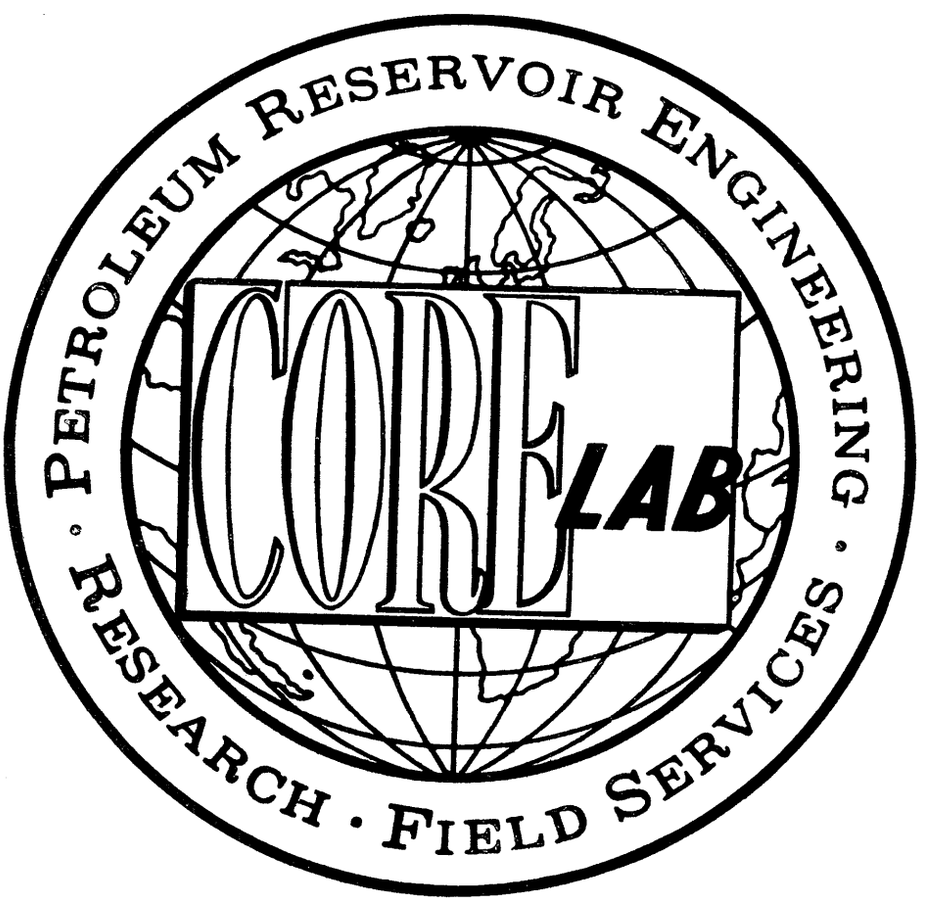
ATTACHMENT 1 FROM VOL II
BREAM 5 W.C.R

[redacted]



IES WELL REPORT

W781

ESSO AUSTRALIA LTD.

BREAM NO. 5

CORE LABORATORIES AUSTRALIA (QLD.) LTD.

Petroleum Reservoir Engineering
AUSTRALIA

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

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

11th October 1982

Esso Australia Limited
Esso House, 127, Kent Street
Sydney, New South Wales 2001

Attention: MR. K. KUTTAN

Dear Mr. Kuttan,

Please find enclosed five (5) copies plus the original well report for BREAM NO: 5.

If you have any enquiries, please do not hesitate to contact us.

Yours very truly
CORE LABORATORIES INYERNATIONAL LTD

for A. DODSON
UNIT SUPERVISOR

ARC/GCM:pc

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1. INTRODUCTION

BREAM NO: 5 was drilled by ESSO Australia Ltd., in the Bass Strait, Australia.

Well co-ordinates were:

Latitude : 38° 30' 55.03"
Longitude : 147° 51' 58.95"

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

BREAM NO: 5 was spudded on the 2nd of August 1982 and reached a total depth of 3322 metres on the 5th of September 1982, a total of 36 days drilling time. The main objectives of the well were to firstly, establish the eastern most extent of the Bream field and to confirm the dimension of the oil column; and secondly, to test a fault dependent anticlinal closure that has been mapped at the upper and lower L. balemi levels.

Elevations were:

Kelly bushings to mean sea level ..... 21 metres
Water depth ..... 59 metres
Kelly bushing to mud line ..... 80.6 metres

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

Core Laboratories personnel involved in the logging of BREAM NO: 5 were as follows:

T. Charles ..... Unit Supervisor
G. Munn ..... Pressure Engineer
B. Giftson ..... Logging Crew Chief
R. Martin ..... Well Logger
B. Paulet ..... Well Logger
T. Rodrigues ..... Well Logger
P. Denton ..... Well Logger

2. CORE LABORATORIES EQUIPMENT

Core Laboratories Field Laboratory 802 monitoring equipment includes the following :

A. MUD LOGGING

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

B. INTERMEDIATE EXTENDED SERVICE PACKAGE

1. Hewlett Packard 9825B desktop computer
2. Hewlett Packard 9872B plotter
3. Hewlett Packard 2631A printer
4. Two Hewlett Packard 2621P visual display units,(one located in the client's office)
5. Hookload/weight on bit transducer and recorder
6. Rotary speed tachogenerator and recorder
7. Standpipe pump pressure transducer and recorder
8. Mud flow out sensor and recorder
9. Mud temperature sensors and recorder (in and out)
10. Mud conductivity sensors end recorder (in and out)
11. Rotary torque sensor and recorder
12. Shale density apperatus
13. Hydrogen sulphide gas detector
14. Carbon dioxide gas detector

3. CORE LABORATORIES MONITORING EQUIPMENT

DEPTH

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

WEIGHT ON BIT

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

ROTARY SPEED

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

PUMP PRESSURE

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

PIT VOLUME

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

PUMP STROKES

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

ROTARY TORQUE

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

MUD TEMPERATURE

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

MUD CONDUCTIVITY

A Balsbaugh electrode-less conductivity sensor measures the current in a closed loop of solution coupling a pair of toroidal transformer coils.
The conductivity in and out is displayed on analog and digital meters, and recorder chart.

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

CUTTINGS

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

GAS

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

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

3.Hot wire gas detector(Wheatstone Bridge type)
A back up system for total gas detection.

SHALE DENSITY

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

4. INTERMEDIATE EXTENDED SERVICE INTRODUCTION

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

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

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

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

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

CORELAB DRILL DATA PLOT

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

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

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

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

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

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

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

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

I.E.S. GEO-PLOT LOG

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

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

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

ELECTRIC LOG PLOT

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

PROGRESS LOG

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

DATA RECORDING

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

MUD DATA SHEETS

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

DRILLING PARAMETER PLOT

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

HYDRAULIC ANALYSES

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

GAS COMPOSITION ANALYSIS

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

1. Log plot

2. Triangulation plot

Both plots are included in this report.

GRAPHOLOG

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

MISCELLANEOUS

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

5. RIG INFORMATION SHEET

RIG INFORMATION SHEET

CORE LAB

COMPANY ESSO AUSTRALIA LTD.

WELL

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

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

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

6. WELL INFORMATION SHEET

WELL INFORMATION SHEET

COMPANY ESSO Australia Ltd
WELL BREAM No.5

Sheet No. 1

WELL NAME	BREAM No.5				
OPERATOR	ESSO Australia Ltd				
PARTNERS	B.H.P.				
RIG	OWNER	SOUTH SEAS DRILLING COMPANY			
	NAME OR NUMBER	SOUTHERN CROSS			
	TYPE	SEMI SUBMERSIBLE			
LOCATION	LATITUDE (X)	38° 30' 55.03"	LONGITUDE (Y)	147° 51' 58.95"	
	FIELD		AREA	GIPPSLAND BASIN	
	COUNTY		STATE	VICTORIA	
	COUNTRY	AUSTRALIA			
	DESCRIPTION				
DATUM POINTS	Ground Elevation	-	RKB to Ground Level		
	Mean Water Depth	59.6m	RKB to Water Level	21.0m	
DATES	SPUD	2 AUGUST 1982	TOTAL DEPTH	3322.0m	

HOLE SIZES

Depth From	Depth To	Bit Size	No. of Bits	No. of Reamers	Date From	Date To	Cased	Logged
		26	1	-	2 AUG' 82	2 AUG' 82	20	N
		17½	1	-	3Aug'82	4 AUG' 82	13 3/8	Y
		12¼	4	-	5 AUG' 82	10AUG' 82	9 5/8	Y
		8½	9	-	13AUG'82	5 SEP'82	-	Y

DRILLING FLUID

Depth From	Depth To	Weights	Type
80.6	220	8.6 TO 8.6	SEA WATER
220	2070	8.7 TO 9.8	SEA WATER GEL
2070	3220	9.3 TO 9.7	SEA WATER GEL
		TO	
		TO	
		TO	
		TO	
		TO	

WIRELINE LOGGING

Depth From	Depth To	Hole Size	Date Run	Logs Run
805	80	17½	4 AUG'82	ISFL-BHC(sonic)-CAL-GR
2059.5	788.5	12¼	11 AUG'82	DLL-MSFL-GR
2062	788.5	12¼	11 AUG'82	LDL-CNL-GR
2060	788.5	12¼	11 AUG'82	BHC-GR-SP
2060.5	1800	12¼	11 AUG'82	HDT
-	-	12¼	12 AUG'82	RFT'S No.1,2,3,4,5
2703	2054	8½	21 AUG'82	DLL-MSFL-GR
2706	2054	8½	21 AUG'82	LDL-CNL-GR

RISER, CASING & LINER

Depth From	Depth To	OD	ID	Weight	Grade	Threads	Date Run	Cement	Stages	Excess
2	80.6	21.5	21	RISER						
80.6	204	20	19.124	94.4	x52	JV BOX	2 AUG'82	N	1	-
80.6	786	13 3/8	12.615	54.5	K55	BUTT	4 AUG'82	N	1	-
80.6	2056	9 5/8	8.681	47.0	N80	BUTT	13 AUG'82	N	1	-

CORE LAB

WELL INFORMATION SHEET

COMPANY ESSO Australia Ltd
WELL BREAM No.5

Sheet No. 2

WELL NAME	CONTINUATION OF WIRELINE LOGGING DATA				
OPERATOR					
PARTNERS					
RIG	OWNER				
	NAME OR NUMBER				
	TYPE				
LOCATION	LATITUDE (X)		LONGITUDE (Y)		
	FIELD		AREA		
	COUNTY		STATE		
	COUNTRY				
	DESCRIPTION				
DATUM POINTS	Ground Elevation		RKB to Ground Level		
	Mean Water Depth		RKB to Water Level		
DATES	SPUD		TOTAL DEPTH		

HOLE SIZES	Depth From	Depth To	Bit Size	No. of Bits	No. of Reamers	Date From	Date To	Cased	Logged

DRILLING FLUID	Depth From	Depth To	Weights	Type
			TO	
			TO	
			TO	
			TO	
			TO	
			TO	
			TO	
			TO	

WIRELINE LOGGING	Depth From	Depth To	Hole Size	Date Run	Logs Run
	-	-	8½	22 AUG '82	RFT's 6,7
	-	-	8½	23 AUG '82	RFT's 8,9,10
	-	-	8½	24 AUG '82	RFT's 11,12,13,14
			8½	28 AUG '82	DLL-MSFL-GR
	3019	2675	8½	29 AUG '82	LDL-CNL-GR
	-	-	8½	29 AUG '82	RFT 15
	-	-	8½	30 AUG '82	RFT's 16,17,18
	-	-	8½	31 AUG '82	RFT's 19,20

RISER, CASING & LINER	Depth From	Depth To	OD	ID	Weight	Grade	Threads	Date Run	Cement	Stages	Excess

CORE LAB

WELL INFORMATION SHEET

COMPANY ESSO Australia Ltd
WELL Bream No.5

Sheet No. 3

WELL NAME	CONTINUATION OF WIRELINE LOGGING DATA.			
OPERATOR				
PARTNERS				
RIG	OWNER			
	NAME OR NUMBER			
	TYPE			
LOCATION	LATITUDE (X)		LONGITUDE (Y)	
	FIELD		AREA	
	COUNTY		STATE	
	COUNTRY			
	DESCRIPTION			
DATUM POINTS	Ground Elevation		RKB to Ground Level	
	Mean Water Depth		RKB to Water Level	
DATES	SPUD		TOTAL DEPTH	

HOLE SIZES

Depth From	Depth To	Bit Size	No. of Bits	No. of Reamers	Date From	Date To	Cased	Logged

DRILLING FLUID

Depth From	Depth To	Weights	Type
		TO	
		TO	
		TO	
		TO	
		TO	
		TO	
		TO	
		TO	

WIRELINE LOGGING

Depth From	Depth To	Hole Size	Date Run	Logs Run
-	-	8½	1 SEP'82	RFT'S 21,22
-	-	8½	2 SEP'82	RFT's 23,24,25
3320.5	2675	8½	6 SEP'82	DLL-MSFL-GR
3324	2685	8½	6 SEP'82	LDL-CNL-GR
3325	2055	8½	6 SEP'82	BHC-GR
3324	2055	8½	6 SEP'82	HDT
-	-	8½	6 SEP'82	VELOCITY SURVEY
-	-	8½	8 SEP'82	RFT's 26,27

RISER, CASING & LINER

Depth From	Depth To	OD	ID	Weight	Grade	Threads	Date Run	Cement	Stages	Excess

CORE LAB

WELL INFORMATION SHEET

COMPANY ESSO AUSTRALIA Ltd
WELL BREAM No.5

Sheet No. 4

WELL NAME	CONTINUATION OF WIRELINE LOGGING DATA			
OPERATOR				
PARTNERS				
RIG	OWNER			
	NAME OR NUMBER			
	TYPE			
LOCATION	LATITUDE (X)		LONGITUDE (Y)	
	FIELD		AREA	
	COUNTY		STATE	
	COUNTRY			
	DESCRIPTION			
DATUM POINTS	Ground Elevation		RKB to Ground Level	
	Mean Water Depth		RKB to Water Level	
DATES	SPUD		TOTAL DEPTH	

HOLE SIZES

Depth From	Depth To	Bit Size	No. of Bits	No. of Reamers	Date From	Date To	Cased	Logged

DRILLING FLUID

Depth From	Depth To	Weights	Type
		TO	
		TO	
		TO	
		TO	
		TO	
		TO	
		TO	
		TO	

WIRELINE LOGGING

Depth From	Depth To	Hole Size	Date Run	Logs Run
-	-	8½	8 SEP'82	CST runs 2,3,4,5

RISER, CASING & LINER

Depth From	Depth To	OD	ID	Weight	Grade	Threads	Date Run	Cement	Stages	Excess

7. WELL HISTORY

WELL HISTORY

1st August 1982. On tow to location, arriving at 1400 hours. All anchors were run and ballasting the rig commenced.

2nd August 1982. Completed ballasting the rig and landed the template at 0545 hours. After making up the B.H.A. the well was spudded at 0800 hours with a 17½" bit (HTC 3AJ 3x20) and a 26" hole opener. As the riser was not connected all returns were to the sea bed. Drilling then proceeded from 80.6m (mud line) to 220m. The hole was cleared using 375 bbl of Hi-vis mud and a survey was dropped. P.O.O.H. and the survey retrieved (¾°). Then ran the 20" casing.

3rd August 1982. The 20" casing was run and cemented with 630 sacks of "N" cement mixed with 194 bbl of water and tailed with 350 sacks of neat cement mixed with 43 bbl of water. Rigged down the cement lines and P.O.O.H. with the running tool. The B.O.P. was run. After nippling up the slip joint and breaking out the 26" hole opener, the new B.H.A. was made up and R.I.H., tagging cement at 194m. Drilled cement, shoe, and fill to 220m. Drilled ahead to 456m.

4th August 1982. Drilling continued to 805m with R.O.P.'s of 50 to 120m/hr., with a max gas of 18.7 units from 724m. A 230 bbl Hi-vis pill was then circulated prior to dropping the survey. P.O.O.H. to run 13-3/8" casing. Encountered tight hole from 800m to 700m. A wiper trip was made (W.T.G. was 0.2/8.3/0.4 units). P.O.O.H. The hole was found to be taking fluid at the rate of 72 bbl per hour.

5th August 1982. P.O.O.H. and retrieved the wear bushing. The 13-3/8" casing was run and cemented. P.O.O.H., washing the well head. Made up and set the seal assembly, testing same and BOP rams to 200/5000 psi and Hydril to 200/3500 psi. Made up and set wear bushing; broke out the old B.H.A. and made up the new one; R.I.H. tagging cement at 721m. Drilled to 736m in cement.

6th August 1982. Drilled trough the cement, float collar and shoe. Washed down to 805m. Drilled 6m of new hole, circulated out then ran a P.I.T. The formation held 660 psi with 8.6ppg seawater. No leak off was observed (E.M.W. 13.5ppg). Drilled from 811 to 818m, reaming the tight hole. Pumped a Hi-vis slug, and then drilled ahead to 1315m. In the interval 805m to 1315m the maximum gas was 11 units (from 915m) over a background of 2-3 units. Between 1100m and 1170m there were minor traces of gumbo.

7th August 1982. Drilled 12¼" hole from 1315m to 1610m. The hole packed off at 1372 and 1505m, so it was reamed and circulated clean at these depths (22 units of gas were detected from the reamed section 1371m to 1372m. Background gas was 2-3 units). Circulated out at 1610m, dropped a survey, pumped a slug and P.O.O.H. to change the worn bit (B.C.O. was 7-6-I). Retrieved the survey (3¼° at 1610m). R.I.H. with a new bit (HTC X3A, 12¼", 3x18). No fill was encountered. Drilled from 1610m to 1702m (max gas was 8 units, over a background of 2 units). At 1702, P.O.O.H. to the shoe, whilst an electrical fault was repaired in the mud pumps.

8th August 1982. R.I.H. to the bottom, no fill was encountered. Drilled 12¼" hole from 1702m to 1939m. Drill breaks were circulated up at 1887m (16 units of gas, sandy siltstone); 1911m (176 units of gas from a sandy siltstone at 1903m); 1933m (34 units); and 1939m (75 units from a sandstone). It was decided to core at this point. Dropped a survey, pumped a slug, P.O.O.H. and retrieved the survey (1¼° at 2949m).

9th August 1982. R.I.H. with the core barrel and Christensen core bit (CHRIST RC4). Circulated bottoms up and cut core No: 1 (1939m to 1952.2m). Broke the core with 40K overpull and then P.O.O.H. Maximum formation gas circulated up was 16 units, the background was 2 units. Recovered core No: 1 (11.7m, 88.6% recovery). Pulled up one 6½" drill collar and R.I.H. with the core barrel again. Circulated bottoms up and cut core No: 2 (1952.2m to 1964.2m). Broke the core and P.O.O.H. Recovered the

core (12m, 100% recovery), predominantly shale and coal.

10th August 1982. R.I.H. to 1938m with bit No: 6 (HTC XDG, 12¼", 15-15-16). Reamed the 8½" rat hole. Bottoms up gas was 2-24-3 units. Drilled from 1964m to 2070m. Circulated a drill break out from 1971m (11 units of gas were obtained from coal at 1965m). Maximum gas detected during the drilled interval was 64 units (coal at 2068m); the background was 1-2 units. Circulated bottoms up at 2070m, dropped a single shot survey and P.O.O.H. to casing shoe. Recovered the survey at the second attempt (1½° at 2070m). Performed a wiper trip. Pumped a slug, and P.O.O.H., prior to running Group 2 logs.

11th August 1982. Rigged up and ran the following Schlumberger logs:

DLL - MSFL - GR - CAL
LDL - CNL - GR
BHC - GR - SP
HDT

Schlumberger encountered 10 metres of fill. A wiper trip was conducted, washing out the fill. The mud was circulated and conditioned. Trip gas was 2-10-2 units. P.O.O.H.

12th August 1982. Finished pulling out of the hole, and then ran 4 R.F.T.'s:

No: 1 Pretests
No: 2 Samples from 1937 metres
No: 3 Samples from 1940 metres
No: 4 Samples from 1951.3 metres

13th August 1982. Ran R.F.T. No: 5 and recovered samples from 1962 metres. Schlumberger shot 51 sidewall cores (48 recovered). R.I.H. with the drill string and encountered one metre of fill. Circulated bottoms-up. Flushed riser, and P.O.O.H. Pulled the wash bearing and ran the 9-5/8" casing.

14th August 1982. Continued to run the 9-5/8" casing and landed same in the well-head. Set the shoe with 600 sacks of Australian

class "N" cement (slurry weight 15.6 ppg). Set the seal assembly after 4 attempts (problems occurred due to sheared threads in the well-head). Tested the stack.

15th August 1982. Ran the wear bushing. R.I.H. with bit No: 7 (HTC J-22, 8½", 3x10) and drilled through the plugs, cement, collar and shoe. Drilled 8 metres of new hole and conducted a P.I.T. The test yielded 13.25 ppg E.M.W. at 2078 metres (without leak off). Drilled 8½" hole from 2078 - 2148 metres. The maximum gas detected in this drilled interval was 18 units (from coal at 2079 metres), over a background of 0-1 units.

16th August 1982. Drilled from 2148 - 2354 metres. (Maximum gas was 9 units, from 2151 metres, and the background was 0-1 units).

17th August 1982. Drilled 8½" hole from 2354 - 2374 metres. The rate of penetration had decreased considerably, and so it was decided to pull the bit. Upon examination, the teeth of the bit were extremely worn, and the bit was graded at 8-4-¼. Ran back in the hole with a Hughes J-22 (8½", 3x10) and drilled ahead to 2406 metres. Only very low concentrations of gas were detected (2 units maximum, using 9.5 ppg mud).

18th August 1982. Continued drilling through the Intra-Latrobe formation from 2406 - 2553 metres. The maximum gas detected was 24 units (from coal at 2539m) and the background was 0-1 units.

19th August 1982. Drilled down to 2568 metres, where "bottoms" were circulated up. The samples showed some fluorescence so it was decided to cut a core. Dropped a survey, P.O.O.H., and retrieved the survey (2½°). R.I.H. with the core No: 3 from 2568 - 2574.6 metres. P.O.O.H. earlier than expected due to extremely low coring ROP's. Recovered the core (3.93 metres, 59.5%, sandstone and coal).

20th August 1982. R.I.H. with a new bit, No: 10 (HTC J-22, 8½", 3x10); reamed the core rat hole and drilled 8½" hole from 2574.6 - 2628 metres. T.G. at 2574.6m was 8.0 units. Circulating out at 2628m (B/U gas 2.0 units) a decision to core was made and P.O.O.H. commenced. A stainless steel valve from the water hose was accidentally dropped in the hole while pulling out and the pipe was run back in the hole. The bit was worked on bottom for a while (making 18" of hole) and then continued drilling was decided upon. Drilled ahead from 2628 to 2631 metres, B/U was again circulated for the Geologist, before drilling on to 2668 metres.

21st August 1982. Drilling continued from 2668 to 2707 metres where B/U was circulated from a drilling break of 8 to 23m/hr. (100% coarse sandstone and 3.0 units of gas). Coring was decided upon and after dropping a survey and pumping a slug, the drilling-string was P.O.O.H. The survey indicated a deviation of 2¾°. The decision to core was then revised in favour of first running Schlumberger logs. The following logs were run:

DLL - MSFL - GR

LDL - CNL

R.I.H. with the junk basket, for a wiper trip prior to running R.F.T.'s.

22nd August 1982. Ran in hole to 2707m, working the junk sub, the junk was drilled on from 2707 - 2707.5m. Wiper trip gas was 0.4/3.8/0.4 units. Working the junk basket continued for a further 6 hours before pumping a slug and P.O.O.H. R.F.T. No: 6 consisting of 23 pretests only and No: 7, (4 pretests and sampling at 2661.5m) were run.

23rd August 1982. R.F.T. No: 8 was run and 2 pretests were conducted only due to tool sticking (1200 lbs overpull from 2677 to 2660m). A wipertrip was decided upon. R.I.H. with the junk basket. B/U trip gas was 0.4/7.3/0.5 units. P.O.O.H. R.F.T.'s 9 and 10 were run.

24th August 1982. Continued with R.F.T.'s No: 11 (2558m), No: 12 (2495.5m), No: 13 (6 gal. 2477m/2¾ gal. 2488m) and No: 14 (6 gal. 2568.2m/2¾ gal 2562m). The tool was layed down before

running the test plug for a B.O.P. stack test prior to coring.

25th August 1982. After testing stack, P.O.O.H. with test plug and set wear bushing. Made up the core barrel and R.I.H. Circulated B/U (trip gas was 7.8 units), the ball was dropped and core No: 4 was cut from 2707.6 to 2726m. Recovery was 17.96m (97.6%). R.I.H. with new bit No: 9 (HTC J-22 8½", 3x10), the core rat hole was reamed and drilling continued from 2726 to 2744m. B/U gas was 0.9/4.9/0.9 units.

26th August 1982. Drilling 8½" hole from 2744 to 2758m, circulated B/U after a drilling break (R.O.P. from 9 to 18m/hr). At B/U gas went from 4 to 6 units, it was decided to cut core No: 5. P.O.O.H. and R.I.H. with the core barrel (T.G. was 5 units). Core No: 5 was cut from 2758 to 2776m, P.O.O.H. and recovered the core (100% recovery) R.I.H. with new bit No: 10 (T.G. was 5 units), reamed the rat hole and continued to drill from 2776 to 2793m.

27th August 1982. Drilling continued from 2793m to 2971m with flow checks at 2791m, 2805m, 2814m, 2874m and 2971m. A drill break from 6 to 11m/hr. was circulated out (2971m B/U gas rose from 2 to 10 units).

28th August 1982. Completed circulating out. Drilling ahead to 3017m, flow checking at each connection. Circulated out again at 3017m after a drill break of 7 to 13 m/hr (max gas was 9.1 units from 20% sandstone 80% siltstone lithology). It was decided to run electric logs, a wiper trip to the shoe was made, trip gas was 1/4/1 units. A survey was dropped before P.O.O.H.. Upon retrieval the survey showed 3^{o} deviation. Schlumberger then ran the following logs:

DLL - MSFL - GR

LDL - CNL

29th August 1982. R.I.H. to 3017m, and circulated out to condition hole (trip gas was 1/4/1 units). P.O.O.H. Schlumberger then rigged up and ran R.F.T. No: 15, 47 pretests.

30th August 1982. Completed R.F.T. No: 15, then ran R.F.T. No: 16 (6 gal-2984.5m/2¾ gal 2968m), R.F.T. No: 17 (2947.8), R.F.T. No: 18 (2880m) one chamber only.

31st August 1982. R.F.T. No: 18 was completed and a full wiper trip was conducted, (trip gas was 0.3/8/0.3 units) before continuing with R.F.T. No: 19 (2833.5m), R.F.T. No: 20 (2701.5m) and R.F.T. No: 21 (2706.2m).

1st September 1982. After completing RFT No: 21 and R.F.T. No: 22 (2715.5m), a wiper trip was then conducted (T.G. 0.3/5/0.3) prior to running R.F.T. No: 23 (2756.2m).

2nd September 1982. Ran R.F.T.'s 24 (2695.5m) and 25 (2849.2m). Pulled the wear bushing and tested the stack. Ran the wear bushing and R.I.H. with new bit No: 11 (HTC J22, 8½", 3x10). No fill or drag was encountered. Washed to the bottom and then drilled from 3017 to 3035m. The max gas detected was 25 units at 3019m, the background gas level was 7 units.

3rd September 1982. Drilled from 3035 to 3213m, with flow checks at 3065m, 3168m and 3207m (all negative). Circulated a drill break up at 3065m. The gas detected in the drilled interval was 2 to 3 units with a maximum of 39 units at 3135m.

4th September 1982. Drilled from 3207 to 3284m, where we lost 500 psi of pump pressure. The pumps and surface equipment were checked. Made a wet trip out of the hole to find a washout in the first joint of HWDP. R.I.H. with new bit No: 12 (HTC J4, 8½", 3x10).

5th September 1982. Washed and reamed down to bottom (bit No: 11 was 1/8" out of gauge). Drilled from 3284 to 3296m, where 500psi

of pump pressure was lost again. Checked the pumps and surface equipment - all ok. Thus another wet trip was conducted to find the second washout, again located at the first joint of HWDP. All the HWDP was laid down and the bit checked. R.I.H. with the same bit and drilled from 3296 to 3322m. T.G. was 4/30/3 units. Circulated out and decided to run logs. Dropped a survey, pumped a slug, and P.O.O.H. Survey was a miss-run.

6th September 1982. Rigged up and ran the following Schlumberger logs:

DLL - MSFL - GR
LDL - CNL
BHC
HDT
Velocity Survey

7th September 1982. Attempted to run an RFT but Schlumberger experienced excessive overpull on their wireline so a wiper trip was conducted. B/U were circulated twice due to high gas readings, (gas readings from the first circulation were 3/400/56 units with a max of 1% CO_2) Schlumberger ran RFT No: 26, which included a number of pretests.

8th September 1982. Recovered samples from RFT No: 26, and ran RFT No: 27 (3016.2m), and then made four sidewall core runs.

9th September 1982. Laid down the drill collars and R.I.H. with $3\frac{1}{2}$" tubing. Rigged up the cement lines and circulated bottoms up, detecting 520 units of trip gas. The gas was circulated out. Set 4 balance plugs with 15.6ppg slurry (3300-3140m; 3130-2960m; 2950-2785m and 2775-2615m).

10th September 1982. Set a fifth balance plug from 2600-2430m. R.I.H. and eventually tagged cement at 2465m. Set a further 2 balance plugs (2457-2357m and 2104-2004m). Reverse circulated, P.O.O.H. laying down excess drill pipe and tubing.

11th September 1982. Ran the Schlumberger gauge ring and junk basket to 1647m. Tested the cement plug to 2000psi, and set a bridge plug at 1637m. Pulled the wear bushing and retrieved 14 joints of 9-5/8" casing using a Pengo casing cutter and a casing spear. Made up a section of stinger and R.I.H. with same on drill pipe to a depth of 285m. Set a balance plug from 285 to 280m. P.O.O.H. to 190m, reversed out and squeezed 7.5bbl of cement at 7 b.p.m./600psi, P.O.O.H., ran the Schlumberger gauge ring and jun basket to 190m, and set a 13-3/8" bridge plug at 182m.

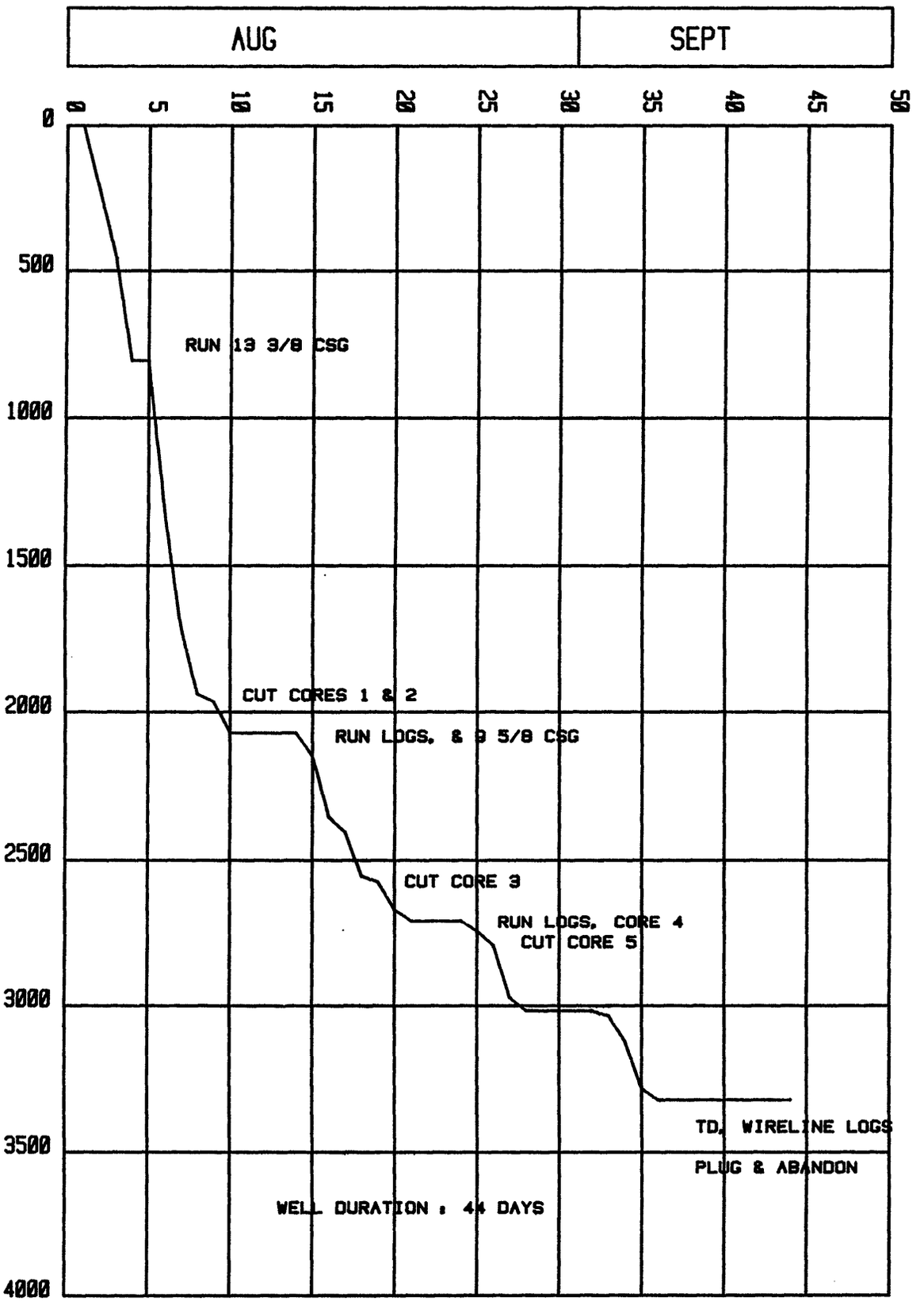
12th September 1982. Set a retainer at 175m. Perforated the casing from 160-160.5m. Set a cement retainer at 150m. Laid down drill pipe. Pulled the riser and B.O.P. stack.

13th September 1982. Blew the well head, and pulled the guide base, template and well head. Handled the anchors.

14th September 1982. Continued handling the anchors and then moved to new location.

8. PROGRESS LOG

PROGRESS LOG
ESSO AUSTRALIA LTD. BREAM #5



9. BIT RECORD SHEETS

BIT RECORD

BIT SIZE . . . . . inches

BIT COST . . . . . A dollars

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

DEPTHS . . . . . Metres

HOLE MADE. . . . . Metres

DRILLING TIME. . . . . Hours

AVERAGE ROP. . . . . Metres/hour

AVERAGE COST/METRE . . A dollars

BIT CONDITION. . . . . Teeth

Bearings

Gauge . . . . inches

CORE LAB

BIT RECORD

COMPANY ESSO AUSTRALIA LTD

WELL BREAM No.5

Sheet No. 1

SERIAL No.	Bit No.	Make	Type	IADC Code	Size	Cost	Jets	Depth In	Depth Out	Hole Made	Drilling Time	On Bottom Hours	K Turns	Average ROP	Average Cost/m	Condition T B G
294 SR	1	HTC	OCS3AJ +26 HO	111	26	6350	20/20/20	80.6	220	139.4	3¾	1.08	8	131.5	141.82	2/2/I
KX 481	2	HTC	OSC3AJ	111	17.5	2500	20/20/20	220	805	585	16¼	7.56	82	77.4	96.19	1/1/I
162 KK	3	HTC	X3A	114	12¼	1400	18/18/18	805	1610	805	28½	18.72	192	43	151	7/6/I
292 KK	4	HTC	X3A	114	12¼	1400	18/18/18	1610	1939	329	18¼	13.2	142	24.9	306.6	4/3/I
W 5994	4 RR	CHRIST	RC4	4	8½	13000	15/15/14 TFA EQUIV	1939	1952.2	13.2	4	12.06*	114*	3.6	2676.39	0/0/.25
W 5994	4 RR	CHRIST	RC4	4	8½	13000	15/15/14 TFA EQUIV	1952.2	1964.2	12	3¼	14.75*	135*	4.3	2302.92	0/0/.3
MC 894	5	HTC	XDG	135	12¼	1284	15/15/16	1964.2	2070	105.8	8	6.3	58	16.8	668.48	6/6/.125
657 ES	6	HTC	J 22	517	8½	1852	10/10/10	2070	2374	304	39	33.17	125	9.2	666.21	8/4/.25
TL 497	7	HTC	J 33	527	8½	1852	10/10/10	2374	2568	194	32¼	27.67	91	7.0	927.87	2/3/I
81E0702	7	CHRIST	C-22	4	8.468	12000	13/13/13	2568	2574.6	6.6	5.48	5.48	31	1.2	13107.42	0/0/.45
674ES	8	HTC	J 22	517	8½	1852	10/10/10	2574.6	2707.6	132.4	17	13.92	50	9.6	886.00	3/3/.125
9E0255	8	CHRIST	C-22 FD	4	8.468	12000	13/13/13	2707.6	2726	18.4	4.75	4.23	28	4.3	4510.32	0/0/.6
663ES	9	HTC	J 22	517	8½	1852	10/10/10	2726	2758.4	32.4	3.5	2.92	12.7	11.1	2072.75	1/1/I
W5994	9RR	CHRIST	RC4	4	8½	13000	15/15/14	2758.4	2776.4	18.0	2.75	16.88	149	8.5	4170.84	0/0/.6
KK401	10	HTC	J 22	517	8½	1852	10/10/10	2776.4	3017	240.6	32.5	27.73	101	8.7	782.48	4/5/.25
KK 537	11	HTC	J22	517	8½	1852	10/10/10	3017	3284	267	34¾	29.28	119	9.1	748.17	8/8/⅛
RT 745	12	HTC	J4	216	8½	1300	10/10/10	3284	3322	38	8	7.17	26	5.3	2539.49	4/2/⅛

7520-486 (CL 1152)

* THESE FIGURES ARE ACCUMULATED FROM PREVIOUS RUNS OF THE SAME BIT.

CORE LAB

BIT RECORD

COMPANY ESSO AUSTRALIA LTD

WELL BREAM No.5

Sheet No. 1

Bit No.	Make	Type	IADC Code	Size	Jets	Depth In	Hole Made	Drilling Time	On Bottom Hours	K Turns	Condition T B G	Remarks	S/N
1	HTC	OSC3AJ	111	17½	20/20/20	80.6	139.4	3¾	1.08	8	2/2/I	Out for 20" casing	294 SR
2	HTC	OSC3AJ	111	17½	20/20/20	220	585	16¼	7.56	82	1/1/I	Out for 13⅜" casing	KX 481
3	HTC	X3A	114	12¼	18/18/18	805	805	28½	18.72	192	7/6/I	Out to change the worn bit	162 KK
4	HTC	X3A	114	12¼	18/18/18	1610	329	18¼	13.2	142	4/3/I	Out at core point	292 KK
4RR	CHRIST	RC4	4	8½	15/15/14	1939	13.2	4	12.06*	114*	0.25	Out to retrieve core No. 1	W 5994
4RR	CHRIST	RC4	4	8½	15/15/14	1952.2	12	3¼	14.75*	135*	0.30	Out to retrieve core No. 2	W5994
5	HTC	XDG	135	12¼	15/15/16	1964.2	105.8	8	6.30	58	6/6/1	Out for group 2 logs & 9⅝ casing	MC 894
6	HTC	J 22	517	8½	10/10/10	2070	304	39	33.17	125	8/4/2	Out for bit change	657 ES
7	HTC	J 33	527	8½	10/10/10	2374	194	32¼	27.67	91	2/3/I	Out at core point	TL 497
7	CHRIST	C 22	4	8.468	13/13/13	2568	6.6	5.48	31	31	0.45	Out due to low coring rates	81E0702
8	HTC	J 22	517	8½	10/10/10	2574.6	132.4	17	13.92	50	3/3/1	Out for group 3 logs	674 ES
8	CHRIST	C 22FD	4	8.468	13/13/13	2707.6	18.4	4¾	4.23	28	0.60	Out to retrieve core No.4	9E0255
9	HTC	J 22	517	8½	10/10/10	2726	32.4	3½	2.92	12.7	1/1/I	Out at core point	663 ES
9RR	CHRIST	RC4	4	8.468	13/13/13	2758.4	18	2¾	16.88*	149*	0.60	Out to retrieve core No.5	W 5994
10	HTC	J 22	517	8½	10/10/10	2776.4	240.6	32½	27.73	101	4/5/2	Out to run logs	KK 401
11	HTC	J22	517	8½	10/10/10	3017	267	34¾	29.28	119	8/8/1/8	Out due to washout.	KK537
12	HTC	J4	216	8½	10/10/10	3284	38	8	7.17	26	4/2/1/8	Out to run logs	RT 745

7520-487 (CL 1153)

*THESE FIGURES ARE ACCUMULATED FROM PREVIOUS RUNS OF THE SAME BIT.

10. MUD INFORMATION SHEETS

DEPTH . . . . . Metres

MUD WEIGHT . . . . . Pounds per gallon

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

PLASTIC VISCOSITY. . . Centipoise

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

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

FILTRATE . . . . . A.P.I. cc

CAKE THICKNESS . . . . Thirty seconds of an inch

SALINITY : Ca/Cl . . . ppm

SOLIDS/SAND/OIL. . . . Percentage

CORE LAB

MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD
WELL BREAM No.5

Sheet No. 1

DEPTH m	385	456	805	805	805	1201	1601
DATE	3/AUG/82	3/AUG/82	4/AUG/82	4/AUG/82	5/AUG/82	6/AUG/82	7/AUG/82
TIME	22:00	24:00	14:00	22:00	24:00	19:00	11:30
WEIGHT	8.6	8.6	8.7	8.6	8.6	8.7	9.0
FUNNEL VISCOSITY	32	36	34	35		35	34
PV/YP			7/8			5/8	5/15
N/K			.55/.48			.47/.7	.32/2.69
GEL: INITIAL/10 MIN			3/4			5/9	9/21
pH			8.5			10.0	9.5
FILTRATE: API/API HTHP			34:-			30:-	n/c
CAKE			2(5)			3	4
SALINITY Cl			16K			16K	18K
SAND			.25			.25	.25
SOLIDS			3			3	4
OIL			0			0	0

REMARKS:

SEA WATER — SEA WATER AND NATIVE SOLIDS ← → — SEA WATER GEL

DEPTH	1877	1964	2064	2070	2070	2070	2053
DATE	8/AUG/82	9/AUG/82	10/AUG/82	11/AUG/82	12/AUG/82	13/AUG/82	14/AUG/82
TIME	13:00	20:00	13:00	22:00	22:00	23:30	23:00
WEIGHT	9.5	9.6	9.5	9.5	9.5	9.6	9.5
FUNNEL VISCOSITY	48	45	45	46	46	56	48
PV/YP	8/17	11/18	12/15	13/16	13/16	12/21	11/18
N/K	.4/2.0			.53/1.04	.53/1.04	.45/2.03	.46/1.61
GEL: INITIAL/10 MIN	5/19	12/31	9/20	9/23	9/23	18/29	13/20
pH	10.0	10.0	10.5	10.5	10.5	10.5	10.5
FILTRATE: API/API HTHP	6.0/15.4	5.4/15.6	7.4/16.8	8/17.2	8/17.2	8.5/18	8.9/19
CAKE	2	2	2	2	2	2	2
SALINITY Cl	18k	18K	17K	18K	18K	18K	18K
SAND	0.25	0.25	0.5	0.25	0.25	0.25	0.25
SOLIDS	5	6	7	8	8	8	8
OIL	0	tr	tr	Tr	Tr	1	1
Nitrates (ppm)	250	220	170	180	180	150	130

REMARKS:

SEAWATER GEL POLYMER →

CORE LAB

MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.

WELL BREAM No.5

Sheet No. 2

DEPTH	2158m	2281m	2375m	2550m	2570m	2662m	2707m
DATE	15AUG'82	16AUG'82	17AUG'82	18AUG'82	19AUG'82	20AUG'82	21AUG'82
TIME	01:30	14:00	18:30	23:00	14:30	23:00	23:00
WEIGHT	9.5	9.5	9.5	9.5	9.5	9.5	9.5
FUNNEL VISCOSITY	39	52	41	43	42	40	44
PV/YP	13/9	10/14	11/16	12/18	12/17	11/17	12/18
N/K	.67/0.34	0.5/1.05	0.49/1.25	0.49/1.46	0.50/1.29	0.48/1.42	0.49/1.46
GEL: INITIAL/10 MIN	5/12	9/16	7/12	6/12	7/13	8/16	7/13
pH	11.5	12	10	10.5	10.3	10.5	10.5
FILTRATE: API/API HTHP	6/15.4	6/11	6/10.5	7.5/12.5	9.6/13	7/13	6.5/13.5
CAKE	2	2	2	2	2	2	2
SALINITY Cl ppm	19k	19k	17k	17k	17k	19k	19k
SAND	0.5	0.5	0.25	0.25	0.25	0.25	tr
SOLIDS	9	9	8	8	8	8	8
OIL	Tr	0	0	0	0	0	0
Nitrates mg/l	140	160	100	130	100	100	100

REMARKS:

DEPTH	2707m	2707m	2707m	2735m	2761m	2967m	3017m
DATE	22AUG'82	23AUG'82	24AUG'82	25AUG'82	26AUG'82	27AUG'82	28AUG'82
TIME	02:45	08:45	11:00	23:00	12:00	22:45	23:00
WEIGHT	9.6	9.6	9.6	9.5	9.5	9.3+	9.4
FUNNEL VISCOSITY	48	52	44	46	47	53	54
PV/YP	11/14	13/18	13/17	12/20	13/16	11/15	11/15
N/K	.53/.94	.5/1.33	.52/1.18	.46/1.83	.53/1.04	.51/1.09	.51/1.09
GEL: INITIAL/10 MIN	9/18	5/11	7/11	8/16	6/12	5/10	3/11
pH	10.5	10.5	10.5	11.5	10.5	10.8	10.4
FILTRATE: API/API HTHP	6.5/14	6.2/15.4	6/15.2	5.2/15	6/15	5.2/14	5.2/14.2
CAKE	2	2	2	2	2	2	2
SALINITY Cl ppm	19k	19.5k	19.5k	20k	20u	17k	17k
SAND	Tr	0.25	Tr	Tr	Tr	0.25	Tr
SOLIDS	8	8	8	8	8	8	8
OIL	0	0	0	0	0	0	0
Nitrates mg/l	110	100	110	110	100	90	80

REMARKS:

CORE LAB

MUD INFORMATION SHEET

COMPANY ESSO AUSTRALIA LTD.
WELL BREAM No.5

Sheet No. 3

DEPTH	3017	3017	3017	3017	3020	3200	3238
DATE	29 AUG'82	30 AUG'82	31 AUG'82	1 SEP' 82	2 SEP' 82	3 SEP' 82	4 SEP' 82
TIME	09:15	21:00	22:00	15:00	22:50	22:00	04:30
WEIGHT	9.6	9.5	9.6	9.5+	9.5	9.3	9.3+
FUNNEL VISCOSITY	59	60	55	56	51	48	46
PV/YP	11/16	12/17	12/17	12/16	12/14	13/14	12/14
N/K	0.49/1.25	0.5/1.29	0.5/1.29	0.51/1/13	0.55/0.86	0.57/0.79	0.55/0.86
GEL: INITIAL/10 MIN	4/13	3/10	3/10	3/10	3/8	3/11	3/11
pH	10.6	10.2	10.6	10.8	10.2	10.8	10.3
FILTRATE: API/API HTHP	4.8/11.8	4.8/12	5/12	5.4/12	5.4/12.2	5.6/13.8	5.2/13.4
CAKE	2	2	2	2	2	2	2
SALINITY (Cl)ppm	17K	17K	17K	16.4K	16.5K	17K	17.5k
SAND	Tr	Tr	Tr	Tr	Tr	0.25	0.25
SOLIDS	8	8	8	8	8	9	8
OIL	0	0	0	0	0	0	0
NITRATES mg/l)	90	80	80	100	120	200	200

REMARKS:

SUITE 4 SCHLUMBERGER LOGS ←→

DRILLED 8½" HOLE ←→

DEPTH	3312	3322	3322	3322	3322	3322	190
DATE	5 SEP'82	6 SEP'82	7 SEP'82	8 SEP'82	9 SEP'82	10 SEP'82	11/SEP82
TIME	15:00	21:00	07:00	22:30	15:30	22:00	23:00
WEIGHT	9.3+	9.5	9.5	9.6	9.6	9.3+	9.2
FUNNEL VISCOSITY	50	60	66	60	54	39	34
PV/YP	12/17	13/18	13/18	13/18	13/14	13/13	12/13
N/K	0.5/1.29	0.5/1.33	0.5/1.33	0.5/1.33	0.57/0.79	0.58/0.68	0.57/0.74
GEL: INITIAL/10 MIN	3/12	4/18	4/15	4/13	3/10	4/11	3/7
pH	10.6	10.8	10.5	10.3	10.3	11.5	11.5
FILTRATE: API/API HTHP	5.2/13.8	5.2/13.8	5.2/14	5.2/14	5.2/14.4	10.8/-	12/-
CAKE	2	2	2	2	2	2	3
SALINITY (Cl) ppm	14K	14K	14K	14K	14K	14.5K	14K
SAND	0.25	Tr	Tr	Tr	Tr	0.5	0.5
SOLIDS	7	7	8	8	8	9	9
OIL	0	0	0	0	0	0	0
NITRATES (mg/l)	200	220	200	200	180	200	N/A

REMARKS:

↑ T.D'ed ↓

SUITE 5 SCHLUMBERGER LOGS ←→

PLUG AND ABANDON ←→

11. LITHOLOGICAL SUMMARY

LITHOLOGICAL SUMMARY.

The primary objective of Bream 5 was to evaluate the reservoir sandstone of the LATROBE Formation.It was also hoped to explore for other deep hydrocarbon shows between the base of the shallow reservoir oil column and TD.The possibilities of over pressure in the lower areas of the Bream field were also to be examined. (NB. The formation tops are open to speculation and are based entirely on examination of cuttings.All depths from RKB.)

GIPPSLAND LIMESTONE. (220m-1180m)

The Gippsland Limestone consisted of a white to gray,detrital, very fine to coarse grained,fossiliferous limestone.This graded from a loose calcarenite to a more compact calcilutite with depth. Fossils encountered were foraminifera,bryozoa,sponge fragments and shell fragments.These were more abundant higher up in the formation.

LAKES ENTRANCE FORMATION. (1180m-1900m)

This formation consisted entirely of siltstone.This was light gray, fim to hard,calcareous,and varied between blocky and sub fissile in structure.There was a lot of gumbo (clay material) encountered throughout the formation.Around 1500metres a very hard,red brown volcanic material was observed.Occasional fossils and shell fragments appeared in the samples from varying depths.

LATROBE FORMATION. (1900m-TD)

This formation consisted of interbedded sandstones,siltstones,shales and coals.The siltstone was light gray to dark gray,mainly firm to hard non-calcareous,often carbonaceous with common occurrence of pyrite. Shale was darker in colour being dark gray to black,fissile,often very carbonaceous and hard.Sandstones were quartz and quartzose of varying grain size,shape and sort.The cement varied from a siliceous cement to a dolomitic cement in sections.There were 5 cores cut through the formation,the details of which may be found at the end of the grapholog contained in this report.There were 27 RFT's run,the details of which may also be found in this report.The gas encountered in this formation remained fairly low (ie.mostly under 50U),however C_1-C_6 makeup was encountered often.A 400U peak was observed whilst circulating at TD. Gas details may also be found in the grapholog.

12. R.F.T. DATA SHEETS

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

COMPANY ESSO AUSTRALIA LTD. WELL BREAM No. 5

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

	CHAMBER No.	1.	2.
	CHAMBER CAPACITY (gal)	6	2 3/4
	CHOKE SIZE (sq in)	.030	.020
	SEAT No.	15	15
	DEPTH(M) (frm.RKB)	1937	1937
A	RECORDING TIMES	HH:MM:SS	HH:MM:SS
	TOOL SET	9 :45 :00	: :
	PRETEST OPEN	9 :48 :47	: :
	TIME OPEN	:5 :	: :
	CHAMBER OPEN	9 :53 :33	10 :33 :51
	CHAMBER FULL	: :	: :
	FILL TIME	:37:	:122
	START BUILD UP	10 :32 :30	10 :55 :30
	FINISH BUILD UP	: :	: :
	BUILD UP TIME	: :	: :
	SEAL CHAMBER	10 :32 :30	10 :55 :30
	TOOL RETRACT	: :	10 :57 :03
	TOTAL TIME	: :	: :
B	SAMPLE PRESSURES	995.71	752.92
	IHP (psi)	3229.12	-
	ISIP (psi)	2751.48	-
	IFP (psi)	509.19	766.19
	FFP (psi)	1504.90	1519.11
	FSIP (psi)	2713.04	2717.68
	FHP (psi)		3240.46
	TEMP.CORR.ifapp.(psi)		
	COMMENTS		
C	TEMPERATURE		
	DEPTH TOOL REACHED( )	1966	1966
	MAX.REC.TEMP. (°F)	171.6	171.6
	TIME CIRC.STOPPED	22 :30 /AUG	22 :30 /AUG
	TIME SINCE CIRC.	11 :00	12 :00
D	SAMPLE RECOVERY		
	SURFACE PRESSURE (psi)	1000	1000
	VOL.GAS (Cuft)	50.2	27.6
	VOL.OIL ( )		
	VOL.WATER (cc)	6050	1250
	VOL.FILTRATE ( )		
	VOL.CONDENSATE (cc)	100	50
	VOL.OTHER ( )		
E	SAMPLE PROPERTIES		
	(a) GASCOMP C1 (ppm)	118,118	220,488
	C2 (ppm)	23,679	18,391
	C3 (ppm)	7,992	6,543
	C4 (ppm)	11,786	10,097
	C5 (ppm)	4,885	3,942
	C6+ (ppm)	3,494	3,494
	CO2 (%)	0	0
	H2S (ppm)	0	0
	(b) CONDENSATE		
	DENSITY: HYDOMETER	@ °f	
	(API) REFRACTOMETER	50 @60°f	50 @60°f
	COLOUR	med bn-gy	med bn-gy
	FLUORESCENCE	brt wh-blue	brt wh-bl
	G.O.R. (cf/STB)	95850	105397

		CHAMB. 1.	CHAMB. 2.
	OIL PROPERTIES CONT:		
	ODOUR		
	POUR POINT (°)		
	COMMENTS		
	(c) WATER PROPERTIES:		
	RESISTIVITY (Ω m)	0.28@69°f	0.275@69°f
	Cl (frm.resis.) (ppm)	11.0 k	11.0 k
	Cl (frm.titrat) (ppm)	15.0 k	15.0 k
	NO_3 (ppm)	50	80
	pH	8.5	8.5
	OTHER TRACERS Ca (ppm)	240	520
	DENSITY		
	FLUORESCENCE		
	COLOUR		
	COMMENTS		
	(d) OTHER SAMPLE PROPERTIES		
F	MUD PROPERTIES:		
	TYPE	S/W GEL	S/W GEL
	RESISTIVITY ( )	@ °	@ °
	Cl (frm.resis.)( )		
	Cl (frm.titrat)( )		
	NO_3 Drld/1st.circ)	/	/
	pH		
	OTHER TRACERS ( )		
	DENSITY ( )		
G	GENRAL COMMENTS		

RFT No. 1 was a pretest run only and the tool contained no sample chambers. Insufficient condensate for density. Measurements made using the hydrometre.

NOTE:-Gas volume does not take liquid displacement into account, unless noted.
-Take mud nitrates when tested zone was drilled and last circulation.
-Unless otherwise noted, pressures are temperature corrected.
-Chamber 1 is the first chamber to be opened.

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

COMPANY ESSO AUSTRALIA LTD. WELL BREAM No. 5

RUN No. RFT No. 3 PRESSURE GAUGE TYPE H.P.

		1.	2.
	CHAMBER No.	1.	2.
	CHAMBER CAPACITY (gal)	6	1
	CHOKE SIZE (sq in)	.030	.020
	SEAT No.	16	16
	DEPTH(m) (frm.RKB)	1940	1940
A.	RECORDING TIMES	HH:MM:SS	HH:MM:SS
	TOOL SET	15:31:34	15:47:48
	PRETEST OPEN	: :	: :
	TIME OPEN	: :	: :
	CHAMBER OPEN	15:36:05	15:48:20
	CHAMBER FULL	15:43:00	15:51:00
	FILL TIME	:07:00	:02:40
	START BUILD UP	15:43:00	15:51:00
	FINISH BUILD UP	15:47:00	15:54:15
	BUILD UP TIME	:04:00	:03:15
	SEAL CHAMBER	15:47:48	15:54:15
	TOOL RETRACT	: :	15:55:15
	TOTAL TIME	: :	:23:41
B.	SAMPLE PRESSURES		
	IHP (PSI)	3267	-
	ISIP (PSI)	2752.3	-
	IFP (PSI)	2220	2582
	FFP (PSI)	2250	2590
	FSIP (PSI)	2751.6	2751.6
	FHP (PSI)		3249
	TEMP.CORR.ifapp.( )		
	COMMENTS		
C.	TEMPERATURE		
	DEPTH TOOL REACHED( )	1966	1966
	MAX.REC.TEMP. (°F)	180.2	180.2
	TIME CIRC.STOPPED	2230 11 AUG	2230 11 AUG
	TIME SINCE CIRC.	17:01	17:17
D.	SAMPLE RECOVERY		
	SURFACE PRESSURE (PSI)	1460	
	VOL.GAS (cuft)	69.2	
	VOL.OIL (cc)	14000	
	VOL.WATER ( )		SAMPLE
	VOL.FILTRATE ( )		
	VOL.CONDENSATE ( )		
	VOL.OTHER MUD (cc)	500	
E.	SAMPLE PROPERTIES		
	(a)GASCOMP C1 (ppm)	206,707	
	C2 (ppm)	31,034	PRESERVED
	C3 (ppm)	13,086	
	C4 (ppm)	16,407	
	C5 (ppm)	4,957	
	C6+ (ppm)	3,494	
	CO2 (%)	2	
	H2S (ppm)	20	
	(b)OIL PROPERTIES		
	DENSITY: HYDOMETER	46.2 @ 60°F	@ °F
	(API) REFRACTOMETER	38 @ 60°F	@ °F
	COLOUR	bn-blk	
	FLUORESCENCE	brt wh	
	G.O.R. (cf/STB)	944	

		CHAMB. 1.	CHAMB. 2.
	OIL PROPERTIES CONT:		
	ODOUR		
	POUR POINT (°C)	8	
	COMMENTS		
	(c)WATER PROPERTIES:		
	RESISTIVITY (Ω m)	@ °	@ °
	Cl (frm.resis.)( )		
	Cl (frm.titrat)(ppm)	1000	
	NO_3 (ppm)	100	
	pH	8.0	
	OTHER TRACERS Ca^{++} (ppm)	380	
	DENSITY		
	FLUORESCENCE		
	COLOUR		
	COMMENTS		
	(d) OTHER SAMPLE PROPERTIES		
F.	MUD PROPERTIES:		
	TYPE	S/W GEL	S/W GEL
	RESISTIVITY ( )	@ °	@ °
	Cl (frm.resis.)( )		
	Cl (frm.titrat)( )		
	NO_3 Drld/1st.circ)	/	/
	pH		
	OTHER TRACERS ( )		
	DENSITY ( )		
G.	GENRAL COMMENTS		The one gallon chamber was preserved.

NOTE:-Gas volume does not take liquid displacement into account, unless noted.
-Take mud nitrates when tested zone was drilled and last circulation.
-Unless otherwise noted, pressures are temperature corrected.
-Chamber 1 is the first chamber to be opened.

SHEET No. 3

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

COMPANY ESSO AUSTRALIA LTD. WELL BREAM No. 5

RUN No. RFT No. 4 PRESSURE GAUGE TYPE H.P.

		CHAMBER No.	1.	2.
		CHAMBER CAPACITY (gal)	6	2¾
		CHOKE SIZE (sq in)	.030	.020
		SEAT No.	18	18
		DEPTH(m) (frm.RKB)	1951.3	1951.3
A		RECORDING TIMES	HH:MM:SS	HH:MM:SS
		TOOL SET	1865 :	: :
		PRETEST OPEN	1900 :	: :
		TIME OPEN	05 :	: :
		CHAMBER OPEN	1905 : 19	19: 57: 20
		CHAMBER FULL	1965 :	20: 20:
		FILL TIME	: :	: :
		START BUILD UP	1955 :	20: 20:
		FINISH BUILD UP	: :	NOT:
		BUILD UP TIME	: :	FULL
		SEAL CHAMBER	1967 : 00	20: 20: 30
		TOOL RETRACT	: :	20: 21: 00
		TOTAL TIME	: :	: :
B		SAMPLE PRESSURES		
		IHP (PSI)	3282.44	
		ISIP (PSI)	2766.62	
		IFP (PSI)	35.68	269.23
		FFP (PSI)	425	388.11
		FSIP ( )	N/A	N/A
		FHP ( )	Didn't wait for a	
		TEMP.CORR.ifapp.( )	buildup.	
		COMMENTS		
C		TEMPERATURE		
		DEPTH TOOL REACHED( )	1966	1966
		MAX.REC.TEMP. (°F)	184.6	184.6
		TIME CIRC.STOPPED	2230 11 AUG	2230 11 AUG
		TIME SINCE CIRC.	20: 25	21: 30
D		SAMPLE RECOVERY		
		SURFACE PRESSURE (PSI)	300	250
		VOL.GAS (cuft)	8.2	4.8
		VOL.OIL (cc)	2500	
		VOL.WATER ( )		
		DIRTY FILTRATE (cc)	6000	
		OIL/EMUL/FILTRATE (cc)		2500
		EMULSION/FILTRATE (cc)	1500	
E		SAMPLE PROPERTIES		
	(a) GASCOMP	C1 (ppm)	354,355	275,610
		C2 (ppm)	68,966	68,966
		C3 (ppm)	52,347	40,906
		C4 (ppm)	16,096	15,145
		C5 (ppm)	15,913	13,942
		C6+ (ppm)	6,989	6,989
		CO2 (%)	2.2	2.7
		H2S (ppm)	20	25
	(b) OIL PROPERTIES			
	DENSITY: HYDOMETER		36.2 @ 60 °F	36.2 @ 60 °F
	(API) REFRACTOMETER		@ °	@ °
	COLOUR		dk brown	dk brown
	FLUORESCENCE		brt mky-wh	brt mky-wh
	G.O.R. (cf/STB)		626	-

		CHAMB. 1.	CHAMB. 2.
	OIL PROPERTIES CONT:		
	ODOUR		
	POUR POINT (°C)	7	5
	COMMENTS		
	(c) WATER PROPERTIES:		
	RESISTIVITY (Ω m)	@ °	@ °
	Cl (frm.resis.)( )		
	Cl (frm.titrat)(ppm)	15K	
	NO_3 ( )	40	
	pH	7.5	
	OTHER TRACERS Ca^{++} (ppm)	400	
	DENSITY		
	FLUORESCENCE		
	COLOUR		
	COMMENTS		
	(d) OTHER SAMPLE PROPERTIES		
F	MUD PROPERTIES:		
	TYPE		
	RESISTIVITY ( )	@ °	@ °
	Cl (frm.resis.)( )		
	Cl (frm.titrat)( )		
	NO_3 Drld/1st.circ)	/	/
	pH		
	OTHER TRACERS ( )		
	DENSITY ( )		
G	GENRAL COMMENTS		

Chamber No.1 contained oil, dirty filtrate, and emulsion/filtrate.

Chamber No.2 contained clays suspended in oil that would not settle out, unlike Chamber No.1.

NOTE:-Gas volume does not take liquid displacement into account, unless noted
-Take mud nitrates when tested zone was drilled and last circulation.
-Unless otherwise noted, pressures are temperature corrected.
-Chamber 1 is the first chamber to be opened.

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

COMPANY ESSO AUSTRALIA LTD. WELL BREAM No. 5

RUN No. RFT No. 5 PRESSURE GAUGE TYPE H.P.

	CHAMBER No.	1.	2.
	CHAMBER CAPACITY (gal)	6	2¾
	CHOKE SIZE (sq in)	.030	.020
	SEAT No.	24	24
	DEPTH(m) (frm.RKB)	1962	1962
A.	RECORDING TIMES	HH:MM:SS	HH:MM:SS
	TOOL SET	23:46:00	: :
	PRETEST OPEN	23:46:00	: :
	TIME OPEN	:05:10	: :
	CHAMBER OPEN	23:51:10	00:08:20
	CHAMBER FULL	00:08:22	00:19:35
	FILL TIME	:17:10	:11:15
	START BUILD UP	00:07:12	00:13:40
	FINISH BUILD UP	00:08:20	00:19:35
	BUILD UP TIME	:01:08	:05:55
	SEAL CHAMBER	00:08:20	00:19:35
	TOOL RETRACT	Didn't:	00:21:04
	TOTAL TIME	:22:20	:12:44
B.	SAMPLE PRESSURES		
	IHP (PSI)	3304	
	ISIP (PSI)	2771.9	
	IFP (PSI)	1050	1461
	FFP (PSI)	2769.67	2769.23
	FSIP (PSI)	2770.12	2769.30
	FHP (PSI)		3274
	TEMP.CORR.ifapp.( )		
	COMMENTS		
C.	TEMPERATURE		
	DEPTH TOOL REACHED(m)	1966	1966
	MAX.REC.TEMP. (°F)	184.7	193.0
	TIME CIRC.STOPPED	22:30 11/AUG	22:30 11/AUG
	TIME SINCE CIRC.	25:16	25:38
D	SAMPLE RECOVERY		
	SURFACE PRESSURE (PSI)	210	300
	VOL.GAS (cuft)	0.7	0.5
	VOL.OIL ( )		
	VOL.WATER/FILT. (cc)	21500	9300
	VOL.FILTRATE ( )		
	VOL.CONDENSATE ( )		
	VOL.OTHER ( )		
E	SAMPLE PROPERTIES		
	(a)GASCOMP C1 (ppm)	409,477	362,229
	C2 (ppm)	55,173	24,138
	C3 (ppm)	34,897	13,904
	C4 (ppm)	7,572	2,840
	C5 (ppm)	985	246
	C6+ (ppm)	123	82
	CO2 (%)	2	1.8
	H2S (ppm)	0	22
	(b)OIL PROPERTIES		
	DENSITY: HYDOMETER	@ °	@ °
	( ) REFRACTOMETER	@ °	@ °
	COLOUR		
	FLUORESCENCE		
	G.O.R. ( )		

		CHAMB. 1.	CHAMB. 2.
	OIL PROPERTIES CONT:		
	ODOUR		
	POUR POINT (°)		
	COMMENTS		
	(c)WATER PROPERTIES:		
	RESISTIVITY (Ω m)	.26@67°F	.26@66°F
	Cl (frm.resis.)( )	27K	27K
	Cl (frm.titrat)( )		
	NO_3 ( )		
	pH		
	OTHER TRACERS ( )		
	DENSITY		
	FLUORESCENCE		
	COLOUR		
	COMMENTS		
	(d) OTHER SAMPLE PROPERTIES		
F.	MUD PROPERTIES:		
	TYPE		
	RESISTIVITY ( )	@ °	@ °
	Cl (frm.resis.)( )		
	Cl (frm.titrat)( )		
	NO_3 Drld/1st.circ)	/	/
	pH		
	OTHER TRACERS ( )		
	DENSITY ( )		
G.	GENRAL COMMENTS		

NOTE:-Gas volume does not take liquid displacement into account, unless noted.
-Take mud nitrates when tested zone was drilled and last circulation.
-Unless otherwise noted, pressures are temperature corrected.
-Chamber 1 is the first chamber to be opened.

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 5

COMPANY : ESSO AUSTRALIA WELL : BREAM.5

RUN No. : 7 PRESSURE GAUGE TYPE : H.P.

		1	2
CHAMBER No.		1	2
CHAMBER CAPACITY	(gall)	6	1
CHOKE SIZE	(sq in)	0.03	0.02
SEAT No.		52	52
DEPTH (m) (from RKB)		2662	2662
A RECORDING TIMES		HH:MM	HH:MM
TOOL SET		19 : 46	:
PRETEST OPEN		19 : 46	:
TIME OPEN		: 2	:
CHAMBER OPEN		19 : 48	20 : 19
CHAMBER FULL		20 : 01	20 : 23
FILL TIME		: 3	: 4
START BUILD UP		20 : 01	20 : 23
FINISH BUILD UP		20 : 17	20 : 30
BUILD UP TIME		: 16	: 7
SEAL CHAMBER		20 : 17	20 : 30
TOOL RETRACT		-- : --	20 : 34
TOTAL TIME		:31	:31
B SAMPLE PRESSURES			
IHP	(psig)	4440.8	4440.8
ISIP	(psia)	3799.96	3799.96
IFP	(psia)	650	2546.89
FFP	(psia)	3783	3790
FSIP	(psia)	3785	3795.0
FHP	(psig)		4434.5
TEMP. CORR.	(°C)		
COMMENTS			
C TEMPERATURE			
DEPTH TOOL REACHED	(m)	2680	2680
MAX. REC. TEMP.	(°C)	252	252
TIME CIRC. STOPPED		06:45	22/AUG
TIME SINCE CIRC.		13:01	13:34
D SAMPLE RECOVERY			
SURFACE PRESSURE	(psig)	1675	1900
VOL. GAS	(ft^3)	77	20.3
VOL. OIL	(ml)		
VOL. WATER	(ml)		
VOL. FILTRATE	(ml)	8500	404
VOL. CONDENSATE	(ml)	300	34
VOL. OTHER	( )	tr mud	tr mud
E SAMPLE PROPERTIES			
(a) GAS	c1 (ppm)	226935	235340
	c2 (ppm)	15463	17553
	c3 (ppm)	6723	8504
	c4 (ppm)	2348	2972
	c5 (ppm)	637	978
	c6+ (ppm)	111	325
	CO_2 (%)	5	6
	H_2S (ppm)	10	2
(b) OIL PROPERTIES			
DENSITY:	HYDROMETER		
(API)	REFRACTOMETER	45@60°F	44@60°F
REFRACTIVE INDEX		1.443	1.447
COLOUR		lt brn	med brn
FLUORESCENCE		br blu/wh	
G.O.	(ft3/ml)	41000	95000

	1	2
OIL PROPERTIES CONT.		
ODOUR		
POUR POINT (°C)	NOT OBTAINABLE	
COMMENTS		
(c) WATER PROPERTIES		
RESISTIVITY (Ωm)	.24@19°C	.24@23°C
Cl (frm. resis.) (ppm)	30K	25K
Cl (frm. titrat) (ppm)	16.5K	15K
NO_3 (mg/l)	70	trace
pH	8	8
OTHER TRACERS ( )		
DENSITY (ppg)	8.5+	8.5+
FLUORESCENCE		
COLOUR	ltgybrn	ltgybrn
COMMENTS		
(d) OTHER SAMPLE PROPERTIES		

F MUD PROPERTIES	
TYPE	SW/GEL/POLY
RESISTIVITY (Ωm)	0.28 @ 21°C
Cl (frm.resis.) (ppm)	24K
Cl (frm.titrat) (ppm)	19K
NO_3 Drld/1st.circ (mg/l)	110/110
pH	10.5
OTHER TRACERS ( )	
DENSITY (ppg)	9.6

G GENERAL COMMENTS

NOTES -Gas volume does not take liquid displacement into account, unless noted.
-Take mud nicrates when tested one was drilled last circulation.
-Pressures are temperature corrected

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 6

COMPANY : ESSO AUSTRALIA WELL : BREAM. 5

RUN No. : 9 PRESSURE GAUGE TYPE : HP

		1	2
CHAMBER No.		1	2
CHAMBER CAPACITY	(gall)	6	2¾
CHOKE SIZE	(sq in)	0.03	0.02
SEAT No.		57	57
DEPTH (m) (from RKB)		2692	2692
A RECORDING TIMES		HH:MM	HH:MM
	TOOL SET	15 : 00	:
	PRETEST OPEN	15 : 03	:
	TIME OPEN	: 04	:
	CHAMBER OPEN	15 : 07	15 : 40
	CHAMBER FULL	15 : 37	15 : 58
	FILL TIME	: 30	: 18
	START BUILD UP	15 : 37	15 : 58
	FINISH BUILD UP	:	:
	BUILD UP TIME	:	:
	SEAL CHAMBER	:	15 : 58
	TOOL RETRACT	:	16 : 00
	TOTAL TIME	:	: 20
B SAMPLE PRESSURES			
	IHP (psig)	4495.8	
	ISIP (psia)	3804.0	3804.0
	IFP (psia)	76.5	1135.0
	FFP (psia)	3788.0	3785.2
	FSIP (psia)	3792.0	3791.7
	FHP (psig)	4476.6	4476.7
	TEMP. CORR. (°)		
	COMMENTS		
C TEMPERATURE			
	DEPTH TOOL REACHED(m)	2692	2692
	MAX.REC.TEMP.(°C)	117°C	117°C
	TIME CIRC. STOPPED	8.45	8.45
	TIME SINCE CIRC.	6.22	6.55
D SAMPLE RECOVERY			
	SURFACE PRESSURE(psig)	1500	1450
	VOL. GAS (ft^3)	57.7	30.3
	VOL. OIL (ml)	19.0	5.6
	VOL. WATER (ml)		
	VOL. FILTRATE (ml)		
	VOL. CONDENSATE (ml)		
	VOL. OTHER ( )		
E SAMPLE PROPERTIES			
(a) GAS CHROMATOGRAPH	c1 (ppm)	798474	819487
	c2 (ppm)	54330	50150
	c3 (ppm)	27686	25709
	c4 (ppm)	7430	6538
	c5 (ppm)	1933	1819
	c6+ (ppm)	464	371
	CO_2 (%)	8	7.5
	H_2S (ppm)	0	0
(b)OIL PROPERTIES			
DENSITY: (API)	HYDROMETER	less39°	39.5°@73°F
	REFRACTOMETER	39.8@60°F	40.@60°F
REFRACTIVE INDEX		1.4584	1.457
COLOUR		DK BRN	DK BRN
FLUORESCENCE		MILKY	MILKY
G.O.R. (ft3/ml)		483	860

		1	2
OIL PROPERTIES CONT.			
	ODOUR	petroliferous	
	POUR POINT (°C)	5	5
	COMMENTS	contained in emulsion.	
(c)WATER PROPERTIES			
	RESISTIVITY (Ω_m)		
	Cl (frm. resis.)(ppm)		
	Cl (frm. titrat)(ppm)		
	NO_3 (mg/l)		
	pH		
	OTHER TRACERS ( )		
	DENSITY (ppg)		
	FLUORESCENCE		
	COLOUR		
	COMMENTS		
(d)OTHER SAMPLE PROPERTIES			
F MUD PROPERTIES		SW/GEL/POLY	SW/GEL/POLY
	TYPE		
	RESISTIVITY (Ω_m)	0.28@21°C	0.28@21°C
	Cl (frm.resis.)(ppm)	24K	24K
	Cl (frm.titrat)(ppm)	19K	19K
	NO_3 Drld/1st.circ(mg/l)	110/110	110/110
	pH	10.5	10.5
	OTHER TRACERS ( )		
	DENSITY (ppg)	9.6	9.6

G GENERAL COMMENTS

RFT 8 consisted of 2 pretests, one of which had seal failure. Sample was not obtained and tool sticking resulted in a wiper trip.

NOTE: -Gas volume does not take liquid displacement into account, unless noted.
-Take mud nitrates wher tested zone was drilled and last circulation.
-Pressures are temperature corrected

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 7

COMPANY : ESSO AUSTRALIA WELL : BREAM.5

RUN No. : 10 PRESSURE GAUGE TYPE : H.P.

		1	2
CHAMBER No.		1	2
CHAMBER CAPACITY (gall)		6	2¾
CHOKE SIZE (sq in)		0.30	0.20
SEAT No.		58	58
DEPTH (m) (from RKB)		2670	2670
A RECORDING TIMES		HH:MM	HH:MM
	TOOL SET	20:47	:
	PRETEST OPEN	20:47	:
	TIME OPEN	:8	:
	CHAMBER OPEN	20:55	21:17
	CHAMBER FULL	21:02	21:21
	FILL TIME	:7	:4
	START BUILD UP	21:02	21:21
	FINISH BUILD UP	21:11	21:27
	BUILD UP TIME	:9	:6
	SEAL CHAMBER	21:15	21:27
	TOOL RETRACT	:	21:27
	TOTAL TIME	: 28	:10
B SAMPLE PRESSURES			
	IHP (psig)	4459.0	
	ISIP (psia)	3810.4	3800.3
	IFP (psia)	102.5	151.0
	FFP (psia)	3796.7	3789.3
	FSIP (psia)	3800.3	3794.8
	FHP (psig)	4443.0	4443.0
	TEMP. CORR. (°)		
	COMMENTS		
C TEMPERATURE			
	DEPTH TOOL REACHED(m)	2670	2670
	MAX.REC.TEMP.(°C)	253°F	253°F
	TIME CIRC. STOPPED	8.45	8.45
	TIME SINCE CIRC.	12.10	12.32
D SAMPLE RECOVERY			
	SURFACE PRESSURE(psig)	300	300
	VOL. GAS (ft^3)	1.6	0.8
	VOL. OIL (ml)		
	VOL. WATER (ml)		
	VOL. FILTRATE (ml)	20.5	8.6
	VOL. CONDENSATE (ml)		
	VOL. OTHER ( )		
E SAMPLE PROPERTIES			
(a) GAS	c1 (ppm)	483287	451768
	c2 (ppm)	27165	20896
	c3 (ppm)	10877	6922
	c4 (ppm)	2675	2080
	c5 (ppm)	767	568
	c6+ (ppm)	340	371
	CO_2 (%)	7	9
	H_2S (ppm)		
(b)OIL PROPERTIES			
DENSITY: (API)	HYDROMETER		
	REFRACTOMETER	@60oF	@60°F
REFRACTIVE INDEX			
COLOUR			
FLUORESCENCE			
G.O.R. (ft3/ml)			

		1	2
OIL PROPERTIES CONT.			
	ODOUR		
	POUR POINT (°C)		
	COMMENTS		
(c)WATER PROPERTIES			
	RESISTIVITY (Ωm)	.25@16°C	.25@15°C
	Cl (frm. resis.)(ppm)	32K	32K
	Cl (frm. titrat)(ppm)	20K	23K
	NO_3 (mg/l)	30	100
	pH	8.0	7.5
	OTHER TRACERS ( )		
	DENSITY (ppg)	8.4	8.4
	FLUORESCENCE		
	COLOUR		
	COMMENTS		
(d)OTHER SAMPLE PROPERTIES			
F MUD PROPERTIES			
	TYPE	sw/gel/poly, sw/gel/poly	
	RESISTIVITY (Ωm)	.28@21°C	.28@21°C
	Cl (frm.resis.)(ppm)	24K	24K
	Cl (frm.titrat)(ppm)	19.5K	19.5K
	NO_3 Drld/1st.circ(mg/l)	110/110	110/110
	pH	10.5	10.5
	OTHER TRACERS ( )		
	DENSITY (ppg)	9.6	9.6

G GENERAL COMMENTS

NOTE: -Gas volume does not take liquid displacement into account, unless noted.
-Take mud nitrates when tested zone was drilled and last circulation.
-Pressures are temperature corrected

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 8

COMPANY : ESSO AUSTRALIA WELL : BREAM.5

RUN No. : 11 PRESSURE GAUGE TYPE : H.P.

		1	2
CHAMBER No.		1	2
CHAMBER CAPACITY	(gall)	6	2¾
CHOKE SIZE	(sq in)	0.03	0.02
SEAT No.		61	61
DEPTH (m) (from RKB)		2558	2558
A RECORDING TIMES		HH:MM	HH:MM
TOOL SET		1 :18	:
PRETEST OPEN		1 :18	:
TIME OPEN		:6	:
CHAMBER OPEN		1 :24	1 :34
CHAMBER FULL		1 :30	1 :37
FILL TIME		:6	:3
START BUILD UP		1 :30	1 :37
FINISH BUILD UP		1 :33	1 :40
BUILD UP TIME		3 :	3 :
SEAL CHAMBER		1 :33	1 :40
TOOL RETRACT		:	1 :40
TOTAL TIME		:15	:6
B SAMPLE PRESSURES			
IHP	(psig)	4261.2	4261.2
ISIP	(psia)	3633.5	3633.5
IFP	(psia)	1271.4	2308.0
FFP	(psia)	3633.5	3633.8
FSIP	(psia)	3633.8	3634.0
FHP	(psig)	4262.0	4262.0
TEMP. CORR.	(°C)		
COMMENTS			
C TEMPERATURE			
DEPTH TOOL REACHED	(m)	2608	2608
MAX. REC. TEMP.	(°C)	241°F	241°F
TIME CIRC. STOPPED		8.45	8.45
TIME SINCE CIRC.		16.39	16.49
D SAMPLE RECOVERY			
SURFACE PRESSURE	(psig)	1875	1800
VOL. GAS	(ft^3)	125.9	58.4
VOL. OIL	(ml)		
VOL. WATER	(ml)		
VOL. FILTRATE	(ml)	2000	190
VOL. CONDENSATE	(ml)	500	170
VOL. OTHER	( )		
E SAMPLE PROPERTIES			
(a) GAS C1	(ppm)	829992	908789
GAS C2	(ppm)	37090	37090
GAS C3	(ppm)	17303	15452
GAS C4	(ppm)	4086	4160
GAS C5	(ppm)	1358	1136
GAS C6+	(ppm)	650	378
GAS CO_2	(%)	6	7
GAS H_2S	(ppm)	4	3
(b)OIL PROPERTIES			
DENSITY: HYDROMETER (API)		-	-
DENSITY: REFRACTOMETER (API)		43.4@60°F	43 @60°F
REFRACTIVE INDEX		1.4495	1.449
COLOUR		MED YELL	MED YELL
FLUORESCENCE		BRT WH	BRT WH
G.O.R.	(ft3/ml)	40000	54600

		1	2
OIL PROPERTIES CONT.			
ODOUR			
POUR POINT	(°C)	N/A	N/A
COMMENTS			
(c)WATER PROPERTIES			
RESISTIVITY	(Ω m)	.38@16°C	.33@18°C
Cl (frm. resis.)	(ppm)	21K	23K
Cl (frm. titrat)	(ppm)	13K	19K
NO_3	(mg/l)	80	30
pH		7.5	8.5
OTHER TRACERS	( )		
DENSITY	(ppg)	8.5	-
FLUORESCENCE			
COLOUR			
COMMENTS			
(d)OTHER SAMPLE PROPERTIES			
F MUD PROPERTIES			
TYPE		SW/GEL/POLY	
RESISTIVITY	(Ω m)	.28@21°C	.28@21°C
Cl (frm.resis.)	(ppm)	24K	24K
Cl (frm.titrat)	(ppm)	19.5K	19.5K
NO_3 Drld/1st.circ	(mg/l)	100/100	100/100
pH		10.5	10.5
OTHER TRACERS	( )		
DENSITY	(ppg)	9.6	9.6

G GENERAL COMMENTS

INSUFFICIENT CODENSATE IN BOTH CASES TO MEASURE API DENSITY BY HYDROMETER REFRACTOMETER ONLY WAS USED.

NOTE: -Gas volume does not take liquid displacement into account, unless noted.
-Take mud nitrates when tested zone was drilled and last circulation.
-Pressures are temperature corrected

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 9

COMPANY : ESSO AUSTRALIA WELL : BREAM. 5

RUN No. : 12 PRESSURE GAUGE TYPE : H.P.

		1	2
CHAMBER No.		1	2
CHAMBER CAPACITY (gall)		6	2¾
CHOKE SIZE (sq in)		0.03	0.02
SEAT No.		67	67
DEPTH (m) (from RKB)		2495.5	2495.5
A RECORDING TIMES		HH:MM	HH:MM
	TOOL SET	6 :30	:
	PRETEST OPEN	6 :3 1	:
	TIME OPEN	:3	:
	CHAMBER OPEN	6 :34	6 :45
	CHAMBER FULL	6 :40	6 :4 8
	FILL TIME	:6	:3
	START BUILD UP	6 :40	6 :49
	FINISH BUILD UP	6 :44	6 :49
	BUILD UP TIME	:4	:1
	SEAL CHAMBER	6 :44	6 :48
	TOOL RETRACT	:	6 :52
	TOTAL TIME	:14	:7
B SAMPLE PRESSURES			
	IHP (psig)	4163.2	4163.2
	ISIP (psia)	3533.8	3533.8
	IFP (psia)	136.9	475.0
	FFP (psia)	2265.0	2598.0
	FSIP (psia)	3584.0	3533.4
	FHP (psig)		4161.7
	TEMP. CORR. (°C)		
	COMMENTS		
C TEMPERATURE			
	DEPTH TOOL REACHED(m)	2538	2538
	MAX.REC.TEMP.(°C)	238°F	238°F
	TIME CIRC. STOPPED	8.45	8.45
	TIME SINCE CIRC.	21.45	22.0
D SAMPLE RECOVERY			
	SURFACE PRESSURE(psig)	1100	1300
	VOL. GAS (ft^3)	27	19.3
	VOL. OIL (ml)	1000	7000
	VOL. WATER (ml)		
	VOL. FILTRATE (ml)	6250	1250
	VOL. CONDENSATE (ml)		
	VOL. OTHER ( )	13700	
E SAMPLE PROPERTIES			
(a) GAS COMPOSITION	c1 (ppm)	840665	872018
	c2 (ppm)	42314	85674
	c3 (ppm)	17798	59822
	c4 (ppm)	4458	16049
	c5 (ppm)	1080	4263
	c6+ (ppm)	418	1207
	CO_2 (%)	6.5	7
	H_2S (ppm)	tr	tr
(b)OIL PROPERTIES			
DENSITY: (API)	HYDROMETER	-	-
	REFRACTOMETER	37.8@60°F	35.4@60°F
REFRACTIVE INDEX		1,47..	1.4722
COLOUR		DRK*GRN-BRN	
FLUORESCENCE		MILKY	WHITE
G.O.R. (ft3/ml)		4,293	438

		1	2
OIL PROPERTIES CONT.			
	ODOUR		
	POUR POINT (°C)		
	COMMENTS		
(c)WATER PROPERTIES			
	RESISTIVITY (Ω_m)	.29@19°C	.26@15°C
	Cl (frm. resis.)(ppm)	23K	30K
	Cl (frm. titrat)(ppm)	17K	17K
	NO_3 (mg/l)	60	50
	pH	8.0	8.5
	OTHER TRACERS ( )		
	DENSITY (ppg)	8.4	8.5
	FLUORESCENCE		
	COLOUR		
	COMMENTS		
(d)OTHER SAMPLE PROPERTIES			
F MUD PROPERTIES			
	TYPE	SW/GEL/POLY	
	RESISTIVITY (Ω_m)	.28@21°C	.28@21°C
	Cl (frm.resis.)(ppm)	24K	24K
	Cl (frm.titrat)(ppm)	19.5K	19.5K
	NO_3 Drld/1st.circ(mg/l)	100/100	100/100
	pH	10.5	10.5
	OTHER TRACERS ( )		
	DENSITY (ppg)	9.6	9.6

G GENERAL COMMENTS

OIL EMULSION WAS INADEQUATE FOR API DENSITY TO BE OBSERVED FOR 6 GALLON CHAMBER AND OIL WAS INSUFFICIENT IN 2¾ GALLON CHAMBER.

NOTE: -Gas volume does not take liquid displacement into account, unless noted.
-Take mud nitrates when tested zone was drilled and last circulation.
-Pressures are temperature corrected

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 10

COMPANY : ESSO AUSTRALIA WELL : BREAM No. 5

RUN No. : 13 PRESSURE GAUGE TYPE : H.P .

CHAMBER No.	1	2
CHAMBER CAPACITY (gall)	6	2 3/4
CHOKE SIZE (sq in)	0.03	0.02
SEAT No.	68	69
DEPTH (m) (from RKB)	2477	2488
A RECORDING TIMES	HH:MM	HH:MM
TOOL SET	10 :57	11:37
PRETEST OPEN	10 :57	11:37
TIME OPEN	:10	: 7
CHAMBER OPEN	11 :08	11:45
CHAMBER FULL	11 :25	11:58
FILL TIME	:17	:13
START BUILD UP	11 :25	11:58
FINISH BUILD UP	11 :30	12:10
BUILD UP TIME	:05	:12
SEAL CHAMBER	11 :30	12:10
TOOL RETRACT	11 :32	12:15
TOTAL TIME	:35	:38
B SAMPLE PRESSURES		
IHP (psig)	4139.0	4150.0
ISIP (psia)	3528.7	3524.0
IFP (psia)	300.0	304.0
FFP (psia)	-	-
FSIP (psia)	3526.5	3522.6
FHP (psig)	4130.9	4149.2
TEMP. CORR. (°)		
COMMENTS		
C TEMPERATURE		
DEPTH TOOL REACHED (m)	2488	2488
MAX. REC. TEMP. (°C)	237°F	239°F
TIME CIRC. STOPPED	08.45	08.45
TIME SINCE CIRC.	26:12	26:52
D SAMPLE RECOVERY		
SURFACE PRESSURE (psig)	1800	1770
VOL. GAS (ft^3)	108.6	46.6
VOL. OIL (ml)		
VOL. WATER (ml)		
VOL. FILTRATE (ml)	6350	1750
VOL. CONDENSATE (ml)	60	20
VOL. OTHER ( )		
E SAMPLE PROPERTIES		
(a) GAS c1 (ppm)	853,142	815,247
c2 (ppm)	46,512	55,277
c3 (ppm)	24,047	36,620
c4 (ppm)	7,227	9,959
c5 (ppm)	1,874	2,405
c6+ (ppm)	306	491
CO_2 (%)	3	7
H_2S (ppm)	0	0
(b) OIL PROPERTIES		
DENSITY: HYDROMETER	46.9	44.4
(API) REFRACTOMETER	@ 60 °F	[illegible]
REFRACTIVE INDEX	1.4394	1.446
COLOUR	lt,ora,bn	lt,ora,bn
FLUORESCENCE	blu-wh	blu-wh
G.O.R. (ft3/ml)	287790	370470

	1	2
OIL PROPERTIES CONT.		
ODOUR		
POUR POINT (°C)	-	-
COMMENTS		
(c) WATER PROPERTIES		
RESISTIVITY (Ωm)	0.27@18°C	0.27@17°C
Cl (frm. resis.) (ppm)	26K	26.5K
Cl (frm. titrat) (ppm)	15K	16K
NO_3 (mg/l)	60	60
pH	8.0	8.5
OTHER TRACERS ( )		
DENSITY (ppg)	8.4	8.2
FLUORESCENCE		
COLOUR		
COMMENTS		
(d) OTHER SAMPLE PROPERTIES		
F MUD PROPERTIES		
TYPE	SW/GEL/POLY	
RESISTIVITY (Ωm)	.28@21°C	.28@21°C
Cl (frm.resis.) (ppm)	24K	24K
Cl (frm.titrat) (ppm)	19.5K	19.5K
NO_3 Drld/1st.circ (mg/l)	100/100	100/100
pH	10.5	10.5
OTHER TRACERS ( )		
DENSITY (ppg)	9.6	9.6

G GENERAL COMMENTS

Insufficient condensate for hydrometre density.

NOTE: -Gas volume does not take liquid displacement into account, unless stated.
- Take mud filtrates when tested zone [illegible] and last circulation.
- [illegible] are temperature corrected

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 11

COMPANY : ESSO AUSTRALIA WELL : BREAM.5

RUN No. : 14 PRESSURE GAUGE TYPE : H.P.

		1	2
CHAMBER No.		1	2
CHAMBER CAPACITY	(gall)	6	2¾
CHOKE SIZE	(sq in)	0.03	0.02
SEAT No.		74	76
DEPTH (m) (from RKB)		2568.2	2562
A RECORDING TIMES		HH:MM	HH:MM
	TOOL SET	16 :23	18 :04
	PRETEST OPEN	16 :24	18 :04
	TIME OPEN	1 :	3 :
	CHAMBER OPEN	16 :25	18 :07
	CHAMBER FULL	:	18 :11
	FILL TIME	:	4
	START BUILD UP	:	:
	FINISH BUILD UP	:	:
	BUILD UP TIME	:	:1
	SEAL CHAMBER	17 :15	18 :11
	TOOL RETRACT	17 :15	18 :12
	TOTAL TIME	:52	:8
B SAMPLE PRESSURES			
	IHP (psig)	4272	4256.5
	ISIP (psia)	3642.4	3633.8
	IFP (psia)	52.3	3563
	FFP (psia)	106	3606
	FSIP (psia)	3641.3	3634.5
	FHP (psig)	4272.7	
	TEMP. CORR. (°C)		
	COMMENTS		
C TEMPERATURE			
	DEPTH TOOL REACHED(m)	2568.5	2562
	MAX.REC.TEMP.(°C)	251°F	251°F
	TIME CIRC. STOPPED	8.45	8.45
	TIME SINCE CIRC.	31.38	33.19
D SAMPLE RECOVERY			
	SURFACE PRESSURE(psig)	5	1800
	VOL. GAS (ft^3)	0.2	58
	VOL. OIL (ml)		
	VOL. WATER (ml)		230
	VOL. FILTRATE (ml)	1400	
	VOL. CONDENSATE (ml)		100
	VOL. OTHER ( )		
E SAMPLE PROPERTIES			
(a) GAS CHROMATOGRAPHY	c1 (ppm)	714424	877745
	c2 (ppm)	41797	39676
	c3 (ppm)	27686	21779
	c4 (ppm)	8322	7223
	c5 (ppm)	2501	2590
	c6+ (ppm)	835	987
	CO_2 (%)	3	5
	H_2S (ppm)	0	4
(b)OIL PROPERTIES			
DENSITY: (API)	HYDROMETER	-	-
	REFRACTOMETER	N/A@60oF	43@60°F
REFRACTIVE INDEX			1.448
COLOUR			lt yel brn
FLUORESCENCE			brn-wht
G.O.R. (ft3/ml)			92.220

		1	2
OIL PROPERTIES CONT.			
	ODOUR		
	POUR POINT (°C)		
	COMMENTS		
(c)WATER PROPERTIES			
	RESISTIVITY (Ω_m)	.26@20°C	.39@19.5°C
	Cl (frm. resis.)(ppm)	25K	16.5K
	Cl (frm. titrat)(ppm)	17	19
	NO_3 (mg/l)	80	0
	pH	10.0	8.0
	OTHER TRACERS ( )		
	DENSITY (ppg)	8.3	8.4+
	FLUORESCENCE		
	COLOUR		
	COMMENTS		
(d)OTHER SAMPLE PROPERTIES			
F MUD PROPERTIES			
	TYPE	SW/GEL/POLY	
	RESISTIVITY (Ω_m)	.28@21°C	.28@21°C
	Cl (frm.resis.)(ppm)	24K	24K
	Cl (frm.titrat)(ppm)	19.5K	19.5K
	NO_3 Drld/1st.circ(mg/l)	100/100	100/100
	pH	10.5	10.5
	OTHER TRACERS ( )		
	DENSITY (ppg)	9.6	9.6

G GENERAL COMMENTS

INSUFFICIENT CONDENSATE FOR HYDROMETER TEST, REFRACTIVE INDEX USED INSTEAD.

NOTE: -Gas volume does not take liquid displacement into account, unless noted.
-Take mud nitrates when tested zone was drilled and last circulation.
-Pressures are temperature corrected

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 12

COMPANY : ESSO AUSTRALIA WELL : BREAM # 5

RUN No. : 16 PRESSURE GAUGE TYPE : H.P.

		1	2
CHAMBER No.		1	2
CHAMBER CAPACITY (gall)		6	2¾
CHOKE SIZE (sq in)		0.03	0.02
SEAT No.		124	125
DEPTH (m) (from RKB)		2984.5	2968
A RECORDING TIMES		HH:MM	HH:MM
	TOOL SET	9 : 25	11 : 05
	PRETEST OPEN	9 : 25	11 : 05
	TIME OPEN	: 05	: 05
	CHAMBER OPEN	9 : 30	11 : 10
	CHAMBER FULL	:	:
	FILL TIME	:	:
	START BUILD UP	:	:
	FINISH BUILD UP	11 : 00	11 : 45
	BUILD UP TIME	:	:
	SEAL CHAMBER	11 : 00	11 : 45
	TOOL RETRACT	:	:
	TOTAL TIME	:	:
B SAMPLE PRESSURES			
	IHP (psig)	4826	4831.6
	ISIP (psia)		4324.5
	IFP (psia)	131.7	74.5
	FFP (psia)		3988
	FSIP (psia)	4237.2	4325.1
	FHP (psig)	4865.1	
	TEMP. CORR. (°C)		
	COMMENTS		
C TEMPERATURE			
	DEPTH TOOL REACHED(m)	2984	2984
	MAX.REC.TEMP.(°C)		
	TIME CIRC. STOPPED		
	TIME SINCE CIRC.		
D SAMPLE RECOVERY			
	SURFACE PRESSURE(psig)	5	1750
	VOL. GAS (ft³)	0.1	26.2
	VOL. OIL (ml)		
	VOL. WATER (ml)		
	VOL. FILTRATE (ml)	3750	5500
	VOL. CONDENSATE (ml)		tr
	VOL. OTHER ( )		
E SAMPLE PROPERTIES			
(a) GAS CHROMATOGRAPHY	c1 (ppm)	-	843125
	c2 (ppm)	-	45308
	c3 (ppm)	-	16717
	c4 (ppm)	-	4715
	c5 (ppm)	-	1278
	c6+ (ppm)	-	289
	CO_2 (%)	-	8
	H_2S (ppm)	-	0
(b)OIL PROPERTIES			
DENSITY: (API)	HYDROMETER		
	REFRACTOMETER	@60oF	41@60°F
REFRACTIVE INDEX			1.4613
COLOUR			yel gold
FLUORESCENCE			blu wh
G.O.R. (ft3/ml)			

		1	2
OIL PROPERTIES CONT.			
	ODOUR		
	POUR POINT (°C)		
	COMMENTS		
(c)WATER PROPERTIES			
	RESISTIVITY (Ω m)	.28@18°C	.27@14°C
	Cl (frm. resis.)(ppm)	27K	31K
	Cl (frm. titrat)(ppm)	14.6K	14.6K
	NO_3 (mg/l)	18	9
	pH	7.5	7.5
	OTHER TRACERS ( )		
	DENSITY (ppg)	8.6	8.6
	FLUORESCENCE	pl gn	pl gn
	COLOUR	med bn	med bn
	COMMENTS		
(d)OTHER SAMPLE PROPERTIES			

F MUD PROPERTIES		
	TYPE	SW/Gel/poly
	RESISTIVITY (Ω m)	.29 @ 23°C
	Cl (frm.resis.)(ppm)	23K
	Cl (frm.titrat)(ppm)	17K
	NO_3 Drld/1st.circ(mg/l)	90/90
	pH	10.3
	OTHER TRACERS ( )	
	DENSITY (ppg)	9.6

G GENERAL COMMENTS

RFT 15 - PRETESTS

NOTE: -Gas volume does not take liquid displacement into account, unless noted.
-Take mud nitrates when tested zone was drilled and last circulation.
-Pressures are temperature corrected

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 13

COMPANY : ESSO AUSTRALIA WELL : BREAM.5

RUN No. : 17 PRESSURE GAUGE TYPE : H.P.

		1	2
CHAMBER No.		1	2
CHAMBER CAPACITY	(gall)	6	2¾
CHOKE SIZE	(sq in)	.03	.02
SEAT No.		126	126
DEPTH (m) (from RKB)		2947.8	2947.8
A RECORDING TIMES		HH:MM	HH:MM
	TOOL SET	15 : 45	:
	PRETEST OPEN	15 : 45	:
	TIME OPEN	: 10	:
	CHAMBER OPEN	15 : 55	16 : 25
	CHAMBER FULL	16 : 08	16 : 30
	FILL TIME	: 13	: 5
	START BUILD UP	16 : 08	16 : 30
	FINISH BUILD UP	16 : 25	16 : 40
	BUILD UP TIME	: 17	: 10
	SEAL CHAMBER	16 : 25	16 : 40
	TOOL RETRACT	:	16 : 50
	TOTAL TIME	: 40	: 25
B SAMPLE PRESSURES			
	IHP (psig)	4807.9	2807.9
	ISIP (psia)	4294.5	4294.5
	IFP (psia)	851.6	451.6
	FFP (psia)	4174.8	4126
	FSIP (psia)		4291
	FHP (psig)		
	TEMP. CORR. (°C)		
	COMMENTS		
C TEMPERATURE			
	DEPTH TOOL REACHED(m)	2948	2948
	MAX.REC.TEMP.(°C)		
	TIME CIRC. STOPPED		
	TIME SINCE CIRC.		
D SAMPLE RECOVERY			
	SURFACE PRESSURE(psig)	1750	1950
	VOL. GAS (ft^3)	86.3	59.5
	VOL. OIL (ml)		
	VOL. WATER (ml)		
	VOL. FILTRATE (ml)	7250	1000
	VOL. CONDENSATE (ml)	20	25
	VOL. OTHER ( )		
E SAMPLE PROPERTIES			
(a) GAS	c1 (ppm)	690341	945561
	c2 (ppm)	38490	52926
	c3 (ppm)	15645	21750
	c4 (ppm)	5175	6210
	c5 (ppm)	1660	1982
	c6+ (ppm)	655	471
	CO_2 (%)	8	7
	H_2S (ppm)	0	0
(b)OIL PROPERTIES			
DENSITY: (API)	HYDROMETER		
	REFRACTOMETER	41@60°F	41@60°F
REFRACTIVE INDEX		1.4564	1.4564
COLOUR		gn yel	gn yel
FLUORESCENCE		blu wh	blu wh
GOR (ft^3/ml)			

		1	2
OIL PROPERTIES CONT.			
	ODOUR		
	POUR POINT (°C)		
	COMMENTS		
(c)WATER PROPERTIES			
	RESISTIVITY (Ω_m)	.29@16°C	.3 @13°C
	Cl (frm. resis.)(ppm)	27K	30K
	Cl (frm. titrat)(ppm)	15K	14.5
	NO_3 (mg/l)	20	12
	pH	7	7
	OTHER TRACERS ( )		
	DENSITY (ppg)	8.6	8.6
	FLUORESCENCE	—	—
	COLOUR	Brn.	Brn.
	COMMENTS		
(d)OTHER SAMPLE PROPERTIES			

F MUD PROPERTIES	
TYPE	SW/GEL./POLY.
RESISTIVITY (Ω_m)	0.29 @ 23°C
Cl (frm.resis.)(ppm)	23K
Cl (frm.titrat)(ppm)	17K
NO_3 Drld/1st.circ(mg/l)	90/90
pH	10.3
OTHER TRACERS ( )	
DENSITY (ppg)	9.6

G GENERAL COMMENTS

REFRACTIVE INDEX: 1.4564

NOTE: -Gas volume does not take liquid displacement into account unless noted.
-Take mud resistivities when tested zone was drilled and last circulation.
-Pressures are temperature corrected.

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 14

COMPANY : ESSO AUSTRALIA WELL : BREAM # 5

RUN No. : 18 PRESSURE GAUGE TYPE : H.P.

		1	2
CHAMBER No.		1	2
CHAMBER CAPACITY (gall)		6	2 3/4
CHOKE SIZE (sq in)		0.03	0.02
SEAT No.		133	
DEPTH (m) (from RKB)		2830.5	
A RECORDING TIMES		HH:MM	HH:MM
	TOOL SET	21: 30	:
	PRETEST OPEN	21: 30	:
	TIME OPEN	: 15	:
	CHAMBER OPEN	21: 45	:
	CHAMBER FULL	:	:
	FILL TIME	:	:
	START BUILD UP	:	:
	FINISH BUILD UP	:	:
	BUILD UP TIME	:	:
	SEAL CHAMBER	21: 50	:
	TOOL RETRACT	22: 20	:
	TOTAL TIME	:	:
B SAMPLE PRESSURES			
	IHP (psig)	4620.3	
	ISIP (psia)	4098.4	
	IFP (psia)	62.1	
	FFP (psia)		
	FSIP (psia)		
	FHP (psig)		
	TEMP. CORR. (^{o})		
	COMMENTS		
C TEMPERATURE			
	DEPTH TOOL REACHED(m)	2830	
	MAX.REC.TEMP.(^{o}C)		
	TIME CIRC. STOPPED		
	TIME SINCE CIRC.		
D SAMPLE RECOVERY			
	SURFACE PRESSURE(psig)	4	
	VOL. GAS (ft^3)	0.37	
	VOL. OIL (ml)		
	VOL. WATER (ml)		
	VOL. FILTRATE (ml)	13500	
	VOL. CONDENSATE (ml)		
	VOL. OTHER ( )		
E SAMPLE PROPERTIES			
(a) GAS CHROMATOGRAPHY	c1 (ppm)		
	c2 (ppm)		
	c3 (ppm)		
	c4 (ppm)	NO GAS	NO GAS
	c5 (ppm)		
	c6+ (ppm)	NO	NO
	CO_2 (%)		
	H_2S (ppm)		
(b)OIL PROPERTIES			
DENSITY: (API)	HYDROMETER		
	REFRACTOMETER	@60oF	@60^{o}F
REFRACTIVE INDEX			
COLOUR			
FLUORESCENCE			
G.O.R. (ft3/ml)			

		1	2
OIL PROPERTIES CONT.			
	ODOUR		
	POUR POINT (^{o}C)		
	COMMENTS		
(c)WATER PROPERTIES			
	RESISTIVITY (Ω_m)	0.26@19^{o}	
	Cl (frm. resis.)(ppm)	26K	
	Cl (frm. titrat)(ppm)	16.5K	
	NO_3 (mg/l)	20	
	pH	8.5	
	OTHER TRACERS ( )		
	DENSITY (ppg)		
	FLUORESCENCE		
	COLOUR		
	COMMENTS		
(d)OTHER SAMPLE PROPERTIES			

F MUD PROPERTIES	
TYPE	SW/GEL/POLYMER
RESISTIVITY (Ω_m)	0.29 @ 23^{o}C
Cl (frm.resis.)(ppm)	23K
Cl (frm.titrat)(ppm)	17K
NO_3 Drld/1st.circ(mg/l)	90/90
pH	10.3
OTHER TRACERS ( )	
DENSITY (ppg)	9.6

G GENERAL COMMENTS

Tool chamber was reopened successively @ 22:00 & 22:10.

NOTE: -Gas volume does not take liquid displacement into account, unless noted.
-Take mud nitrates when tested zone was drilled and last circulation.
-Pressures are temperature corrected

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 15

COMPANY : ESSO AUSTRALIA WELL : BREAM # 5

RUN No. : 19 PRESSURE GAUGE TYPE : H.P.

		1	2
CHAMBER No.		1	2
CHAMBER CAPACITY (gall)		6	2 3/4
CHOKE SIZE (sq in)		0.03	0.02
SEAT No.		136	136
DEPTH (m) (from RKB)		2833.5	2833.5
A RECORDING TIMES		HH:MM	HH:MM
	TOOL SET	12 : 10	:
	PRETEST OPEN	12 : 10	:
	TIME OPEN	: 10	:
	CHAMBER OPEN	12 : 20	15 : 10
	CHAMBER FULL	:	:
	FILL TIME	:	:
	START BUILD UP	:	:
	FINISH BUILD UP	15 : 05	:
	BUILD UP TIME	:	:
	SEAL CHAMBER	15 : 05	15 : 55
	TOOL RETRACT	:	:
	TOTAL TIME	:	:
B SAMPLE PRESSURES			
	IHP (psig)	4634.3	4634.3
	ISIP (psia)	4095.4	409.5
	IFP (psia)	137.7	184
	FFP (psia)	1025.3	1084.7
	FSIP (psia)		
	FHP (psig)		
	TEMP. CORR. (°)		
	COMMENTS		
C TEMPERATURE			
	DEPTH TOOL REACHED(m)	2843	2843
	MAX.REC.TEMP.(°C)		122
	TIME CIRC. STOPPED		
	TIME SINCE CIRC.		
D SAMPLE RECOVERY			
	SURFACE PRESSURE(psig)	475	650
	VOL. GAS (ft^3)	12	16.6
	VOL. OIL (ml)		
	VOL. WATER (ml)		
	VOL. FILTRATE (ml)	12000	1250
	VOL. CONDENSATE (ml)		
	VOL. OTHER ( )		
E SAMPLE PROPERTIES			
(a) GAS	c1 (ppm)	945562	961321
	c2 (ppm)	54531	51323
	c3 (ppm)	22896	20606
	c4 (ppm)	5520	4600
	c5 (ppm)	1322	980
	c6+ (ppm)	290	145
	CO_2 (%)	.7	7
	H_2S (ppm)	0	0
(b)OIL PROPERTIES			
DENSITY: (API)	HYDROMETER		
	REFRACTOMETER	@60°F	@60°F
REFRACTIVE INDEX			
COLOUR			
FLUORESCENCE			
G.O.R. (ft3/ml)			

		1	2
OIL PROPERTIES CONT.			
	ODOUR		
	POUR POINT (°C)		
	COMMENTS		
(c)WATER PROPERTIES			
	RESISTIVITY (Ω_m)	0.28@19°	0.29@14°
	Cl (frm. resis.)(ppm)	26K	29K
	Cl (frm. titrat)(ppm)	15K	15K
	NO_3 (mg/l)	16	16
	pH	8.0	7.5
	OTHER TRACERS ( )		
	DENSITY (ppg)	8.4	8.4
	FLUORESCENCE		
	COLOUR		
	COMMENTS		
(d)OTHER SAMPLE PROPERTIES			

F MUD PROPERTIES		
	TYPE	SW/GEL/POLYMER
	RESISTIVITY (Ω m)	0.29 @ 23°C
	Cl (frm.resis.)(ppm)	23K
	Cl (frm.titrat)(ppm)	17K
	NO_3 Drld/1st.circ(mg/l)	90/90
	pH	10.3
	OTHER TRACERS ( )	
	DENSITY (ppg)	9.6

G GENERAL COMMENTS

NOTE: -Gas volume does not take liquid displacement into account, unless noted.
-Take mud nitrates when tested zone was drilled and last circulation.
-Pressures are temperature corrected

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 16

COMPANY : ESSO AUSTRALIA WELL : BREAM # 5

RUN No. : 20 PRESSURE GAUGE TYPE : H.P.

		1	2
CHAMBER No.		1	2
CHAMBER CAPACITY (gall)		6	2 3/4
CHOKE SIZE (sq in)		0.03	0.02
SEAT No.		137	137
DEPTH (m) (from RKB)		2701.5	2701.5
A RECORDING TIMES		HH:MM	HH:MM
	TOOL SET	19 : 45	:
	PRETEST OPEN	19 : 45	:
	TIME OPEN	5 : 00	:
	CHAMBER OPEN	19 : 50	20 : 15
	CHAMBER FULL	:	:
	FILL TIME	:	:
	START BUILD UP	:	:
	FINISH BUILD UP	20 : 15	21 : 00
	BUILD UP TIME	:	:
	SEAL CHAMBER	20 : 14	21 : 00
	TOOL RETRACT	:	:
	TOTAL TIME	:	:
B SAMPLE PRESSURES			
	IHP (psig)	4424.9	4424.9
	ISIP (psia)	3816.2	3816.2
	IFP (psia)	65	42
	FFP (psia)	357	3806
	FSIP (psia)		3811.8
	FHP (psig)	4417	4417
	TEMP. CORR. (°C)		
	COMMENTS		
C TEMPERATURE			
	DEPTH TOOL REACHED(m)	2701.5	2701.5
	MAX. REC. TEMP. (°C)		
	TIME CIRC. STOPPED		
	TIME SINCE CIRC.		
D SAMPLE RECOVERY			
	SURFACE PRESSURE(psig)	0	0
	VOL. GAS (ft3)		
	VOL. OIL (ml)		
	VOL. WATER (ml)		
	VOL. FILTRATE (ml)	6500	9500
	VOL. CONDENSATE (ml)		
	VOL. OTHER ( )		
E SAMPLE PROPERTIES			
(a) GAS CHROMATOGRAPHY	c1 (ppm)		
	c2 (ppm)		
	c3 (ppm)		
	c4 (ppm)		
	c5 (ppm)	NO GAS	NO GAS
	c6+ (ppm)		
	CO_2 (%)		
	H_2S (ppm)		
(b) OIL PROPERTIES			
DENSITY: (API)	HYDROMETER		
	REFRACTOMETER	@60°F	@60°F
REFRACTIVE INDEX			
COLOUR			
FLUORESCENCE			
G.O.R. (ft3/ml)			

	1	2
OIL PROPERTIES CONT.		
ODOUR		
POUR POINT (°C)		
COMMENTS		
(c) WATER PROPERTIES		
RESISTIVITY (Ω_m)	0.27@19°	0.28@13°
Cl (frm. resis.)(ppm)	26K	29K
Cl (frm. titrat)(ppm)	15K	15K
NO_3 (mg/l)	22	20
pH	10.5	9.0
OTHER TRACERS ( )		
DENSITY (ppg)	8.5	8.4
FLUORESCENCE	blu grn	blu grn
COLOUR	med brn	med brn
COMMENTS		
(d) OTHER SAMPLE PROPERTIES		

F MUD PROPERTIES	
TYPE	SW/GEL/POLYMER
RESISTIVITY (Ω_m)	0.29 @ 23°C
Cl (frm.resis.)(ppm)	23K
Cl (frm.titrat)(ppm)	17K
NO_3 Drld/1st.circ(mg/l)	90/90
pH	10.3
OTHER TRACERS ( )	
DENSITY (ppg)	9.6

G GENERAL COMMENTS

NOTE: -Gas volume does not take liquid displacement into account, unless noted.
-Take mud nitrates when tested zone was drilled and last circulation.
-Pressures are temperature corrected

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA **Sheet 17**

COMPANY : ESSO AUSTRALIA WELL : BREAM # 5

RUN No. : 21 PRESSURE GAUGE TYPE : H.P.

CHAMBER No.		1	2
CHAMBER CAPACITY (gall)		6	2
CHOKE SIZE (sq in)		0.03	0.02
SEAT No.		138	183
DEPTH (m) (from RKB)		2706.2	2706.2
A RECORDING TIMES		HH:MM	HH:MM
	TOOL SET	01 :05	:
	PRETEST OPEN	01 :06	:
	TIME OPEN	:03	:
	CHAMBER OPEN	01 :09	01:40
	CHAMBER FULL	:	:
	FILL TIME	:	:
	START BUILD UP	:	:
	FINISH BUILD UP	01 :40	02: 35
	BUILD UP TIME	:	:
	SEAL CHAMBER	01 :40	02: 35
	TOOL RETRACT	:	:
	TOTAL TIME	:	:
B SAMPLE PRESSURES			
	IHP (psig)	4422.6	4422.6
	ISIP (psia)		
	IFP (psia)	178.5	48.0
	FFP (psia)	350	300
	FSIP (psia)		
	FHP (psig)	3834.1	4420.8
	TEMP. CORR. (^{o})		
	COMMENTS		
C TEMPERATURE			
	DEPTH TOOL REACHED(m)	2706.2	2706.2
	MAX.REC.TEMP.(^{o}C)		
	TIME CIRC. STOPPED		
	TIME SINCE CIRC.		
D SAMPLE RECOVERY			
	SURFACE PRESSURE(psig)	0	0
	VOL. GAS (ft^3)		
	VOL. OIL (ml)		
	VOL. WATER (ml)		
	VOL. FILTRATE (ml)	4500	6250
	VOL. CONDENSATE (ml)		
	VOL. OTHER ( )		
E SAMPLE PROPERTIES			
(a) GAS	c1 (ppm)		
	c2 (ppm)		
	c3 (ppm)		
	c4 (ppm)	NO GAS	NO GAS
	c5 (ppm)		
	c6+ (ppm)		
	CO_2 (%)		
	H_2S (ppm)		
(b)OIL PROPERTIES			
DENSITY: (API)	HYDROMETER		
	REFRACTOMETER	@60oF	@60^{o}F
REFRACTIVE INDEX			
COLOUR			
FLUORESCENCE			
G.O.R. (ft3/ml)			

		1	2
OIL PROPERTIES CONT.			
	ODOUR		
	POUR POINT (^{o}C)		
	COMMENTS		
(c)WATER PROPERTIES			
	RESISTIVITY (Ω_m)	0.31@15^{o}C	0.30@15^{o}C
	Cl (frm. resis.)(ppm)	25K	26K
	Cl (frm. titrat)(ppm)	15K	15K
	NO_3 (mg/l)	20	10
	pH	10.5	10.5
	OTHER TRACERS ( )		
	DENSITY (ppg)	8.4+	8.6
	FLUORESCENCE		
	COLOUR		
	COMMENTS		
	(d)OTHER SAMPLE PROPERTIES		

F MUD PROPERTIES		
	TYPE	SW/GEL/POLYMER
	RESISTIVITY (Ω_m)	0.29 @ 23^{o}C
	Cl (frm.resis.)(ppm)	23K
	Cl (frm.titrat)(ppm)	17K
	NO_3 Drld/1st.circ(mg/l)	90/90
	pH	10.3
	OTHER TRACERS ( )	
	DENSITY (ppg)	9.6

G GENERAL COMMENTS

NOTE: -Gas volume does not take liquid displacement into account, unless noted.
-Take mud nitrates when tested zone was drilled and last circulation.
-Pressures are temperature corrected

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 18

COMPANY : ESSO AUSTRALIA WELL : BREAM # 5

RUN No. : 22 PRESSURE GAUGE TYPE : H.P.

		1	2
CHAMBER No.		1	2
CHAMBER CAPACITY	(gall)	6	2 3/4
CHOKE SIZE	(sq in)	0.03	0.02
SEAT No.		140	140
DEPTH (m) (from RKB)		2715.5	2715.5
A RECORDING TIMES		HH:MM	HH:MM
	TOOL SET	7 :00	:
	PRETEST OPEN	7 :00	:
	TIME OPEN	: 1	:
	CHAMBER OPEN	7 :01	7 :40
	CHAMBER FULL	:	:
	FILL TIME	:	:
	START BUILD UP	:	:
	FINISH BUILD UP	7 :40	7 :40
	BUILD UP TIME	:	:
	SEAL CHAMBER	7 :40	8 :10
	TOOL RETRACT	:	:
	TOTAL TIME	:	:
B SAMPLE PRESSURES			
	IHP (psig)	4440.5	4440.5
	ISIP (psia)	3881.5	3881.5
	IFP (psia)	1147.4	250.0
	FFP (psia)	845.7	3887.0
	FSIP (psia)		3879.1
	FHP (psig)		4431.6
	TEMP. CORR. (^{o})		
	COMMENTS		
C TEMPERATURE			
	DEPTH TOOL REACHED(m)	2726	2726
	MAX.REC.TEMP.(^{o}C)		
	TIME CIRC. STOPPED		
	TIME SINCE CIRC.		
D SAMPLE RECOVERY			
	SURFACE PRESSURE(psig)	0	225
	VOL. GAS (ft^3)	0.1	0.45
	VOL. OIL (ml)		
	VOL. WATER (ml)		
	VOL. FILTRATE (rl)	11000	89500
	VOL. CONDENSATE (ml)		
	VOL. OTHER ( )		
E SAMPLE PROPERTIES			
(a) GAS CHROMATOGRAPH	c1 (ppm)		44914
	c2 (ppm)		2720
	c3 (ppm)		973
	c4 (ppm)		230
	c5 (ppm)		222
	c6- (ppm)		44
	CO_2 (%)		0.5
	H_2S (ppm)		0
(b)OIL PROPERTIES			
DENSITY: (API)	HYDROMETER		
	REFRACTOMETER	@60^{o}F	@60^{o}F
REFRACTIVE INDEX			
COLOUR			
FLUORESCENCE			
G.O.R. (ft3/ml)			

		1	2
OIL PROPERTIES CONT.			
ODOUR			
POUR POINT (^{o}C)			
COMMENTS			
(c)WATER PROPERTIES			
RESISTIVITY (Ω_m)		0.27@19^{o}C	0.27@19^{o}C
Cl (frm. resis.)(ppm)		26K	26K
Cl (frm. titrat)(ppm)		15K	15K
NO_3 (mg/l)		20	20
pH		9.5	9.5
OTHER TRACERS ( )			
DENSITY (ppg)		8.5	8.5
FLUORESCENCE			
COLOUR			
COMMENTS			
(d)OTHER SAMPLE PROPERTIES			

F MUD PROPERTIES	
TYPE	SW/GEL/POLYMER
RESISTIVITY (Ω m)	0.29@23^{o}C
Cl (frm.resis.)(ppm)	23K
Cl (frm.titrat)(ppm)	17K
NO_3 Drld/1st.circ(mg/l)	90/90
pH	10.3
OTHER TRACERS ( )	
DENSITY (ppg)	9.6

G GENERAL COMMENTS

Gas readings indicare air dilution as balloon was attached immediatly to obtain any gas at all and air in bottle would be mixed with this before flowing into balloon.

NOTE: -Gas volume does not take liquid displacement into account, unless noted.
-Take mud nitrates when tested zone was drilled and last circulation.
-Pressures are temperature corrected

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 19

COMPANY : ESSO AUSTRALIA WELL : BREAM # 5

RUN No. : 23 PRESSURE GAUGE TYPE : H.P.

		1	2
CHAMBER No.		1	2
CHAMBER CAPACITY	(gall)	6	2 3/4
CHOKE SIZE	(sq in)	0.03	0.02
SEAT No.		142	142
DEPTH (m) (from RKB)		2756.2	2756.2
A RECORDING TIMES		HH:MM	HH:MM
	TOOL SET	10 : 32	:
	PRETEST OPEN	10 : 34	:
	TIME OPEN	:	:
	CHAMBER OPEN	10: 40	11: 29
	CHAMBER FULL	11: 27	:
	FILL TIME	: 47	:
	START BUILD UP	:	:
	FINISH BUILD UP	11: 28	12: 14
	BUILD UP TIME	:	:
	SEAL CHAMBER	11: 28	12: 14
	TOOL RETRACT	:	12: 14
	TOTAL TIME	:	1: 42
B SAMPLE PRESSURES			
	IHP (psig)	4534.3	
	ISIP (psia)		
	IFP (psia)	1536.7	271.6
	FFP (psia)	3361.1	346.5
	FSIP (psia)		
	FHP (psig)		3749
	TEMP. CORR. (^{o})		
	COMMENTS		
C TEMPERATURE			
	DEPTH TOOL REACHED(m)	2775	2755
	MAX.REC.TEMP.(^{o}C)		247^{o}C
	TIME CIRC. STOPPED		
	TIME SINCE CIRC.		
D SAMPLE RECOVERY			
	SURFACE PRESSURE(psig)	0	175
	VOL. GAS (ft^3)	0.2	1.9
	VOL. OIL (ml)		
	VOL. WATER (ml)		
	VOL. FILTRATE (ml)	9500	4250
	VOL. CONDENSATE (m)		
	VOL. OTHER ( )		
E SAMPLE PROPERTIES			
(a) GAS	c1 (ppm)	INSUFFICIENT	772209
	c2 (ppm)		60946
	c3 (ppm)		26712
	c4 (ppm)		7130
	c5 (ppm)		1876
	c6+ (ppm)		363
	CO_2 (%)		0.5
	H_2S ppm		0
(b)OIL PROPERTIES			
DENSITY: (API)	HYDROMETER		
	REFRACTOMETER	@60^{o}F	@60^{o}F
REFRACTIVE INDEX			
COLOUR			
FLUORESCENCE			
G.O.R. (ft3/ml)			

		1	2
OIL PROPERTIES CONT.			
	ODOUR		
	POUR POINT (^{o}C)		
	COMMENTS		
(c)WATER PROPERTIES			
	RESISTIVITY (Ωm)	0.26@23^{o}	0.28@17^{o}
	Cl (frm. resis.)(ppm)	24K	24K
	Cl (frm. titrat)(ppm)	16K	15K
	NO_3 (mg/l)	26	29
	pH	9.0	8.0
	OTHER TRACERS ( )		
	DENSITY (ppg)	8.6	8.6
	FLUORESCENCE		
	COLOUR	dk brn	dk brn
	COMMENTS		
(d)OTHER SAMPLE PROPERTIES			

F MUD PROPERTIES		
	TYPE	SW/GEL/POLYMER
	RESISTIVITY (Ωm)	0.29@23^{o}C
	Cl (frm.resis.)(ppm)	23K
	Cl (frm.titrat)(ppm)	17K
	NO_3 Drld/1st.circ(mg/l)	110/80
	pH	10.3
	OTHER TRACERS ( )	
	DENSITY (ppg)	9.6

G GENERAL COMMENTS

NOTES -Gas volume does not take liquid displacement into account, unless noted.
-Take mud nitrate when tested zone was drilled and last circulated.
-Pressures and temperature corrected

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 20

COMPANY : ESSO AUSTRALIA WELL : BREAM No. 5

RUN No. : 24 PRESSURE GAUGE TYPE : H.P.

		1	2
CHAMBER No.		1	2
CHAMBER CAPACITY	(gall)	6	2¾
CHOKE SIZE	(sq in)	0.03	0.02
SEAT No.		143	143
DEPTH (m) (from RKB)		2695.5	2695.5
A RECORDING TIMES		HH:MM	HH:MM
	TOOL SET	4 : 05	:
	PRETEST OPEN	:	:
	TIME OPEN	:	:
	CHAMBER OPEN	4 : 07	4 : 50
	CHAMBER FULL	:	5 : 30
	FILL TIME	:	:
	START BUILD UP	:	:
	FINISH BUILD UP	:	:
	BUILD UP TIME	:	:
	SEAL CHAMBER	4 : 50	:
	TOOL RETRACT	:	:
	TOTAL TIME	:	:
B SAMPLE PRESSURES			
	IHP (psig)	4433.5	4433.5
	ISIP (psia)	3805.6	3808.5
	IFP (psia)	895	244.2
	FFP (psia)	866	1050.0
	FSIP (psia)		3801.7
	FHP (psig)		4420.6
	TEMP. CORR. (°C)		
	COMMENTS		
C TEMPERATURE			
	DEPTH TOOL REACHED (m)	2695.5	2695.5
	MAX. REC. TEMP. (°C)		
	TIME CIRC. STOPPED		
	TIME SINCE CIRC.		
D SAMPLE RECOVERY			
	SURFACE PRESSURE (psig)	0	100
	VOL. GAS (ft^3)	.075	.08
	VOL. OIL (ml)		
	VOL. WATER (ml)		
	VOL. FILTRATE (ml)	9000	9000
	VOL. CONDENSATE (ml)		
	VOL. OTHER ( )		
E SAMPLE PROPERTIES			
(a) GAS CHROMATOGRAPHY	c1 (ppm)	-	-
	c2 (ppm)	-	-
	c3 (ppm)	-	-
	c4 (ppm)	-	-
	c5 (ppm)	-	-
	c6+ ppm)	-	-
	CO_2 %)	-	-
	H_2S ppm)	-	-
(b) OIL PROPERTIES			
DENSITY: (API)	HYDROMETER		
	REFRACTOMETER	@60°F	@60°F
REFRACTIVE INDEX			
COLOUR			
FLUORESCENCE			
G.O.R. (ft3/ml)			

	1	2
OIL PROPERTIES CONT.		
ODOUR		
POUR POINT (°C)		
COMMENTS		
(c) WATER PROPERTIES		
RESISTIVITY (Ωm)	.26@19°C	.28@13°C
Cl (frm. resis.) (ppm)	26K	29K
Cl (frm. titrat) (ppm)	15K	15K
NO_3 (mg/l)	24	22
pH	9.5	9.0
OTHER TRACERS ( )		
DENSITY (ppg)	8.6	8.6
FLUORESCENCE		
COLOUR	dk bn	dk bn
COMMENTS		
(d) OTHER SAMPLE PROPERTIES		

F MUD PROPERTIES	
TYPE	SW/Gel/poly
RESISTIVITY (Ωm)	.28 @ 21°C
Cl (frm.resis.) (ppm)	24K
Cl (frm.titrat) (ppm)	19K
NO_3 Drld/1st.circ (mg/l)	110/80
pH	10.5
OTHER TRACERS ( )	
DENSITY (ppg)	9.6

G GENERAL COMMENTS

NOTE: -Gas volume does not take mud displacement into account, unless noted.
-Take mud nitrates when tested zone was drilled and last circulation.
-Pressures are temperature corrected

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 21

COMPANY : ESSO AUSTRALIA WELL : BREAM No. 5

RUN No. : 25 PRESSURE GAUGE TYPE : H.P.

		1	2
CHAMBER No.		1	2
CHAMBER CAPACITY	(gall)	6	2¾
CHOKE SIZE	(sq in)	0.03	0.03
SEAT No.		145	145
DEPTH (m) (from RKB)		2849.2	2849.2
A RECORDING TIMES		HH:MM	HH:MM
	TOOL SET	9 : 30	:
	PRETEST OPEN	:	:
	TIME OPEN	:	:
	CHAMBER OPEN	9 : 38	10 :15
	CHAMBER FULL	:	:
	FILL TIME	:	:
	START BUILD UP	:	:
	FINISH BUILD UP	:	:
	BUILD UP TIME	:	:
	SEAL CHAMBER	:	:
	TOOL RETRACT	10 :15	10 : 50
	TOTAL TIME	:	:
B SAMPLE PRESSURES			
	IHP (psig)	4671.4	4671.4
	ISIP (psia)	4133	
	IFP (psia)	475	1168
	FFP (psia)	2009.2	3070
	FSIP (psia)		
	FHP (psig)		4464.4
	TEMP. CORR. (°C)		
	COMMENTS		
C TEMPERATURE			
	DEPTH TOOL REACHED(m)	2870	2870
	MAX.REC.TEMP.(°C)		
	TIME CIRC. STOPPED		
	TIME SINCE CIRC.		
D SAMPLE RECOVERY			
	SURFACE PRESSURE(psig)	800	1575
	VOL. GAS (ft^3)	28.5	41.3
	VOL. OIL (ml)		
	VOL. WATER (ml)		
	VOL. FILTRATE (ml)	9250	1500
	VOL. CONDENSATE (ml)	5	32
	VOL. OTHER ( )		
E SAMPLE PROPERTIES			
(a) GAS CHROMATOGRAPH	c1 (ppm)	961321	945562
	c2 (ppm)	57738	57738
	c3 (ppm)	22896	25949
	c4 (ppm)	6670	8970
	c5 (ppm)	1705	2686
	c6+ (ppm)	363	725
	CO_2 (%)	7.5	8.5
	H_2S (ppm)	0	0
(b)OIL PROPERTIES			
DENSITY: (API)	HYDROMETER		
	REFRACTOMETER	48 @60°F	41 @60°F
REFRACTIVE INDEX		1.4593	1.4565
COLOUR			
FLUORESCENCE			
G.O.R. (ft3/ml)			

	1	2
OIL PROPERTIES CONT.		
ODOUR		
POUR POINT (°C)		
COMMENTS		
(c)WATER PROPERTIES		
RESISTIVITY (Ω_m)	.26@19°C	.29@14°C
Cl (frm. resis.)(ppm)	26K	28K
Cl (frm. titrat)(ppm)	16K	14.5K
NO_3 (mg/l)	16	46
pH	7.0	7.0
OTHER TRACERS ( )		
DENSITY (ppg)	8.5	8.5
FLUORESCENCE		
COLOUR	dk bn	dk bn
COMMENTS		
(d)OTHER SAMPLE PROPERTIES		

F MUD PROPERTIES

TYPE	SW/Gel/poly
RESISTIVITY (Ω_m)	.28 @ 21°C
Cl (frm.resis.)(ppm)	24K
Cl (frm.titrat)(ppm)	19K
NO_3 Drld/1st.circ(mg/l)	110/80
pH	10.5
OTHER TRACERS ( )	
DENSITY (ppg)	9.6

G GENERAL COMMENTS

NOTE: -Gas volume does not take liquid displacement into account, unless noted.
-Take mud nitrates when tested zone was drilled and last circulation.
-Pressures are temperature corrected

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 22

COMPANY : ESSO AUSTRALIA WELL : BREAM No.5

RUN No. : 26 PRESSURE GAUGE TYPE : HP

		1	2
CHAMBER No.		1	2
CHAMBER CAPACITY	(gall)	6	2¾
CHOKE SIZE	(sq in)	0.03	
SEAT No.		152	159
DEPTH (m) (from RKB)		3196.2	3066.7
A RECORDING TIMES		HH:MM	HH:MM
	TOOL SET	20 : 30	22 : 47
	PRETEST OPEN	20 : 60	22 : 48
	TIME OPEN	03 : 00	01: 00
	CHAMBER OPEN	20 : 13	22 : 52
	CHAMBER FULL	NO FILL	:
	FILL TIME	:	:
	START BUILD UP	:	:
	FINISH BUILD UP	:	:
	BUILD UP TIME	:	:
	SEAL CHAMBER	21: 13	01: 00
	TOOL RETRACT	21 : 15	:
	TOTAL TIME	1 : 12	:
B SAMPLE PRESSURES			
	IHP (psig)	5213	5010
	ISIP (psia)	5064	4516
	IFP (psia)	39	48
	FFP (psia)	69	121
	FSIP (psia)		
	FHP (psig)	5215	5010
	TEMP. CORR. (°)		
	COMMENTS		
C TEMPERATURE			
	DEPTH TOOL REACHED(m)	3226	
	MAX.REC.TEMP.(°C)		
	TIME CIRC. STOPPED	09:35,7/9	09:35
	TIME SINCE CIRC.		
D SAMPLE RECOVERY			
	SURFACE PRESSURE(psig)	0	0
	VOL. GAS (ft^3)	0	0.17
	VOL. OIL (ml)	0	0
	VOL. WATER (ml)	1750	3750
	VOL. FILTRATE (ml)	0	0
	VOL. CONDENSATE (ml)	0	0
	VOL. OTHER ( )	0	0
E SAMPLE PROPERTIES			
(a) GAS COMPOSITION	c1 (ppm)		
	c2 (ppm)		
	c3 (ppm)		
	c4 (ppm)		
	c5 (ppm)		
	c6+ (ppm)		
	CO_2 (%)		
	H_2S (ppm)		
(b)OIL PROPERTIES			
DENSITY: (API)	HYDROMETER		
	REFRACTOMETER	@60oF	@60°F
REFRACTIVE INDEX			
COLOUR			
FLUORESCENCE			
G.O.R. (ft3/ml)			

	1	2
OIL PROPERTIES CONT.		
ODOUR		
POUR POINT (°C)		
COMMENTS		
(c)WATER PROPERTIES		
RESISTIVITY (Ω_m)	0.33@17°C	0.55@17°C
Cl (frm. resis.)(ppm)	11K	13K
Cl (frm. titrat)(ppm)	11K	12K
NO_3 (mg/l)	190	180
pH	8.0	8.2
OTHER TRACERS ( )		
DENSITY (ppg)		
FLUORESCENCE		
COLOUR		
COMMENTS		
(d)OTHER SAMPLE PROPERTIES		

F MUD PROPERTIES	
TYPE	S.W GEL
RESISTIVITY (Ω m)	0.35@ 22°C
Cl (frm.resis.)(ppm)	19K
Cl (frm.titrat)(ppm)	14K
NO_3 Drld/1st.circ(mg/l)	200/200
pH	10.5
OTHER TRACERS ( )	
DENSITY (ppg)	

G GENERAL COMMENTS

Insufficient gas was recovered to analyse the composition.

NOTE: -Gas volume does not take liquid displacement into account, unless noted.
-Take mud nitrates when tested zone was drilled and last circulation.
-Pressures are temperature corrected

CORE LABORATORIES R.F.T. DATA SHEET - SAMPLING DATA Sheet 23

COMPANY : ESSO AUSTRALIA WELL : BREAM NO.5

RUN No. : 27 PRESSURE GAUGE TYPE : HP

CHAMBER No.	1	2
CHAMBER CAPACITY (gall)	6	2¾
CHOKE SIZE (sq in)	.030	.020
SEAT No.		
DEPTH (m) (from RKB)	3016.2	3016.2

A RECORDING TIMES

TOOL SET	04:27	
PRETEST OPEN	04:27	
TIME OPEN		
CHAMBER OPEN	04:30	05:17
CHAMBER FULL		
FILL TIME		
START BUILD UP		
FINISH BUILD UP		
BUILD UP TIME		
SEAL CHAMBER	05:16	06:01
TOOL RETRACT		06:03
TOTAL TIME		

B SAMPLE PRESSURES

IHP (psig)	4928	
ISIP (psia)	4421	
IFP (psia)	60	82
FFP (psia)	145	258
FSIP (psia)		4419
FHP (psig)		4919
TEMP. CORR. ( )		
COMMENTS		

C TEMPERATURE

DEPTH TOOL REACHED( )		
MAX.REC.TEMP.(°)		
TIME CIRC. STOPPED		
TIME SINCE CIRC.		

D SAMPLE RECOVERY

SURFACE PRESSURE(psig)	0.3	
VOL. GAS ( )		
VOL. OIL ( )		
VOL. WATER (ml)	10000	6750
VOL. FILTRATE ( )		
VOL. CONDENSATE ( )		
VOL. OTHER ( )		

E SAMPLE PROPERTIES

(a) GAS COMP.	c1	(ppm)	47554	
	c2	(ppm)	2141	
	c3	(ppm)	582	
	c4	(ppm)	64	
	c5	(ppm)	Tr	
	c6+	( )	-	
	CO_2	(%)	1.2	
	H_2S	( )	-	

(b)OIL PROPERTIES

DENSITY: ( )	HYDROMETER		
	REFRACTOMETER		
REFRACTIVE INDEX			
COLOUR			
FLUORESCENCE			
G.O.R. ( )			

OIL PROPERTIES CONT.

ODOUR		
POUR POINT (°)		
COMMENTS		

(c)WATER PROPERTIES

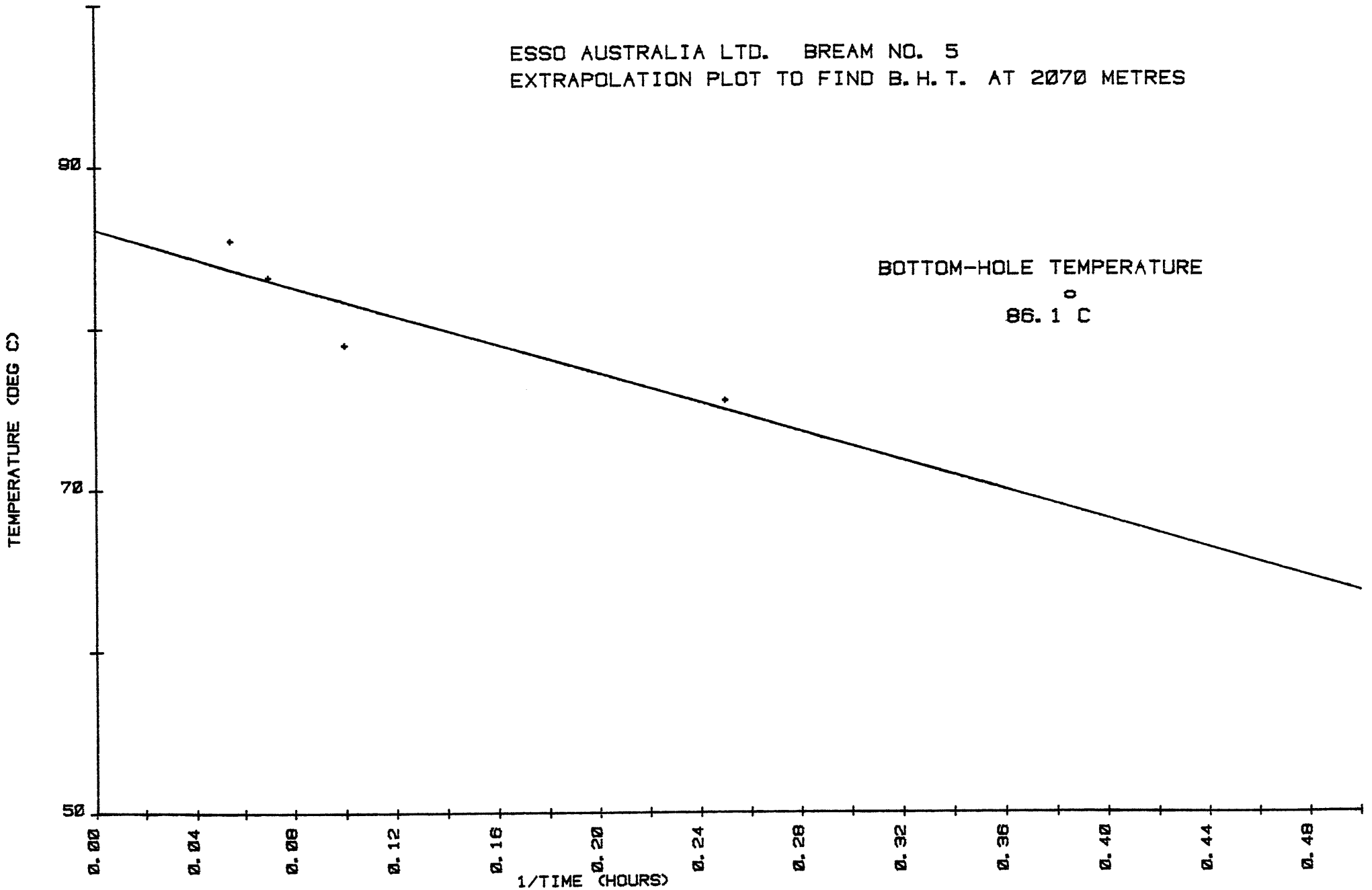
RESISTIVITY (m)	0.31@69°F	0.31@69°F
Cl (frm. resis.)(ppm)	9K	8.750
Cl (frm. titrat)(ppm)	12K	12K
NO_3 (mg/l)	150	90
pH	8.6	8.1
OTHER TRACERS ( )		
DENSITY ( )		
FLUORESCENCE		
COLOUR		
COMMENTS		
(d)OTHER SAMPLE PROPERTIES		

F MUD PROPERTIES

TYPE	Seawater Gel	
RESISTIVITY ( )		
Cl (frm.resis.)( )		
Cl (frm.titrat)(ppm)	14K	14K
NO_3 Drld/1st.circ( )	200/200	200/200
pH	10.5	10.5
OTHER TRACERS ( )		
DENSITY ( )		

G GENERAL COMMENTS

13. B.H.T. ESTIMATION


ESSO AUSTRALIA LTD. BREAM NO. 5
EXTRAPOLATION PLOT TO FIND B.H.T. AT 2070 METRES
BOTTOM-HOLE TEMPERATURE
86.1 °C
TEMPERATURE (DEG C)
90
70
50
0.00
0.04
0.08
0.12
0.16
0.20
0.24
0.28
0.32
0.36
0.40
0.44
0.48
1/TIME (HOURS)

CORE LAB

ESTIMATION OF B.H.T. AT 3322 metres FOR BREAM NO.5

STRAIGHT LINE LEAST SQUARES BEST FIT

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

ENTERED DATA:

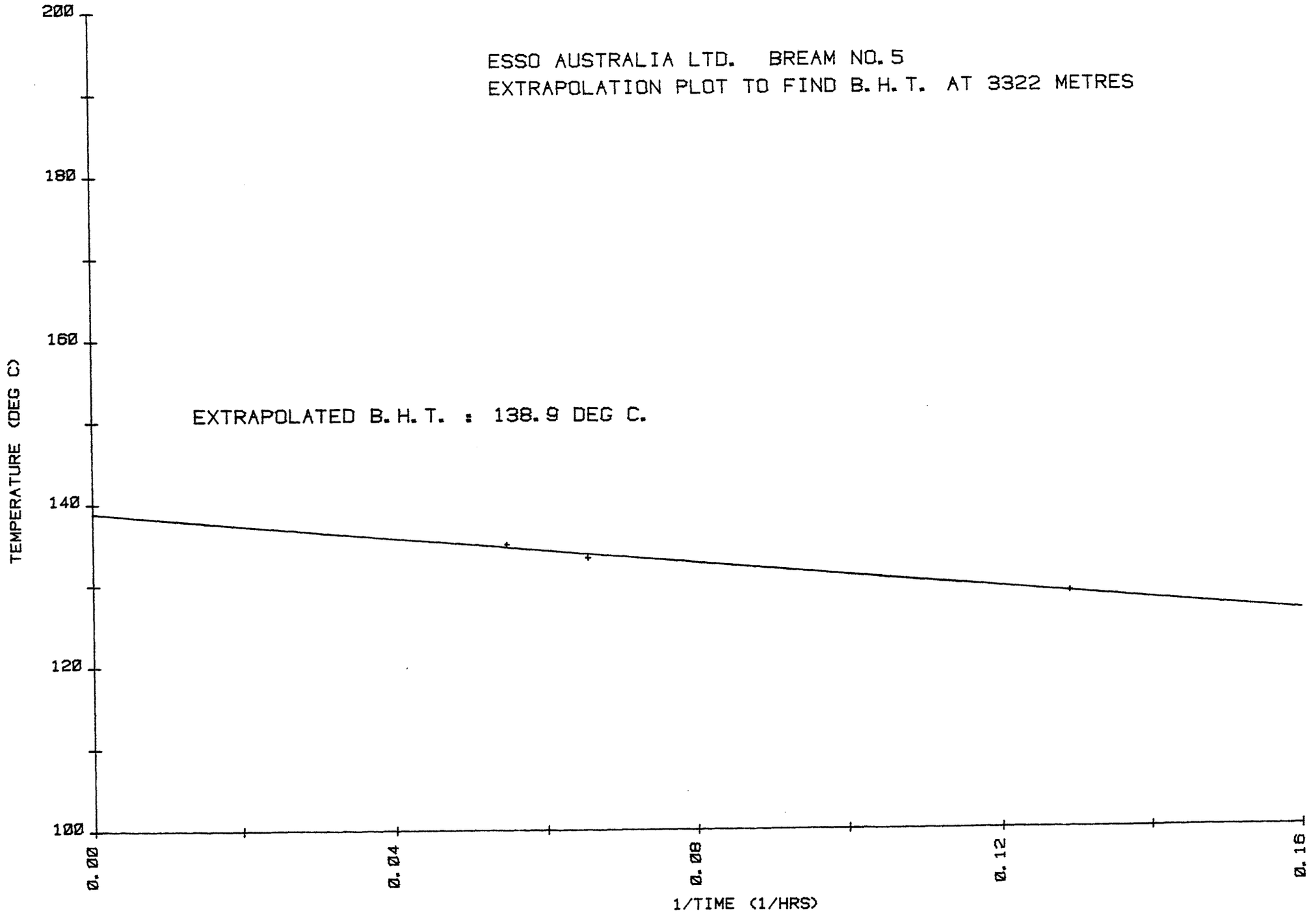
DATA SET #	1/TIME	TEMPERATURE
1	0.1290	128.9
2	0.0656	133.3
3	0.0548	135.0

COEFFICIENT & CONSTANT:

Y = m.X + c where m = -7.7779760E 01 and c = 1.3886609E 02

INTERPOLATED DATA:

1/TIME	TEMPERATURE
0.0000	138.9


ESSO AUSTRALIA LTD. BREAM NO. 5
EXTRAPOLATION PLOT TO FIND B. H. T. AT 3322 METRES
EXTRAPOLATED B. H. T. = 138.9 DEG C.
TEMPERATURE (DEG C)
200
180
160
140
120
100
0.00
0.04
0.08
0.12
0.16
1/TIME (1/HRS)

14. PORE PRESSURE SUMMARY AND P.I.T./L.O.T. DATA

PORE PRESSURE SUMMARY

BREAM No: 5 was drilled in the Gippsland Basin. Before the well it was thought that this basin was normally pressured. Core Laboratories unit FL 802 monitored various parameters associated with pressure detection, the primary means of detection being the "Drill Data Plot" (see plots at end of report).

The Drill Data plot shows, amongst other information, the d'c' exponent trend, which appears fairly scattered from the sea bed down to a depth of 860m. This lack of a good trend is due to the poorly consolidated lithology (limestone); hence drilling was achieved more by extrusion due to the jetting action rather than rotation of the bit. A vertical trend of d'c's follows down to a depth of 1610m. This is due to the transitional change in lithology from calcilutite to calcareous siltstone.

There is a lateral shift in the trend at 1610m due to the new bit. The trend is normal from here down to 1880m, at which point the top of the Latrobe formation is encountered. The lithology which is characterised by interbeds of siltstones, sandstones and coals, obviously causes scattering of the d'c' exponents. This is the predominant trend manifested, from this point down to T.D. (It should be added that the scattering follows a normal trend).

However, there is one abnormality in this "normal scattering". AT 2960m, the normal trend is reversed. This reversal is interpreted as an increase in the pore pressure from 8.6ppg to 8.7ppg. "Repeat Formation Tests" conducted by Schlumberger verified this increase in formation pressure. The pore pressure profile drawn on the Core Lab Pressure Plot has been fashioned in conjunction with Schlumberger's wireline pressure data.

The abnormal pressure trend is further evidenced by the mud gas and R.O.P. lines on the Drill Data Plot, and also the suspected appearance of connection gas. At 2960m there is a drill-off trend and a simultaneous increase in background gas (from 2 to 3 units) down to a depth of 3070m, at which point all the indications are of normally pressured formations. At T.D., 520 units of trip gas were detected, after wireline logs had been conducted. It was thought that this was caused by gas slowly permeating from overpressured sands at around 3066m. This, however, could not be substantiated by either monitored pressure parameters or reliable

pressure data from Schlumberger.

Increases in the background gas at 1880m and 2465m are attributed to changes in the lithology, rather than any abnormality in formation pressure.

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

No reliable conclusions can be drawn from the temperature plot due to the periodic treatment of the mud system. The thermal gradient of BREAM NO: 5 was calculated to be 2.3°F/100'; the bottom hole temperature was extrapolated to 138.9°C.

A wireline plot was not drawn as this plots shale parameters, and the lack of shale points encountered did not facilitate an objective plot.

The "Pressure Plot" is the pressure conclusion log for the well. As mentioned above, the formationsencountered were slightly overpressured, being 8.3ppg MSL EMW, in the surface section of the well bore, increasing to 8.6ppg at approximately 2740m, and 8.7ppg below 3020m.

Overburden gradient calculations and a plot of the gradient are included in the report. It was not possible to derive a true fracture gradient as no L.O.T.'s were performed. Two P.I.T.'s were made, just below the 13-3/8" casing shoe (811m....13.5ppg EMW); and immediately below the 9-5/8" casing shoe (2078m....13.2 EMW). L.O.T.'s were not required as high mud weights were not anticipated.

Based on this information, the fracture gradient on the pressure plot was drawn, the shape of which is in turn based on the data from wells in the U.S. Gulf Coast Basin. The curve was then offset to match local data. A true fracture gradient for the Gippsland Basin cannot be drawn until further leak-off data is available.

CORE LABORATORIES INTERNATIONAL

PORE PRESSURE DATA SHEET

DATA FROM RFT No.1 (PRETESTS)
RFT No.4

COMPANY : ESSO AUSTRALIA LTD.

WELL : BREAM No.5

DEPTH (FROM RKB)	DEPTH (FROM MSL)	PORE PRESSURE	PORE PRESSURE GRADIENT E.M.W.(MSL)	PORE PRESSURE GRADIENT
(IN METRES)	(TOTAL VERTICAL DEPTH IN METRES	(PSIA)	(P.P.G.)	(PSI/M)
2030	2006.3	2857.54	8.35	1.424
1999	1975.3	2823.33	8.38	1.429
1997	1973.3	2791.30	8.29	1.414
1966	1942.3	2776.10	8.38	1.429
1949	1925.3	2767.09	8.42	1.437
1945	1921.3	2756.51	8.41	1.435
1943	1919.3	2754.55	8.41	1.435
1946	1922.3	2757.55	8.41	1.434
1940	1916.3	2750.04	8.41	1.435
1937	1913.3	2751.82	8.43	1.438
1935	1911.3	2750.58	8.43	1.439
1933.5	1909.8	2750.00	8.44	1.440
1932	1908.3	2749.72	8.45	1.441
1951.3	1927.6	2766.62	8.41	1.435
1962	1938.3	2770.66	8.38	1.429

CORE LABORATORIES INTERNATIONAL

PORE PRESSURE DATA SHEET

DATA FROM RFT No.6 (PRETESTS)

COMPANY : ESSO AUSTRALIA LTD.

WELL : BREAM No.5

DEPTH (FROM RKB) (IN METRES)	DEPTH (FROM MSL) (TOTAL VERTICAL DEPTH IN METRES	PORE PRESSURE (PSIA)	PORE PRESSURE GRADIENT E.M.W.(MSL) (P.P.G.)	PORE PRESSURE GRADIENT (PSI/METRES)
2692.0	2668.1	3800.71	8.35	1.424
2661.5	2637.6	3798.85	8.44	1.440
2665.5	2641.6	3797.00	8.42	1.437
2621.5	2597.7	3714.58	8.38	1.430
2592.5	2568.7	3679.02	8.39	1.432
2583.0	2559.2	3688.00	8.45	1.441
2562.0	2518.2	3636.74	8.46	1.444
2558.0	2514.2	3633.40	8.47	1.445
2526.5	2482.7	3557.10	8.40	1.433
2507.0	2463.2	3538.50	8.42	1.436
2500.0	2456.2	3536.76	8.44	1.440
2495.0	2451.2	3532.61	8.45	1.441
2488.0	2444.2	3522.65	8.45	1.441
2456.0	2412.2	3471.10	8.43	1.439
2398.5	2354.7	3391.00	8.44	1.440
2292.6	2268.8	3238.20	8.37	1.427
2203.0	2179.3	3119.79	8.37	1.428

CORE LABORATORIES INTERNATIONAL

PORE PRESSURE DATA SHEET

DATA FROM : R.F.T. No.15 (PRETESTS)

COMPANY : ESSO AUSTRALIA LTD.

WELL : BREAM No.5

DEPTH (FROM RKB) IN METERS	DEPTH (FROM MSL) TOTAL VERTICAL DEPTH IN METERS	PORE PRESSURE (PSIA)	PORE PRESSURE GRADIENT E.M.W.(MSL) (PPG)	PORE PRESSURE GRADIENT (PSI/M)
2456	2432.2	3471.7	8.37	1.427
2692	2668.1	3798.5	8.34	1.424
2994	2969.8	4358.8	8.60	1.468
2984	2959.9	4345.3	8.60	1.468
2976.5	2952.4	4326	8.59	1.465
2966.8	2942.7	4326.6	8.62	1.470
2948	2923.9	4293.2	8.61	1.468
2935.5	2911.4	4266.5	8.59	1.465
2888.7	2864.7	4170.1	8.53	1.456
2875	2851	4169.8	8.57	1.462
2849	2825	4121.7	8.55	1.459
2838	2814	4109.9	8.56	1.460
2834	2810	4102.6	8.56	1.460
2830.5	2806.5	4097.1	8.56	1.460
2823.5	2799.5	4079.8	8.54	1.457
2821.5	2797.5	4078.4	8.54	1.458
2817.5	2793.6	4079.8	8.56	1.460
2814.5	2790.6	4079	8.57	1.462
2793	2769.1	4012.6	8.49	1.449
2776.3	2752.4	3994.7	8.51	1.451
2766.7	2742.8	3989.6	8.53	1.455

CORE LAB

PORE PRESSURE DATA SHEET

DATA FROM: R.F.T. Nos. 26 to 27

COMPANY: ESSO AUSTRALIA LTD.

WELL : BREAM No.5

DEPTH (FROM RKB)	DEPTH (FROM MSL)	PORE PRESSURE	PORE PRESSURE GRADIENT EMW (MSL)	PORE PRESSURE GRADIENT
IN METERS	TOTAL VERTICAL DEPTH IN METERS	(PSIA)	(PPG)	(PSI/M)
3080.5	3056.2	4498	8.63	1.472
3066.7	3042.4	4516	8.70	1.484
3016.2	2992.0	4421	8.66	1.478
3016.1	2991.9	4414	8.65	1.475

15. OVERBURDEN GRADIENT CALCULATIONS AND OVERBURDEN GRADIENT PLOT.

OVERBURDEN GRADIENT CALCULATIONS

DEPTH . . . . . .metres

BULK DENSITY . . . . . .gm/cc

OVERBURDEN PRESSURE INCREMENT .psi

CUMULATIVE OVERBURDEN PRESSURE .psi

OVERBURDEN PRESSURE GRADIENT . .psi/ft

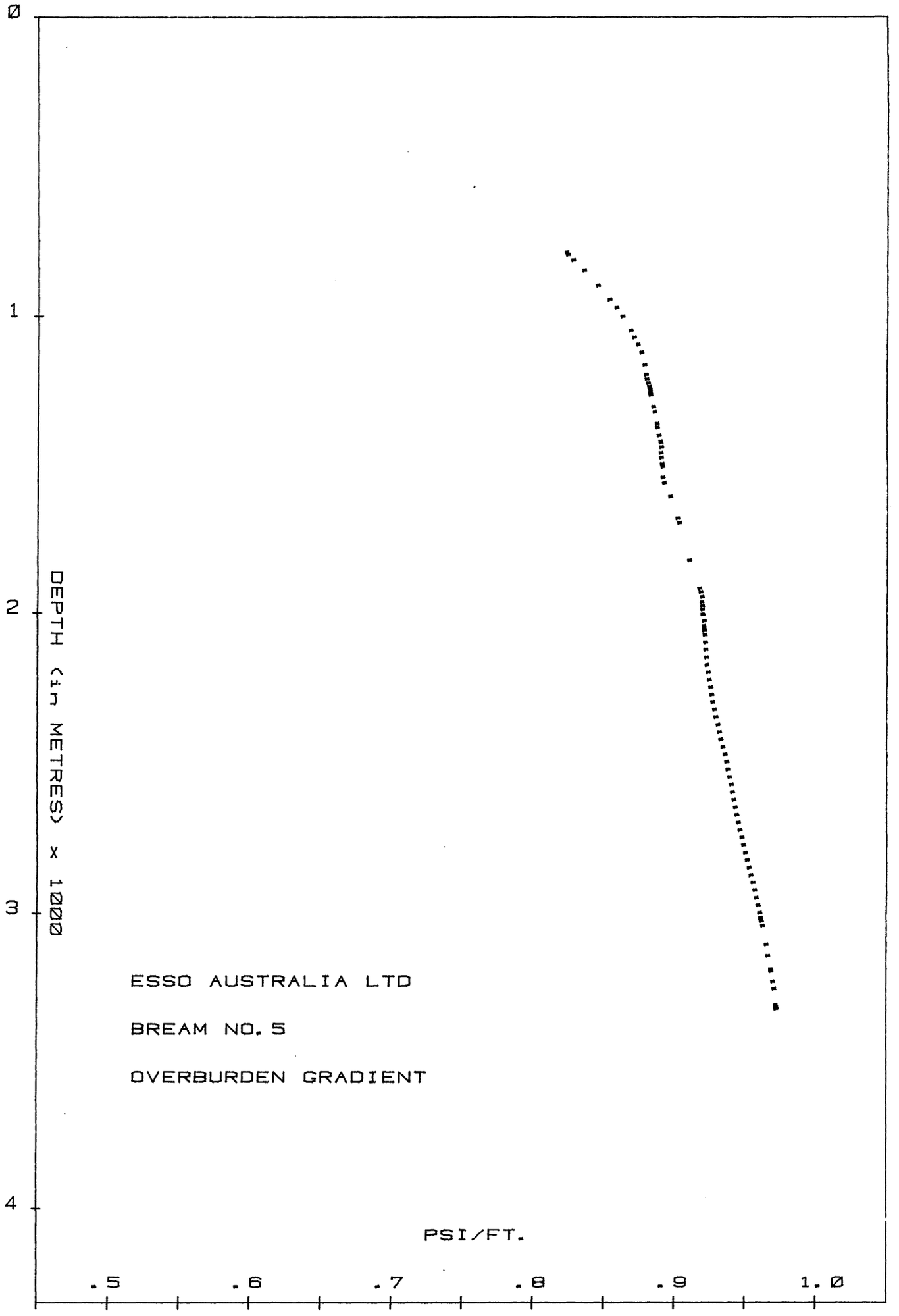
OVERBURDEN EQUIVILANT DENSITY .Pounds per gallon

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

OVERBURDEN GRADIENT CALCULATIONS

DEPTH from	DEPTH to	AVR.BULK DENSITY	O/BURDEN INCR.	O/BURDEN CUMM.	O/BURDEN GRAD.	O/BURDEN GRAD.
metres	**metres**	gms/cc	psi	psi	psi/ft	ppg
0	81	1.02	35.77	35.77	0.442	8.49
81	789	2.00	613.13	648.90	0.822	15.82
789	798	2.07	8.07	656.97	0.823	15.83
798	815	2.32	17.08	674.05	0.827	15.90
815	850	2.34	35.46	709.51	0.835	16.05
850	900	2.33	50.44	759.95	0.844	16.24
900	947	2.33	47.42	807.37	0.853	16.40
947	975	2.36	28.61	835.98	0.857	16.49
975	1003	2.35	28.49	864.48	0.862	16.57
1003	1050	2.28	46.40	910.88	0.868	16.68
1050	1073	2.27	22.61	933.48	0.870	16.73
1073	1098	2.29	24.79	958.27	0.873	16.78
1098	1124	2.26	25.44	983.72	0.875	16.83
1124	1167	2.17	40.40	1024.12	0.878	16.88
1167	1200	2.10	30.01	1054.13	0.878	16.89
1200	1215	2.15	13.96	1068.09	0.879	16.91
1215	1229	2.22	13.46	1081.55	0.880	16.92
1229	1241	2.23	11.59	1093.13	0.881	16.94
1241	1251	2.21	9.57	1102.70	0.881	16.95
1251	1262	2.06	9.81	1112.52	0.882	16.95
1262	1268	2.17	5.64	1118.15	0.882	16.96
1268	1308	2.18	37.76	1155.91	0.884	16.99
1308	1326	2.20	17.15	1173.06	0.885	17.01
1326	1365	2.18	36.81	1209.87	0.886	17.05
1365	1378	2.11	11.88	1221.75	0.887	17.05
1378	1405	2.17	25.37	1247.12	0.888	17.07
1405	1425	2.25	19.49	1266.60	0.889	17.09
1425	1429	2.27	3.93	1270.53	0.889	17.10
1429	1444	2.15	13.96	1284.50	0.890	17.11
1444	1463	1.97	16.21	1300.71	0.889	17.10
1463	1479	2.15	14.90	1315.60	0.890	17.11
1479	1500	2.10	19.10	1334.70	0.890	17.11
1500	1510	2.20	9.53	1344.22	0.890	17.12
1510	1545	2.08	31.52	1375.74	0.890	17.12
1545	1564	2.26	18.59	1394.34	0.892	17.14
1564	1610	2.40	47.80	1442.14	0.896	17.23
1610	1683	2.35	74.28	1516.42	0.901	17.33
1683	1698	2.41	15.65	1532.08	0.902	17.35
1698	1823	2.33	126.11	1658.19	0.910	17.49
1823	1921	2.42	102.69	1760.88	0.917	17.63
1921	1933	2.50	12.99	1773.87	0.918	17.65
1933	1949	2.37	16.42	1790.29	0.919	17.66
1949	1966	2.09	15.38	1805.67	0.918	17.66
1966	1979	2.27	12.78	1818.45	0.919	17.67
1979	1991	2.12	11.02	1829.46	0.919	17.67
1991	2007	2.20	15.24	1844.71	0.919	17.68
2007	2029	2.30	21.91	1866.62	0.920	17.69
2029	2045	2.09	14.48	1881.09	0.920	17.69
2045	2056	2.21	10.53	1891.62	0.920	17.69
2056	2060	2.44	4.23	1895.85	0.920	17.70

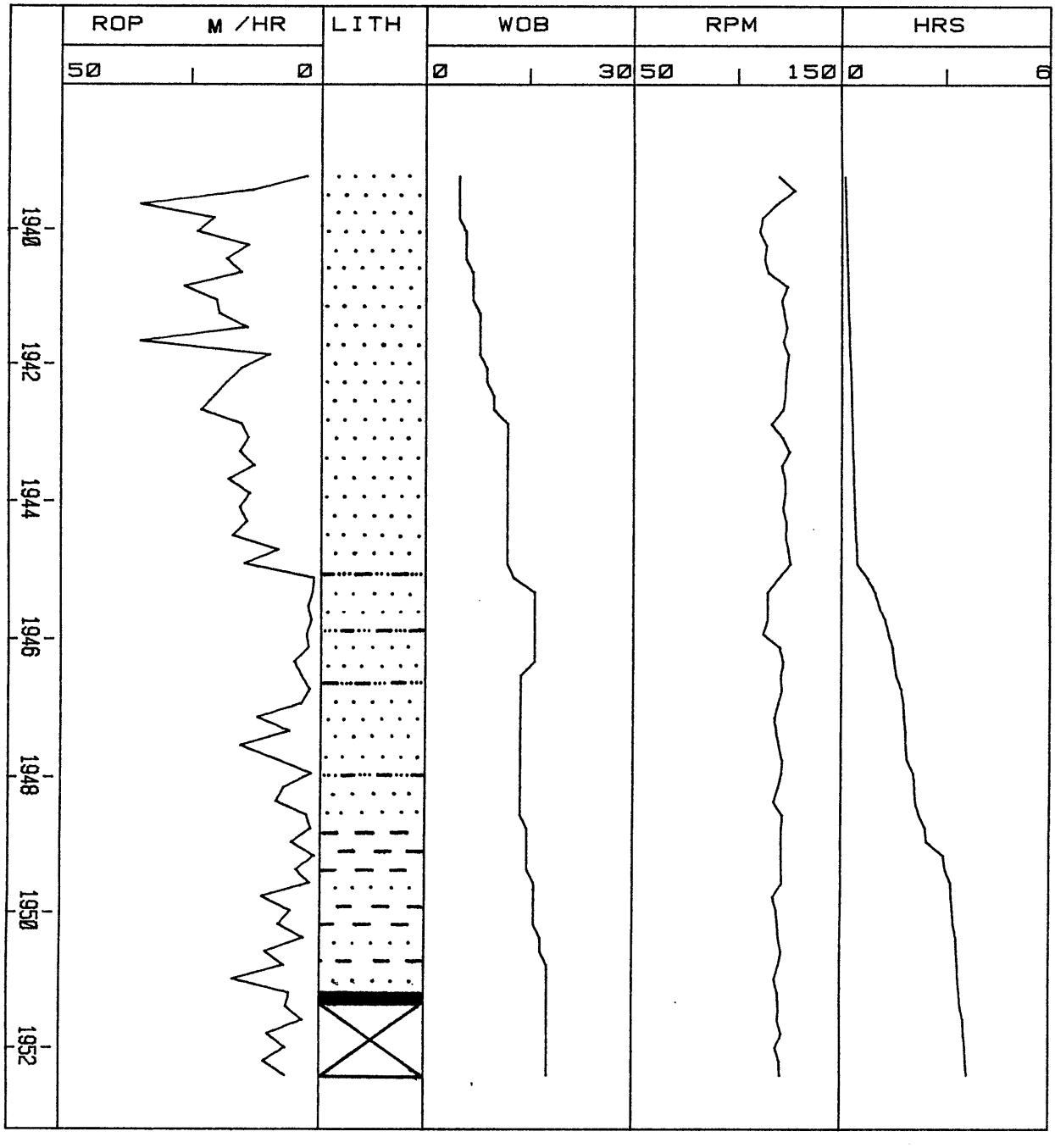
DEPTH from	DEPTH to	AVR.BULK DENSITY	O/BURDEN INCR.	O/BURDEN CUMM.	O/BURDEN GRAD.	O/BURDEN GRAD.
metres	metres	gms/cc	psi	psi	psi/ft	ppg
2060	2061	1.99	0.86	1896.71	0.920	17.70
2061	2075	2.25	13.64	1910.35	0.921	17.70
2075	2100	2.19	23.71	1934.06	0.921	17.71
2100	2125	2.15	23.27	1957.33	0.921	17.71
2125	2150	2.23	24.14	1981.47	0.922	17.72
2150	2175	2.20	23.82	2005.28	0.922	17.73
2175	2200	2.35	25.44	2030.72	0.923	17.75
2200	2225	2.25	24.36	2055.08	0.924	17.76
2225	2250	2.35	25.44	2080.52	0.925	17.78
2250	2275	2.35	25.44	2105.96	0.926	17.80
2275	2300	2.28	24.68	2130.64	0.926	17.81
2300	2325	2.40	25.98	2156.62	0.928	17.84
2325	2350	2.37	25.66	2182.27	0.929	17.86
2350	2375	2.45	26.52	2208.79	0.930	17.88
2375	2400	2.37	25.66	2234.45	0.931	17.90
2400	2425	2.40	25.98	2260.43	0.932	17.93
2425	2450	2.48	26.85	2287.27	0.934	17.95
2450	2475	2.50	27.06	2314.34	0.935	17.98
2475	2500	2.43	26.30	2340.64	0.936	18.00
2500	2525	2.40	25.98	2366.62	0.937	18.02
2525	2550	2.44	26.41	2393.04	0.938	18.05
2550	2575	2.45	26.52	2419.56	0.940	18.07
2575	2600	2.35	25.44	2445.00	0.940	18.08
2600	2625	2.42	26.20	2471.19	0.941	18.10
2625	2650	2.43	26.30	2497.50	0.942	18.12
2650	2675	2.40	25.98	2523.48	0.943	18.14
2675	2700	2.48	26.85	2550.32	0.945	18.16
2700	2725	2.44	26.41	2576.74	0.946	18.18
2725	2750	2.50	27.06	2603.80	0.947	18.21
2750	2775	2.50	27.06	2630.86	0.948	18.23
2775	2825	2.55	55.21	2686.07	0.951	18.29
2825	2850	2.53	27.39	2713.46	0.952	18.31
2850	2875	2.57	27.82	2741.28	0.953	18.34
2875	2900	2.58	27.93	2769.20	0.955	18.36
2900	2925	2.55	27.60	2796.81	0.956	18.39
2925	2950	2.50	27.06	2823.87	0.957	18.41
2950	2975	2.56	27.71	2851.58	0.959	18.43
2975	3000	2.54	27.50	2879.08	0.960	18.46
3000	3017	2.52	18.55	2897.63	0.960	18.47
3017	3028	2.50	11.91	2909.53	0.961	18.48
3028	3043	2.56	16.63	2926.16	0.962	18.49
3043	3105	2.52	67.65	2993.81	0.964	18.54
3105	3143	2.44	40.15	3033.96	0.965	18.56
3143	3188	2.57	50.08	3084.04	0.967	18.60
3188	3194	2.35	6.11	3090.14	0.967	18.61
3194	3229	2.55	38.65	3128.79	0.969	18.63
3229	3253	2.56	26.60	3155.39	0.970	18.65
3253	3307	2.39	55.88	3211.28	0.971	18.67
3307	3316	2.61	10.17	3221.45	0.971	18.68
3316	3320	2.15	3.72	3225.17	0.971	18.68


0
1
2
3
4
DEPTH (in METRES) X 1000
ESSO AUSTRALIA LTD
BREAM NO. 5
OVERBURDEN GRADIENT
PSI/FT.
.5
.6
.7
.8
.9
1.0

16. CORE-O-GRAPHS

CORE-O-GRAPH

CLIENT:	ESSO AUSTRALIA LTD.
WELL:	BREAM # 5
CORE NO.:	1
INTERVAL CORED FROM	1939.0m. TO 1952.2m.
CUT: 13.2M	RECOVERED: 11.7m. (88.6%)
FORMATION:	LATROBE
BIT MAKE & TYPE:	CHRISTENSEN RC4
CORE BARREL SIZE:	6.75in. x 4.00in. x 19.66m.
BIT SIZE: 8.50	MUD WT.: 9.5



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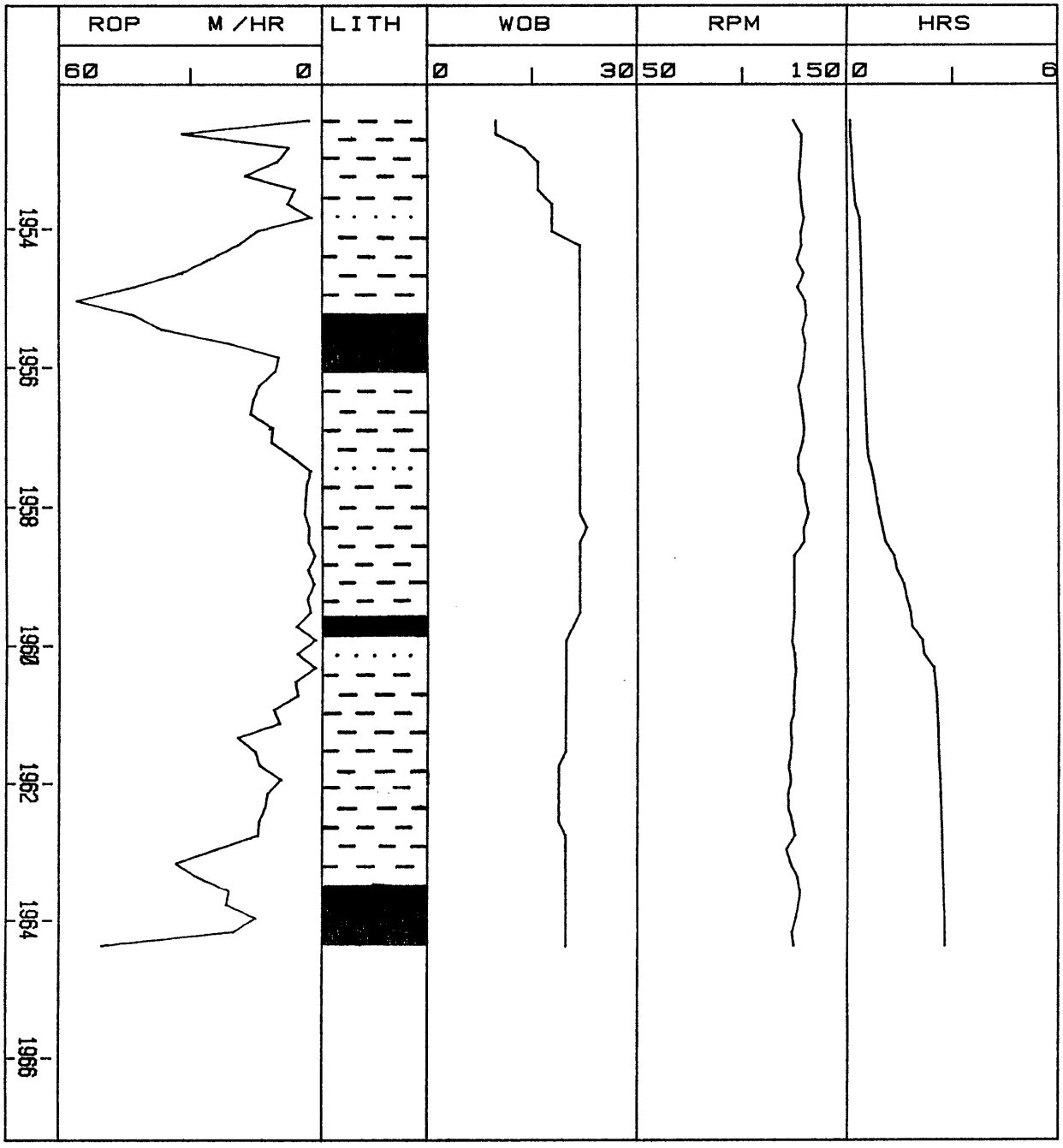
CORE-O-GRAPH

CLIENT:	ESSO AUSTRALIA LTD.
WELL:	BREAM # 5
CORE NO.:	2
INTERVAL CORED FROM	1952.2m. TO 1964.2m.
CUT: 12.0 M	RECOVERED: 12.0m. (100.0%)
FORMATION:	LATROBE
BIT MAKE & TYPE:	CHRISTENSEN RC4
CORE BARREL SIZE:	6.75in. x 4.00in. x 19.66m.
BIT SIZE: 8.50	MUD WT.: 9.6



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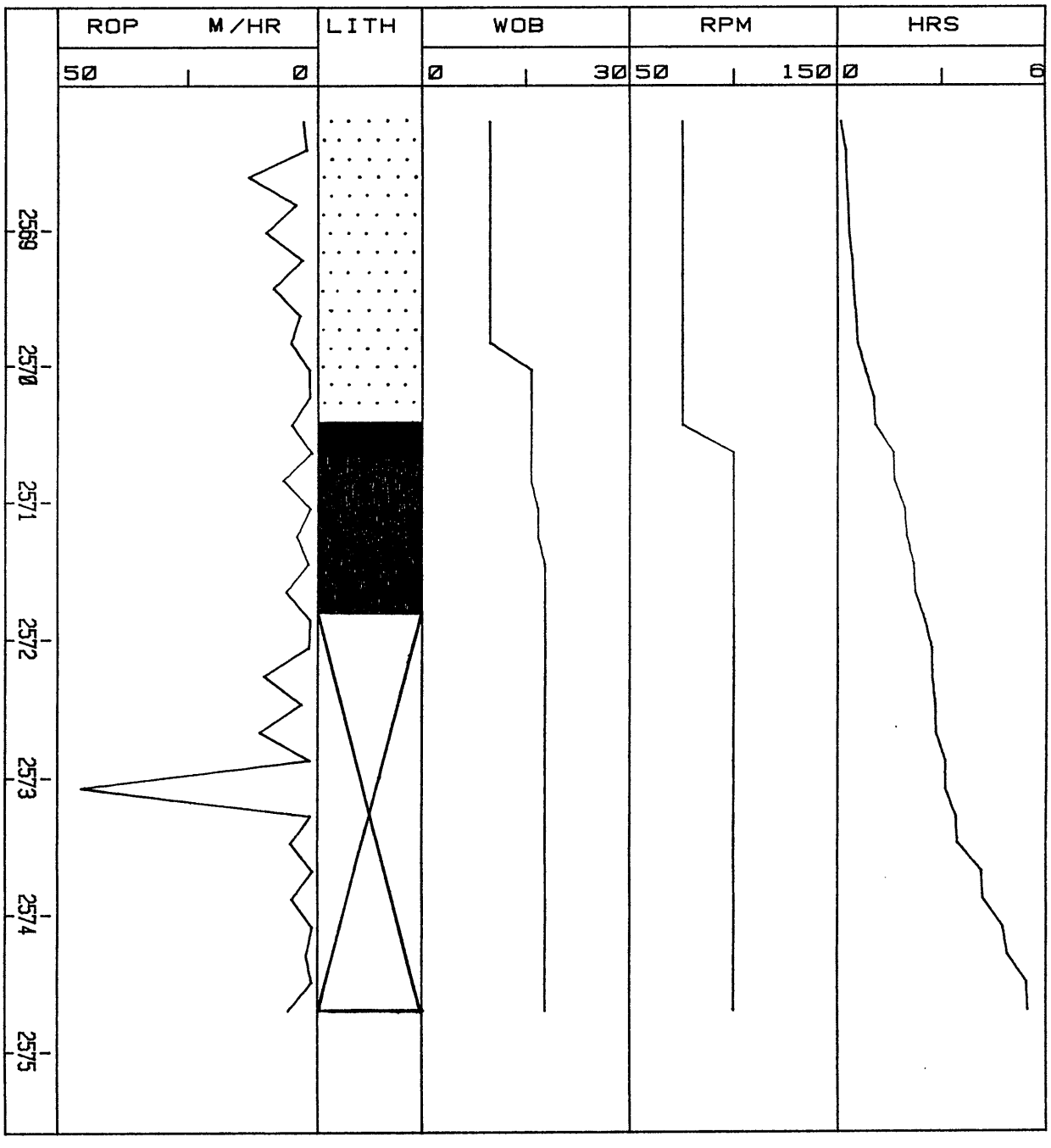
CORE-O-GRAPH

CLIENT:	ESSO AUSTRALIA LTD.
WELL:	BREAM # 5
CORE NO.:	3
INTERVAL CORED FROM	2568.0m. TO 2574.6m.
CUT: 6.6 M	RECOVERED: 3.9m. (59.1%)
FORMATION:	INTRA-LATROBE
BIT MAKE & TYPE:	CHRISTENSEN C-22
CORE BARREL SIZE:	6.75in. x 4.00in. x 19.66m.
BIT SIZE: 8.47	MUD WT.: 9.5



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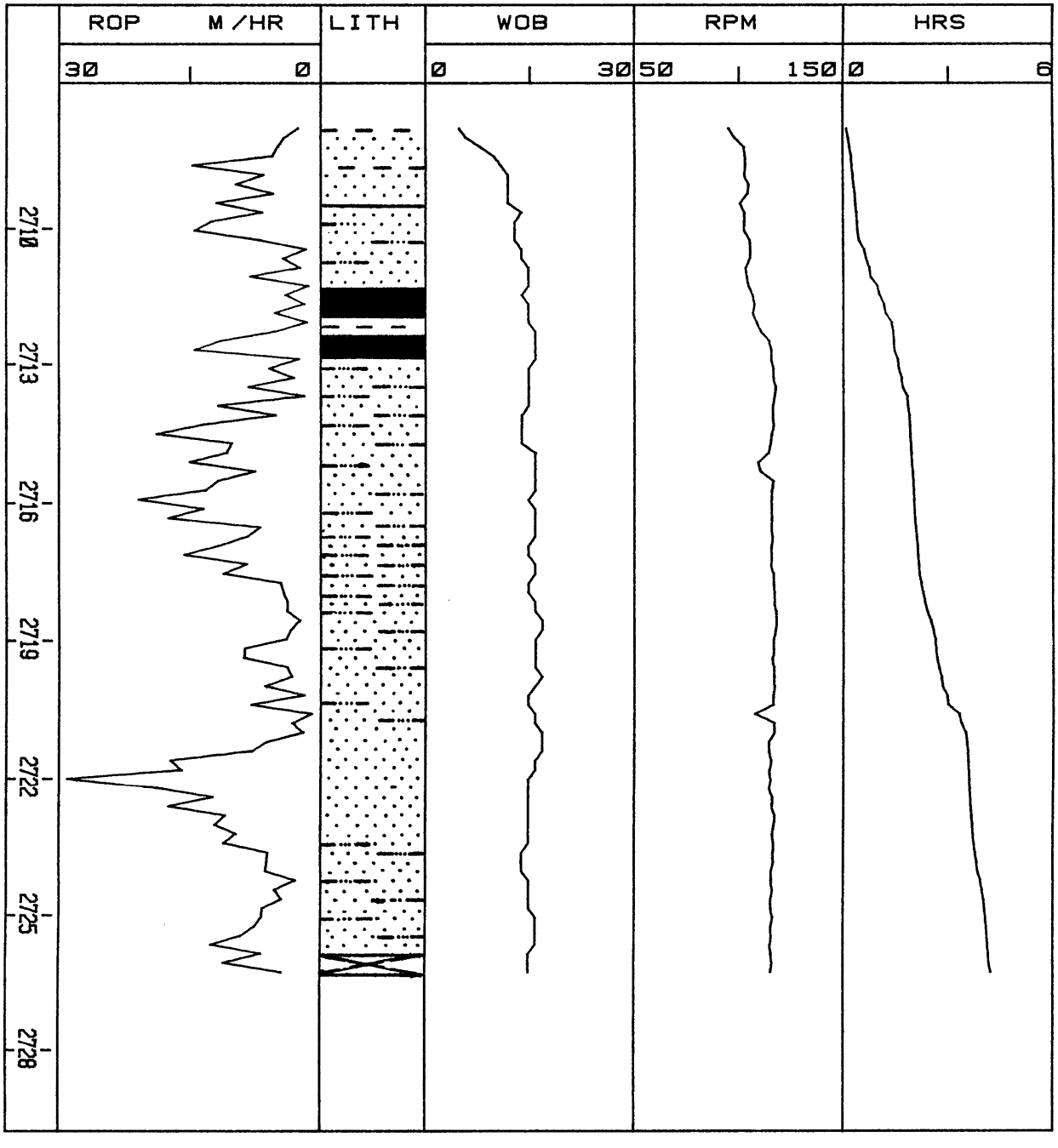
CORE-O-GRAPH

CLIENT:	ESSO AUSTRALIA LTD.
WELL:	BREAM # 5
CORE NO.:	4
INTERVAL CORED FROM	2707.6m. TO 2726.0m.
CUT: 18.4 M	RECOVERED: 18.0m. (97.6%)
FORMATION:	LATROBE
BIT MAKE & TYPE:	CHRISTENSEN C-22
CORE BARREL SIZE:	6.75in. x 4.00in. x 19.66m.
BIT SIZE: 8.47	MUD WT.: 9.6



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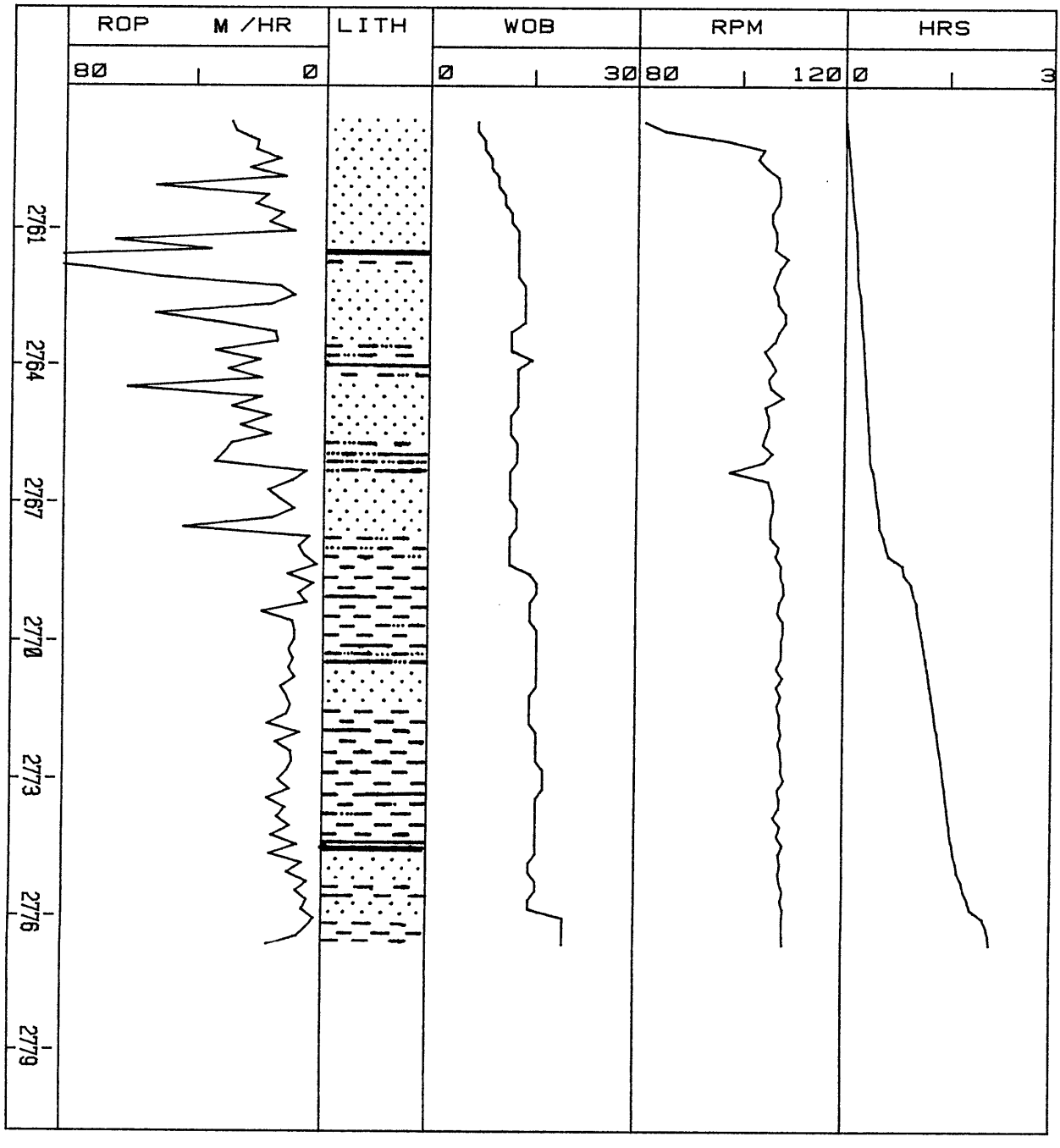
CORE-O-GRAPH

CLIENT:	ESSO AUSTRALIA LTD.
WELL:	BREAM # 5
CORE NO.:	5
INTERVAL CORED FROM	2758.4m. TO 2776.4m.
CUT: 18.0 M	RECOVERED: 18.0m. (100.0%)
FORMATION:	LATROBE
BIT MAKE & TYPE:	CHRISTENSEN RC4
CORE BARREL SIZE:	6.75in. x 4.00in. x 19.66m.
BIT SIZE: 8.50	MUD WT.: 9.6



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17. SIDEWALL CORE GAS ANALYSES

CORE LAB

SIDEWALL CORE GAS ANALYSIS DATA SHEET

SHEET # 1

COMPANY ESSO AUSTRALIA LTD

LOGGING SUITE NO. GROUP 2

WELL BREAM No.5

N2	DEPTH	C1	C2	C3	C4	C5	C6	COMMENTS
		PPM	PPM	PPM	PPM	PPM	PPM	
8	1937	4075	2658	6543	7618	2957	1528	
9	1935	1722	647	2317	1775	616	437	
10	1931	615	935	2249	1183	370	164	

18. GAS COMPOSITION ANALYSIS

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

LOG PLOT

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

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

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

   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 triangular 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 nC4).The scales are arranged in such a way that if the apex of the triangle is upward,a gas zone is indicated,while if the apex points downward,an oil zone is suggested.

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

GAS COMPOSITION PLOTS.

1903.0m — This plot was taken from drill gas readings taken while drilling with bit No.4. This particular reading peaked at 176units. The plot indicates a gas zone at 1903.0m, with probable fair permeability.

1939.0m — This plot indicates a wet zone with fair permeability.

2803.0m — This plot indicates a dry gas zone, although the C_1/C_4 and C_1/C_5 ratios suggest that the zone is non-productive.

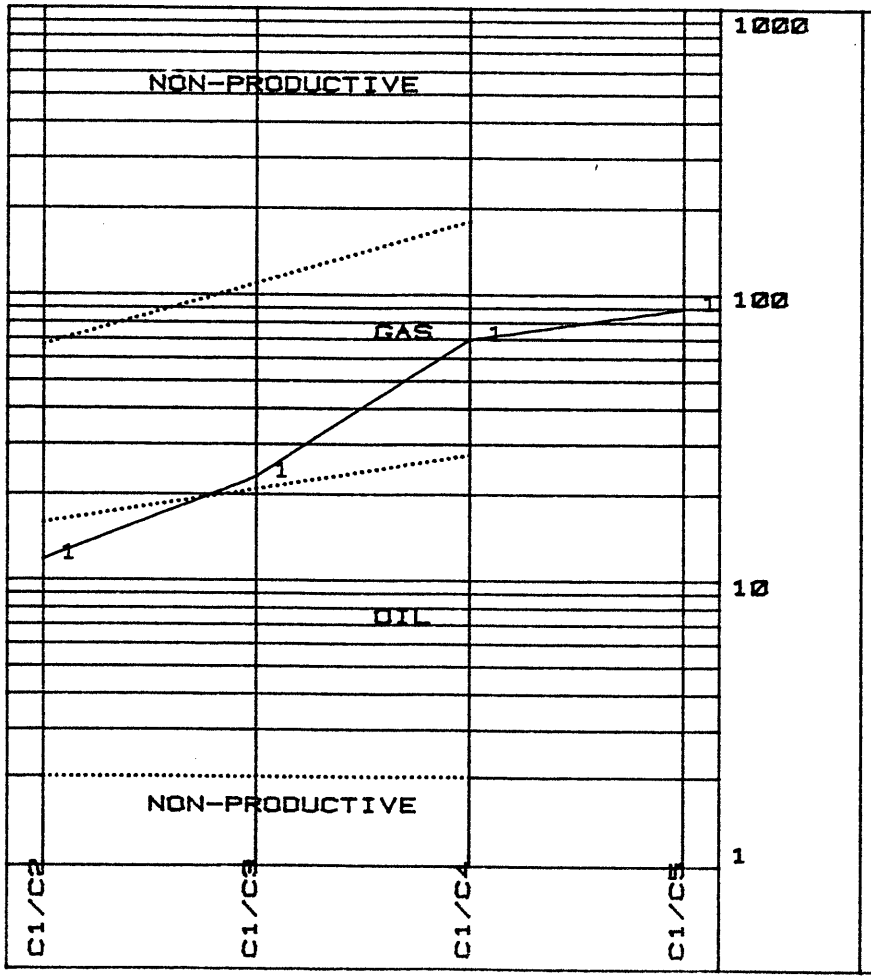
2870.0m — This plot indicates a reservoir fluid of wet gas, with fair permeability.

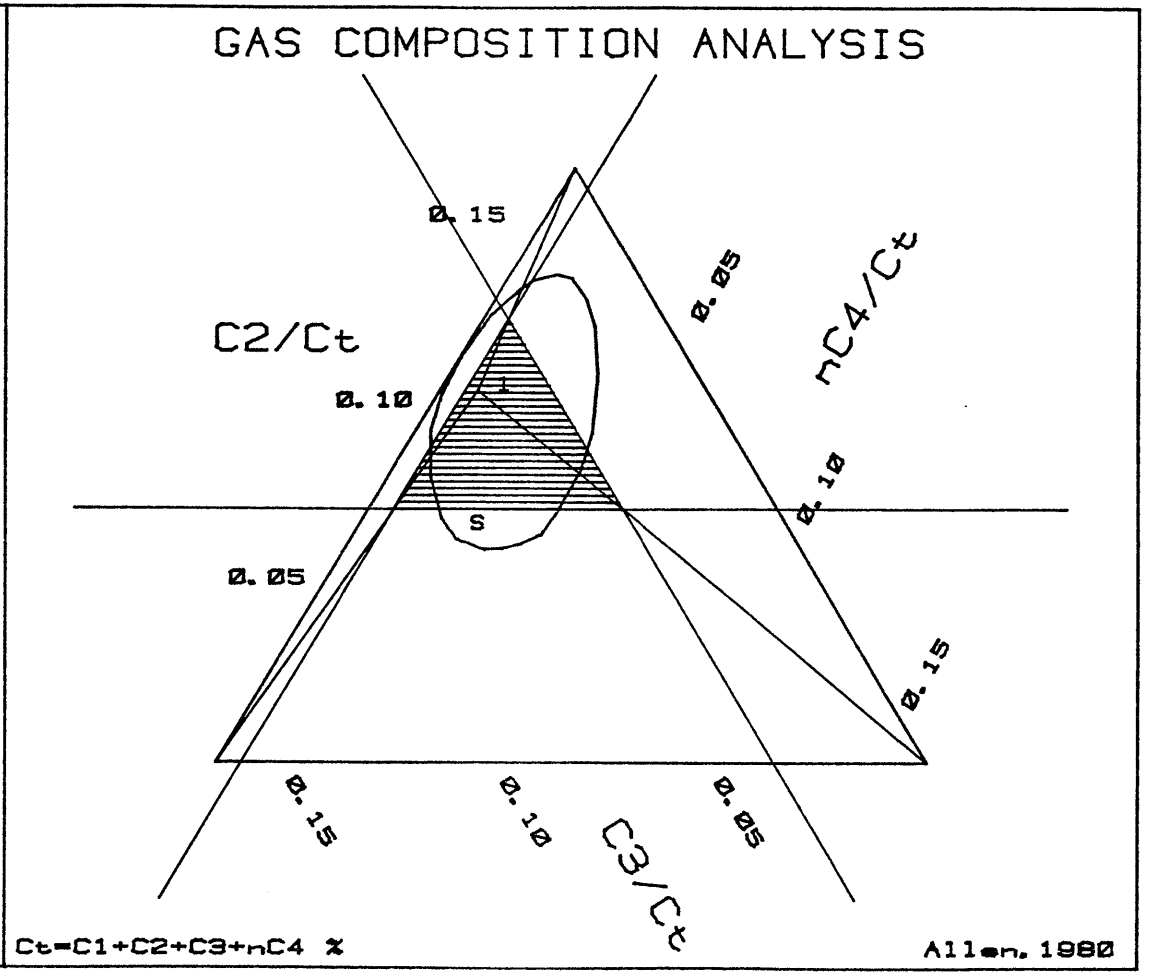
2962.0m — The total gas reading at this depth was only 13 units and the composition of the gas suggests that 2962.0m is a non-productive dry gas zone.

3017.0m — This plot indicates a dry gas reservoir, which is non-productive (as suggested by the low C_1/C_4 ratio).

3303.0m — As above this plot indicates a zone of dry gas, that is non-productive. The steep ratio plot here may indicate a light zone.

CORE LAB. INTL. LTD. Client: ESSO AUSTRALIA LTD Well: BREAM NO. 5

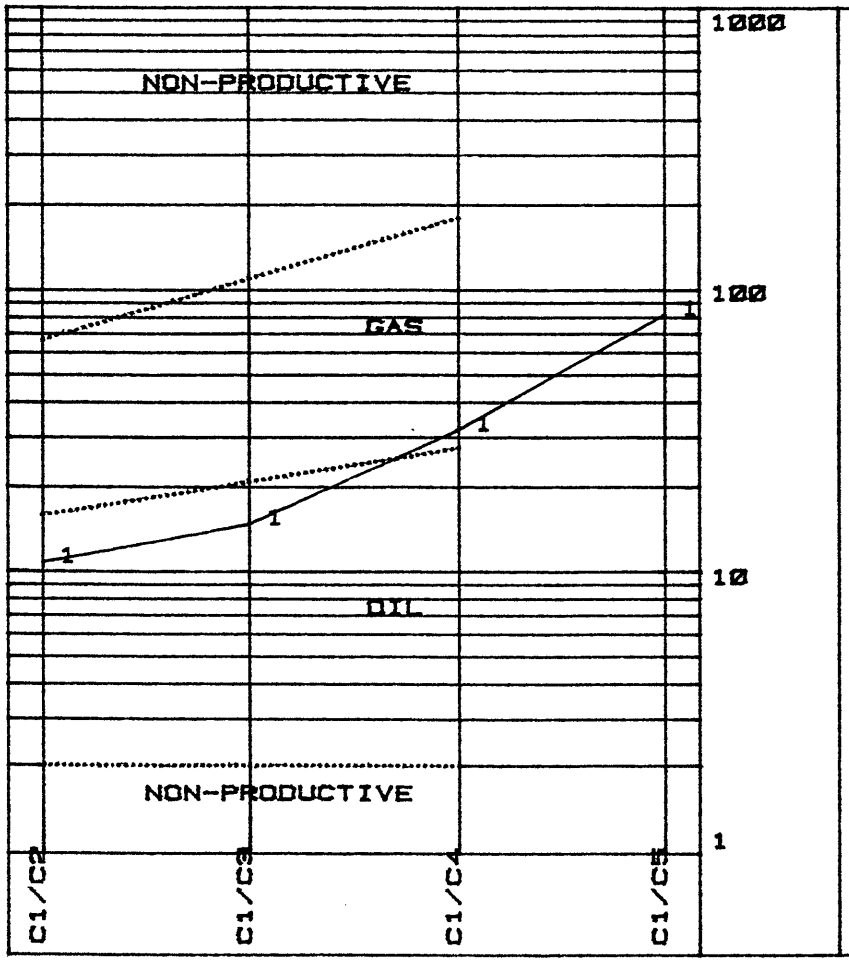


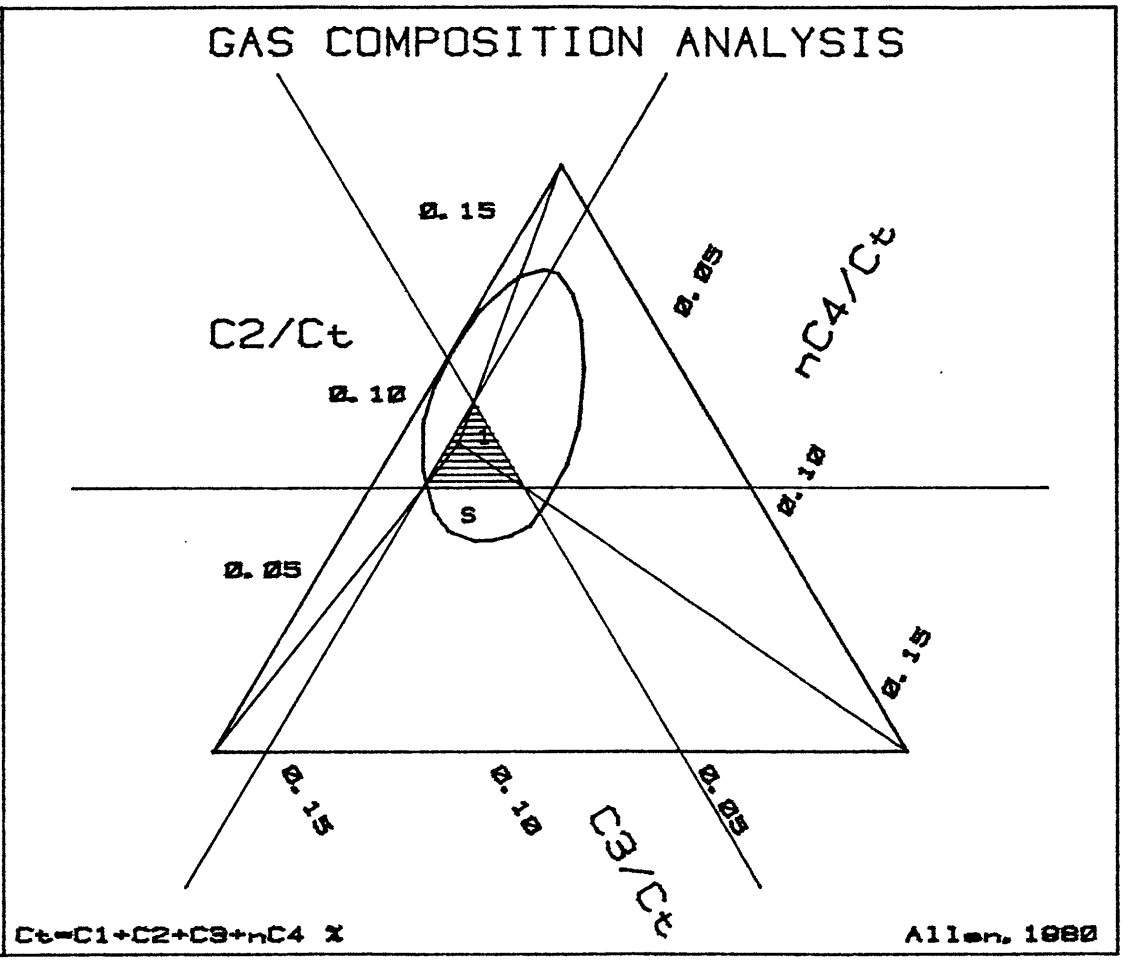


NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	1903	8.811	0.747	0.382	0.063	0.063	0.099	0.061	10.003	12	23	70	89

CONCLUSION: GAS ZONE

CORE LAB. INTL. LTD. Client: ESSO AUSTRALIA LTD Well: BREAM NO. 5

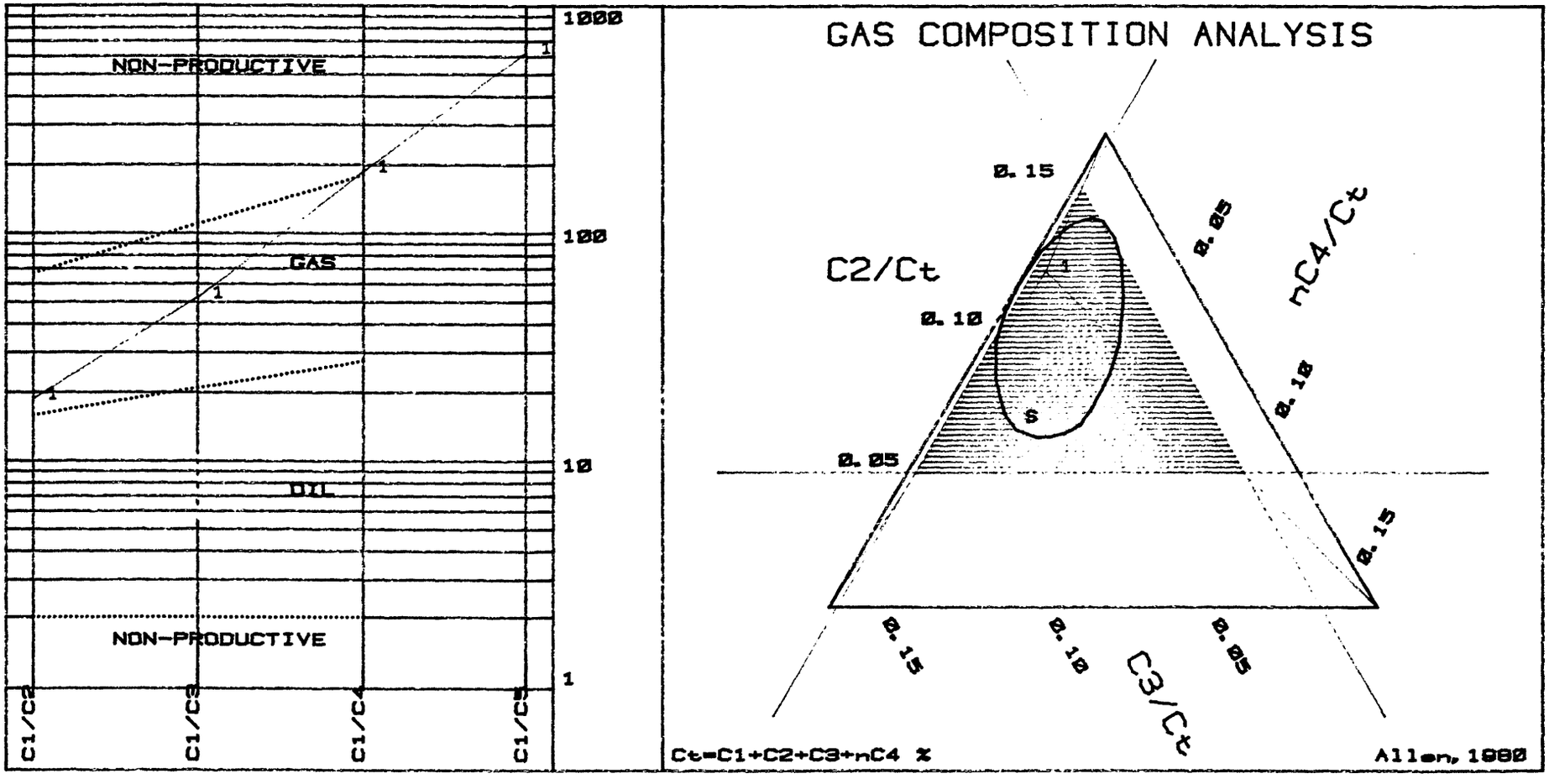




NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	1939	2.018	0.187	0.136	0.032	0.032	0.025	0.022	2.372	11	15	32	82

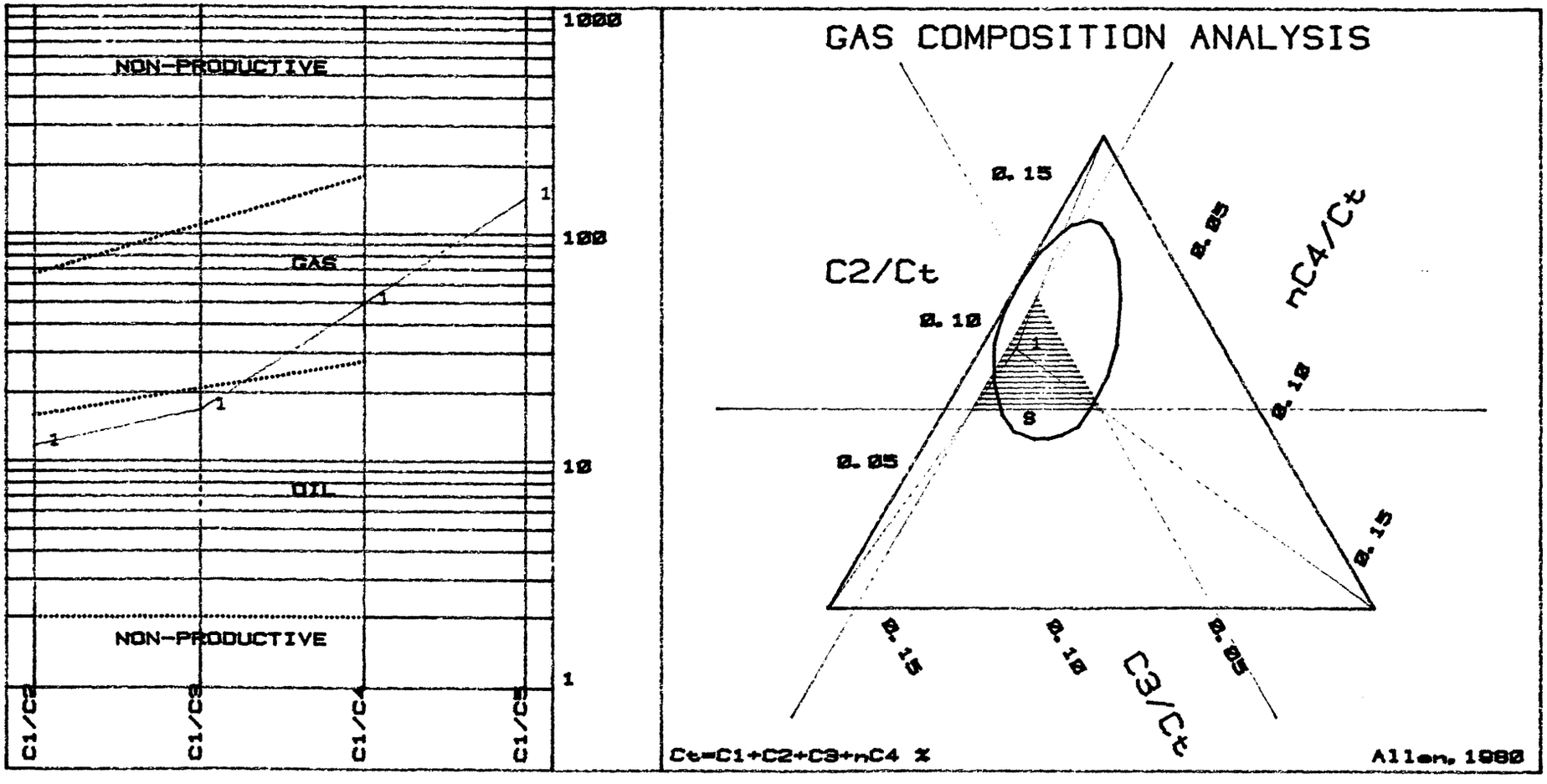
CONCLUSION: WET GAS ZONE

CORE LAB. INTL. LTD. Client: ESSO AUSTRALIA LTD. Well: BREAM # 5



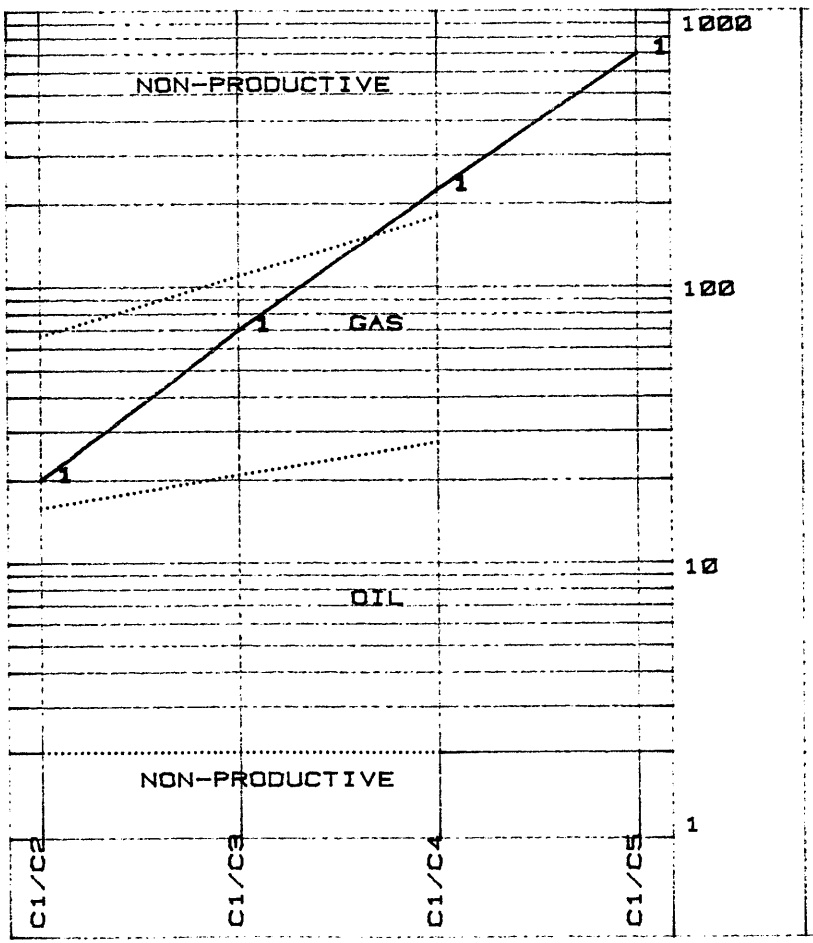
NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	2803	0.749	0.040	0.014	0.002	0.002	0.001	0.001	0.805	19	52	187	624

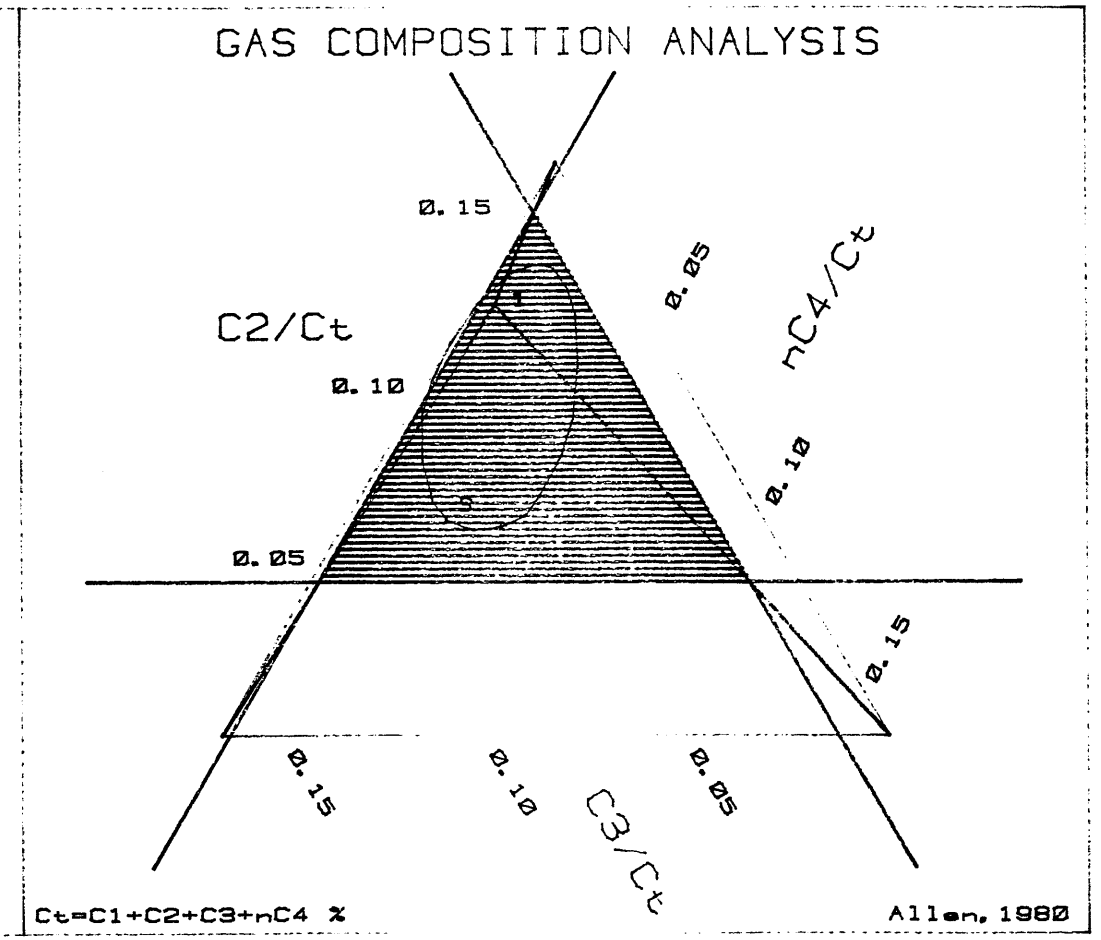
CORE LAB. INTL. LTD. Client: ESSO AUSTRALIA LTD. Well: BREAM # 5



NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	2870	0.611	0.052	0.036	0.008	0.006	0.004	0.003	0.705	12	17	50	145

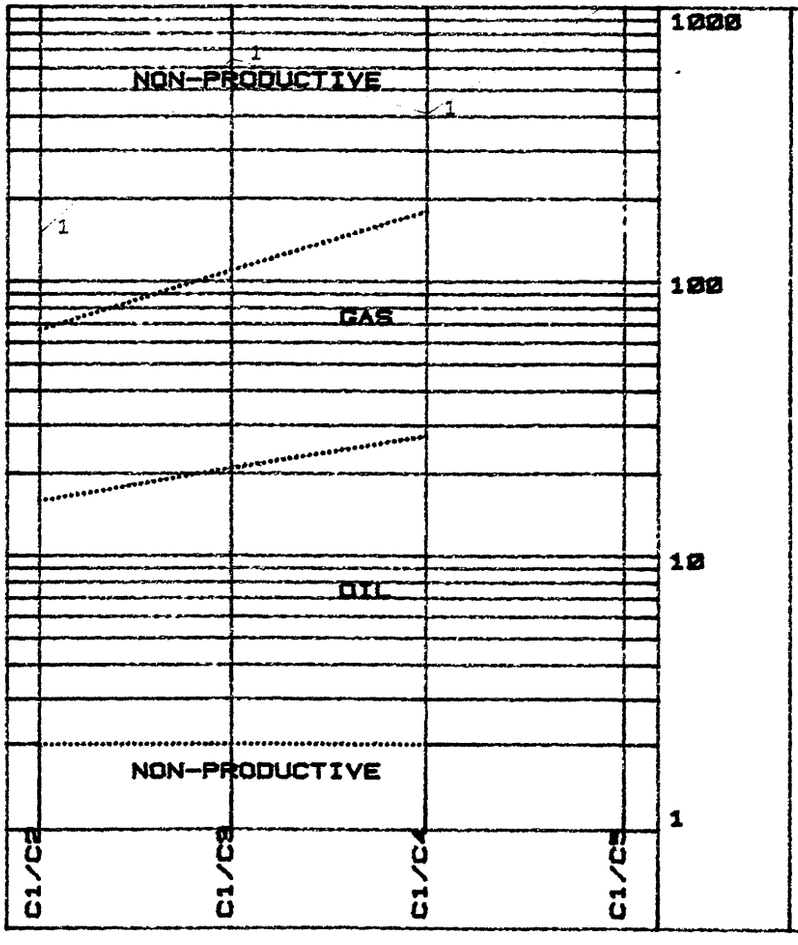
CORE LAB. INTL. LTD. Client: ESSO AUSTRALIA LTD. Well: BREAM # 5

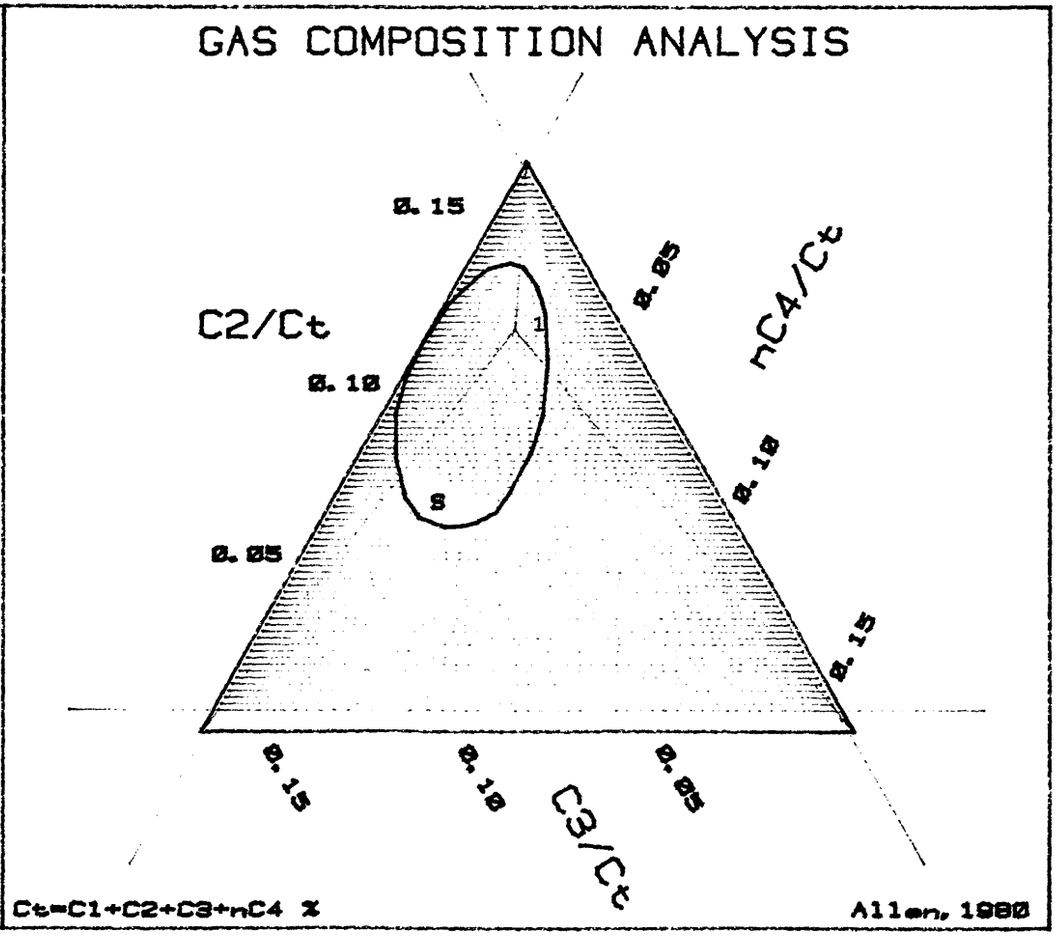




NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	2982	0.830	0.032	0.009	0.001	0.001	0.001	0.002	0.872	20	70	225	700

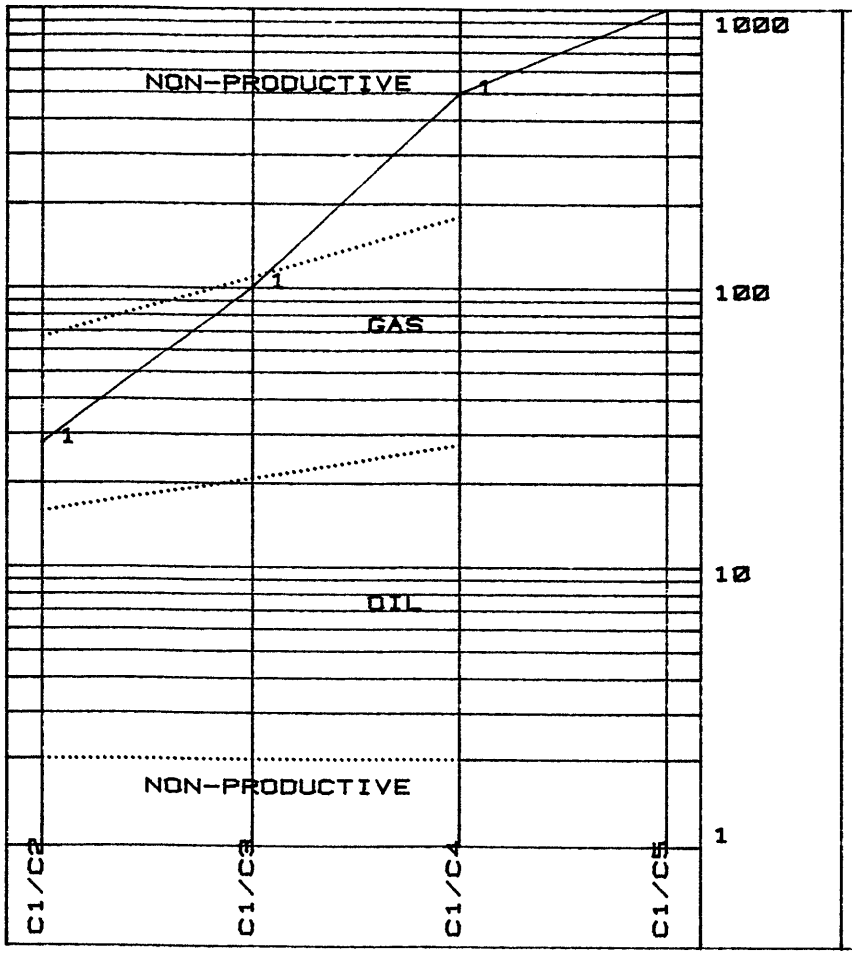
CORE LAB. INTL. LTD. Client: ESSO AUSTRALIA LTD. Well: BREAM # 5

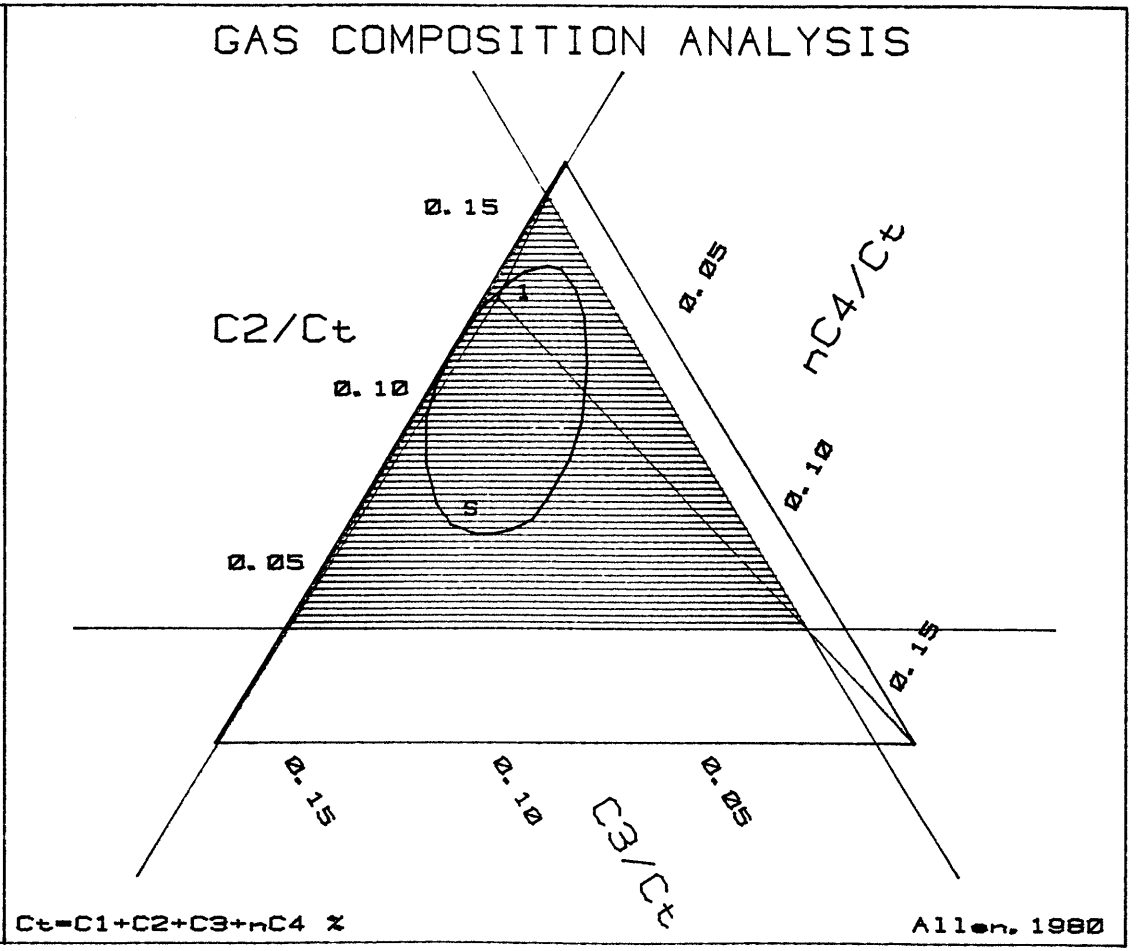




NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	3017	0.451	0.003	0.001	0.001	0.001	0.000	0.000	0.455	150	644	410	1128

CORE LAB. INTL. LTD. Client: ESSO AUSTRALIA LTD Well: BREAM NO. 5





NO.	DEPTH	C1	C2	C3	iC4	nC4	C5	C6 %	Ct	C1/C2	C1/C3	C1/C4	C1/C5
1	3303	1.199	0.043	0.012	0.001	0.001	0.001	0.000	1.256	28	101	500	1000

COMPUTER DATA LISTINGS

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

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

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

The following data lists have been made for this well :

a. Bit record & Bit initialization data

b. Hydraulic analyses

c. Data list A

d. Data list B

e. Data list C

f. Data list D

COMPUTER PLOTS

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

GEOPLOT - 1:5000 SCALE - 2m average

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

(a). BIT RECORD

BIT SIZE . . . . Inches

BIT COST . . . . A dollars

JET SIZE . . . . Thirty seconds of an inch

DEPTHS. . . . . Metres

HOLE MADE. . . . . . . Metres

DRILLING TIME . . . . . Hours

AVERAGE ROP . . . . . . Metres/hour

AVERAGE COST/METRE. . . . A dollars

BIT CONDITION . . . . . Teeth

Bearings

Gauge . . . inches

WELL: BREAM # 5

BIT RECORD

BIT No.	IADC CODE	MAKE & TYPE	SIZE	COST	NOZZLES	DEPTH IN	DEPTH OUT	BIT RUN	TOTAL HOURS	AROP	TRIP TIME	CCOST	TOTAL TURNS	CONDITION T	B	G
1	111	HTC OSC3AJ&26"HO	26.000	6350.00	20 20 20	80.6	220.0	139.4	1.06	131.5	1.8	141.82	8208	2	2	0.000
2	111	HTC OSC 3AJ	17.500	2500.00	20 20 20	220.0	805.0	585.0	7.56	77.4	3.9	96.19	82391	1	1	0.000
3	114	HTC X3A	12.250	1400.00	18 18 18	805.0	1610.0	805.0	18.73	43.0	6.9	151.13	192624	7	6	0.000
4	114	HTC X3A	12.250	1400.00	18 18 18	1610.0	1939.0	329.0	13.20	24.9	8.0	306.60	142370	4	3	0.000
4	4	CHRIST RC4	8.500	13000.00	15 15 14	1939.0	1952.2	13.2	12.06	3.6	8.1	2676.39	113907	0	0	0.250
4	4	CHRIST RC4	8.500	13000.00	15 15 14	1952.2	1964.2	12.0	14.75	4.3	8.1	2302.92	134889	0	0	0.350
5	135	HTC XDG	12.250	1284.00	15 15 16	1964.2	2070.0	105.8	6.30	16.8	8.5	668.65	58389	6	6	0.125

WELL: BREAM NO.5

BIT RECORD

BIT No.	IADC CODE	MAKE & TYPE	SIZE	COST	NOZZLES	DEPTH IN	DEPTH OUT	BIT RUN	TOTAL HOURS	AROP	TRIP TIME	CCOST	TOTAL TURNS	CONDITION T	B	G
6	517	HTC J22	8.500	1852.00	10 10 10	2070.0	2374.0	304.0	33.17	9.2	9.6	666.21	124801	8	4	0.250
7	527	HTC J33	8.500	1852.00	10 10 10	2374.0	2568.0	194.0	27.67	7.0	10.3	927.87	90581	2	3	0.000
7	4	CHRIST C-22	8.468	12000.00	13 13 13	2568.0	2574.6	6.6	5.48	1.2	10.4	13107.42	31240	0	0	0.450
8	517	HTC J22	8.500	1852.00	10 10 10	2574.6	2707.6	133.0	13.92	9.6	10.8	886.00	49931	3	3	0.125
8	4	CHRIST C-22 FD	8.468	12000.00	13 13 13	2707.6	2726.0	18.4	4.23	4.3	10.9	4510.32	28434	0	0	0.600
9	517	HTC J22	8.500	1852.00	10 10 10	2726.0	2758.4	32.4	2.92	11.1	11.0	2072.75	12698	1	1	0.000
9	4	CHRIST RC4	8.500	13000.00	15 15 14	2758.4	2776.4	18.0	16.88	8.5	11.1	8015.68	148624	0	0	0.600
10	517	HTC J22	8.500	1852.00	10 10 10	2776.4	3017.0	240.6	27.73	8.7	12.0	782.48	101374	4	5	0.250
11	517	HTC J22	8.500	1852.00	10 10 10	3017.0	3284.0	267.0	29.28	9.1	12.9	748.17	118795	8	8	0.125
12	216	HTC J4	8.500	1300.00	10 10 10	3284.0	3322.0	38.0	7.19	5.3	13.1	2539.49	25721	4	2	0.125

BIT NUMBER: 1	IADC CODE 111	HTC OSC3AJ&26"HO		
STARTING DEPTH.....	80.6			
BIT COST, RIG COST/HOUR.....	6350.00	4692.00		
TRIP TIME.....	1.8			
BIT DIAMETER.....	26.000			
NOZZLES.....	20	20	20	
HW DRILL COLLAR LENGTH, OD, ID....	21.29	9.750	3.062	
DRILL COLLAR LENGTH, OD, ID.....	38.94	8.000	2.813	
HW DRILL PIPE LENGTH, OD, ID.....	82.97	5.000	3.000	
DRILL PIPE OD, ID.....		5.000	4.276	
CASING DEPTH, ID.....	0.00	0.000		
PUMP VOLUMES 1 AND 2.....	0.119	0.119		
PORE PRESSURE CALC EXPONENT.....	1.20			
NORMAL PORE PRESSURE.....	8.5			
OVERBURDEN GRADIENT MODIFIER.....	0.00			
STRESS RATIO MODIFIER.....	0.00			
"d" EXPONENT CORRECTION FACTOR....	10.0			
CUTTINGS DIAMETER, DENSITY.....	3.0	1.80		
FINISHING DEPTH.....	220.0			
CUMULATIVE HOURS, TURNS.....	1.06	8208		
BIT CONDITION OUT.....	T 2	B 2	G 0.000	

BIT NUMBER: 2	IADC CODE 111	HTC OSC 3AJ		
STARTING DEPTH.....	220.0			
BIT COST, RIG COST/HOUR.....	2500.00	4692.00		
TRIP TIME.....	3.9			
BIT DIAMETER.....	17.500			
NOZZLES.....	20	20	20	
HW DRILL COLLAR LENGTH, OD, ID....	19.70	9.750	3.000	
DRILL COLLAR LENGTH, OD, ID.....	96.18	8.000	2.813	
HW DRILL PIPE LENGTH, OD, ID.....	83.12	5.000	3.000	
DRILL PIPE OD, ID.....		5.000	4.276	
CASING DEPTH, ID.....	204.00	19.124		
RISER LENGTH, ID.....	80.60	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.....	0.00			
"d" EXPONENT CORRECTION FACTOR....	10.0			
CUTTINGS DIAMETER, DENSITY.....	3.0	2.20		
FINISHING DEPTH.....	805.0			
CUMULATIVE HOURS, TURNS.....	7.56	82391		
BIT CONDITION OUT.....	T 1	B 1	G 0.000	

BIT NUMBER: 3	IADC CODE 114	HTC X3A		
STARTING DEPTH		805.0		
BIT COST, RIG COST/HOUR		1400.00	4692.00	
TRIP TIME		6.9		
BIT DIAMETER		12.250		
NOZZLES		18	18	18
DRILL COLLAR LENGTH, OD, ID		144.78	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID		82.87	5.000	3.000
DRILL PIPE OD, ID			5.000	4.276
CASING DEPTH, ID		786.00	12.615	
RISER LENGTH, ID		80.60	21.000	
PUMP VOLUMES 1 AND 2		0.119	0.119	
PORE PRESSURE CALC EXPONENT		1.20		
NORMAL PORE PRESSURE		8.5		
OVERBURDEN GRADIENT MODIFIER		0.00		
STRESS RATIO MODIFIER		0.04		
"d" EXPONENT CORRECTION FACTOR		10.0		
CUTTINGS DIAMETER, DENSITY		2.5	2.10	
FINISHING DEPTH		1610.0		
CUMULATIVE HOURS, TURNS		18.73	192624	
BIT CONDITION OUT		T 7	B 6	G 0.000

BIT NUMBER: 4	IADC CODE 114	HTC X3A		
STARTING DEPTH		1610.0		
BIT COST, RIG COST/HOUR		1400.00	4692.00	
TRIP TIME		8.0		
BIT DIAMETER		12.250		
NOZZLES		18	18	18
DRILL COLLAR LENGTH, OD, ID		144.78	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID		82.87	5.000	3.000
DRILL PIPE OD, ID			5.000	4.276
CASING DEPTH, ID		786.00	12.615	
RISER LENGTH, ID		80.60	21.000	
PUMP VOLUMES 1 AND 2		0.119	0.119	
PORE PRESSURE CALC EXPONENT		1.20		
NORMAL PORE PRESSURE		8.5		
OVERBURDEN GRADIENT MODIFIER		0.00		
STRESS RATIO MODIFIER		0.04		
"d" EXPONENT CORRECTION FACTOR		10.0		
CUTTINGS DIAMETER, DENSITY		2.5	2.10	
FINISHING DEPTH		1939.0		
CUMULATIVE HOURS, TURNS		13.20	142370	
BIT CONDITION OUT		T 4	B 3	G 0.000

BIT NUMBER: 4 IADC CODE 4 CHRIST RC4

STARTING DEPTH.....	1939.0		
BIT COST, RIG COST/HOUR.....	13000.00	4692.00	
TRIP TIME.....	8.1		
PREVIOUS HOLE MADE.....	27.0		
PREVIOUS HOURS, TURNS.....	8.39	87429	
BIT DIAMETER.....	8.500		
NOZZLES.....	15	15	14
DRILL COLLAR LENGTH, OD, ID.....	134.72	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	82.87	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	1939.00	786.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	80.60	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	0.3	2.65	
FINISHING DEPTH.....	1952.2		
CUMULATIVE HOURS, TURNS.....	12.06	113907	
BIT CONDITION OUT.....	T 0	B 0	G 0.250

BIT NUMBER: 4 IADC CODE 4 CHRIST RC4

STARTING DEPTH.....	1952.2		
BIT COST, RIG COST/HOUR.....	13000.00	4692.00	
TRIP TIME.....	8.1		
PREVIOUS HOLE MADE.....	40.2		
PREVIOUS HOURS, TURNS.....	11.98	113907	
BIT DIAMETER.....	8.500		
NOZZLES.....	15	15	14
HW DRILL COLLAR LENGTH, OD, ID....	136.12	8.000	2.813
DRILL COLLAR LENGTH, OD, ID.....	29.29	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.47	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	1939.00	786.00	12.250
CASING ID.....	12.615		
RISER LENGTH, ID.....	80.60	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	0.3	2.65	
FINISHING DEPTH.....	1964.2		
CUMULATIVE HOURS, TURNS.....	14.75	134889	
BIT CONDITION OUT.....	T 0	B 0	G 0.350

BIT NUMBER: 5 IADC CODE 135 HTC XDG

STARTING DEPTH.....	1964.2		
BIT COST, RIG COST/HOUR.....	1284.00	4692.00	
TRIP TIME.....	8.5		
BIT DIAMETER.....	12.250		
NOZZLES.....	15	15	16
DRILL COLLAR LENGTH, OD, ID.....	136.12	8.000	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.47	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	786.00	12.615	
RISER LENGTH, ID.....	80.60	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	2.0	2.40	
FINISHING DEPTH.....	2070.0		
CUMULATIVE HOURS, TURNS.....	6.30	58389	
BIT CONDITION OUT.....	T 6	B 6	G 0.125

BIT NUMBER: 6 IADC CODE 517 HTC J22

STARTING DEPTH.....	2070.0		
BIT COST, RIG COST/HOUR.....	1852.00	4692.00	
TRIP TIME.....	9.6		
BIT DIAMETER.....	8.500		
NOZZLES.....	10	10	10
DRILL COLLAR LENGTH, OD, ID.....	235.53	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.47	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2056.00	8.681	
RISER LENGTH, ID.....	80.60	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	1.7	2.40	
FINISHING DEPTH.....	2374.0		
CUMULATIVE HOURS, TURNS.....	33.17	124801	
BIT CONDITION OUT.....	T 8	B 4	G 0.250

BIT NUMBER: 7 IADC CODE 527 HTC J33

STARTING DEPTH.....	2374.0		
BIT COST, RIG COST/HOUR.....	1852.00	4692.00	
TRIP TIME.....	10.3		
BIT DIAMETER.....	8.500		
NOZZLES.....	10	10	10
DRILL COLLAR LENGTH, OD, ID.....	236.49	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.47	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2056.00	8.681	
RISER LENGTH, ID.....	80.60	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	1.7	2.40	
FINISHING DEPTH.....	2568.0		
CUMULATIVE HOURS, TURNS.....	27.67	90581	
BIT CONDITION OUT.....	T 2	B 3	G 0.000

BIT NUMBER: 7 IADC CODE 4 CHRIST C-22

STARTING DEPTH.....	2568.0		
BIT COST, RIG COST/HOUR.....	12000.00	4692.00	
TRIP TIME.....	10.4		
BIT DIAMETER.....	8.468		
NOZZLES.....	13	13	13
DRILL COLLAR LENGTH, OD, ID.....	223.30	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.47	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
LINER DEPTH, TOP, ID.....	2568.00	2056.00	8.500
CASING ID.....	8.681		
RISER LENGTH, ID.....	80.60	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	0.3	2.65	
FINISHING DEPTH.....	2574.6		
CUMULATIVE HOURS, TURNS.....	5.48	31240	
BIT CONDITION OUT.....	T 0	B 0	G 0.450

BIT NUMBER: 8 IADC CODE 517 HTC J22

STARTING DEPTH.....	2574.6		
BIT COST, RIG COST/HOUR.....	1852.00	4692.00	
TRIP TIME.....	10.8		
BIT DIAMETER.....	8.500		
NOZZLES.....	10	10	10
DRILL COLLAR LENGTH, OD, ID.....	235.53	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID.....	81.47	5.000	3.000
DRILL PIPE OD, ID.....		5.000	4.276
CASING DEPTH, ID.....	2056.00	8.681	
RISER LENGTH, ID.....	80.60	21.000	
PUMP VOLUMES 1 AND 2.....	0.119	0.119	
PORE PRESSURE CALC EXPONENT.....	1.20		
NORMAL PORE PRESSURE.....	8.5		
OVERBURDEN GRADIENT MODIFIER.....	0.00		
STRESS RATIO MODIFIER.....	0.04		
"d" EXPONENT CORRECTION FACTOR....	10.0		
CUTTINGS DIAMETER, DENSITY.....	1.5	2.40	
FINISHING DEPTH.....	2707.0		
CUMULATIVE HOURS, TURNS.....	13.92	49931	
BIT CONDITION OUT.....	T 3	B 3	G 0.125

BIT NUMBER: 8 IADC CODE 4 CHRIST C-22 FD

STARTING DEPTH	2707.6		
BIT COST, RIG COST/HOUR	12000.00	4692.00	
TRIP TIME	10.9		
BIT DIAMETER	8.468		
NOZZLES	13	13	13
DRILL COLLAR LENGTH, OD, ID	221.89	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID	82.88	5.000	3.000
DRILL PIPE OD, ID		5.000	4.276
LINER DEPTH, TOP, ID	2707.60	2056.00	8.500
CASING ID	8.681		
RISER LENGTH, ID	80.60	21.000	
PUMP VOLUMES 1 AND 2	0.119	0.119	
PORE PRESSURE CALC EXPONENT	1.20		
NORMAL PORE PRESSURE	8.4		
OVERBURDEN GRADIENT MODIFIER	0.00		
STRESS RATIO MODIFIER	0.04		
"d" EXPONENT CORRECTION FACTOR	10.0		
CUTTINGS DIAMETER, DENSITY	0.3	2.65	
FINISHING DEPTH	2726.0		
CUMULATIVE HOURS, TURNS	4.23	28434	
BIT CONDITION OUT	T 0	B 0	G 0.600

BIT NUMBER: 9 IADC CODE 517 HTC J22

STARTING DEPTH	2726.0		
BIT COST, RIG COST/HOUR	1852.00	4692.00	
TRIP TIME	11.0		
BIT DIAMETER	8.500		
NOZZLES	10	10	10
DRILL COLLAR LENGTH, OD, ID	234.12	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID	82.88	5.000	3.000
DRILL PIPE OD, ID		5.000	4.276
CASING DEPTH, ID	2056.00	8.681	
RISER LENGTH, ID	80.60	21.000	
PUMP VOLUMES 1 AND 2	0.119	0.119	
PORE PRESSURE CALC EXPONENT	1.20		
NORMAL PORE PRESSURE	8.4		
OVERBURDEN GRADIENT MODIFIER	0.00		
STRESS RATIO MODIFIER	0.04		
"d" EXPONENT CORRECTION FACTOR	10.0		
CUTTINGS DIAMETER, DENSITY	1.5	2.40	
FINISHING DEPTH	2758.4		
CUMULATIVE HOURS, TURNS	2.92	12698	
BIT CONDITION OUT	T 1	B 1	G 0.000

BIT NUMBER: 9 IADC CODE 4 CHRIST RC4

STARTING DEPTH	2758.4		
BIT COST, RIG COST/HOUR	13000.00	4692.00	
TRIP TIME	11.1		
PREVIOUS HOLE MADE	0.0		
PREVIOUS HOURS, TURNS	14.75	134889	
BIT DIAMETER	8.500		
NOZZLES	15	15	14
DRILL COLLAR LENGTH, OD, ID	223.30	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID	82.88	5.000	3.000
DRILL PIPE OD, ID		5.000	4.276
CASING DEPTH, ID	2056.00	8.681	
RISER LENGTH, ID	80.60	21.000	
PUMP VOLUMES 1 AND 2	0.119	0.119	
PORE PRESSURE CALC EXPONENT	1.20		
NORMAL PORE PRESSURE	8.4		
OVERBURDEN GRADIENT MODIFIER	0.00		
STRESS RATIO MODIFIER	0.04		
"d" EXPONENT CORRECTION FACTOR	10.0		
CUTTINGS DIAMETER, DENSITY	0.3	2.65	
FINISHING DEPTH	2776.4		
CUMULATIVE HOURS, TURNS	16.88	148624	
BIT CONDITION OUT	T 0	B 0	G 0.600

BIT NUMBER: 10 IADC CODE 517 HTC J22

STARTING DEPTH	2776.4		
BIT COST, RIG COST/HOUR	1852.00	4692.00	
TRIP TIME	12.0		
BIT DIAMETER	8.500		
NOZZLES	10	10	10
DRILL COLLAR LENGTH, OD, ID	234.12	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID	82.88	5.000	3.000
DRILL PIPE OD, ID		5.000	4.276
CASING DEPTH, ID	2056.00	8.681	
RISER LENGTH, ID	80.60	21.000	
PUMP VOLUMES 1 AND 2	0.119	0.119	
PORE PRESSURE CALC EXPONENT	1.20		
NORMAL PORE PRESSURE	8.4		
OVERBURDEN GRADIENT MODIFIER	0.00		
STRESS RATIO MODIFIER	0.04		
"d" EXPONENT CORRECTION FACTOR	10.0		
CUTTINGS DIAMETER, DENSITY	1.5	2.40	
FINISHING DEPTH	3017.0		
CUMULATIVE HOURS, TURNS	27.73	101374	
BIT CONDITION OUT	T 4	B 5	G 0.250

BIT NUMBER: 11 IADC CODE 517 HTC J22

STARTING DEPTH	3017.0		
BIT COST, RIG COST/HOUR	1852.00	4692.00	
TRIP TIME	12.9		
BIT DIAMETER	8.500		
NOZZLES	10	10	10
DRILL COLLAR LENGTH, OD, ID	235.08	6.250	2.813
HW DRILL PIPE LENGTH, OD, ID	82.88	5.000	3.000
DRILL PIPE OD, ID		5.000	4.276
CASING DEPTH, ID	2056.00	8.681	
RISER LENGTH, ID	80.60	21.000	
PUMP VOLUMES 1 AND 2	0.119	0.119	
PORE PRESSURE CALC EXPONENT	1.20		
NORMAL PORE PRESSURE	8.5		
OVERBURDEN GRADIENT MODIFIER	0.00		
STRESS RATIO MODIFIER	0.04		
"d" EXPONENT CORRECTION FACTOR	10.0		
CUTTINGS DIAMETER, DENSITY	1.5	2.40	
FINISHING DEPTH	3284.0		
CUMULATIVE HOURS, TURNS	29.28	118795	
BIT CONDITION OUT	T 8	B 8	G 0.125

BIT NUMBER: 12 IADC CODE 216 HTC J4

STARTING DEPTH	3284.0		
BIT COST, RIG COST/HOUR	1300.00	4692.00	
TRIP TIME	13.1		
BIT DIAMETER	8.500		
NOZZLES	10	10	10
DRILL COLLAR LENGTH, OD, ID	235.08	6.250	2.813
DRILL PIPE OD, ID		5.000	4.276
CASING DEPTH, ID	2056.00	8.681	
RISER LENGTH, ID	80.60	21.000	
PUMP VOLUMES 1 AND 2	0.119	0.119	
PORE PRESSURE CALC EXPONENT	1.20		
NORMAL PORE PRESSURE	8.5		
OVERBURDEN GRADIENT MODIFIER	0.00		
STRESS RATIO MODIFIER	0.04		
"d" EXPONENT CORRECTION FACTOR	10.0		
CUTTINGS DIAMETER, DENSITY	1.5	2.40	
FINISHING DEPTH	3322.0		
CUMULATIVE HOURS, TURNS	7.19	25721	
BIT CONDITION OUT	T 4	B 2	G 0.125

(b). HYDRAULIC ANALYSIS

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

DEPTH. . . . . Metres

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

ANNULAR VOLUMES. . . . Barrels, Barrels/metre

ANNULAR VELOCITIES . . Metres/minute

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

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

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

PRESSURE UNITS . . . . Pounds per square inch

HHP. . . . . Hydraulic horsepower at the bit

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

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

DENSITY UNITS. . . . . Pounds per gallon

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 100.0 AND TVD 100.0

SPM 1 61 SPM 2 62 FLOW RATE 616

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	1.851	39	8	19	LAMINAR	0	8	0.0
DC/OH	1.950	76	8	19	LAMINAR	0	7	0.0
HWDP/OH	2.074	82	7	18	LAMINAR	0	7	0.0
TOTAL VOLUME		198				TOTAL PRESSURE DROP		0.0

LAG: 13.5 MINUTES 827 STROKES #1 AND 835 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	355.1	HHP	128	IMPACT FORCE	590
% SURFACE PRESSURE	60.2	HHP/sqin	0.24	JET VELOCITY	65

PRESSURE BREAKDOWN:

SURFACE	27.7		
STRING	98.0		
BIT	355.1		
ANNULUS	0.0		
TOTAL	480.8	PUMP PRESSURE 590.0	% DIFFERENCE 18.5

BOTTOM HOLE PRESSURES:

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

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 200.0 AND TVD 200.0

SPM 1 106 SPM 2 106 FLOW RATE 1059

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
HWDC/OH	1.851	39	14	19	LAMINAR	0	13	0.0
DC/OH	1.950	76	13	19	LAMINAR	0	13	0.0
HWDP/OH	2.074	172	12	18	LAMINAR	0	12	0.0
DP/OH	2.074	118	12	18	LAMINAR	0	12	0.0
TOTAL VOLUME		405				TOTAL PRESSURE DROP		0.0

LAG: 16.1 MINUTES 1704 STROKES #1 AND 1701 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1048.9	HHP	648	IMPACT FORCE	1741
% SURFACE PRESSURE	74.9	HHP/sqin	1.22	JET VELOCITY	112

PRESSURE BREAKDOWN:

SURFACE	73.4		
STRING	383.9		
BIT	1048.9		
ANNULUS	0.0		
TOTAL	1506.2	PUMP PRESSURE 1400.0	% DIFFERENCE 7.6

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.60	HYDROSTATIC PRESSURE	293.4
CIRCULATING:	ECD	8.60	CIRCULATING PRESSURE	293.5
PULLING OUT:	TRIP MARGIN	0.00	ESTIMATED SWAB	0.1
	EFFECTIVE MUD WEIGHT	8.60	BOTTOM HOLE PRESSURE	293.4

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 300.0 AND TVD 300.0

SPM 1 105 SPM 2 112 FLOW RATE 1082

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	26	TURBULENT			0.1
DC/OH	0.772	59	33	23	TURBULENT			0.2
DC/CSG	0.961	19	27	21	TURBULENT			0.0
HWDP/CSG	1.085	90	24	18	TURBULENT			0.1
DP/CSG	1.085	22	24	18	TURBULENT			0.0
DP/RIS	1.325	107	19	17	TURBULENT			0.0
TOTAL VOLUME		310					TOTAL PRESSURE DROP	0.3

LAG: 12.1 MINUTES 1262 STROKES #1 AND 1346 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1094.4	HHP	691	IMPACT FORCE	1817
% SURFACE PRESSURE	54.4	HHP/sqin	2.87	JET VELOCITY	115

PRESSURE BREAKDOWN:

SURFACE	100.6
STRING	801.4
BIT	1094.4
ANNULUS	0.3
TOTAL	1996.7

PUMP PRESSURE 2010.0 % DIFFERENCE 0.7

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.60	HYDROSTATIC PRESSURE	440.2
CIRCULATING:	ECD	8.61	CIRCULATING PRESSURE	440.5
PULLING OUT:	TRIP MARGIN	0.01	ESTIMATED SWAB	0.7
	EFFECTIVE MUD WEIGHT	8.59	BOTTOM HOLE PRESSURE	439.5

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 400.0 AND TVD 400.0

SPM 1 104 SPM 2 103 FLOW RATE 1035

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	37	26	TURBULENT			0.1
DC/OH	0.772	74	32	23	TURBULENT			0.2
HWDP/OH	0.896	72	28	20	TURBULENT			0.1
HWDP/CSG	1.085	3	23	18	TURBULENT			0.0
DP/CSG	1.085	131	23	18	TURBULENT			0.1
DP/RIS	1.325	107	19	17	TURBULENT			0.0
TOTAL VOLUME		400			TOTAL PRESSURE DROP			0.4

LAG: 16.2 MINUTES 1684 STROKES #1 AND 1678 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1001.4	HHP	605	IMPACT FORCE	1662
% SURFACE PRESSURE	50.3	HHP/sqin	2.51	JET VELOCITY	110

PRESSURE BREAKDOWN:

SURFACE	92.9		
STRING	793.3		
BIT	1001.4		
ANNULUS	0.4		
TOTAL	1888.0	PUMP PRESSURE 1990.0	% DIFFERENCE 5.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.60	HYDROSTATIC PRESSURE	586.9
CIRCULATING:	ECD	8.61	CIRCULATING PRESSURE	587.3
PULLING OUT:	TRIP MARGIN	0.01	ESTIMATED SWAB	0.8
	EFFECTIVE MUD WEIGHT	8.59	BOTTOM HOLE PRESSURE	586.0

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 500.0 AND TVD 500.0

SPM 1 105 SPM 2 105 FLOW RATE 1050

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	37	26	TURBULENT			0.1
DC/OH	0.772	74	32	23	TURBULENT			0.2
HWDP/OH	0.896	74	28	20	TURBULENT			0.1
DP/OH	0.896	87	28	20	TURBULENT			0.1
DP/CSG	1.085	134	23	18	TURBULENT			0.1
DP/RIS	1.325	107	19	17	TURBULENT			0.0
TOTAL VOLUME		490					TOTAL PRESSURE DROP	0.5

LAG: 19.6 MINUTES 2061 STROKES #1 AND 2054 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1030.5	HHP	631	IMPACT FORCE	1711
% SURFACE PRESSURE	50.0	HHP/sqin	2.62	JET VELOCITY	111

PRESSURE BREAKDOWN:

SURFACE	95.3		
STRING	869.0		
BIT	1030.5		
ANNULUS	0.5		
TOTAL	1995.3	PUMP PRESSURE 2060.0	% DIFFERENCE 3.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.60	HYDROSTATIC PRESSURE	733.6
CIRCULATING:	ECD	8.61	CIRCULATING PRESSURE	734.1
PULLING OUT:	TRIP MARGIN	0.01	ESTIMATED SWAB	1.1
	EFFECTIVE MUD WEIGHT	8.59	BOTTOM HOLE PRESSURE	732.5

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 600.0 AND TVD 600.0

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	26	TURBULENT			0.1
DC/OH	0.772	74	33	23	TURBULENT			0.2
HWDP/OH	0.896	74	28	20	TURBULENT			0.1
DP/OH	0.896	177	28	20	TURBULENT			0.2
DP/CSG	1.085	134	23	18	TURBULENT			0.1
DP/RIS	1.325	107	19	17	TURBULENT			0.0
TOTAL VOLUME		579					TOTAL PRESSURE DROP	0.7

LAG: 22.7 MINUTES 2479 STROKES #1 AND 2388 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1069.6	HHP	667	IMPACT FORCE	1776
% SURFACE PRESSURE	53.5	HHP/sqin	2.77	JET VELOCITY	113

PRESSURE BREAKDOWN:

SURFACE	98.5
STRING	955.4
BIT	1069.6
ANNULUS	0.7
TOTAL	2124.3

PUMP PRESSURE 2000.0 % DIFFERENCE 6.2

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.60	HYDROSTATIC PRESSURE	880.3
CIRCULATING:	ECD	8.61	CIRCULATING PRESSURE	881.0
PULLING OUT:	TRIP MARGIN	0.01	ESTIMATED SWAB	1.3
	EFFECTIVE MUD WEIGHT	8.59	BOTTOM HOLE PRESSURE	879.0

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 700.0 AND TVD 700.0

SPM 1 105 SPM 2 104 FLOW RATE 1045

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	37	26	TURBULENT			0.1
DC/OH	0.772	74	32	23	TURBULENT			0.2
HWDP/OH	0.896	74	28	20	TURBULENT			0.1
DP/OH	0.896	266	28	20	TURBULENT			0.3
DP/CSG	1.085	134	23	18	TURBULENT			0.1
DP/RIS	1.325	107	19	17	TURBULENT			0.0
TOTAL VOLUME		669					TOTAL PRESSURE DROP	0.7

LAG: 26.9 MINUTES 2824 STROKES #1 AND 2797 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1020.2	HHP	622	IMPACT FORCE	1694
% SURFACE PRESSURE	45.3	HHP/sqin	2.58	JET VELOCITY	111

PRESSURE BREAKDOWN:

SURFACE	94.4		
STRING	970.1		
BIT	1020.2		
ANNULUS	0.7		
TOTAL	2085.4	PUMP PRESSURE 2250.0	% DIFFERENCE 7.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.60	HYDROSTATIC PRESSURE	1027.0
CIRCULATING:	ECD	8.61	CIRCULATING PRESSURE	1027.8
PULLING OUT:	TRIP MARGIN	0.01	ESTIMATED SWAB	1.5
	EFFECTIVE MUD WEIGHT	8.59	BOTTOM HOLE PRESSURE	1025.6

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 800.0 AND TVD 800.0

SPM 1 107 SPM 2 105 FLOW RATE 1055

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	37	26	TURBULENT			0.1
DC/OH	0.772	74	33	23	TURBULENT			0.2
HWDP/OH	0.896	74	28	20	TURBULENT			0.1
DP/OH	0.896	356	28	20	TURBULENT			0.4
DP/CSG	1.085	134	23	18	TURBULENT			0.1
DP/RIS	1.325	107	19	17	TURBULENT			0.0
TOTAL VOLUME		758					TOTAL PRESSURE DROP	0.9

LAG: 30.2 MINUTES 3215 STROKES #1 AND 3158 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1041.3	HHP	641	IMPACT FORCE	1729
% SURFACE PRESSURE	43.8	HHP/sqin	2.67	JET VELOCITY	112

PRESSURE BREAKDOWN:

SURFACE	96.2				
STRING	1043.5				
BIT	1041.3				
ANNULUS	0.9				
TOTAL	2181.8	PUMP PRESSURE	2380.0	% DIFFERENCE	8.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.60	HYDROSTATIC PRESSURE	1173.7
CIRCULATING:	ECD	8.61	CIRCULATING PRESSURE	1174.6
PULLING OUT:	TRIP MARGIN	0.01	ESTIMATED SWAB	1.7
	EFFECTIVE MUD WEIGHT	8.59	BOTTOM HOLE PRESSURE	1172.0

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 900.0 AND TVD 899.7

SPM 1 104 SPM 2 98 FLOW RATE 1010

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	31	88	83	TURBULENT			2.8
DC/CSG	0.303	9	79	82	LAMINAR	1	78	0.6
HWDP/CSG	0.427	35	56	78	LAMINAR	1	56	0.7
DP/CSG	0.427	253	56	78	LAMINAR	1	56	5.2
DP/RIS	1.325	107	18	73	LAMINAR	0	18	0.2
TOTAL VOLUME		436			TOTAL PRESSURE DROP			9.5

LAG: 18.1 MINUTES 1885 STROKES #1 AND 1776 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1452.6	HHP	856	IMPACT FORCE	1953
% SURFACE PRESSURE	57.0	HHP/sqin	7.26	JET VELOCITY	132

PRESSURE BREAKDOWN:

SURFACE	73.0
STRING	928.6
BIT	1452.6
ANNULUS	9.5
TOTAL	2463.6

PUMP PRESSURE 2550.0 % DIFFERENCE 3.4

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.60	HYDROSTATIC PRESSURE	1320.0
CIRCULATING:	ECD	8.66	CIRCULATING PRESSURE	1329.5
PULLING OUT:	TRIP MARGIN	0.12	ESTIMATED SWAB	19.0
	EFFECTIVE MUD WEIGHT	8.48	BOTTOM HOLE PRESSURE	1301.1

CORE LAB

HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1000.0 AND TVD 999.3

SPM 1 103 SPM 2 98 FLOW RATE 1002

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	87	37	TURBULENT			4.2
HWDP/OH	0.398	28	60	27	TURBULENT			0.5
HWDP/CSG	0.427	6	56	26	TURBULENT			0.1
DP/CSG	0.427	296	56	26	TURBULENT			4.5
DP/RIS	1.325	107	18	17	TURBULENT			0.0
TOTAL VOLUME		476					TOTAL PRESSURE DROP	9.4

LAG: 19.9 MINUTES 2047 STROKES #1 AND 1949 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1430.6	HHP	836	IMPACT FORCE	1924
% SURFACE PRESSURE	54.0	HHP/sqin	7.10	JET VELOCITY	131

PRESSURE BREAKDOWN:

SURFACE	87.6				
STRING	1164.9				
BIT	1430.6				
ANNULUS	9.4				
TOTAL	2692.6	PUMP PRESSURE	2650.0	% DIFFERENCE	1.6

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.60	HYDROSTATIC PRESSURE	1466.2
CIRCULATING:	ECD	8.66	CIRCULATING PRESSURE	1475.6
PULLING OUT:	TRIP MARGIN	0.11	ESTIMATED SWAB	18.8
	EFFECTIVE MUD WEIGHT	8.49	BOTTOM HOLE PRESSURE	1447.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1100.0 AND TVD 1099.0

SPM 1 103 SPM 2 85 FLOW RATE 942

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	82	73	TURBULENT			3.8
HWDP/OH	0.398	33	56	61	LAMINAR	1	56	0.7
DP/OH	0.398	34	56	61	LAMINAR	1	56	0.7
DP/CSG	0.427	301	52	60	LAMINAR	1	52	4.9
DP/RIS	1.325	107	17	48	LAMINAR	0	17	0.1
TOTAL VOLUME		515			TOTAL PRESSURE DROP			10.2

LAG: 23.0 MINUTES 2377 STROKES #1 AND 1954 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1278.1	HHP	702	IMPACT FORCE	1719
% SURFACE PRESSURE	45.6	HHP/sqin	5.96	JET VELOCITY	123

PRESSURE BREAKDOWN:

SURFACE	79.1		
STRING	1096.9		
BIT	1278.1		
ANNULUS	10.2		
TOTAL	2464.2	PUMP PRESSURE 2800.0	% DIFFERENCE 12.0

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.70	HYDROSTATIC PRESSURE	1631.2
CIRCULATING:	ECD	8.75	CIRCULATING PRESSURE	1641.4
PULLING OUT:	TRIP MARGIN	0.11	ESTIMATED SWAB	20.4
	EFFECTIVE MUD WEIGHT	8.59	BOTTOM HOLE PRESSURE	1610.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1200.0 AND TVD 1198.7

SPM 1 98 SPM 2 94 FLOW RATE 961

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	83	73	TURBULENT			4.0
HWDP/OH	0.398	33	57	61	LAMINAR	1	57	0.7
DP/OH	0.398	74	57	61	LAMINAR	1	57	1.5
DP/CSG	0.427	301	54	60	LAMINAR	1	53	5.0
DP/RIS	1.325	107	17	48	LAMINAR	0	17	0.1
TOTAL VOLUME		555				TOTAL PRESSURE DROP		11.2

LAG: 24.3 MINUTES 2382 STROKES #1 AND 2283 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1331.1	HHP	746	IMPACT FORCE	1790
% SURFACE PRESSURE	46.7	HHP/sqin	6.33	JET VELOCITY	126

PRESSURE BREAKDOWN:

SURFACE	82.0				
STRING	1185.0				
BIT	1331.1				
ANNULUS	11.2				
TOTAL	2609.4	PUMP PRESSURE	2850.0	% DIFFERENCE	8.4

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.70	HYDROSTATIC PRESSURE	1779.2
CIRCULATING:	ECD	8.75	CIRCULATING PRESSURE	1790.4
PULLING OUT:	TRIP MARGIN	0.11	ESTIMATED SWAB	22.4
	EFFECTIVE MUD WEIGHT	8.59	BOTTOM HOLE PRESSURE	1756.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1300.0 AND TVD 1298.4

SPM 1 0 SPM 2 107 FLOW RATE 534

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	46	73	LAMINAR	1	45	2.4
HWDP/OH	0.398	33	32	61	LAMINAR	0	32	0.5
DP/OH	0.398	114	32	61	LAMINAR	0	32	1.6
DP/CSG	0.427	301	30	60	LAMINAR	0	29	3.5
DP/RIS	1.325	107	10	48	LAMINAR	0	10	0.1
TOTAL VOLUME		595				TOTAL PRESSURE DROP		8.1

LAG: 46.8 MINUTES 0 STROKES #1 AND 5000 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	410.5	HHP	128	IMPACT FORCE	552
% SURFACE PRESSURE	37.0	HHP/sqin	1.08	JET VELOCITY	70

PRESSURE BREAKDOWN:

SURFACE	28.4				
STRING	427.5				
BIT	410.5				
ANNULUS	8.1				
TOTAL	874.5	PUMP PRESSURE	1110.0	% DIFFERENCE	21.2

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.70	HYDROSTATIC PRESSURE	1927.1
CIRCULATING:	ECD	8.74	CIRCULATING PRESSURE	1935.2
PULLING OUT:	TRIP MARGIN	0.07	ESTIMATED SWAB	16.2
	EFFECTIVE MUD WEIGHT	8.63	BOTTOM HOLE PRESSURE	1911.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1400.0 AND TVD 1398.0

SPM 1 95 SPM 2 88 FLOW RATE 913

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	79	76	TURBULENT			3.3
HWDP/OH	0.398	33	55	68	LAMINAR	1	54	0.7
DP/OH	0.398	154	55	68	LAMINAR	1	54	3.2
DP/CSG	0.427	301	51	67	LAMINAR	1	50	5.3
DP/RIS	1.325	107	16	58	LAMINAR	0	16	0.1
TOTAL VOLUME		635				TOTAL PRESSURE DROP		12.6

LAG: 29.2 MINUTES 2768 STROKES #1 AND 2567 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1214.2	HHP	646	IMPACT FORCE	1633
% SURFACE PRESSURE	44.2	HHP/sqin	5.48	JET VELOCITY	119

PRESSURE BREAKDOWN:

SURFACE	68.6				
STRING	1071.0				
BIT	1214.2				
ANNULUS	12.6				
TOTAL	2366.5	PUMP PRESSURE	2750.0	% DIFFERENCE	13.9

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	8.80	HYDROSTATIC PRESSURE	2098.8
CIRCULATING:	ECD	8.85	CIRCULATING PRESSURE	2111.4
PULLING OUT:	TRIP MARGIN	0.11	ESTIMATED SWAB	25.2
	EFFECTIVE MUD WEIGHT	8.69	BOTTOM HOLE PRESSURE	2073.6

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1500.0 AND TVD 1497.7

SPM 1 0 SPM 2 108 FLOW RATE 540

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	47	75	LAMINAR	1	46	2.4
HWDP/OH	0.398	33	32	67	LAMINAR	0	32	0.5
DP/OH	0.398	194	32	67	LAMINAR	0	32	3.2
DP/CSG	0.427	301	30	67	LAMINAR	0	30	4.1
DP/RIS	1.325	107	10	57	LAMINAR	0	10	0.1
TOTAL VOLUME		675					TOTAL PRESSURE DROP	10.3

LAG: 52.5 MINUTES 0 STROKES #1 AND 5670 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	434.3	HHP	137	IMPACT FORCE	584
% SURFACE PRESSURE	37.8	HHP/sqin	1.16	JET VELOCITY	71

PRESSURE BREAKDOWN:

SURFACE	27.1				
STRING	439.3				
BIT	434.3				
ANNULUS	10.3				
TOTAL	911.1	PUMP PRESSURE	1150.0	% DIFFERENCE	20.8

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.00	HYDROSTATIC PRESSURE	2299.6
CIRCULATING:	ECD	9.04	CIRCULATING PRESSURE	2309.9
PULLING OUT:	TRIP MARGIN	0.08	ESTIMATED SWAB	20.7
	EFFECTIVE MUD WEIGHT	8.92	BOTTOM HOLE PRESSURE	2278.9

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1600.0 AND TVD 1597.4

SPM 1 100 SPM 2 88 FLOW RATE 940

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	82	75	TURBULENT			3.6
HWDP/OH	0.398	33	56	67	LAMINAR	1	56	0.7
DP/OH	0.398	234	56	67	LAMINAR	1	56	4.9
DP/CSG	0.427	301	52	67	LAMINAR	1	52	5.3
DP/RIS	1.325	107	17	57	LAMINAR	0	17	0.1
TOTAL VOLUME		715			TOTAL PRESSURE DROP			14.6

LAG: 31.9 MINUTES 3194 STROKES #1 AND 2811 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1316.7	HHP	722	IMPACT FORCE	1771
% SURFACE PRESSURE	46.9	HHP/sqin	6.12	JET VELOCITY	123

PRESSURE BREAKDOWN:

SURFACE	73.7				
STRING	1234.4				
BIT	1316.7				
ANNULUS	14.6				
TOTAL	2639.4	PUMP PRESSURE	2810.0	% DIFFERENCE	6.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.00	HYDROSTATIC PRESSURE	2452.7
CIRCULATING:	ECD	9.05	CIRCULATING PRESSURE	2467.3
PULLING OUT:	TRIP MARGIN	0.11	ESTIMATED SWAB	29.3
	EFFECTIVE MUD WEIGHT	8.89	BOTTOM HOLE PRESSURE	2423.4

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1700.0 AND TVD 1697.4

SPM 1 0 SPM 2 108 FLOW RATE 538

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	47	79	LAMINAR	1	46	2.7
HWDP/OH	0.398	33	32	71	LAMINAR	0	32	0.6
DP/OH	0.398	273	32	71	LAMINAR	0	32	4.9
DP/CSG	0.427	301	30	70	LAMINAR	0	30	4.5
DP/RIS	1.325	107	10	59	LAMINAR	0	10	0.1
TOTAL VOLUME		754			TOTAL PRESSURE DROP			12.8

LAG: 58.9 MINUTES 0 STROKES #1 AND 6340 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	436.7	HHP	137	IMPACT FORCE	587
% SURFACE PRESSURE	37.3	HHP/sqin	1.16	JET VELOCITY	70

PRESSURE BREAKDOWN:

SURFACE	28.3				
STRING	490.0				
BIT	436.7				
ANNULUS	12.8				
TOTAL	967.8	PUMP PRESSURE	1170.0	% DIFFERENCE	17.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.10	HYDROSTATIC PRESSURE	2635.2
CIRCULATING:	ECD	9.14	CIRCULATING PRESSURE	2648.0
PULLING OUT:	TRIP MARGIN	0.09	ESTIMATED SWAB	25.7
	EFFECTIVE MUD WEIGHT	9.01	BOTTOM HOLE PRESSURE	2609.5

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1800.0 AND TVD 1797.3

SPM 1 120 SPM 2 0 FLOW RATE 600

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	52	105	LAMINAR	0	52	4.8
HWDP/OH	0.398	33	36	95	LAMINAR	0	36	1.1
DP/OH	0.398	313	36	95	LAMINAR	0	36	10.2
DP/CSG	0.427	301	33	94	LAMINAR	0	33	8.2
DP/RIS	1.325	107	11	82	LAMINAR	0	11	0.2
TOTAL VOLUME		794			TOTAL PRESSURE DROP			24.5

LAG: 55.6 MINUTES 6674 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	572.2	HHP	200	IMPACT FORCE	769
% SURFACE PRESSURE	40.6	HHP/sqin	1.70	JET VELOCITY	78

PRESSURE BREAKDOWN:

SURFACE	38.9
STRING	696.4
BIT	572.2
ANNULUS	24.5
TOTAL	1332.0

PUMP PRESSURE 1410.0 % DIFFERENCE 5.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.60	HYDROSTATIC PRESSURE	2943.6
CIRCULATING:	ECD	9.68	CIRCULATING PRESSURE	2968.1
PULLING OUT:	TRIP MARGIN	0.16	ESTIMATED SWAB	49.0
	EFFECTIVE MUD WEIGHT	9.44	BOTTOM HOLE PRESSURE	2894.6

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 1900.0 AND TVD 1897.3

SPM 1 83 SPM 2 84 FLOW RATE 837

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	40	73	91	LAMINAR	1	72	4.5
HWDP/OH	0.398	33	50	80	LAMINAR	0	50	1.0
DP/OH	0.398	353	50	80	LAMINAR	0	50	10.2
DP/CSG	0.427	301	47	79	LAMINAR	0	46	7.3
DP/RIS	1.325	107	15	66	LAMINAR	0	15	0.2
TOTAL VOLUME		834				TOTAL PRESSURE DROP		23.1

LAG: 41.9 MINUTES 3491 STROKES #1 AND 3518 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1101.6	HHP	538	IMPACT FORCE	1481
% SURFACE PRESSURE	39.3	HHP/sqin	4.56	JET VELOCITY	109

PRESSURE BREAKDOWN:

SURFACE	70.2				
STRING	1297.4				
BIT	1101.6				
ANNULUS	23.1				
TOTAL	2492.3	PUMP PRESSURE	2800.0	% DIFFERENCE	11.0

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.50	HYDROSTATIC PRESSURE	3075.0
CIRCULATING:	ECD	9.57	CIRCULATING PRESSURE	3098.1
PULLING OUT:	TRIP MARGIN	0.14	ESTIMATED SWAB	46.2
	EFFECTIVE MUD WEIGHT	9.36	BOTTOM HOLE PRESSURE	3028.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2000.0 AND TVD 1997.3

SPM 1 74 SPM 2 69 FLOW RATE 713

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.274	37	62	105	LAMINAR	0	61	4.9
HWDP/OH	0.398	32	43	93	LAMINAR	0	42	1.1
DP/OH	0.398	397	43	93	LAMINAR	0	42	13.6
DP/CSG	0.427	301	40	92	LAMINAR	0	40	8.6
DP/RIS	1.325	107	13	78	LAMINAR	0	13	0.2
TOTAL VOLUME		875			TOTAL PRESSURE DROP			28.4

LAG: 51.6 MINUTES 3801 STROKES #1 AND 3552 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	1531.6	HHP	637	IMPACT FORCE	1496
% SURFACE PRESSURE	54.7	HHP/sqin	5.40	JET VELOCITY	128

PRESSURE BREAKDOWN:

SURFACE	54.2
STRING	1013.3
BIT	1531.6
ANNULUS	28.4
TOTAL	2627.5

PUMP PRESSURE 2800.0 % DIFFERENCE 6.2

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.60	HYDROSTATIC PRESSURE	3271.1
CIRCULATING:	ECD	9.68	CIRCULATING PRESSURE	3299.6
PULLING OUT:	TRIP MARGIN	0.17	ESTIMATED SWAB	56.8
	EFFECTIVE MUD WEIGHT	9.43	BOTTOM HOLE PRESSURE	3214.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2100.0 AND TVD 2097.3

SPM 1 80 SPM 2 0 FLOW RATE 402

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	5	90	142	LAMINAR	1	90	6.4
DC/CSG	0.116	22	83	140	LAMINAR	1	82	23.9
HWDP/CSG	0.160	13	60	130	LAMINAR	0	59	4.8
DP/CSG	0.160	273	60	130	LAMINAR	0	59	99.6
DP/RIS	1.325	107	7	98	LAMINAR	0	7	0.2
TOTAL VOLUME		420				TOTAL PRESSURE DROP		134.8

LAG: 43.9 MINUTES 3528 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	2664.9	HHP	624	IMPACT FORCE	1106
% SURFACE PRESSURE	88.8	HHP/sqin	11.00	JET VELOCITY	170

PRESSURE BREAKDOWN:

SURFACE	19.8				
STRING	456.0				
BIT	2664.9				
ANNULUS	134.8				
TOTAL	3275.6	PUMP PRESSURE	3000.0	% DIFFERENCE	9.2

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.50	HYDROSTATIC PRESSURE	3399.1
CIRCULATING:	ECD	9.88	CIRCULATING PRESSURE	3534.0
PULLING OUT:	TRIP MARGIN	0.75	ESTIMATED SWAB	269.7
	EFFECTIVE MUD WEIGHT	8.75	BOTTOM HOLE PRESSURE	3129.5

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2200.0 AND TVD 2197.3

SPM 1 78 SPM 2 0 FLOW RATE 391

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	15	88	147	LAMINAR	1	87	21.5
DC/CSG	0.116	11	80	145	LAMINAR	1	80	11.7
HWDP/CSG	0.160	13	58	134	LAMINAR	0	58	4.9
DP/CSG	0.160	289	58	134	LAMINAR	0	58	109.5
DP/RIS	1.325	107	7	103	LAMINAR	0	7	0.2
TOTAL VOLUME		435				TOTAL PRESSURE DROP		147.9

LAG: 46.7 MINUTES 3654 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	2497.1	HHP	569	IMPACT FORCE	1036
% SURFACE PRESSURE	83.2	HHP/sqin	10.03	JET VELOCITY	166

PRESSURE BREAKDOWN:

SURFACE	18.7		
STRING	441.3		
BIT	2497.1		
ANNULUS	147.9		
TOTAL	3105.1	PUMP PRESSURE 3000.0	% DIFFERENCE 3.5

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	3523.7
CIRCULATING:	ECD	9.79	CIRCULATING PRESSURE	3671.6
PULLING OUT:	TRIP MARGIN	0.79	ESTIMATED SWAB	295.8
	EFFECTIVE MUD WEIGHT	8.61	BOTTOM HOLE PRESSURE	3227.9

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2300.0 AND TVD 2297.2

SPM 1 76 SPM 2 0 FLOW RATE 380

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	25	86	146	LAMINAR	1	85	34.7
HWDP/OH	0.151	1	60	135	LAMINAR	0	60	0.6
HWDP/CSG	0.160	12	56	133	LAMINAR	0	56	4.4
DP/CSG	0.160	305	56	133	LAMINAR	0	56	114.1
DP/RIS	1.325	107	7	102	LAMINAR	0	7	0.2
TOTAL VOLUME		450			TOTAL PRESSURE DROP			154.0

LAG: 49.7 MINUTES 3781 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	2384.4	HHP	528	IMPACT FORCE	990
% SURFACE PRESSURE	79.5	HHP/sqin	9.31	JET VELOCITY	161

PRESSURE BREAKDOWN:

SURFACE	18.0				
STRING	433.3				
BIT	2384.4				
ANNULUS	154.0				
TOTAL	2989.5	PUMP PRESSURE	3000.0	% DIFFERENCE	0.3

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.50	HYDROSTATIC PRESSURE	3723.2
CIRCULATING:	ECD	9.89	CIRCULATING PRESSURE	3877.1
PULLING OUT:	TRIP MARGIN	0.79	ESTIMATED SWAB	307.9
	EFFECTIVE MUD WEIGHT	8.71	BOTTOM HOLE PRESSURE	3415.2

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2400.0 AND TVD 2397.2

SPM 1 74 SPM 2 0 FLOW RATE 372

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	25	84	121	LAMINAR	1	83	25.4
HWDP/OH	0.151	12	59	110	LAMINAR	0	58	3.8
DP/OH	0.151	4	59	110	LAMINAR	0	58	1.2
DP/CSG	0.160	317	55	109	LAMINAR	0	55	83.5
DP/RIS	1.325	107	7	79	LAMINAR	0	7	0.1
TOTAL VOLUME		465				TOTAL PRESSURE DROP		114.1

LAG: 52.5 MINUTES 3907 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	2287.4	HHP	497	IMPACT FORCE	949
% SURFACE PRESSURE	77.5	HHP/sqin	8.75	JET VELOCITY	158

PRESSURE BREAKDOWN:

SURFACE	16.7				
STRING	412.6				
BIT	2287.4				
ANNULUS	114.1				
TOTAL	2830.8	PUMP PRESSURE	2950.0	% DIFFERENCE	4.0

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.50	HYDROSTATIC PRESSURE	3885.2
CIRCULATING:	ECD	9.78	CIRCULATING PRESSURE	3999.3
PULLING OUT:	TRIP MARGIN	0.56	ESTIMATED SWAB	228.2
	EFFECTIVE MUD WEIGHT	8.94	BOTTOM HOLE PRESSURE	3657.0

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2500.0 AND TVD 2497.2

SPM 1 0 SPM 2 75 FLOW RATE 373

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	25	84	126	LAMINAR	1	83	27.3
HWDP/OH	0.151	12	59	114	LAMINAR	0	59	4.1
DP/OH	0.151	19	59	114	LAMINAR	0	59	6.3
DP/CSG	0.160	317	55	113	LAMINAR	0	55	89.1
DP/RIS	1.325	107	7	81	LAMINAR	0	7	0.1
TOTAL VOLUME		480			TOTAL PRESSURE DROP			127.0

LAG: 54.1 MINUTES 0 STROKES #1 AND 4033 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	2293.3	HHP	498	IMPACT FORCE	952
% SURFACE PRESSURE	76.4	HHP/sqin	8.78	JET VELOCITY	158

PRESSURE BREAKDOWN:

SURFACE	17.0
STRING	431.4
BIT	2293.3
ANNULUS	127.0
TOTAL	2868.7

PUMP PRESSURE 3000.0 % DIFFERENCE 4.4

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.50	HYDROSTATIC PRESSURE	4047.3
CIRCULATING:	ECD	9.80	CIRCULATING PRESSURE	4174.3
PULLING OUT:	TRIP MARGIN	0.60	ESTIMATED SWAB	253.9
	EFFECTIVE MUD WEIGHT	8.90	BOTTOM HOLE PRESSURE	3793.4

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2600.0 AND TVD 2597.2

SPM 1 83 SPM 2 0 FLOW RATE 414

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	25	93	128	LAMINAR	1	93	28.8
HWDP/OH	0.151	12	66	119	LAMINAR	0	65	4.5
DP/OH	0.151	34	66	119	LAMINAR	0	65	12.7
DP/CSG	0.160	317	61	118	LAMINAR	0	61	99.8
DP/RIS	1.325	107	7	93	LAMINAR	0	7	0.2
TOTAL VOLUME		495			TOTAL PRESSURE DROP			146.0

LAG: 50.2 MINUTES 4160 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	2836.3	HHP	686	IMPACT FORCE	1177
% SURFACE PRESSURE	94.5	HHP/sqin	12.08	JET VELOCITY	176

PRESSURE BREAKDOWN:

SURFACE	19.8				
STRING	512.5				
BIT	2836.3				
ANNULUS	146.0				
TOTAL	3514.6	PUMP PRESSURE	3000.0	% DIFFERENCE	17.2

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.50	HYDROSTATIC PRESSURE	4209.3
CIRCULATING:	ECD	9.83	CIRCULATING PRESSURE	4355.3
PULLING OUT:	TRIP MARGIN	0.66	ESTIMATED SWAB	292.1
	EFFECTIVE MUD WEIGHT	8.84	BOTTOM HOLE PRESSURE	3917.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2700.0 AND TVD 2697.1

SPM 1 0 SPM 2 79 FLOW RATE 396

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	25	89	128	LAMINAR	1	89	28.2
HWDP/OH	0.151	12	63	119	LAMINAR	0	62	4.5
DP/OH	0.151	49	63	119	LAMINAR	0	62	17.9
DP/CSG	0.160	317	59	118	LAMINAR	0	59	98.0
DP/RIS	1.325	107	7	93	LAMINAR	0	7	0.2
TOTAL VOLUME		510				TOTAL PRESSURE DROP		148.7

LAG: 54.1 MINUTES 0 STROKES #1 AND 4287 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	2594.7	HHP	600	IMPACT FORCE	1077
% SURFACE PRESSURE	83.7	HHP/sqin	10.57	JET VELOCITY	168

PRESSURE BREAKDOWN:

SURFACE	18.3
STRING	483.5
BIT	2594.7
ANNULUS	148.7
TOTAL	3245.2

PUMP PRESSURE 3100.0 % DIFFERENCE 4.7

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.50	HYDROSTATIC PRESSURE	4371.3
CIRCULATING:	ECD	9.82	CIRCULATING PRESSURE	4520.0
PULLING OUT:	TRIP MARGIN	0.65	ESTIMATED SWAB	297.5
	EFFECTIVE MUD WEIGHT	8.85	BOTTOM HOLE PRESSURE	4073.8

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2800.0 AND TVD 2797.1

SPM 1 0 SPM 2 77 FLOW RATE 383

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	25	86	136	LAMINAR	1	86	31.2
HWDP/OH	0.151	12	61	123	LAMINAR	0	60	4.8
DP/OH	0.151	64	61	123	LAMINAR	0	60	24.5
DP/CSG	0.160	317	57	121	LAMINAR	0	57	101.7
DP/RIS	1.325	107	7	86	LAMINAR	0	7	0.2
TOTAL VOLUME		525			TOTAL PRESSURE DROP			162.3

LAG: 57.5 MINUTES 0 STROKES #1 AND 4414 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	2429.8	HHP	544	IMPACT FORCE	1008
% SURFACE PRESSURE	84.4	HHP/sqin	9.58	JET VELOCITY	163

PRESSURE BREAKDOWN:

SURFACE	18.6				
STRING	501.0				
BIT	2429.8				
ANNULUS	162.3				
TOTAL	3111.6	PUMP PRESSURE	2880.0	% DIFFERENCE	8.0

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.50	HYDROSTATIC PRESSURE	4533.3
CIRCULATING:	ECD	9.84	CIRCULATING PRESSURE	4695.6
PULLING OUT:	TRIP MARGIN	0.68	ESTIMATED SWAB	324.6
	EFFECTIVE MUD WEIGHT	8.82	BOTTOM HOLE PRESSURE	4208.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 2900.0 AND TVD 2897.0

SPM 1 0 SPM 2 78 FLOW RATE 388

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	25	87	137	LAMINAR	1	87	31.4
HWDP/OH	0.151	12	61	124	LAMINAR	0	61	4.8
DP/OH	0.151	79	61	124	LAMINAR	0	61	30.4
DP/CSG	0.160	317	58	122	LAMINAR	0	57	102.4
DP/RIS	1.325	107	7	86	LAMINAR	0	7	0.2
TOTAL VOLUME		540			TOTAL PRESSURE DROP			169.2

LAG: 58.4 MINUTES 0 STROKES #1 AND 4540 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	2467.1	HHP	559	IMPACT FORCE	1024
% SURFACE PRESSURE	86.6	HHP/sqin	9.85	JET VELOCITY	165

PRESSURE BREAKDOWN:

SURFACE	18.8		
STRING	519.3		
BIT	2467.1		
ANNULUS	169.2		
TOTAL	3174.3	PUMP PRESSURE 2850.0	% DIFFERENCE 11.4

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	4645.8
CIRCULATING:	ECD	9.74	CIRCULATING PRESSURE	4814.9
PULLING OUT:	TRIP MARGIN	0.68	ESTIMATED SWAB	338.3
	EFFECTIVE MUD WEIGHT	8.72	BOTTOM HOLE PRESSURE	4307.5

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3000.0 AND TVD 2996.8

SPM 1 0 SPM 2 76 FLOW RATE 379

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	25	85	118	LAMINAR	1	85	24.6
HWDP/OH	0.151	12	60	106	LAMINAR	0	60	3.7
DP/OH	0.151	94	60	106	LAMINAR	0	60	27.9
DP/CSG	0.160	317	56	104	LAMINAR	0	56	78.8
DP/RIS	1.325	107	7	72	LAMINAR	0	7	0.1
TOTAL VOLUME		555				TOTAL PRESSURE DROP		135.1

LAG: 61.5 MINUTES 0 STROKES #1 AND 4667 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	2349.3	HHP	520	IMPACT FORCE	975
% SURFACE PRESSURE	78.8	HHP/sqin	9.16	JET VELOCITY	161

PRESSURE BREAKDOWN:

SURFACE	17.4				
STRING	490.6				
BIT	2349.3				
ANNULUS	135.1				
TOTAL	2992.5	PUMP PRESSURE	2980.0	% DIFFERENCE	0.4

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.40	HYDROSTATIC PRESSURE	4805.9
CIRCULATING:	ECD	9.66	CIRCULATING PRESSURE	4941.1
PULLING OUT:	TRIP MARGIN	0.53	ESTIMATED SWAB	270.2
	EFFECTIVE MUD WEIGHT	8.87	BOTTOM HOLE PRESSURE	4535.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3100.0 AND TVD 3096.7

SPM 1 0 SPM 2 77 FLOW RATE 386

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	25	87	118	LAMINAR	1	86	25.5
HWDP/OH	0.151	12	61	104	LAMINAR	0	61	3.7
DP/OH	0.151	109	61	104	LAMINAR	0	61	32.8
DP/CSG	0.160	317	57	103	LAMINAR	0	57	79.8
DP/RIS	1.325	107	7	68	LAMINAR	0	7	0.1
TOTAL VOLUME		570				TOTAL PRESSURE DROP		142.0

LAG: 62.1 MINUTES 0 STROKES #1 AND 4793 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	2485.2	HHP	559	IMPACT FORCE	1031
% SURFACE PRESSURE	87.8	HHP/sqin	9.86	JET VELOCITY	164

PRESSURE BREAKDOWN:

SURFACE	18.6				
STRING	535.4				
BIT	2485.2				
ANNULUS	142.0				
TOTAL	3181.2	PUMP PRESSURE	2830.0	% DIFFERENCE	12.4

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.60	HYDROSTATIC PRESSURE	5071.7
CIRCULATING:	ECD	9.87	CIRCULATING PRESSURE	5213.7
PULLING OUT:	TRIP MARGIN	0.54	ESTIMATED SWAB	284.0
	EFFECTIVE MUD WEIGHT	9.06	BOTTOM HOLE PRESSURE	4787.7

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3200.0 AND TVD 3196.5

SPM 1 78 SPM 2 0 FLOW RATE 389

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	25	88	119	LAMINAR	1	87	25.7
HWDP/OH	0.151	12	62	105	LAMINAR	0	61	3.8
DP/OH	0.151	124	62	105	LAMINAR	0	61	37.5
DP/CSG	0.160	317	58	104	LAMINAR	0	57	80.2
DP/RIS	1.325	107	7	69	LAMINAR	0	7	0.1
TOTAL VOLUME		585			TOTAL PRESSURE DROP			147.2

LAG: 63.2 MINUTES 4919 STROKES #1 AND 0 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	2501.5	HHP	568	IMPACT FORCE	1038
% SURFACE PRESSURE	84.8	HHP/sqin	10.01	JET VELOCITY	165

PRESSURE BREAKDOWN:

SURFACE	18.7
STRING	550.0
BIT	2501.5
ANNULUS	147.2
TOTAL	3217.4

PUMP PRESSURE 2950.0 % DIFFERENCE 9.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.50	HYDROSTATIC PRESSURE	5180.7
CIRCULATING:	ECD	9.77	CIRCULATING PRESSURE	5328.0
PULLING OUT:	TRIP MARGIN	0.54	ESTIMATED SWAB	294.5
	EFFECTIVE MUD WEIGHT	8.96	BOTTOM HOLE PRESSURE	4886.3

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HYDRAULICS ANALYSIS PROGRAM

HYDRAULICS CALCULATIONS AT DEPTH 3300.0 AND TVD 3296.4

SPM 1 0 SPM 2 74 FLOW RATE 372

ANNULAR HYDRAULICS:

ANNULUS TYPE	VOL/ UNIT	VOL	ANN VEL	CRIT VEL	TYPE OF FLOW	SLIP VEL	ASCEND VEL	PRESSURE DROP
DC/OH	0.106	25	84	123	LAMINAR	1	83	26.3
DP/OH	0.151	152	59	110	LAMINAR	0	58	47.7
DP/CSG	0.160	317	55	108	LAMINAR	0	55	83.6
DP/RIS	1.325	107	7	74	LAMINAR	0	7	0.1
TOTAL VOLUME		600				TOTAL PRESSURE DROP		157.7

LAG: 67.8 MINUTES 0 STROKES #1 AND 5046 STROKES #2

BIT HYDRAULICS:

PRESSURE DROP	2283.2	HHP	495	IMPACT FORCE	948
% SURFACE PRESSURE	80.1	HHP/sqin	8.73	JET VELOCITY	158

PRESSURE BREAKDOWN:

SURFACE	17.3		
STRING	479.6		
BIT	2283.2		
ANNULUS	157.7		
TOTAL	2937.7	PUMP PRESSURE 2850.0	% DIFFERENCE 3.1

BOTTOM HOLE PRESSURES:

		DENSITY UNITS		PRESSURE UNITS
NOT CIRCULATING:	MUD WEIGHT	9.50	HYDROSTATIC PRESSURE	5342.5
CIRCULATING:	ECD	9.78	CIRCULATING PRESSURE	5500.3
PULLING OUT:	TRIP MARGIN	0.56	ESTIMATED SWAB	315.4
	EFFECTIVE MUD WEIGHT	8.94	BOTTOM HOLE PRESSURE	5027.1

(c). COMPUTER DATA LISTING : LIST A

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

DEPTH. . . . . Well depth,in metres

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

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

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

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

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

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

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

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

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

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

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

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

BIT NUMBER	1	IADC CODE	111	INTERVAL	80.6- 220.0
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	20 20 20
COST	6350.00	TRIP TIME	1.8	BIT RUN	139.4
TOTAL HOURS	1.06	TOTAL TURNS	8208	CONDITION	T2 B2 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
85.0	111.2	2.0	147	8.6	0.53	0.04	349	42	3405	8.4	10.8
95.0	172.8	2.0	153	8.6	0.46	0.10	880	27	1059	8.4	10.8
100.0	116.1	2.0	155	8.6	0.53	0.14	1281	40.40	796.64	8.4	10.9
110.0	137.9	2.0	163	8.6	0.51	0.21	1992	34.03	537.25	8.4	10.9
115.0	164.6	3.0	157	8.6	0.50	0.24	2278	28.51	463.31	8.4	10.9
120.0	148.8	2.0	156	8.6	0.49	0.28	2591	31.54	408.51	8.4	10.9
125.0	154.8	2.0	157	8.6	0.49	0.31	2896	30.30	365.92	8.4	11.0
130.0	85.3	3.0	131	8.6	0.59	0.37	3357	55.00	334.45	8.4	11.0
135.0	85.5	4.0	109	8.6	0.58	0.43	3738	54.85	308.75	8.4	11.0
140.0	65.5	5.0	118	8.6	0.67	0.50	4277	71.68	288.80	8.4	11.0
145.0	64.7	3.0	113	8.6	0.61	0.58	4799	72.47	272.00	8.4	11.0
150.0	265.3	2.0	106	8.6	0.33	0.60	4918	17.69	253.68	8.4	11.1
160.0	173.3	3.0	135	8.6	0.47	0.66	5384	27.07	225.14	8.4	11.1
170.0	168.8	4.0	117	8.6	0.47	0.72	5802	27.80	203.07	8.4	11.1
175.0	168.2	5.0	117	8.6	0.49	0.75	6010	27.89	193.79	8.4	11.1
180.0	129.6	4.0	112	8.6	0.51	0.78	6269	36.20	185.86	8.4	11.2
185.0	185.6	3.0	112	8.6	0.42	0.81	6450	25.28	178.17	8.4	11.2
190.0	146.9	4.0	121	8.6	0.50	0.85	6698	31.93	171.49	8.4	11.2
195.0	195.7	3.0	119	8.6	0.43	0.87	6881	23.98	165.04	8.4	11.2
200.0	122.8	2.0	114	8.6	0.47	0.91	7160	38.21	159.73	8.4	11.2
205.0	166.7	3.0	113	8.6	0.45	0.94	7364	28.15	154.44	8.4	11.3
210.0	127.1	3.0	109	8.6	0.49	0.98	7622	36.93	149.90	8.4	11.3
215.0	166.7	2.0	113	8.6	0.42	1.01	7826	28.15	145.37	8.4	11.3
220.0	93.8	3.0	119	8.6	0.56	1.06	8208	50.05	141.95	8.4	11.3

BIT NUMBER	2	IADC CODE	111	INTERVAL	220.0- 805.0
HTC OSC 3AJ		SIZE	17.500	NOZZLES	20 20 20
COST	2500.00	TRIP TIME	3.9	BIT RUN	585.0
TOTAL HOURS	7.56	TOTAL TURNS	82391	CONDITION	T1 B1 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
221.0	211.8	5.0	179	8.6	0.56	0.00	51	22	20821	8.4	11.3
222.0	144.0	5.0	179	8.6	0.64	0.01	125	33	10427	8.4	11.3
223.0	120.0	5.0	179	8.6	0.68	0.02	215	39	6964	8.4	11.3
224.0	300.0	5.0	179	8.6	0.49	0.02	251	16	5227	8.4	11.3
225.0	240.0	5.0	179	8.6	0.54	0.03	295	20	4186	8.4	11.3
226.0	257.1	5.0	181	8.6	0.52	0.03	338	18	3491	8.4	11.3
227.0	276.9	5.0	181	8.6	0.51	0.04	377	17	2995	8.4	11.3
228.0	257.1	5.0	181	8.6	0.52	0.04	419	18	2623	8.4	11.4
229.0	225.0	5.0	181	8.6	0.55	0.04	467	21	2334	8.4	11.4
230.0	240.0	5.0	181	8.6	0.54	0.05	513	20	2102	8.4	11.4
231.0	200.0	5.0	181	8.6	0.57	0.05	567	23	1913	8.4	11.4
233.0	180.0	5.0	180	8.6	0.60	0.06	687	26	1623	8.4	11.4
234.0	300.0	5.0	180	8.6	0.49	0.07	723	16	1508	8.4	11.4
235.0	189.5	5.0	180	8.6	0.58	0.07	780	25	1409	8.4	11.4
236.0	225.0	5.0	180	8.6	0.55	0.08	828	21	1322	8.4	11.4
237.0	240.0	5.0	180	8.6	0.54	0.08	873	20	1246	8.4	11.4
238.0	240.0	5.0	180	8.6	0.54	0.09	918	20	1178	8.4	11.4
239.0	171.4	5.0	180	8.6	0.61	0.09	981	27	1117	8.4	11.4
240.0	189.5	5.0	180	8.6	0.58	0.10	1038	25	1062	8.4	11.4
241.0	189.5	5.0	180	8.6	0.58	0.10	1095	25	1013	8.4	11.4
242.0	87.8	3.0	180	8.6	0.68	0.11	1218	53.44	969.45	8.4	11.4
243.0	144.0	3.0	173	8.6	0.58	0.12	1290	32.58	928.72	8.4	11.4
244.0	240.0	3.0	178	8.6	0.49	0.12	1335	19.55	890.84	8.4	11.4
245.0	211.8	3.0	177	8.6	0.51	0.13	1385	22.16	856.09	8.4	11.4
246.0	189.5	3.0	176	8.6	0.53	0.13	1440	24.76	824.12	8.4	11.4
247.0	211.8	3.0	173	8.6	0.51	0.14	1490	22.16	794.41	8.4	11.4
248.0	225.0	3.0	179	8.6	0.50	0.14	1537	20.85	766.79	8.4	11.4
249.0	156.5	3.0	176	8.6	0.57	0.15	1604	29.98	741.38	8.4	11.4
250.0	128.6	3.0	178	8.6	0.61	0.16	1687	36.49	717.88	8.4	11.4
251.0	69.2	2.0	159	8.6	0.66	0.17	1825	67.77	696.91	8.4	11.4
252.0	211.8	2.0	178	8.6	0.48	0.18	1876	22.16	675.83	8.4	11.4
253.0	257.1	2.0	179	8.6	0.45	0.18	1917	18.25	655.90	8.4	11.4
254.0	240.0	2.0	187	8.6	0.47	0.18	1964	19.55	637.18	8.4	11.4
255.0	257.1	2.0	180	8.6	0.45	0.19	2006	18.25	619.50	8.4	11.4
256.0	240.0	2.0	181	8.6	0.46	0.19	2052	19.55	602.83	8.4	11.5
257.0	211.8	2.0	181	8.6	0.48	0.20	2103	22.16	587.14	8.4	11.5
258.0	300.0	2.0	177	8.6	0.42	0.20	2138	15.64	572.10	8.4	11.5
259.0	180.0	2.0	180	8.6	0.51	0.21	2198	26.07	558.10	8.4	11.5
260.0	211.8	2.0	178	8.6	0.48	0.21	2249	22.16	544.70	8.4	11.5
261.0	100.0	2.0	152	8.6	0.59	0.22	2340	46.92	532.56	8.4	11.5
262.0	300.0	2.0	177	8.6	0.42	0.22	2375	15.64	520.25	8.4	11.5
263.0	211.8	2.0	176	8.6	0.48	0.23	2425	22.16	508.67	8.4	11.5
264.0	240.0	2.0	180	8.6	0.46	0.23	2470	19.55	497.55	8.4	11.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
265.0	257.1	2.0	181	8.6	0.45	0.24	2513	18.25	486.90	8.4	11.5
266.0	240.0	2.0	178	8.6	0.46	0.24	2557	19.55	476.74	8.4	11.5
267.0	257.1	3.0	181	8.6	0.48	0.25	2600	18.25	466.99	8.4	11.5
268.0	240.0	3.0	178	8.6	0.49	0.25	2644	19.55	457.66	8.4	11.5
269.0	200.0	3.0	177	8.6	0.52	0.25	2697	23.46	448.80	8.4	11.5
270.0	200.0	3.0	178	8.6	0.52	0.26	2750	23.46	440.30	8.4	11.5
271.0	257.1	3.0	180	8.6	0.48	0.26	2792	18.25	432.02	8.4	11.5
272.0	144.0	3.0	181	8.6	0.59	0.27	2868	32.58	424.34	8.4	11.5
273.0	24.7	3.0	176	8.6	0.92	0.31	3295	190.29	419.92	8.4	11.5
274.0	163.6	3.0	178	8.6	0.56	0.32	3360	28.67	412.68	8.4	11.5
275.0	73.5	3.0	176	8.6	0.71	0.33	3504	63.86	406.34	8.4	11.5
276.0	62.1	3.0	177	8.6	0.74	0.35	3675	75.59	400.43	8.4	11.5
277.0	150.0	3.0	178	8.6	0.58	0.35	3746	31.28	393.95	8.4	11.5
278.0	144.0	3.0	174	8.6	0.58	0.36	3819	32.58	387.72	8.4	11.5
279.0	144.0	3.0	174	8.6	0.58	0.37	3891	32.58	381.70	8.4	11.5
280.0	78.3	3.0	170	8.6	0.69	0.38	4022	59.95	376.34	8.4	11.5
281.0	360.0	2.0	180	8.6	0.39	0.38	4052	13.03	370.39	8.4	11.5
282.0	100.0	2.0	176	8.6	0.61	0.39	4158	46.92	365.17	8.4	11.5
283.0	67.9	2.0	182	8.6	0.69	0.41	4319	69.08	360.47	8.4	11.6
284.0	112.5	2.0	183	8.6	0.60	0.42	4416	41.71	355.49	8.4	11.6
285.0	128.6	2.0	184	8.6	0.58	0.42	4502	36.49	350.58	8.4	11.6
286.0	51.4	2.0	190	8.6	0.74	0.44	4724	91.23	346.65	8.4	11.6
287.0	65.5	2.0	198	8.6	0.71	0.46	4906	71.68	342.55	8.4	11.6
288.0	61.0	2.0	198	8.6	0.72	0.48	5100	76.90	338.64	8.4	11.6
289.0	97.3	4.0	185	8.6	0.70	0.49	5214	48.22	334.43	8.4	11.6
290.0	200.0	4.0	183	8.6	0.56	0.49	5269	23.46	329.99	8.4	11.6
291.0	120.0	4.0	185	8.6	0.66	0.50	5362	39.10	325.89	8.4	11.6
292.0	66.7	4.0	187	8.6	0.78	0.51	5530	70.38	322.34	8.4	11.6
293.0	58.1	4.0	188	8.6	0.80	0.53	5724	80.81	319.03	8.4	11.6
294.0	102.9	4.0	188	8.6	0.69	0.54	5834	45.62	315.34	8.4	11.6
295.0	97.3	4.0	189	8.6	0.70	0.55	5951	48.22	311.78	8.4	11.6
296.0	138.5	3.0	188	8.6	0.60	0.56	6032	33.89	308.12	8.4	11.6
297.0	90.0	3.0	185	8.6	0.68	0.57	6156	52.13	304.80	8.4	11.6
298.0	97.3	5.0	188	8.6	0.73	0.58	6272	48.22	301.51	8.4	11.6
299.0	70.6	6.0	165	8.6	0.79	0.59	6412	66.47	298.53	8.4	11.6
300.0	128.6	6.0	184	8.6	0.69	0.60	6498	36.49	295.26	8.4	11.6
301.0	180.0	6.0	184	8.6	0.62	0.61	6559	26.07	291.93	8.4	11.6
302.0	211.8	6.0	185	8.6	0.59	0.61	6612	22.16	288.64	8.4	11.6
303.0	189.5	6.0	189	8.6	0.61	0.62	6672	24.76	285.46	8.4	11.6
304.0	200.0	6.0	186	8.6	0.60	0.62	6728	23.46	282.34	8.4	11.6
305.0	163.6	6.0	186	8.6	0.64	0.63	6796	28.67	279.36	8.4	11.6
306.0	144.0	6.0	187	8.6	0.67	0.64	6873	32.58	276.49	8.4	11.6
307.0	150.0	6.0	185	8.6	0.66	0.64	6948	31.28	273.67	8.4	11.6
308.0	180.0	6.0	186	8.6	0.62	0.65	7010	26.07	270.86	8.4	11.6
309.0	144.0	5.0	169	8.6	0.63	0.65	7080	32.58	268.18	8.4	11.6
310.0	180.0	5.0	170	8.6	0.58	0.66	7137	26.07	265.49	8.4	11.6
311.0	189.5	5.0	184	8.6	0.59	0.67	7195	24.76	262.85	8.4	11.7
312.0	171.4	5.0	180	8.6	0.60	0.67	7258	27.37	260.29	8.4	11.7
313.0	211.8	5.0	185	8.6	0.57	0.68	7310	22.16	257.73	8.4	11.7
314.0	180.0	5.0	185	8.6	0.60	0.68	7372	26.07	255.26	8.4	11.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
315.0	225.0	5.0	186	8.6	0.56	0.69	7421	20.85	252.79	8.4	11.7
316.0	189.5	5.0	186	8.6	0.59	0.69	7480	24.76	250.42	8.4	11.7
317.0	200.0	5.0	184	8.6	0.58	0.70	7535	23.46	248.08	8.4	11.7
319.0	166.2	6.0	189	8.6	0.64	0.71	7672	28.24	243.64	8.4	11.7
320.0	257.1	6.0	185	8.6	0.55	0.71	7715	18.25	241.38	8.4	11.7
321.0	257.1	6.0	183	8.6	0.54	0.72	7758	18.25	239.17	8.4	11.7
322.0	171.4	6.0	183	8.6	0.63	0.72	7822	27.37	237.10	8.4	11.7
323.0	211.8	6.0	181	8.6	0.58	0.73	7873	22.16	235.01	8.4	11.7
324.0	189.5	6.0	181	8.6	0.61	0.73	7930	24.76	232.99	8.4	11.7
325.0	257.1	6.0	187	8.6	0.55	0.74	7974	18.25	230.94	8.4	11.7
326.0	150.0	6.0	181	8.6	0.66	0.74	8047	31.28	229.06	8.4	11.7
327.0	189.5	6.0	183	8.6	0.61	0.75	8104	24.76	227.15	8.4	11.7
328.0	73.5	4.0	167	8.6	0.73	0.76	8241	63.86	225.64	8.4	11.7
329.0	163.6	4.0	190	8.6	0.60	0.77	8310	28.67	223.83	8.4	11.7
330.0	257.1	4.0	189	8.6	0.51	0.77	8354	18.25	221.96	8.4	11.7
331.0	92.3	4.0	184	8.6	0.71	0.78	8474	50.83	220.42	8.4	11.7
332.0	144.0	4.0	187	8.6	0.62	0.79	8552	32.58	218.74	8.4	11.7
333.0	171.4	4.0	185	8.6	0.59	0.79	8617	27.37	217.05	8.4	11.7
334.0	138.5	4.0	185	8.6	0.63	0.80	8697	33.89	215.44	8.4	11.7
335.0	116.1	4.0	184	8.6	0.66	0.81	8792	40.40	213.92	8.4	11.7
336.0	109.1	4.0	185	8.6	0.68	0.82	8894	43.01	212.45	8.4	11.7
337.0	100.0	7.0	183	8.6	0.76	0.83	9004	46.92	211.03	8.4	11.7
338.0	128.6	7.0	184	8.6	0.71	0.84	9090	36.49	209.55	8.4	11.7
339.0	189.5	7.0	182	8.6	0.62	0.84	9147	24.76	208.00	8.4	11.7
340.0	211.8	9.0	182	8.6	0.63	0.85	9199	22.16	206.45	8.4	11.8
341.0	211.8	10.0	181	8.6	0.64	0.85	9250	22.16	204.93	8.4	11.8
342.0	200.0	10.0	183	8.6	0.66	0.86	9305	23.46	203.44	8.4	11.8
343.0	189.5	11.0	180	8.6	0.68	0.86	9362	24.76	201.99	8.4	11.8
344.0	180.0	10.0	185	8.6	0.68	0.87	9424	26.07	200.57	8.4	11.8
345.0	156.5	12.0	184	8.6	0.74	0.87	9494	29.98	199.21	8.4	11.8
346.0	163.6	12.0	182	8.6	0.73	0.88	9561	28.67	197.85	8.4	11.8
347.0	64.3	13.0	156	8.6	0.93	0.90	9707	72.99	196.87	8.4	11.8
348.0	150.0	13.0	183	8.6	0.77	0.90	9780	31.28	195.58	8.4	11.8
349.0	133.3	12.0	184	8.6	0.78	0.91	9863	35.19	194.33	8.4	11.8
350.0	102.9	10.0	183	8.6	0.81	0.92	9970	45.62	193.19	8.4	11.8
351.0	144.0	10.0	183	8.6	0.73	0.93	10046	32.58	191.96	8.4	11.8
352.0	240.0	10.0	182	8.6	0.61	0.93	10092	19.55	190.66	8.4	11.8
353.0	156.5	10.0	184	8.6	0.72	0.94	10162	29.98	189.45	8.4	11.8
354.0	171.4	10.0	183	8.6	0.69	0.94	10226	27.37	188.24	8.4	11.8
355.0	200.0	10.0	182	8.6	0.66	0.95	10281	23.46	187.02	8.4	11.8
356.0	180.0	10.0	185	8.6	0.68	0.95	10343	26.07	185.84	8.4	11.8
357.0	75.0	10.0	152	8.6	0.84	0.97	10464	62.56	184.94	8.4	11.8
358.0	189.5	10.0	184	8.6	0.67	0.97	10523	24.76	183.77	8.4	11.8
359.0	211.8	10.0	186	8.6	0.65	0.98	10575	22.16	182.61	8.4	11.8
360.0	257.1	10.0	183	8.6	0.60	0.98	10618	18.25	181.44	8.4	11.8
361.0	240.0	10.0	184	8.6	0.62	0.99	10664	19.55	180.29	8.4	11.8
362.0	189.5	10.0	183	8.6	0.67	0.99	10722	24.76	179.19	8.4	11.8
363.0	200.0	10.0	185	8.6	0.66	1.00	10777	23.46	178.11	8.4	11.8
364.0	189.5	10.0	185	8.6	0.67	1.00	10836	24.76	177.04	8.4	11.8
365.0	225.0	10.0	185	8.6	0.63	1.01	10885	20.85	175.96	8.4	11.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
366.0	76.6	9.0	158	8.6	0.83	1.02	11009	61.26	175.18	8.4	11.8
367.0	276.9	9.0	186	8.6	0.57	1.02	11049	16.94	174.10	8.4	11.8
368.0	189.5	9.0	185	8.6	0.66	1.03	11108	24.76	173.09	8.4	11.8
369.0	225.0	9.0	185	8.6	0.62	1.03	11157	20.85	172.07	8.4	11.9
370.0	211.8	9.0	183	8.6	0.63	1.04	11209	22.16	171.07	8.4	11.9
371.0	257.1	9.0	184	8.6	0.59	1.04	11252	18.25	170.06	8.4	11.9
372.0	225.0	9.0	186	8.6	0.62	1.04	11302	20.85	169.08	8.4	11.9
373.0	211.8	9.0	182	8.6	0.63	1.05	11353	22.16	168.12	8.4	11.9
374.0	180.0	9.0	184	8.6	0.67	1.05	11415	26.07	167.19	8.4	11.9
375.0	138.5	9.0	169	8.6	0.71	1.06	11488	33.89	166.33	8.4	11.9
376.0	225.0	9.0	186	8.6	0.62	1.07	11538	20.85	165.40	8.4	11.9
377.0	200.0	9.0	188	8.6	0.65	1.07	11594	23.46	164.50	8.4	11.9
378.0	240.0	9.0	188	8.6	0.61	1.08	11641	19.55	163.58	8.4	11.9
379.0	200.0	9.0	184	8.6	0.65	1.08	11697	23.46	162.70	8.4	11.9
380.0	189.5	10.0	187	8.6	0.67	1.09	11756	24.76	161.84	8.4	11.9
381.0	92.3	10.0	184	8.6	0.84	1.10	11876	50.83	161.15	8.4	11.9
382.0	124.1	10.0	185	8.6	0.77	1.10	11965	37.80	160.39	8.4	11.9
383.0	124.1	10.0	184	8.6	0.77	1.11	12054	37.80	159.63	8.4	11.9
384.0	144.0	10.0	186	8.6	0.74	1.12	12132	32.58	158.86	8.4	11.9
385.0	65.5	11.0	171	8.6	0.92	1.14	12288	71.68	158.33	8.4	11.9
386.0	189.5	11.0	184	8.6	0.69	1.14	12347	24.76	157.53	8.4	11.9
387.0	112.5	11.0	183	8.6	0.81	1.15	12444	41.71	156.83	8.4	11.9
388.0	144.0	11.0	186	8.6	0.75	1.16	12521	32.58	156.09	8.4	11.9
389.0	102.9	11.0	182	8.6	0.83	1.17	12628	45.62	155.44	8.4	11.9
390.0	189.5	11.0	183	8.6	0.68	1.17	12686	24.76	154.67	8.4	11.9
391.0	180.0	12.0	184	8.6	0.71	1.18	12747	26.07	153.92	8.4	11.9
392.0	156.5	12.0	185	8.6	0.74	1.18	12818	29.98	153.20	8.4	11.9
393.0	150.0	12.0	186	8.6	0.76	1.19	12892	31.28	152.49	8.4	11.9
394.0	102.9	10.0	156	8.6	0.78	1.20	12983	45.62	151.88	8.4	11.9
395.0	102.9	10.0	199	8.6	0.83	1.21	13100	45.62	151.27	8.4	11.9
396.0	257.1	10.0	196	8.6	0.61	1.21	13145	18.25	150.52	8.4	11.9
397.0	200.0	10.0	195	8.6	0.67	1.22	13204	23.46	149.80	8.4	11.9
398.0	225.0	10.0	195	8.6	0.64	1.22	13256	20.85	149.07	8.4	12.0
399.0	150.0	10.0	192	8.6	0.74	1.23	13332	31.28	148.42	8.4	12.0
400.0	211.8	10.0	194	8.6	0.66	1.23	13388	22.16	147.71	8.4	12.0
402.0	211.8	10.0	192	8.6	0.66	1.24	13496	22.16	146.33	8.4	12.0
403.0	124.1	10.0	191	8.6	0.78	1.25	13589	37.80	145.74	8.4	12.0
404.0	240.0	10.0	189	8.6	0.62	1.26	13636	19.55	145.06	8.4	12.0
405.0	225.0	10.0	184	8.6	0.63	1.26	13685	20.85	144.38	8.4	12.0
406.0	257.1	10.0	187	8.6	0.60	1.26	13728	18.25	143.71	8.4	12.0
407.0	276.9	10.0	188	8.6	0.59	1.27	13769	16.94	143.03	8.4	12.0
408.0	225.0	10.0	186	8.6	0.63	1.27	13819	20.85	142.38	8.4	12.0
409.0	189.5	10.0	185	8.6	0.67	1.28	13877	24.76	141.76	8.4	12.0
410.0	166.0	10.0	185	8.6	0.70	1.28	13944	28.27	141.16	8.4	12.0
411.0	116.1	10.0	162	8.6	0.76	1.29	14028	40.40	140.63	8.4	12.0
412.0	276.9	10.0	185	8.6	0.58	1.30	14068	16.94	139.99	8.4	12.0
413.0	200.0	10.0	185	8.6	0.66	1.30	14124	23.46	139.38	8.4	12.0
414.0	257.1	10.0	183	8.6	0.60	1.30	14166	18.25	138.76	8.4	12.0
415.0	214.3	10.0	181	8.6	0.64	1.31	14217	21.89	138.16	8.4	12.0
416.0	200.0	10.0	183	8.6	0.66	1.31	14272	23.46	137.57	8.4	12.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
417.0	240.0	10.0	187	8.6	0.62	1.32	14319	19.55	136.98	8.4	12.0
418.0	225.0	10.0	185	8.6	0.63	1.32	14368	20.85	136.39	8.4	12.0
419.0	211.8	10.0	186	8.6	0.65	1.33	14421	22.16	135.82	8.4	12.0
420.0	198.0	11.0	186	8.6	0.68	1.33	14477	23.70	135.25	8.4	12.0
421.0	225.0	12.0	186	8.6	0.66	1.34	14527	20.85	134.69	8.4	12.0
422.0	240.0	12.0	184	8.6	0.64	1.34	14573	19.55	134.12	8.4	12.0
423.0	240.0	12.0	184	8.6	0.64	1.35	14619	19.55	133.55	8.4	12.0
424.0	327.3	12.0	182	8.6	0.56	1.35	14652	14.34	132.97	8.4	12.0
425.0	189.5	12.0	180	8.6	0.69	1.35	14709	24.76	132.44	8.4	12.0
427.0	160.0	12.0	182	8.6	0.73	1.37	14845	29.33	131.44	8.4	12.0
428.0	171.4	12.0	182	8.6	0.72	1.37	14909	27.37	130.94	8.4	12.0
429.0	78.3	12.0	181	8.6	0.91	1.38	15048	59.95	130.60	8.4	12.1
430.0	75.8	12.0	184	8.6	0.92	1.40	15194	61.91	130.28	8.4	12.1
431.0	26.7	11.0	183	8.6	1.15	1.44	15606	175.95	130.49	8.4	12.1
432.0	35.0	11.0	174	8.6	1.07	1.46	15905	134.24	130.51	8.4	12.1
433.0	62.1	11.0	187	8.6	0.95	1.48	16085	75.59	130.25	8.4	12.1
434.0	64.3	11.0	187	8.6	0.95	1.50	16260	72.99	129.98	8.4	12.1
435.0	76.6	11.0	185	8.6	0.90	1.51	16405	61.26	129.66	8.4	12.1
436.0	67.9	11.0	186	8.6	0.93	1.52	16570	69.08	129.38	8.4	12.1
437.0	73.5	11.0	186	8.6	0.91	1.54	16722	63.86	129.08	8.4	12.1
438.0	75.0	11.0	188	8.6	0.91	1.55	16872	62.56	128.78	8.4	12.1
439.0	66.7	11.0	186	8.6	0.94	1.57	17039	70.38	128.51	8.4	12.1
440.0	72.0	11.0	188	8.6	0.92	1.58	17196	65.17	128.22	8.4	12.1
441.0	83.7	11.0	187	8.6	0.88	1.59	17330	56.04	127.90	8.4	12.1
442.0	48.0	13.0	175	8.6	1.03	1.61	17548	97.75	127.76	8.4	12.1
443.0	62.1	13.0	188	8.6	0.99	1.63	17730	75.59	127.53	8.4	12.1
444.0	28.8	13.0	187	8.6	1.18	1.66	18120	162.92	127.68	8.4	12.1
445.0	30.8	12.0	188	8.6	1.14	1.70	18486	152.49	127.79	8.4	12.1
446.0	40.9	12.0	188	8.6	1.07	1.72	18762	114.69	127.74	8.4	12.1
447.0	40.9	12.0	188	8.6	1.07	1.74	19037	114.69	127.68	8.4	12.1
448.0	38.3	12.0	187	8.6	1.09	1.77	19331	122.51	127.66	8.4	12.1
449.0	15.9	12.0	188	8.6	1.30	1.83	20040	294.55	128.38	8.4	12.1
450.0	31.3	12.0	187	8.6	1.14	1.87	20398	149.88	128.48	8.4	12.1
451.0	24.0	12.0	187	8.6	1.20	1.91	20867	195.50	128.77	8.4	12.1
452.0	54.5	12.0	184	8.6	1.00	1.93	21069	86.02	128.58	8.4	12.1
453.0	51.4	12.0	183	8.6	1.01	1.94	21283	91.23	128.42	8.4	12.1
454.0	32.4	12.0	184	8.6	1.12	1.98	21623	144.67	128.49	8.4	12.1
455.0	78.3	12.0	183	8.6	0.91	1.99	21764	59.95	128.20	8.4	12.1
456.0	43.9	10.0	184	8.6	1.01	2.01	22015	106.87	128.11	8.4	12.1
457.0	70.6	10.0	183	8.6	0.90	2.03	22171	66.47	127.85	8.4	12.1
458.0	37.9	10.0	184	8.6	1.05	2.05	22463	123.82	127.83	8.4	12.1
459.0	60.0	10.0	183	8.6	0.94	2.07	22645	78.20	127.63	8.4	12.1
460.0	41.4	10.0	185	8.6	1.03	2.09	22914	113.39	127.57	8.4	12.2
461.0	31.8	10.0	187	8.6	1.09	2.12	23268	147.71	127.65	8.4	12.2
462.0	26.1	10.0	189	8.6	1.14	2.16	23702	179.86	127.87	8.4	12.2
463.0	34.6	10.0	191	8.6	1.08	2.19	24033	135.55	127.90	8.4	12.2
464.0	28.1	10.0	190	8.6	1.12	2.23	24438	166.83	128.06	8.4	12.2
465.0	38.7	10.0	189	8.6	1.05	2.25	24730	121.21	128.03	8.4	12.2
466.0	43.9	10.0	188	8.6	1.02	2.28	24987	106.87	127.94	8.4	12.2
467.0	31.0	10.0	190	8.6	1.10	2.31	25354	151.19	128.04	8.4	12.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
468.0	56.2	10.0	189	8.6	0.96	2.33	25555	83.41	127.86	8.4	12.2
469.0	46.8	10.0	186	8.6	1.00	2.35	25794	100.36	127.75	8.4	12.2
470.0	55.4	10.0	189	8.6	0.96	2.36	25999	84.72	127.58	8.4	12.2
471.0	48.6	14.0	162	8.6	1.03	2.39	26198	96.45	127.45	8.4	12.2
472.0	109.1	14.0	175	8.6	0.84	2.39	26294	43.01	127.12	8.4	12.2
473.0	78.3	14.0	172	8.6	0.92	2.41	26426	59.95	126.85	8.4	12.2
474.0	58.1	14.0	165	8.6	0.99	2.42	26597	80.81	126.67	8.4	12.2
475.0	36.7	14.0	176	8.6	1.12	2.45	26884	127.73	126.67	8.4	12.2
476.0	51.4	14.0	176	8.6	1.04	2.47	27089	91.23	126.54	8.4	12.2
477.0	44.4	14.0	175	8.6	1.07	2.49	27325	105.57	126.45	8.4	12.2
478.0	35.6	14.0	174	8.6	1.12	2.52	27618	131.64	126.47	8.4	12.2
479.0	62.1	14.0	174	8.6	0.99	2.54	27786	75.59	126.28	8.4	12.2
480.0	51.4	14.0	183	8.6	1.05	2.56	28000	91.23	126.14	8.4	12.2
481.0	29.0	14.0	181	8.6	1.18	2.59	28373	161.61	126.28	8.4	12.2
482.0	49.3	14.0	183	8.6	1.06	2.61	28596	95.14	126.16	8.4	12.2
483.0	30.8	14.0	182	8.6	1.17	2.64	28951	152.49	126.26	8.4	12.2
484.0	49.3	14.0	181	8.6	1.05	2.66	29172	95.14	126.14	8.4	12.2
485.0	38.3	14.0	184	8.6	1.12	2.69	29460	122.51	126.13	8.4	12.2
486.0	33.6	14.0	183	8.6	1.15	2.72	29786	139.46	126.18	8.4	12.2
487.0	42.9	14.0	181	8.6	1.09	2.74	30039	109.48	126.12	8.4	12.2
488.0	32.7	10.0	183	8.6	1.08	2.77	30375	143.37	126.18	8.4	12.2
489.0	45.0	10.0	143	8.6	0.95	2.80	30565	104.27	126.10	8.4	12.2
490.0	54.5	10.0	183	8.6	0.96	2.81	30767	86.02	125.95	8.4	12.2
491.0	112.5	10.0	182	8.6	0.79	2.82	30864	41.71	125.64	8.4	12.3
492.0	38.3	10.0	185	8.6	1.05	2.85	31154	122.51	125.63	8.4	12.3
493.0	69.2	10.0	185	8.6	0.91	2.86	31314	67.77	125.42	8.4	12.3
494.0	133.3	10.0	182	8.6	0.75	2.87	31396	35.19	125.09	8.4	12.3
495.0	116.1	10.0	178	8.6	0.78	2.88	31488	40.40	124.78	8.4	12.3
496.0	94.7	10.0	181	8.6	0.83	2.89	31603	49.53	124.51	8.4	12.3
497.0	112.5	10.0	182	8.6	0.79	2.90	31700	41.71	124.21	8.4	12.3
498.0	24.8	10.0	188	8.6	1.15	2.94	32153	188.98	124.44	8.4	12.3
499.0	128.6	10.0	185	8.6	0.76	2.95	32239	36.49	124.12	8.4	12.3
500.0	83.7	10.0	182	8.6	0.86	2.96	32370	56.04	123.88	8.4	12.3
501.0	124.1	10.0	184	8.6	0.77	2.97	32458	37.80	123.58	8.4	12.3
502.0	46.8	10.0	183	8.6	1.00	2.99	32693	100.36	123.49	8.4	12.3
503.0	85.7	10.0	181	8.6	0.85	3.00	32820	54.74	123.25	8.4	12.3
504.0	46.8	10.0	187	8.6	1.00	3.02	33060	100.36	123.17	8.4	12.3
505.0	78.3	10.0	186	8.6	0.88	3.04	33203	59.95	122.95	8.4	12.3
506.0	73.5	10.0	182	8.6	0.89	3.05	33351	63.86	122.74	8.4	12.3
508.0	58.1	12.0	189	8.6	0.99	3.08	33741	80.81	122.45	8.4	12.3
509.0	65.5	12.0	188	8.6	0.96	3.10	33914	71.68	122.27	8.4	12.3
510.0	58.1	12.0	189	8.6	0.99	3.12	34109	80.81	122.13	8.4	12.3
511.0	41.9	12.0	186	8.6	1.07	3.14	34375	112.09	122.10	8.4	12.3
512.0	102.9	12.0	183	8.6	0.84	3.15	34482	45.62	121.83	8.4	12.3
513.0	53.7	12.0	183	8.6	1.00	3.17	34687	87.32	121.72	8.4	12.3
514.0	38.7	12.0	184	8.6	1.08	3.19	34972	121.21	121.72	8.4	12.3
515.0	35.3	16.0	189	8.6	1.18	3.22	35293	132.94	121.75	8.4	12.3
516.0	43.9	16.0	189	8.6	1.13	3.24	35552	106.87	121.70	8.4	12.3
518.0	112.5	16.0	175	8.6	0.86	3.26	35739	41.71	121.17	8.4	12.3
519.0	72.0	16.0	175	8.6	0.98	3.28	35884	65.17	120.98	8.4	12.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
520.0	61.0	14.0	179	8.6	1.00	3.29	36060	76.90	120.83	8.4	12.3
521.0	87.8	14.0	178	8.6	0.90	3.30	36182	53.44	120.61	8.4	12.3
522.0	65.5	14.0	181	8.6	0.98	3.32	36348	71.68	120.45	8.4	12.3
523.0	70.6	15.0	179	8.6	0.97	3.33	36500	66.47	120.27	8.4	12.4
524.0	112.5	15.0	178	8.6	0.85	3.34	36595	41.71	120.01	8.4	12.4
525.0	133.3	15.0	180	8.6	0.81	3.35	36676	35.19	119.73	8.4	12.4
526.0	65.5	15.0	177	8.6	0.99	3.37	36838	71.68	119.57	8.4	12.4
527.0	84.7	11.0	170	8.6	0.86	3.38	36958	55.39	119.37	8.4	12.4
528.0	163.6	11.0	169	8.6	0.70	3.38	37020	28.67	119.07	8.4	12.4
529.0	124.1	11.0	170	8.6	0.77	3.39	37103	37.80	118.81	8.4	12.4
530.0	58.1	11.0	172	8.6	0.95	3.41	37280	80.81	118.69	8.4	12.4
531.0	100.0	11.0	171	8.6	0.82	3.42	37382	46.92	118.45	8.4	12.4
532.0	163.6	11.0	169	8.6	0.70	3.42	37444	28.67	118.17	8.4	12.4
533.0	133.3	11.0	167	8.6	0.74	3.43	37520	35.19	117.90	8.4	12.4
534.0	138.5	12.0	165	8.6	0.75	3.44	37591	33.89	117.63	8.4	12.4
535.0	109.1	13.0	168	8.6	0.82	3.45	37684	43.01	117.40	8.4	12.4
536.0	133.3	14.0	167	8.6	0.78	3.46	37759	35.19	117.14	8.4	12.4
537.0	94.7	14.0	177	8.6	0.88	3.47	37871	49.53	116.92	8.4	12.4
538.0	62.1	15.0	178	8.6	1.01	3.48	38043	75.59	116.79	8.4	12.4
539.0	87.8	15.0	176	8.6	0.92	3.49	38163	53.44	116.60	8.4	12.4
540.0	133.3	16.0	177	8.6	0.82	3.50	38242	35.19	116.34	8.4	12.4
541.0	109.1	17.0	178	8.6	0.89	3.51	38340	43.01	116.11	8.4	12.4
542.0	150.0	17.0	177	8.6	0.80	3.52	38411	31.28	115.85	8.4	12.4
543.0	150.0	18.0	174	8.6	0.81	3.52	38481	31.28	115.59	8.4	12.4
544.0	102.9	19.0	174	8.6	0.92	3.53	38583	45.62	115.37	8.4	12.4
545.0	138.5	20.0	177	8.6	0.85	3.54	38659	33.89	115.12	8.4	12.4
546.0	73.5	22.0	157	8.6	1.02	3.55	38788	63.86	114.96	8.4	12.4
547.0	189.5	21.0	175	8.6	0.77	3.56	38843	24.76	114.69	8.4	12.4
548.0	180.0	24.0	164	8.6	0.80	3.57	38898	26.07	114.42	8.4	12.4
549.0	225.0	23.0	189	8.6	0.76	3.57	38948	20.85	114.13	8.4	12.4
550.0	156.5	26.0	187	8.6	0.89	3.58	39020	29.98	113.88	8.4	12.4
551.0	124.1	24.0	193	8.6	0.95	3.58	39113	37.80	113.65	8.4	12.4
552.0	171.4	27.0	191	8.6	0.88	3.59	39180	27.37	113.39	8.4	12.4
553.0	156.5	27.0	197	8.6	0.91	3.60	39255	29.98	113.14	8.4	12.4
554.0	163.6	27.0	196	8.6	0.90	3.60	39327	28.67	112.88	8.4	12.4
555.0	80.0	29.0	169	8.6	1.09	3.62	39454	58.65	112.72	8.4	12.4
556.0	100.0	29.0	197	8.6	1.06	3.63	39572	46.92	112.53	8.4	12.5
557.0	64.3	25.0	192	8.6	1.14	3.64	39752	72.99	112.41	8.4	12.5
558.0	100.0	25.0	189	8.6	1.01	3.65	39865	46.92	112.22	8.4	12.5
559.0	128.6	25.0	186	8.6	0.94	3.66	39952	36.49	111.99	8.4	12.5
560.0	133.3	26.0	188	8.6	0.94	3.67	40037	35.19	111.77	8.4	12.5
561.0	128.6	25.0	187	8.6	0.94	3.67	40124	36.49	111.55	8.4	12.5
562.0	100.0	25.0	188	8.6	1.01	3.68	40237	46.92	111.36	8.4	12.5
563.0	90.0	28.0	187	8.6	1.07	3.70	40361	52.13	111.18	8.4	12.5
565.0	116.1	29.0	187	8.6	1.00	3.71	40554	40.40	110.77	8.4	12.5
566.0	124.1	28.0	189	8.6	0.98	3.72	40646	37.80	110.56	8.4	12.5
567.0	120.0	28.0	189	8.6	0.99	3.73	40740	39.10	110.36	8.4	12.5
568.0	109.1	27.0	186	8.6	1.00	3.74	40843	43.01	110.16	8.4	12.5
569.0	112.5	27.0	187	8.6	1.00	3.75	40942	41.71	109.97	8.4	12.5
570.0	109.1	29.0	186	8.6	1.02	3.76	41044	43.01	109.78	8.4	12.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
571.0	97.3	29.0	187	8.6	1.06	3.77	41160	48.22	109.60	8.4	12.5
572.0	120.0	29.0	188	8.6	1.00	3.77	41254	39.10	109.40	8.4	12.5
573.0	133.3	29.0	185	8.6	0.96	3.78	41337	35.19	109.19	8.4	12.5
574.0	92.3	29.0	142	8.6	0.99	3.79	41429	50.83	109.03	8.4	12.5
575.0	100.0	29.0	187	8.6	1.05	3.80	41541	46.92	108.85	8.4	12.5
576.0	124.1	29.0	183	8.6	0.98	3.81	41630	37.80	108.65	8.4	12.5
577.0	69.2	29.0	188	8.6	1.16	3.83	41792	67.77	108.54	8.4	12.5
578.0	72.0	29.0	186	8.6	1.14	3.84	41948	65.17	108.42	8.4	12.5
579.0	97.3	29.0	185	8.6	1.05	3.85	42061	48.22	108.25	8.4	12.5
580.0	100.0	29.0	187	8.6	1.05	3.86	42174	46.92	108.08	8.4	12.5
581.0	116.1	29.0	187	8.6	1.00	3.87	42270	40.40	107.89	8.4	12.5
582.0	138.5	29.0	185	8.6	0.95	3.88	42350	33.89	107.69	8.4	12.5
583.0	128.6	29.0	187	8.6	0.97	3.88	42438	36.49	107.49	8.4	12.5
584.0	144.0	29.0	184	8.6	0.94	3.89	42515	32.58	107.28	8.4	12.5
585.0	116.1	29.0	185	8.6	1.00	3.90	42610	40.40	107.10	8.4	12.5
586.0	120.0	29.0	183	8.6	0.99	3.91	42702	39.10	106.91	8.4	12.5
587.0	94.7	29.0	184	8.6	1.06	3.92	42819	49.53	106.76	8.4	12.5
588.0	102.9	29.0	182	8.6	1.03	3.93	42925	45.62	106.59	8.4	12.5
589.0	90.0	29.0	182	8.6	1.07	3.94	43046	52.13	106.44	8.4	12.5
590.0	112.5	29.0	183	8.6	1.01	3.95	43144	41.71	106.27	8.4	12.6
591.0	97.3	29.0	184	8.6	1.05	3.96	43258	48.22	106.11	8.4	12.6
592.0	128.6	29.0	185	8.6	0.97	3.97	43344	36.49	105.93	8.4	12.6
593.0	78.3	30.0	166	8.6	1.09	3.98	43471	59.95	105.80	8.4	12.6
594.0	124.1	30.0	184	8.6	0.99	3.99	43560	37.80	105.62	8.4	12.6
595.0	120.0	30.0	182	8.6	1.00	3.99	43651	39.10	105.44	8.4	12.6
596.0	156.5	30.0	182	8.6	0.92	4.00	43721	29.98	105.24	8.4	12.6
597.0	150.0	30.0	184	8.6	0.93	4.01	43794	31.28	105.05	8.4	12.6
598.0	138.5	30.0	184	8.6	0.96	4.01	43874	33.89	104.86	8.4	12.6
599.0	144.0	30.0	184	8.6	0.94	4.02	43951	32.58	104.67	8.4	12.6
600.0	139.0	30.0	183	8.6	0.95	4.03	44030	33.76	104.48	8.4	12.6
601.0	110.8	29.0	181	8.6	1.01	4.04	44128	42.36	104.32	8.4	12.6
602.0	128.6	29.0	183	8.6	0.97	4.05	44213	36.49	104.14	8.4	12.6
603.0	74.5	30.0	186	8.6	1.14	4.06	44363	62.99	104.03	8.4	12.6
604.0	102.9	30.0	188	8.6	1.05	4.07	44473	45.62	103.88	8.4	12.6
605.0	94.7	30.0	187	8.6	1.07	4.08	44591	49.53	103.74	8.4	12.6
606.0	97.3	30.0	187	8.6	1.07	4.09	44706	48.22	103.60	8.4	12.6
607.0	120.0	30.0	185	8.6	1.00	4.10	44799	39.10	103.43	8.4	12.6
608.0	83.7	30.0	187	8.6	1.11	4.11	44933	56.04	103.31	8.4	12.6
609.0	90.0	30.0	185	8.6	1.09	4.12	45057	52.13	103.18	8.4	12.6
610.0	87.8	30.0	183	8.6	1.09	4.13	45182	53.44	103.05	8.4	12.6
611.0	105.9	30.0	187	8.6	1.04	4.14	45288	44.31	102.90	8.4	12.6
612.0	90.0	30.0	183	8.6	1.08	4.15	45409	52.13	102.77	8.4	12.6
613.0	124.1	26.0	186	8.6	0.96	4.16	45499	37.80	102.60	8.4	12.6
614.0	124.1	26.0	186	8.6	0.96	4.17	45589	37.80	102.44	8.4	12.6
615.0	92.3	26.0	188	8.6	1.05	4.18	45712	50.83	102.31	8.4	12.6
616.0	45.0	26.0	186	8.6	1.25	4.20	45960	104.27	102.31	8.4	12.6
617.0	112.5	26.0	188	8.6	0.99	4.21	46061	41.71	102.16	8.4	12.6
618.0	109.1	26.0	184	8.6	0.99	4.22	46162	43.01	102.01	8.4	12.6
619.0	124.1	26.0	185	8.6	0.95	4.23	46251	37.80	101.85	8.4	12.6
620.0	116.1	27.0	187	8.6	0.99	4.24	46348	40.40	101.70	8.4	12.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
621.0	76.6	27.0	186	8.6	1.11	4.25	46493	61.26	101.60	8.4	12.6
622.0	72.0	28.0	184	8.6	1.13	4.26	46647	65.17	101.51	8.4	12.6
623.0	78.3	28.0	186	8.6	1.11	4.28	46790	59.95	101.40	8.4	12.6
624.0	133.3	28.0	186	8.6	0.95	4.28	46873	35.19	101.24	8.4	12.7
625.0	52.9	28.0	187	8.6	1.23	4.30	47085	88.63	101.21	8.4	12.7
626.0	73.5	28.0	188	8.6	1.13	4.32	47239	63.86	101.11	8.4	12.7
627.0	67.9	29.0	189	8.6	1.17	4.33	47405	69.08	101.04	8.4	12.7
628.0	112.5	29.0	184	8.6	1.01	4.34	47504	41.71	100.89	8.4	12.7
629.0	58.1	29.0	186	8.6	1.21	4.36	47696	80.81	100.84	8.4	12.7
630.0	83.7	29.0	183	8.6	1.10	4.37	47827	56.04	100.73	8.4	12.7
631.0	102.9	29.0	185	8.6	1.04	4.38	47935	45.62	100.60	8.4	12.7
632.0	65.5	29.0	186	8.6	1.17	4.39	48105	71.68	100.53	8.4	12.7
633.0	76.6	29.0	185	8.6	1.12	4.41	48250	61.26	100.43	8.4	12.7
634.0	124.1	29.0	188	8.6	0.99	4.42	48341	37.80	100.28	8.4	12.7
635.0	75.0	27.0	187	8.6	1.11	4.43	48491	62.56	100.19	8.4	12.7
636.0	64.3	27.0	188	8.6	1.16	4.44	48666	72.99	100.13	8.4	12.7
637.0	63.2	29.0	187	8.6	1.18	4.46	48844	74.29	100.06	8.4	12.7
638.0	109.1	29.0	187	8.6	1.02	4.47	48947	43.01	99.93	8.4	12.7
639.0	120.0	30.0	186	8.6	1.00	4.48	49039	39.10	99.78	8.4	12.7
640.0	90.0	30.0	186	8.6	1.09	4.49	49163	52.13	99.67	8.4	12.7
641.0	70.6	30.0	186	8.6	1.16	4.50	49321	66.47	99.59	8.4	12.7
642.0	64.3	30.0	188	8.6	1.19	4.52	49497	72.99	99.53	8.4	12.7
643.0	80.0	30.0	185	8.6	1.12	4.53	49635	58.65	99.43	8.4	12.7
644.0	66.7	30.0	186	8.6	1.18	4.55	49803	70.38	99.36	8.4	12.7
645.0	90.0	30.0	185	8.6	1.09	4.56	49926	52.13	99.25	8.4	12.7
646.0	92.3	30.0	188	8.6	1.08	4.57	50048	50.83	99.14	8.4	12.7
647.0	39.1	30.0	188	8.6	1.34	4.59	50336	119.91	99.19	8.4	12.7
648.0	60.0	30.0	189	8.6	1.21	4.61	50525	78.20	99.14	8.4	12.7
649.0	64.3	29.0	187	8.6	1.18	4.63	50700	72.99	99.08	8.4	12.7
650.0	43.9	29.0	170	8.6	1.26	4.65	50932	106.87	99.09	8.4	12.7
651.0	78.3	29.0	186	8.6	1.12	4.66	51075	59.95	99.00	8.4	12.7
652.0	116.1	29.0	182	8.6	1.00	4.67	51169	40.40	98.87	8.4	12.7
653.0	112.5	29.0	188	8.6	1.01	4.68	51269	41.71	98.73	8.4	12.7
654.0	75.0	29.0	185	8.6	1.13	4.69	51417	62.56	98.65	8.4	12.7
655.0	109.1	29.0	188	8.6	1.02	4.70	51521	43.01	98.52	8.4	12.7
656.0	100.0	29.0	186	8.6	1.05	4.71	51632	46.92	98.41	8.4	12.7
657.0	109.1	27.0	184	8.6	1.00	4.72	51734	43.01	98.28	8.4	12.7
658.0	97.3	27.0	186	8.6	1.04	4.73	51848	48.22	98.16	8.4	12.7
659.0	72.0	27.0	188	8.6	1.13	4.74	52005	65.17	98.09	8.4	12.8
660.0	81.8	27.0	186	8.6	1.09	4.76	52141	57.35	98.00	8.4	12.8
661.0	92.3	27.0	188	8.6	1.05	4.77	52264	50.83	97.89	8.4	12.8
662.0	78.3	27.0	185	8.6	1.10	4.78	52406	59.95	97.80	8.4	12.8
663.0	63.2	27.0	186	8.6	1.16	4.80	52582	74.29	97.75	8.4	12.8
664.0	72.0	27.0	185	8.6	1.12	4.81	52736	65.17	97.68	8.4	12.8
665.0	156.5	27.0	185	8.6	0.90	4.82	52807	29.98	97.53	8.4	12.8
666.0	72.0	27.0	186	8.6	1.12	4.83	52962	65.17	97.45	8.4	12.8
667.0	124.1	27.0	186	8.6	0.96	4.84	53052	37.80	97.32	8.4	12.8
668.0	58.1	27.0	177	8.6	1.17	4.86	53235	80.81	97.28	8.4	12.8
669.0	75.0	27.0	186	8.6	1.11	4.87	53383	62.56	97.20	8.4	12.8
670.0	76.6	27.0	188	8.6	1.11	4.88	53530	61.26	97.13	8.4	12.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
671.0	72.0	27.0	186	8.6	1.12	4.90	53685	65.17	97.05	8.4	12.8
672.0	61.0	27.0	188	8.6	1.17	4.91	53870	76.90	97.01	8.4	12.8
673.0	40.9	27.0	188	8.6	1.29	4.94	54146	114.69	97.05	8.4	12.8
674.0	116.1	27.0	185	8.6	0.98	4.95	54242	40.40	96.92	8.4	12.8
675.0	90.0	27.0	188	8.6	1.06	4.96	54367	52.13	96.83	8.4	12.8
676.0	54.5	27.0	187	8.6	1.21	4.98	54573	86.02	96.80	8.4	12.8
677.0	73.5	27.0	187	8.6	1.12	4.99	54725	63.86	96.73	8.4	12.8
678.0	50.0	27.0	177	8.6	1.22	5.01	54938	93.84	96.72	8.4	12.8
679.0	66.7	27.0	184	8.6	1.14	5.02	55103	70.38	96.67	8.4	12.8
680.0	41.4	27.0	186	8.6	1.29	5.05	55373	113.39	96.70	8.4	12.8
681.0	61.0	27.0	187	8.6	1.17	5.06	55556	76.90	96.66	8.4	12.8
682.0	65.5	28.0	185	8.6	1.16	5.08	55726	71.68	96.61	8.4	12.8
683.0	44.4	28.0	185	8.6	1.27	5.10	55976	105.57	96.62	8.4	12.8
684.0	36.4	28.0	185	8.6	1.33	5.13	56281	129.03	96.69	8.4	12.8
685.0	73.5	30.0	186	8.6	1.15	5.14	56433	63.86	96.62	8.4	12.8
686.0	76.6	32.0	185	8.6	1.15	5.16	56577	61.26	96.55	8.4	12.8
687.0	57.1	32.0	184	8.6	1.24	5.17	56771	82.11	96.52	8.4	12.8
688.0	40.4	32.0	149	8.6	1.28	5.20	56993	116.00	96.56	8.4	12.8
689.0	69.2	32.0	164	8.6	1.15	5.21	57135	67.77	96.50	8.4	12.8
690.0	69.2	32.0	166	8.6	1.15	5.23	57279	67.77	96.44	8.4	12.8
691.0	62.1	32.0	165	8.6	1.18	5.24	57438	75.59	96.39	8.4	12.8
692.0	57.1	32.0	168	8.6	1.21	5.26	57614	82.11	96.36	8.4	12.8
693.0	81.8	32.0	164	8.6	1.10	5.27	57735	57.35	96.28	8.4	12.8
694.0	73.5	32.0	167	8.6	1.13	5.29	57871	63.86	96.21	8.4	12.8
695.0	39.6	33.0	169	8.6	1.34	5.31	58127	118.60	96.26	8.4	12.9
696.0	65.5	33.0	165	8.6	1.17	5.33	58278	71.68	96.21	8.4	12.9
697.0	37.5	33.0	178	8.6	1.37	5.35	58562	125.12	96.27	8.4	12.9
699.0	108.0	32.0	185	8.6	1.05	5.37	58768	43.44	96.05	8.4	12.9
700.0	56.2	32.0	186	8.6	1.25	5.39	58966	83.41	96.02	8.4	12.9
701.0	54.5	32.0	187	8.6	1.26	5.41	59172	86.02	96.00	8.4	12.9
702.0	81.8	32.0	182	8.6	1.13	5.42	59306	57.35	95.92	8.4	12.9
703.0	52.2	32.0	180	8.6	1.26	5.44	59513	89.93	95.91	8.4	12.9
704.0	28.3	32.0	181	8.6	1.45	5.48	59896	165.52	96.05	8.4	12.9
705.0	63.2	32.0	179	8.6	1.20	5.49	60066	74.29	96.01	8.4	12.9
706.0	45.0	32.0	177	8.6	1.30	5.51	60302	104.27	96.02	8.4	12.9
707.0	46.2	32.0	158	8.6	1.26	5.53	60508	101.66	96.03	8.4	12.9
709.0	80.0	32.0	183	8.6	1.14	5.56	60782	58.65	95.88	8.4	12.9
710.0	75.0	32.0	184	8.6	1.16	5.57	60930	62.56	95.81	8.4	12.9
711.0	78.3	32.0	184	8.6	1.15	5.59	61071	59.95	95.74	8.4	12.9
712.0	66.7	32.0	180	8.6	1.19	5.60	61234	70.38	95.69	8.4	12.9
713.0	80.0	32.0	183	8.6	1.14	5.61	61371	58.65	95.61	8.4	12.9
714.0	120.0	32.0	181	8.6	1.01	5.62	61461	39.10	95.50	8.4	12.9
715.0	46.2	32.0	184	8.6	1.31	5.64	61701	101.66	95.51	8.4	12.9
716.0	63.2	32.0	182	8.6	1.21	5.66	61874	74.29	95.47	8.4	12.9
717.0	34.3	32.0	180	8.6	1.39	5.69	62188	136.85	95.55	8.4	12.9
718.0	59.0	32.0	181	8.6	1.23	5.71	62373	79.50	95.52	8.4	12.9
719.0	59.0	32.0	181	8.6	1.23	5.72	62557	79.50	95.49	8.4	12.9
720.0	76.6	32.0	173	8.6	1.13	5.74	62693	61.26	95.42	8.4	12.9
721.0	80.0	32.0	172	8.6	1.12	5.75	62821	58.65	95.35	8.4	12.9
722.0	54.5	32.0	176	8.6	1.24	5.77	63014	86.02	95.33	8.4	12.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
723.0	42.4	38.0	178	8.6	1.38	5.79	63267	110.78	95.36	8.4	12.9
724.0	156.5	38.0	161	8.6	0.94	5.80	63329	29.98	95.23	8.4	12.9
725.0	51.4	38.0	176	8.6	1.32	5.82	63534	91.23	95.22	8.4	12.9
726.0	52.9	39.0	169	8.6	1.31	5.83	63725	88.63	95.21	8.4	12.9
727.0	57.1	39.0	180	8.6	1.30	5.85	63914	82.11	95.18	8.4	12.9
728.0	85.7	39.0	176	8.6	1.16	5.86	64038	54.74	95.10	8.4	12.9
729.0	61.0	39.0	182	8.6	1.28	5.88	64216	76.90	95.07	8.4	12.9
730.0	62.1	39.0	182	8.6	1.28	5.90	64392	75.59	95.03	8.4	12.9
731.0	72.0	38.0	178	8.6	1.22	5.91	64541	65.17	94.97	8.4	12.9
732.0	83.7	38.0	181	8.6	1.17	5.92	64671	56.04	94.89	8.4	13.0
733.0	64.3	38.0	180	8.6	1.25	5.94	64838	72.99	94.85	8.4	13.0
734.0	60.0	38.0	179	8.6	1.27	5.95	65017	78.20	94.82	8.4	13.0
735.0	67.5	38.0	182	8.6	1.24	5.97	65179	69.51	94.77	8.4	13.0
736.0	40.4	38.0	180	8.6	1.40	5.99	65446	116.00	94.81	8.4	13.0
737.0	43.9	38.0	181	8.6	1.38	6.02	65693	106.87	94.83	8.4	13.0
738.0	85.7	38.0	179	8.6	1.16	6.03	65818	54.74	94.76	8.4	13.0
739.0	42.4	38.0	185	8.6	1.40	6.05	66081	110.78	94.79	8.4	13.0
740.0	45.0	38.0	184	8.6	1.38	6.07	66326	104.27	94.81	8.4	13.0
741.0	78.3	38.0	183	8.6	1.20	6.09	66467	59.95	94.74	8.4	13.0
742.0	102.9	38.0	183	8.6	1.11	6.10	66573	45.62	94.64	8.4	13.0
743.0	76.6	38.0	184	8.6	1.21	6.11	66718	61.26	94.58	8.4	13.0
744.0	116.1	38.0	178	8.6	1.06	6.12	66809	40.40	94.48	8.4	13.0
745.0	61.0	38.0	171	8.6	1.25	6.13	66978	76.90	94.44	8.4	13.0
746.0	116.1	38.0	179	8.6	1.07	6.14	67070	40.40	94.34	8.4	13.0
747.0	76.6	38.0	180	8.6	1.20	6.16	67211	61.26	94.28	8.4	13.0
748.0	85.7	35.0	180	8.6	1.14	6.17	67337	54.74	94.20	8.4	13.0
749.0	50.0	34.0	183	8.6	1.30	6.19	67557	93.84	94.20	8.4	13.0
750.0	24.2	34.0	181	8.6	1.52	6.23	68006	194.20	94.39	8.4	13.0
751.0	81.8	34.0	176	8.6	1.14	6.24	68135	57.35	94.32	8.4	13.0
752.0	40.9	34.0	183	8.6	1.36	6.27	68404	114.69	94.36	8.4	13.0
754.0	29.5	34.0	180	8.6	1.46	6.33	69137	159.01	94.60	8.4	13.0
755.0	40.9	34.0	181	8.6	1.36	6.36	69403	114.69	94.64	8.4	13.0
756.0	45.6	34.0	183	8.6	1.33	6.38	69645	102.96	94.66	8.4	13.0
757.0	25.9	34.0	182	8.6	1.50	6.42	70066	181.16	94.82	8.4	13.0
758.0	27.3	34.0	182	8.6	1.49	6.46	70467	172.04	94.96	8.4	13.0
759.0	36.0	34.0	182	8.6	1.40	6.48	70770	130.33	95.03	8.4	13.0
760.0	48.0	34.0	180	8.6	1.31	6.50	70995	97.75	95.03	8.4	13.0
761.0	32.7	33.0	181	8.6	1.42	6.53	71327	143.37	95.12	8.4	13.0
762.0	33.6	33.0	181	8.6	1.41	6.56	71650	139.46	95.20	8.4	13.0
763.0	80.0	33.0	180	8.6	1.14	6.58	71785	58.65	95.13	8.4	13.0
764.0	75.0	33.0	182	8.6	1.16	6.59	71930	62.56	95.07	8.4	13.0
765.0	40.0	33.0	181	8.6	1.36	6.62	72202	117.30	95.12	8.4	13.0
766.0	50.7	33.0	182	8.6	1.28	6.64	72417	92.54	95.11	8.4	13.0
767.0	52.2	33.0	181	8.6	1.27	6.65	72625	89.93	95.10	8.4	13.0
768.0	59.0	33.0	181	8.6	1.24	6.67	72809	79.50	95.07	8.4	13.0
769.0	22.0	35.0	182	8.6	1.57	6.72	73308	213.75	95.29	8.4	13.0
770.0	52.2	35.0	182	8.6	1.30	6.74	73518	89.93	95.28	8.4	13.1
771.0	56.2	35.0	181	8.6	1.27	6.75	73711	83.41	95.26	8.4	13.1
772.0	53.7	35.0	159	8.6	1.24	6.77	73888	87.32	95.24	8.4	13.1
773.0	38.3	35.0	184	8.6	1.40	6.80	74177	122.51	95.29	8.4	13.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
774.0	41.9	35.0	184	8.6	1.37	6.82	74440	112.09	95.32	8.4	13.1
775.0	43.9	35.0	184	8.6	1.35	6.85	74692	106.87	95.34	8.4	13.1
776.0	31.6	35.0	183	8.6	1.45	6.88	75040	148.58	95.44	8.4	13.1
777.0	65.5	35.0	183	8.6	1.23	6.89	75207	71.68	95.40	8.4	13.1
778.0	63.2	35.0	183	8.6	1.24	6.91	75381	74.29	95.36	8.4	13.1
779.0	43.4	35.0	183	8.6	1.35	6.93	75634	108.18	95.38	8.4	13.1
780.0	43.4	35.0	178	8.6	1.35	6.95	75880	108.18	95.40	8.4	13.1
782.0	48.0	35.0	182	8.6	1.32	7.00	76335	97.75	95.41	8.4	13.1
783.0	40.4	35.0	183	8.6	1.38	7.02	76605	116.00	95.45	8.4	13.1
784.0	48.0	35.0	182	8.6	1.32	7.04	76833	97.75	95.45	8.4	13.1
785.0	35.6	35.0	181	8.6	1.41	7.07	77138	131.64	95.52	8.4	13.1
786.0	43.9	35.0	181	8.6	1.35	7.09	77386	106.87	95.54	8.4	13.1
787.0	46.8	35.0	181	8.6	1.33	7.11	77618	100.36	95.55	8.4	13.1
788.0	35.6	35.0	181	8.6	1.41	7.14	77923	131.96	95.61	8.4	13.1
789.0	37.9	33.0	182	8.6	1.37	7.17	78211	123.82	95.66	8.4	13.1
790.0	53.7	33.0	182	8.6	1.27	7.19	78414	87.32	95.65	8.4	13.1
791.0	33.6	33.0	170	8.6	1.39	7.22	78717	139.46	95.72	8.4	13.1
792.0	26.5	33.0	184	8.6	1.49	7.25	79135	177.25	95.86	8.4	13.1
793.0	57.1	33.0	182	8.6	1.25	7.27	79326	82.11	95.84	8.4	13.1
794.0	39.6	33.0	182	8.6	1.36	7.30	79602	118.60	95.88	8.4	13.1
795.0	34.0	33.0	183	8.6	1.41	7.33	79926	138.15	95.95	8.4	13.1
796.0	32.1	33.0	182	8.6	1.42	7.36	80265	145.97	96.04	8.4	13.1
797.0	67.9	33.0	181	8.6	1.19	7.37	80425	69.08	95.99	8.4	13.1
798.0	49.3	33.0	181	8.6	1.29	7.39	80646	95.14	95.99	8.4	13.1
799.0	45.6	33.0	182	8.6	1.32	7.41	80885	102.96	96.00	8.4	13.1
800.0	27.3	33.0	170	8.6	1.45	7.45	81260	172.04	96.14	8.4	13.1
801.0	50.0	33.0	180	8.6	1.29	7.47	81476	93.84	96.13	8.4	13.1
802.0	47.4	33.0	180	8.6	1.30	7.49	81705	99.05	96.14	8.4	13.1
803.0	53.7	33.0	180	8.6	1.26	7.51	81906	87.32	96.12	8.4	13.1
804.0	49.3	33.0	181	8.6	1.29	7.53	82126	95.14	96.12	8.4	13.1
805.0	40.9	33.0	181	8.6	1.35	7.56	82391	114.69	96.15	8.4	13.1

BIT NUMBER	3	IADC CODE	114	INTERVAL	805.0- 1610.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	1400.00	TRIP TIME	6.9	BIT RUN	805.0
TOTAL HOURS	18.73	TOTAL TURNS	192624	CONDITION	T7 B6 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
810.0	33.0	15.0	125	8.6	1.17	0.15	1136	142	6897	8.4	13.5
811.0	50.0	15.0	125	8.6	1.05	0.17	1286	94	5763	8.4	13.5
812.0	50.0	17.0	140	8.6	1.12	0.19	1454	94	4953	8.4	13.5
813.0	50.0	19.0	140	8.6	1.15	0.21	1622	94	4346	8.4	13.5
814.0	38.0	20.0	150	8.6	1.27	0.24	1859	123	3877	8.4	13.5
815.0	64.0	22.0	165	8.6	1.17	0.25	2014	73	3496	8.4	13.5
816.0	59.0	22.0	165	8.6	1.19	0.27	2182	80	3186	8.4	13.5
817.0	56.0	22.0	165	8.6	1.21	0.29	2358	84	2927	8.4	13.5
818.0	63.0	22.0	165	8.6	1.17	0.30	2516	74	2708	8.4	13.5
819.0	56.0	22.0	165	8.6	1.21	0.32	2692	84	2520	8.4	13.5
820.0	45.0	26.0	170	8.6	1.34	0.34	2919	104	2359	8.4	13.5
821.0	59.0	26.0	170	8.6	1.26	0.36	3092	80	2217	8.4	13.5
822.0	49.0	26.0	170	8.6	1.31	0.38	3300	96	2092	8.4	13.5
823.0	49.0	26.0	170	8.6	1.31	0.40	3508	96	1981	8.4	13.5
824.0	64.0	26.0	170	8.6	1.23	0.42	3668	73	1881	8.4	13.5
825.0	92.0	26.0	170	8.6	1.12	0.43	3779	51	1789	8.4	13.5
826.0	47.0	26.0	170	8.6	1.33	0.45	3996	100	1709	8.4	13.5
827.0	54.0	26.0	170	8.6	1.28	0.47	4184	87	1635	8.4	13.5
828.0	59.0	26.0	170	8.6	1.26	0.49	4357	80	1567	8.4	13.5
829.0	61.0	26.0	170	8.6	1.25	0.50	4525	77	1505	8.4	13.5
830.0	72.0	30.0	170	8.6	1.24	0.52	4666	65	1448	8.4	13.5
831.0	67.0	30.0	170	8.6	1.27	0.53	4818	70	1395	8.4	13.5
832.0	54.0	30.0	170	8.6	1.34	0.55	5007	87	1346	8.4	13.6
833.0	73.0	30.0	170	8.6	1.24	0.56	5147	64	1301	8.4	13.6
834.0	67.0	30.0	170	8.6	1.27	0.58	5299	70	1258	8.4	13.6
835.0	63.0	32.0	170	8.6	1.31	0.59	5461	74	1219	8.4	13.6
836.0	72.0	32.0	170	8.6	1.26	0.61	5603	65	1181	8.4	13.6
837.0	44.0	32.0	170	8.6	1.43	0.63	5835	107	1148	8.4	13.6
838.0	72.0	32.0	170	8.6	1.26	0.64	5976	65	1115	8.4	13.6
839.0	88.0	32.0	170	8.6	1.20	0.66	6092	53	1084	8.4	13.6
840.0	100.0	45.0	160	8.6	1.26	0.67	6188	47	1054	8.4	13.6
841.0	56.0	45.0	160	8.6	1.47	0.68	6360	84	1027	8.4	13.6
842.0	69.0	45.0	160	8.6	1.40	0.70	6499	68	1001	8.4	13.6
843.0	69.0	45.0	160	8.6	1.40	0.71	6638	68.00	976.74	8.4	13.6
844.0	45.0	45.0	160	8.6	1.56	0.73	6851	104.27	954.37	8.4	13.6
845.0	73.0	41.0	170	8.6	1.36	0.75	6991	64.27	932.12	8.4	13.6
846.0	59.0	41.0	170	8.6	1.43	0.77	7164	79.53	911.32	8.4	13.6
847.0	67.0	41.0	170	8.6	1.39	0.78	7316	70.03	891.29	8.4	13.6
848.0	72.0	41.0	170	8.6	1.36	0.79	7458	65.17	872.08	8.4	13.6
849.0	64.0	41.0	170	8.6	1.40	0.81	7617	73.31	853.93	8.4	13.6
850.0	54.0	45.0	175	8.6	1.52	0.83	7812	86.89	836.88	8.4	13.6
851.0	62.0	45.0	175	8.6	1.47	0.84	7981	75.68	820.33	8.4	13.6
852.0	36.0	45.0	175	8.6	1.67	0.87	8273	130.33	805.65	8.4	13.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
853.0	51.0	45.0	175	8.6	1.54	0.89	8479	92.00	790.79	8.4	13.6
854.0	56.0	45.0	175	8.6	1.51	0.91	8666	83.79	776.36	8.4	13.6
855.0	54.0	45.0	175	8.6	1.52	0.93	8860	86.89	762.57	8.4	13.6
856.0	63.0	45.0	175	8.6	1.46	0.94	9027	74.48	749.08	8.4	13.6
857.0	55.0	45.0	175	8.6	1.51	0.96	9218	85.31	736.31	8.4	13.6
858.0	60.0	45.0	175	8.6	1.48	0.98	9393	78.20	723.89	8.4	13.6
859.0	64.0	45.0	175	8.6	1.46	0.99	9557	73.31	711.85	8.4	13.6
860.0	64.0	44.0	170	8.6	1.44	1.01	9716	73.31	700.24	8.4	13.6
861.0	63.0	44.0	170	8.6	1.44	1.03	9878	74.48	689.06	8.4	13.6
862.0	64.0	44.0	170	8.6	1.44	1.04	10038	73.31	678.26	8.4	13.6
863.0	72.0	44.0	170	8.6	1.39	1.06	10179	65.17	667.69	8.4	13.6
864.0	69.0	44.0	170	8.6	1.41	1.07	10327	68.00	657.52	8.4	13.6
865.0	78.0	41.0	170	8.6	1.33	1.08	10458	60.15	647.57	8.4	13.6
866.0	59.0	41.0	170	8.6	1.43	1.10	10631	79.53	638.26	8.4	13.6
867.0	51.0	41.0	170	8.6	1.49	1.12	10831	92.00	629.45	8.4	13.6
868.0	62.0	41.0	170	8.6	1.42	1.14	10995	75.68	620.66	8.4	13.6
869.0	52.0	41.0	170	8.6	1.48	1.15	11192	90.23	612.37	8.4	13.6
870.0	72.0	45.0	160	8.6	1.38	1.17	11325	65.17	603.95	8.4	13.6
871.0	73.0	45.0	160	8.6	1.37	1.18	11456	64.27	595.77	8.4	13.6
872.0	82.0	45.0	160	8.6	1.33	1.19	11573	57.22	587.73	8.4	13.7
873.0	89.0	45.0	160	8.6	1.30	1.21	11681	52.72	579.87	8.4	13.7
874.0	59.0	45.0	160	8.6	1.45	1.22	11844	79.53	572.61	8.4	13.7
875.0	64.0	45.0	180	8.6	1.47	1.24	12013	73.31	565.48	8.4	13.7
876.0	77.0	45.0	180	8.6	1.40	1.25	12153	60.94	558.38	8.4	13.7
877.0	41.0	45.0	180	8.6	1.63	1.28	12416	114.44	552.21	8.4	13.7
878.0	78.0	45.0	180	8.6	1.39	1.29	12555	60.15	545.47	8.4	13.7
879.0	82.0	45.0	180	8.6	1.38	1.30	12687	57.22	538.87	8.4	13.7
880.0	77.0	45.0	180	8.6	1.40	1.31	12827	60.94	532.50	8.4	13.7
881.0	59.0	45.0	180	8.6	1.50	1.33	13010	79.53	526.54	8.4	13.7
882.0	67.0	45.0	180	8.6	1.45	1.35	13171	70.03	520.61	8.4	13.7
883.0	77.0	45.0	180	8.6	1.40	1.36	13311	60.94	514.72	8.4	13.7
884.0	64.0	45.0	180	8.6	1.47	1.37	13480	73.31	509.13	8.4	13.7
885.0	64.0	45.0	180	8.6	1.47	1.39	13649	73.31	503.68	8.4	13.7
886.0	103.0	45.0	180	8.6	1.29	1.40	13754	45.55	498.03	8.4	13.7
887.0	73.0	45.0	180	8.6	1.42	1.41	13902	64.27	492.74	8.4	13.7
888.0	77.0	45.0	180	8.6	1.40	1.43	14042	60.94	487.53	8.4	13.7
889.0	67.0	45.0	180	8.6	1.45	1.44	14203	70.03	482.56	8.4	13.7
890.0	78.0	42.0	180	8.6	1.36	1.45	14342	60.15	477.59	8.4	13.7
891.0	85.0	42.0	180	8.6	1.33	1.47	14469	55.20	472.68	8.4	13.7
892.0	75.0	42.0	180	8.6	1.38	1.48	14613	62.56	467.97	8.4	13.7
893.0	78.0	42.0	180	8.6	1.36	1.49	14751	60.15	463.33	8.4	13.7
894.0	72.0	42.0	180	8.6	1.39	1.51	14901	65.17	458.86	8.4	13.7
895.0	82.0	45.0	180	8.6	1.38	1.52	15033	57.22	454.40	8.4	13.7
896.0	62.0	45.0	180	8.6	1.48	1.53	15207	75.68	450.24	8.4	13.7
897.0	44.0	45.0	180	8.6	1.61	1.56	15453	106.64	446.50	8.4	13.7
898.0	91.0	45.0	180	8.6	1.34	1.57	15571	51.56	442.25	8.4	13.7
899.0	77.0	45.0	180	8.6	1.40	1.58	15711	60.94	438.20	8.4	13.7
900.0	74.0	45.0	170	8.6	1.39	1.59	15849	63.41	434.25	8.4	13.7
901.0	69.0	45.0	170	8.6	1.42	1.61	15997	68.00	430.44	8.4	13.7
902.0	67.0	45.0	170	8.6	1.43	1.62	16149	70.03	426.72	8.4	13.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
903.0	59.0	45.0	170	8.6	1.48	1.64	16322	79.53	423.18	8.4	13.7
904.0	67.0	45.0	170	8.6	1.43	1.66	16474	70.03	419.61	8.4	13.7
905.0	60.0	40.0	180	8.6	1.44	1.67	16654	78.20	416.20	8.4	13.7
906.0	67.0	40.0	180	8.6	1.40	1.69	16816	70.03	412.77	8.4	13.7
907.0	72.0	40.0	180	8.6	1.37	1.70	16966	65.17	409.36	8.4	13.7
908.0	78.0	40.0	180	8.6	1.34	1.71	17104	60.15	405.97	8.4	13.7
909.0	77.0	40.0	180	8.6	1.35	1.73	17244	60.94	402.65	8.4	13.7
910.0	91.0	43.0	180	8.6	1.32	1.74	17363	51.56	399.31	8.4	13.7
911.0	67.0	43.0	180	8.6	1.43	1.75	17524	70.03	396.20	8.4	13.7
912.0	67.0	43.0	180	8.6	1.43	1.77	17685	70.03	393.16	8.4	13.7
913.0	59.0	43.0	180	8.6	1.48	1.78	17869	79.53	390.25	8.4	13.8
914.0	82.0	43.0	180	8.6	1.36	1.80	18000	57.22	387.20	8.4	13.8
915.0	77.0	44.0	182	8.6	1.39	1.81	18142	60.94	384.23	8.4	13.8
916.0	63.0	44.0	182	8.6	1.47	1.83	18315	74.48	381.44	8.4	13.8
917.0	64.0	44.0	182	8.6	1.46	1.84	18486	73.31	378.69	8.4	13.8
918.0	82.0	44.0	182	8.6	1.37	1.85	18619	57.22	375.84	8.4	13.8
919.0	63.0	44.0	182	8.6	1.47	1.87	18792	74.48	373.20	8.4	13.8
920.0	67.0	43.0	185	8.6	1.44	1.88	18958	70.03	370.56	8.4	13.8
921.0	59.0	43.0	185	8.6	1.49	1.90	19146	79.53	368.06	8.4	13.8
922.0	64.0	43.0	185	8.6	1.46	1.92	19320	73.31	365.54	8.4	13.8
923.0	96.0	43.0	185	8.6	1.31	1.93	19435	48.88	362.85	8.4	13.8
924.0	80.0	43.0	185	8.6	1.37	1.94	19574	58.65	360.30	8.4	13.8
925.0	85.0	42.0	180	8.6	1.33	1.95	19701	55.20	357.75	8.4	13.8
926.0	82.0	42.0	180	8.6	1.35	1.96	19833	57.22	355.27	8.4	13.8
927.0	78.0	42.0	180	8.6	1.36	1.98	19971	60.15	352.85	8.4	13.8
928.0	105.0	42.0	180	8.6	1.26	1.99	20074	44.69	350.35	8.4	13.8
929.0	46.0	42.0	180	8.6	1.56	2.01	20309	102.00	348.34	8.4	13.8
930.0	69.0	43.0	180	8.6	1.42	2.02	20465	68.00	346.10	8.4	13.8
931.0	59.0	43.0	180	8.6	1.48	2.04	20649	79.53	343.98	8.4	13.8
932.0	69.0	43.0	180	8.6	1.42	2.05	20805	68.00	341.81	8.4	13.8
933.0	81.0	43.0	180	8.6	1.36	2.07	20938	57.93	339.59	8.4	13.8
934.0	51.0	43.0	180	8.6	1.53	2.09	21150	92.00	337.67	8.4	13.8
935.0	56.0	40.0	160	8.6	1.42	2.10	21322	83.79	335.72	8.4	13.8
936.0	62.0	40.0	160	8.6	1.38	2.12	21476	75.68	333.74	8.4	13.8
937.0	71.0	40.0	160	8.6	1.33	2.13	21612	66.08	331.71	8.4	13.8
938.0	85.0	40.0	160	8.6	1.27	2.15	21725	55.20	329.63	8.4	13.8
939.0	63.0	40.0	160	8.6	1.38	2.16	21877	74.48	327.73	8.4	13.8
940.0	92.0	40.0	175	8.6	1.27	2.17	21991	51.00	325.68	8.4	13.8
941.0	89.0	40.0	175	8.6	1.29	2.18	22109	52.72	323.67	8.4	13.8
942.0	91.0	40.0	175	8.6	1.28	2.19	22224	51.56	321.68	8.4	13.8
943.0	78.0	40.0	175	8.6	1.33	2.21	22359	60.15	319.79	8.4	13.8
944.0	63.0	40.0	175	8.6	1.41	2.22	22526	74.48	318.02	8.4	13.8
945.0	44.0	40.0	180	8.6	1.55	2.25	22771	106.64	316.51	8.4	13.8
946.0	52.0	40.0	180	8.6	1.49	2.26	22979	90.23	314.91	8.4	13.8
947.0	73.0	40.0	180	8.6	1.37	2.28	23127	64.27	313.14	8.4	13.8
948.0	44.0	40.0	180	8.6	1.55	2.30	23372	106.64	311.70	8.4	13.8
949.0	39.0	40.0	180	8.6	1.59	2.33	23649	120.31	310.37	8.4	13.8
950.0	63.0	40.0	180	8.6	1.42	2.34	23821	74.48	308.74	8.4	13.8
951.0	63.0	40.0	180	8.6	1.42	2.36	23992	74.48	307.14	8.4	13.8
952.0	60.0	40.0	180	8.6	1.44	2.38	24172	78.20	305.58	8.4	13.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
953.0	40.0	40.0	179	8.6	1.58	2.40	24440	117.30	304.31	8.4	13.8
954.0	38.7	40.0	178	8.6	1.59	2.43	24716	121.21	303.08	8.4	13.8
955.0	43.4	40.0	178	8.6	1.55	2.45	24962	108.18	301.78	8.4	13.9
956.0	69.2	40.0	177	8.6	1.38	2.46	25116	67.77	300.23	8.4	13.9
957.0	62.1	40.0	178	8.6	1.42	2.48	25288	75.59	298.75	8.4	13.9
958.0	61.0	40.0	178	8.6	1.43	2.50	25463	76.90	297.30	8.4	13.9
959.0	55.4	40.0	178	8.6	1.46	2.51	25656	84.72	295.92	8.4	13.9
960.0	58.1	40.0	179	8.6	1.45	2.53	25841	80.81	294.53	8.4	13.9
961.0	67.9	40.0	177	8.6	1.39	2.55	25997	69.08	293.09	8.4	13.9
962.0	35.3	40.0	165	8.6	1.60	2.57	26278	132.94	292.07	8.4	13.9
963.0	67.9	40.0	178	8.6	1.39	2.59	26436	69.08	290.66	8.4	13.9
964.0	40.0	40.0	179	8.6	1.58	2.61	26704	117.30	289.57	8.4	13.9
965.0	46.8	40.0	180	8.6	1.53	2.64	26935	100.36	288.38	8.4	13.9
966.0	62.1	40.0	181	8.6	1.43	2.65	27110	75.59	287.06	8.4	13.9
967.0	69.2	40.0	181	8.6	1.39	2.67	27267	67.77	285.71	8.4	13.9
968.0	62.1	40.0	178	8.6	1.42	2.68	27439	75.59	284.42	8.4	13.9
969.0	59.0	40.0	178	8.6	1.44	2.70	27619	79.50	283.17	8.4	13.9
970.0	54.5	40.0	177	8.6	1.47	2.72	27815	86.02	281.98	8.4	13.9
971.0	70.6	40.0	166	8.6	1.35	2.73	27956	66.47	280.68	8.4	13.9
972.0	40.4	40.0	182	8.6	1.58	2.76	28225	116.00	279.69	8.4	13.9
973.0	27.7	40.0	181	8.6	1.72	2.79	28618	169.43	279.04	8.4	13.9
974.0	50.0	40.0	180	8.6	1.50	2.81	28833	93.84	277.94	8.4	13.9
975.0	42.9	40.0	179	8.6	1.56	2.84	29084	109.48	276.95	8.4	13.9
976.0	48.0	40.0	181	8.6	1.52	2.86	29310	97.75	275.90	8.4	13.9
977.0	49.3	40.0	183	8.6	1.51	2.88	29533	95.14	274.85	8.4	13.9
978.0	46.2	40.0	182	8.6	1.54	2.90	29769	101.66	273.85	8.4	13.9
979.0	44.4	40.0	181	8.6	1.55	2.92	30014	105.57	272.88	8.4	13.9
980.0	53.3	40.0	179	8.6	1.48	2.94	30216	87.98	271.82	8.4	13.9
981.0	50.7	40.0	176	8.6	1.49	2.96	30423	92.54	270.81	8.4	13.9
982.0	39.6	40.0	177	8.6	1.58	2.99	30691	118.60	269.95	8.4	13.9
983.0	54.5	40.0	174	8.6	1.46	3.00	30882	86.02	268.91	8.4	13.9
984.0	48.0	40.0	175	8.6	1.51	3.02	31100	97.75	267.96	8.4	13.9
985.0	52.2	40.0	177	8.6	1.48	3.04	31304	89.93	266.97	8.4	13.9
986.0	46.8	40.0	179	8.6	1.52	3.06	31533	100.36	266.05	8.4	13.9
987.0	52.9	40.0	176	8.6	1.47	3.08	31733	88.63	265.07	8.4	13.9
988.0	54.5	40.0	178	8.6	1.47	3.10	31929	86.02	264.09	8.4	13.9
989.0	43.0	40.0	155	8.6	1.50	3.13	32144	109.12	263.25	8.4	13.9
990.0	28.3	40.0	157	8.6	1.66	3.16	32477	165.52	262.72	8.4	13.9
991.0	46.2	41.0	181	8.6	1.55	3.18	32713	101.66	261.86	8.4	13.9
992.0	45.6	41.0	183	8.6	1.55	3.20	32954	102.96	261.01	8.4	13.9
993.0	50.7	41.0	180	8.6	1.51	3.22	33167	92.54	260.11	8.4	13.9
994.0	41.4	41.0	180	8.6	1.58	3.25	33428	113.39	259.34	8.4	13.9
995.0	37.1	41.0	182	8.6	1.63	3.27	33722	126.42	258.64	8.4	13.9
996.0	46.8	41.0	182	8.6	1.54	3.30	33955	100.36	257.81	8.4	13.9
997.0	39.1	41.0	185	8.6	1.61	3.32	34239	119.91	257.09	8.4	13.9
998.0	40.0	41.0	184	8.6	1.60	3.35	34516	117.30	256.36	8.4	13.9
999.0	34.3	41.0	163	8.6	1.62	3.38	34802	136.85	255.75	8.4	14.0
1000.0	36.0	41.0	164	8.6	1.60	3.40	35075	130.33	255.11	8.4	14.0
1001.0	30.3	41.0	164	8.6	1.66	3.44	35401	155.10	254.60	8.4	14.0
1002.0	30.3	41.0	165	8.6	1.66	3.47	35727	155.10	254.09	8.4	14.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1003.0	28.8	35.0	163	8.6	1.60	3.50	36067	162.92	253.63	8.4	14.0
1004.0	45.0	35.0	165	8.6	1.45	3.53	36287	104.27	252.88	8.4	14.0
1005.0	45.6	35.0	164	8.6	1.44	3.55	36502	102.96	252.13	8.4	14.0
1006.0	48.0	35.0	165	8.6	1.43	3.57	36708	97.75	251.36	8.4	14.0
1007.0	50.7	35.0	165	8.6	1.41	3.59	36903	92.54	250.58	8.4	14.0
1008.0	34.3	35.0	160	8.6	1.53	3.62	37183	136.85	250.01	8.4	14.0
1009.0	40.4	35.0	161	8.6	1.48	3.64	37422	116.00	249.36	8.4	14.0
1010.0	37.9	35.0	161	8.6	1.50	3.67	37677	123.82	248.75	8.4	14.0
1011.0	40.4	35.0	163	8.6	1.48	3.69	37918	116.00	248.10	8.4	14.0
1012.0	41.4	35.0	162	8.6	1.47	3.72	38153	113.39	247.45	8.4	14.0
1013.0	41.9	35.0	161	8.6	1.47	3.74	38383	112.09	246.80	8.4	14.0
1014.0	33.6	35.0	162	8.6	1.54	3.77	38672	139.46	246.29	8.4	14.0
1015.0	36.7	35.0	162	8.6	1.51	3.80	38936	127.73	245.72	8.4	14.0
1016.0	37.5	35.0	161	8.6	1.50	3.83	39194	125.12	245.15	8.4	14.0
1017.0	33.3	35.0	162	8.6	1.55	3.86	39486	140.76	244.66	8.4	14.0
1018.0	35.6	35.0	139	8.6	1.47	3.88	39720	131.64	244.13	8.4	14.0
1019.0	37.9	35.0	160	8.6	1.50	3.91	39973	123.82	243.56	8.4	14.0
1020.0	37.1	35.0	159	8.6	1.50	3.94	40230	126.42	243.02	8.4	14.0
1021.0	37.1	35.0	161	8.6	1.51	3.96	40490	126.42	242.48	8.4	14.0
1022.0	37.5	35.0	160	8.6	1.50	3.99	40746	125.12	241.94	8.4	14.0
1023.0	36.7	35.0	160	8.6	1.51	4.02	41007	127.73	241.42	8.4	14.0
1024.0	39.1	38.0	160	8.6	1.53	4.04	41253	119.91	240.86	8.4	14.0
1025.0	36.0	38.0	161	8.6	1.56	4.07	41521	130.33	240.36	8.4	14.0
1026.0	39.6	38.0	160	8.6	1.52	4.10	41763	118.60	239.81	8.4	14.0
1027.0	30.5	38.0	161	8.6	1.61	4.13	42080	153.79	239.42	8.4	14.0
1028.0	40.8	38.0	165	8.6	1.52	4.15	42322	115.13	238.86	8.4	14.0
1029.0	47.4	39.0	164	8.6	1.48	4.18	42530	99.05	238.24	8.4	14.0
1030.0	52.9	39.0	166	8.6	1.44	4.19	42719	88.63	237.57	8.4	14.0
1031.0	55.4	39.0	165	8.6	1.42	4.21	42898	84.72	236.90	8.4	14.0
1032.0	53.7	39.0	164	8.6	1.43	4.23	43081	87.32	236.24	8.4	14.0
1033.0	51.4	39.0	164	8.6	1.45	4.25	43272	91.23	235.60	8.4	14.0
1034.0	56.2	39.0	165	8.6	1.42	4.27	43448	83.41	234.94	8.4	14.0
1035.0	44.4	39.0	162	8.6	1.50	4.29	43667	105.57	234.37	8.4	14.0
1036.0	51.4	39.0	165	8.6	1.45	4.31	43860	91.23	233.76	8.4	14.0
1037.0	54.5	39.0	165	8.6	1.43	4.33	44041	86.02	233.12	8.4	14.0
1038.0	46.2	39.0	143	8.6	1.44	4.35	44227	101.66	232.55	8.4	14.0
1039.0	52.9	39.0	163	8.6	1.44	4.37	44411	88.63	231.94	8.4	14.0
1040.0	32.1	39.0	161	8.6	1.61	4.40	44711	145.97	231.57	8.4	14.0
1041.0	32.4	39.0	160	8.6	1.60	4.43	45007	144.67	231.21	8.4	14.0
1042.0	37.5	39.0	160	8.6	1.55	4.46	45263	125.12	230.76	8.4	14.0
1043.0	33.3	37.0	162	8.6	1.57	4.49	45556	140.76	230.38	8.4	14.0
1044.0	35.0	37.0	160	8.6	1.55	4.52	45830	134.24	229.98	8.4	14.1
1045.0	37.5	37.0	161	8.6	1.53	4.54	46087	125.12	229.54	8.4	14.1
1046.0	31.3	37.0	160	8.6	1.59	4.57	46394	149.88	229.21	8.4	14.1
1047.0	32.1	37.0	160	8.6	1.58	4.61	46692	145.97	228.87	8.4	14.1
1048.0	30.3	37.0	152	8.6	1.59	4.64	46995	155.10	228.56	8.4	14.1
1049.0	34.3	37.0	162	8.6	1.56	4.67	47278	136.85	228.19	8.4	14.1
1050.0	33.0	37.0	165	8.6	1.58	4.70	47578	142.06	227.83	8.4	14.1
1051.0	31.0	35.0	164	8.6	1.58	4.73	47895	151.19	227.52	8.4	14.1
1052.0	34.3	35.0	164	8.6	1.54	4.76	48182	136.85	227.16	8.4	14.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1053.0	36.7	35.0	164	8.6	1.52	4.79	48449	127.73	226.76	8.4	14.1
1054.0	31.9	35.0	164	8.6	1.57	4.82	48758	147.28	226.44	8.4	14.1
1055.0	38.7	35.0	164	8.6	1.50	4.84	49012	121.21	226.02	8.4	14.1
1056.0	36.7	35.0	165	8.6	1.52	4.87	49282	127.73	225.62	8.4	14.1
1057.0	35.3	35.0	164	8.6	1.53	4.90	49560	132.94	225.26	8.4	14.1
1058.0	28.3	35.0	150	8.6	1.58	4.94	49878	165.52	225.02	8.4	14.1
1059.0	48.0	35.0	161	8.6	1.42	4.96	50080	97.75	224.52	8.4	14.1
1060.0	49.3	35.0	160	8.6	1.41	4.98	50275	95.14	224.01	8.4	14.1
1061.0	48.0	35.0	161	8.6	1.42	5.00	50476	97.75	223.52	8.4	14.1
1062.0	42.9	35.0	162	8.6	1.46	5.02	50704	109.48	223.07	8.4	14.1
1063.0	45.0	35.0	160	8.6	1.44	5.04	50917	104.27	222.61	8.4	14.1
1064.0	43.4	35.0	163	8.6	1.46	5.07	51142	108.18	222.17	8.4	14.1
1065.0	34.6	35.0	159	8.6	1.53	5.09	51418	135.55	221.84	8.4	14.1
1066.0	50.0	35.0	162	8.6	1.41	5.11	51613	93.84	221.35	8.4	14.1
1067.0	45.0	35.0	162	8.6	1.44	5.14	51830	104.27	220.90	8.4	14.1
1068.0	40.0	35.0	144	8.6	1.44	5.16	52046	117.30	220.51	8.4	14.1
1069.0	56.2	35.0	165	8.6	1.37	5.18	52222	83.41	219.99	8.4	14.1
1070.0	50.0	35.0	164	8.6	1.41	5.20	52419	93.84	219.51	8.4	14.1
1071.0	56.2	35.0	164	8.6	1.37	5.22	52593	83.41	219.00	8.4	14.1
1072.0	43.9	35.0	164	8.6	1.46	5.24	52817	106.87	218.58	8.4	14.1
1073.0	53.7	35.0	164	8.6	1.39	5.26	53000	87.32	218.09	8.4	14.1
1074.0	43.4	35.0	163	8.6	1.46	5.28	53225	108.18	217.68	8.4	14.1
1075.0	44.4	35.0	164	8.6	1.45	5.30	53447	105.57	217.27	8.4	14.1
1076.0	43.4	35.0	164	8.6	1.46	5.33	53674	108.18	216.86	8.4	14.1
1077.0	38.7	36.0	151	8.6	1.48	5.35	53908	121.21	216.51	8.4	14.1
1078.0	40.4	36.0	161	8.6	1.49	5.38	54146	116.00	216.14	8.4	14.1
1079.0	27.5	36.0	164	8.6	1.63	5.41	54504	170.74	215.98	8.4	14.1
1080.0	16.9	36.0	88	8.6	1.58	5.47	54816	277.61	216.20	8.4	14.1
1081.0	35.3	36.0	158	8.6	1.53	5.50	55085	132.94	215.90	8.4	14.1
1082.0	34.6	36.0	158	8.6	1.54	5.53	55359	135.55	215.61	8.4	14.1
1083.0	36.7	36.0	162	8.6	1.53	5.56	55623	127.73	215.30	8.4	14.1
1084.0	39.6	36.0	162	8.6	1.50	5.58	55868	118.60	214.95	8.4	14.1
1085.0	32.1	22.0	163	8.6	1.37	5.61	56172	145.97	214.70	8.4	14.1
1086.0	35.0	16.1	161	8.6	1.24	5.64	56448	134.24	214.42	8.4	14.1
1087.0	23.7	14.0	151	8.6	1.29	5.69	56831	198.11	214.36	8.4	14.1
1088.0	33.0	14.2	161	8.6	1.22	5.72	57124	142.06	214.10	8.4	14.1
1089.0	35.6	14.6	160	8.6	1.21	5.74	57394	131.64	213.81	8.4	14.1
1090.0	31.3	14.0	162	8.6	1.23	5.78	57703	149.88	213.59	8.4	14.2
1091.0	35.0	14.0	161	8.6	1.20	5.80	57980	134.24	213.31	8.4	14.2
1092.0	29.8	13.9	163	8.6	1.25	5.84	58310	157.70	213.12	8.4	14.2
1093.0	31.6	13.4	171	8.6	1.23	5.87	58634	148.58	212.89	8.4	14.2
1094.0	34.3	14.0	171	8.6	1.22	5.90	58934	136.85	212.63	8.4	14.2
1095.0	36.0	14.4	172	8.6	1.22	5.93	59221	130.33	212.35	8.4	14.2
1096.0	39.1	13.6	156	8.6	1.16	5.95	59461	119.91	212.03	8.4	14.2
1097.0	41.9	35.0	163	8.6	1.47	5.98	59695	112.09	211.69	8.4	14.2
1098.0	45.6	35.0	164	8.7	1.43	6.00	59911	102.96	211.31	8.4	14.2
1099.0	32.1	35.0	132	8.7	1.47	6.03	60158	145.97	211.09	8.4	14.2
1100.0	38.7	35.0	175	8.7	1.50	6.05	60429	121.21	210.79	8.4	14.2
1101.0	43.9	35.0	175	8.7	1.46	6.08	60668	106.87	210.44	8.4	14.2
1102.0	41.4	35.0	174	8.7	1.48	6.10	60920	113.39	210.11	8.4	14.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1103.0	34.6	35.0	176	8.7	1.54	6.13	61225	135.55	209.86	8.4	14.2
1104.0	40.4	35.0	175	8.7	1.49	6.16	61484	116.00	209.55	8.4	14.2
1105.0	42.4	35.0	174	8.7	1.47	6.18	61731	110.78	209.22	8.4	14.2
1106.0	42.9	35.0	153	8.7	1.42	6.20	61945	109.48	208.89	8.4	14.2
1107.0	32.1	35.0	162	8.7	1.54	6.23	62247	145.97	208.68	8.4	14.2
1108.0	46.2	35.0	164	8.7	1.42	6.25	62461	101.66	208.32	8.4	14.2
1109.0	52.9	35.0	161	8.7	1.37	6.27	62643	88.63	207.93	8.4	14.2
1110.0	55.4	35.0	168	8.7	1.37	6.29	62825	84.72	207.53	8.4	14.2
1111.0	51.4	35.0	169	8.7	1.40	6.31	63023	91.23	207.15	8.4	14.2
1112.0	40.9	35.0	171	8.7	1.48	6.34	63274	114.69	206.84	8.4	14.2
1113.0	52.2	35.0	173	8.7	1.40	6.35	63473	89.93	206.47	8.4	14.2
1114.0	52.9	35.0	177	8.7	1.40	6.37	63674	88.63	206.08	8.4	14.2
1115.0	52.9	35.0	175	8.7	1.40	6.39	63872	88.63	205.71	8.4	14.2
1116.0	52.2	35.0	157	8.7	1.37	6.41	64053	89.93	205.33	8.4	14.2
1117.0	42.4	35.0	177	8.7	1.48	6.44	64304	110.78	205.03	8.4	14.2
1118.0	45.0	35.0	177	8.7	1.46	6.46	64540	104.27	204.71	8.4	14.2
1119.0	53.7	35.0	175	8.7	1.39	6.48	64736	87.32	204.33	8.4	14.2
1120.0	42.9	35.0	178	8.7	1.48	6.50	64985	109.48	204.03	8.4	14.2
1121.0	56.2	35.0	186	8.7	1.40	6.52	65184	83.41	203.65	8.4	14.2
1122.0	48.6	35.0	186	8.7	1.45	6.54	65413	96.45	203.31	8.4	14.2
1123.0	56.2	35.0	187	8.7	1.40	6.56	65613	83.41	202.94	8.4	14.2
1124.0	50.0	35.0	185	8.7	1.44	6.58	65836	93.84	202.59	8.4	14.2
1125.0	53.7	35.0	187	8.7	1.42	6.59	66045	87.32	202.23	8.4	14.2
1126.0	43.4	35.0	155	8.7	1.42	6.62	66259	108.18	201.94	8.4	14.2
1127.0	65.5	35.0	187	8.7	1.35	6.63	66430	71.68	201.54	8.4	14.2
1128.0	58.1	35.0	187	8.7	1.39	6.65	66623	80.81	201.16	8.4	14.2
1129.0	62.1	35.0	188	8.7	1.37	6.67	66804	75.59	200.77	8.4	14.2
1130.0	57.1	35.0	189	8.7	1.40	6.68	67003	82.11	200.41	8.4	14.2
1131.0	55.4	35.0	187	8.7	1.40	6.70	67205	84.72	200.05	8.4	14.2
1132.0	51.4	35.0	188	8.7	1.43	6.72	67424	91.23	199.72	8.4	14.2
1133.0	51.4	35.0	190	8.7	1.44	6.74	67645	91.23	199.39	8.4	14.2
1134.0	50.0	35.0	189	8.7	1.44	6.76	67872	93.84	199.07	8.4	14.2
1135.0	50.7	35.0	175	8.7	1.41	6.78	68079	92.54	198.75	8.4	14.2
1136.0	57.1	35.0	183	8.7	1.39	6.80	68271	82.11	198.40	8.4	14.2
1137.0	55.4	35.0	183	8.7	1.40	6.82	68470	84.72	198.05	8.4	14.2
1138.0	56.2	35.0	185	8.7	1.40	6.83	68668	83.41	197.71	8.4	14.3
1139.0	45.0	35.0	184	8.7	1.47	6.86	68913	104.27	197.43	8.4	14.3
1140.0	60.0	35.0	183	8.7	1.37	6.87	69096	78.20	197.07	8.4	14.3
1141.0	51.4	35.0	185	8.7	1.43	6.89	69312	91.23	196.76	8.4	14.3
1142.0	53.7	35.0	185	8.7	1.41	6.91	69518	87.32	196.43	8.4	14.3
1143.0	50.0	35.0	185	8.7	1.44	6.93	69740	93.84	196.13	8.4	14.3
1144.0	65.5	45.0	185	8.7	1.45	6.95	69909	71.68	195.76	8.4	14.3
1145.0	60.0	45.0	184	8.7	1.48	6.96	70093	78.20	195.42	8.4	14.3
1146.0	57.1	45.0	184	8.7	1.50	6.98	70286	82.11	195.08	8.4	14.3
1147.0	63.2	45.0	185	8.7	1.47	7.00	70462	74.29	194.73	8.4	14.3
1148.0	57.1	45.0	182	8.7	1.50	7.01	70653	82.11	194.40	8.4	14.3
1149.0	61.0	45.0	184	8.7	1.48	7.03	70833	76.90	194.06	8.4	14.3
1150.0	63.2	45.0	184	8.7	1.46	7.05	71008	74.29	193.71	8.4	14.3
1151.0	52.9	45.0	184	8.7	1.53	7.06	71216	88.63	193.41	8.4	14.3
1152.0	55.4	45.0	185	8.7	1.51	7.08	71416	84.72	193.10	8.4	14.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1153.0	63.2	45.0	182	8.7	1.46	7.10	71590	74.29	192.76	8.4	14.3
1154.0	33.6	45.0	137	8.7	1.59	7.13	71835	139.46	192.60	8.4	14.3
1155.0	58.1	45.0	189	8.7	1.50	7.15	72030	80.81	192.28	8.4	14.3
1156.0	50.7	44.0	187	8.7	1.54	7.16	72251	92.54	192.00	8.4	14.3
1157.0	54.5	44.0	189	8.7	1.52	7.18	72459	86.02	191.70	8.4	14.3
1158.0	47.4	44.0	188	8.7	1.57	7.20	72697	99.05	191.44	8.4	14.3
1159.0	50.0	44.0	189	8.7	1.55	7.22	72924	93.84	191.16	8.4	14.3
1160.0	47.4	44.0	189	8.7	1.57	7.25	73163	99.05	190.90	8.4	14.3
1161.0	52.2	44.0	188	8.7	1.53	7.26	73380	89.93	190.62	8.4	14.3
1162.0	46.8	42.0	187	8.7	1.55	7.29	73620	100.36	190.36	8.4	14.3
1163.0	53.7	42.0	190	8.7	1.50	7.30	73832	87.32	190.08	8.4	14.3
1164.0	40.4	42.0	160	8.7	1.54	7.33	74069	116.00	189.87	8.4	14.3
1165.0	53.7	42.0	189	8.7	1.50	7.35	74280	87.32	189.59	8.4	14.3
1166.0	48.0	42.0	189	8.7	1.54	7.37	74516	97.75	189.33	8.4	14.3
1167.0	50.0	42.0	188	8.7	1.52	7.39	74742	93.84	189.07	8.4	14.3
1168.0	49.3	42.0	189	8.7	1.53	7.41	74972	95.14	188.81	8.4	14.3
1169.0	45.0	42.0	189	8.7	1.56	7.43	75224	104.27	188.58	8.4	14.3
1170.0	50.7	42.0	189	8.7	1.52	7.45	75448	92.54	188.31	8.4	14.3
1171.0	50.7	42.0	190	8.7	1.52	7.47	75673	92.54	188.05	8.4	14.3
1172.0	51.4	42.0	189	8.7	1.52	7.49	75893	91.23	187.79	8.4	14.3
1173.0	48.0	42.0	168	8.7	1.50	7.51	76103	97.75	187.54	8.4	14.3
1174.0	48.6	42.0	187	8.7	1.53	7.53	76334	96.45	187.30	8.4	14.3
1175.0	46.2	42.0	187	8.7	1.55	7.55	76578	101.66	187.06	8.4	14.3
1176.0	53.7	42.0	186	8.7	1.49	7.57	76786	87.32	186.80	8.4	14.3
1177.0	50.0	42.0	188	8.7	1.52	7.59	77011	93.84	186.55	8.4	14.3
1178.0	55.4	42.0	186	8.7	1.48	7.61	77212	84.72	186.27	8.4	14.3
1179.0	52.2	42.0	187	8.7	1.51	7.63	77427	89.93	186.02	8.4	14.3
1180.0	50.7	42.0	189	8.7	1.52	7.65	77651	92.54	185.77	8.4	14.3
1181.0	48.6	42.0	188	8.7	1.53	7.67	77883	96.45	185.53	8.4	14.3
1182.0	40.9	42.0	164	8.7	1.55	7.69	78124	114.69	185.34	8.4	14.3
1183.0	56.2	42.0	169	8.7	1.44	7.71	78305	83.41	185.07	8.4	14.3
1184.0	56.2	45.0	170	8.7	1.48	7.73	78487	83.41	184.80	8.4	14.3
1185.0	58.1	45.0	169	8.7	1.46	7.75	78661	80.81	184.53	8.4	14.3
1186.0	62.1	45.0	167	8.7	1.43	7.76	78822	75.59	184.24	8.4	14.3
1187.0	52.9	45.0	168	8.7	1.50	7.78	79013	88.63	183.99	8.4	14.4
1188.0	46.2	45.0	169	8.7	1.55	7.80	79233	101.66	183.78	8.4	14.4
1189.0	45.0	45.0	169	8.7	1.56	7.83	79458	104.27	183.57	8.4	14.4
1190.0	41.4	45.0	170	8.7	1.59	7.85	79705	113.39	183.39	8.4	14.4
1191.0	50.7	45.0	168	8.7	1.51	7.87	79903	92.54	183.15	8.4	14.4
1192.0	40.0	45.0	166	8.7	1.59	7.89	80152	117.30	182.98	8.4	14.4
1193.0	47.4	45.0	186	8.7	1.57	7.92	80387	99.05	182.77	8.4	14.4
1194.0	52.9	45.0	186	8.7	1.53	7.93	80598	88.63	182.52	8.4	14.4
1195.0	55.4	45.0	188	8.7	1.52	7.95	80801	84.72	182.27	8.4	14.4
1196.0	63.2	45.0	186	8.7	1.47	7.97	80978	74.29	182.00	8.4	14.4
1197.0	59.0	45.0	186	8.7	1.49	7.99	81167	79.50	181.74	8.4	14.4
1198.0	52.2	45.0	187	8.7	1.54	8.00	81382	89.93	181.50	8.4	14.4
1199.0	51.4	45.0	186	8.7	1.54	8.02	81599	91.23	181.27	8.4	14.4
1200.0	54.5	45.0	186	8.7	1.52	8.04	81804	86.02	181.03	8.4	14.4
1201.0	24.8	45.0	159	8.7	1.75	8.08	82188	188.98	181.05	8.4	14.4
1202.0	48.0	45.0	189	8.7	1.57	8.10	82424	97.75	180.84	8.4	14.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	F
1203.0	46.2	45.0	188	8.7	1.59	8.12	82668	101.66	180.64	8.4	14.4
1204.0	52.9	45.0	186	8.7	1.53	8.14	82879	88.63	180.41	8.4	14.4
1205.0	52.2	45.0	186	8.7	1.54	8.16	83093	89.93	180.19	8.4	14.4
1206.0	51.4	45.0	187	8.7	1.55	8.18	83312	91.23	179.96	8.4	14.4
1207.0	57.1	45.0	186	8.7	1.50	8.20	83507	82.11	179.72	8.4	14.4
1208.0	44.4	45.0	187	8.7	1.60	8.22	83759	105.57	179.54	8.4	14.4
1209.0	54.5	45.0	187	8.7	1.52	8.24	83965	86.02	179.31	8.4	14.4
1210.0	58.1	45.0	188	8.7	1.50	8.26	84160	80.81	179.06	8.4	14.4
1211.0	63.2	45.0	191	8.7	1.48	8.27	84341	74.29	178.80	8.4	14.4
1212.0	76.6	45.0	187	8.7	1.40	8.29	84488	61.26	178.52	8.4	14.4
1213.0	53.7	45.0	186	8.7	1.53	8.31	84696	87.32	178.29	8.4	14.4
1214.0	59.0	45.0	185	8.7	1.49	8.32	84884	79.50	178.05	8.4	14.4
1215.0	61.0	45.0	186	8.7	1.48	8.34	85067	76.90	177.80	8.4	14.4
1216.0	43.9	45.0	186	8.7	1.60	8.36	85321	106.87	177.63	8.4	14.4
1217.0	60.0	45.0	187	8.7	1.49	8.38	85508	78.20	177.39	8.4	14.4
1218.0	48.0	45.0	186	8.7	1.57	8.40	85741	97.75	177.20	8.4	14.4
1219.0	58.1	45.0	186	8.7	1.50	8.42	85934	80.81	176.96	8.4	14.4
1220.0	55.4	45.0	187	8.7	1.52	8.43	86136	84.72	176.74	8.4	14.4
1221.0	60.0	45.0	188	8.7	1.49	8.45	86324	78.20	176.51	8.4	14.4
1222.0	53.7	45.0	184	8.7	1.52	8.47	86530	87.32	176.29	8.4	14.4
1223.0	52.2	45.0	185	8.7	1.54	8.49	86743	89.93	176.08	8.4	14.4
1224.0	52.9	45.0	186	8.7	1.53	8.51	86954	88.63	175.88	8.4	14.4
1225.0	59.0	45.0	186	8.7	1.49	8.52	87142	79.50	175.65	8.4	14.4
1226.0	48.6	45.0	184	8.7	1.56	8.55	87369	96.45	175.46	8.4	14.4
1227.0	51.4	45.0	185	8.7	1.54	8.56	87585	91.23	175.26	8.4	14.4
1228.0	52.9	45.0	185	8.7	1.53	8.58	87795	88.63	175.05	8.4	14.4
1229.0	60.0	45.0	187	8.7	1.49	8.60	87982	78.20	174.83	8.4	14.4
1230.0	37.5	45.0	170	8.7	1.63	8.63	88255	125.12	174.71	8.4	14.4
1231.0	55.4	45.0	185	8.7	1.51	8.64	88455	84.72	174.50	8.4	14.4
1232.0	53.7	45.0	184	8.7	1.52	8.66	88660	87.32	174.29	8.4	14.4
1233.0	57.1	45.0	183	8.7	1.50	8.68	88852	82.11	174.08	8.4	14.4
1234.0	59.0	45.0	183	8.7	1.49	8.70	89038	79.50	173.86	8.4	14.4
1235.0	55.4	45.0	185	8.7	1.51	8.72	89239	84.72	173.65	8.4	14.4
1236.0	57.1	45.0	183	8.7	1.50	8.73	89431	82.11	173.44	8.4	14.4
1237.0	52.9	45.0	184	8.7	1.53	8.75	89639	88.63	173.24	8.4	14.4
1238.0	53.7	45.0	184	8.7	1.52	8.77	89845	87.32	173.04	8.4	14.5
1239.0	49.3	45.0	183	8.7	1.55	8.79	90067	95.14	172.86	8.4	14.5
1240.0	72.0	45.0	179	8.7	1.41	8.81	90216	65.17	172.62	8.4	14.5
1241.0	58.1	45.0	179	8.7	1.48	8.82	90400	80.81	172.41	8.4	14.5
1242.0	56.2	45.0	181	8.7	1.50	8.84	90593	83.41	172.20	8.4	14.5
1243.0	47.4	45.0	179	8.7	1.56	8.86	90820	99.05	172.03	8.4	14.5
1244.0	53.7	45.0	180	8.7	1.52	8.88	91021	87.32	171.84	8.4	14.5
1245.0	51.4	45.0	178	8.7	1.53	8.90	91228	91.23	171.66	8.4	14.5
1246.0	50.0	45.0	177	8.7	1.53	8.92	91441	93.84	171.48	8.4	14.5
1247.0	50.0	45.0	177	8.7	1.54	8.94	91653	93.84	171.31	8.4	14.5
1248.0	50.7	45.0	178	8.7	1.53	8.96	91864	92.54	171.13	8.4	14.5
1249.0	48.0	45.0	173	8.7	1.54	8.98	92080	97.75	170.96	8.4	14.5
1250.0	52.9	45.0	175	8.7	1.51	9.00	92278	88.63	170.78	8.4	14.5
1251.0	39.6	45.0	173	8.7	1.61	9.02	92541	118.60	170.66	8.4	14.5
1252.0	45.0	45.0	174	8.7	1.57	9.05	92773	104.27	170.51	8.4	14.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1253.0	42.9	45.0	174	8.7	1.59	9.07	93017	109.48	170.38	8.4	14.5
1254.0	44.4	44.0	174	8.7	1.56	9.09	93251	105.57	170.23	8.4	14.5
1255.0	34.0	44.0	173	8.7	1.66	9.12	93556	138.15	170.16	8.4	14.5
1256.0	45.0	44.0	172	8.7	1.55	9.14	93786	104.27	170.02	8.4	14.5
1257.0	41.9	44.0	171	8.7	1.58	9.17	94032	112.09	169.89	8.4	14.5
1258.0	46.2	44.0	173	8.7	1.55	9.19	94256	101.66	169.74	8.4	14.5
1259.0	38.9	44.0	176	8.7	1.61	9.21	94528	120.56	169.63	8.4	14.5
1260.0	36.0	44.0	175	8.7	1.64	9.24	94821	130.33	169.54	8.4	14.5
1261.0	41.4	44.0	175	8.7	1.59	9.27	95074	113.39	169.42	8.4	14.5
1262.0	32.1	35.0	177	8.7	1.57	9.30	95405	145.97	169.37	8.4	14.5
1263.0	25.0	35.0	177	8.7	1.66	9.34	95830	187.68	169.41	8.4	14.5
1264.0	23.7	35.0	175	8.7	1.67	9.38	96273	198.11	169.47	8.4	14.5
1265.0	25.7	35.0	175	8.7	1.64	9.42	96682	182.47	169.50	8.4	14.5
1266.0	25.4	35.0	176	8.7	1.65	9.46	97097	185.07	169.53	8.4	14.5
1267.0	27.9	35.0	175	8.7	1.62	9.49	97474	168.13	169.53	8.4	14.5
1268.0	27.1	35.0	175	8.7	1.63	9.53	97863	173.34	169.54	8.4	14.5
1269.0	27.3	35.0	146	8.7	1.56	9.57	98184	172.04	169.54	8.4	14.5
1270.0	29.0	35.0	171	8.7	1.59	9.60	98537	161.61	169.53	8.4	14.5
1271.0	29.8	35.0	169	8.7	1.58	9.64	98878	157.70	169.50	8.4	14.5
1272.0	31.3	35.0	170	8.7	1.57	9.67	99204	149.88	169.46	8.4	14.5
1273.0	33.6	35.0	171	8.7	1.54	9.70	99509	139.46	169.39	8.4	14.5
1274.0	30.0	35.0	171	8.7	1.58	9.73	99850	156.40	169.37	8.4	14.5
1275.0	25.9	35.0	172	8.7	1.63	9.77	100248	181.16	169.39	8.4	14.5
1276.0	22.8	35.0	172	8.7	1.68	9.81	100700	205.93	169.47	8.4	14.5
1277.0	22.1	35.0	170	8.7	1.69	9.86	101163	212.44	169.56	8.4	14.5
1278.0	26.7	35.0	171	8.7	1.62	9.90	101547	175.95	169.57	8.4	14.5
1279.0	25.0	35.0	173	8.7	1.65	9.94	101962	187.68	169.61	8.4	14.5
1280.0	24.3	35.0	172	8.7	1.66	9.98	102387	192.89	169.66	8.4	14.5
1281.0	30.3	35.0	173	8.7	1.58	10.01	102729	155.10	169.63	8.4	14.5
1282.0	30.5	35.0	172	8.7	1.58	10.04	103068	153.79	169.60	8.4	14.5
1283.0	34.0	35.0	173	8.7	1.54	10.07	103373	138.15	169.53	8.4	14.5
1284.0	27.7	35.0	174	8.7	1.62	10.11	103749	169.43	169.53	8.4	14.5
1285.0	29.8	35.0	172	8.7	1.59	10.14	104096	157.70	169.51	8.4	14.5
1286.0	32.1	35.0	171	8.7	1.56	10.17	104416	145.97	169.46	8.4	14.5
1287.0	33.3	35.0	172	8.7	1.55	10.20	104725	140.76	169.40	8.4	14.5
1288.0	32.4	35.0	162	8.7	1.54	10.23	105025	144.67	169.35	8.4	14.5
1289.0	33.3	35.0	171	8.7	1.55	10.26	105332	140.76	169.29	8.4	14.5
1290.0	35.6	35.0	170	8.7	1.52	10.29	105618	131.64	169.21	8.4	14.6
1291.0	33.0	35.0	172	8.7	1.55	10.32	105931	142.06	169.15	8.4	14.6
1292.0	30.0	35.0	173	8.7	1.59	10.36	106277	156.40	169.13	8.4	14.6
1293.0	34.0	35.0	171	8.7	1.54	10.39	106579	138.15	169.06	8.4	14.6
1294.0	36.0	35.0	172	8.7	1.52	10.41	106866	130.33	168.98	8.4	14.6
1295.0	32.1	40.0	169	8.7	1.62	10.44	107181	145.97	168.94	8.4	14.6
1296.0	39.1	40.0	172	8.7	1.56	10.47	107445	119.91	168.84	8.4	14.6
1297.0	32.7	40.0	171	8.7	1.62	10.50	107758	143.37	168.79	8.4	14.6
1298.0	28.1	41.0	166	8.7	1.67	10.54	108112	166.83	168.78	8.4	14.6
1299.0	31.9	41.0	173	8.7	1.64	10.57	108439	147.28	168.74	8.4	14.6
1300.0	24.0	41.0	173	8.7	1.74	10.61	108870	195.50	168.79	8.4	14.6
1301.0	29.0	41.0	173	8.7	1.68	10.64	109228	161.61	168.78	8.4	14.6
1302.0	40.0	41.0	174	8.7	1.56	10.67	109489	117.30	168.67	8.4	14.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1303.0	26.5	41.0	172	8.7	1.71	10.71	109878	177.25	168.69	8.4	14.6
1304.0	34.6	41.0	171	8.7	1.61	10.74	110175	135.55	168.63	8.4	14.6
1305.0	28.1	41.0	174	8.7	1.69	10.77	110547	166.83	168.62	8.4	14.6
1306.0	27.5	41.0	173	8.7	1.70	10.81	110924	170.74	168.63	8.4	14.6
1307.0	25.7	43.0	172	8.7	1.75	10.85	111327	182.47	168.65	8.4	14.6
1308.0	29.0	43.0	173	8.7	1.70	10.88	111683	161.61	168.64	8.4	14.6
1309.0	31.0	43.0	174	8.7	1.68	10.91	112019	151.19	168.61	8.4	14.6
1310.0	30.8	43.0	172	8.7	1.68	10.95	112355	152.49	168.57	8.4	14.6
1311.0	30.0	43.0	173	8.7	1.69	10.98	112702	156.40	168.55	8.4	14.6
1312.0	28.6	43.0	172	8.7	1.71	11.01	113062	164.22	168.54	8.4	14.6
1313.0	29.0	43.0	172	8.7	1.70	11.05	113418	161.61	168.53	8.4	14.6
1314.0	32.4	43.0	173	8.7	1.66	11.08	113739	144.67	168.48	8.4	14.6
1315.0	36.0	44.0	172	8.7	1.63	11.11	114026	130.33	168.41	8.4	14.6
1316.0	13.3	44.0	174	8.7	2.00	11.18	114809	351.90	168.76	8.4	14.6
1317.0	40.0	45.0	176	8.7	1.62	11.21	115074	117.30	168.66	8.4	14.6
1318.0	45.6	45.0	177	8.7	1.57	11.23	115306	102.96	168.54	8.4	14.6
1319.0	47.4	45.0	177	8.7	1.56	11.25	115531	99.05	168.40	8.4	14.6
1320.0	56.2	45.0	177	8.7	1.49	11.27	115720	83.41	168.24	8.4	14.6
1321.0	48.6	45.0	178	8.7	1.55	11.29	115940	96.45	168.10	8.4	14.6
1322.0	49.3	45.0	178	8.7	1.54	11.31	116156	95.14	167.96	8.4	14.6
1323.0	55.4	45.0	177	8.7	1.50	11.33	116348	84.72	167.79	8.4	14.6
1324.0	48.0	45.0	178	8.7	1.55	11.35	116570	97.75	167.66	8.4	14.6
1325.0	59.0	45.0	178	8.7	1.48	11.36	116751	79.50	167.49	8.4	14.6
1326.0	42.4	45.0	160	8.7	1.56	11.39	116978	110.78	167.38	8.4	14.6
1327.0	46.2	45.0	173	8.7	1.56	11.41	117203	101.66	167.26	8.4	14.6
1328.0	50.0	45.0	173	8.7	1.53	11.43	117411	93.84	167.12	8.4	14.6
1329.0	51.4	45.0	174	8.7	1.52	11.45	117614	91.23	166.97	8.4	14.6
1330.0	56.2	45.0	173	8.7	1.48	11.47	117799	83.41	166.81	8.4	14.6
1331.0	41.9	45.0	173	8.7	1.59	11.49	118047	112.09	166.71	8.4	14.6
1332.0	49.3	45.0	174	8.7	1.53	11.51	118258	95.14	166.57	8.4	14.6
1333.0	41.9	45.0	172	8.7	1.59	11.53	118506	112.09	166.47	8.4	14.6
1334.0	52.2	45.0	174	8.7	1.51	11.55	118706	89.93	166.32	8.4	14.6
1335.0	46.8	45.0	174	8.7	1.55	11.58	118929	100.36	166.20	8.4	14.6
1336.0	51.4	45.0	163	8.7	1.50	11.59	119119	91.23	166.06	8.4	14.6
1337.0	42.9	45.0	170	8.7	1.58	11.62	119357	109.48	165.95	8.4	14.6
1338.0	43.9	45.0	170	8.7	1.57	11.64	119590	106.87	165.84	8.4	14.6
1339.0	48.0	45.0	170	8.7	1.54	11.66	119802	97.75	165.71	8.4	14.6
1340.0	48.0	45.0	171	8.7	1.54	11.68	120016	97.75	165.59	8.4	14.6
1341.0	40.9	45.0	169	8.7	1.59	11.71	120265	114.69	165.49	8.4	14.6
1342.0	50.0	45.0	171	8.7	1.52	11.73	120469	93.84	165.36	8.4	14.6
1343.0	38.7	45.0	171	8.7	1.62	11.75	120734	121.21	165.28	8.4	14.6
1344.0	40.9	45.0	169	8.7	1.59	11.78	120981	114.69	165.18	8.4	14.7
1345.0	41.9	45.0	170	8.7	1.59	11.80	121225	112.09	165.08	8.4	14.7
1346.0	28.1	45.0	162	8.7	1.71	11.84	121570	166.83	165.09	8.4	14.7
1347.0	42.4	45.0	176	8.7	1.59	11.86	121819	110.78	164.99	8.4	14.7
1348.0	50.7	45.0	178	8.7	1.53	11.88	122030	92.54	164.85	8.4	14.7
1349.0	43.4	45.0	176	8.7	1.59	11.90	122274	108.18	164.75	8.4	14.7
1350.0	45.6	45.0	177	8.7	1.57	11.92	122506	102.96	164.64	8.4	14.7
1351.0	43.9	45.0	176	8.7	1.58	11.95	122746	106.87	164.53	8.4	14.7
1352.0	48.0	45.0	176	8.7	1.55	11.97	122967	97.75	164.41	8.4	14.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1353.0	50.0	45.0	177	8.7	1.54	11.99	123179	93.84	164.28	8.4	14.7
1354.0	48.0	45.0	177	8.7	1.55	12.01	123400	97.75	164.16	8.4	14.7
1355.0	58.1	45.0	168	8.7	1.46	12.03	123574	80.81	164.01	8.4	14.7
1356.0	46.8	45.0	172	8.7	1.55	12.05	123794	100.36	163.89	8.4	14.7
1357.0	46.2	45.0	173	8.7	1.56	12.07	124020	101.66	163.78	8.4	14.7
1358.0	52.2	45.0	173	8.7	1.51	12.09	124218	89.93	163.64	8.4	14.7
1359.0	48.6	45.0	177	8.7	1.55	12.11	124437	96.45	163.52	8.4	14.7
1360.0	48.6	45.0	177	8.7	1.55	12.13	124655	96.45	163.40	8.4	14.7
1361.0	52.9	45.0	176	8.7	1.51	12.15	124855	88.63	163.27	8.4	14.7
1362.0	46.2	45.0	176	8.7	1.56	12.17	125084	101.66	163.16	8.4	14.7
1363.0	49.3	45.0	177	8.7	1.54	12.19	125299	95.14	163.04	8.4	14.7
1364.0	31.3	45.0	157	8.7	1.66	12.22	125600	149.88	163.01	8.4	14.7
1365.0	36.7	45.0	174	8.7	1.64	12.25	125884	127.73	162.95	8.4	14.7
1366.0	29.0	45.0	174	8.7	1.73	12.28	126243	161.61	162.95	8.4	14.7
1367.0	52.2	45.0	174	8.7	1.51	12.30	126443	89.93	162.82	8.4	14.7
1368.0	48.0	45.0	175	8.7	1.55	12.32	126662	97.75	162.70	8.4	14.7
1369.0	48.6	45.0	175	8.7	1.54	12.34	126877	96.45	162.58	8.4	14.7
1370.0	46.2	45.0	175	8.7	1.56	12.37	127105	101.66	162.48	8.4	14.7
1371.0	42.4	45.0	176	8.7	1.59	12.39	127354	110.78	162.38	8.4	14.7
1372.0	36.4	45.0	176	8.7	1.65	12.42	127645	129.03	162.33	8.4	14.7
1373.0	38.3	40.0	175	8.7	1.57	12.44	127919	122.51	162.26	8.4	14.7
1374.0	58.1	40.0	173	8.7	1.42	12.46	128098	80.81	162.11	8.4	14.7
1375.0	50.0	40.0	173	8.7	1.47	12.48	128306	93.84	161.99	8.4	14.7
1376.0	65.5	40.0	171	8.7	1.37	12.50	128462	71.68	161.83	8.4	14.7
1377.0	49.3	45.0	173	8.7	1.53	12.52	128673	95.14	161.72	8.4	14.7
1378.0	60.0	45.0	172	8.7	1.46	12.53	128845	78.20	161.57	8.4	14.7
1379.0	60.0	45.0	172	8.7	1.46	12.55	129016	78.20	161.43	8.4	14.7
1380.0	58.1	45.0	172	8.7	1.47	12.57	129195	80.81	161.29	8.4	14.7
1381.0	55.4	45.0	172	8.7	1.49	12.59	129381	84.72	161.15	8.4	14.7
1382.0	55.4	45.0	159	8.7	1.46	12.60	129554	84.72	161.02	8.4	14.7
1383.0	57.1	45.0	176	8.7	1.48	12.62	129738	82.11	160.88	8.4	14.7
1384.0	43.4	45.0	176	8.7	1.59	12.64	129982	108.18	160.79	8.4	14.7
1385.0	44.4	45.0	175	8.7	1.57	12.67	130218	105.57	160.70	8.4	14.7
1386.0	51.4	45.0	176	8.7	1.52	12.69	130424	91.23	160.58	8.4	14.7
1387.0	45.0	45.0	174	8.8	1.55	12.71	130656	104.27	160.48	8.4	14.7
1388.0	54.5	45.0	175	8.8	1.48	12.73	130849	86.02	160.35	8.4	14.7
1389.0	45.6	45.0	177	8.8	1.55	12.75	131082	102.96	160.26	8.4	14.7
1390.0	48.6	45.0	173	8.8	1.52	12.77	131295	96.45	160.15	8.4	14.7
1391.0	40.0	45.0	176	8.8	1.60	12.79	131560	117.30	160.07	8.4	14.7
1392.0	23.2	45.0	174	8.8	1.79	12.84	132010	202.02	160.15	8.4	14.7
1393.0	49.3	45.0	178	8.8	1.52	12.86	132226	95.14	160.03	8.4	14.7
1394.0	51.4	45.0	178	8.8	1.51	12.88	132433	91.23	159.92	8.4	14.7
1395.0	51.4	45.0	177	8.8	1.51	12.90	132640	91.23	159.80	8.4	14.7
1396.0	41.4	45.0	177	8.8	1.59	12.92	132896	113.39	159.72	8.4	14.7
1397.0	57.1	45.0	176	8.8	1.47	12.94	133081	82.11	159.59	8.4	14.7
1398.0	49.3	45.0	177	8.8	1.52	12.96	133296	95.14	159.48	8.4	14.7
1399.0	52.9	45.0	177	8.8	1.50	12.98	133496	88.63	159.36	8.4	14.7
1400.0	35.4	45.0	169	8.8	1.63	13.01	133782	132.51	159.32	8.4	14.7
1401.0	49.0	41.0	169	8.9	1.45	13.03	133989	95.76	159.21	8.4	14.8
1402.0	56.0	41.0	169	8.9	1.40	13.04	134170	83.79	159.09	8.4	14.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1403.0	45.0	41.0	169	8.9	1.48	13.07	134396	104.27	158.99	8.4	14.8
1404.0	50.0	41.0	169	8.9	1.44	13.09	134598	93.84	158.89	8.4	14.8
1405.0	56.0	42.0	168	8.9	1.41	13.10	134778	83.79	158.76	8.4	14.8
1406.0	67.0	42.0	168	8.9	1.35	13.12	134929	70.03	158.61	8.4	14.8
1407.0	49.0	42.0	168	8.9	1.46	13.14	135135	95.76	158.51	8.4	14.8
1408.0	49.0	42.0	168	8.9	1.46	13.16	135340	95.76	158.40	8.4	14.8
1409.0	52.0	42.0	168	8.9	1.44	13.18	135534	90.23	158.29	8.4	14.8
1410.0	23.8	42.0	171	8.9	1.72	13.22	135966	197.13	158.36	8.4	14.8
1411.0	27.7	42.0	179	8.9	1.68	13.26	136353	169.43	158.37	8.4	14.8
1412.0	52.2	42.0	180	8.9	1.46	13.28	136561	89.93	158.26	8.4	14.8
1413.0	48.6	42.0	179	8.9	1.48	13.30	136781	96.45	158.16	8.4	14.8
1414.0	58.1	42.0	179	8.9	1.42	13.31	136966	80.81	158.03	8.4	14.8
1415.0	46.8	42.0	179	8.9	1.50	13.33	137195	100.36	157.94	8.4	14.8
1416.0	39.1	42.0	179	8.9	1.56	13.36	137470	119.91	157.88	8.4	14.8
1417.0	47.4	42.0	178	8.9	1.49	13.38	137696	99.05	157.78	8.4	14.8
1418.0	45.0	42.0	180	8.9	1.51	13.40	137936	104.27	157.69	8.4	14.8
1419.0	48.0	42.0	179	8.9	1.49	13.42	138160	97.75	157.59	8.4	14.8
1420.0	57.0	42.0	177	8.9	1.42	13.44	138346	82.32	157.47	8.4	14.8
1421.0	94.7	42.0	174	8.9	1.24	13.45	138456	49.53	157.30	8.4	14.8
1422.0	50.0	42.0	179	8.9	1.47	13.47	138671	93.84	157.19	8.4	14.8
1423.0	64.3	42.0	181	8.9	1.39	13.49	138840	72.99	157.06	8.4	14.8
1424.0	65.5	42.0	182	8.9	1.38	13.50	139006	71.68	156.92	8.4	14.8
1425.0	43.9	42.0	179	8.9	1.52	13.53	139251	106.87	156.84	8.4	14.8
1426.0	44.4	42.0	181	8.9	1.52	13.55	139495	105.57	156.76	8.4	14.8
1427.0	51.4	42.0	180	8.9	1.46	13.57	139705	91.23	156.65	8.4	14.8
1428.0	50.0	42.0	180	8.9	1.47	13.59	139921	93.84	156.55	8.4	14.8
1429.0	48.6	42.0	181	8.9	1.49	13.61	140144	96.45	156.45	8.4	14.8
1430.0	40.4	42.0	180	8.9	1.55	13.63	140411	116.00	156.39	8.4	14.8
1431.0	53.7	42.0	171	8.9	1.43	13.65	140602	87.32	156.28	8.4	14.8
1432.0	42.4	42.0	173	8.9	1.52	13.68	140847	110.78	156.21	8.4	14.8
1433.0	50.0	42.0	173	8.9	1.46	13.70	141054	93.84	156.11	8.4	14.8
1434.0	47.4	42.0	173	8.9	1.48	13.72	141273	99.05	156.02	8.4	14.8
1435.0	53.7	42.0	171	8.9	1.43	13.74	141465	87.32	155.91	8.4	14.8
1436.0	60.0	42.0	174	8.9	1.40	13.75	141638	78.20	155.78	8.4	14.8
1437.0	62.1	42.0	172	8.9	1.38	13.77	141805	75.59	155.66	8.4	14.8
1438.0	53.7	42.0	171	8.9	1.43	13.79	141996	87.32	155.55	8.4	14.8
1439.0	67.9	42.0	172	8.9	1.35	13.80	142148	69.08	155.41	8.4	14.8
1440.0	58.1	42.0	164	8.9	1.39	13.82	142317	80.81	155.30	8.4	14.8
1441.0	49.3	42.0	172	8.9	1.46	13.84	142527	95.14	155.20	8.4	14.8
1442.0	53.7	42.0	173	8.9	1.43	13.86	142720	87.32	155.09	8.4	14.8
1443.0	52.2	42.0	175	8.9	1.45	13.88	142921	89.93	154.99	8.4	14.8
1444.0	50.7	42.0	176	8.9	1.46	13.90	143130	92.54	154.89	8.4	14.8
1445.0	60.0	42.0	177	8.9	1.40	13.91	143307	78.20	154.77	8.4	14.8
1446.0	51.4	42.0	178	8.9	1.46	13.93	143514	91.23	154.68	8.4	14.8
1447.0	46.2	42.0	175	8.9	1.49	13.95	143742	101.66	154.59	8.4	14.8
1448.0	48.6	42.0	175	8.9	1.47	13.97	143958	96.45	154.50	8.4	14.8
1449.0	58.1	42.0	179	8.9	1.42	13.99	144143	80.81	154.39	8.4	14.8
1450.0	40.4	42.0	167	8.9	1.52	14.02	144390	116.00	154.33	8.4	14.8
1451.0	63.2	42.0	172	8.9	1.38	14.03	144554	74.29	154.20	8.4	14.8
1452.0	54.5	42.0	172	8.9	1.43	14.05	144743	86.02	154.10	8.4	14.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1453.0	57.1	42.0	173	8.9	1.41	14.07	144925	82.11	153.99	8.4	14.8
1454.0	53.7	42.0	173	8.9	1.43	14.09	145118	87.32	153.89	8.4	14.8
1455.0	50.0	42.0	172	8.9	1.46	14.11	145324	93.84	153.79	8.4	14.8
1456.0	64.3	42.0	172	8.9	1.37	14.12	145485	72.99	153.67	8.4	14.8
1457.0	50.7	42.0	173	8.9	1.46	14.14	145690	92.54	153.58	8.4	14.8
1458.0	50.0	42.0	173	8.9	1.46	14.16	145898	93.84	153.48	8.4	14.8
1459.0	49.1	42.0	177	8.9	1.47	14.18	146114	95.58	153.40	8.4	14.9
1460.0	27.3	35.0	176	8.9	1.59	14.22	146502	172.04	153.42	8.4	14.9
1461.0	25.5	35.0	178	8.9	1.62	14.26	146921	183.77	153.47	8.4	14.9
1462.0	31.6	35.0	176	8.9	1.54	14.29	147256	148.58	153.46	8.4	14.9
1463.0	34.6	35.0	177	8.9	1.51	14.32	147562	135.55	153.44	8.4	14.9
1464.0	29.5	35.0	177	8.9	1.57	14.35	147922	159.01	153.44	8.4	14.9
1465.0	30.0	35.0	177	8.9	1.56	14.39	148276	156.40	153.45	8.4	14.9
1466.0	32.7	35.0	177	8.9	1.53	14.42	148600	143.37	153.43	8.4	14.9
1467.0	37.1	35.0	175	8.9	1.48	14.44	148883	126.42	153.39	8.4	14.9
1468.0	37.5	35.0	159	8.9	1.45	14.47	149137	125.12	153.35	8.4	14.9
1469.0	23.5	35.0	175	8.9	1.64	14.51	149583	199.41	153.42	8.4	14.9
1470.0	31.3	35.0	175	8.9	1.54	14.54	149918	149.88	153.41	8.4	14.9
1471.0	35.6	35.0	173	8.9	1.49	14.57	150209	131.64	153.38	8.4	14.9
1472.0	35.0	35.0	173	9.0	1.48	14.60	150506	134.24	153.35	8.4	14.9
1473.0	31.0	35.0	173	9.0	1.52	14.63	150840	151.19	153.35	8.4	14.9
1474.0	32.4	35.0	173	9.0	1.51	14.66	151160	144.67	153.34	8.4	14.9
1475.0	40.4	35.0	173	9.0	1.44	14.69	151415	116.00	153.28	8.4	14.9
1476.0	31.6	35.0	173	9.0	1.52	14.72	151744	148.58	153.27	8.4	14.9
1477.0	31.9	35.0	173	9.0	1.51	14.75	152070	147.28	153.26	8.4	14.9
1478.0	57.1	35.0	174	9.0	1.32	14.77	152253	82.11	153.16	8.4	14.9
1479.0	27.5	35.0	175	9.0	1.57	14.81	152635	170.74	153.18	8.4	14.9
1480.0	29.3	35.0	174	9.0	1.55	14.84	152992	160.31	153.20	8.4	14.9
1481.0	26.7	35.0	175	9.0	1.58	14.88	153386	175.95	153.23	8.4	14.9
1482.0	29.5	35.0	175	9.0	1.54	14.91	153742	159.01	153.24	8.4	14.9
1483.0	30.3	35.0	175	9.0	1.54	14.94	154090	155.10	153.24	8.4	14.9
1484.0	31.0	35.0	175	9.0	1.53	14.98	154429	151.19	153.24	8.4	14.9
1485.0	30.8	35.0	174	9.0	1.53	15.01	154768	152.49	153.24	8.4	14.9
1486.0	35.0	35.0	175	9.0	1.49	15.04	155069	134.24	153.21	8.4	14.9
1487.0	34.3	35.0	172	9.0	1.49	15.07	155369	136.85	153.18	8.4	14.9
1488.0	35.3	35.0	171	9.0	1.48	15.10	155661	132.94	153.15	8.4	14.9
1489.0	30.8	35.0	172	9.0	1.52	15.13	155996	152.49	153.15	8.4	14.9
1490.0	31.9	35.0	171	9.0	1.51	15.16	156318	147.28	153.14	8.4	14.9
1491.0	36.7	35.0	176	9.0	1.47	15.19	156606	127.73	153.11	8.4	14.9
1492.0	41.9	35.0	176	9.0	1.43	15.21	156859	112.09	153.05	8.4	14.9
1493.0	48.0	35.0	174	9.0	1.38	15.23	157076	97.75	152.97	8.4	14.9
1494.0	32.7	35.0	175	9.0	1.51	15.26	157397	143.37	152.95	8.4	14.9
1495.0	37.1	35.0	177	9.0	1.47	15.29	157683	126.42	152.92	8.4	14.9
1496.0	40.9	35.0	176	9.0	1.44	15.31	157940	114.69	152.86	8.4	14.9
1497.0	25.5	35.0	170	9.0	1.58	15.35	158341	183.77	152.90	8.4	14.9
1498.0	33.0	35.0	172	9.0	1.50	15.38	158653	142.06	152.89	8.4	14.9
1499.0	36.7	35.0	172	9.0	1.47	15.41	158934	127.73	152.85	8.4	14.9
1500.0	33.3	35.0	172	9.0	1.50	15.44	159243	140.76	152.84	8.4	14.9
1501.0	27.7	35.0	172	9.0	1.56	15.48	159615	169.43	152.86	8.4	14.9
1502.0	29.0	35.0	172	9.0	1.54	15.51	159970	161.61	152.87	8.4	14.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1503.0	29.5	40.0	171	9.0	1.60	15.54	160318	159.01	152.88	8.4	14.9
1504.0	28.3	40.0	173	9.0	1.62	15.58	160684	165.52	152.90	8.4	14.9
1505.0	30.3	40.0	173	9.0	1.60	15.61	161028	155.10	152.90	8.4	14.9
1506.0	33.3	40.0	159	9.0	1.53	15.64	161315	140.76	152.88	8.4	14.9
1507.0	30.3	40.0	178	9.0	1.60	15.68	161667	155.10	152.89	8.4	14.9
1508.0	29.8	30.0	179	9.0	1.48	15.71	162028	157.70	152.89	8.4	14.9
1509.0	28.1	35.0	178	9.0	1.56	15.75	162407	166.83	152.91	8.4	14.9
1510.0	24.2	35.0	178	9.0	1.62	15.79	162849	194.20	152.97	8.4	14.9
1511.0	25.7	35.0	178	9.0	1.60	15.83	163265	182.47	153.01	8.4	14.9
1512.0	21.8	35.0	179	9.0	1.65	15.87	163758	215.05	153.10	8.4	14.9
1513.0	27.3	35.0	179	9.0	1.58	15.91	164153	172.04	153.13	8.4	14.9
1514.0	23.5	35.0	179	9.0	1.63	15.95	164609	199.41	153.19	8.4	14.9
1515.0	37.9	35.0	166	9.0	1.44	15.98	164873	123.82	153.15	8.4	14.9
1516.0	39.6	35.0	173	9.0	1.44	16.00	165135	118.60	153.10	8.4	14.9
1517.0	25.2	45.0	174	9.0	1.72	16.04	165550	186.38	153.15	8.4	14.9
1518.0	31.0	45.0	173	9.0	1.65	16.07	165885	151.19	153.15	8.4	14.9
1519.0	36.0	45.0	173	9.0	1.59	16.10	166174	130.33	153.12	8.4	15.0
1520.0	31.0	45.0	174	9.0	1.65	16.13	166511	151.19	153.11	8.4	15.0
1521.0	22.1	45.0	173	9.0	1.77	16.18	166981	212.44	153.20	8.4	15.0
1522.0	27.5	45.0	174	9.0	1.69	16.22	167362	170.74	153.22	8.4	15.0
1523.0	30.3	45.0	176	9.0	1.66	16.25	167711	155.10	153.22	8.4	15.0
1524.0	26.1	45.0	174	9.0	1.71	16.29	168112	179.86	153.26	8.4	15.0
1525.0	28.3	45.0	166	9.0	1.66	16.32	168464	165.52	153.28	8.4	15.0
1526.0	37.9	45.0	173	9.0	1.57	16.35	168738	123.82	153.24	8.4	15.0
1527.0	29.3	45.0	172	9.0	1.66	16.38	169090	160.31	153.25	8.4	15.0
1528.0	29.5	45.0	173	9.0	1.66	16.42	169442	159.01	153.25	8.4	15.0
1529.0	42.9	45.0	173	9.0	1.53	16.44	169684	109.48	153.19	8.4	15.0
1530.0	29.3	45.0	173	9.0	1.67	16.47	170038	160.31	153.20	8.4	15.0
1531.0	32.4	45.0	173	9.0	1.63	16.51	170358	144.67	153.19	8.4	15.0
1532.0	34.3	45.0	174	9.0	1.61	16.53	170662	136.85	153.17	8.4	15.0
1533.0	41.4	45.0	175	9.0	1.55	16.56	170916	113.39	153.12	8.4	15.0
1534.0	30.5	45.0	162	9.0	1.63	16.59	171234	153.79	153.12	8.4	15.0
1535.0	144.0	45.0	173	9.0	1.10	16.60	171307	32.58	152.95	8.4	15.0
1536.0	45.6	45.0	169	9.0	1.50	16.62	171530	102.96	152.88	8.4	15.0
1537.0	39.1	45.0	172	9.0	1.56	16.65	171794	119.91	152.84	8.4	15.0
1538.0	34.0	45.0	171	9.0	1.61	16.68	172096	138.15	152.82	8.4	15.0
1539.0	47.4	45.0	172	9.0	1.49	16.70	172313	99.05	152.74	8.4	15.0
1540.0	36.4	45.0	171	9.0	1.58	16.72	172595	129.03	152.71	8.4	15.0
1541.0	38.3	45.0	172	9.0	1.57	16.75	172864	122.51	152.67	8.4	15.0
1542.0	37.5	45.0	171	9.0	1.57	16.78	173137	125.12	152.63	8.4	15.0
1543.0	42.9	45.0	171	9.0	1.53	16.80	173377	109.48	152.58	8.4	15.0
1544.0	35.6	45.0	174	9.0	1.60	16.83	173670	131.64	152.55	8.4	15.0
1545.0	38.7	45.0	175	9.0	1.57	16.85	173941	121.21	152.50	8.4	15.0
1546.0	31.9	45.0	174	9.0	1.64	16.89	174269	147.28	152.50	8.4	15.0
1547.0	34.0	45.0	175	9.0	1.62	16.91	174578	138.15	152.48	8.4	15.0
1548.0	29.0	45.0	174	9.0	1.67	16.95	174937	161.61	152.49	8.4	15.0
1549.0	31.6	45.0	176	9.0	1.65	16.98	175272	148.58	152.48	8.4	15.0
1550.0	29.5	45.0	175	9.0	1.67	17.01	175628	159.01	152.49	8.4	15.0
1551.0	35.6	45.0	176	9.0	1.60	17.04	175924	131.64	152.47	8.4	15.0
1552.0	30.5	45.0	173	9.0	1.65	17.08	176265	153.79	152.47	8.4	15.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1553.0	38.3	45.0	175	9.0	1.57	17.10	176538	122.51	152.43	8.4	15.0
1554.0	28.6	45.0	159	9.0	1.65	17.14	176872	164.22	152.44	8.4	15.0
1555.0	31.6	45.0	174	9.0	1.64	17.17	177202	148.58	152.44	8.4	15.0
1556.0	31.6	45.0	174	9.0	1.64	17.20	177532	148.58	152.43	8.4	15.0
1557.0	29.3	45.0	173	9.0	1.67	17.23	177888	160.31	152.44	8.4	15.0
1558.0	32.4	45.0	173	9.0	1.63	17.26	178208	144.67	152.43	8.4	15.0
1559.0	31.6	45.0	171	9.0	1.64	17.30	178534	148.58	152.43	8.4	15.0
1560.0	36.0	45.0	175	9.0	1.60	17.32	178825	130.33	152.40	8.4	15.0
1561.0	26.9	45.0	172	9.0	1.70	17.36	179209	174.65	152.43	8.4	15.0
1562.0	37.9	45.0	174	9.0	1.58	17.39	179484	123.82	152.39	8.4	15.0
1563.0	33.6	45.0	156	9.0	1.58	17.42	179762	139.46	152.37	8.4	15.0
1564.0	37.5	45.0	173	9.0	1.58	17.44	180039	125.12	152.34	8.4	15.0
1565.0	38.7	45.0	172	9.0	1.57	17.47	180306	121.21	152.30	8.4	15.0
1566.0	36.0	45.0	173	9.0	1.59	17.50	180595	130.33	152.27	8.4	15.0
1567.0	35.3	45.0	172	9.0	1.60	17.53	180887	132.94	152.24	8.4	15.0
1568.0	37.9	45.0	172	9.0	1.57	17.55	181159	123.82	152.20	8.4	15.0
1569.0	32.7	45.0	172	9.0	1.63	17.58	181474	143.37	152.19	8.4	15.0
1570.0	45.6	45.0	171	9.0	1.51	17.61	181700	102.96	152.13	8.4	15.0
1571.0	31.3	45.0	173	9.0	1.64	17.64	182031	149.88	152.13	8.4	15.0
1572.0	37.1	45.0	172	9.0	1.58	17.66	182309	126.42	152.09	8.4	15.0
1573.0	38.7	45.0	166	9.0	1.55	17.69	182567	121.21	152.05	8.4	15.0
1574.0	31.6	45.0	174	9.0	1.64	17.72	182898	148.58	152.05	8.4	15.0
1575.0	32.4	45.0	174	9.0	1.63	17.75	183220	144.67	152.04	8.4	15.0
1576.0	34.3	45.0	172	9.0	1.61	17.78	183521	136.85	152.02	8.4	15.0
1577.0	24.3	45.0	173	9.0	1.73	17.82	183947	192.89	152.07	8.4	15.0
1578.0	27.7	45.0	173	9.0	1.69	17.86	184323	169.43	152.09	8.4	15.0
1579.0	29.3	45.0	167	9.0	1.65	17.89	184665	160.31	152.10	8.4	15.0
1580.0	50.0	45.0	167	9.0	1.46	17.91	184866	93.84	152.03	8.4	15.0
1581.0	42.4	50.0	167	9.0	1.58	17.94	185102	110.78	151.98	8.4	15.1
1582.0	40.0	50.0	167	9.0	1.60	17.96	185353	117.30	151.93	8.4	15.1
1583.0	61.7	50.0	167	9.0	1.44	17.98	185515	76.03	151.83	8.4	15.1
1584.0	37.9	50.0	167	9.0	1.62	18.00	185780	123.82	151.80	8.4	15.1
1585.0	39.1	50.0	167	9.0	1.61	18.03	186036	119.91	151.76	8.4	15.1
1586.0	40.4	50.0	167	9.0	1.59	18.05	186283	116.00	151.71	8.4	15.1
1587.0	36.0	50.0	167	9.0	1.64	18.08	186562	130.33	151.68	8.4	15.1
1588.0	36.4	50.0	167	9.0	1.63	18.11	186837	129.03	151.66	8.4	15.1
1589.0	36.0	50.0	167	9.0	1.64	18.14	187116	130.33	151.63	8.4	15.1
1590.0	44.4	50.0	167	9.0	1.56	18.16	187341	105.57	151.57	8.4	15.1
1591.0	31.6	50.0	167	9.0	1.68	18.19	187658	148.58	151.57	8.4	15.1
1592.0	45.6	50.0	167	9.0	1.55	18.21	187878	102.96	151.50	8.4	15.1
1593.0	41.4	50.0	167	9.0	1.58	18.24	188120	113.39	151.46	8.4	15.1
1594.0	40.4	50.0	167	9.0	1.59	18.26	188368	116.00	151.41	8.4	15.1
1595.0	30.3	50.0	167	9.0	1.70	18.30	188699	155.10	151.42	8.4	15.1
1596.0	48.0	50.0	167	9.0	1.53	18.32	188908	97.75	151.35	8.4	15.1
1597.0	36.4	50.0	167	9.0	1.63	18.34	189184	129.03	151.32	8.4	15.1
1598.0	45.0	50.0	167	9.0	1.55	18.37	189406	104.27	151.26	8.4	15.1
1599.0	44.4	50.0	167	9.0	1.56	18.39	189632	105.57	151.20	8.4	15.1
1600.0	41.4	50.0	167	9.0	1.58	18.41	189874	113.39	151.15	8.4	15.1
1601.0	37.9	49.0	136	9.0	1.53	18.44	190090	123.82	151.12	8.4	15.1
1602.0	34.6	49.0	137	9.0	1.57	18.47	190327	135.55	151.10	8.4	15.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1603.0	29.0	49.0	137	9.0	1.63	18.50	190610	161.61	151.11	8.4	15.1
1604.0	38.3	49.0	137	9.0	1.53	18.53	190824	122.51	151.08	8.4	15.1
1605.0	24.2	49.0	137	9.0	1.70	18.57	191164	194.20	151.13	8.4	15.1
1606.0	25.5	49.0	136	9.0	1.67	18.61	191483	183.77	151.17	8.4	15.1
1607.0	29.3	47.0	137	9.0	1.61	18.64	191763	160.31	151.18	8.4	15.1
1608.0	37.5	47.0	141	9.0	1.53	18.67	191989	125.12	151.15	8.4	15.1
1609.0	33.6	46.0	162	9.0	1.60	18.70	192277	139.46	151.14	8.4	15.1
1610.0	28.6	46.0	165	9.0	1.67	18.73	192624	164.22	151.15	8.4	15.1

BIT NUMBER	4	IADC CODE	114	INTERVAL	1610.0- 1939.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	1400.00	TRIP TIME	8.0	BIT RUN	329.0
TOTAL HOURS	13.20	TOTAL TURNS	142370	CONDITION	T4 B3 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1611.0	32.2	10.0	171	9.0	1.10	0.03	319	146	39082	8.4	15.1
1612.0	30.8	15.0	172	9.0	1.22	0.06	655	152	19617	8.4	15.1
1613.0	31.6	20.0	172	9.0	1.30	0.10	983	149	13128	8.4	15.1
1614.0	31.3	20.0	173	9.0	1.30	0.13	1313	150	9883	8.4	15.1
1615.0	37.5	20.0	172	9.0	1.25	0.15	1588	125	7932	8.4	15.1
1616.0	33.6	25.0	171	9.0	1.36	0.18	1893	139	6633	8.4	15.1
1617.0	36.4	25.0	171	9.0	1.33	0.21	2175	129	5704	8.4	15.1
1618.0	26.5	25.0	172	9.0	1.43	0.25	2565	177	5013	8.4	15.1
1619.0	36.4	25.0	172	9.0	1.34	0.28	2848	129	4470	8.4	15.1
1620.0	34.0	25.0	170	9.0	1.35	0.31	3148	138	4037	8.4	15.1
1621.0	24.8	25.0	166	9.0	1.44	0.35	3548	189	3687	8.4	15.1
1622.0	29.0	25.0	167	9.0	1.39	0.38	3893	162	3393	8.4	15.1
1623.0	26.1	25.0	168	9.0	1.43	0.42	4279	180	3146	8.4	15.1
1624.0	41.4	25.0	170	9.0	1.29	0.44	4526	113	2930	8.4	15.1
1625.0	37.9	25.0	169	9.0	1.32	0.47	4793	124	2743	8.4	15.1
1626.0	38.7	25.0	169	9.0	1.31	0.50	5056	121	2579	8.4	15.1
1627.0	44.4	25.0	170	9.0	1.27	0.52	5285	106	2433	8.4	15.1
1628.0	33.0	25.0	165	9.0	1.35	0.55	5585	142	2306	8.4	15.1
1629.0	40.0	25.0	170	9.0	1.30	0.57	5839	117	2191	8.4	15.1
1630.0	58.8	25.0	172	9.0	1.19	0.59	6015	80	2085	8.4	15.1
1631.0	34.0	25.0	171	9.1	1.34	0.62	6316	138	1992	8.4	15.1
1632.0	42.4	25.0	173	9.1	1.28	0.64	6560	111	1907	8.4	15.1
1633.0	44.4	25.0	172	9.1	1.26	0.67	6793	106	1829	8.4	15.1
1634.0	36.4	25.0	171	9.1	1.32	0.69	7076	129	1758	8.4	15.1
1635.0	41.9	25.0	172	9.1	1.28	0.72	7322	112	1692	8.4	15.1
1636.0	28.6	25.0	172	9.1	1.39	0.75	7682	164	1633	8.4	15.1
1637.0	54.5	25.0	172	9.1	1.20	0.77	7872	86	1576	8.4	15.1
1638.0	47.4	25.0	170	9.1	1.24	0.79	8088	99	1523	8.4	15.1
1639.0	72.0	25.0	169	9.1	1.11	0.81	8229	65	1473	8.4	15.1
1640.0	33.0	25.0	170	9.1	1.35	0.84	8537	142	1429	8.4	15.1
1641.0	51.4	25.0	170	9.1	1.22	0.85	8736	91	1385	8.4	15.1
1642.0	25.7	25.0	171	9.1	1.42	0.89	9134	182	1348	8.4	15.1
1643.0	50.0	25.0	172	9.1	1.23	0.91	9340	94	1310	8.4	15.1
1644.0	47.4	25.0	172	9.1	1.24	0.93	9558	99	1274	8.4	15.1
1645.0	39.6	25.0	171	9.1	1.29	0.96	9818	119	1241	8.4	15.1
1646.0	32.7	25.0	172	9.1	1.35	0.99	10134	143	1211	8.4	15.2
1647.0	45.0	25.0	173	9.1	1.26	1.01	10364	104	1181	8.4	15.2
1648.0	33.6	25.0	172	9.1	1.35	1.04	10671	139	1153	8.4	15.2
1649.0	28.1	25.0	171	9.1	1.40	1.08	11038	167	1128	8.4	15.2
1650.0	32.4	25.0	172	9.1	1.36	1.11	11357	145	1104	8.4	15.2
1651.0	39.6	25.0	172	9.1	1.30	1.13	11617	119	1079	8.4	15.2
1652.0	31.0	25.0	172	9.1	1.37	1.17	11950	151	1057	8.4	15.2
1653.0	40.0	25.0	172	9.1	1.29	1.19	12208	117	1036	8.4	15.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1654.0	34.6	25.0	171	9.1	1.33	1.22	12505	136	1015	8.4	15.2
1655.0	29.0	25.0	171	9.1	1.39	1.26	12858	161.61	996.10	8.4	15.2
1656.0	33.3	25.0	172	9.1	1.35	1.29	13167	140.76	977.51	8.4	15.2
1657.0	24.0	25.0	172	9.1	1.44	1.33	13598	195.50	960.87	8.4	15.2
1658.0	30.0	26.0	173	9.1	1.39	1.36	13943	156.40	944.11	8.4	15.2
1659.0	28.3	26.0	173	9.1	1.41	1.40	14309	165.52	928.22	8.4	15.2
1660.0	39.6	26.0	173	9.1	1.31	1.42	14571	118.60	912.03	8.4	15.2
1661.0	38.3	26.0	172	9.1	1.32	1.45	14841	122.51	896.55	8.4	15.2
1662.0	40.9	26.0	173	9.1	1.30	1.47	15095	114.69	881.51	8.4	15.2
1663.0	40.4	26.0	172	9.1	1.30	1.50	15350	116.00	867.07	8.4	15.2
1664.0	41.4	26.0	172	9.1	1.30	1.52	15600	113.39	853.11	8.4	15.2
1665.0	43.9	26.0	173	9.1	1.28	1.54	15836	106.87	839.54	8.4	15.2
1666.0	60.0	26.0	172	9.1	1.19	1.56	16008	78.20	825.95	8.4	15.2
1667.0	41.9	26.0	174	9.1	1.30	1.58	16257	112.09	813.42	8.4	15.2
1668.0	36.0	26.0	156	9.1	1.31	1.61	16516	130.33	801.65	8.4	15.2
1669.0	36.4	26.0	170	9.1	1.33	1.64	16797	129.03	790.25	8.4	15.2
1670.0	35.3	26.0	172	9.1	1.34	1.67	17089	132.94	779.29	8.4	15.2
1671.0	45.0	26.0	172	9.1	1.27	1.69	17318	104.27	768.23	8.4	15.2
1672.0	39.1	26.0	172	9.1	1.31	1.71	17582	119.91	757.77	8.4	15.2
1673.0	35.6	26.0	173	9.1	1.34	1.74	17873	131.64	747.83	8.4	15.2
1674.0	40.0	26.0	172	9.1	1.31	1.77	18131	117.30	737.98	8.4	15.2
1675.0	50.0	26.0	173	9.1	1.24	1.79	18339	93.84	728.07	8.4	15.2
1676.0	45.6	26.0	172	9.1	1.27	1.81	18564	102.96	718.60	8.4	15.2
1677.0	48.0	26.0	49	9.1	0.88	1.83	18626	97.75	709.33	8.4	15.2
1678.0	33.3	26.0	175	9.1	1.37	1.86	18941	140.76	700.97	8.4	15.2
1679.0	34.3	26.0	174	9.1	1.36	1.89	19245	136.85	692.79	8.4	15.2
1680.0	23.2	26.0	174	9.1	1.47	1.93	19696	202.02	685.78	8.4	15.2
1681.0	21.8	26.0	175	9.1	1.49	1.98	20176	215.05	679.15	8.4	15.2
1682.0	25.4	26.0	175	9.1	1.45	2.02	20590	185.07	672.29	8.4	15.2
1683.0	29.3	26.0	174	9.1	1.40	2.05	20947	160.31	665.28	8.4	15.2
1684.0	21.1	26.0	175	9.1	1.50	2.10	21445	222.87	659.30	8.4	15.2
1685.0	17.9	26.0	175	9.1	1.55	2.16	22031	261.97	654.00	8.4	15.2
1686.0	20.6	26.0	175	9.1	1.51	2.20	22542	228.08	648.40	8.4	15.2
1687.0	28.2	26.0	173	9.1	1.41	2.24	22908	166.18	642.13	8.4	15.2
1688.0	32.1	26.0	173	9.1	1.37	2.27	23231	145.97	635.77	8.4	15.2
1689.0	35.3	26.0	172	9.1	1.35	2.30	23524	132.94	629.41	8.4	15.2
1690.0	26.3	26.0	171	9.1	1.43	2.34	23914	178.56	623.77	8.4	15.2
1691.0	25.9	26.0	169	9.1	1.43	2.38	24306	181.16	618.31	8.4	15.2
1692.0	29.5	26.0	170	9.1	1.40	2.41	24653	159.01	612.71	8.4	15.2
1693.0	22.2	30.0	171	9.1	1.54	2.45	25114	211.14	607.87	8.4	15.2
1694.0	25.9	30.0	170	9.1	1.49	2.49	25508	181.16	602.79	8.4	15.2
1695.0	23.4	30.0	170	9.1	1.52	2.54	25944	200.71	598.06	8.4	15.2
1696.0	28.1	30.0	171	9.1	1.47	2.57	26308	166.83	593.04	8.4	15.2
1697.0	16.6	30.0	165	9.1	1.62	2.63	26906	282.82	589.48	8.4	15.2
1698.0	13.7	30.0	171	9.1	1.69	2.70	27658	342.78	586.67	8.4	15.2
1699.0	16.1	30.0	172	9.1	1.64	2.77	28298	290.64	583.35	8.4	15.2
1700.0	18.4	30.0	171	9.1	1.60	2.82	28857	255.45	579.71	8.4	15.2
1701.0	22.6	30.0	172	9.1	1.54	2.87	29314	207.23	575.61	8.4	15.2
1702.0	20.0	30.0	171	9.1	1.57	2.92	29829	234.60	571.91	8.4	15.2
1703.0	22.0	25.0	170	9.1	1.47	2.96	30292	213.27	568.05	8.4	15.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1704.0	24.0	35.0	175	9.1	1.59	3.00	30730	195.50	564.09	8.4	15.2
1705.0	29.0	35.0	175	9.1	1.53	3.04	31092	161.79	559.85	8.4	15.2
1706.0	23.0	35.0	175	9.1	1.61	3.08	31548	204.00	556.14	8.4	15.2
1707.0	27.0	35.0	175	9.1	1.56	3.12	31937	173.78	552.20	8.4	15.2
1708.0	33.0	35.0	175	9.1	1.49	3.15	32255	142.18	548.02	8.4	15.2
1709.0	40.0	35.0	175	9.1	1.43	3.17	32518	117.30	543.67	8.4	15.2
1710.0	27.0	34.0	168	9.1	1.53	3.21	32891	173.78	539.97	8.4	15.2
1711.0	38.0	32.0	168	9.1	1.39	3.24	33156	123.47	535.85	8.4	15.2
1712.0	27.0	32.0	170	9.1	1.51	3.27	33534	173.78	532.30	8.4	15.2
1713.0	19.0	32.0	170	9.1	1.62	3.33	34071	246.95	529.53	8.4	15.3
1714.0	20.0	33.0	170	9.1	1.62	3.38	34581	234.60	526.69	8.4	15.3
1715.0	30.0	33.0	186	9.1	1.51	3.41	34952	156.40	523.16	8.4	15.3
1716.0	36.9	33.0	187	9.1	1.45	3.44	35256	127.08	519.43	8.4	15.3
1717.0	22.4	33.0	186	9.1	1.61	3.48	35755	209.84	516.53	8.4	15.3
1718.0	32.4	33.0	187	9.1	1.49	3.51	36100	144.67	513.09	8.4	15.3
1719.0	30.0	33.0	186	9.1	1.51	3.55	36472	156.40	509.82	8.4	15.3
1720.0	29.0	33.0	186	9.1	1.53	3.58	36857	161.61	506.65	8.4	15.3
1721.0	30.3	33.0	186	9.1	1.51	3.61	37226	155.10	503.48	8.4	15.3
1722.0	32.7	33.0	186	9.1	1.49	3.64	37568	143.37	500.27	8.4	15.3
1723.0	27.7	33.0	186	9.1	1.54	3.68	37971	169.43	497.34	8.4	15.3
1724.0	37.1	33.0	187	9.1	1.45	3.71	38274	126.42	494.09	8.4	15.3
1725.0	25.9	33.0	188	9.1	1.56	3.74	38708	181.16	491.37	8.4	15.3
1726.0	41.4	33.0	193	9.1	1.42	3.77	38988	113.39	488.11	8.4	15.3
1727.0	41.4	33.0	193	9.1	1.42	3.79	39268	113.39	484.91	8.4	15.3
1728.0	42.9	33.0	192	9.1	1.41	3.82	39537	109.48	481.72	8.4	15.3
1729.0	35.6	33.0	194	9.1	1.47	3.84	39864	131.64	478.78	8.4	15.3
1730.0	34.0	33.0	192	9.1	1.49	3.87	40203	138.15	475.94	8.4	15.3
1731.0	38.7	33.0	193	9.1	1.45	3.90	40503	121.21	473.01	8.4	15.3
1732.0	30.8	33.0	191	9.1	1.52	3.93	40876	152.49	470.38	8.4	15.3
1733.0	37.9	33.0	193	9.1	1.45	3.96	41182	123.82	467.57	8.4	15.3
1734.0	28.1	33.0	193	9.1	1.55	3.99	41594	166.83	465.14	8.4	15.3
1735.0	31.3	33.0	182	9.1	1.49	4.03	41943	149.88	462.62	8.4	15.3
1736.0	22.8	33.0	187	9.1	1.60	4.07	42434	205.93	460.58	8.4	15.3
1737.0	34.3	33.0	186	9.1	1.47	4.10	42760	136.85	458.03	8.4	15.3
1738.0	25.9	33.0	188	9.1	1.57	4.14	43196	181.16	455.87	8.4	15.3
1739.0	31.9	33.0	188	9.1	1.50	4.17	43550	147.28	453.48	8.4	15.3
1740.0	30.8	33.0	189	9.1	1.51	4.20	43919	152.49	451.16	8.4	15.3
1741.0	26.5	34.0	187	9.1	1.57	4.24	44342	177.25	449.07	8.4	15.3
1742.0	30.0	34.0	188	9.1	1.53	4.27	44717	156.40	446.85	8.4	15.3
1743.0	28.3	34.0	189	9.1	1.55	4.31	45118	165.52	444.74	8.4	15.3
1744.0	31.6	34.0	188	9.1	1.52	4.34	45476	148.58	442.53	8.4	15.3
1745.0	26.9	34.0	186	9.1	1.56	4.38	45891	174.65	440.54	8.4	15.3
1746.0	25.0	34.0	194	9.2	1.58	4.42	46357	187.68	438.69	8.4	15.3
1747.0	31.0	34.0	193	9.2	1.51	4.45	46730	151.19	436.59	8.4	15.3
1748.0	23.4	34.0	190	9.2	1.60	4.49	47219	200.71	434.88	8.4	15.3
1749.0	25.5	28.0	189	9.2	1.48	4.53	47664	183.77	433.07	8.4	15.3
1750.0	22.2	28.0	189	9.2	1.53	4.58	48175	211.14	431.49	8.4	15.3
1751.0	26.7	28.0	188	9.2	1.47	4.61	48598	175.95	429.67	8.4	15.3
1752.0	26.9	28.0	196	9.2	1.48	4.65	49036	174.65	427.88	8.4	15.3
1753.0	26.9	28.0	196	9.3	1.46	4.69	49472	174.65	426.11	8.4	15.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1754.0	16.4	28.0	171	9.3	1.57	4.75	50096	285.43	425.13	8.4	15.3
1755.0	19.4	28.0	182	9.4	1.52	4.80	50659	242.42	423.87	8.4	15.3
1756.0	18.8	30.0	182	9.4	1.56	4.85	51240	250.24	422.68	8.4	15.3
1757.0	21.4	30.0	182	9.4	1.52	4.90	51751	218.96	421.29	8.4	15.3
1758.0	17.1	30.0	182	9.4	1.59	4.96	52390	275.00	420.31	8.4	15.3
1759.0	17.0	30.0	181	9.4	1.59	5.02	53031	276.31	419.34	8.4	15.3
1760.0	17.1	30.0	182	9.4	1.59	5.08	53667	273.70	418.37	8.4	15.3
1761.0	20.7	30.0	181	9.4	1.53	5.12	54191	226.78	417.10	8.4	15.3
1762.0	20.2	30.0	182	9.4	1.54	5.17	54731	231.99	415.88	8.4	15.3
1763.0	29.8	33.0	167	9.4	1.44	5.21	55067	157.70	414.20	8.4	15.3
1764.0	25.7	35.0	183	9.4	1.54	5.25	55494	182.47	412.69	8.4	15.3
1765.0	22.0	35.0	182	9.4	1.58	5.29	55992	213.75	411.41	8.4	15.3
1766.0	27.7	35.0	183	9.4	1.51	5.33	56390	169.43	409.86	8.4	15.3
1767.0	21.6	35.0	183	9.4	1.59	5.37	56900	217.66	408.63	8.4	15.3
1768.0	31.0	40.0	182	9.4	1.54	5.41	57252	151.19	407.00	8.4	15.3
1769.0	24.7	40.0	182	9.4	1.61	5.45	57695	190.29	405.64	8.4	15.3
1770.0	28.1	40.0	182	9.4	1.57	5.48	58083	166.83	404.15	8.4	15.3
1771.0	25.9	40.0	183	9.4	1.60	5.52	58506	181.16	402.76	8.4	15.3
1772.0	31.3	40.0	182	9.4	1.53	5.55	58856	149.88	401.20	8.4	15.3
1773.0	20.6	40.0	173	9.4	1.65	5.60	59359	228.08	400.14	8.4	15.3
1774.0	21.7	40.0	183	9.4	1.65	5.65	59865	216.35	399.02	8.4	15.3
1775.0	35.0	40.0	181	9.5	1.48	5.68	60176	134.24	397.41	8.4	15.3
1776.0	26.9	40.0	180	9.5	1.56	5.71	60578	174.65	396.07	8.4	15.3
1777.0	26.3	40.0	180	9.5	1.57	5.75	60990	178.56	394.77	8.4	15.3
1778.0	26.1	40.0	181	9.5	1.57	5.79	61405	179.86	393.49	8.4	15.3
1779.0	26.3	40.0	179	9.5	1.57	5.83	61813	178.56	392.22	8.4	15.3
1780.0	22.8	40.0	179	9.5	1.61	5.87	62284	205.93	391.12	8.4	15.3
1781.0	25.2	40.0	176	9.5	1.58	5.91	62704	186.38	389.92	8.4	15.3
1782.0	24.2	40.0	166	9.5	1.57	5.95	63117	194.20	388.79	8.4	15.4
1783.0	25.7	40.0	175	9.5	1.57	5.99	63525	182.47	387.59	8.4	15.4
1784.0	24.7	40.0	177	9.5	1.58	6.03	63955	190.29	386.46	8.4	15.4
1785.0	24.5	40.0	176	9.5	1.59	6.07	64388	191.59	385.35	8.4	15.4
1786.0	28.1	40.0	176	9.5	1.54	6.11	64764	166.83	384.10	8.4	15.4
1787.0	26.7	40.0	177	9.5	1.56	6.15	65161	175.95	382.93	8.4	15.4
1788.0	21.8	40.0	177	9.5	1.62	6.19	65648	215.05	381.99	8.4	15.4
1789.0	29.8	40.0	175	9.6	1.50	6.23	66002	157.70	380.73	8.4	15.4
1790.0	28.8	40.0	176	9.6	1.52	6.26	66368	162.92	379.52	8.4	15.4
1791.0	36.0	40.0	176	9.6	1.44	6.29	66660	130.33	378.15	8.4	15.4
1792.0	24.0	40.0	177	9.6	1.58	6.33	67103	195.50	377.14	8.4	15.4
1793.0	20.3	40.0	168	9.6	1.61	6.38	67598	230.69	376.34	8.4	15.4
1794.0	29.8	40.0	182	9.6	1.52	6.41	67965	157.70	375.15	8.4	15.4
1795.0	23.2	40.0	180	9.6	1.59	6.46	68431	202.02	374.22	8.4	15.4
1796.0	29.8	40.0	181	9.6	1.52	6.49	68796	157.70	373.05	8.4	15.4
1797.0	25.4	40.0	181	9.6	1.57	6.53	69225	185.07	372.05	8.4	15.4
1798.0	18.2	40.0	182	9.6	1.68	6.58	69826	258.06	371.44	8.4	15.4
1799.0	15.2	40.0	182	9.6	1.73	6.65	70544	308.89	371.11	8.4	15.4
1800.0	15.9	40.0	182	9.6	1.72	6.71	71229	294.55	370.71	8.4	15.4
1801.0	14.1	40.0	181	9.6	1.76	6.78	72003	333.65	370.51	8.4	15.4
1802.0	18.3	40.0	178	9.6	1.67	6.84	72587	256.76	369.92	8.4	15.4
1803.0	21.4	40.0	184	9.6	1.63	6.89	73103	218.96	369.14	8.4	15.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1804.0	22.1	40.0	183	9.6	1.61	6.93	73601	212.44	368.33	8.4	15.4
1805.0	22.6	40.0	185	9.6	1.61	6.98	74090	207.23	367.51	8.4	15.4
1806.0	23.5	40.0	183	9.6	1.59	7.02	74558	199.41	366.65	8.4	15.4
1807.0	22.0	40.0	184	9.6	1.62	7.06	75060	213.75	365.87	8.4	15.4
1808.0	21.8	40.0	184	9.6	1.62	7.11	75567	215.05	365.11	8.4	15.4
1809.0	22.6	40.0	183	9.6	1.61	7.15	76053	207.23	364.32	8.4	15.4
1810.0	21.1	40.0	185	9.6	1.63	7.20	76580	222.87	363.61	8.4	15.4
1811.0	20.2	40.0	185	9.6	1.65	7.25	77127	231.99	362.95	8.4	15.4
1812.0	20.3	40.0	176	9.6	1.63	7.30	77646	230.69	362.30	8.4	15.4
1813.0	17.7	40.0	182	9.6	1.68	7.36	78261	264.58	361.82	8.4	15.4
1814.0	19.1	40.0	182	9.6	1.66	7.41	78833	245.03	361.25	8.4	15.4
1815.0	18.5	40.0	182	9.6	1.67	7.46	79425	254.15	360.72	8.4	15.4
1816.0	22.4	40.0	183	9.6	1.61	7.51	79914	209.84	359.99	8.4	15.4
1817.0	21.3	40.0	182	9.6	1.63	7.55	80428	220.26	359.32	8.4	15.4
1818.0	19.6	40.0	182	9.6	1.65	7.60	80988	239.81	358.74	8.4	15.4
1819.0	23.7	40.0	184	9.6	1.59	7.65	81453	198.11	357.97	8.4	15.4
1820.0	21.2	40.0	184	9.6	1.63	7.69	81975	221.57	357.32	8.4	15.4
1821.0	13.6	40.0	186	9.6	1.78	7.77	82798	345.38	357.27	8.4	15.4
1822.0	22.5	40.0	187	9.6	1.62	7.81	83296	208.53	356.57	8.4	15.4
1823.0	20.7	40.0	186	9.6	1.64	7.86	83837	226.78	355.96	8.4	15.4
1824.0	17.6	40.0	186	9.6	1.69	7.92	84470	265.88	355.54	8.4	15.4
1825.0	22.8	40.0	187	9.6	1.61	7.96	84961	205.93	354.84	8.4	15.4
1826.0	24.5	40.0	185	9.6	1.58	8.00	85414	191.59	354.08	8.4	15.4
1827.0	22.8	40.0	186	9.6	1.61	8.05	85904	205.93	353.40	8.4	15.4
1828.0	25.7	40.0	186	9.6	1.57	8.08	86339	182.47	352.62	8.4	15.4
1829.0	22.8	40.0	186	9.6	1.61	8.13	86828	205.93	351.95	8.4	15.4
1830.0	22.9	40.0	185	9.6	1.61	8.17	87313	204.62	351.28	8.4	15.4
1831.0	14.9	40.0	183	9.6	1.74	8.24	88049	314.10	351.11	8.4	15.4
1832.0	20.5	40.0	187	9.6	1.65	8.29	88599	229.39	350.56	8.4	15.4
1833.0	21.3	40.0	188	9.6	1.64	8.34	89129	220.26	349.98	8.4	15.4
1834.0	21.4	40.0	188	9.6	1.63	8.38	89655	218.96	349.39	8.4	15.4
1835.0	22.1	40.0	187	9.6	1.62	8.43	90164	212.44	348.78	8.4	15.4
1836.0	22.8	39.0	187	9.6	1.60	8.47	90657	205.93	348.15	8.4	15.4
1837.0	20.5	39.0	187	9.6	1.63	8.52	91207	229.39	347.63	8.4	15.4
1838.0	20.8	39.0	188	9.6	1.63	8.57	91749	225.48	347.09	8.4	15.4
1839.0	20.6	39.0	188	9.6	1.63	8.62	92297	228.08	346.57	8.4	15.4
1840.0	23.2	39.0	188	9.6	1.59	8.66	92783	202.02	345.94	8.4	15.4
1841.0	12.2	39.0	182	9.6	1.79	8.74	93677	383.18	346.10	8.4	15.4
1842.0	22.2	39.0	183	9.6	1.60	8.79	94171	211.14	345.52	8.4	15.4
1843.0	25.2	39.0	184	9.6	1.56	8.83	94609	186.38	344.84	8.4	15.4
1844.0	29.8	41.0	185	9.6	1.53	8.86	94982	157.70	344.04	8.4	15.4
1845.0	24.5	41.0	182	9.5	1.61	8.90	95428	191.59	343.39	8.4	15.4
1846.0	24.0	41.0	184	9.5	1.62	8.94	95888	195.50	342.77	8.4	15.4
1847.0	21.6	41.0	182	9.5	1.65	8.99	96395	217.66	342.24	8.4	15.4
1848.0	28.1	41.0	182	9.5	1.56	9.02	96783	166.83	341.50	8.4	15.4
1849.0	25.4	41.0	175	9.5	1.58	9.06	97195	184.64	340.84	8.4	15.4
1850.0	18.2	41.0	184	9.5	1.71	9.12	97799	257.41	340.50	8.4	15.4
1851.0	26.9	41.0	183	9.5	1.58	9.16	98209	174.65	339.81	8.4	15.4
1852.0	19.1	41.0	184	9.5	1.69	9.21	98784	245.03	339.42	8.4	15.4
1853.0	26.9	40.0	185	9.5	1.57	9.24	99198	174.65	338.74	8.4	15.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1854.0	23.1	40.0	185	9.5	1.62	9.29	99678	203.32	338.18	8.4	15.5
1855.0	22.8	40.0	184	9.5	1.62	9.33	100163	205.93	337.64	8.4	15.5
1856.0	25.9	40.0	183	9.5	1.58	9.37	100587	181.16	337.01	8.4	15.5
1857.0	22.6	40.0	184	9.5	1.62	9.41	101074	207.23	336.48	8.4	15.5
1858.0	20.3	40.0	184	9.5	1.66	9.46	101618	230.69	336.06	8.4	15.5
1859.0	19.8	40.0	184	9.5	1.67	9.51	102176	237.21	335.66	8.4	15.5
1860.0	15.2	40.0	183	9.5	1.75	9.58	102899	308.89	335.55	8.4	15.5
1861.0	17.1	40.0	184	9.5	1.72	9.64	103546	275.00	335.31	8.4	15.5
1862.0	22.0	40.0	181	9.5	1.63	9.68	104042	213.75	334.83	8.4	15.5
1863.0	18.3	40.0	183	9.5	1.69	9.74	104643	256.76	334.52	8.4	15.5
1864.0	16.2	40.0	183	9.5	1.73	9.80	105319	289.34	334.34	8.4	15.5
1865.0	13.5	40.0	182	9.5	1.79	9.88	106129	347.99	334.39	8.4	15.5
1866.0	16.2	40.0	183	9.5	1.73	9.94	106807	289.34	334.22	8.4	15.5
1867.0	16.1	40.0	182	9.5	1.73	10.00	107485	290.64	334.05	8.4	15.5
1868.0	17.1	40.0	182	9.5	1.71	10.06	108127	275.00	333.82	8.4	15.5
1869.0	12.6	40.0	183	9.5	1.81	10.14	108997	371.45	333.97	8.4	15.5
1870.0	12.4	40.0	182	9.5	1.82	10.22	109880	379.27	334.14	8.4	15.5
1871.0	9.8	40.0	182	9.5	1.89	10.32	110989	477.02	334.69	8.4	15.5
1872.0	10.1	40.0	182	9.5	1.88	10.42	112068	462.68	335.18	8.4	15.5
1873.0	12.7	40.0	182	9.5	1.81	10.50	112927	368.84	335.30	8.4	15.5
1874.0	12.1	40.0	182	9.5	1.83	10.58	113832	388.39	335.50	8.4	15.5
1875.0	15.5	40.0	181	9.5	1.74	10.64	114537	303.68	335.38	8.4	15.5
1876.0	14.6	40.0	182	9.5	1.76	10.71	115282	320.62	335.33	8.4	15.5
1877.0	10.8	40.0	182	9.5	1.86	10.80	116291	434.01	335.70	8.4	15.5
1878.0	15.7	40.0	184	9.5	1.74	10.87	116995	298.14	335.56	8.4	15.5
1879.0	17.1	40.0	184	9.5	1.72	10.93	117642	275.00	335.33	8.4	15.5
1880.0	15.5	40.0	183	9.5	1.75	10.99	118352	303.68	335.22	8.4	15.5
1881.0	17.7	40.0	185	9.5	1.71	11.05	118978	264.58	334.96	8.4	15.5
1882.0	15.7	40.0	184	9.5	1.74	11.11	119683	299.77	334.83	8.4	15.5
1883.0	17.1	40.0	184	9.5	1.72	11.17	120331	275.00	334.61	8.4	15.5
1884.0	17.5	40.0	186	9.5	1.71	11.23	120968	268.49	334.37	8.4	15.5
1885.0	24.8	40.0	185	9.5	1.60	11.27	121415	188.98	333.84	8.4	15.5
1886.0	37.1	40.0	185	9.5	1.47	11.29	121715	126.42	333.09	8.4	15.5
1887.0	41.9	40.0	184	9.5	1.42	11.32	121978	112.09	332.29	8.4	15.5
1888.0	54.0	40.0	184	9.5	1.34	11.34	122183	86.89	331.41	8.4	15.5
1889.0	45.0	40.0	180	9.5	1.40	11.36	122423	104.27	330.59	8.4	15.5
1890.0	41.9	40.0	182	9.5	1.42	11.38	122685	112.09	329.81	8.4	15.5
1891.0	35.0	40.0	183	9.5	1.48	11.41	122998	134.24	329.11	8.4	15.5
1892.0	32.4	40.0	183	9.5	1.51	11.44	123336	144.67	328.46	8.4	15.5
1893.0	36.7	40.0	182	9.5	1.46	11.47	123633	127.73	327.75	8.4	15.5
1894.0	31.0	40.0	181	9.5	1.52	11.50	123983	151.19	327.13	8.4	15.5
1895.0	25.9	40.0	182	9.5	1.58	11.54	124405	181.16	326.62	8.4	15.5
1896.0	30.8	40.0	182	9.5	1.52	11.57	124761	152.49	326.01	8.4	15.5
1897.0	52.2	40.0	168	9.5	1.32	11.59	124954	89.93	325.19	8.4	15.5
1898.0	41.9	40.0	182	9.5	1.42	11.62	125215	112.09	324.45	8.4	15.5
1899.0	48.6	40.0	183	9.5	1.37	11.64	125441	96.45	323.66	8.4	15.5
1900.0	49.3	40.0	183	9.5	1.37	11.66	125664	95.14	322.87	8.4	15.5
1901.0	50.0	40.0	184	9.5	1.37	11.68	125884	93.84	322.08	8.4	15.5
1902.0	31.6	40.0	186	9.5	1.52	11.71	126237	148.58	321.49	8.4	15.5
1903.0	60.0	40.0	183	9.5	1.31	11.73	126420	78.20	320.66	8.4	15.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1904.0	26.5	40.0	183	9.5	1.57	11.76	126834	177.25	320.17	8.4	15.5
1905.0	24.3	40.0	184	9.5	1.60	11.80	127288	192.89	319.74	8.4	15.5
1906.0	29.8	40.0	185	9.5	1.54	11.84	127661	157.70	319.19	8.4	15.5
1907.0	27.7	40.0	165	9.5	1.52	11.87	128018	169.43	318.69	8.4	15.5
1908.0	27.7	40.0	181	9.5	1.55	11.91	128410	169.43	318.19	8.4	15.5
1909.0	36.0	40.0	184	9.5	1.48	11.94	128718	130.33	317.56	8.4	15.5
1910.0	33.3	40.0	183	9.5	1.50	11.97	129047	140.76	316.97	8.4	15.5
1911.0	34.3	40.0	184	9.5	1.49	12.00	129370	136.85	316.37	8.4	15.5
1912.0	27.3	40.0	134	9.5	1.46	12.03	129666	172.04	315.89	8.4	15.5
1913.0	23.2	40.0	182	9.5	1.61	12.08	130136	202.02	315.52	8.4	15.5
1914.0	31.9	40.0	182	9.5	1.51	12.11	130480	147.28	314.96	8.4	15.5
1915.0	24.5	40.0	183	9.5	1.60	12.15	130929	191.59	314.56	8.4	15.5
1916.0	22.5	40.0	177	9.5	1.61	12.19	131401	208.53	314.21	8.4	15.5
1917.0	23.5	39.0	182	9.5	1.60	12.24	131866	199.41	313.84	8.4	15.5
1918.0	22.5	39.0	185	9.5	1.62	12.28	132360	208.53	313.50	8.4	15.5
1919.0	22.5	39.0	185	9.5	1.62	12.33	132853	208.53	313.16	8.4	15.5
1920.0	29.8	39.0	181	9.5	1.52	12.36	133218	157.70	312.65	8.4	15.5
1921.0	26.9	39.0	183	9.5	1.56	12.40	133627	174.65	312.21	8.4	15.5
1922.0	19.6	39.0	183	9.5	1.66	12.45	134190	239.81	311.98	8.4	15.5
1923.0	26.7	39.0	181	9.5	1.55	12.48	134597	175.95	311.54	8.4	15.5
1924.0	21.3	39.0	183	9.5	1.63	12.53	135114	220.26	311.25	8.4	15.5
1925.0	14.8	39.0	183	9.5	1.75	12.60	135855	316.71	311.27	8.4	15.5
1926.0	17.1	39.0	181	9.5	1.70	12.66	136488	273.70	311.15	8.4	15.5
1927.0	9.8	39.0	182	9.5	1.88	12.76	137597	477.02	311.68	8.4	15.5
1928.0	12.6	39.0	182	9.5	1.80	12.84	138463	371.45	311.86	8.4	15.5
1929.0	26.3	39.0	181	9.5	1.56	12.88	138877	178.56	311.45	8.4	15.6
1930.0	20.0	39.0	182	9.5	1.65	12.93	139424	234.60	311.21	8.4	15.6
1931.0	16.7	39.0	182	9.5	1.71	12.99	140076	280.22	311.11	8.4	15.6
1932.0	67.9	39.0	180	9.5	1.25	13.00	140235	69.08	310.36	8.4	15.6
1933.0	59.0	39.0	182	9.5	1.30	13.02	140420	79.50	309.64	8.4	15.6
1934.0	57.1	39.0	113	9.5	1.16	13.04	140539	82.11	308.94	8.4	15.6
1935.0	34.3	39.0	181	9.5	1.47	13.06	140855	136.85	308.41	8.4	15.6
1936.0	29.3	39.0	180	9.5	1.52	13.10	141224	160.31	307.96	8.4	15.6
1937.0	30.3	39.0	183	9.5	1.52	13.13	141586	155.10	307.49	8.4	15.6
1938.0	19.9	39.0	182	9.5	1.65	13.18	142134	235.90	307.27	8.4	15.6
1939.0	46.2	39.0	182	9.5	1.38	13.20	142370	101.66	306.65	8.4	15.6

BIT NUMBER	4	IADC CODE	4	INTERVAL	1939.0- 1952.2
CHRIST RC4		SIZE	8.500	NOZZLES	15 15 14
COST	13000.00	TRIP TIME	8.1	BIT RUN	13.2
TOTAL HOURS	12.06	TOTAL TURNS	113907	CONDITION	T0 B0 G0.250

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1939.2	2.1	5.0	120	9.8	1.43	8.49	88115	2234	3339	8.4	15.6
1939.4	12.6	5.0	128	9.8	1.08	8.50	88236	371	3317	8.4	15.6
1939.6	34.3	5.0	119	9.8	0.85	8.51	88278	137	3294	8.4	15.6
1939.8	20.0	5.0	112	9.8	0.95	8.52	88345	235	3272	8.4	15.6
1940.0	23.2	6.0	111	9.8	0.96	8.53	88402	202	3250	8.4	15.6
1940.2	13.3	6.0	114	9.8	1.08	8.54	88505	352	3230	8.4	15.6
1940.4	17.6	6.0	113	9.8	1.02	8.55	88582	267	3209	8.4	15.6
1940.6	14.7	7.0	115	9.8	1.10	8.57	88676	319	3189	8.4	15.6
1940.8	25.7	7.0	124	9.8	0.99	8.57	88734	182	3168	8.4	15.6
1941.0	19.5	7.0	122	9.8	1.05	8.58	88809	241	3148	8.4	15.6
1941.2	18.9	8.0	123	9.8	1.09	8.59	88887	248	3128	8.4	15.6
1941.4	13.6	8.0	124	9.8	1.17	8.61	88996	345	3109	8.4	15.6
1941.6	34.3	8.0	122	9.8	0.95	8.61	89039	137	3089	8.4	15.6
1941.8	9.2	8.0	125	9.8	1.25	8.64	89202	508	3071	8.4	15.6
1942.0	14.7	9.0	124	9.8	1.18	8.65	89303	319	3053	8.4	15.6
1942.2	17.6	9.0	123	9.8	1.13	8.66	89387	267	3035	8.4	15.6
1942.4	20.0	10.0	123	9.8	1.13	8.67	89461	235	3016	8.4	15.6
1942.6	22.5	10.0	122	9.8	1.10	8.68	89526	209	2998	8.4	15.6
1942.8	14.7	12.0	116	9.8	1.25	8.69	89621	319	2980	8.4	15.6
1943.0	13.3	12.0	122	9.8	1.28	8.71	89731	352	2963	8.4	15.6
1943.2	15.0	12.0	125	9.8	1.26	8.72	89831	313	2946	8.4	15.6
1943.4	12.2	12.0	122	9.8	1.30	8.74	89951	384	2930	8.4	15.6
1943.6	17.1	12.0	123	9.8	1.22	8.75	90037	274	2913	8.4	15.6
1943.8	13.1	12.0	123	9.8	1.29	8.77	90150	358	2897	8.4	15.6
1944.0	15.0	12.0	122	9.8	1.25	8.78	90248	313	2881	8.4	15.6
1944.2	13.6	12.0	124	9.8	1.28	8.79	90357	345	2865	8.4	15.6
1944.4	16.4	12.0	124	9.8	1.23	8.81	90448	287	2849	8.4	15.6
1944.6	7.5	12.0	125	9.8	1.43	8.83	90648	626	2836	8.4	15.6
1944.8	14.1	12.0	126	9.8	1.27	8.85	90755	332	2821	8.4	15.6
1945.0	0.7	13.0	120	9.6	2.12	9.15	92955	7168	2847	8.4	15.6
1945.2	0.9	16.0	115	9.6	2.12	9.37	94438	5057	2860	8.4	15.6
1945.4	1.8	16.0	115	9.6	1.94	9.48	95214	2646	2859	8.4	15.6
1945.6	1.1	16.0	115	9.5	2.09	9.65	96413	4092	2866	8.4	15.6
1945.8	2.1	16.0	112	9.5	1.92	9.75	97068	2281	2863	8.4	15.6
1946.0	1.6	16.0	121	9.5	2.00	9.87	97954	2867	2863	8.4	15.6
1946.2	4.4	16.0	122	9.5	1.73	9.92	98286	1062	2852	8.4	15.6
1946.4	3.0	14.0	121	9.5	1.77	9.99	98767	1551	2845	8.4	15.6
1946.6	1.4	14.0	122	9.5	1.98	10.13	99814	3356	2848	8.4	15.6
1946.8	3.0	14.0	120	9.5	1.77	10.19	100288	1544	2840	8.4	15.6
1947.0	11.4	14.0	118	9.5	1.41	10.21	100412	411	2826	8.4	15.6
1947.2	5.3	14.0	119	9.5	1.62	10.25	100685	893	2815	8.4	15.6
1947.4	14.7	14.0	121	9.5	1.34	10.26	100783	319	2801	8.4	15.6
1947.6	7.7	14.0	122	9.5	1.52	10.29	100975	613	2789	8.4	15.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1947.8	1.0	14.0	122	9.5	2.06	10.48	102395	4562	2799	8.4	15.6
1948.0	6.3	14.0	120	9.5	1.57	10.52	102624	743	2787	8.4	15.6
1948.2	7.8	14.0	118	9.5	1.51	10.54	102805	600	2775	8.4	15.6
1948.4	1.9	14.0	122	9.5	1.90	10.65	103577	2470	2774	8.4	15.6
1948.6	1.0	15.0	122	9.5	2.09	10.84	104972	4470	2783	8.4	15.6
1948.8	4.7	15.0	122	9.5	1.68	10.88	105280	991	2773	8.4	15.6
1949.0	0.4	15.0	122	9.5	2.34	11.36	108762	11170	2819	8.4	15.6
1949.2	4.0	15.0	122	9.5	1.73	11.41	109132	1186	2810	8.4	15.6
1949.4	1.3	16.0	122	9.5	2.08	11.56	110288	3708	2815	8.4	15.6
1949.6	10.6	16.0	118	9.5	1.48	11.58	110421	443	2802	8.4	15.6
1949.8	5.0	16.0	120	9.5	1.69	11.62	110709	938	2792	8.4	15.6
1950.0	7.3	16.0	120	9.5	1.59	11.65	110907	645	2781	8.4	15.6
1950.2	2.4	17.0	121	9.5	1.92	11.73	111505	1935	2776	8.4	15.6
1950.4	9.7	17.0	122	9.5	1.53	11.75	111656	482	2764	8.4	15.6
1950.6	6.2	18.0	121	9.5	1.69	11.79	111891	762	2754	8.4	15.6
1950.8	16.0	18.0	119	9.5	1.41	11.80	111981	293	2741	8.4	15.6
1951.0	5.1	18.0	121	9.5	1.74	11.84	112266	925	2732	8.4	15.6
1951.2	5.7	18.0	121	9.5	1.71	11.87	112522	828	2722	8.4	15.6
1951.4	2.5	18.0	121	9.5	1.95	11.95	113107	1896	2718	8.4	15.6
1951.6	9.2	18.0	123	9.5	1.57	11.98	113267	508	2707	8.4	15.6
1951.8	5.8	18.0	119	9.5	1.70	12.01	113514	808	2697	8.4	15.6
1952.0	10.0	18.0	121	9.5	1.55	12.03	113659	469	2686	8.4	15.6
1952.2	5.9	18.0	122	9.5	1.70	12.06	113907	795	2677	8.4	15.6

BIT NUMBER	4	IADC CODE	4	INTERVAL	1952.2- 1964.2
CHRIST RC4		SIZE	8.500	NOZZLES	15 15 14
COST	13000.00	TRIP TIME	8.1	BIT RUN	12.0
TOTAL HOURS	14.75	TOTAL TURNS	134889	CONDITION	T0 B0 G0.350

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1952.4	2.1	10.0	125	9.6	1.71	12.08	114621	2234	2665	8.4	15.6
1952.6	31.3	10.0	129	9.6	1.06	12.08	114671	150	2653	8.4	15.6
1952.8	6.7	14.0	129	9.6	1.55	12.11	114900	697	2643	8.4	15.6
1953.0	9.5	16.0	128	9.7	1.50	12.13	115062	495	2632	8.4	15.6
1953.2	16.7	16.0	128	9.7	1.34	12.14	115154	280	2621	8.4	15.6
1953.4	5.4	16.0	128	9.7	1.65	12.18	115441	873	2613	8.4	15.6
1953.6	7.1	18.0	129	9.7	1.63	12.21	115660	665	2603	8.4	15.6
1953.8	1.6	18.0	130	9.7	2.05	12.33	116631	2919	2605	8.4	15.6
1954.0	13.8	18.0	128	9.7	1.44	12.35	116742	339	2594	8.4	15.6
1954.2	18.5	22.0	129	9.7	1.44	12.36	116826	254	2583	8.4	15.6
1954.4	24.8	22.0	126	9.7	1.35	12.37	116887	189	2572	8.4	15.6
1954.6	31.3	22.0	130	9.7	1.29	12.37	116937	150	2560	8.4	15.6
1954.8	42.4	22.0	127	9.7	1.19	12.38	116972	111	2549	8.4	15.6
1955.0	55.4	22.0	131	9.7	1.12	12.38	117001	85	2537	8.4	15.6
1955.2	42.4	22.0	131	9.7	1.20	12.39	117038	111	2526	8.4	15.6
1955.4	36.0	22.0	129	9.7	1.24	12.39	117081	130	2515	8.4	15.6
1955.6	20.6	22.0	131	9.7	1.41	12.40	117157	228	2505	8.4	15.6
1955.8	9.1	22.0	130	9.6	1.67	12.42	117329	516	2495	8.4	15.6
1956.0	9.9	22.0	129	9.6	1.64	12.44	117485	472	2486	8.4	15.6
1956.2	13.6	22.0	127	9.6	1.54	12.46	117597	345	2477	8.4	15.6
1956.4	15.0	22.0	128	9.6	1.52	12.47	117700	313	2467	8.4	15.6
1956.6	15.7	22.0	129	9.6	1.50	12.49	117799	300	2457	8.4	15.6
1956.8	10.5	22.0	130	9.6	1.63	12.50	117947	447	2448	8.4	15.6
1957.0	10.8	22.0	129	9.6	1.62	12.52	118090	433	2439	8.4	15.6
1957.2	6.0	22.0	127	9.6	1.79	12.56	118344	782	2432	8.4	15.6
1957.4	1.8	22.0	127	9.6	2.15	12.67	119191	2607	2433	8.4	15.6
1957.6	2.7	22.0	130	9.6	2.03	12.74	119768	1738	2430	8.4	15.6
1957.8	3.0	22.0	131	9.6	2.01	12.81	120298	1584	2426	8.4	15.6
1958.0	3.2	22.0	132	9.6	1.99	12.87	120793	1466	2422	8.4	15.6
1958.2	2.1	23.0	130	9.6	2.13	12.96	121520	2190	2421	8.4	15.6
1958.4	2.3	22.0	130	9.6	2.08	13.05	122198	2040	2419	8.4	15.6
1958.6	0.8	22.0	125	9.6	2.39	13.30	124073	5865	2434	8.4	15.6
1958.8	2.4	22.0	125	9.6	2.06	13.39	124698	1955	2432	8.4	15.6
1959.0	1.0	22.0	125	9.6	2.32	13.59	126198	4692	2441	8.4	15.6
1959.2	2.5	22.0	125	9.6	2.05	13.67	126798	1877	2439	8.4	15.6
1959.4	1.8	22.0	125	9.6	2.14	13.78	127631	2607	2440	8.4	15.6
1959.6	5.1	21.0	124	9.6	1.81	13.82	127926	925	2433	8.4	15.6
1959.8	0.7	20.0	124	9.6	2.36	14.10	130051	6703	2451	8.4	15.6
1960.0	4.9	20.0	125	9.5	1.81	14.14	130358	958	2445	8.4	15.6
1960.2	0.7	20.0	126	9.5	2.39	14.43	132513	6703	2463	8.4	15.6
1960.4	5.3	20.0	125	9.5	1.79	14.47	132798	893	2456	8.4	15.6
1960.6	4.7	20.0	125	9.5	1.83	14.51	133119	1004	2450	8.4	15.6
1960.8	10.1	20.0	125	9.5	1.60	14.53	133267	463	2442	8.4	15.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1961.0	8.8	20.0	123	9.5	1.64	14.55	133436	534	2434	8.4	15.6
1961.2	18.5	20.0	124	9.5	1.42	14.56	133516	254	2425	8.4	15.6
1961.4	14.4	20.0	124	9.5	1.49	14.58	133619	326	2417	8.4	15.6
1961.6	13.3	19.0	123	9.5	1.49	14.59	133730	352	2409	8.4	15.6
1961.8	8.6	19.0	124	9.5	1.62	14.61	133903	547	2401	8.4	15.6
1962.0	11.6	19.0	122	9.5	1.53	14.63	134029	404	2393	8.4	15.6
1962.2	12.2	19.0	122	9.5	1.52	14.65	134149	384	2385	8.4	15.6
1962.4	13.6	19.0	124	9.5	1.49	14.66	134259	345	2377	8.4	15.6
1962.6	13.8	20.0	125	9.5	1.51	14.68	134368	339	2369	8.4	15.6
1962.8	23.2	20.0	121	9.5	1.35	14.69	134431	202	2360	8.4	15.6
1963.0	32.7	20.0	123	9.5	1.25	14.69	134476	143	2352	8.4	15.6
1963.2	27.7	20.0	127	9.5	1.31	14.70	134531	169	2343	8.4	15.6
1963.4	20.6	20.0	128	9.5	1.40	14.71	134606	228	2335	8.4	15.6
1963.6	21.2	20.0	127	9.5	1.39	14.72	134678	222	2327	8.4	15.6
1963.8	14.4	20.0	126	9.5	1.50	14.73	134782	326	2319	8.4	15.6
1964.0	19.5	20.0	124	9.5	1.40	14.74	134859	241	2311	8.4	15.6
1964.2	49.7	20.0	125	9.5	1.13	14.75	134889	94	2303	8.4	15.6

BIT NUMBER	5	IADC CODE	135	INTERVAL	1964.2- 2070.0
HTC XDG		SIZE	12.250	NOZZLES	15 15 16
COST	1284.00	TRIP TIME	8.5	BIT RUN	105.8
TOTAL HOURS	6.30	TOTAL TURNS	58389	CONDITION	T6 B6 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
1965.0	48.0	17.6	139	9.6	1.02	0.01	93	98	51580	8.4	15.6
1966.0	59.0	35.0	155	9.7	1.18	0.03	251	80	22968	8.4	15.6
1967.0	61.0	35.0	155	9.7	1.17	0.04	403	77	14793	8.4	15.6
1968.0	92.3	35.0	155	9.7	1.05	0.05	504	51	10913	8.4	15.6
1969.0	70.6	35.0	155	9.7	1.13	0.07	636	66	8654	8.4	15.6
1970.0	80.0	38.0	155	9.7	1.12	0.08	752	59	7172	8.4	15.6
1971.0	30.3	38.0	155	9.7	1.42	0.11	1059	155	6140	8.4	15.6
1972.0	29.0	38.0	155	9.6	1.45	0.15	1380	162	5373	8.4	15.6
1973.0	32.0	38.0	155	9.6	1.42	0.18	1670	147	4780	8.4	15.6
1974.0	23.4	38.0	155	9.6	1.52	0.22	2068	200	4312	8.4	15.6
1975.0	55.4	38.0	155	9.6	1.25	0.24	2236	85	3921	8.4	15.6
1976.0	72.0	38.0	155	9.6	1.16	0.25	2365	65	3594	8.4	15.6
1977.0	70.6	39.0	155	9.6	1.18	0.27	2497	66	3318	8.4	15.6
1978.0	59.0	39.0	155	9.6	1.24	0.29	2654	80	3084	8.4	15.6
1979.0	42.4	39.0	155	9.6	1.34	0.31	2874	111	2883	8.4	15.6
1980.0	16.4	39.0	155	9.6	1.64	0.37	3442	287	2719	8.4	15.6
1981.0	26.7	39.0	155	9.6	1.49	0.41	3791	176	2567	8.4	15.6
1982.0	16.2	39.0	155	9.6	1.65	0.47	4364	289	2439	8.4	15.6
1983.0	10.9	39.0	155	9.6	1.77	0.56	5214	429	2332	8.4	15.6
1984.0	27.1	39.0	155	9.6	1.48	0.60	5558	173	2223	8.4	15.6
1985.0	59.0	39.0	155	9.6	1.24	0.61	5715	80	2120	8.4	15.6
1986.0	45.6	39.0	155	9.6	1.32	0.64	5919	103	2028	8.4	15.6
1987.0	20.1	40.0	155	9.6	1.59	0.69	6382	233	1949	8.4	15.6
1988.0	48.0	40.0	155	9.6	1.31	0.71	6576	98	1871	8.4	15.6
1989.0	45.6	40.0	155	9.6	1.33	0.73	6780	103	1800	8.4	15.6
1990.0	20.5	40.0	155	9.6	1.59	0.78	7234	229	1739	8.4	15.6
1991.0	37.9	40.0	155	9.6	1.39	0.80	7480	124	1679	8.4	15.6
1992.0	72.0	40.0	155	9.6	1.18	0.82	7609	65	1621	8.4	15.6
1993.0	62.1	40.0	154	9.6	1.23	0.83	7758	76	1567	8.4	15.6
1994.0	69.2	40.0	154	9.6	1.19	0.85	7891	68	1517	8.4	15.6
1995.0	62.1	40.0	154	9.6	1.23	0.86	8040	76	1470	8.4	15.6
1996.0	50.7	40.0	154	9.6	1.29	0.88	8222	93	1427	8.4	15.6
1997.0	48.0	40.0	154	9.6	1.31	0.91	8415	98	1386	8.4	15.6
1998.0	57.1	40.0	154	9.6	1.25	0.92	8577	82	1348	8.4	15.6
1999.0	42.9	40.0	154	9.6	1.35	0.95	8792	109	1312	8.4	15.6
2000.0	9.9	40.0	154	9.6	1.82	1.05	9724	473	1289	8.4	15.6
2001.0	13.3	40.0	154	9.6	1.72	1.12	10417	352	1263	8.4	15.6
2002.0	12.0	40.0	154	9.6	1.76	1.21	11187	391	1240	8.4	15.6
2003.0	14.4	40.0	157	9.6	1.70	1.27	11841	326	1216	8.4	15.6
2004.0	34.6	40.0	157	9.6	1.42	1.30	12113	136	1189	8.4	15.6
2005.0	34.3	40.0	157	9.6	1.42	1.33	12388	137	1163	8.4	15.6
2006.0	35.3	40.0	157	9.6	1.41	1.36	12655	133	1139	8.4	15.6
2007.0	21.2	40.0	157	9.6	1.58	1.41	13100	222	1117	8.4	15.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2008.0	17.6	40.0	157	9.6	1.64	1.47	13633	266	1097	8.4	15.7
2009.0	27.7	40.0	157	9.6	1.49	1.50	13974	169	1076	8.4	15.7
2010.0	42.9	40.0	157	9.6	1.35	1.52	14193	109	1055	8.4	15.7
2011.0	59.0	40.0	157	9.6	1.25	1.54	14353	80	1034	8.4	15.7
2012.0	10.9	40.0	157	9.6	1.79	1.63	15219	431	1022	8.4	15.7
2013.0	23.2	40.0	157	9.6	1.55	1.68	15625	202	1005	8.4	15.7
2014.0	50.7	40.0	157	9.6	1.30	1.70	15811	92.54	986.44	8.4	15.7
2015.0	45.6	40.0	157	9.6	1.33	1.72	16017	102.96	969.05	8.4	15.7
2016.0	34.6	40.0	157	9.6	1.42	1.75	16289	135.55	952.96	8.4	15.7
2017.0	12.0	40.0	157	9.6	1.76	1.83	17072	389.70	942.29	8.4	15.7
2018.0	12.5	40.0	157	9.6	1.75	1.91	17825	375.36	931.75	8.4	15.7
2019.0	19.4	40.0	157	9.6	1.61	1.96	18312	242.42	919.17	8.4	15.7
2020.0	38.7	40.0	157	9.6	1.38	1.99	18555	121.21	904.87	8.4	15.7
2021.0	48.6	40.0	157	9.6	1.31	2.01	18749	96.45	890.64	8.4	15.7
2022.0	48.0	40.0	156	9.6	1.31	2.03	18944	97.75	876.92	8.4	15.7
2023.0	56.2	40.0	156	9.6	1.26	2.05	19110	83.41	863.43	8.4	15.7
2024.0	48.0	40.0	156	9.6	1.31	2.07	19305	97.75	850.62	8.4	15.7
2025.0	66.7	40.0	156	9.6	1.21	2.08	19446	70.38	837.79	8.4	15.7
2026.0	36.0	40.0	156	9.6	1.41	2.11	19706	130.33	826.34	8.4	15.7
2027.0	8.3	41.0	156	9.6	1.89	2.23	20837	566.95	822.21	8.4	15.7
2028.0	11.9	41.0	156	9.6	1.77	2.32	21622	393.61	815.49	8.4	15.7
2029.0	15.9	41.0	156	9.6	1.68	2.38	22212	295.86	807.47	8.4	15.7
2030.0	16.7	41.0	156	9.6	1.67	2.44	22774	281.52	799.48	8.4	15.7
2031.0	12.4	41.0	156	9.6	1.76	2.52	23528	377.97	793.17	8.4	15.7
2032.0	12.7	45.0	156	9.6	1.81	2.60	24264	368.84	786.91	8.4	15.7
2033.0	14.6	46.0	156	9.5	1.79	2.67	24906	321.92	780.15	8.4	15.7
2034.0	31.9	46.0	156	9.5	1.53	2.70	25200	147.28	771.09	8.4	15.7
2035.0	9.1	46.0	156	9.5	1.95	2.81	26224	513.51	767.45	8.4	15.7
2036.0	22.8	46.0	154	9.5	1.64	2.85	26631	205.93	759.63	8.4	15.7
2037.0	17.1	46.0	155	9.5	1.74	2.91	27176	275.00	752.97	8.4	15.7
2038.0	22.8	45.0	155	9.5	1.63	2.95	27584	205.93	745.56	8.4	15.7
2039.0	30.3	45.0	156	9.5	1.53	2.99	27893	155.10	737.66	8.4	15.7
2040.0	35.6	45.0	156	9.5	1.48	3.01	28155	131.64	729.67	8.4	15.7
2041.0	8.9	45.0	152	9.5	1.94	3.13	29177	525.24	727.01	8.4	15.7
2042.0	7.8	45.0	154	9.5	1.99	3.25	30361	600.84	725.39	8.4	15.7
2043.0	11.8	45.0	154	9.5	1.85	3.34	31144	398.82	721.24	8.4	15.7
2044.0	17.9	45.0	153	9.5	1.70	3.40	31658	261.97	715.49	8.4	15.7
2045.0	33.3	45.0	117	9.5	1.40	3.43	31868	140.76	708.37	8.4	15.7
2046.0	52.2	45.0	155	9.5	1.35	3.44	32047	89.93	700.81	8.4	15.7
2047.0	43.4	45.0	156	9.5	1.41	3.47	32262	108.18	693.66	8.4	15.7
2048.0	50.0	45.0	155	9.5	1.36	3.49	32448	93.84	686.50	8.4	15.7
2049.0	50.0	45.0	156	9.5	1.36	3.51	32636	93.84	679.51	8.4	15.7
2050.0	52.9	45.0	152	9.5	1.33	3.53	32808	88.63	672.62	8.4	15.7
2051.0	55.4	45.0	153	9.5	1.32	3.54	32973	84.72	665.85	8.4	15.7
2052.0	55.4	45.0	153	9.5	1.32	3.56	33139	84.72	659.23	8.4	15.7
2053.0	53.3	45.0	153	9.5	1.33	3.58	33311	87.98	652.80	8.4	15.7
2054.0	52.9	45.0	154	9.5	1.34	3.60	33485	88.63	646.52	8.4	15.7
2055.0	54.5	45.0	151	9.5	1.32	3.62	33651	86.02	640.34	8.4	15.7
2056.0	64.3	45.0	151	9.5	1.27	3.63	33792	72.99	634.16	8.4	15.7
2057.0	7.2	45.0	147	9.5	2.00	3.77	35012	649.06	634.32	8.4	15.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2058.0	4.1	45.0	154	9.5	2.20	4.02	37281	1150	640	8.4	15.7
2059.0	2.5	46.0	143	9.5	2.35	4.41	40643	1840	652	8.4	15.7
2060.0	6.0	46.0	154	9.5	2.09	4.58	42194	787.21	653.88	8.4	15.7
2061.0	14.9	46.0	156	9.5	1.78	4.64	42821	314.10	650.37	8.4	15.7
2062.0	4.9	46.0	156	9.5	2.16	4.85	44735	957.95	653.52	8.4	15.7
2063.0	4.0	46.0	157	9.5	2.23	5.10	47077	1169	659	8.4	15.7
2064.0	4.3	46.0	157	9.5	2.21	5.33	49271	1095	663	8.4	15.7
2065.0	9.6	46.0	158	9.5	1.94	5.43	50257	488.75	661.38	8.4	15.7
2066.0	12.5	46.0	158	9.5	1.85	5.52	51018	376.66	658.58	8.4	15.7
2067.0	7.6	46.0	157	9.5	2.01	5.65	52250	613.87	658.15	8.4	15.7
2068.0	15.2	46.0	158	9.5	1.78	5.71	52872	308.89	654.78	8.4	15.7
2069.0	11.5	46.0	146	9.5	1.85	5.80	53633	406.64	652.41	8.4	15.7
2070.0	2.0	46.0	157	9.4	2.50	6.30	58389	2370	669	8.4	15.7

BIT NUMBER	6	IADC CODE	517	INTERVAL	2070.0- 2374.0
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	9.6	BIT RUN	304.0
TOTAL HOURS	33.17	TOTAL TURNS	124801	CONDITION	T8 B4 G0.250

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2071.0	65.0	10.0	80	9.5	0.77	0.02	74	72	46967	8.4	15.7
2072.0	65.0	15.0	80	9.5	0.85	0.03	148	72	23520	8.4	15.7
2073.0	75.0	15.0	80	9.5	0.81	0.04	212	63	15701	8.4	15.7
2074.0	80.0	17.0	80	9.5	0.82	0.06	272	59	11790	8.4	15.7
2075.0	69.0	18.0	80	9.5	0.88	0.07	341	68	9446	8.4	15.7
2076.0	56.0	18.0	80	9.5	0.94	0.09	427	84	7885	8.4	15.7
2077.0	82.0	18.0	80	9.5	0.83	0.10	486	57	6767	8.4	15.7
2078.0	93.0	18.0	80	9.5	0.79	0.11	537	50	5928	8.4	15.7
2079.0	22.5	20.0	79	9.5	1.23	0.16	748	209	5292	8.4	15.7
2080.0	51.4	20.0	79	9.5	0.98	0.18	840	91	4772	8.4	15.7
2081.0	25.7	20.0	79	9.5	1.19	0.21	1024	182	4355	8.4	15.7
2082.0	42.4	20.0	79	9.5	1.04	0.24	1136	111	4001	8.4	15.7
2083.0	33.1	20.0	79	9.5	1.11	0.27	1279	142	3704	8.4	15.7
2084.0	34.6	20.0	79	9.5	1.10	0.30	1416	136	3449	8.4	15.7
2085.0	51.4	20.0	79	9.5	0.98	0.32	1508	91	3225	8.4	15.7
2086.0	29.8	20.0	80	9.5	1.15	0.35	1670	158	3034	8.4	15.7
2087.0	36.4	20.0	80	9.5	1.09	0.38	1802	129	2863	8.4	15.8
2088.0	39.1	20.0	80	9.5	1.07	0.40	1924	120	2710	8.4	15.8
2089.0	35.3	20.0	80	9.5	1.10	0.43	2060	133	2575	8.4	15.8
2090.0	17.8	20.0	80	9.5	1.30	0.49	2330	263	2459	8.4	15.8
2091.0	6.4	20.0	80	9.5	1.60	0.64	3079	732	2377	8.4	15.8
2092.0	13.3	20.0	80	9.5	1.39	0.72	3439	352	2285	8.4	15.8
2093.0	27.5	20.0	80	9.5	1.17	0.76	3614	171	2193	8.4	15.8
2094.0	28.6	20.0	80	9.5	1.16	0.79	3782	164	2108	8.4	15.8
2095.0	24.7	20.0	80	9.5	1.20	0.83	3976	190	2032	8.4	15.8
2096.0	25.5	20.0	80	9.5	1.19	0.87	4164	184	1961	8.4	15.8
2097.0	16.1	20.0	80	9.5	1.33	0.93	4462	291	1899	8.4	15.8
2098.0	32.1	20.0	80	9.5	1.13	0.96	4611	146	1836	8.4	15.8
2099.0	37.1	20.0	80	9.5	1.08	0.99	4740	126	1777	8.4	15.8
2100.0	27.7	21.0	81	9.5	1.19	1.03	4916	169	1724	8.4	15.8
2101.0	7.8	21.0	81	9.5	1.57	1.15	5536	598	1687	8.4	15.8
2102.0	8.2	21.0	81	9.5	1.55	1.28	6126	570	1652	8.4	15.8
2103.0	6.3	21.0	81	9.5	1.63	1.43	6898	746	1625	8.4	15.8
2104.0	7.9	21.0	81	9.5	1.57	1.56	7515	596	1595	8.4	15.8
2105.0	5.3	18.0	65	9.5	1.55	1.75	8251	886	1574	8.4	15.8
2106.0	9.1	18.0	65	9.5	1.40	1.86	8679	515	1545	8.4	15.8
2107.0	3.7	19.0	65	9.4	1.70	2.13	9738	1273	1538	8.4	15.8
2108.0	9.2	28.0	30	9.4	1.35	2.24	9933	508	1511	8.4	15.8
2109.0	15.7	28.0	30	9.4	1.17	2.30	10048	300	1480	8.4	15.8
2110.0	21.1	28.0	30	9.4	1.07	2.35	10133	223	1448	8.4	15.8
2111.0	18.0	27.0	35	9.4	1.16	2.41	10250	261	1419	8.4	15.8
2112.0	6.0	27.0	35	9.4	1.52	2.57	10601	785	1404	8.4	15.8
2113.0	7.7	27.0	35	9.4	1.44	2.70	10874	610	1386	8.4	15.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2114.0	6.6	27.0	35	9.4	1.49	2.85	11191	708	1370	8.4	15.8
2115.0	4.3	28.0	65	9.4	1.85	3.09	12093	1086	1364	8.4	15.8
2116.0	11.1	28.0	65	9.4	1.54	3.18	12443	421	1343	8.4	15.8
2117.0	16.1	25.0	65	9.5	1.35	3.24	12685	291	1321	8.4	15.8
2118.0	17.5	25.0	65	9.5	1.33	3.29	12908	268	1299	8.4	15.8
2119.0	14.0	25.0	65	9.5	1.40	3.37	13187	336	1279	8.4	15.8
2120.0	6.5	25.0	65	9.5	1.64	3.52	13791	726	1268	8.4	15.8
2121.0	5.2	25.0	70	9.4	1.75	3.71	14602	906	1261	8.4	15.8
2122.0	7.3	26.0	70	9.4	1.66	3.85	15175	641	1249	8.4	15.8
2123.0	14.6	26.0	70	9.4	1.44	3.92	15463	322	1232	8.4	15.8
2124.0	22.0	26.0	70	9.4	1.31	3.96	15655	214	1213	8.4	15.8
2125.0	15.5	26.0	70	9.4	1.42	4.03	15927	304	1196	8.4	15.8
2126.0	38.7	26.0	70	9.4	1.13	4.06	16035	121	1177	8.4	15.8
2127.0	31.3	26.0	70	9.4	1.19	4.09	16169	150	1159	8.4	15.8
2128.0	7.9	26.0	70	9.4	1.64	4.21	16699	592	1149	8.4	15.8
2129.0	3.6	26.0	70	9.4	1.89	4.49	17871	1310	1152	8.4	15.8
2130.0	6.5	26.0	70	9.4	1.70	4.65	18517	721	1145	8.4	15.8
2131.0	13.4	30.0	70	9.4	1.53	4.72	18831	351	1132	8.4	15.8
2132.0	16.4	30.0	70	9.4	1.47	4.78	19086	285	1118	8.4	15.8
2133.0	14.9	30.0	70	9.4	1.50	4.85	19369	315	1106	8.4	15.8
2134.0	15.8	30.0	70	9.4	1.48	4.91	19635	297	1093	8.4	15.8
2135.0	13.3	30.0	70	9.4	1.54	4.99	19951	353	1081	8.4	15.8
2136.0	14.1	30.0	70	9.4	1.52	5.06	20249	334	1070	8.4	15.8
2137.0	14.8	30.0	70	9.4	1.50	5.13	20533	317	1059	8.4	15.8
2138.0	18.9	30.0	70	9.4	1.42	5.18	20755	248	1047	8.4	15.8
2139.0	8.2	31.0	70	9.4	1.72	5.30	21269	575	1040	8.4	15.8
2140.0	16.0	31.0	70	9.4	1.49	5.36	21532	293	1029	8.4	15.8
2141.0	14.3	30.0	70	9.4	1.51	5.43	21826	328	1020	8.4	15.8
2142.0	9.6	30.0	70	9.4	1.65	5.54	22262	487	1012	8.4	15.8
2143.0	7.2	31.0	60	9.4	1.71	5.68	22763	653	1007	8.4	15.8
2144.0	6.4	31.0	60	9.4	1.75	5.83	23326	734	1004	8.4	15.8
2145.0	5.7	31.0	60	9.4	1.79	6.01	23961	828	1001	8.4	15.8
2146.0	10.5	31.0	60	9.4	1.58	6.11	24304	447.04	993.96	8.4	15.8
2147.0	13.0	31.0	60	9.4	1.51	6.18	24581	361.02	985.74	8.4	15.8
2148.0	13.5	31.0	60	9.4	1.49	6.26	24847	346.69	977.54	8.4	15.8
2149.0	12.8	31.0	33	9.4	1.31	6.33	25002	367.54	969.82	8.4	15.8
2150.0	12.2	31.0	33	9.4	1.33	6.42	25165	385.79	962.52	8.4	15.8
2151.0	13.1	31.0	33	9.4	1.30	6.49	25316	357.11	955.05	8.4	15.8
2152.0	10.4	31.0	33	9.4	1.38	6.59	25505	449.65	948.88	8.4	15.8
2153.0	15.5	30.0	35	9.5	1.24	6.65	25641	303.68	941.11	8.4	15.8
2154.0	11.2	34.0	55	9.5	1.56	6.74	25936	419.67	934.90	8.4	15.8
2155.0	6.9	34.0	55	9.5	1.72	6.89	26411	675.13	931.85	8.4	15.8
2156.0	4.5	34.0	55	9.5	1.87	7.11	27139	1035	933	8.4	15.8
2157.0	8.1	34.0	55	9.5	1.67	7.23	27544	576.07	928.94	8.4	15.8
2158.0	4.2	34.0	55	9.5	1.90	7.47	28336	1126	931	8.4	15.8
2159.0	8.7	34.0	55	9.5	1.65	7.58	28714	536.97	926.75	8.4	15.8
2160.0	24.0	34.0	55	9.5	1.29	7.63	28851	195.50	918.63	8.4	15.8
2161.0	20.2	34.0	55	9.5	1.35	7.68	29015	231.99	911.08	8.4	15.8
2162.0	23.2	34.0	55	9.5	1.31	7.72	29157	202.02	903.37	8.4	15.8
2163.0	18.5	34.0	55	9.5	1.39	7.77	29335	254.15	896.39	8.4	15.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2164.0	20.8	34.0	55	9.5	1.34	7.82	29494	225.48	889.26	8.4	15.8
2165.0	27.3	34.0	55	9.5	1.25	7.86	29615	172.04	881.71	8.4	15.8
2166.0	29.3	34.0	55	9.5	1.23	7.89	29728	160.31	874.19	8.4	15.8
2167.0	30.3	34.0	55	9.5	1.21	7.92	29837	155.10	866.78	8.4	15.8
2168.0	16.6	34.0	55	9.5	1.42	7.98	30036	282.82	860.82	8.4	15.8
2169.0	24.8	34.0	55	9.5	1.28	8.03	30169	188.98	854.03	8.4	15.8
2170.0	9.9	34.0	55	9.5	1.60	8.13	30502	474.41	850.24	8.4	15.9
2171.0	5.6	36.0	55	9.5	1.84	8.31	31095	841.95	850.15	8.4	15.9
2172.0	5.2	36.0	55	9.5	1.86	8.50	31731	904.51	850.69	8.4	15.9
2173.0	6.4	36.0	55	9.5	1.79	8.65	32246	732.47	849.54	8.4	15.9
2174.0	5.6	35.0	57	9.5	1.83	8.83	32852	831.53	849.37	8.4	15.9
2175.0	6.1	35.0	57	9.5	1.80	8.99	33410	765.06	848.56	8.4	15.9
2176.0	6.7	35.0	57	9.5	1.77	9.14	33922	702.50	847.19	8.4	15.9
2177.0	12.4	35.0	57	9.5	1.55	9.23	34198	379.27	842.81	8.4	15.9
2178.0	24.0	35.0	57	9.5	1.32	9.27	34341	195.50	836.82	8.4	15.9
2179.0	25.7	35.0	57	9.5	1.30	9.31	34474	182.47	830.82	8.4	15.9
2180.0	23.8	38.0	57	9.5	1.36	9.35	34617	196.80	825.05	8.4	15.9
2181.0	24.3	38.0	57	9.5	1.35	9.39	34758	192.89	819.36	8.4	15.9
2182.0	29.3	38.0	57	9.5	1.29	9.42	34874	160.31	813.47	8.4	15.9
2183.0	17.1	38.0	57	9.5	1.48	9.48	35074	273.70	808.70	8.4	15.9
2184.0	28.3	38.0	57	9.5	1.30	9.52	35195	165.52	803.05	8.4	15.9
2185.0	25.7	30.0	57	9.5	1.23	9.56	35328	182.47	797.66	8.4	15.9
2186.0	27.1	32.0	57	9.5	1.24	9.59	35454	173.34	792.28	8.4	15.9
2187.0	34.3	32.0	57	9.5	1.16	9.62	35554	136.85	786.67	8.4	15.9
2188.0	5.7	32.0	57	9.5	1.77	9.80	36153	822.40	786.98	8.4	15.9
2189.0	5.0	32.0	57	9.5	1.82	10.00	36841	943.61	788.29	8.4	15.9
2190.0	5.2	32.0	56	9.4	1.82	10.19	37491	907.12	789.28	8.4	15.9
2191.0	5.5	32.0	56	9.4	1.79	10.37	38097	847.17	789.76	8.4	15.9
2192.0	5.0	32.0	56	9.4	1.83	10.57	38769	938.40	790.98	8.4	15.9
2193.0	4.7	32.0	56	9.4	1.85	10.79	39489	1005	793	8.4	15.9
2194.0	5.0	32.0	56	9.4	1.83	10.99	40166	944.92	793.95	8.4	15.9
2195.0	4.8	32.0	56	9.4	1.85	11.20	40872	986.62	795.49	8.4	15.9
2196.0	8.0	32.0	56	9.4	1.67	11.32	41292	586.50	793.83	8.4	15.9
2197.0	20.5	32.0	56	9.4	1.34	11.37	41456	229.39	789.38	8.4	15.9
2198.0	18.2	32.0	56	9.4	1.38	11.43	41641	258.06	785.23	8.4	15.9
2199.0	18.0	32.0	56	9.4	1.39	11.48	41828	260.67	781.17	8.4	15.9
2200.0	22.6	30.0	56	9.4	1.28	11.53	41976	207.23	776.75	8.4	15.9
2201.0	17.2	22.0	70	9.4	1.32	11.58	42220	272.40	772.90	8.4	15.9
2202.0	16.8	22.0	70	9.4	1.33	11.64	42470	278.91	769.16	8.4	15.9
2203.0	20.9	22.0	70	9.4	1.26	11.69	42670	224.17	765.06	8.4	15.9
2204.0	20.1	22.0	70	9.4	1.27	11.74	42879	233.30	761.09	8.4	15.9
2205.0	15.5	22.0	70	9.5	1.34	11.81	43151	303.68	757.71	8.4	15.9
2206.0	18.6	22.0	70	9.5	1.28	11.86	43377	252.85	753.99	8.4	15.9
2207.0	21.6	22.0	70	9.5	1.24	11.91	43572	217.66	750.08	8.4	15.9
2208.0	39.1	22.0	70	9.5	1.06	11.93	43680	119.91	745.51	8.4	15.9
2209.0	16.3	22.0	70	9.5	1.32	11.99	43937	288.04	742.22	8.4	15.9
2210.0	20.9	22.0	70	9.5	1.25	12.04	44138	224.17	738.52	8.4	15.9
2211.0	29.8	22.0	70	9.5	1.14	12.07	44279	157.70	734.40	8.4	15.9
2212.0	22.1	22.0	70	9.5	1.23	12.12	44469	212.44	730.73	8.4	15.9
2213.0	24.0	22.0	70	9.5	1.21	12.16	44644	195.50	726.98	8.4	15.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2214.0	30.5	22.0	70	9.5	1.13	12.19	44782	153.79	723.00	8.4	15.9
2215.0	23.5	22.0	70	9.5	1.21	12.24	44961	199.41	719.39	8.4	15.9
2216.0	25.5	22.0	70	9.5	1.19	12.28	45125	183.77	715.72	8.4	15.9
2217.0	21.7	22.0	70	9.5	1.24	12.32	45319	216.35	712.33	8.4	15.9
2218.0	23.5	22.0	70	9.5	1.21	12.36	45497	199.41	708.86	8.4	15.9
2219.0	18.3	22.0	70	9.5	1.29	12.42	45727	256.76	705.83	8.4	15.9
2220.0	8.3	22.0	70	9.5	1.53	12.54	46236	568.25	704.91	8.4	15.9
2221.0	16.4	26.0	70	9.5	1.39	12.60	46491	285.43	702.13	8.4	15.9
2222.0	12.0	26.0	70	9.5	1.49	12.68	46841	391.00	700.08	8.4	15.9
2223.0	15.8	26.0	70	9.5	1.40	12.75	47107	297.16	697.45	8.4	15.9
2224.0	13.8	26.0	70	9.5	1.44	12.82	47411	338.87	695.12	8.4	15.9
2225.0	9.3	26.0	70	9.4	1.58	12.93	47861	503.09	693.88	8.4	15.9
2226.0	13.4	26.0	70	9.4	1.47	13.00	48175	350.60	691.68	8.4	15.9
2227.0	16.8	26.0	70	9.4	1.39	13.06	48424	278.91	689.05	8.4	15.9
2228.0	6.0	25.0	60	9.4	1.66	13.23	49021	778.09	689.62	8.4	15.9
2229.0	5.2	25.0	60	9.4	1.70	13.42	49708	895.39	690.91	8.4	15.9
2230.0	5.9	28.0	60	9.4	1.72	13.59	50323	801.55	691.60	8.4	15.9
2231.0	5.0	28.0	60	9.4	1.77	13.79	51042	937.10	693.13	8.4	15.9
2232.0	8.1	36.0	60	9.4	1.75	13.91	51486	578.68	692.42	8.4	15.9
2233.0	7.2	36.0	60	9.4	1.79	14.05	51985	650.36	692.16	8.4	15.9
2234.0	9.9	36.0	60	9.4	1.68	14.15	52347	471.81	690.82	8.4	15.9
2235.0	8.1	32.0	65	9.5	1.70	14.27	52828	578.68	690.14	8.4	15.9
2236.0	16.9	24.0	65	9.5	1.32	14.33	53059	277.61	687.65	8.4	15.9
2237.0	18.1	24.0	65	9.5	1.30	14.39	53275	259.36	685.09	8.4	15.9
2238.0	20.1	24.0	65	9.5	1.27	14.44	53469	233.30	682.40	8.4	15.9
2239.0	11.0	24.0	65	9.5	1.46	14.53	53823	426.19	680.88	8.4	15.9
2240.0	10.9	24.0	60	9.5	1.43	14.62	54152	428.80	679.40	8.4	15.9
2241.0	9.3	24.0	60	9.5	1.49	14.73	54541	507.00	678.39	8.4	15.9
2242.0	4.1	24.0	60	9.5	1.74	14.97	55412	1135	681	8.4	15.9
2243.0	7.7	32.0	65	9.5	1.71	15.10	55921	612.57	680.65	8.4	15.9
2244.0	6.1	34.0	65	9.5	1.83	15.27	56560	768.97	681.16	8.4	15.9
2245.0	9.5	30.0	65	9.5	1.61	15.37	56969	491.36	680.08	8.4	15.9
2246.0	19.3	30.0	65	9.5	1.37	15.42	57171	243.72	677.60	8.4	15.9
2247.0	14.6	30.0	65	9.5	1.47	15.49	57439	321.92	675.59	8.4	15.9
2248.0	19.6	28.0	65	9.5	1.34	15.54	57638	239.81	673.14	8.4	15.9
2249.0	15.3	28.0	65	9.5	1.42	15.61	57894	307.59	671.10	8.4	15.9
2250.0	8.0	32.0	65	9.5	1.70	15.73	58380	585.20	670.62	8.4	15.9
2251.0	10.0	32.0	65	9.5	1.62	15.83	58769	467.90	669.50	8.4	15.9
2252.0	14.8	32.0	65	9.5	1.49	15.90	59033	318.01	667.57	8.4	15.9
2253.0	11.6	32.0	65	9.5	1.57	15.99	59369	404.03	666.13	8.4	15.9
2254.0	13.0	32.0	65	9.5	1.53	16.06	59668	359.72	664.46	8.4	15.9
2255.0	17.2	32.0	65	9.5	1.44	16.12	59895	272.40	662.34	8.4	15.9
2256.0	17.3	32.0	65	9.5	1.44	16.18	60120	271.09	660.24	8.4	16.0
2257.0	16.2	32.0	65	9.5	1.46	16.24	60361	289.34	658.26	8.4	16.0
2258.0	19.8	32.0	65	9.5	1.39	16.29	60558	237.21	656.02	8.4	16.0
2259.0	15.1	32.0	65	9.5	1.48	16.36	60817	311.50	654.19	8.4	16.0
2260.0	13.2	32.0	65	9.5	1.53	16.43	61112	355.81	652.62	8.4	16.0
2261.0	15.7	32.0	65	9.4	1.49	16.50	61360	298.46	650.77	8.4	16.0
2262.0	9.5	32.0	65	9.4	1.66	16.60	61772	495.27	649.96	8.4	16.0
2263.0	20.6	32.0	65	9.4	1.39	16.65	61962	228.08	647.77	8.4	16.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2264.0	17.3	32.0	65	9.4	1.45	16.71	62187	271.09	645.83	8.4	16.0
2265.0	14.1	32.0	65	9.4	1.52	16.78	62463	332.35	644.22	8.4	16.0
2266.0	7.0	32.0	65	9.4	1.76	16.92	63018	667.31	644.34	8.4	16.0
2267.0	6.9	32.0	65	9.4	1.77	17.07	63583	680.34	644.53	8.4	16.0
2268.0	7.6	32.0	65	9.5	1.72	17.20	64098	619.08	644.40	8.4	16.0
2269.0	6.1	32.0	70	9.5	1.82	17.36	64783	765.71	645.01	8.4	16.0
2270.0	7.6	32.0	70	9.5	1.74	17.49	65338	619.08	644.88	8.4	16.0
2271.0	14.2	32.0	70	9.5	1.53	17.56	65634	331.05	643.32	8.4	16.0
2272.0	15.4	32.0	70	9.5	1.50	17.63	65907	304.98	641.64	8.4	16.0
2273.0	16.8	32.0	70	9.5	1.47	17.69	66157	278.91	639.85	8.4	16.0
2274.0	15.3	32.0	70	9.5	1.51	17.75	66432	307.59	638.22	8.4	16.0
2275.0	21.1	30.0	70	9.5	1.37	17.80	66631	222.87	636.20	8.4	16.0
2276.0	10.2	30.0	70	9.5	1.61	17.90	67044	461.38	635.35	8.4	16.0
2277.0	15.8	30.0	70	9.5	1.46	17.96	67310	297.16	633.72	8.4	16.0
2278.0	13.6	30.0	70	9.5	1.51	18.04	67620	345.38	632.33	8.4	16.0
2279.0	12.0	30.0	70	9.5	1.55	18.12	67968	389.70	631.17	8.4	16.0
2280.0	20.2	30.0	70	9.5	1.38	18.17	68176	231.99	629.27	8.4	16.0
2281.0	12.9	30.0	70	9.5	1.53	18.25	68500	362.33	628.00	8.4	16.0
2282.0	8.1	30.0	70	9.5	1.69	18.37	69020	579.98	627.78	8.4	16.0
2283.0	23.1	30.0	70	9.5	1.34	18.41	69202	203.32	625.78	8.4	16.0
2284.0	21.3	30.0	70	9.5	1.36	18.46	69399	220.26	623.89	8.4	16.0
2285.0	11.5	30.0	60	9.5	1.52	18.55	69713	409.25	622.89	8.4	16.0
2286.0	16.7	30.0	60	9.5	1.39	18.61	69928	280.22	621.30	8.4	16.0
2287.0	5.9	30.0	60	9.5	1.74	18.78	70539	796.34	622.11	8.4	16.0
2288.0	11.0	30.0	60	9.5	1.53	18.87	70867	427.49	621.22	8.4	16.0
2289.0	6.8	30.0	60	9.5	1.69	19.02	71398	692.07	621.54	8.4	16.0
2290.0	9.2	30.0	60	9.5	1.59	19.12	71790	510.91	621.04	8.4	16.0
2291.0	10.3	30.0	70	9.5	1.61	19.22	72199	457.47	620.30	8.4	16.0
2292.0	11.3	30.0	70	9.5	1.58	19.31	72571	415.76	619.38	8.4	16.0
2293.0	18.2	30.0	70	9.5	1.42	19.37	72802	258.06	617.76	8.4	16.0
2294.0	7.1	30.0	70	9.5	1.73	19.51	73390	656.88	617.93	8.4	16.0
2295.0	12.5	30.0	70	9.5	1.54	19.59	73726	375.36	616.85	8.4	16.0
2296.0	6.5	30.0	70	9.5	1.76	19.74	74377	727.26	617.34	8.4	16.0
2297.0	6.2	30.0	70	9.5	1.77	19.90	75053	754.63	617.95	8.4	16.0
2298.0	7.7	30.0	70	9.5	1.70	20.03	75599	609.96	617.91	8.4	16.0
2299.0	10.3	29.0	60	9.5	1.54	20.13	75949	456.17	617.21	8.4	16.0
2300.0	10.4	28.0	60	9.5	1.52	20.23	76296	452.26	616.49	8.4	16.0
2301.0	9.8	28.0	60	9.5	1.54	20.33	76663	478.32	615.89	8.4	16.0
2302.0	11.1	28.0	60	9.5	1.50	20.42	76987	422.28	615.06	8.4	16.0
2303.0	15.3	28.0	60	9.5	1.39	20.48	77223	307.59	613.74	8.4	16.0
2304.0	4.9	28.0	60	9.5	1.76	20.69	77958	957.95	615.21	8.4	16.0
2305.0	14.5	28.0	60	9.5	1.41	20.76	78207	324.53	613.97	8.4	16.0
2306.0	14.4	28.0	60	9.5	1.41	20.83	78457	325.83	612.75	8.4	16.0
2307.0	18.0	29.0	60	9.5	1.35	20.88	78657	260.67	611.26	8.4	16.0
2308.0	14.0	29.0	60	9.5	1.44	20.95	78914	335.14	610.10	8.4	16.0
2309.0	16.0	29.0	60	9.5	1.39	21.02	79139	293.25	608.78	8.4	16.0
2310.0	19.7	30.0	60	9.5	1.34	21.07	79322	237.86	607.23	8.4	16.0
2311.0	19.5	30.0	60	9.5	1.34	21.12	79507	241.12	605.71	8.4	16.0
2312.0	17.0	30.0	60	9.5	1.39	21.18	79719	276.31	604.35	8.4	16.0
2313.0	5.4	30.0	60	9.5	1.77	21.36	80380	861.50	605.41	8.4	16.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2314.0	5.2	30.0	60	9.5	1.78	21.55	81070	899.30	606.61	8.4	16.0
2315.0	4.9	30.0	60	9.5	1.80	21.75	81803	955.34	608.04	8.4	16.0
2316.0	8.1	30.0	60	9.5	1.63	21.88	82248	579.98	607.92	8.4	16.0
2317.0	10.1	30.0	60	9.5	1.56	21.98	82605	465.29	607.35	8.4	16.0
2318.0	4.9	30.0	60	9.5	1.80	22.18	83346	965.77	608.79	8.4	16.0
2319.0	18.9	30.0	60	9.5	1.35	22.24	83536	247.63	607.34	8.4	16.0
2320.0	18.9	30.0	60	9.5	1.35	22.29	83726	247.63	605.90	8.4	16.0
2321.0	20.8	30.0	60	9.5	1.32	22.34	83899	225.48	604.39	8.4	16.0
2322.0	14.3	30.0	60	9.5	1.44	22.41	84150	327.14	603.29	8.4	16.0
2323.0	17.2	30.0	60	9.5	1.38	22.46	84359	272.40	601.98	8.4	16.0
2324.0	15.2	30.0	60	9.5	1.42	22.53	84596	308.89	600.82	8.4	16.0
2325.0	15.5	30.0	60	9.5	1.42	22.60	84828	302.37	599.65	8.4	16.0
2326.0	17.2	30.0	60	9.5	1.38	22.65	85037	272.40	598.38	8.4	16.0
2327.0	17.6	30.0	60	9.5	1.38	22.71	85241	265.88	597.08	8.4	16.0
2328.0	18.9	30.0	60	9.5	1.35	22.76	85431	247.63	595.73	8.4	16.0
2329.0	6.2	30.0	60	9.5	1.73	22.92	86015	761.15	596.37	8.4	16.0
2330.0	4.9	30.0	60	9.5	1.80	23.13	86747	954.04	597.74	8.4	16.0
2331.0	5.2	30.0	60	9.5	1.78	23.32	87433	894.09	598.88	8.4	16.0
2332.0	6.5	30.0	60	9.5	1.71	23.47	87983	716.83	599.33	8.4	16.0
2333.0	11.0	29.0	60	9.5	1.51	23.56	88309	424.89	598.66	8.4	16.0
2334.0	9.0	29.0	60	9.5	1.58	23.67	88709	521.33	598.37	8.4	16.0
2335.0	15.7	29.0	60	9.5	1.40	23.74	88939	299.77	597.24	8.4	16.0
2336.0	15.1	29.0	60	9.5	1.41	23.80	89178	311.50	596.17	8.4	16.0
2337.0	7.4	29.0	60	9.5	1.65	23.94	89667	637.33	596.32	8.4	16.0
2338.0	13.7	29.0	60	9.5	1.44	24.01	89929	341.47	595.37	8.4	16.0
2339.0	6.6	29.0	60	9.5	1.68	24.16	90472	707.71	595.79	8.4	16.0
2340.0	8.5	28.0	60	9.5	1.58	24.28	90897	553.92	595.64	8.4	16.0
2341.0	5.9	28.0	60	9.5	1.71	24.45	91512	801.55	596.40	8.4	16.0
2342.0	3.6	28.0	70	9.5	1.92	24.73	92686	1312	599	8.4	16.0
2343.0	11.6	28.0	70	9.5	1.53	24.82	93048	404.03	598.31	8.4	16.0
2344.0	12.0	29.0	70	9.5	1.54	24.90	93397	389.70	597.55	8.4	16.1
2345.0	18.1	29.0	70	9.5	1.40	24.96	93629	259.36	596.32	8.4	16.1
2346.0	19.6	29.0	70	9.5	1.38	25.01	93844	239.81	595.03	8.4	16.1
2347.0	5.4	30.0	70	9.5	1.82	25.19	94625	873.23	596.04	8.4	16.1
2348.0	5.1	30.0	70	9.5	1.84	25.39	95449	920.48	597.20	8.4	16.1
2349.0	1.9	33.0	80	9.5	2.29	25.92	98009	2502	604	8.4	16.1
2350.0	4.4	33.0	80	9.6	1.98	26.15	99111	1077	606	8.4	16.1
2351.0	4.0	36.0	75	9.6	2.04	26.40	100236	1173	608	8.4	16.1
2352.0	8.0	36.0	75	9.6	1.80	26.53	100798	586.50	607.66	8.4	16.1
2353.0	4.0	26.0	60	9.6	1.77	26.78	101698	1173	610	8.4	16.1
2354.0	8.0	28.0	60	9.6	1.59	26.90	102148	586.50	609.58	8.4	16.1
2355.0	6.0	28.0	60	9.6	1.68	27.07	102748	782.00	610.18	8.4	16.1
2356.0	5.0	28.0	60	9.6	1.74	27.27	103468	938.40	611.33	8.4	16.1
2357.0	3.0	28.0	60	9.6	1.90	27.60	104668	1564	615	8.4	16.1
2358.0	5.0	32.0	60	9.6	1.81	27.80	105388	938.40	615.78	8.4	16.1
2359.0	6.0	32.0	60	9.6	1.75	27.97	105988	782.00	616.35	8.4	16.1
2360.0	3.0	32.0	60	9.6	1.98	28.30	107188	1564	620	8.4	16.1
2361.0	5.0	32.0	60	9.6	1.81	28.50	107908	938.40	620.71	8.4	16.1
2362.0	2.0	26.0	60	9.6	1.99	29.00	109708	2346	627	8.4	16.1
2363.0	4.0	26.0	60	9.6	1.77	29.25	110608	1173	628	8.4	16.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2364.0	6.0	22.0	60	9.6	1.56	29.42	111208	782.00	629.01	8.4	16.1
2365.0	2.0	22.0	58	9.4	1.92	29.92	112948	2346	635	8.4	16.1
2366.0	2.0	22.0	58	9.4	1.92	30.42	114688	2346	641	8.4	16.1
2367.0	3.0	32.0	65	9.4	2.05	30.75	115988	1564	644	8.4	16.1
2368.0	1.8	24.0	70	9.6	2.02	31.31	118322	2607	650	8.4	16.1
2369.0	8.0	27.8	70	9.6	1.63	31.43	118847	586.50	650.09	8.4	16.1
2370.0	3.0	40.0	55	9.6	2.11	31.77	119947	1564	653	8.4	16.1
2371.0	2.0	43.0	55	9.6	2.31	32.27	121597	2346	659	8.4	16.1
2372.0	3.0	40.0	55	9.5	2.13	32.60	122697	1564	662	8.4	16.1
2373.0	5.0	40.0	55	9.5	1.94	32.80	123357	938.40	662.67	8.4	16.1
2374.0	2.7	40.0	65	9.5	2.23	33.17	124801	1738	666	8.4	16.1

BIT NUMBER	7	IADC CODE	527	INTERVAL	2374.0- 2568.0
HTC J33		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	10.3	BIT RUN	194.0
TOTAL HOURS	27.67	TOTAL TURNS	90581	CONDITION	T2 B3 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2375.0	5.0	10.0	60	9.5	1.33	0.20	720	938	51118	8.4	16.1
2376.0	3.3	10.0	45	9.5	1.37	0.51	1546	1435	26276	8.4	16.1
2377.0	3.1	15.0	45	9.5	1.53	0.83	2427	1531	18028	8.4	16.1
2378.0	4.0	28.0	60	9.5	1.83	1.08	3319	1163	13812	8.4	16.1
2379.0	8.0	28.0	60	9.5	1.60	1.20	3768	585	11166	8.4	16.1
2380.0	10.5	28.0	60	9.5	1.51	1.30	4111	447	9380	8.4	16.1
2381.0	12.4	28.0	60	9.5	1.46	1.38	4402	379	8094	8.4	16.1
2382.0	12.5	28.0	60	9.5	1.46	1.46	4689	374	7129	8.4	16.1
2383.0	14.5	28.0	60	9.5	1.41	1.53	4937	323	6373	8.4	16.1
2384.0	15.6	28.0	60	9.5	1.39	1.59	5168	301	5766	8.4	16.1
2385.0	12.9	28.0	60	9.5	1.45	1.67	5448	365	5275	8.4	16.1
2386.0	11.4	28.0	60	9.5	1.49	1.76	5763	411	4869	8.4	16.1
2387.0	15.3	28.0	60	9.5	1.39	1.82	5999	308	4518	8.4	16.1
2388.0	10.9	28.0	60	9.5	1.50	1.92	6330	431	4227	8.4	16.1
2389.0	9.0	28.0	60	9.5	1.56	2.03	6729	520	3979	8.4	16.1
2390.0	4.5	28.0	60	9.5	1.79	2.25	7523	1035	3795	8.4	16.1
2391.0	8.9	29.0	50	9.5	1.53	2.36	7860	527	3603	8.4	16.1
2392.0	6.7	29.0	50	9.5	1.62	2.51	8305	696	3442	8.4	16.1
2393.0	10.2	29.0	50	9.5	1.48	2.61	8598	459	3285	8.4	16.1
2394.0	4.2	29.0	50	9.5	1.77	2.84	9312	1117	3176	8.4	16.1
2395.0	5.3	35.0	60	9.5	1.87	3.03	9994	889	3067	8.4	16.1
2396.0	9.8	35.0	60	9.5	1.65	3.14	10363	481	2950	8.4	16.1
2397.0	14.8	35.0	60	9.5	1.51	3.20	10607	318	2835	8.4	16.1
2398.0	15.4	35.0	60	9.5	1.49	3.27	10841	305	2730	8.4	16.1
2399.0	13.2	35.0	60	9.5	1.55	3.34	11113	355	2635	8.4	16.1
2400.0	14.2	35.0	60	9.5	1.52	3.41	11366	330	2546	8.4	16.1
2401.0	12.5	35.0	60	9.5	1.56	3.49	11653	374	2466	8.4	16.1
2402.0	12.9	35.0	60	9.5	1.55	3.57	11931	362	2391	8.4	16.1
2403.0	12.2	35.0	60	9.5	1.57	3.65	12226	384	2321	8.4	16.1
2404.0	7.2	35.0	60	9.5	1.76	3.79	12723	648	2266	8.4	16.1
2405.0	8.5	35.0	50	9.5	1.64	3.91	13075	550	2210	8.4	16.1
2406.0	7.7	35.0	50	9.5	1.67	4.04	13463	607	2160	8.4	16.1
2407.0	10.0	35.0	50	9.5	1.58	4.14	13762	468	2109	8.4	16.1
2408.0	11.8	40.0	50	9.5	1.59	4.22	14016	398	2059	8.4	16.1
2409.0	12.4	40.0	50	9.5	1.57	4.30	14258	378	2011	8.4	16.1
2410.0	9.2	40.0	50	9.5	1.68	4.41	14583	508	1969	8.4	16.1
2411.0	15.1	40.0	50	9.5	1.50	4.48	14781	310	1924	8.4	16.1
2412.0	13.8	40.0	50	9.5	1.53	4.55	14998	339	1882	8.4	16.1
2413.0	13.6	40.0	50	9.5	1.54	4.62	15218	344	1843	8.4	16.1
2414.0	14.0	40.0	50	9.5	1.53	4.69	15433	336	1805	8.4	16.1
2415.0	14.9	40.0	50	9.5	1.51	4.76	15634	314	1769	8.4	16.1
2416.0	5.4	40.0	50	9.5	1.88	4.95	16185	862	1747	8.4	16.1
2417.0	3.1	40.0	50	9.6	2.06	5.27	17155	1517	1742	8.4	16.1

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2418.0	3.8	40.0	50	9.6	1.98	5.53	17935	1220	1730	8.4	16.1
2419.0	10.3	40.0	50	9.6	1.63	5.63	18226	455	1702	8.4	16.1
2420.0	10.5	40.0	50	9.6	1.62	5.72	18512	448	1674	8.4	16.1
2421.0	10.5	40.0	50	9.6	1.62	5.82	18797	446	1648	8.4	16.1
2422.0	11.7	40.0	50	9.6	1.58	5.90	19054	401	1622	8.4	16.1
2423.0	12.2	40.0	50	9.5	1.58	5.98	19301	386	1597	8.4	16.1
2424.0	12.0	40.0	50	9.5	1.59	6.07	19551	391	1573	8.4	16.1
2425.0	10.7	40.0	50	9.5	1.63	6.16	19832	441	1551	8.4	16.1
2426.0	10.7	40.0	50	9.5	1.63	6.26	20114	441	1529	8.4	16.1
2427.0	10.2	40.0	50	9.5	1.65	6.35	20407	459	1509	8.4	16.1
2428.0	12.1	40.0	50	9.5	1.58	6.44	20655	387	1488	8.4	16.1
2429.0	11.8	39.0	50	9.5	1.58	6.52	20908	396	1469	8.4	16.1
2430.0	11.7	39.0	50	9.5	1.58	6.61	21166	403	1450	8.4	16.1
2431.0	6.2	39.0	50	9.5	1.81	6.77	21650	757	1437	8.4	16.1
2432.0	4.5	39.0	50	9.5	1.93	6.99	22319	1047	1431	8.4	16.1
2433.0	6.1	39.0	50	9.5	1.82	7.15	22807	764	1419	8.4	16.1
2434.0	6.4	40.0	57	9.5	1.86	7.31	23338	729	1408	8.4	16.1
2435.0	3.8	40.0	50	9.5	2.01	7.57	24138	1251	1405	8.4	16.1
2436.0	3.8	35.0	45	9.5	1.88	7.84	24851	1238	1403	8.4	16.1
2438.0	6.1	37.0	45	9.5	1.75	8.17	25736	769	1383	8.4	16.1
2439.0	8.4	37.0	45	9.5	1.63	8.29	26057	558	1370	8.4	16.1
2440.0	8.8	37.0	45	9.5	1.62	8.40	26362	530	1357	8.4	16.1
2441.0	8.5	37.0	45	9.5	1.63	8.52	26679	551	1345	8.4	16.1
2442.0	6.5	37.0	45	9.5	1.73	8.67	27097	726	1336	8.4	16.1
2443.0	9.6	40.0	65	9.5	1.76	8.77	27503	489	1324	8.4	16.1
2444.0	12.5	40.0	65	9.5	1.67	8.85	27815	375	1310	8.4	16.1
2445.0	8.0	40.0	65	9.5	1.83	8.98	28304	588	1300	8.4	16.1
2446.0	4.4	40.0	65	9.5	2.05	9.21	29198	1075	1297	8.4	16.1
2447.0	4.5	40.0	65	9.5	2.04	9.43	30061	1039	1294	8.4	16.1
2448.0	2.8	40.0	65	9.5	2.22	9.79	31451	1672	1299	8.4	16.1
2449.0	3.2	40.0	65	9.5	2.17	10.10	32673	1470	1301	8.4	16.1
2450.0	2.7	42.0	40	9.5	2.09	10.48	33576	1765	1307	8.4	16.1
2451.0	3.3	39.0	55	9.5	2.07	10.78	34564	1405	1308	8.4	16.1
2452.0	2.9	39.0	55	9.5	2.13	11.12	35715	1637	1313	8.4	16.1
2453.0	4.9	38.0	55	9.5	1.92	11.33	36394	966	1308	8.4	16.1
2454.0	6.0	38.0	55	9.5	1.84	11.50	36941	777	1302	8.4	16.1
2455.0	4.8	35.0	30	9.5	1.66	11.70	37314	972	1297	8.4	16.1
2456.0	9.6	35.0	58	9.4	1.66	11.81	37675	487	1288	8.4	16.2
2457.0	8.1	35.0	50	9.4	1.67	11.93	38045	579	1279	8.4	16.2
2458.0	3.7	35.0	50	9.4	1.95	12.20	38866	1284	1279	8.4	16.2
2459.0	4.9	35.0	50	9.4	1.85	12.41	39474	951	1275	8.4	16.2
2460.0	4.5	35.0	50	9.4	1.88	12.63	40137	1036	1272	8.4	16.2
2461.0	4.2	35.0	50	9.4	1.91	12.87	40855	1123	1271	8.4	16.2
2462.0	4.3	35.0	50	9.4	1.89	13.10	41546	1080	1269	8.4	16.2
2463.0	5.5	35.0	50	9.4	1.81	13.28	42087	846	1264	8.4	16.2
2464.0	7.4	33.0	58	9.4	1.72	13.41	42558	635	1257	8.4	16.2
2465.0	7.9	33.0	58	9.4	1.70	13.54	42998	594	1250	8.4	16.2
2466.0	10.3	32.0	55	9.4	1.58	13.64	43320	457	1241	8.4	16.2
2467.0	10.1	32.0	55	9.4	1.58	13.74	43647	464	1233	8.4	16.2
2468.0	10.7	38.0	55	9.4	1.65	13.83	43954	437	1224	8.4	16.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2469.0	11.2	38.0	55	9.4	1.64	13.92	44248	418	1216	8.4	16.2
2470.0	8.2	38.0	55	9.4	1.75	14.04	44649	571	1209	8.4	16.2
2471.0	11.8	36.0	55	9.4	1.59	14.12	44929	398	1201	8.4	16.2
2472.0	5.0	34.0	55	9.4	1.86	14.32	45584	932	1198	8.4	16.2
2473.0	4.7	34.0	55	9.4	1.88	14.54	46284	994	1196	8.4	16.2
2474.0	4.6	34.0	55	9.4	1.89	14.75	47006	1027	1194	8.4	16.2
2475.0	8.8	30.0	55	9.4	1.60	14.87	47383	536	1188	8.4	16.2
2476.0	18.4	30.0	55	9.4	1.35	14.92	47563	255	1178	8.4	16.2
2477.0	9.2	30.0	60	9.5	1.59	15.03	47955	511	1172	8.4	16.2
2478.0	10.2	30.0	60	9.5	1.56	15.13	48307	459	1165	8.4	16.2
2479.0	10.1	30.0	60	9.5	1.56	15.23	48663	464	1158	8.4	16.2
2480.0	4.9	30.0	60	9.5	1.80	15.43	49403	964	1157	8.4	16.2
2481.0	5.2	30.0	60	9.5	1.78	15.63	50096	903	1154	8.4	16.2
2482.0	6.3	30.0	60	9.5	1.72	15.78	50665	742	1150	8.4	16.2
2483.0	8.9	30.0	60	9.5	1.60	15.90	51071	529	1145	8.4	16.2
2484.0	6.7	35.0	60	9.5	1.79	16.05	51610	702	1141	8.4	16.2
2485.0	4.6	35.0	60	9.5	1.91	16.26	52385	1010	1139	8.4	16.2
2486.0	5.8	38.0	60	9.5	1.89	16.43	53006	809	1137	8.4	16.2
2487.0	6.7	38.0	60	9.5	1.83	16.58	53541	697	1133	8.4	16.2
2488.0	6.0	38.0	60	9.5	1.87	16.75	54137	777	1130	8.4	16.2
2489.0	14.6	40.0	60	9.5	1.58	16.82	54383	321	1122	8.4	16.2
2490.0	10.8	40.0	60	9.5	1.69	16.91	54716	434	1117	8.4	16.2
2491.0	9.2	40.0	60	9.5	1.75	17.02	55108	511	1111	8.4	16.2
2492.0	9.2	40.0	60	9.5	1.75	17.13	55499	510	1106	8.4	16.2
2493.0	11.9	40.0	60	9.5	1.66	17.21	55802	395	1100	8.4	16.2
2494.0	14.2	40.0	60	9.5	1.59	17.28	56055	330	1094	8.4	16.2
2495.0	15.9	40.0	60	9.5	1.55	17.34	56282	296	1087	8.4	16.2
2496.0	11.7	40.0	60	9.5	1.66	17.43	56589	400	1082	8.4	16.2
2497.0	13.8	40.0	60	9.5	1.60	17.50	56850	340	1076	8.4	16.2
2498.0	14.6	40.0	60	9.5	1.58	17.57	57096	321	1070	8.4	16.2
2499.0	12.8	40.0	60	9.5	1.63	17.65	57378	368	1064	8.4	16.2
2500.0	14.8	40.0	60	9.5	1.58	17.72	57621	317	1058	8.4	16.2
2501.0	15.3	40.0	60	9.5	1.57	17.78	57857	308	1052	8.4	16.2
2502.0	5.9	40.0	60	9.5	1.91	17.95	58464	791	1050	8.4	16.2
2503.0	20.5	40.0	60	9.5	1.46	18.00	58640	229	1044	8.4	16.2
2504.0	5.5	40.0	62	9.5	1.95	18.18	59310	846	1042	8.4	16.2
2505.0	6.7	40.0	62	9.5	1.88	18.33	59866	701	1040	8.4	16.2
2506.0	13.0	40.0	60	9.5	1.62	18.41	60142	360	1034	8.4	16.2
2507.0	10.8	40.0	60	9.5	1.69	18.50	60476	435	1030	8.4	16.2
2508.0	8.4	40.0	60	9.5	1.78	18.62	60903	557	1026	8.4	16.2
2509.0	7.2	40.0	60	9.5	1.84	18.76	61404	653	1024	8.4	16.2
2510.0	6.9	40.0	60	9.5	1.86	18.90	61928	683	1021	8.4	16.2
2511.0	5.3	40.0	60	9.5	1.95	19.09	62602	878	1020	8.4	16.2
2512.0	6.7	40.0	60	9.5	1.87	19.24	63137	697	1018	8.4	16.2
2513.0	13.1	40.0	60	9.5	1.62	19.31	63412	358	1013	8.4	16.2
2514.0	12.6	40.0	60	9.5	1.64	19.39	63698	373	1008	8.4	16.2
2515.0	11.2	40.0	60	9.5	1.68	19.48	64019	418	1004	8.4	16.2
2516.0	10.0	40.0	60	9.5	1.72	19.58	64378	468	1000	8.4	16.2
2517.0	10.8	40.0	60	9.5	1.69	19.68	64711	434.01	996.48	8.4	16.2
2518.0	12.9	40.0	60	9.5	1.63	19.75	64989	362.33	992.08	8.4	16.2

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2519.0	18.8	40.0	60	9.5	1.49	19.81	65181	250.24	986.96	8.4	16.2
2520.0	7.8	40.0	60	9.5	1.81	19.93	65644	603.44	984.34	8.4	16.2
2521.0	6.7	40.0	60	9.5	1.87	20.08	66178	695.98	982.38	8.4	16.2
2522.0	11.4	40.0	60	9.5	1.67	20.17	66495	413.16	978.53	8.4	16.2
2523.0	11.8	40.0	60	9.5	1.66	20.26	66801	398.82	974.64	8.4	16.2
2524.0	5.6	40.0	60	9.5	1.93	20.44	67447	841.95	973.75	8.4	16.2
2525.0	9.0	40.0	60	9.5	1.76	20.55	67849	523.94	970.78	8.4	16.2
2526.0	6.5	40.0	60	9.5	1.88	20.70	68406	725.96	969.16	8.4	16.2
2527.0	5.7	40.0	60	9.5	1.92	20.88	69034	818.49	968.18	8.4	16.2
2528.0	8.6	40.0	60	9.5	1.77	20.99	69451	543.49	965.42	8.4	16.2
2529.0	4.4	40.0	60	9.5	2.02	21.22	70274	1073	966	8.4	16.2
2530.0	3.7	40.0	60	9.5	2.08	21.49	71237	1255	968	8.4	16.2
2531.0	4.0	40.0	60	9.5	2.06	21.74	72145	1183	969	8.4	16.2
2532.0	2.9	40.0	45	9.5	2.07	22.09	73079	1623	973	8.4	16.2
2533.0	5.2	40.0	45	9.5	1.85	22.28	73594	895.39	972.98	8.4	16.2
2534.0	4.6	40.0	45	9.5	1.90	22.49	74175	1010	973	8.4	16.2
2535.0	8.0	40.0	45	9.5	1.70	22.62	74511	583.89	970.80	8.4	16.2
2536.0	10.7	40.0	45	9.5	1.59	22.71	74764	439.22	967.51	8.4	16.2
2537.0	9.9	40.0	45	9.5	1.62	22.81	75037	474.41	964.49	8.4	16.2
2538.0	9.7	40.0	45	9.5	1.63	22.91	75315	483.54	961.56	8.4	16.2
2539.0	10.5	40.0	45	9.5	1.60	23.01	75573	448.35	958.45	8.4	16.2
2540.0	10.5	40.0	45	9.5	1.60	23.11	75831	447.04	955.37	8.4	16.2
2541.0	16.3	40.0	45	9.5	1.44	23.17	75996	288.04	951.37	8.4	16.2
2542.0	6.4	40.0	45	9.5	1.78	23.32	76418	732.47	950.07	8.4	16.2
2543.0	8.7	40.0	45	9.5	1.67	23.44	76728	538.28	947.63	8.4	16.2
2544.0	12.4	40.0	45	9.5	1.54	23.52	76946	379.27	944.29	8.4	16.2
2545.0	8.3	40.0	45	9.5	1.69	23.64	77273	568.25	942.09	8.4	16.2
2546.0	5.7	40.0	45	9.5	1.82	23.82	77750	828.92	941.43	8.4	16.2
2547.0	6.9	40.0	45	9.5	1.75	23.96	78139	676.43	939.90	8.4	16.2
2548.0	5.5	40.0	50	9.5	1.88	24.14	78688	858.90	939.43	8.4	16.2
2549.0	4.6	40.0	50	9.5	1.94	24.36	79345	1027	940	8.4	16.3
2550.0	4.5	40.0	50	9.5	1.95	24.59	80018	1053	941	8.4	16.3
2551.0	3.8	40.0	50	9.5	2.01	24.85	80808	1235	942	8.4	16.3
2552.0	4.2	40.0	50	9.5	1.97	25.09	81522	1117	943	8.4	16.3
2553.0	5.3	40.0	50	9.5	1.89	25.28	82088	885.28	942.90	8.4	16.3
2554.0	4.7	40.0	50	9.5	1.93	25.49	82726	998.30	943.20	8.4	16.3
2555.0	6.4	40.0	60	9.5	1.88	25.65	83289	733.13	942.04	8.4	16.3
2556.0	6.7	40.0	60	9.5	1.87	25.80	83826	700.30	940.72	8.4	16.3
2557.0	7.0	40.0	60	9.5	1.85	25.94	84341	670.29	939.24	8.4	16.3
2558.0	6.3	40.0	60	9.5	1.89	26.10	84912	744.76	938.18	8.4	16.3
2559.0	6.1	40.0	60	9.5	1.90	26.26	85502	769.18	937.27	8.4	16.3
2560.0	10.0	40.0	60	9.5	1.72	26.36	85862	469.20	934.75	8.4	16.3
2561.0	7.8	40.0	60	9.5	1.81	26.49	86324	601.54	932.97	8.4	16.3
2562.0	8.9	40.0	60	9.5	1.76	26.60	86728	527.19	930.81	8.4	16.3
2563.0	4.1	40.0	61	9.9	1.96	26.84	87613	1134	932	8.4	16.3
2564.0	4.6	40.0	60	9.5	2.00	27.06	88394	1018	932	8.4	16.3
2565.0	3.9	40.0	60	9.5	2.06	27.32	89314	1199	934	8.4	16.3
2566.0	5.6	40.0	60	9.5	1.93	27.49	89955	835.44	933.22	8.4	16.3
2567.0	10.6	40.0	60	9.5	1.70	27.59	90295	443.13	930.68	8.4	16.3
2568.0	12.6	40.0	60	9.5	1.64	27.67	90581	372.75	927.81	8.4	16.3

BIT NUMBER	7	IADC CODE	4	INTERVAL	2568.0- 2574.6
CHRIST C-22		SIZE	8.468	NOZZLES	13 13 13
COST	12000.00	TRIP TIME	10.4	BIT RUN	6.6
TOTAL HOURS	5.48	TOTAL TURNS	31240	CONDITION	T0 B0 G0.450

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2568.2	2.0	10.0	75	9.5	1.61	0.10	450	2346	306330	8.4	16.3
2568.4	1.4	10.0	75	9.5	1.70	0.24	1085	3310	154820	8.4	16.3
2568.6	12.6	10.0	75	9.5	1.16	0.26	1156	371	103337	8.4	16.3
2568.8	3.5	10.0	75	9.5	1.48	0.31	1416	1355	77842	8.4	16.3
2569.0	9.2	10.0	75	9.5	1.24	0.34	1514	508	62375	8.4	16.3
2569.2	2.2	10.0	75	9.5	1.59	0.43	1918	2105	52330	8.4	16.3
2569.4	7.8	10.0	75	9.5	1.28	0.45	2033	600	44940	8.4	16.3
2569.6	2.7	10.0	75	9.5	1.54	0.53	2363	1720	39538	8.4	16.3
2569.8	4.4	10.0	75	9.5	1.42	0.57	2565	1056	35262	8.4	16.3
2570.0	0.9	16.0	75	9.5	2.03	0.79	3549	5129	32248	8.4	16.3
2570.2	0.8	16.0	75	9.5	2.06	1.03	4621	5591	29825	8.4	16.3
2570.4	4.3	16.0	75	9.5	1.60	1.07	4830	1088	27430	8.4	16.3
2570.6	0.4	16.0	100	9.5	2.36	1.61	8020	12473	26280	8.4	16.3
2570.8	5.9	16.0	100	9.5	1.59	1.64	8223	795	24459	8.4	16.3
2571.0	0.7	17.0	100	9.5	2.23	1.94	10008	6979	23294	8.4	16.3
2571.2	3.2	17.0	100	9.5	1.79	2.00	10380	1453	21929	8.4	16.3
2571.4	1.0	18.0	100	9.5	2.15	2.19	11547	4562	20907	8.4	16.3
2571.6	5.3	18.0	100	9.5	1.67	2.23	11772	880	19795	8.4	16.3
2571.8	0.7	18.0	100	9.5	2.24	2.50	13393	6341	19087	8.4	16.3
2572.0	1.0	18.0	100	9.5	2.16	2.70	14593	4692	18367	8.4	16.3
2572.2	9.6	18.0	100	9.5	1.51	2.72	14718	489	17516	8.4	16.3
2572.4	2.4	18.0	100	9.5	1.91	2.81	15228	1994	16810	8.4	16.3
2572.6	10.4	18.0	100	9.5	1.48	2.83	15343	450	16099	8.4	16.3
2572.8	0.7	18.0	100	9.5	2.24	3.10	16978	6393	15694	8.4	16.3
2573.0	45.0	18.0	100	9.5	1.06	3.10	17005	104	15071	8.4	16.3
2573.2	0.7	18.0	100	9.5	2.27	3.40	18805	7038	14762	8.4	16.3
2573.4	4.5	18.0	100	9.5	1.72	3.45	19072	1043	14254	8.4	16.3
2573.6	0.3	18.0	100	9.5	2.51	4.13	23152	15953	14314	8.4	16.3
2573.8	4.3	18.0	100	9.5	1.74	4.17	23432	1095	13859	8.4	16.3
2574.0	0.3	18.0	100	9.5	2.46	4.75	26905	13581	13849	8.4	16.3
2574.2	1.5	18.0	100	9.5	2.05	4.89	27725	3206	13506	8.4	16.3
2574.4	0.4	18.0	100	9.5	2.44	5.43	30993	12779	13483	8.4	16.3
2574.6	4.9	18.0	100	9.5	1.70	5.48	31240	964	13104	8.4	16.3

BIT NUMBER	8	IADC CODE	517	INTERVAL	2574.6- 2707.6
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	10.8	BIT RUN	133.0
TOTAL HOURS	13.92	TOTAL TURNS	49931	CONDITION	T3 B3 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2575.0	3.9	15.0	50	9.5	1.49	0.10	308	1206	132520	8.4	16.3
2576.0	2.5	18.0	50	9.5	1.69	0.51	1518	1891	39214	8.4	16.3
2577.0	8.3	18.0	50	9.5	1.35	0.63	1879	564	23110	8.4	16.3
2578.0	10.6	18.0	50	9.5	1.28	0.72	2161	442	16443	8.4	16.3
2579.0	3.2	22.0	55	9.5	1.74	1.03	3191	1465	13039	8.4	16.3
2580.0	2.2	30.0	55	9.5	2.04	1.49	4691	2133	11019	8.4	16.3
2581.0	5.0	35.0	65	9.5	1.91	1.69	5471	938	9444	8.4	16.3
2582.0	8.3	35.0	65	9.5	1.74	1.81	5941	565	8244	8.4	16.3
2583.0	12.1	35.0	65	9.5	1.61	1.89	6264	388	7309	8.4	16.3
2584.0	13.0	35.0	65	9.5	1.58	1.97	6564	361	6570	8.4	16.3
2585.0	9.0	35.0	65	9.5	1.71	2.08	6997	521	5988	8.4	16.3
2586.0	9.2	32.0	65	9.5	1.65	2.19	7421	510	5508	8.4	16.3
2587.0	11.0	32.0	65	9.5	1.59	2.28	7775	427	5098	8.4	16.3
2588.0	5.7	36.0	65	9.5	1.89	2.45	8463	828	4779	8.4	16.3
2589.0	6.6	38.0	65	9.5	1.87	2.61	9055	712	4497	8.4	16.3
2590.0	8.2	40.0	65	9.5	1.82	2.73	9533	575	4242	8.4	16.3
2591.0	12.3	44.0	62	9.5	1.71	2.81	9835	381	4007	8.4	16.3
2592.0	11.8	44.0	62	9.5	1.73	2.89	10150	398	3799	8.4	16.3
2593.0	12.5	40.0	62	9.5	1.65	2.97	10448	377	3613	8.4	16.3
2594.0	13.5	42.0	60	9.5	1.64	3.05	10715	348	3445	8.4	16.3
2595.0	14.9	42.0	60	9.5	1.60	3.12	10957	315	3291	8.4	16.3
2596.0	13.4	42.0	60	9.5	1.64	3.19	11225	349	3154	8.4	16.3
2597.0	9.3	42.0	60	9.5	1.78	3.30	11614	507	3036	8.4	16.3
2598.0	5.3	42.0	60	9.5	1.99	3.49	12299	893	2944	8.4	16.3
2599.0	8.0	42.0	60	9.5	1.83	3.61	12748	585	2848	8.4	16.3
2600.0	11.0	42.0	60	9.5	1.71	3.70	13075	426	2752	8.4	16.3
2601.0	18.1	42.0	60	9.5	1.53	3.76	13274	259	2658	8.4	16.3
2602.0	15.8	40.0	60	9.5	1.55	3.82	13502	297	2572	8.4	16.3
2603.0	20.4	40.0	60	9.5	1.46	3.87	13679	230	2489	8.4	16.3
2604.0	15.9	40.0	60	9.5	1.55	3.93	13906	296	2415	8.4	16.3
2605.0	14.2	40.0	60	9.5	1.59	4.01	14160	331	2346	8.4	16.3
2606.0	14.3	40.0	60	9.5	1.59	4.08	14411	327	2282	8.4	16.3
2607.0	14.1	43.0	60	9.5	1.64	4.15	14667	334	2222	8.4	16.3
2608.0	13.3	43.0	60	9.5	1.66	4.22	14937	352	2166	8.4	16.3
2609.0	13.7	43.0	60	9.5	1.65	4.29	15199	342	2113	8.4	16.3
2610.0	12.6	43.0	60	9.5	1.68	4.37	15485	372	2063	8.4	16.3
2611.0	10.1	43.0	60	9.5	1.76	4.47	15842	465	2020	8.4	16.3
2612.0	9.1	43.0	60	9.5	1.80	4.58	16237	516	1979	8.4	16.3
2613.0	17.3	43.0	60	9.5	1.56	4.64	16445	271	1935	8.4	16.3
2614.0	16.4	43.0	60	9.5	1.58	4.70	16665	286	1893	8.4	16.3
2615.0	15.0	43.0	60	9.5	1.61	4.77	16905	313	1854	8.4	16.3
2616.0	14.1	43.0	60	9.5	1.64	4.84	17160	333	1817	8.4	16.3
2617.0	14.4	43.0	61	9.5	1.63	4.91	17414	326	1782	8.4	16.3

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2618.0	14.1	43.0	61	9.5	1.64	4.98	17674	332	1749	8.4	16.3
2619.0	11.0	43.0	60	9.5	1.73	5.07	18000	425	1719	8.4	16.3
2620.0	14.7	45.0	61	9.5	1.65	5.14	18249	319	1688	8.4	16.3
2621.0	21.3	45.0	61	9.5	1.51	5.18	18421	220	1656	8.4	16.3
2622.0	14.9	45.0	61	9.5	1.65	5.25	18667	315	1628	8.4	16.3
2623.0	17.6	45.0	60	9.5	1.58	5.31	18869	266	1600	8.4	16.3
2624.0	10.1	46.0	61	9.5	1.81	5.41	19232	464	1577	8.4	16.3
2625.0	7.6	46.0	61	9.5	1.92	5.54	19715	619	1558	8.4	16.4
2626.0	11.3	45.0	60	9.5	1.75	5.63	20033	414	1536	8.4	16.4
2627.0	16.7	45.0	60	9.5	1.60	5.69	20249	282	1512	8.4	16.4
2628.0	17.0	45.0	60	9.5	1.59	5.75	20461	276	1489	8.4	16.4
2629.0	7.9	40.0	60	9.5	1.81	5.87	20917	595	1472	8.4	16.4
2630.0	13.7	40.0	60	9.5	1.61	5.95	21180	343	1452	8.4	16.4
2631.0	12.9	40.0	60	9.5	1.63	6.02	21458	362	1432	8.4	16.4
2632.0	8.5	41.0	61	9.5	1.80	6.14	21887	550	1417	8.4	16.4
2633.0	8.7	39.0	60	9.5	1.75	6.26	22299	537	1402	8.4	16.4
2634.0	12.2	39.0	60	9.5	1.63	6.34	22594	384	1385	8.4	16.4
2635.0	7.5	42.0	61	9.5	1.86	6.47	23079	622	1372	8.4	16.4
2636.0	10.7	42.0	61	9.5	1.73	6.56	23421	438	1357	8.4	16.4
2637.0	9.4	44.0	60	9.5	1.80	6.67	23804	499	1343	8.4	16.4
2638.0	6.8	44.0	60	9.5	1.93	6.82	24337	695	1333	8.4	16.4
2639.0	9.5	44.0	60	9.5	1.80	6.92	24716	494	1320	8.4	16.4
2640.0	8.1	44.0	60	9.5	1.86	7.05	25160	579	1309	8.4	16.4
2641.0	7.0	44.0	60	9.5	1.91	7.19	25672	667	1299	8.4	16.4
2642.0	7.9	44.0	60	9.5	1.87	7.32	26130	597	1289	8.4	16.4
2643.0	11.6	44.0	60	9.5	1.72	7.40	26440	404	1276	8.4	16.4
2644.0	12.2	44.0	60	9.5	1.71	7.48	26736	386	1263	8.4	16.4
2645.0	9.0	43.0	60	9.5	1.80	7.59	27134	519	1252	8.4	16.4
2646.0	7.9	42.0	60	9.5	1.84	7.72	27587	590	1243	8.4	16.4
2647.0	9.8	42.0	60	9.5	1.76	7.82	27955	480	1232	8.4	16.4
2648.0	7.9	42.0	60	9.5	1.84	7.95	28409	592	1224	8.4	16.4
2649.0	8.0	42.0	60	9.5	1.84	8.07	28861	589	1215	8.4	16.4
2650.0	5.5	42.0	60	9.5	1.97	8.26	29512	848	1210	8.4	16.4
2651.0	8.6	42.0	60	9.5	1.81	8.37	29933	549	1202	8.4	16.4
2652.0	6.3	42.0	60	9.5	1.93	8.53	30509	751	1196	8.4	16.4
2653.0	13.4	44.0	62	9.5	1.68	8.61	30786	351	1185	8.4	16.4
2654.0	10.5	41.0	62	9.5	1.73	8.70	31140	446	1176	8.4	16.4
2655.0	19.4	42.0	62	9.5	1.52	8.75	31332	242	1164	8.4	16.4
2656.0	6.2	43.0	60	9.5	1.95	8.92	31915	760	1159	8.4	16.4
2657.0	6.4	44.0	60	9.5	1.95	9.07	32481	738	1154	8.4	16.4
2658.0	4.8	44.0	60	9.5	2.06	9.28	33229	975	1152	8.4	16.4
2659.0	6.1	44.0	60	9.5	1.97	9.44	33819	769	1147	8.4	16.4
2660.0	11.2	44.0	60	9.5	1.74	9.53	34140	418	1139	8.4	16.4
2661.0	12.0	40.0	60	9.5	1.65	9.62	34440	391	1130	8.4	16.4
2662.0	12.2	45.0	60	9.5	1.72	9.70	34735	385	1122	8.4	16.4
2663.0	10.8	45.0	60	9.5	1.76	9.79	35068	434	1114	8.4	16.4
2664.0	14.0	45.0	60	9.5	1.67	9.86	35326	335	1105	8.4	16.4
2665.0	11.2	45.0	60	9.5	1.75	9.95	35647	419	1098	8.4	16.4
2666.0	11.7	40.0	60	9.5	1.66	10.04	35954	400	1090	8.4	16.4
2667.0	11.0	45.0	60	9.5	1.76	10.13	36282	427	1083	8.4	16.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2668.0	6.9	45.0	60	9.5	1.93	10.27	36800	675	1078	8.4	16.4
2669.0	7.2	45.0	60	9.5	1.92	10.41	37298	649	1074	8.4	16.4
2670.0	7.5	45.0	60	9.5	1.90	10.54	37776	623	1069	8.4	16.4
2671.0	15.7	45.0	60	9.5	1.62	10.61	38006	300	1061	8.4	16.4
2672.0	11.8	45.0	60	9.5	1.73	10.69	38310	396	1054	8.4	16.4
2673.0	15.6	45.0	60	9.5	1.62	10.76	38541	301	1047	8.4	16.4
2674.0	19.8	45.0	60	9.5	1.53	10.81	38723	237	1039	8.4	16.4
2675.0	12.8	45.0	60	9.5	1.70	10.88	39004	366	1032	8.4	16.4
2676.0	17.1	45.0	60	9.5	1.59	10.94	39215	275	1024	8.4	16.4
2677.0	14.3	45.0	60	9.5	1.66	11.01	39466	327	1018	8.4	16.4
2678.0	11.3	45.0	60	9.5	1.75	11.10	39786	417	1012	8.4	16.4
2679.0	16.4	45.0	60	9.5	1.61	11.16	40006	287	1005	8.4	16.4
2680.0	10.7	45.0	60	9.5	1.77	11.26	40344	440.53	999.46	8.4	16.4
2681.0	7.7	44.0	60	9.5	1.88	11.39	40811	608.66	995.78	8.4	16.4
2682.0	10.0	44.0	60	9.5	1.78	11.49	41171	469.20	990.88	8.4	16.4
2683.0	13.8	44.0	60	9.5	1.66	11.56	41431	338.87	984.86	8.4	16.4
2684.0	10.8	44.0	60	9.5	1.75	11.65	41765	435.31	979.84	8.4	16.4
2685.0	7.5	44.0	60	9.5	1.89	11.79	42247	628.21	976.66	8.4	16.4
2686.0	11.1	44.0	60	9.5	1.74	11.88	42572	423.58	971.69	8.4	16.4
2687.0	12.2	44.0	60	9.5	1.71	11.96	42868	385.79	966.48	8.4	16.4
2688.0	8.0	45.0	60	9.6	1.86	12.08	43318	586.50	963.13	8.4	16.4
2689.0	7.1	44.0	60	9.6	1.89	12.22	43825	660.85	960.49	8.4	16.4
2690.0	6.7	44.0	60	9.6	1.91	12.37	44361	698.59	958.22	8.4	16.4
2691.0	8.3	43.0	60	9.6	1.82	12.49	44795	565.65	954.84	8.4	16.4
2692.0	12.9	43.0	60	9.6	1.65	12.57	45073	362.33	949.80	8.4	16.4
2693.0	11.9	43.0	60	9.6	1.68	12.65	45375	393.61	945.10	8.4	16.4
2694.0	11.2	43.0	60	9.6	1.71	12.74	45697	419.67	940.70	8.4	16.4
2695.0	11.5	43.0	60	9.6	1.70	12.83	46011	409.25	936.28	8.4	16.4
2696.0	13.3	43.0	60	9.6	1.64	12.91	46281	351.90	931.47	8.4	16.4
2697.0	11.5	43.0	60	9.6	1.70	12.99	46595	409.25	927.20	8.4	16.4
2698.0	8.1	43.0	60	9.6	1.82	13.12	47038	577.38	924.37	8.4	16.4
2699.0	8.4	43.0	60	9.6	1.81	13.23	47465	556.52	921.41	8.4	16.4
2700.0	10.5	43.0	60	9.5	1.75	13.33	47807	445.74	917.62	8.4	16.4
2701.0	16.3	45.0	60	9.5	1.61	13.39	48028	288.04	912.64	8.4	16.4
2702.0	8.3	45.0	60	9.5	1.87	13.51	48462	565.65	909.91	8.4	16.4
2703.0	9.7	45.0	60	9.5	1.81	13.62	48834	484.84	906.60	8.4	16.4
2704.0	8.0	45.0	60	9.5	1.88	13.74	49283	585.20	904.12	8.4	16.4
2705.0	10.6	45.0	60	9.5	1.77	13.83	49622	441.83	900.58	8.4	16.4
2706.0	23.7	45.0	60	9.5	1.46	13.88	49774	198.11	895.23	8.4	16.4
2707.0	22.9	45.0	60	9.5	1.48	13.92	49931	204.89	890.02	8.4	16.4

BIT NUMBER	8	IADC CODE	4	INTERVAL	2707.6- 2726.0
CHRIST C-22 FD		SIZE	8.468	NOZZLES	13 13 13
COST	12000.00	TRIP TIME	10.9	BIT RUN	18.4
TOTAL HOURS	4.23	TOTAL TURNS	28434	CONDITION	T0 B0 G0.600

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2707.8	2.2	5.0	95	9.6	1.40	0.09	518	2133	317847	8.4	16.4
2708.0	3.8	6.0	98	9.6	1.34	0.14	827	1232	159539	8.4	16.4
2708.2	4.6	8.0	102	9.6	1.40	0.19	1095	1023	106700	8.4	16.4
2708.4	5.2	10.0	103	9.6	1.44	0.23	1332	899	80250	8.4	16.4
2708.6	14.4	11.0	103	9.6	1.22	0.24	1418	326	64265	8.4	16.4
2708.8	6.2	12.0	102	9.6	1.46	0.27	1618	762	53682	8.4	16.4
2709.0	9.4	12.0	105	9.6	1.36	0.29	1752	502	46084	8.4	16.4
2709.2	5.1	12.0	104	9.6	1.52	0.33	1999	925	40440	8.4	16.4
2709.4	11.6	12.0	101	9.6	1.29	0.35	2102	404	35991	8.4	16.4
2709.6	6.3	14.0	103	9.6	1.51	0.38	2298	743	32466	8.4	16.4
2709.8	12.2	13.0	103	9.6	1.31	0.40	2399	384	29550	8.4	16.4
2710.0	14.1	13.0	103	9.6	1.28	0.41	2486	332	27115	8.4	16.4
2710.2	6.8	13.0	105	9.6	1.47	0.44	2672	691	25082	8.4	16.4
2710.4	1.3	14.0	106	9.6	1.95	0.60	3676	3708	23556	8.4	16.4
2710.6	3.9	14.0	105	9.6	1.65	0.65	4001	1206	22066	8.4	16.4
2710.8	1.9	15.0	104	9.6	1.86	0.75	4639	2411	20837	8.4	16.4
2711.0	7.7	15.0	104	9.6	1.49	0.78	4803	613	19648	8.4	16.4
2711.2	1.0	15.0	105	9.6	2.04	0.98	6050	4646	18814	8.4	16.4
2711.4	3.6	14.0	107	9.6	1.67	1.03	6407	1303	17893	8.4	16.4
2711.6	1.5	15.0	108	9.6	1.95	1.17	7293	3206	17158	8.4	16.4
2711.8	4.9	15.0	107	9.6	1.62	1.21	7557	964	16387	8.4	16.4
2712.0	1.1	15.0	109	9.6	2.02	1.39	8701	4105	15829	8.4	16.4
2712.2	4.7	16.0	111	9.6	1.67	1.43	8982	991	15184	8.4	16.4
2712.4	11.1	16.0	115	9.6	1.44	1.45	9107	424	14569	8.4	16.4
2712.6	14.1	16.0	116	9.6	1.38	1.46	9205	332	13999	8.4	16.4
2712.8	2.1	16.0	116	9.6	1.90	1.56	9868	2234	13547	8.4	16.4
2713.0	5.5	15.0	117	9.6	1.61	1.59	10124	853	13077	8.4	16.4
2713.2	2.7	15.0	117	9.6	1.81	1.67	10644	1740	12672	8.4	16.4
2713.4	7.9	15.0	118	9.6	1.52	1.69	10823	593	12255	8.4	16.4
2713.6	1.5	15.0	117	9.6	1.97	1.83	11766	3141	11951	8.4	16.4
2713.8	11.4	15.0	117	9.6	1.41	1.84	11888	411	11579	8.4	16.4
2714.0	4.8	14.0	117	9.6	1.62	1.88	12180	978	11248	8.4	16.4
2714.2	13.1	14.0	117	9.6	1.35	1.90	12287	358	10918	8.4	16.4
2714.4	18.5	14.0	116	9.6	1.26	1.91	12362	254	10604	8.4	16.4
2714.6	9.9	14.0	115	9.6	1.43	1.93	12502	476	10315	8.4	16.4
2714.8	10.4	16.0	114	9.6	1.46	1.95	12634	450	10041	8.4	16.4
2715.0	14.7	16.0	109	9.6	1.35	1.96	12723	319	9778	8.4	16.4
2715.2	7.1	16.0	111	9.6	1.55	1.99	12910	658	9538	8.4	16.4
2715.4	11.4	16.0	117	9.6	1.44	2.01	13033	411	9304	8.4	16.4
2715.6	12.9	16.0	116	9.6	1.40	2.03	13141	365	9081	8.4	16.4
2715.8	20.6	15.0	116	9.6	1.25	2.03	13209	228	8865	8.4	16.4
2716.0	13.1	16.0	116	9.6	1.40	2.05	13315	358	8662	8.4	16.4
2716.2	17.1	16.0	116	9.6	1.33	2.06	13397	274	8467	8.4	16.4

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2716.4	6.5	16.0	116	9.6	1.59	2.09	13611	723	8291	8.4	16.4
2716.6	8.0	16.0	117	9.6	1.54	2.12	13786	587	8120	8.4	16.4
2716.8	11.3	15.0	116	9.6	1.42	2.14	13910	417	7952	8.4	16.4
2717.0	15.3	15.0	116	9.6	1.33	2.15	14001	306	7790	8.4	16.4
2717.2	8.1	16.0	116	9.6	1.53	2.17	14172	580	7639	8.4	16.4
2717.4	10.7	16.0	117	9.6	1.46	2.19	14303	437	7492	8.4	16.4
2717.6	4.2	15.0	117	9.6	1.69	2.24	14641	1127	7365	8.4	16.4
2717.8	3.8	15.0	117	9.6	1.71	2.29	15009	1225	7245	8.4	16.4
2718.0	3.4	16.0	117	9.6	1.78	2.35	15426	1388	7132	8.4	16.4
2718.2	3.5	16.0	118	9.6	1.77	2.41	15836	1355	7023	8.4	16.4
2718.4	2.0	17.0	118	9.6	1.95	2.51	16546	2346	6937	8.4	16.4
2718.6	3.1	17.0	118	9.6	1.83	2.57	17009	1538	6838	8.4	16.4
2718.8	3.6	16.0	117	9.6	1.76	2.63	17400	1310	6740	8.4	16.4
2719.0	8.4	16.0	117	9.6	1.52	2.65	17568	560	6631	8.4	16.4
2719.2	8.5	16.0	116	9.6	1.52	2.68	17733	554	6526	8.4	16.4
2719.4	3.4	16.0	117	9.6	1.77	2.74	18143	1369	6439	8.4	16.4
2719.6	2.9	17.0	117	9.6	1.85	2.81	18631	1629	6359	8.4	16.4
2719.8	6.0	16.0	118	9.6	1.62	2.84	18866	782	6267	8.4	16.4
2720.0	1.4	15.0	117	9.6	1.98	2.98	19847	3284	6219	8.4	16.4
2720.2	7.6	15.0	117	9.6	1.53	3.01	20032	619	6130	8.4	16.4
2720.4	0.6	16.0	108	9.6	2.22	3.32	22101	7488	6152	8.4	16.4
2720.6	2.8	16.0	117	9.6	1.83	3.40	22604	1675	6083	8.4	16.4
2720.8	1.6	17.0	118	9.6	2.02	3.52	23498	2972	6036	8.4	16.4
2721.0	5.8	17.0	115	9.6	1.65	3.56	23737	815	5958	8.4	16.4
2721.2	7.5	17.0	115	9.6	1.58	3.58	23921	626	5879	8.4	16.4
2721.4	16.9	16.0	116	9.6	1.33	3.60	24004	278	5798	8.4	16.4
2721.6	15.6	16.0	115	9.6	1.35	3.61	24092	301	5720	8.4	16.4
2721.8	28.8	15.0	116	9.6	1.16	3.62	24140	163	5641	8.4	16.4
2722.0	18.5	15.0	115	9.6	1.28	3.63	24215	254	5566	8.4	16.4
2722.2	12.0	15.0	117	9.6	1.40	3.64	24332	391	5496	8.4	16.4
2722.4	17.1	15.0	116	9.6	1.30	3.65	24413	274	5425	8.4	16.4
2722.6	10.6	15.0	118	9.6	1.44	3.67	24547	443	5359	8.4	16.4
2722.8	11.8	15.0	117	9.6	1.41	3.69	24666	398	5293	8.4	16.4
2723.0	9.4	15.0	116	9.6	1.47	3.71	24815	502	5231	8.4	16.4
2723.2	10.7	15.0	117	9.6	1.43	3.73	24946	437	5170	8.4	16.5
2723.4	5.7	14.0	117	9.6	1.58	3.77	25192	828	5115	8.4	16.5
2723.6	5.8	14.0	117	9.6	1.57	3.80	25434	808	5061	8.4	16.5
2723.8	6.0	14.0	116	9.6	1.56	3.83	25667	789	5008	8.4	16.5
2724.0	2.5	15.0	116	9.6	1.82	3.91	26219	1870	4970	8.4	16.5
2724.2	4.9	15.0	116	9.6	1.64	3.95	26504	958	4921	8.4	16.5
2724.4	4.1	15.0	115	9.6	1.69	4.00	26844	1153	4877	8.4	16.5
2724.6	6.3	15.0	115	9.6	1.57	4.04	27064	743	4828	8.4	16.5
2724.8	6.4	16.0	116	9.6	1.60	4.07	27281	730	4780	8.4	16.5
2725.0	7.2	16.0	116	9.6	1.56	4.09	27473	652	4733	8.4	16.5
2725.2	8.8	16.0	116	9.6	1.51	4.12	27632	534	4685	8.4	16.5
2725.4	12.2	16.0	115	9.6	1.42	4.13	27745	384	4637	8.4	16.5
2725.6	6.4	15.0	116	9.6	1.57	4.16	27961	730	4593	8.4	16.5
2725.8	10.7	15.0	116	9.6	1.43	4.18	28091	437	4548	8.4	16.5
2726.0	4.0	15.0	116	9.6	1.69	4.23	28434	1160	4511	8.4	16.5

BIT NUMBER	9	IADC CODE	517	INTERVAL	2726.0- 2758.4
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	11.0	BIT RUN	32.4
TOTAL HOURS	2.92	TOTAL TURNS	12698	CONDITION	T1 B1 G0.000

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2727.0	9.9	15.0	97	9.6	1.40	0.10	585	474	53938	8.4	16.5
2728.0	21.4	25.0	96	9.6	1.37	0.15	855	219	27078	8.4	16.5
2729.0	19.4	30.0	96	9.6	1.49	0.20	1153	242	18133	8.4	16.5
2730.0	26.3	35.0	96	9.6	1.46	0.24	1373	179	13644	8.4	16.5
2731.0	23.7	40.0	102	9.6	1.58	0.28	1631	198	10955	8.4	16.5
2732.0	15.8	40.0	93	9.6	1.70	0.34	1984	297	9179	8.4	16.5
2733.0	17.6	40.0	90	9.6	1.65	0.40	2292	267	7906	8.4	16.5
2734.0	13.4	40.0	88	9.6	1.73	0.47	2686	349	6961	8.4	16.5
2735.0	12.7	40.0	82	9.6	1.73	0.55	3072	370	6229	8.4	16.5
2736.0	22.5	45.0	77	9.6	1.56	0.60	3277	209	5627	8.4	16.5
2737.0	22.1	45.0	70	9.6	1.54	0.64	3468	212	5135	8.4	16.5
2738.0	10.0	45.0	77	9.6	1.87	0.74	3931	469	4746	8.4	16.5
2739.0	11.5	45.0	78	9.6	1.82	0.83	4334	407	4412	8.4	16.5
2740.0	7.4	42.0	72	9.6	1.91	0.96	4919	633	4142	8.4	16.5
2741.0	11.5	45.0	68	9.6	1.77	1.05	5276	408	3893	8.4	16.5
2742.0	11.9	45.0	68	9.6	1.76	1.14	5622	395	3675	8.4	16.5
2743.0	7.9	45.0	69	9.6	1.91	1.26	6142	593	3493	8.4	16.5
2744.0	12.2	45.0	69	9.6	1.75	1.34	6479	383	3320	8.4	16.5
2745.0	11.4	45.0	69	9.6	1.78	1.43	6841	411	3167	8.4	16.5
2746.0	8.8	49.0	66	9.6	1.92	1.54	7288	532	3036	8.4	16.5
2747.0	10.6	49.0	66	9.6	1.85	1.64	7662	444	2912	8.4	16.5
2748.0	9.0	49.0	66	9.6	1.91	1.75	8104	524	2804	8.4	16.5
2749.0	11.2	49.0	67	9.6	1.83	1.84	8461	420	2700	8.4	16.5
2750.0	12.3	49.0	67	9.6	1.79	1.92	8786	382	2603	8.4	16.5
2751.0	8.4	49.0	66	9.6	1.94	2.04	9260	562	2522	8.4	16.5
2752.0	4.5	49.0	71	9.6	2.21	2.26	10203	1044	2465	8.4	16.5
2753.0	6.0	40.0	65	9.6	1.92	2.43	10857	785	2403	8.4	16.5
2754.0	7.5	40.0	65	9.6	1.84	2.57	11378	630	2339	8.4	16.5
2755.0	9.4	41.0	64	9.6	1.77	2.67	11789	499	2276	8.4	16.5
2756.0	9.1	41.0	62	9.6	1.76	2.78	12196	514	2217	8.4	16.5
2757.0	18.6	41.0	62	9.6	1.50	2.84	12397	253	2154	8.4	16.5
2758.0	17.1	48.0	62	9.6	1.62	2.89	12615	275	2095	8.4	16.5
2758.4	16.2	49.0	56	9.6	1.62	2.92	12698	290	2073	8.4	16.5

BIT NUMBER	9	IADC CODE	4	INTERVAL	2758.4- 2776.4
CHRIST RC4		SIZE	8.500	NOZZLES	15 15 14
COST	13000.00	TRIP TIME	11.1	BIT RUN	18.0
TOTAL HOURS	16.88	TOTAL TURNS	148624	CONDITION	T0 B0 G0.600

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2758.6	28.0	7.0	81	9.6	0.90	14.76	134924	168	671609	8.6	16.5
2758.8	26.7	7.0	85	9.6	0.92	14.76	134962	176	335892	8.6	16.5
2759.0	20.0	8.0	97	9.6	1.04	14.77	135020	235	224006	8.6	16.5
2759.2	20.6	8.0	104	9.6	1.05	14.78	135081	228	168062	8.6	16.5
2759.4	13.1	9.0	103	9.6	1.19	14.80	135176	358	134521	8.6	16.5
2759.6	22.5	9.0	105	9.6	1.06	14.81	135231	209	112136	8.6	16.5
2759.8	11.4	10.0	107	9.6	1.26	14.83	135344	411	96175	8.6	16.5
2760.0	51.4	10.0	107	9.6	0.89	14.83	135369	91	84164	8.6	16.5
2760.2	16.7	11.0	108	9.6	1.19	14.84	135446	280	74844	8.6	16.5
2760.4	20.6	11.0	107	9.6	1.14	14.85	135509	228	67382	8.6	16.5
2760.6	12.0	12.0	106	9.6	1.30	14.87	135615	391	61292	8.6	16.5
2760.8	16.2	12.0	106	9.6	1.22	14.88	135693	290	56209	8.6	16.5
2761.0	8.5	13.0	107	9.6	1.42	14.90	135845	554	51928	8.6	16.5
2761.2	64.0	13.0	107	9.6	0.89	14.91	135865	73	48224	8.6	16.5
2761.4	34.3	13.0	107	9.6	1.05	14.91	135902	137	45018	8.6	16.5
2761.6	102.9	13.0	109	9.6	0.77	14.92	135915	46	42207	8.6	16.5
2761.8	72.0	13.0	108	9.6	0.86	14.92	135933	65	39728	8.6	16.5
2762.0	50.0	13.0	107	9.6	0.96	14.92	135958	94	37526	8.6	16.5
2762.2	12.7	14.0	106	9.6	1.33	14.94	136058	368	35571	8.6	16.5
2762.4	8.4	14.0	107	9.6	1.45	14.96	136212	560	33820	8.6	16.5
2762.6	15.7	14.0	107	9.6	1.28	14.97	136294	300	32224	8.6	16.5
2762.8	51.4	14.0	109	9.6	0.97	14.98	136320	91	30763	8.6	16.5
2763.0	31.3	14.0	109	9.6	1.10	14.98	136361	150	29432	8.6	16.5
2763.2	14.1	12.0	107	9.6	1.26	15.00	136453	332	28220	8.6	16.5
2763.4	13.6	12.0	107	9.6	1.27	15.01	136547	345	27105	8.6	16.5
2763.6	32.7	12.0	105	9.6	1.04	15.02	136585	143	26068	8.6	16.5
2763.8	18.9	15.0	106	9.6	1.25	15.03	136652	248	25112	8.6	16.5
2764.0	28.8	13.0	107	9.6	1.10	15.04	136697	163	24221	8.6	16.5
2764.2	18.5	13.0	105	9.6	1.21	15.05	136765	254	23394	8.6	16.5
2764.4	60.0	13.0	106	9.6	0.91	15.05	136787	78	22617	8.6	16.5
2764.6	18.5	13.0	108	9.6	1.22	15.06	136857	254	21896	8.6	16.5
2764.8	27.7	13.0	105	9.6	1.10	15.07	136902	169	21217	8.6	16.5
2765.0	15.7	12.0	105	9.6	1.23	15.08	136983	300	20583	8.6	16.5
2765.2	24.8	12.0	106	9.6	1.11	15.09	137034	189	19983	8.6	16.5
2765.4	15.7	12.0	105	9.6	1.23	15.10	137115	300	19421	8.6	16.5
2765.6	27.7	13.0	104	9.6	1.10	15.11	137160	169	18886	8.6	16.5
2765.8	30.0	13.0	106	9.6	1.09	15.12	137202	156	18380	8.6	16.5
2766.0	32.7	13.0	104	9.6	1.06	15.12	137241	143	17900	8.6	16.5
2766.2	4.3	12.0	98	9.6	1.54	15.17	137512	1082	17468	8.6	16.5
2766.4	8.7	12.0	105	9.6	1.38	15.19	137658	541	17045	8.6	16.5
2766.6	16.0	12.0	106	9.6	1.23	15.20	137737	293	16637	8.6	16.5
2766.8	12.2	12.0	107	9.6	1.30	15.22	137842	384	16250	8.6	16.5
2767.0	7.9	13.0	107	9.6	1.43	15.25	138004	593	15886	8.6	16.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2767.2	14.7	13.0	106	9.6	1.27	15.26	138090	319	15532	8.6	16.5
2767.4	42.4	13.0	106	9.6	1.00	15.26	138120	111	15189	8.6	16.5
2767.6	3.2	12.0	106	9.6	1.63	15.33	138514	1453	14891	8.6	16.5
2767.8	6.5	12.0	108	9.6	1.46	15.36	138714	723	14589	8.6	16.5
2768.0	4.7	12.0	107	9.6	1.54	15.40	138985	991	14306	8.6	16.5
2768.2	1.0	12.0	108	9.6	1.94	15.60	140312	4796	14112	8.6	16.5
2768.4	9.9	15.0	108	9.6	1.43	15.62	140443	476	13839	8.6	16.5
2768.6	2.0	16.0	109	9.6	1.90	15.73	141101	2366	13614	8.6	16.5
2768.8	6.6	16.0	109	9.6	1.57	15.76	141298	710	13366	8.6	16.5
2769.0	4.0	15.0	108	9.6	1.68	15.81	141622	1173	13136	8.6	16.5
2769.2	18.0	15.0	107	9.6	1.27	15.82	141693	261	12897	8.6	16.5
2769.4	8.5	15.0	109	9.6	1.47	15.84	141847	554	12673	8.6	16.5
2769.6	7.7	16.0	109	9.6	1.52	15.87	142015	606	12458	8.6	16.5
2769.8	8.0	16.0	108	9.6	1.51	15.89	142178	587	12249	8.6	16.5
2770.0	9.6	16.0	108	9.6	1.46	15.91	142313	489	12046	8.6	16.5
2770.2	8.2	16.0	108	9.6	1.51	15.94	142472	573	11852	8.6	16.5
2770.4	9.6	16.0	107	9.6	1.46	15.96	142606	489	11663	8.6	16.5
2770.6	7.7	16.0	109	9.6	1.53	15.98	142776	613	11481	8.6	16.5
2770.8	12.0	16.0	107	9.6	1.40	16.00	142883	391	11303	8.6	16.5
2771.0	10.1	15.0	108	9.6	1.43	16.02	143011	463	11131	8.6	16.5
2771.2	8.9	15.0	107	9.6	1.46	16.04	143156	528	10965	8.6	16.5
2771.4	10.1	15.0	108	9.6	1.42	16.06	143284	463	10803	8.6	16.5
2771.6	16.0	15.0	108	9.6	1.30	16.07	143365	293	10644	8.6	16.5
2771.8	6.0	16.0	108	9.6	1.59	16.11	143582	782	10497	8.6	16.5
2772.0	13.3	16.0	108	9.6	1.37	16.12	143679	352	10348	8.6	16.5
2772.2	8.7	16.0	108	9.6	1.49	16.15	143828	541	10206	8.6	16.5
2772.4	8.4	16.0	108	9.6	1.50	16.17	143984	560	10068	8.6	16.5
2772.6	9.9	17.0	108	9.6	1.48	16.19	144116	476	9933	8.6	16.5
2772.8	12.6	17.0	109	9.6	1.41	16.21	144219	371	9800	8.6	16.5
2773.0	9.0	17.0	108	9.6	1.51	16.23	144363	521	9673	8.6	16.5
2773.2	16.0	16.0	108	9.6	1.32	16.24	144444	293	9546	8.6	16.5
2773.4	10.3	16.0	108	9.6	1.44	16.26	144570	456	9425	8.6	16.5
2773.6	12.9	16.0	107	9.6	1.38	16.28	144670	365	9306	8.6	16.5
2773.8	8.9	16.0	108	9.6	1.49	16.30	144816	528	9192	8.6	16.5
2774.0	14.4	16.0	108	9.6	1.35	16.31	144905	326	9078	8.6	16.5
2774.2	6.6	16.0	109	9.6	1.57	16.34	145103	710	8972	8.6	16.5
2774.4	15.0	16.0	108	9.6	1.34	16.36	145189	313	8864	8.6	16.5
2774.6	5.0	15.0	108	9.6	1.62	16.40	145449	938	8766	8.6	16.5
2774.8	9.6	15.0	108	9.6	1.44	16.42	145584	489	8665	8.6	16.5
2775.0	3.4	16.0	108	9.6	1.75	16.47	145963	1369	8577	8.6	16.5
2775.2	6.9	16.0	109	9.6	1.56	16.50	146151	678	8483	8.6	16.5
2775.4	3.4	15.0	108	9.6	1.72	16.56	146532	1375	8399	8.6	16.5
2775.6	5.0	15.0	109	9.6	1.62	16.60	146795	945	8313	8.6	16.5
2775.8	1.1	20.0	109	9.6	2.19	16.78	147969	4223	8266	8.6	16.5
2776.0	3.5	20.0	109	9.6	1.85	16.84	148337	1323	8187	8.6	16.5
2776.2	6.4	20.0	109	9.6	1.67	16.87	148540	730	8103	8.6	16.5
2776.4	15.7	20.0	109	9.6	1.41	16.88	148624	300	8016	8.6	16.5

BIT NUMBER	10	IADC CODE	517	INTERVAL	2776.4- 3017.0
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	12.0	BIT RUN	240.6
TOTAL HOURS	27.73	TOTAL TURNS	101374	CONDITION	T4 B5 G0.250

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2777.0	10.0	5.0	61	9.6	0.99	0.06	220	469	97396	8.4	16.5
2778.0	10.0	5.0	60	9.6	0.99	0.16	580	469	36817	8.4	16.5
2779.0	10.0	45.0	60	9.6	1.77	0.26	939	468	22836	8.4	16.5
2780.0	7.5	50.0	60	9.6	1.96	0.39	1418	624	16666	8.4	16.5
2781.0	6.5	45.0	60	9.6	1.94	0.55	1968	717	13199	8.4	16.5
2782.0	10.5	50.0	60	9.6	1.83	0.64	2311	447	10922	8.4	16.5
2783.0	7.0	50.0	60	9.6	1.99	0.78	2826	671	9369	8.4	16.5
2784.0	4.4	50.0	60	9.6	2.17	1.01	3651	1075	8278	8.4	16.5
2785.0	8.4	50.0	60	9.6	1.91	1.13	4079	558	7380	8.4	16.5
2786.0	7.0	50.0	60	9.6	1.98	1.27	4591	667	6681	8.4	16.5
2787.0	7.0	50.0	60	9.6	1.99	1.42	5108	674	6114	8.4	16.5
2788.0	5.5	50.0	60	9.6	2.08	1.60	5759	849	5660	8.4	16.5
2789.0	7.1	51.0	60	9.6	2.00	1.74	6267	661	5263	8.4	16.5
2790.0	9.2	51.0	60	9.6	1.89	1.85	6660	512	4914	8.4	16.5
2791.0	33.3	51.0	60	9.6	1.38	1.88	6768	141	4587	8.4	16.5
2792.0	35.0	51.0	60	9.6	1.36	1.91	6871	134	4302	8.4	16.5
2793.0	40.4	49.0	59	9.6	1.28	1.93	6958	116	4050	8.4	16.5
2794.0	24.0	49.0	59	9.6	1.48	1.97	7106	196	3831	8.4	16.5
2795.0	9.1	49.0	59	9.6	1.86	2.08	7496	517	3652	8.4	16.5
2796.0	9.6	52.0	59	9.5	1.90	2.19	7864	487	3491	8.4	16.5
2797.0	8.6	52.0	59	9.5	1.95	2.30	8275	545	3348	8.4	16.5
2798.0	9.3	52.0	59	9.5	1.91	2.41	8655	503	3216	8.4	16.5
2799.0	8.2	52.0	59	9.5	1.96	2.53	9084	570	3099	8.4	16.5
2800.0	9.4	52.0	59	9.5	1.91	2.64	9461	499	2989	8.4	16.5
2801.0	7.6	50.0	60	9.5	1.97	2.77	9935	617	2893	8.4	16.5
2802.0	6.5	50.0	60	9.5	2.04	2.92	10487	719	2808	8.4	16.5
2803.0	9.7	50.0	60	9.5	1.88	3.03	10857	482	2720	8.4	16.5
2804.0	7.2	50.0	60	9.5	1.99	3.16	11354	648	2645	8.4	16.5
2805.0	17.9	50.0	60	9.5	1.63	3.22	11555	262	2562	8.4	16.5
2806.0	7.7	50.0	60	9.5	1.97	3.35	12025	613	2496	8.4	16.5
2807.0	5.7	50.0	60	9.5	2.09	3.53	12659	826	2441	8.4	16.5
2808.0	8.0	51.0	61	9.5	1.98	3.65	13118	589	2383	8.4	16.5
2809.0	7.4	51.0	61	9.5	2.01	3.79	13614	636	2329	8.4	16.5
2810.0	5.9	51.0	61	9.4	2.12	3.96	14232	792	2283	8.4	16.5
2811.0	13.6	51.0	61	9.4	1.78	4.03	14501	344	2227	8.4	16.5
2812.0	14.3	49.0	61	9.4	1.73	4.10	14756	327	2174	8.4	16.5
2813.0	19.9	49.0	60	9.4	1.60	4.15	14937	236	2121	8.4	16.5
2814.0	18.7	49.0	60	9.4	1.62	4.20	15130	252	2071	8.4	16.5
2815.0	20.6	49.0	60	9.4	1.58	4.25	15305	228	2024	8.4	16.5
2816.0	18.5	49.0	60	9.4	1.63	4.31	15500	254	1979	8.4	16.5
2817.0	21.1	49.0	70	9.4	1.64	4.35	15699	223	1936	8.4	16.5
2818.0	18.4	49.0	70	9.4	1.69	4.41	15928	255	1895	8.4	16.5
2819.0	20.6	49.0	70	9.4	1.65	4.46	16132	228	1856	8.4	16.5

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2820.0	20.1	49.0	70	9.4	1.65	4.51	16341	233	1819	8.4	16.5
2821.0	18.1	49.0	70	9.4	1.70	4.56	16573	259	1784	8.4	16.5
2822.0	17.2	49.0	70	9.4	1.72	4.62	16817	273	1751	8.4	16.5
2823.0	23.8	49.0	70	9.4	1.59	4.66	16993	197	1717	8.4	16.5
2824.0	3.1	49.0	70	9.4	2.40	4.99	18364	1531	1714	8.4	16.6
2825.0	11.7	49.0	70	9.4	1.87	5.08	18725	403	1687	8.4	16.6
2826.0	18.0	49.0	70	9.4	1.70	5.13	18958	261	1658	8.4	16.6
2827.0	18.1	49.0	70	9.4	1.70	5.19	19190	259	1630	8.4	16.6
2828.0	24.5	49.0	70	9.4	1.58	5.23	19362	192	1602	8.4	16.6
2829.0	18.7	50.0	70	9.4	1.70	5.28	19587	252	1577	8.4	16.6
2830.0	25.4	50.0	70	9.4	1.57	5.32	19753	185	1551	8.4	16.6
2831.0	21.3	50.0	70	9.4	1.64	5.37	19950	220	1526	8.4	16.6
2832.0	24.2	50.0	70	9.4	1.59	5.41	20124	194	1502	8.4	16.6
2833.0	17.6	50.0	70	9.4	1.72	5.46	20362	266	1481	8.4	16.6
2834.0	22.5	50.0	70	9.4	1.62	5.51	20548	209	1458	8.4	16.6
2835.0	22.9	48.0	68	9.4	1.58	5.55	20726	205	1437	8.4	16.6
2836.0	11.5	48.0	68	9.4	1.85	5.64	21080	407	1420	8.4	16.6
2837.0	8.4	49.0	69	9.4	1.99	5.76	21571	557	1405	8.4	16.6
2838.0	2.5	49.0	69	9.4	2.48	6.16	23240	1891	1413	8.4	16.6
2839.0	8.0	49.0	69	9.4	2.02	6.29	23757	587	1400	8.4	16.6
2840.0	8.0	49.0	69	9.4	2.02	6.41	24275	587	1387	8.4	16.6
2841.0	8.0	49.0	69	9.4	2.02	6.54	24792	587	1375	8.4	16.6
2842.0	5.3	48.0	69	9.4	2.17	6.73	25580	893	1368	8.4	16.6
2843.0	7.5	48.0	69	9.4	2.03	6.86	26134	628	1357	8.4	16.6
2844.0	7.9	48.0	69	9.4	2.01	6.99	26661	597	1345	8.4	16.6
2845.0	5.1	48.0	60	9.4	2.12	7.18	27367	920	1339	8.4	16.6
2846.0	10.6	46.0	60	9.4	1.81	7.28	27707	443	1326	8.4	16.6
2847.0	10.7	46.0	60	9.4	1.80	7.37	28042	437	1314	8.4	16.6
2848.0	17.1	46.0	60	9.4	1.62	7.43	28252	274	1299	8.4	16.6
2849.0	15.4	46.0	60	9.4	1.66	7.49	28486	305	1285	8.4	16.6
2850.0	16.1	46.0	60	9.4	1.64	7.56	28710	292	1272	8.4	16.6
2851.0	8.8	46.0	60	9.4	1.88	7.67	29117	530	1262	8.4	16.6
2852.0	6.6	46.0	60	9.4	1.99	7.82	29666	716	1255	8.4	16.6
2853.0	7.0	46.0	60	9.4	1.97	7.97	30182	673	1247	8.4	16.6
2854.0	8.0	46.0	60	9.4	1.91	8.09	30631	585	1239	8.4	16.6
2855.0	6.8	46.0	60	9.4	1.98	8.24	31157	686	1232	8.4	16.6
2856.0	5.8	46.0	60	9.4	2.04	8.41	31775	805	1226	8.4	16.6
2857.0	6.9	46.0	60	9.4	1.97	8.55	32297	680	1219	8.4	16.6
2858.0	8.3	46.0	60	9.4	1.90	8.67	32733	568	1211	8.4	16.6
2859.0	6.5	46.0	60	9.4	2.00	8.83	33288	723	1206	8.4	16.6
2860.0	6.3	46.0	60	9.4	2.01	8.99	33864	751	1200	8.4	16.6
2861.0	8.2	46.0	60	9.4	1.90	9.11	34301	570	1193	8.4	16.6
2862.0	7.2	46.0	60	9.4	1.95	9.25	34800	650	1186	8.4	16.6
2863.0	9.2	46.0	60	9.4	1.86	9.36	35192	511	1179	8.4	16.6
2864.0	8.1	46.0	60	9.4	1.91	9.48	35639	583	1172	8.4	16.6
2865.0	8.5	46.0	60	9.4	1.89	9.60	36061	550	1165	8.4	16.6
2866.0	7.8	46.0	60	9.4	1.93	9.73	36524	603	1158	8.4	16.6
2867.0	7.6	46.0	60	9.4	1.94	9.86	36999	619	1152	8.4	16.6
2868.0	7.9	48.0	61	9.4	1.96	9.99	37462	594	1146	8.4	16.6
2869.0	9.7	48.0	61	9.4	1.88	10.09	37840	484	1139	8.4	16.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2870.0	8.5	48.0	61	9.4	1.93	10.21	38270	551	1133	8.4	16.6
2871.0	15.9	48.0	61	9.4	1.68	10.27	38500	296	1124	8.4	16.6
2872.0	22.6	48.0	61	9.4	1.54	10.31	38662	207	1115	8.4	16.6
2873.0	25.5	48.0	61	9.4	1.49	10.35	38805	184	1105	8.4	16.6
2874.0	29.0	47.0	61	9.4	1.43	10.39	38931	162	1095	8.4	16.6
2875.0	23.1	47.0	61	9.4	1.52	10.43	39090	203	1086	8.4	16.6
2876.0	17.3	48.0	60	9.4	1.64	10.49	39298	271	1078	8.4	16.6
2877.0	6.4	48.0	60	9.4	2.03	10.65	39862	735	1075	8.4	16.6
2878.0	6.9	48.0	60	9.4	2.00	10.79	40385	682	1071	8.4	16.6
2879.0	6.5	48.0	60	9.4	2.03	10.95	40942	726	1067	8.4	16.6
2880.0	11.1	48.0	60	9.4	1.82	11.04	41267	424	1061	8.4	16.6
2881.0	5.3	48.0	60	9.4	2.11	11.23	41950	890	1060	8.4	16.6
2882.0	8.6	46.0	60	9.4	1.89	11.34	42367	543	1055	8.4	16.6
2883.0	9.9	46.0	60	9.4	1.83	11.44	42729	472	1049	8.4	16.6
2884.0	10.3	46.0	60	9.4	1.82	11.54	43078	455	1044	8.4	16.6
2885.0	8.8	46.0	60	9.4	1.88	11.65	43486	532	1039	8.4	16.6
2886.0	19.9	46.0	60	9.4	1.56	11.70	43667	236	1032	8.4	16.6
2887.0	12.5	46.0	60	9.4	1.74	11.78	43956	377	1026	8.4	16.6
2888.0	4.3	48.0	60	9.4	2.19	12.01	44789	1086	1026	8.4	16.6
2889.0	9.9	48.0	60	9.4	1.86	12.11	45152	473	1021	8.4	16.6
2890.0	8.4	50.0	60	9.4	1.95	12.23	45580	558	1017	8.4	16.6
2891.0	5.5	50.0	60	9.4	2.12	12.41	46230	847	1016	8.4	16.6
2892.0	8.6	50.0	60	9.4	1.95	12.53	46649	546	1012	8.4	16.6
2893.0	7.2	50.0	60	9.4	2.02	12.67	47150	653	1009	8.4	16.6
2894.0	6.1	50.0	60	9.4	2.09	12.83	47744	774	1007	8.4	16.6
2895.0	10.1	50.0	60	9.4	1.88	12.93	48102	467	1002	8.4	16.6
2896.0	5.9	50.0	60	9.4	2.10	13.10	48709	791	1000	8.4	16.6
2897.0	10.2	50.0	60	9.4	1.88	13.20	49061	458.77	995.79	8.4	16.6
2898.0	13.3	50.0	60	9.4	1.77	13.28	49331	351.90	990.49	8.4	16.6
2899.0	11.9	50.0	60	9.4	1.81	13.36	49633	393.61	985.62	8.4	16.6
2900.0	5.6	50.0	60	9.4	2.12	13.54	50280	843.26	984.47	8.4	16.6
2901.0	7.6	50.0	60	9.4	1.99	13.67	50752	615.17	981.51	8.4	16.6
2902.0	8.1	50.0	60	9.4	1.97	13.79	51194	576.07	978.28	8.4	16.6
2903.0	7.6	50.0	60	9.4	2.00	13.92	51669	619.08	975.44	8.4	16.6
2904.0	5.7	50.0	60	9.4	2.11	14.10	52302	825.01	974.26	8.4	16.6
2905.0	7.8	50.0	60	9.4	1.99	14.23	52764	602.14	971.37	8.4	16.6
2906.0	6.8	50.0	60	9.4	2.04	14.38	53297	694.68	969.23	8.4	16.6
2907.0	11.9	50.0	60	9.4	1.81	14.46	53599	393.61	964.83	8.4	16.6
2908.0	6.3	50.0	60	9.4	2.07	14.62	54174	749.42	963.19	8.4	16.6
2909.0	9.5	50.0	60	9.4	1.91	14.73	54554	495.27	959.66	8.4	16.6
2910.0	6.0	50.0	60	9.4	2.09	14.89	55151	778.09	958.30	8.4	16.6
2911.0	6.9	50.0	60	9.4	2.03	15.04	55673	680.34	956.24	8.4	16.6
2912.0	9.2	49.0	60	9.4	1.90	15.15	56063	508.30	952.93	8.4	16.6
2913.0	7.8	49.0	60	9.4	1.97	15.27	56527	604.75	950.38	8.4	16.6
2914.0	5.7	49.0	60	9.4	2.09	15.45	57157	821.10	949.44	8.4	16.6
2915.0	6.8	49.0	60	9.4	2.02	15.60	57686	689.46	947.57	8.4	16.6
2916.0	5.9	49.0	60	9.4	2.08	15.76	58292	789.82	946.44	8.4	16.6
2917.0	6.8	49.0	60	9.4	2.03	15.91	58822	690.77	944.62	8.4	16.6
2918.0	6.4	48.0	60	9.4	2.03	16.07	59382	729.87	943.10	8.4	16.6
2919.0	6.9	48.0	60	9.4	2.01	16.21	59906	682.95	941.28	8.4	16.6

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2920.0	8.1	48.0	60	9.4	1.94	16.34	60351	579.98	938.76	8.4	16.6
2921.0	18.9	48.0	60	9.4	1.60	16.39	60541	247.63	933.98	8.4	16.6
2922.0	10.7	48.0	60	9.4	1.83	16.48	60876	436.62	930.57	8.4	16.6
2923.0	6.3	48.0	60	9.4	2.04	16.64	61450	748.11	929.32	8.4	16.6
2924.0	11.0	48.0	60	9.4	1.82	16.73	61777	426.19	925.91	8.4	16.6
2925.0	7.6	48.0	60	9.4	1.96	16.86	62250	616.48	923.83	8.4	16.6
2926.0	8.0	48.0	60	9.4	1.94	16.99	62699	585.20	921.57	8.4	16.7
2927.0	10.9	48.0	60	9.4	1.82	17.08	63029	430.10	918.30	8.4	16.7
2928.0	7.9	50.0	60	9.4	1.98	17.21	63486	595.62	916.18	8.4	16.7
2929.0	11.0	50.0	60	9.4	1.85	17.30	63812	424.89	912.96	8.4	16.7
2930.0	11.5	50.0	60	9.4	1.83	17.38	64125	407.94	909.67	8.4	16.7
2931.0	13.4	50.0	60	9.4	1.77	17.46	64394	350.60	906.05	8.4	16.7
2932.0	12.1	50.0	60	9.4	1.81	17.54	64692	388.39	902.73	8.4	16.7
2933.0	13.3	50.0	60	9.4	1.77	17.62	64963	353.20	899.22	8.4	16.7
2934.0	15.4	50.0	60	9.4	1.71	17.68	65197	304.98	895.45	8.4	16.7
2935.0	13.3	50.0	60	9.4	1.77	17.76	65468	353.20	892.03	8.4	16.7
2936.0	7.8	50.0	60	9.4	1.98	17.89	65928	599.53	890.19	8.4	16.7
2937.0	7.0	50.0	60	9.4	2.03	18.03	66445	673.82	888.85	8.4	16.7
2938.0	7.9	50.0	60	9.4	1.98	18.16	66899	591.71	887.01	8.4	16.7
2939.0	8.5	49.0	60	9.4	1.94	18.27	67325	555.22	884.97	8.4	16.7
2940.0	11.1	49.0	60	9.4	1.83	18.36	67649	422.28	882.14	8.4	16.7
2941.0	6.3	49.0	60	9.4	2.05	18.52	68219	742.90	881.29	8.4	16.7
2942.0	7.1	49.0	60	9.4	2.01	18.66	68726	660.79	879.96	8.4	16.7
2943.0	15.5	49.0	60	9.4	1.70	18.73	68959	303.68	876.50	8.4	16.7
2944.0	10.6	49.0	60	9.4	1.85	18.82	69299	443.13	873.92	8.4	16.7
2945.0	11.9	49.0	60	9.4	1.80	18.91	69602	394.91	871.08	8.4	16.7
2946.0	5.5	49.0	60	9.4	2.11	19.09	70257	853.68	870.97	8.4	16.7
2947.0	6.1	49.0	60	9.4	2.07	19.25	70843	763.75	870.35	8.4	16.7
2948.0	7.4	49.0	60	9.4	1.99	19.39	71330	634.72	868.97	8.4	16.7
2949.0	6.9	49.0	60	9.4	2.02	19.53	71849	676.43	867.86	8.4	16.7
2950.0	11.2	49.0	60	9.4	1.83	19.62	72170	418.37	865.27	8.4	16.7
2951.0	5.8	49.0	60	9.4	2.09	19.79	72790	808.07	864.94	8.4	16.7
2952.0	6.4	49.0	60	9.4	2.05	19.95	73355	736.38	864.21	8.4	16.7
2953.0	8.3	49.0	60	9.4	1.95	20.07	73789	565.30	862.52	8.4	16.7
2954.0	6.2	49.0	60	9.4	2.06	20.23	74369	756.77	861.92	8.4	16.7
2955.0	4.3	49.0	60	9.4	2.21	20.46	75207	1091	863	8.4	16.7
2956.0	5.8	49.0	60	9.4	2.09	20.64	75827	808.97	862.90	8.4	16.7
2957.0	6.9	49.0	60	9.4	2.02	20.78	76349	680.00	861.89	8.4	16.7
2958.0	8.4	49.0	60	9.4	1.94	20.90	76778	558.57	860.22	8.4	16.7
2959.0	7.5	48.0	60	9.4	1.97	21.03	77257	624.30	858.93	8.4	16.7
2960.0	7.1	48.0	60	9.4	1.99	21.17	77762	658.18	857.83	8.4	16.7
2961.0	15.5	48.0	60	9.4	1.68	21.24	77995	303.68	854.83	8.4	16.7
2962.0	14.1	48.0	60	9.4	1.72	21.31	78251	333.65	852.02	8.4	16.7
2963.0	18.5	48.0	60	9.4	1.61	21.36	78446	254.15	848.82	8.4	16.7
2964.0	11.8	48.0	60	9.4	1.79	21.45	78750	396.21	846.41	8.4	16.7
2965.0	7.2	48.0	60	9.4	1.99	21.59	79251	652.97	845.38	8.4	16.7
2966.0	4.9	48.0	60	9.4	2.14	21.79	79987	959.25	845.98	8.4	16.7
2967.0	8.0	48.0	60	9.4	1.95	21.92	80438	587.80	844.63	8.4	16.7
2968.0	6.7	48.0	60	9.4	2.01	22.06	80973	697.28	843.86	8.4	16.7
2969.0	6.0	48.0	60	9.4	2.06	22.23	81572	780.70	843.53	8.4	16.7

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
2970.0	11.7	48.0	60	9.4	1.80	22.32	81881	402.73	841.25	8.4	16.7
2971.0	12.3	48.0	60	9.4	1.78	22.40	82174	381.88	838.89	8.4	16.7
2972.0	15.0	48.0	60	9.4	1.70	22.46	82414	312.80	836.20	8.4	16.7
2973.0	15.9	48.0	60	9.4	1.67	22.53	82640	294.55	833.45	8.4	16.7
2974.0	16.7	48.0	60	9.4	1.65	22.59	82855	280.22	830.65	8.4	16.7
2975.0	15.7	48.0	60	9.4	1.68	22.65	83084	298.46	827.97	8.4	16.7
2976.0	5.4	48.0	60	9.4	2.10	22.84	83750	868.02	828.17	8.4	16.7
2977.0	13.0	48.0	60	9.4	1.75	22.91	84026	359.72	825.83	8.4	16.7
2978.0	12.7	48.0	60	9.4	1.76	22.99	84309	368.84	823.57	8.4	16.7
2979.0	14.8	48.0	60	9.4	1.70	23.06	84552	316.71	821.07	8.4	16.7
2980.0	12.7	48.0	60	9.4	1.76	23.14	84835	368.84	818.84	8.4	16.7
2981.0	13.6	48.0	60	9.4	1.73	23.21	85099	344.08	816.52	8.4	16.7
2982.0	15.0	48.0	60	9.4	1.70	23.28	85339	312.80	814.07	8.4	16.7
2983.0	18.0	48.0	60	9.4	1.62	23.33	85539	260.67	811.40	8.4	16.7
2984.0	15.7	48.0	60	9.4	1.68	23.40	85769	299.77	808.93	8.4	16.7
2985.0	22.0	48.0	60	9.4	1.55	23.44	85933	213.75	806.08	8.4	16.7
2986.0	6.6	48.0	60	9.4	2.02	23.59	86479	711.62	805.63	8.4	16.7
2987.0	5.2	48.0	60	9.4	2.11	23.79	87167	896.69	806.06	8.4	16.7
2988.0	6.4	48.0	60	9.4	2.03	23.94	87731	735.08	805.72	8.4	16.7
2989.0	6.0	49.0	60	9.4	2.07	24.11	88331	782.00	805.61	8.4	16.7
2990.0	10.4	49.0	60	9.4	1.86	24.20	88677	450.95	803.95	8.4	16.7
2991.0	25.2	49.0	60	9.4	1.50	24.24	88820	186.38	801.07	8.4	16.7
2992.0	19.4	49.0	60	9.4	1.61	24.30	89006	242.42	798.48	8.4	16.7
2993.0	8.9	49.0	60	9.4	1.92	24.41	89409	525.24	797.22	8.4	16.7
2994.0	5.0	49.0	60	9.4	2.15	24.61	90134	944.92	797.90	8.4	16.7
2995.0	9.1	49.0	60	9.4	1.91	24.72	90528	513.51	796.60	8.4	16.7
2996.0	7.7	49.0	60	9.4	1.98	24.85	90996	609.96	795.75	8.4	16.7
2997.0	7.0	49.0	60	9.4	2.02	24.99	91513	673.82	795.20	8.4	16.7
2998.0	6.6	49.0	60	9.4	2.04	25.14	92060	712.92	794.83	8.4	16.7
2999.0	7.6	49.0	60	9.4	1.98	25.28	92532	615.17	794.02	8.4	16.7
3000.0	6.4	45.0	60	9.4	1.98	25.43	93092	729.87	793.73	8.4	16.7
3001.0	5.4	46.0	60	9.4	2.07	25.62	93762	873.23	794.09	8.4	16.7
3002.0	7.3	46.0	60	9.5	1.93	25.75	94258	646.45	793.43	8.4	16.7
3003.0	7.7	46.0	60	9.6	1.89	25.88	94723	606.05	792.60	8.4	16.7
3004.0	5.6	46.0	60	9.6	2.01	26.06	95362	832.83	792.78	8.4	16.7
3005.0	7.7	46.0	60	9.6	1.89	26.19	95832	612.57	791.99	8.4	16.7
3006.0	6.4	46.0	60	9.6	1.96	26.35	96391	728.56	791.72	8.4	16.7
3007.0	10.6	46.0	60	9.6	1.77	26.44	96732	444.44	790.21	8.4	16.7
3008.0	6.9	46.0	60	9.5	1.95	26.59	97253	679.04	789.73	8.4	16.7
3009.0	5.8	46.0	60	9.5	2.02	26.76	97877	813.28	789.83	8.4	16.7
3010.0	7.0	46.0	60	9.5	1.95	26.90	98392	671.22	789.32	8.4	16.7
3011.0	6.2	46.0	60	9.5	1.99	27.07	98975	759.84	789.20	8.4	16.7
3012.0	5.9	46.0	60	9.5	2.01	27.23	99584	793.73	789.22	8.4	16.7
3013.0	8.3	46.0	60	9.5	1.88	27.35	100016	563.69	788.26	8.4	16.7
3014.0	15.1	46.0	60	9.5	1.65	27.42	100255	311.50	786.26	8.4	16.7
3015.0	10.7	46.0	60	9.5	1.78	27.51	100591	437.92	784.80	8.4	16.7
3016.0	7.0	46.0	60	9.5	1.95	27.66	101106	671.22	784.32	8.4	16.7
3017.0	13.4	46.0	60	9.5	1.70	27.73	101374	349.29	782.52	8.4	16.7

BIT NUMBER	11	IADC CODE	517	INTERVAL	3017.0- 3284.0
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	12.9	BIT RUN	267.0
TOTAL HOURS	29.28	TOTAL TURNS	118795	CONDITION	T8 B8 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3018.0	15.5	35.0	60	9.6	1.48	0.06	232	303	62682	8.7	16.8
3019.0	15.9	37.0	64	9.6	1.52	0.13	474	295	31488	8.7	16.8
3020.0	10.4	38.0	62	9.6	1.67	0.22	831	451	21143	8.7	16.8
3021.0	10.0	39.0	62	9.6	1.70	0.32	1203	469	15974	8.7	16.8
3022.0	14.0	40.0	64	9.6	1.60	0.39	1478	335	12846	8.7	16.8
3023.0	11.7	40.0	60	9.6	1.65	0.48	1785	401	10772	8.7	16.8
3024.0	15.7	40.0	64	9.6	1.56	0.54	2030	299	9276	8.7	16.8
3025.0	15.5	40.0	64	9.6	1.57	0.61	2278	303	8154	8.7	16.8
3026.0	11.0	40.0	64	9.6	1.69	0.70	2627	427	7296	8.7	16.8
3027.0	6.8	40.0	64	9.6	1.87	0.85	3192	690	6635	8.7	16.8
3028.0	5.0	40.0	65	9.6	1.98	1.05	3972	938	6117	8.7	16.8
3029.0	8.0	40.0	65	9.6	1.81	1.17	4459	587	5656	8.7	16.8
3030.0	7.0	40.0	65	9.6	1.86	1.31	5016	670	5273	8.7	16.8
3031.0	7.0	40.0	70	9.6	1.89	1.46	5616	670	4944	8.7	16.8
3032.0	23.5	40.0	70	9.6	1.45	1.50	5795	200	4628	8.7	16.8
3033.0	9.8	40.0	68	9.6	1.76	1.60	6211	479	4368	8.7	16.8
3034.0	8.8	40.0	68	9.6	1.79	1.72	6675	533	4143	8.7	16.8
3035.0	8.3	40.0	68	9.6	1.82	1.84	7166	565	3944	8.7	16.8
3036.0	7.8	40.0	68	9.6	1.84	1.96	7690	602	3768	8.7	16.8
3037.0	7.6	40.0	68	9.6	1.85	2.10	8226	617	3611	8.7	16.8
3038.0	7.2	40.0	68	9.6	1.87	2.23	8793	652	3470	8.7	16.8
3039.0	7.6	40.0	68	9.6	1.85	2.37	9330	617	3340	8.7	16.8
3040.0	11.8	40.0	68	9.6	1.69	2.45	9676	398	3212	8.7	16.8
3041.0	12.9	40.0	68	9.6	1.66	2.53	9992	364	3093	8.7	16.8
3042.0	9.2	40.0	68	9.6	1.78	2.64	10435	510	2990	8.7	16.8
3043.0	7.5	42.0	65	9.6	1.87	2.77	10955	626	2899	8.7	16.8
3044.0	13.8	42.0	65	9.6	1.64	2.84	11238	340	2804	8.7	16.8
3045.0	22.2	42.0	60	9.6	1.44	2.89	11400	211	2712	8.7	16.8
3046.0	13.4	42.0	60	9.6	1.62	2.96	11669	350	2630	8.7	16.8
3047.0	16.7	42.0	60	9.6	1.54	3.02	11884	281	2552	8.7	16.8
3048.0	10.1	42.0	60	9.6	1.73	3.12	12241	465	2485	8.7	16.8
3049.0	9.1	42.0	60	9.6	1.77	3.23	12636	516	2423	8.7	16.8
3050.0	6.7	42.0	60	9.6	1.88	3.38	13174	700	2371	8.7	16.8
3051.0	15.7	42.0	60	9.6	1.57	3.44	13403	299	2310	8.7	16.8
3052.0	45.0	42.0	60	9.6	1.18	3.47	13483	104	2247	8.7	16.8
3053.0	16.0	42.0	60	9.6	1.56	3.53	13708	293	2193	8.7	16.8
3054.0	6.1	42.0	60	9.6	1.91	3.69	14298	769	2154	8.7	16.8
3055.0	9.5	42.0	60	9.6	1.75	3.80	14677	494	2111	8.7	16.8
3056.0	8.6	42.0	60	9.6	1.79	3.91	15096	546	2070	8.7	16.8
3057.0	5.1	42.0	60	9.6	1.98	4.11	15802	920	2042	8.7	16.8
3058.0	6.6	42.0	60	9.6	1.89	4.26	16347	711	2009	8.7	16.8
3059.0	5.3	42.0	60	9.6	1.97	4.45	17026	885	1982	8.7	16.8
3060.0	12.9	42.0	60	9.6	1.64	4.53	17305	364	1945	8.7	16.8

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3061.0	12.1	42.0	60	9.6	1.66	4.61	17603	388	1909	8.7	16.8
3062.0	6.9	42.0	60	9.6	1.87	4.76	18125	680	1882	8.7	16.8
3063.0	11.0	41.0	60	9.6	1.68	4.85	18452	427	1850	8.7	16.8
3064.0	62.0	41.0	60	9.6	1.05	4.86	18510	76	1813	8.7	16.8
3065.0	20.0	41.0	60	9.6	1.46	4.91	18690	235	1780	8.7	16.8
3066.0	16.1	40.0	60	9.6	1.53	4.98	18914	292	1749	8.7	16.8
3067.0	19.0	40.0	60	9.6	1.47	5.03	19103	246	1719	8.7	16.8
3068.0	14.6	40.0	60	9.6	1.56	5.10	19349	321	1692	8.7	16.8
3069.0	14.5	40.0	60	9.6	1.57	5.17	19598	325	1666	8.7	16.8
3070.0	7.7	40.0	60	9.6	1.80	5.30	20068	613	1646	8.7	16.8
3071.0	10.1	40.0	58	9.6	1.69	5.39	20411	463	1624	8.7	16.8
3072.0	14.0	40.0	58	9.6	1.57	5.47	20659	335	1600	8.7	16.8
3073.0	19.8	40.0	70	9.6	1.51	5.52	20872	237	1576	8.7	16.8
3074.0	18.9	40.0	70	9.6	1.53	5.57	21093	248	1553	8.7	16.8
3075.0	10.1	40.0	70	9.6	1.75	5.67	21508	463	1534	8.7	16.8
3076.0	11.3	40.0	70	9.6	1.72	5.76	21881	417	1515	8.7	16.8
3077.0	14.6	40.0	70	9.6	1.62	5.82	22168	321	1495	8.7	16.8
3078.0	18.5	40.0	70	9.6	1.54	5.88	22395	254	1475	8.7	16.8
3079.0	14.0	40.0	70	9.6	1.64	5.95	22695	335	1456	8.7	16.8
3080.0	8.6	40.0	70	9.6	1.81	6.07	23181	543	1442	8.7	16.8
3081.0	5.2	40.0	70	9.6	2.00	6.26	23991	905	1434	8.7	16.8
3082.0	13.4	40.0	70	9.6	1.65	6.33	24304	349	1417	8.7	16.8
3083.0	15.9	40.0	70	9.6	1.59	6.40	24567	295	1400	8.7	16.8
3084.0	10.8	40.0	70	9.6	1.73	6.49	24955	433	1385	8.7	16.8
3085.0	5.5	40.0	70	9.6	1.98	6.67	25719	854	1378	8.7	16.8
3086.0	7.9	40.0	70	9.6	1.84	6.80	26247	590	1366	8.7	16.8
3087.0	16.0	40.0	70	9.6	1.59	6.86	26510	293	1351	8.7	16.8
3088.0	14.5	40.0	70	9.6	1.62	6.93	26799	323	1336	8.7	16.9
3089.0	15.0	40.0	70	9.6	1.61	6.99	27079	313	1322	8.7	16.9
3090.0	7.5	41.0	75	9.6	1.90	7.13	27676	622	1313	8.7	16.9
3091.0	7.5	41.0	75	9.6	1.90	7.26	28272	622	1303	8.7	16.9
3092.0	9.0	41.0	75	9.6	1.84	7.37	28772	521	1293	8.7	16.9
3093.0	8.6	41.0	75	9.6	1.85	7.49	29293	543	1283	8.7	16.9
3094.0	10.3	41.0	75	9.6	1.79	7.58	29730	455	1272	8.7	16.9
3095.0	9.4	41.0	75	9.6	1.82	7.69	30206	497	1262	8.7	16.9
3096.0	9.0	41.0	75	9.6	1.84	7.80	30708	524	1253	8.7	16.9
3097.0	8.3	41.0	75	9.6	1.87	7.92	31253	568	1244	8.7	16.9
3098.0	7.8	41.0	75	9.6	1.89	8.05	31833	605	1236	8.7	16.9
3099.0	5.3	41.0	75	9.6	2.03	8.24	32680	883	1232	8.7	16.9
3100.0	8.2	41.0	75	9.6	1.87	8.36	33229	572	1224	8.7	16.9
3101.0	10.3	41.0	75	9.6	1.79	8.46	33668	457	1215	8.7	16.9
3102.0	5.8	41.0	75	9.6	2.00	8.63	34441	807	1210	8.7	16.9
3103.0	6.3	41.0	75	9.6	1.97	8.79	35151	740	1205	8.7	16.9
3104.0	40.4	41.0	75	9.6	1.29	8.81	35263	116	1192	8.7	16.9
3105.0	15.9	41.0	75	9.6	1.63	8.88	35546	296	1182	8.7	16.9
3106.0	20.0	41.0	75	9.6	1.55	8.93	35771	235	1171	8.7	16.9
3107.0	30.0	41.0	75	9.6	1.40	8.96	35921	156	1160	8.7	16.9
3108.0	17.1	41.0	75	9.6	1.60	9.02	36184	274	1150	8.7	16.9
3109.0	36.0	41.0	75	9.6	1.33	9.05	36309	130	1139	8.7	16.9
3110.0	15.1	41.0	75	9.6	1.65	9.11	36606	310	1130	8.7	16.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3111.0	5.3	40.0	70	9.6	1.99	9.30	37404	891	1128	8.7	16.9
3112.0	13.7	40.0	70	9.6	1.64	9.37	37711	343	1120	8.7	16.9
3113.0	10.1	40.0	70	9.6	1.75	9.47	38125	463	1113	8.7	16.9
3114.0	7.5	40.0	70	9.5	1.88	9.61	38683	623	1108	8.7	16.9
3115.0	9.3	40.0	70	9.5	1.81	9.71	39137	507	1102	8.7	16.9
3116.0	7.1	40.0	70	9.5	1.90	9.86	39730	662	1097	8.7	16.9
3117.0	8.4	40.0	70	9.5	1.84	9.97	40230	559	1092	8.7	16.9
3118.0	5.1	40.0	70	9.5	2.02	10.17	41053	919	1090	8.7	16.9
3119.0	8.2	40.0	70	9.5	1.85	10.29	41567	575	1085	8.7	16.9
3120.0	10.1	40.0	65	9.5	1.75	10.39	41953	464	1079	8.7	16.9
3121.0	10.2	40.0	65	9.5	1.74	10.49	42334	459	1073	8.7	16.9
3122.0	9.8	40.0	65	9.5	1.76	10.59	42731	477	1067	8.7	16.9
3123.0	7.1	40.0	65	9.5	1.87	10.73	43278	658	1063	8.7	16.9
3124.0	8.9	40.0	65	9.5	1.79	10.84	43715	527	1058	8.7	16.9
3125.0	8.2	40.0	65	9.5	1.82	10.97	44192	573	1054	8.7	16.9
3126.0	18.7	40.0	65	9.5	1.52	11.02	44401	252	1047	8.7	16.9
3127.0	13.0	40.0	65	9.5	1.65	11.10	44700	360	1040	8.7	16.9
3128.0	15.2	40.0	65	9.5	1.60	11.16	44956	308	1034	8.7	16.9
3129.0	9.0	40.0	65	9.5	1.79	11.27	45390	521	1029	8.7	16.9
3130.0	7.3	40.0	65	9.5	1.86	11.41	45921	639	1026	8.7	16.9
3131.0	11.7	40.0	65	9.5	1.69	11.49	46254	401	1020	8.7	16.9
3132.0	16.8	40.0	65	9.5	1.56	11.55	46486	279	1014	8.7	16.9
3133.0	6.9	40.0	65	9.5	1.89	11.70	47053	682	1011	8.7	16.9
3134.0	7.0	40.0	65	9.5	1.88	11.84	47607	667	1008	8.7	16.9
3135.0	15.1	40.0	65	9.5	1.60	11.91	47866	311	1002	8.7	16.9
3136.0	17.9	40.0	65	9.5	1.54	11.96	48084	262.84	995.90	8.7	16.9
3137.0	7.0	40.0	70	9.5	1.91	12.11	48684	670.29	993.19	8.7	16.9
3138.0	12.0	40.0	70	9.5	1.71	12.19	49034	391.00	988.21	8.7	16.9
3139.0	12.0	40.0	70	9.5	1.71	12.27	49384	391.00	983.31	8.7	16.9
3140.0	7.0	40.0	70	9.5	1.91	12.42	49984	670.29	980.77	8.7	16.9
3141.0	6.9	40.0	70	9.5	1.91	12.56	50593	680.00	978.34	8.7	16.9
3142.0	10.4	40.0	70	9.5	1.76	12.66	50997	451.15	974.13	8.7	16.9
3143.0	21.0	40.0	70	9.5	1.51	12.70	51197	223.43	968.17	8.7	16.9
3144.0	22.9	40.0	70	9.5	1.47	12.75	51380	204.89	962.16	8.7	16.9
3145.0	4.0	40.0	70	9.5	2.11	13.00	52430	1173	964	8.7	16.9
3146.0	12.6	45.0	70	9.5	1.76	13.08	52763	372.38	959.22	8.7	16.9
3147.0	6.9	46.0	70	9.5	2.01	13.22	53372	680.00	957.07	8.7	16.9
3148.0	12.2	46.0	70	9.5	1.79	13.30	53716	384.59	952.70	8.7	16.9
3149.0	11.4	46.0	70	9.5	1.82	13.39	54085	411.58	948.60	8.7	16.9
3150.0	4.6	46.0	70	9.5	2.17	13.61	54998	1020	949	8.7	16.9
3151.0	11.0	46.0	70	9.5	1.83	13.70	55380	426.55	945.24	8.7	16.9
3152.0	6.2	46.0	70	9.5	2.05	13.86	56057	757.24	943.85	8.7	16.9
3153.0	5.5	46.0	70	9.5	2.10	14.04	56819	851.08	943.17	8.7	16.9
3154.0	15.0	46.0	70	9.5	1.71	14.11	57099	312.80	938.56	8.7	16.9
3155.0	6.3	46.0	70	9.5	2.05	14.27	57765	744.20	937.16	8.7	16.9
3156.0	15.9	46.0	70	9.5	1.69	14.33	58030	295.86	932.54	8.7	16.9
3157.0	16.4	46.0	70	9.5	1.68	14.39	58287	286.73	927.93	8.7	16.9
3158.0	8.0	46.0	70	9.5	1.95	14.52	58810	583.89	925.49	8.7	16.9
3159.0	10.1	46.0	70	9.5	1.86	14.62	59226	465.29	922.25	8.7	16.9
3160.0	12.2	46.0	70	9.5	1.79	14.70	59571	385.79	918.50	8.7	16.9

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3161.0	9.0	46.0	70	9.5	1.91	14.81	60037	520.03	915.73	8.7	16.9
3162.0	14.0	46.0	70	9.5	1.74	14.88	60337	334.96	911.73	8.7	16.9
3163.0	7.0	46.0	70	9.5	2.01	15.02	60937	670.29	910.07	8.7	16.9
3164.0	8.0	46.0	70	9.5	1.95	15.15	61462	586.50	907.87	8.7	16.9
3165.0	5.6	46.0	69	9.5	2.09	15.33	62201	837.86	907.40	8.7	16.9
3166.0	14.0	46.0	69	9.5	1.73	15.40	62497	335.14	903.56	8.7	16.9
3167.0	3.5	46.0	72	9.5	2.28	15.68	63731	1341	906	8.7	16.9
3168.0	16.6	46.0	72	9.5	1.68	15.74	63991	282.65	902.34	8.7	16.9
3169.0	19.0	46.0	72	9.5	1.63	15.80	64219	246.95	898.03	8.7	16.9
3170.0	9.6	45.0	71	9.5	1.87	15.90	64662	488.75	895.35	8.7	16.9
3171.0	12.4	45.0	70	9.5	1.77	15.98	65001	378.39	891.99	8.7	16.9
3172.0	6.4	45.0	70	9.5	2.02	16.14	65657	733.13	890.97	8.7	16.9
3173.0	5.0	45.0	70	9.5	2.12	16.34	66497	938.40	891.27	8.7	16.9
3174.0	11.6	45.0	70	9.5	1.80	16.42	66859	404.48	888.17	8.7	16.9
3175.0	7.6	45.0	70	9.5	1.96	16.56	67412	617.37	886.46	8.7	16.9
3176.0	6.0	45.0	70	9.5	2.05	16.72	68112	782.00	885.80	8.7	16.9
3177.0	17.0	45.0	70	9.5	1.65	16.78	68359	276.00	881.99	8.7	16.9
3178.0	8.5	45.0	70	9.5	1.92	16.90	68853	552.00	879.94	8.7	16.9
3179.0	7.3	45.0	70	9.5	1.97	17.04	69429	642.74	878.48	8.7	16.9
3180.0	7.6	45.0	70	9.5	1.96	17.17	69981	617.37	876.88	8.7	16.9
3181.0	6.4	45.0	70	9.5	2.02	17.32	70638	733.13	876.00	8.7	16.9
3182.0	6.9	45.0	70	9.5	1.99	17.47	71246	680.00	874.81	8.7	16.9
3183.0	5.0	45.0	70	9.5	2.12	17.67	72086	938.40	875.19	8.7	16.9
3184.0	7.0	45.0	70	9.5	1.99	17.81	72686	670.29	873.97	8.7	16.9
3185.0	10.0	45.0	70	9.5	1.85	17.91	73106	469.20	871.56	8.7	16.9
3186.0	8.2	45.0	70	9.5	1.93	18.03	73618	572.20	869.79	8.7	16.9
3187.0	15.0	45.0	70	9.5	1.70	18.10	73898	312.80	866.51	8.7	16.9
3188.0	28.0	45.0	70	9.5	1.46	18.14	74048	167.57	862.42	8.7	16.9
3189.0	8.5	44.0	70	9.5	1.90	18.25	74543	552.00	860.62	8.7	16.9
3190.0	18.0	45.0	70	9.5	1.63	18.31	74776	260.67	857.15	8.7	16.9
3191.0	14.0	45.0	70	9.5	1.72	18.38	75076	335.14	854.15	8.7	16.9
3192.0	20.5	45.0	70	9.5	1.58	18.43	75281	228.88	850.58	8.7	16.9
3193.0	6.0	45.0	70	9.5	2.05	18.60	75981	782.00	850.19	8.7	16.9
3194.0	8.0	45.0	70	9.5	1.94	18.72	76506	586.50	848.70	8.7	16.9
3195.0	36.0	45.0	70	9.5	1.36	18.75	76622	130.33	844.66	8.7	17.0
3196.0	15.4	45.0	70	9.5	1.69	18.81	76895	304.98	841.65	8.7	17.0
3197.0	20.7	45.0	70	9.5	1.58	18.86	77098	226.67	838.23	8.7	17.0
3198.0	32.4	45.0	70	9.5	1.40	18.89	77228	145.00	834.40	8.7	17.0
3199.0	15.9	45.0	70	9.5	1.68	18.96	77493	295.86	831.44	8.7	17.0
3200.0	18.8	45.0	70	9.5	1.61	19.01	77717	250.24	828.27	8.7	17.0
3201.0	10.6	45.0	70	9.5	1.83	19.10	78115	444.44	826.18	8.7	17.0
3202.0	11.7	45.0	70	9.5	1.79	19.19	78475	402.73	823.89	8.7	17.0
3203.0	7.9	45.0	70	9.5	1.94	19.32	79006	593.02	822.65	8.7	17.0
3204.0	7.0	45.0	70	9.5	1.99	19.46	79606	670.29	821.83	8.7	17.0
3205.0	15.0	45.0	70	9.5	1.70	19.53	79886	312.80	819.13	8.7	17.0
3206.0	75.8	45.0	70	9.5	1.08	19.54	79942	61.91	815.12	8.7	17.0
3207.0	5.9	45.0	70	9.5	2.05	19.71	80653	795.03	815.01	8.7	17.0
3208.0	6.9	45.0	70	9.5	2.00	19.85	81265	682.95	814.32	8.7	17.0
3209.0	7.0	45.0	70	9.5	1.99	20.00	81865	670.29	813.57	8.7	17.0
3210.0	6.0	45.0	70	9.5	2.05	20.16	82565	782.00	813.41	8.7	17.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3211.0	5.6	45.0	70	9.5	2.07	20.34	83309	831.53	813.50	8.7	17.0
3212.0	6.5	45.0	70	9.5	2.02	20.50	83960	727.26	813.06	8.7	17.0
3213.0	6.8	45.0	70	9.5	2.00	20.64	84574	685.55	812.41	8.7	17.0
3214.0	6.0	45.0	70	9.5	2.05	20.81	85274	782.00	812.26	8.7	17.0
3215.0	31.0	45.0	70	9.5	1.42	20.84	85409	151.35	808.92	8.7	17.0
3216.0	7.6	45.0	70	9.5	1.96	20.97	85962	617.37	807.96	8.7	17.0
3217.0	8.9	45.0	70	9.5	1.90	21.09	86435	529.15	806.56	8.7	17.0
3218.0	10.9	45.0	70	9.5	1.82	21.18	86819	428.80	804.68	8.7	17.0
3219.0	17.6	45.0	70	9.5	1.64	21.23	87058	267.18	802.02	8.7	17.0
3220.0	24.2	45.0	70	9.5	1.52	21.28	87232	194.20	799.03	8.7	17.0
3221.0	8.8	45.0	70	9.5	1.90	21.39	87709	533.06	797.72	8.7	17.0
3222.0	6.5	45.0	70	9.5	2.02	21.54	88357	723.35	797.36	8.7	17.0
3223.0	7.0	45.0	70	9.5	1.99	21.69	88955	668.61	796.73	8.7	17.0
3224.0	5.3	45.0	70	9.5	2.09	21.87	89743	879.75	797.14	8.7	17.0
3225.0	8.3	45.0	70	9.5	1.92	21.99	90249	565.65	796.02	8.7	17.0
3226.0	5.7	44.0	68	9.5	2.04	22.17	90963	821.10	796.14	8.7	17.0
3227.0	6.9	45.0	68	9.5	1.98	22.31	91552	677.73	795.58	8.7	17.0
3228.0	19.4	45.0	68	9.5	1.59	22.36	91763	242.42	792.96	8.7	17.0
3229.0	15.2	45.0	68	9.5	1.68	22.43	92032	308.89	790.67	8.7	17.0
3230.0	11.3	45.0	68	9.5	1.80	22.52	92393	415.76	788.91	8.7	17.0
3231.0	22.8	45.0	68	9.5	1.53	22.56	92572	205.93	786.19	8.7	17.0
3232.0	9.5	45.0	68	9.5	1.86	22.67	93001	492.66	784.82	8.7	17.0
3233.0	4.2	45.0	68	9.5	2.18	22.91	93978	1123	786	8.7	17.0
3234.0	8.1	45.0	68	9.5	1.92	23.03	94481	578.68	785.44	8.7	17.0
3235.0	4.4	45.0	68	9.5	2.15	23.26	95402	1060	787	8.7	17.0
3236.0	9.0	45.0	68	9.5	1.88	23.37	95856	521.33	785.48	8.7	17.0
3237.0	4.0	45.0	68	9.5	2.19	23.61	96864	1160	787	8.7	17.0
3238.0	4.4	45.0	68	9.5	2.16	23.84	97797	1073	788	8.7	17.0
3239.0	16.0	45.0	68	9.5	1.66	23.91	98052	293.25	786.24	8.7	17.0
3240.0	5.1	45.0	68	9.5	2.10	24.10	98845	912.33	786.81	8.7	17.0
3241.0	12.3	45.0	68	9.5	1.76	24.18	99178	381.88	785.00	8.7	17.0
3242.0	6.8	45.0	70	9.5	2.00	24.33	99799	694.68	784.60	8.7	17.0
3243.0	3.9	45.0	60	9.5	2.15	24.58	100716	1193	786	8.7	17.0
3244.0	5.1	45.0	60	9.5	2.05	24.78	101426	925.37	787.02	8.7	17.0
3245.0	17.6	50.0	60	9.5	1.64	24.84	101630	265.88	784.73	8.7	17.0
3246.0	19.6	50.0	60	9.5	1.60	24.89	101814	239.81	782.35	8.7	17.0
3247.0	38.1	50.0	60	9.5	1.33	24.92	101909	123.15	779.49	8.7	17.0
3248.0	22.9	50.0	60	9.5	1.54	24.96	102066	205.28	777.00	8.7	17.0
3249.0	10.0	50.0	60	9.5	1.87	25.06	102426	469.20	775.67	8.7	17.0
3250.0	11.9	50.0	60	9.5	1.80	25.14	102729	394.91	774.04	8.7	17.0
3251.0	30.0	50.0	60	9.5	1.43	25.18	102849	156.40	771.40	8.7	17.0
3252.0	7.2	50.0	60	9.5	2.00	25.32	103350	652.97	770.90	8.7	17.0
3253.0	12.4	50.0	60	9.5	1.78	25.40	103641	379.27	769.24	8.7	17.0
3254.0	9.8	50.0	60	9.5	1.87	25.50	104008	478.32	768.01	8.7	17.0
3255.0	8.8	50.0	60	9.5	1.91	25.61	104415	530.46	767.01	8.7	17.0
3256.0	4.9	50.0	60	9.5	2.15	25.82	105148	955.34	767.80	8.7	17.0
3257.0	7.9	50.0	60	9.5	1.96	25.94	105601	590.41	767.06	8.7	17.0
3258.0	5.6	50.0	60	9.5	2.09	26.12	106240	832.83	767.33	8.7	17.0
3259.0	7.8	50.0	68	9.5	2.01	26.25	106761	599.53	766.64	8.7	17.0
3260.0	8.8	50.0	70	9.5	1.98	26.36	107240	534.37	765.68	8.7	17.0

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3261.0	5.9	50.0	70	9.5	2.14	26.53	107954	797.64	765.81	8.7	17.0
3262.0	6.7	50.0	70	9.5	2.09	26.68	108584	703.80	765.56	8.7	17.0
3263.0	5.9	50.0	70	9.5	2.14	26.85	109301	801.55	765.71	8.7	17.0
3264.0	9.0	50.0	70	9.5	1.97	26.96	109769	522.64	764.72	8.7	17.0
3265.0	6.2	50.0	70	9.5	2.11	27.12	110442	752.02	764.67	8.7	17.0
3266.0	6.5	50.0	70	9.5	2.10	27.28	111086	719.44	764.49	8.7	17.0
3267.0	5.3	50.0	65	9.5	2.15	27.47	111827	891.48	765.00	8.7	17.0
3268.0	6.7	50.0	65	9.5	2.06	27.62	112410	701.19	764.74	8.7	17.0
3269.0	11.3	50.0	65	9.5	1.85	27.70	112757	417.07	763.37	8.7	17.0
3270.0	40.0	50.0	65	9.5	1.35	27.73	112854	117.30	760.81	8.7	17.0
3271.0	14.1	50.0	65	9.5	1.76	27.80	113132	333.65	759.13	8.7	17.0
3272.0	8.3	50.0	65	9.5	1.97	27.92	113604	568.25	758.38	8.7	17.0
3273.0	20.3	50.0	65	9.5	1.62	27.97	113796	230.69	756.32	8.7	17.0
3274.0	16.1	50.0	65	9.5	1.71	28.03	114038	291.95	754.51	8.7	17.0
3275.0	14.2	50.0	65	9.5	1.76	28.10	114313	331.05	752.87	8.7	17.0
3276.0	7.2	50.0	60	9.5	2.00	28.24	114814	652.97	752.49	8.7	17.0
3277.0	50.0	50.0	60	9.5	1.23	28.26	114886	93.84	749.95	8.7	17.0
3278.0	24.8	50.0	60	9.5	1.50	28.30	115031	188.98	747.80	8.7	17.0
3279.0	10.8	50.0	70	9.5	1.90	28.40	115420	434.01	746.61	8.7	17.0
3280.0	6.3	50.0	70	9.5	2.11	28.55	116087	745.51	746.60	8.7	17.0
3281.0	6.0	50.0	70	9.5	2.13	28.72	116788	783.30	746.74	8.7	17.0
3282.0	6.2	50.0	60	9.5	2.06	28.88	117369	757.24	746.78	8.7	17.0
3283.0	4.9	50.0	60	9.5	2.15	29.09	118111	967.07	747.61	8.7	17.0
3284.0	5.3	50.0	60	9.5	2.12	29.28	118795	891.48	748.15	8.7	17.0

BIT NUMBER	12	IADC CODE	216	INTERVAL	3284.0- 3322.0
HTC J4		SIZE	8.500	NOZZLES	10 10 10
COST	1300.00	TRIP TIME	13.1	BIT RUN	38.0
TOTAL HOURS	7.19	TOTAL TURNS	25721	CONDITION	T4 B2 G0.125

DEPTH	ROP	WOB	RPM	MW	"d"c	HOURS	TURNS	ICOST	CCOST	PP	FG
3285.0	5.0	40.0	60	9.5	1.97	0.20	717	934	63699	8.7	17.0
3286.0	5.8	40.0	60	9.5	1.92	0.37	1337	808	32254	8.7	17.0
3287.0	5.2	41.0	60	9.5	1.98	0.57	2036	911	21806	8.7	17.0
3288.0	6.4	41.0	60	9.5	1.90	0.72	2602	738	16539	8.7	17.0
3289.0	17.2	41.0	60	9.5	1.53	0.78	2811	272	13286	8.7	17.0
3290.0	2.3	42.0	60	9.5	2.30	1.21	4371	2033	11410	8.7	17.0
3291.0	11.5	42.0	60	9.5	1.70	1.30	4683	407	9838	8.7	17.0
3292.0	3.7	40.0	60	9.5	2.09	1.57	5666	1281	8769	8.7	17.0
3293.0	8.5	45.0	60	9.5	1.86	1.69	6089	551	7856	8.7	17.0
3294.0	14.1	45.0	60	9.5	1.66	1.76	6344	332	7103	8.7	17.0
3295.0	9.9	45.0	60	9.5	1.80	1.86	6708	474	6501	8.7	17.0
3296.0	9.5	45.0	60	9.5	1.81	1.97	7085	491	6000	8.7	17.0
3297.0	3.2	40.0	70	9.5	2.19	2.28	8384	1452	5650	8.7	17.0
3298.0	8.5	45.0	70	9.5	1.92	2.40	8880	554	5286	8.7	17.0
3299.0	3.4	45.0	60	9.5	2.21	2.69	9941	1383	5026	8.7	17.0
3300.0	4.5	45.0	60	9.5	2.10	2.91	10741	1043	4777	8.7	17.0
3301.0	13.5	45.0	59	9.5	1.67	2.99	11002	347	4516	8.7	17.0
3302.0	6.5	45.0	59	9.5	1.95	3.14	11549	725	4306	8.7	17.0
3303.0	18.0	45.0	60	9.5	1.57	3.20	11749	261	4093	8.7	17.1
3304.0	24.5	45.0	60	9.5	1.45	3.24	11896	192	3898	8.7	17.1
3305.0	32.1	45.0	60	9.5	1.35	3.27	12008	146	3719	8.7	17.1
3306.0	7.1	45.0	60	9.5	1.93	3.41	12518	665	3580	8.7	17.1
3307.0	4.4	44.0	60	9.5	2.09	3.64	13339	1070	3471	8.7	17.1
3308.0	5.3	44.0	60	9.5	2.02	3.82	14012	877	3363	8.7	17.1
3309.0	3.8	44.0	60	9.5	2.14	4.09	14956	1230	3278	8.7	17.1
3310.0	3.5	44.0	62	9.5	2.19	4.38	16028	1352	3204	8.7	17.1
3311.0	3.3	45.0	60	9.5	2.22	4.68	17122	1426	3138	8.7	17.1
3312.0	3.8	45.0	60	9.5	2.16	4.94	18061	1224	3069	8.7	17.1
3313.0	4.0	45.0	60	9.5	2.14	5.19	18951	1160	3004	8.7	17.1
3314.0	3.0	44.0	60	9.5	2.23	5.52	20136	1544	2955	8.7	17.1
3315.0	3.1	50.0	50	9.5	2.26	5.84	21105	1516	2908	8.7	17.1
3316.0	3.1	50.0	50	9.5	2.26	6.16	22072	1512	2865	8.7	17.1
3317.0	2.7	49.0	48	9.5	2.28	6.53	23129	1723	2830	8.7	17.1
3318.0	6.1	49.0	67	9.5	2.09	6.69	23790	772	2770	8.7	17.1
3319.0	15.3	49.0	67	9.5	1.73	6.76	24053	306	2699	8.7	17.1
3320.0	4.2	50.0	64	9.5	2.24	7.00	24976	1129	2656	8.7	17.1
3321.0	30.5	50.0	64	9.5	1.45	7.03	25102	154	2588	8.7	17.1
3322.0	6.2	50.0	64	9.5	2.08	7.19	25721	756	2540	8.7	17.1

(d). COMPUTER DATA LISTING : LIST B

INTERVAL . . . . . 10 m average

DEPTH. . . . . Well depth, in metres

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

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

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

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

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

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

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

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

BIT NUMBER	1	IADC CODE	111	INTERVAL	80.6- 220.0
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	20 20 20
COST	6350.00	TRIP TIME	1.8	BIT RUN	139.4
TOTAL HOURS	1.06	TOTAL TURNS	8208	CONDITION	T2 B2 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
100.0	138.1	19.4	0.14	1281	15454.84	33.98	796.64	-
110.0	137.9	29.4	0.21	1992	15795.15	34.03	537.25	-
120.0	156.3	39.4	0.28	2591	16095.41	30.03	408.51	-
130.0	110.0	49.4	0.37	3357	16521.92	42.65	334.45	-
140.0	74.2	59.4	0.50	4277	17154.58	63.27	288.80	-
150.0	104.1	69.4	0.60	4918	17605.35	45.08	253.68	-
160.0	173.3	79.4	0.66	5384	17876.04	27.07	225.14	-
170.0	168.8	89.4	0.72	5802	18154.09	27.80	203.07	-
180.0	146.4	99.4	0.78	6269	18474.56	32.05	185.86	-
190.0	164.0	109.4	0.85	6698	18760.64	28.61	171.49	-
200.0	150.9	119.4	0.91	7160	19071.61	31.10	159.73	-
210.0	144.2	129.4	0.98	7622	19397.01	32.54	149.90	-
220.0	120.0	139.4	1.06	8208	19788.01	39.10	141.95	-

BIT NUMBER	2	IADC CODE	111	INTERVAL	220.0- 805.0
HTC OSC 3AJ		SIZE	17.500	NOZZLES	20 20 20
COST	2500.00	TRIP TIME	3.9	BIT RUN	585.0
TOTAL HOURS	7.56	TOTAL TURNS	82391	CONDITION	T1 B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
230.0	210.5	10.0	0.05	513	21021.67	22	2102	-
240.0	205.7	20.0	0.10	1038	21249.75	23	1062	-
250.0	163.6	30.0	0.16	1687	21536.49	28.67	717.88	-
260.0	186.5	40.0	0.21	2249	21788.03	25.15	544.70	-
270.0	206.9	50.0	0.26	2750	22014.81	22.68	440.30	-
280.0	82.9	60.0	0.38	4022	22580.46	56.56	376.34	-
290.0	90.5	70.0	0.49	5269	23099.18	51.87	329.99	-
300.0	90.0	80.0	0.60	6498	23620.52	52.13	295.26	-
310.0	171.4	90.0	0.66	7137	23894.22	27.37	265.49	-
320.0	192.2	100.0	0.71	7715	24138.37	24.42	241.38	-
330.0	169.0	110.0	0.77	8354	24415.98	27.76	221.96	-
340.0	130.9	120.0	0.85	9199	24774.40	35.84	206.45	-
350.0	137.9	130.0	0.92	9970	25114.57	34.02	193.19	-
360.0	163.6	140.0	0.98	10618	25401.30	28.67	181.44	-
370.0	180.9	150.0	1.04	11209	25660.67	25.94	171.07	-
380.0	201.1	160.0	1.09	11756	25893.96	23.33	161.84	-
390.0	117.3	170.0	1.17	12686	26294.09	40.01	154.67	-
400.0	159.3	180.0	1.23	13388	26588.64	29.46	147.71	-
410.0	202.6	190.0	1.28	13944	26820.23	23.16	141.16	-
420.0	203.4	200.0	1.33	14477	27050.89	23.07	135.25	-
430.0	152.9	210.0	1.40	15194	27357.83	30.69	130.28	-
440.0	55.1	220.0	1.58	17196	28208.90	85.11	128.22	-
450.0	35.0	230.0	1.87	20398	29550.03	134.11	128.48	+
460.0	44.0	240.0	2.09	22914	30616.16	106.61	127.57	
470.0	36.7	250.0	2.36	25999	31893.86	127.77	127.58	+
480.0	51.9	260.0	2.56	28000	32797.07	90.32	126.14	-
490.0	38.8	270.0	2.81	30767	34006.56	120.95	125.95	-
500.0	69.0	280.0	2.96	32370	34686.90	68.03	123.88	-
510.0	64.2	290.0	3.12	34109	35418.07	73.12	122.13	
520.0	56.4	300.0	3.29	36060	36249.60	83.15	120.83	-
530.0	86.4	310.0	3.41	37280	36792.44	54.28	118.69	-
540.0	107.5	320.0	3.50	38242	37229.06	43.66	116.34	-
550.0	133.8	330.0	3.58	39020	37579.65	35.06	113.88	-
560.0	111.5	340.0	3.67	40037	38000.63	42.10	111.77	-
570.0	111.5	350.0	3.76	41044	38421.61	42.10	109.78	-
580.0	96.5	360.0	3.86	42174	38907.75	48.61	108.08	-
590.0	113.9	370.0	3.95	43144	39319.60	41.19	106.27	-
600.0	122.5	380.0	4.03	44030	39702.65	38.30	104.48	-
610.0	96.6	390.0	4.13	45182	40188.58	48.59	103.05	-
620.0	95.7	400.0	4.24	46348	40678.63	49.01	101.70	-
630.0	75.5	410.0	4.37	47827	41300.32	62.17	100.73	-
640.0	83.7	420.0	4.49	49163	41860.75	56.04	99.67	-
650.0	62.6	430.0	4.65	50932	42610.17	74.94	99.09	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
660.0	92.3	440.0	4.76	52141	43118.47	50.83	98.00	-
670.0	79.8	450.0	4.88	53530	43706.27	58.78	97.13	-
680.0	60.4	460.0	5.05	55373	44483.06	77.68	96.70	-
690.0	55.7	470.0	5.23	57279	45325.01	84.20	96.44	-
700.0	61.4	480.0	5.39	58966	46089.64	76.46	96.02	-
710.0	54.6	490.0	5.57	60930	46948.53	85.89	95.81	-
720.0	61.6	500.0	5.74	62693	47709.68	76.11	95.42	-
730.0	62.2	510.0	5.90	64392	48464.31	75.46	95.03	-
740.0	56.2	520.0	6.07	66326	49298.88	83.46	94.81	-
750.0	64.4	530.0	6.23	68006	50027.44	72.86	94.39	-
760.0	36.4	540.0	6.50	70995	51316.44	128.90	95.03	+
770.0	43.2	550.0	6.74	73518	52403.42	108.70	95.28	+
780.0	45.9	560.0	6.95	75880	53426.53	102.31	95.40	+
790.0	43.0	570.0	7.19	78414	54517.75	109.12	95.65	+
800.0	37.8	580.0	7.45	81260	55758.52	124.08	96.14	+
805.0	47.9	585.0	7.56	82391	56248.58	98.01	96.15	+

BIT NUMBER	3	IADC CODE	114	INTERVAL	805.0- 1610.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	1400.00	TRIP TIME	6.9	BIT RUN	805.0
TOTAL HOURS	18.73	TOTAL TURNS	192624	CONDITION	T7 B6 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
810.0	33.0	5.0	0.15	1136	34485.71	142	6897	-
820.0	51.9	15.0	0.34	2919	35389.85	90	2359	-
830.0	58.4	25.0	0.52	4666	36193.53	80	1448	-
840.0	66.8	35.0	0.67	6188	36896.44	70	1054	-
850.0	61.5	45.0	0.83	7812	37659.69	76.32	836.88	-
860.0	55.0	55.0	1.01	9716	38512.98	85.33	700.24	-
870.0	63.1	65.0	1.17	11325	39256.69	74.37	603.95	-
880.0	68.9	75.0	1.31	12827	39937.43	68.07	532.50	-
890.0	71.3	85.0	1.45	14342	40595.49	65.81	477.59	-
900.0	71.3	95.0	1.59	15849	41254.00	65.85	434.25	-
910.0	69.7	105.0	1.74	17363	41927.63	67.36	399.31	-
920.0	68.3	115.0	1.88	18958	42614.89	68.73	370.56	-
930.0	72.4	125.0	2.02	20465	43262.51	64.76	346.10	-
940.0	66.7	135.0	2.17	21991	43966.18	70.37	325.68	-
950.0	58.5	145.0	2.34	23821	44767.66	80.15	308.74	-
960.0	53.0	155.0	2.53	25841	45652.81	88.51	294.53	-
970.0	53.7	165.0	2.72	27815	46526.04	87.32	281.98	-
980.0	45.0	175.0	2.94	30216	47569.36	104.33	271.82	-
990.0	45.4	185.0	3.16	32477	48603.84	103.45	262.72	-
1000.0	41.1	195.0	3.40	35075	49745.56	114.17	255.11	-
1010.0	37.6	205.0	3.67	37677	50992.85	124.73	248.75	-
1020.0	37.3	215.0	3.94	40230	52249.26	125.64	243.02	-
1030.0	38.9	225.0	4.19	42719	53453.98	120.47	237.57	-
1040.0	48.6	235.0	4.40	44711	54419.75	96.58	231.57	-
1050.0	33.5	245.0	4.70	47578	55819.53	139.98	227.83	-
1060.0	36.0	255.0	4.98	50275	57122.86	130.33	224.01	-
1070.0	44.8	265.0	5.20	52419	58170.74	104.79	219.51	-
1080.0	36.5	275.0	5.47	54816	59455.83	128.51	216.20	-
1090.0	33.1	285.0	5.78	57703	60872.55	141.67	213.59	-
1100.0	35.8	295.0	6.05	60429	62182.40	130.99	210.79	-
1110.0	42.2	305.0	6.29	62825	63295.45	111.30	207.53	-
1120.0	48.1	315.0	6.50	64985	64270.34	97.49	204.03	-
1130.0	54.4	325.0	6.68	67003	65133.15	86.28	200.41	-
1140.0	52.9	335.0	6.87	69096	66019.41	88.63	197.07	-
1150.0	57.8	345.0	7.05	71008	66831.39	81.20	193.71	-
1160.0	50.0	355.0	7.25	73163	67769.79	93.84	190.90	-
1170.0	48.6	365.0	7.45	75448	68734.26	96.45	188.31	-
1180.0	50.6	375.0	7.65	77651	69662.23	92.80	185.77	-
1190.0	49.8	385.0	7.85	79705	70604.54	94.23	183.39	-
1200.0	51.9	395.0	8.04	81804	71507.75	90.32	181.03	-
1210.0	46.3	405.0	8.26	84160	72520.44	101.27	179.06	-
1220.0	56.7	415.0	8.43	86136	73348.06	82.76	176.74	-
1230.0	51.9	425.0	8.63	88255	74251.27	90.32	174.71	-

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1240.0	56.1	435.0	8.81	90216	75088.01	83.67	172.62	
1250.0	51.6	445.0	9.00	92278	75996.43	90.84	170.78	-
1260.0	41.0	455.0	9.24	94821	77141.41	114.50	169.54	-
1270.0	27.8	465.0	9.60	98537	78829.23	168.78	169.53	-
1280.0	26.7	475.0	9.98	102387	80588.73	175.95	169.66	+
1290.0	31.7	485.0	10.29	105618	82066.71	147.80	169.21	-
1300.0	31.6	495.0	10.61	108870	83552.51	148.58	168.79	-
1310.0	29.8	505.0	10.95	112355	85129.54	157.70	168.57	-
1320.0	31.0	515.0	11.27	115720	86641.41	151.19	168.24	
1330.0	50.2	525.0	11.47	117799	87575.90	93.45	166.81	-
1340.0	46.3	535.0	11.68	120016	88588.59	101.27	165.59	-
1350.0	41.2	545.0	11.92	122506	89726.40	113.78	164.64	-
1360.0	48.8	555.0	12.13	124655	90688.26	96.19	163.40	-
1370.0	42.3	565.0	12.37	127105	91798.70	111.04	162.48	-
1380.0	49.9	575.0	12.57	129195	92739.70	94.10	161.29	-
1390.0	49.6	585.0	12.77	131295	93685.92	94.62	160.15	-
1400.0	42.3	595.0	13.01	133782	94794.62	110.87	159.32	-
1410.0	46.4	605.0	13.22	135966	95804.96	101.03	158.36	-
1420.0	45.1	615.0	13.44	138346	96845.22	104.03	157.47	-
1430.0	52.2	625.0	13.63	140411	97743.22	89.80	156.39	-
1440.0	54.0	635.0	13.82	142317	98612.54	86.93	155.30	-
1450.0	50.5	645.0	14.02	144390	99541.82	92.93	154.33	-
1460.0	49.4	655.0	14.22	146502	100492.38	95.06	153.42	-
1470.0	30.7	665.0	14.54	149918	102019.89	152.75	153.41	-
1480.0	33.8	675.0	14.84	152992	103406.64	138.67	153.20	-
1490.0	31.3	685.0	15.16	156318	104904.17	149.75	153.14	-
1500.0	35.6	695.0	15.44	159243	106220.53	131.64	152.84	-
1510.0	28.9	705.0	15.79	162849	107845.79	162.53	152.97	+
1520.0	28.8	715.0	16.13	166511	109476.26	163.05	153.11	+
1530.0	29.4	725.0	16.47	170038	111072.84	159.66	153.20	+
1540.0	40.1	735.0	16.72	172595	112243.24	117.04	152.71	-
1550.0	34.4	745.0	17.01	175628	113607.83	136.46	152.49	-
1560.0	32.3	755.0	17.32	178825	115061.04	145.32	152.40	-
1570.0	35.6	765.0	17.61	181700	116378.71	131.77	152.13	-
1580.0	32.5	775.0	17.91	184866	117822.81	144.41	152.03	-
1590.0	40.5	785.0	18.16	187341	118981.91	115.91	151.57	-
1600.0	39.6	795.0	18.41	189874	120167.94	118.60	151.15	-
1610.0	31.1	805.0	18.73	192624	121678.50	151.06	151.15	-

BIT NUMBER	4	IADC CODE	114	INTERVAL	1610.0- 1939.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	1400.00	TRIP TIME	8.0	BIT RUN	329.0
TOTAL HOURS	13.20	TOTAL TURNS	142370	CONDITION	T4 B3 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1620.0	32.7	10.0	0.31	3148	40370.38	143	4037	-
1630.0	35.2	20.0	0.59	6015	41704.02	133	2085	-
1640.0	40.7	30.0	0.84	8537	42856.16	115	1429	-
1650.0	36.5	40.0	1.11	11357	44140.38	128	1104	-
1660.0	32.1	50.0	1.42	14571	45601.42	146.10	912.03	-
1670.0	40.6	60.0	1.67	17089	46757.48	115.61	779.29	-
1680.0	37.6	70.0	1.93	19696	48004.77	124.73	685.78	-
1690.0	24.7	80.0	2.34	23914	49901.77	189.70	623.77	-
1700.0	20.7	90.0	2.82	28857	52173.48	227.17	579.71	
1710.0	25.7	100.0	3.21	32891	53996.91	182.34	539.97	-
1720.0	27.0	110.0	3.58	36857	55731.70	173.48	506.65	-
1730.0	34.0	120.0	3.87	40203	57113.24	138.15	475.94	-
1740.0	30.5	130.0	4.20	43919	58651.17	153.79	451.16	-
1750.0	26.7	140.0	4.58	48175	60408.06	175.69	431.49	-
1760.0	20.0	150.0	5.08	53667	62755.37	234.73	418.37	-
1770.0	24.6	160.0	5.48	58083	64663.45	190.81	404.15	-
1780.0	25.7	170.0	5.87	62284	66490.72	182.73	391.12	-
1790.0	25.7	180.0	6.26	66368	68314.08	182.34	379.52	-
1800.0	22.1	190.0	6.71	71229	70434.61	212.05	370.71	-
1810.0	20.5	200.0	7.20	76580	72721.96	228.74	363.61	-
1820.0	20.3	210.0	7.69	81975	75037.98	231.60	357.32	-
1830.0	20.9	220.0	8.17	87313	77281.02	224.30	351.28	-
1840.0	20.5	230.0	8.66	92783	79567.06	228.60	345.94	-
1850.0	21.8	240.0	9.12	97799	81719.09	215.20	340.50	-
1860.0	21.6	250.0	9.58	102899	83887.83	216.87	335.55	-
1870.0	15.7	260.0	10.22	109880	86876.38	298.85	334.14	-
1880.0	12.9	270.0	10.99	118352	90508.44	363.21	335.22	+
1890.0	25.5	280.0	11.38	122685	92347.01	183.86	329.81	-
1900.0	36.5	290.0	11.66	125664	93632.09	128.51	322.87	-
1910.0	32.2	300.0	11.97	129047	95090.52	145.84	316.97	-
1920.0	25.6	310.0	12.36	133218	96923.01	183.25	312.65	-
1930.0	17.6	320.0	12.93	139424	99585.72	266.27	311.21	-
1939.0	32.5	329.0	13.20	142370	100886.45	144.53	306.65	-

BIT NUMBER	4	IADC CODE	4	INTERVAL	1939.0- 1952.2
CHRIST RC4		SIZE	8.500	NOZZLES	15 15 14
COST	13000.00	TRIP TIME	8.1	BIT RUN	13.2
TOTAL HOURS	12.06	TOTAL TURNS	113907	CONDITION	T0 B0 G0.250

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1940.0	7.4	28.0	8.53	88402	91006.92	636	3250	-
1950.0	3.2	38.0	11.65	110907	105670.72	1466	2781	-
1952.2	5.3	40.2	12.06	113907	107611.39	882	2677	-

BIT NUMBER	4	IADC CODE	4	INTERVAL	1952.2- 1964.2
CHRIST RC4		SIZE	8.500	NOZZLES	15 15 14
COST	13000.00	TRIP TIME	8.1	BIT RUN	12.0
TOTAL HOURS	14.75	TOTAL TURNS	134889	CONDITION	T0 B0 G0.350

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1960.0	3.6	48.0	14.14	130358	117360.29	1301	2445	-
1964.2	7.0	52.2	14.75	134889	120195.11	675	2303	-

BIT NUMBER	5	IADC CODE	135	INTERVAL	1964.2- 2070.0
HTC XDG		SIZE	12.250	NOZZLES	15 15 16
COST	1284.00	TRIP TIME	8.5	BIT RUN	105.8
TOTAL HOURS	6.30	TOTAL TURNS	58389	CONDITION	T6 B6 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
1970.0	71.8	5.8	0.08	752	41545.27	65	7163	-
1980.0	34.6	15.8	0.37	3442	42902.55	136	2715	-
1990.0	24.5	25.8	0.78	7234	44815.84	191	1737	-
2000.0	37.2	35.8	1.05	9724	46078.77	126	1287	-
2010.0	20.9	45.8	1.52	14193	48319.20	224	1055	-
2020.0	21.6	55.8	1.99	18555	50491.86	217.27	904.87	-
2030.0	22.2	65.8	2.44	22774	52605.86	211.40	799.48	-
2040.0	17.4	75.8	3.01	28155	55308.98	270.31	729.67	-
2050.0	19.5	85.8	3.53	32808	57711.02	240.20	672.62	-
2060.0	9.5	95.8	4.58	42194	62642.18	493.12	653.88	-
2070.0	5.8	105.8	6.30	58389	70743.37	810.12	668.65	+

BIT NUMBER	6	IADC CODE	517	INTERVAL	2070.0- 2374.0
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	9.6	BIT RUN	304.0
TOTAL HOURS	33.17	TOTAL TURNS	124801	CONDITION	T8 B4 G0.250

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2080.0	22.5	10.0	0.18	840	50227.18	208	5023	-
2090.0	32.0	20.0	0.49	2330	51691.80	146	2585	-
2100.0	18.6	30.0	1.03	4916	54217.66	253	1807	-
2110.0	7.6	40.0	2.35	10133	60431.96	621	1511	-
2120.0	8.5	50.0	3.52	13791	65922.90	549	1318	-
2130.0	8.9	60.0	4.65	18517	71202.70	528	1187	-
2140.0	13.9	70.0	5.36	21532	74570.52	337	1065	-
2150.0	9.5	80.0	6.42	25165	79508.85	493.83	993.86	-
2160.0	8.3	90.0	7.63	28851	85183.56	567.47	946.48	-
2170.0	20.0	100.0	8.13	30502	87530.86	234.73	875.31	-
2180.0	8.2	110.0	9.35	34617	93262.92	573.21	847.84	-
2190.0	11.9	120.0	10.19	37491	97221.15	395.82	810.18	-
2200.0	7.5	130.0	11.53	41976	103484.97	626.38	796.04	-
2210.0	19.4	140.0	12.04	44138	105900.04	241.51	756.43	
2220.0	20.0	150.0	12.54	46236	108243.44	234.34	721.62	-
2230.0	9.5	160.0	13.59	50323	113163.52	492.01	707.27	-
2240.0	9.7	170.0	14.62	54152	118005.40	484.19	694.15	-
2250.0	9.0	180.0	15.73	58380	123218.74	521.33	684.55	-
2260.0	14.3	190.0	16.43	61112	126505.74	328.70	665.82	-
2270.0	9.4	200.0	17.49	65338	131482.52	497.68	657.41	-
2280.0	14.8	210.0	18.17	68176	134653.53	317.10	641.21	-
2290.0	10.5	220.0	19.12	71790	139135.69	448.22	632.43	-
2300.0	9.1	230.0	20.23	76296	144299.50	516.38	627.39	-
2310.0	11.9	240.0	21.07	79322	148242.92	394.34	617.68	-
2320.0	8.2	250.0	22.29	83726	153982.80	573.99	615.93	-
2330.0	11.9	260.0	23.13	86747	157920.17	393.74	607.39	-
2340.0	8.7	270.0	24.28	90897	163329.01	540.88	604.92	-
2350.0	5.3	280.0	26.15	99111	172108.58	877.96	614.67	+
2360.0	4.7	290.0	28.30	107188	182196.38	1009	628	+
2370.0	2.9	300.0	31.77	119947	198448.95	1625	661	+
2374.0	2.8	304.0	33.17	124801	205035.13	1647	674	+

BIT NUMBER	7	IADC CODE	527	INTERVAL	2374.0- 2568.0
HTC J33		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	10.3	BIT RUN	194.0
TOTAL HOURS	27.67	TOTAL TURNS	90581	CONDITION	T2 B3 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2380.0	4.6	6.0	1.30	4111	56279.20	1017	9380	-
2390.0	10.6	16.0	2.25	7523	60726.17	445	3795	-
2400.0	8.6	26.0	3.41	11366	66201.48	548	2546	-
2410.0	10.0	36.0	4.41	14583	70878.71	468	1969	-
2420.0	7.6	46.0	5.72	18512	77024.25	615	1674	-
2430.0	11.3	56.0	6.61	21166	81174.06	415	1450	-
2440.0	5.6	66.0	8.40	26362	89585.77	841	1357	-
2450.0	4.8	76.0	10.48	33576	99336.01	975	1307	-
2460.0	4.6	86.0	12.63	40137	109430.33	1009	1272	-
2470.0	7.1	96.0	14.04	44649	116056.47	663	1209	-
2480.0	7.2	106.0	15.43	49403	122596.60	654	1157	-
2490.0	6.8	116.0	16.91	54716	129521.21	692	1117	-
2500.0	12.4	126.0	17.72	57621	133307.39	379	1058	-
2510.0	8.4	136.0	18.90	61928	138870.02	556	1021	-
2520.0	9.7	146.0	19.93	65644	143713.21	484.32	984.34	-
2530.0	6.4	156.0	21.49	71237	151002.75	728.95	967.97	-
2540.0	6.2	166.0	23.11	75831	158590.76	758.80	955.37	-
2550.0	6.8	176.0	24.59	80018	165541.43	695.07	940.58	-
2560.0	5.6	186.0	26.36	85862	173863.75	832.23	934.75	-
2568.0	6.1	194.0	27.67	90581	179994.67	766.37	927.81	-

BIT NUMBER	7	IADC CODE	4	INTERVAL	2568.0- 2574.6
CHRIST C-22		SIZE	8.468	NOZZLES	13 13 13
COST	12000.00	TRIP TIME	10.4	BIT RUN	6.6
TOTAL HOURS	5.48	TOTAL TURNS	31240	CONDITION	T0 B0 G0.450

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2570.0	2.5	2.0	0.79	3549	64496.96	1850	32248	-
2574.6	1.0	6.6	5.48	31240	86485.50	4780	13104	-

BIT NUMBER	8	IADC CODE	517	INTERVAL	2574.6- 2707.6
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	10.8	BIT RUN	133.0
TOTAL HOURS	13.92	TOTAL TURNS	49931	CONDITION	T3 B3 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2580.0	3.6	5.4	1.49	4691	59503.14	1292	11019	-
2590.0	8.1	15.4	2.73	9533	65327.75	582	4242	-
2600.0	10.2	25.4	3.70	13075	69906.36	458	2752	-
2610.0	14.9	35.4	4.37	15485	73047.05	314	2063	-
2620.0	13.1	45.4	5.14	18249	76632.47	359	1688	-
2630.0	12.4	55.4	5.95	21180	80426.80	379	1452	-
2640.0	9.1	65.4	7.05	25160	85586.70	516	1309	-
2650.0	8.3	75.4	8.26	29512	91258.80	567	1210	-
2660.0	7.8	85.4	9.53	34140	97256.74	600	1139	-
2670.0	9.9	95.4	10.54	37776	101995.65	474	1069	-
2680.0	14.0	105.4	11.26	40344	105342.61	334.70	999.46	-
2690.0	9.0	115.4	12.37	44361	110578.15	523.55	958.22	-
2700.0	10.4	125.4	13.33	47807	115069.44	449.13	917.62	-

BIT NUMBER	8	IADC CODE	4	INTERVAL	2707.6- 2726.0
CHRIST C-22 FD		SIZE	8.468	NOZZLES	13 13 13
COST	12000.00	TRIP TIME	10.9	BIT RUN	18.4
TOTAL HOURS	4.23	TOTAL TURNS	28434	CONDITION	T0 B0 G0.600

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2710.0	9.4	2.4	0.41	2486	67844.55	500	28269	-
2720.0	3.9	12.4	2.98	19847	79888.34	1204	6443	-
2726.0	4.8	18.4	4.23	28434	85769.97	980	4661	-

BIT NUMBER	9	IADC CODE	517	INTERVAL	2726.0- 2758.4
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	11.0	BIT RUN	32.4
TOTAL HOURS	2.92	TOTAL TURNS	12698	CONDITION	T1 B1 G0.000

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2730.0	16.9	4.0	0.24	1373	54577.48	278	13644	-
2740.0	13.8	14.0	0.96	4919	57989.61	341	4142	-
2750.0	10.4	24.0	1.92	8786	62480.89	449	2603	-
2758.4	8.4	32.4	2.92	12698	67157.25	557	2073	-

BIT NUMBER	9	IADC CODE	4	INTERVAL	2758.4- 2776.4
CHRIST RC4		SIZE	8.500	NOZZLES	15 15 14
COST	13000.00	TRIP TIME	11.1	BIT RUN	18.0
TOTAL HOURS	16.88	TOTAL TURNS	148624	CONDITION	T0 B0 G0.600

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2760.0	20.0	1.6	14.83	135369	134663.19	234	84164	-
2770.0	9.2	11.6	15.91	142313	139739.14	508	12046	-
2776.4	6.6	18.0	16.88	148624	144294.29	712	8016	-

BIT NUMBER	10	IADC CODE	517	INTERVAL	2776.4- 3017.0
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	12.0	BIT RUN	240.6
TOTAL HOURS	27.73	TOTAL TURNS	101374	CONDITION	T4 B5 G0.250

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
2780.0	9.2	3.6	0.39	1418	59998.91	512	16666	-
2790.0	6.9	13.6	1.85	6660	66831.20	683	4914	-
2800.0	12.7	23.6	2.64	9461	70539.19	371	2989	-
2810.0	7.6	33.6	3.96	14232	76724.40	619	2283	-
2820.0	18.2	43.6	4.51	16341	79305.00	258	1819	-
2830.0	12.3	53.6	5.32	19753	83116.20	381	1551	-
2840.0	9.2	63.6	6.41	24275	88237.00	512	1387	-
2850.0	8.7	73.6	7.56	28710	93611.94	537	1272	-
2860.0	7.0	83.6	8.99	33864	100329.32	672	1200	-
2870.0	8.2	93.6	10.21	38270	106044.44	572	1133	-
2880.0	12.1	103.6	11.04	41267	109933.59	389	1061	-
2890.0	8.3	113.6	12.23	45580	115554.86	562	1017	-
2900.0	7.7	123.6	13.54	50280	121680.53	612.57	984.47	-
2910.0	7.4	133.6	14.89	55151	128029.07	634.85	958.30	-
2920.0	6.9	143.6	16.34	60351	134806.40	677.73	938.76	-
2930.0	9.5	153.6	17.38	64125	139725.18	491.88	909.67	-
2940.0	10.2	163.6	18.36	67649	144318.13	459.29	882.14	-
2950.0	8.0	173.6	19.62	72170	150210.50	589.24	865.27	-
2960.0	6.4	183.6	21.17	77762	157498.20	728.77	857.83	-
2970.0	8.7	193.6	22.32	81881	162866.63	536.84	841.25	-
2980.0	12.2	203.6	23.14	84835	166716.68	385.00	818.84	-
2990.0	9.4	213.6	24.20	88677	171724.08	500.74	803.95	-
3000.0	8.2	223.6	25.43	93092	177478.30	575.42	793.73	-
3010.0	6.8	233.6	26.90	98392	184385.97	690.77	789.32	-
3017.0	8.4	240.6	27.73	101374	188273.16	555.31	782.52	-

BIT NUMBER	11	IADC CODE	517	INTERVAL	3017.0- 3284.0
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	12.9	BIT RUN	267.0
TOTAL HOURS	29.28	TOTAL TURNS	118795	CONDITION	T8 B8 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3020.0	13.4	3.0	0.22	831	63427.76	350	21143	-
3030.0	9.2	13.0	1.31	5016	68546.42	512	5273	-
3040.0	8.8	23.0	2.45	9676	73879.19	533	3212	-
3050.0	10.8	33.0	3.38	13174	78241.43	436	2371	-
3060.0	8.7	43.0	4.53	17305	83626.37	538	1945	-
3070.0	13.0	53.0	5.30	20068	87226.63	360	1646	-
3080.0	13.0	63.0	6.07	23181	90841.83	362	1442	-
3090.0	9.4	73.0	7.13	27676	95818.61	498	1313	-
3100.0	8.1	83.0	8.36	33229	101608.23	579	1224	-
3110.0	13.3	93.0	9.11	36606	105129.84	352	1130	-
3120.0	7.8	103.0	10.39	41953	111135.60	601	1079	-
3130.0	9.8	113.0	11.41	45921	115909.27	477	1026	-
3140.0	9.9	123.0	12.42	49984	120634.70	472.54	980.77	-
3150.0	8.4	133.0	13.61	54998	126235.72	560.10	949.14	-
3160.0	9.2	143.0	14.70	59571	131345.15	510.94	918.50	-
3170.0	8.3	153.0	15.90	64662	136988.84	564.37	895.35	-
3180.0	7.9	163.0	17.17	69981	142930.71	594.19	876.88	-
3190.0	8.8	173.0	18.31	74776	148286.95	535.62	857.15	-
3200.0	14.3	183.0	19.01	77717	151572.55	328.56	828.27	-
3210.0	8.7	193.0	20.16	82565	156987.99	541.54	813.41	-
3220.0	9.0	203.0	21.28	87232	162202.38	521.44	799.03	-
3230.0	8.0	213.0	22.52	92393	168038.71	583.63	788.91	-
3240.0	6.3	223.0	24.10	98845	175458.59	741.99	786.81	-
3250.0	9.6	233.0	25.14	102729	180351.28	489.27	774.04	-
3260.0	8.2	243.0	26.36	107240	186061.19	570.99	765.68	-
3270.0	7.3	253.0	27.73	112854	192485.32	642.41	760.81	-
3280.0	12.1	263.0	28.55	116087	196356.22	387.09	746.60	-
3284.0	5.5	267.0	29.28	118795	199755.31	849.77	748.15	+

BIT NUMBER	12	IADC CODE	216	INTERVAL	3284.0- 3322.0
HTC J4		SIZE	8.500	NOZZLES	10 10 10
COST	1300.00	TRIP TIME	13.1	BIT RUN	38.0
TOTAL HOURS	7.19	TOTAL TURNS	25721	CONDITION	T4 B2 G0.125

DEPTH	ROP	BIT RUN	HOURS	TURNS	TOTAL COST	ICOST	CCOST	I-C
3290.0	4.9	6.0	1.21	4371	68461.64	949	11410	-
3300.0	5.9	16.0	2.91	10741	76429.89	797	4777	-
3310.0	6.8	26.0	4.38	16028	83293.24	686	3204	-
3320.0	3.8	36.0	7.00	24976	95604.53	1231	2656	-
3322.0	10.3	38.0	7.19	25721	96514.26	455	2540	-

(e). COMPUTER DATA LISTING : LIST C

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

BIT NUMBER	1	IADC CODE	111	INTERVAL	80.6- 220.0
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	20 20 20
COST	6350.00	TRIP TIME	1.8	BIT RUN	139.4
TOTAL HOURS	1.06	TOTAL TURNS	8208	CONDITION	T2 B2 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
100.0	616	590.0	355.1	60.2	128	0.24	590	65
110.0	763	650.0	543.9	83.7	242	0.46	903	81
120.0	997	990.0	929.2	93.9	540	1.02	1543	106
130.0	1055	1100.0	1040.3	94.6	640	1.21	1727	112
140.0	1050	1130.0	1031.5	91.3	632	1.19	1712	111
150.0	1054	1150.0	1038.8	90.3	639	1.20	1725	112
160.0	1053	1160.0	1037.1	89.4	637	1.20	1722	112
170.0	875	1050.0	715.4	68.1	365	0.69	1188	93
180.0	1057	1380.0	1044.4	75.7	644	1.21	1734	112
190.0	1058	1400.0	1046.7	74.8	646	1.22	1738	112
200.0	1059	1400.0	1048.9	74.9	648	1.22	1741	112
210.0	1050	1480.0	1030.0	69.6	631	1.19	1710	111
220.0	1036	1650.0	1002.9	60.8	606	1.14	1665	110

BIT NUMBER	2	IADC CODE	111	INTERVAL	220.0- 805.0
HTC OSC 3AJ		SIZE	17.500	NOZZLES	20 20 20
COST	2500.00	TRIP TIME	3.9	BIT RUN	585.0
TOTAL HOURS	7.56	TOTAL TURNS	82391	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
230.0	1025	1100.0	982.2	89.3	587	2.44	1631	109
240.0	1000	1100.0	934.2	84.9	545	2.27	1551	106
250.0	1034	1890.0	999.4	52.9	603	2.51	1659	110
260.0	1044	1890.0	1019.6	53.9	621	2.58	1693	111
270.0	1046	1890.0	1022.9	54.1	624	2.60	1698	111
280.0	1037	1920.0	1005.0	52.3	608	2.53	1668	110
290.0	650	1920.0	394.7	20.6	150	0.62	655	69
300.0	1082	2010.0	1094.4	54.4	691	2.87	1817	115
310.0	1055	2010.0	1039.8	51.7	640	2.66	1726	112
320.0	1235	2000.0	1425.8	71.3	1027	4.27	2367	131
330.0	1046	2000.0	1023.7	51.2	625	2.60	1699	111
340.0	1043	2000.0	1016.2	50.8	618	2.57	1687	110
350.0	1051	2000.0	1032.5	51.6	633	2.63	1714	111
360.0	1031	2000.0	994.6	49.7	598	2.49	1651	109
370.0	1050	1950.0	1031.2	52.9	632	2.63	1712	111
380.0	1044	1950.0	1019.2	52.3	621	2.58	1692	111
390.0	1048	2010.0	1026.4	51.1	627	2.61	1704	111
400.0	1035	1990.0	1001.4	50.3	605	2.51	1662	110
410.0	1020	1990.0	972.0	48.8	578	2.40	1614	108
420.0	1050	2000.0	1030.0	51.5	631	2.62	1710	111
430.0	1050	2070.0	1030.5	49.8	631	2.62	1711	111
440.0	1064	2050.0	1058.0	51.6	657	2.73	1757	113
450.0	1048	2030.0	1027.0	50.6	628	2.61	1705	111
460.0	1044	2070.0	1018.2	49.2	620	2.58	1690	111
470.0	1034	2070.0	999.3	48.3	603	2.51	1659	110
480.0	1049	2000.0	1029.3	51.5	630	2.62	1709	111
490.0	1044	2060.0	1018.1	49.4	620	2.58	1690	111
500.0	1050	2060.0	1030.5	50.0	631	2.62	1711	111
510.0	1050	2080.0	1030.8	49.6	631	2.63	1711	111
520.0	1044	2070.0	1019.1	49.2	621	2.58	1692	111
530.0	1039	2070.0	1008.4	48.7	611	2.54	1674	110
540.0	1036	2090.0	1002.6	48.0	606	2.52	1664	110
550.0	1055	2160.0	1041.1	48.2	641	2.66	1728	112
560.0	1054	2170.0	1038.4	47.9	638	2.65	1724	112
570.0	1042	2160.0	1014.9	47.0	617	2.56	1685	110
580.0	1050	2160.0	1031.4	47.7	632	2.63	1712	111
590.0	1047	2160.0	1024.2	47.4	625	2.60	1700	111
600.0	1070	2000.0	1069.6	53.5	667	2.77	1776	113
610.0	1044	2210.0	1020.0	46.2	622	2.58	1693	111
620.0	1062	2280.0	1055.2	46.3	654	2.72	1752	113
630.0	1062	2280.0	1054.3	46.2	653	2.72	1750	113
640.0	1057	2300.0	1044.8	45.4	644	2.68	1734	112
650.0	1064	2300.0	1059.4	46.1	658	2.74	1759	113

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
660.0	1065	2290.0	1059.6	46.3	658	2.74	1759	113
670.0	1059	2290.0	1048.2	45.8	648	2.69	1740	112
680.0	1065	2290.0	1059.6	46.3	658	2.74	1759	113
690.0	1055	2290.0	1039.8	45.4	640	2.66	1726	112
700.0	1045	2250.0	1020.2	45.3	622	2.58	1694	111
710.0	1041	2250.0	1013.5	45.0	616	2.56	1683	110
720.0	1063	2250.0	1055.8	46.9	655	2.72	1753	113
730.0	1050	2350.0	1030.7	43.9	631	2.62	1711	111
740.0	1060	2340.0	1050.2	44.9	649	2.70	1743	112
750.0	1065	2400.0	1061.2	44.2	660	2.74	1762	113
760.0	1058	2400.0	1046.3	43.6	646	2.68	1737	112
770.0	1059	2400.0	1048.3	43.7	648	2.69	1740	112
780.0	1053	2400.0	1036.2	43.2	636	2.65	1720	112
790.0	1055	2380.0	1040.4	43.7	640	2.66	1727	112
800.0	1055	2380.0	1041.3	43.8	641	2.67	1729	112
805.0	1059	2380.0	1048.6	44.1	648	2.69	1741	112

BIT NUMBER	3	IADC CODE	114	INTERVAL	805.0- 1610.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	1400.00	TRIP TIME	6.9	BIT RUN	805.0
TOTAL HOURS	18.73	TOTAL TURNS	192624	CONDITION	T7 B6 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
810.0	990	2400.0	1395.6	58.1	806	6.84	1877	129
820.0	1000	2430.0	1423.9	58.6	830	7.05	1915	131
830.0	1010	2500.0	1452.6	58.1	856	7.26	1953	132
840.0	1000	2480.0	1423.9	57.4	830	7.05	1915	131
850.0	1010	2500.0	1452.6	58.1	856	7.26	1953	132
860.0	990	2480.0	1395.6	56.3	806	6.84	1877	129
870.0	1000	2500.0	1423.9	57.0	830	7.05	1915	131
880.0	1010	2550.0	1452.6	57.0	856	7.26	1953	132
890.0	1010	2550.0	1452.6	57.0	856	7.26	1953	132
900.0	1010	2550.0	1452.6	57.0	856	7.26	1953	132
910.0	1010	2550.0	1452.6	57.0	856	7.26	1953	132
920.0	1010	2550.0	1452.6	57.0	856	7.26	1953	132
930.0	1010	2550.0	1452.6	57.0	856	7.26	1953	132
940.0	1010	2600.0	1452.6	55.9	856	7.26	1953	132
950.0	1010	2600.0	1452.6	55.9	856	7.26	1953	132
960.0	965	2620.0	1328.2	50.7	748	6.35	1786	126
970.0	969	2620.0	1337.7	51.1	756	6.42	1799	127
980.0	959	2620.0	1310.8	50.0	733	6.22	1763	125
990.0	955	2650.0	1298.9	49.0	723	6.14	1747	125
1000.0	1002	2650.0	1430.6	54.0	836	7.10	1924	131
1010.0	560	950.0	446.5	47.0	146	1.24	600	73
1020.0	528	950.0	397.1	41.8	122	1.04	534	69
1030.0	990	2850.0	1395.6	49.0	806	6.84	1877	129
1040.0	526	990.0	394.2	39.8	121	1.03	530	69
1050.0	540	990.0	415.2	41.9	131	1.11	558	71
1060.0	976	2850.0	1357.2	47.6	773	6.56	1825	128
1070.0	974	2850.0	1352.3	47.4	769	6.52	1818	127
1080.0	975	2850.0	1353.6	47.5	770	6.53	1820	128
1090.0	994	2850.0	1408.9	49.4	817	6.93	1895	130
1100.0	942	2800.0	1278.1	45.6	702	5.96	1719	123
1110.0	990	2800.0	1413.8	50.5	817	6.93	1901	130
1120.0	964	2900.0	1339.8	46.2	754	6.39	1802	126
1130.0	973	2900.0	1365.4	47.1	775	6.58	1836	127
1140.0	979	2900.0	1381.3	47.6	789	6.69	1857	128
1150.0	975	2900.0	1371.6	47.3	781	6.62	1844	128
1160.0	958	2850.0	1322.6	46.4	739	6.27	1779	125
1170.0	956	2850.0	1316.7	46.2	734	6.23	1771	125
1180.0	961	2850.0	1330.5	46.7	746	6.33	1789	126
1190.0	963	2850.0	1337.3	46.9	751	6.38	1798	126
1200.0	961	2850.0	1331.1	46.7	746	6.33	1790	126
1210.0	951	2900.0	1305.1	45.0	724	6.15	1755	124
1220.0	958	2900.0	1322.7	45.6	739	6.27	1779	125
1230.0	944	2900.0	1285.3	44.3	708	6.01	1728	124

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1240.0	945	2900.0	1288.4	44.4	711	6.03	1733	124
1250.0	934	2900.0	1258.7	43.4	686	5.82	1693	122
1260.0	511	1110.0	376.4	33.9	112	0.95	506	67
1270.0	536	1110.0	413.9	37.3	129	1.10	557	70
1280.0	534	1110.0	411.3	37.1	128	1.09	553	70
1290.0	532	1110.0	407.3	36.7	126	1.07	548	70
1300.0	534	1110.0	410.5	37.0	128	1.08	552	70
1310.0	540	1110.0	420.0	37.8	132	1.12	565	71
1320.0	878	2750.0	1110.8	40.4	569	4.83	1494	115
1330.0	891	2750.0	1144.2	41.6	595	5.05	1539	117
1340.0	904	2750.0	1178.9	42.9	622	5.28	1585	118
1350.0	906	2750.0	1183.3	43.0	625	5.31	1591	119
1360.0	903	2750.0	1175.9	42.8	620	5.26	1581	118
1370.0	896	2750.0	1157.2	42.1	605	5.13	1556	117
1380.0	920	2750.0	1219.0	44.3	654	5.55	1639	120
1390.0	923	2750.0	1243.6	45.2	670	5.69	1672	121
1400.0	913	2750.0	1214.2	44.2	646	5.48	1633	119
1410.0	872	2680.0	1121.7	41.9	571	4.84	1508	114
1420.0	905	2680.0	1206.9	45.0	637	5.40	1623	118
1430.0	916	2680.0	1236.8	46.1	661	5.61	1663	120
1440.0	911	2680.0	1224.8	45.7	651	5.53	1647	119
1450.0	909	2680.0	1218.6	45.5	646	5.48	1639	119
1460.0	502	1070.0	371.8	34.7	109	0.92	500	66
1470.0	556	1070.0	455.8	42.6	148	1.25	613	73
1480.0	556	1150.0	461.5	40.1	150	1.27	621	73
1490.0	540	1150.0	434.5	37.8	137	1.16	584	71
1500.0	540	1150.0	434.3	37.8	137	1.16	584	71
1510.0	519	1150.0	401.2	34.9	121	1.03	539	68
1520.0	528	1150.0	415.2	36.1	128	1.08	558	69
1530.0	536	1150.0	428.4	37.3	134	1.14	576	70
1540.0	950	2790.0	1344.9	48.2	745	6.32	1808	124
1550.0	950	2790.0	1344.9	48.2	745	6.32	1808	124
1560.0	940	2810.0	1316.7	46.9	722	6.12	1771	123
1570.0	940	2810.0	1316.7	46.9	722	6.12	1771	123
1580.0	940	2810.0	1316.7	46.9	722	6.12	1771	123
1590.0	940	2810.0	1316.7	46.9	722	6.12	1771	123
1600.0	940	2810.0	1316.7	46.9	722	6.12	1771	123
1610.0	908	2850.0	1229.2	43.1	651	5.52	1653	119

BIT NUMBER	4	IADC CODE	114	INTERVAL	1610.0- 1939.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	1400.00	TRIP TIME	8.0	BIT RUN	329.0
TOTAL HOURS	13.20	TOTAL TURNS	142370	CONDITION	T4 B3 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1620.0	905	2860.0	1220.5	42.7	644	5.47	1641	118
1630.0	888	2850.0	1175.5	41.2	609	5.17	1581	116
1640.0	890	2900.0	1195.3	41.2	621	5.27	1607	116
1650.0	879	2900.0	1164.3	40.1	597	5.06	1566	115
1660.0	878	2850.0	1162.7	40.8	596	5.05	1564	115
1670.0	877	2850.0	1159.0	40.7	593	5.03	1559	115
1680.0	870	2850.0	1142.1	40.1	580	4.92	1536	114
1690.0	444	900.0	296.9	33.0	77	0.65	399	58
1700.0	538	1170.0	436.7	37.3	137	1.16	587	70
1710.0	930	2710.0	1303.2	48.1	707	6.00	1752	122
1720.0	896	2770.0	1209.9	43.7	632	5.36	1627	117
1730.0	875	2770.0	1154.5	41.7	589	5.00	1552	114
1740.0	884	2770.0	1177.8	42.5	607	5.15	1584	116
1750.0	859	2790.0	1124.2	40.3	563	4.78	1512	112
1760.0	857	2840.0	1144.3	40.3	572	4.86	1539	112
1770.0	844	2850.0	1110.7	39.0	547	4.64	1494	110
1780.0	839	2850.0	1108.5	38.9	543	4.60	1491	110
1790.0	826	2850.0	1085.4	38.1	523	4.44	1460	108
1800.0	600	1410.0	572.2	40.6	200	1.70	769	78
1810.0	600	1410.0	572.2	40.6	200	1.70	769	78
1820.0	798	2760.0	1013.1	36.7	472	4.00	1362	104
1830.0	813	2760.0	1051.3	38.1	499	4.23	1414	106
1840.0	818	2760.0	1063.7	38.5	508	4.31	1430	107
1850.0	829	2750.0	1082.2	39.4	524	4.44	1455	108
1860.0	840	2800.0	1110.0	39.6	544	4.61	1493	110
1870.0	841	2800.0	1113.8	39.8	547	4.64	1498	110
1880.0	839	2800.0	1108.3	39.6	543	4.60	1490	110
1890.0	840	2800.0	1109.9	39.6	544	4.61	1492	110
1900.0	837	2800.0	1101.6	39.3	538	4.56	1481	109
1910.0	842	2800.0	1115.3	39.8	548	4.65	1500	110
1920.0	839	2800.0	1109.3	39.6	543	4.61	1492	110
1930.0	844	2850.0	1122.4	39.4	553	4.69	1509	110
1939.0	833	2850.0	1091.7	38.3	530	4.50	1468	109

BIT NUMBER	4	IADC CODE	4	INTERVAL	1939.0- 1952.2
CHRIST RC4		SIZE	8.500	NOZZLES	15 15 14
COST	13000.00	TRIP TIME	8.1	BIT RUN	13.2
TOTAL HOURS	12.06	TOTAL TURNS	113907	CONDITION	T0 B0 G0.250

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1940.0	190	600.0	133.3	22.2	15	0.26	119	37
1950.0	260	400.0	241.1	60.3	37	0.64	215	51
1952.2	201	420.0	144.7	34.4	17	0.30	129	40

BIT NUMBER	4	IADC CODE	4	INTERVAL	1952.2- 1964.2
CHRIST RC4		SIZE	8.500	NOZZLES	15 15 14
COST	13000.00	TRIP TIME	8.1	BIT RUN	12.8
TOTAL HOURS	14.75	TOTAL TURNS	134889	CONDITION	T0 B0 G0.350

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1960.0	262	680.0	243.8	35.9	37	0.66	218	51
1964.2	210	550.0	157.0	28.6	19	0.34	140	41

BIT NUMBER	5	IADC CODE	135	INTERVAL	1964.2- 2070.0
HTC XDG		SIZE	12.250	NOZZLES	15 15 16
COST	1284.00	TRIP TIME	8.5	BIT RUN	105.8
TOTAL HOURS	6.30	TOTAL TURNS	58389	CONDITION	T6 B6 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
1970.0	717	2800.0	1566.0	55.9	655	5.56	1530	129
1980.0	714	2800.0	1539.3	55.0	642	5.44	1503	129
1990.0	719	2800.0	1559.4	55.7	654	5.55	1523	130
2000.0	713	2800.0	1531.6	54.7	637	5.40	1496	128
2010.0	721	2800.0	1568.4	56.0	660	5.60	1532	130
2020.0	720	2800.0	1564.0	55.9	657	5.58	1528	130
2030.0	719	2800.0	1557.2	55.6	653	5.54	1521	129
2040.0	722	2800.0	1556.5	55.6	656	5.56	1520	130
2050.0	719	2800.0	1543.1	55.1	647	5.49	1507	130
2060.0	723	2800.0	1559.8	55.7	658	5.58	1523	130
2070.0	728	2800.0	1565.0	55.9	665	5.64	1529	131

BIT NUMBER	6	IADC CODE	517	INTERVAL	2070.0- 2374.0
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	9.6	BIT RUN	304.0
TOTAL HOURS	33.17	TOTAL TURNS	124801	CONDITION	T8 B4 G0.250

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2080.0	383	2950.0	2422.6	82.1	541	9.54	1005	162
2090.0	396	2950.0	2596.4	88.0	600	10.58	1078	168
2100.0	402	3000.0	2664.9	88.8	624	11.00	1106	170
2110.0	408	3000.0	2718.7	90.6	647	11.40	1128	173
2120.0	397	2900.0	2603.3	89.8	603	10.62	1080	168
2130.0	406	2900.0	2693.1	92.9	638	11.24	1118	172
2140.0	399	2950.0	2608.0	88.4	608	10.71	1082	169
2150.0	405	2900.0	2679.9	92.4	633	11.15	1112	172
2160.0	400	2900.0	2637.5	90.9	615	10.83	1095	169
2170.0	399	3000.0	2632.0	87.7	613	10.80	1092	169
2180.0	396	3000.0	2595.4	86.5	600	10.58	1077	168
2190.0	394	3000.0	2533.9	84.5	582	10.26	1052	167
2200.0	391	3000.0	2497.1	83.2	569	10.03	1036	166
2210.0	389	3000.0	2498.4	83.3	567	9.99	1037	165
2220.0	397	3000.0	2599.0	86.6	601	10.60	1079	168
2230.0	389	3000.0	2478.0	82.6	563	9.92	1028	165
2240.0	396	2900.0	2589.4	89.3	598	10.54	1075	168
2250.0	396	2980.0	2585.6	86.8	597	10.52	1073	168
2260.0	385	3000.0	2450.3	81.7	550	9.70	1017	163
2270.0	386	3000.0	2457.6	81.9	553	9.74	1020	163
2280.0	390	3000.0	2511.5	83.7	571	10.07	1042	165
2290.0	384	3000.0	2433.1	81.1	545	9.60	1010	163
2300.0	380	3000.0	2384.4	79.5	528	9.31	990	161
2310.0	380	3000.0	2390.0	79.7	530	9.34	992	161
2320.0	385	3000.0	2449.9	81.7	550	9.70	1017	163
2330.0	381	3000.0	2402.7	80.1	535	9.42	997	162
2340.0	381	3000.0	2392.9	79.8	531	9.36	993	161
2350.0	378	3000.0	2383.3	79.4	525	9.26	989	160
2360.0	380	3000.0	2409.5	80.3	534	9.41	1000	161
2370.0	390	3000.0	2542.7	84.8	579	10.20	1055	165
2374.0	385	3000.0	2444.9	81.5	549	9.67	1015	163

BIT NUMBER	7	IADC CODE	527	INTERVAL	2374.0- 2568.0
HTC J33		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	10.3	BIT RUN	194.0
TOTAL HOURS	27.67	TOTAL TURNS	90581	CONDITION	T2 B3 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2380.0	373	3000.0	2304.2	76.8	502	8.85	956	158
2390.0	374	3000.0	2316.4	77.2	506	8.92	961	159
2400.0	372	2950.0	2287.4	77.5	497	8.75	949	158
2410.0	380	3000.0	2387.4	79.6	529	9.33	991	161
2420.0	379	3000.0	2400.1	80.0	531	9.36	996	161
2430.0	372	3000.0	2284.1	76.1	495	8.73	948	158
2440.0	384	3000.0	2436.4	81.2	546	9.62	1011	163
2450.0	384	3000.0	2432.1	81.1	544	9.59	1009	163
2460.0	390	3000.0	2485.1	82.8	565	9.96	1031	165
2470.0	380	3000.0	2362.5	78.8	524	9.23	981	161
2480.0	388	3000.0	2482.9	82.8	561	9.90	1030	164
2490.0	370	3000.0	2265.1	75.5	489	8.62	940	157
2500.0	373	3000.0	2293.3	76.4	498	8.78	952	158
2510.0	373	3000.0	2304.0	76.8	502	8.85	956	158
2520.0	375	3000.0	2322.7	77.4	508	8.95	964	159
2530.0	368	3000.0	2236.0	74.5	480	8.46	928	156
2540.0	372	3000.0	2291.8	76.4	498	8.78	951	158
2550.0	375	3000.0	2322.0	77.4	508	8.95	964	159
2560.0	375	3000.0	2322.0	77.4	508	8.95	964	159
2568.0	390	3000.0	2508.1	83.6	570	10.05	1041	165

BIT NUMBER	7	IADC CODE	4	INTERVAL	2568.0- 2574.6
CHRIST C-22		SIZE	8.468	NOZZLES	13 13 13
COST	12000.00	TRIP TIME	10.4	BIT RUN	6.6
TOTAL HOURS	5.48	TOTAL TURNS	31240	CONDITION	T0 B0 G0.450

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2570.0	337	1000.0	655.4	65.5	129	2.28	460	84
2574.6	306	700.0	540.2	77.2	96	1.71	379	77

BIT NUMBER	8	IADC CODE	517	INTERVAL	2574.6- 2707.6
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	10.8	BIT RUN	133.0
TOTAL HOURS	13.92	TOTAL TURNS	49931	CONDITION	T3 B3 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2580.0	380	3060.0	2384.4	77.9	528	9.31	990	161
2590.0	408	3000.0	2750.9	91.7	655	11.54	1142	173
2600.0	414	3000.0	2836.3	94.5	686	12.08	1177	176
2610.0	405	2950.0	2708.4	91.8	640	11.27	1124	172
2620.0	407	2850.0	2735.8	96.0	649	11.44	1135	172
2630.0	394	3000.0	2560.7	85.4	588	10.36	1063	167
2640.0	390	3150.0	2518.3	79.9	574	10.11	1045	165
2650.0	391	2980.0	2525.8	84.8	576	10.15	1048	166
2660.0	403	3100.0	2678.1	86.4	629	11.08	1111	171
2670.0	378	3050.0	2362.9	77.5	521	9.19	981	160
2680.0	380	3100.0	2389.7	77.1	530	9.34	992	161
2690.0	393	3150.0	2574.9	81.7	590	10.40	1069	166
2700.0	396	3100.0	2594.7	83.7	600	10.57	1077	168

BIT NUMBER	8	IADC CODE	4	INTERVAL	2707.6- 2726.0
CHRIST C-22 FD		SIZE	8.468	NOZZLES	13 13 13
COST	12000.00	TRIP TIME	10.9	BIT RUN	18.4
TOTAL HOURS	4.23	TOTAL TURNS	28434	CONDITION	T0 B0 G0.600

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2710.0	273	870.0	435.5	50.1	69	1.23	305	68
2720.0	301	1040.0	530.0	51.0	93	1.65	372	76
2726.0	303	1170.0	535.4	45.8	95	1.68	376	76

BIT NUMBER	9	IADC CODE	517	INTERVAL	2726.0- 2758.4
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	11.0	BIT RUN	32.4
TOTAL HOURS	2.92	TOTAL TURNS	12698	CONDITION	T1 B1 G0.000

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2730.0	366	2350.0	2237.7	95.2	478	8.42	929	155
2740.0	386	2970.0	2489.7	83.8	561	9.88	1033	164
2750.0	383	2850.0	2448.8	85.9	547	9.64	1016	162
2758.4	386	2850.0	2484.1	87.2	559	9.85	1031	163

BIT NUMBER	9	IADC CODE	4	INTERVAL	2758.4- 2776.4
CHRIST RC4		SIZE	8.500	NOZZLES	15 15 14
COST	13000.00	TRIP TIME	11.1	BIT RUN	18.0
TOTAL HOURS	16.88	TOTAL TURNS	148624	CONDITION	T0 B0 G0.600

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2760.0	287	700.0	296.0	42.3	50	0.87	265	56
2770.0	289	880.0	301.5	34.3	51	0.90	269	57
2776.4	292	700.0	307.0	43.9	52	0.92	274	57

BIT NUMBER	10	IADC CODE	517	INTERVAL	2776.4- 3017.0
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	12.0	BIT RUN	240.6
TOTAL HOURS	27.73	TOTAL TURNS	101374	CONDITION	T4 B5 G0.250

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
2780.0	374	2820.0	2331.5	82.7	508	8.96	968	158
2790.0	380	2900.0	2415.9	83.3	536	9.45	1003	161
2800.0	383	2880.0	2429.8	84.4	544	9.58	1008	163
2810.0	376	2770.0	2311.2	83.4	507	8.93	959	159
2820.0	372	2750.0	2257.4	82.1	489	8.62	937	157
2830.0	387	2840.0	2444.8	86.1	552	9.72	1015	164
2840.0	380	2740.0	2359.3	86.1	523	9.21	979	161
2850.0	380	2740.0	2359.3	86.1	523	9.21	979	161
2860.0	378	2740.0	2333.9	85.2	514	9.07	969	160
2870.0	376	2850.0	2315.1	81.2	508	8.96	961	160
2880.0	347	2820.0	1971.0	69.9	399	7.04	818	147
2890.0	387	2850.0	2444.0	85.8	551	9.71	1014	164
2900.0	388	2850.0	2467.1	86.6	559	9.85	1024	165
2910.0	400	2850.0	2614.1	91.7	610	10.75	1085	169
2920.0	389	2850.0	2470.1	86.7	560	9.87	1025	165
2930.0	389	2850.0	2470.8	86.7	560	9.88	1025	165
2940.0	388	2900.0	2461.5	84.9	557	9.82	1022	164
2950.0	383	2900.0	2402.0	82.8	537	9.47	997	162
2960.0	379	2940.0	2349.8	79.9	520	9.16	975	161
2970.0	382	2940.0	2390.9	81.3	533	9.40	992	162
2980.0	384	2940.0	2409.5	82.0	540	9.51	1000	163
2990.0	376	2990.0	2308.4	77.2	506	8.92	958	159
3000.0	379	2980.0	2349.3	78.8	520	9.16	975	161
3010.0	382	2950.0	2410.6	81.7	537	9.47	1000	162
3017.0	379	2950.0	2375.0	80.5	525	9.26	986	161

BIT NUMBER	11	IADC CODE	517	INTERVAL	3017.0- 3284.0
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	12.9	BIT RUN	267.0
TOTAL HOURS	29.28	TOTAL TURNS	118795	CONDITION	T8 B8 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3020.0	355	2840.0	2102.9	74.0	435	7.67	873	150
3030.0	355	2840.0	2102.9	74.0	435	7.67	873	150
3040.0	375	2900.0	2346.5	80.9	513	9.04	974	159
3050.0	385	2920.0	2473.3	84.7	555	9.79	1026	163
3060.0	385	2920.0	2473.3	84.7	555	9.79	1026	163
3070.0	390	2880.0	2535.9	88.1	577	10.16	1052	165
3080.0	385	2880.0	2473.3	85.9	555	9.79	1026	163
3090.0	378	2830.0	2383.0	84.2	525	9.26	989	160
3100.0	386	2830.0	2485.2	87.8	559	9.86	1031	164
3110.0	382	2830.0	2441.0	86.3	544	9.60	1013	162
3120.0	383	2910.0	2427.7	83.4	543	9.57	1008	162
3130.0	382	2910.0	2411.1	82.9	537	9.47	1001	162
3140.0	390	2940.0	2511.5	85.4	571	10.07	1042	165
3150.0	385	2980.0	2452.7	82.3	551	9.72	1018	163
3160.0	383	2980.0	2421.8	81.3	541	9.53	1005	162
3170.0	390	2980.0	2511.5	84.3	571	10.07	1042	165
3180.0	385	2900.0	2447.5	84.4	550	9.68	1016	163
3190.0	385	2900.0	2447.5	84.4	550	9.68	1016	163
3200.0	389	2950.0	2501.5	84.8	568	10.01	1038	165
3210.0	385	2950.0	2447.5	83.0	550	9.68	1016	163
3220.0	387	2950.0	2472.8	83.8	558	9.83	1026	164
3230.0	387	2950.0	2473.3	83.8	558	9.84	1026	164
3240.0	387	2950.0	2477.7	84.0	560	9.86	1028	164
3250.0	381	2950.0	2404.1	81.5	535	9.43	998	162
3260.0	380	2950.0	2386.8	80.9	529	9.33	991	161
3270.0	379	2950.0	2372.5	80.4	524	9.24	985	161
3280.0	383	2950.0	2419.0	82.0	540	9.52	1004	162
3284.0	390	2740.0	2511.5	91.7	571	10.07	1042	165

BIT NUMBER	12	IADC CODE	216	INTERVAL	3284.0- 3322.0
HTC J4		SIZE	8.500	NOZZLES	10 10 10
COST	1300.00	TRIP TIME	13.1	BIT RUN	38.0
TOTAL HOURS	7.19	TOTAL TURNS	25721	CONDITION	T4 B2 G0.125

DEPTH	FLOW RATE	PSP	PBIT	%PSP	HHP	HHP/ sqin	IMPACT FORCE	JET VELOCITY
3290.0	390	2850.0	2512.2	88.1	571	10.07	1043	165
3300.0	372	2850.0	2283.2	80.1	495	8.73	948	158
3310.0	382	2900.0	2417.8	83.4	540	9.51	1003	162
3320.0	384	3000.0	2436.0	81.2	546	9.62	1011	163
3322.0	386	3000.0	2467.0	82.2	556	9.80	1024	164

(f). COMPUTER DATA LISTING : LIST D

INTERVAL . . . . . 10 m average

DEPTH . . . . . Well depth, in metres

SPM1 . . . . . Stroke rate per minute, for pump No 1

SPM2 . . . . . Stroke rate per minute, for pump No 2

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

ANNULAR VELOCITIES : (in metres per minute)

DC/OH - Between drill collars and the open hole

DC/CSG - Between drill collars and casing

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

HW/CSG - Between heavyweight drill pipe and casing

DP/OH - Between drill pipe and open hole

DP/CSG - Between drill pipe and casing

DP/RIS - Between drill pipe and riser

BIT NUMBER	1	IADC CODE	111	INTERVAL	80.6- 220.0
HTC OSC3AJ&26"HO		SIZE	26.000	NOZZLES	20 20 20
COST	6350.00	TRIP TIME	1.8	BIT RUN	139.4
TOTAL HOURS	1.06	TOTAL TURNS	8208	CONDITION	T2 B2 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
100.0	61	62	616	8		7				
110.0	78	75	763	9		9				
120.0	103	96	997	12		11				
130.0	106	106	1055	13		12				
140.0	106	105	1050	13		12				
150.0	106	105	1054	13		12		12		
160.0	106	105	1053	13		12		12		
170.0	89	86	875	11		10		10		
180.0	106	106	1057	13		12		12		
190.0	106	105	1058	13		12		12		
200.0	106	106	1059	13		12		12		
210.0	107	103	1050	13		12		12		
220.0	106	101	1036	13		12		12		

BIT NUMBER	2	IADC CODE	111	INTERVAL	220.0- 805.0
HTC OSC 3AJ		SIZE	17.500	NOZZLES	20 20 20
COST	2500.00	TRIP TIME	3.9	BIT RUN	585.0
TOTAL HOURS	7.56	TOTAL TURNS	82391	CONDITION	T1 B1 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
230.0	107	98	1025	32	25		22			18
240.0	105	95	1000	31	25		22			18
250.0	104	103	1034	32	26		23			19
260.0	105	104	1044	32	26		23			19
270.0	106	104	1046	32	26		23			19
280.0	105	102	1037	32	26		23		23	19
290.0	62	68	650	20	16		14		14	12
300.0	105	112	1082	33	27		24		24	19
310.0	106	105	1055	33	26		23		23	19
320.0	106	141	1235	38		33	27		27	22
330.0	105	105	1046	32		28	23		23	19
340.0	106	103	1043	32		28	23		23	19
350.0	105	106	1051	32		28	23		23	19
360.0	103	104	1031	32		27	23		23	19
370.0	105	105	1050	32		28	23		23	19
380.0	105	104	1044	32		28	23		23	19
390.0	105	105	1048	32		28	23		23	19
400.0	104	103	1035	32		28	23		23	19
410.0	104	100	1020	31		27		27	22	18
420.0	105	105	1050	32		28		28	23	19
430.0	106	104	1050	32		28		28	23	19
440.0	108	105	1064	33		28		28	23	19
450.0	105	105	1048	32		28		28	23	19
460.0	104	104	1044	32		28		28	23	19
470.0	104	103	1034	32		27		27	23	19
480.0	105	105	1049	32		28		28	23	19
490.0	105	104	1044	32		28		28	23	19
500.0	105	105	1050	32		28		28	23	19
510.0	106	104	1050	32		28		28	23	19
520.0	105	104	1044	32		28		28	23	19
530.0	105	103	1039	32		28		28	23	19
540.0	102	105	1036	32		28		28	23	19
550.0	106	105	1055	33		28		28	23	19
560.0	105	106	1054	33		28		28	23	19
570.0	104	104	1042	32		28		28	23	19
580.0	105	105	1050	32		28		28	23	19
590.0	104	105	1047	32		28		28	23	19
600.0	109	105	1070	33		28		28	23	19
610.0	106	103	1044	32		28		28	23	19
620.0	107	105	1062	33		28		28	23	19
630.0	109	103	1062	33		28		28	23	19
640.0	106	106	1057	33		28		28	23	19
650.0	107	106	1064	33		28		28	23	19

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
660.0	108	105	1065	33		28		28	23	19
670.0	107	105	1059	33		28		28	23	19
680.0	108	105	1065	33		28		28	23	19
690.0	106	105	1055	33		28		28	23	19
700.0	105	104	1045	32		28		28	23	19
710.0	104	104	1041	32		28		28	23	19
720.0	108	105	1063	33		28		28	23	19
730.0	106	104	1050	32		28		28	23	19
740.0	108	104	1060	33		28		28	23	19
750.0	108	106	1065	33		28		28	23	19
760.0	107	105	1058	33		28		28	23	19
770.0	108	104	1059	33		28		28	23	19
780.0	106	105	1053	32		28		28	23	19
790.0	108	103	1055	33		28		28	23	19
800.0	107	105	1055	33		28		28	23	19
805.0	107	105	1059	33		28		28	23	19

BIT NUMBER	3	IADC CODE	114	INTERVAL	805.0- 1610.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	1400.00	TRIP TIME	6.9	BIT RUN	805.0
TOTAL HOURS	18.73	TOTAL TURNS	192624	CONDITION	T7 B6 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
810.0	102	96	990	86	78		55		55	18
820.0	102	98	1000	87	79		56		56	18
830.0	104	98	1010	88	79		56		56	18
840.0	104	96	1000	87	79		56		56	18
850.0	104	98	1010	88	79		56		56	18
860.0	102	96	990	86	78		55		55	18
870.0	104	96	1000	87	79		56		56	18
880.0	104	98	1010	88	79		56		56	18
890.0	104	98	1010	88	79		56		56	18
900.0	104	98	1010	88	79		56		56	18
910.0	104	98	1010	88	79		56		56	18
920.0	104	98	1010	88	79		56		56	18
930.0	104	98	1010	88	79		56		56	18
940.0	104	98	1010	88		60	56		56	18
950.0	104	98	1010	88		60	56		56	18
960.0	97	96	965	84		58	54		54	17
970.0	99	94	969	84		58	54		54	17
980.0	98	93	959	83		57	53		53	17
990.0	96	95	955	83		57	53		53	17
1000.0	103	98	1002	87		60	56		56	18
1010.0	0	112	560	49		33	31		31	10
1020.0	0	106	528	46		32		32	29	9
1030.0	102	96	990	86		59		59	55	18
1040.0	0	105	526	46		31		31	29	9
1050.0	0	108	540	47		32		32	30	10
1060.0	97	98	976	85		58		58	54	18
1070.0	99	96	974	85		58		58	54	18
1080.0	110	85	975	85		58		58	54	18
1090.0	114	85	994	86		59		59	55	18
1100.0	103	85	942	82		56		56	52	17
1110.0	101	97	990	86		59		59	55	18
1120.0	99	94	964	84		58		58	54	17
1130.0	99	96	973	85		58		58	54	17
1140.0	100	96	979	85		58		58	55	18
1150.0	99	96	975	85		58		58	54	18
1160.0	97	94	958	83		57		57	53	17
1170.0	97	94	956	83		57		57	53	17
1180.0	99	93	961	83		57		57	54	17
1190.0	101	92	963	84		58		58	54	17
1200.0	98	94	961	83		57		57	54	17
1210.0	95	95	951	83		57		57	53	17
1220.0	99	93	958	83		57		57	53	17
1230.0	94	94	944	82		56		56	53	17

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1240.0	94	95	945	82		56		56	53	17
1250.0	94	93	934	81		56		56	52	17
1260.0	0	102	511	44		31		31	28	9
1270.0	0	107	536	47		32		32	30	10
1280.0	0	107	534	46		32		32	30	10
1290.0	0	106	532	46		32		32	30	10
1300.0	0	107	534	46		32		32	30	10
1310.0	0	108	540	47		32		32	30	10
1320.0	89	87	878	76		52		52	49	16
1330.0	91	88	891	77		53		53	50	16
1340.0	94	87	904	79		54		54	50	16
1350.0	94	87	906	79		54		54	50	16
1360.0	94	87	903	78		54		54	50	16
1370.0	94	85	896	78		54		54	50	16
1380.0	94	90	920	80		55		55	51	17
1390.0	96	89	923	80		55		55	51	17
1400.0	95	88	913	79		55		55	51	16
1410.0	91	84	872	76		52		52	49	16
1420.0	95	86	905	79		54		54	50	16
1430.0	96	87	916	80		55		55	51	16
1440.0	95	87	911	79		54		54	51	16
1450.0	95	86	909	79		54		54	51	16
1460.0	0	100	502	44		30		30	28	9
1470.0	0	111	556	48		33		33	31	10
1480.0	0	111	556	48		33		33	31	10
1490.0	0	108	540	47		32		32	30	10
1500.0	0	108	540	47		32		32	30	10
1510.0	0	104	519	45		31		31	29	9
1520.0	0	106	528	46		32		32	29	9
1530.0	0	107	536	47		32		32	30	10
1540.0	95	95	950	82		57		57	53	17
1550.0	95	95	950	82		57		57	53	17
1560.0	100	88	940	82		56		56	52	17
1570.0	100	88	940	82		56		56	52	17
1580.0	100	88	940	82		56		56	52	17
1590.0	100	88	940	82		56		56	52	17
1600.0	100	88	940	82		56		56	52	17
1610.0	96	86	908	79		54		54	51	16

BIT NUMBER	4	IADC CODE	114	INTERVAL	1610.0- 1939.0
HTC X3A		SIZE	12.250	NOZZLES	18 18 18
COST	1400.00	TRIP TIME	8.0	BIT RUN	329.0
TOTAL HOURS	13.20	TOTAL TURNS	142370	CONDITION	T4 B3 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1620.0	91	90	905	79		54		54	50	16
1630.0	90	87	888	77		53		53	49	16
1640.0	91	87	890	77		53		53	50	16
1650.0	90	86	879	76		53		53	49	16
1660.0	90	86	878	76		52		52	49	16
1670.0	90	86	877	76		52		52	49	16
1680.0	91	83	870	76		52		52	48	16
1690.0	0	89	444	39		27		27	25	8
1700.0	0	108	538	47		32		32	30	10
1710.0	98	88	930	81		56		56	52	17
1720.0	90	90	896	78		54		54	50	16
1730.0	88	87	875	76		52		52	49	16
1740.0	89	88	884	77		53		53	49	16
1750.0	88	84	859	75		51		51	48	15
1760.0	88	84	857	74		51		51	48	15
1770.0	86	83	844	73		50		50	47	15
1780.0	83	85	839	73		50		50	47	15
1790.0	86	79	826	72		49		49	46	15
1800.0	120	0	600	52		36		36	33	11
1810.0	120	0	600	52		36		36	33	11
1820.0	81	79	798	69		48		48	44	14
1830.0	81	82	813	71		49		49	45	15
1840.0	82	82	818	71		49		49	46	15
1850.0	81	85	829	72		50		50	46	15
1860.0	89	79	840	73		50		50	47	15
1870.0	84	84	841	73		50		50	47	15
1880.0	85	83	839	73		50		50	47	15
1890.0	84	84	840	73		50		50	47	15
1900.0	83	84	837	73		50		50	47	15
1910.0	84	84	842	73		50		50	47	15
1920.0	84	84	839	73		50		50	47	15
1930.0	85	84	844	73		50		50	47	15
1939.0	85	82	833	72		50		50	46	15

BIT NUMBER	4	IADC CODE	4	INTERVAL	1939.0- 1952.2
CHRIST RC4		SIZE	8.500	NOZZLES	15 15 14
COST	13000.00	TRIP TIME	8.1	BIT RUN	13.2
TOTAL HOURS	12.06	TOTAL TURNS	113907	CONDITION	T0 B0 G0.250

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1940.0	38	0	190	172					11	3
1950.0	52	0	260	236					14	5
1952.2	40	0	201	183					11	4

BIT NUMBER	4	IADC CODE	4	INTERVAL	1952.2- 1964.2
CHRIST RC4		SIZE	8.500	NOZZLES	15 15 14
COST	13000.00	TRIP TIME	8.1	BIT RUN	12.0
TOTAL HOURS	14.75	TOTAL TURNS	134889	CONDITION	T0 B0 G0.350

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1960.0	0	52	262						15	5
1964.2	0	42	210						12	4

BIT NUMBER	5	IADC CODE	135	INTERVAL	1964.2- 2070.0
HTC XDG		SIZE	12.250	NOZZLES	15 15 16
COST	1284.00	TRIP TIME	8.5	BIT RUN	105.8
TOTAL HOURS	6.30	TOTAL TURNS	58389	CONDITION	T6 B6 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
1970.0	73	70	717	62		43		43	40	13
1980.0	74	69	714	62		43		43	40	13
1990.0	75	69	719	62		43		43	40	13
2000.0	74	69	713	62		43		43	40	13
2010.0	75	69	721	63		43		43	40	13
2020.0	75	69	720	63		43		43	40	13
2030.0	75	69	719	62		43		43	40	13
2040.0	75	69	722	63		43		43	40	13
2050.0	75	69	719	62		43		43	40	13
2060.0	75	70	723	63		43		43	40	13
2070.0	76	70	728	63		44		44	41	13

BIT NUMBER	6	IADC CODE	517	INTERVAL	2070.0- 2374.0
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	9.6	BIT RUN	304.0
TOTAL HOURS	33.17	TOTAL TURNS	124801	CONDITION	T8 B4 G0.250

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2080.0	77	0	383	86	79		57		57	7
2090.0	79	0	396	89	82		59		59	7
2100.0	80	0	402	90	83		60		60	7
2110.0	82	0	408	92	84		61		61	7
2120.0	79	0	397	89	82		59		59	7
2130.0	81	0	406	91	84		60		60	7
2140.0	80	0	399	90	82		59		59	
2150.0	81	0	405	91	83		60		60	7
2160.0	80	0	400	90	82		59		59	7
2170.0	80	0	399	90	82		59		59	7
2180.0	79	0	396	89	82		59		59	7
2190.0	79	0	394	89	81		58		58	7
2200.0	78	0	391	88	80		58		58	7
2210.0	78	0	389	88	80		58		58	7
2220.0	79	0	397	89	82		59		59	7
2230.0	78	0	389	88	80		58		58	7
2240.0	79	0	396	89	82		59		59	7
2250.0	79	0	396	89	81		59		59	7
2260.0	77	0	385	87	79		57		57	7
2270.0	77	0	386	87	79		57		57	7
2280.0	78	0	390	88	80		58		58	7
2290.0	77	0	384	86	79		57		57	7
2300.0	76	0	380	86		60	56		56	7
2310.0	76	0	380	86		60	56		56	7
2320.0	77	0	385	87		61	57		57	7
2330.0	76	0	381	86		60	57		57	7
2340.0	76	0	381	86		60	56		56	7
2350.0	76	0	378	85		60	56		56	7
2360.0	0	76	380	86		60	56		56	7
2370.0	0	78	390	88		62	58		58	7
2374.0	0	77	385	87		61		61	57	7

BIT NUMBER	7	IADC CODE	527	INTERVAL	2374.0- 2568.0
HTC J33		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	10.3	BIT RUN	194.0
TOTAL HOURS	27.67	TOTAL TURNS	90581	CONDITION	T2 B3 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2380.0	0	75	373	84		59		59	55	7
2390.0	0	75	374	84		59		59	56	7
2400.0	74	0	372	84		59		59	55	7
2410.0	76	0	380	86		60		60	56	7
2420.0	76	0	379	85		60		60	56	7
2430.0	0	74	372	84		59		59	55	7
2440.0	77	0	384	86		61		61	57	7
2450.0	77	0	384	86		61		61	57	7
2460.0	78	0	390	88		62		62	58	7
2470.0	76	0	380	86		60		60	56	7
2480.0	78	0	388	87		61		61	58	7
2490.0	0	74	370	83		59		59	55	7
2500.0	0	75	373	84		59		59	55	7
2510.0	0	75	373	84		59		59	55	7
2520.0	0	75	375	84		59		59	56	7
2530.0	0	74	368	83		58		58	55	7
2540.0	0	75	372	84		59		59	55	7
2550.0	0	75	375	84		59		59	56	7
2560.0	0	75	375	84		59		59	56	7
2568.0	0	78	390	88		62		62	58	7

BIT NUMBER	7	IADC CODE	4	INTERVAL	2568.0- 2574.6
CHRIST C-22		SIZE	8.468	NOZZLES	13 13 13
COST	12000.00	TRIP TIME	10.4	BIT RUN	6.6
TOTAL HOURS	5.48	TOTAL TURNS	31240	CONDITION	T0 B0 G0.450

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2570.0	67	0	337	77					50	6
2574.6	61	0	306	70					45	5

BIT NUMBER	8	IADC CODE	517	INTERVAL	2574.6- 2707.6
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	10.8	BIT RUN	133.0
TOTAL HOURS	13.92	TOTAL TURNS	49931	CONDITION	T3 B3 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2580.0	0	76	380	86		60		60	56	7
2590.0	0	82	408	92		65		65	61	7
2600.0	83	0	414	93		66		66	61	7
2610.0	0	81	405	91		64		64	60	7
2620.0	0	81	407	92		64		64	60	7
2630.0	0	79	394	89		62		62	58	7
2640.0	0	78	390	88		62		62	58	7
2650.0	10	68	391	88		62		62	58	7
2660.0	57	24	403	91		64		64	60	7
2670.0	0	76	378	85		60		60	56	7
2680.0	76	0	380	86		60		60	56	7
2690.0	79	0	393	88		62		62	58	7
2700.0	0	79	396	89		63		63	59	7

BIT NUMBER	8	IADC CODE	4	INTERVAL	2707.6- 2726.0
CHRIST C-22 FD		SIZE	8.468	NOZZLES	13 13 13
COST	12000.00	TRIP TIME	10.9	BIT RUN	18.4
TOTAL HOURS	4.23	TOTAL TURNS	28434	CONDITION	T0 B0 G0.600

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2710.0	55	0	273	62					41	5
2720.0	60	0	301	69					45	5
2726.0	61	0	303	69					45	5

BIT NUMBER	9	IADC CODE	517	INTERVAL	2726.0- 2758.4
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	11.0	BIT RUN	32.4
TOTAL HOURS	2.92	TOTAL TURNS	12698	CONDITION	T1 B1 G0.000

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2730.0	73	0	366	82		58		58	54	7
2740.0	77	0	386	87		61		61	57	7
2750.0	77	0	383	86		61		61	57	7
2758.4	77	0	386	87		61		61	57	7

BIT NUMBER	9	IADC CODE	4	INTERVAL	2758.4- 2776.4
CHRIST RC4		SIZE	8.500	NOZZLES	15 15 14
COST	13000.00	TRIP TIME	11.1	BIT RUN	18.0
TOTAL HOURS	16.88	TOTAL TURNS	148624	CONDITION	T0 B0 G0.600

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2760.0	0	57	287	65		45		45	43	5
2770.0	0	58	289	65		46		46	43	5
2776.4	0	58	292	66		46		46	43	5

BIT NUMBER	10	IADC CODE	517	INTERVAL	2776.4- 3017.0
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	12.0	BIT RUN	240.6
TOTAL HOURS	27.73	TOTAL TURNS	101374	CONDITION	T4 B5 G0.250

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
2780.0	0	75	374	84		59		59	55	7
2790.0	0	76	380	86		60		60	56	7
2800.0	0	77	383	86		61		61	57	7
2810.0	0	75	376	85		59		59	56	7
2820.0	0	74	372	84		59		59	55	7
2830.0	0	77	387	87		61		61	57	7
2840.0	0	76	380	86		60		60	56	7
2850.0	0	76	380	86		60		60	56	7
2860.0	0	76	378	85		60		60	56	7
2870.0	0	75	376	85		60		60	56	7
2880.0	0	69	347	78		55		55	52	6
2890.0	77	0	387	87		61		61	57	7
2900.0	0	78	388	87		61		61	58	7
2910.0	80	0	400	90		63		63	59	7
2920.0	0	78	389	88		61		61	58	7
2930.0	0	78	389	88		61		61	58	7
2940.0	0	78	388	87		61		61	58	7
2950.0	0	77	383	86		61		61	57	7
2960.0	0	76	379	85		60		60	56	7
2970.0	0	77	382	86		60		60	57	7
2980.0	0	77	384	86		61		61	57	7
2990.0	0	75	376	85		59		59	56	7
3000.0	0	76	379	85		60		60	56	7
3010.0	76	0	382	86		60		60	57	7
3017.0	76	0	379	85		60		60	56	7

BIT NUMBER	11	IADC CODE	517	INTERVAL	3017.0- 3284.0
HTC J22		SIZE	8.500	NOZZLES	10 10 10
COST	1852.00	TRIP TIME	12.9	BIT RUN	267.0
TOTAL HOURS	29.28	TOTAL TURNS	118795	CONDITION	T8 B8 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
3020.0	71	0	355	80		56		56	53	6
3030.0	71	0	355	80		56		56	53	6
3040.0	75	0	375	84		59		59	56	7
3050.0	77	0	385	87		61		61	57	7
3060.0	77	0	385	87		61		61	57	7
3070.0	78	0	390	88		62		62	58	7
3080.0	0	77	385	87		61		61	57	7
3090.0	0	76	378	85		60		60	56	
3100.0	0	77	386	87		61		61	57	7
3110.0	0	76	382	86		60		60	57	7
3120.0	0	77	383	86		61		61	57	7
3130.0	0	76	382	86		60		60	57	7
3140.0	0	78	390	88		62		62	58	7
3150.0	0	77	385	87		61		61	57	7
3160.0	0	77	383	86		61		61	57	
3170.0	78	0	390	88		62		62	58	7
3180.0	77	0	385	87		61		61	57	7
3190.0	77	0	385	87		61		61	57	7
3200.0	78	0	389	88		62		62	58	7
3210.0	77	0	385	87		61		61	57	7
3220.0	77	0	387	87		61		61	57	7
3230.0	77	0	387	87		61		61	57	7
3240.0	77	0	387	87		61		61	57	7
3250.0	76	0	381	86		60		60	57	7
3260.0	0	76	380	86		60		60	56	7
3270.0	0	76	379	85		60		60	56	7
3280.0	0	77	383	86		61		61	57	7
3284.0	0	78	390	88		62		62	58	7

BIT NUMBER	12	IADC CODE	216	INTERVAL	3284.0- 3322.0
HTC J4		SIZE	8.500	NOZZLES	10 10 10
COST	1300.00	TRIP TIME	13.1	BIT RUN	38.0
TOTAL HOURS	7.19	TOTAL TURNS	25721	CONDITION	T4 B2 G0.125

DEPTH	SPM1	SPM2	FLOW RATE	DC/ OH	DC/ CSG	HW/ OH	HW/ CSG	DP/ OH	DP/ CSG	DP/ RIS
3290.0	78	0	390	88				62	58	7
3300.0	0	74	372	84				59	55	7
3310.0	0	77	382	86				61	57	7
3320.0	77	0	384	86				61	57	7
3322.0	77	0	386	87				61	57	7

PE602729

This is an enclosure indicator page.
The enclosure PE602729 is enclosed within the container PE903931 at this location in this document.

The enclosure PE602729 has the following characteristics:

ITEM_BARCODE	= PE602729
CONTAINER_BARCODE	= PE903931
NAME	= Bream-5 drill data plot
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Bream-5 drill data plot log.
REMARKS	=
DATE_CREATED	= 5/09/82
DATE_RECEIVED	= 6/07/83
W_NO	= W781
WELL_NAME	= Bream-5
CONTRACTOR	= Core Laboratories Australia (Qld) Ltd.
CLIENT_OP_CO	= Esso Exploration and Production Australia Inc

(Inserted by DNRE - Vic Govt Mines Dept)

PE602730

This is an enclosure indicator page.
The enclosure PE602730 is enclosed within the container PE903931 at this location in this document.

The enclosure PE602730 has the following characteristics:

ITEM_BARCODE	= PE602730
CONTAINER_BARCODE	= PE903931
NAME	= Bream-5 Geo-Plot log
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Bream-5 Geo-Plot log.
REMARKS	=
DATE_CREATED	= 5/09/82
DATE_RECEIVED	= 6/07/83
W_NO	= W781
WELL_NAME	= Bream-5
CONTRACTOR	= Core Laboratories Australia (Qld) Ltd.
CLIENT_OP_CO	= Esso Exploration and Production Australia Inc

(Inserted by DNRE - Vic Govt Mines Dept)

PE602731

This is an enclosure indicator page.
The enclosure PE602731 is enclosed within the container PE903931 at this location in this document.

The enclosure PE602731 has the following characteristics:

ITEM_BARCODE	= PE602731
CONTAINER_BARCODE	= PE903931
NAME	= Bream-5 Temperature Plot
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Bream-5 Temperature Plot
REMARKS	=
DATE_CREATED	= 5/09/82
DATE_RECEIVED	= 6/07/83
W_NO	= W781
WELL_NAME	= Bream-5
CONTRACTOR	= Core Laboratories Australia (Qld) Ltd.
CLIENT_OP_CO	= Esso Exploration and Production Australia Inc

(Inserted by DNRE - Vic Govt Mines Dept)

PE602732

This is an enclosure indicator page.
The enclosure PE602732 is enclosed within the container PE903931 at this location in this document.

The enclosure PE602732 has the following characteristics:

ITEM_BARCODE	= PE602732
CONTAINER_BARCODE	= PE903931
NAME	= Bream-5 Pressure Plot log
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= WELL_LOG
DESCRIPTION	= Bream-5 Pressure Plot Log
REMARKS	=
DATE_CREATED	= 5/09/82
DATE_RECEIVED	= 6/07/83
W_NO	= W781
WELL_NAME	= Bream-5
CONTRACTOR	= Core Laboratories Australia (Qld) Ltd.
CLIENT_OP_CO	= Esso Exploration and Production Australia Inc

(Inserted by DNRE - Vic Govt Mines Dept)

PE602733

This is an enclosure indicator page.
The enclosure PE602733 is enclosed within the container PE903931 at this location in this document.

The enclosure PE602733 has the following characteristics:

ITEM_BARCODE	= PE602733
CONTAINER_BARCODE	= PE903931
NAME	= Bream-5 Grapholog (Mud Log)
BASIN	= GIPPSLAND
PERMIT	= VIC/P1
TYPE	= WELL
SUBTYPE	= MUD_LOG
DESCRIPTION	= Bream-5 Grapholog (Mug Log)
REMARKS	=
DATE_CREATED	= 5/09/82
DATE_RECEIVED	= 6/07/83
W_NO	= W781
WELL_NAME	= Bream-5
CONTRACTOR	= Core Laboratories Australia (Qld) Ltd.
CLIENT_OP_CO	= Esso Exploration and Production Australia Inc

(Inserted by DNRE - Vic Govt Mines Dept)