130515.67	292.87	253.92	+
1330.0	15.8	524.0	32.00	219580	132827.59	231.19	253.49	-
1340.0	19.0	534.0	32.53	223374	134751.99	192.44	252.34	-
1350.0	18.1	544.0	33.08	227352	136769.66	201.77	251.41	-
1360.0	17.0	554.0	33.67	231580	138913.96	214.43	250.75	-
1370.0	16.5	564.0	34.28	235953	141132.13	221.82	250.23	-
1380.0	15.9	574.0	34.90	240476	143426.53	229.44	249.87	-
1390.0	15.5	584.0	35.55	245126	145785.11	235.86	249.63	-
1410.0	16.1	604.0	36.79	254047	150309.97	226.24	248.86	-
1420.0	18.2	614.0	37.34	258007	152318.57	200.86	248.08	-
1430.0	18.9	624.0	37.87	261815	154250.08	193.15	247.20	-
1440.0	16.5	634.0	38.48	266191	156469.68	221.96	246.80	-
1450.0	14.7	644.0	39.15	271078	158948.48	247.88	246.81	+
1460.0	15.6	654.0	39.80	275698	161291.84	234.34	246.62	-
1470.0	15.8	664.0	40.43	280269	163610.38	231.85	246.40	-
1480.0	14.8	674.0	41.11	285137	166079.54	246.92	246.41	+



DEPTH	ROP	BIT RUN	HOURS	URNS	TOTAL COST	ICOST	CCOST	I-C
1490.0	16.8	684.0	41.70	289418	168250.96	217.14	245.98	-
1500.0	16.8	694.0	42.30	293698	170421.87	217.09	245.56	-
1510.0	18.0	704.0	42.85	297694	172448.73	202.69	244.96	-
1520.0	20.9	714.0	43.33	301143	174197.88	174.92	243.97	-
1530.0	19.6	724.0	43.84	304820	176063.15	186.53	243.18	-
1540.0	20.6	734.0	44.33	308310	177833.47	177.03	242.28	-
1550.0	24.2	744.0	44.74	311287	179343.26	150.98	241.05	-
1560.0	19.2	754.0	45.26	315033	181243.15	189.99	240.38	-
1572.2	9.7	766.2	46.51	324067	185825.67	375.62	242.53	+

BIT NUMBER	3	IADC CODE	517	INTERVAL	1572.2- 1575.0
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	6.0	BIT RUN	2.8
TOTAL HOURS	0.06	TOTAL TURNS	306	CONDITION	T1 B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	URNS	TOTAL COST	ICOST	CCOST	I-C
1575.0	43.9	2.8	0.06	306	30664.92	83	10952	-

BIT NUMBER	3	IADC CODE	4	INTERVAL	1576.0- 1586.3
CHRIS RC4		SIZE	9.875	NOZZLES	14 14 15
COST	0.00	TRIP TIME	6.0	BIT RUN	10.3
TOTAL HOURS	1.58	TOTAL TURNS	9482	CONDITION	T0 B0 G0.600

DEPTH	ROP	BIT RUN	HOURS	URNS	TOTAL COST	ICOST	CCOST	I-C
1580.0	3.1	4.0	1.28	7692	26593.66	1170	6648	-
1586.3	21.1	10.3	1.58	9482	27683.17	173	2688	-

BIT NUMBER	3	IADC CODE	517	INTERVAL	1586.4- 2094.0
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	0.00	TRIP TIME	7.0	BIT RUN	507.6
TOTAL HOURS	44.76	TOTAL TURNS	208560	CONDITION	T5 B8 G0.250

DEPTH	ROP	BIT RUN	HOURS	URNS	TOTAL COST	ICOST	CCOST	I-C
1590.0	11.0	8.6	2.33	2776	34067.07	333	3961	-
1600.0	30.0	18.6	2.66	4377	35285.42	122	1897	-
1610.0	11.5	28.6	3.53	8545	38456.01	317	1345	-
1620.0	17.2	38.6	4.11	11341	40583.81	213	1051	-
1630.0	14.9	48.6	4.78	14564	43035.72	245.19	885.51	-
1640.0	91.4	58.6	4.89	15089	43435.07	39.94	741.21	-
1650.0	13.2	68.6	5.65	18726	46202.48	276.74	673.51	-
1660.0	23.0	78.6	6.09	20813	47790.08	158.76	608.02	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1670.0	20.8	88.6	6.57	23121	49546.09	175.60	559.21	-
1680.0	17.3	98.6	7.14	25887	51651.06	210.50	523.84	-
1690.0	19.2	108.6	7.66	28387	53553.14	190.21	493.12	-
1700.0	73.3	118.6	7.80	29043	54051.57	49.84	455.75	-
1710.0	17.1	128.6	8.39	31852	56189.01	213.74	436.93	-
1720.0	15.2	138.6	9.05	35020	58599.33	241.03	422.79	-
1730.0	29.1	148.6	9.39	36671	59855.66	125.63	402.80	-
1750.0	12.3	168.6	11.02	44491	65805.38	297.49	390.30	-
1760.0	12.7	178.6	11.81	48283	68690.12	288.47	384.60	-
1770.0	12.4	188.6	12.62	52167	71645.20	295.51	379.88	-
1780.0	11.3	198.6	13.50	56403	74868.09	322.29	376.98	-
1790.0	15.2	208.6	14.16	59559	77269.28	240.12	370.42	-
1800.0	15.3	218.6	14.81	62703	79661.34	239.21	364.42	-
1810.0	12.6	228.6	15.61	66527	82570.76	290.94	361.20	-
1820.0	13.8	238.6	16.33	70000	85213.44	264.27	357.14	-
1830.0	11.4	248.6	17.21	74199	88407.93	319.45	355.62	-
1840.0	11.0	258.6	18.12	78569	91733.28	332.53	354.73	-
1850.0	11.2	268.6	19.01	82856	94994.71	326.14	353.67	-
1860.0	12.1	278.6	19.84	86809	98001.80	300.71	351.77	-
1870.0	11.6	288.6	20.70	90937	101142.79	314.10	350.46	-
1880.0	9.7	298.6	21.72	95871	104896.53	375.37	351.29	+
1890.0	9.1	308.6	22.82	101129	108897.50	400.10	352.88	+
1900.0	9.7	318.6	23.85	106092	112673.26	377.58	353.65	+
1910.0	11.3	328.6	24.74	110345	115909.34	323.61	352.74	-
1920.0	13.0	338.6	25.51	114029	118712.25	280.29	350.60	-
1930.0	11.0	348.6	26.42	118392	122031.77	331.95	350.06	-
1940.0	11.2	358.6	27.30	122663	125281.13	324.94	349.36	-
1950.0	11.2	368.6	28.20	126966	128555.33	327.42	348.77	-
1960.0	11.2	378.6	29.09	131254	131817.54	326.22	348.17	-
1970.0	10.9	388.6	30.01	135670	135177.38	335.98	347.86	-
1980.0	11.2	398.6	30.91	139970	138448.97	327.16	347.34	-
1990.0	6.0	408.6	32.58	147995	144554.46	610.55	353.78	+
2000.0	8.4	418.6	33.78	153735	148921.93	436.75	355.76	+
2010.0	10.7	428.6	34.71	158229	152341.25	341.93	355.44	-
2030.0	17.7	448.6	35.84	163654	156468.14	206.34	348.79	-
2040.0	8.9	458.6	36.97	169044	160569.54	410.14	350.13	+
2050.0	8.0	468.6	38.21	175024	165118.81	454.93	352.37	+
2060.0	10.7	478.6	39.15	179521	168540.61	342.18	352.15	-
2070.0	8.7	488.6	40.30	185060	172721.64	418.10	353.50	+
2080.0	9.0	498.6	41.41	191072	176787.09	406.55	354.57	+
2090.0	8.0	508.6	42.65	197784	181326.51	453.94	356.52	+
2094.0	3.8	512.6	43.72	203532	185213.86	971.84	361.32	+

BIT NUMBER	4	IADC CODE	517	INTERVAL	2094.0- 2382.6
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	8.0	BIT RUN	288.6
TOTAL HOURS	45.65	TOTAL TURNS	188835	CONDITION	T3 B3 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2100.0	6.7	6.0	0.90	5717	41016.71	547	6836	-
2110.0	8.9	16.0	2.02	11786	45121.45	410	2820	-
2120.0	7.3	26.0	3.39	19188	50127.57	501	1928	-
2130.0	6.9	36.0	4.85	27044	55440.51	531	1540	-
2140.0	9.4	46.0	5.91	32658	59320.38	388	1290	-
2150.0	9.5	56.0	6.97	38359	63176.29	386	1128	-
2160.0	6.9	66.0	8.42	45265	68473.50	530	1037	-
2170.0	8.0	76.0	9.66	50488	73014.66	454.12	960.72	-
2200.0	5.7	106.0	14.93	72632	92269.32	641.82	870.47	-
2210.0	5.4	116.0	16.79	80423	99044.26	677.49	853.83	-
2220.0	4.7	126.0	18.71	89358	106812.87	776.86	847.72	-
2230.0	5.9	136.0	20.62	96509	113031.42	621.85	831.11	-
2240.0	5.5	146.0	22.43	104061	119657.56	662.61	819.57	-
2250.0	4.6	156.0	24.61	113086	127605.73	794.82	817.99	-
2260.0	5.4	166.0	26.46	119754	134370.05	676.43	809.46	-
2270.0	5.4	176.0	28.30	126394	141105.45	673.54	801.74	-
2280.0	4.1	186.0	30.76	135232	150071.11	896.57	806.83	+
2290.0	7.1	196.0	32.18	140331	155243.76	517.27	792.06	-
2300.0	6.4	206.0	33.74	145972	160966.68	572.29	781.39	-
2310.0	5.8	216.0	35.46	152166	167249.75	628.31	774.30	-
2320.0	8.4	226.0	36.66	156455	171600.56	435.08	759.29	-
2330.0	9.1	236.0	37.75	160401	175603.56	400.30	744.08	-
2340.0	9.9	246.0	38.76	164020	179274.83	367.13	728.76	-
2350.0	9.9	256.0	39.76	167646	182953.21	367.84	714.66	-
2360.0	5.9	266.0	41.47	173793	189189.58	623.64	711.24	-
2370.0	4.9	276.0	43.53	181196	196699.52	750.99	712.68	+
2380.0	6.8	286.0	45.00	186486	202065.96	536.64	706.52	-
2382.6	4.0	288.6	45.65	188835	204448.89	916.51	708.42	+

BIT NUMBER	5	IADC CODE	517	INTERVAL	2383.0- 2597.3
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	8.0	BIT RUN	214.3
TOTAL HOURS	43.77	TOTAL TURNS	152495	CONDITION	T4 B5 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2390.0	4.1	7.0	1.70	5064	43950.94	888	6279	-
2400.0	4.2	17.0	4.06	12127	52549.37	860	3091	-
2410.0	5.8	27.0	5.79	17343	58899.07	635	2181	-
2420.0	4.0	37.0	8.27	25460	67954.87	906	1837	-
2430.0	7.4	47.0	9.62	29592	72861.23	491	1550	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2440.0	11.2	57.0	10.51	32811	76126.84	327	1336	-
2450.0	7.8	67.0	11.79	37401	80783.57	466	1206	-
2460.0	6.2	77.0	13.39	43176	86641.87	586	1125	-
2470.0	4.4	87.0	15.67	51383	94967.46	833	1092	-
2480.0	7.8	97.0	16.95	55978	99628.89	466	1027	-
2490.0	5.2	107.0	18.86	62876	106626.52	699.76	996.51	-
2500.0	3.8	117.0	21.53	72461	116349.91	972.34	994.44	-
2510.0	7.4	127.0	22.88	77330	121289.02	493.91	955.03	-
2520.0	4.7	137.0	24.99	84930	128998.75	770.97	941.60	-
2530.0	5.7	147.0	26.75	91281	135441.57	644.28	921.37	-
2540.0	4.8	157.0	28.83	98755	143023.28	758.17	910.98	-
2550.0	4.9	167.0	30.88	106142	150517.49	749.42	901.30	-
2560.0	4.6	177.0	33.06	113993	158481.72	796.42	895.38	-
2570.0	3.4	187.0	36.01	124595	169236.86	1076	905	+
2580.0	5.2	197.0	37.97	131467	176208.12	697.13	894.46	-
2590.0	4.0	207.0	40.44	140540	185412.26	920.41	895.71	+
2597.3	2.2	214.3	43.77	152495	197594.72	1669	922	+

BIT NUMBER	5	IADC CODE	4	INTERVAL	2597.3- 2599.3
CHRIS C23		SIZE	9.875	NOZZLES	14 14 14
COST	0.00	TRIP TIME	8.0	BIT RUN	2.0
TOTAL HOURS	4.06	TOTAL TURNS	21379	CONDITION	TO RO GO.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2599.3	0.5	2.0	4.06	21379	44054.79	7419	22027	-

BIT NUMBER	5	IADC CODE	4	INTERVAL	2599.3- 2601.5
CHRIS C20		SIZE	9.875	NOZZLES	14 14 14
COST	0.00	TRIP TIME	8.3	BIT RUN	2.2
TOTAL HOURS	8.01	TOTAL TURNS	43251	CONDITION	TO RO GO.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2600.0	0.3	0.7	2.06	11130	37838.78	10753	54055	-
2601.5	0.3	2.2	8.01	43251	59562.09	14482	27074	-

BIT NUMBER	6	IADC CODE	537	INTERVAL	2601.5- 2618.0
HTC J33		SIZE	12.250	NOZZLES	18 18 16
COST	8266.00	TRIP TIME	8.3	BIT RUN	16.5
TOTAL HOURS	11.92	TOTAL TURNS	33789	CONDITION	T3 B5 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2618.0	1.9	16.5	8.64	23904	70124.41	1912	4250	-

BIT NUMBER	6	IADC CODE	4	INTERVAL	2618.0- 2623.3
CHRIS C20		SIZE	9.875	NOZZLES	14 14 14
COST	0.00	TRIP TIME	8.3	BIT RUN	5.3
TOTAL HOURS	7.38	TOTAL TURNS	39867	CONDITION	T0 B0 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2623.3	0.7	5.3	7.38	39867	57273.50	5087	10806	-

BIT NUMBER	7	IADC CODE	537	INTERVAL	2623.3- 2773.0
HTC J33		SIZE	12.250	NOZZLES	18 18 16
COST	8266.00	TRIP TIME	8.2	BIT RUN	149.7
TOTAL HOURS	48.64	TOTAL TURNS	143838	CONDITION	T4 B4 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2630.0	4.3	6.7	1.55	4662	43887.03	847	6550	-
2640.0	3.6	16.7	4.33	12995	54031.48	1014	3235	-
2650.0	3.9	26.7	6.88	20179	63340.02	931	2372	-
2660.0	4.2	36.7	9.24	26546	71953.16	861	1961	-
2670.0	3.2	46.7	12.34	34913	83269.29	1132	1783	-
2680.0	3.1	56.7	15.56	43619	95044.96	1178	1676	-
2690.0	3.5	66.7	18.42	51347	105498.81	1045	1582	-
2700.0	2.1	76.7	23.22	64304	123024.35	1753	1604	+
2710.0	3.8	86.7	25.84	71382	132597.66	957	1529	-
2720.0	2.8	96.7	29.36	80872	145433.43	1284	1504	-
2730.0	2.7	106.7	33.01	90724	158759.17	1333	1488	-
2740.0	2.5	116.7	36.95	101735	173150.08	1439	1484	-
2750.0	2.8	126.7	40.50	114527	186126.85	1298	1469	-
2760.0	3.1	136.7	43.75	126207	197975.56	1185	1448	-
2770.0	2.6	146.7	47.58	139989	211956.64	1398	1445	-
2773.0	2.8	149.7	48.64	143838	215861.23	1302	1442	-

BIT NUMBER	8	IADC CODE	517	INTERVAL	2773.0- 2907.8
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	7.9	BIT RUN	134.8
TOTAL HOURS	42.51	TOTAL TURNS	127561	CONDITION	T3 R3 G0.250

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2780.0	3.5	7.0	2.00	5952	44676.83	1044	6382	-
2790.0	4.1	17.0	4.46	13244	53650.60	897	3156	-
2800.0	3.9	27.0	7.03	20971	63048.42	940	2335	-
2810.0	3.6	37.0	9.85	29422	73328.80	1028	1982	-
2820.0	3.0	47.0	13.13	39202	85325.11	1200	1815	-
2830.0	2.5	57.0	17.05	51064	99651.60	1433	1748	-
2840.0	3.0	67.0	20.41	61139	111889.86	1224	1670	-
2850.0	2.6	77.0	24.25	72730	125928.76	1404	1635	-
2860.0	3.8	87.0	26.91	80724	135658.29	973	1559	-
2870.0	2.8	97.0	30.52	91535	148812.59	1315	1534	-
2880.0	3.0	107.0	33.89	101689	161140.12	1233	1506	-
2890.0	2.8	117.0	37.47	112480	174218.34	1300	1489	-
2900.0	3.3	127.0	40.50	121595	185271.22	1105	1459	-
2907.8	3.9	134.8	42.51	127639	192606.67	940	1429	-

BIT NUMBER	8	IADC CODE	4	INTERVAL	2907.8- 2924.3
CHRIS RC4		SIZE	9.840	NOZZLES	14 15 15
COST	0.00	TRIP TIME	8.2	BIT RUN	16.5
TOTAL HOURS	5.09	TOTAL TURNS	17926	CONDITION	T0 R0 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2910.0	1.4	2.2	1.53	8254	35549.18	2547	16159	-
2920.0	3.1	12.2	4.76	25580	47319.78	1177	3879	-

BIT NUMBER	9	IADC CODE	517	INTERVAL	2924.3- 2995.4
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	8.2	BIT RUN	71.1
TOTAL HOURS	26.47	TOTAL TURNS	99551	CONDITION	T3 B8 G0.250

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2930.0	4.7	5.7	1.50	4512	46029.42	780	8075	-
2940.0	3.7	15.7	4.24	12739	56018.63	999	3568	-
2950.0	3.1	25.7	7.51	22579	67962.19	1194	2644	-
2960.0	2.2	35.7	12.15	39412	84905.44	1694	2378	-
2970.0	2.0	45.7	17.18	60527	103265.36	1836	2260	-
2980.0	2.2	55.7	21.75	79718	119952.26	1669	2154	-
2990.0	4.0	65.7	24.76	90287	129142.40	919	1966	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2995.4	2.4	71.1	26.47	99551	137197.96	1492	1930	-

(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	82.0- 219.0
HTC OSC3AJ+26"HO		SIZE	26.000	NOZZLES	20 20 20
COST	0.00	TRIP TIME	2.6	BIT RUN	137.0
TOTAL HOURS	2.66	TOTAL TURNS	11170	CONDITION	T7 B7 G0.000

DEPTH	FLOW RATE	PSP	PRIT	XPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
100.0	891	300.0	733.5	244.5	381	0.72	1218	94
110.0	855	300.0	675.8	225.3	337	0.64	1122	91
150.0	889	300.0	729.6	243.2	378	0.71	1211	94
160.0	894	300.0	738.3	246.1	385	0.73	1226	95
180.0	670	300.0	415.4	138.5	162	0.31	690	71
190.0	672	300.0	416.9	139.0	163	0.31	692	71
200.0	670	300.0	415.4	138.5	162	0.31	690	71
210.0	661	300.0	403.2	134.4	155	0.29	669	70
219.0	675	300.0	421.3	140.4	166	0.31	699	72

BIT NUMBER	1	IADC CODE	111	INTERVAL	219.0- 806.0
HTC OSC 3AJ		SIZE	17.500	NOZZLES	18 18 18
COST	4978.00	TRIP TIME	2.6	BIT RUN	587.0
TOTAL HOURS	23.23	TOTAL TURNS	157569	CONDITION	T0 R0 G0.000

DEPTH	FLOW RATE	PSP	PBIT	XPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
220.0	990	2000.0	1413.8	70.7	817	3.40	1901	130
230.0	995	2000.0	1425.9	71.3	827	3.44	1917	130
240.0	995	2000.0	1428.3	71.4	829	3.45	1921	130
250.0	997	2000.0	1432.8	71.6	833	3.46	1927	130
260.0	998	2000.0	1436.8	71.8	837	3.48	1932	131
280.0	990	2000.0	1413.3	70.7	816	3.39	1900	130
290.0	992	2000.0	1418.1	70.9	821	3.41	1907	130
300.0	997	2000.0	1432.6	71.6	833	3.46	1926	130
310.0	976	2000.0	1372.2	68.6	781	3.25	1845	128
320.0	967	2000.0	1347.0	67.3	760	3.16	1811	126
330.0	976	2000.0	1373.5	68.7	782	3.25	1847	128
340.0	979	2000.0	1380.8	69.0	788	3.28	1857	128
350.0	981	2200.0	1387.3	63.1	794	3.30	1865	128
360.0	987	2200.0	1404.4	63.8	809	3.36	1888	129
370.0	980	2200.0	1385.3	63.0	792	3.29	1863	128
380.0	985	2200.0	1397.3	63.5	803	3.34	1879	129
390.0	987	2200.0	1403.6	63.8	808	3.36	1887	129
400.0	985	2200.0	1397.7	63.5	803	3.34	1880	129
410.0	981	2200.0	1387.3	63.1	794	3.30	1865	128
420.0	1064	2500.0	1652.3	66.1	1026	4.27	2222	139
430.0	1076	2400.0	1689.6	70.4	1061	4.41	2272	141
440.0	526	2400.0	403.1	16.8	124	0.51	542	69
450.0	1072	2400.0	1693.9	70.6	1059	4.40	2278	140
460.0	1077	2400.0	1710.9	71.3	1075	4.47	2301	141

DEPTH	FLOW RATE	PSP	PBIT	XPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
470.0	1072	2400.0	1694.4	70.6	1060	4.41	2278	140
480.0	1069	2400.0	1705.3	71.1	1064	4.42	2293	140
490.0	1072	2400.0	1713.5	71.4	1072	4.45	2304	140
500.0	1070	2400.0	1707.3	71.1	1066	4.43	2296	140
510.0	1066	2400.0	1694.0	70.6	1053	4.38	2278	139
520.0	1075	2700.0	1722.4	63.8	1080	4.49	2316	141
530.0	565	2700.0	476.6	17.7	157	0.65	641	74
550.0	1072	2700.0	1714.1	63.5	1072	4.46	2305	140
560.0	1071	2700.0	1710.6	63.4	1069	4.44	2300	140
570.0	1074	2700.0	1719.0	63.7	1077	4.48	2311	140
580.0	1073	2700.0	1716.2	63.6	1074	4.47	2308	140
590.0	1075	2700.0	1724.1	63.9	1082	4.50	2318	141
600.0	1077	2700.0	1729.7	64.1	1087	4.52	2326	141
610.0	1075	2760.0	1723.5	62.4	1081	4.49	2318	141
620.0	1067	2760.0	1697.4	61.5	1057	4.39	2283	140
630.0	1070	2500.0	1706.8	68.3	1065	4.43	2295	140
640.0	897	2750.0	1212.6	53.9	634	2.64	1631	117
650.0	900	2250.0	1220.8	54.3	641	2.66	1642	118
660.0	911	2250.0	1252.5	55.7	666	2.77	1684	119
670.0	910	2250.0	1248.7	55.5	663	2.76	1679	119
680.0	915	2250.0	1261.4	56.1	673	2.80	1696	120
690.0	917	2250.0	1275.1	56.7	682	2.84	1715	120
700.0	911	2250.0	1257.8	55.9	668	2.78	1691	119
720.0	916	2250.0	1286.5	57.2	688	2.86	1730	120
730.0	912	2250.0	1276.0	56.7	679	2.82	1716	119
740.0	903	2250.0	1250.7	55.6	659	2.74	1682	118
760.0	1064	2800.0	1735.4	62.0	1077	4.48	2334	139
770.0	1061	2850.0	1726.5	60.6	1069	4.44	2322	139
790.0	1067	2850.0	1743.5	61.2	1085	4.51	2345	140
800.0	1066	2900.0	1741.4	60.0	1083	4.50	2342	139
806.0	1065	2900.0	1746.5	60.2	1085	4.51	2349	139

BIT NUMBER	2	IADC CODE	114	INTERVAL	806.0- 1572.2
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2445.00	TRIP TIME	3.7	BIT RUN	766.2
TOTAL HOURS	46.51	TOTAL TURNS	324067	CONDITION	T5 B7 G0.125

DEPTH	FLOW RATE	PSP	PBIT	XPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
810.0	1060	2900.0	1637.3	56.5	1012	8.59	2202	139
830.0	1061	2950.0	1623.5	55.0	1005	8.53	2183	139
850.0	1078	2950.0	1676.8	56.8	1055	8.95	2255	141
860.0	1067	2950.0	1642.5	55.7	1023	8.68	2209	140
870.0	1058	2950.0	1612.7	54.7	995	8.44	2169	138
880.0	1049	2950.0	1586.7	53.8	971	8.24	2134	137
890.0	1050	2950.0	1589.1	53.9	973	8.26	2137	137
900.0	1050	2950.0	1590.3	53.9	975	8.27	2138	137
920.0	1054	2950.0	1601.1	54.3	984	8.35	2153	138

DEPTH	FLOW RATE	PSP	PBIT	XPSP	HHP	HHP/ gain	IMPACT FORCE	JET VELOCITY
930.0	1046	2950.0	1578.1	53.5	963	8.17	2122	137
940.0	808	2950.0	941.6	31.9	444	3.77	1266	106
960.0	1043	2950.0	1569.2	53.2	955	8.10	2110	136
970.0	1040	2950.0	1558.8	52.8	946	8.02	2096	136
990.0	1036	2950.0	1582.7	53.6	957	8.12	2128	136
1000.0	1034	2950.0	1577.5	53.5	952	8.08	2121	135
1010.0	1032	2950.0	1569.7	53.2	945	8.02	2111	135
1020.0	1019	2950.0	1531.5	51.9	911	7.73	2059	133
1030.0	1016	2950.0	1556.4	52.8	923	7.83	2093	133
1040.0	1017	2950.0	1560.0	52.9	926	7.85	2098	133
1050.0	1016	2950.0	1556.0	52.7	922	7.82	2092	133
1060.0	1013	2950.0	1545.9	52.4	913	7.75	2079	132
1070.0	1019	2950.0	1564.5	53.0	930	7.89	2104	133
1080.0	599	2950.0	540.9	18.3	189	1.60	727	78
1090.0	1020	2950.0	1567.7	53.1	933	7.91	2108	133
1100.0	1016	2950.0	1557.7	52.8	924	7.84	2095	133
1130.0	1011	2950.0	1542.1	52.3	910	7.72	2074	132
1140.0	1011	2950.0	1540.7	52.2	909	7.71	2072	132
1150.0	995	2950.0	1494.2	50.7	868	7.36	2009	130
1170.0	524	950.0	418.3	44.0	128	1.08	563	69
1180.0	524	950.0	419.1	44.1	128	1.09	564	69
1190.0	999	2551.1	1513.0	59.3	882	7.49	2035	131
1200.0	1001	2950.0	1510.3	51.2	882	7.48	2031	131
1210.0	1000	2950.0	1509.3	51.2	881	7.47	2030	131
1220.0	1002	2950.0	1513.2	51.3	884	7.50	2035	131
1230.0	1001	2950.0	1511.7	51.2	883	7.49	2033	131
1240.0	1000	2950.0	1508.9	51.2	881	7.47	2029	131
1250.0	998	2950.0	1502.6	50.9	875	7.43	2021	131
1260.0	529	1100.0	422.0	38.4	130	1.11	567	69
1270.0	982	2950.0	1452.8	49.2	832	7.06	1954	128
1280.0	984	2950.0	1459.7	49.5	838	7.11	1963	129
1290.0	991	2950.0	1480.7	50.2	856	7.26	1991	130
1300.0	987	2950.0	1469.2	49.8	846	7.18	1976	129
1310.0	986	2950.0	1467.3	49.7	844	7.17	1973	129
1320.0	988	2950.0	1472.5	49.9	849	7.20	1980	129
1330.0	987	2950.0	1469.0	49.8	846	7.18	1975	129
1340.0	987	2950.0	1468.8	49.8	846	7.18	1975	129
1350.0	980	2950.0	1447.1	49.1	827	7.02	1946	128
1360.0	980	2950.0	1447.1	49.1	827	7.02	1946	128
1370.0	980	2950.0	1447.1	49.1	827	7.02	1946	128
1380.0	981	2950.0	1452.3	49.2	832	7.06	1953	128
1390.0	984	2950.0	1461.3	49.5	839	7.12	1965	129
1410.0	970	2950.0	1417.5	48.1	802	6.80	1906	127
1420.0	969	2950.0	1414.6	48.0	799	6.78	1902	127
1430.0	940	2950.0	1331.2	45.1	730	6.19	1790	123
1440.0	950	2950.0	1360.3	46.1	754	6.40	1829	124
1450.0	939	2950.0	1328.9	45.0	728	6.18	1787	123
1460.0	939	2950.0	1328.2	45.0	727	6.17	1786	123
1470.0	946	2950.0	1349.4	45.7	745	6.32	1815	124
1480.0	932	2950.0	1310.6	44.4	713	6.05	1762	122

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1490.0	936	2950.0	1336.7	45.3	730	6.20	1797	123
1500.0	935	2950.0	1333.0	45.2	727	6.17	1793	122
1510.0	947	2950.0	1368.4	46.4	756	6.42	1840	124
1520.0	934	2950.0	1343.5	45.5	732	6.21	1807	122
1530.0	929	2950.0	1328.8	45.0	720	6.11	1787	121
1540.0	918	2950.0	1298.7	44.0	696	5.90	1746	120
1550.0	918	2950.0	1311.9	44.5	702	5.96	1764	120
1560.0	910	2950.0	1289.9	43.7	685	5.81	1734	119
1572.2	912	2950.0	1294.3	43.9	688	5.84	1740	119

BIT NUMBER 3 IADC CODE 517 INTERVAL 1572.2- 1575.0  
 HTC J22 SIZE 12.250 NOZZLES 18 18 16  
 COST 8520.00 TRIP TIME 6.0 BIT RUN 2.8  
 TOTAL HOURS 0.06 TOTAL TURNS 306 CONDITION T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1575.0	866	2950.0	1352.0	45.8	683	5.80	1691	122

BIT NUMBER 3 IADC CODE 4 INTERVAL 1576.0- 1586.3  
 CHRIS RC4 SIZE 9.875 NOZZLES 14 14 15  
 COST 0.00 TRIP TIME 6.0 BIT RUN 10.3  
 TOTAL HOURS 1.58 TOTAL TURNS 9482 CONDITION T0 B0 G0.600

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1580.0	224	400.0	194.2	48.5	25	0.33	166	46
1586.3	143	400.0	79.7	19.9	7	0.09	68	30

BIT NUMBER 3 IADC CODE 517 INTERVAL 1586.4- 2094.0  
 HTC J22 SIZE 12.250 NOZZLES 18 18 16  
 COST 0.00 TRIP TIME 7.0 BIT RUN 507.6  
 TOTAL HOURS 44.76 TOTAL TURNS 208560 CONDITION T5 B8 G0.250

DEPTH	FLOW RATE	PSP	PBIT	ZPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1590.0	889	2967.8	1429.2	48.2	741	6.29	1787	125
1600.0	880	2941.6	1400.4	47.6	719	6.10	1751	124
1610.0	874	2871.8	1384.4	48.2	706	5.99	1731	123
1620.0	885	2951.6	1417.7	48.0	732	6.21	1773	124
1630.0	884	2962.6	1413.3	47.7	729	6.18	1767	124
1640.0	883	2947.5	1411.2	47.9	727	6.17	1765	124
1650.0	879	2914.8	1398.6	48.0	717	6.09	1749	124

DEPTH	FLOW RATE	PSP	PBIT	XPSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1670.0	885	2987.0	1419.2	47.5	733	6.22	1775	125
1680.0	777	2462.6	1093.1	44.4	496	4.20	1367	109
1690.0	884	3020.2	1415.6	46.9	730	6.20	1770	124
1700.0	850	2808.7	1307.9	46.6	649	5.50	1636	120
1710.0	883	3039.6	1410.8	46.4	727	6.17	1764	124
1720.0	883	3047.2	1410.9	46.3	727	6.17	1765	124
1730.0	885	3082.0	1419.2	46.0	733	6.22	1775	125
1750.0	888	3114.7	1427.4	45.8	739	6.27	1785	125
1760.0	877	3055.3	1391.0	45.5	711	6.04	1740	123
1770.0	871	2976.1	1374.0	46.2	698	5.93	1718	123
1780.0	874	3007.8	1381.6	45.9	704	5.97	1728	123
1790.0	877	3012.6	1394.0	46.3	714	6.06	1743	123
1800.0	873	2963.8	1378.3	46.5	702	5.95	1724	123
1810.0	878	2971.9	1395.7	47.0	715	6.07	1746	124
1820.0	650	1567.7	764.3	48.8	290	2.46	956	91
1830.0	870	2851.1	1369.5	48.0	695	5.90	1713	122
1840.0	872	2843.8	1377.8	48.4	701	5.95	1723	123
1850.0	874	3001.6	1382.3	46.1	705	5.98	1729	123
1860.0	874	2990.7	1382.0	46.2	705	5.98	1728	123
1870.0	880	3065.2	1400.9	45.7	719	6.10	1752	124
1880.0	867	3079.4	1359.8	44.2	688	5.83	1701	122
1890.0	873	3060.1	1380.2	45.1	703	5.97	1726	123
1900.0	869	3001.9	1367.6	45.6	693	5.88	1710	122
1910.0	869	3009.6	1366.6	45.4	693	5.88	1709	122
1920.0	868	2998.5	1364.4	45.5	691	5.86	1706	122
1930.0	867	3044.3	1361.6	44.7	689	5.85	1703	122
1940.0	860	3015.2	1367.6	45.4	686	5.82	1710	121
1950.0	862	3053.4	1381.0	45.2	695	5.89	1727	121
1960.0	850	3055.0	1348.4	44.1	669	5.68	1686	120
1970.0	843	3050.5	1362.0	44.6	670	5.69	1703	119
1980.0	848	3041.4	1376.3	45.3	681	5.77	1721	119
1990.0	836	2977.5	1339.4	45.0	653	5.54	1675	118
2000.0	836	3023.0	1337.8	44.3	652	5.53	1673	118
2010.0	832	3026.5	1324.9	43.8	643	5.45	1657	117
2030.0	824	3117.9	1326.4	42.5	638	5.41	1659	116
2040.0	807	3094.7	1311.5	42.4	618	5.24	1640	114
2050.0	799	3044.0	1284.0	42.2	599	5.08	1606	112
2060.0	789	3034.2	1252.9	41.3	577	4.89	1567	111
2070.0	790	3026.0	1261.9	41.7	582	4.94	1578	111
2080.0	791	2976.1	1263.0	42.4	583	4.94	1580	111
2090.0	797	3002.8	1284.5	42.8	597	5.07	1606	112
2094.0	794	3007.8	1273.7	42.3	590	5.01	1593	112

BIT NUMBER	4	IADC CODE	517	INTERVAL	2094.0- 2382.6
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	8.0	BIT RUN	288.6
TOTAL HOURS	45.65	TOTAL TURNS	188835	CONDITION	T3 B3 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2100.0	786	2905.7	1247.2	42.9	572	4.85	1560	111
2110.0	788	2896.3	1255.9	43.4	578	4.90	1571	111
2120.0	788	2883.6	1254.0	43.5	576	4.89	1568	111
2130.0	788	2923.6	1255.5	42.9	577	4.90	1570	111
2140.0	789	2932.1	1258.9	42.9	580	4.92	1574	111
2150.0	790	2950.0	1266.3	42.9	583	4.95	1584	111
2160.0	780	2930.0	1234.5	42.1	562	4.76	1544	110
2170.0	775	2920.3	1212.6	41.5	548	4.65	1517	109
2200.0	753	2763.4	1145.8	41.5	503	4.27	1433	106
2210.0	775	2890.0	1218.7	42.2	551	4.67	1524	109
2220.0	760	2819.4	1167.4	41.4	518	4.39	1460	107
2230.0	777	2934.8	1219.9	41.6	553	4.69	1526	109
2240.0	777	2921.5	1218.7	41.7	552	4.68	1524	109
2250.0	780	2956.4	1229.4	41.6	559	4.75	1538	110
2260.0	780	2990.0	1234.5	41.3	562	4.76	1544	110
2270.0	778	2975.0	1223.3	41.1	555	4.71	1530	109
2280.0	775	2955.4	1213.4	41.1	549	4.65	1518	109
2290.0	772	2944.6	1203.0	40.9	541	4.59	1504	109
2300.0	770	2938.8	1198.0	40.8	538	4.57	1498	108
2310.0	773	2971.1	1207.1	40.6	544	4.62	1510	109
2320.0	770	2950.0	1203.0	40.8	540	4.58	1505	108
2330.0	766	2951.2	1184.5	40.1	529	4.49	1481	108
2340.0	765	2977.9	1183.7	39.7	529	4.48	1480	108
2350.0	748	2926.0	1129.4	38.6	493	4.18	1412	105
2360.0	768	3056.1	1192.2	39.0	534	4.53	1491	108
2370.0	745	2912.0	1126.2	38.7	489	4.15	1408	105
2380.0	751	2908.8	1140.1	39.2	500	4.24	1426	106
2382.6	970	334.0	1909.6	571.8	1080	9.17	2388	136

BIT NUMBER	5	IADC CODE	517	INTERVAL	2383.0- 2597.3
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	8.0	BIT RUN	214.3
TOTAL HOURS	43.77	TOTAL TURNS	152495	CONDITION	T4 B5 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2390.0	728	2661.4	1077.1	40.5	458	3.88	1347	102
2400.0	758	2890.2	1165.4	40.3	515	4.37	1458	107
2410.0	758	2955.9	1167.9	39.5	517	4.38	1461	107
2420.0	750	2890.0	1119.8	38.7	490	4.16	1400	105
2430.0	760	2881.0	1150.6	39.9	510	4.33	1439	107

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2440.0	751	2808.3	1122.8	40.0	492	4.17	1404	106
2450.0	763	2859.2	1159.0	40.5	516	4.38	1449	107
2460.0	760	2844.5	1149.5	40.4	509	4.32	1438	107
2470.0	759	3018.0	1147.8	38.0	508	4.31	1435	107
2480.0	762	3098.9	1157.1	37.3	514	4.37	1447	107
2490.0	732	2761.7	1066.9	38.6	456	3.87	1334	103
2500.0	762	2873.7	1158.1	40.3	515	4.37	1448	107
2510.0	759	2881.2	1148.0	39.8	508	4.31	1436	107
2520.0	759	2880.0	1146.9	39.8	508	4.31	1434	107
2530.0	760	2933.1	1150.1	39.2	510	4.33	1438	107
2540.0	770	2938.4	1185.7	40.4	532	4.52	1483	108
2550.0	766	2952.4	1175.3	39.8	525	4.46	1470	108
2560.0	754	2909.6	1139.1	39.1	501	4.25	1425	106
2570.0	758	3069.3	1151.7	37.5	510	4.32	1440	107
2580.0	753	2824.7	1134.2	40.2	498	4.23	1419	106
2590.0	765	2942.9	1172.4	39.8	523	4.44	1466	108
2597.3	534	2080.4	569.8	27.4	177	1.50	713	75

BIT NUMBER	5	IADC CODE	4	INTERVAL	2597.3- 2599.3
CHRIS C23		SIZE	9.875	NOZZLES	14 14 14
COST	0.00	TRIP TIME	8.0	BIT RUN	2.0
TOTAL HOURS	4.06	TOTAL TURNS	21379	CONDITION	T0 B0 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2599.3	278	960.1	367.0	38.2	60	0.78	299	60

BIT NUMBER	5	IADC CODE	4	INTERVAL	2599.3- 2601.5
CHRIS C20		SIZE	9.875	NOZZLES	14 14 14
COST	0.00	TRIP TIME	8.3	BIT RUN	2.2
TOTAL HOURS	8.01	TOTAL TURNS	43251	CONDITION	T0 B0 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2600.0	274	1523.6	354.3	23.3	57	0.74	288	59
2601.5	271	1518.3	346.7	22.8	55	0.71	282	59

BIT NUMBER	6	IADC CODE	537	INTERVAL	2601.5- 2618.0
HTC J33		SIZE	12.250	NOZZLES	18 18 16
COST	8266.00	TRIP TIME	8.3	BIT RUN	16.5
TOTAL HOURS	11.92	TOTAL TURNS	33789	CONDITION	T3 B5 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2618.0	765	3034.0	1176.2	38.8	525	4.45	1471	108

BIT NUMBER	6	IADC CODE	4	INTERVAL	2618.0- 2623.3
CHRIS C20		SIZE	9.875	NOZZLES	14 14 14
COST	0.00	TRIP TIME	8.3	BIT RUN	5.3
TOTAL HOURS	7.38	TOTAL TURNS	39867	CONDITION	T0 B0 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2623.3	270	876.5	347.3	39.6	55	0.71	282	58

BIT NUMBER	7	IADC CODE	537	INTERVAL	2623.3- 2773.0
HTC J33		SIZE	12.250	NOZZLES	18 18 16
COST	8266.00	TRIP TIME	8.2	BIT RUN	149.7
TOTAL HOURS	48.64	TOTAL TURNS	143838	CONDITION	T4 B4 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2630.0	754	3038.1	1144.2	37.7	503	4.27	1431	106
2640.0	756	3093.4	1150.1	37.2	507	4.30	1438	106
2650.0	760	3100.0	1160.9	37.4	515	4.37	1452	107
2660.0	760	3175.9	1161.6	36.6	515	4.37	1453	107
2670.0	760	3133.8	1162.1	37.1	515	4.37	1453	107
2680.0	762	3077.8	1156.4	37.6	514	4.36	1446	107
2690.0	764	3177.2	1162.0	36.6	518	4.39	1453	107
2700.0	765	3204.2	1164.5	36.3	519	4.41	1456	108
2710.0	758	3176.3	1145.2	36.1	507	4.30	1432	107
2720.0	757	3260.2	1141.4	35.0	504	4.28	1428	106
2730.0	757	3356.1	1141.3	34.0	504	4.28	1427	106
2740.0	751	3190.7	1124.7	35.2	493	4.18	1407	106
2750.0	749	3207.7	1118.2	34.9	489	4.15	1398	105
2760.0	752	3197.1	1126.5	35.2	494	4.19	1409	106
2770.0	753	2926.8	1129.0	38.6	496	4.21	1412	106
2773.0	753	2918.7	1131.0	38.7	497	4.22	1414	106



BIT NUMBER	8	IADC CODE	517	INTERVAL	2773.0- 2907.8
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	7.9	BIT RUN	134.8
TOTAL HOURS	42.51	TOTAL TURNS	127561	CONDITION	T3 B3 G0.250

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2780.0	740	2956.4	1091.6	36.9	471	4.00	1365	104
2790.0	755	2935.4	1134.8	38.7	500	4.24	1419	106
2800.0	759	2926.3	1148.5	39.2	509	4.32	1436	107
2810.0	762	2919.5	1155.9	39.6	514	4.36	1446	107
2820.0	756	2854.2	1138.0	39.9	502	4.26	1423	106
2830.0	757	2911.6	1142.6	39.2	505	4.28	1429	107
2840.0	756	3001.0	1138.6	37.9	502	4.26	1424	106
2850.0	747	2978.3	1112.8	37.4	485	4.12	1392	105
2860.0	543	1607.4	587.0	36.5	186	1.58	734	76
2870.0	755	3043.9	1135.3	37.3	500	4.24	1420	106
2880.0	755	3033.9	1137.1	37.5	501	4.25	1422	106
2890.0	755	2984.4	1136.8	38.1	501	4.25	1422	106
2900.0	753	2885.9	1129.1	39.1	496	4.21	1412	106
2907.8	490	1602.0	473.8	29.6	135	1.15	592	69

BIT NUMBER	8	IADC CODE	4	INTERVAL	2907.8- 2924.3
CHRIS RC4		SIZE	9.840	NOZZLES	14 15 15
COST	0.00	TRIP TIME	8.2	BIT RUN	16.5
TOTAL HOURS	5.09	TOTAL TURNS	17926	CONDITION	T0 B0 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2910.0	262	777.1	264.6	34.0	40	0.53	236	52
2920.0	257	601.7	253.5	42.1	38	0.50	227	51

BIT NUMBER	9	IADC CODE	517	INTERVAL	2924.3- 2995.4
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	8.2	BIT RUN	71.1
TOTAL HOURS	26.47	TOTAL TURNS	99551	CONDITION	T3 B8 G0.250

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2930.0	768	2837.9	1176.1	41.4	527	4.47	1471	108
2940.0	765	2850.0	1153.8	40.5	515	4.37	1443	108
2950.0	774	2796.5	1180.7	42.2	533	4.52	1477	109
2960.0	701	2355.8	969.3	41.1	396	3.36	1212	99
2970.0	629	2037.8	780.7	38.3	286	2.43	976	88
2980.0	767	2947.9	1160.8	39.4	519	4.41	1452	108
2990.0	728	2732.9	1045.2	38.2	444	3.77	1307	102

DEPTH	FLOW RATE	PSP	PRIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2995.4	770	2940.0	1169.0	39.8	525	4.45	1462	108

(F). COMPUTER DATA LISTING ; LIST D

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INTERVAL . . . . . 10m averages.

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

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

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

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

ANNULAR VELOCITIES : (in metres per minute)

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

DC/CSG - Between drill collars and casing.

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

HW/CSG - Between heavyweight drill pipe and casing.

DP/OH - Between drill pipe and open hole.

DP/CSG - Between drill pipe and casing.

DP/RIS - Between drill pipe and riser.

BIT NUMBER	1	IADC CODE	111	INTERVAL	82.0-	219.0
HTC OSC3AJ+26"HO		SIZE	26.000	NOZZLES	20	20 20
COST	0.00	TRIP TIME	2.6	BIT RUN		137.0
TOTAL HOURS	2.66	TOTAL TURNS	11170	CONDITION	T7	B7 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
100.0	91	87	891	11						
110.0	90	81	855	10						
150.0	90	88	889	11						16
160.0	91	88	894	11						16
180.0	67	67	670	8		8				12
190.0	66	68	672	8		8				12
200.0	65	69	670	8		8				12
210.0	65	67	661	8		8				12
219.0	66	69	675	8		8				12

BIT NUMBER	1	IADC CODE	111	INTERVAL	219.0-	806.0
HTC OSC 3AJ		SIZE	17.500	NOZZLES	18	18 18
COST	4978.00	TRIP TIME	2.6	BIT RUN		587.0
TOTAL HOURS	23.23	TOTAL TURNS	157569	CONDITION	T0	B0 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
220.0	101	98	990		25		22			18
230.0	101	98	995	31	25		22			18
240.0	102	97	995	31	25		22			18
250.0	102	98	997	31	25		22			18
260.0	101	98	998	31	25		22			18
280.0	101	97	990	31	25		22			18
290.0	102	96	992	31	25		22		22	18
300.0	102	98	997	31	25		22		22	18
310.0	98	97	976	30	24		21		21	18
320.0	99	94	967	30	24		21		21	17
330.0	99	96	976	30		26	21		21	18
340.0	98	97	979	30		26	21		21	18
350.0	99	97	981	30		26	22		22	18
360.0	100	97	987	30		26	22		22	18
370.0	99	97	980	30		26	22		22	18
380.0	99	98	985	30		26	22		22	18
390.0	100	98	987	30		26	22		22	18
400.0	100	98	985	30		26	22		22	18
410.0	99	97	981	30		26			22	18
420.0	106	107	1064	33		28		26	22	19
430.0	110	106	1076	33		29		28	23	19
440.0	0	105	526	16		14		29	24	19
450.0	109	105	1072	33		28		14	12	9
460.0	110	105	1077	33		29		28	24	19

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
470.0	109	105	1072	33		28		28	24	19
480.0	109	105	1069	33		28		28	23	19
490.0	109	105	1072	33		28		28	24	19
500.0	109	105	1070	33		28		28	23	19
510.0	108	105	1066	33		28		28	23	19
520.0	110	105	1075	33		29		29	24	19
530.0	113	0	565	17		15		15	12	10
550.0	109	105	1072	33		28		28	24	19
560.0	110	105	1071	33		28		28	23	19
570.0	110	105	1074	33		29		29	24	19
580.0	109	105	1073	33		29		29	24	19
590.0	110	105	1075	33		29		29	24	19
600.0	109	106	1077	33		29		29	24	19
610.0	110	106	1075	33		29		29	24	19
620.0	109	104	1067	33		28		28	23	19
630.0	108	106	1070	33		28		28	23	19
640.0	88	91	897	28		24		24	20	16
650.0	91	89	900	28		24		24	20	16
660.0	91	91	911	28		24		24	20	16
670.0	92	90	910	28		24		24	20	16
680.0	92	91	915	28		24		24	20	16
690.0	93	91	917	28		24		24	20	16
700.0	93	89	911	28		24		24	20	16
720.0	93	91	916	28		24		24	20	16
730.0	93	90	912	28		24		24	20	16
740.0	92	88	903	28		24		24	20	16
760.0	108	105	1064	33		28		28	23	19
770.0	107	105	1061	33		28		28	23	19
790.0	108	105	1067	33		28		28	23	19
800.0	108	105	1066	33		28		28	23	19
806.0	108	105	1065	33		28		28	23	19

BIT NUMBER	2	IADC CODE	114	INTERVAL	806.0- 1572.2
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	2445.00	TRIP TIME	3.7	BIT RUN	766.2
TOTAL HOURS	46.51	TOTAL TURNS	324067	CONDITION	T5 B7 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
810.0	107	105	1060	92	88		61		61	19
830.0	108	105	1061	92	88		61		61	19
850.0	109	107	1078	94	89		62		62	19
860.0	107	106	1067	93	89		62		62	19
870.0	107	105	1058	92	88		61		61	19
880.0	106	104	1049	91	87		61		61	19
890.0	107	103	1050	91	87		61		61	19
900.0	106	104	1050	91	87		61		61	19
920.0	106	104	1054	92	87		61		61	19

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
930.0	105	104	1046	91	87		61		61	19
940.0	56	106	808	70	67		47		47	15
960.0	106	103	1043	91	87		60		60	19
970.0	105	103	1040	90		62	60		60	19
990.0	105	102	1036	90		62	60		60	19
1000.0	105	102	1034	90		62	60		60	19
1010.0	104	103	1032	90		62	60		60	19
1020.0	103	101	1019	88		61	59		59	18
1030.0	102	102	1016	88		61	59		59	18
1040.0	102	101	1017	88		61	59		59	18
1050.0	103	100	1016	88		61		61	59	18
1060.0	102	101	1013	88		61		61	59	18
1070.0	102	102	1019	88		61		61	59	18
1080.0	16	104	599	52		36		36	35	11
1090.0	102	102	1020	89		61		61	59	18
1100.0	102	101	1016	88		61		61	59	18
1130.0	102	100	1011	88		60		60	59	18
1140.0	102	100	1011	88		60		60	59	18
1150.0	99	100	995	86		59		59	58	18
1170.0	105	0	524	45		31		31	30	9
1180.0	105	0	524	46		31		31	30	9
1190.0	101	99	999	87		60		60	58	18
1200.0	101	99	1001	87		60		60	58	18
1210.0	101	99	1000	87		60		60	58	18
1220.0	101	100	1002	87		60		60	58	18
1230.0	101	100	1001	87		60		60	58	18
1240.0	101	99	1000	87		60		60	58	18
1250.0	100	100	998	87		60		60	58	18
1260.0	0	106	529	46		32		32	31	10
1270.0	97	100	982	85		59		59	57	18
1280.0	100	97	984	85		59		59	57	18
1290.0	101	98	991	86		59		59	57	18
1300.0	100	98	987	86		59		59	57	18
1310.0	100	98	986	86		59		59	57	18
1320.0	100	98	988	86		59		59	57	18
1330.0	100	98	987	86		59		59	57	18
1340.0	100	98	987	86		59		59	57	18
1350.0	98	98	980	85		59		59	57	18
1360.0	98	98	980	85		59		59	57	18
1370.0	98	98	980	85		59		59	57	18
1380.0	98	98	981	85		59		59	57	18
1390.0	98	99	984	85		59		59	57	18
1410.0	96	98	970	84		58		58	56	17
1420.0	96	98	969	84		58		58	56	17
1430.0	96	92	940	82		56		56	54	17
1440.0	96	94	950	82		57		57	55	17
1450.0	95	92	939	82		56		56	54	17
1460.0	96	92	939	82		56		56	54	17
1470.0	95	94	946	82		57		57	55	17
1480.0	95	92	932	81		56		56	54	17

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1490.0	95	92	936	81		56		56	54	17
1500.0	95	92	935	81		56		56	54	17
1510.0	95	95	947	82		57		57	55	17
1520.0	95	92	934	81		56		56	54	17
1530.0	94	91	929	81		55		55	54	17
1540.0	92	91	918	80		55		55	53	16
1550.0	92	91	918	80		55		55	53	16
1560.0	92	90	910	79		54		54	53	16
1572.2	92	90	912	79		54		54	53	16

BIT NUMBER 3 IADC CODE 517 INTERVAL 1572.2- 1575.0  
 HTC J22 SIZE 12.250 NOZZLES 18 18 16  
 COST 8520.00 TRIP TIME 6.0 BIT RUN 2.8  
 TOTAL HOURS 0.06 TOTAL TURNS 306 CONDITION T1 B1 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1575.0	88	85	866	75		52		52	50	16

BIT NUMBER 3 IADC CODE 4 INTERVAL 1576.0- 1586.3  
 CHRIS RC4 SIZE 9.875 NOZZLES 14 14 15  
 COST 0.00 TRIP TIME 6.0 BIT RUN 10.3  
 TOTAL HOURS 1.58 TOTAL TURNS 9482 CONDITION T0 B0 G0.600

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1580.0	45	0	224	50					13	4
1586.3	29	0	143	32					8	3

BIT NUMBER 3 IADC CODE 517 INTERVAL 1586.4- 2094.0  
 HTC J22 SIZE 12.250 NOZZLES 18 18 16  
 COST 0.00 TRIP TIME 7.0 BIT RUN 507.6  
 TOTAL HOURS 44.76 TOTAL TURNS 208560 CONDITION T5 B8 G0.250

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1590.0	89	89	889	77		53		53	51	16
1600.0	90	86	880	76		53		53	51	16
1610.0	90	85	874	76		52		52	51	16
1620.0	91	86	885	77		53		53	51	16
1630.0	91	86	884	77		53		53	51	16
1640.0	90	86	883	77		53		53	51	16
1650.0	90	86	879	76		53		53	51	16

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1670.0	91	86	885	77		53		53	51	16
1680.0	87	68	777	67		46		46	45	14
1690.0	91	86	884	77		53		53	51	16
1700.0	92	78	850	74		51		51	49	15
1710.0	90	86	883	77		53		53	51	16
1720.0	90	86	883	77		53		53	51	16
1730.0	90	87	885	77		53		53	51	16
1750.0	90	88	888	77		53		53	51	16
1760.0	88	88	877	76		52		52	51	16
1770.0	87	87	871	76		52		52	50	16
1780.0	88	87	874	76		52		52	51	16
1790.0	88	88	877	76		52		52	51	16
1800.0	88	87	873	76		52		52	51	16
1810.0	88	87	878	76		52		52	51	16
1820.0	32	98	650	56		39		39	38	12
1830.0	87	87	870	76		52		52	50	16
1840.0	87	87	872	76		52		52	50	16
1850.0	87	87	874	76		52		52	51	16
1860.0	87	88	874	76		52		52	51	16
1870.0	88	88	880	76		53		53	51	16
1880.0	87	87	867	75		52		52	50	16
1890.0	89	86	873	76		52		52	51	16
1900.0	89	85	869	75		52		52	50	16
1910.0	89	85	869	75		52		52	50	16
1920.0	89	84	868	75		52		52	50	16
1930.0	89	84	867	75		52		52	50	16
1940.0	88	84	860	75		51		51	50	15
1950.0	88	84	862	75		52		52	50	15
1960.0	86	84	850	74		51		51	49	15
1970.0	86	83	843	73		50		50	49	15
1980.0	86	84	848	74		51		51	49	15
1990.0	86	81	836	73		50		50	48	15
2000.0	84	84	836	73		50		50	48	15
2010.0	84	82	832	72		50		50	48	15
2030.0	83	82	824	72		49		49	48	15
2040.0	83	79	807	70		48		48	47	15
2050.0	81	79	799	69		48		48	46	14
2060.0	80	78	789	69		47		47	46	14
2070.0	80	78	790	69		47		47	46	14
2080.0	81	77	791	69		47		47	46	14
2090.0	81	79	797	69		48		48	46	14
2094.0	81	77	794	69		47		47	46	14



BIT NUMBER	4	IADC CODE	517	INTERVAL	2094.0- 2382.6
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	8.0	BIT RUN	288.6
TOTAL HOURS	45.65	TOTAL TURNS	188835	CONDITION	T3 B3 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2100.0	80	77	786	68		47		47	45	14
2110.0	81	77	788	68		47		47	46	14
2120.0	79	79	788	68		47		47	46	14
2130.0	80	78	788	68		47		47	46	14
2140.0	79	79	789	69		47		47	46	14
2150.0	79	79	790	69		47		47	46	14
2160.0	76	80	780	68		47		47	45	14
2170.0	76	79	775	67		46		46	45	14
2200.0	76	75	753	65		45		45	44	14
2210.0	78	77	775	67		46		46	45	14
2220.0	76	76	760	66		45		45	44	14
2230.0	77	78	777	67		46		46	45	14
2240.0	78	78	777	67		46		46	45	14
2250.0	78	78	780	68		47		47	45	14
2260.0	78	78	780	68		47		47	45	14
2270.0	78	78	778	68		46		46	45	14
2280.0	77	78	775	67		46		46	45	14
2290.0	78	77	772	67		46		46	45	14
2300.0	76	78	770	67		46		46	45	14
2310.0	77	78	773	67		46		46	45	14
2320.0	76	78	770	67		46		46	45	14
2330.0	76	77	766	66		46		46	44	14
2340.0	75	78	765	66		46		46	44	14
2350.0	75	74	748	65		45		45	43	13
2360.0	77	76	768	67		46		46	44	14
2370.0	75	74	745	65		45		45	43	13
2380.0	75	75	751	65		45		45	43	13
2382.6	92	102	970	84		58		58	56	17

BIT NUMBER	5	IADC CODE	517	INTERVAL	2383.0- 2597.3
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	8.0	BIT RUN	214.3
TOTAL HOURS	43.77	TOTAL TURNS	152495	CONDITION	T4 B5 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2390.0	69	77	728	63		44		44	42	13
2400.0	76	75	758	66		45		45	44	14
2410.0	75	77	758	66		45		45	44	14
2420.0	75	75	750	65		45		45	43	13
2430.0	76	76	760	66		45		45	44	14

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2440.0	74	76	751	65		45		45	43	13
2450.0	75	77	763	66		46		46	44	14
2460.0	76	76	760	66		45		45	44	14
2470.0	76	75	759	66		45		45	44	14
2480.0	77	75	762	66		46		46	44	14
2490.0	74	73	732	64		44		44	42	13
2500.0	78	74	762	66		46		46	44	14
2510.0	77	75	759	66		45		45	44	14
2520.0	78	74	759	66		45		45	44	14
2530.0	77	75	760	66		45		45	44	14
2540.0	77	77	770	67		46		46	45	14
2550.0	77	76	766	67		46		46	44	14
2560.0	75	76	754	66		45		45	44	14
2570.0	77	75	758	66		45		45	44	14
2580.0	77	73	753	65		45		45	44	14
2590.0	79	75	765	66		46		46	44	14
2597.3	55	52	534	46		32		32	31	10

BIT NUMBER	5	IADC CODE	4	INTERVAL	2597.3- 2599.3
CHRIS C23		SIZE	9.875	NOZZLES	14 14 14
COST	0.00	TRIP TIME	8.0	BIT RUN	2.0
TOTAL HOURS	4.06	TOTAL TURNS	21379	CONDITION	T0 B0 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2599.3	0	56	278	62					16	5

BIT NUMBER	5	IADC CODE	4	INTERVAL	2599.3- 2601.5
CHRIS C20		SIZE	9.875	NOZZLES	14 14 14
COST	0.00	TRIP TIME	8.3	BIT RUN	2.2
TOTAL HOURS	8.01	TOTAL TURNS	43251	CONDITION	T0 B0 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2600.0	0	55	274	61					16	5
2601.5	0	54	271	60					16	5

BIT NUMBER	6	IADC CODE	537	INTERVAL	2601.5- 2618.0
HTC J33		SIZE	12.250	NOZZLES	18 18 16
COST	8266.00	TRIP TIME	8.3	BIT RUN	16.5
TOTAL HOURS	11.92	TOTAL TURNS	33789	CONDITION	T3 B5 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2618.0	74	79	765	66		46		46	44	14

BIT NUMBER	6	IADC CODE	4	INTERVAL	2618.0- 2623.3
CHRIS C20		SIZE	9.875	NOZZLES	14 14 14
COST	0.00	TRIP TIME	8.3	BIT RUN	5.3
TOTAL HOURS	7.38	TOTAL TURNS	39867	CONDITION	T0 B0 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2623.3	0	54	270	60					16	5

BIT NUMBER	7	IADC CODE	537	INTERVAL	2623.3- 2773.0
HTC J33		SIZE	12.250	NOZZLES	18 18 16
COST	8266.00	TRIP TIME	8.2	BIT RUN	149.7
TOTAL HOURS	48.64	TOTAL TURNS	143838	CONDITION	T4 B4 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2630.0	76	75	754	65		45		45	44	14
2640.0	77	74	756	66		45		45	44	14
2650.0	74	78	760	66		45		45	44	14
2660.0	74	78	760	66		45		45	44	14
2670.0	74	78	760	66		45		45	44	14
2680.0	74	78	762	66		46		46	44	14
2690.0	74	78	764	66		46		46	44	14
2700.0	75	78	765	66		46		46	44	14
2710.0	75	77	758	66		45		45	44	14
2720.0	74	77	757	66		45		45	44	14
2730.0	74	77	757	66		45		45	44	14
2740.0	73	77	751	65		45		45	43	13
2750.0	74	76	749	65		45		45	43	13
2760.0	74	76	752	65		45		45	44	14
2770.0	75	75	753	65		45		45	44	14
2773.0	75	75	753	65		45		45	44	14

BIT NUMBER	8	IADC CODE	517	INTERVAL	2773.0- 2907.8
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	7.9	BIT RUN	134.8
TOTAL HOURS	42.51	TOTAL TURNS	127561	CONDITION	T3 B3 G0.250

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2780.0	72	76	740	64		44		44	43	13
2790.0	74	77	755	66		45		45	44	14
2800.0	74	77	759	66		45		45	44	14
2810.0	73	79	762	66		46		46	44	14
2820.0	73	78	756	66		45		45	44	14
2830.0	73	78	757	66		45		45	44	14
2840.0	73	78	756	66		45		45	44	14
2850.0	72	77	747	65		45		45	43	13
2860.0	109	0	543	47		32		32	31	10
2870.0	73	79	755	66		45		45	44	14
2880.0	73	78	755	66		45		45	44	14
2890.0	72	79	755	66		45		45	44	14
2900.0	72	78	753	65		45		45	44	14
2907.8	52	47	490	43		29		29	28	9

BIT NUMBER	8	IADC CODE	4	INTERVAL	2907.8- 2924.3
CHRIS RC4		SIZE	9.840	NOZZLES	14 15 15
COST	0.00	TRIP TIME	8.2	BIT RUN	16.5
TOTAL HOURS	5.09	TOTAL TURNS	17926	CONDITION	T0 B0 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2910.0	52	0	262	53		27		27	15	5
2920.0	51	0	257	52		27		27	15	5

BIT NUMBER	9	IADC CODE	517	INTERVAL	2924.3- 2995.4
HTC J22		SIZE	12.250	NOZZLES	18 18 16
COST	8520.00	TRIP TIME	8.2	BIT RUN	71.1
TOTAL HOURS	26.47	TOTAL TURNS	99551	CONDITION	T3 B8 G0.250

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2930.0	76	78	768	67		46		46	44	14
2940.0	76	77	765	66		46		46	44	14
2950.0	75	80	774	67		46		46	45	14
2960.0	54	86	701	61		42		42	41	13
2970.0	29	96	629	55		38		38	36	11
2980.0	76	78	767	67		46		46	44	14
2990.0	64	81	728	63		43		43	42	13

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2995.4	76	78	770	67		46		46	45	14

PE603863

This is an enclosure indicator page.  
The enclosure PE603863 is enclosed within the  
container PE906486 at this location in this  
document.

The enclosure PE603863 has the following characteristics:

ITEM\_BARCODE = PE603863  
CONTAINER\_BARCODE = PE906486  
NAME = Drill Data Log  
BASIN = GIPPSLAND  
PERMIT = VIC/L3  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Drill Data Log for Turrum-3  
REMARKS =  
DATE\_CREATED = 6/04/85  
DATE\_RECEIVED = 24/06/85  
W\_NO = W899  
WELL\_NAME = TURRUM-3  
CONTRACTOR = CORE LABORATORIES  
CLIENT\_OP\_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603863  
Drill Data Plot

PE603864

This is an enclosure indicator page.  
The enclosure PE603864 is enclosed within the  
container PE906486 at this location in this  
document.

The enclosure PE603864 has the following characteristics:

ITEM\_BARCODE = PE603864  
CONTAINER\_BARCODE = PE906486  
NAME = Temperature Log  
BASIN = GIPPSLAND  
PERMIT = VIC/L3  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Temperature Log for Turrum-3  
REMARKS =  
DATE\_CREATED = 6/04/85  
DATE\_RECEIVED = 24/06/85  
W\_NO = W899  
WELL\_NAME = TURRUM-3  
CONTRACTOR = CORE LABORATORIES  
CLIENT\_OP\_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)



PE603864

Temperature Plot

PE603865

This is an enclosure indicator page.  
The enclosure PE603865 is enclosed within the  
container PE906486 at this location in this  
document.

The enclosure PE603865 has the following characteristics:

- ITEM\_BARCODE = PE603865
- CONTAINER\_BARCODE = PE906486
  - NAME = Pressure Log
  - BASIN = GIPPSLAND
  - PERMIT = VIC/L3
  - TYPE = WELL
  - SUBTYPE = WELL\_LOG
- DESCRIPTION = Pressure Log for Turrum-3
- REMARKS =
- DATE\_CREATED = 6/04/85
- DATE\_RECEIVED = 24/06/85
  - W\_NO = W899
  - WELL\_NAME = TURRUM-3
- CONTRACTOR = CORE LABORATORIES
- CLIENT\_OP\_CO = ESSO AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603865

Pressure Plot

PE603866

This is an enclosure indicator page.  
The enclosure PE603866 is enclosed within the  
container PE906486 at this location in this  
document.

The enclosure PE603866 has the following characteristics:

ITEM\_BARCODE = PE603866  
CONTAINER\_BARCODE = PE906486  
NAME = Geoplot Log  
BASIN = GIPPSLAND  
PERMIT = VIC/L3  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Geoplot Log for Turrum-3  
REMARKS =  
DATE\_CREATED = 6/04/85  
DATE\_RECEIVED = 24/06/85  
W\_NO = W899  
WELL\_NAME = TURRUM-3  
CONTRACTOR = CORE LABORATORIES  
CLIENT\_OP\_CO = ESSO AUSTRALIA LIMITED

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PE603866

Geoplot

PE603867

This is an enclosure indicator page.  
The enclosure PE603867 is enclosed within the  
container PE906486 at this location in this  
document.

The enclosure PE603867 has the following characteristics:

- ITEM\_BARCODE = PE603867
- CONTAINER\_BARCODE = PE906486
- NAME = Mud Log
- BASIN = GIPPSLAND
- PERMIT = VIC/L3
- TYPE = WELL
- SUBTYPE = MUD\_LOG
- DESCRIPTION = Mud Log (Grapholog) for Turrum-3
- REMARKS =
- DATE\_CREATED = 6/04/85
- DATE\_RECEIVED = 24/06/85
- W\_NO = W899
- WELL\_NAME = TURRUM-3
- CONTRACTOR = CORE LABORATORIES
- CLIENT\_OP\_CO = ESSO AUSTRALIA LIMITED

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PE603867

Grapholog / Mud Log

PE603868

This is an enclosure indicator page.  
The enclosure PE603868 is enclosed within the  
container PE906486 at this location in this  
document.

The enclosure PE603868 has the following characteristics:

ITEM\_BARCODE = PE603868  
CONTAINER\_BARCODE = PE906486  
NAME = Tritium Log  
BASIN = GIPPSLAND  
PERMIT = VIC/L3  
TYPE = WELL  
SUBTYPE = WELL\_LOG  
DESCRIPTION = Tritium Log for Turrum-3  
REMARKS =  
DATE\_CREATED = 6/04/85  
DATE\_RECEIVED = 24/06/85  
W\_NO = W899  
WELL\_NAME = TURRUM-3  
CONTRACTOR = CORE LABORATORIES  
CLIENT\_OP\_CO = ESSO AUSTRALIA LIMITED

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TRITIUM PLOT

PE603868

Tritium Plot