

Open File Envelope

NUMBER 6102

PEL 5 AND PEL 6, NAPPACOONGEE-MURTEREE BLOCK

EROMANGA BASIN

JENA 1

TEST REPORTS

Submitted by

Delhi Petroleum Pty Ltd and Santos Ltd
1993

**MINES and ENERGY
RESOURCES** SOUTH
AUSTRALIA



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ENVELOPE 6102

TENEMENT: PELs 5 and 6, Nappacoongee-Murteree Block; Eromanga Basin

TENEMENT HOLDER: Delhi Petroleum Pty Ltd (operator), Santos Ltd, Crusader Oil NL, Vamgas Ltd and South Australian Oil and Gas Corp. Pty Ltd

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000003



TICKET NO. 34628800

13-AUG-85

MOOMBA

FORMATION TESTING SERVICE REPORT

JENR		1		1		DELHI/SANTOS	
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME			
LEGAL LOCATION SEC. - TYP. - RNG.	SEE REMARKS	FIELD AREA	COOPER BASIN	COUNTRY	SOUTH AUSTRALIA	STATE	AUSTRALIA SM

000004

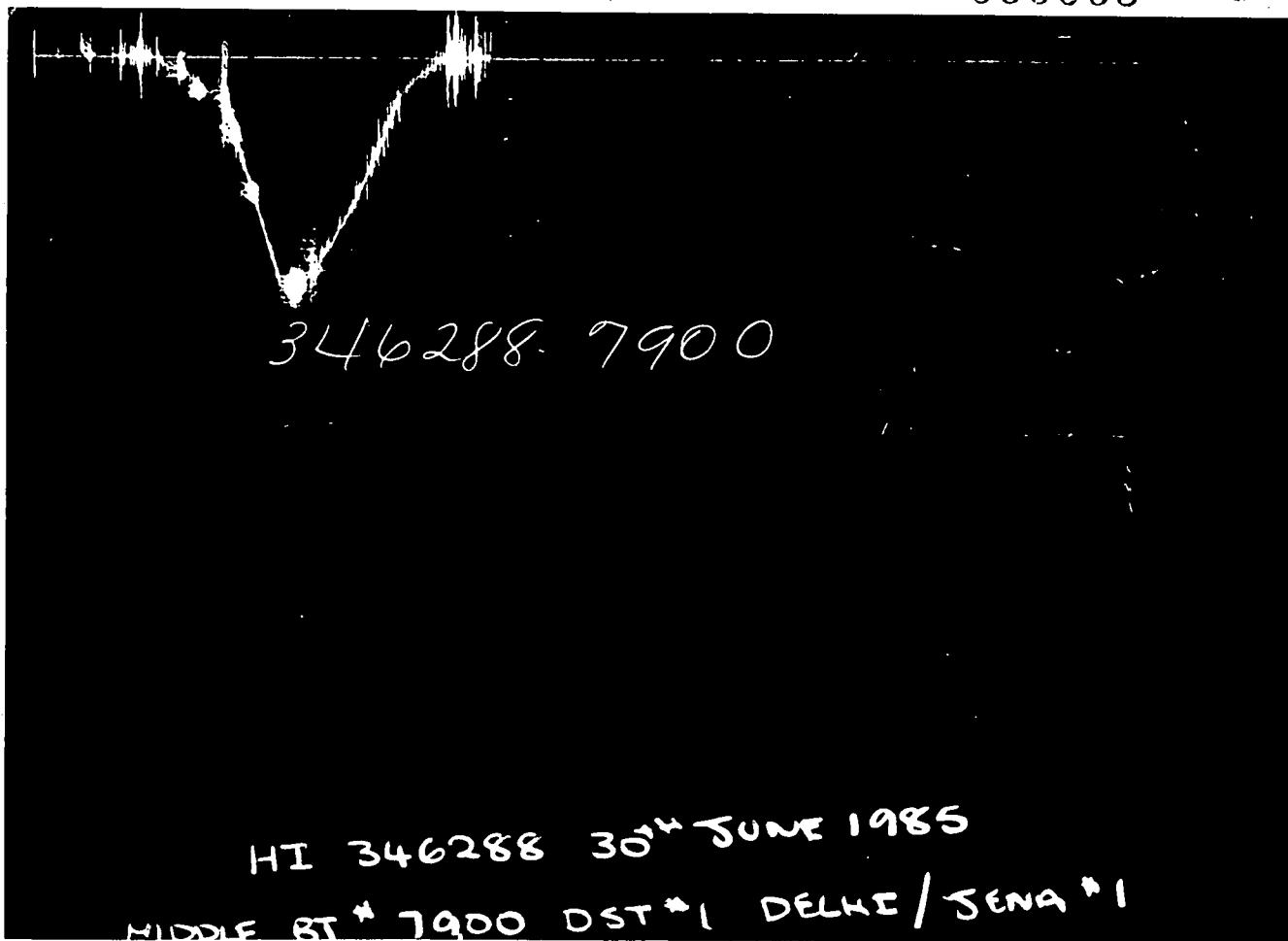
909

346288-5689

HI 346288 30th JUNE 1955GAUGE NO: 5689 DEPTH: _____ BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	FAILED TO REACH BOTTOM					

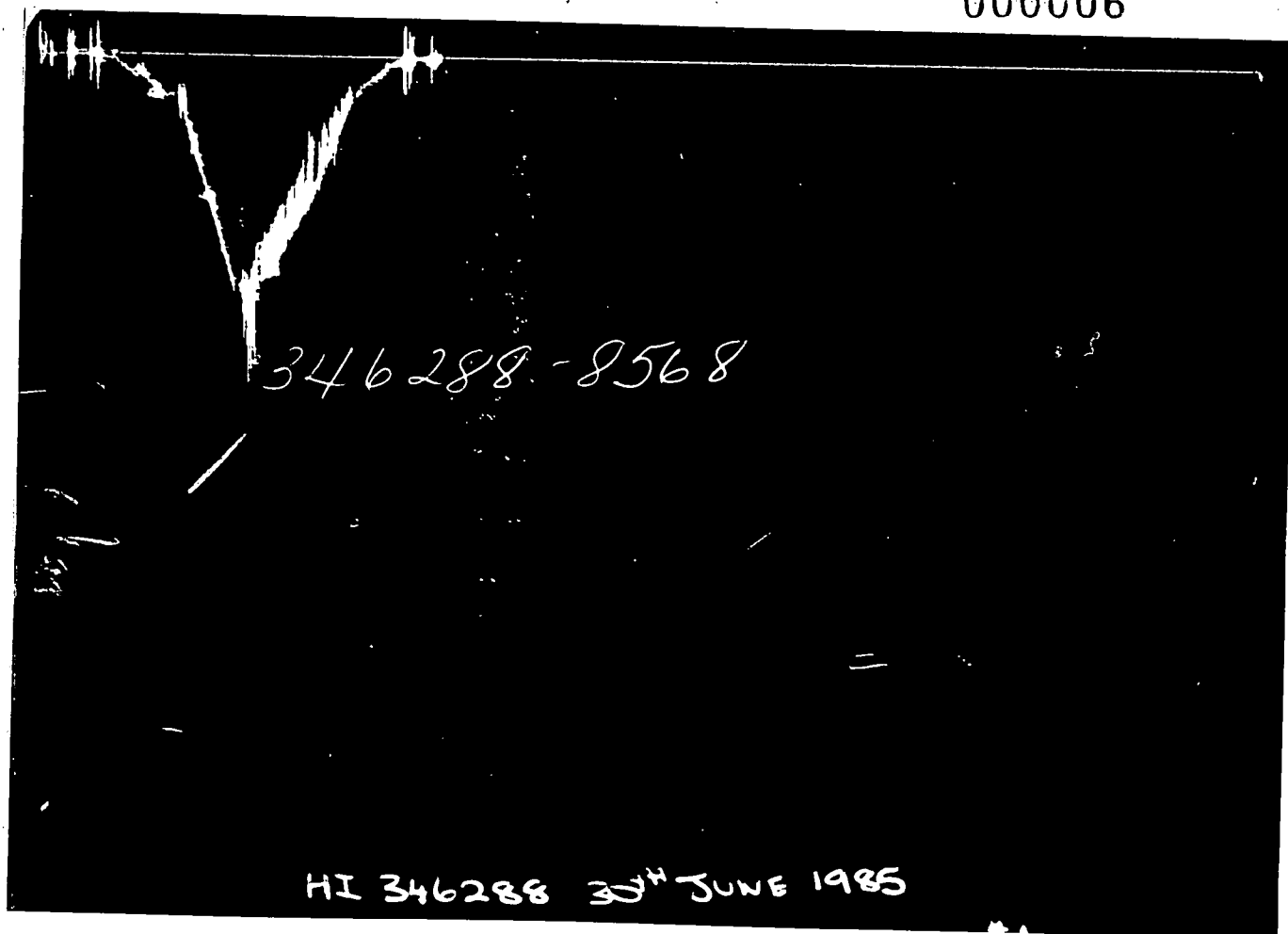
000005 289

GAUGE NO: 7900 DEPTH: _____ BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	FAILED TO REACH BOTTOM					

000006

889

GAUGE NO: 8568 DEPTH: _____ BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	FAILED TO REACH BOTTOM					

000007

EQUIPMENT & HOLE DATA

FORMATION TESTED: MURTA

NET PAY (ft): _____

GROSS TESTED FOOTAGE: _____

ALL DEPTHS MEASURED FROM: KELLY BUSHING

CASING PERFS. (ft): _____

HOLE OR CASING SIZE (in): 8.500ELEVATION (ft): 116.0TOTAL DEPTH (ft): 3946.0

PACKER DEPTH(S) (ft): _____

FINAL SURFACE CHOKE (in): _____

BOTTOM HOLE CHOKE (in): 0.750MUD WEIGHT (lb/gal): 9.20 PPGMUD VISCOSITY (sec): 32ESTIMATED HOLE TEMP. (°F): 165

ACTUAL HOLE TEMP. (°F): _____ @ _____ ft

TICKET NUMBER: 34628800DATE: 6-30-85 TEST NO: 1TYPE DST: OPEN HOLEHALLIBURTON CAMP:
MOOMBATESTER: W. CASKEY
J. MIDDLETONWITNESS: R????? B?????DRILLING CONTRACTOR:
RICHTER RIG #11FLUID PROPERTIES FOR
RECOVERED MUD & WATER

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
_____	_____	_____
_____	_____	_____

RECOVERED:

MEASURED FROM
TESTER VALVE

REMARKS:

MISRUN.....UNABLE TO REACH BOTTOM.....ATTEMPTING TO SET PACKER AT 3908' AND TEST TO TOTAL DEPTH.

TEST DATE IS 30 JUNE, 1985.

LEGAL LOCATION: LAT. 28 DEGREES, 31', 15.2 SOUTH, AND LONG. 140 DEGREES, 18', 04.3" EAST.

[illegible]

400000

000009

T69

TICKET NO. 34628800

		O.D.	I.D.	LENGTH	DEPTH
1		DRILL PIPE.....	4.500	3.826	
4		FLEX WEIGHT.....	4.500	2.826	180.2
3		DRILL COLLARS.....	6.250	2.938	301.8
51		PUMP OUT REVERSING SUB.....	5.000	3.000	1.0
3		DRILL COLLARS.....	6.250	2.938	60.3
50		IMPACT REVERSING SUB.....	5.000	3.000	1.0
5		CROSSOVER.....	5.750		1.0
80		AP RUNNING CASE.....	5.000	2.250	4.1
5		CROSSOVER.....	4.100	1.800	1.0
12		DUAL CIP VALVE.....	5.000	0.870	4.9
97		SAMPLER CHAMBER.....	5.000	2.250	4.1
33		DRAIN VALVE.....	5.000	2.200	0.9
60		HYDROSPRING TESTER.....	5.000	0.750	5.3
80		AP RUNNING CASE.....	5.000	2.250	4.1
15		JAR.....	5.000	1.750	5.0
16		VR SAFETY JOINT.....	5.000	1.000	2.8
70		OPEN HOLE PACKER.....	7.750	1.530	5.8
18		DISTRIBUTOR VALVE.....	5.000	1.680	2.0
70		OPEN HOLE PACKER.....	7.750	1.530	5.8
19		ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.3
20		FLUSH JOINT ANCHOR.....	5.000	2.370	28.0
81		BLANKED-OFF RUNNING CASE.....	5.000		4.1

TOTAL DEPTH

3946.0

EQUIPMENT DATA

000010



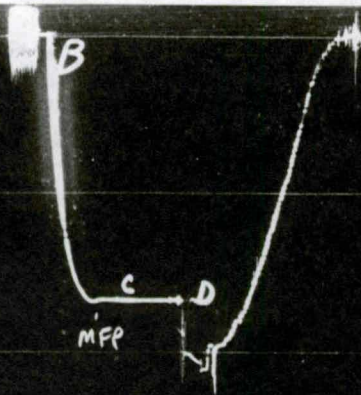
TICKET NO. 34607200
14-AUG-85
MOOMBA

FORMATION TESTING SERVICE REPORT

JENR		1		2		4036.0 - 4054.0		DELHI/SANTOS	
LEASE NAME		WELL NO.		TEST NO.		TESTED INTERVAL		LEASE OWNER/COMPANY NAME	
LEGAL LOCATION SEC. - TWP. - RNG.		SEE REMARKS		FIELD AREA		COOPER BASIN		COUNTY SOUTH AUSTRALIA STATE AUSTRALIA DR/P	

000011

882



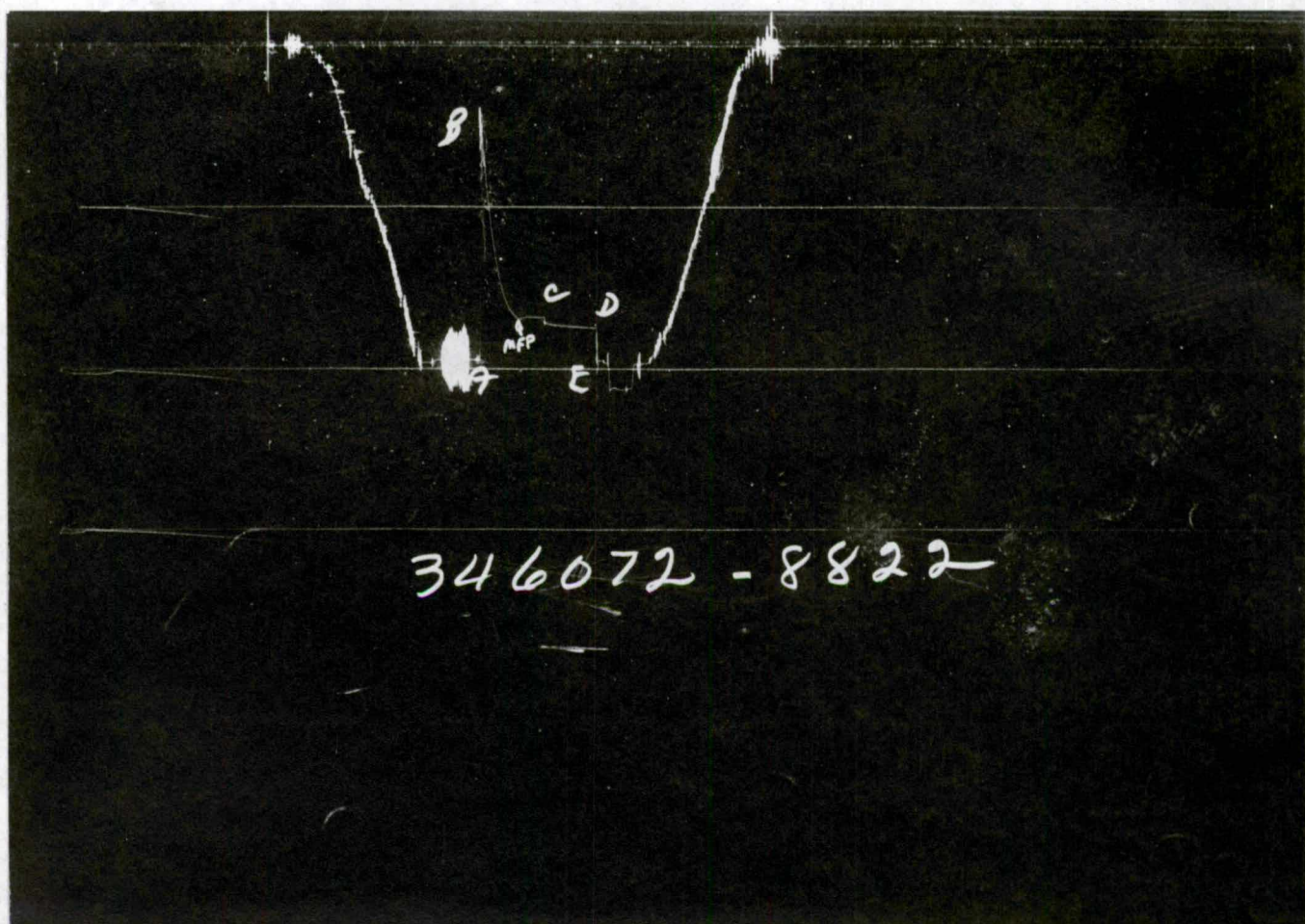
346072-8824

GAUGE NO: 8824 DEPTH: 3882.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW		26.7			
C	FINAL FIRST FLOW		1668.5	75.0	74.3	F
C	INITIAL FIRST CLOSED-IN		1668.5			
D	FINAL FIRST CLOSED-IN	1663	1670.5	60.0	60.7	C
E	FINAL HYDROSTATIC					
F	HYDROSTATIC RELEASE					

11007

000012 882

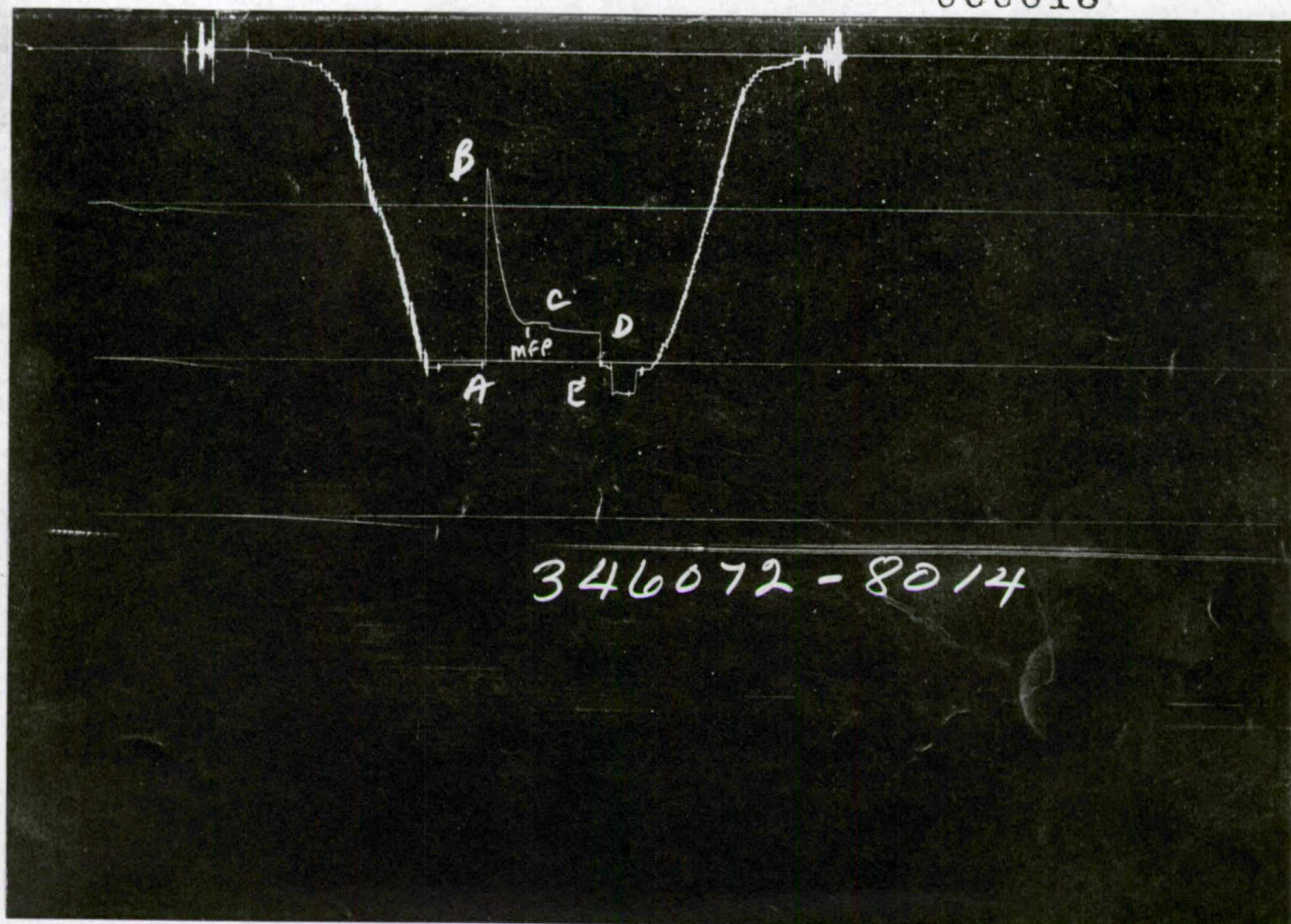


GAUGE NO: 8822 DEPTH: 3894.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	1941	1939.4			
B	INITIAL FIRST FLOW	379	382.5	75.0	74.3	F
C	FINAL FIRST FLOW	1677	1677.7			
C	INITIAL FIRST CLOSED-IN	1677	1677.7	60.0	60.7	C
D	FINAL FIRST CLOSED-IN	1738	1742.4			
E	FINAL HYDROSTATIC	1942	1944.2			
F	HYDROSTATIC RELEASE					

000013

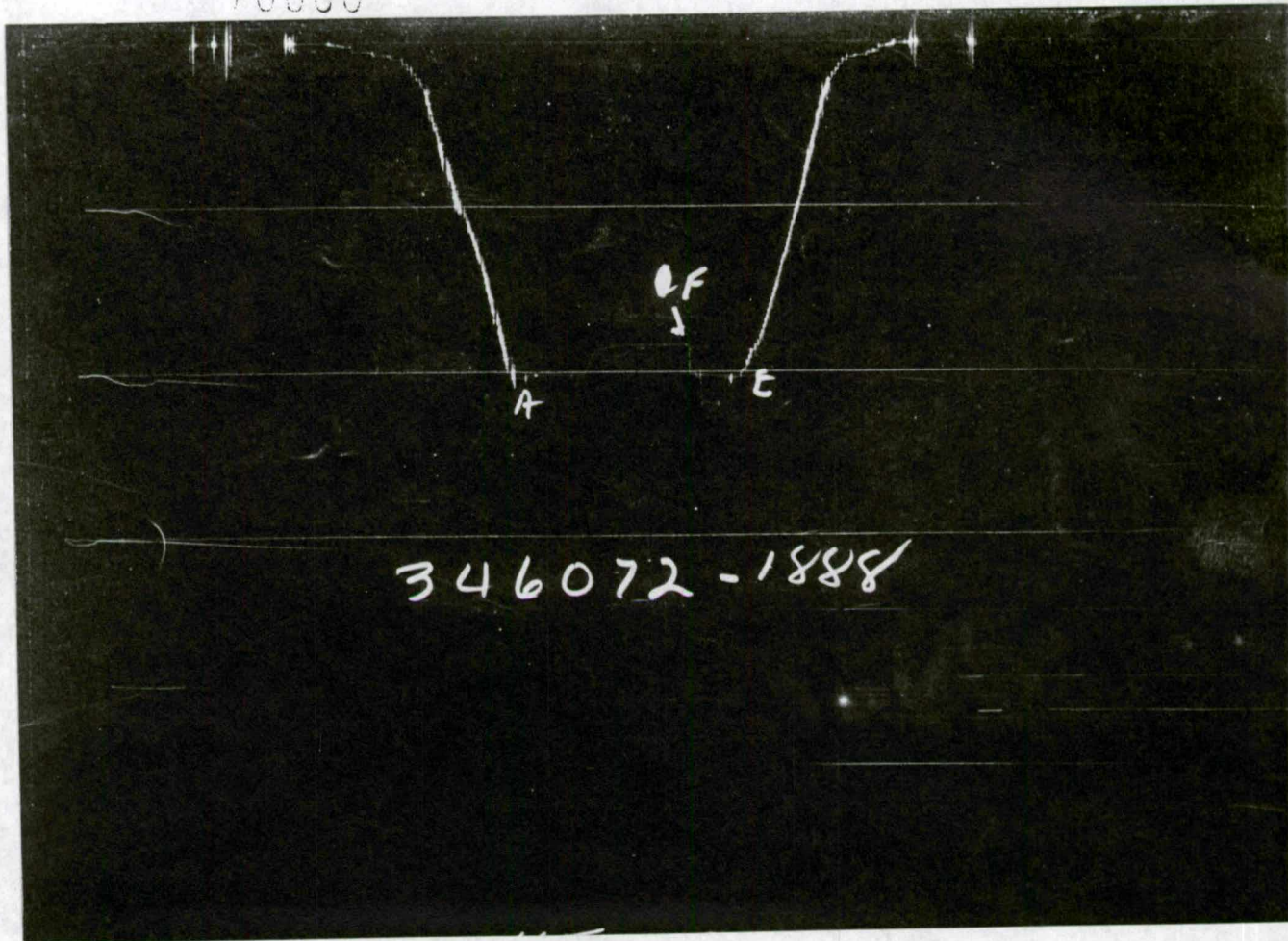
012

GAUGE NO: 8014 DEPTH: 4062.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2020	2021.9			
B	INITIAL FIRST FLOW	756	753.8			
C	FINAL FIRST FLOW	1746	1748.8	75.0	74.3	F
C	INITIAL FIRST CLOSED-IN	1746	1748.8			
D	FINAL FIRST CLOSED-IN	1809	1810.5	60.0	60.7	C
E	FINAL HYDROSTATIC	2020	2018.2			
F	HYDROSTATIC RELEASE					

000000

000014 142

GAUGE NO: 1888 DEPTH: 4065.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2040	2036.2			
B	INITIAL FIRST FLOW					
C	FINAL FIRST FLOW			75.0		F
C	INITIAL FIRST CLOSED-IN					
D	FINAL FIRST CLOSED-IN			60.0		C
E	FINAL HYDROSTATIC	2040	2019.8			
F	HYDROSTATIC RELEASE		1838.2			

000015

EQUIPMENT & HOLE DATA

FORMATION TESTED: NAMUR

NET PAY (ft): _____

GROSS TESTED FOOTAGE: 18.0ALL DEPTHS MEASURED FROM: KB

CASING PERFS. (ft): _____

HOLE OR CASING SIZE (in): 8.500ELEVATION (ft): 116.0 KELLY BUSHINGTOTAL DEPTH (ft): 5145.0PACKER DEPTH(S) (ft): 4036. 4054FINAL SURFACE CHOKE (in): 0.50000BOTTOM HOLE CHOKE (in): 0.750MUD WEIGHT (lb/gal): 9.40MUD VISCOSITY (sec): 35ESTIMATED HOLE TEMP. (°F): 220ACTUAL HOLE TEMP. (°F): 218 @ 4064.0 ftTICKET NUMBER: 34607200DATE: 7-4-85 TEST NO: 2TYPE DST: HYDROFLATE STD.

HALLIBURTON CAMP:

MOOMBATESTER: C. THORNE
K. WILINSKIWITNESS: AL GARRIES

DRILLING CONTRACTOR:

RICHTER RIG #11FLUID PROPERTIES FOR
RECOVERED MUD & WATER

SOURCE

RESISTIVITY

CHLORIDES

_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm

SAMPLER DATA

Pslg 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

RECOVERED:

3882.36 FEET OF WATER

MEASURED FROM
TESTER VALVE

REMARKS:

LEGAL LOCATION: 28 DEGREES - 31' - 15.2" SOUTH
140 DEGREES - 18' - 04.3" EAST

TEST DATE IS 4 JULY, 1985

CHARTS INDICATE POSSIBLE COMMUNICATION AROUND BOTTOM PACKER SEAT

000016

710000

TYPE & SIZE MEASURING DEVICE: 6" CERAMIC CHOKE					TICKET NO: 34607200
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
7-4-85					
0550					STARTED MAKING UP TOOLS
0749					RUN IN HOLE WITH DST TOOLS
1027					PICKED-UP TEST HEAD
1042					STARTED SETTING TOOL - 70 RPM
1102					PULLED 10,000# AND MADE UP -
					OPENED MASTER VALVE.
1122					SET TOOL - 10,000#
1125					OPENED TOOL - WEAK BLOW
1130					WEAK TO MODERATE BLOW
1135					WEAK BLOW AT TOP OF BUCKET
1140					STRONG BLOW TO TOP OF BUCKET
1150					VERY WEAK BLOW
1155					VERY VERY WEAK BLOW
1205					CLOSED MANIFOLD TO FLARE PIT
					STRONG BLOW - OPENED MANIFOLD
1209					MUD TO SURFACE
1211	.50"	1-2			
1215	"	2-3			
1222	"	3			MUDDY WATER TO SURFACE
1229	"	3-4			WATER TO SURFACE
1240	"	3			CLOSED TOOL - PICKED UP 2' -
					FLOW STOPPED.
1340					PULLED FREE
1349					DROPPED BAR
1352					PIN BROKE - STARTED CIRCULATING
1353					CLOSED HYDRIL
1416					OPENED HYDRIL
1417					DROPPED PIN
1430					LAI D DOWN TEST HEAD
1649					TOOL TO TABLE
1800					TOOL OUT OF HOLE

000017

TICKET NO: 34607200
CLOCK NO: 32070 HOUR: 24



GAUGE NO: 8824
DEPTH: 3882.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW					
B	1	0.0	26.7		
	2	15.0	1189.6	1162.8	
	3	30.0	1570.3	380.8	
☒	4	45.0	1678.0	107.6	
	5	60.0	1666.9	-11.0	
C	6	74.3	1668.5	1.5	
FIRST CLOSED-IN					
C	1	0.0	1668.5		
D	2	60.7	1670.5	2.0	33.4 0.347

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

LEGEND: ☒ MAXIMUM FLOW PRESSURE
REMARKS:

000018

10400

TICKET NO: 34607200

CLOCK NO: 32067 HOUR: 24



GAUGE NO: 8822

DEPTH: 3894.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	382.5			
2	15.0	1239.2	856.7		
3	30.0	1591.3	352.2		
☒ 4	45.0	1689.4	98.1		
5	60.0	1678.1	-11.3		
C 6	74.3	1677.7	-0.5		
FIRST CLOSED-IN					
C 1	0.0	1677.7			
2	1.0	1713.2	35.5	1.0	1.872
3	2.0	1715.9	38.3	1.9	1.583
4	3.0	1717.8	40.2	2.9	1.411
5	4.0	1720.1	42.4	3.8	1.293
6	5.0	1721.2	43.6	4.7	1.201
7	6.0	1721.9	44.2	5.5	1.128
8	7.0	1723.6	46.0	6.4	1.064
9	8.0	1724.6	46.9	7.2	1.014
10	9.0	1725.4	47.7	8.0	0.966
11	10.0	1725.7	48.1	8.8	0.926
12	12.0	1727.2	49.5	10.3	0.858
13	14.0	1728.8	51.1	11.8	0.799
14	16.0	1729.6	51.9	13.2	0.752
15	18.0	1730.4	52.7	14.5	0.711
16	20.0	1732.0	54.3	15.7	0.674
17	22.0	1732.3	54.7	17.0	0.641
18	24.0	1733.3	55.6	18.2	0.612
19	26.0	1733.8	56.1	19.3	0.586
20	28.0	1734.2	56.6	20.3	0.563
21	30.0	1735.0	57.4	21.4	0.541
22	35.0	1736.8	59.2	23.8	0.495
23	40.0	1739.2	61.6	26.0	0.456
24	45.0	1739.2	61.6	28.0	0.424
25	50.0	1740.8	63.2	29.9	0.396
26	55.0	1741.2	63.5	31.6	0.371
D 27	60.7	1742.4	64.8	33.4	0.347

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

LEGEND:

☒ MAXIMUM FLOW PRESSURE

REMARKS:

000019

972

TICKET NO: 34607200

CLOCK NO: 29488 HOUR: 24



GAUGE NO: 8014

DEPTH: 4062.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$	REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW											
B	1	0.0	753.8								
	2	15.0	1342.1	588.3							
	3	30.0	1657.5	315.3							
☒	4	45.0	1757.1	99.7							
	5	60.0	1748.7	-8.5							
C	6	74.3	1748.8	0.2							
FIRST CLOSED-IN											
C	1	0.0	1748.8								
	2	1.0	1780.2	31.4	1.0	1.871					
	3	2.0	1782.7	33.9	2.0	1.576					
	4	3.0	1784.6	35.7	2.9	1.406					
	5	4.0	1786.0	37.2	3.8	1.293					
	6	5.0	1787.4	38.5	4.7	1.197					
	7	6.0	1788.7	39.9	5.6	1.125					
	8	7.0	1789.7	40.9	6.4	1.063					
	9	8.0	1790.9	42.0	7.2	1.012					
	10	9.0	1791.7	42.9	8.1	0.965					
	11	10.0	1792.7	43.9	8.8	0.925					
	12	12.0	1794.0	45.2	10.3	0.857					
	13	14.0	1795.2	46.3	11.8	0.800					
	14	16.0	1795.8	47.0	13.2	0.752					
	15	18.0	1797.0	48.2	14.5	0.711					
	16	20.0	1798.5	49.7	15.7	0.674					
	17	22.0	1799.7	50.8	16.9	0.642					
	18	24.0	1800.2	51.3	18.1	0.613					
	19	26.0	1801.2	52.3	19.3	0.587					
	20	28.0	1801.7	52.8	20.3	0.563					
	21	30.0	1802.2	53.3	21.4	0.541					
	22	35.0	1804.0	55.1	23.8	0.495					
	23	40.0	1806.6	57.8	26.0	0.456					
	24	45.0	1807.5	58.6	28.0	0.423					
	25	50.0	1808.3	59.5	29.9	0.396					
	26	55.0	1809.3	60.5	31.6	0.371					
D	27	60.7	1810.5	61.6	33.4	0.347					

LEGEND:

☒ MAXIMUM FLOW PRESSURE

REMARKS:

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	3464.8	
4		FLEX WEIGHT.....	4.500	2.764	180.2	
3		DRILL COLLARS.....	6.250	2.875	182.7	
51		PUMP OUT REVERSING SUB.....	6.250	3.000	1.0	3790.0
3		DRILL COLLARS.....	6.250	2.875	60.3	
50		IMPACT REVERSING SUB.....	6.250	3.000	1.0	3851.0
3		DRILL COLLARS.....	6.250	2.875	28.3	
5		CROSSOVER.....	6.250	2.250	1.0	
80		AP RUNNING CASE.....	5.000	2.250	4.2	3882.0
61		INDEXING HYDROSPRING TESTER.....	5.000	2.750	5.3	3892.0
31		LOC BYPASS.....	5.000	1.000	2.0	
80		AP RUNNING CASE.....	5.000	2.250	4.2	3894.0
5		CROSSOVER.....	5.750	3.060	1.0	
3		DRILL COLLARS.....	6.250	2.312	30.1	
5		CROSSOVER.....	5.750	2.875	1.0	
14		EXTENSION JOINT.....	5.000	2.312	7.1	
14		EXTENSION JOINT.....	5.000	0.750	7.1	
5		CROSSOVER.....	5.750	0.750	1.0	
3		DRILL COLLARS.....	6.250	2.312	60.1	
5		CROSSOVER.....	6.250	2.875	1.0	
15		JAR.....	5.000	2.312	5.0	
16		VR SAFETY JOINT.....	5.000	1.750	3.5	
26		PUMP ASSEMBLY.....	5.000	1.000	7.1	
27		SCREEN ASSEMBLY.....	5.000	0.880	4.4	
25		TORQUE LIMITER ASSEMBLY.....	5.000	1.000	4.9	
74		TOP HYDROFLATE PACKER.....	7.000	1.000	8.3	4036.0
28		PORT ASSEMBLY.....	5.000	2.370	3.4	
20		FLUSH JOINT ANCHOR.....	5.000	3.060	10.0	

CONTINUED

EQUIPMENT DATA

009021

TICKET NO. 34607200

		O.D.	I.D.	LENGTH	DEPTH	
75		LOWER HYDROFLATE PACKER.....	7.000	2.000	8.1	4054.0
85		BELLY SPRINGS W/ B.O. GAUGE CASE	7.250	2.250	3.7	4062.0
5		CROSSOVER.....	4.750		0.7	
81		BLANKED-OFF RUNNING CASE.....	5.000		4.0	4065.4
TOTAL DEPTH						5145.0

EQUIPMENT DATA

000022



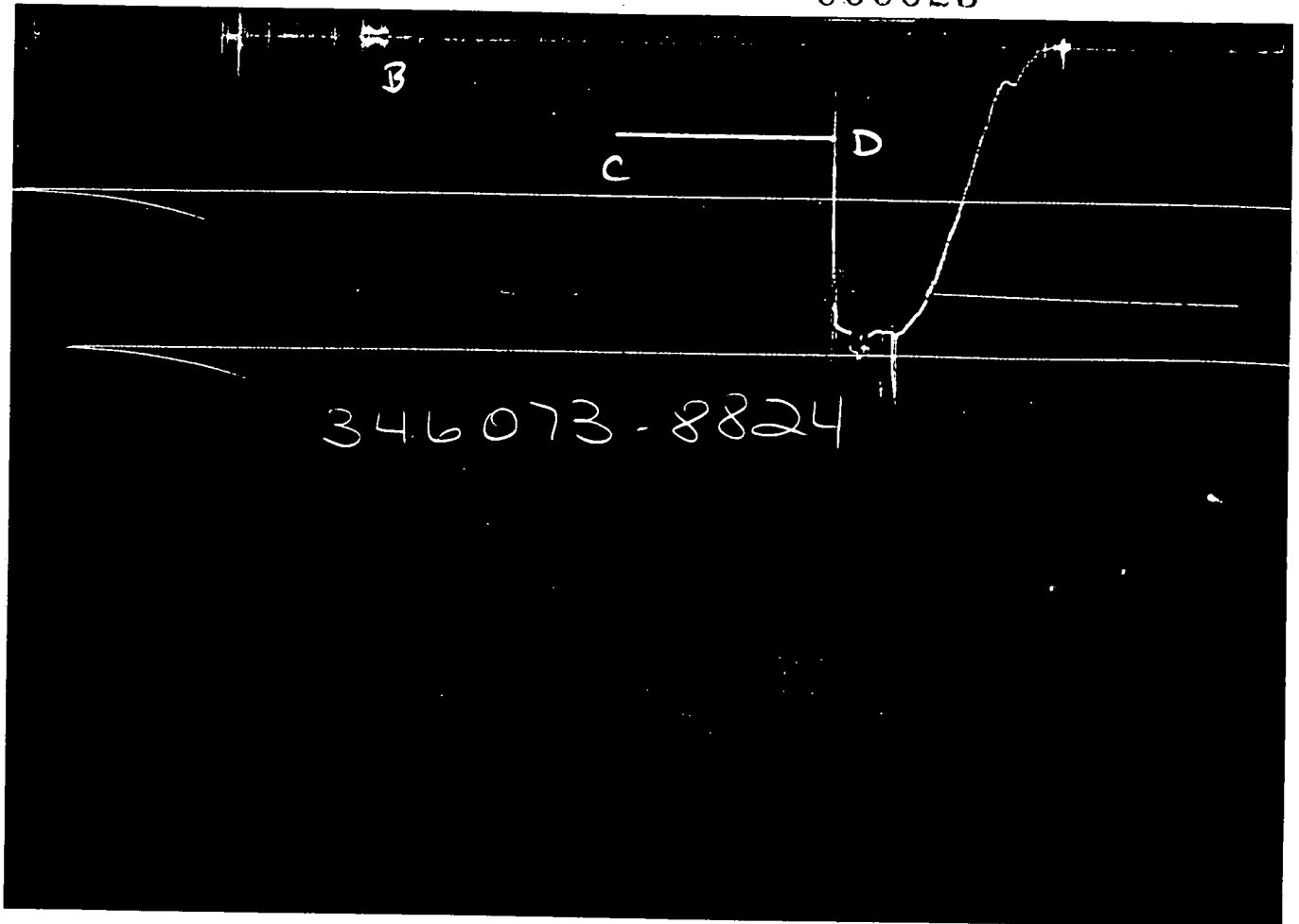
TICKET NO. 34607300
29-JAN-86
MOOMBA

FORMATION TESTING SERVICE REPORT

LEASE NAME		WELL NO.		TEST NO.		TESTED INTERVAL		LEASE OWNER/COMPANY NAME	
JENR		1		3		3889.4 - 3934.0		DELHI/SANTOS	
LEGAL LOCATION		SEE REMARKS		FIELD AREA		COOPER BASIN		COUNTRY SOUTH AUSTRALIA	
SEC. - TWP. - RNG.								STATE AUSTRALIA	
								J/PY	

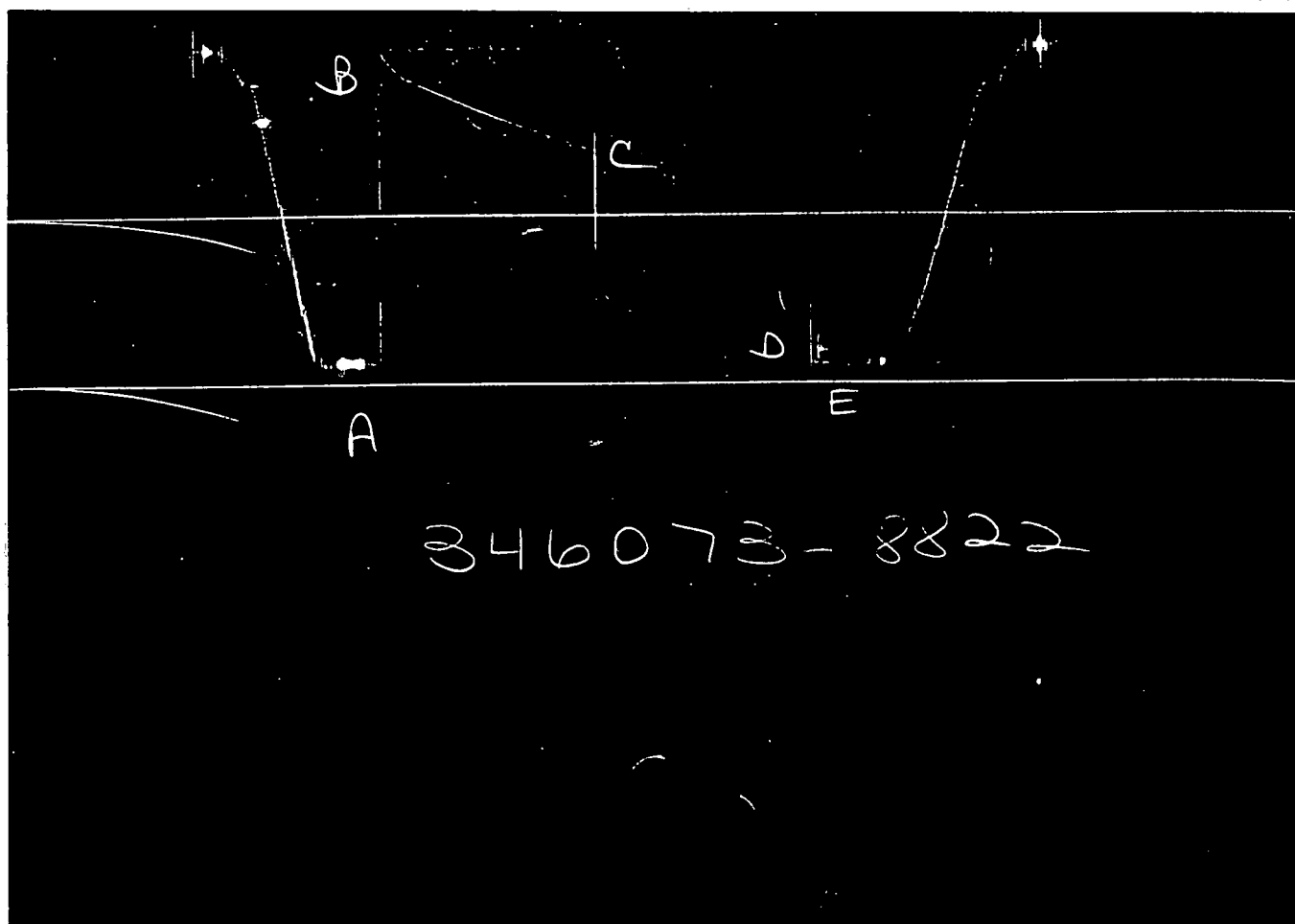
000023

88

GAUGE NO: 8824 DEPTH: 3737.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW		7.8			
C	FINAL FIRST FLOW		597.1	240.0	240.6	F
C	INITIAL FIRST CLOSED-IN		597.1			
D	FINAL FIRST CLOSED-IN	599	605.3	240.0	239.4	C
E	FINAL HYDROSTATIC					
F	HYDROSTATIC RELEASE					

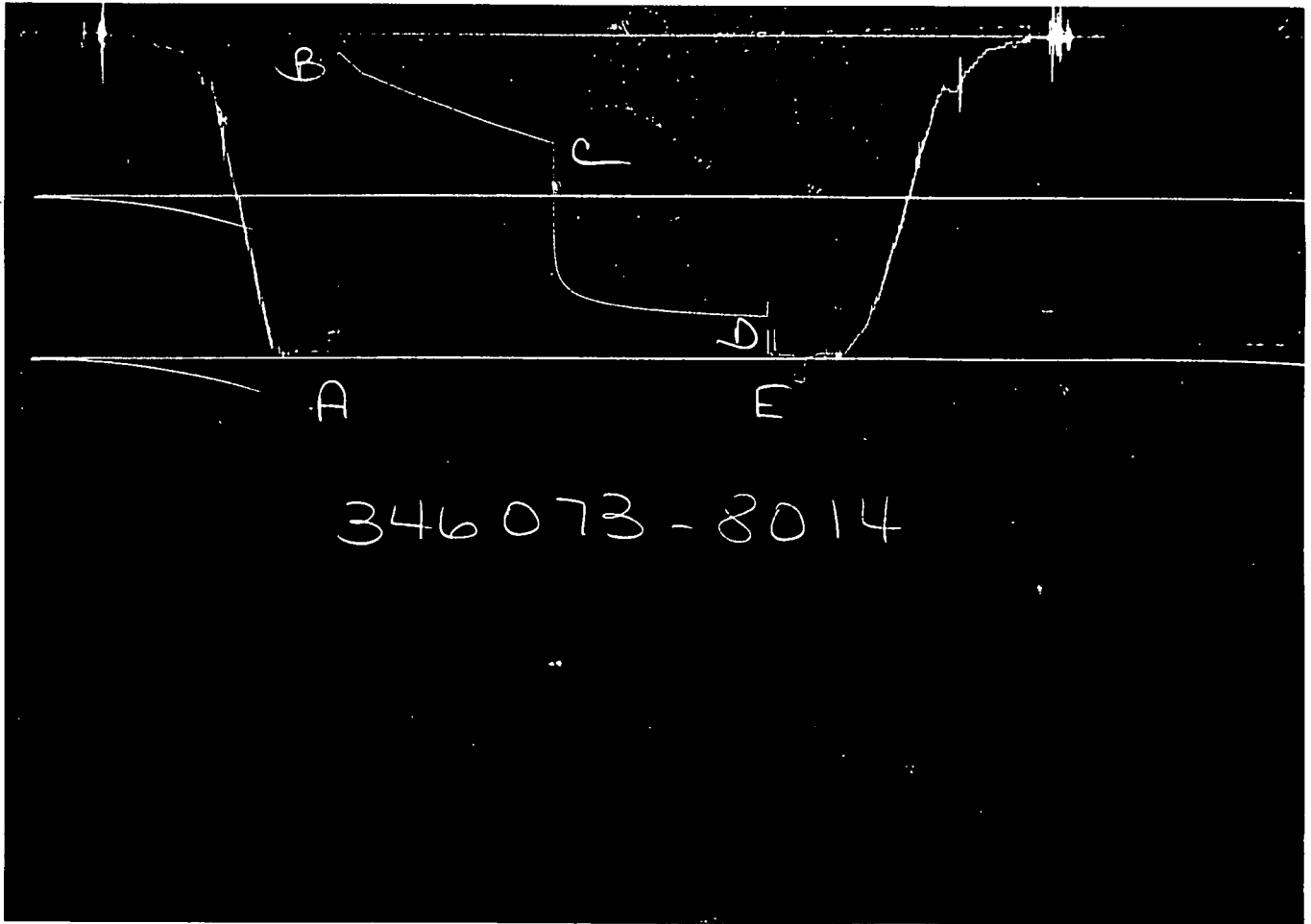
000024

GAUGE NO: 8822 DEPTH: 3748.5 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	1876	1879.1			
B	INITIAL FIRST FLOW	23	24.9			
C	FINAL FIRST FLOW	602	607.4	240.0	240.6	F
C	INITIAL FIRST CLOSED-IN	602	607.4			
D	FINAL FIRST CLOSED-IN	1667	1670.4	240.0	239.4	C
E	FINAL HYDROSTATIC	1879	1880.2			
F	HYDROSTATIC RELEASE					

000025

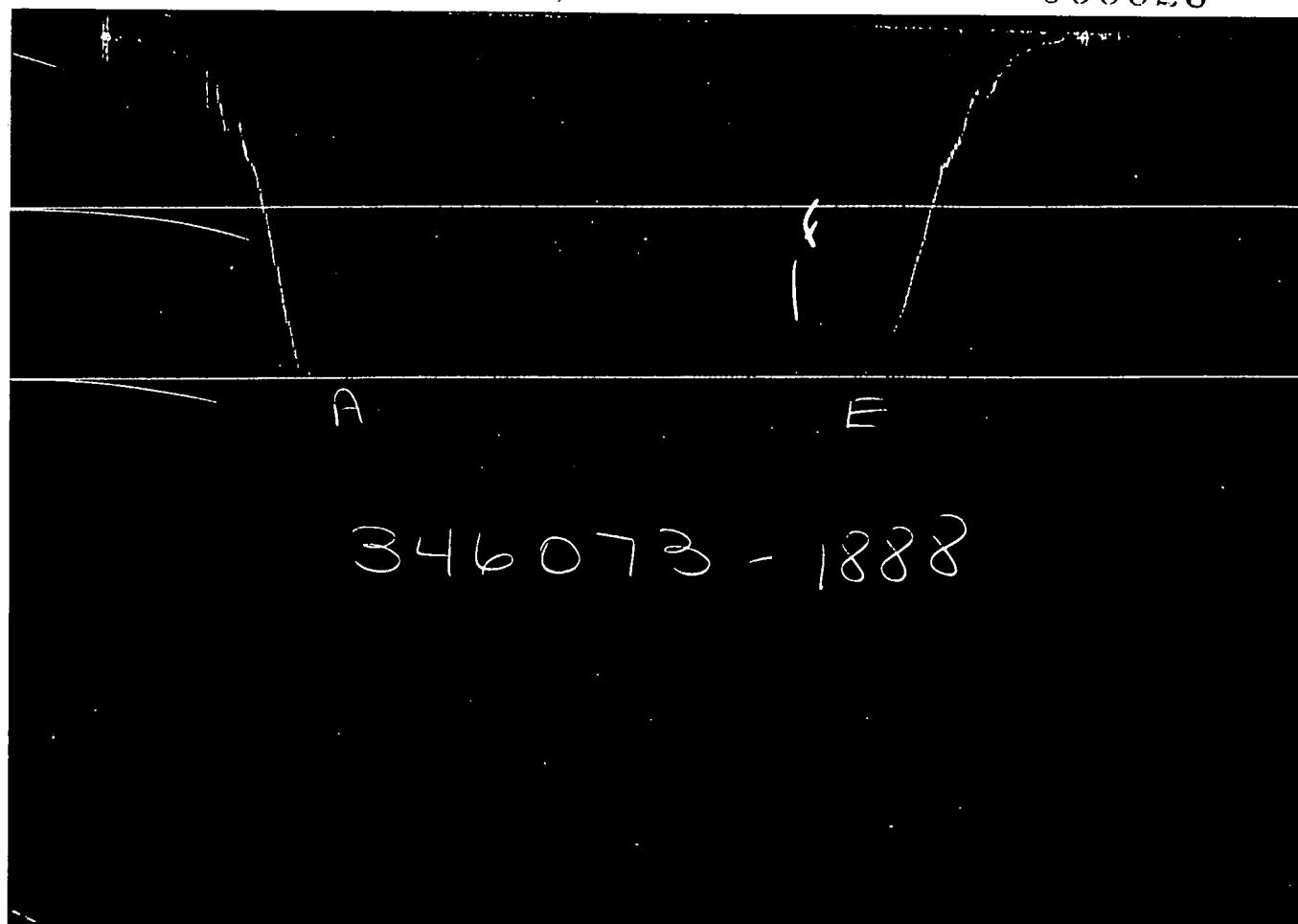
000

GAUGE NO: 8014 DEPTH: 3940.7 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	1957	1958.3			
B	INITIAL FIRST FLOW	117	118.4	240.0	240.6	F
C	FINAL FIRST FLOW	669	670.6			
C	INITIAL FIRST CLOSED-IN	669	670.6	240.0	239.4	C
D	FINAL FIRST CLOSED-IN	1734	1737.0			
E	FINAL HYDROSTATIC	1957	1960.6			
F	HYDROSTATIC RELEASE					

000026

T02

GAUGE NO: 1888 DEPTH: 3945.4 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	1948	1963.6			
B	INITIAL FIRST FLOW			240.0		F
C	FINAL FIRST FLOW					
C	INITIAL FIRST CLOSED-IN			240.0		C
D	FINAL FIRST CLOSED-IN					
E	FINAL HYDROSTATIC	1970	1965.9			
F	HYDROSTATIC RELEASE		1781.7			

000027

EQUIPMENT & HOLE DATA

FORMATION TESTED: MURTA

NET PAY (ft): _____

GROSS TESTED FOOTAGE: 44.6ALL DEPTHS MEASURED FROM: K.B.

CASING PERFS. (ft): _____

HOLE OR CASING SIZE (in): 8.500ELEVATION (ft): 116.0TOTAL DEPTH (ft): 5145.0PACKER DEPTH(S) (ft): 3889. 3934

FINAL SURFACE CHOKE (in): _____

BOTTOM HOLE CHOKE (in): 0.750MUD WEIGHT (lb/gal): 9.40MUD VISCOSITY (sec): 35ESTIMATED HOLE TEMP. (°F): 210ACTUAL HOLE TEMP. (°F): 218 @ 3944.0 ftTICKET NUMBER: 34607300DATE: 7-5-85 TEST NO: 3TYPE DST: HYDROFLATE PKR.

HALLIBURTON CAMP:

MOOMBATESTER: C. THORNE
K. WILINSKIWITNESS: AL GARRIES

DRILLING CONTRACTOR:

RICHTER DRILLING RIG #11FLUID PROPERTIES FOR
RECOVERED MUD & WATER

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

RECOVERED:

2222 FEET OF OIL

MEASURED FROM
TESTER VALVE

REMARKS:

TEST WAS CONDUCTED ON JULY 5, 1985.....

LEGAL LOCATION: LAT. 28 DEG. 31' 15.2" S. & LONG. 140 DEG. 18' 4.3" E.

750000

000028

TYPE & SIZE MEASURING DEVICE: 6" CERAMIC CHOKE					TICKET NO: 34607300
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
7-4-85					
1935					STARTED MAKING UP TOOLS
2104					RUN IN HOLE WITH TOOLS
2303					PICKED UP TEST HEAD AND LOADED
					BAR
2312					MADE UP TEST HEAD
2314					STRAPPED OUT PIPE 28 FEET
2318					STARTED SETTING TOOL
2348					PACKERS SET -- PULLED UP 10000#
2354					MADE UP TESTING LINES & OPENED
					MASTER VALVE
2355					SET TOOL WITH 10000#
7-5-85					
0006					TOOL OPENED WITH NO BLOW --
					CLOSED MANIFOLD
0008					TRACE OF BLOW AT SURFACE
0021					OPENED MANIFOLD -- WEAK BLOW
					ON TOP OF BUCKET
0041					MODERATE BLOW
0048					MODERATE BLOW -- BOTTOM OF
					BUCKET
0059					MODERATE BLOW -- BOTTOM OF
					BUCKET
					NOTE: BLOW REMAINED MODERATE AT
					BOTTOM OF BUCKET THROUGHOUT THE
					REMAINDER OF THE FLOW PERIOD.
0406					CLOSED TOOL
0806					OPENED BYPASS
0811					DROPPED BAR
0813					PIN SHEARED & BEGAN CIRCULATING
0843					STOPPED CIRCULATING
0848					PUT ON KELLY
1203					TOOLS TO TABLE
1336					TOOLS OUT OF HOLE

050000

000029

702

TICKET NO: 34607300

CLOCK NO: 32070 HOUR: 24



GAUGE NO: 8824

DEPTH: 3737.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	7.8			
2	10.0	81.4	73.6		
3	20.0	133.4	52.1		
4	30.0	175.0	41.6		
5	40.0	198.4	23.4		
6	50.0	222.8	24.3		
7	60.0	244.8	22.1		
8	70.0	267.9	23.1		
9	80.0	288.6	20.7		
10	90.0	311.7	23.1		
11	100.0	333.6	21.9		
12	110.0	354.3	20.7		
13	120.0	375.2	20.9		
14	130.0	396.6	21.4		
15	140.0	416.6	20.0		
16	150.0	436.9	20.3		
17	160.0	456.2	19.3		
18	170.0	473.8	17.6		
19	180.0	491.6	17.8		
20	190.0	510.2	18.7		
21	200.0	526.4	16.2		
22	210.0	544.4	18.0		
23	220.0	561.6	17.2		
24	230.0	578.2	16.7		
C 25	240.6	597.1	18.9		
FIRST CLOSED-IN					
C 1	0.0	597.1			
D 2	239.4	605.3	8.2	120.0	0.302

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

REMARKS:

280000

000030

502

TICKET NO: 34607300

CLOCK NO: 32067 HOUR: 24



GAUGE NO: 8822

DEPTH: 3748.5

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	24.9			
2	10.0	82.3	57.4		
3	20.0	137.1	54.8		
4	30.0	183.1	46.0		
5	40.0	204.5	21.4		
6	50.0	228.9	24.4		
7	60.0	251.4	22.5		
8	70.0	273.6	22.2		
9	80.0	297.3	23.6		
10	90.0	319.9	22.7		
11	100.0	343.6	23.6		
12	110.0	365.3	21.7		
13	120.0	385.4	20.1		
14	130.0	406.3	20.9		
15	140.0	425.9	19.6		
16	150.0	445.5	19.6		
17	160.0	464.1	18.6		
18	170.0	483.0	18.8		
19	180.0	501.8	18.8		
20	190.0	521.5	19.7		
21	200.0	538.9	17.4		
22	210.0	556.3	17.4		
23	220.0	573.4	17.1		
24	230.0	591.0	17.6		
C 25	240.6	607.4	16.5		

FIRST CLOSED-IN

C 1	0.0	607.4			
2	1.0	1264.4	657.0	1.0	2.375
3	2.0	1325.9	718.5	2.0	2.082
4	3.0	1365.4	758.0	2.9	1.914
5	4.0	1387.1	779.6	3.9	1.791
6	5.0	1409.4	802.0	4.9	1.688
7	6.0	1425.2	817.8	5.8	1.614
8	7.0	1437.2	829.8	6.8	1.550
9	8.0	1448.7	841.3	7.8	1.491
10	9.0	1457.4	850.0	8.7	1.441
11	10.0	1466.8	859.4	9.6	1.397
12	12.0	1479.9	872.5	11.4	1.325
13	14.0	1492.9	885.5	13.3	1.259
14	16.0	1504.0	896.6	15.0	1.205
15	18.0	1512.4	905.0	16.8	1.156
16	20.0	1520.7	913.3	18.5	1.115
17	22.0	1528.6	921.2	20.1	1.077
18	24.0	1535.4	928.0	21.8	1.043
19	26.0	1540.4	932.9	23.4	1.011
20	28.0	1545.2	937.8	25.0	0.982
21	30.0	1550.0	942.6	26.7	0.955
22	35.0	1559.8	952.4	30.6	0.896
23	40.0	1570.7	963.3	34.3	0.846

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST CLOSED-IN - CONTINUED					
24	45.0	1579.6	972.2	37.9	0.803
25	50.0	1588.3	980.8	41.4	0.764
26	55.0	1592.9	985.5	44.8	0.730
27	60.0	1598.9	991.5	48.0	0.700
28	70.0	1608.7	1001.3	54.2	0.647
29	80.0	1616.7	1009.3	60.1	0.603
30	90.0	1624.0	1016.5	65.5	0.565
31	100.0	1629.9	1022.5	70.6	0.532
32	110.0	1634.7	1027.3	75.5	0.503
33	120.0	1639.4	1032.0	80.1	0.478
34	135.0	1643.6	1036.1	86.5	0.444
35	150.0	1650.6	1043.2	92.4	0.416
36	165.0	1655.0	1047.6	97.9	0.391
37	180.0	1659.8	1052.4	103.0	0.369
38	195.0	1663.3	1055.9	107.7	0.349
39	210.0	1666.2	1058.8	112.1	0.332
40	225.0	1668.6	1061.2	116.3	0.316
D 41	239.4	1670.4	1063.0	120.0	0.302

REMARKS:

TICKET NO: 34607300

CLOCK NO: 29488 HOUR: 24



GAUGE NO: 8014

DEPTH: 3940.7

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	118.4			
2	10.0	156.9	38.5		
3	20.0	207.4	50.5		
4	30.0	251.7	44.3		
5	40.0	270.9	19.2		
6	50.0	296.0	25.1		
7	60.0	318.9	22.9		
8	70.0	342.3	23.4		
9	80.0	364.7	22.4		
10	90.0	386.6	21.9		
11	100.0	407.5	20.9		
12	110.0	428.4	20.9		
13	120.0	447.5	19.1		
14	130.0	467.9	20.4		
15	140.0	488.3	20.4		
16	150.0	509.2	20.9		
17	160.0	528.6	19.4		
18	170.0	547.5	18.9		
19	180.0	566.6	19.1		
20	190.0	583.1	16.6		
21	200.0	600.3	17.2		
22	210.0	618.6	18.2		
23	220.0	636.0	17.4		
24	230.0	652.3	16.4		
C 25	240.6	670.6	18.2		
FIRST CLOSED-IN					
C 1	0.0	670.6			
2	1.0	1317.2	646.7	1.0	2.372
3	2.0	1388.3	717.7	2.0	2.079
4	3.0	1427.9	757.4	2.9	1.916
5	4.0	1452.3	781.8	3.9	1.785
6	5.0	1473.1	802.5	4.9	1.688
7	6.0	1486.6	816.1	5.9	1.614
8	7.0	1501.3	830.8	6.8	1.547
9	8.0	1511.6	841.1	7.8	1.491
10	9.0	1520.9	850.4	8.6	1.445
11	10.0	1530.2	859.7	9.6	1.398
12	12.0	1543.4	872.8	11.4	1.324
13	14.0	1555.3	884.7	13.2	1.260
14	16.0	1565.9	895.4	15.0	1.205
15	18.0	1575.2	904.7	16.8	1.156
16	20.0	1582.9	912.3	18.4	1.115
17	22.0	1590.7	920.1	20.2	1.077
18	24.0	1597.0	926.4	21.9	1.042
19	26.0	1602.8	932.3	23.4	1.011
20	28.0	1609.5	938.9	25.1	0.982
21	30.0	1614.3	943.7	26.7	0.955
22	35.0	1624.4	953.9	30.6	0.896
23	40.0	1634.4	963.8	34.3	0.846

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST CLOSED-IN - CONTINUED					
24	45.0	1642.4	971.8	37.9	0.803
25	50.0	1649.3	978.8	41.4	0.764
26	55.0	1656.0	985.4	44.8	0.730
27	60.0	1661.6	991.1	48.0	0.700
28	70.0	1670.9	1000.4	54.2	0.647
29	80.0	1678.9	1008.3	60.0	0.603
30	90.0	1685.9	1015.3	65.5	0.565
31	100.0	1691.9	1021.3	70.6	0.532
32	110.0	1697.2	1026.6	75.5	0.503
33	120.0	1701.8	1031.3	80.1	0.478
34	135.0	1708.1	1037.6	86.5	0.444
35	150.0	1714.8	1044.2	92.4	0.416
36	165.0	1718.4	1047.9	97.9	0.391
37	180.0	1723.3	1052.7	103.0	0.368
38	195.0	1727.4	1056.8	107.7	0.349
39	210.0	1730.7	1060.2	112.1	0.332
40	225.0	1733.2	1062.7	116.3	0.316
D 41	239.4	1737.0	1066.5	120.0	0.302

REMARKS:

000000

000032

202

TICKET NO. 34607300

		O.D.	I.D.	LENGTH	DEPTH
1					
	DRILL PIPE.....	4.500	3.826	3310.0	
4					
	FLEX WEIGHT.....	4.500	3.826	180.2	
3					
	DRILL COLLARS.....	6.250	2.875	182.7	
51					
	PUMP OUT REVERSING SUB.....	6.250	3.000	1.0	3672.2
3					
	DRILL COLLARS.....	6.250	2.875	29.9	
50					
	IMPACT REVERSING SUB.....	6.250	3.000	1.0	3705.5
3					
	DRILL COLLARS.....	6.250	2.875	30.3	
97					
	BAR CATCHER SUB.....	6.250	2.250	1.0	3735.0
80					
	AP RUNNING CASE.....	5.000	2.250	4.2	3737.0
60					
	HYDROSPRING TESTER.....	5.000	0.750	5.3	3745.0
31					
	LOC BYPASS.....	5.000		2.0	
80					
	AP RUNNING CASE.....	5.000	2.250	4.2	3748.5
5					
	CROSSOVER.....	5.750	2.312	1.0	
3					
	DRILL COLLARS.....	6.250	2.875	30.3	
5					
	CROSSOVER.....	5.750	2.312	1.0	
14					
	EXTENSION JOINT.....	5.000	0.750	7.1	
14					
	EXTENSION JOINT.....	5.000	0.750	7.1	
5					
	CROSSOVER.....	5.750	2.875	1.0	
3					
	DRILL COLLARS.....	6.250	2.875	58.4	
5					
	CROSSOVER.....	6.250	2.312	1.0	
15					
	JAR.....	5.000	1.750	5.0	
16					
	VR SAFETY JOINT.....	5.000	1.000	3.5	
26					
	PUMP ASSEMBLY.....	5.000	0.880	7.1	
27					
	SCREEN ASSEMBLY.....	5.000	1.000	4.4	
25					
	TORQUE LIMITER ASSEMBLY.....	5.000	1.000	4.9	
74					
	TOP HYDROFLATE PACKER.....	7.000	1.080	8.3	3889.4

CONTINUED

EQUIPMENT DATA

000033

TICKET NO. 34607300

			O.D.	I.D.	LENGTH	DEPTH
28		PORT ASSEMBLY.....	5.000	1.500	3.4	
20		FLUSH JOINT ANCHOR.....	5.000	3.060	5.0	
5		CROSSOVER.....	6.000	2.312	1.0	
3		DRILL COLLARS.....	6.250	2.875	29.8	
5		CROSSOVER.....	5.750	2.312	1.0	
75		LOWER HYDROFLATE PACKER.....	7.000	2.000	8.1	3934.0
85		BELLY SPRINGS W/ B.O. GAUGE CASE	7.250	3.060	3.7	3940.7
5		CROSSOVER.....	4.750		0.7	
81		BLANKED-OFF RUNNING CASE.....	5.000		4.0	3945.4
TOTAL DEPTH						5145.0

EQUIPMENT DATA

000034



TICKET NO. 25050100

14-AUG-85

MOOMBA

FORMATION TESTING SERVICE REPORT

JENR		1	4	3936.0 - 3960.0	DELHI/SANTOS
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME	
LEGAL LOCATION SEC. - TWP. - RNG.	SEE REMARKS	FIELD BREA	COOPER BASIN	COUNTY SOUTH AUSTRALIA	STATE AUSTRALIA DR

000035

704

250501-8824

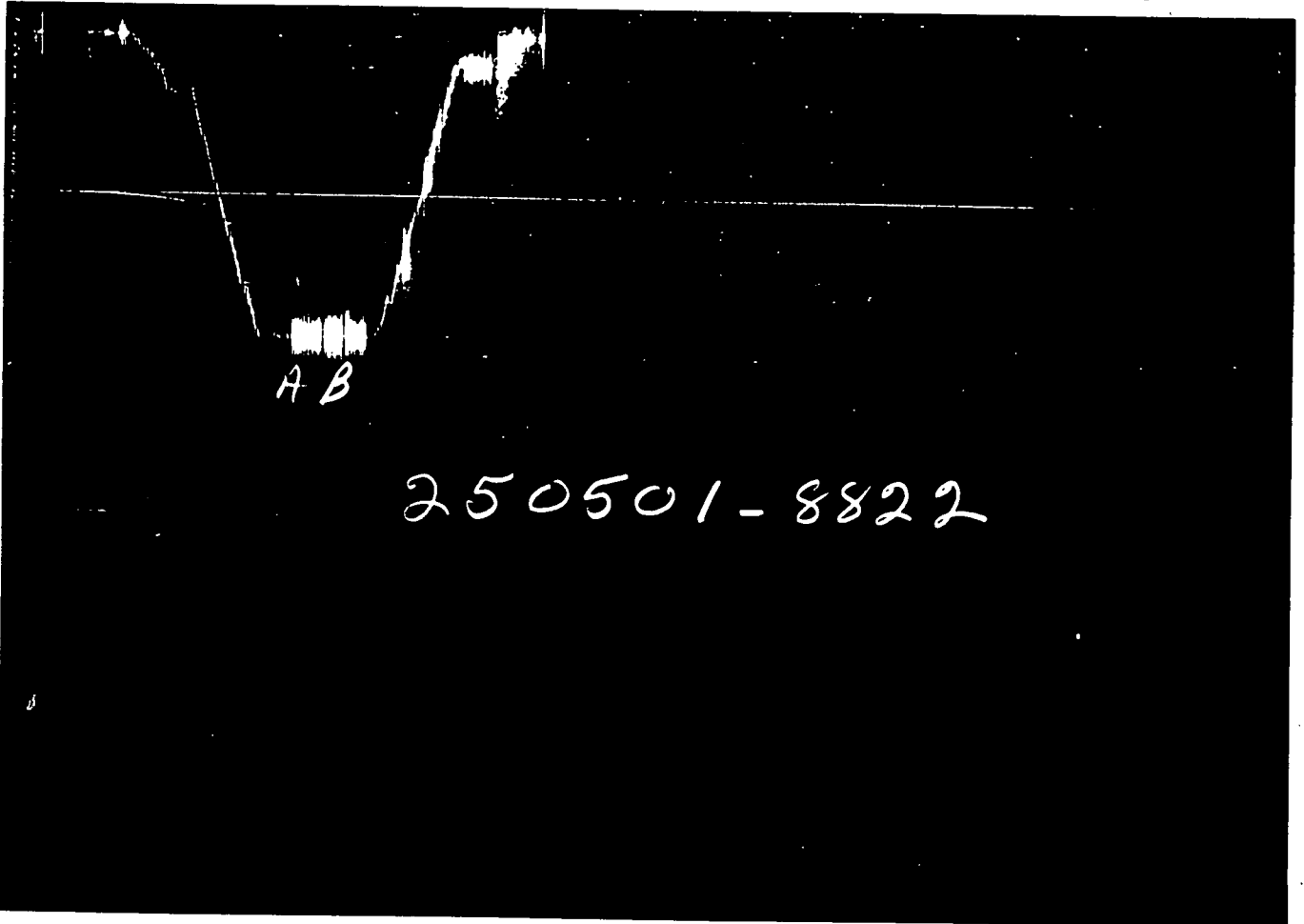
GAUGE NO: 8824 DEPTH: 3782.0 BLANKED OFF: NO HOUR OF CLOCK: 24

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

880000

000036

502



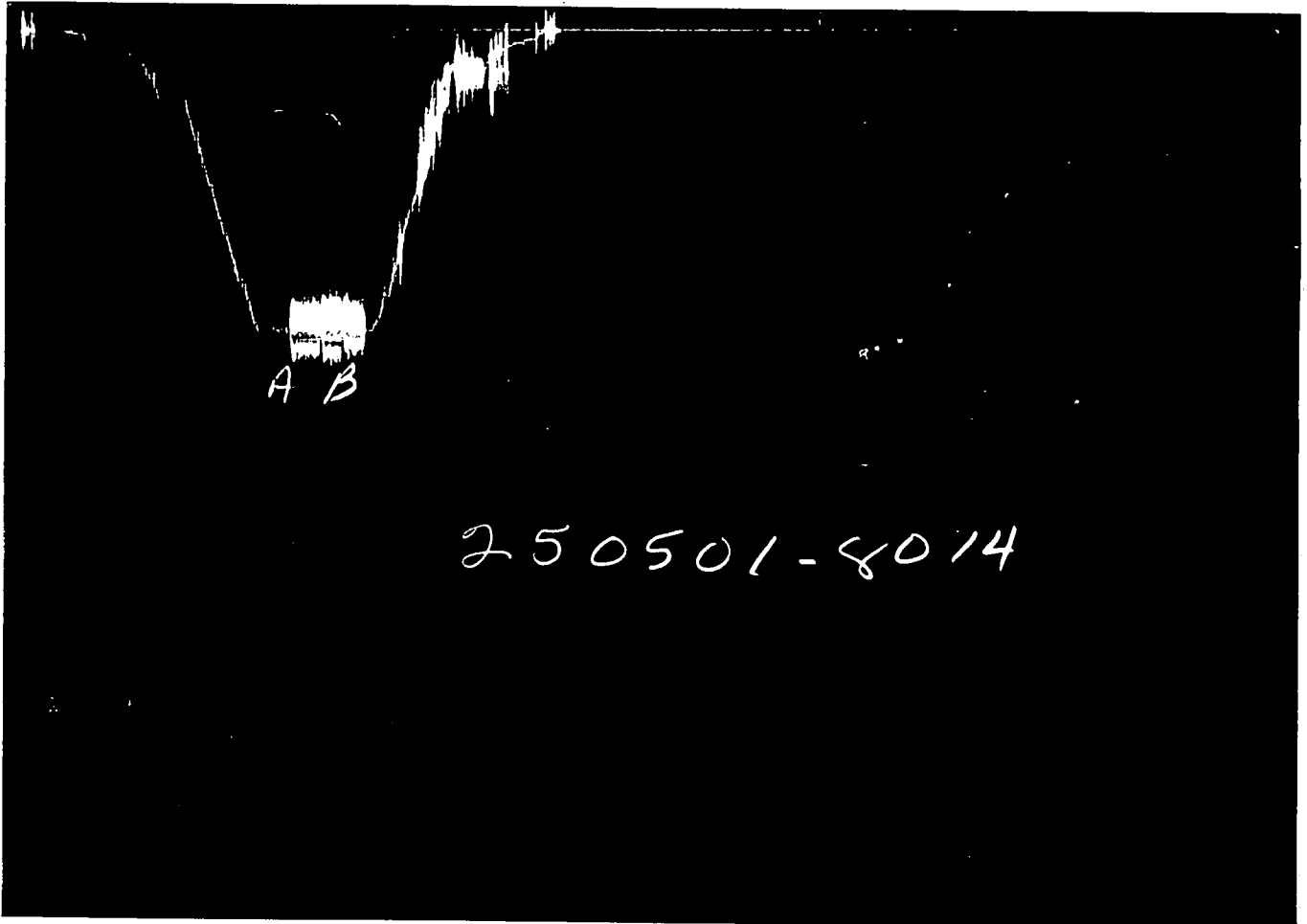
250501-8822

GAUGE NO: 8822 DEPTH: 3794.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		1874.3			
B	FINAL HYDROSTATIC		1874.3			

000037

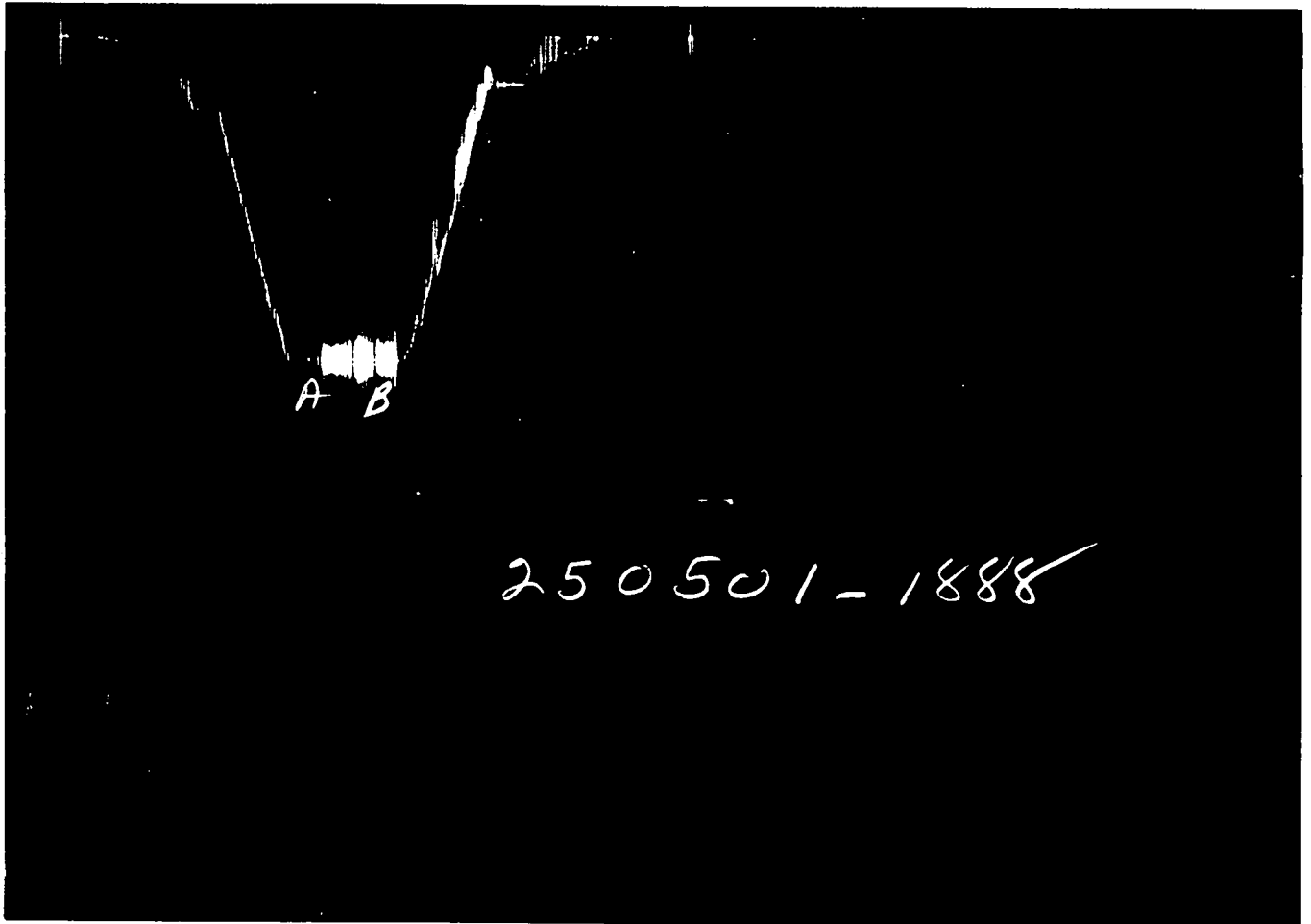
902

GAUGE NO: 8014 DEPTH: 3962.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		1937.4			
B	FINAL HYDROSTATIC		1937.4			

000038

202

GAUGE NO: 1888 DEPTH: 3967.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC		1958.5			
B	FINAL HYDROSTATIC		1958.5			

000039

EQUIPMENT & HOLE DATA

FORMATION TESTED: MURTA

NET PAY (ft): _____

GROSS TESTED FOOTAGE: 24.0

ALL DEPTHS MEASURED FROM: KELLY BUSHING

CASING PERFS. (ft): _____

HOLE OR CASING SIZE (in): 8.500

ELEVATION (ft): 116.0 KELLY BUSHING

TOTAL DEPTH (ft): 5145.0

PACKER DEPTH(S) (ft): 3936, 3960

FINAL SURFACE CHOKE (in): _____

BOTTOM HOLE CHOKE (in): 0.750

MUD WEIGHT (lb/gal): 9.20

MUD VISCOSITY (sec): 37

ESTIMATED HOLE TEMP. (°F): _____

ACTUAL HOLE TEMP. (°F): 80 @ 3966.0 ft

TICKET NUMBER: 25050100DATE: 7-6-85 TEST NO: 4TYPE DST: HYDROF. STRADDLEHALLIBURTON CAMP:
MOOMBATESTER: J. MIDDLETON
K. WILINSKIWITNESS: AL GARRIESDRILLING CONTRACTOR:
RICHTER RIG #11FLUID PROPERTIES FOR
RECOVERED MUD & WATER

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
_____	_____	_____
_____	_____	_____

RECOVERED:

MEASURED FROM
TESTER VALVE

REMARKS:

MISRUN-NO PACKER SEAT

TEST DATE IS 6 JULY, 1985

LEGAL LOCATION: LAT. 28 DEGREES 31' 15.2"S, LONG. 140 DEGREES 18' 04.3"E

000040

[illegible]

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	3340.7	
4		FLEX WEIGHT.....	4.500	2.764	180.2	
3		DRILL COLLARS.....	6.250	2.875	182.7	
51		PUMP OUT REVERSING SUB.....	6.250	3.000	1.0	3690.0
3		DRILL COLLARS.....	6.250	2.875	60.3	
50		IMPACT REVERSING SUB.....	6.250	3.000	1.0	3751.0
3		DRILL COLLARS.....	6.250	2.870	28.3	
5		CROSSOVER.....	6.250	2.250	1.0	
80		AP RUNNING CASE.....	5.000	2.250	4.2	3782.0
61		INDEXING HYDROSPRING TESTER.....	5.000	0.750	5.3	3796.0
31		LOC BYPASS.....	5.000	0.780	2.0	
80		AP RUNNING CASE.....	5.000	2.250	4.2	3794.0
5		CROSSOVER.....	5.750	2.320	1.0	
3		DRILL COLLARS.....	6.250	2.870	30.1	
5		CROSSOVER.....	5.750	2.320	1.0	
14		EXTENSION JOINT.....	5.000	0.750	7.1	
14		EXTENSION JOINT.....	5.000	0.750	7.1	
5		CROSSOVER.....	5.750	2.320	1.0	
3		DRILL COLLARS.....	6.250	2.870	60.1	
5		CROSSOVER.....	6.250	2.320	1.0	
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	3.5	
26		PUMP ASSEMBLY.....	5.000	0.880	7.1	
27		SCREEN ASSEMBLY.....	5.000	1.000	4.4	
25		TORQUE LIMITER ASSEMBLY.....	5.000	1.000	4.9	
74		TOP HYDROFLATE PACKER.....	7.000	1.080	8.3	3936.0
28		PORT ASSEMBLY.....	5.000	2.370	3.4	
22		BLANK ANCHOR.....	5.000	3.060	18.0	

CONTINUED

EQUIPMENT DATA

CONTINUED

EQUIPMENT DATA

000042

TICKET NO. 25050100

		O.D.	I.D.	LENGTH	DEPTH	
75		LOWER HYDROFLATE PACKER.....	7.000	2.000	8.1	3960.0
85		BELLY SPRINGS W/ B.O. GAUGE CASE	7.250	2.250	3.7	3962.0
5		CROSSOVER.....	4.750		0.7	
81		BLANKED-OFF RUNNING CASE.....	5.000		4.0	3967.0
TOTAL DEPTH						5145.0

EQUIPMENT DATA

000043



TICKET NO. 25050200
13-AUG-85
MOOMBA

FORMATION TESTING SERVICE REPORT

JENR		1		5		DELHI/SANTOS	
LEASE NAME		WELL NO.		TEST NO.		LEASE OWNER/COMPANY NAME	
LEGAL LOCATION SEC. - TYP. - RING.		SEE REMARKS		FIELD AREA		COUNTY SOUTH AUSTRALIA STATE AUSTRALIA PW	
				COOPER BASIN			
				TESTED INTERVAL			

000044

086

250502 - 8824

GAUGE NO: 8824 DEPTH: BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	FAILED TO REACH BOTTOM					

000000

000045

T86

250502 - 8822

GAUGE NO: 8822 DEPTH: BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	FAILED TO REACH BOTTOM					

000046

286

250502 - 8014

GAUGE NO: 8014 DEPTH: _____ BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	FAILED TO REACH BOTTOM					

000000

000047

886

250502 - 1888

GAUGE NO: 1888 DEPTH: _____ BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	FAILED TO REACH BOTTOM					

000048

680.00

EQUIPMENT & HOLE DATA

FORMATION TESTED: MURTA

NET PAY (ft): _____

GROSS TESTED FOOTAGE: _____

ALL DEPTHS MEASURED FROM: KB

CASING PERFS. (ft): _____

HOLE OR CASING SIZE (in): 8.500ELEVATION (ft): 116.0TOTAL DEPTH (ft): 5145.0

PACKER DEPTH(S) (ft): _____

FINAL SURFACE CHOKE (in): _____

BOTTOM HOLE CHOKE (in): 0.750MUD WEIGHT (lb/gal): 9.20MUD VISCOSITY (sec): 37

ESTIMATED HOLE TEMP. (°F): _____

ACTUAL HOLE TEMP. (°F): 80 @ _____ ftTICKET NUMBER: 25050200DATE: 7-6-85 TEST NO: 5TYPE DST: HYDROFLATE STD.

HALLIBURTON CAMP: _____

MOOMBATESTER: K. WILINSKI
???WITNESS: AL GARRIES

DRILLING CONTRACTOR: _____

RICHTER RIG #11FLUID PROPERTIES FOR
RECOVERED MUD & WATER

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

RECOVERED:

MEASURED FROM
TESTER VALVE

REMARKS:

MISRUN - HIT BRIDGE IN HOLE - UNABLE TO REACH TEST INTERVAL.
ATTEMPTED TO TEST BETWEEN 3936' - 3962'

TEST DATE IS 6 JULY, 1985

LEGAL LOCATION: LAT. 28 DEGREES - 31' - 15.2" SOUTH
LONG. 140 DEGREES - 18' - 04.3" EAST

000049

[illegible]

		O.D.	I.D.	LENGTH	DEPTH
1		DRILL PIPE.....	4.500	3.826	
4		FLEX WEIGHT.....	4.500	2.764	180.2
3		DRILL COLLARS.....	6.250	2.870	182.7
51		PUMP OUT REVERSING SUB.....	6.250	3.000	1.0
3		DRILL COLLARS.....	6.250	2.870	60.3
50		IMPACT REVERSING SUB.....	6.250	3.000	1.0
3		DRILL COLLARS.....	6.250	2.870	28.3
5		CROSSOVER.....	6.250	2.250	1.0
80		AP RUNNING CASE.....	5.000	2.250	4.2
61		INDEXING HYDROSPRING TESTER.....	5.000	0.750	5.3
31		LOC BYPASS.....	5.000	0.780	2.0
80		AP RUNNING CASE.....	5.000	2.250	4.2
5		CROSSOVER.....	5.750	2.320	1.0
3		DRILL COLLARS.....	6.250	2.870	30.1
5		CROSSOVER.....	5.750	2.320	1.0
14		EXTENSION JOINT.....	5.000	0.750	7.1
14		EXTENSION JOINT.....	5.000	0.750	7.1
5		CROSSOVER.....	5.750	2.320	1.0
3		DRILL COLLARS.....	6.250	2.870	60.1
5		CROSSOVER.....	6.250	2.320	1.0
15		JAR.....	5.000	1.750	5.0
16		VR SAFETY JOINT.....	5.000	1.000	3.5
26		PUMP ASSEMBLY.....	5.000	0.880	7.1
25		TORQUE LIMITER ASSEMBLY.....	5.000	1.000	4.4
27		SCREEN ASSEMBLY.....	5.000	1.000	4.9
74		TOP HYDROFLATE PACKER.....	7.000	1.080	8.3
28		PORT ASSEMBLY.....	5.000	2.370	3.9
22		BLANK ANCHOR.....	5.000	3.060	18.0

CONTINUED

EQUIPMENT DATA

000051

TICKET NO. 25050200

		O.D.	I.D.	LENGTH	DEPTH
75		LOWER HYDROFLATE PACKER.....	7.000	2.000	8.1
85		BELLY SPRINGS W/ B.O. GAUGE CASE	7.250	2.250	3.7
5		CROSSOVER.....	4.750		0.7
81		BLANKED-OFF RUNNING CASE.....	5.000		4.0
TOTAL DEPTH					5145.0

EQUIPMENT DATA

000052



TICKET NO. 25050300
14-AUG-85
MOOMBA

FORMATION TESTING SERVICE REPORT

LEASE NAME		WELL NO.		TEST NO.		TESTED INTERVAL		LEASE OWNER/COMPANY NAME	
JENR		1		6		3936.0 - 3960.0		DELHI/SANTOS	
LEGAL LOCATION SEC. - TWP. - RNG.		SEE REMARKS		FIELD AREA		COOPER BASIN		COUNTRY SOUTH AUSTRALIA STATE AUSTRALIA SM	

000053

714

250503-8824

GAUGE NO: 8824 DEPTH: 3782.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW		8.4			
C	FINAL FIRST FLOW		39.1	49.0	49.0	F
C	INITIAL FIRST CLOSED-IN		39.1			
D	FINAL FIRST CLOSED-IN			89.0		C
E	FINAL HYDROSTATIC					

000054

911

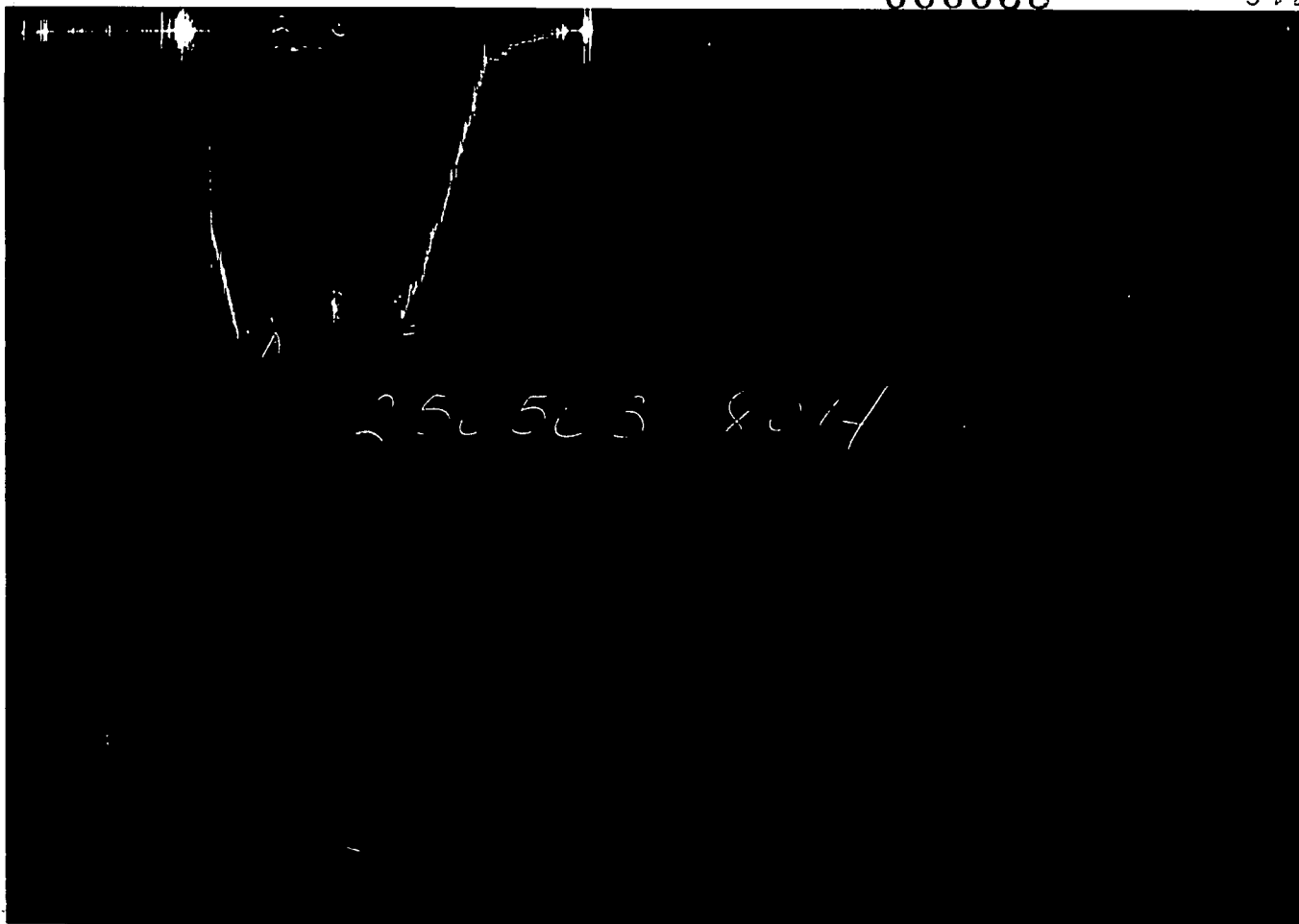
250503 8822

GAUGE NO: 8822 DEPTH: 3794.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	1892	1889.5			
B	INITIAL FIRST FLOW		12.9			
C	FINAL FIRST FLOW	29	29.1	49.0	49.0	F
C	INITIAL FIRST CLOSED-IN	29	29.1			
D	FINAL FIRST CLOSED-IN			89.0		C
E	FINAL HYDROSTATIC	1773	1666.4			

000055

912

GAUGE NO: 8014 DEPTH: 3962.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	1944	1937.0			
B	INITIAL FIRST FLOW	107	125.8	49.0	49.0	F
C	FINAL FIRST FLOW	117	118.2			
C	INITIAL FIRST CLOSED-IN	117	118.2	89.0		C
D	FINAL FIRST CLOSED-IN					
E	FINAL HYDROSTATIC	1821	1714.6			

000056 212

250503-1888

GAUGE NO: 1888 DEPTH: 3967.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	1948	1947.0			
B	INITIAL FIRST FLOW			49.0		F
C	FINAL FIRST FLOW					
C	INITIAL FIRST CLOSED-IN			89.0		C
D	FINAL FIRST CLOSED-IN					
E	FINAL HYDROSTATIC	1816	1723.3			

000057

EQUIPMENT & HOLE DATA

FORMATION TESTED: MURTA

NET PAY (ft): _____

GROSS TESTED FOOTAGE: 24.0ALL DEPTHS MEASURED FROM: KELLY BUSHING

CASING PERFS. (ft): _____

HOLE OR CASING SIZE (in): 8.500ELEVATION (ft): 116.0TOTAL DEPTH (ft): 5145.0PACKER DEPTH(S) (ft): 3936, 3960FINAL SURFACE CHOKE (in): 0.50000BOTTOM HOLE CHOKE (in): 0.750MUD WEIGHT (lb/gal): 9.20MUD VISCOSITY (sec): 37

ESTIMATED HOLE TEMP. (°F): _____

ACTUAL HOLE TEMP. (°F): 180 @ 3966.0 ftTICKET NUMBER: 25050300DATE: 7-7-85 TEST NO: 6TYPE DST: HYDROFLATE STD.

HALLIBURTON CAMP:

MOOMBATESTER: K.WILIINSKIJ. MIDDLETONWITNESS: AL GARRIES

DRILLING CONTRACTOR:

RICHTER RIG #11FLUID PROPERTIES FOR
RECOVERED MUD & WATER

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

RECOVERED:

60 FEET OF MUD

MEASURED FROM
TESTER VALVE

REMARKS:

CLOCK IN GAUGE # 1888 APPEARS TO HAVE MALFUNCTIONED....NO VALID READINGS
OTHER THAN HYDROSTATICS AVAILABLE.

TEST DATE IS 7 JULY, 1985.

LEGAL LOCATION: LAT. 28 DEGREES, 31', 15.2"S, AND LONG. 40 DEGREES, 18',
04.3"E.

-----SEE NEXT PAGE FOR ADDITIONAL REMARKS-----

677

[illegible]

020409

000059

TICKET NO. 25050300

022

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	3340.7	
4		FLEX WEIGHT.....	4.500	2.764	180.2	
3		DRILL COLLARS.....	6.250	2.875	182.7	
51		PUMP OUT REVERSING SUB.....	6.250	3.000	1.0	3690.0
3		DRILL COLLARS.....	6.250	2.875	60.3	
50		IMPACT REVERSING SUB.....	6.250	3.000	1.0	3751.0
3		DRILL COLLARS.....	6.250	2.870	28.3	
5		CROSSOVER.....	6.250	2.500	1.0	
80		AP RUNNING CASE.....	5.000	2.250	4.2	3782.0
61		INDEXING HYDROSPRING TESTER.....	5.000	0.750	5.3	3796.0
31		LOC BYPASS.....	5.000	0.780	2.0	
80		AP RUNNING CASE.....	5.000	2.250	4.2	3794.0
5		CROSSOVER.....	5.750	2.320	1.0	
3		DRILL COLLARS.....	6.250	2.870	30.1	
5		CROSSOVER.....	5.750	2.320	1.0	
14		EXTENSION JOINT.....	5.000	0.750	7.1	
14		EXTENSION JOINT.....	5.000	0.750	7.1	
5		CROSSOVER.....	5.750	2.320	1.0	
3		DRILL COLLARS.....	6.250	2.870	60.1	
5		CROSSOVER.....	6.250	2.320	1.0	
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	3.5	
26		PUMP ASSEMBLY.....	5.000	0.880	7.1	
27		SCREEN ASSEMBLY.....	5.000	1.000	4.4	
25		TORQUE LIMITER ASSEMBLY.....	5.000	1.000	4.9	
74		TOP HYDROFLATE PACKER.....	7.000	1.080	8.3	3936.0
28		PORT ASSEMBLY.....	5.000	2.370	3.4	
22		BLANK ANCHOR.....	5.000	3.060	18.0	

CONTINUED

EQUIPMENT DATA

CONTINUED

EQUIPMENT DATA

000060

000060

TICKET NO. 25050300

122

O.D.

I.D.

LENGTH

DEPTH

75		LOWER HYDROFLATE PACKER.....	7.000	2.000	8.1	3960.0
85		BELLY SPRINGS W/ B.O. GAUGE CASE	7.250	2.250	3.7	3962.0
5		CROSSOVER.....	4.750		0.7	
81		BLANKED-OFF RUNNING CASE.....	5.000		4.0	3967.0

TOTAL DEPTH

5145.0

EQUIPMENT DATA

000061



TICKET NO. 25050400
14-AUG-85
MOOMBA

FORMATION TESTING SERVICE REPORT

LEGAL LOCATION SEC. - TWP. - RNG.		SEE REMARKS	FIELD AREA	COUNTY	SOUTH AUSTRALIA	STATE	AUSTRALIA	AG
LEASE NAME		WELL NO.	TEST NO.	TESTED INTERVAL		LEASE OWNER/COMPANY NAME		
JENA		1	7	2883.0 - 2969.0		DELHI/SANTOS		

000062

081

250504-8824

GAUGE NO: 8824 DEPTH: 2731.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW					
C	FINAL FIRST FLOW			61.0		F
C	INITIAL FIRST CLOSED-IN					
D	FINAL FIRST CLOSED-IN			121.0		C
E	FINAL HYDROSTATIC					
F	HYDROSTATIC RELEASE					

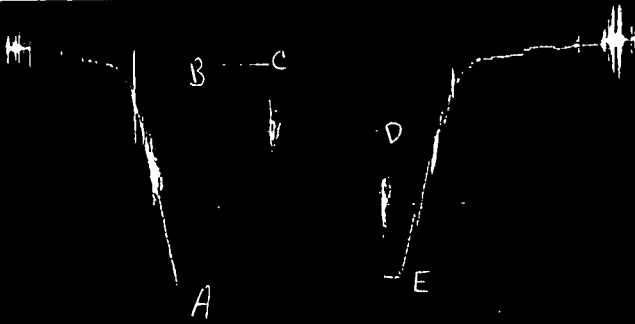
757



ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	1354	1357.9			
B	INITIAL FIRST FLOW	16	13.7	61.0	61.0	F
C	FINAL FIRST FLOW	16	13.7			
C	INITIAL FIRST CLOSED-IN	16	13.7	121.0	121.0	C
D	FINAL FIRST CLOSED-IN	434	442.8			
E	FINAL HYDROSTATIC	1354	1358.6			
F	HYDROSTATIC RELEASE					

000064

287

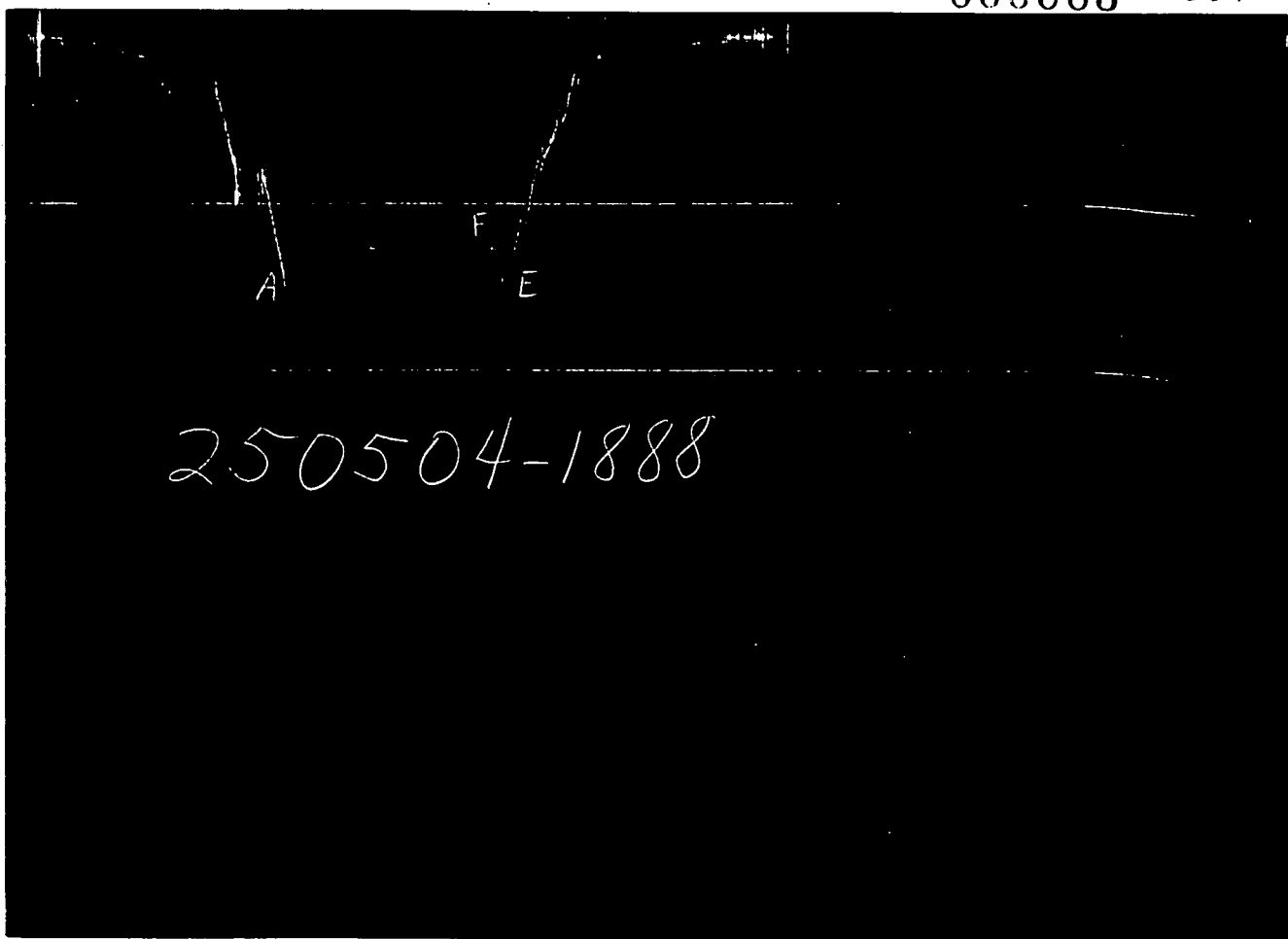


250504-8014

GAUGE NO: 8014 DEPTH: 3037.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	1438	1441.1			
B	INITIAL FIRST FLOW	100	117.9			
C	FINAL FIRST FLOW	117	118.1	61.0	61.0	F
C	INITIAL FIRST CLOSED-IN	117	118.1			
D	FINAL FIRST CLOSED-IN	535	540.6	121.0	121.0	C
E	FINAL HYDROSTATIC	1438	1442.8			
F	HYDROSTATIC RELEASE					

000065 887

GAUGE NO: 1888 DEPTH: 3041.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	1446	1450.2			
B	INITIAL FIRST FLOW			61.0		F
C	FINAL FIRST FLOW					
C	INITIAL FIRST CLOSED-IN			121.0		C
D	FINAL FIRST CLOSED-IN					
E	FINAL HYDROSTATIC	1446	1450.3			
F	HYDROSTATIC RELEASE		1264.2			

EQUIPMENT & HOLE DATA

FORMATION TESTED: COORIKIANA
 NET PAY (ft): _____
 GROSS TESTED FOOTAGE: 86.0
 ALL DEPTHS MEASURED FROM: KB
 CASING PERFS. (ft): _____
 HOLE OR CASING SIZE (in): 8.500
 ELEVATION (ft): 116.0
 TOTAL DEPTH (ft): 5145.0
 PACKER DEPTH(S) (ft): 2883. 2969
 FINAL SURFACE CHOKE (in): 0.50000
 BOTTOM HOLE CHOKE (in): 0.750
 MUD WEIGHT (lb/gal): 9.20
 MUD VISCOSITY (sec): 37
 ESTIMATED HOLE TEMP. (°F): 180
 ACTUAL HOLE TEMP. (°F): 178 @ 3040.0 ft

TICKET NUMBER: 25050400

DATE: 7-7-85 TEST NO: 7

TYPE DST: HYDROF. STRADDLE

HALLIBURTON CAMP:
MOOMBA

TESTER: K. WILINSKI

WITNESS: AL GARRIES

DRILLING CONTRACTOR:
RICHTER DRILLING COMPANY RIG #11

FLUID PROPERTIES FOR RECOVERED MUD & WATER

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
_____	_____	_____
_____	_____	_____

RECOVERED:

MEASURED FROM
TESTER VALVE

REMARKS:

CHARTS INDICATE POSSIBLE MOMENTARY TOOL BY-PASS AT BEGINNING OF THE CLOSED-IN PERIOD. CLOSED-IN PRESSURE READING MAY BE QUESTIONABLE.

TEST DATE WAS 7TH OF JULY, 1985.

LEGAL LOCATION = LAT. 28 DEGREES 31' 15.2" SOUTH
 LONG. 140 DEGREES 18' 04.3" EAST.

[illegible]

830066

000068

981

TICKET NO. 25050400

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	2284.3	
4		FLEX WEIGHT.....	4.500	2.764	180.2	
3		DRILL COLLARS.....	6.250	2.870	124.4	
51		PUMP OUT REVERSING SUB.....	6.250	3.000	1.0	2636.0
3		DRILL COLLARS.....	6.250	2.870	61.3	
50		IMPACT REVERSING SUB.....	6.250	3.000	1.0	2698.0
3		DRILL COLLARS.....	6.250	2.870	29.9	
5		CROSSOVER.....	6.250	2.250	1.0	
80		AP RUNNING CASE.....	5.000	2.250	4.2	2731.0
61		INDEXING HYDROSPRING TESTER.....	5.000	0.750	5.3	2739.0
31		LOC BYPASS.....	5.000	0.780	2.0	
80		AP RUNNING CASE.....	5.000	2.250	4.2	2742.0
5		CROSSOVER.....	6.250	2.320	1.0	
3		DRILL COLLARS.....	6.250	2.870	30.3	
5		CROSSOVER.....	5.750	2.320	1.0	
14		EXTENSION JOINT.....	5.000	0.750	7.1	
14		EXTENSION JOINT.....	5.000	0.750	7.1	
5		CROSSOVER.....	5.750	2.320	1.0	
3		DRILL COLLARS.....	6.250	2.870	58.4	
5		CROSSOVER.....	6.250	2.320	1.0	
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	3.5	
26		PUMP ASSEMBLY.....	5.000	0.880	7.1	
27		SCREEN ASSEMBLY.....	5.000	1.000	4.4	
25		TORQUE LIMITER ASSEMBLY.....	5.000	1.000	4.9	
74		TOP HYDROFLATE PACKER.....	7.000	1.080	8.3	2883.0
28		PORT ASSEMBLY.....	5.000	2.370	3.4	
5		CROSSOVER.....	6.250	1.900	1.0	

CONTINUED

EQUIPMENT DATA

480000

000069

TICKET NO. 25050400

137

	O.D.	I.D.	LENGTH	DEPTH
--	------	------	--------	-------

3		DRILL COLLARS.....	6.250	2.870	60.1	
5		CROSSOVER.....	5.850	2.320	1.0	
22		BLANK ANCHOR.....	5.000	3.060	15.0	
75		LOWER HYDROFLATE PACKER.....	7.000	2.000	8.1	2969.0
85		BELLY SPRINGS W/ B.O. GAUGE CASE	7.250	2.250	3.7	3037.0
5		CROSSOVER.....	4.750		0.9	
81		BLANKED-OFF RUNNING CASE.....	5.000		4.0	3041.0

TOTAL DEPTH

5145.0

EQUIPMENT DATA

TABLE 1-1

SUMMARY OF WHOLE OIL ANALYSIS

Date: 1985

Company: DELHI PETROLEUM PTY. LTD. Sample: JENA 1, DST 3 3890-3934 Murta

PHYSICAL PROPERTY DATA

API Gravity	%Sulphur(w/w)	Viscosity(25°C)	Viscosity(60°C)	Four Pt(°C)
nd	nd	nd	nd	nd

COMPOSITION BY CARBON NUMBER

COMPOSITION OF C4-C7 FRACTION

Carbon Number	Rel. Wt %	Compound	Rel. Wt %
1 - 3	0.04	A isobutane	2.08
4	0.21	B n-butane	3.18
5	0.48	C isopentane	5.61
6	1.08	D n-pentane	6.25
7	2.18	E 2,2-dimethylbutane	0.27
8	3.00	F cyclopentane	0.35
9	2.42	G 2,3-dimethylbutane	0.93
10	1.97	H 2-methylpentane	5.47
11	1.91	I 3-methylpentane	2.88
12	2.81	J n-hexane	10.06
13	3.30	K methylcyclopentane	3.94
14	4.68	L 2,4-dimethylpentane	0.75
15	6.43	M benzene	nd
16	8.38	N cyclohexane	3.85
17	11.10	O 1,1-dimethylcyclopentane	1.22
18	9.47	P 2-methylhexane	4.07
19	9.43	Q 3-methylhexane	5.73
20	8.54	R 1 cis-3-dimethylcyclopentane	1.60
21	6.19	S 1 trans-3-dimethylcyclopentane	2.39
22	5.27	T 1 trans-2-dimethylcyclopentane	0.25
23	3.91	U n-heptane	16.67
24	2.77	V methylcyclohexane	21.72
25	1.92	W 1 cis-2-dimethylcyclopentane	0.61
26	1.04	X toluene	0.12
27	0.63		
28	0.34		
29	0.19		
30	0.16		
31	0.13		

CALCULATED DATA - C4-C7 FRACTION

CALCULATED DATA - C12+ FRACTION

Pristane/Phytane	3.04
Pristane/n-C17	0.35
Phytane/n-C18	0.11
TMTD/Pristane	0.38
(C21+C22)/(C28+C29)	18.11

Paraffin Index I	2.32
Paraffin Index II	28.99
N/K (Maturity)	0.98
C/D (Maturity)	0.90
J/K (Maturity)	2.55
I/M (Water washing)	nd
I/J (Biodegradation)	0.29

nd = no data
TMTD = Trimethyltridecane
is = Insufficient sample

Paraffin Index I = (P+Q)/(R+S+T)
Paraffin Index II = %U in all compounds N-V
bdl = Below detection limit

TABLE 2

Summary of Physical Property and Sulphur Data

Date of Job: OCTOBER 1985

Sample	API Gravity	ZSulphur(w/w)	Viscosity(25°C)	Viscosity(60°C)
JENA 1 DST 3	nd	nd	nd	nd
JULANDI 1 DST 2	nd	nd	nd	nd
ALWYN 1 DST 1A	nd	nd	nd	nd

TABLE 2

Summary of Liquid Chromatography(Compositional Data)

Date of Job: OCTOBER 1985

Sample	-----Hydrocarbons-----			-----Nonhydrocarbons-----			SAT	ASPH	HC
	ZSAT.	ZAROM.	ZHC's	ZNSO's	ZASPH.	ZNon HC's	AROM	MSO	Non HC
JENA 1 DST 3	92.3	5.0	97.3	2.7	nd	2.7	18.50	nd	36.4
JULANDI 1 DST 2	91.2	4.7	95.9	4.1	nd	4.1	19.59	nd	23.2
ALWYN 1 DST 1A	92.3	4.1	96.5	3.5	nd	3.5	22.27	nd	27.5

na = not applicable nd = no data

000072

TABLE 3AROMATIC MATURITY PARAMETERS

Sample: Jena 1, 3890-3934ft; 3912ft Murta

<u>Parameter</u>	<u>Value</u>
DNR-1	3.95
DNR-2	240
DNR-5	497
DNR-6	2.16
TNR-1	1.62
TNR-3	13.16
TNR-4	0.41
MPR-1	0.77
MPI-1	0.37
MPI-2	0.40
Rc(a)	0.62
Rc(b)	2.08

TABLE 4-1

000073

SELECTED PARAMETERS FROM GC/MS ANALYSIS

Sample: JENA 1, DST 3, 3890-3934ft; 3912ft Murta

	<u>Parameter</u>	<u>Ion(s)</u>	<u>Value</u>
1.	18 α (H)-hopane/17 α (H)-hopane (Ts/Tm)	191	0.95
2.	C ₃₀ hopane/C ₃₀ moretane	191	5.43
3.	C ₃₁ 22S hopane/C ₃₁ 22R hopane	191	1.01
4.	C ₃₂ 22S hopane/C ₃₂ 22R hopane	191	1.02
5.	C ₂₉ 20S $\alpha\alpha\alpha$ sterane/C ₂₉ 20R $\alpha\alpha\alpha$ sterane	217	0.62
6.	$\frac{C_{29} \alpha\beta\beta \text{ steranes}}{C_{29} \alpha\alpha\alpha \text{ steranes} + C_{29} \alpha\beta\beta \text{ steranes}}$	217	0.45
7.	C ₂₇ /C ₂₉ diasteranes	259	0.27
8.	C ₂₇ /C ₂₉ steranes	217	0.49
9.	18 α (H)-oleanane/C ₃₀ hopane	191	nd
10.	$\frac{C_{29} \text{ diasteranes}}{C_{29} \alpha\alpha\alpha \text{ steranes} + C_{29} \alpha\beta\beta \text{ steranes}}$	217	1.37
11.	$\frac{C_{30} (\text{hopane} + \text{moretane})}{C_{29} (\text{steranes} + \text{diasteranes})}$	191/217	0.95
12.	C ₁₅ drimane/C ₁₆ homodrimane	123	0.59
13.	Rearranged drimanes/normal drimanes	123	0.67
14.	C ₁₅ alkyl cyclohexane/C ₃₀ hopane	83/191	63.60

nd = no data

000074

DELHI PETROLEUM PTY. LTD.

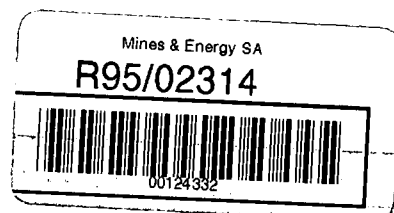
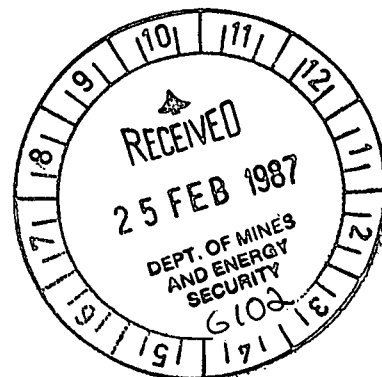
VELOCITY SURVEY - TIME/DEPTH CALIBRATION

JENA 1

DISTRIBUTION (7)

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

SANTOS
SAOG
CRUSADER
SADME



By: S.J. Aufderheide
December, 1986
SJA/TM D7.9

SCANNED

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VELOCITY SURVEY-TIME/DEPTH CALIBRATION

JENA 1

1.0 INTRODUCTION

A well velocity survey was conducted by Delhi Petroleum Pty Ltd at the Jena 1 wellsite on the 3rd July, 1985.

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

Twenty seven fair to good quality records were obtained at sixteen 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.

Check shots at datum (116 ft)^{*} were taken to confirm the static correction used in the processing of line 84 - STK.

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.



2.0 DATUM STATICS

000079

Three datum shots were taken at three different shot locations, (Fig. 3) with the downhole tool locked in casing at MSL, 116 ft below KB. Ground level was surveyed at 97 ft above MSL.

The mean vertical one-way time after geometrical offset correction was 27 ms (Enclosure 1). A shot depth correction of 3 & 4 msec was added due to the shots being 6 & 7 ft below the seismic elevation of 116 ft. A LVL velocity of 1950 ft/sec was used in the correction calculation. This velocity was derived from uphole information on line 84 - STK.

TABLE 1

DATUM STATIC DETERMINATION

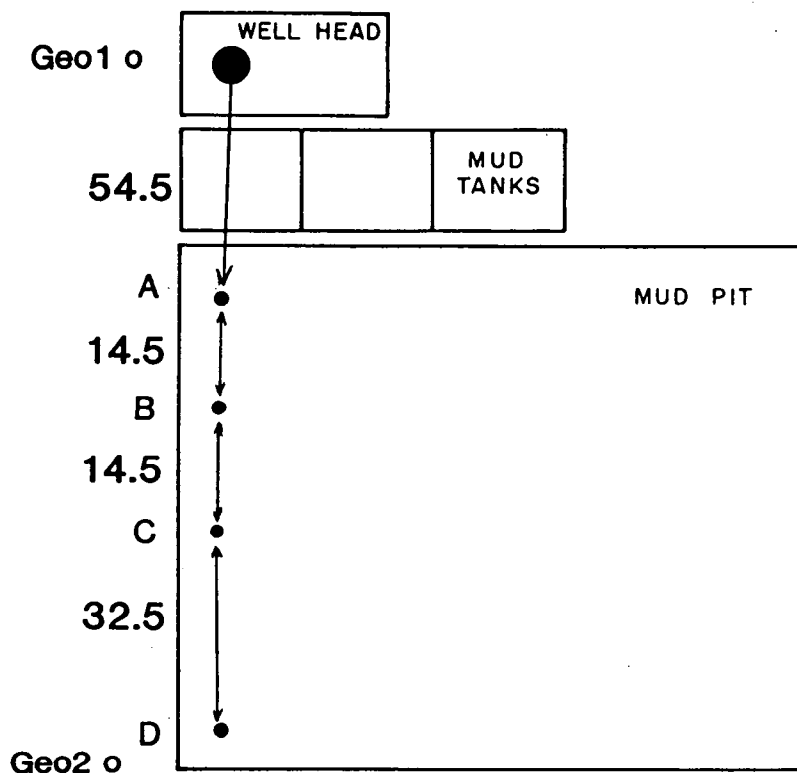
SHOT No	SHOT LOC ft	SHOT DEPTH ft	SHOT OFFSET ft	ARRIVAL TIME ms	SHOT -DATUM STATIC ms	SURFACE -DATUM STATIC ms
1	A	6	55	31	27	30
2	B	7	69	34	27	31
3	C	7	84	36	26	30
average					27	30

TABLE 2

COMPARISON OF SEISMIC AND VELOCITY SURVEY STATIC

	SEISMIC LINE	VELOCITY SURVEY	DIFFERENCE
GROUND ELEVATION (ft)	98	97	1
DATUM STATIC (ms)	32	30	2
INTERVAL VELOCITY GROUND LEVEL TO DATUM (ft/sec)	3063	3233	-170

000080



• SHOT POINT

◦ REFERENCE GEOPHONE

ALL LENGTHS AND DEPTHS IN FEET

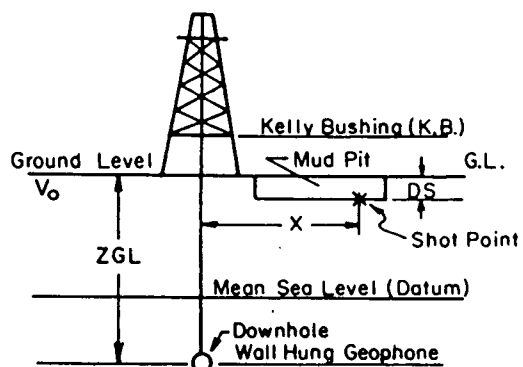
SHOT POINT	A	B	C	D
Depth Relative to G.L. at K.B.	6	7	7	7
Horizontal Distance from K.B.	54.5	69	83.5	116

DELHI PETROLEUM PTY. LTD.

GEOMETRY DIAGRAM

JENA 1

WELL VELOCITY SURVEY



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

T_o = 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.

BASE: JB. (7-85) Dwg. No. 85XP-449(a) File: RD-33

Author: SJA

Drafted

Date 03/07/86

Dwg. No.

File No.

FIGURE 3

3.0 RESULTS

Table 3 indicates the results against prognoses. The prognoses were derived from the interpretation of the 1984 Hogarth-NM Seismic Survey.

The datum static indicates a OWT difference of 2 msec with the field static.

Average velocities used were all fast ranging from 37 ft/sec at the C horizon to 129 ft/sec at the Z horizon.

The prognosed times were all fast ranging from 4 msec at the Z horizon to 19 msec at the DN horizon.

These gave depth prognoses varying from 68 feet deep at the Z horizon to 31 feet shallow at the DN horizon.

The best character match with the normal polarity seismic section was obtained with the zero phase synthetic seismogram.

TABLE 3
SURVEY RESULTS

000082

DEPTH (feet below M.S.L.)

Horizon	C	DN	H	Z
Prognosis	3560	3905	4733	5104
Well top	3586	3936	4718	5036
Difference	-26	-31	15	68

TWO-WAY TIME (msecs)

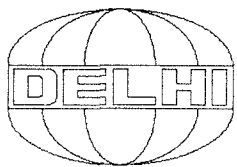
Horizon	C	DN	H	Z
Prognosis	1020	1085	1231	1294
Velocity Survey	1033	1104	1246	1298
Difference	-13	-19	-15	-4

AVERAGE VELOCITY (ft/sec)

Horizon	C	DN	H	Z
Prognosis	6980	7198	7690	7889
Velocity Survey	6943	7130	7573	7760
Difference	37	68	117	129

JENA 1
03-07-85

SHOT RECORD TABLE 6102-1



DATUM SHOTS (DATUM=MSL)											Z(KB)= 116 FT	Z(GL)= 97 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	11.12	A	15	1XA	6	55	31	27	3	30		
2	11.14	B	15	1XA	7	69	34	27	4	31		
3	11.17	C	15	1XA	7	84	36	26	4	30		

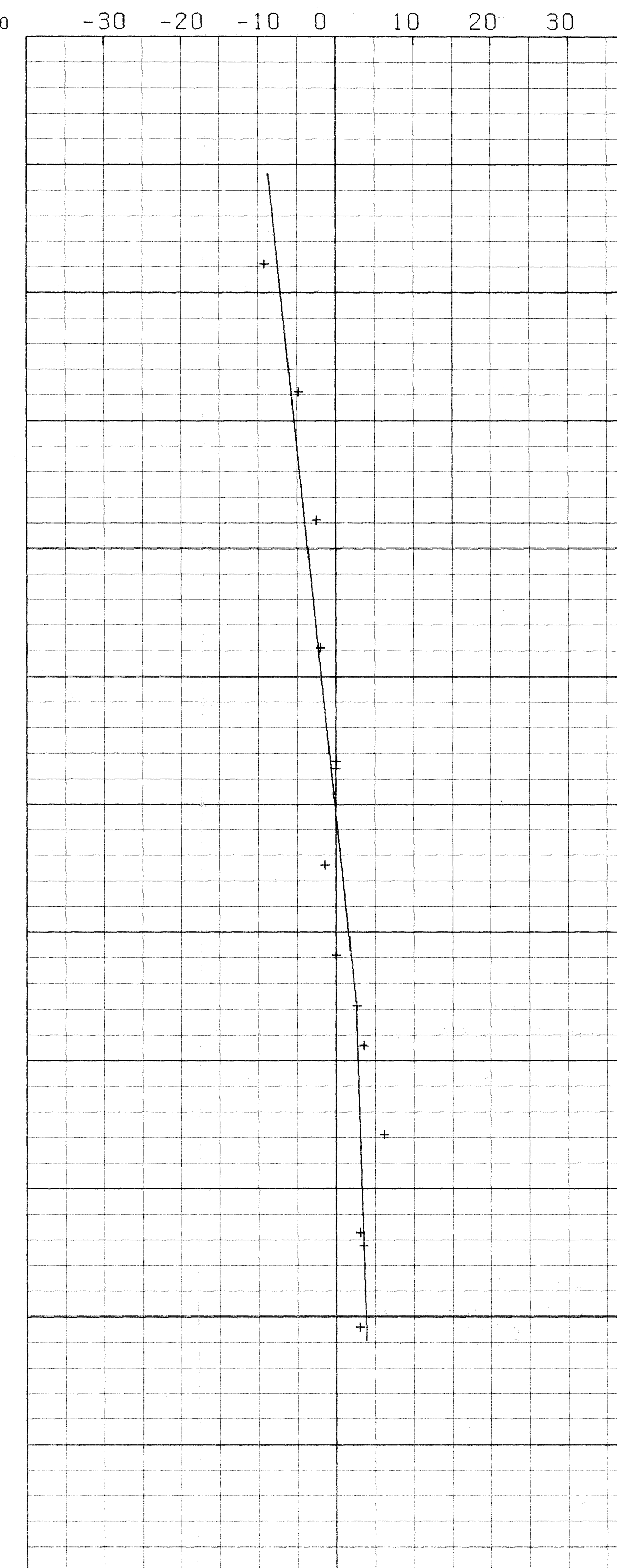
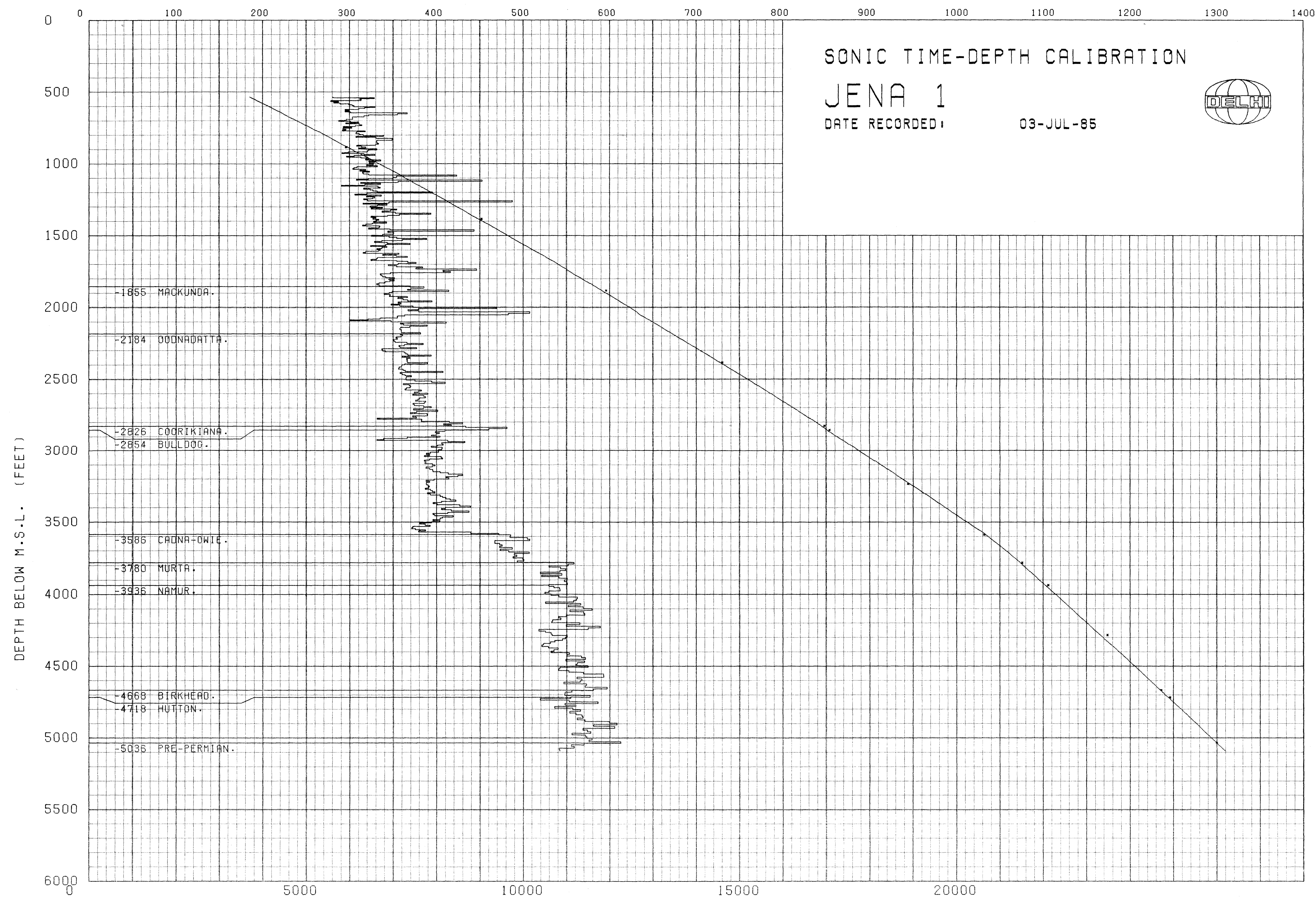
THE SHOT TO DATUM STATIC USED IS 27 MSEC. THE SURFACE VELOCITY IS 1950 FT/SEC.

SURVEY SHOTS

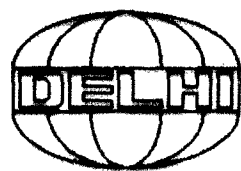
SHOT NUMBER	LOCAL TIME	CHARGE SIZE	AMP. GAIN	OFFSET (FT)	CHARGE DEPTH	KB DEPTH	RECORD TIME	MSL DEPTH	CORR. TIME	INTERVAL VELOCITY	RMS VELOCITY	REMARKS
30	16.14	1XA	15	116	7	500	98	384	68	5647	5647	** NOTE () REFERS TO TRUE KB DEPTH **
29	16.09	1XD	15	116	7	1000	176	884	148	6250	5981	
28	16.04	1XD	20	116	7	1500	254	1384	226	6410	6132	
27	15.58	1XD	25	116	7	2000	326	1884	298	6944	6338	
26	15.53	1XD	25	116	7	2500	392	2384	365	7463	6559	
25	15.49	1XD	25	116	7	2942	451	2826	424	7492	6696	CORRIKIANA SST
24	15.45	1XD	25	116	7	2971	454	2855	427	9667	6722	BULLDOG SHALE(2970)
23	15.41	1XD	30	116	7	3350	499	3234	472	8422	6902	
4	12.00	1XD	15	116	7	3702	---	3586	---	----	----	HOLE BLOCKAGE
5	14.16	1XD	30	116	7	3702	---	3586	---	----	----	RESHOT
6	14.19	1XD	30	116	7	3702	540	3586	513	8000	7002	CADNA-OWIE
22	15.35	1XD	30	116	7	3702	546	3586	519	8000	7002	
20	15.27	1XD	30	116	7	3898	565	3782	538	8909	7090	MURTA SST MBR(3896)
21	15.29	1XD	30	116	7	3898	565	3782	538	8909	7090	
18	15.16	1XD	35	116	7	4052	580	3936	553	10267	7195	NAMUR SST MBR
16	15.06	1XD	25	116	7	4400	615	4284	588	10235	7405	RESHOT
17	15.11	1XD	30	116	7	4400	613	4284	586	10235	7405	
19	15.21	1XD	25	116	7	4400	614	4284	587	10235	7405	
7	14.27	1XD	30	116	7	4784	646	4668	619	12000	7710	BIRKHEAD
14	14.58	2XD	30	116	7	4784	----	4668	---	----	----	
15	15.00	2XD	30	116	7	4784	645	4668	618	----	----	
13	14.54	2XD	30	116	7	4835	650	4719	623	10200	7733	HUTTON SST.(4834)
10	14.44	2XD	30	116	7	5152	---	5036	---	----	----	RESHOT
11	14.47	1XD	30	116	7	5152	---	5036	---	----	----	RESHOT
12	14.49	2XD	30	116	7	5152	677	5036	650	11741	7940	DULLINGARI GROUP
8	14.35	1XD	25	116	7	5234	684	5118	657	11714	7989	EFFECTIVE T.D
9	14.40	2XD	25	116	7	5234	---	5118	---	----	----	NOISY
												ENCLOSURE 1 22-DEC-1986

TWO-WAY TIME (MSEC)

CHECKSHOT - SONIC
TIME DIFFERENCE. (MSEC)



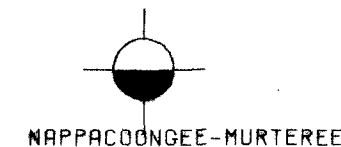
6102-2



JENA 1
SYNTHETIC SEISMOGRAM

6102-3

28-JAN-87



INTERVAL VELOCITY(FT/SEC)

REFLECTIVITY⁵ PRIMARIES ONLY⁵

PRIMARIES ONLY⁵

PRIMARIES ONLY⁵

PRIMARIES ONLY⁵

PRIMARIES ONLY⁴

5000

9000

13000

17000

1000

2000

3000

4000

5000

FT(SL)

1000

2000

3000

4000

5000

FT(SL)

D R I F T

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	DEPTH(SL)	TIME	VEL(INT)	VEL(AV)	VEL(RMS)
KB(FT) = 116					
MACKUNDA.	1855	583	7477	6364	6364
OODNADATTA.	2184	671	7422	6510	6521
COORIKIANA.	2826	844	9333	6697	6715
BULLDOG.	2854	850	8000	6715	6737
CADNA-OWIE.	3586	1033	9700	6943	6978
MURTA.	3780	1073	11143	7046	7098
NAMUR.	3936	1101	11008	7150	7229
BIRKHEAD.	4668	1234	11111	7566	7725
HUTTON.	4718	1243	11357	7591	7755
PRE-PERMIAN.	5036	1299		7754	7944

BANDPASS WAVELET

NO. OF FILTER POINTS 39
LOW CUT FREQUENCY 10
HIGH CUT FREQUENCY 55
PHASE SHIFT 0
ZERO PHASE
NORMAL POLARITY

BANDPASS WAVELET

NO. OF FILTER POINTS 39
LOW CUT FREQUENCY 10
HIGH CUT FREQUENCY 55
PHASE SHIFT 90
ZERO PHASE
NORMAL POLARITY

BANDPASS WAVELET

NO. OF FILTER POINTS 39
LOW CUT FREQUENCY 10
HIGH CUT FREQUENCY 55
PHASE SHIFT 180
ZERO PHASE
NORMAL POLARITY

BANDPASS WAVELET

NO. OF FILTER POINTS 39
LOW CUT FREQUENCY 10
HIGH CUT FREQUENCY 55
PHASE SHIFT 270
ZERO PHASE
NORMAL POLARITY

BANDPASS WAVELET

NO. OF FILTER POINTS 39
LOW CUT FREQUENCY 10
HIGH CUT FREQUENCY 55
PHASE SHIFT 0
ZERO PHASE
NORMAL POLARITY

000083

REGISTRATION NUMBER : WB199

SAMPLE NAME : JENA #1

SAMPLE POINT :

DATE SAMPLED : 27.04.89

DATE ANALYSED : 29.04.89

CHEMICAL COMPOSITION		mg/L	me/L
CATIONS			
SODIUM	[Na]	830.0	36.10
POTASSIUM	[K]	39.0	1.00
MAGNESIUM	[Mg]	1.1	.09
CALCIUM	[Ca]	7.3	.36
ANIONS			
BICARBONATE	[HCO ₃]	1649.7	27.04
CHLORIDE	[Cl]	427.8	12.07
SULPHATE	[SO ₄]	1.9	.04

PHYSICAL REACTION

pH	7.51
CONDUCTIVITY (micro S/cm)	3670
TEMPERATURE (C)	25
CONDUCTIVITY (micro S/cm @ 25 C)	3700
RESISTIVITY (ohm.m @ 25 C)	2.7

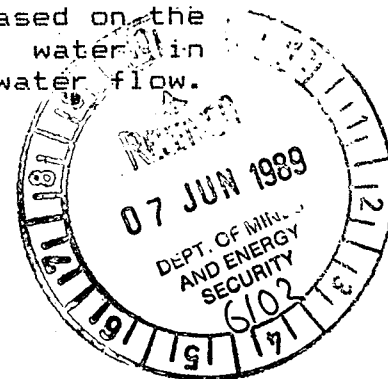
DERIVED DATA	mg/L
TOTAL DISSOLVED SOLIDS	
A. BASED ON CONDUCTIVITY	2300
B. CALCULATED (HCO ₃ =CO ₃)	2118
TOTAL HARDNESS (as CaCO ₃)	22
CARBONATE HARDNESS (as CaCO ₃)	22
NON-CARBONATE HARDNESS (as CaCO ₃)	0
TOTAL ALKALINITY (as CaCO ₃)	1353

TOTALS AND BALANCE	me/L
CATIONS	37.55
ANIONS	39.15
DIFFERENCE	1.60
SUM	76.70
DIFF*100/SUM	2.10
SODIUM / TOTAL CATION	96.10

The reported conductivity and resistivity are based on the sample as received and represent the produced water in so far as the sample is representative of well water flow.

COMMENTS :

ANALYST : JM



SCANNED

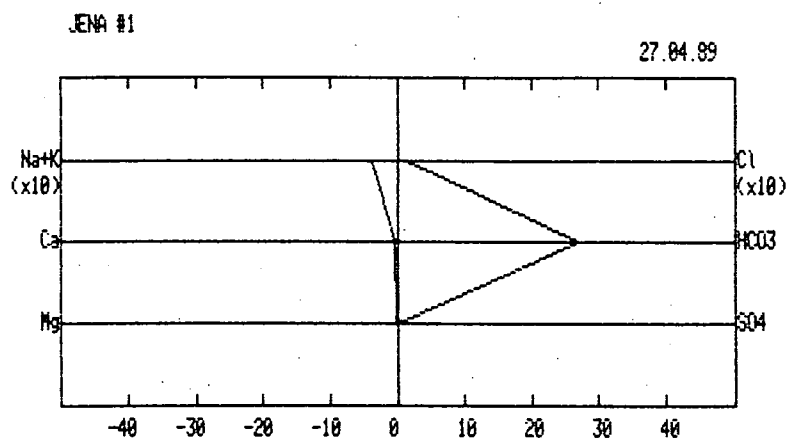
SANTOS Ltd.

MOOMBA LABORATORY - WATER ANALYSIS REPORT

REGISTRATION NUMBER : WB199

000084

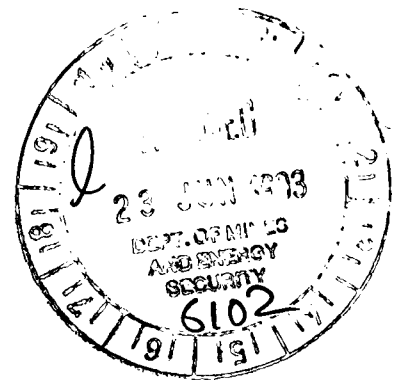
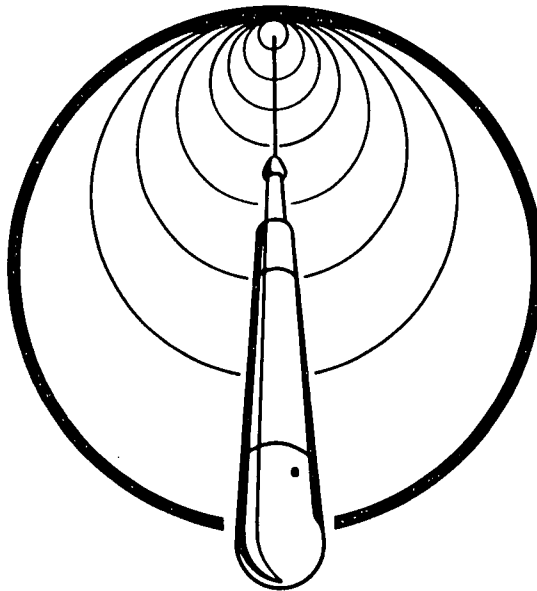
STIFF DIAGRAM



SCANNED

COPY

EXPERTEST

ELECTRIC WIRELINE
SERVICE

Electronic BHP/BHT Survey

Customer: .. SANTOS LTD ..
 Location: .. JENA #1 ..
 Formation: .. MURTA ..
 Date: 26/03/93



SEQUENCE OF EVENTS

CUSTOMER : SANTOS LTD

PERFORATIONS: 3870-3902

PAGE: 1 OF 1

WELL NAME: JENA #1

FORMATION : MURTA

DATE: 26/03/93

TEST TYPE : BOTTOM HOLE PRESSURE

OPR : R. SARGEANT

[illegible]

EXPERTEST PTY. LTD.



BHP/BHT GAUGE RUN DATA

CUSTOMER : SANTOS LTD

PERFORATIONS: 3870 - 3902

PAGE: 1 OF 1

WELL NAME: JENA #1

FORMATION : MURTA

DATE: 26/03/93

TEST TYPE : BOTTOM HOLE PRESSURE

OPR : R SARGEANT

GAUGE DATA

UPPER
PRESSURE
GAUGELOWER
PRESSURE
GAUGETEMPERATURE
GAUGE

RUN DATA

TIME
(HOURS)TUBING
PRESSURE
(PSI/KPa)ANNULUS
PRESSURE
(PSI/KPa)

ELEMENT SERIAL NO.

56431

488

N/A

DATE

ELEMENT RANGE

PSI

3K

5K

PRESSURE LUBRICATOR

N/A

0

N/A

RECORDING SECTION SERIAL NO.

14929

N/A

RUN IN HOLE

11:12

0

"

DATE OF CALIBRATION:

07/02/93

16/01/93

ON DEPTH AT

3936

FT/M

11:23

0

"

CLOCK/BATTERY SERIAL NO.

A150131

24

DATE

CLOCK/BATTERY RANGE

3HR

N/A

PULL OUT OF HOLE

11:33

0

"

LEAD SCREW/BATTERY TYPE

15TLS

LITHIUM

AT SURFACE

11:43

0

"

DEPRESSURE LUBRICATOR

ENGAGE STYLUS/BATTERY

DATE

TIME

10:55

10:58

MAXIMUM BHT AT 3936 FT/M =188.5 °F/C

DISENGAGE STYLUS/BATTERY

DATE

TIME

11:56

11:54

N.B. ALL DEPTHS ARE MEASURED FROM K.B.

DATE

TIME

REMARKS

26/03/93

BHP SURVEY DONE ON WORK OVER RIG

CUSTOMER: SANTOS

PERFORATIONS: MURTA

PAGE: 1 OF 1

WELL NAME: JENA #1

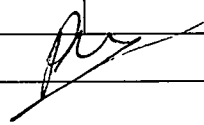
FORMATIONS: 3870 - 3902

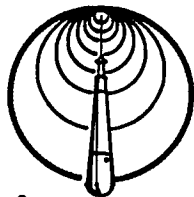
DATE: 26.3.93

TEST TYPE: BOTTOM HOLE PRESSURE

GAUGE SERIAL No.: #488

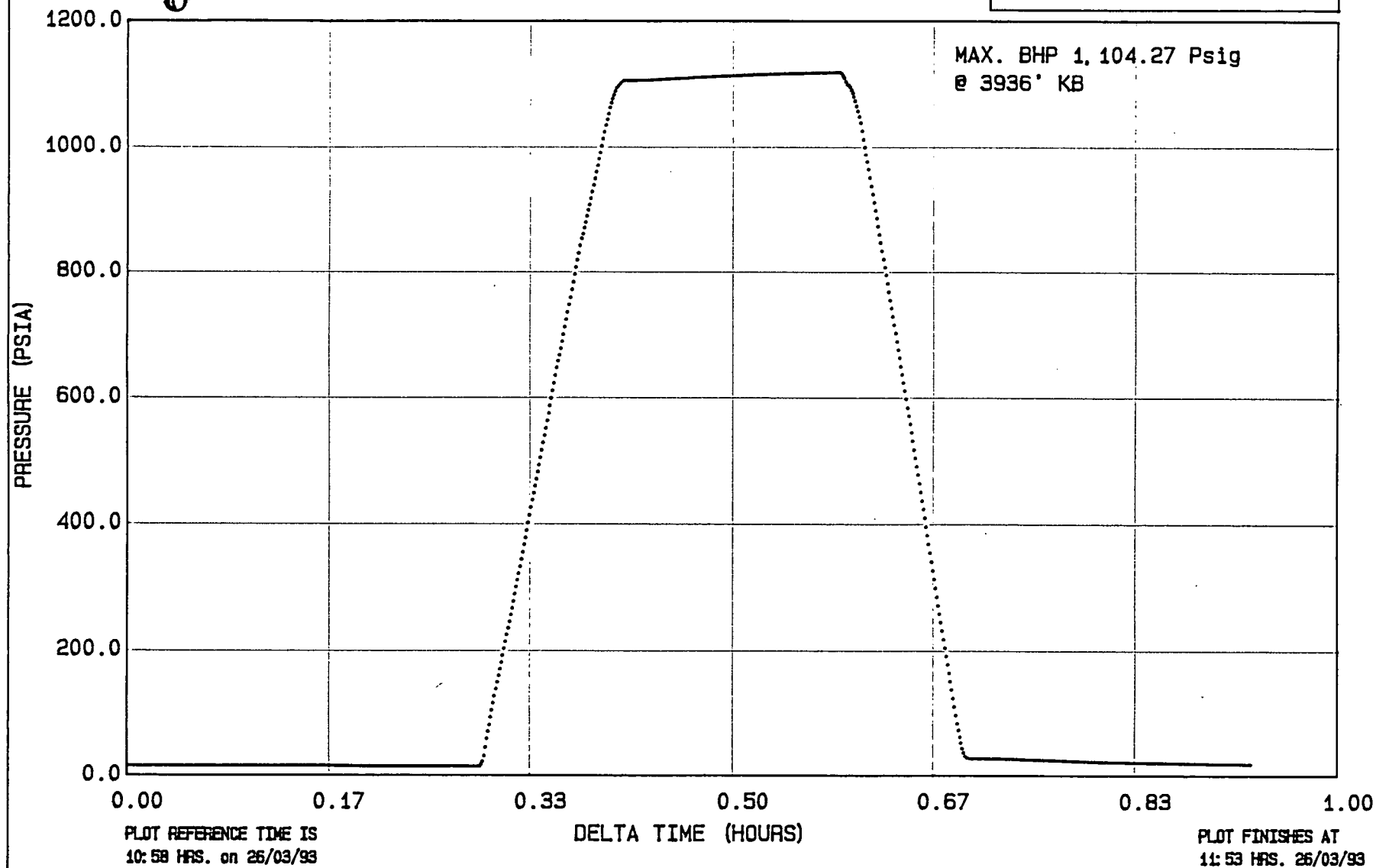
OPR: R. SMILEANT

INSTRUMENT DEPARTMENT REPORT	DATE	LAB. COND.	GAUGE RESPONSE	GAUGE FREQUENCY	FIELD OPERATOR REPORT	TIME (HOURS)	PRESSURE WELL SITE	PRESSURE GAUGE
PRE-JOB LAB. CHECK / PERFORMED BY	25/3/93	Sony Shearing.			DATE : 26.3.93			
PRESS PSI / G		4409	4406	N/A	ATMOSPHERIC CHECK			
TEMP °F / °C		240	243.2	N/A	PRESSURE LUBRICATOR		Ø	
PRE-JOB CAL. CHECK / PERFORMED BY	26/3/93	Sony Shearing.			DATE : 26.3.93			
PRESS PSI / G		Ø	-0.45	N/A	MAX. RECORDED BHP	11:33	Ø	1104.27
TEMP °F / °C		75	77.72	N/A	MAX. RECORDED BHT	11:36	N/A	188.51
POST-JOB LAB. CHECK / PERFORMED BY	26/3/93	Sony Shearing			DATE : 26.3.93			
PRESS PSI / G		Ø	-0.2	N/A	DEPRESSURE LUBRICATOR		Ø	
TEMP °F / °C		75	75.41	N/A	ATMOSPHERIC CHECK			
POST-JOB REDRESS CAL. CHECK / PERFORMED BY	27/3/93	Sony Shearing			FIELD OPERATOR'S SIGNATURE			
PRESS PSI / G		4409	4407	N/A	COMMENTS:			
TEMP °F / °C		223	225	N/A				
CALIBRATION DATE	16/01/93							
BATTERY SERIAL No.:	# 24							
PRE-JOB VOLTS: LOADED	26/3/93	11.04						
POST-JOB VOLTS: LOADED	26/3/93	11.31						
(PRE-JOB) TOTAL HOURS: 4					This sheet is submitted as "Original" and is not typed.			
					Field staff please note units of measure.			



EXPERTEST PTY. LTD.
ELECTRIC WIRELINE SERVICE
LINEAR PLOT

SANTOS
WELL: JENA1
ZONE: MURTA
BH PRESSURE



000089