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NUMBER 7004/2

PEL 5 AND PEL 6, TOOLACHEE BLOCK
EROMANGA BASIN AND COOPER BASIN

PIRA 2
TEST REPORTS

Submitted by

Santos Ltd
1994

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MINES and ENERGY
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australia



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ENVELOPE 7004/2

TENEMENT:

PELs 5 and 6, Toolachee Block; Eromanga and Cooper Basins

TENEMENT HOLDER:

Santos Ltd (operator), Delhi Petroleum Pty Ltd, Vamgas Ltd and South Australian Oil and Gas Corp. Pty Ltd

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TICKET NO. 25101600
03-JUN-86
MOOMBA

FORMATION TESTING SERVICE REPORT

PIR	2	1	7089.9 - 7188.0	DELTA PETROLEUM PTY. LIMITED
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME
LEGAL LOCAL. ON SEC. - TRP. - RING.	SEE REMARKS	FIELD RHSR	COOPER BASIN	COUNTRY SOUTH AUSTRALIA
				STATE AUSTRALIA
				PT



GAUGE NO: 9721 DEPTH: 2046.1 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW	218	350.5			
C	FINAL FIRST FLOW		759.0	17.0	16.6	F
C	INITIAL FIRST CLOSED-IN		759.0			
D	FINAL FIRST CLOSED-IN	793	793.7	31.0	29.6	C
E	INITIAL SECOND FLOW		793.7			
F	FINAL SECOND FLOW		1939.7	60.0	60.1	F
F	INITIAL SECOND CLOSED-IN		1939.7			
G	FINAL SECOND CLOSED-IN	1965	1959.9	122.0	123.7	C
H	FINAL HYDROSTATIC		3526.8			

GAUGE NO: 8009 DEPTH: 7067.1 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	3532	3531.1			
B	INITIAL FIRST FLOW	405	378.1	17.0	16.8	F
C	FINAL FIRST FLOW	804	798.6			
C	INITIAL FIRST CLOSED-IN	804	798.6	31.0	29.6	C
D	FINAL FIRST CLOSED-IN	2951	2950.2			
E	INITIAL SECOND FLOW	1968	1966.7	60.0	60.1	F
F	FINAL SECOND FLOW	1968	1966.7			
F	INITIAL SECOND CLOSED-IN	1968	1966.7	122.0	123.7	C
G	FINAL SECOND CLOSED-IN	2968	2967.6			
L	AL HYDROSTATIC	3525	3531.1			



GAUGE NO: 008 DEPTH: 7105.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	3595	3597.3			
B	INITIAL FIRST FLOW	750	704.7			
C	FINAL FIRST FLOW	1209	1211.3	17.0	16.6	F
C	INITIAL FIRST CLOSED-IN	1209	1211.3			
D	FINAL FIRST CLOSED-IN	3000	2938.0	31.0	29.6	C
E	INITIAL SECOND FLOW	1088	1082.7			
F	FINAL SECOND FLOW	2023	2022.0	60.0	60.1	F
F	INITIAL SECOND CLOSED-IN	2023	2022.0			
G	FINAL SECOND CLOSED-IN	3020	3023.0	122.0	123.7	C
H	FINAL HYDROSTATIC	3581	3585.8			

00007

EQUIPMENT & HOLE DATA			TICKET NUMBER: 25101600		
FORMATION TESTED: <u>TOOLACHEE</u>			DATE: <u>3-22-86</u> TEST NO: <u>1</u>		
NET PAY (ft): <u>13.0</u>			TYPE DST: <u>OPEN HOLE</u>		
GROSS TESTED FOOTAGE: <u>98.1</u>			HALLIBURTON CAMP: <u>MOQMA</u>		
ALL DEPTHS MEASURED FROM: <u>KB</u>			TESTER: <u>P. BATES</u>		
CASING PERFS. (ft): _____			WITNESS: <u>RAY EEL</u>		
HOLE OR CASING SIZE (in): <u>8.500</u>			DRILLING CONTRACTOR: <u>A.T.C.O. - A.P.M. RIG B-1</u>		
ELEVATION (ft): <u>273.0 KELLY BUSHING</u>					
TOTAL DEPTH (ft): <u>7188.0</u>					
PACKER DEPTH(S) (ft): <u>7082.7090</u>					
FINAL SURFACE CHOKE (in): <u>0.50000</u>					
BOTTOM HOLE CHOKE (in): <u>0.750</u>					
MUD WEIGHT (lb/gal): <u>9.60</u>					
MUD VISCOSITY (sec): <u>46</u>					
ESTIMATED HOLE TEMP. (°F): _____					
ACTUAL HOLE TEMP. (°F): <u>251 @ 7183.9 ft</u>					
FLUID PROPERTIES FOR RECOVERED MUD & WATER			SAMPLER DATA		
SOURCE	RESISTIVITY	CHLORIDES	Pctg AT SURFACE: _____		
_____	_____ °F	_____ ppm	cu. ft. OF GAS: _____		
_____	_____ °F	_____ ppm	cc OF OIL: _____		
_____	_____ °F	_____ ppm	cc OF WATER: _____		
_____	_____ °F	_____ ppm	cc OF MUD: _____		
_____	_____ °F	_____ ppm	TOTAL LIQUID cc: _____		
_____	_____ °F	_____ ppm			
HYDROCARBON PROPERTIES			CUSHION DATA		
OIL GRAVITY (°API): _____ @ _____ °F			TYPE	AMOUNT	WEIGHT
GAS/OIL RATIO (cu. ft. per bbl): _____			WATER (FEET)	500.0	8.40
GAS GRAVITY: _____					
RECOVERED: 4586 FEET OF WATER CUSHION AND FORMATION WATER MEASURED FROM TESTER VALVE					
REMARKS: LEGAL LOCATION: LAT. 28 DEGREES - 12' - 09.1" SOUTH LONG. 140 DEGREES - 53' - 02.4" EAST SEISMIC - SP 320 - 80 KDB CHARTS INDICATE PARTIAL PLUGGING OF ANCHOR PERFORATIONS DURING THE INITIAL FLOW PERIOD.					

00008

021

TYPE & SIZE MEASURING DEVICE: 6" CERAMIC POSITIVE CHOKE NIPPLE					TICKET NO: 25101600
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
3-21-86					
1150					STARTED PICKING UP TOOLS
1230					STARTED MAKING UP TOOLS
1330					STARTED INTO HOLE
1425					FILLED UP WATER CUSHION AND
					MADE-UP TEST HEAD.
1450					CHECKED FOR DRILL PIPE LEAK -
					OK.
1625					CHECKED FOR LEAKS - OK
1630					RIGGED UP HEAD AND SURFACE LINES
1648					TAGGED BOTTOM
1655					SEAT PACKERS AT 30,000#
1659	.50"				OPENED TOOL - MODERATE BLOW
1701					STRONG BLOW
1704		2			
1706		4			
1712		2			
1716		2			CLOSED TOOL
					GAS TO SURFACE DURING SHUT-IN
1747	.50"				REOPENED TOOL - STILL STRONG
					BLOW.
1753	.50"				DECREASED TO MODERATE BLOW
1800	.50"				MODERATE BLOW
1808	.50"	2			
1830	.50"	2			
1840	.50"	1			
1847	.50"	1			CLOSED TOOL
2049					WEAK BLOW - OPENED BYPASS AND
					PULLED FREE.
2107					DROPPED REVERSING BAR
2111					STARTED REVERSE CIRCULATING
2210					FINISHED REVERSING AND LAID
					DOWN HEAD.
2218					STARTED OUT OF HOLE
3-22-86					
0115					STARTED BREAKING OUT TOOLS
0245					FINISHED LAYING DOWN TOOLS

80000

00009

121

TICKET NO: 25101600
CLOCK NO: 32069 HOUR: 24



GAUGE NO: 8721
DEPTH: 7046.1

REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta t}{1 + \Delta t}$	$\log \frac{1 + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	350.5			
2	3.0	387.0	36.5		
3	6.0	486.3	99.3		
4	9.0	570.7	84.3		
5	12.0	648.8	78.1		
6	15.0	729.5	80.7		
C 7	16.6	759.0	29.5		
FIRST CLOSED-IN					
C 1	0.0	759.0			
D 2	29.8	793.7	34.7	10.6	0.194
SECOND FLOW					
E 1	0.0	793.7			
2	10.0	1078.5	284.8		
3	20.0	1293.8	215.3		
4	30.0	1493.8	199.6		
5	40.0	1662.0	169.2		
6	50.0	1811.4	148.7		
F 7	60.1	1939.7	128.3		
SECOND CLOSED-IN					
F 1	0.0	1939.7			
G 2	129.7	1959.8	20.2	17.4	0.210

REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta t}{1 + \Delta t}$	$\log \frac{1 + \Delta t}{\Delta t}$

REMARKS:

00010

221

TICKET NO: 25101600

CLOCK NO: 13446 HOUR: 24


HALLIBURTON
SERVICES

GAUGE NO: 8009

DEPTH: 7067.1

REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta I}{1 + \Delta I}$	$100 \frac{1 + \Delta I}{\Delta I}$	REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta I}{1 + \Delta I}$	$100 \frac{1 + \Delta I}{\Delta I}$	
FIRST FLOW						SECOND CLOSED-IN - CONTINUED						
B	1	0.0	358.1			11	80.0	2940.9	974.2	39.2	0.292	
	2	3.0	451.5	93.4		12	86.0	2948.3	981.6	41.0	0.272	
	3	6.0	546.1	94.6		13	96.0	2959.2	986.5	42.6	0.255	
	4	9.0	622.1	76.0		14	104.0	2957.0	990.3	44.2	0.240	
	5	12.0	680.7	58.6		15	112.0	2961.9	995.2	45.5	0.227	
	6	15.0	766.9	76.2		16	120.0	2965.3	998.5	46.8	0.215	
C	7	16.6	798.6	31.6		G	17	123.7	2967.6	1000.9	47.4	0.210
FIRST CLOSED-IN												
C	1	0.0	798.6									
	2	2.0	2562.5	1853.9	1.0	0.973						
	3	4.0	2762.8	1964.1	3.2	0.715						
	4	6.0	2814.8	2016.1	4.4	0.578						
	5	8.0	2843.8	2045.1	5.4	0.490						
	6	10.0	2866.3	2067.6	6.2	0.425						
	7	12.0	2881.5	2082.9	7.0	0.377						
	8	14.0	2894.3	2095.6	7.6	0.340						
	9	16.0	2906.4	2107.7	8.2	0.309						
	10	18.0	2915.4	2116.8	8.6	0.284						
	11	20.0	2922.5	2123.8	9.1	0.263						
	12	22.0	2930.0	2131.4	9.5	0.245						
	13	24.0	2935.7	2137.1	9.8	0.229						
	14	26.0	2941.4	2142.8	10.1	0.215						
	15	28.0	2948.1	2147.5	10.4	0.202						
D	16	29.6	2950.2	2151.5	10.6	0.194						
SECOND FLOW												
E	1	0.0	892.1									
	2	10.0	1120.7	228.6								
	3	20.0	1336.4	215.7								
	4	30.0	1534.8	188.5								
	5	40.0	1667.5	132.7								
	6	50.0	1834.0	147.3								
F	7	60.1	1968.7	131.3								
SECOND CLOSED-IN												
F	1	0.0	1968.7									
	2	6.0	2781.2	792.5	7.2	1.026						
	3	16.0	2814.8	946.0	13.3	0.762						
	4	24.0	2849.7	982.9	18.3	0.622						
	5	32.0	2873.8	907.1	22.6	0.531						
	6	40.0	2892.8	926.1	26.3	0.465						
	7	48.0	2908.2	939.5	29.5	0.415						
	8	56.0	2917.3	950.6	32.4	0.375						
	9	64.0	2926.7	960.0	34.9	0.342						
	10	72.0	2934.1	967.3	37.2	0.315						

REMARKS:

00011

TICKET NO: 25101600

CLOCK NO: 7499 HOUR: 24



GAUGE NO: 8008

DEPTH: 7185.0

REF	MINUTES	PRESSURE	AP	$\frac{1 \times \Delta P}{1 + \Delta t}$	$100 \frac{1 + \Delta P}{\Delta t}$
FIRST FLOW					
B 1	0.0	704.7			
2	3.0	1005.1	300.3		
3	6.0	1156.2	151.2		
4	9.0	1109.6	33.3		
5	12.0	1207.7	18.2		
6	15.0	1210.4	2.7		
G 7	16.6	1211.3	0.8		

FIRST CLOSED-IN

C 1	0.0	1211.3			
2	2.0	2677.6	1466.3	1.7	0.978
3	4.0	2600.0	1588.7	3.2	0.712
4	6.0	2849.8	1638.6	4.4	0.579
5	8.0	2879.3	1668.0	5.4	0.487
6	10.0	2902.8	1691.6	6.2	0.425
7	12.0	2920.1	1708.8	7.0	0.378
8	14.0	2932.7	1721.4	7.8	0.341
9	16.0	2944.6	1733.3	8.1	0.310
10	18.0	2958.0	1744.7	8.7	0.284
11	20.0	2966.7	1755.4	9.1	0.263
12	22.0	375.5	1764.2	9.5	0.244
13	24.0	2981.1	1769.8	9.8	0.220
14	26.0	2987.9	1776.6	10.1	0.214
15	28.0	2994.0	1782.8	10.4	0.202
D 16	29.6	2998.0	1786.7	10.6	0.194

SECOND FLOW

E 1	0.0	1062.7			
2	10.0	1236.2	153.5		
3	20.0	1421.5	185.4		
4	30.0	1593.4	171.8		
5	40.0	1748.8	155.4		
6	50.0	1897.6	148.8		
F 7	60.1	2022.0	124.4		

SECOND CLOSED-IN

F 1	0.0	2022.0			
2	6.0	2812.2	790.2	7.2	1.025
3	16.0	2888.7	848.7	13.3	0.783
4	24.0	2902.9	860.9	18.9	0.623
5	32.0	2926.9	904.9	22.8	0.532
6	40.0	2942.7	920.7	26.3	0.485
7	48.0	2957.5	935.5	29.5	0.415
8	56.0	2967.9	945.9	32.4	0.375
9	64.0	2979.4	957.4	34.9	0.342
10	72.0	2987.6	965.6	37.1	0.315

REF	MINUTES	PRESSURE	AP	$\frac{1 \times \Delta P}{1 + \Delta t}$	$100 \frac{1 + \Delta P}{\Delta t}$
SECOND CLOSED-IN + CONTINUED					
11	80.0	2994.9	972.9	39.2	0.292
12	88.0	3001.3	979.9	41.0	0.273
13	96.0	3007.7	985.7	42.7	0.255
14	104.0	3013.6	991.6	44.2	0.240
15	112.0	3017.9	995.9	45.5	0.227
16	120.0	3020.6	998.6	46.8	0.215
G 17	123.7	3023.0	1001.0	47.4	0.210

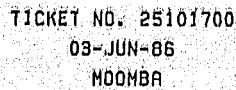
REMARKS:

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	6476.9	
4		FLEX WEIGHT.....	4.500	2.880	182.9	
3		DRILL COLLARS.....	6.250	2.880	330.8	
51		PUMP OUT REVERSING SUB.....	6.000	3.000	1.0	6983.0
3		DRILL COLLARS.....	6.250	2.880	29.0	
50		IMPACT REVERSING SUB.....	6.000	3.000	1.0	7013.8
3		DRILL COLLARS.....	6.250	2.880	29.8	
258		BAR CATCHER SUB.....	5.750	1.500	1.0	7044.0
80		AP RUNNING CASE.....	5.000	2.250	4.1	7046.1
5		CROSSOVER.....	5.000	2.200	1.0	
12		DUAL CIP VALVE.....	5.000	0.870	4.9	
202		SAMPLE CHAMBER.....	5.000	2.500	4.9	
93		DRAIN VALVE.....	5.000	2.200	0.9	
60		HYDROSPRING TESTER.....	5.000	1.750	5.3	7065.6
60		AP RUNNING CASE.....	5.000	2.250	4.1	7067.1
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	2.8	
70		OPEN HOLE PACKER.....	7.500	1.530	5.8	7082.0
18		DISTRIBUTOR VALVE.....	5.000	1.880	2.0	
70		OPEN HOLE PACKER.....	7.500	1.530	5.8	7089.9
18		ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.3	
5		CROSSOVER.....	5.000	2.500	1.0	
3		DRILL COLLARS.....	6.250	2.880	60.0	
5		CROSSOVER.....	5.000	2.500	1.0	
20		FLUSH JOINT ANCHOR.....	5.000	2.370	26.2	
81		BLANKED-OFF RUNNING CASE.....	5.000		4.1	7185.0
		TOTAL DEPTH				7188.0

EQUIPMENT DATA

EQUIPMENT DATA

PIRRA	2	2	8184.5 - 8266.8	DELHI/PETROLEUM PTY., LIMITED
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/CORPENT NAME
LEGAL LOCATION SEC. - TWP. - RNG.	SEE REMARKS	FIELD AREA	COOPER BROSIN	COUNTRY SOUTH AUSTRALIA STATE AUSTRALIA PV

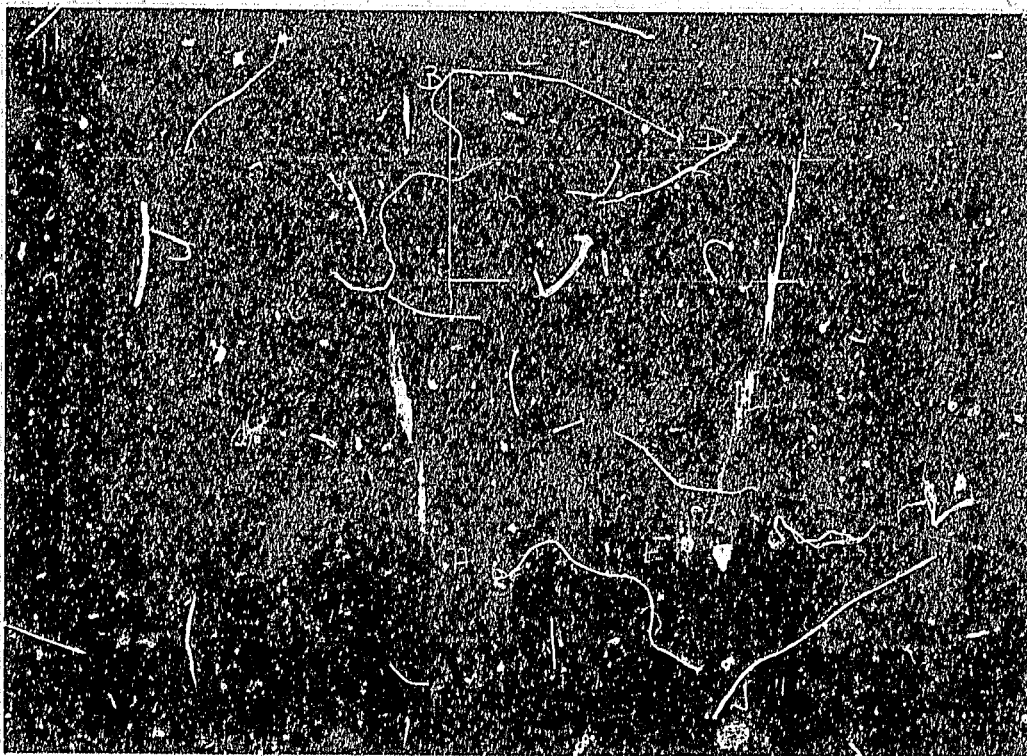


FORMATION TESTING SERVICE REPORT

00014


 GAUGE NO: 3840 DEPTH: 8139.7 BLANKED OFF: NO HOUR OF CLOCK: 24

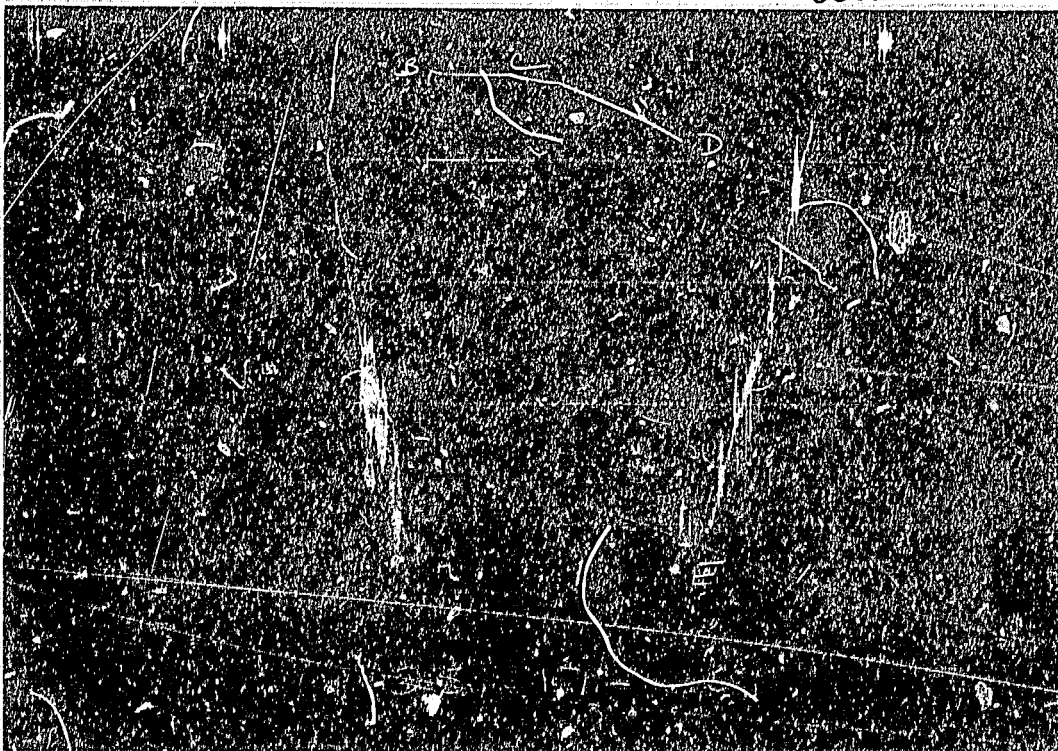
ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW	245	241.1			
C	FINAL FIRST FLOW		259.3	120.0	120.0	F
C	INITIAL FIRST CLOSED-IN		259.3			
D	FINAL FIRST CLOSED-IN	262	259.3	240.0	240.0	C
E	FINAL HYDROSTATIC					
F	HYDROSTATIC RELEASE					



GAUGE NO: 8721 DEPTH: 8180.8 BLANKED OFF: NO HOUR OF CLOCK: 24

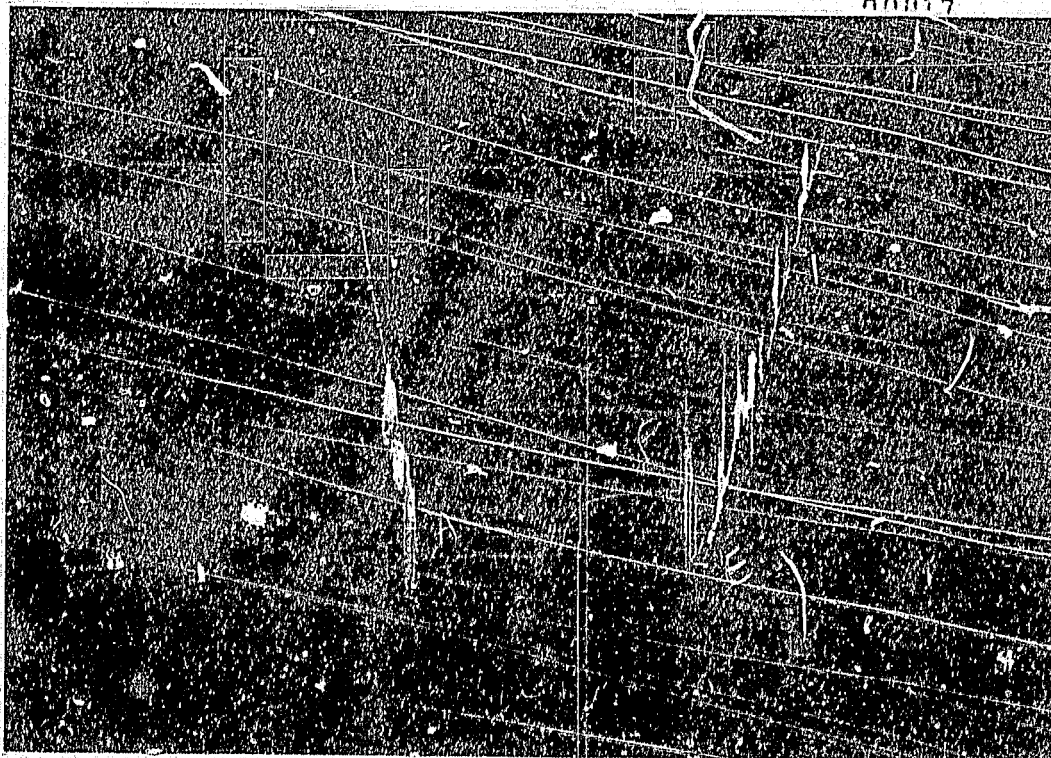
ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4172	4177.6			
B	INITIAL FIRST FLOW	263	258.9			
C	FINAL FIRST FLOW	277	283.3	120.0	120.0	F
C	INITIAL FIRST CLOSED-IN	277	283.3			
D	FINAL FIRST CLOSED-IN	820	819.3	240.0	240.0	C
E	FINAL HYDROSTATIC	4162	4157.3			
F	HYDROSTATIC RELEASE					

00016


 GAUGE NO: 8009 DEPTH: 8196.8 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4173	4173.5			
B	INITIAL FIRST FLOW	257	260.6	120.0	120.0	F
C	FINAL FIRST FLOW	291	289.2			
C	INITIAL FIRST CLOSED-IN	291	289.2	240.0	240.0	C
D	FINAL FIRST CLOSED-IN	828	823.6			
E	FINAL HYDROSTATIC	4163	4156.5			
F	HYDROSTATIC RELEASE					

00017



GAUGE NO: 8008 DEPTH: 8297.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4207	4225.6			
B	INITIAL FIRST FLOW					
C	FINAL FIRST FLOW			120.0		F
C	INITIAL FIRST CLOSED-IN					
D	FINAL FIRST CLOSED-IN			240.0		C
E	FINAL HYDROSTATIC	4207	4208.1			
F	HYDROSTATIC RELEASE	3646	3645.8			

00018

EQUIPMENT & HOLE DATA

FORMATION TESTED: PATCHAWARRANET PAY (ft): 30.0GROSS TESTED FOOTAGE: 2.3ALL DEPTHS MEASURED FROM: K8

CASING PERFS. (ft): _____

HOLE OR CASING SIZE (in): 8.500ELEVATION (ft): 273.0 KELLY BUSHINGTOTAL DEPTH (ft): 8300.0PACKER DEPTH(S) (ft): 8177, 8185, 8267, 8275FINAL SURFACE CHOKE (in): 0.50000BOTTOM HOLE CHOKE (in): 0.750MUD WEIGHT (lb/gal): 8.90MUD VISCOSITY (cp): 59

ESTIMATED HOLE TEMP. (°F): _____

ACTUAL HOLE TEMP. (°F): 286 @ 8295.9 ftTICKET NUMBER: 25101700DATE: 3-28-80 TEST NO: 2TYPE DST: ON 5TH STRADDLE

HALLIBURTON CAM: _____

MOOMBATESTER: P. DATESWITNESS: E. KOOPELAK 777777

DRILLING CONTRACTOR: _____

A.T.C.O.-A.P.M. RIG A-1FLUID PROPERTIES FOR
RECOVERED MUD & WATER

SOURCE

RESISTIVITY

CHLORIDES

SAMPLER DATA

Psg AT SURFACE: _____

cu.ft. OF GAS: _____

cc OF OIL: _____

cc OF WATER: _____

cc OF MUD: _____

TOTAL LIQUID cc: _____

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): _____ °F

GAS/OIL RATIO (cu.ft. per bbl): _____

GAS GRAVITY: _____

CUSHION DATA

TYPE AMOUNT WEIGHT

WATER (FEET) 550.0 8.34

RECOVERED:

680 FEET OF MUDDY WATERMEASURED FROM
TESTER VALVE

REMARKS:

LEGAL LOCATION: LAT. 28 DEGREES - 12' - 09.1" SOUTH
LONG. 140 DEGREES - 53' - 02.4" EAST
SEISMIC - SP 320 - 80 K08

NOTE: A LEAK DEVELOPED BELOW THE DUAL CIP DURING THE CLOSED-IN PERIOD

00019

251

TYPE & SIZE MEASURING DEVICE: 6" CERAMIC POSITIVE CHOKE NIPPLE					TICKET NO: 25101700
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
3-27-86					
0936					STARTED PICKING UP TOOLS
0950					STOPPED - WAITED ON FURTHER INSTRUCTIONS FROM DELHI
					CHANGED TEST TO UN BOTTOM
					STRADDLE - WAITED ON EXTRA TOOLS FROM MOOMBA.
1230					CONTINUED PICKING UP TOOLS
1450					STARTED INTO HOLE
1530					FILLED WATER CUSHION AND MADE-UP HEAD.
1825					RIGGED UP HEAD AND FLOOR LINES
1835					TAGGED BOTTOM
1842					SEAT THE PACKERS AT 30,000H
1845					STRONG BLOW
1846	.50"				OPENED TOOL - STRONG BLOW
1850					MODERATE BLOW
1852					STRONG BLOW
1853		2			
1807					STRONG BLOW
1930					"
2000					"
2030					"
2045					"
2046					CLOSED TOOL
3-28-86					
0045					WEAK BLOW - GAS TO THE SURFACE DURING THE CLOSED-IN PERIOD.
0048					CLOSED TOOL AND PULLED FREE
0042					WORKED TIGHT PIPE
0105					LAI'D DOWN HEAD
0110					STARTED OUT OF HOLE
0500					STARTED BREAKING OUT TOOLS
0815					FINISHED LAYING DOWN TOOLS

00020

TICKET NO. 25101700

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.828	7583.0	
4		FLEX WEIGHT.....	4.500	2.880	182.9	
3		DRILL COLLARS.....	6.250	2.880	331.2	
51		PUMP OUT REVERSING SUB.....	6.000	3.000	1.0	8076.7
3		DRILL COLLARS.....	6.250	2.880	29.8	
50		IMPACT REVERSING SUB.....	6.000	3.000	1.0	8107.5
3		DRILL COLLARS.....	6.250	2.880	29.8	
258		BAR CATCHER SUB.....	5.750	1.500	1.0	8138.0
80		AP RUNNING CASE.....	5.000	2.250	4.1	8139.7
5		CROSSOVER.....	5.000	2.200	1.0	
12		DUAL LIP VALVE.....	5.000	0.870	4.9	
202		SAMPLE CHAMBER.....	5.000	2.250	4.9	
33		DRAIN VALVE.....	5.000	2.200	0.9	
60		HYDROSPRING TESTER.....	5.000	0.750	5.3	8159.3
80		AP RUNNING CASE.....	5.000	2.250	4.1	8160.8
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	2.8	
17		PRESSURE EQUALIZING CROSSOVER...	5.000	1.000	1.0	
70		OPEN HOLE PACKER.....	7.500	1.530	5.8	8178.7
18		DISTRIBUTOR VALVE.....	5.000	1.600	2.0	
70		OPEN HOLE PACKER.....	7.500	1.530	5.8	8184.5
20		FLUSH JOINT ANCHOR.....	5.000	2.370	10.0	
5		CROSSOVER.....	5.000	2.750	1.0	
80		AP RUNNING CASE.....	5.000	2.250	4.1	8186.8
5		CROSSOVER.....	5.000	2.500	1.0	
5		CROSSOVER.....	5.000	2.200	1.0	
3		DRILL COLLARS.....	6.250	2.880	59.8	

CONTINUED

EQUIPMENT DATA

CONTINUED

EQUIPMENT DATA

00021 TICKET NO. 25101700

		O.D.	I.D.	LENGTH	DEPTH	
5		CROSSOVER.....	5.000	2.200	1.0	
5		CROSSOVER.....	5.000	2.500	1.0	
70		OPEN HOLE PACKER.....	7.500	1.530	5.0	8266.8
18		DISTRIBUTOR VALVE.....	5.000	1.600	2.0	
70		OPEN HOLE PACKER.....	7.500	1.530	5.0	8274.6
5		CROSSOVER.....	5.000	2.500	1.0	
19		ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.3	
20		FLUSH JOINT ANCHOR.....	5.000	2.370	12.0	
81		BLANKED-OFF RUNNING CASE.....	5.000		4.1	8297.0
TOTAL DEPTH						8300.0

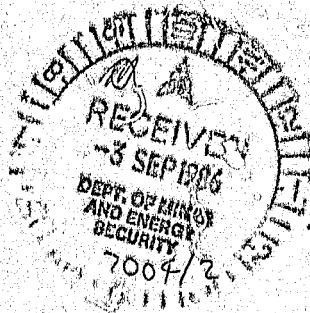
EQUIPMENT DATA

EQUIPMENT DATA

00022



TICKET NO. 25101800
26-AUG-66
MOONBR

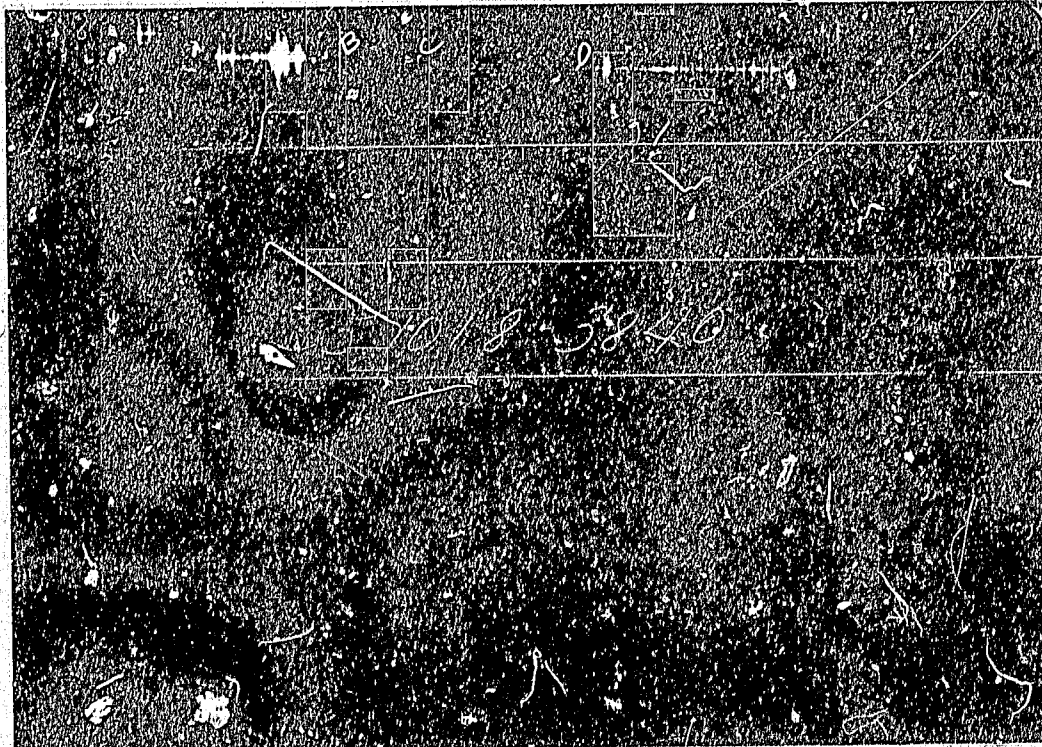


FORMATION TESTING SERVICE REPORT

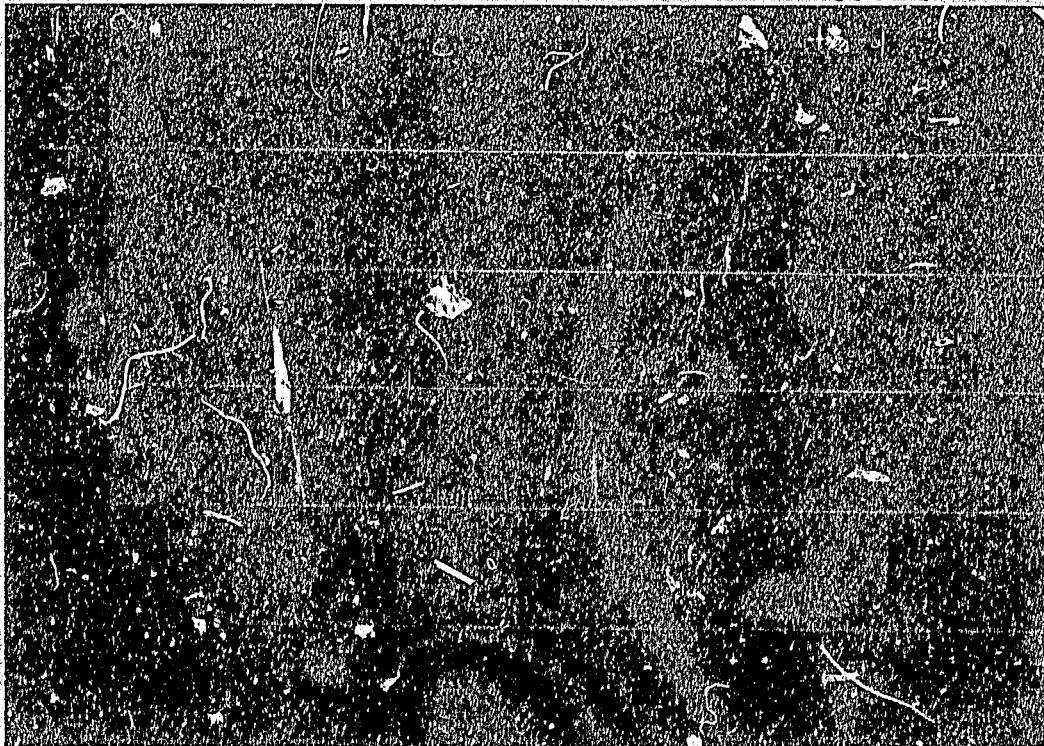
PIR#	2	3	8106.0 - 8148.1	DELHI PETROLEUM P/L
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME
LEGAL LOCATION SEC. - TWP. - RANG.	SEE REMARKS	FIELD AREA	COOPER BASIN	COUNTY SOUTH AUSTRALIA STATE AUSTRALIA SM

00023

72

GAUGE NO: 3840 DEPTH: 8061.3 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW	203	214.3			
L	FINAL FIRST FLOW		292.1	121.0	120.7	F
C	INITIAL FIRST CLOSED-IN		292.1			
D	FINAL FIRST CLOSED-IN	318	328.1	240.0	240.3	C
E	FINAL HYDROSTATIC					
F	HYDROSTATIC COMPRESSION					



GAUGE NO: 8721 DEPTH: 8082.9 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4026	4044.7			
B	INITIAL FIRST FLOW	218	224.4			
C	FINAL FIRST FLOW	300	299.3	0	120.7	F
C	INITIAL FIRST CLOSED-IN	300	299.3			
D	FINAL FIRST CLOSED-IN	3052	3053.0	240.0	240.3	C
E	FINAL HYDROSTATIC	4029	4038.1			
F	HYDROSTATIC COMPRESSION					

00025

920

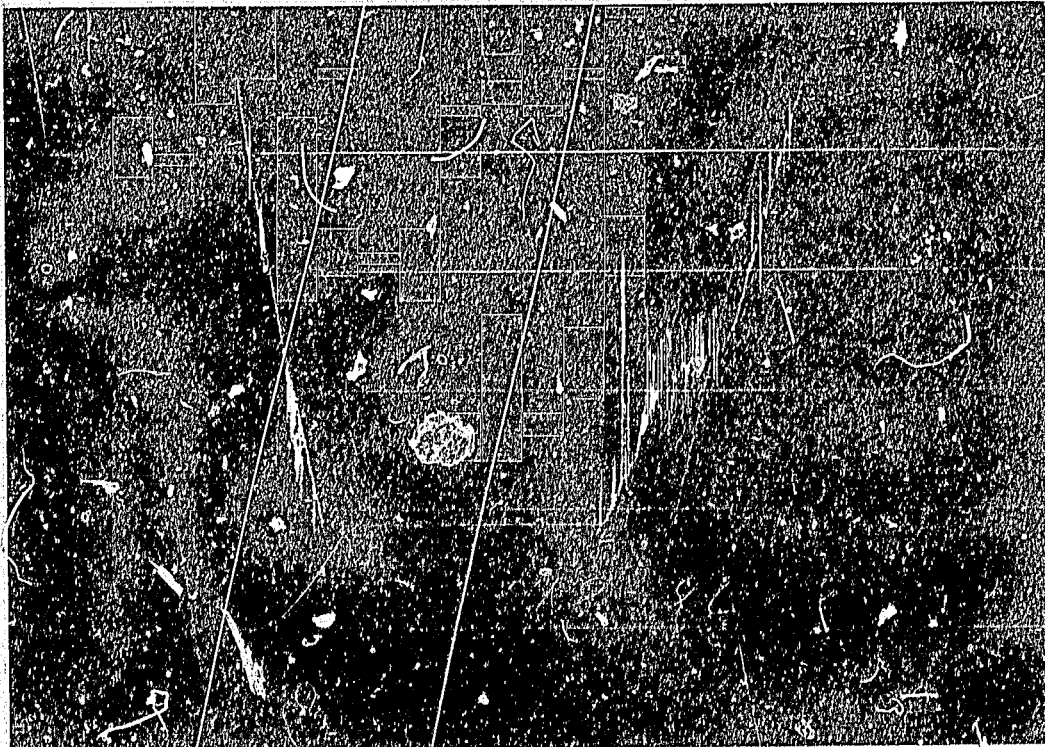


GAUGE NO: 8009 DEPTH: 8115.4 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4055	4066.8			
B	INITIAL FIRST FLOW	223	268.1			
C	FINAL FIRST FLOW	314	307.8	121.0	120.7	F
C	INITIAL FIRST CLOSED-IN	314	307.8			
D	FINAL FIRST CLOSED-IN	3059	3061.7	240.0	240.3	C
E	FINAL HYDROSTATIC	4042	4053.0			
F	HYDROSTATIC COMPRESSION					

00026

2.2.0


 GAUGE NO: 8008 DEPTH: 8297.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4143	4153.4			
B	INITIAL FIRST FLOW			121.0		F
C	FINAL FIRST FLOW					
C	INITIAL FIRST CLOSED-IN			240.0		C
D	FINAL FIRST CLOSED-IN					
E	FINAL HYDROSTATIC	4140	4132.8			
F	HYDROSTATIC COMPRESSION		4142.8			

00027

820

EQUIPMENT & HOLE DATA			TICKET NUMBER: 25101800		
FORMATION TESTED: <u>PATCHAWARRA</u>			DATE: <u>3-29-86</u> TEST NO: <u>3</u>		
NET PAY (ft): _____			TYPE DST: <u>ON-BTM STRADDLE</u>		
GROSS TESTED FOOTAGE: <u>42.0</u>			HALLIBURTON CAMP: _____		
ALL DEPTHS MEASURED FROM: <u>KELLY BUSHING</u>			MOOMBA _____		
CASING PERFS. (ft): _____			TESTER: <u>P. BATES</u>		
HOLE OR CASING SIZE (in): <u>8.500</u>			WITNESS: <u>E. KOROPCHILE</u>		
ELEVATION (ft): <u>273.0 KELLY BUSHING</u>			DRILLING CONTRACTOR: _____		
TOTAL DEPTH (ft): <u>1300.0</u>			ATCO RPM RIG #A-1		
PACKER DEPTH(S) (ft): <u>8098, 8106, 8148, 8156</u>					
FINAL SURFACE CHOKE (in): <u>0.50000</u>					
BOTTOM HOLE CHOKE (in): <u>0.750</u>					
MUD WEIGHT (lb/gal): <u>9.80</u>					
MUD VISCOSITY (sec): <u>57</u>					
ESTIMATED HOLE TEMP. (°F): _____					
ACTUAL HOLE TEMP. (°F): <u>267 @ 8296.0 ft</u>					
FLUID PROPERTIES FOR RECOVERED MUD & WATER			SAMPLER DATA		
SOURCE	RESISTIVITY	CHLORIDES	Psg AT SURFACE: _____		
_____	_____ °F	_____ ppm	cu.ft. OF GAS: _____		
_____	_____ °F	_____ ppm	cc OF OIL: _____		
_____	_____ °F	_____ ppm	cc OF WATER: _____		
_____	_____ °F	_____ ppm	cc OF MUD: _____		
_____	_____ °F	_____ ppm	TOTAL LIQUID cc: _____		
HYDROCARBON PROPERTIES			CUSHION DATA		
OIL GRAVITY (°API): _____ @ _____ °F			TYPE AMOUNT WEIGHT		
GAS/OIL RATIO (cu.ft. per bbl): _____			WATER (FT) 500.0 8.34		
GAS GRAVITY: _____					
RECOVERED: 740 FEET OF MUDDY WATER					
REMARKS:					
LEGAL LOCATION: LAT. 28 DEG., 12', 09.1"N LONG. 140 DEG., 53', 02.4" E.					
GAS RATE WAS TOO SMALL TO MEASURE.					

MEASURED FROM
TESTER VALVE

[illegible]

00029

TICKET NO: 25101800

GAUGE NO: 3840

CLOCK NO: 28922 HOUR: 24

DEPTH: 8061.3


HALLIBURTON
SERVICES

REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta t}{1 + \Delta t}$	$\log \frac{1 + \Delta t}{\Delta t}$	REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta t}{1 + \Delta t}$	$\log \frac{1 + \Delta t}{\Delta t}$
FIRST FLOW											
B	1	0.0	214.2								
	2	15.0	293.2	18.9							
	3	30.0	247.0	13.8							
	4	45.0	255.6	8.6							
	5	60.0	263.6	8.0							
	6	75.0	270.5	6.8							
	7	90.0	278.0	7.5							
	8	105.0	284.1	6.1							
C	9	120.7	292.1	8.0							
FIRST CLOSED-IN											
C	1	0.0	292.1								
D	2	240.3	328.1	36.0	60.3 0.177						

REMARKS:

00030

TICKET NO: 25101800

CLOCK NO: 32069 HOUR: 24



GAUGE NO: 8721

DEPTH: 8082.3

REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta t}{1 + \Delta t}$	$\log \frac{1 + \Delta t}{\Delta t}$	REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta t}{1 + \Delta t}$	$\log \frac{1 + \Delta t}{\Delta t}$
FIRST FLOW											
B	1	0.0	224.4								
	2	15.0	237.9	13.5							
	3	30.0	252.6	14.7							
	4	45.0	262.5	9.9							
	5	60.0	270.5	8.0							
	6	75.0	277.8	7.3							
	7	90.0	286.5	8.7							
	8	105.0	292.0	5.5							
C	9	120.7	299.3	7.3							
FIRST CLOSED-IN											
C	1	0.0	299.3								
	2	15.0	1404.0	1104.7	13.3	0.957					
	3	30.0	2021.7	1722.4	24.0	0.701					
	4	45.0	2345.4	2046.1	32.8	0.566					
	5	60.0	2528.8	2227.5	40.1	0.479					
	6	75.0	2641.8	2342.5	46.2	0.417					
	7	90.0	2723.2	2423.9	51.5	0.369					
	8	105.0	2782.3	2482.0	56.2	0.332					
	9	119.9	2830.9	2531.6	60.1	0.302					
	10	135.0	2874.2	2574.9	3.7	0.277					
	11	150.0	2910.6	2611.3	66.8	0.256					
	12	165.0	2942.3	2643.0	69.7	0.238					
	13	180.0	2970.6	2671.3	72.2	0.223					
	14	195.0	2997.4	2698.1	74.5	0.209					
	15	210.0	3019.0	2719.7	76.6	0.197					
	16	225.0	3038.4	2739.1	78.5	0.187					
D	17	240.3	3053.0	2753.7	80.3	0.177					

REMARKS:

00031

TICKET NO: 25101800

GAUGE NO: 8009

CLOCK NO: 13446 HOUR: 24

DEPTH: 8115.4



REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta t}{1 + \Delta t}$	$\log \frac{1 + \Delta t}{\Delta t}$	REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta t}{1 + \Delta t}$	$\log \frac{1 + \Delta t}{\Delta t}$
FIRST FLOW											
B	1	0.0	268.1								
	2	15.0	248.6	-19.4							
	3	30.0	262.7	14.0							
	4	45.0	271.3	8.8							
	5	60.0	278.2	6.9							
	6	75.0	286.5	8.3							
	7	90.0	293.6	7.1							
	8	105.0	300.7	7.1							
C	9	120.7	307.8	7.1							
FIRST CLOSED-IN											
C	1	0.0	307.8								
	2	15.0	1471.0	1163.3	13.3	0.958					
	3	30.0	2060.8	1753.0	24.0	0.701					
	4	45.0	2388.6	2060.8	32.8	0.566					
	5	60.0	2545.6	2237.9	40.1	0.479					
	6	75.0	2659.1	2351.3	46.2	0.417					
	7	90.0	2738.8	2431.0	51.8	0.369					
	8	105.0	2789.0	2481.2	56.2	0.332					
	9	120.0	2845.5	2537.7	60.2	0.302					
	10	135.0	2887.2	2579.5	63.7	0.277					
	11	150.0	2921.6	2613.9	66.9	0.256					
	12	165.0	2953.5	2645.8	69.7	0.238					
	13	180.0	2980.2	2672.4	72.2	0.223					
	14	195.0	3008.6	2698.8	74.6	0.209					
	15	210.0	3027.5	2719.8	76.8	0.197					
	16	225.0	3047.5	2739.7	78.5	0.186					
D	17	240.3	3081.7	2753.9	80.3	0.177					

REMARKS:

00032

TICKET NO. 25101800

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	7469.7	
4		FLEX WEIGHT.....	4.500	2.075	102.9	
3		DRILL COLLARS.....	8.250	2.860	332.0	
51		PUMP OUT REVERSING SUB.....	6.000	3.000	1.0	7997.5
3		DRILL COLLARS.....	6.250	2.880	30.5	
50		IMPACT REVERSING SUB.....	6.000	3.000	1.0	8029.1
3		DRILL COLLARS.....	6.250	2.880	29.7	
250		BAR CATCHER SUB.....	5.750	1.120	1.0	8059.0
80		AP RUNNING CASE.....	5.000	2.250	4.1	8081.3
5		CROSSOVER.....	5.000	2.200	1.0	
12		DUAL CIP VALVE.....	5.000	0.870	4.9	
202		SAMPLE CHAMBER.....	5.000	2.250	4.9	
33		DRAIN VALVE.....	5.000	2.200	0.9	
60		HYDROSPRING TESTER.....	5.000	0.750	5.3	8080.8
80		AP RUNNING CASE.....	5.000	2.250	4.1	8082.3
15		JAR.....	5.000	1.500	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	2.8	
17		PRESSURE EQUALIZING CROSSOVER...	5.000		1.0	
70		OPEN HOLE PACKER.....	7.500	1.530	5.8	8098.2
18		DISTRIBUTOR VALVE.....	5.000	1.680	2.0	
70		OPEN HOLE PACKER.....	7.500	1.530	5.8	8106.0
20		FLUSH JOINT ANCHOR.....	5.000	2.370	7.0	
5		CROSSOVER.....	5.000	2.750	1.0	
80		AP RUNNING CASE.....	5.000	2.250	4.1	8115.4
5		CROSSOVER.....	5.000	2.500	1.0	
5		CROSSOVER.....	6.000	2.500	1.0	
3		DRILL COLLARS.....	6.250	2.880	30.2	

CONTINUED

EQUIPMENT DATA

CONTINUED

EQUIPMENT DATA

00033 TICKET NO. 25101800

			O.D.	I.D.	LENGTH	DEPTH
5		CROSSOVER.....	6.000	2.500	1.0	
5		CROSSOVER.....	5.000	2.500	0.9	
70		OPEN HOLE PACKER.....	7.500	1.530	5.8	8148.1
16		DISTRIBUTOR VALVE.....	5.000	1.600	2.0	
70		OPEN HOLE PACKER.....	7.500	1.530	5.8	9155.8
5		CROSSOVER.....	4.750	2.500	1.0	
18		ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.3	
20		FLUSH JOINT ANCHOR.....	5.000	2.370	2.0	
5		CROSSOVER.....	6.000	2.200	0.9	
3		DRILL COLLARS.....	6.250	2.880	119.1	
5		CROSSOVER.....	6.000	2.500	1.0	
81		BLANKED-OFF RUNNING CASE.....	5.000		4.1	8297.0
TOTAL DEPTH						8300.0

EQUIPMENT DATA

00034



TICKET NO. 25101900

09-JUN-86

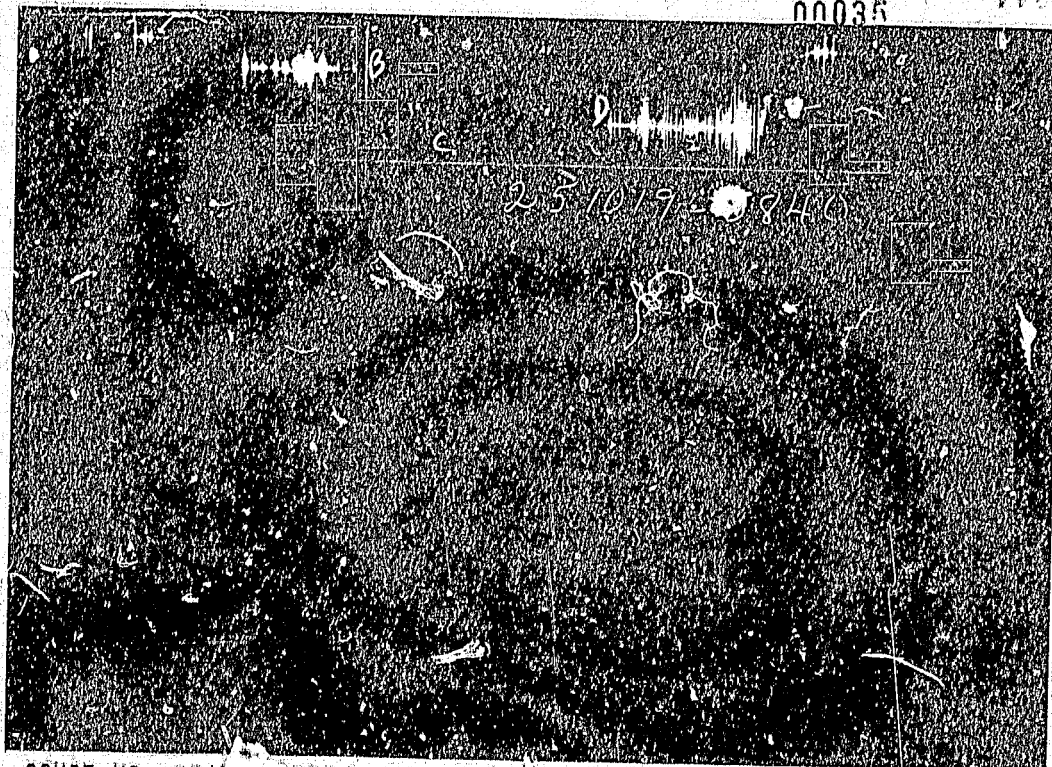
MOOMBA

FORMATION TESTING SERVICE REPORT

LEGAL LOCATION SEC. - TYP. - RING.	PIRA	WELL NO. 2	TEST NO. 4	8304.0 - 8351.4	DELM PETROLEUM PTY. LTD.
SEE REMARKS				TESTED INTERVAL	LESSEE OWNER/COMPANY NAME
			FIELD AREA	COOPER BASIN	COUNTRY SOUTH AUSTRALIA
					STATE AUSTRALIA OR

00035

400



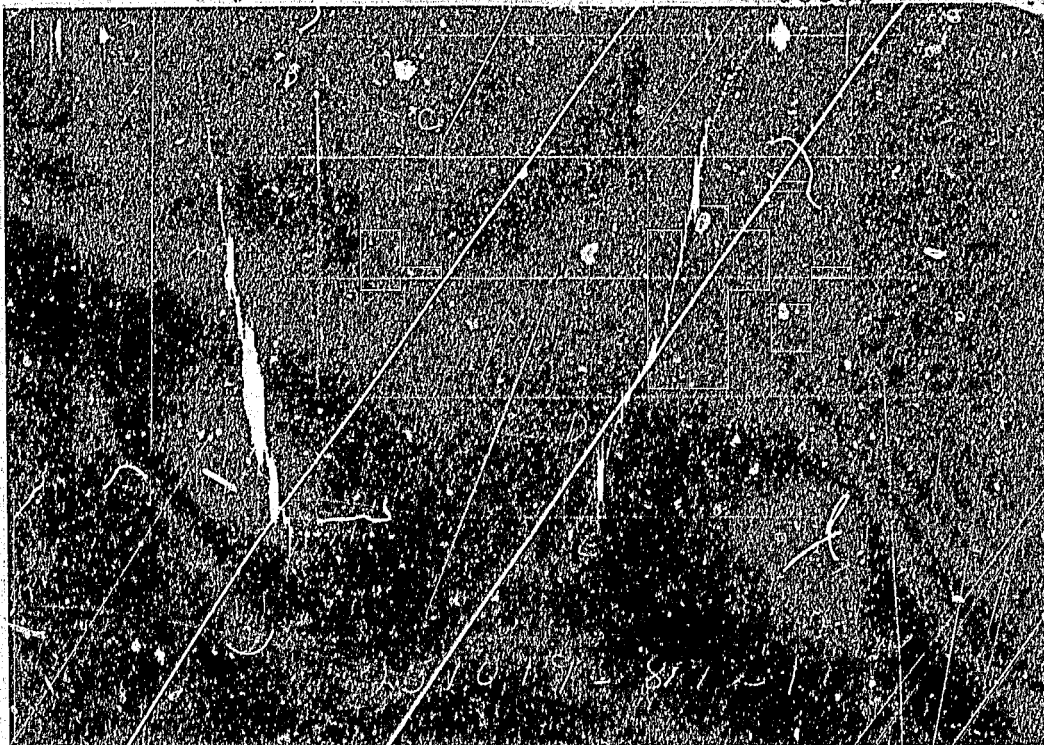
GAUGE NO: 384 DEPTH: 8259.3 ELANKED OFF: NO HOUR OF CLOCK: 24

ID	DE. N. PTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW	234	282.9			
C	FINAL FIRST FLOW	651	684.0	122.0	121.8	F
C	INITIAL FIRST CLOSED-IN	651	684.0			
D	FINAL FIRST CLOSED-IN		648.9	240.0	240.2	C
E	FINAL HYDROSTATIC					
F	HYDROSTATIC RELEASE					

110

00036

579

GAUGE NO: 8721 DEPTH: 8280.3 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4138	4143.7			
B	INITIAL FIRST FLOW	307	271.2			
C	FINAL FIRST FLOW	681	678.8	122.0	121.8	F
C	INITIAL FIRST CLOSED-IN	681	678.8			
D	FINAL FIRST CLOSED-IN	3355	3356.4	240.0	240.2	C
E	FINAL HYDROSTATIC	4145	4149.5			
F	HYDROSTATIC RELEASE					

00037

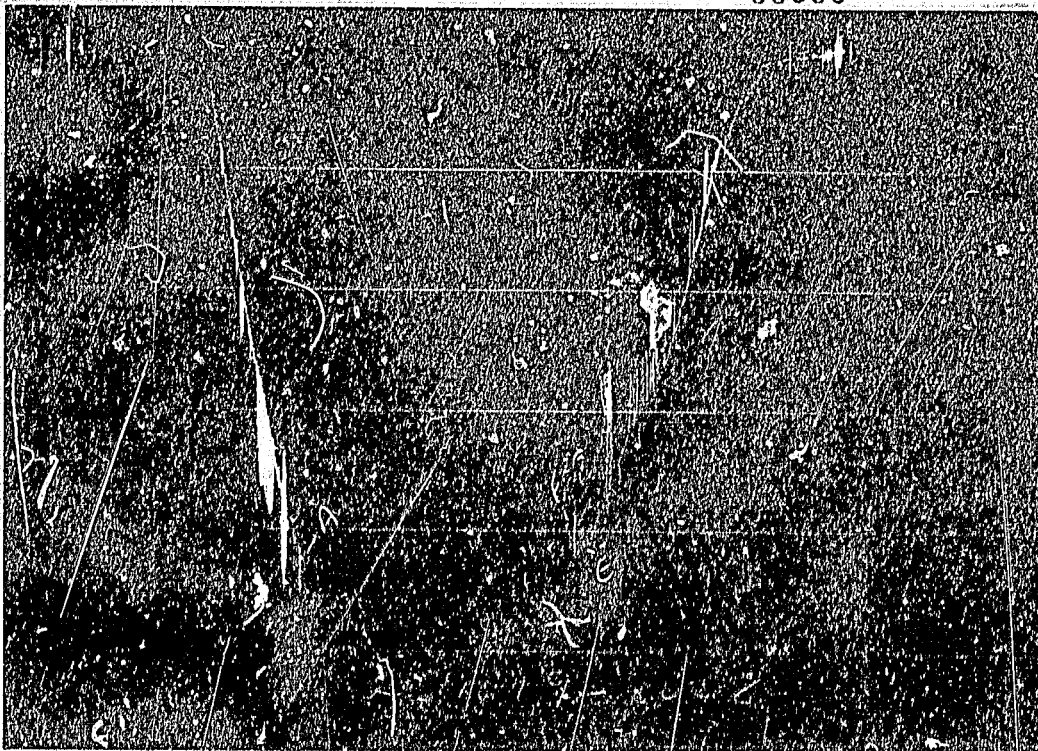
970

GAUGE NO: 8009 DEPTH: 8312.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4176	4102.3			
B	INITIAL FIRST FLOW	331	336.0			
C	FINAL FIRST FLOW	740	744.9	122.0	121.9	F
C	INITIAL FIRST CLOSED-IN	740	744.3			
D	FINAL FIRST CLOSED-IN	3367	3372.5	240.0	240.2	C
E	FINAL HYDROSTATIC	4146	4107.8			
F	HYDROSTATIC RELEASE					

00038

170



GAUGE NO: 8006 DEPTH: 8439.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4200	4223.2			
B	INITIAL FIRST FLOW			122.0		F
C	FINAL FIRST FLOW					
C	INITIAL FIRST CLOSED-IN			240.0		C
D	FINAL FIRST CLOSED-IN					
E	FINAL HYDROSTATIC	4197	4201.3			
F	HYDROSTATIC RELEASE		3949.3			

00039

EQUIPMENT & HOLE DATA		TICKET NUMBER: 25101900	
FORMATION TESTED: <u>PAJCHAWARRA</u>		DATE: <u>3-31-86</u> TEST NO: <u>4</u>	
NET PAY (ft): <u>37.0</u>		TYPE DST: <u>ON BT. STRADDLE</u>	
GROSS TESTED FOOTAGE: <u>47.4</u>		HALLIBURTON CAMP: <u>MOOMBA</u>	
ALL DEPTHS MEASURED FROM: <u>KELLY BUSHING</u>		TESTER: <u>P. BATES</u>	
CASING PERFS. (ft): _____		WITNESS: <u>E. KOOPEAK 22222</u>	
HOLE OR CASING SIZE (in): <u>8.500</u>		DRILLING CONTRACTOR: <u>A.T.C.O. A.P.M. RIG A-1</u>	
ELEVATION (ft): <u>273.0 KELLY BUSHING</u>			
TOTAL DEPTH (ft): <u>8442.0</u>			
PACKER DEPTH(S) (ft): <u>8296, 8304, 8351, 8359</u>			
FINAL SURFACE CHOKE (in): <u>0.50000</u>			
BOTTOM HOLE CHOKE (in): <u>0.750</u>			
MUD WEIGHT (lb/gal): <u>9.80</u>			
MUD VISCOSITY (sec): <u>53</u>			
ESTIMATED HOLE TEMP. (°F): _____			
ACTUAL HOLE TEMP. (°F): <u>270 @ 8438.0 ft</u>			
FLUID PROPERTIES FOR RECOVERED MUD & WATER		SAMPLER DATA	
SOURCE	RESISTIVITY	CHLORIDES	Paig AT SURFACE: _____
_____	_____ °F	_____ ppm	cu. ft. OF GAS: _____
_____	_____ °F	_____ ppm	cc OF OIL: _____
_____	_____ °F	_____ ppm	cc OF WATER: _____
_____	_____ °F	_____ ppm	cc OF MUD: _____
_____	_____ °F	_____ ppm	TOTAL LIQUID cc: _____
_____	_____ °F	_____ ppm	
HYDROCARBON PROPERTIES		CUSHION DATA	
OIL GRAVITY (°API): _____ °F		TYPE	AMOUNT
GAS/OIL RATIO (cu. ft. per bbl): _____		WATER (ft.)	550.0
GAS GRAVITY: _____		_____	8.34
RECOVERED:		MEASURED FROM TESTER VALVE	
1300' OF SLIGHTLY MUDDY WATER			
REMARKS:			
LEGAL LOCATION: LAT. 28 DEGREES 12' 09.1" SOUTH LONG. 140 DEGREES 53' 02.4" EAST SEISMIC. S.P. 320 80 KDB			

00040

00040

[illegible]

00041

050

TICKET NO: 25101900

CLOCK NO: 28322 HOUR: 24


HALLIBURTON
SERVICES

GAUGE NO: 3840

DEPTH: 8259.3

REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta P}{1 + \Delta P}$	$\log \frac{1 + \Delta P}{\Delta P}$	REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta P}{1 + \Delta P}$	$\log \frac{1 + \Delta P}{\Delta P}$
FIRST FLOW											
B 1	0.0	282.9									
2	10.0	385.1	102.3								
3	20.0	434.3	49.1								
4	30.0	477.8	43.5								
5	40.0	508.2	30.4								
6	50.0	533.0	24.7								
7	60.0	556.7	23.7								
8	70.0	575.3	18.6								
9	80.0	597.0	21.8								
10	90.0	623.0	26.0								
11	100.0	647.5	24.6								
12	110.0	669.1	21.6								
C 13	121.8	684.0	14.9								
FIRST CLOSED-IN											
C 1	0.0	684.0									
D 2	240.2	648.9	-35.1	80.8	0.178						

REMARKS:

TSD

00042

TICKET NO: 25101900

CLOCK NO: 32069 HOUR: 24



GAUGE NO: 8721

DEPTH: 8280.3

REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta t}{1 + \Delta t}$	$\log \frac{1 + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	271.2			
2	10.0	336.9	65.7		
3	20.0	408.7	71.8		
4	30.0	461.3	52.6		
5	40.0	487.0	25.8		
6	50.0	515.3	28.2		
7	60.0	538.1	22.9		
8	70.0	561.7	23.6		
9	80.0	588.0	26.3		
10	90.0	611.7	23.7		
11	100.0	634.4	22.7		
12	110.0	656.4	22.0		
C 13	121.8	678.8	22.4		

FIRST CLOSED-IN					
C 1	0.0	678.8			
2	1.0	2212.1	1533.3	1.0	2.075
3	2.0	2375.8	1696.8	1.9	1.797
4	3.0	2493.2	1814.4	2.9	1.618
5	4.0	2574.8	1895.8	3.9	1.496
6	5.0	2630.7	1951.9	4.8	1.406
7	6.0	2685.8	2007.0	5.7	1.327
8	7.0	2728.7	2049.9	6.6	1.285
9	8.0	2762.6	2083.8	7.5	1.209
10	9.0	2795.1	2116.2	8.3	1.164
11	10.0	2824.9	2146.1	9.2	1.120
12	12.0	2868.9	2188.1	10.9	1.048
13	14.0	2905.3	2226.5	12.5	0.987
14	16.0	2938.2	2259.4	14.2	0.934
15	18.0	2964.0	2285.2	15.7	0.890
16	20.0	2987.4	2308.8	17.2	0.851
17	22.0	3007.2	2328.4	18.6	0.815
18	24.0	3025.6	2346.8	20.0	0.783
19	26.0	3041.2	2362.4	21.4	0.754
20	28.0	3056.1	2377.2	22.8	0.728
21	30.0	3070.5	2391.7	24.1	0.704
22	35.0	3100.2	2421.4	27.2	0.652
23	40.0	3124.4	2445.6	30.1	0.607
24	45.0	3144.8	2466.0	32.8	0.568
25	50.0	3165.5	2486.7	35.4	0.536
26	55.0	3179.5	2500.6	37.9	0.507
27	60.0	3192.8	2513.9	40.2	0.481
28	70.0	3214.6	2535.8	44.4	0.438
29	80.0	3234.7	2555.9	48.3	0.402
30	90.0	3251.5	2572.7	51.8	0.372
31	100.0	3268.2	2587.3	54.9	0.346
32	110.0	3276.8	2598.0	57.8	0.324
33	120.0	3287.5	2606.7	60.4	0.304
34	135.0	3301.2	2622.4	64.0	0.278
35	150.0	3311.8	2633.0	67.2	0.258

FIRST CLOSED-IN - CONTINUED					
36	164.9	3322.2	2643.4	70.0	0.240
37	180.0	3331.3	2652.5	72.6	0.224
38	195.0	3338.1	2660.2	75.0	0.211
39	210.0	3345.5	2666.6	77.1	0.199
40	225.0	3351.2	2672.4	79.0	0.188
D 41	240.2	3356.4	2677.6	80.8	0.178

REMARKS:

00043

TICKET NO: 25101900

CLOCK NO: 13446 HOUR: 24



GAUGE NO: 8009

DEPTH: 8312.8

REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta t}{1 + \Delta t}$	$\log \frac{1 + \Delta t}{\Delta t}$	REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta t}{1 + \Delta t}$	$\log \frac{1 + \Delta t}{\Delta t}$
FIRST FLOW						FIRST CLOSED-IN - CONTINUED					
B	1	0.0	336.0			36	165.0	3337.3	2592.4	70.1	0.240
	2	10.0	447.6	111.7		37	180.0	3345.6	2600.7	72.6	0.224
	3	20.0	502.7	55.1		38	195.0	3353.8	2609.0	75.0	0.211
	4	30.0	550.7	48.0		39	210.0	3360.0	2615.0	77.1	0.199
	5	40.0	576.9	26.2		40	225.0	3365.7	2620.8	79.0	0.188
	6	50.0	600.5	23.6		D 41	240.2	3372.5	2627.5	80.8	0.178
	7	60.0	617.7	17.2							
	8	70.0	637.7	19.9							
	9	80.0	660.5	22.8							
	10	90.0	681.4	20.9							
	11	100.0	702.5	21.1							
	12	110.0	722.1	19.6							
C	13	121.8	744.9	22.0							
FIRST CLOSED-IN											
C	1	0.0	744.9								
	2	1.0	2222.1	1477.2	1.0	2.102					
	3	2.0	2389.8	1654.9	2.0	1.791					
	4	3.0	2512.8	1767.8	3.0	1.614					
	5	4.0	2588.9	1844.0	3.8	1.494					
	6	5.0	2652.5	1907.6	4.8	1.406					
	7	6.0	2706.7	1961.8	5.7	1.328					
	8	7.0	2751.2	2006.2	6.7	1.262					
	9	8.0	2779.0	2034.1	7.5	1.209					
	10	9.0	2812.6	2087.7	8.4	1.162					
	11	10.0	2836.4	2081.5	9.2	1.122					
	12	12.0	2882.9	2138.0	10.8	1.047					
	13	14.0	2924.8	2179.9	12.6	0.986					
	14	16.0	2958.1	2213.1	14.2	0.934					
	15	18.0	2984.1	2239.1	15.7	0.891					
	16	20.0	3006.3	2261.3	17.2	0.851					
	17	22.0	3026.2	2281.3	18.7	0.815					
	18	24.0	3045.6	2300.7	20.1	0.783					
	19	26.0	3062.6	2317.9	21.4	0.755					
	20	28.0	3079.4	2334.5	22.8	0.728					
	21	30.0	3094.3	2349.3	24.1	0.704					
	22	35.0	3119.9	2375.0	27.2	0.632					
	23	40.0	3145.8	2400.8	30.1	0.607					
	24	45.0	3165.5	2420.8	32.8	0.569					
	25	50.0	3183.3	2438.9	35.4	0.538					
	26	55.0	3201.0	2458.1	37.9	0.507					
	27	60.0	3215.5	2470.6	40.2	0.481					
	28	70.0	3237.2	2492.2	44.5	0.438					
	29	80.0	3255.1	2510.1	48.3	0.402					
	30	90.0	3271.3	2526.4	51.7	0.372					
	31	99.9	3284.8	2539.8	54.9	0.346					
	32	110.0	3294.9	2550.0	57.8	0.324					
	33	120.0	3304.9	2560.0	60.4	0.304					
	34	135.0	3318.2	2573.3	64.0	0.279					
	35	150.0	3328.5	2583.6	67.2	0.259					

REMARKS:

00044

E90

TICKET NO. 25101900

		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE.....	4.500	3.826	7719.9	
4	FLEX WEIGHT.....	4.500	2.880	182.9	
3	DRILL COLLARS.....	8.250	2.880	301.5	
51	PUMP OUT REVERSING SUB.....	6.000	3.000	1.0	8196.3
8	DRILL COLLARS.....	6.250	2.880	29.7	
50	IMPACT REVERSING SUB.....	6.000	3.000	1.0	8227.0
3	DRILL COLLARS.....	8.250	2.880	29.8	
250	BAR CATCHER SUB.....	5.750	1.500	1.0	8257.0
80	AP RUNNING CASE.....	5.000	2.250	4.1	8259.3
5	CROSSOVER.....	5.000	2.200	1.0	
12	DUAL CIP VALVE.....	5.000	0.870	4.8	
202	SAMPLE CHAMBER.....	5.000	2.250	4.8	
33	DRAIN VALVE.....	5.000	2.200	0.9	
60	HYDROSPRING TESTER.....	5.000	0.750	5.3	8278.8
80	AP RUNNING CASE.....	5.000	2.250	4.1	8280.3
15	JAR.....	5.000	1.500	5.0	
16	VR SAFETY JOINT.....	5.000	1.000	2.8	
17	PRESSURE EQUALIZING CROSSOVER.....	5.000	1.000	1.0	
70	OPEN HOLE PACKER.....	7.500	1.530	5.8	8296.2
18	DISTRIBUTOR VALVE.....	5.000	1.080	2.0	
70	OPEN HOLE PACKER.....	7.500	1.530	5.8	8304.0
20	FLUSH JOINT ANCHOR.....	5.000	2.370	5.8	
5	CROSSOVER.....	5.000	2.750	1.0	
60	AP RUNNING CASE.....	5.000	2.250	4.1	8312.8
5	CROSSOVER.....	5.000	2.500	1.0	
5	CROSSOVER.....	5.000	2.500	1.0	
3	DRILL COLLARS.....	6.250	2.880	29.8	

CONTINUED

EQUIPMENT DATA

00045

790

TICKET NO. 25101900

		O.D.	I.D.	LENGTH	DEPTH	
5		CROSSOVER.....	6.000	2.500	1.0	
5		CROSSOVER.....	5.000	2.500	0.9	
70		OPEN HOLE PACKER.....	7.500	1.530	5.8	8351.4
18		DISTRIBUTOR VALVE.....	5.000	1.680	2.0	
70		OPEN HOLE PACKER.....	7.500	1.530	5.8	8359.2
5		CROSSOVER.....	4.750	2.500	1.0	
19		ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.3	
20		FLUSH JOINT ANCHOR.....	6.000	2.370	8.0	
5		CROSSOVER.....	6.000	2.200	0.8	
3		DRILL COLLARS.....	6.250	2.880	59.6	
5		CROSSOVER.....	6.000	2.500	1.0	
81		BLANKED-OFF RUNNING CASE.....	5.000		4.1	8439.0
TOTAL DEPTH						8442.0

EQUIPMENT DATA

00046



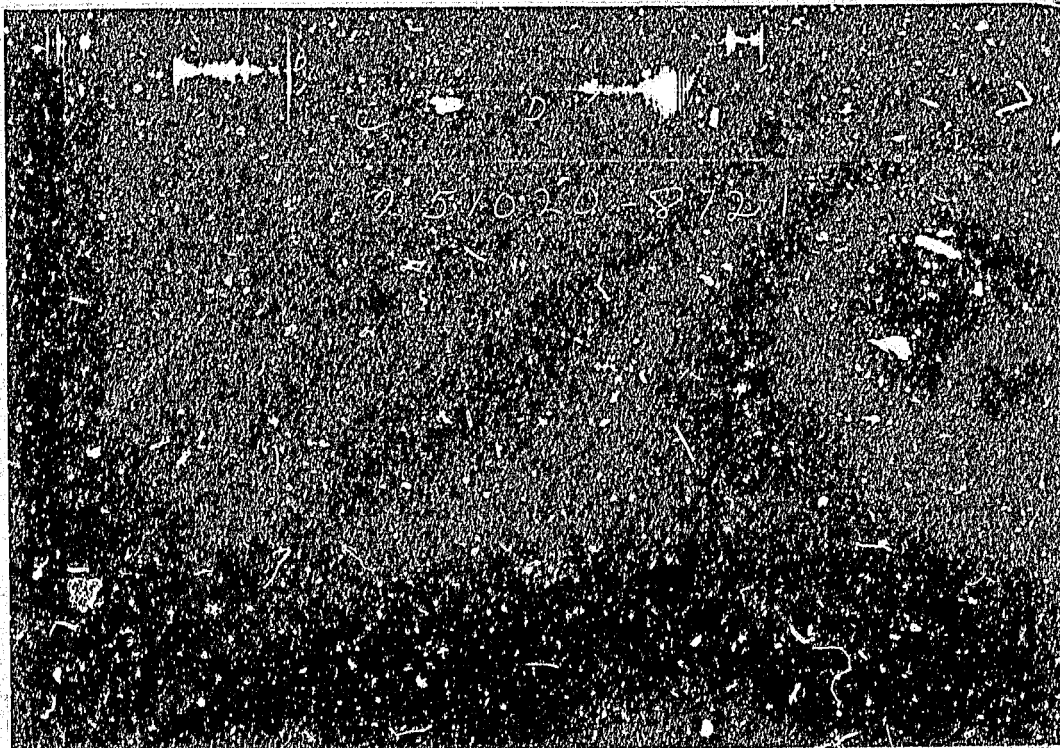
TICKET NO. 25102000

04-JUN-86

MOOMBA

FORMATION TESTING SERVICE REPORT

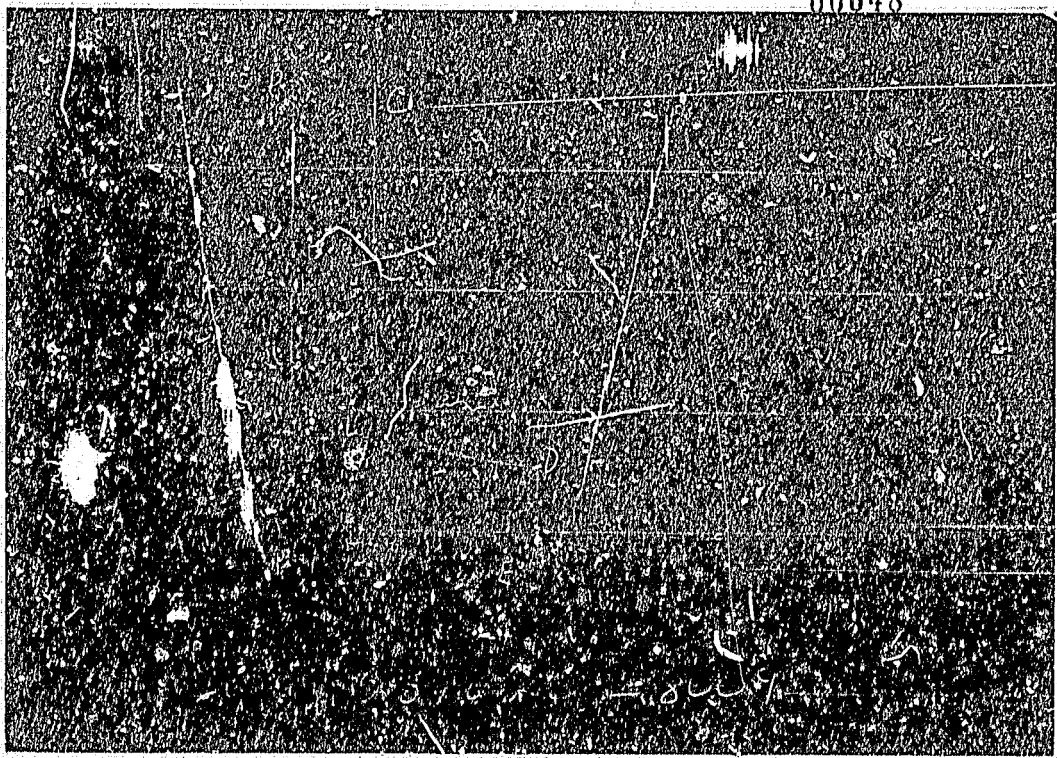
LEASE NAME	PIRA	WELL NO.	2	TEST NO.	5	TESTED INTERVAL	8576.8 - 8629.0	LEASE OWNER/COMPANY NAME	DELHI PETROLEUM PTY. LTD.
LEASE LOCATION SEC. - TWP. - RMC.	SEE REMARKS	FIELD AREA	COOPER BASIN	COUNTRY	SOUTH AFRICA	STATE	NATAL	DR	



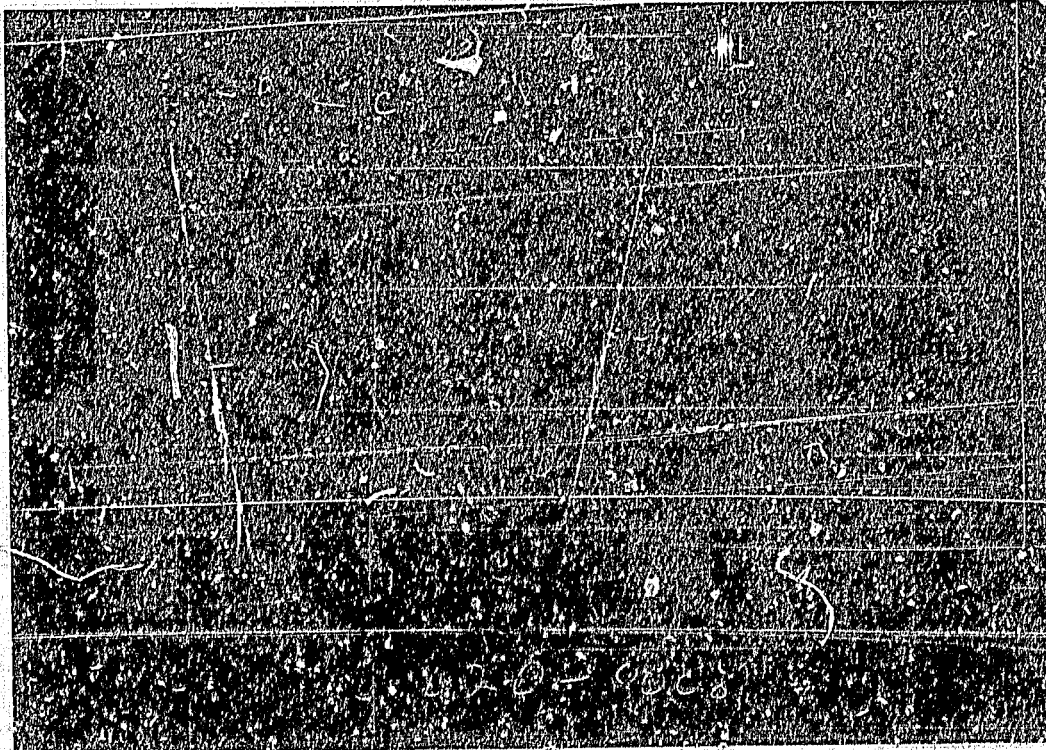
GAUGE NO: 8721 DEPTH: 0535.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	NITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW	240	218.1			
C	FINAL FIRST FLOW	410	468.6	121.0	122.5	F
C	INITIAL FIRST CLOSED IN	410	468.6			
D	FINAL FIRST CLOSED-IN		409.0	245.0	243.5	C
E	FINAL HYDROSTATIC					

00048


 GAUGE NO: 8009 DEPTH: 8556.1 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4263	4274.8			
B	INITIAL FIRST FLOW	233	233.1			
C	FINAL FIRST FLOW	480	476.2	121.0	122.5	F
C	INITIAL FIRST CLOSED-IN	480	476.2			
D	FINAL FIRST CLOSED-IN	3468	3474.0	245.0	243.5	C
E	FINAL HYDROSTATIC	4260	4265.3			



GAUGE NO: 8008 DEPTH: 8626.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4295	4307.6			
B	INITIAL FIRST FLOW	257	263.2			
C	FINAL FIRST FLOW	490	491.4	121.0	122.5	F
C	INITIAL FIRST CLOSED-IN	490	491.4			
D	FINAL FIRST CLOSED-IN	3469	3476.2	245.0	243.5	C
E	FINAL HYDROSTATIC	4274	4284.0			

00050

611

EQUIPMENT & HOLE DATA

FORMATION TESTED: PATCHAWARRA

NET PAY (ft):

GROSS TESTED FOOTAGE: 50.2

ALL DEPTHS MEASURED FROM: KELLY BUSHING

CASING PERFS. (ft):

HOLE OR CASING SIZE (in): 8.500

ELEVATION (ft): 273.0 KELLY BUSHING

TOTAL DEPTH (ft): 8629.0

PACKER DEPTH(S) (ft): 8571. 8578

FINAL SURFACE CHOKE (in): 0.50000

BOTTOM HOLE CHOKE (in): 0.750

MUD WEIGHT (lb/gal): 9.50

MUD VISCOSITY (cP): 55

ESTIMATED HOLE TEMP. (°F):

ACTUAL HOLE TEMP. (°F): 278 @ 8625.0 ft

TICKET NUMBER: 25102000

DATE: 4-2-86 TEST NO: 5

TYPE DST: OPEN HOLE

HOLLIBURTON CAMP:

MOOMBA

TESTER: P. BATES

WITNESS: E. KOOPEAK ??????

DRILLING CONTRACTOR:

A.T.C.O. A.P.M. RIG A-1

FLUID PROPERTIES FOR
RECOVERED MUD & WATER

SOURCE

RESISTIVITY

CHLORIDES

SOURCE	RESISTIVITY	CHLORIDES
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm

SAMPLER DATA

Pstg. AT SURFACE:

cu.ft. OF GAS:

cc OF OIL:

cc OF WATER:

cc OF MUD:

TOTAL LIQUID cc:

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F

GAS/OIL RATIO (cu.ft. per bbl):

GAS GRAVITY:

CUSHION DATA

TYPE AMOUNT WEIGHT

WATER (ET.1) 550.0 8.94

RECOVERED:

850' OF SLIGHTLY GAS CUT MUDDY WATER

MEASURED FROM
TESTER VALVE

REMARKS:

LEGAL LOCATION: LAT. 28 DEGREES 12' 09.1" SOUTH
 LONG. 140 DEGREES 53' 02.4" EAST
 SEISMIC S.P. 320, 80 KDB

00051

TYPE & SIZE MEASURING DEVICE: 6" CERAMIC POSITIVE CHOKE NIPPLE					TICKET NO: 25102000
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
4-1-86					
2330					STARTED PICKING UP THE TOOLS
4-2-86					
0020					STARTED IN HOLE
0440					MADE UP HEAD AND SURFACE LINES
0447					TAGGED BOTTOM
0518					SEATED THE PACKERS
0519	.5				OPENED TOOL WITH A VERY WEAK BLOW
0521	.5				STRONG BLOW
0522	.5	4			
0523	.5	9			
0524	.5	11			
0525	.5	16			
0526	.5				GAS TO SURFACE
0527	.5	23			
0529	.5	30			
0531	.5	36			
0533	.5	42			
0535	.5	48			
0540	.5	60			
0545	.5	65			
0550	.5	75			
0555	.5	80			
0600	.5	85			
0610	.5	98			
0620	.5	100			
0630	.5	102			
0640	.5	102			
0650	.5	105			
0700	.5	105			
0710	.5	105			
0720	.5	105			CLOSED TOOL
1125					OPENED BYPASS AND PULL FREE
1555					STARTED BREAKING OUT THE TOOLS
1725					FINISHED LAYING THE TOOLS DOWN

00052

TICKET NO: 25102000

CLOCK NO: 32069 HOUR: 24



GAUGE NO: 8721

DEPTH: 8535.0

REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta P}{1 + \Delta P}$	$\log \frac{1 + \Delta P}{\Delta P}$	REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta P}{1 + \Delta P}$	$\log \frac{1 + \Delta P}{\Delta P}$
FIRST FLOW											
B	1	0.0	218.1								
	2	10.0	251.0	32.9							
	3	20.0	306.0	54.9							
	4	30.0	355.8	49.8							
	5	40.0	389.1	33.3							
	6	50.0	411.4	22.4							
	7	60.0	428.5	17.1							
	8	70.0	441.3	12.6							
	9	80.0	450.3	9.0							
	10	90.0	458.1	5.8							
	11	100.0	461.8	5.6							
	12	110.0	466.4	4.6							
C	13	122.5	468.6	2.2							
FIRST CLOSED-IN											
C	1	0.0	468.6								
D	2	243.5	409.0	-59.6	81.5	0.177					

REMARKS:

00053

281

TICKET NO: 25102000

CLOCK NO: 18446 HOUR: 24



GAUGE NO: 8009

DEPTH: 8556.1

REF	MINUTES	PRESSURE	AP	$\frac{1 \times \Delta t}{1 + \Delta t}$	$\log \frac{1 + \Delta t}{\Delta t}$	REF	MINUTES	PRESSURE	AP	$\frac{1 \times \Delta t}{1 + \Delta t}$	$\log \frac{1 + \Delta t}{\Delta t}$
FIRST FLOW						FIRST CLOSED-IN - CONTINUED					
B	1	0.0	233.1			36	165.0	3416.4	2940.2	70.3	0.241
	2	10.0	278.5	43.4		37	180.0	3429.6	2953.4	72.8	0.225
	3	20.0	331.3	54.7		38	195.0	3440.7	2964.5	75.2	0.212
	4	30.0	385.1	53.9		39	210.0	3452.4	2976.2	77.4	0.200
	5	40.0	411.7	28.5		40	225.0	3462.0	2985.6	79.3	0.189
	6	50.0	429.9	18.2		41	240.0	3471.3	2995.1	81.1	0.179
	7	60.0	443.9	16.0		D 42	243.5	3474.0	2997.6	81.5	0.177
	8	70.0	454.2	8.3							
	9	80.0	460.1	5.9							
	10	90.0	466.2	6.1							
	11	100.0	471.3	5.1							
	12	110.0	474.7	3.4							
C	13	122.5	476.2	1.5							
FIRST CLOSED-IN											
C	1	0.0	476.2								
	2	1.0	2041.4	1565.2	1.0	2.093					
	3	2.0	2232.1	1755.9	1.9	1.802					
	4	3.0	2408.9	1930.7	2.9	1.610					
	5	4.0	2502.5	2026.3	3.9	1.498					
	6	5.0	2582.0	2106.4	4.8	1.408					
	7	6.0	2652.5	2176.3	5.8	1.328					
	8	7.0	2695.5	2219.3	6.8	1.270					
	9	8.0	2734.7	2256.5	7.5	1.212					
	10	9.0	2768.8	2292.6	8.4	1.164					
	11	10.0	2796.1	2320.0	9.2	1.123					
	12	12.0	2846.0	2389.8	11.0	1.049					
	13	14.0	2892.6	2416.4	12.6	0.988					
	14	16.0	2925.3	2448.2	14.2	0.937					
	15	18.0	2955.4	2479.2	15.7	0.893					
	16	20.0	2983.4	2507.2	17.1	0.853					
	17	22.0	3008.4	2532.3	18.1	0.817					
	18	24.0	3028.7	2552.5	20.1	0.786					
	19	26.0	3049.0	2572.8	21.5	0.756					
	20	28.0	3069.9	2593.8	22.8	0.730					
	21	30.0	3088.5	2609.5	24.1	0.706					
	22	35.0	3120.3	2644.1	27.2	0.653					
	23	40.0	3150.8	2674.7	30.2	0.609					
	24	45.0	3177.2	2701.0	32.9	0.571					
	25	50.0	3200.2	2724.0	35.5	0.538					
	26	55.0	3220.8	2744.6	38.0	0.509					
	27	60.0	3239.0	2762.8	40.3	0.483					
	28	70.0	3268.6	2792.4	44.8	0.439					
	29	80.0	3293.1	2816.9	48.4	0.403					
	30	90.0	3314.4	2838.2	51.9	0.373					
	31	100.0	3332.8	2856.6	55.1	0.347					
	32	110.0	3349.7	2873.5	58.0	0.325					
	33	120.0	3365.4	2889.2	60.6	0.306					
	34	135.0	3384.3	2906.1	64.2	0.280					
	35	150.0	3401.2	2925.0	67.4	0.259					

REMARKS:

00054

TICKET NO: 25102000

CLOCK NO: 7499 HOUR: 24



HALLIBURTON

SERVICES

GAUGE NO: 8006

DEPTH: 8626.0

REF	MINUTES	PRESSURE	AP	$\frac{1 \times \Delta t}{1 + \Delta t}$	$\log \frac{1 + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	289.2			
2	10.0	294.5	51.3		
3	20.0	344.0	49.5		
4	30.0	393.0	49.0		
5	40.0	424.7	51.7		
6	50.0	445.2	20.5		
7	60.0	462.3	17.1		
8	70.0	471.2	6.8		
9	80.0	478.1	6.8		
10	90.0	482.9	4.8		
11	100.0	487.5	4.6		
12	110.0	488.6	2.1		
C 13	122.5	491.4	1.8		

FIRST CLOSED-IN

C 1	0.0	491.4			
2	1.0	2035.2	1543.7	1.0	2.094
3	2.0	2246.3	1756.9	2.0	1.791
4	3.0	2406.2	1914.7	2.9	1.620
5	4.0	2519.6	2028.1	3.9	1.496
6	5.0	2592.0	2100.6	4.8	1.404
7	6.0	2647.8	2158.4	5.7	1.329
8	7.0	2685.4	2204.0	6.6	1.266
9	8.0	2741.0	2248.5	7.5	1.214
10	9.0	2771.9	2280.5	8.4	1.165
11	10.0	2802.8	2311.5	9.3	1.121
12	12.0	2846.4	2355.0	10.9	1.049
13	14.0	2888.8	2397.3	12.6	0.989
14	16.0	2928.1	2434.8	14.1	0.938
15	18.0	2955.0	2464.5	15.7	0.892
16	20.0	2984.9	2493.4	17.2	0.852
17	22.0	3016.0	2518.8	18.6	0.818
18	24.0	3031.5	2540.0	20.0	0.786
19	26.0	3051.4	2559.9	21.4	0.757
20	28.0	3069.7	2578.3	22.8	0.730
21	30.0	3087.1	2595.6	24.1	0.706
22	35.0	3122.4	2631.0	27.2	0.653
23	40.0	3153.8	2662.5	30.2	0.609
24	45.0	3178.7	2687.3	32.8	0.571
25	50.0	3198.1	2706.7	35.5	0.536
26	55.0	3218.5	2727.1	38.0	0.509
27	60.0	3235.9	2744.4	40.3	0.483
28	70.0	3286.8	2775.4	44.5	0.439
29	80.0	3292.9	2801.4	48.4	0.403
30	90.0	3319.8	2822.8	51.9	0.373
31	100.0	3332.6	2841.4	55.1	0.347
32	110.0	3349.0	2857.5	58.0	0.325
33	120.0	3363.4	2872.0	60.6	0.306
34	135.0	3385.0	2893.8	64.2	0.280
35	150.0	3399.8	2908.4	67.4	0.259

REF	MINUTES	PRESSURE	AP	$\frac{1 \times \Delta t}{1 + \Delta t}$	$\log \frac{1 + \Delta t}{\Delta t}$
FIRST CLOSED-IN - CONTINUED					
36	165.0	3415.0	2929.5	70.3	0.241
37	180.0	3428.4	2938.0	72.9	0.225
38	195.0	3443.0	2951.6	75.2	0.212
39	210.0	3453.2	2961.8	77.4	0.200
40	225.0	3464.8	2973.4	79.3	0.189
41	240.0	3473.8	2982.4	81.1	0.179
D 42	243.5	3478.2	2984.8	81.5	0.177

REMARKS:

00056

TICKET NO. 25102000

781

		O.D.	I.D.	LENGTH	DEPTH
1		DRILL PIPE.....	4.500	3.826	7993.9
4		FLEX WEIGHT.....	4.500	2.680	182.9
3		DRILL COLLARS.....	6.250	2.880	300.0
51		PUMP OUT REVERSING S.B.....	6.000	3.000	1.0 8472.0
3		DRILL COLLARS.....	6.250	2.880	29.8
50		IMPACT REVERSING SUB.....	6.000	3.000	1.0 8502.8
3		DRILL COLLARS.....	6.250	2.880	29.6
258		BAR CATCHER SUB.....	5.750	1.500	1.0 8533.0
80		AP RUNNING CASE.....	5.000	2.250	4.1 8537.0
5		CROSSOVER.....	5.000	2.200	1.0
12		DUAL CIP VALVE.....	5.000	0.870	4.9
202		SAMPLE CHAMBER.....	5.000	2.500	4.9
33		DRAIN VALVE.....	5.000	2.200	0.9
60		HYDROSPRING TESTER.....	5.000	0.750	5.3 8554.6
80		AP RUNNING CASE.....	5.000	2.250	4.1 8558.1
15		JAR.....	5.000	1.750	5.0
16		VR SAFETY JOINT.....	5.000	1.000	2.0
70		OPEN HOLE PACKER.....	7.500	1.530	5.8 8571.0
18		DISTRIBUTOR VALVE.....	5.000	1.680	2.0
70		OPEN HOLE PACKER.....	7.500	1.530	5.8 8576.8
16		ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.9
20		FLUSH JOINT ANCHOR.....	5.000	2.370	40.0
81		BLANKED-OFF RUNNING CASE.....	5.000		4.1 8626.0
TOTAL DEPTH					8629.0
EQUIPMENT DATA					

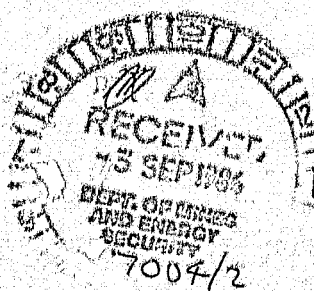
00056



TICKET NO. 94649000

26-AUG-86

MOONBA

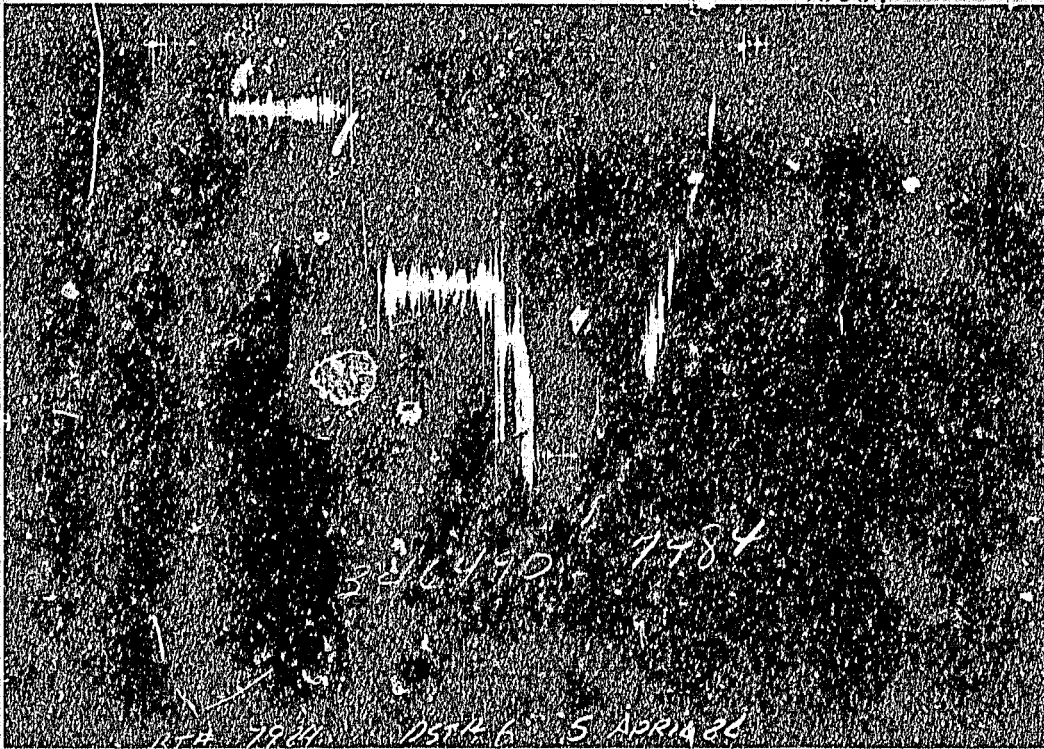


FORMATION TESTING SERVICE REPORT

LEGAL LOCATION SEC. - TYP. - RNG.	PIR LEASE NAME	WELL NO. 2	TEST NO. 5	8990.3 - 8920.5	DELHI PETROLEUM PTY. LTD.
SEE REMARKS	FIELD AREA	COOPER BASIN	COUNTRY SOUTH AUSTRALIA	STATE AUSTRALIA	LEASE OWNER/COMPANY NAME
					IC

00057

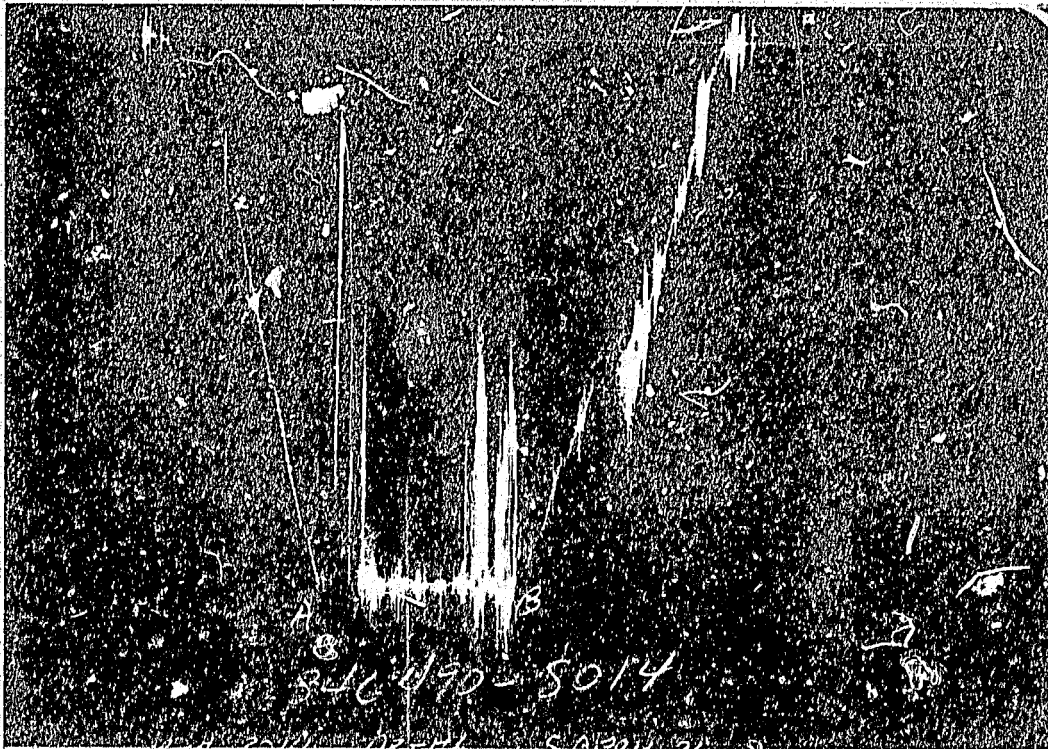
016

GAUGE NO: 7984 DEPTH: 8844.7 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	FINAL HYDROSTATIC					

00058

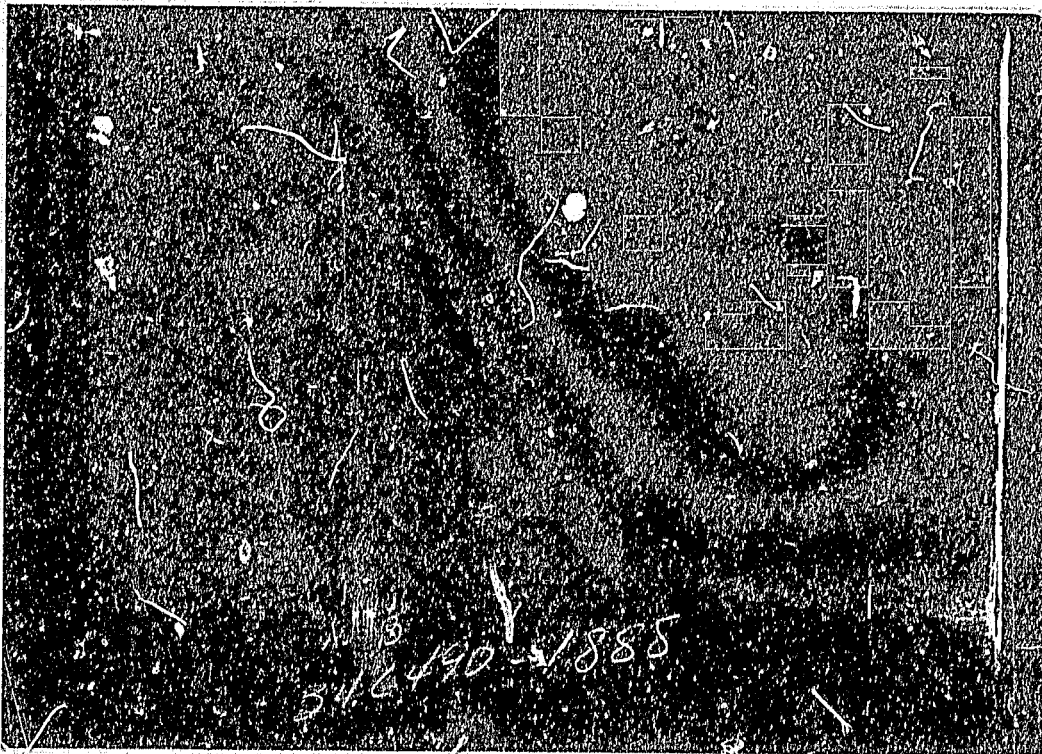
T86

GAUGE NO: 8014 DEPTH: 8865.8 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4480	4478.1			
B	FINAL HYDROSTATIC		4457.2			

00059

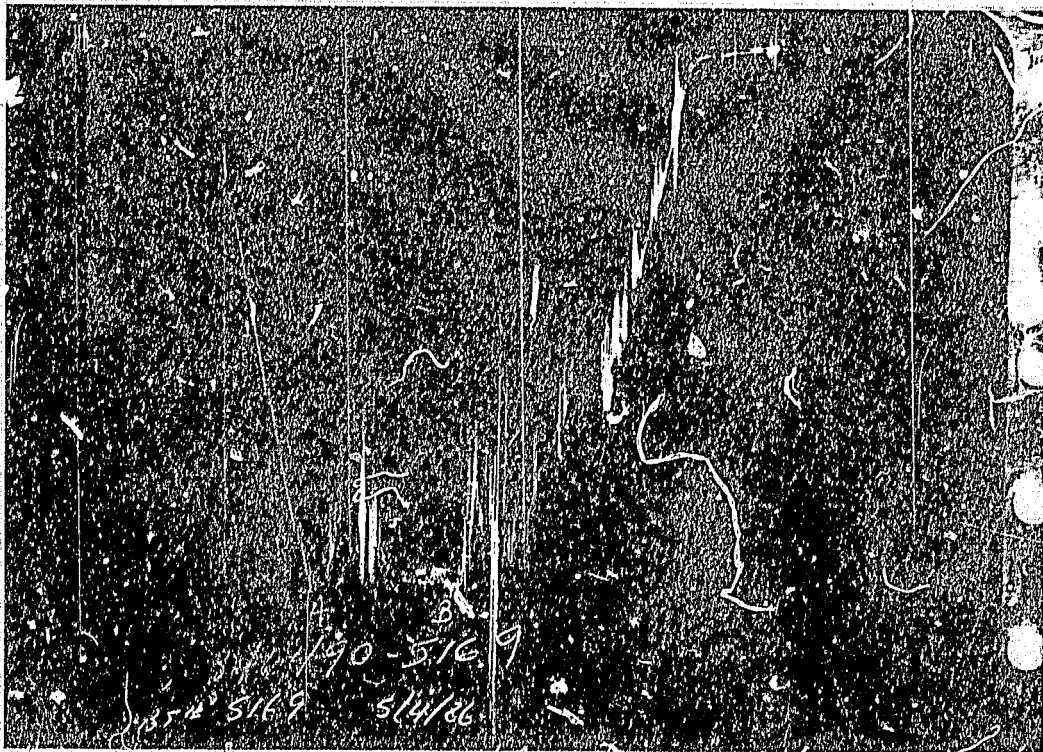
256

GAUGE NO: 1888 DEPTH: 8916.3 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4538	4542.3			
B	FINAL HYDROSTATIC		4521.2			

00060

E86

GAUGE NO: 5169 DEPTH: 9025.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4573	4603.6			
B	FINAL HYDROSTATIC	4313	4585.7			

00361

EQUIPMENT & HOLE DATA		TICKET NUMBER: 34649000	
FORMATION TESTED: <u>PATCHAVARRA</u>		DATE: <u>4-5-86</u> TEST NO: <u>6</u>	
NET PAY (ft): _____		TYPE DST: <u>ON BTM. STRADDLE</u>	
GROSS TESTED FOOTAGE: <u>30.1</u>		HALLIBURTON CAMP: _____	
ALL DEPTHS MEASURED FROM: <u>KELLY BUSHING</u>		<u>MOOMBA</u>	
CASING PERFS. (ft): _____		TESTER: <u>C. THORNE</u>	
HOLE OR CASING SIZE (in): <u>8.500</u>		<u>K. WILINSKI</u>	
ELEVATION (ft): <u>273.0 KELLY BUSHING</u>		WITNESS: <u>ROY EEL</u>	
TOTAL DEPTH (ft): <u>9028.0</u>		DRILLING CONTRACTOR: _____	
PACKER DEPTH(S) (ft): <u>8883, 8890, 8920, 8923</u>		<u>21C7 BPM RIG #A-1</u>	
FINAL SURFACE CHOKE (in): <u>0.5000</u>			
BOTTOM HOLE CHOKE (in): <u>0.750</u>			
MUD WEIGHT (lb/gal): <u>9.90</u>			
MUD VISCOSITY (sec): <u>59</u>			
ESTIMATED HOLE TEMP. (°F): <u>290</u>			
ACTUAL HOLE TEMP. (°F): <u>235.0</u> <u>9024.0</u> ft			
FLUID PROPERTIES FOR RECOVERED MUD & WATER		SAMPLER DATA	
SOURCE	RESISTIVITY	CHLORIDES	PSIG AT SURFACE: _____
_____	_____ °F	_____ ppm	cu. ft. OF GAS: _____
_____	_____ °F	_____ ppm	cc OF OIL: _____
_____	_____ °F	_____ ppm	cc OF WATER: _____
_____	_____ °F	_____ ppm	cc OF MUD: _____
_____	_____ °F	_____ ppm	TOTAL LIQUID cc: _____
_____	_____ °F	_____ ppm	
HYDROCARBON PROPERTIES		CUSHION DATA	
OIL GRAVITY (°API): _____ °F		TYPE AMOUNT WEIGHT	
GAS/OIL RATIO (cu. ft. per bbl): _____		<u>WATER (FEET)</u> <u>1500.0</u> <u>8.33</u>	
GAS GRAVITY: _____			
RECOVERED: _____ MEASURED FROM TESTER VALVE			
REMARKS: LEGAL LOCATION: LAT. 28 DEG., 12', 09.1"N; LONG. 140 DEG., 53', 02.4"E. MISRUN - NO PACKER SEATS			

00863

986

TICKET NO. 34649000

		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE.....	4.500	3.826	8287.0	
4	FLEX WEIGHT.....	4.500	2.875	182.9	
3	DRILL COLLARS.....	6.500	2.870	331.3	
51	PUMP OUT REVERSING SUB.....	6.000	3.000	1.0	8781.7
3	DRILL COLLARS.....	6.500	2.870	29.8	
50	IMPACT REVERSING SUB.....	6.000	3.000	1.0	8812.5
3	DRILL COLLARS.....	6.500	2.870	29.8	
258	BAR CATCHER SUB.....	5.750	1.120	1.0	8843.0
80	AP RUNNING CASE.....	5.000	2.250	4.1	8844.7
5	CROSSOVER.....	5.000	2.200	1.0	
12	DUAL CIP VALVE.....	5.000	0.876	4.9	
202	SAMPLE CHAMBER.....	5.000	2.500	4.8	
33	DRAIN VALVE.....	5.000	2.200	0.9	
80	HYDROSPRING TESTER.....	5.100	0.750	5.9	8864.3
80	AP RUNNING CASE.....	5.000	2.250	4.1	8865.8
15	JAR.....	5.000	1.750	5.0	
16	VR SAFETY JOINT.....	5.000	1.000	2.8	
17	PRESSURE EQUALIZING CROSSOVER...	4.870	3.000	1.0	
70	OPEN HOLE PACKER.....	5.000	1.530	5.8	8882.5
18	DISTRIBUTOR VALVE.....	5.000	1.680	2.0	
70	OPEN HOLE PACKER.....	5.000	1.530	5.8	8890.3
20	FLUSH JOINT ANCHOR.....	5.000	2.370	23.0	
17	PRESSURE EQUALIZING CROSSOVER...	4.620	2.150	1.0	
80	AP RUNNING CASE.....	5.000	2.250	4.1	8916.3
70	OPEN HOLE PACKER.....	5.000	1.530	5.8	8920.5
18	DISTRIBUTOR VALVE.....	5.000	1.680	2.0	
70	OPEN HOLE PACKER.....	5.000	1.530	5.8	8928.3

CONTINUED

EQUIPMENT DATA

00064 TICKET NO. 34649000

		O.D.	I.D.	LENGTH	DEPTH
5		CROSSOVER.....	4.750	2.375	1.0
19		ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.9
20		FLUSH JOINT ANCHOR.....	5.000	2.370	24.0
5		CROSSOVER.....	5.875	2.375	1.0
3		DRILL COLLARS.....	6.500	2.870	59.6
5		CROSSOVER.....	5.875	2.625	1.0
81		BLANKED-OFF RUNNING CASE.....	5.000		4.1
TOTAL DEPTH					9025.0

EQUIPMENT DATA

000065

DELHI PETROLEUM PTY. LTD.

VELOCITY SURVEY - TIME/DEPTH CALIBRATION

PIRA 2

DISTRIBUTION (6)

DELHI (3) - W.K. Thiele/Library
P. Moorfield
S. Aufderheide

SANTOS LTD
SAOG
SADME



By: S. Karner
December, 1986
SK/mj1 07.12

Mines & Energy SA

R97/00772



000066

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2. DATUM STATICS
3. RESULTS

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3. SYNTHETIC SEISMOGRAM

VELOCITY SURVEY-TIME/DEPTH CALIBRATION

PIRA 2

1.0 INTRODUCTION

A well velocity survey was conducted by Delhi Petroleum Pty Ltd at the Pira 2 wellsite on the 9th April, 1986.

Velocity Data Pty Ltd of Brisbane were the recording contractors, providing the recording equipment and down-hole tool used in the survey.

Eleven good quality records were obtained at four different levels using ANZOMEX boosters detonated in the mudpit as the energy source. The downhole tool was a wall-locking vertical motion geophone device. The hole condition was generally good above the lower Patchawarra Coal. However, while conducting the survey the tool became stuck in the lower Patchawarra Coal and the cable became differentially stuck at a point further up the borehole. After the tool and cable were retrieved the survey was abandoned because of severe hole instability and the risk of the cable becoming differentially stuck once again.

Check shots at datum (273 ft) were taken to confirm the static correction used in the processing of line 80-KDB (320).

A Time/Depth curve was computed by fitting the integrated sonic time to the check-shot data. A synthetic seismogram was computed (and tied to the survey results) to analyse the relationship of horizon picks to seismic character. The methods of Time/Depth calibration and synthetic production are discussed in the reference "Time/Depth Calibration of Well Velocity Survey Results".

*Note: All depths are below KB unless otherwise specified.

A.T.P. 259P 000068

NORTHERN TERRITORY

QUEENSLAND
SOUTH AUSTRALIA

26°

HADDON

PEDIRKA

KOONCHERA

P.E.L. 586

27°

PATCHAWARRA EAST

PATCHAWARRA CENT.

CUTTAPIRRI
BEANBUSH

MOOLION

COONATIE

MERRIM
INNAM

KIPACKSADDLE

BROLGA
FLY LAKE

STIRRAWARRA

MUDRANGIE

WANTANA

COORANIE

ANDREE

KANDAWANA

MERRIMELIA

JACK LAKE

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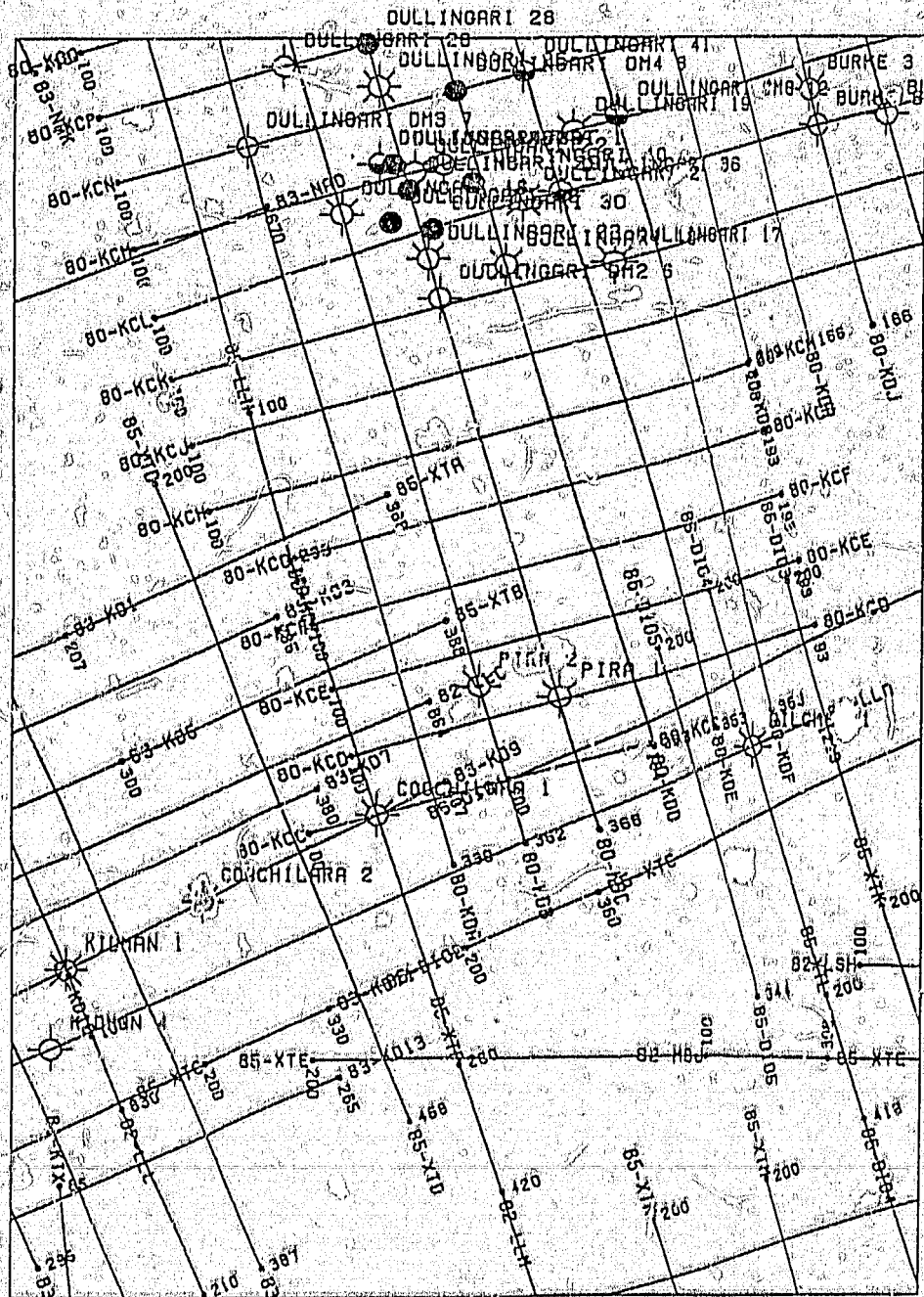
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1 : 1 0 0 0 0 0

28 07 06



28 17 005

140 49 000E

140 57 00E

2.0 DATUM STATICS

Five datum shots were taken at three different shot locations, (Fig. 3) with the downhole tool locked in casing at MSL, 273 ft below KB. Ground level was surveyed at 253 ft above MSL.

The mean vertical one-way time after geometrical offset correction was 65 ms (Enclosure 1). A shot depth correction of 2 msec was added due to the shots being 3 ft below the seismic elevation of 253 ft. A LVL velocity of 1640 ft/sec was used in the correction calculation. This velocity was derived from uphole information on line 80-KDB (320).

TABLE 1

DATUM STATIC DETERMINATION

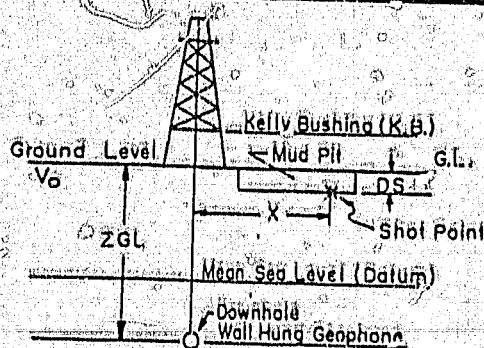
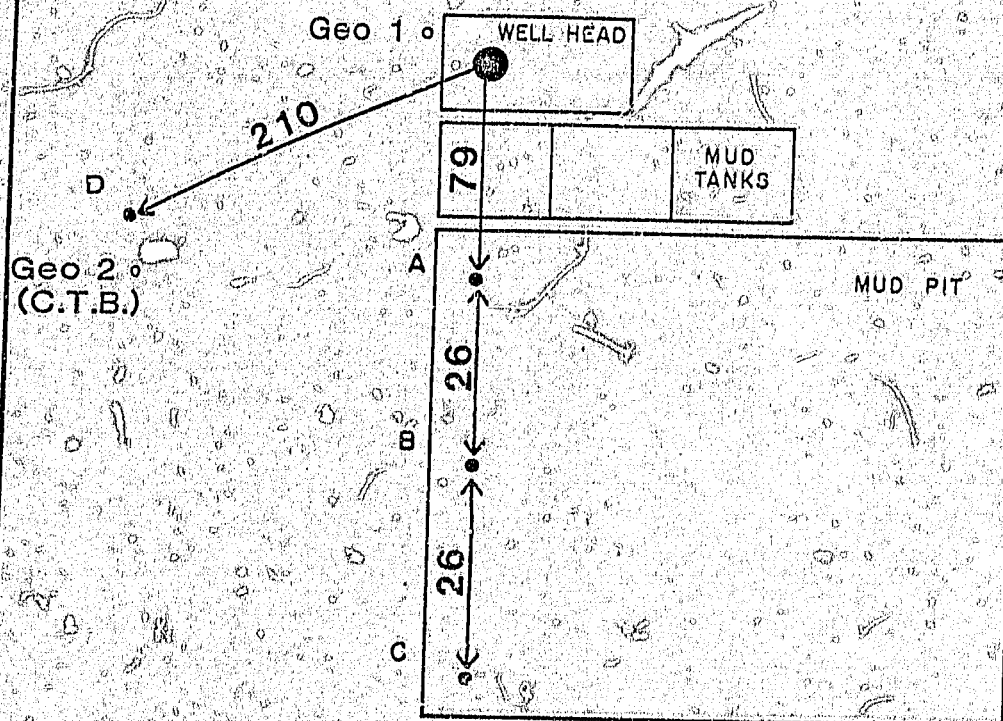
SHOT No	SHOT LOC. ft	SHOT DEPTH ft	SHOT OFFSET ft	ARRIVAL TIME ms	SHOT -DATUM STATIC ms	SURFACE -DATUM STATIC ms
1	A	3	79	65	62	64
2	B	3	105	70	65	67
3	C	3	131	72	64	66
4	B	3	105	74	68	70
5	A	3	79	69	66	68
average					65	67

TABLE 2

COMPARISON OF SEISMIC AND VELOCITY SURVEY STATIC

	SEISMIC LINE 80-KDB(320)	VELOCITY SURVEY	DIFFERENCE
GROUND ELEVATION (ft)	253	253	0
DATUM STATIC (ms)	63	67	-4
INTERVAL VELOCITY GROUND LEVEL TO DATUM (ft/sec)	4016	3776	340

000071



$$T = \frac{X}{V_0} \cos \left[\tan^{-1} \left(\frac{X}{ZGL - DS} \right) \right] + \frac{DS}{V_0}$$

T_0 = Time from Shot Point to downhole geophone, (record time)

T = Time for vertical ray path from surface level at well-head to downhole geophone level.

BASEL J8 (7-85) DWG No. 852P-449 (d) File No-33.

SHOT POINT	A	B	C	D
Depth Relative to G.L. of K.B. (m)	3	3	3	4
Horizontal Distance from K.B. (m)	79	105	131	210

DELHI PETROLEUM PTY. LTD.

GEOMETRY DIAGRAM

PIRA 2

WELL VELOCITY SURVEY

Author: SLK	Drafted	Date: 8/4/86
DWG. No.	File No.	FIGURE 3

000072

3.0 RESULTS

Table 3 indicates the results against prognoses. The prognoses of formation tops at Pira 2 were based on an interpretation of seismic line 80-KDB (SP 320) from the 1980 Woolkanie Seismic Survey.

The results determined from the Pira 2 well velocity survey are lacking in confidence since the sonic log was calibrated to only 3 checkshot levels and hence does not provide adequate sampling for the drift curve. This is especially noticeable when we compare the Pira 2 drift curve with that from nearby Pira 1 and observe that the two are considerably different. Each level was shot twice with a 8 ms TWT difference for the C and P horizons and a 4 ms TWT difference for the V horizon, thus giving only fair repeatability at each level which leads to poor confidence in the checkshot survey results.

Prognosed depths were 14 ft shallow for the C horizon and 76 ft deep for the P horizon. The prognosed TWT picks were slow for both the C and P horizons (21 msec and 19 msec, respectively). Thus, the prognosed average velocities were slower for both the C and P horizons (262 ft/sec and 3 ft/sec, respectively).

The 0th synthetic seismogram has the best character match with the Normal Polarity (NP) seismic section. There is one obvious mismatch where a horizon appears strongly on the synthetic seismogram at approximately 1.35 ms TWT (the Birkhead Formation) and only weakly registers on the seismic section. The event on the synthetic is expected to be real due to the decrease in seismic velocities brought about by the shales of the Birkhead Formation as observed on the sonic logs. At this time no explanation has been brought forward but the discrepancy may be brought about by some peculiarities of the seismic line processing.

There was an apparent mistle of approximately 12 ms TWT where the synthetic was shallow compared to the seismic section. The datum static difference of -8 ms TWT reduces this mistle to approximately 4 ms TWT. This is most probably due to a bad drift curve or poor checkshot repeatability.

000073

TABLE 3
SURVEY RESULTS

DEPTH (feet below M.S.L.)

Horizon	C	P
Prognosis	4440	6745
Well top	4454	6671
Difference	-14	76

TWO-WAY TIME (msecs)

Horizon	C	P
Prognosis	1172	1525
Velocity survey	1151	1506
Difference	21	19

AVERAGE VELOCITY (ft/sec)

Horizon	C	P
Prognosis	7577	8856
Velocity survey	7739	8859
Difference	-262	-3

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A.C.N. 007 550 923

BRIEF PALYNOLOGICAL REPORT

WELL: PIRA-NC 2

G.R. WOOD
DATE: 27 January 1994

SAMPLE	DEPTH (LOGGERS)	AGE	STRATIGRAPHY		REMARKS
			BIOSTRATIGRAPHICAL UNIT	INFERRED STRATIGRAPHICAL LIMIT	
FHC 2	8252'2"	EARLY PERMIAN	PP3	UPPER PATCHAWARRA FM	Extremely sparse assemblage. Robust spores preserved only. <u>G. trisinus</u> , <u>I. robusta</u> and <u>P. cicatricosus</u> noted.
FHC 2	8277'4"	-	-	-	NO IDENTIFIABLE PALYNOMORPHS RECOVERED
FHC 2	8288'11"	EARLY PERMIAN	PP2.2-PP3	PATCHAWARRA FM	Almost barren. Few carbonised spores noted including <u>G. trisinus</u> .

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Mines & Energy SA

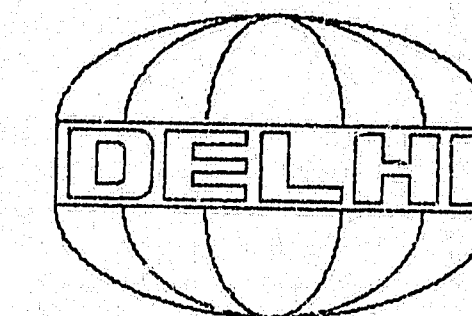
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PIRA 2

09-04-86

SHOT RECORD TABLE



DATUM SHOTS (DATUM=MSL)

Z(K) = 273 FT

Z(GL) = 253 FT

SHOT NUMBER	LOCAL TIME	SHOT LOCATION	AMP. GAIN	CHARGE SIZE	CHARGE DEPTH FT	OFFSET (FT)	ARRIVAL TIME MS	SHOT TO DATUM STATIC (MS)	SURFACE TO SHOT CORR. (MS)	SURFACE TO DATUM STATIC (MS)	REMARKS
1	22.05	A	25	1XA	3	79	65	62	2	64	*** NOTE - SHOT TO DATUM STATIC IS USED IN CORRECTING THE RECORD TIMES ***
2	22.10	B	25	1XA	3	105	70	65	2	67	
3	22.13	C	25	1XA	3	131	72	64	2	66	
4	22.16	B	25	1XA	3	105	74	68	2	70	
5	22.20	A	25	1XA	3	79	69	66	2	68	

THE SHOT TO DATUM STATIC USED IS 65 MSEC.

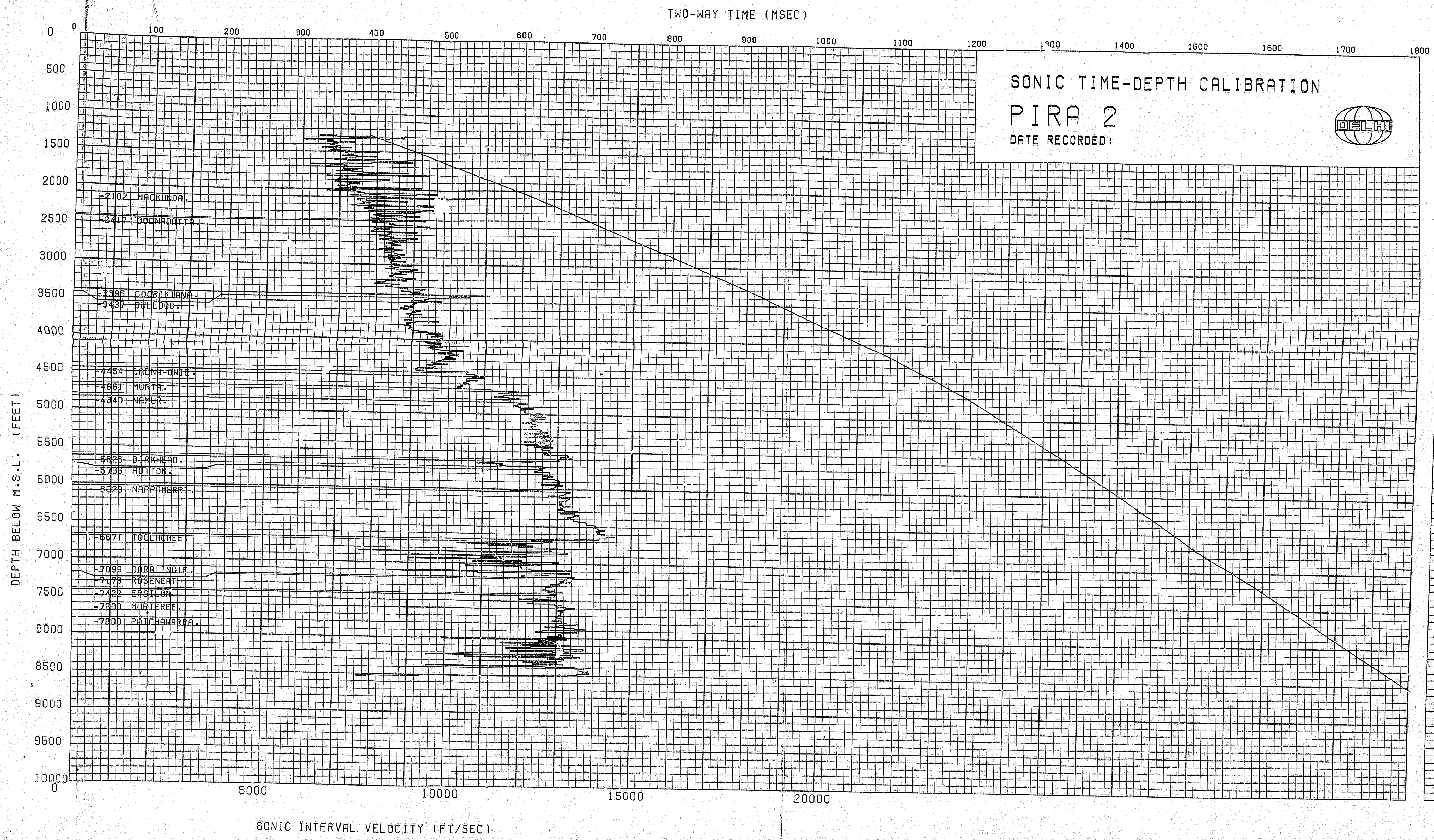
THE SURFACE VELOCITY IS 1640 FT/SEC.

SURVEY SHOTS

SHOT NUMBER	LOCAL TIME	CHARGE SIZE	AMP. GAIN	OFFSET (FT)	CHARGE DEPTH	KB DEPTH	RECORD TIME	MSL DEPTH	CORR. TIME	INTERVAL VELOCITY	RMS VELOCITY	REMARKS
6	22.40	1XQ	35	210	4	4713	638	4440	572	7735	7735	CADNA-OWIE FM. (4727)
7	22.50	1XQ	40	210	4	4713	642	4440	576	7735	7735	
8	23.05	1XQ	40	210	4	6944	816	6671	751	12464	9085	TOOLACHEE FM.
19	23.25	1XQ	40	210	4	6944	820	6671	755	12464	9085	
10	23.35	1XQ	40	210	4	8780	965	8507	900	12575	9737	
11	23.45	1XQ	40	210	4	8780	963	8507	898	12575	9737	

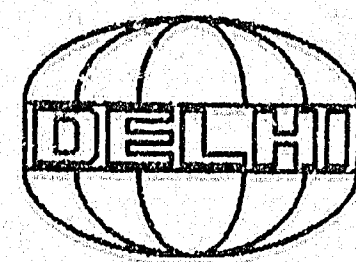
7004/2-1

ENCLOSURE 1
16-DEC-1986



7004/2-2

ENCLOSURE 2
16-DEC-1986

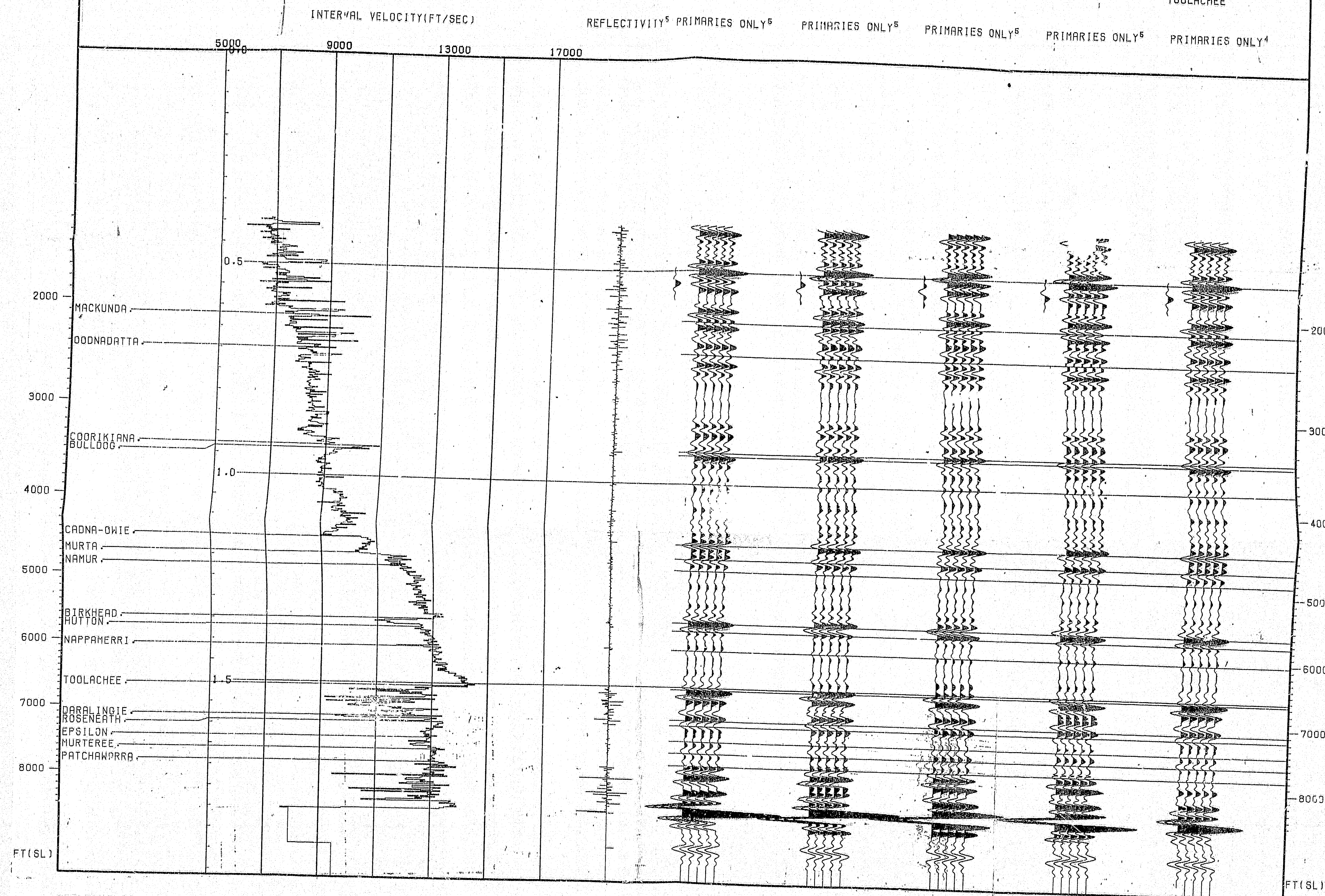
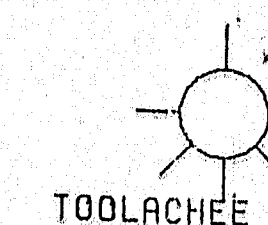


PIRA 2

SYNTHETIC SEISMOGRAM

7004/2-3

18-DEC-88



REFLECTIVITY COMPUTED USING :

1. VELOCITY
2. VELOCITY AND DENSITY
3. VELOCITY AND CORRECTED DENSITY
4. SAME AS (1) WITH DRIFT APPLIED
5. SAME AS (2) WITH DRIFT APPLIED
6. SAME AS (3) WITH DRIFT APPLIED

FORMATION TOP KB (FT) = 273	DEPTH (SL) TIME	VEL (MT)	VEL (AV)	VEL (RHS)
MACKUNDA	2102	619		
OODNADATTA	2417	695	8289	6792
COORIKIANA	3396	926	8476	6971
BULLDOG	3437	933	1171	7375
CADNA-OWIE	4654	1151	9330	7368
MURTA	4651	1151	1061	7739
NAMUR	4840	1230	1154	7816
BIRKHEAD	5628	1347	1250	7923
HUTTON	5736	1365	1273	8035
NAPPAMERRI	6729	1411	1273	8584
TOOLACHEE	6671	1351	1273	8608
DARALINGIE	7099	1509	1172	8773
ROSENEATH	7179	1592	1230	9145
EPSILON	7422	1629	1313	9261
MURTEREE	7600	1657	1271	9309
PATCHAWARRA	7600	1668	1280	9414
				9479
				9553

BANDPASS HVELET

NO. OF FILTER POINTS 39
LOW CUT FREQUENCY 10
HIGH CUT FREQUENCY 56
PHASE SHIFT 0
ZERO PHASE
NORMAL POLARITY

BANDPASS HVELET

NO. OF FILTER POINTS 39
LOW CUT FREQUENCY 10
HIGH CUT FREQUENCY 56
PHASE SHIFT 0
ZERO PHASE
NORMAL POLARITY

BANDPASS HVELET

NO. OF FILTER POINTS 39
LOW CUT FREQUENCY 10
HIGH CUT FREQUENCY 56
PHASE SHIFT 0
ZERO PHASE
NORMAL POLARITY

BANDPASS HVELET

NO. OF FILTER POINTS 39
LOW CUT FREQUENCY 10
HIGH CUT FREQUENCY 56
PHASE SHIFT 0
ZERO PHASE
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BANDPASS HVELET

NO. OF FILTER POINTS 39
LOW CUT FREQUENCY 10
HIGH CUT FREQUENCY 56
PHASE SHIFT 0
ZERO PHASE
NORMAL POLARITY