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NUMBER 6276

PPL 12

EROMANGA BASIN AND COOPER BASIN

DULLINGARI 39

TEST REPORTS

Submitted by

Delhi Petroleum Pty Ltd
1987

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MINES and ENERGY
RESOURCES SOUTH
AUSTRALIA



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Mines and Energy Resources South Australia, PO Box 151, Eastwood, SA 5063

Enquiries: Customer Services

Mines and Energy Resources South Australia
191 Greenhill Road, Parkside 5063

Library

Telephone: (08) 8274 7522

General Enquiries

Telephone: (08) 8274 7500

Facsimile: (08) 8272 7597

TENEMENT: PPL 12; Eromanga and Cooper Basins

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

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Hay, N., 1987. Operator's summary and field maintenance contractor's results of the pre-frac single rate gas production test, plus 86 hour reservoir pressure buildup and static wellbore pressure gradient surveys, of the Patchawarra Formation gas reservoir perforated producing interval 8109-8212 feet depth KB, conducted over the period 12-18/2/87 (Expertest Pty Ltd).		6276 R 10 Pgs 74-87
Mayer, S., Hirst, T., Lowrey, B. and McCartan, K., 1987. Field testing contractor's results of the clean up flow test and modified plus extended gas production tests, plus 233.5 hour reservoir pressure buildup and static wellbore pressure gradient surveys, of the above Patchawarra producing zone, conducted over the period 20/5-7/6/87 (Oilserv Australia Ltd).		6276 R 11 Pgs 88-194

REPORT:	Burdon, A.G., 1989. Operator's reservoir engineering interpretation of the results of the May 1987 post-frac modified isochronal gas production test, plus associated pressure surveys and reservoir fluid wellhead separator sampling runs, of the Patchawarra producing zone (Santos Ltd Petroleum Development Department report no. RE:050/89, October 1989).	MESA NO. 6276 R 12 Pgs 195-202
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000003



TICKET NO. 25056300
28-JAN-86
MOOMBA

DULLINARI		39	1	DELHI/SRINOS	
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 OR	

FORMATION TESTING SERVICE REPORT

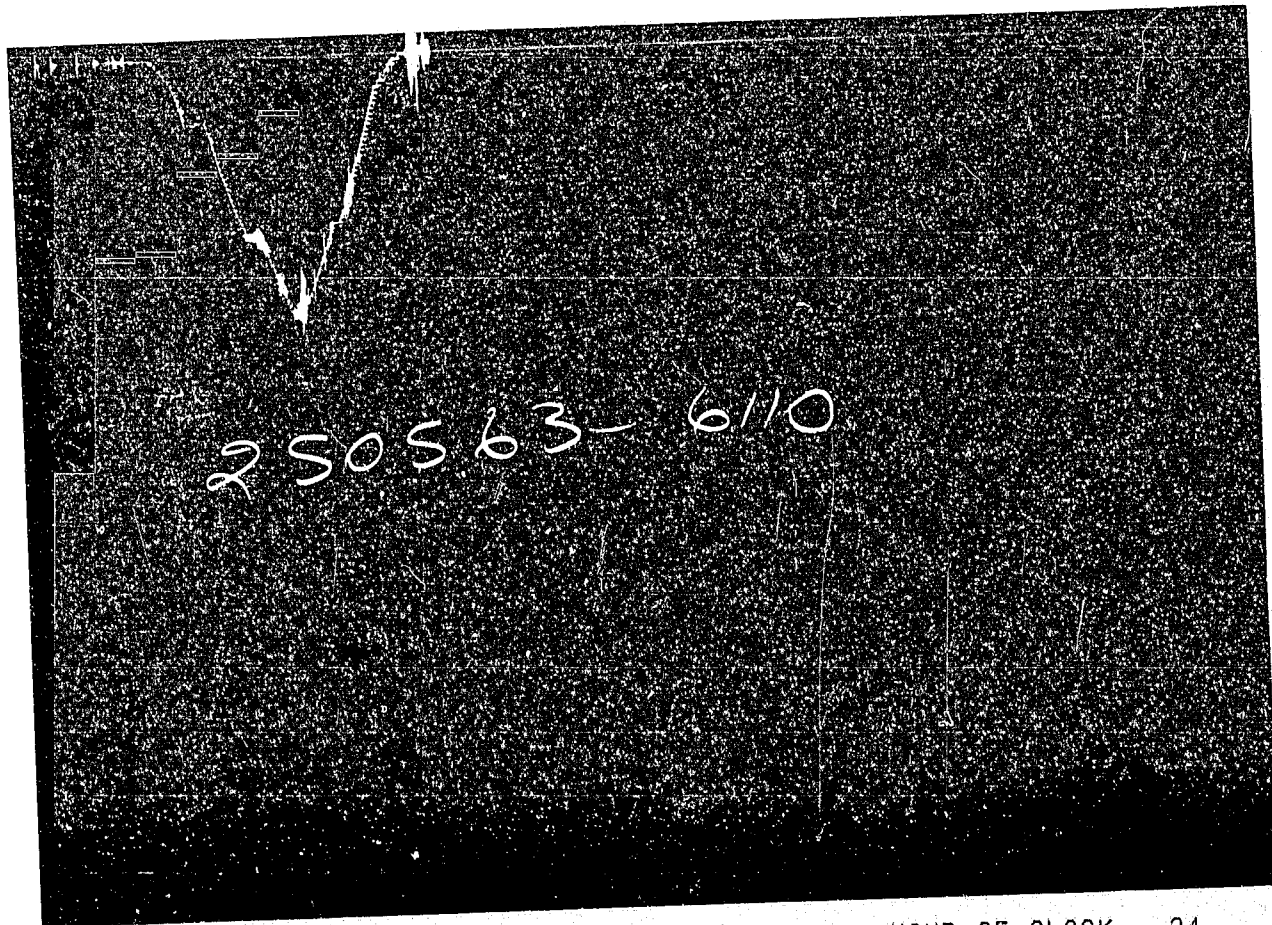
000004



GAUGE NO: 5689 DEPTH: BLANKED OFF: NO HOUR OF CLOCK: 24

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

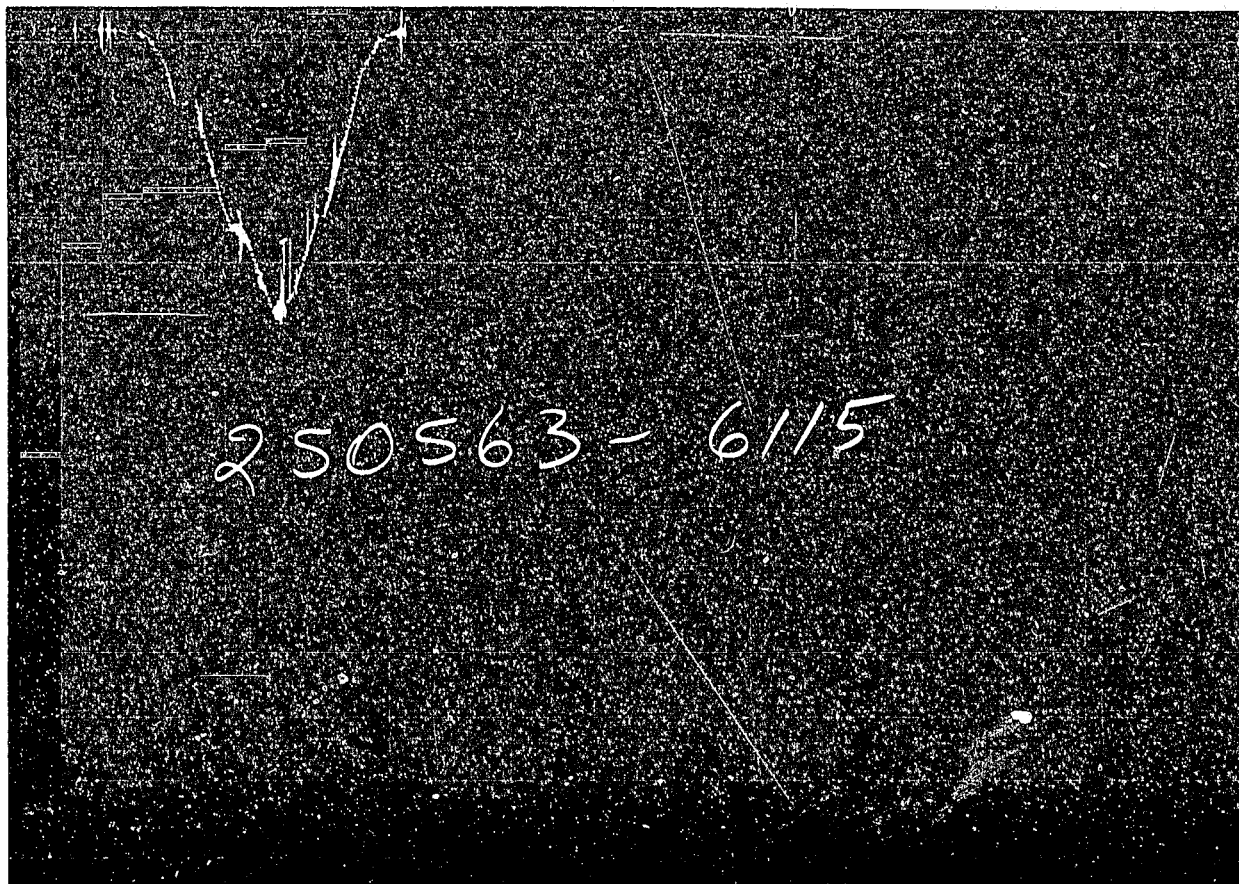
000005



GAUGE NO: 6110 DEPTH: _____ BLANKED OFF: NO HOUR OF CLOCK: 24

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

000006



GAUGE NO: 6115 DEPTH: BLANKED OFF: YES HOUR OF CLOCK: 24

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

000007 167

EQUIPMENT & HOLE DATA			TICKET NUMBER: 25056300		
FORMATION TESTED: <u>MURTA</u>			DATE: <u>11-7-85</u> TEST NO: <u>1</u>		
NET PAY (ft): _____			TYPE DST: <u>OPEN HOLE</u>		
GROSS TESTED FOOTAGE: _____			HALLIBURTON CAMP: _____		
ALL DEPTHS MEASURED FROM: <u>KELLY BUSHING</u>			MOOMBA		
CASING PERFS. (ft): _____			TESTER: <u>D. BURT</u>		
HOLE OR CASING SIZE (in): <u>8.500</u>			WITNESS: <u>WM. BAYLEY</u>		
ELEVATION (ft): <u>300.0</u>			DRILLING CONTRACTOR: _____		
TOTAL DEPTH (ft): <u>4990.0</u>			<u>S & T #14</u>		
PACKER DEPTH(S) (ft): _____					
FINAL SURFACE CHOKE (in): _____					
BOTTOM HOLE CHOKE (in): <u>0.750</u>					
MUD WEIGHT (lb/gal): <u>9.40</u>					
MUD VISCOSITY (sec): <u>41</u>					
ESTIMATED HOLE TEMP. (°F): _____					
ACTUAL HOLE TEMP. (°F): <u>190</u> @ _____ ft					
FLUID PROPERTIES FOR RECOVERED MUD & WATER			SAMPLER DATA		
SOURCE	RESISTIVITY	CHLORIDES	Pstg 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			
_____	_____ °F	_____ ppm			
HYDROCARBON PROPERTIES			CUSHION DATA		
OIL GRAVITY (°API): _____ °F			TYPE AMOUNT WEIGHT		
GAS/OIL RATIO (cu.ft. per bbl): _____			_____		
GAS GRAVITY: _____			_____		
RECOVERED:			MEASURED FROM TESTER VALVE		
REMARKS:					
MISRUN-COULD NOT GET TO BOTTOM					
LEGAL LOCATION: LAT. 28 DEG. 05' 58.4" SOUTH, LONG. 140 DEG. 54' 05.3" EAST					

000008

[illegible]

000009 667

TICKET NO. 25056300

		O.D.	I.D.	LENGTH	DEPTH
1		DRILL PIPE.....	4.500	3.826	
4		FLEX WEIGHT.....	4.500	3.063	
3		DRILL COLLARS.....	6.250	3.063	305.9
51		PUMP OUT REVERSING SUB.....	6.250	3.000	1.0
3		DRILL COLLARS.....	6.250	3.063	60.7
50		IMPACT REVERSING SUB.....	6.250	3.000	1.0
3		DRILL COLLARS.....	6.250	3.063	31.3
97		BAR CATCHER SUB.....	5.750	2.250	1.0
80		AP RUNNING CASE.....	5.000	2.250	4.1
5		CROSSOVER.....	5.000	2.250	1.0
12		DUAL CIP VALVE.....	5.000	0.870	4.9
98		SAMPLE 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.....	5.000	1.530	5.8
18		DISTRIBUTOR VALVE.....	5.000	1.680	2.0
70		OPEN HOLE PACKER.....	5.000	1.530	5.8
19		ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.3
20		FLUSH JOINT ANCHOR.....	5.000	2.370	8.0
81		BLANKED-OFF RUNNING CASE.....	5.000		4.1
TOTAL DEPTH					4990.0
EQUIPMENT DATA					

000010 508



TICKET NO. 25094000
29-JAN-86
ADELAIDE

FORMATION TESTING SERVICE REPORT

DULLINGRI		39	2	4971.8 - 4990.0	DELHIL/SANTOS
LEASE NAME		WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME
LEGAL LOCATION	SEE REMARKS	FIELD AREA	COOPER BASIN	COUNTY SOUTH AUSTRALIA	STATE AUSTRALIA DR-JH
SEC. - TYP. - ENG.					

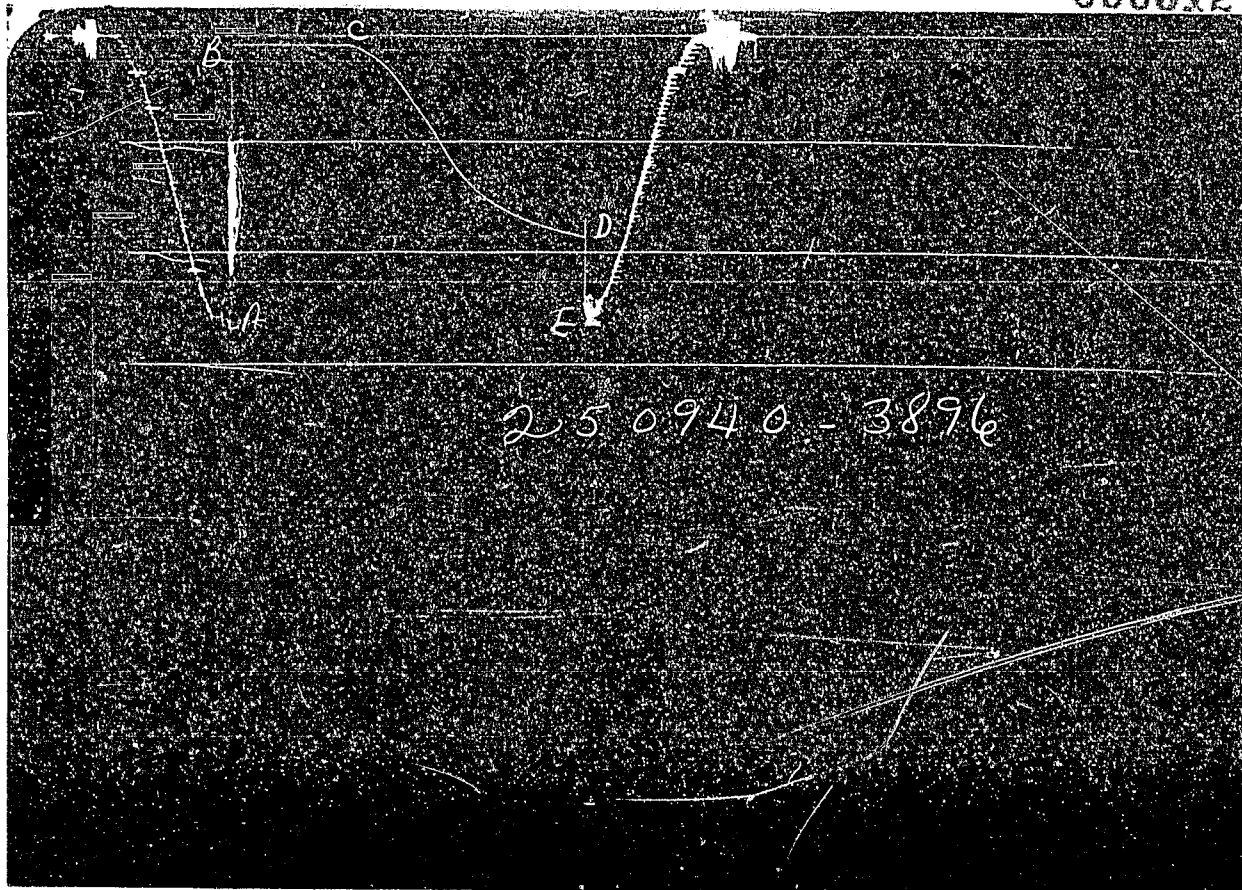
000011

250940-5689

GAUGE NO: 5689 DEPTH: 4928.9 BLANKED OFF: NO HOUR OF CLOCK: 24

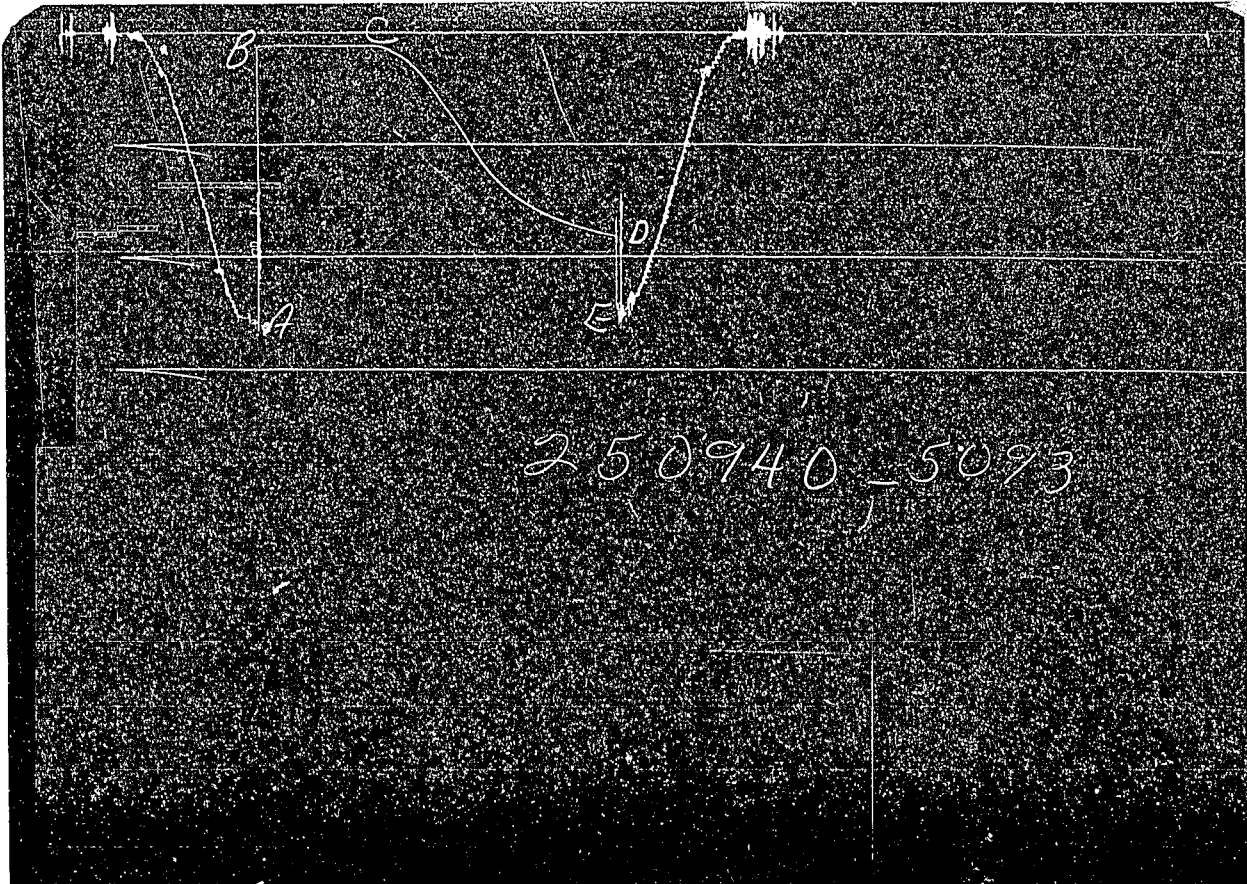
ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW		69.5	150.0	151.9	F
C	FINAL FIRST FLOW		80.0			
C	INITIAL FIRST CLOSED-IN		80.0	300.0	298.1	C
D	FINAL FIRST CLOSED-IN	84	82.3			
E	FINAL HYDROSTATIC					

000012

GAUGE NO: 3896 DEPTH: 4949.2 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2555	2581.0			
B	INITIAL FIRST FLOW	97	110.4			
C	FINAL FIRST FLOW	93	100.2	150.0	151.9	F
C	INITIAL FIRST CLOSED-IN	93	100.2			
D	FINAL FIRST CLOSED-IN	1832	1863.2	300.0	298.1	C
E	FINAL HYDROSTATIC	2533	2549.2			

000013

GAUGE NO: 5093 DEPTH: 4987.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2566	2543.8			
B	INITIAL FIRST FLOW	126	135.6	150.0	151.9	F
C	FINAL FIRST FLOW	122	120.6			
C	INITIAL FIRST CLOSED-IN	122	120.6	300.0	298.1	C
D	FINAL FIRST CLOSED-IN	1813	1818.5			
E	FINAL HYDROSTATIC	2536	2510.9			

608
000014

EQUIPMENT & HOLE DATA			TICKET NUMBER: 25094000		
FORMATION TESTED: <u>MURTA</u>			DATE: <u>11-8-85</u> TEST NO: <u>2</u>		
NET PAY (ft): _____			TYPE DST: <u>OPEN HOLE</u>		
GROSS TESTED FOOTAGE: <u>18.2</u>			HALLIBURTON CAMP: _____		
ALL DEPTHS MEASURED FROM: <u>K.B.</u>			ADELAIDE		
CASING PERFS. (ft): _____			TESTER: <u>R.W. BLANTON</u>		
HOLE OR CASING SIZE (in): <u>8.500</u>			WITNESS: <u>WILLIAM BAYLEY</u>		
ELEVATION (ft): <u>300.0</u>			DRILLING CONTRACTOR: _____		
TOTAL DEPTH (ft): <u>4990.0</u>			S & T DRILLING RIG #14		
PACKER DEPTH(S) (ft): <u>4964. 4972</u>					
FINAL SURFACE CHOKE (in): _____					
BOTTOM HOLE CHOKE (in): <u>0.750</u>					
MUD WEIGHT (lb/gal): <u>9.60</u>					
MUD VISCOSITY (sec): <u>48</u>					
ESTIMATED HOLE TEMP. (°F): _____					
ACTUAL HOLE TEMP. (°F): <u>202 @ 4987.0</u> ft					
FLUID PROPERTIES FOR RECOVERED MUD & WATER			SAMPLER DATA		
SOURCE	RESISTIVITY	CHLORIDES	Pstg 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): _____			_____		
GAS GRAVITY: _____			_____		
RECOVERED: _____					
150 FEET OF MUD					
MEASURED FROM TESTER VALVE					
REMARKS:					
LEGAL LOCATION: LAT. 28 DEG. 5' 58.4" S. & LONG. 140 DEG. 54' 5.3" E.					
UNABLE TO EXPLAIN THE DIFFERENCE IN READINGS BETWEEN MIDDLE AND BOTTOM GAUGE					

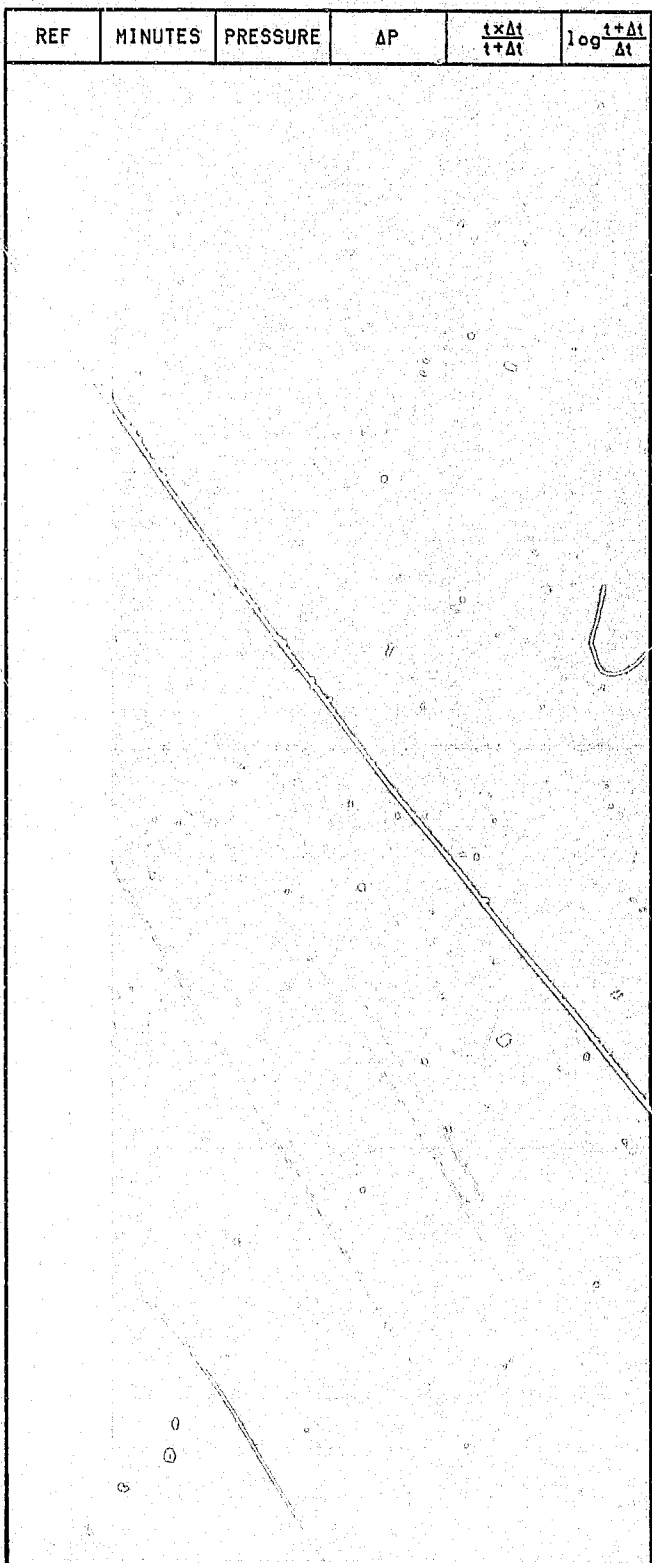
118
000016

TICKET NO: 25094000
CLOCK NO: 30169 HOUR: 24



GAUGE NO: 3896
DEPTH: 4949.2

REF	MINUTES	PRESSURE	ΔP	$\frac{1 \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	110.4			
C 2	151.9	100.2	-10.1		
FIRST CLOSED-IN					
C 1	0.0	100.2			
2	20.0	163.3	63.1	17.6	0.935
3	40.0	263.7	163.5	31.7	0.681
4	60.0	416.2	318.0	43.0	0.548
5	80.0	627.3	527.0	52.4	0.462
6	100.0	824.5	724.3	60.3	0.401
7	120.0	1066.7	966.4	67.1	0.355
8	140.0	1286.0	1185.7	72.9	0.319
9	160.0	1436.4	1336.2	77.9	0.290
10	180.0	1547.4	1447.1	82.4	0.266
11	200.0	1629.2	1528.9	86.3	0.245
12	220.0	1694.1	1593.9	89.9	0.228
13	240.0	1746.7	1646.5	93.0	0.213
14	260.0	1794.1	1693.9	95.9	0.200
15	280.0	1832.2	1732.0	98.5	0.188
D 16	298.1	1863.2	1762.9	100.6	0.178



REMARKS:

TICKET NO: 25094000
CLOCK NO: 30363 HOUR: 24



GAUGE NO: 5093
DEPTH: 4987.0

000017²¹⁸

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

B	1	0.0	135.6		
C	2	151.9	120.6	-15.0	

FIRST CLOSED-IN

C	1	0.0	120.6		
	2	20.0	180.7	60.1	17.7 0.934
	3	40.0	277.7	157.0	31.7 0.681
	4	60.0	424.9	304.3	43.0 0.548
	5	80.0	620.8	500.2	52.4 0.462
	6	100.0	818.2	697.6	60.3 0.401
	7	120.0	1055.4	934.8	67.0 0.355
	8	140.0	1258.8	1138.2	72.9 0.319
	9	160.0	1403.2	1282.6	77.9 0.290
	10	180.0	1516.1	1395.5	82.4 0.266
	11	200.0	1596.8	1476.2	86.3 0.245
	12	220.0	1661.2	1540.6	89.9 0.228
	13	240.0	1712.0	1591.4	93.0 0.213
	14	260.0	1755.4	1634.8	95.9 0.200
	15	280.0	1793.1	1672.5	98.5 0.188
D	16	298.1	1818.5	1697.8	100.6 0.179

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

000018ET8

TICKET NO. 25094000

		O.D.	I.D.	LENGTH	DEPTH
1		DRILL PIPE.....	4.500	3.826	4348.7
4		FLEX WEIGHT.....	4.500	2.875	178.2
3		DRILL COLLARS.....	6.250	2.875	305.9
51		PUMP OUT REVERSING SUB.....	6.000	3.000	1.0 4833.3
3		DRILL COLLARS.....	6.250	2.875	60.7
50		IMPACT REVERSING SUB.....	6.000	3.000	1.0 4895.0
3		DRILL COLLARS.....	6.250	2.875	31.3
97		BAR CATCHER SUB.....	5.750	2.250	1.0 4927.0
80		AP RUNNING CASE.....	5.000	2.250	4.1 4928.9
5		CROSSOVER.....	5.000	2.200	1.0
12		DUAL CIP VALVE.....	5.000	0.870	4.9
98		SAMPLE CHAMBER.....	5.000	3.060	4.1 4939.0
33		DRAIN VALVE.....	5.000	2.500	0.9
60		HYDROSPRING TESTER.....	5.000	0.750	5.3 4947.1
80		AP RUNNING CASE.....	5.000	2.250	4.1 4949.2
15		JAR.....	5.000	1.750	5.0
16		VR SAFETY JOINT.....	5.000	1.000	2.8
70		OPEN HOLE PACKER.....	5.000	1.530	5.8 4964.0
18		DISTRIBUTOR VALVE.....	5.000	1.680	2.0
70		OPEN HOLE PACKER.....	5.000	1.530	5.8 4971.8
19		ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.3
20		FLUSH JOINT ANCHOR.....	5.000	2.370	8.0
81		BLANKED-OFF RUNNING CASE.....	5.000		4.1 4967.0
TOTAL DEPTH					4990.0

EQUIPMENT DATA

000019 67

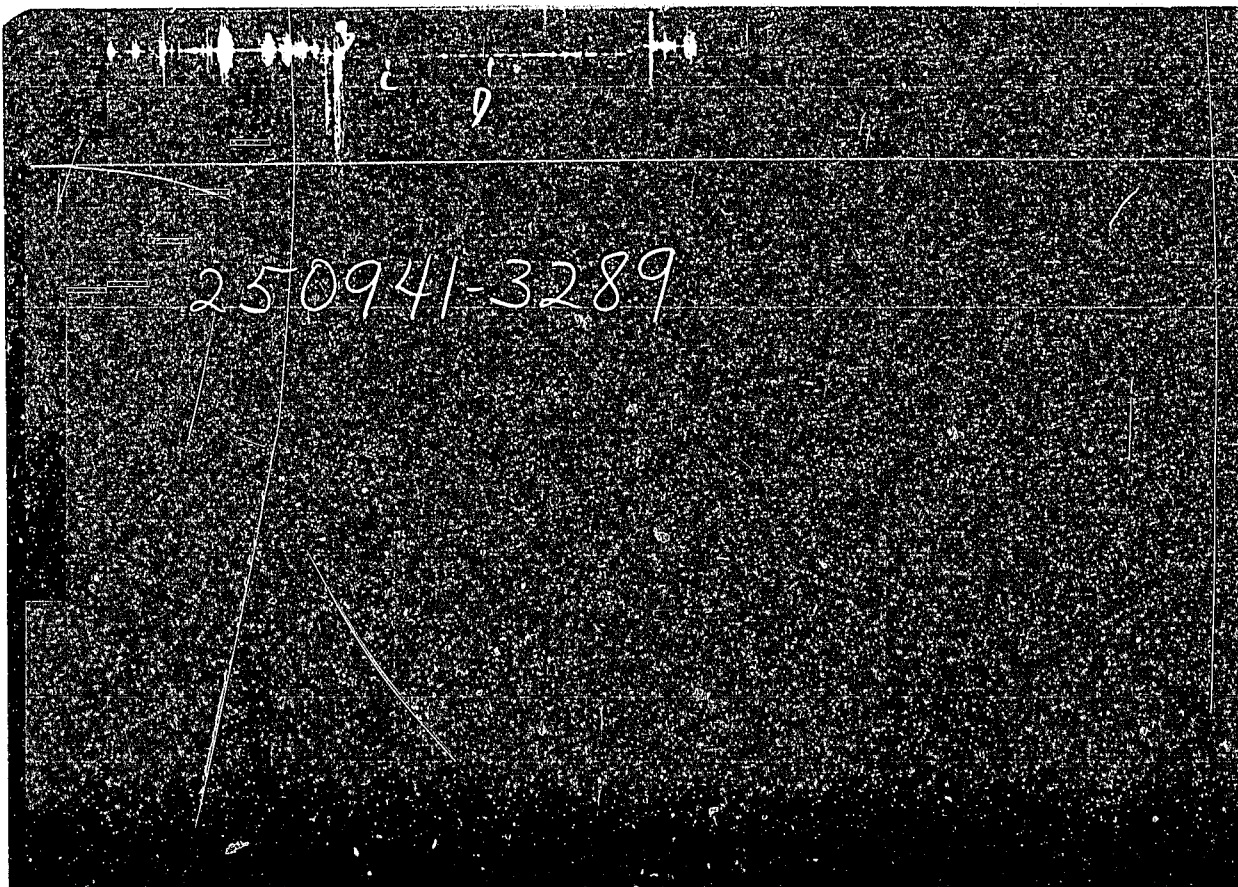


TICKET NO. 25094100
28-JAN-86
MOOMBA

DULLINGARI		39	3	7259.2 - 7332.0	DELHI/SANTOS	
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME		
LEGAL LOCATION SEC. - TWP. - ANG.	SEE REMARKS	FIELD AREA	COOPER BASIN	COUNTY	SOUTH AUSTRALIA	STATE AUSTRALIA
						86

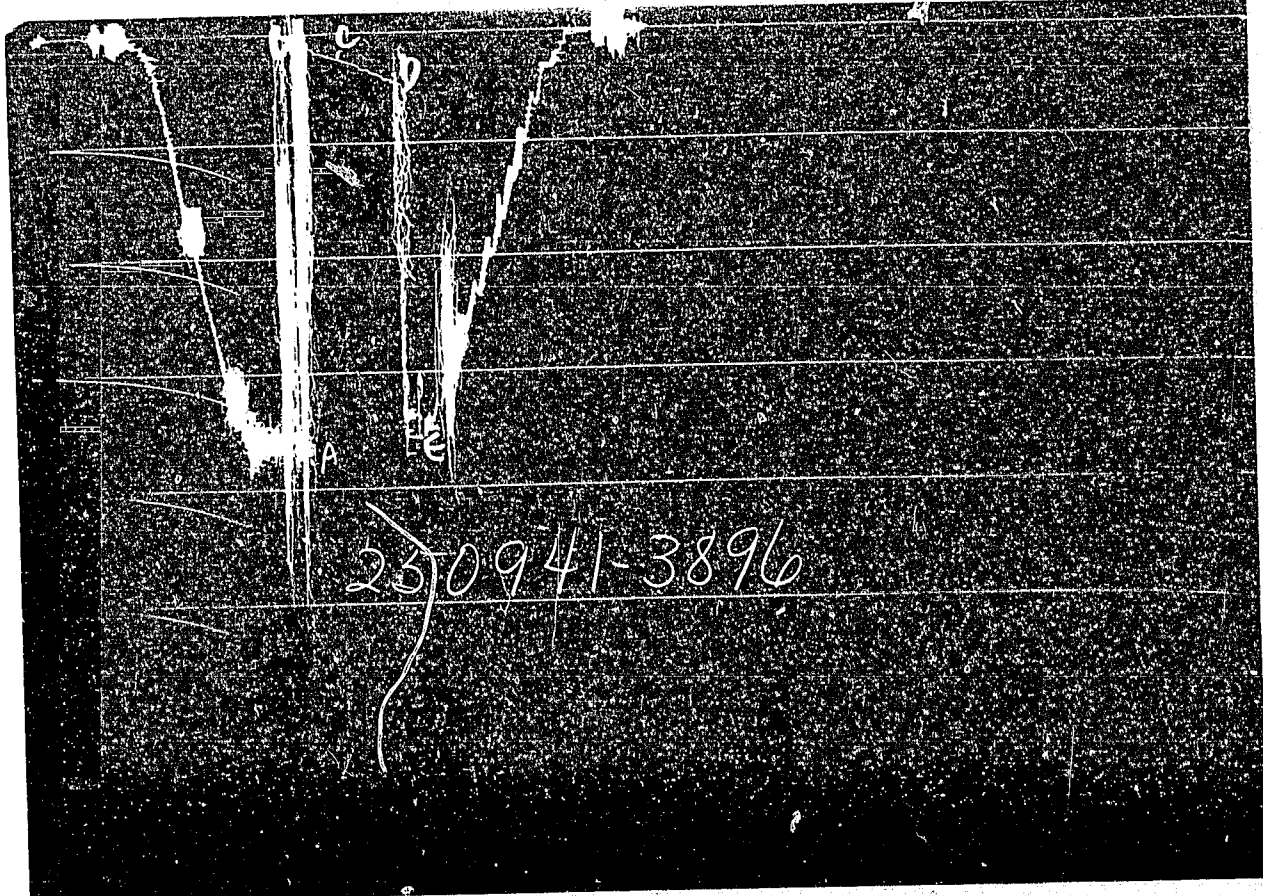
FORMATION TESTING SERVICE REPORT

000020


 GAUGE NO: 3289 DEPTH: 7216.3 BLANKED OFF: NO HOUR OF CLOCK: 24

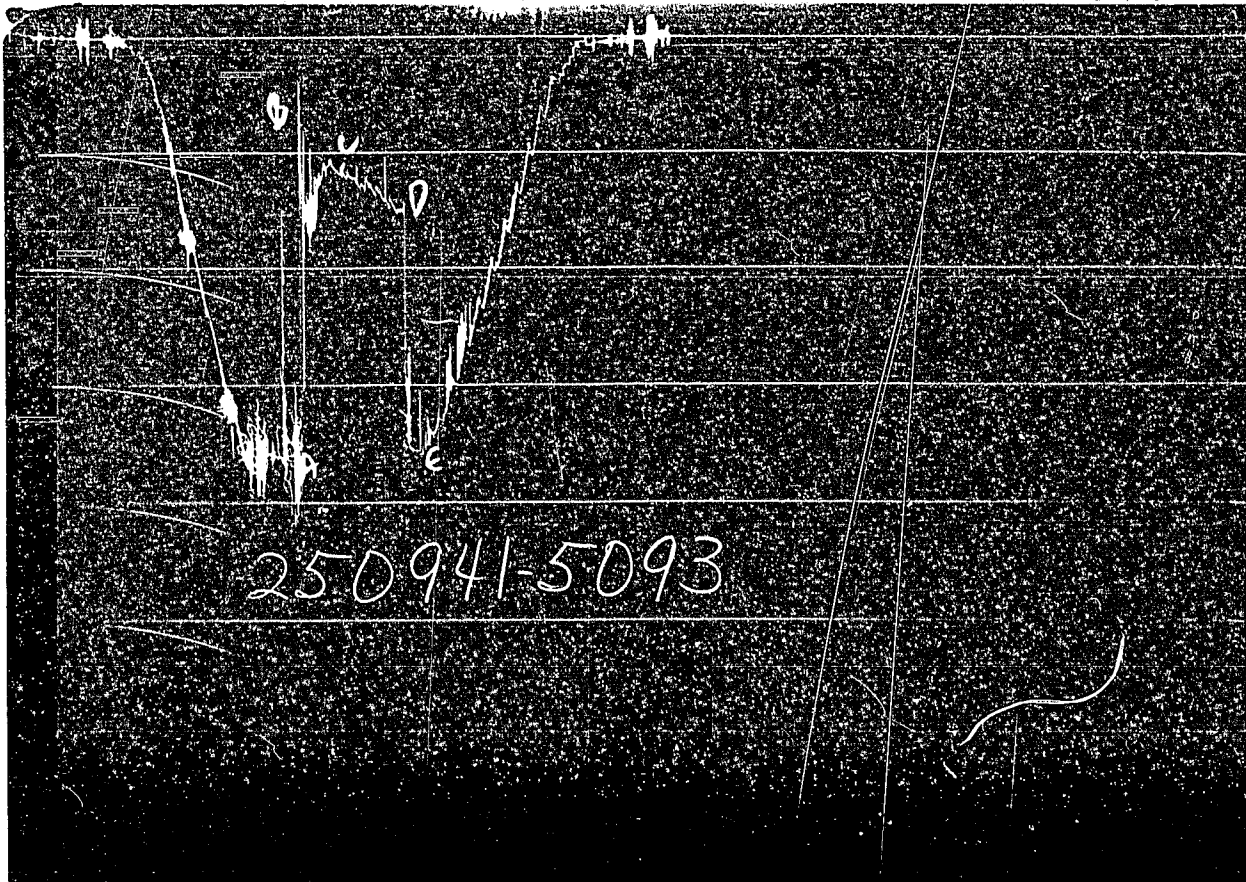
ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW		70.5			
C	FINAL FIRST FLOW	88	70.5	40.0	40.0	F
C	INITIAL FIRST CLOSED-IN	88	70.5			
D	FINAL FIRST CLOSED-IN		68.7	80.0	80.0	C
E	FINAL HYDROSTATIC					

000021

GAUGE NO: 3896 DEPTH: 7236.8 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	3560	3586.5			
B	INITIAL FIRST FLOW	89	41.0	40.0	40.0	F
C	FINAL FIRST FLOW	487	221.6			
C	INITIAL FIRST CLOSED-IN	487	221.6	80.0	80.0	C
D	FINAL FIRST CLOSED-IN		469.6			
E	FINAL HYDROSTATIC	3517	3566.4			

000022 000

GAUGE NO: 5093 DEPTH: 7329.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	3597	3596.0			
B	INITIAL FIRST FLOW	1255	385.5			
C	FINAL FIRST FLOW	1556	1154.1	40.0	40.0	F
C	INITIAL FIRST CLOSED-IN	1556	1154.1			
D	FINAL FIRST CLOSED-IN		1459.0	80.0	80.0	C
E	FINAL HYDROSTATIC	3559	3554.2			

TOS
000023

EQUIPMENT & HOLE DATA		
FORMATION TESTED: <u>TOOLACHEE</u>		
NET PAY (ft): _____		
GROSS TESTED FOOTAGE: <u>72.8</u>		
ALL DEPTHS MEASURED FROM: <u>KB</u>		
CASING PERFS. (ft): _____		
HOLE OR CASING SIZE (in): <u>8.500</u>		
ELEVATION (ft): <u>300.0</u>		
TOTAL DEPTH (ft): <u>7332.0</u> SEE REMARKS		
PACKER DEPTH(S) (ft): <u>7251, 7259</u>		
FINAL SURFACE CHOKE (in): <u>0.50000</u>		
BOTTOM HOLE CHOKE (in): <u>0.750</u>		
MUD WEIGHT (lb/gal): <u>9.40</u>		
MUD VISCOSITY (sec): <u>38</u>		
ESTIMATED HOLE TEMP. (°F): _____		
ACTUAL HOLE TEMP. (°F): <u>248 @ 7329.0</u> ft		
TICKET NUMBER: <u>25094100</u>		
DATE: <u>11-17-85</u> TEST NO: <u>3</u>		
TYPE DST: <u>OPEN HOLE</u>		
HALLIBURTON CAMP: <u>MOOMBA</u>		
TESTER: <u>R. W. BLANTON</u>		
WITNESS: <u>W. BAYLEY</u>		
DRILLING CONTRACTOR: <u>S AND T #14</u>		
FLUID PROPERTIES FOR RECOVERED MUD & WATER		
SOURCE	RESISTIVITY	CHLORIDES
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm
HYDROCARBON PROPERTIES		
OIL GRAVITY (°API): _____ @ _____ °F		
GAS/OIL RATIO (cu.ft. per bbl): _____		
GAS GRAVITY: _____		
SAMPLER DATA		
Pstg AT SURFACE: _____		
cu.ft. OF GAS: _____		
cc OF OIL: _____		
cc OF WATER: _____		
cc OF MUD: _____		
TOTAL LIQUID cc: _____		
CUSHION DATA		
TYPE	AMOUNT	WEIGHT
_____	_____	_____
_____	_____	_____
RECOVERED:		
110' OF MUD		
REMARKS:		
LEGAL LOCATION = LAT. 28 DEG. 05' 58.4" S. & LONG. 140 DEG. 54' 05.3"E		
BOTTOM PACKER HUNG UP ON BRIDGE 128' OFF BOTTOM OF HOLE. TRUE DEPTHS ARE 55' UP.		
CHARTS INDICATE PARTIAL PLUGGING THROUGHOUT THE TEST. IT APPEARS THE TOOL POSSIBLY DID NOT CLOSE; THE CLOSED-IN PRESSURE MAY BE QUESTIONABLE.		

MEASURED FROM
TESTER VALVE

502

TICKET NO: 25094100

00002509

TICKET NO. 25094100

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	6607.8	
4		FLEX WEIGHT.....	4.500	2.875	178.2	
3		DRILL COLLARS.....	6.250	2.875	334.2	
51		PUMP OUT REVERSING SUB.....	6.000	3.000	1.0	7120.6
3		DRILL COLLARS.....	6.250	2.875	61.1	
50		IMPACT REVERSING SUB.....	6.000	3.000	1.0	7182.7
3		DRILL COLLARS.....	6.250	2.875	30.9	
97		BAR CATCHER SUB.....	5.750	2.250	1.0	7215.0
80		AP RUNNING CASE.....	5.000	2.250	4.1	7216.3
5		CROSSOVER.....	5.000	2.500	1.0	
12		DUAL CIP VALVE.....	5.000	0.870	4.9	
98		SAMPLE CHAMBER.....	5.000	3.060	4.1	
33		DRAIN VALVE.....	5.000	2.200	1.0	
60		HYDROSPRING TESTER.....	5.000	0.750	5.3	7235.6
80		AP RUNNING CASE.....	5.000	2.250	4.1	7236.8
15		PACKER.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	2.8	
70		OPEN HOLE PACKER.....	5.000	1.530	5.8	7251.4
18		DISTRIBUTOR VALVE.....	5.000	1.680	2.0	
70		OPEN HOLE PACKER.....	5.000	1.530	5.8	7259.2
19		ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.3	
5		CROSSOVER.....	5.750	2.500	1.0	
3		DRILL COLLARS.....	6.250	2.875	30.5	
5		CROSSOVER.....	5.750	2.500	1.0	
20		FLUSH JOINT ANCHOR.....	5.000	2.370	30.0	
81		BLANKED-OFF RUNNING CASE.....	5.000		4.1	7329.5
TOTAL DEPTH					7332.0	
EQUIPMENT DATA						

EQUIPMENT DATA



TICKET NO. 25094200
25-FEB-86
MOOMBA

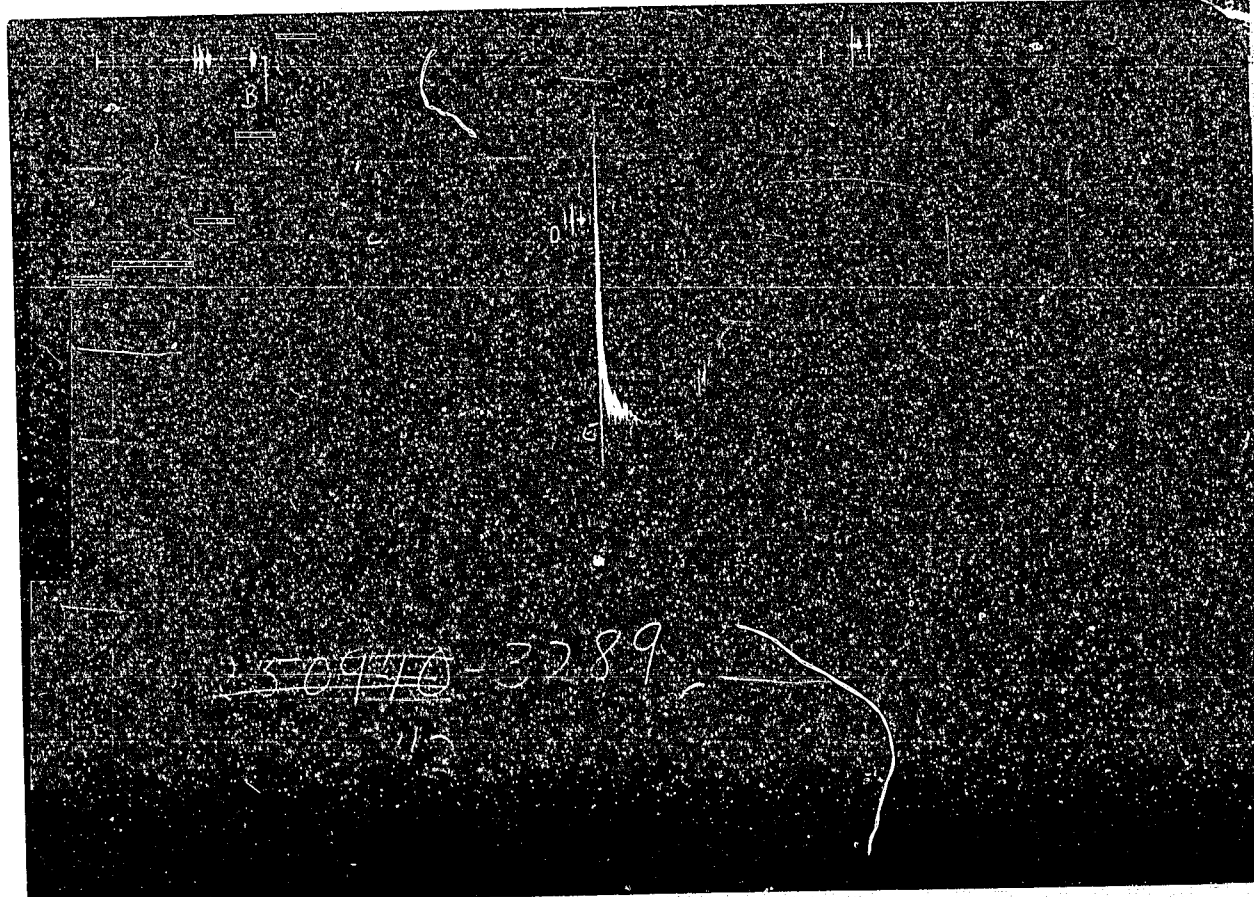
FORMATION TESTING SERVICE REPORT

471

0000026

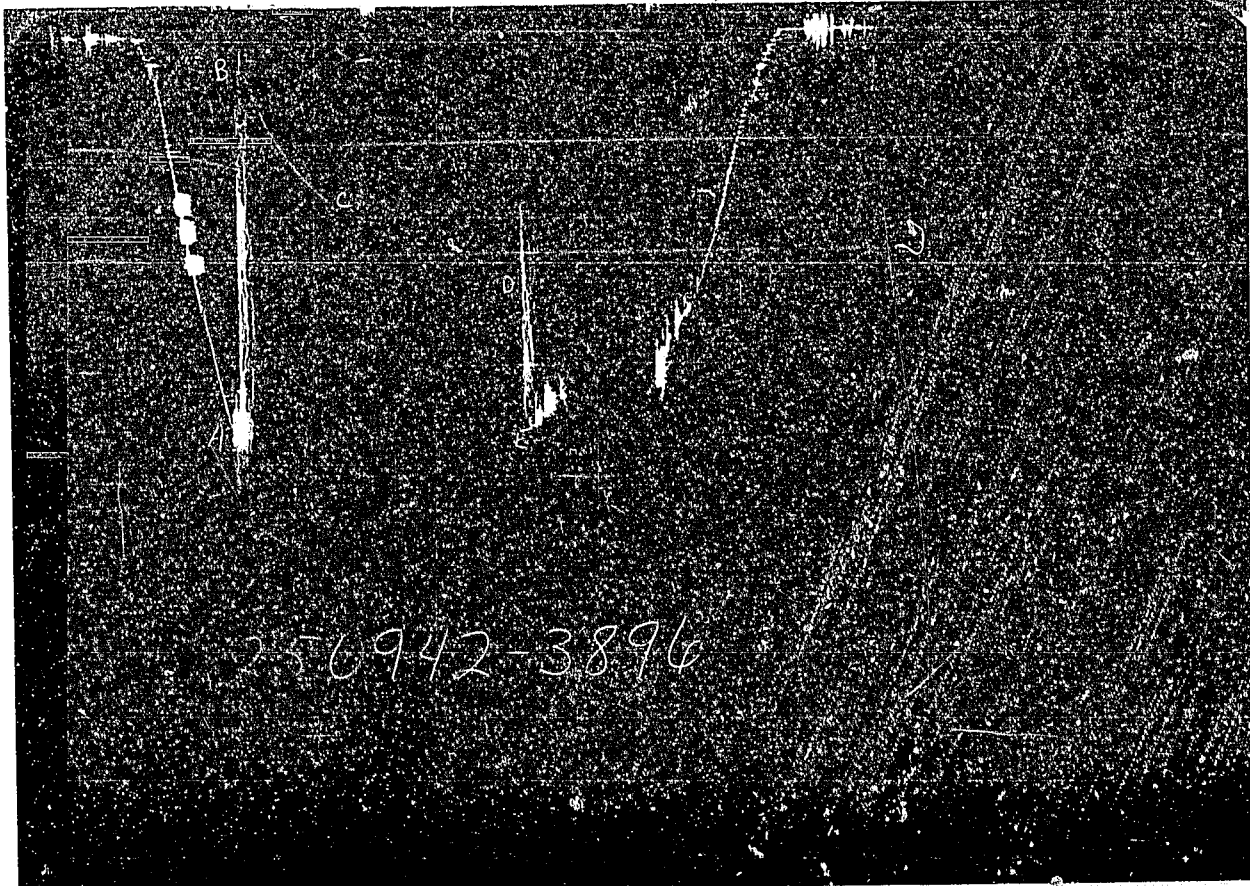
DULLINGARI		39	4	7293.0 - 7333.0	DELHI/SANTOS
LEASE NAME		WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME
LEGAL LOCATION	SEE REMARKS	FIELD	COOPER BASIN	COUNTRY SOUTH AUSTRALIA	STATE AUSTRALIA
SEC. - TYP. - RING.		AREA			86

000027

GAUGE NO: 3289 DEPTH: 7249.7 BLANKED OFF: NO HOUR OF CLOCK: 24

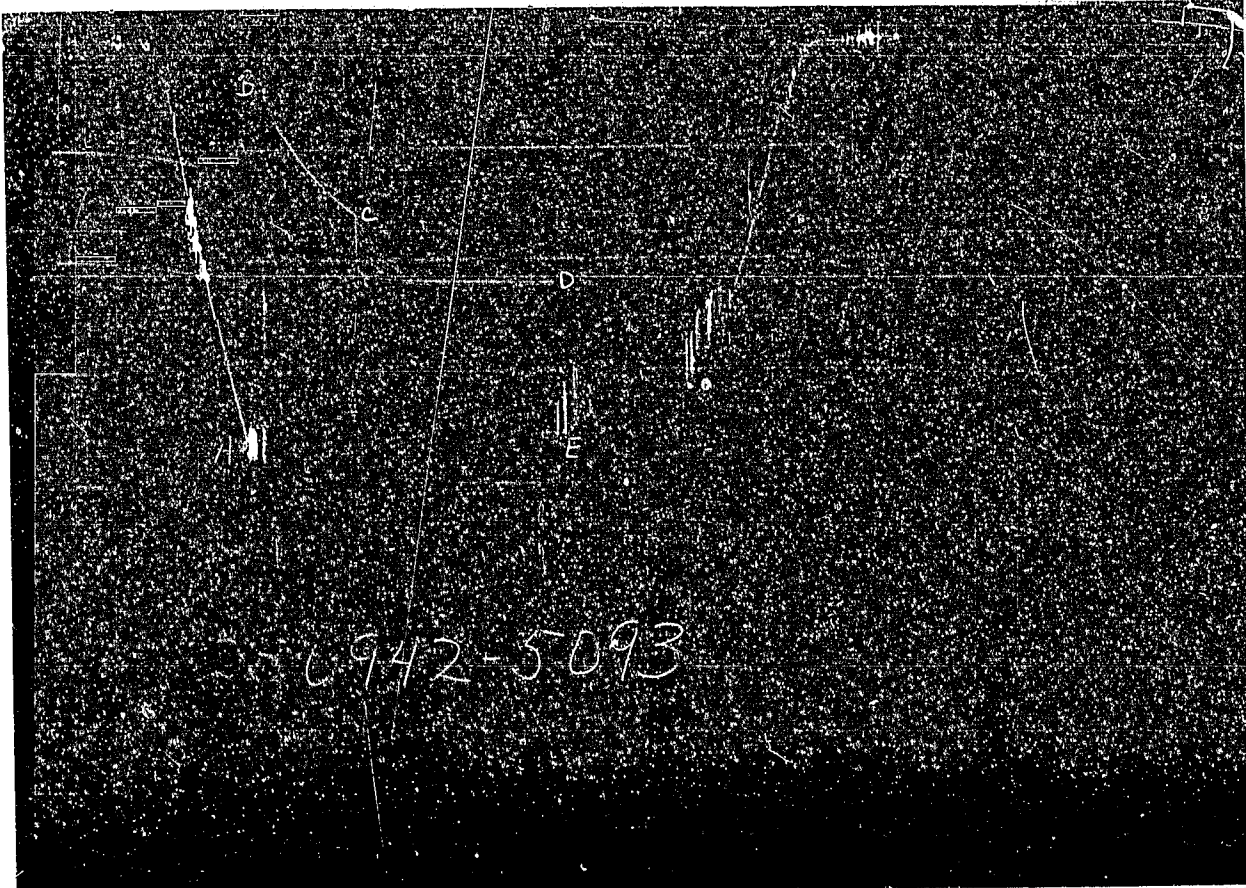
ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW		376.1			
C	FINAL FIRST FLOW		1566.1	120.0	118.9	F
C	INITIAL FIRST CLOSED-IN		1566.1			
D	FINAL FIRST CLOSED-IN	1534	1578.1	243.0	244.1	C
E	FINAL HYDROSTATIC		3506.7			

000028

GAUGE NO: 3896 DEPTH: 7270.2 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	3568	3600.6			
B	INITIAL FIRST FLOW	205	138.9			
C	FINAL FIRST FLOW	1571	1531.6	120.0	118.9	F
C	INITIAL FIRST CLOSED-IN	1571	1531.6			
D	FINAL FIRST CLOSED-IN	2191	2154.3	243.0	244.1	C
E	FINAL HYDROSTATIC	3526	3518.0			

000029

GAUGE NO: 5093 DEPTH: 7330.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	3622	3628.7			
B	INITIAL FIRST FLOW	391	378.5			
C	FINAL FIRST FLOW	1590	1594.6	120.0	118.9	F
C	INITIAL FIRST CLOSED-IN	1590	1594.6			
D	FINAL FIRST CLOSED-IN	2203	2207.5	243.0	244.1	C
E	FINAL HYDROSTATIC	3597	3592.6			

2000

000030 6/7

EQUIPMENT & HOLE DATA			TICKET NUMBER: <u>25094200</u>	
FORMATION TESTED: <u>TOOLACHEE</u>			DATE: <u>11-19-85</u> TEST NO: <u>4</u>	
NET PAY (ft): _____			TYPE DST: <u>OPEN HOLE</u>	
GROSS TESTED FOOTAGE: <u>40.0</u>			HALLIBURTON CAMP: _____	
ALL DEPTHS MEASURED FROM: <u>KB</u>			MOOMBA	
CASING PERFS. (ft): _____			TESTER: <u>R. W. BLANTON</u>	
HOLE OR CASING SIZE (in): <u>8.500</u>			WITNESS: <u>W. BAYLEY</u>	
ELEVATION (ft): <u>300.0</u>			DRILLING CONTRACTOR: _____	
TOTAL DEPTH (ft): <u>7333.0</u>			S AND T #14	
PACKER DEPTH(S) (ft): <u>7285. 7293</u>				
FINAL SURFACE CHOKE (in): <u>0.50000</u>				
BOTTOM HOLE CHOKE (in): <u>0.750</u>				
MUD WEIGHT (lb/gal): <u>9.40</u>				
MUD VISCOSITY (sec): <u>38</u>				
ESTIMATED HOLE TEMP. (°F): <u>248</u>				
ACTUAL HOLE TEMP. (°F): <u>266 @ 7330.0</u> ft				
FLUID PROPERTIES FOR RECOVERED MUD & WATER			SAMPLER DATA	
SOURCE	RESISTIVITY	CHLORIDES	Pstg 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): _____			_____	
GAS GRAVITY: _____			_____	
RECOVERED: MEASURED FROM TESTER VALVE 1767' OF GAS CUT MUD 1437' OF WATER 1895' OF MUDDY WATER				
REMARKS: LEGAL LOCATION = LAT. 28 DEGREES 05' 58.4" SOUTH LONG. 140 DEGREES 54' 05.3" EAST GAUGE #3289 WAS STAIR-STEPPING. READINGS ARE QUESTIONABLE.				

000031977

TYPE & SIZE MEASURING DEVICE: 6" CERAMIC CHOKE					TICKET NO: 25094200
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
11-18-85					
1300					MADE UP TEST TOOLS
1400					RAN IN HOLE
1610					HEAD UP
1619					SET 30.000# ON TOOL
1622	BH				OPENED TOOL WITH A WEAK BLOW
1625					WEAK BLOW
1630					WEAK TO MODERATE BLOW
1635					MODERATE TO STRONG BLOW
1640	.5				STRONG BLOW, OPENED CHOKE.
1645					SAME
1650					SAME
1655					SAME
1658					BLOW DECREASED. MODERATE TO
					STRONG BLOW.
1700					MODERATE TO STRONG BLOW FOR
					REMAINDER OF PERIOD
1822					CLOSED TOOL
2225					PULLED FREE
2230					LAI D DOWN HEAD. PULLED 5 STANDS
					AND 20' OF PUP JOINT.
2300					HEAD UP TO REVERSE CIRCULATE
2307					DROPPED BAR
2310					SHEARED PIN. BEGAN TO REVERSE
					CIRCULATE.
11-19-85					
0025					STOPPED AND LAID DOWN HEAD
0035					RIGGED UP LINE TO PUMP PILL
0040					STARTED CIRCULATING
0050					STOPPED AND PULLED OUT OF HOLE
0420					BROKE DOWN TEST TOOLS
0515					TOOLS OUT OF HOLE.

000032

TICKET NO: 25094200

CLOCK NO: 30169 HOUR: 24



GAUGE NO: 3896

DEPTH: 7270.2

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	138.9			
2	10.0	415.1	276.1		
3	20.0	605.2	190.1		
4	30.0	760.2	155.1		
5	40.0	897.2	137.0		
6	50.0	1011.8	114.5		
7	60.0	1114.3	102.6		
8	70.0	1206.2	91.9		
9	80.0	1284.6	78.4		
10	90.0	1354.9	70.3		
11	100.0	1423.1	68.2		
12	110.0	1483.8	60.7		
C 13	118.9	1531.6	47.9		

FIRST CLOSED-IN					
C 1	0.0	1531.6			
2	2.0	2018.7	487.1	2.0	1.784
3	4.0	2049.1	517.5	3.9	1.484
4	6.0	2064.7	533.1	5.7	1.317
5	8.0	2074.9	543.3	7.5	1.200
6	10.0	2083.0	551.4	9.2	1.112
7	12.0	2088.5	556.9	10.9	1.037
8	14.0	2093.6	562.0	12.6	0.976
9	16.0	2097.7	566.0	14.1	0.926
10	18.0	2100.9	569.2	15.6	0.881
11	20.0	2103.8	572.2	17.1	0.842
12	22.0	2106.4	574.8	18.6	0.807
13	24.0	2108.7	577.1	20.0	0.775
14	26.0	2110.4	578.8	21.3	0.746
15	28.0	2112.8	581.1	22.6	0.720
16	30.0	2114.0	582.4	24.0	0.695
17	35.0	2117.7	586.0	27.0	0.643
18	40.0	2121.3	589.7	29.9	0.599
19	45.0	2124.5	592.8	32.6	0.561
20	50.0	2127.2	595.6	35.2	0.529
21	55.0	2129.8	598.2	37.6	0.500
22	60.0	2130.2	598.6	39.9	0.474
23	65.0	2132.3	600.7	42.0	0.452
24	70.0	2133.4	601.8	44.1	0.431
25	75.0	2135.1	603.5	46.0	0.412
26	80.0	2136.8	605.2	47.8	0.395
27	85.0	2137.4	605.8	49.5	0.380
28	90.0	2138.1	606.5	51.2	0.366
29	95.0	2139.1	607.5	52.8	0.353
30	100.0	2140.6	609.0	54.3	0.340
31	105.0	2141.3	609.7	55.7	0.329
32	110.0	2141.9	610.3	57.1	0.318
33	115.0	2142.6	610.9	58.5	0.308
34	120.0	2143.2	611.6	59.7	0.299
35	140.0	2145.1	613.5	64.3	0.267

FIRST CLOSED-IN - CONTINUED					
36	160.0	2147.2	615.6	68.2	0.241
37	180.0	2148.9	617.3	71.6	0.220
38	200.0	2150.0	618.4	74.5	0.203
39	220.0	2151.1	619.4	77.2	0.188
40	240.0	2152.3	620.7	79.5	0.175
D 41	244.1	2154.3	622.6	79.9	0.172

REMARKS:

000033⁸⁷

TICKET NO: 25094200
CLOCK NO: 30363 HOUR: 24



GAUGE NO: 5093
DEPTH: 7330.0

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	378.5			36	160.0	2199.6	604.9	68.2	0.241
	2	10.0	607.4	228.9		37	180.0	2202.1	607.5	71.6	0.220
	3	20.0	780.3	172.9		38	200.0	2203.8	609.2	74.6	0.208
	4	30.0	903.9	123.6		39	220.0	2204.9	610.3	77.2	0.188
	5	40.0	1020.2	116.3		40	240.0	2205.8	611.1	79.5	0.175
	6	50.0	1122.7	102.6		D 41	244.1	2207.5	612.8	79.9	0.172
	7	60.0	1210.9	88.2							
	8	70.0	1290.6	79.6							
	9	80.0	1363.3	72.7							
	10	90.0	1428.1	64.8							
	11	100.0	1490.1	62.0							
	12	110.0	1548.3	58.2							
C	13	118.9	1594.6	46.4							
FIRST CLOSED-IN											
C	1	0.0	1594.6		1.9	1.792					
	2	2.0	2059.0	464.3	3.8	1.491					
	3	4.0	2095.9	501.3	5.7	1.320					
	4	6.0	2115.2	520.5	7.5	1.199					
	5	8.0	2126.7	532.1	9.2	1.111					
	6	10.0	2133.8	539.1	10.9	1.037					
	7	12.0	2139.5	544.9	12.5	0.978					
	8	14.0	2144.2	549.6	14.1	0.925					
	9	16.0	2148.7	554.1	15.6	0.881					
	10	18.0	2151.5	556.9	17.1	0.841					
	11	20.0	2154.9	560.3	18.6	0.806					
	12	22.0	2157.1	562.4	20.0	0.774					
	13	24.0	2158.1	563.5	21.4	0.745					
	14	26.0	2160.3	565.6	22.7	0.720					
	15	28.0	2163.2	568.6	24.0	0.696					
	16	30.0	2165.6	571.0	27.0	0.643					
	17	35.0	2169.0	574.4	30.0	0.599					
	18	40.0	2172.2	577.6	32.6	0.561					
	19	45.0	2175.2	580.6	35.2	0.529					
	20	50.0	2177.1	582.5	37.6	0.500					
	21	55.0	2180.1	585.5	39.9	0.474					
	22	60.0	2181.4	586.8	42.0	0.451					
	23	65.0	2184.4	589.8	44.0	0.431					
	24	70.0	2185.3	590.6	46.0	0.413					
	25	75.0	2186.5	591.9	47.8	0.395					
	26	80.0	2188.0	593.4	49.6	0.380					
	27	85.0	2190.0	595.3	51.2	0.366					
	28	90.0	2190.8	596.2	52.8	0.352					
	29	95.0	2191.9	597.2	54.3	0.340					
	30	100.0	2192.3	597.5	55.8	0.329					
	31	105.0	2193.2	598.2	57.1	0.318					
	32	110.0	2193.8	599.2	58.5	0.308					
	33	115.0	2195.3	600.7	59.7	0.299					
	34	120.0	2195.9	601.3	64.3	0.267					
	35	140.0	2198.5	603.9							

REMARKS:

000034 627

TICKET NO. 25094200

		O.D.	I.D.	LENGTH	DEPTH
1		DRILL PIPE.....	4.500	3.826	6611.0
4		FLEX WEIGHT.....	4.500	2.764	178.2
3		DRILL COLLARS.....	6.250	2.875	365.1
51		PUMP OUT REVERSING SUB.....	6.000	3.000	1.0 7154.5
3		DRILL COLLARS.....	6.250	2.875	61.1
50		IMPACT REVERSING SUB.....	6.000	3.000	1.0 7216.6
3		DRILL COLLARS.....	6.250	2.875	30.5
5		CROSSOVER.....	5.750	2.250	1.0
80		AP RUNNING CASE.....	5.000	2.250	4.1 7249.7
5		CROSSOVER.....	5.000	2.500	1.0
12		DUAL CIP VALVE.....	5.000	0.870	4.9
202		SAMPLE CHAMBER.....	5.000	3.060	4.1
33		DRAIN VALVE.....	5.000	2.200	1.0
60		HYDROSPRING TESTER.....	5.000	0.750	5.3 7268.0
80		AP RUNNING CASE.....	5.000	2.250	4.1 7270.2
15		JAR.....	5.000	1.750	5.0
16		VR SAFETY JOINT.....	5.000	1.000	2.8
70		OPEN HOLE PACKER.....	5.000	1.530	5.8 7285.2
18		DISTRIBUTOR VALVE.....	5.000	1.680	2.0
70		OPEN HOLE PACKER.....	5.000	1.530	5.8 7293.0
19		ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.3
20		FLUSH JOINT ANCHOR.....	5.000	2.370	30.0
81		BLANKED-OFF RUNNING CASE.....	5.000		4.1 7330.0
TOTAL DEPTH					7333.0

EQUIPMENT DATA

000035



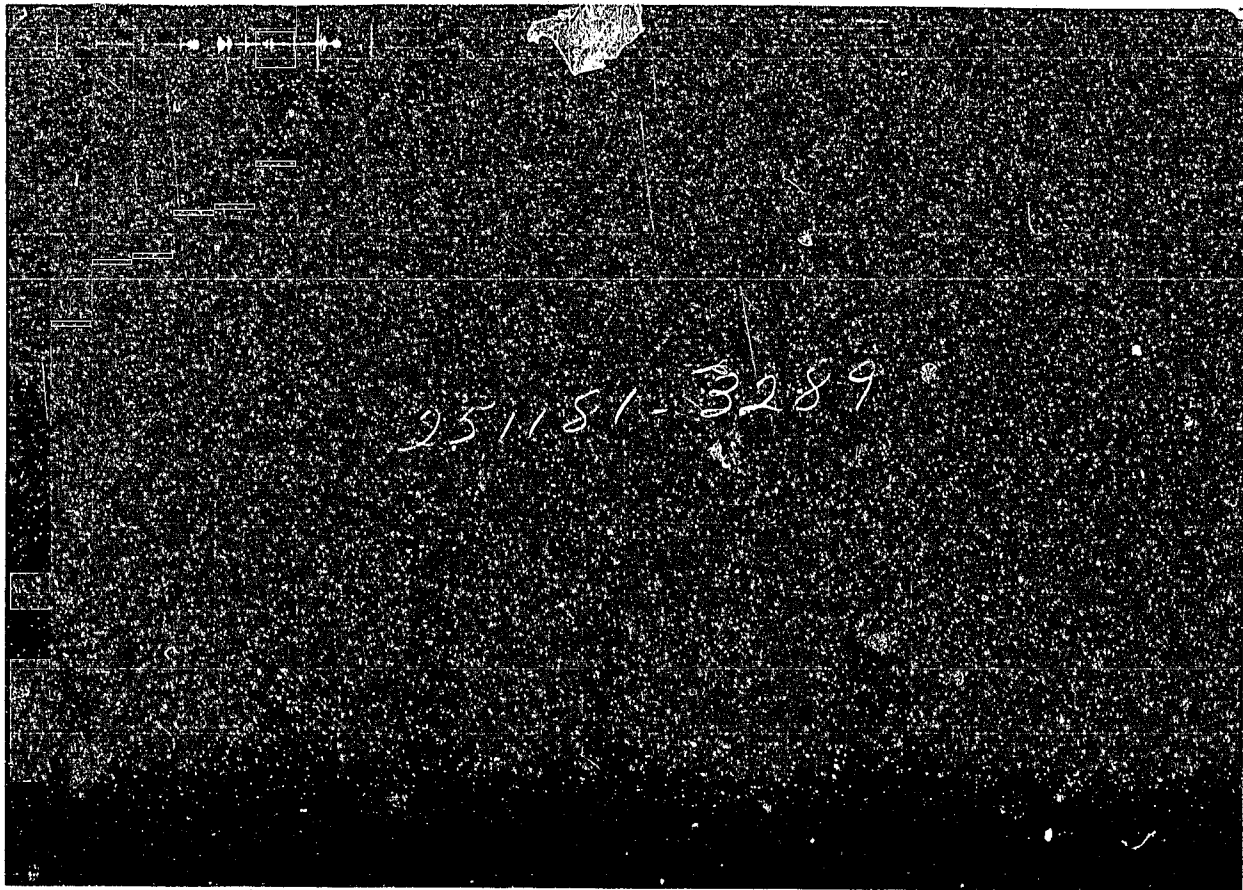
TICKET NO. 25118100
25-FEB-86
MOOMBA

FORMATION TESTING SERVICE REPORT

25

LEGAL LOCATION SEC. - TWP. - RNG.	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME
QULLINGARI	39	5		DELHI PETROLEUM PTY. LIMITED
SEE REMARKS				
FIELD AREA				
COOPER BASIN				
COUNTY SOUTH AUSTRALIA				
STATE AUSTRALIA				
IC				

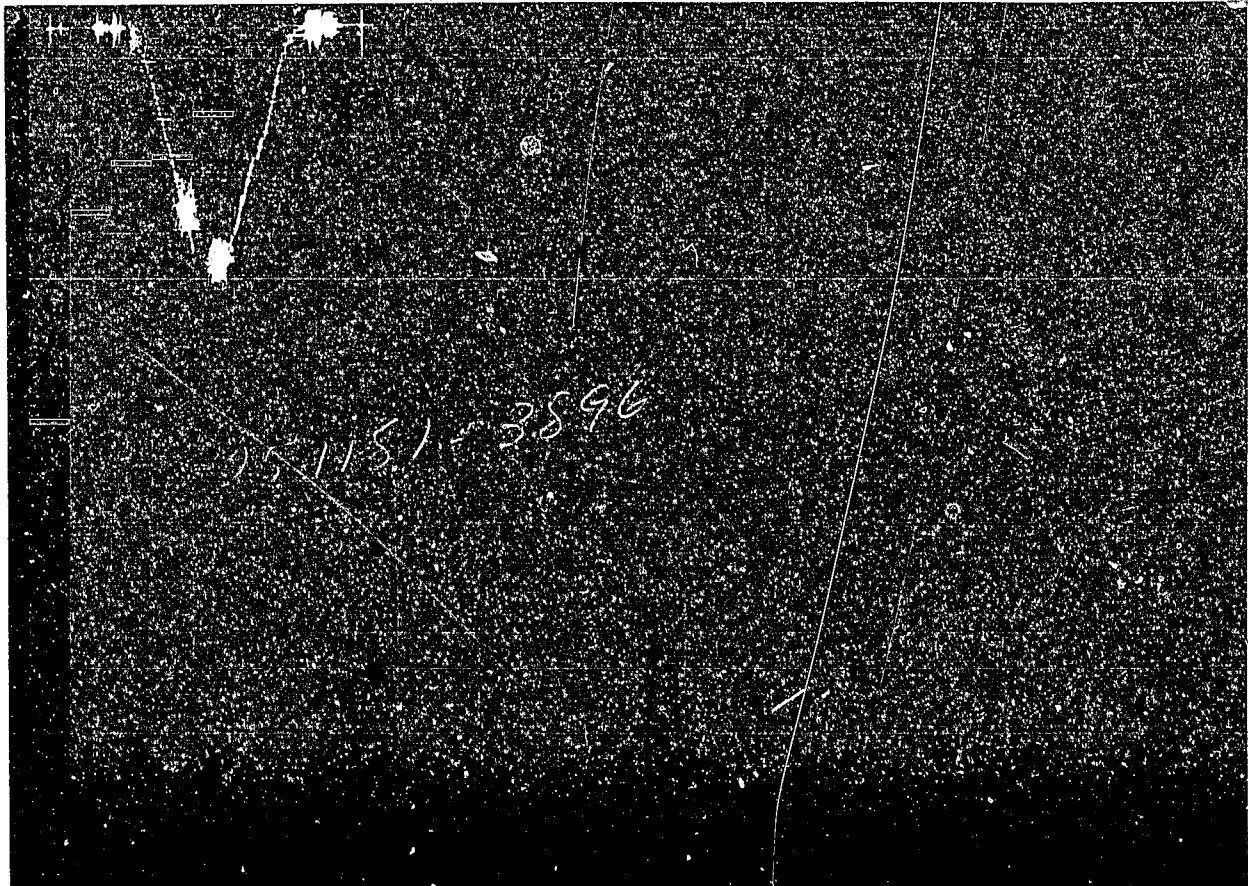
000036



GAUGE NO: 3289 DEPTH: 0 BLANKED OFF: NO HOUR OF CLOCK: 24

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

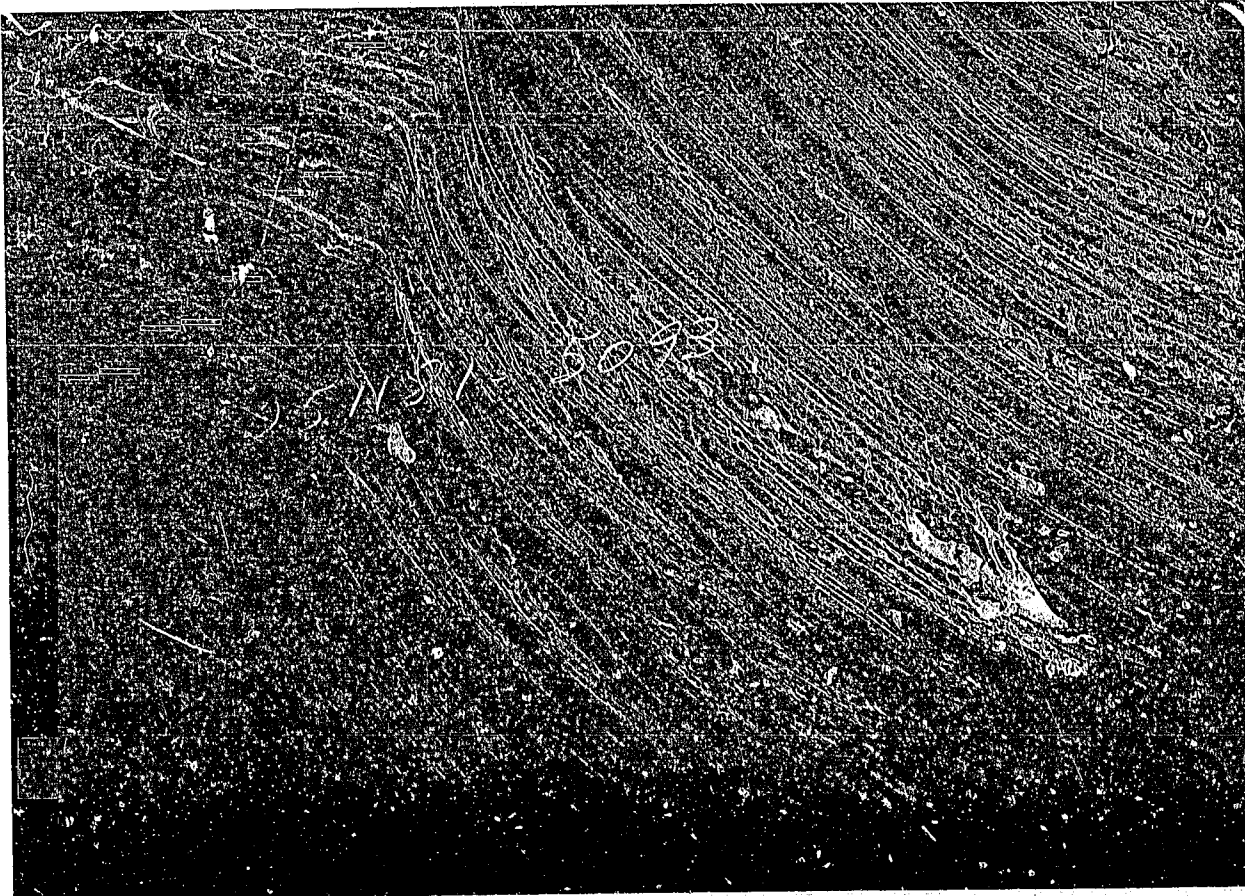
000037



GAUGE NO: 3896 DEPTH: BLANKED OFF: NO HOUR OF CLOCK: 24

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

000038



GAUGE NO: 5093 DEPTH: _____ BLANKED OFF: YES HOUR OF CLOCK: 24

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

000039

EQUIPMENT & HOLE DATA			TICKET NUMBER: 25118100		
FORMATION TESTED: <u>PATCHAWARRA</u>			DATE: <u>11-23-85</u> TEST NO: <u>5</u>		
NET PAY (ft): _____			TYPE DST: <u>OPEN HOLE</u>		
GROSS TESTED FOOTAGE: _____			HALLIBURTON CAMP: _____		
ALL DEPTHS MEASURED FROM: <u>KELLY BUSHING</u>			MOOMBA		
CASING PERFS. (ft): _____			TESTER: <u>M. J. STANSBIE</u>		
HOLE OR CASING SIZE (in): <u>8.500</u>			WITNESS: _____		
ELEVATION (ft): <u>300.0</u>			DRILLING CONTRACTOR: _____		
TOTAL DEPTH (ft): <u>8234.0</u>			S AND T RIG #14		
PACKER DEPTH(S) (ft): _____					
FINAL SURFACE CHOKE (in): <u>0.50000</u>					
BOTTOM HOLE CHOKE (in): <u>0.750</u>					
MUD WEIGHT (lb/gal): <u>9.40</u>					
MUD VISCOSITY (sec): <u>38</u>					
ESTIMATED HOLE TEMP. (°F): _____					
ACTUAL HOLE TEMP. (°F): _____ @ _____ ft					
FLUID PROPERTIES FOR RECOVERED MUD & WATER			SAMPLER DATA		
SOURCE	RESISTIVITY	CHLORIDES	Pstg 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): _____			_____		
GAS GRAVITY: _____			_____		
RECOVERED: MEASURED FROM TESTER VALVE					
REMARKS: LEGAL LOCATION: LAT. 28 DEG., 05', 58.4"S; LONG. 140 DEG., 54', 05.3"E. COULD NOT REACH BOTTOM - HIT BRIDGE AT 4250' - ATTEMPTED TO TEST FROM 8165' TO 8234'.					

000040

[illegible]

000041 692

TICKET NO. 25118100

		O.D.	I.D.	LENGTH	DEPTH
1		DRILL PIPE.....	4.500	3.826	
4		FLEX WEIGHT.....	4.500	2.764	178.2
3		DRILL COLLARS.....	6.188	2.500	364.9
51		PUMP OUT REVERSING SUB.....	6.000	3.000	1.0
3		DRILL COLLARS.....	6.188	2.500	30.5
50		IMPACT REVERSING SUB.....	6.000	3.000	1.0
3		DRILL COLLARS.....	6.188	2.500	30.4
5		CROSSOVER.....	6.000	3.000	1.0
80		AP RUNNING CASE.....	5.000	2.250	4.1
5		CROSSOVER.....	5.000	2.500	1.0
12		DUAL CIP VALVE.....	5.000	0.870	4.9
202		SAMPLE CHAMBER.....	5.000	2.250	4.1
33		DRAIN VALVE.....	5.000	2.200	0.9
60		HYDROSPRING TESTER.....	5.000	0.710	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.....	5.000	1.530	5.8
18		DISTRIBUTOR VALVE.....	5.000	1.680	2.0
70		OPEN HOLE PACKER.....	5.000	1.530	5.8
19		ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.3
5		CROSSOVER.....	6.000	3.000	1.0
3		DRILL COLLARS.....	6.188	2.500	30.9
5		CROSSOVER.....	6.000	3.000	1.0
20		FLUSH JOINT ANCHOR.....	5.000	2.370	26.0
81		BLANKED-OFF RUNNING CASE.....	5.000		4.1
TOTAL DEPTH					8234.0
EQUIPMENT DATA					

000042 268

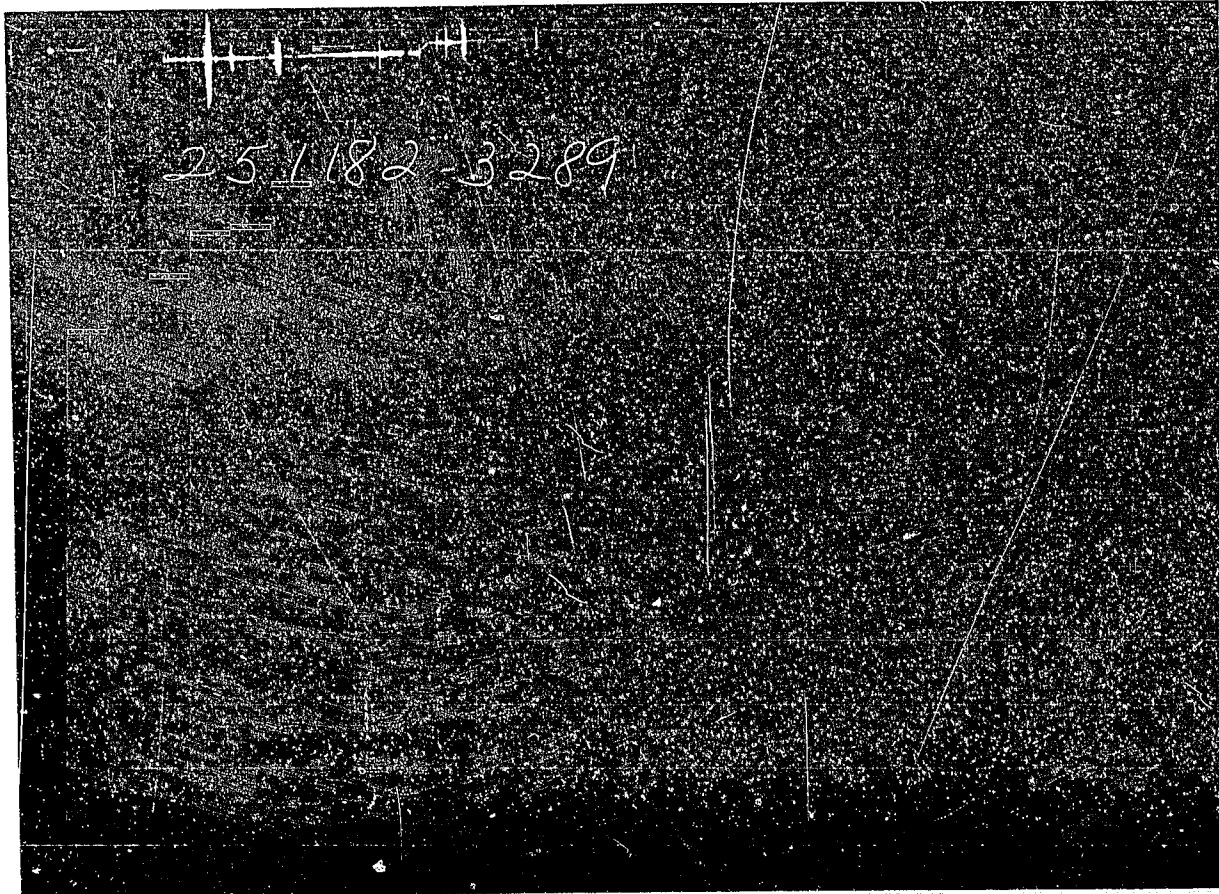


TICKET NO. 25118200
25-FEB-86
MOOMBA

FORMATION TESTING SERVICE REPORT

DULLINGARI		39	6	DELHI PETROLEUM PTY LTD.	
LEASE NAME		WELL NO.	TEST NO.	LEASE OWNER/COMPANY NAME	
LEGAL LOCATION SEC. - TWP. - RNG.	SEE REMARKS SECTION	FIELD AREA	COOPER BASIN	COUNTY	SOUTH AUSTRALIA
			STATE	AUSTRALIA	

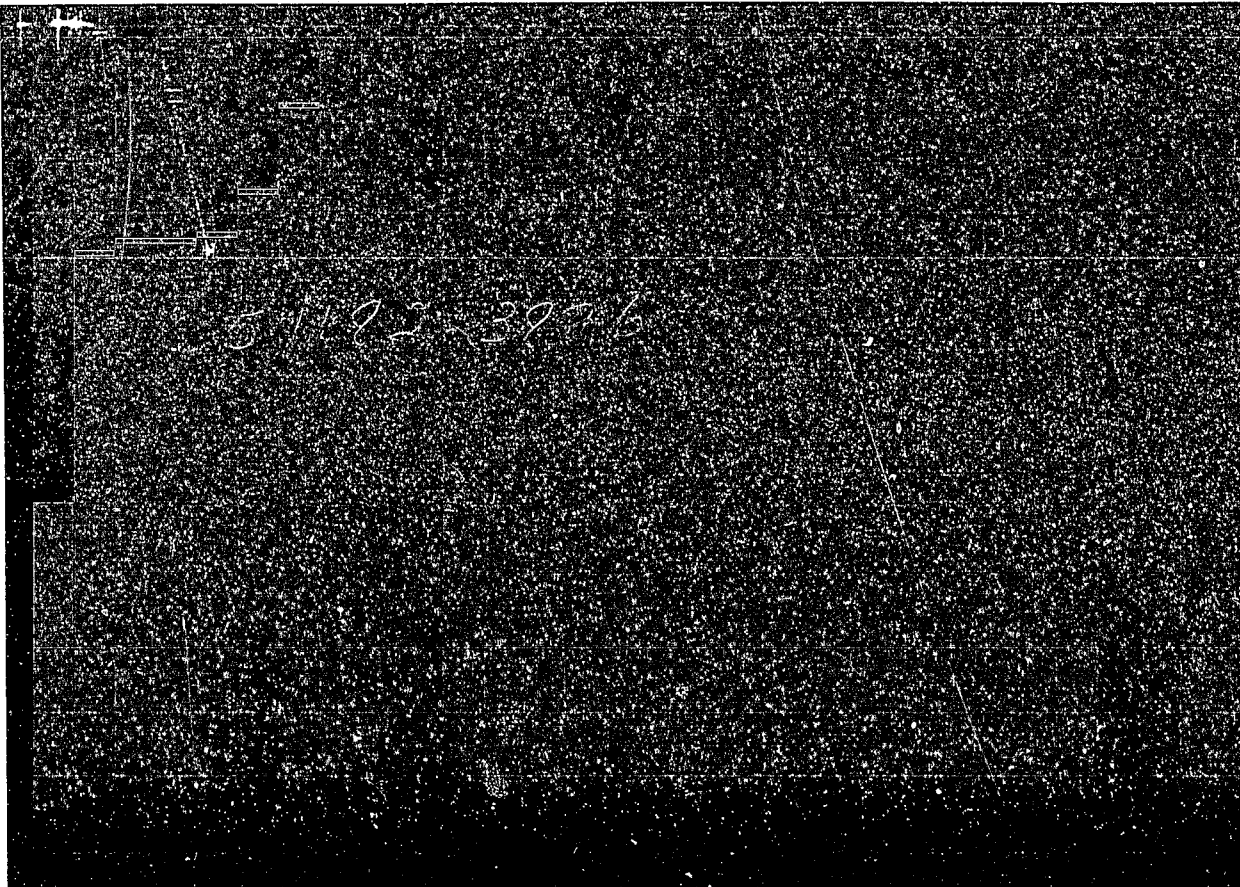
000043



GAUGE NO: 3289 DEPTH: _____ BLANKED OFF: NO HOUR OF CLOCK: 24

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

000044



GAUGE NO: 3896 DEPTH: BLANKED OFF: NO HOUR OF CLOCK: 24

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

000045



GAUGE NO: 5093 DEPTH: BLANKED OFF: YES HOUR OF CLOCK: 24

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

000046 106

EQUIPMENT & HOLE DATA			TICKET NUMBER: <u>25118200</u>		
FORMATION TESTED: <u>PATCHAWARRA</u>			DATE: <u>11-24-85</u> TEST NO: <u>6</u>		
NET PAY (ft): _____			TYPE DST: <u>OPEN HOLE</u>		
GROSS TESTED FOOTAGE: _____			HALLIBURTON CAMP: _____		
ALL DEPTHS MEASURED FROM: <u>KELLY BUSHING</u>			<u>MOOMBA</u>		
CASING PERFS. (ft): _____			TESTER: <u>M. STANSBIE</u>		
HOLE OR CASING SIZE (in): <u>8.500</u>			WITNESS: <u>B. DAVIS</u>		
ELEVATION (ft): <u>300.0</u>			DRILLING CONTRACTOR: _____		
TOTAL DEPTH (ft): <u>8234.0</u>			<u>SAND T RIG #14</u>		
PACKER DEPTH(S) (ft): _____					
FINAL SURFACE CHOKE (in): _____					
BOTTOM HOLE CHOKE (in): <u>0.750</u>					
MUD WEIGHT (lb/gal): <u>9.60</u>					
MUD VISCOSITY (sec): <u>38</u>					
ESTIMATED HOLE TEMP. (°F): <u>258</u>					
ACTUAL HOLE TEMP. (°F): <u>0</u> _____ ft					
FLUID PROPERTIES FOR RECOVERED MUD & WATER			SAMPLER DATA		
SOURCE	RESISTIVITY	CHLORIDES	Pstg 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): _____			<u>WATER (ET)</u> <u>240.0</u> <u>8.34</u>		
GAS GRAVITY: _____					
RECOVERED:					
REMARKS: LEGAL LOCATION: LAT. 28 DEG, 05', 58.4" S. LONG. 140 DEG, 54', 05.3" E. MISRUN.....TOOL COULD NOT GET PAST BRIDGE AT 40' OFF BOTTOM. WHILE WORKING DRILL PIPE, LOST ANNULUS....PULLED OUT OF HOLE.....ATTEMPTED TO TEST FROM 8165-8234'.					

MEASURED FROM
TESTER VALVE

000047

[illegible]

00004806

TICKET NO. 25118200

		O.D.	I.D.	LENGTH	DEPTH
1		DRILL PIPE.....	4.500	3.826	
4		FLEX WEIGHT.....	4.500	2.764	178.2
3		DRILL COLLARS.....	6.188	2.500	364.9
51		PUMP OUT REVERSING SUB.....	6.000	3.000	1.0
3		DRILL COLLARS.....	6.188	2.500	30.5
50		IMPACT REVERSING SUB.....	6.000	3.000	1.0
3		DRILL COLLARS.....	6.188	2.500	30.4
5		CROSSOVER.....	6.000		1.0
80		AP RUNNING CASE.....	5.000	2.250	4.1
5		CROSSOVER.....	5.000	2.500	1.0
12		DUAL CIP VALVE.....	5.000	0.870	4.9
202		SAMPLE 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.....	5.000	1.530	5.8
18		DISTRIBUTOR VALVE.....	5.000	1.680	2.0
70		OPEN HOLE PACKER.....	5.000	1.530	5.8
19		ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.3
5		CROSSOVER.....	6.000	3.000	1.0
3		DRILL COLLARS.....	6.188	2.500	30.9
5		CROSSOVER.....	6.000	3.000	1.0
20		FLUSH JOINT ANCHOR.....	5.000	2.370	26.0
81		BLANKED-OFF RUNNING CASE.....	5.000		4.1
TOTAL DEPTH					8234.0
EQUIPMENT DATA					

000049 908



TICKET NO. 25105200
20-MAR-86
MOOMBA

FORMATION TESTING SERVICE REPORT

DULINGARIE		39	7	8164.8 - 8234.0	DELHI PETROLEUM PTY. LTD.	
LEASE NAME		WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME	
LEGAL LOCATION	SEE REMARKS	FIELD	DULINGARIE	COUNTY	SOUTH AUSTRALIA	STATE
SEC. - TYP. - RING.		AREA			AUSTRALIA	IC

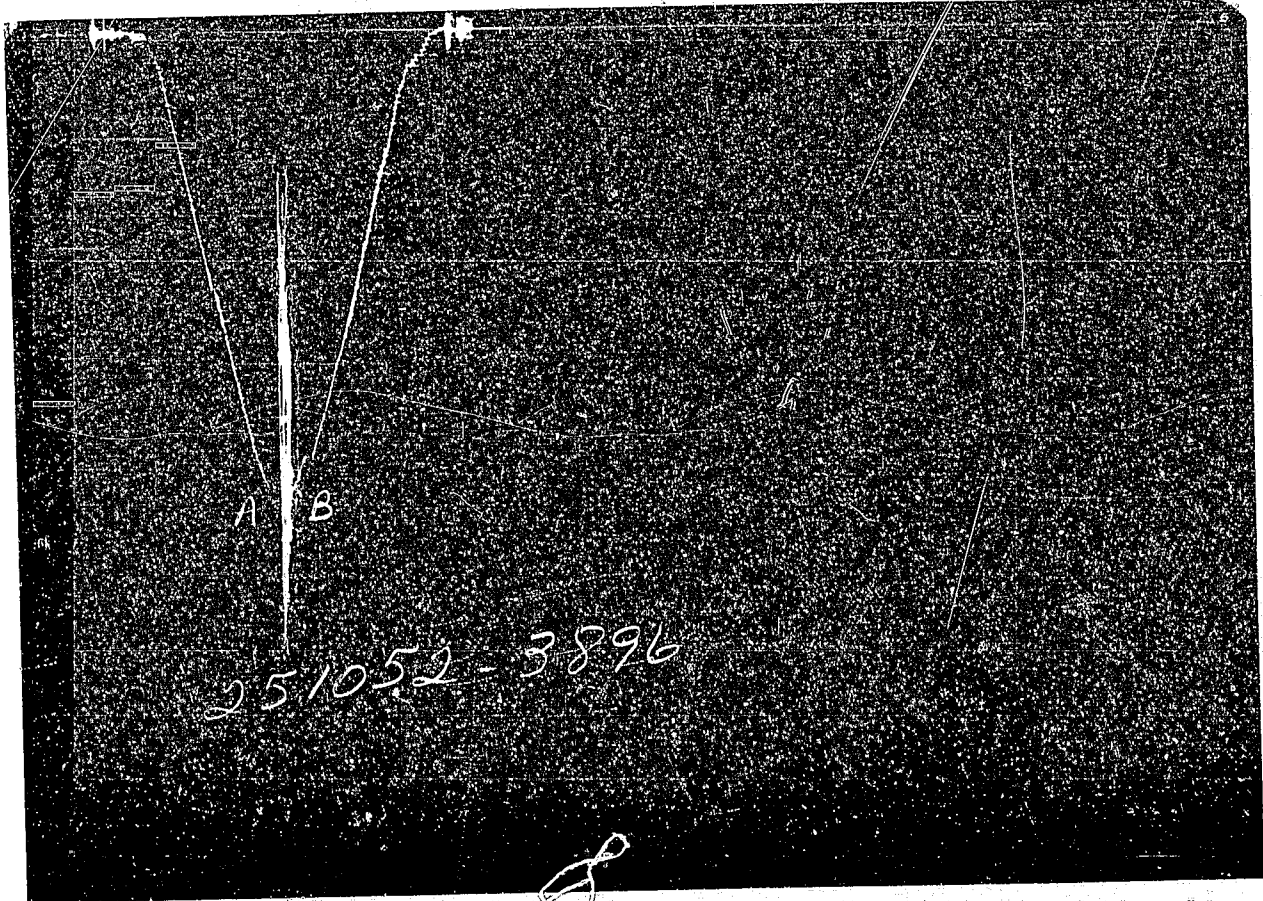
000050



GAUGE NO: 3289 DEPTH: 8121.2 BLANKED OFF: NO HOUR OF CLOCK: 24

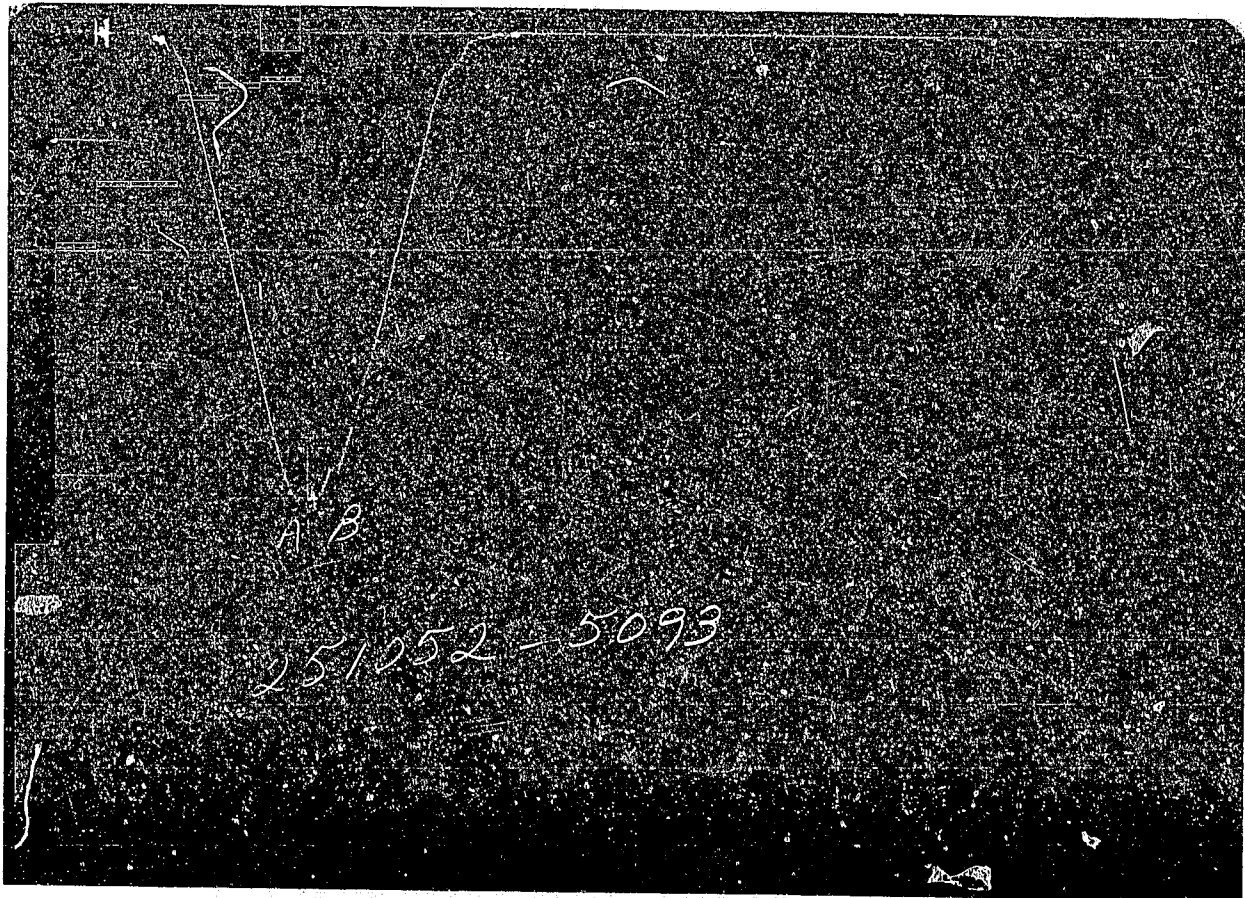
ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	FINAL HYDROSTATIC					

000051

GAUGE NO: 3896 DEPTH: 8142.2 BLANKED OFF: NQ HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4127	4166.1			
B	FINAL HYDROSTATIC		4174.6			

000052



GAUGE NO: 5093 DEPTH: 8231.9 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4170	4173.3			
B	FINAL HYDROSTATIC		4182.6			

000053

EQUIPMENT & HOLE DATA			TICKET NUMBER: 25105200		
FORMATION TESTED: <u>PATCHAWARRA</u>			DATE: <u>11-25-85</u> TEST NO: <u>7</u>		
NET PAY (ft): _____			TYPE DST: <u>OPEN HOLE</u>		
GROSS TESTED FOOTAGE: <u>69.2</u>			HALLIBURTON CAMP: _____		
ALL DEPTHS MEASURED FROM: <u>KELLY BUSHING</u>			MOOMBA		
CASING PERFS. (ft): _____			TESTER: <u>BRENT HOOVER</u>		
HOLE OR CASING SIZE (in): <u>8.500</u>			WITNESS: <u>?????</u>		
ELEVATION (ft): <u>300.0 KELLY BUSHING</u>			DRILLING CONTRACTOR: _____		
TOTAL DEPTH (ft): <u>8234.0</u>			S AND T DRILLING RIG #14		
PACKER DEPTH(S) (ft): <u>8157. 8165</u>					
FINAL SURFACE CHOKE (in): _____					
BOTTOM HOLE CHOKE (in): <u>0.750</u>					
MUD WEIGHT (lb/gal): <u>9.60</u>					
MUD VISCOSITY (sec): <u>38</u>					
ESTIMATED HOLE TEMP. (°F): _____					
ACTUAL HOLE TEMP. (°F): <u>255 @ 8229.9 ft</u>					
FLUID PROPERTIES FOR RECOVERED MUD & WATER			SAMPLER DATA		
SOURCE	RESISTIVITY	CHLORIDES	Pstg 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 (FEET)	240.0	8.34
GAS GRAVITY: _____					
RECOVERED: _____					
REMARKS: LEGAL LOCATION: LAT. 28 DEG., 05', 58.4" N; LONG. 140 DEG., 54', 05.3" S. MISRUN - NO PACKER SEAT. DIMENSIONS OF THE DRILL PIPE AND WEIGHT PIPE WERE NOT REPORTED.					

MEASURED FROM
TESTER VALVE

310

[illegible]

000055

TICKET NO. 25105200

118

		O.D.	I.D.	LENGTH	DEPTH
1				7512.9	
4				178.2	
3		6.188	2.500	364.9	
50		6.000	3.000	1.0	8055.7
3		6.188	2.500	30.4	
50		6.000	3.000	1.0	8087.1
3		6.188	2.500	30.9	
258		5.750		1.0	8119.0
80		5.000	2.250	4.1	8121.2
5		5.000	2.200	1.0	
12		5.000	0.870	4.9	
202		5.000	2.500	4.9	
33		5.000	2.200	0.9	
60		5.000	0.750	5.3	8141.1
80		5.000	2.250	4.1	8142.2
15		5.000	1.750	5.0	
16		5.000	1.000	2.8	
70		5.000	1.530	5.8	8157.0
18		5.000	1.680	2.0	
70		5.000	1.530	5.8	8164.8
19		5.000	1.500	4.3	
5		6.000	3.000	1.0	
3		6.188	2.500	30.9	
5		6.000	3.000	1.0	
20		5.000	2.370	26.0	
61		5.000		4.1	8231.9
TOTAL DEPTH					8234.0
EQUIPMENT DATA					

000056 to:



TICKET NO. 25105300
20-MAR-86
MOOMBA

FORMATION TESTING SERVICE REPORT

LEGAL LOCATION SEC. - TWP. - RNC.	SEE REMARKS	FIELD AREA	COUNTY	STATE	DELHI PETROLEUM PTY. LTD. LEASE OWNER/COMPANY NAME
DULINGARIE			SOUTH AUSTRALIA	AUSTRALIA	
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL		
	39	8	8186.8 - 8234.0		

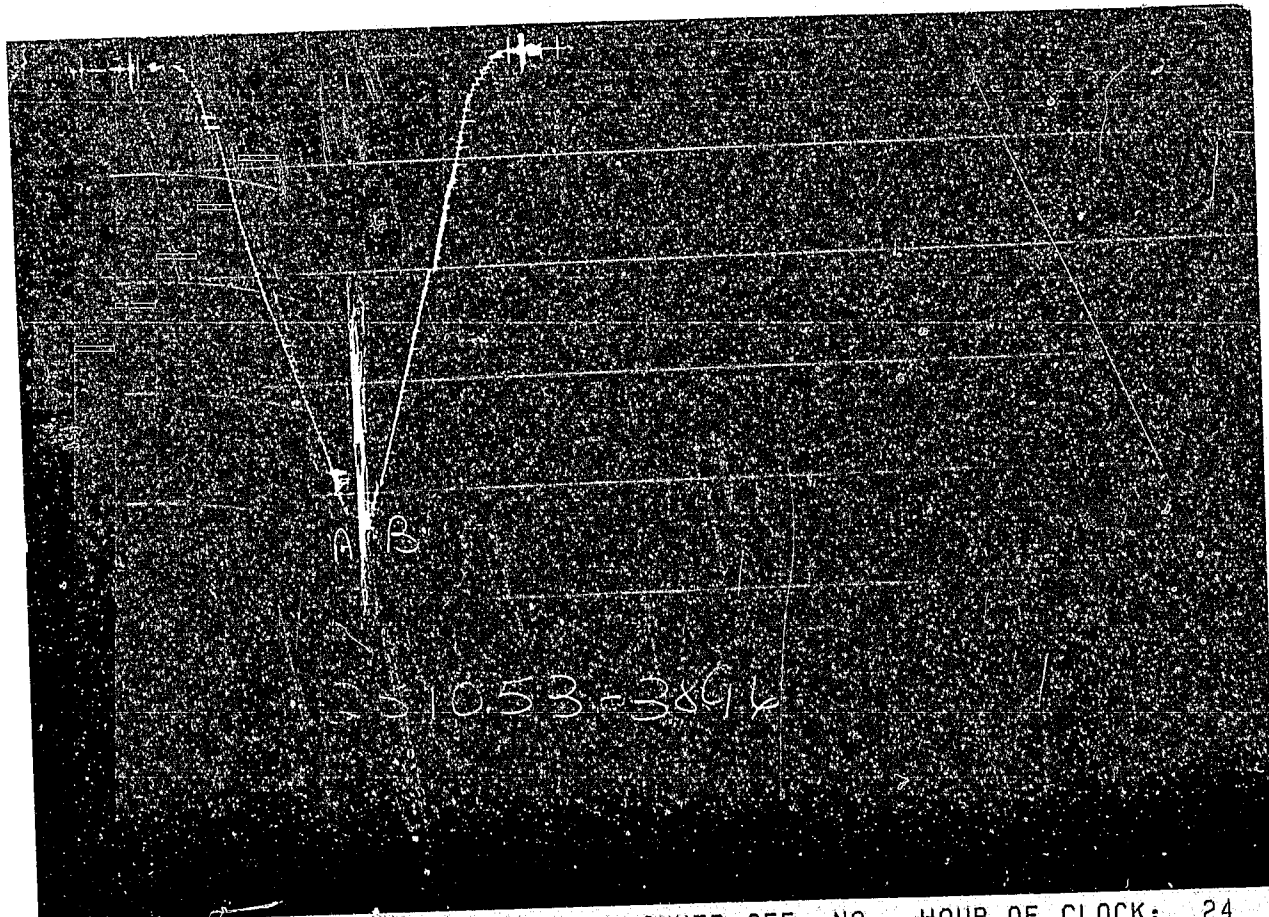
000057

251053-3289

GAUGE NO: 3289 DEPTH: 8138.2 BLANKED OFF: NO HOUR OF CLOCK: 24

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

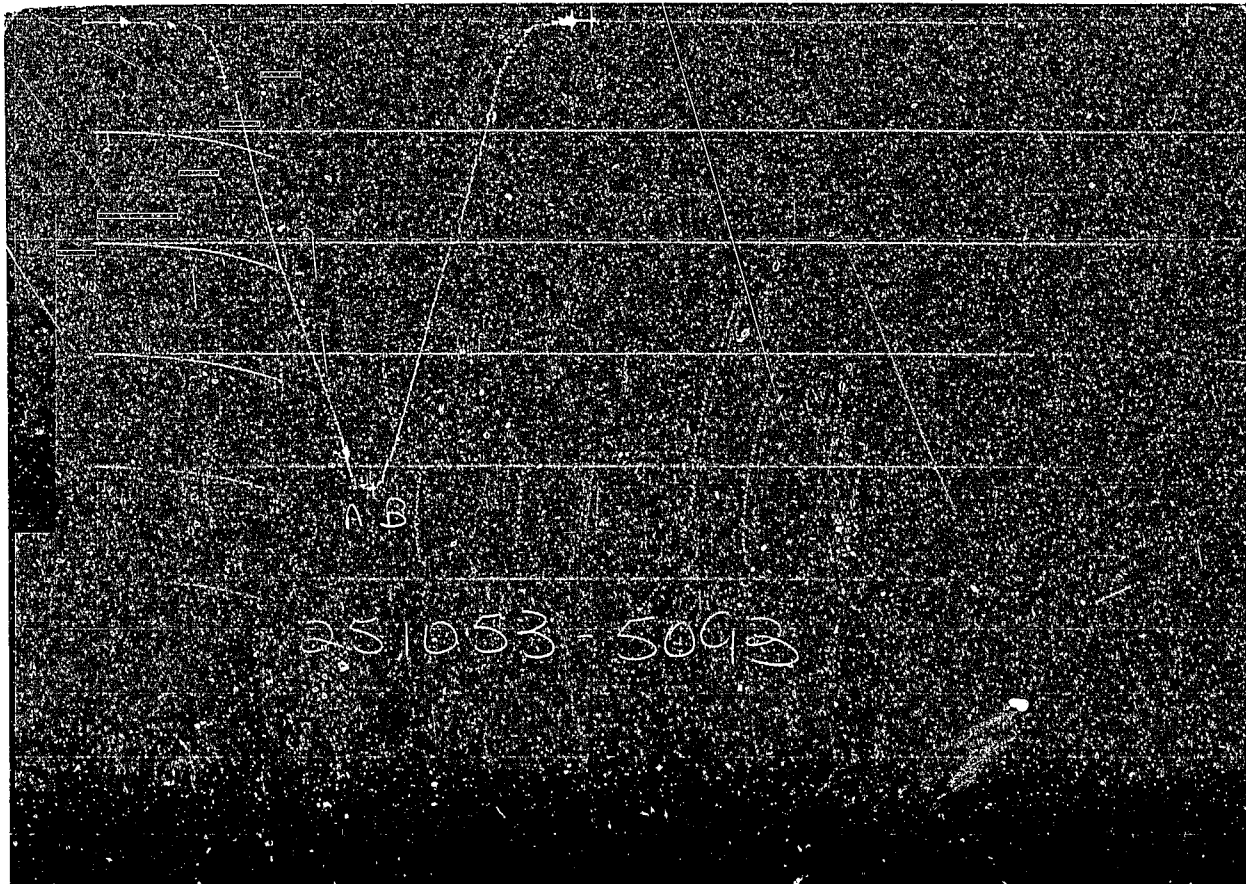
000058



GAUGE NO: 3896 DEPTH: 8159.2 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4170	4168.6			
B	FINAL HYDROSTATIC		4168.6			

000059



GAUGE NO: 5093 DEPTH: 8231.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4187	4177.9			
B	FINAL HYDROSTATIC		4177.9			

000060

EQUIPMENT & HOLE DATA			TICKET NUMBER: 25105300		
FORMATION TESTED: <u>PATCHAWARRA</u>			DATE: <u>11-26-85</u> TEST NO: <u>8</u>		
NET PAY (ft): _____			TYPE DST: <u>OPEN HOLE</u>		
GROSS TESTED FOOTAGE: <u>47.2</u>			HALLIBURTON CAMP: <u>MOOMBA</u>		
ALL DEPTHS MEASURED FROM: <u>KB</u>			TESTER: <u>BRENT HOOVER</u>		
CASING PERFS. (ft): _____			WITNESS: <u>????</u>		
HOLE OR CASING SIZE (in): <u>8.500</u>			DRILLING CONTRACTOR: <u>S & T DRILLING - RIG #14</u>		
ELEVATION (ft): <u>300.0 KELLY BUSHING</u>					
TOTAL DEPTH (ft): <u>8234.0</u>					
PACKER DEPTH(S) (ft): <u>8174. 8187</u>					
FINAL SURFACE CHOKE (in): _____					
BOTTOM HOLE CHOKE (in): <u>0.750</u>					
MUD WEIGHT (lb/gal): <u>9.60</u>					
MUD VISCOSITY (sec): <u>43</u>					
ESTIMATED HOLE TEMP. (°F): _____					
ACTUAL HOLE TEMP. (°F): <u>250 @ 8229.9 ft</u>					
FLUID PROPERTIES FOR RECOVERED MUD & WATER			SAMPLER DATA		
SOURCE	RESISTIVITY	CHLORIDES	Pstg 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)	240.0	8.34
GAS GRAVITY: _____					
RECOVERED:					MEASURED FROM TESTER VALVE
REMARKS: LEGAL LOCATION: LAT. 28 DEGREES - 05' - 58.4" EAST LONG. 140 DEGREES - 54' - 05.3" SOUTH MISRUN - NO PACKER SEAT DIMENSIONS OF THE DRILL PIPE AND WEIGHT PIPE WERE NOT REPORTED					

000061

[illegible]

000062

498

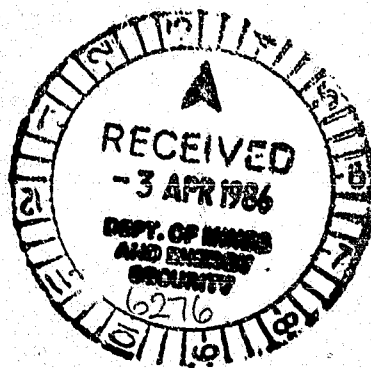
TICKET NO. 25105300

		O.D.	I.D.	LENGTH	DEPTH
1				7499.0	
4				178.2	
3		6.188	2.500	395.3	
50		6.000	3.000	1.0	8072.6
3		6.188	2.500	30.9	
50		6.000	3.000	1.0	8104.6
3		6.188	2.500	30.5	
258		5.750		1.0	
80		5.000	2.250	4.1	8138.2
5		5.000	2.200	1.0	
12		5.000	0.870	4.9	
202		5.000	2.500	4.9	
33		5.000	2.200	0.9	
60		5.000	0.750	5.3	8158.1
80		5.000	2.250	4.1	8159.2
15		5.000	1.750	5.0	
16		5.000	1.000	2.8	
70		5.000	1.530	5.8	8174.0
18		5.000	1.680	2.0	
70		5.000	1.530	5.8	8186.8
19		5.000	1.500	4.3	
5		6.000	3.000	1.0	
5		6.000	3.000	1.0	
20		5.000	2.370	35.0	
81		5.000		4.1	8231.0
TOTAL DEPTH					8234.0
EQUIPMENT DATA					

000063 583



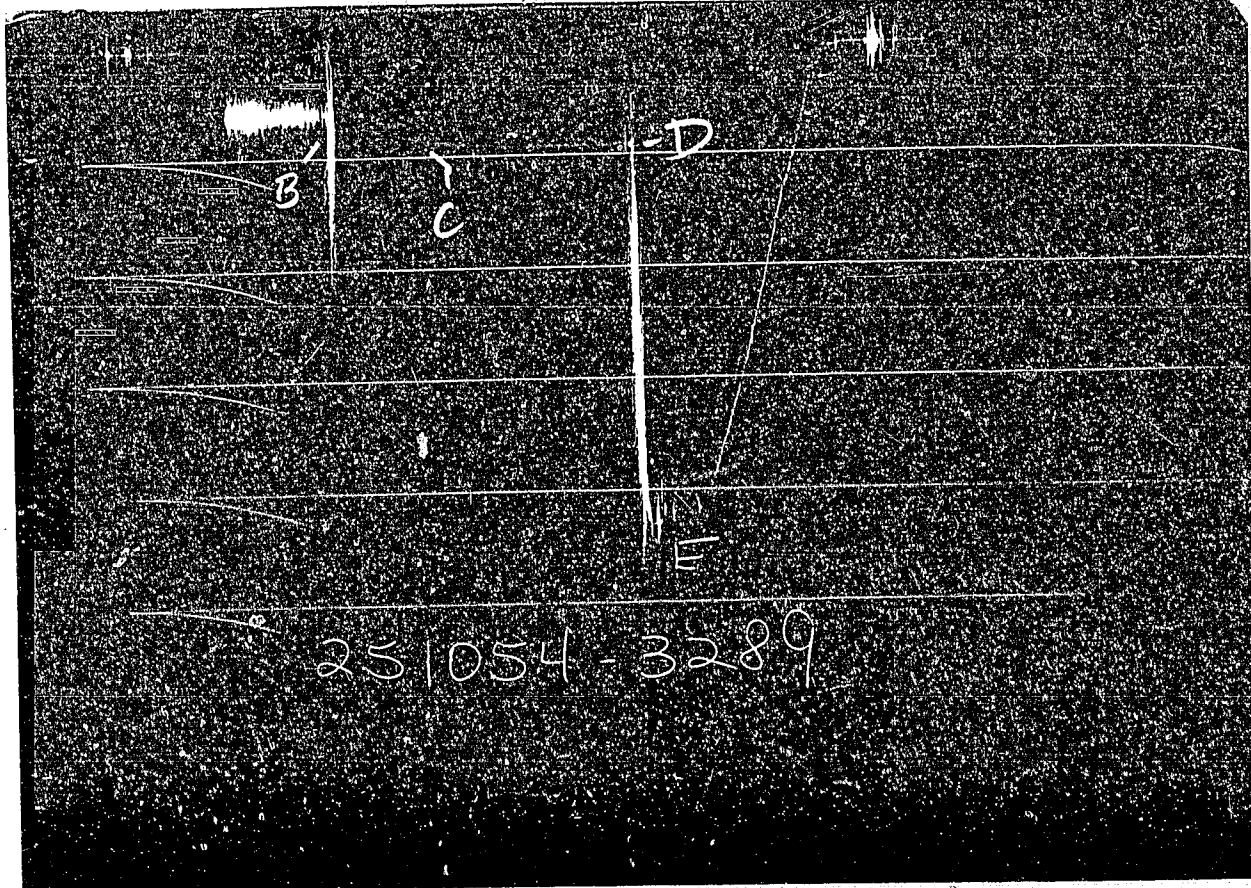
TICKET NO. 25105400
21-MAR-86
MOOMBA



FORMATION TESTING SERVICE REPORT

LEGAL LOCATION SEC. - TYP. - RING.	SEE REMARKS	FIELD HOB.	COUNTY	SOUTH AUSTRALIA	SITE	AUSTRALIA	PR
DUI INGARIE	39	9	8330.8 - 8378.0	TESTED INTERVAL	DELHI PETROLEUM PTY. LTD.	LEASE OWNER/COMPANY NAME	
LEASE NAME	WELL NO.	TEST NO.					

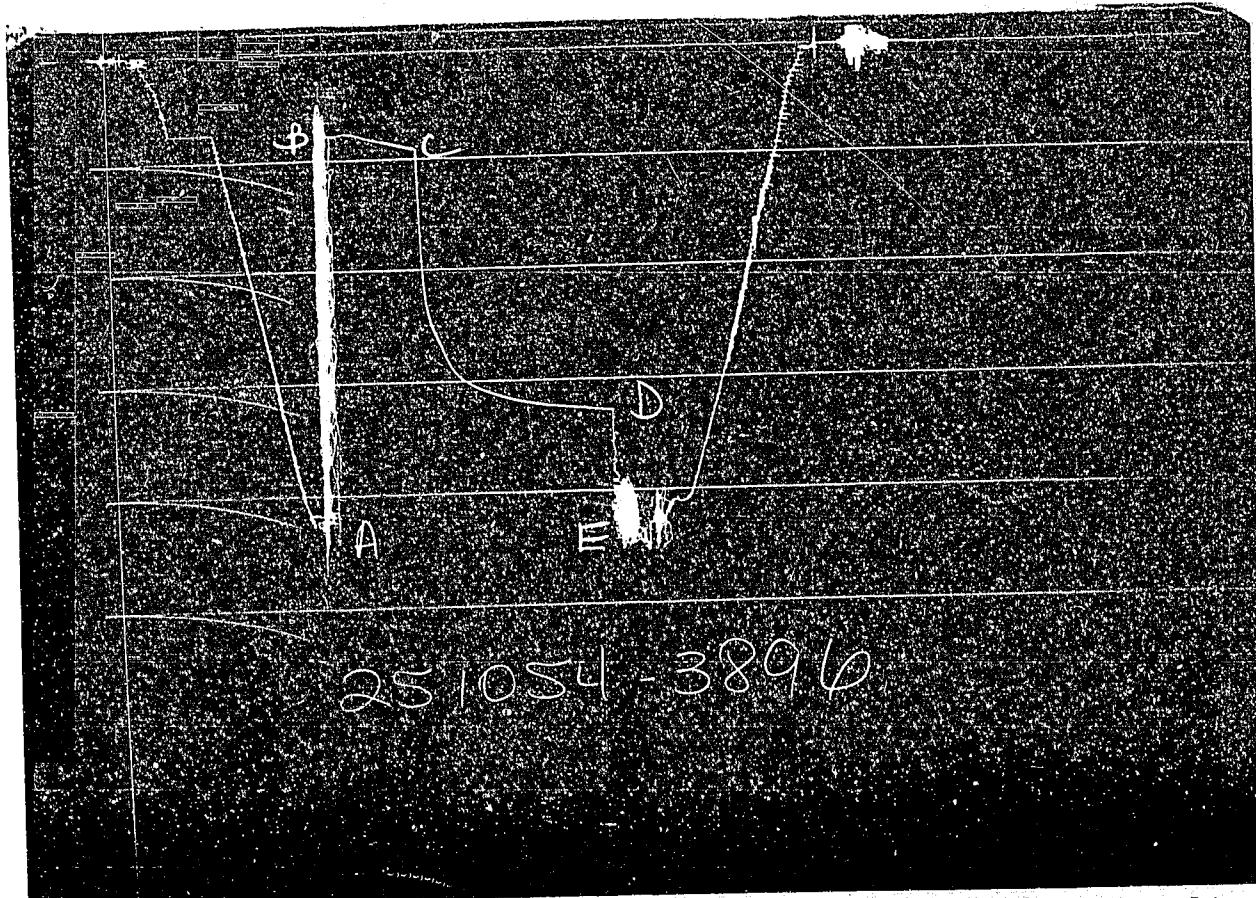
000064



GAUGE NO: 3289 DEPTH: 8287.2 BLANKED OFF: NO HOUR OF CLOCK: 24

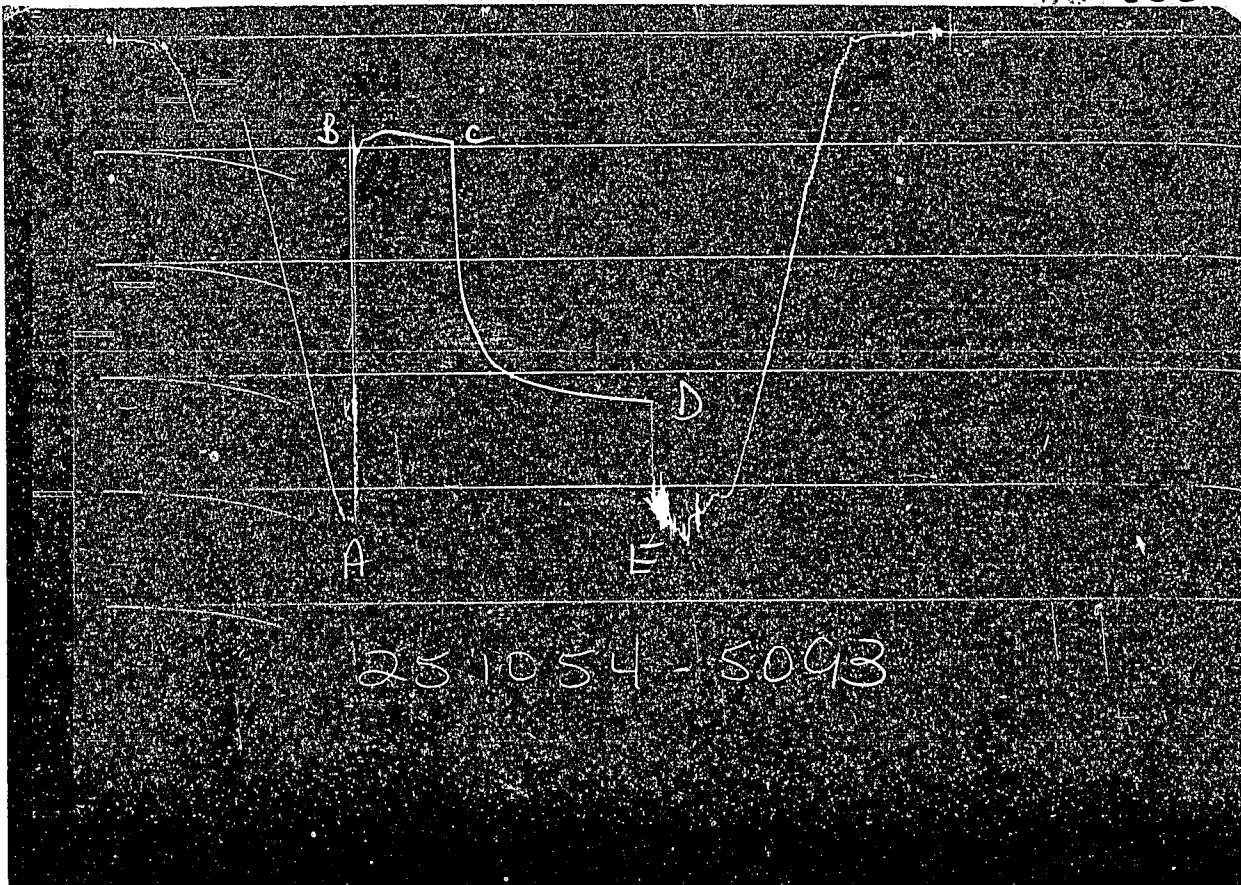
ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW	595	717.1	120.0	119.1	F
C	FINAL FIRST FLOW		861.7			
C	INITIAL FIRST CLOSED-IN		861.7	240.0	240.9	C
D	FINAL FIRST CLOSED-IN	910	901.5			
E	FINAL HYDROSTATIC		4178.3			

000065

GAUGE NO: 3896 DEPTH: 8308.2 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4200	4215.2			
B	INITIAL FIRST FLOW	747	659.2	120.0	119.1	F
C	FINAL FIRST FLOW	885	904.5			
C	INITIAL FIRST CLOSED-IN	885	904.5	240.0	240.9	C
D	FINAL FIRST CLOSED-IN	3235	3273.3			
E	FINAL HYDROSTATIC	4421	4200.5			

000066



GAUGE NO: 5093 DEPTH: 8375.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4242	4240.1			
B	INITIAL FIRST FLOW	855	820.8			
C	FINAL FIRST FLOW	955	952.9	120.0	119.1	F
C	INITIAL FIRST CLOSED-IN	955	952.9			
D	FINAL FIRST CLOSED-IN	3251	3250.2	240.0	240.9	C
E	FINAL HYDROSTATIC	4443	4227.9			

000067

EQUIPMENT & HOLE DATA			TICKET NUMBER: 25105400		
FORMATION TESTED: PATCHAWARRA			DATE: 11-27-85 TEST NO: 9		
NET PAY (ft):			TYPE DST: OPEN HOLE		
GROSS TESTED FOOTAGE: 47.2			HALLIBURTON CAMP: MOOMBA		
ALL DEPTHS MEASURED FROM: KB			TESTER: BRENT HOOVER		
CASING PERFS. (ft):			WITNESS: B.H. DAVIS ???		
HOLE OR CASING SIZE (in): 8.500			DRILLING CONTRACTOR: S & T DRILLING RIG #14		
ELEVATION (ft): 300.0 KELLY BUSHING					
TOTAL DEPTH (ft): 8378.0					
PACKER DEPTH(S) (ft): 8323, 8331					
FINAL SURFACE CHOKE (in): 0.50000					
BOTTOM HOLE CHOKE (in): 0.750					
MUD WEIGHT (lb/gal): 9.60					
MUD VISCOSITY (sec): 37					
ESTIMATED HOLE TEMP. (°F):					
ACTUAL HOLE TEMP. (°F): 280 @ 8374.0 ft					
FLUID PROPERTIES FOR RECOVERED MUD & WATER					
SOURCE	RESISTIVITY	CHLORIDES			
	°F	ppm			
	°F	ppm			
	°F	ppm			
	°F	ppm			
	°F	ppm			
	°F	ppm			
HYDROCARBON PROPERTIES					
OIL GRAVITY (°API): °F					
GAS/OIL RATIO (cu.ft. per bbl):					
GAS GRAVITY:					
SAMPLER DATA					
Pstg AT SURFACE:					
cu.ft. OF GAS:					
cc OF OIL:					
cc OF WATER:					
cc OF MUD:					
TOTAL LIQUID cc:					
CUSHION DATA					
TYPE	AMOUNT	WEIGHT			
WATER (FEET)	1500.0	8.34			
RECOVERED:					
1217 FEET OF GAS AND MUD CUT WATER					
394 FEET OF GAS CUT WATER					
591 FEET OF MUD					
485 FEET OF WATER					
REMARKS:					
LEGAL LOCATION: LAT. 28 DEGREES - 05' - 58.4" EAST					
LONG. 140 DEGREES - 54' - 05.3" SOUTH					
DIMENSIONS OF THE DRILL PIPE AND WEIGHT PIPE WERE NOT REPORTED					
CHARTS INDICATE MULTIPLE ZONE BEHAVIOR DURING THE CLOSED-IN PERIOD AND SLIGHT PLUGGING ACTION DURING EARLY PORTION OF FLOW PERIOD.....					

MEASURED FROM TESTER VALVE

068
000068

TYPE & SIZE MEASURING DEVICE: .5" CERAMIC CHOKE					TICKET NO: 25105400
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
11-27-85					
0745					STARTED CLOCKS AND B.T. RECORDERS
0835					STARTED MAKING UP TOOLS
0930					TOOLS IN HOLE
1305					MADE-UP HEAD AND CHICKSANS
1317					SET WEIGHT ON TOOL - HIT FILL
					8' OFF BOTTOM.
1322					OPENED TOOL - CHASED ~~DRILL~~ PIPE
					PIPE - LOST ANNULUS - FILLED
					WITH MUD - UNABLE TO KEEP
					WEIGHT ON TOOL.
1322					ON BOTTOM - SET WEIGHT ON
					TOOL - 24,000#
1326					OPENED TOOL - WEAK BLOW -
					MANIFOLD CLOSED.
1337					SLIGHT INCREASE - WEAK BLOW
1350					WEAK BLOW
1355					VERY WEAK BLOW
1404		1			STRONG BLOW
1412	.5"	2			OPENED MANIFOLD TO FLARE LINE
1415	.5"	2			STRONG BLOW
1417	.5"	1			STRONG BLOW
1420	.5"	1			STRONG BLOW
1425	.5"	0			MODERATE BLOW
1445	.5"				STRONG BLOW
1500	.5"				STRONG BLOW
1515	.5"				STRONG BLOW
1526	.5"				CLOSED TOOL
1926					PULLED FREE - 25,000# OVER
					PULL - WORKED DRILL PIPE TO
					FREE PACKERS.
1935					DROPPED BAR - MANIFOLD CLOSED
1938					SHEARED PIN - STARTED MUD PUMPS
1940					OPENED MANIFOLD THROUGH 2" VALVE
1945					WATER CUSHION TO SURFACE
1947					MUD TO SURFACE
2025					BREAK HEAD AND CHICKSANS -

000069

168

[illegible]

268

000070

TICKET NO: 25105400
CLOCK NO: 30363 HOUR: 24



GAUGE NO: 3289
DEPTH: 8287.2

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	717.1									
2	10.0	731.7	14.7								
3	20.0	730.0	-1.8								
4	30.0	715.3	-14.7								
5	40.0	720.4	5.0								
6	50.0	740.5	20.1								
7	60.0	763.7	23.2								
8	70.0	779.0	15.3								
9	80.0	796.3	17.3								
10	90.0	811.8	15.5								
11	100.0	832.2	20.4								
12	110.0	846.6	14.4								
C 13	119.1	861.7	15.1								
FIRST CLOSED-IN											
C 1	0.0	861.7									
D 2	240.9	901.5	39.8	79.7	0.175						

REMARKS:

TICKET NO: 25105400

CLOCK NO: 30169 HOUR: 24



GAUGE NO: 3896

DEPTH: 8308.2

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	659.2								
	2	10.0	766.9	107.7							
	3	20.0	769.9	2.9							
	4	30.0	750.9	-19.0							
	5	40.0	757.5	6.5							
	6	50.0	776.9	19.4							
	7	60.0	801.7	24.8							
	8	70.0	818.7	16.9							
	9	80.0	835.8	17.2							
	10	90.0	853.9	18.1							
	11	100.0	873.3	19.4							
	12	110.0	891.8	18.5							
C	13	119.1	904.5	12.6							
FIRST CLOSED-IN											
C	1	0.0	904.5								
	2	10.0	2376.5	1472.0	9.2	1.110					
	3	20.0	2593.5	1689.0	17.1	0.842					
	4	30.0	2760.3	1855.8	24.0	0.696					
	5	40.0	2894.0	1989.5	30.0	0.600					
	6	50.0	2970.0	2065.5	35.2	0.529					
	7	60.0	3018.4	2113.9	39.9	0.475					
	8	70.0	3059.9	2155.4	44.1	0.432					
	9	80.0	3088.7	2184.3	47.9	0.396					
	10	90.0	3113.6	2209.1	51.3	0.366					
	11	100.0	3135.4	2230.9	54.4	0.341					
	12	110.0	3153.8	2249.3	57.2	0.319					
	13	120.0	3172.8	2268.3	59.8	0.299					
	14	130.0	3185.6	2281.1	62.2	0.283					
	15	140.0	3199.5	2295.1	64.4	0.267					
	16	150.0	3210.0	2305.5	66.4	0.254					
	17	160.0	3222.8	2318.4	68.3	0.242					
	18	170.0	3228.4	2323.9	70.1	0.231					
	19	180.0	3237.0	2332.5	71.7	0.221					
	20	190.0	3244.2	2339.7	73.2	0.211					
	21	200.0	3250.6	2346.2	74.7	0.203					
	22	210.0	3256.2	2351.7	76.0	0.195					
	23	220.0	3262.8	2358.4	77.3	0.188					
	24	230.0	3269.2	2364.8	78.5	0.181					
D	25	240.9	3273.3	2368.8	79.7	0.175					

REMARKS:

768
000072

TICKET NO: 25105400
CLOCK NO: 7273 HOUR: 24



GAUGE NO: 5093
DEPTH: 8375.0

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	820.8			
2	10.0	951.2	130.4		
3	20.0	905.6	-45.6		
4	30.0	870.7	-34.9		
5	40.0	854.4	-16.3		
6	50.0	864.6	10.2		
7	60.0	880.0	15.4		
8	70.0	891.8	11.7		
9	80.0	906.7	15.0		
10	90.0	918.4	11.7		
11	100.0	931.9	13.4		
12	110.0	942.5	10.6		
C 13	119.1	952.9	10.4		
FIRST CLOSED-IN					
C 1	0.0	952.9			
2	10.0	2304.1	1351.1	9.2	1.111
3	20.0	2537.2	1584.3	17.1	0.842
4	30.0	2693.6	1740.7	24.0	0.697
5	40.0	2844.9	1891.9	30.0	0.599
6	50.0	2925.6	1972.7	35.2	0.529
7	60.0	2975.2	2022.3	39.9	0.475
8	70.0	3017.9	2065.0	44.1	0.432
9	80.0	3050.8	2097.9	47.9	0.396
10	90.0	3078.5	2125.6	51.3	0.366
11	100.0	3101.5	2148.5	54.4	0.341
12	110.0	3121.9	2169.0	57.2	0.319
13	120.0	3138.2	2185.3	59.8	0.300
14	130.0	3155.1	2202.1	62.2	0.282
15	140.0	3168.8	2215.8	64.4	0.267
16	150.0	3180.2	2227.2	66.4	0.254
17	160.0	3190.7	2237.8	68.3	0.242
18	170.0	3199.8	2246.9	70.1	0.231
19	180.0	3208.9	2255.9	71.7	0.221
20	190.0	3218.6	2265.6	73.2	0.211
21	200.0	3226.2	2273.2	74.7	0.203
22	210.0	3233.1	2280.2	76.0	0.195
23	220.0	3238.4	2285.5	77.3	0.188
24	230.0	3244.7	2291.6	78.5	0.181
D 25	240.9	3250.2	2297.3	79.7	0.175

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

REMARKS:

000073 968

TICKET NO. 25105400

		O.D.	I.D.	LENGTH	DEPTH
1				7649.0	
4				178.2	
3		6.188	2.500	395.3	
50		6.000	3.000	1.0	8221.6
3		6.188	2.500	30.9	
50		6.000	3.000	1.0	8253.6
3		6.188	2.500	30.5	
258		5.750		1.0	8285.0
80		5.000	2.250	4.1	8287.2
5		5.000	2.200	1.0	
12		5.000	0.870	4.9	
202		5.000	2.500	4.9	
33		5.000	2.200	0.9	
60		5.000	0.750	5.3	8307.1
80		5.000	2.250	4.1	8308.2
15		5.000	1.750	5.0	
16		5.000	1.000	2.8	
70		5.000	1.530	5.8	8323.0
18		5.000	1.680	2.0	
70		5.000	1.530	5.8	8330.8
19		5.000	1.500	4.3	
5		6.000	3.000	1.0	
5		6.000	3.000	1.0	
20		5.000	2.370	35.0	
81		5.000		4.1	8375.0
TOTAL DEPTH					8378.0
EQUIPMENT DATA					

DULLINGARI #39SUMMARY OF PRE FRAC PRODUCTION TEST12TH - 18TH FEBRUARY 1987Flow Test

12th - 14th February

12.2.87: Well flowed to flare @ 0935 hrs on 24/64" choke.
Opened choke to 100% @ 1100 hrs and continued to flow well on 100% choke for 57.5 hours.

F.T.H.P.	=	15	psig
Gas Rate	=	0.3	MMSCF/D
Liquid Rate	=	Slow trickle (unmeasured)	

14.2.87: Shut well in @ 2030 hrs for 94.03 hours.

Build Up

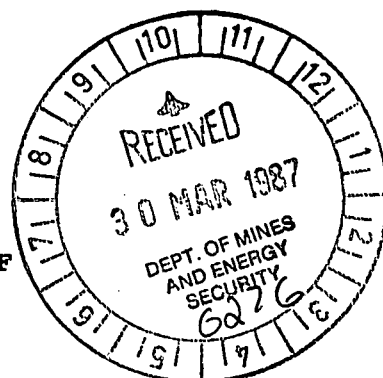
14th - 18th February

14.2.87: Shut well in @ 2030 hrs for 86.03 hours.
Element # 21379 @ 8149'KB after 86.03 hours = 3287.7 psig
Element # 21821 @ 8155'KB after 86.03 hours = 3298.4 psig
Maximum shut in bottomhole temperature = 262.9°F

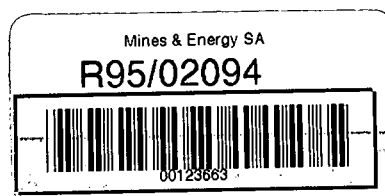
Static Reservoir Pressure

Mid Point of Perforations = 8161'KB

18.2.87: Ran static pressure gradient
Element # 21379 @ 8161'KB = 3293.0 psig
Element # 21821 @ 8161'KB = 3294.2 psig
Maximum shut in bottomhole temperature = 269.5°F



WP2892G(55)
LGA: tmm
16th March 1987



SANTOS LTD.
39 GRENFELL ST
ADELAIDE

SUB-SURFACE PRESSURE SURVEY

CO. SANTOS		RUN 01 FIELD DULLINGARI	WELL 39
EFF DEPTH		WELL STAT	TOOL HUNG 8149'
CASING 7"	-	CASING PRESS	ON BOTTOM 1425 14/2
LINER	-	TUBING PRESS	OFF BOTTOM 1032 18/2
DATE 870218		ELEMENT RANGE 0 - 4959	ZERO POINT
ELEVATION		ZONE	SHUT-IN 2030 14/2
MAX TEMP		PICK-UP	ON-PROD
PERF 8109'-8212'		CAL SER NO. 21379	MPP 8161'
TUBING 2-7/8"	-		
UNITS ENGLISH		PURPOSE BUILD-UP	

SURVEY DATA

CO. SANTOS				RUN 01 FIELD DULLINGARI				WELL 39			
TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME
20:30	112.9	0.0	0.0	16:30	3220.6	3107.7	20.0				
20:40	354.8	241.9	.2	20:30	3233.5	3120.6	24.0				
20:50	558.1	445.2	.3	0:30	3243.1	3130.2	28.0				
21:00	751.7	638.8	.5	4:30	3249.2	3136.3	32.0				
21:10	1088.5	975.6	.7	8:30	3255.5	3142.6	36.0				
21:20	1170.1	1057.2	.8	12:30	3260.4	3147.5	40.0				
21:30	1313.8	1200.9	1.0	16:30	3266.0	3153.1	44.0				
21:45	1528.2	1415.3	1.2	20:30	3271.1	3158.2	48.0				
22:00	1710.2	1597.3	1.5	0:30	3275.0	3162.1	52.0				
22:15	1872.9	1760.0	1.7	4:30	3277.4	3164.5	56.0				
22:30	2023.3	1910.4	2.0	8:30	3278.8	3165.9	60.0				
23:00	2267.8	2154.9	2.5	12:30	3282.4	3169.5	64.0				
23:30	2458.1	2345.2	3.0	16:31	3284.3	3171.4	68.0				
0:01	2679.6	2566.7	3.5	20:30	3285.7	3172.8	72.0				
0:29	2757.7	2644.8	4.0	0:31	3286.6	3173.7	76.0				
4:31	3105.2	2992.3	8.0	4:30	3286.0	3173.1	80.0				
8:30	3169.9	3057.0	12.0	8:30	3287.9	3175.0	84.0				
12:31	3200.6	3087.7	16.0	10:32	3287.7	3174.8	86.0				

LUB IN DWT = 15 PSI / OUT = 2662 PSI
LUB IN AMERADA = 24 PSI / OUT = 2670 PSI

SANTOS LTD
39 GRENELL ST
ADELAIDE

SUB-SURFACE PRESSURE SURVEY

CO. SANTOS	RUN 02 FIELD DULLINGARI	WELL 39
EFF DEPTH	WELL STAT	TOOL HUNG 8155'
CASING 7"	CASING PRESS	ON BOTTOM 1425 14/2
LINER	TUBING PRESS	OFF BOTTOM 1032 18/2
DATE 870218	ELEMENT RANGE 0 - 4836	ZERO POINT
ELEVATION	ZONE	SHUT-IN 2030 14/2
MAX TEMP	PICK-UP	ON-PROD
PERF 8109'-8212'	CAL SER NO. 21821	MPP 8161'
TUBING 2-7/8"		
UNITS ENGLISH	PURPOSE BUILD-UP	

SURVEY DATA

CO. SANTOS				RUN 02 FIELD DULLINGARI				WELL 39			
TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME
20:30	115.3	0.0	0.0	16:30	3225.6	3110.2	20.0				
20:40	440.4	325.1	.2	20:30	3235.5	3120.2	24.0				
20:50	676.1	560.8	.3	0:30	3246.5	3131.1	28.0				
21:00	870.8	755.5	.5	4:30	3252.3	3136.9	32.0				
21:10	1052.1	936.8	.7	8:30	3260.3	3144.9	36.0				
21:20	1211.9	1096.6	.8	12:30	3267.1	3151.7	40.0				
21:30	1370.1	1254.8	1.0	16:31	3275.3	3160.0	44.0				
21:45	1587.4	1472.0	1.2	20:30	3279.2	3163.8	48.0				
22:00	1783.2	1667.9	1.5	0:30	3283.3	3167.9	52.0				
22:15	1949.2	1833.8	1.7	4:30	3284.0	3168.6	56.0				
22:30	2095.9	1980.5	2.0	8:30	3287.6	3172.2	60.0				
23:00	2358.5	2243.1	2.5	12:30	3289.2	3173.9	64.0				
23:30	2553.6	2438.2	3.0	16:30	3290.4	3175.1	68.0				
0:00	2706.2	2590.9	3.5	20:30	3292.1	3176.7	72.0				
0:30	2815.9	2700.5	4.0	0:30	3294.4	3179.1	76.0				
4:30	3119.2	3003.9	8.0	4:30	3295.9	3180.5	80.0				
8:30	3178.7	3063.4	12.0	8:30	3296.8	3181.4	84.0				
12:30	3207.8	3092.4	16.0	10:32	3298.4	3183.1	86.0				

LUB IN DWT = 15 PSI / OUT = 2662 PSI
LUB IN AMERAA = 22 PSI / OUT = 2669 PSI

ISO - CHRONAL AND BUILD-UP SURVEY

Well: DHILLINGARI #39 Date: 14-2-87

Lubricator Data:

①	24
②	22

2670
2669

Pressure with D.W.T. IN 15 PSI OUT 2662 PSI

Time Pressured.....1250..... Time Depressured.....1244.....

Time Run in Hole.....1350..... Time off Bottom.....1032.....

Bomb No. 1 Data

Bomb No. 2 Data

Element No. and Range	21379 X 4825 PSI	21821 X 4750 PSI
Recorder No.	59288 X 15 TLS	14619 X 15 TLS
Clock and Lead Screw Data	28667 X 96 HR	28648 X 96 HR
Engage Stylus	Date: 14-2-87 Time: 1236	Date: 14-2-86 Time: 1236
Disengage	Date: 18-2-87 Time: 1233	Date: 18-2-87 Time: 1233

Remarks: TEMP ELEMENT NO 2821X148°-441°

CLOCK N° 28646 X 96HR

Max S/BH Temp = 262.9°F

Well-Head Data for Final Build-up

[illegible]

WELL: DULLINGARI #39

OPERATOR: N. HAY



SANTOS LTD
WELL TEST DATA
METRIC SUMMARY SHEET

DATE: 12.2.87

PAGE No: 1

DATE TIME	WELLHEAD						FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
0800														
0930	450	3102	2610	1799	86	30								
0935														
0945	500	3447	880	6067	86	30								
1000	540	7323	220	1576	86	30								
1015	540	7323	50	344	86	30								
1030	540	7323	30	206	86	30								
1100														
1125														
1200	540	7323	10	68	86	30								
1300	550	7323	10	68	86	30								

CONVERSION FACTORS:

• BBL'S. x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000078

WELL: DULLINGARI #39

OPERATOR: N. HAY



SANTOS LTD WELL TEST DATA

METRIC SUMMARY SHEET

DATE: 12-2-87

PAGE No: 2

DATE TIME	WELLHEAD						FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
1400	750	5171	12	82	86	30								
1500	800	5516	15	103	89	32								
1600	850	5860	15	103	91	33								
1800	900	6205	15	103	89	32	A SLOW TRICKLE OF LIQUID TO FLARE							
2200	900	6205	15	103	89	32	GAS RATE 3 MMSCF/D							
13-2-87														
0300	1000	6895	30	206	89	32								
0700	1000	6895	15	103	89	32								
1100	1000	6895	15	103	89	32								
1500	1000	6895	15	103	89	32								
1900	1000	6895	15	103	89	32								
2300	1000	6895	15	103	89	32								

CONVERSION FACTORS:

• BBL'S. x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

WELL: DUKKINGARI #39.....

OPERATOR: N. HAY.....



SANTOS LTD WELL TEST DATA

METRIC SUMMARY SHEET

DATE: 14-2-87.....

PAGE No: 3.....

DATE TIME	WELLHEAD						FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
0300	1000	6895	15	103	84	32								
0700	1000	6895	15	103	84	32	A SLOW TRICK OF LIQUID TO FLARE							
1100	1000	6895	15	103	86	30	GAS RATE 0.3 MMSCF/D							
1350	R.I.H. WITH 2X5000PSI PRESSURE ELEMENTS 1X148°-441° ELEMENT													
1425	HANG ON WIRE AT 8161MB													
1500	1000	6895	15	103	87	31								
1900	1000	6894	15	103	86	30								
2030	1000	6895	15	103	86	30	SHUT WELL IN FOR 96HR BUILD UP							
2040	1000	6895	150	1034	77	25								
2050	1000	6895	555	3926	75	24								
2100	1000	6895	750	5171	75	24								
2110	1000	6895	810	5584	73	23								

CONVERSION FACTORS:

$$\bullet \text{BBL'S.} \times 0.15899 = \text{M}^3$$

$$\bullet \text{MMSCF} \times 28.174 = 10^3 \text{M}^3$$

$$\bullet \text{Cu/FT PER BBL} \times 0.1773 = \text{M}^3/\text{M}^3$$

$$\bullet \text{PSI} \times 6.895 = \text{KPA}$$

$$\bullet ^\circ\text{C} \times 9 \div 5 + 32 = ^\circ\text{F}$$

WELL: DULLINGARI #39.....

OPERATOR: N. HAY.....



SANTOS LTD
WELL TEST DATA
METRIC SUMMARY SHEET

DATE: 14-2-87.....

PAGE No: 4.....

DATE TIME	WELLHEAD						FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
2120	1000	6895	1100	7584	71	22								
2130	1000	6895	1230	8480	71	22								
2145	1000	6895	1445	9963	71	22								
2200	1000	6895	1600	11032	71	22								
2215	1000	6895	1730	11928	71	22								
2230	1000	6895	1845	12721	71	22								
2300	1000	6895	1902	13114	69	21								
2330	1000	6895	2050	14134	69	21								
2400	1000	6895	2182	15064	68	20								
0030	1000	6895	2315	15961	68	20								
15-2-87							READINGS NOT TAKEN DUE TO RAIN ALL ROADS CLOSED							
0430														

CONVERSION FACTORS:

• BBL'S. x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

WELL: ~~DAKUNGARI~~ #39.....

OPERATOR: N. HAY.....



SANTOS LTD WELL TEST DATA

METRIC SUMMARY SHEET

DATE: 15-2-87.....

PAGE No: 5.....

DATE TIME	WELLHEAD						FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
0830							READING NOT TAKEN DUE TO RAIN ALL ROADS CLOSED							
1230														
1630														
2030														
16-2-87														
0030														
0430														
0830														
1230														
1630														
2030														
17-2-87														

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

WELL: *DULLINGARI 1439*.....
 OPERATOR: *N. HAY*.....



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: *17-2-87*.....
 PAGE No: *6*.....

DATE TIME	WELLHEAD						FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
<i>0030</i>														
<i>0430</i>														
<i>0830</i>														
<i>1230</i>														
<i>1630</i>														
<i>2030</i>														
<i>18-2-87</i>														
<i>0030</i>														
<i>0430</i>														
<i>0830</i>														
<i>1032</i>		<i>PULL OFF BOTTOM WITH PRESSURE ELEMENTS</i>												
<i>1235</i>		<i>RUN STATIC GRADIENT & RIG DOWN</i>												

CONVERSION FACTORS:

• BBL'S. x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F



000084

WIRELINE REPORT

WELL: DULLINGARI #39DATE: 14-2-87PROGRAM: PRIE FRAC WELL TESTPURPOSE OF WORK: DUMMY RUNREPORT OF WORK PERFORMED: RIG UP SWAB VALVE & WIRE LINE UNIT1100 R.I.H. WITH 1.75 B/BOX TAG P.B.T.D. AT 8416 KB.1132 P.O.O.H.RIG UP 2X5000PSI PRESSURE ELEMENT1X148°-447°F TEMP ELEMENT1350 R.I.H.1425 HANG ON WIRE AT 8161 KB.18-2-871032 PULL OFF BOTTOM1104 ARRIVE LUB1255 R.I.H. FOR STATIC GRADIENTN. HAY

OPERATOR'S SIGNATURE

WORK PERFORMED BY: N. HAY OF EXPERTEST

WELL DATA:

Tubing Size: 2 7/8 FWHP: 15 PSI SIWHP: 2662 PSI

Sub Surface S.V./Landing Nipple @ S.S.D. @:

"X" Nipple @ 7962 "N" ~~1 1/2~~ Nipple @ 7970 other Min I.D. 2.205 " @ 7970 Packer @ 2942Perforated Interval: 8109 - 8212Forward to: Petroleum Engineering — Adelaide
Production Department — Moomba



**** DULLINGARI 39 ****

STATIC PRESSURE GRADIENT

TEST DATE: 18/2/87

TOP PRESSURE ELEMENT 21379/4825				BOTTOM PRESSURE ELEMENT 21821/4750		
DEPTH (FT.)	DEFLECTION (INCHES)	PRESSURE (PSIG)	GRADIENT (PSI/FT)	DEFLECTION (INCHES)	PRESSURE (PSIG)	GRADIENT (PSI/FT)
LUB	1.0740	2657.2	----	1.1040	2640.7	----
1000	1.1130	2753.9	0.0967	1.1450	2740.2	0.0995
2000	1.1500	2845.7	0.0918	1.1830	2832.6	0.0924
3000	1.1840	2930.2	0.0844	1.2190	2920.3	0.0877
4000	1.2160	3009.6	0.0795	1.2510	2998.3	0.0780
5000	1.2460	3084.2	0.0745	1.2830	3076.4	0.0781
5500	1.2600	3119.0	0.0696	1.2980	3113.1	0.0733
6000	1.2750	3156.3	0.0746	1.3120	3147.3	0.0684
6500	1.2880	3188.6	0.0646	1.3260	3181.5	0.0685
7000	1.3010	3220.9	0.0646	1.3400	3215.8	0.0685
7500	1.3130	3250.7	0.0597	1.3530	3247.6	0.0637
8000	1.3260	3283.1	0.0647	1.3660	3279.5	0.0637
8050	1.3270	3285.5	0.0497	1.3680	3284.4	0.0980
8100	1.3280	3288.0	0.0497	1.3700	3289.3	0.0980
8161	1.3300	3293.0	0.0815	1.3720	3294.2	0.0803
8200	1.3310	3295.5	0.0638	1.3740	3299.1	0.1257
8250	1.3380	3312.9	0.3482	1.3820	3318.7	0.3921
LUB	1.0770	2664.6	----	1.1160	2669.8	----

GENERAL REMARKS:

RUN TEMP ELE NO 2821/148 441 F CLOCK NO 2360/3HR

DWT IN: 2662

DWT OUT: 2662

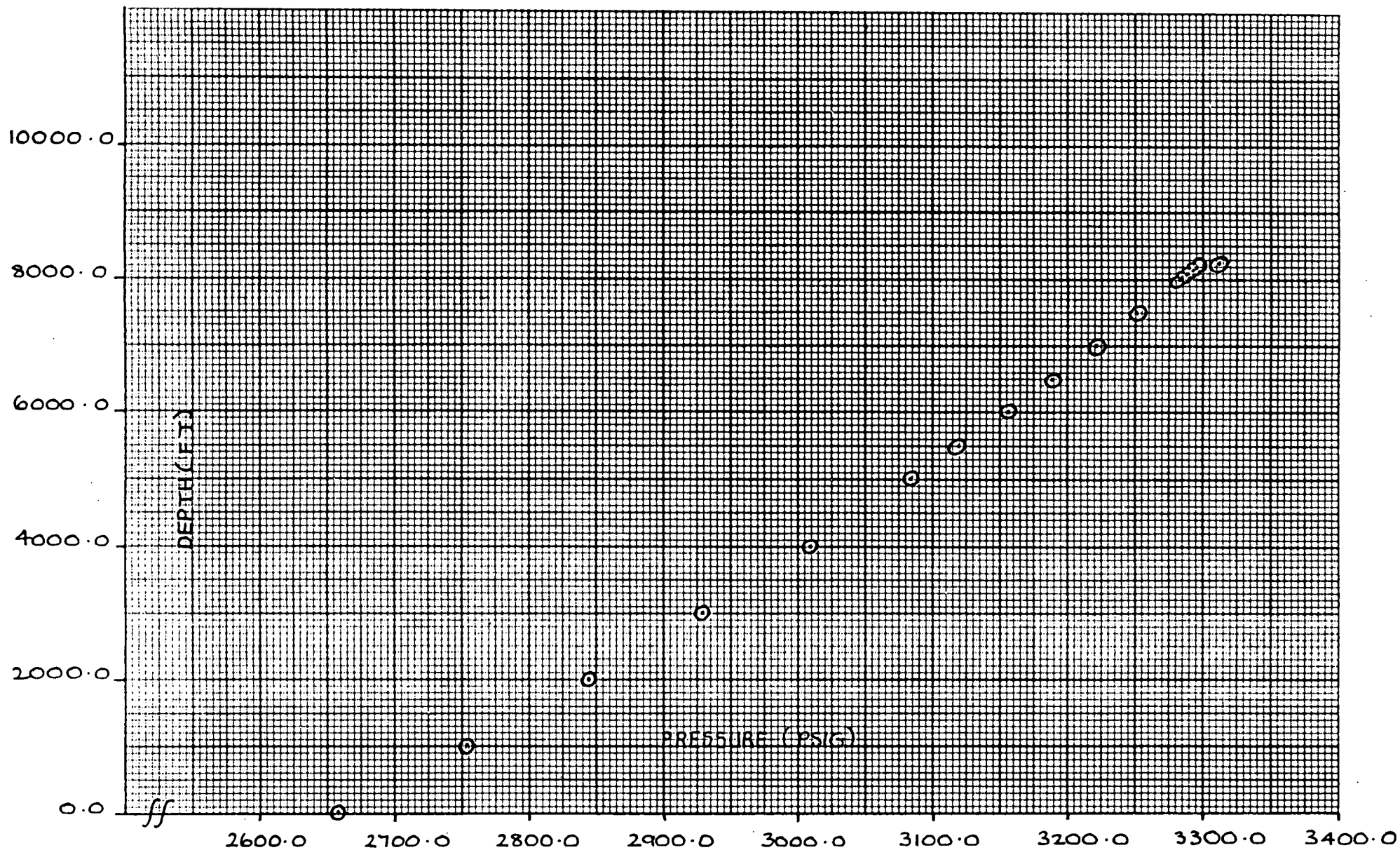
MAX BHT: RUN TEMP ELE 269.5°F

ELEMENT 21379/4825 CALIBRATED 20.1.87

ELEMENT 21821/4750 CALIBRATED 20.1.87

DULLINGARI # 39 — STATIC PRESSURE GRADIENT — 18 / 2 / 87

ELEMENT # 21379 / 4825 (TOP)



WELL NAME: DULLUNGARI # 39

STATIC GRADIENT SURVEY

DATE: 18-2-87

BOMB No. 1 DATA

ELEMENT No. 21379 ELEMENT RANGE: 4825 PSI
ORDER No. 59288 CLOCK DATA: 2387 X 3HR.
GAGE STYLUS: 1229 DISENGAGE: 1536

BOMB No. 2 DATA

ELEMENT No. 21821... ELEMENT RANGE: 4720...
RECORDER No. 14614... CLOCK DATA: 2578...
ENGAGE SYLUS: 1223... DISENGAGE: 1536...

LUBRICATOR DATA

PRESSURE WITH D.W.T.: IN 2662 OUT 2662
TIME PRESSURED: 1244
TIME DEPRESSURED: 1530

[illegible]

General Comments:

28000



WIRELINE REPORT

000088

WELL: DULLINGARI #39

DATE: 20th MAY 1987

PROGRAM: MODIFIED ISOCHRONAL TEST

PURPOSE OF WORK: Impression Block Run

REPORT OF WORK PERFORMED: Rig up swab valve, B.O.P.'s, and lubricator. Pressure test O.K.

Run in hole with 1.750" lead impression block.

Tag obstruction @ 6197' K.B. Obtain impression.

Pull out of hole and send impression block to Moomba for P.E. inspection.

Showing 1" coiled tubing parted cleanly.

OPERATOR'S SIGNATURE

WORK PERFORMED BY: Steve Mayer OF Oilserv

WELL DATA:

Tubing Size: 2 7/8 FWHP: SIWHP: 2093 PSI

Sub Surface S.V./Landing Nipple @ S.S.D. @:

"X" Nipple @ 7962' "N"/"X" Nipple @ 7970' other

Min I.D. 2.205" @ 7970' Packer @ 7942'

Perforated Interval: 8109 - 8212'

Forward to: Petroleum Engineering — Adelaide
Production Department — Moomba

Mines & Energy SA

R95/02092



5504



WIRELINE REPORT

000089

WELL:

Dullingari #39

DATE: 23 May 87

PROGRAM:

Modified Isochronal Test

PURPOSE OF WORK:

Pressure Survey and Build up

REPORT OF WORK PERFORMED:

12:18 Run in hole with 2 RP63 + 1 RT7 gauge.

12:48 On bottom @ 6177 FT KB.

16:00 Start Modified Isochronal Test

27 May 87.

12:05 off bottom with gauges.

13:38 Bleed off lubricator.

OPERATOR'S SIGNATURE

WORK PERFORMED BY:

Steve Mayer, OF Oilseru Aust

WELL DATA:

Tubing Size: 2 7/8" FWHP: SIWHP: 2252 PSI.

Sub Surface S.V./Landing Nipple @ S.S.D. @:

"X" Nipple @ 7962' "N"/"XN" Nipple @ 7970' other:

Min I.D. 2.205" @ 7970' Packer @ 7942'.

Perforated Interval: 8109' - 8212'

Forward to: Petroleum Engineering — Adelaide
Production Department — Moomba



WIRELINE REPORT

000090

WELL: Bullingari #39.

DATE: 27 May 87.

PROGRAM: modified Isochronal Test.

PURPOSE OF WORK: Pressure Survey.

REPORT OF WORK PERFORMED:

16.30 Run in hole with 2 RPE3 gauges + 1 RT7 gauge.
16.58 On bottom @ 6177. FTKB.

28.5.87 Shut well in for build up

2.6.87.

13.21 Off bottom with gauges.

14.00 Bleed off lubricator.

OPERATOR'S SIGNATURE

WORK PERFORMED BY: Steve Mayer, OF Oil Serv Aust.

WELL DATA:

Tubing Size: 2 3/8" FWHP: 720. PSI SIWHP: 2136.

Sub Surface S.V./Landing Nipple @ S.S.D. @:

"X" Nipple @ 7962' "N"/"XN" Nipple @ 7970' other 79

Min I.D. 2.205" @ 7970' Packer @ 7942'

Perforated Interval: 8109' - 8212'

Forward to: Petroleum Engineering — Adelaide
Production Department — Moomba



WIRELINE REPORT

000091

WELL: Pullingari #39

DATE: 2 June 87

PROGRAM: Modified Isochronal Test

PURPOSE OF WORK: Pressure survey (Buildup)

REPORT OF WORK PERFORMED:

16:20 Run in hole with 2 x RP63 and 1 x RT7 gauges.
16:51 On bottom @ 6177 FKB

7 June 87

08:45 Off bottom with gauges

09:18 In Lubricator

10:18 Bleed off & rig down

B. Lohrey

OPERATOR'S SIGNATURE

WORK PERFORMED BY: Steve Mayer, Bruce Lohrey OF Oilsew Aust

WELL DATA:

Tubing Size: 2 7/8" FWHP: SIWHP: 2093.2252 PSI

Sub Surface S.V./Landing Nipple @ S.S.D. @:

"X" Nipple @ 7962' "N"/"XN" Nipple @ 7970' other

Min I.D. 2.205" @ 7970' Packer @ 7942'

Perforated Interval: 8109 - 8212'

Forward to: Petroleum Engineering - Adelaide
Production Department - Moomba



WIRELINE REPORT

WELL: Dullingari # 39.

DATE: 7.6.81.

PROGRAM: modified Isochronal Test.

PURPOSE OF WORK: Static Gradient Survey.

REPORT OF WORK PERFORMED:

11.25 Open To Lubricator.

11.40 R.I.H with 2 x RP63 gauges + one x RT7 gauge.
Conduct survey as per programme.

12.51 On bottom @ 6177' KB.

12.56 POOH.

13.21 In Lubricator.

13.36 Bleed off Rig down.

OPERATOR'S SIGNATURE

WORK PERFORMED BY: Bruce Lohrey. OF Oil Serv Aust.

WELL DATA:

Tubing Size: 2 7/8" FWHP: SIWHP: 2093 PSI.

Sub Surface S.V./Landing Nipple @ S.S.D. @:

"X" Nipple @ 7962' "N"/"XN" Nipple @ 7970' other:

Min I.D. 2.205" @ 7970' Packer @ 7942'.

Perforated Interval: 8109' - 8212'.

Forward to: Petroleum Engineering — Adelaide
Production Department — Moomba

Time Run in Hole.....1218 hrs 23-5-87..... Time off Bottom.....1205 27-5-87.....

Bomb No. 2 Data

Element No. and Range	44176 x 5100 Psi	44918 x 5000 Psi
Recorder No.	61430 x 15 Tls	57958 x 15 Tls
Clock and Lead Screw Data	D 11889 x 120 Hour	F 16541 x 120 Hour
Engage Stylus	Date: 23-5-87 Time: 1055	Date: 23-5-87 Time: - 1055
Disengage	Date: 27-5-87 Time: 1359	Date: 27-5-87 Time: 1359

Remarks: Ameradas run with 1 RT-7 temperature recorder # 55573 100°-400°F
Clock # 658 x 72 hour

[illegible]

ISO - CHRONAL AND BUILD-UP SURVEY

000094

Well: DULLINGARI #59 Date: 27th - 5 - 87Lubricator Data: ① 638 2139② 729Pressure with D.W.T. IN 732 Psi OUT 2136 PsiTime Pressured 1535 hrs 27-5-87 Time Depressed 1400 hrs 2-6-87Time Run in Hole 1630 hrs 27-5-87 Time off Bottom 1321 2-6-87

Bomb No. 1 Data

Bomb No. 2 Data

Element No. and Range	<u>44176 x 5100 Psi</u>	<u>44918 x 5000 Psi</u>
Recorder No.	<u>61430 x 15 Tls</u>	<u>57958 x 15 Tls</u>
Clock and Lead Screw Data	<u>F16591 x 120 hour</u>	<u>D11889 x 120 Hour</u>
Engage Stylus	Date: <u>27-5-87</u> Time: <u>1503 hrs</u>	Date: <u>27-5-87</u> Time: <u>1503 hrs</u>
Disengage	Date: <u>2-6-87</u> Time: <u>1418 hrs</u>	Date: <u>2-6-87</u> Time: <u>1418 hrs</u>

Remarks: Bombs #1 and 2 run with 1 RT-7 temperature recorder.
Element # 55573 100°-400°F 72 Hour clock 15 Tls

Well-Head Data for Final Build-up

Date	Time	Hours shut-in Time	Wellhead P.S.I.G.	Casing P.S.I.G.	Wellhead Temp.	Remarks
27-5	1658		727	1410	144°F	On bottom
28-5	0400		720	1360	144°	
	1200	0	715	1340	144°	Shut in well
	1300	1	1498	1170		
	1400	2	1575	1065		
	1500	3	1621	1000		
	1600	4	1655	945		
	1800	6	1704	875		
	2400	12	1792	805		
29-5	0600	18	1856	710		
	1200	24	1891	690		
	2400	36	1949	635		
30-5	1200	48	1994	680		
	2045	56 $\frac{3}{4}$	2025	730		
31-5	1200	72	2056	760		
	2030	80 $\frac{1}{2}$	2080	820		
1-6	0810	92	2103	895		
	2010	104	2117	950		
2-6	0710	115	2126	990		
	1321	122	2136	1030		Pull out of hole

Build-Up Time in Minutes

Shut Well In @ 1200 hrs 28/5/87: 0

5

10

15

30

45

60

75

90

105

120

150

180

240

300

360

420

720

1080

1440

1620

1800

2160

2520

2880

3240

3405

3960

4320

4830

5530

6250

6910

P.O.O.H. @ 1321 hrs 2/6/87: 7281 ✓

On bottom @ 1651 hrs 2/6/87 0

939

1689

2229

3129

3669

4569

5109

6009

6549

P.O.O.H. @ 0850 hrs 7/6/87 6719 ✓✓

TYPE OF TEST: MODIFIED ISOCHRONAL



SANTOS LTD.

WELL TEST DATA SHEET

DATE: 23RD MAY 1987

PAGE No:.....1 of 16.....

OPERATOR.....S. MAYER/K McCARTAN.....

260000

TYPE OF TEST: MODIFIED ISOCHRONAL



SANTOS LTD.

WELL TEST DATA SHEET

DATE: 23RD MAY 1987

PAGE No: 2 of 16

DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS				
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS.H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLs	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLs	GAS	OIL	WATER	TOTAL LIQUID	G.O.R.
															FLOW RATE MMSCFD	FLOW RATE BBLs/ DAY	FLOW RATE BBLs/ DAY	FLOW RATE BBLs/ DAY	SCF/BBL
1600	820	1750	108°	20/64		290	68	45	2.00						3.518	24.2	0		
			END OF RATE # 1			SHUT IN WELL													
1605	820	1962																	
1610	805	2016																	
1615	795	2055																	
1630	775	2100																	
1645	750	2123																	
1700	740	2137																	
1715	730	2146																	
1730	725	2151																	
1745	720	2156																	
1800	715	2162																	
			RATE #2																
1800	715	2162	Open well on 22/64" choke																
1805	720	1865	102°	22/64															
1810	730	1780	104°	22/64															
1815	750	1725	104°	22/64		300	71	34	2.25						4.781				

OPERATOR.....S. MAYER / K. McCARTAN

000096

WELL: <u>DULLINGARI #39</u>						SANTOS LTD.										DATE: <u>23RD MAY 1987</u>							
TYPE OF TEST: <u>MODIFIED ISOTHERMAL</u>						SANTOS										WELL TEST DATA SHEET				PAGE No: <u>3 of 16</u>			
DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS								
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS. H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLs	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLs	GAS FLOW RATE MMSCFD	OIL FLOW RATE BBLs/ DAY	WATER FLOW RATE BBLs/ DAY	TOTAL LIQUID FLOW RATE BBLs/ DAY	G.O.R. SCF/BBL				
1818																							
1830	775	1682	106°	22/64		300	68	39°	2.25						4.646								
1900	845	1622	111°	22/64		300	63	43°	2.25			47.3			4.454	30.2	3.0		Gas S.G. 0.785				
1930	900	1577	111°	22/64		300	60	46°	2.25						4.329								
2000	945	1538	115°	22/64		270	60	46°	2.25						4.118	66.4	22.6						
2005	940	1850																					
2010	925	1915																					
2015	920	1950																					
2030	875	2025																					
2045	850	2061																					
2100	830	2080																					
2115	820	2096																					
2130	800	2104																					
2145	790	2111																					
2200	775	2120																					

OPERATOR: S. MAYER / K. McCARTAN

000099

WELL: <u>DULLINGARI #39</u>						 SANTOS LTD. WELL TEST DATA SHEET										DATE: <u>23RD MAY 1987</u>				
TYPE OF TEST: <u>MODIFIED ISOTHERMAL</u>						PAGE No: <u>4 of 16</u>														
DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS					
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS. H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLs	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLs	GAS FLOW RATE MMSCFD	OIL FLOW RATE BBLs/ DAY	WATER FLOW RATE BBLs/ DAY	TOTAL LIQUID FLOW RATE BBLs/ DAY	G.O.R. SCF/BBL	
				<u>RATE # 3</u>																
2200	775	2120		Open well on																
2205	800	1690	106°	28/64																
2210	820	1565	109°	28/64																
2215	830	1490	111°	28/64		300	69	41	2.50						5.969					
2230	885	1405	113°	28/64		300	63	52	2.50						5.625					
2300	970	1336	117°	28/64		290	59	57	2.50			48.1			5.310	7.5	18.1		Gas S.G. 0.783	
2330	1015	1247	118°	28/64		285	55	63	2.50						5.046					
2400	1070	1258	122°	28/64		285	52	66	2.50						4.883	15.1	45.3			
24 th	MAY 1987			END OF RATE # 3																
0005	1050	1680																		
0010	1045	1767																		
0015	1020	1825																		
0030	975	1940																		
0045	940	1993																		
0100	900	2022																		
0115	875	2040																		
0130	860	2054																		
0145	845	2065																		

OPERATOR: S. MAYER / K. McCARTAN

000100

WELL: DULLINGARI #39						SANTOS LTD.										DATE: 24 th MAY 1980				
TYPE OF TEST: MODIFIED ISOCHRONAL						WELL TEST DATA SHEET										PAGE No: 5 of 16				
DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS					
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS. H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLs	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLs	GAS FLOW RATE MMSCFD	OIL FLOW RATE BBLs/ DAY	WATER FLOW RATE BBLs/ DAY	TOTAL LIQUID FLOW RATE BBLs/ DAY	G.O.R. SCF/BBL	
0200	845	2075																		
0200	845	2075		Open	well	on	36/64	fixed	choke											
0205	850	1400	113°	36/64																
0210	900	1200	115°	36/64																
0215	920	1130	117°	36/64		300	100	68°	2.50						6.940					
0230	960	1040	118°	36/64		300	89	77°	2.50						6.459					
0300	1045	935	122°	36/64		305	75	86°	2.50			48.0			5.908	26.4	71.7		Gas S.G. 0.787	
0330	1125	915	124°	36/64		300	74	90°	2.50						5.790				CO ₂ - 24%	
0400	1150	870	124°	36/64		300	78	91°	2.50						5.940	30.2	22.6		H ₂ S - 28 ppm	
0405	1175	1490																		
0410	1140	1660																		
0415	1135	1723																		
0430	1100	1850																		
0445	1025	1914																		
0500	1000	1955																		
0515	980	1976																		

OPERATOR: S. MAYER / K. McCARTAN

000101

WELL: <u>DULLINGARI #39</u>						 SANTOS LTD. WELL TEST DATA SHEET										DATE: <u>24th MAY 1987</u>				
TYPE OF TEST: <u>MODIFIED ISOCHRONAL</u>						PAGE No: <u>6 of 16</u>														
DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS					
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS. H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLs	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLs	GAS FLOW RATE MMSCFD	OIL FLOW RATE BBLs/ DAY	WATER FLOW RATE BBLs/ DAY	TOTAL LIQUID FLOW RATE BBLs/ DAY	G.O.R. SCF/BBL	
0530	960	2005																		
0545	925	2014																		
0600	905	2021																		
0600	905	2021																		
0605	925	1185	117°	40/64																
0610	955	1075	118°	40/64																
0615	1000	1000	122°	40/64		305	45	77°	3.00						7.312					
0630	1035	920	122°	40/64		300	38	88°	3.00						6.581					
0700	1125	822	124°	40/64		300	32	93°	3.00			46.2			6.000	20.4	47.3		Gas S.G. = 0.788	
0730	1200	795	127°	40/64		300	29	97°	3.00						5.675					
0800	1240	735	127°	40/64		295	25	100°	3.00						5.208	23.7	38.2			
0801																				
0811																				
0823																				

OPERATOR: S. MAYER / K. McCARTAN

000102

WELL:.....DULLINGARI.....#39.....						 SANTOS LTD. WELL TEST DATA SHEET								DATE:.....24 th MAY 1987.....					
TYPE OF TEST:..MODIFIED..ISOTHERMAL						PAGE No:.....7 of 16.....													
DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS				
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS.H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLs	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLs	GAS FLOW RATE MMSCFD	OIL FLOW RATE BBLs/ DAY	WATER FLOW RATE BBLs/ DAY	TOTAL LIQUID FLOW RATE BBLs/ DAY	G.O.R. SCF/BBL
0830	1270	945	127°	32/64		300	62	95°	2.25						4.142				GASSG. 0.788
0900	1295	980	129°	32/64		300	70	97°	2.25						4.394	19.1	38.2		
1000	1345	960	129°	32/64		310	63	95°	2.25						4.241	20.1	40.3		
1100	1370	939	133°	32/64		320	59	97°	2.25						4.159	17.1	34.2		
1200	1400	948	133°	32/64		315	60	97°	2.25			43.8			4.164	22.6	45.3		
1300	1425	919	135°	32/64		310	59	100°	2.25						4.116	27.2	34.2		
1400	1440	890	135°	32/64		310	60	104°	2.25			44.0			4.072	16.6	40.8		
1500	1455	899	136°	32/64		290	63	106°	2.25						4.053	27.2	30.2		
1600	1460	891	138°	32/64		280	63	106°	2.25			41.5			3.990	12.1	48.3		
1700	1475	883	138°	32/64		275	63	106°	2.25						3.956	1.5	52.8		
1800	1480	903	140°	32/64		270	67	106°	2.25			40.9			4.033	13.6	61.9		
1900	1490	876	140°	32/64		300	55	108°	2.25						3.841	15.1	43.8		
2000	1500	858	140°	32/64		295	62	108°	2.25			41.6			4.046	9.1	58.9		
2100	1515	865	140°	32/64		290	57	108°	2.25						3.841	0	61.9		
2200	1510	857	140°	32/64		285	57	108°	2.25			41.1			3.809	15.1	52.8		
2300	1510	853	142°	32/64		285	57	109°	2.25						3.806	10.6	42.3		
2400	1510	854	142°	32/64		285	57	109°	2.25			41.6			3.806	7.5	52.8		
	25 th MAY	1987																	
0100	1510	845	142°	32/64		275	57	109°	2.25						3.738	34.7	40.8		
0200	1510	842	142°	32/64		270	57	109°	2.25			40.9			3.703	10.6	49.8		

OPERATOR.....S. MAYER...../K. McCARTAN

000103

WELL:.....DULLINGARI.....#39.....						 SANTOS LTD. WELL TEST DATA SHEET								DATE:.....25 th MAY 1987					
TYPE OF TEST:..MODIFIED..ISOTHERMAL						PAGE No:.....8 of 16													
DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS				
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS.H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLs	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLs	GAS FLOW RATE MMSCFD	OIL FLOW RATE BBLs/ DAY	WATER FLOW RATE BBLs/ DAY	TOTAL LIQUID FLOW RATE BBLs/ DAY	G.O.R. SCF/BBL
0300	1515	839	142°	3 3/4		270	57	109°	2.25						3.703	19.6	40.8		
0400	1515	834	142°	3 3/4		270	56	109°	2.25			40.3			3.670	16.6	55.8		
0500	1520	830	142°	3 3/4		265	56	109°	2.25						3.638	16.6	43.8		
0600	1520	826	142°	3 3/4		260	56	109°	2.25			39.5			3.602	18.1	52.8		
0700	1525	822	142°	3 3/4		250	57	109°	2.25						3.560	15.1	42.2		
0800	1530	819	144°	3 3/4		305	47	111°	2.25			37.0			3.557	13.6	27.2		
0900	1535	819	144°	3 3/4		305	47	113°	2.25						3.545	3.0	45.3		
1000	1545	813	144°	3 3/4		310	47	115°	2.25			36.9			3.567	12.1	55.8		
1100	1550	813	144°	3 3/4		290	49	117°	2.25						3.522	10.6	49.8		
1200	1550	812	144°	3 3/4		280	49	117°	2.25			38.9			3.464	10.6	51.3		
1300	1550	810	145°	3 3/4		280	48	117°		Samples taken					3.429	6.0	72.5		
1301		Shut in well for pressure buildup																	
1305	1540	1299																	
1310	1520	1417																	
1315	1500	1475																	
1330	1430	1562																	
1345	1370	1630																	
1400	1320	1667																	
1415	1280	1694																	
1430	1250	1717																	

OPERATOR.....S. MAYER / K. McCARTAN

000104

WELL: <u>DULLINGARI #39</u>						 SANTOS LTD. WELL TEST DATA SHEET										DATE: <u>25th MAY 1987</u>				
TYPE OF TEST: <u>MODIFIED ISOCHORICAL</u>						PAGE No: <u>9 of 16</u>														
DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS					
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS. H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLs	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLs	GAS FLOW RATE MMSCFD	OIL FLOW RATE BBLs/ DAY	WATER FLOW RATE BBLs/ DAY	TOTAL LIQUID FLOW RATE BBLs/ DAY	G.O.R. SCF/BBL	
1445	1225	1735																		
1500	1200	1749																		
1600	1175	1795		Open well on 32/64" fixed choke to continue Extended Rate																
1605	1150	1270	129°	32/64																
1610	1155	1210	131°	32/64																
1615	1175	1151	133°	32/64		300	99	82	2.25						5.321					
1630	1225	1000	135°	32/64		300	79	84	2.25						4.738					
1700	1310	957	136°	32/64		290	70	95	2.25						4.324					
1800	1400	877	138°	32/64		285	62	100	2.25			43.4			4.005	21.1	31.7			
1900	1410	847	140°	32/64		300	52	104	2.25						3.744					
2000	1435	831	140°	32/64		295	53	105	2.25			43.8			3.746	11.3	34.0			
2100	1470	824	142°	32/64		285	53	105	2.25						3.686					
2200	1490	815	142°	32/64		280	53	106	2.25			43.5			3.652	17.0	32.1			
2300	1500	808	142°	32/64		270	53	106	2.25						3.590					
2400	1500	803	142°	32/64		265	54	106	2.25			43.5			3.591	18.9	26.4			
	26 th	MAY	1987																	
0100	1505	801	144°	32/64		260	54	106	2.25						3.556					
0200	1505	794	144°	32/64		255	53	106	2.25			44.0			3.487	10.9	44.9			
0300	1510	791	144°	32/64		255	52	106	2.25						3.454					
0400	1510	790	144°	32/64		255	52	106	2.25			43.6			3.454	20.3	52.1			

OPERATOR: S. MAYER / K. McCARTAN

000105

WELL:.....DULLINGARI #39.....

TYPE OF TEST:.....MODIFIED ISOTHERMAL.....



SANTOS LTD.

WELL TEST DATA SHEET

DATE:.....26th MAY 1987.....

PAGE No:.....10 of 16.....

DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS				
	CASING	TUBING	TEMP.	CHOKE	B.S.W.	PI	HW	TEMP.	ORIFICE	TANK	TANK	API	TANK	TANK	GAS	OIL	WATER	TOTAL	G.O.R.
	PSI	PSI	°F	SIZE INS.	%	PSI	INS.H ₂ O	°F	SIZE INS.	DIP INS.	PROD BBLs	GRAVITY @ 60 °F	DIP INS.	PROD BBLs	FLOW RATE MMSCFD	FLOW RATE BBLs/ DAY	FLOW RATE BBLs/ DAY	FLOW RATE BBLs/ DAY	SCF/BBL
0500	1515	787	144°	32/64		255	52	106	2.25						3.454				
0600	1520	785	144°	32/64		253	52	106	2.25			43.5			3.441	9.1	37.8		
0700	1515	781	144°	32/64		253	52	107	2.25						3.432				
0800	1515	779	144°	32/64		295	45	110	2.25			43.4			3.430	15.1	60.4		
0900	1515	776	144	32/64		305	42	110	2.25						3.373				
1000	1515	769	144	32/64		315	40	110	2.25			43.2			3.338	12.1	32.5		
1100	1515	770	144	32/64		325	39	110	2.25						3.360				
1200	1515	770	144	32/64		330	38	109	2.25			43.2			3.344	10.6	34.7		
1300	1510	767	144	32/64		315	40	109	2.25						3.361				
1400	1510	766	145	32/64		315	40	109	2.25			43.0			3.361	18.9	30.2		
1500	1505	765	145	32/64		295	43	109	2.25						3.366				
1600	1505	765	145	32/64		285	44	108	2.25			43.3			3.349	7.5	37.7		
1700	1505	762	145	32/64		280	44	107	2.25						3.324				
1800	1500	759	145	32/64		295	43	108	2.25			43.3			3.368	25.6	19.6		
1900	1500	756	145	32/64		285	43	106	2.25						3.316				
2000	1500	755	145	32/64		285	43	105	2.25			43.2			3.320	15.1	30.2		
2100	1500	752	144	32/64		280	43	104	2.25						3.295				
2200	1500	753	144	32/64		275	44	103	2.25			43.2			3.304	8.3	44.5		
2300	1475	750	144	32/64		280	44	103	2.25						3.336				
2400	1475	749	145	32/64		270	4	103	2.25			43.4			3.275	7.5	37.7		

OPERATOR.....S. MAYER / K McCARTAN.....

000106

WELL:.....DULLINGARI.....#39.....						 SANTOS LTD. WELL TEST DATA SHEET										DATE:.....27 th MAY 1987.....				
TYPE OF TEST:.....MODIFIER.....ISOTHERMAL						PAGE No:.....11 of 16.....														
DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS					
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS.H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLs	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLs	GAS FLOW RATE MMSCFD	OIL FLOW RATE BBLs/ DAY	WATER FLOW RATE BBLs/ DAY	TOTAL LIQUID FLOW RATE BBLs/ DAY	G.O.R. SCF/BBL	
0100	1460	749	145	32/64		270	45	102	2.25						3.315					
0200	1450	748	144	32/64		255	46	103	2.25			43.4			3.254	7.5	49.1			
0300	1430	748	144	32/64		255	47	104	2.25						3.286					
0400	1430	745	144	32/64		245	48	104	2.25			44.0			3.258	14.3	28.7			
0500	1430	743	144	32/64		240	50	105	2.25						3.288					
0600	1440	741	145	32/64		235	50	105	2.25			43.4			3.256	6.8	29.4			
0700	1440	740	145	32/64		235	50	106	2.25						3.249					
0800	1435	742	145	32/64		285	41	108	2.25			43.3			3.218	1.5	18.9			
0900	1435	741	145	32/64		270	43	106	2.25						3.217					
1000	1435	738	145	32/64		260	45	106	2.25			43.3			3.229	7.9	37.0			
1100	1430	739	145	32/64		265	43	106	2.25						3.186					
1200	1425	736	145	32/64		270	42	107	2.25			43.3			3.177	6.8	61.1			
1205	Pull off bottom with ameradas to reload charts.																			
1238	Ameradas in lubricator (1 hour stop)																			
1300	1425	738	145	32/64		270	42	107	2.25						3.177					
1400	1425	736	145	32/64		270	42	106	2.25			43.2			3.179	10.9	37.7			
1500	1420	734	145	32/64		255	45	105	2.25						3.206					
1600	1415	732	145	32/64		255	45	105	2.25			43.0			3.206	0	42.3			
1630	Run in hole with ameradas																			
1658	On bottom - Hanging at 6177' KB.																			

OPERATOR.....S. MAYER / K. MCCARTAN

000107

WELL: PULLINGARI #39

TYPE OF TEST: MODIFIED ISOTHERMAL



SANTOS LTD.

WELL TEST DATA SHEET

DATE: 27th MAY 1987

PAGE No: 12 of 16

DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS				
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS.H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLS	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLS	GAS FLOW RATE MMSCFD	OIL FLOW RATE BBLS/DAY	WATER FLOW RATE BBLS/DAY	TOTAL LIQUID FLOW RATE BBLS/DAY	G.O.R. SCF/BBL
1700	1410	727	144	3 1/4		245	46	105	2.25						3.181				
1800	1410	732	144	3 1/4		240	47	105	2.25						3.178	3.8	40.0		
1900	1405	730	145	3 1/4		240	48	105	2.25						3.212				
2000	1400	731	145	3 1/4		235	48	107	2.25						3.172	3.0	41.5		
2100	1370	730	145	3 1/4		240	48	107	2.25						3.200				
2200	1400	727	145	3 1/4		235	49	106	2.25						3.205	11.3	33.9		
2300	1390	725	145	3 1/4		230	49	107	2.25						3.167				
2400	1375	725	143	3 1/4		230	49	107	2.25						3.167	4.5	48.3		
2500	1370	725	143	3 1/4		230	49	106	2.25						3.173				
0200	1365	724	143	3 1/4		225	49	106	2.25						3.137	11.3	26.4		
0300	1370	720	145	3 1/4		215	51	106	2.25						3.130				
0400	1360	720	145	3 1/4		210	53	106	2.25						3.127	3.8	22.1		
0500	1360	719	145	3 1/4		205	53	105	2.25						3.119				
0600	1360	717	145	3 1/4		200	53	105	2.25						3.083	11.3	39.2		
0700	1355	717	145	3 1/4		210	50	106	2.25						3.063				
0800	1350	716	145	3 1/4		225	48	107	2.25						3.100	14.4	64.2		
0900	1350	716	145	3 1/4		230	47	107	2.25						3.106				
1000	1345	716	145	3 1/4		240	44	107	2.25						3.061	12.1	38.5		
1100	1345	715	145	3 1/4		280	38	109	2.25						3.081				
1130	1340	714	145	3 1/4		280	38	108	2.25						3.081				

OPERATOR: S. MAYER / K. McCARTAN

000108

WELL: DULLINGARI #39

TYPE OF TEST: MODIFIED ISOCHRONAL



SANTOS LTD.

WELL TEST DATA SHEET

DATE: 28th MAY 1987

PAGE No: 13 of 16

DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS				
	CASING	TUBING	TEMP.	CHOKE	B.S.W.	PI	HW	TEMP.	ORIFICE	TANK	TANK	API	TANK	TANK	GAS	OIL	WATER	TOTAL	G.O.R.
	PSI	PSI	°F	SIZE INS.	%	PSI	INS. H ₂ O	°F	SIZE INS.	DIP INS.	PROD BBLs	GRAVITY @ 60 °F	DIP INS.	PROD BBLs	FLOW RATE MMSCFD	FLOW RATE BBLs/ DAY	FLOW RATE BBLs/ DAY	FLOW RATE BBLs/ DAY	SCF/BBL
1200	1340	715	145	32/64		280	38	108	2.25						3.081	9.1	33.9		
1201		Shut in well for pressure buildup.																	
1205	1325	1145																	
1210	1310	1260																	
1215	1300	1310																	
1230	1260	1407																	
1245	1215	1459																	
1300	1170	1498																	
1315	1135	1523																	
1330	1110	1544																	
1345	1090	1560																	
1400	1065	1575																	
1430	1025	1600																	
1500	1000	1621																	
1600	945	1655																	
1700	905	1682																	
1800	875	1704																	
1900	840	1724																	
2400	805	1792																	

OPERATOR: S. MAYER / K. McCARTAN

000109

WELL: <u>PULLINGARI #39</u>						 SANTOS LTD. WELL TEST DATA SHEET										DATE: <u>29th MAY 1987</u>				
TYPE OF TEST: <u>MODIFIED KACHARKA</u>						PAGE No: <u>14 of 16</u>														
DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS					
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS. H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLs	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLs	GAS FLOW RATE MMSCFD	OIL FLOW RATE BBLs/ DAY	WATER FLOW RATE BBLs/ DAY	TOTAL LIQUID FLOW RATE BBLs/ DAY	G.O.R. SCF/BBL	
0600	710	1856																		
1200	690	1891																		
1500	675	1911																		
1800	640	1925																		
2400	635	1949																		
	30 th	MAY	1987																	
0600	660	1973																		
1200	680	1994																		
1800	710	2010																		
2045	730	2025																		
	31 st	MAY	1987																	
0600	750	2045																		
1200	760	2056																		
2030	820	2080																		
	1 st	JUNE	1987																	
0810	895	2103																		
2010	950	2117																		
	2 nd	JUNE	1987																	
0710	990	2126																		
1321	1030	2136																		
Pull out of hole with amercadus to reload charts.																				

OPERATOR: S. MAYER/K. McCARTIN

000110

WELL: Dulligari #39.....						SANTOS LTD.										DATE: 2 June 87.....				
TYPE OF TEST: mIsochronal.						WELL TEST DATA SHEET										PAGE No: 15 of 16.....				
DATE TIME	WELLHEAD					GAS FLOW DATA					OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS				
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS. H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLs	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLs	GAS FLOW RATE MMSCFD	OIL FLOW RATE BBLs/ DAY	WATER FLOW RATE BBLs/ DAY	TOTAL LIQUID FLOW RATE BBLs/ DAY	G.O.R. SCF/BBL	
16:20	1035	2138		Run in hole																
16:51				On bottom.				6177	'KB.											
	3	June 87.																		
08:30	1100	2158																		
21:00	1145	2175																		
	4	June 87.																		
06:00	1175	2185																		
21:00	1225	2195																		
	5	June 87																		
06:00	1255	2197																		
21:00	1325	2225																		
	6	June 87																		
06:00	1350	2235																		
21:00	1420	2240																		
	7	June 87.																		
06:00	1450	2252																		
08:40				PODIT with gauges.																
09:18				In Lubricator																
10:18	1450	2252		Bled off																
11:25	1450	2252		Pressure up																

OPERATOR: Smayev K M 'Cartan.

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[illegible]

OPERATOR BLOHVEY K Mc CARTAN


**PRODUCTION
SERVICES**
COMPANY SANTOSWELL NO. DULLINGARI #39MODIFIED ISOCHRONAL TESTINTERVAL TESTED 8109 - 8212COUNTRY AUSTRALIATECHNICIAN S. MAYER / K. MCCARTAN
**Gas Flow
Rate
Calculations**
PAGE 1 OF 8DATE: 23-5-87

BASE CONDITIONS: 14.73 POUNDS PER SQUARE INCH AT 60°F

ORIFICE FITTING TYPE: DANIELS SENIORORIFICE FITTING SIZE: 4.026"☒ FLANGE TAPS. ☐ PIPE TAPS.GAS FLOW RECORDER TYPE: FOXBORO T-37 SER. NO. 4907367 APRESSURE RANGE: 0-1500 PSIDIFFERENTIAL RANGE: 0-100" WCDATE OF LAST CALIBRATION: 22-5-87GAS SPECIFIC GRAVITY: 0.784CALIBRATED BY: S. MAYER

TIME DATA		CHOKE SIZE 64THS. INCH	METER RUN DATA				$\sqrt{P_1 X h w}$	$C' = F_b \times F_{pb} \times F_{Tb} \times F_g \times F_{Ti} \times F_r \times Y \times F_{pv}$								FLOW RATE $Q = C' \times 24 \times \sqrt{P_1 \times h w}$ MMSCF/DAY	REMARKS	
DATE & TIME HOURS	ELAPSED TIME HOURS		PRESS. PSIA	DIFF. INCHES WATER	TEMP. °F	PLATE SIZE INCHES		F_b	F_{pb}	F_{Tb}	F_g	F_{Ti}	F_r	Y	F_{pv}			C'
		RATE #1																
1415		20/64	315	76	28°	2.00	154.726	842.12	1	1	1.1294	1.0323	1	1.0015	1.058	1040.31	3.863	Gas specific gravity - 0.784
1430		20/64	315	74	32°	2.00	152.676	842.12	1	1	1.1294	1.0281	1	1.0015	1.057	1035.10	3.793	
1445		20/64	315	72	37°	2.00	150.599	842.12	1	1	1.1294	1.0229	1	1.0015	1.056	1028.89	3.719	
1500		20/64	315	71	37°	2.00	149.549	842.12	1	1	1.1294	1.0229	1	1.0014	1.056	1028.79	3.693	
1530		20/64	315	70	43°	2.00	148.492	842.12	1	1	1.1294	1.0168	1	1.0014	1.055	1021.69	3.641	
1600		20/64	305	68	45°	2.00	144.014	842.12	1	1	1.1294	1.0147	1	1.0014	1.053	1017.91	3.518	
		RATE #2																
1815		22/64	315	71	34°	2.25	149.549	1089.9	1	1	1.1287	1.0260	1	1.0013	1.054	1332.04	4.781	S.G. 0.785
1830		22/64	315	68	39°	2.25	146.356	1089.9	1	1	1.1287	1.0208	1	1.0013	1.052	1322.77	4.646	
1900		22/64	315	63	43°	2.25	140.872	1089.9	1	1	1.1287	1.0168	1	1.0011	1.052	1317.33	4.454	
1930		22/64	315	60	46°	2.25	137.477	1089.9	1	1	1.1287	1.0137	1	1.0011	1.051	1312.06	4.329	
2000		22/64	28.5	60	46°	2.25	130.767	1089.9	1	1	1.1287	1.0137	1	1.0012	1.051	1312.19	4.118	

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Gas Flow Rate Calculation Report Continuation Form

TIME DATA		CHOKE SIZE 64THS. INCH	METER RUN DATA				$\sqrt{P_1 \times h_w}$	$C' = F_b \times F_{pb} \times F_{Tb} \times F_g \times F_{Ti} \times F_r \times Y \times F_{pv}$								FLOW RATE $Q = C' \times 24 \times$ $\sqrt{P_1 \times h_w}$ MMSCF/DAY	REMARKS	
DATE & TIME HOURS	ELAPSED TIME HOURS		PRESS. PSIA	DIFF. INCHES WATER	TEMP. °F	PLATE SIZE INCHES		F_b	F_{pb}	F_{Tb}	F_g	F_{Ti}	F_r	Y	F_{pv}			C'
23 RD	MAY	1967																
		RATE # 3																
2215		28/64	315	69	41°	2.50	147.428	1387.2	1	1	1.1301	1.0188	1	1.0012	1.055	1687.01	5.969	S.G. = 0.783
2230		28/64	315	63	52°	2.50	140.872	1387.2	1	1	1.1301	1.0078	1	1.0011	1.052	1663.89	5.625	
2300		28/64	305	59	57°	2.50	134.145	1387.2	1	1	1.1301	1.0010	1	1.0010	1.050	1649.35	5.310	
2330		28/64	300	55	63°	2.50	128.452	1387.2	1	1	1.1301	.9971	1	1.0010	1.046	1636.67	5.046	
2400		28/64	300	52	66°	2.50	124.900	1387.2	1	1	1.1301	.9943	1	1.0009	1.044	1629.11	4.883	
	24 th	MAY 1967																
		RATE # 4																
0215		36/64	315	100	68°	2.50	177.482	1387.2	1	1	1.1272	.9924	1	1.0018	1.048	1629.18	6.440	S.G. = 0.787
0230		36/64	315	89	77°	2.50	167.437	1387.2	1	1	1.1272	.9840	1	1.0016	1.043	1607.36	6.459	
0300		36/64	320	75	86°	2.50	154.914	1387.2	1	1	1.1272	.9759	1	1.0013	1.040	1589.07	5.908	
0330		36/64	315	74	90°	2.50	152.676	1387.2	1	1	1.1272	.9723	1	1.0013	1.038	1580.16	5.790	
0400		36/64	315	78	91°	2.50	156.748	1387.2	1	1	1.1272	.9715	1	1.0013	1.038	1578.86	5.940	
		RATE # 5																
0615		40/64	320	45	77°	3.00	120.00	2195.0	1	1	1.1265	.9840	1	1.0005	1.043	2538.99	7.312	S.G. = 0.788
0630		40/64	315	38	88°	3.00	109.407	2195.0	1	1	1.1265	.9741	1	1.0005	1.040	2506.33	6.581	
0700		40/64	315	32	93°	3.00	100.400	2195.0	1	1	1.1265	.9697	1	1.0004	1.038	2489.96	6.000	
0730		40/64	315	29	97°	3.00	95.577	2195.0	1	1	1.1265	.9662	1	1.0004	1.035	2473.80	5.675	
0800		40/64	310	25	100°	3.00	88.034	2195.0	1	1	1.1265	.9636	1	1.0004	1.034	2464.76	5.208	

Gas Flow Rate Calculation Report Continuation Form

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TIME DATA		CHOKE SIZE 64THS. INCH	METER RUN DATA				$\sqrt{P_1 \times h_w}$	C' = F _b x F _{pb} x F _{Tb} x F _g x F _{Ti} x F _r x Y x F _{PV}								FLOW RATE Q = C' x 24 x $\sqrt{P_1 \times h_w}$ MMSCF/DAY	REMARKS	
DATE & TIME HOURS	ELAPSED TIME HOURS		PRESS. PSIA	DIFF. INCHES WATER	TEMP. °F	PLATE SIZE INCHES		F _b	F _{pb}	F _{Tb}	F _g	F _{Ti}	F _r	Y	F _{PV}			C'
24-5-87			EXTENDED RATE															
0830		32/64	315	62	95°	2.25	139.750	1089.9	1	1	1.1265	.9680	1	1.0011	1.038	1235.00	4.142	S.G. = 0.788
0900		32/64	315	70	97°	2.25	148.492	1089.9	1	1	1.1265	.9662	1	1.0012	1.038	1232.83	4.394	
1000		32/64	325	63	95°	2.25	143.091	1089.9	1	1	1.1265	.9680	1	1.0011	1.038	1235.00	4.241	
1100		32/64	335	59	97°	2.25	140.588	1089.9	1	1	1.1265	.9662	1	1.0010	1.038	1232.83	4.159	
1200		32/64	330	60	97°	2.25	140.712	1089.9	1	1	1.1265	.9662	1	1.0011	1.038	1232.95	4.164	
1300		32/64	325	59	100°	2.25	138.474	1089.9	1	1	1.1265	.9636	1	1.0011	1.037	1228.20	4.116	
1400		32/64	325	60	104°	2.25	139.642	1089.9	1	1	1.1265	.9602	1	1.0011	1.037	1223.87	4.072	
1500		32/64	305	63	106°	2.25	138.618	1089.9	1	1	1.1265	.9585	1	1.0012	1.034	1218.29	4.053	
1600		32/64	295	63	106°	2.25	136.327	1089.9	1	1	1.1265	.9585	1	1.0012	1.035	1219.59	3.990	
1700		32/64	290	63	106°	2.25	135.167	1089.9	1	1	1.1265	.9585	1	1.0013	1.035	1219.59	3.956	
1800		32/64	285	67	106°	2.25	138.185	1089.9	1	1	1.1265	.9585	1	1.0014	1.032	1216.18	4.033	
1900		32/64	315	55	108°	2.25	131.624	1089.9	1	1	1.1265	.9568	1	1.0010	1.034	1215.89	3.841	
2000		32/64	310	62	108°	2.25	138.636	1089.9	1	1	1.1265	.9568	1	1.0012	1.034	1216.13	4.046	
2100		32/64	305	57	108°	2.25	131.852	1089.9	1	1	1.1265	.9568	1	1.0011	1.032	1213.66	3.841	
2200		32/64	300	57	108°	2.25	130.767	1089.9	1	1	1.1265	.9568	1	1.0011	1.032	1213.66	3.809	
2300		32/64	300	57	109°	2.25	130.767	1089.9	1	1	1.1265	.9560	1	1.0011	1.032	1212.64	3.806	
2400		32/64	300	57	109°	2.25	130.767	1089.9	1	1	1.1265	.9560	1	1.0011	1.032	1212.64	3.806	

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Gas Flow Rate Calculation Report Continuation Form

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TIME DATA		CHOKE SIZE 64THS. INCH	METER RUN DATA				$\sqrt{P_1 X h w}$	C' = F _b x F _{pb} x F _{Tb} x F _g x F _{Ti} x F _r x Y x F _{pv}								FLOW RATE Q = C' x 24 x $\sqrt{P_1 \times h w}$ MMSCF/DAY	REMARKS	
DATE & TIME HOURS	ELAPSED TIME HOURS		PRESS. PSIA	DIFF. INCHES WATER	TEMP. °F	PLATE SIZE INCHES		F _b	F _{pb}	F _{Tb}	F _g	F _{Ti}	F _r	Y	F _{pv}			C'
25 th MAY 1987.																		
1600	Open well on 32/64" choke																	
1615		32/64	315	99	82°	2.25	176.593	1089.9	1	1	1.1265	.9795	1	1.0019	1.042	1255.49	5.321	GAS S.G. 0.788
1630		32/64	315	79	84°	2.25	157.750	1089.9	1	1	1.1265	.9777	1	1.0015	1.041	1251.48	4.738	
1700		32/64	305	70	95°	2.25	146.116	1089.9	1	1	1.1265	.9680	1	1.0014	1.036	1232.94	4.324	
1800		32/64	300	62	100°	2.25	136.381	1089.9	1	1	1.1265	.9636	1	1.0012	1.033	1223.59	4.005	
1900		32/64	315	52	104°	2.25	127.984	1089.9	1	1	1.1265	.9602	1	1.0010	1.033	1219.03	3.744	
2000		32/64	310	53	105°	2.25	128.180	1089.9	1	1	1.1265	.9594	1	1.0010	1.033	1218.01	3.746	
2100		32/64	300	53	105°	2.25	126.095	1089.9	1	1	1.1265	.9594	1	1.0010	1.033	1218.01	3.686	
2200		32/64	295	53	106°	2.25	125.040	1089.9	1	1	1.1265	.9585	1	1.0011	1.033	1216.99	3.652	
2300		32/64	285	53	106°	2.25	122.902	1089.9	1	1	1.1265	.9585	1	1.0011	1.033	1216.99	3.590	
2400		32/64	280	54	106°	2.25	122.963	1089.9	1	1	1.1265	.9585	1	1.0011	1.033	1216.99	3.591	
26 th MAY 1987																		
0100		32/64	275	54	106°	2.25	121.861	1089.9	1	1	1.1265	.9585	1	1.0011	1.032	1215.81	3.556	
0200		32/64	270	53	106°	2.25	119.624	1089.9	1	1	1.1265	.9585	1	1.0011	1.031	1214.64	3.487	
0300		32/64	270	52	106°	2.25	118.491	1089.9	1	1	1.1265	.9585	1	1.0011	1.031	1214.64	3.454	
0400		32/64	270	52	106°	2.25	118.491	1089.9	1	1	1.1265	.9585	1	1.0011	1.031	1214.64	3.454	
0500		32/64	270	52	106°	2.25	118.491	1089.9	1	1	1.1265	.9585	1	1.0011	1.031	1214.64	3.454	
0600		32/64	268	52	106°	2.25	118.051	1089.9	1	1	1.1265	.9585	1	1.0011	1.031	1214.64	3.441	

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Gas Flow Rate Calculation Report Continuation Form

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TIME DATA		CHOKE SIZE 64THS. INCH	METER RUN DATA				$\sqrt{P_1 \times h_w}$	C' = F _b x F _{pb} x F _{Tb} x F _g x F _{Ti} x F _r x Y x F _{Pv}									FLOW RATE Q = C' x 24 x $\sqrt{P_1 \times h_w}$ MMSCF/DAY	REMARKS
DATE & TIME HOURS	ELAPSED TIME HOURS		PRESS. PSIA	DIFF. INCHES WATER	TEMP. °F	PLATE SIZE INCHES		F _b	F _{pb}	F _{Tb}	F _g	F _{Ti}	F _r	Y	F _{Pv}	C'		
26 th MAY		1987																
0700		32/64	268	52	107	2.25	118.051	1089.9	1	1	1.1265	.9577	1	1.0011	1.029	1211.27	3.432	GAS S.G. 0.736
0800		32/64	310	45	110	2.25	118.110	1089.9	1	1	1.1265	.9551	1	1.0009	1.031	1210.09	3.430	
0900		32/64	320	42	110	2.25	115.931	1089.9	1	1	1.1265	.9551	1	1.0009	1.033	1212.43	3.373	
1000		32/64	330	40	110	2.25	114.489	1089.9	1	1	1.1265	.9551	1	1.0008	1.035	1214.66	3.338	
1100		32/64	340	39	110	2.25	115.152	1089.9	1	1	1.1265	.9551	1	1.0008	1.036	1215.83	3.360	
1200		32/64	345	38	109	2.25	114.499	1089.9	1	1	1.1265	.9560	1	1.0007	1.036	1216.86	3.344	
1300		32/64	330	40	109	2.25	114.891	1089.9	1	1	1.1265	.9560	1	1.0007	1.037	1218.98	3.361	
1400		32/64	330	40	109	2.25	114.891	1089.9	1	1	1.1265	.9560	1	1.0007	1.037	1218.98	3.361	
1500		32/64	310	43	109	2.25	115.456	1089.9	1	1	1.1265	.9560	1	1.0008	1.034	1214.63	3.366	
1600		32/64	300	44	108	2.25	114.891	1089.9	1	1	1.1265	.9568	1	1.0009	1.033	1214.59	3.349	
1700		32/64	295	44	107	2.25	113.930	1089.9	1	1	1.1265	.9577	1	1.0009	1.033	1215.73	3.324	
1800		32/64	310	43	108	2.25	115.456	1089.9	1	1	1.1265	.9568	1	1.0008	1.034	1215.65	3.368	
1900		32/64	300	43	106	2.25	113.578	1089.9	1	1	1.1265	.9585	1	1.0008	1.033	1216.63	3.316	
2000		32/64	300	43	105	2.25	113.578	1089.9	1	1	1.1265	.9594	1	1.0009	1.033	1217.90	3.320	
2100		32/64	295	43	104	2.25	112.628	1089.9	1	1	1.1265	.9602	1	1.0009	1.033	1218.90	3.295	
2200		32/64	290	44	103	2.25	112.960	1089.9	1	1	1.1265	.9610	1	1.0009	1.032	1218.74	3.304	
2300		32/64	295	44	103	2.25	113.430	1089.9	1	1	1.1265	.9610	1	1.0009	1.033	1219.92	3.336	
2400		32/64	285	44	103	2.25	111.982	1089.9	1	1	1.1265	.9610	1	1.0009	1.032	1218.74	3.275	

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Gas Flow Rate Calculation Report Continuation Form

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TIME DATA		CHOKE SIZE 64THS. INCH	METER RUN DATA				$\sqrt{P_1 \times h_w}$	C' = F _b x F _{pb} x F _{Tb} x F _g x F _{TI} x F _r x Y x F _{PV}								FLOW RATE Q = C' x 24 x $\sqrt{P_1 \times h_w}$ MMSCF/DAY	REMARKS	
DATE & TIME HOURS	ELAPSED TIME HOURS		PRESS. PSIA	DIFF. INCHES WATER	TEMP. °F	PLATE SIZE INCHES		F _b	F _{pb}	F _{Tb}	F _g	F _{TI}	F _r	Y	F _{PV}			C'
27 th MAY 1987																		
0100		32/64	285	45	102	2.25	113.247	1089.9	1	1	1.1265	0.9619	1	1.0009	1.032	1219.88	3.315	GAS S.G. 0.788
0200		32/64	270	46	103	2.25	111.445	1089.9	1	1	1.1265	0.9610	1	1.0010	1.030	1216.50	3.254	
0300		32/64	270	47	104	2.25	112.649	1089.9	1	1	1.1265	0.9607	1	1.0010	1.030	1215.48	3.286	
0400		32/64	260	48	104	2.25	111.713	1089.9	1	1	1.1265	0.9602	1	1.0010	1.030	1215.48	3.258	
0500		32/64	255	50	105	2.25	112.915	1089.9	1	1	1.1265	0.9594	1	1.0011	1.029	1213.42	3.288	
0600		32/64	250	50	105	2.25	111.803	1089.9	1	1	1.1265	0.9594	1	1.0012	1.029	1213.54	3.256	
0700		32/64	250	50	105	2.25	111.803	1089.9	1	1	1.1265	0.9594	1	1.0011	1.029	1211.16	3.249	GAS S.G. 0.791
0800		32/64	300	41	109	2.25	110.905	1089.9	1	1	1.1244	0.9560	1	1.0006	1.031	1208.85	3.218	
0900		32/64	285	43	106	2.25	110.702	1089.9	1	1	1.1244	0.9585	1	1.0009	1.030	1210.95	3.217	
1000		32/64	275	45	106	2.25	111.243	1089.9	1	1	1.1244	0.9585	1	1.0009	1.029	1209.78	3.229	
1100		32/64	280	43	106	2.25	109.726	1089.9	1	1	1.1244	0.9585	1	1.0009	1.029	1209.78	3.186	
1200		32/64	285	42	107	2.25	109.407	1089.9	1	1	1.1244	0.9577	1	1.0008	1.030	1209.82	3.177	
1300		32/64	285	42	107	2.25	109.407	1089.9	1	1	1.1244	0.9577	1	1.0008	1.030	1209.82	3.177	
1400		32/64	285	42	106	2.25	109.407	1089.9	1	1	1.1244	0.9585	1	1.0008	1.030	1210.83	3.179	
1500		32/64	270	45	105	2.25	110.227	1089.9	1	1	1.1244	0.9594	1	1.0009	1.030	1212.09	3.206	
1600		32/64	270	45	105	2.25	110.227	1089.9	1	1	1.1244	0.9594	1	1.0009	1.030	1212.09	3.206	
1700		32/64	260	46	105	2.25	109.362	1089.9	1	1	1.1244	0.9594	1	1.0009	1.030	1212.09	3.181	
1800		32/64	255	47	105	2.25	109.476	1089.9	1	1	1.1244	0.9594	1	1.0010	1.028	1209.86	3.178	
1900		32/64	255	48	105	2.25	110.634	1089.9	1	1	1.1244	0.9594	1	1.0010	1.028	1209.86	3.212	

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Gas Flow Rate Calculation Report Continuation Form

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TIME DATA		CHOKE SIZE 64THS. INCH	METER RUN DATA				$\sqrt{P_1 X h w}$	$C' = F_b \times F_{pb} \times F_{Tb} \times F_g \times F_{Ti} \times F_r \times Y \times F_{pv}$									FLOW RATE $Q = C' \times 24 \times$ $\sqrt{P_1 \times h w}$ MMSCF/DAY	REMARKS
DATE & TIME HOURS	ELAPSED TIME HOURS		PRESS. PSIA	DIFF. INCHES WATER	TEMP. °F	PLATE SIZE INCHES		F_b	F_{pb}	F_{Tb}	F_g	F_{Ti}	F_r	Y	F_{pv}	C'		
2000		32/64	250	48	107	2.25	109.544	1089.9	1	1	1.1244	0.9577	1	1.0011	1.027	1206.66	3.172	GAS S.G.
2100		32/64	255	48	107	2.25	110.634	1089.9	1	1	1.1244	0.9577	1	1.0010	1.026	1205.36	3.200	0.791
2200		32/64	250	49	106	2.25	110.679	1089.9	1	1	1.1244	0.9585	1	1.0011	1.026	1206.49	3.205	
2300		32/64	245	49	107	2.25	109.567	1089.9	1	1	1.1244	0.9577	1	1.0011	1.025	1204.31	3.167	
2400		32/64	245	49	107	2.25	109.567	1089.9	1	1	1.1244	0.9577	1	1.0011	1.025	1204.31	3.167	
28 th MAY 1987																		
0100		32/64	245	49	106	2.25	109.567	1089.9	1	1	1.1244	0.9585	1	1.0011	1.026	1206.49	3.173	
0200		32/64	240	49	106	2.25	108.443	1089.9	1	1	1.1244	0.9585	1	1.0011	1.025	1205.36	3.137	
0300		32/64	230	51	106	2.25	108.305	1089.9	1	1	1.1244	0.9585	1	1.0012	1.024	1204.260	3.130	
0400		32/64	225	52	106	2.25	108.167	1089.9	1	1	1.1244	0.9585	1	1.0015	1.024	1204.62	3.127	
0500		32/64	220	53	105	2.25	107.981	1089.9	1	1	1.1244	0.9585	1	1.0015	1.023	1203.44	3.119	
0600		32/64	215	53	105	2.25	106.747	1089.9	1	1	1.1244	0.9585	1	1.0015	1.023	1203.44	3.083	
0700		32/64	225	50	106	2.25	106.066	1089.9	1	1	1.1244	0.9585	1	1.0013	1.023	1203.26	3.063	
0800		32/64	240	48	107	2.25	107.331	1089.9	1	1	1.1244	0.9577	1	1.0012	1.024	1203.26	3.100	
0900		32/64	245	47	107	2.25	107.308	1089.9	1	1	1.1244	0.9577	1	1.0011	1.025	1204.31	3.106	
1000		32/64	255	44	107	2.25	105.925	1089.9	1	1	1.1244	0.9577	1	1.0010	1.025	1207.71	3.061	
1100		32/64	295	38	109	2.25	105.877	1089.9	1	1	1.1244	0.9560	1	1.0008	1.034	1212.36	3.081	
1130		32/64	295	38	109	2.25	105.877	1089.9	1	1	1.1244	0.9560	1	1.0008	1.034	1212.36	3.081	
SHUT IN WELL - END OF TEST																		

000120

TANK:- CAPACITY 2 x 50 BBLs
SCALE Calibrated Dipstick



FLUID PRODUCTION SHEET

PAGE No. 2

OPERATOR S. MAYER / K. MC CARTAN

[illegible]

WELL DULLINGARI #39

TANK:— CAPACITY 2 x 50 BBL
SCALE CALIBRATED DIPSTICK

SANTOS LTD

FLUID PRODUCTION SHEET

DATE 25th MAY 1987

PAGE No. 4

OPERATOR S. MAYER/K. McCARTAN

DATE TIME	CUM. TIME	OIL/CONDENSATE PRODUCTION					WATER PRODUCTION					REMARKS
		TANK DIP Litres A B	TANK PROD. BBLs	FLOWRATE BBLs/D	CUM. PROD. BBLs	OIL CONDENSATE GRAVITY API60°F	TANK DIP Litres A B	TANK PROD. BBLs	FLOWRATE BBLs/D	CUM. PROD. BBLs	SALINITY PPM	
1600		2600 3400	Open well on 3 ^{1/4} "		29.371		1100 1990			68.350		
1700			Levels set. - Begin dumping to tank 'B'									
1800		3750	0.881	21.1	30.252	43.9	2200	1.321	31.7	69.671	9000	
2000		3700	0.943	11.3	31.195	43.8	1550	2.830	34.0	72.501	10000	
2200		4400	1.415	17.0	32.610	43.5	2625	2.673	32.1	75.174	9000	
2400		3800	1.572	18.9	34.182	43.5	1900	2.201	26.4	77.375	9000	
	26 th MAY 1987											
0200		5140	0.912	10.9	35.094	44.0	3270	3.742	44.9	81.117	8000	
0400		4760	1.696	20.3	36.792	43.6	2590	4.340	52.1	85.457	9500	
0600		5760	0.755	9.1	37.547	43.5	3720	3.144	37.8	88.601	9500	
0800		5760	1.258	15.1	38.805	43.4	3390	5.031	60.4	93.632		
1000		6350	1.006	12.1	39.811	43.2	4150	2.704	32.5	96.336	12000	
1200		2400 6360	0.881	10.6	40.692	43.2	700 3850	2.893	34.7	99.229	10000	Drain water
1400		2150 7000	1.572	18.9	42.264	43.0	330 4550	2.515	30.18	101.744	10000	from tanks
1600		3000	0.629	7.5	42.893	43.3	1200	3.140	37.7	104.884	9,000	
1800		2750	2.138	25.6	45.031	43.3	810	1.635	19.6	106.519	9,000	
2000		3600	1.258	15.1	46.289	43.2	1600	2.515	30.2	109.034	9,000	
2200		3450	0.691	8.3	46.980	43.2	1400	3.710	44.5	112.774	10,000	105.354
2400	27-5-87	4200	0.629	7.5	47.609	43.4	2100	3.145	37.7	115.889	9000	
0200		4200	0.629	7.5	48.238	43.4	2050	4.088	49.1	119.977	10,000	

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003

18.240

30.317

47.551

16.523

47.545

7
6

000124

WELL <u>DULLINGARI # 39</u>		 SANTOS LTD FLUID PRODUCTION SHEET						DATE <u>27th MAY 1987</u> PAGE No. <u>5 of 5</u> OPERATOR <u>J. MAYER / K. McCARTEN</u>			
TANK:— CAPACITY <u>2 x 50 BBL</u> SCALE <u>Calibrated Dipstick</u>											

DATE	CUM. TIME	OIL/CONDENSATE PRODUCTION					WATER PRODUCTION					REMARKS		
		4200 4200		TANK PROD. BBLs	FLOWRATE BBLs/D	CUM. PROD. BBLs	OIL CONDENSATE GRAVITY °API60F	2100 2050		TANK PROD. BBLs	FLOWRATE BBLs/D		CUM. PROD. BBLs	SALINITY PPM
		TANK DIP Litres 'A'	Litres 'B'					TANK DIP Litres 'A'	Litres 'B'					
0400		4770	.1195	14.3	49.433	44.0	2480	2.390	28.7	122.367	9000	Still producing		
0600		4680	.566	6.8	49.999	43.4	2440	2.453	29.4	124.820	9000	approx 1881 of emulsion / day		
0800		5100	.126	1.5	50.125	43.3	2730	1.572	18.9	126.392	8500			
1000		5275	.660	7.9	50.785	43.3	2930	3.082	37.0	129.474	9000			
1200		6000	.566	6.8	51.351	43.3	3540	5.094	61.1	134.566	9500			
1400		5920	.912	10.9	52.263	43.2	3430	3.145	37.7	137.713	9000			
1600		6560	0	0	52.263	43.0	4100	3.522	42.3	141.235	8000			
1800		~~6500~~ 2300	.314	3.8	52.577	43.2	~~3960~~ 550	3.333	40.0	144.568	9000	Drain water		
2000		~~7150~~ 2500	.252	3.0	52.829	43.5	~~4650~~ 300	3.459	41.5	148.027	6000	from tanks		
2200		2900	.943	11.3	53.772	43.1	1000	2.830	33.9		8000			
2400		3200	.377	4.5	54.149	43.1	940	4.025	48.30		9000			
28 th MAY 1987														
0200		3400	.943	11.3	55.092		1350	2.201	26.4					
0400		3560	.314	3.8	55.406		1250	1.839	22.1					
0600		4070	.943	11.3	56.349		1870	3.270	39.2					
0800		4600	1.195	14.4	57.544		2100	5.346	64.2					
1000		4740	1.006	12.1	58.550		2380	3.208	38.5					
1200		5170	.755	9.1	59.305		2550	2.830	33.9					
		SHOT IN WELL		END OF TEST										

WELL TEST DATA METRIC SUMMARY SHEETS

OPERATOR: S. MAYER/K. MCCARTAN.



SANTOS LTD
WELL TEST DATA
METRIC SUMMARY SHEET

DATE: 23rd MAY 1987..

PAGE No: 1 of 22

[illegible]

CONVERSION FACTORS:

●BBL'S x 0.15899 = M³

●MMSCF x 28.174 = 10³ M³

● Cu/FT PER BBL x 0.1773 = M³/M³

● PSI x 6.895 = KPA

$$\bullet \text{ } ^{\circ}\text{C} \times 9 \div 5 + 32 = ^{\circ}\text{F}$$

000727

WELL: ...DULLINGARI...#39.....

OPERATOR: ...S. Mayer...K. McCartan



SANTOS LTD
WELL TEST DATA
METRIC SUMMARY SHEET

DATE: ...23-5-87.....

PAGE No: ...2 of 22.....

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
14.35															
14.36															
14.38															
14.45	710	4895	1820	12549	20/64	102°	38.8°					3.719	104.7		
1500	745	5137	1797	12390	20/64	104°	40°	39.2	6.23			3.693	104.0	-	
1530	775	5344	1770	12204	20/64	106°	41.1°					3.641	102.6		
1600	820	5654	1750	12066	20/64	108°	42	24.2	3.85			3.518	99.1		
1605	820	5654	1962	13528											
1610	805	5550	2016	13900											
1615	795	5482	2055	14169											
1630	775	5343	2100	14480											
1700	750	5171	2123	14638											

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000128

WELL: ...DULLINGARI...39.....

OPERATOR: ...S. Mayer. K. McCarton



SANTOS LTD
WELL TEST DATA
METRIC SUMMARY SHEET

DATE: ...23-5-87.....

PAGE No: ...3 of 22....

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
1715	730	5033	2146	14797											
1730	725	4999	2151	14831											
1745	720	4964	2156	14866											
1800	715	4930	2162	14907	Open well for RATE #2										
1805	726	4964	1865	12854	22/64	102	39								
1810	730	5033	1780	12273	22/64	104	40								
1815	750	5171	1725	11894	22/64	104	40					4.781	134.7		
1830	775	5344	1682	11597	22/64	106	41					4.646	130.9		
1900	845	5826	1622	11184	22/64	111	44	30.2	4.80	3.0	0.48	4.454	125.5		
1930	900	6206	1577	10873	22/64	111	44					4.329	122.0		
2000	945	6516	1538	10605	22/64	115	46	66.4	10.56	22.6	3.59	4.118	116.0		
		Shut in well													

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000120

WELL: ...Dullingari... #39
 OPERATOR: ...S. Mayer...



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: ...23-5-87...
 PAGE No: ...4 of 22...

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M ³ /D	FLOWRATE H ₂ O BBL'S/D	FLOWRATE H ₂ O M ³ /D	MMSCF/D	Mm ³ /D	G.O.R. Cu/FT BBL	G.O.R. M ³ /M ³
2005	940	6481	1850	12756											
2010	925	6378	1915	13204											
2015	920	6343	1950	13445											
2030	875	6033	2025	13962											
2045	850	5861	2061	14211											
2100	830	5723	2080	14342											
2115	820	5723	2096	14452											
2130	800	5516	2104	14507											
2145	790	5447	2111	14555											
2200	775	5344	2120	14617	Open well for Rate #3										
2205	800	5516	1690	11653	28/64	106	41								
2210	820	5723	1565	10791	28/64	109	43								

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000130

WELL: ...Dullingeri...#39...
 OPERATOR: S. Mayer...K. McCann



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: ...23-5-87...
 PAGE No: ...5...22...

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M ³ /D	FLOWRATE H ₂ O BBL'S/D	FLOWRATE H ₂ O M ³ /D	MMSCF/D	Mm ³ /D	G.O.R. Cu/FT BBL	G.O.R. M ³ /M ³
2215	830	5723	1496	10274	28/64	111	43					5.969	168.2		
2230	885	6102	1405	9687	28/64	113	44					5.625	158.5		
2300	970	6688	1336	9212	28/64	117	46	7.5	1.19	18.1	2.88	5.310	149.6		
2330	1015	6998	1297	8943	28/64	118	47					5.046	142.2		
2400	1070	7378	1258	8674	28/64	122	50	15.1	2.40	45.3	7.20	4.883	137.6	-	
	24 May	1987				Shut in well.									
0005	1050	7239	1680	11584											
0010	1045	7205	1767	12183											
0015	1020	7033	1825	12583											
0030	975	6723	1940	13376											
0045	940	6481	1993	13742											
0100	900	6206	2020	13928											

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000131

WELL: ...Dullingeri... #39...
 OPERATOR: S. Mayer... K. McCarten



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: ...24 May 1987...
 PAGE No: ...6... of 22...

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
0145	845	5826	2065	14238											
0200	845	5826	2075	14307	Open well			Rate # 4							
0205	850	5861	1400	9653	36/64	113	45								
0210	900	6206	1200	8274	36/64	115	46								
0215	920	6343	1130	7791	36/64	117	47					6.940	195.5	-	
0230	960	6619	1040	7171	36/64	118	48					6.459	182.0		
0300	1045	7205	935	6447	36/64	122	50	26.4	4.20	71.7	11.40	5.908	166.5		
0330	1125	7757	915	6309	36/64	124	51					5.790	163.1		
0400	1150	7929	870	5999	36/64	124	51	30.2	4.80	22.6	3.59	5.940	167.4		
0405	1175	8102	1490	10274											
0410	1140	7860	1660	11446											
0415	1135	7826	1723	11880											

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

WELL: Dullingari.....#39.....
 OPERATOR: ..S.Mayer....K.McCartan.



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE:.....24-5-87.....
 PAGE No:.....7.....#22

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
0430	1100	7585	1850	12756											
0445	1025	7067	1914	13197											
0500	1000	6895	1955	13480											
0515	980	6757	1976	13625											
0530	960	6619	2005	13824											
0545	925	6378	2014	13887											
0600	905	6240	2021	13935	Open well for Rate #5										
0605	925	6378	1185	8171	40/64	117	47								
0610	955	6585	1075	7412	40/64	118	48								
0615	1000	6895	1000	6895	40/64	122	50					7.312	206.0		
0630	1035	7136	920	6343	40/64	122	50					6.581	185.4		
0700	1125	7759	822	5668	40/64	124	52	20.4	3.24	47.3	7.52	6.000	169.0		

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000133

WELL: Dullingerwi.....#39...
 OPERATOR: S. Mayer... K. McCarter



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: 24 May 1987...
 PAGE No: 8 of 22....

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
0730	1200	8274	795	5482	40/64	127	53					5.675	159.9		
0800	1240	8550	735	5068	40/64	127	53	23.7	3.77	38.2	6.07	5.208	146.7		
0801			Cut to Extended Rate												
0830	1270	8757	945	6516	32/64	127	53					4.142	116.7		
0900	1295	8929	980	6757	32/64	129	54	19.1	3.04	38.2	6.07	4.394	123.8	-	
1000	1345	9273	960	6619	32/64	129	54	20.1	3.20	40.3	6.41	4.241	119.5		
1100	1370	9446	939	6474	32/64	133	56	17.1	2.72	34.2	5.44	4.159	117.2		
1200	1400	9653	948	6536	32/64	133	56	22.6	3.59	45.3	7.20	4.164	117.3		
1300	1425	9825	919	6337	32/64	135	57	27.2	4.32	39.2	6.23	4.116	116.0		
1400	1440	9929	890	6137	32/64	135	57	16.6	2.64	40.8	6.49	4.072	114.7		
1500	1455	10032	899	6199	32/64	136	58	27.2	4.32	30.2	4.80	4.053	114.2		
1600	1460	10067	891	6143	32/64	138	59	12.1	1.92	48.3	7.68	3.990	112.4		

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000134

WELL: Dullinger-wi.....#39.....

OPERATOR: ...S. Mayer... K. McCartan...



SANTOS LTD

WELL TEST DATA

METRIC SUMMARY SHEET

DATE:....24-5-87.....

PAGE No:....9.....of 22....

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M ³ /D	FLOWRATE H ₂ O BBL'S/D	FLOWRATE H ₂ O M ³ /D	MMSCF/D	Mm ³ /D	G.O.R. Cu/FT BBL	G.O.R. M ³ /M ³
1700	1475	10170	883	5744	32/64	138	59	1.5	0.24	52.8	8.40	3.956	111.5		
1800	1480	10204	903	6226	32/64	140	60	13.6	2.16	61.9	9.84	4.033	113.6		
1900	1490	10274	876	6040	32/64	140	60	15.1	2.40	43.8	6.96	3.841	108.2		
2000	1500	10343	858	5916	32/64	140	60	9.1	1.45	58.9	9.37	4.046	114.0		
2100	1515	10446	865	5964	32/64	140	60	0	0	61.9	9.84	3.841	108.2	-	
2200	1510	10411	857	5909	32/64	140	60	15.1	2.40	52.8	8.40	3.809	107.3		
2300	1510	10411	853	5881	32/64	140	60	10.6	1.69	42.3	6.73	3.806	107.2		
2400	1510	10411	854	5888	32/64	142	61	7.5	1.19	52.8	8.40	3.806	107.2		
25.5 0100	1510	10411	845	5826	32/64	142	61	34.7	5.52	40.8	6.49	3.738	105.3		
0200	1510	10411	842	5806	32/64	142	61	10.6	1.69	49.8	7.92	3.703	104.3		
0300	1515	10446	839	5785	32/64	142	61	19.6	3.12	40.8	6.49	3.703	104.3		
0400	1515	10446	834	5750	32/64	142	61	16.6	2.64	55.8	8.87	3.670	103.4		

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

WELL: ...Dullingeri... #39...
 OPERATOR: ...S. Mayer & McCartan...



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: ...25-5-87...
 PAGE No: ...10... of 22...

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. CU/FT BBL	G.O.R. M3/M3
0500	1520	10480	830		32/64	142	61	16.6	2.64	43.8	6.96	3.638	102.5		
0600	1526	10480	826		32/64	142	61	18.1	2.88	52.8	8.40	3.602	101.5		
0700	1525	10515	822		32/64	142	61	15.1	2.40	42.2	6.71	3.560	100.3		
0800	1530	10549	819		32/64	144	62	13.6	2.16	27.2	4.32	3.552	100.1		
0900	1535	10584	819		32/64	144	62	3.0	0.48	45.3	7.20	3.545	99.9	-	
1000	1545	10653	813		32/64	144	62	12.1	1.92	55.8	8.87	3.567	100.5		
1100	1550	10687	813		32/64	144	62	10.6	1.79	49.8	7.81	3.522	99.2		
1200	1550	10687	812		32/64	144	62	10.6	1.79	51.3	8.16	3.464	97.6		
1300	1550	10687	810		32/64	145	63	6.0	0.96	72.5	11.53	3.429	96.6		
1301			Shut in well												
1305	1540	10618	1299												
1310	1520	10480	1417												

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• CU/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000136

WELL: ...Dullingeri...#39.....

OPERATOR: ...S. Mayer/K. McCarty...



SANTOS LTD
WELL TEST DATA
METRIC SUMMARY SHEET

DATE: ...25-5-87.....

PAGE No: ...11... of 22...

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
1315	1500	10343	1475	10170											
1330	1430	9860	1562	10770											
1345	1370	9446	1630	11239											
1400	1320	9101	1667	11494											
1415	1280	8826	1694	11680											
1430	1250	8619	1717	11839											
1445	1225	8446	1735	11963											
1500	1200	8274	1749	12059											
1600	1175	8102	1795	12377	Open well to continue extended rate										
1605	1150	7929	1270	8757	32/64	129	54								
1610	1155	7964	1210	8343	32/64	131	55								
1615	1175	8102	1151	7936	32/64	133	56					5.321	149.9		

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000137

WELL: Dullingeri #39

OPERATOR: S. Mayer / K. McCartan



SANTOS LTD WELL TEST DATA METRIC SUMMARY SHEET

DATE: 25-5-87

PAGE No: 12 of 22

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
1630	1225	8446	1000	6895	32/64	135	57					4.738	133.5		
1700	1310	9032	957	6599	32/64	136	58					4.324	121.8		
1800	1400	9653	877	6047	32/64	138	59	21.1	3.35	31.7	5.04	4.005	112.8		
1900	1410	9722	847	5840	32/64	140	60					3.744	105.4		
2000	1435	9894	831	5730	32/64	140	60	11.3	1.80	34.0	5.41	3.746	105.5	-	
2100	1470	10136	824	5681	32/64	142	61					3.686	103.8		
2200	1490	10274	815	5619	32/64	142	61	17.0	2.70	32.1	5.10	3.652	102.9		
2300	1500	10342	808	5571	32/64	142	61					3.590	101.1		
26-5-87 2400	1500	10342	803	5537	32/64	142	61	18.9	3.01	26.4	4.20	3.591	101.1		
0100	1505	10377	801	5523	32/64	144	62					3.556	100.1		
0200	1505	10377	794	5475	32/64	144	62	10.9	1.73	44.9	7.14	3.487	98.2		
0300	1510	10411	791	5454	32/64	144	62					3.454	97.3		

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000138

WELL: ...Dullingeri... #39
 OPERATOR: ...S. Mayer / K. McCartan...



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: ...26-5-87...
 PAGE No: ...13... of 22...

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
0400	1510	10411	790	5447	3 7/8	144	62	20.3	3.2	52.1	8.2	3.454	97.3		
0500	1515	10445	787	5426	3 7/8	144	62					3.454	97.3		
0600	1520	10480	785	5412	3 7/8	144	62	9.1	1.4	37.8	6.0	3.441	96.9		
0700	1515	10445	781	5384	3 7/8	144	62					3.432	96.6		
0800	1515	10445	779	5371	3 7/8	144	62	15.1	2.4	60.4	9.6	3.430	96.6	-	
0900	1515	10445	776	5350	3 7/8	144	62					3.373	95.0		
1000	1515	10445	769	5302	3 7/8	144	62	12.1	1.9	32.5	5.1	3.338	94.0		
1100	1515	10445	770	5309	3 7/8	144	62					3.360	94.6		
1200	1515	10445	770	5309	3 7/8	144	62	10.6	1.6	34.7	5.5	3.344	94.2		
1300	1510	10411	767	5288	3 7/8	144	62					3.361	94.6		
1400	1510	10411	766	5281	3 7/8	145	63	18.9	3.0	30.2	4.8	3.361	94.6		
1500	1505	10376	765	5274	3 7/8	145	63					3.366	94.8		

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000139

WELL: ...Dulligari... #39.....
 OPERATOR: ...S. Mayer/K Mdartan..



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: ...26-5-87.....
 PAGE No: ...14... of ...22...

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
1600	1505	10376	765	S274	32/64	145	63	7.5	1.1	37.7	5.9	3.349	94.3		
1700	1505	10376	762	S253	32/64	145	63					3.324	93.6		
1800	1500	10342	759	S233	32/64	145	63	25.6	4.0	19.6	3.1	3.368	94.8		
1900	1500	10342	756	S212	32/64	145	63					3.316	93.4		
2000	1500	10342	755	S205	32/64	145	63	15.1	2.4	30.2	4.8	3.320	93.5	-	
2100	1500	10342	752	S185	32/64	144	62					3.295	92.8		
2200	1500	10342	753	S191	32/64	144	62	8.3	1.3	44.5	7.0	3.304	93.0		
2300	1475	10170	750	S171	32/64	144	62					3.336	93.9		
2400	1475	10170	749	S164	32/64	145	63	7.5	1.1	37.7	5.9	3.275	92.2		
27-587 2100	1460	10066	749	S164	32/64	145	63					3.315	93.3		
0200	1450	9997	748	S157	32/64	144	62	7.5	1.1	49.1	7.8	3.254	91.6		
0300	1430	9859	748	S157	32/64	144	62					3.286	92.5		

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000140

WELL: ...Dullingeri #39.....

OPERATOR: ...S. Mayer / K. McCartan



SANTOS LTD
WELL TEST DATA
METRIC SUMMARY SHEET

DATE: ...27-5-87.....

PAGE No: ...15 of 22.....

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
0400	1430	9859	745	5136	3 3/4	144	62	14.3	2.2	28.7	4.5	3.258	91.7		
0500	1430	9859	743	5122	3 3/4	144	62					3.288	92.6		
0600	1440	9928	741	5109	3 3/4	145	63	6.8	1.0	29.4	4.6	3.256	91.7		
0700	1440	9928	740	5102	3 3/4	145	63					3.249	91.5		
0800	1435	9894	742	5116	3 3/4	145	63	1.5	0.2	18.9	3.0	3.218	91.5	-	
0900	1435	9894	741	5109	3 3/4	145	63					3.217	90.6		
1000	1435	9894	738	5088	3 3/4	145	63	7.9	1.2	37.0	5.8	3.229	90.9		
1100	1430	9859	739	5095	3 3/4	145	63					3.186	89.7		
1200	1425	9825	736	5074	3 3/4	145	63	6.8	1.0	61.1	9.7	3.177	89.5		
1205		Pull out of hole with amercadas to reload.													
1300	1425	9825	738	5088	3 3/4	145	63			37.7	5.9	3.177	89.5		
1400	1425	9825	736	5074	3 3/4	145	63	10.9	1.7			3.179	89.5		

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 =

000141

WELL: ...Dulligari #39...
 OPERATOR: ...S. Mayer / K. McCARTAN



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: ...27-5-87...
 PAGE No: ...16 of 22...

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
1500	1420		734		3 1/4	145	63					3.206	90.3		
1600	1415		732		3 1/4	145	63	0		42.3	6.7	3.206	90.3		
1630		Run in hole with ameradas													
1700	1410		727		3 1/4	144	62					3.181	89.6		
1800	1410		732		3 1/4	144	62	3.8	0.6	40.0	6.3	3.178	89.5	-	
1900	1405		730		3 1/4	145	63					3.212	90.4		
2000	1400		731		3 1/4	145	63	3.0	0.4	41.5	6.5	3.172	89.3		
2100	1390		730		3 1/4	145	63					3.200	90.1		
2200	1400		727		3 1/4	145	63	11.3	1.7	33.9	5.3	3.205	90.2		
2300	1375		725		3 1/4	145	63					3.167	89.2		
2400	1370		725		3 1/4	145	63	4.5	0.7	48.3	7.6	3.167	89.2		
28-5 0100	1365		725		3 1/4	143	62					3.173	89.3		

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000142

WELL: ...Dullingeri... #39.....

OPERATOR: ...J. Mayer / K. McLaren...



SANTOS LTD
WELL TEST DATA
METRIC SUMMARY SHEET

DATE: ...28-5-87.....

PAGE No: ...17... of 22...

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
0200	1365	9411	724	4991	3 3/64	143	62	11.3	1.7	26.4	4.1	3.137	88.3		
0300	1370	9446	720	4964	3 3/64	143	62					3.130	88.1		
0400	1360	9377	720	4964	3 3/64	145	63	3.8	0.6	22.1	3.5	3.127	88.1		
0500	1360	9377	719	4957	3 3/64	145	63			-		3.119	87.8		
0600	1360	9377	717	4943	3 3/64	145	63	11.3	1.7	39.2	6.2	3.083	86.8		
0700	1355	9342	717	4943	3 3/64	145	63					3.063	86.2		
0800	1350	9308	716	4936	3 3/64	145	63	14.4	2.2	64.2	10.2	3.100	87.3		
0900	1350	9308	716	4936	3 3/64	145	63					3.106	87.5		
1000	1345	9273	716	4936	3 3/64	145	63	12.1	1.9	38.5	6.1	3.061	86.2		
1100	1345	9273	715	4929	3 3/64	145	63					3.081	86.2		
1200	1340	9239	715	4929	3 3/64	145	63	9.1	1.4	33.9	5.3	3.081	86.2		
1201		Shut in well.													

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000143

WELL: ...Dullingari...#39.....

OPERATOR: ...S-Mayer/K. McLaren



SANTOS LTD
WELL TEST DATA
METRIC SUMMARY SHEET

DATE: ...28-5-87.....

PAGE No: ...18 of 22...

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
1205	1325	9135	1145	7894		Shut in for build up.				con't.					
1210	1310	9032	1260	8687											
1215	1300	8963	1310	9032											
1230	1260	8687	1407	9101											
1245	1215	8377	1459	10059											
1300	1170	8067	1498	10328											
1315	1135	7825	1523	10501											
1330	1110	7653	1544	10645											
1345	1090	7515	1560	10756											
1400	1065	7343	1575	10859											
1430	1025	7067	1600	11032											
1500	1000	6895	1621	11176											

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000144

WELL: ...Pullingari... #39.....

OPERATOR: ...S. Mayer / K. McCartan



SANTOS LTD
WELL TEST DATA
METRIC SUMMARY SHEET

DATE: ...28.5.87.....

PAGE No: ...19 of 22...

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
1600	945	6515	1655	11411			Build up	CONT							
1700	905	6239	1682	11597											
1800	875	6033	1704	11749											
1900	840	5791	1724	11886											
2400	805	5550	1792	12355											
29-5-87 0600	710	4895	1856	12797											
1200	690	4757	1891	13038											
1500	675	4654	1911	13176											
1800	646	4412	1925	13272											
2400	635	4378	1949	13438											
30-5-87 0600	660	4550	1973	13603											
1200	680	4688	1994	13748											

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000145

WELL: Dullingeri..... #39.....
 OPERATOR: S. Mayer/K. McCartan.....



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: 30-5-87.....
 PAGE No: 20..... of 22.....

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
1800	710	4895	2010	13858				Build up cont							
2045	730	5033	2025	13962											
	31-5	-87													
0600	750	5171	2045	14100											
1200	760	5240	2056	14176											
2030	820	5653	2080	14341											
	1-6	-87													
0810	895	6171	2103	14500											
2010	950	6550	2117	14596											
	2-6	-87													
0710	990	6826	2126	14658											
1321	1030	7101	2136	14727				Pull out of hole with amercadas to reload.							

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000146

WELL: ...Dulligari...#39

OPERATOR: ...S. Mayer / K. McCartan



SANTOS LTD
WELL TEST DATA
METRIC SUMMARY SHEET

DATE: ...2-6-87

PAGE No: ...21 of 22

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M ³ /D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M ³ /D	MMSCF/D	Mm ³ /D	G.O.R. Cu/FT BBL	G.O.R. M ³ /M ³
1620	1035	7136	2138	14741		Run in hole with ameradas									
	3-	June	1987												
0830	1100	7584	2158	14879											
2100	1145	7894	2175	14996											
	4 th	June	1987												
0600	1175	8101	2185	15065											
2100	1225	8446	2195	15134											
	5	June	87												
0600	1255	8653	2197	15148											
2100	1325	9135	2225	15341											
	6	June	87												
0600	1350	9308	2235	15410											

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000147

WELL: ^{Dulligari 39} ~~Kidman #5~~ Lower
 OPERATOR: Blohrey K Mc Cartan



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: 6 June 87
 PAGE No: 22 of 22

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
21:00	1420	9790	2240												
	7 June 87														
06:00	1450	9997	2252	15527											
08:50															
09:18															
10:18	1450	9997	2252	15527											
11:25															
11:40	1450	9997	2252	15527											
13:21															
13:36	1480	10204	2252	15527											

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

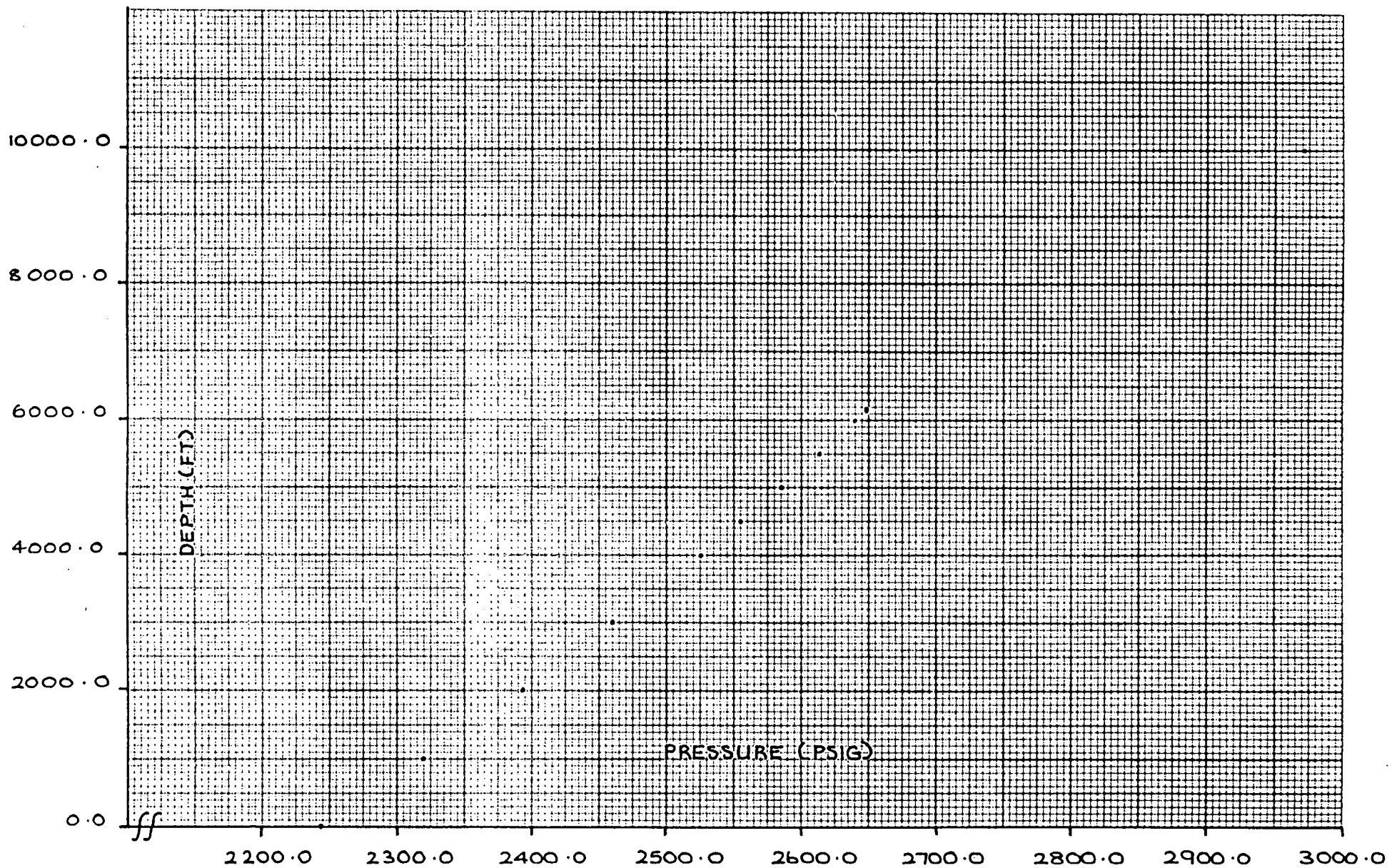
• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000148

DULLINGARI # 39 - STATIC GRADIENT SURVEY - 7/6/87

ELEMENT # 44918 / 5000 (TOP)



WELL NAME: Pullingari #39.

STATIC GRADIENT SURVEY

DATE: 7. 6. 87

[illegible]

General Comments: RT7 #55573 100°F-400°F Run with these gauges 12 hr clock D/P # B6824.

GOIO

000150

INSERT THIS COPY WITH WELL TEST DATA



SANTOS LTD. - FLUID ANALYSIS

Sample Condition Summary

Well DULLINGARI #39 Fluid CONDENSATE Date 25-5-87 Container no. 012
 Formation PATCHAWARRA Perforations 8109-8212 Sampled by OSA

Time	Wellhead data			Separator data		Rates		
	F.T.P. Kpa	Choke size	F.T.T. °C	Press. Kpa	Temp. °C	Gas M ³ /Day	Liquid M ³ /Day	Water M ³ /Day
12.15	5600	3 3/4	62	1931	47	125769	1.69	8.16

S.I.T.P. (Kpa) 15245 @ Date / time 23-5-87 1400 hrs

Sample pt. Test separator H.P. condensate outlet.

Remarks: Destination

Sampling by MgSO₄ displacement method

100 ml outage

INSERT THIS COPY WITH WELL TEST DATA



SANTOS LTD. - FLUID ANALYSIS

Sample Condition Summary

Well DULLINGARI #39 Fluid CONDENSATE Date 25-5-87 Container no. 045
 Formation PATCHAWARRA Perforations 8109-8212 Sampled by OSA

Time	Wellhead data			Separator data		Rates		
	F.T.P. Kpa	Choke size	F.T.T. °C	Press. Kpa	Temp. °C	Gas M ³ /Day	Liquid M ³ /Day	Water M ³ /Day
11.55	5600	3 3/4	62	1931	47	125769	1.69	8.16

S.I.T.P. (Kpa) 15245 @ Date / time 23-5-87 1400 HRS

Sample pt. Test Separator H.P. condensate outlet.

Remarks: Destination

Sampling by Mg SO₄ displacement

100 ml outage



SANTOS LTD. - FLUID ANALYSIS

Sample Condition Summary

Well DULLINGARI #39 Fluid GAS Date 25-5-87 Container no. 003Formation PATCHAWARRA Perforations 8109-8212' Sampled by OSA

<u>Wellhead data</u>				<u>Separator data</u>		<u>Rates</u>		
Time	F.T.P Kpa	Choke size	F.T.T. °C	Press. Kpa	Temp. °C	Gas M ³ /Day	Liquid M ³ /Day	Water M ³ /Day
1217	5600	32/64	62	1931	47	125769	1.69	8.16

S.I.T.P (Kpa) 15245 @ Date/time 23-5-87 1400 HRSSample pt. Test separator meter run

Remarks: Destination _____

Sampling by Vacuum methodShipping pressure 280 psi

SANTOS LTD. - FLUID ANALYSIS

Sample Condition Summary

Well DULLINGARI #39 Fluid GAS Date 25-5-87 Container no. 097Formation PATCHAWARRA Perforations 8109-8212 Sampled by OSA

<u>Wellhead data</u>				<u>Separator data</u>		<u>Rates</u>		
	F.T.P	Choke	F.T.T.	Press.	Temp.	Gas	Liquid	Water
Time	Kpa	size	°C	Kpa	°C	M ³ /Day	M ³ /Day	M ³ /Day
1223	5600	32/64	62°	1931	47	125761	1.69	8.16

S.I.T.P (Kpa) 15245 @ Date/time 23-5-87 1400 hrsSample pt. Test separator meter run

Remarks: Destination _____

Sampling by vacuum methodShipping pressure 280 psi



SANTOS LTD. - FLUID ANALYSIS

Sample Condition SummaryWell DULLINGARI #39 Fluid WATER Date 25-5-87 Container no. L.P.Formation PATCHAWARRA Perforations 8109 - 8212 Sampled by OSA

Time	<u>Wellhead data</u>			<u>Separator data</u>		<u>Rates</u>		
	F.T.P. Kpa	Choke size	F.T.T. °C	Press. Kpa	Temp. °C	Gas M ³ /Day	Liquid M ³ /Day	Water M ³ /Day
1225	5600	32/64	62	1931	47	125 769	1.69	8.16

S.I.T.P (Kpa) 15245 @ Date / time 23-5-87 1400 hrs

Sample pt. _____

Remarks: Destination: _____



SANTOS LTD. - FLUID ANALYSIS

Sample Condition SummaryWell DULLINGARI #39 Fluid WATER Date 25-5-87 Container no. L.P.Formation PATCHAWARRA Perforations 8109 - 8212 Sampled by OSA

Time	<u>Wellhead data</u>			<u>Separator data</u>		<u>Rates</u>		
	F.T.P. Kpa	Choke size	F.T.T. °C	Press. Kpa	Temp. °C	Gas M ³ /Day	Liquid M ³ /Day	Water M ³ /Day
1225	5600	32/64	62	1931	47	125 769	1.69	8.16

S.I.T.P (Kpa) 15245 @ Date / time 23-5-87 1400 hrsSample pt. Test separator water outlet

Remarks: Destination: _____

SANTOS LTD
39 GRENFELL ST
ADELAIDE

SUB-SURFACE PRESSURE SURVEY

CO. SANTOS		RUN 01 FIELD DULLINGARI	WELL 39
EFF DEPTH		WELL STAT	TOOL HUNG 6165'
CASING 7"	-	CASING PRESS	ON BOTTOM 1248 23/5
LINER	-	TUBING PRESS	OFF BOTTOM 1205 27/5
DATE 870523		ELEMENT RANGE 0 - 5273	ZERO POINT
ELEVATION		ZONE	SHUT-IN
MAX TEMP		PICK-UP	ON-PROD
PERF 8109' - 8212'		CAL SER NO. 44176	MPP 8161'
TUBING 2-7/8"	-		
UNITS ENGLISH		PURPOSE	MODIFIED ISOCHRONAL

SURVEY DATA

CO. SANTOS			RUN 01 FIELD DULLINGARI			WELL 39		
TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME	
14:04	2644.3	0.0	1.3	4:44	1328.0	-1316.3	15.9	
16:03	2142.6	-501.7	3.2	6:47	2384.9	-259.4	18.0	
18:26	2572.6	-71.7	5.6	9:04	1208.3	-1436.0	20.3	
20:34	1926.4	-717.9	7.8	13:56	1188.3	-1455.9	49.1	
22:29	2518.1	-126.2	9.7	16:54	2113.0	-531.2	52.1	
0:37	1645.6	-998.7	11.8	12:05	1101.6	-1542.7	95.3	
2:41	2448.1	-196.2	13.9	0:00	0.0	0.0	0.0	

LUB IN DWT = 2209 PSI / OUT = 738 PSI
LUB IN AMERADA = 2222 PSI / OUT = 758 PSI

SANTOS LTD
39 GRENFELL ST
ADELAIDE

SUB-SURFACE PRESSURE SURVEY

CO. SANTOS		RUN 03 FIELD DULLINGARI	WELL 39
EFF DEPTH		WELL STAT	TOOL HUNG 6165'
CASING 7"	-	CASING PRESS	ON BOTTOM 1658 27/5
LINER	-	TUBING PRESS	OFF BOTTOM 1321 2/6
DATE 870527		ELEMENT RANGE 0 - 5273	ZERO POINT
ELEVATION		ZONE	SHUT-IN 1200 28/5
MAX TEMP		PICK-UP	ON-PROD
PERF 8109'-8212'		CAL SER NO. 44176	MPP 8161'
TUBING 2-7/8"	-		
UNITS ENGLISH		PURPOSE BUILD-UP	

SURVEY DATA

CO. SANTOS				RUN 03 FIELD DULLINGARI				WELL 39			
TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME
12:00	1073.2	0.0	0.0	0:00	2073.7	1000.5	12.0	0:00	2073.7	1000.5	12.0
12:05	1272.0	198.8	.1	6:00	2142.6	1069.4	18.0	6:00	2142.6	1069.4	18.0
12:10	1390.1	316.9	.2	12:01	2192.9	1119.7	24.0	12:01	2192.9	1119.7	24.0
12:15	1464.8	391.6	.3	15:01	2214.3	1141.1	27.0	15:01	2214.3	1141.1	27.0
12:30	1580.8	507.7	.5	18:00	2233.7	1160.5	30.0	18:00	2233.7	1160.5	30.0
12:45	1651.9	578.7	.8	0:00	2266.1	1192.9	36.0	0:00	2266.1	1192.9	36.0
13:00	1700.7	627.5	1.0	6:01	2293.2	1220.1	42.0	6:01	2293.2	1220.1	42.0
13:15	1733.1	659.9	1.2	12:00	2314.9	1241.7	48.0	12:00	2314.9	1241.7	48.0
13:30	1763.4	690.2	1.5	18:00	2337.3	1264.1	54.0	18:00	2337.3	1264.1	54.0
13:45	1785.0	711.8	1.7	20:46	2345.8	1272.6	56.8	20:46	2345.8	1272.6	56.8
14:00	1804.3	731.1	2.0	6:01	2372.4	1299.3	66.0	6:01	2372.4	1299.3	66.0
14:30	1837.8	764.6	2.5	12:00	2387.5	1314.3	72.0	12:00	2387.5	1314.3	72.0
15:01	1862.4	789.2	3.0	20:30	2408.1	1334.9	80.5	20:30	2408.1	1334.9	80.5
16:00	1904.3	831.1	4.0	8:10	2431.7	1358.5	92.2	8:10	2431.7	1358.5	92.2
17:00	1937.7	864.5	5.0	20:10	2455.5	1382.3	104.2	20:10	2455.5	1382.3	104.2
18:00	1964.3	891.1	6.0	7:10	2472.5	1399.3	115.2	7:10	2472.5	1399.3	115.2
19:00	1989.3	916.1	7.0	13:21	2484.2	1411.1	121.3	13:21	2484.2	1411.1	121.3

LUB IN DWT = 732 PSI / OUT = 2136 PSI
LUB IN AMERADA = 638 PSI / OUT = 2139 PSI

SANTOS LTD
39 GRENELL ST
ADELAIDE

SUB-SURFACE PRESSURE SURVEY

CO. SANTOS		RUN 05 FIELD DULLINGARI	WELL 39
EFF DEPTH		WELL STAT	TOOL HUNG 6165'
CASING 7"	-	CASING PRESS	ON BOTTOM 1651 2/6
LINER	-	TUBING PRESS	OFF BOTTOM 0850 7/6
DATE 870602		ELEMENT RANGE 0 - 5273	ZERO POINT
ELEVATION		ZONE	SHUT-IN 1200 28/5
MAX TEMP		PICK-UP	ON-PROD
PERF 8109'-8212'		CAL SER NO. 44176	MPP 8161'
TUBING 2-7/8"	-		
UNITS ENGLISH		PURPOSE BUILD-UP	

SURVEY DATA

CO. SANTOS			RUN 05 FIELD DULLINGARI			WELL 39		
TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME	
16:51	2552.9	0.0	0.0	21:00	2655.2	102.2	76.2	
8:30	2583.0	30.1	15.6	6:00	2663.6	110.6	85.2	
21:00	2600.3	47.3	28.1	21:01	2677.4	124.4	100.2	
6:01	2611.3	58.4	37.2	6:00	2683.7	130.7	109.2	
21:01	2630.4	77.4	52.2	8:50	2689.8	136.8	112.0	
6:01	2638.7	85.8	61.2	0:00	0.0	0.0	0.0	

LUB IN DWT = 2138 PSI / OUT = 2252 PSI
LUB OUT AMERADA = 2266 PSI

SANTOS LTD
39 GRENFELL ST
ADELAIDE

SUB-SURFACE PRESSURE SURVEY

CO. SANTOS		RUN 02 FIELD DULLINGARI	WELL 39
EFF DEPTH		WELL STAT	TOOL HUNG 6171'
CASING 7"	-	CASING PRESS	ON BOTTOM 1248 23/5
LINER	-	TUBING PRESS	OFF BOTTOM 1205 27/5
DATE 870523		ELEMENT RANGE 0 - 5069	ZERO POINT
ELEVATION		ZONE	SHUT-IN
MAX TEMP		PICK-UP	ON-PROD
PERF 8109'-8212'		CAL SER NO. 44918	MPP 8161'
TUBING 2-7/8"	-		
UNITS ENGLISH		PURPOSE	MODIFIED ISOCHRONAL

SURVEY DATA

CO. SANTOS			RUN 02 FIELD DULLINGARI			WELL 39		
TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME	
14:21	2626.7	0.0	1.5	4:14	1310.1	-1316.6	15.4	
16:14	2114.3	-512.4	3.4	6:34	2371.3	-255.4	17.8	
18:27	2553.0	-73.7	5.7	8:22	1184.6	-1442.1	19.6	
20:21	1901.6	-725.1	7.6	13:06	1173.0	-1453.7	48.3	
22:31	2497.7	-129.0	9.7	16:27	2094.0	-532.7	51.7	
0:16	1623.4	-1003.3	11.5	12:05	1083.5	-1543.2	95.3	
2:31	2436.3	-190.4	13.7	0:00	0.0	0.0	0.0	

LUB IN DWT = 2209 PSI / OUT = 738 PSI
LUB IN AMERADA = 2222 PSI / OUT = 743 PSI

SANTOS LTD
39 GRENELL ST
ADELAIDE

SUB-SURFACE PRESSURE SURVEY

CO. SANTOS		RUN 04 FIELD DULLINGARI	WELL 39
EFF DEPTH		WELL STAT	TOOL HUNG 6171'
CASING 7"	-	CASING PRESS	ON BOTTOM 1658 27/5
LINER	-	TUBING PRESS	OFF BOTTOM 1321 2/6
DATE 870527		ELEMENT RANGE 0 - 5069	ZERO POINT
ELEVATION		ZONE	SHUT-IN 1200 28/5
MAX TEMP		PICK-UP	ON-PROD
PERF 8109'-8212'		CAL SER NO. 44918	MPP 8161'
TUBING 2-7/8"	-		
UNITS ENGLISH		PURPOSE BUILD-UP	

SURVEY DATA

CO. SANTOS				RUN 04 FIELD DULLINGARI				WELL 39			
TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME
12:00	1050.0	0.0	0.0	0:01	2060.9	1011.0	12.0				
12:05	1267.2	217.3	.1	6:00	2130.7	1080.8	18.0				
12:10	1458.4	408.4	.2	12:00	2179.6	1129.6	24.0				
12:15	1458.9	408.9	.3	15:00	2200.2	1150.2	27.0				
12:30	1549.3	499.3	.5	18:00	2220.0	1170.1	30.0				
12:45	1739.3	689.4	.8	0:00	2253.4	1203.4	36.0				
13:01	1738.6	688.6	1.0	6:00	2281.5	1231.5	42.0				
13:16	1738.3	688.3	1.3	12:01	2304.4	1254.5	48.0				
13:30	1817.2	767.2	1.5	18:00	2325.1	1275.2	54.0				
13:45	1817.1	767.1	1.7	20:45	2334.1	1284.2	56.7				
14:00	1817.1	767.1	2.0	6:01	2360.7	1310.8	66.0				
14:30	1863.6	813.6	2.5	12:00	2377.1	1327.2	72.0				
15:01	1877.7	827.7	3.0	20:30	2395.7	1345.8	80.5				
16:00	1900.6	850.6	4.0	8:10	2421.0	1371.0	92.2				
17:00	1939.4	889.4	5.0	20:10	2440.6	1390.6	104.2				
18:01	1965.1	915.1	6.0	7:10	2458.8	1408.9	115.2				
19:01	1984.4	934.4	7.0	13:21	2473.2	1423.2	121.3				

LUB IN DWT = 732 PSI / OUT = 2136 PSI
LUB IN AMERADA = 729 PSI

SANTOS LTD
39 GRENFELL ST
ADELAIDE

SUB-SURFACE PRESSURE SURVEY

CO. SANTOS		RUN 06 FIELD DULLINGARI	WELL 39
EFF DEPTH		WELL STAT	TOOL HUNG 6171'
CASING 7"	-	CASING PRESS	ON BOTTOM 1651 2/6
LINER	-	TUBING PRESS	OFF BOTTOM 0850 7/6
DATE 870602		ELEMENT RANGE 0 - 5069	ZERO POINT
ELEVATION		ZONE	SHUT-IN 1200 28/5
MAX TEMP		PICK-UP	ON-PROD
PERF 8109'-8212'		CAL SER NO. 44918	MPP 8161'
TUBING 2-7/8"	-		
UNITS ENGLISH		PURPOSE BUILD-UP	

SURVEY DATA

CO. SANTOS			RUN 06 FIELD DULLINGARI			WELL 39		
TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME	
16:51	2530.9	0.0	0.0	21:01	2622.6	91.7	76.2	
8:30	2550.7	19.7	15.6	6:01	2631.4	100.4	85.2	
21:01	2568.0	37.0	28.2	21:00	2644.0	113.0	100.2	
6:00	2579.0	48.1	37.2	6:01	2651.2	120.2	109.2	
21:00	2596.7	65.7	52.2	8:50	2656.5	125.6	112.0	
6:01	2606.4	75.5	61.2	0:00	0.0	0.0	0.0	

LUB IN DWT = 2138 PSI / OUT = 2252 PSI
LUB IN AMERADA = 2143 PSI / OUT = 2254 PSI

WELL: DULLINGARI #39						SANTOS LTD.										DATE: 16 th MAY 1987				
TYPE OF TEST: CLEAN UP						WELL TEST DATA SHEET										PAGE No: 1 of 8				
DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS					
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS. H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLs	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLs	GAS FLOW RATE MMSCFD	OIL FLOW RATE BBLs/ DAY	WATER FLOW RATE BBLs/ DAY	TOTAL LIQUID FLOW RATE BBLs/ DAY	G.O.R. SCF/BBL	
						CLEAN UP FLOW														
1800						Arrive on location - Begin rigging in choke manifold and flare line.														
2215	960	2223				Open well to flare through 18/64" adjustable choke														
2220	975	2075				Increase choke to 21/64														
2225	985	1987		21/64		Producing dry gas														
2230	1000	1959		21/64																
2300	1065	1954		21/64																
2348				21/64		Condensate to surface														
2349				21/64		Water to surface, slugging lightly														
2350				21/64		Rock choke due to hydrate at choke														
2400	1125	1805		21/64																
	17 th	MAY	1987																	
0001						Change to 24/64 fixed bean choke														
0100	1265	1594		24/64																
0300	1445	1512		24/64																
0500	1560	1467		24/64																
0700	1630	1432		24/64																
0900	1665	1403		24/64		Bleed down annulus to 430 PSI (Dry gas)														
1100	515	1383																		

OPERATOR: S. Moyer / T. Hirst

000160

WELL: DULLINGARI #39						SANTOS LTD.										DATE: 17 th MAY 1987				
TYPE OF TEST: CLEAN UP						WELL TEST DATA SHEET										PAGE No: 2 of 8				
DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS					
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS. H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLs	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLs	GAS FLOW RATE MMSCFD	OIL FLOW RATE BBLs/ DAY	WATER FLOW RATE BBLs/ DAY	TOTAL LIQUID FLOW RATE BBLs/ DAY	G.O.R. SCF/BBL	
1105				Change to		2 1/4"		fixed bean choke												
1200	490	1545		2 1/4"																
1400	470	1549		2 1/4"																
1600	465	1513		2 1/4"																
1800	460	1505		2 1/4"																
1910	460	1510																		
2020	350	1930		Open well on		2 1/4"		fixed bean choke												
2030	365	1619	120°	2 1/4"																
2100	380	1562	124°	2 1/4"		295	48	59°	2.00						2.903					
2200	400	1525	124°	2 1/4"		290	45	61°	2.00						2.782					
2400	400	1499	126°	2 1/4"		290	46	63°	2.00			53.3			2.810	5.7	29.8		Salinity 12000 ppm	
	18 th	MAY	1987																	
0200	410	1478	127°	2 1/4"		310	43	68°	2.00						2.788	10.2	24.5			
0400	415	1465	127°	2 1/4"		305	40	70°	2.00						2.658	0.4	38.6			
0600	415	1456	127°	2 1/4"		305	40	70°	2.00			47.5			2.658	0.8	38.6			
0800	425	1453	127°	2 1/4"		305	41	72°	2.00						2.686	12.5	26.4		Salinity 9000 ppm	
1000	445	1448	127°	2 1/4"		300	42	73°	2.00						2.695	23.4	1.1		10,000 ppm	
1200	475	1437	129°	2 1/4"		300	41	75°	2.00			45.9			2.655	9.1	28.3		10,000 ppm	
1400	485	1429	128°	2 1/4"		300	42	75°	2.00						2.688	18.9	14.3			
1600	500	1426	127°	2 1/4"		270	45	73°	2.00			45.4			2.646	3.4	29.1		H ₂ S-22 ppm	

OPERATOR: S. MAYER / T. HIRST

000161

WELL: <u>DULLINGARI #39</u>						SANTOS LTD.										DATE: <u>18th MAY 1987</u>				
TYPE OF TEST: <u>CLEAN UP</u>						SANTOS WELL TEST DATA SHEET										PAGE No: <u>3 of 8</u>				
DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS					
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS. H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLs	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLs	GAS FLOW RATE MMSCFD	OIL FLOW RATE BBLs/ DAY	WATER FLOW RATE BBLs/ DAY	TOTAL LIQUID FLOW RATE BBLs/ DAY	G.O.R. SCF/BBL	
1800	505	1422	129	20/64		277	43	73	2.00						2.623	8.7	25.3			
2000	515	1414	129	20/64		275	45	73	2.00						2.672	8.3	29.4		Salinity 7000 ppm	
2200	515	1419	129	20/64		265	43	72	2.00			44.6			2.564	0	28.3		H ₂ S 31 ppm	
2400	520	1410	129	20/64		270	43	72	2.00						2.586	9.1	27.9			
19 th MAY 1987																				
0200	525	1405	129	20/64		270	42	72	2.00						2.556	6.4	23.8		Salinity 6000 ppm	
0400	525	1401	129	20/64		290	39	72	2.00						2.551	2.3	34.7			
0600	530	1397	129	20/64		290	39	72	2.00			45.0			2.551	2.3	39.2		H ₂ S 32 ppm	
0800	530	1400	129	20/64		290	39	72	2.00						2.557	3.8	30.2		Salinity 6000 ppm	
0840	535	1398	129			Open choke to 24/64 to determine choke sizes for test														
0900	540	1305	131	24/64		310	55	73	2.00						3.133					
0901						Open choke to 32/64 (fixed choke)														
0915	560	980	136	32/64		285	50	90	2.50						4.605					
0916						Shut in well for pressure buildup														
0920	560	1478																		
0925	545	1567				Note: choke sizing for test not accurate due to low permeability.														
0930	535	1632																		
0945	490	1752																		
1000	460	1792																		
1100	380	1872																		

OPERATOR S. MAYER/T. HIRST

000162

WELL: DULLINGARI #39
TYPE OF TEST: CLEAN UP


SANTOS LTD.
WELL TEST DATA SHEET

DATE: 19th MAY 1987
PAGE No: 4 of 8

DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS				
	CASING	TUBING	TEMP.	CHOKE	B.S.W.	PI	HW	TEMP.	ORIFICE	TANK	TANK	API	TANK	TANK	GAS	OIL	WATER	TOTAL	G.O.R.
	PSI	PSI	°F	SIZE INS.	%	PSI	INS. H ₂ O	°F	SIZE INS.	DIP INS.	PROD BBLs	GRAVITY @ 60 °F	DIP INS.	PROD BBLs	FLOW RATE MMSCFD	FLOW RATE BBLs/ DAY	FLOW RATE BBLs/ DAY	FLOW RATE BBLs/ DAY	SCF/BBL
1200	330	1899			Build ups	(cont)													
1400	290	1942			Rig up	wire line unit & wellhead recorder													
1600	260	1970																	
1800	255	1992																	
2000	255	2010																	
2200	260	2024																	
2400	270	2039																	
	20 th May	1987																	
0200	270	2049																	
0400	275	2061																	
0600	290	2070																	
0800	310	2077																	
1000	330	2086																	
1040			Run in hole with 1.750 lead impression block																
1121			Tag obstruction @ 6197' KB Pull out of hole.																
1152			Tools to surface. Impression block showing 1" coiled tubing broken off cleanly.																
1200	360	2093																	
1400	365	2097			Open well on 22/64 fixed bean choke to determine choke settings for test.														
1405	390	1725	99	22/64															
1410	402	1695	104	22/64		285	70	41	2.25						4.570				

OPERATOR: S. MAYER / T. HIRST

000163

WELL: <u>DULLINGARI #39</u>						SANTOS LTD.										DATE: <u>20th MAY 1987</u>				
TYPE OF TEST: <u>CLEAN UP</u>						WELL TEST DATA SHEET										PAGE No: <u>5 of 8</u>				
DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS					
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS. H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLs	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLs	GAS FLOW RATE MMSCFD	OIL FLOW RATE BBLs/ DAY	WATER FLOW RATE BBLs/ DAY	TOTAL LIQUID FLOW RATE BBLs/ DAY	G.O.R. SCF/BBL	
1415	410	1680	108	22/64																
1420	425	1638	108	22/64																
1425	430	1616	109	22/64																
1430	437	1603	109	22/64		285	66	45	2.25						4.419					
1445	475	1567	113	22/64		275	65	46	2.25						4.287					
1500	500	1546	113	22/64		270	63	46	2.25		0			15.1	4.184					
1501		Open	to	26/64		"adjustable choke"														
1505	505	1455	115	26/64																
1510	520	1365	115	26/64																
1515	530	1347	117	26/64		300	96	61	2.25						5.354					
1520	537	1332	117	26/64		Rock choke														
1540	570	1300	117	26/64		335	63	64	2.25						4.573					
1557		Rock choke due to obstruction																		
1600	595	1330	118	26/64		335	62	68	2.25						4.498					
1605		Open	to	28/64		adjustable choke					12.7			1.5						
1615	625	1162	120	28/64		340	53	72	2.50						5.330					
1630		Rock choke																		
1635	660	1131	122	28/64		340	47	75	2.50		132.8			0	4.995					
1636		Increase choke to 34/64 (adj)																		
1645	675	870	122	34/64		310	28	90	3.00						5.694					

OPERATOR: S. MAYER / T. HIRST

000164

WELL: <u>DULLINGARI #39</u>						 SANTOS LTD. WELL TEST DATA SHEET										DATE: <u>20th MAY 1987</u>				
TYPE OF TEST: <u>CLEAN UP</u>						PAGE No: <u>6 of 8</u>														
DATE TIME	WELLHEAD					GAS FLOW DATA				OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS					
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS. H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLs	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLs	FLOW RATE MMSCFD	GAS	OIL FLOW RATE BBLs/ DAY	WATER FLOW RATE BBLs/ DAY	TOTAL LIQUID FLOW RATE BBLs/ DAY	G.O.R. SCF/BBL
1700	685	806	122	3 1/4		305	24	91	3.00		36.2			36.2	5.227					
1701	Shut in well for pressure buildup																			
1705	710	1462																		
1710	690	1637																		
1715	675	1725																		
1730	630	1845																		
1800	585	1931																		
1900	515	2002																		
2000	480	2034																		
2200	440	2054																		
2400	420	2069																		
	21 st	MAY	1987																	
0200	405	2081																		
0400	400	2095																		
0600	390	2104																		
0800	390	2110																		
1000	390	2117																		
1200	385	2123																		
1400	400	2128																		
1600	415	2134																		

OPERATOR S. MAHEC / T. HIRST

000165

WELL: PULLINGARI #39						SANTOS LTD.										DATE: 21 st MAY 1987				
TYPE OF TEST: CLEAN UP						SANTOS										PAGE No: 7 of 8				
DATE TIME	WELLHEAD					GAS FLOW DATA					OIL/CONDENSATE PRODUCTION			WATER PRODUCTION		WELL TEST RESULTS				
	CASING PSI	TUBING PSI	TEMP. °F	CHOKE SIZE INS.	B.S.W. %	PI PSI	HW INS. H ₂ O	TEMP. °F	ORIFICE SIZE INS.	TANK DIP INS.	TANK PROD BBLs	API GRAVITY @ 60 °F	TANK DIP INS.	TANK PROD BBLs	GAS FLOW RATE MMSCFD	OIL FLOW RATE BBLs/ DAY	WATER FLOW RATE BBLs/ DAY	TOTAL LIQUID FLOW RATE BBLs/ DAY	G.O.R. SCF/BBL	
1800	415	2136				Pressure build up (cont.)														
2000	425	2141																		
2200	435	2145																		
2400	445	2150																		
	22 nd MAY 1987																			
0200	460	2154																		
0400	455	2158																		
0600	460	2161																		
0800	470	2165																		
1000	480	2170																		
1200	500	2174																		
1400	500	2178																		
1600	515	2181																		
1800	520	2183																		
2000	525	2186																		
2200	535	2188																		
2400	550	2190																		
	23 rd MAY 1987																			
0200	560	2193																		
0400	575	2196																		

OPERATOR: S. MAYER / K. McCARTAN

000166

WELL TEST DATA METRIC SUMMARY SHEETS

WELL: DULLINGARI #39
 OPERATOR: S. Mayer / THirst



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: 16 May 1987
 PAGE No: 1 of 12

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. CU/FT BBL	G.O.R. M3/M3
					CLEAN	UP		FLOW							
1800			Arrive Location					Rig up choke manifold and flare line							
2215	960	6619	2223	15328	1 7/8			Open well to flare							
2220	975	6723	2075	14307	2 1/4			Increase choke							
2225	985	6792	1987	13700	2 1/4			Producing dry gas							
2230	1000	6895	1959	13507	2 1/4										
2348					2 1/4			Condensate to Surface							
2349					2 1/4			Water to Surface, slugging slightly							
2350					2 1/4			Rock choke due to hydrate at choke							
2400	1125	7757	1805	12445	2 1/4										
	17	May	1987												
0001								Change to	2 3/4	fixed	choke				

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• CU/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

00168

WELL: DULLINGARI #39
 OPERATOR: S. Mayer / T. Hirst



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: 17 May 1987
 PAGE No: 2 of 12

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M ³ /D	FLOWRATE H ₂ O BBL'S/D	FLOWRATE H ₂ O M ³ /D	MMSCF/D	Mm ³ /D	G.O.R. Cu/FT BBL	G.O.R. M ³ /M ³
0100	1265	8722	1594	10991	24/64										
0300	1445	9963	1512	10425	24/64										
0500	1560	10756	1467	10115	24/64										
0700	1630	11239	1432	9874	24/64										
0900	1665	11480	1403	9674	24/64		Bleed down	annulus to	430 PSI (Dry Gas)						
1100	515	3551	1383	9536	24/64										
1105							Change to	20/64	fixed	bean choke					
1200	490	3379	1545	10653	20/64										
1400	470	3241	1549	10680	20/64		Steady light	spray of	Condensate	with occasional	water	slog			
1600	465	3206	1513	10432	20/64										
1800	460	3172	1505	10377	20/64										
1910	460	3172	1510	10411			Shut	well in	to tie in	Separator					

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

WELL: DULLINGARI #39
 OPERATOR: S. Mayer / T. Hirst



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: 17 May 1987
 PAGE No: 3 of 12

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
2020	350	2413	1930	13307	20/64	Open well on		20/64 fixed bean	choke through test Separator.						
2030	365	2516	1619	11163	20/64	120	49								
2100	380	2620	1562	10770	20/64	124	51					2.903	81.789		
2200	400	2758	1525	10515	20/64	124	51					2.782	78.380		
2400	400	2758	1499	10336	20/64	126	52	5.7	0.906243	29.8	4.737902	2.810	79.169		
	18	May	1987												
0200	410	2827	1478	10190	20/64	127	53	10.2	1.621698	24.5	3.895255	2.788	78.549		
0400	415	2861	1465	10101	20/64	127	53	0.4	0.063596	38.6	6.137014	2.658	74.886		
0600	415	2861	1456	10039	20/64	127	53	0.8	0.127192	38.6	6.137014	2.658	74.886		
0800	425	2930	1453	10018	20/64	127	53	12.5	1.987375	26.4	4.197336	2.686	75.675		
1000	445	3068	1448	9984	20/64	127	53	23.4	3.720366	1.1	0.174889	2.695	75.929		
1200	475	3275	1437	9908	20/64	129	54	9.1	1.446809	28.3	4.499417	2.655	74.802		

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

0001700

WELL: DULLINGARI #39
 OPERATOR: S. Mayer / T. Hirst



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: 18 May 1987
 PAGE No: 4 of 12

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
1400	485	3344	1429	9853	20/64	128	53.5	18.9	3.004911	14.3	2.273557	2.688	75.732		
1600	500	3447	1426	9832	20/64	127	53	3.4	0.540566	29.1	4.626609	2.646	74.548		
1800	505	3482	1422	9805	20/64	127	53	8.7	1.383213	25.3	4.022447	2.623	73.900		
2000	515	3551	1414	9749	20/64	129	54	8.3	1.319617	29.4	4.674306	2.672	75.281		
2200	515	3551	1419	9784	20/64	129	54	0	0	28.3	4.499417	2.564	72.238		
2400	520	3585	1410	9722	20/64	129	54	9.1	0.15899	27.9	4.435821	2.586	72.858		
19 May 1987															
0200	525	3620	1405	9687	20/64	129	54	6.4	1.017536	23.8	3.783962	2.556	72.013		
0400	525	3620	1401	9660	20/64	129	54	2.3	0.365677	34.7	5.516953	2.551	71.872		
0600	530	3654	1397	9632	20/64	129	54	2.3	0.365677	39.2	6.232408	2.551	71.872		
0800	530	3654	1400	9653	20/64	129	54	3.8	0.604162	30.2	4.801498	2.551	71.872		
0840	535	3689	1398	9639	Open choke	to 24/64 to determine choke sizes for test									

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000171

WELL: DULLINGARI #39
 OPERATOR: S. Mayer / T Hirst



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: 19 May 1987
 PAGE No: 5 of 12

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
0900	540	3723	1305	8998	24/64	131	55					3.133	88.269		
0901			Open choke			to	32/64	(fixed choke)							
0915	560	3861	980	6757	32/64	136	58					4.605	129.741		
0916		Shut	well in		for	pressure		build up							
0920	560	3861	1478	10191											
0925	545	3758	1567	10804											
0930	535	3689	1632	11253											
0945	490	3379	1752	12080											
1000	460	3172	1792	12356											
1100	380	2620	1872	12907											
1200	330	2275	1899	13094											
1400	290	1999	1942	13390											

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000172

WELL: DULLINGARI #39
 OPERATOR: S. Mayer / T. Hirst



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: 19 May 1987
 PAGE No: 6 of 12

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP. °F	TEMP. °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
1600	260	1763	1970	13583											
1800	255	1758	1992	13735											
2000	255	1758	2010	13859											
2200	260	1793	2024	13955											
2400	270	1862	2039	14059											
	20	May	1987												
0200	270	1862	2049	14128											
0400	275	1896	2061	14210											
0600	290	1999	2070	14273											
0800	310	2137	2077	14321											
1000	330	2275	2086	14383											
1040					Run in hole with 1.750 lead impression block										

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000173

WELL: DULLINGARI #39
 OPERATOR: S. Mayer / T. Hirst



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: 20 May 1987
 PAGE No: 7 of 12

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. CU/FT BBL	G.O.R. M3/M3
1121					Tag obstruction @ 6197' KB Pull out of hole										
1152					Tools to surface. Impression block showing 1" coiled tubing broken off cleanly.										
1200	360	2482	2093	14431											
1400	365	2517	2097	14459	Open well on 2 7/64 fixed bean choke to determine choke settings for test										
1405	390	2689	1725	11894	2 7/64	99	37								
1410	402	2772	1695	11687	2 7/64	104	40					4.570	128.755		
1415	410	2827	1680	11584	2 7/64	108	42								
1420	425	2930	1638	11294	2 7/64	108	42								
1425	430	2965	1616	11142	2 7/64	109	43								
1430	437	3013	1603	11053	2 7/64	109	43					4.419	124.5		
1445	475	3275	1567	10804	2 7/64	113	45					4.287	120.782		
1500	500	3447	1546	10660	2 7/64	113	45	0	0	15.1	2.4	4.184	117.880		000174

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• CU/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

WELL: *DULLINGARI*.....#39.....
 OPERATOR: *S. Mayer / T. Hirst*



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: *20 May 1987*
 PAGE No: *8 of 12*

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M ³ /D	FLOWRATE H ₂ O BBL'S/D	FLOWRATE H ₂ O M ³ /D	MMSCF/D	Mm ³ /D	G.O.R. Cu/FT BBL	G.O.R. M ³ /M ³
1501				Open	to	26/64	adjustable	choke							
1505	505	3482	1455	10032	26/64	115	46								
1510	520	3585	1365	9412	26/64	115	46								
1515	530	3654	1347	9288	26/64	117	47					5.354	150.844		
1520	537	3703	1332	9184	26/64	117	47								
1540	570	3930	1300	8963	26/64	117	47					4.573	128.840		
1557			Rock choke due to				obstruction								
1600	595	4103	1330	9170	26/64	118	48					4.498	126.726		
1605			Open	to	28/64	adjustable	12.7	2.019	1.5	0.238					
1615	625	4309	1162	8012	28/64	120	49					5.330	150.167		
1630			Rock choke												
1635	660	4551	1131	7798	28/64	122	50	132.8	21.113	0	0	4.995	140.729		

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000175

WELL: DULLINGARI #39
 OPERATOR: S. Mayer / T. Hirst



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: 20 May 1987
 PAGE No: 9 of 12

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
1636			Open choke			to 3 3/4	64	adjustable							
1645	675	4654	870	5999	3 3/4	122	50					5.694	160.423		
1700	685	4723	806	5557	3 3/4	122	50	36.2	5.755	36.2	5.755	5.227	147.265		
1701			Shot in well				for pressure build up								
1705	710	4895	1462	10080											
1710	690	4758	1637	11287											
1715	675	4654	1725	11894											
1730	630	4344	1845	12721											
1800	585	4034	1931	13314											
1900	515	3551	2002	13804											
2000	480	3310	2034	14024											
2200	440	3034	2054	14162											

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000176

WELL: *DULLINGARI #39*
 OPERATOR: *S. Mayer / T. Hirst*



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: *20 May 1987*
 PAGE No: *10 of 12*

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
2400	420	2396	2069	14266											
	21	May	1987												
0200	405	2792	2081	14348											
0400	400	2758	2095	14445											
0600	390	2689	2104	14507											
0800	390	2689	2110	14548											
1000	390	2689	2117	14597											
1200	385	2655	2123	14638											
1400	400	2758	2128	14673											
1600	415	2861	2134	14714											
1800	415	2861	2136	14728											
2000	425	2930	2141	14762											

000177

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

WELL: DUKUNARI # 39.....

OPERATOR: S. MAYER / T. HIRST.....



SANTOS LTD
WELL TEST DATA
METRIC SUMMARY SHEET

DATE: 21st MAY 1987.....

PAGE No: 11 of 12.....

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M ³ /D	FLOWRATE H ₂ O BBL'S/D	FLOWRATE H ₂ O M ³ /D	MMSCF/D	Mm ³ /D	G.O.R. Cu/FT BBL	G.O.R. M ³ /M ³
2200	435	2999	2145	14789											
2400	445	3068	2150	14824											
22 nd MAY 1987															
0200	460	3171	2154	14852											
0400	455	3137	2158	14879											
0600	460	3171	2161	14900											
0800	470	3240	2165	14928											
1000	480	3309	2170	14962											
1200	500	3448	2174	14990											
1400	500	3448	2178	15017											
1600	515	3550	2181	15038											
1800	520	3585	2183	15052											

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000178

WELL: DULLINGARL #39....
 OPERATOR: S.MAYER/T.HIRST.....



SANTOS LTD
 WELL TEST DATA
 METRIC SUMMARY SHEET

DATE: 22nd MAY 1987..
 PAGE No: 12 of 12.....

DATE TIME	WELLHEAD							FLUID PRODUCTION				GAS PRODUCTION			
	CASING PSI	CASING KPA	TUBING PSI	TUBING KPA	CHOKE SIZE INS.	TEMP °F	TEMP °C	FLOWRATE OIL-COND BBL'S/D	FLOWRATE OIL-COND M3/D	FLOWRATE H2O BBL'S/D	FLOWRATE H2O M3/D	MMSCF/D	Mm3/D	G.O.R. Cu/FT BBL	G.O.R. M3/M3
2000	525	3620	2186	15072											
2200	535	3689	2188	15086											
2400	550	3792	2190	15100											
23rd MAY 1987															
0200	560	3861	2193	15121											
0400	575	3965	2196	15141											
0600	590	4068	2198	15155											
0800	600	4137	2202	15183											
1000	610	4206	2204	15197											

CONVERSION FACTORS:

• BBL'S x 0.15899 = M³

• MMSCF x 28.174 = 10³ M³

• Cu/FT PER BBL x 0.1773 = M³/M³

• PSI x 6.895 = KPA

• °C x 9 ÷ 5 + 32 = °F

000179

000180

SANTOS FLUID PRODUCTION SHEETS

WELL <u>DULLINGARI #39</u>		 SANTOS LTD FLUID PRODUCTION SHEET					DATE <u>17th May 1987</u> PAGE No. <u>1 of 2</u> OPERATOR <u>S. MAYER / T. HIRST</u>					
TANK:- CAPACITY <u>2 x 50 BBLs</u> SCALE <u>Calibrated Dipstick</u>												
DATE TIME	CUM. TIME	OIL/CONDENSATE PRODUCTION					WATER PRODUCTION					REMARKS
		TANK DIP Litres	TANK PROD. BBLs	FLOWRATE BBLs/D	CUM.PROD. BBLs	OIL CONDENSATE GRAVITY *API60F*	TANK DIP Litres	TANK PROD. BBLs	FLOWRATE BBLs/D	CUM.PROD. BBLs	SALINITY PPM	
			<u>CLEAN UP FLOW</u>									
	<u>17th MAY 1987</u>	<u>50</u>					<u>25</u>					
<u>2200</u>		<u>Levels set in separator - Begin dumping to test tank.</u>										<u>TANK 'A'</u>
<u>2400</u>		<u>520</u>	<u>0.472</u>	<u>5.7</u>	<u>0.472</u>	<u>53.3</u>	<u>420</u>	<u>2.484</u>	<u>29.8</u>	<u>2.484</u>	<u>12000</u>	<u>Change to Tank 'B'</u>
	<u>18th MAY 1987</u>											
<u>0200</u>		<u>50</u> <u>510</u>	<u>0.849</u>	<u>10.2</u>	<u>1.321</u>		<u>25</u> <u>350</u>	<u>2.044</u>	<u>24.5</u>	<u>4.528</u>		<u>Change to tank 'A'</u>
<u>0400</u>		<u>520</u> <u>970</u>	<u>0.031</u>	<u>0.4</u>	<u>1.352</u>		<u>420</u> <u>865</u>	<u>2.799</u>	<u>38.6</u>	<u>7.327</u>		
<u>0600</u>		<u>1425</u>	<u>0.063</u>	<u>0.8</u>	<u>1.415</u>	<u>47.5</u>	<u>1310</u>	<u>2.799</u>	<u>38.6</u>	<u>10.126</u>		<u>Change to tank 'B'</u>
<u>0800</u>		<u>510</u> <u>1025</u>	<u>1.038</u>	<u>12.5</u>	<u>2.453</u>		<u>350</u> <u>700</u>	<u>2.201</u>	<u>26.4</u>	<u>12.327</u>	<u>9000</u>	<u>Change to tank 'A'</u>
<u>1000</u>		<u>1425</u> <u>1750</u>	<u>1.950</u>	<u>23.4</u>	<u>4.403</u>		<u>1310</u> <u>1325</u>	<u>0.094</u>	<u>1.1</u>	<u>12.421</u>	<u>10000</u>	<u>Change to Tank 'B'</u>
<u>1200</u>		<u>1025</u> <u>1520</u>	<u>0.755</u>	<u>9.1</u>	<u>5.158</u>	<u>45.9</u>	<u>700</u> <u>1075</u>	<u>2.358</u>	<u>28.3</u>	<u>14.779</u>	<u>10000</u>	<u>Change to tank 'A'</u>
<u>1400</u>		<u>1750</u> <u>2190</u>	<u>1.572</u>	<u>18.9</u>	<u>7.730</u>		<u>1325</u> <u>1515</u>	<u>1.195</u>	<u>14.3</u>	<u>15.974</u>		<u>Change to tank 'B'</u>
<u>1600</u>		<u>1520</u> <u>1950</u>	<u>0.283</u>	<u>3.4</u>	<u>8.013</u>	<u>45.4</u>	<u>1075</u> <u>1460</u>	<u>2.421</u>	<u>29.1</u>	<u>18.395</u>	<u>10000</u>	<u>Change to tank 'A'</u>
<u>1800</u>		<u>2190</u> <u>2640</u>	<u>0.723</u>	<u>8.7</u>	<u>8.736</u>		<u>1515</u> <u>1850</u>	<u>2.107</u>	<u>25.3</u>	<u>20.502</u>		<u>Change to 'B'</u>
<u>2000</u>		<u>1950</u> <u>2450</u>	<u>0.692</u>	<u>8.3</u>	<u>9.428</u>		<u>1460</u> <u>1850</u>	<u>2.453</u>	<u>29.4</u>	<u>22.955</u>		<u>Change to 'A'</u>
<u>2200</u>		<u>2640</u> <u>3010</u>	<u>0</u>	<u>0</u>	<u>9.428</u>	<u>44.6</u>	<u>1850</u> <u>2225</u>	<u>2.358</u>	<u>28.3</u>	<u>25.313</u>	<u>7000</u>	<u>Change to 'B'</u>
<u>2400</u>		<u>2450</u> <u>2940</u>	<u>0.754</u>	<u>9.1</u>	<u>10.182</u>		<u>1850</u> <u>2220</u>	<u>2.327</u>	<u>27.9</u>	<u>27.640</u>		
	<u>19th MAY 1987</u>											
<u>0200</u>		<u>3010</u> <u>3410</u>	<u>0.535</u>	<u>6.4</u>	<u>10.717</u>		<u>2225</u> <u>2540</u>	<u>1.981</u>	<u>23.8</u>	<u>29.621</u>	<u>6000</u>	
<u>0400</u>		<u>2940</u> <u>3430</u>	<u>0.189</u>	<u>2.3</u>	<u>10.906</u>		<u>2220</u> <u>2680</u>	<u>2.893</u>	<u>34.7</u>	<u>32.514</u>		

TANK:- CAPACITY 2 x 50 Bbls
SCALE Calibrated Dipstick



SANTOS LTD

FLUID PRODUCTION SHEET

DATE 19th MAY, 1987

PAGE No. 2 of 2

OPERATOR S. MAYER/T. HIRST.

[illegible]

OILSERV GAS FLOW RATE CALCULATIONS



COMPANY SANTOS WELL NO. DULLINGARI #39
 FIELD PATCHAWARRA FORMATION INTERVAL TESTED 8109 - 8212'
 COUNTRY AUSTRALIA TECHNICIAN Steve Mayer
 DATE: 17th MAY 1987 BASE CONDITIONS: 14.73 POUNDS PER SQUARE INCH AT 60°F

Gas Flow Rate Calculations

 PAGE 1 OF 3

ORIFICE FITTING TYPE: DANIELS SENIOR ORIFICE FITTING SIZE: 4.026" ☒ FLANGE TAPS. ☐ PIPE TAPS.
 GAS FLOW RECORDER TYPE: FOXROLO T-37 SER. NO. _____ PRESSURE RANGE: 0-1500 PSI DIFFERENTIAL RANGE: 0-100" w.c.
 DATE OF LAST CALIBRATION: _____ GAS SPECIFIC GRAVITY 0.80 CALIBRATED BY: _____

TIME DATA		CHOKE SIZE 64THS. INCH	METER RUN DATA				$\sqrt{P_1 \times h_w}$	$C' = F_b \times F_{pb} \times F_{Tb} \times F_g \times F_{Ti} \times F_r \times Y \times F_{PV}$									FLOW RATE $Q = \frac{C' \times 24 \times \sqrt{P_1 \times h_w}}{\text{MMSCF/DAY}}$	REMARKS
DATE & TIME HOURS	ELAPSED TIME HOURS		PRESS. PSIA	DIFF. INCHES WATER	TEMP. °F	PLATE SIZE INCHES		F_b	F_{pb}	F_{Tb}	F_g	F_{Ti}	F_r	Y	F_{PV}	C'		
				CLEAN UP FLOW														
2100		20/64	310	48	59°	2.00	121.984	842.12	1	1	1.118	1.0010	1	1.0010	1.051	991.49	2.903	S.G. Assumed to be 0.80. during cleanup
2200		20/64	305	45	61°	2.00	117.154	842.12	1	1	1.118	.9990	1	1.0009	1.051	989.41	2.782	
2400		20/64	305	46	63°	2.00	118.448	842.12	1	1	1.118	.9981	1	1.0009	1.051	988.51	2.810	
18-5-87 0200		20/64	325	43	68°	2.00	118.216	842.12	1	1	1.118	.9924	1	1.0008	1.051	982.77	2.788	
0400		20/64	320	40	70°	2.00	113.137	842.12	1	1	1.118	.9905	1	1.0008	1.049	979.02	2.658	
0600		20/64	320	40	70°	2.00	113.137	842.12	1	1	1.118	.9905	1	1.0008	1.049	979.02	2.658	
0800		20/64	320	41	72°	2.00	114.543	842.12	1	1	1.118	.9887	1	1.0008	1.049	977.24	2.686	
1000		20/64	315	42	73°	2.00	115.022	842.12	1	1	1.118	.9877	1	1.0008	1.049	976.26	2.695	
1200		20/64	315	41	75°	2.00	113.644	842.12	1	1	1.118	.9859	1	1.0008	1.048	973.55	2.655	
1400		20/64	315	42	75°	2.00	115.022	842.12	1	1	1.118	.9859	1	1.0008	1.048	973.55	2.688	
1600		20/64	285	45	73°	2.00	113.247	842.12	1	1	1.118	.9877	1	1.0009	1.046	973.56	2.646	
1800		20/64	292	43	73°	2.00	112.053	842.12	1	1	1.118	.9877	1	1.0008	1.048	975.32	2.623	
2000		20/64	290	45	73°	2.00	114.236	842.12	1	1	1.118	.9877	1	1.0010	1.047	974.59	2.672	
2200		20/64	280	43	72°	2.00	109.726	842.12	1	1	1.118	.9887	1	1.0009	1.045	973.61	2.564	

000184

Gas Flow Rate Calculation Report Continuation Form

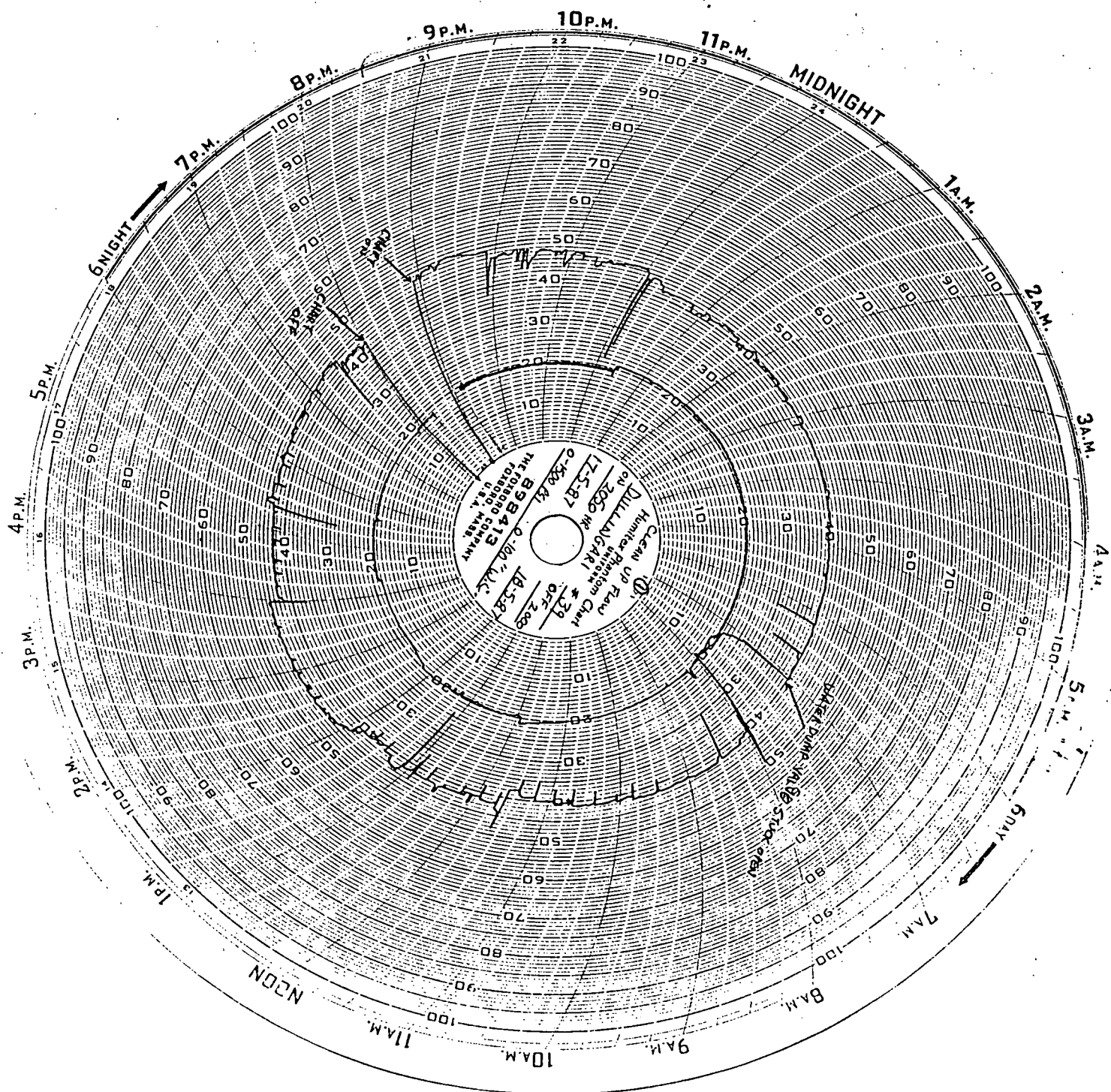
DULLINGARI # 39

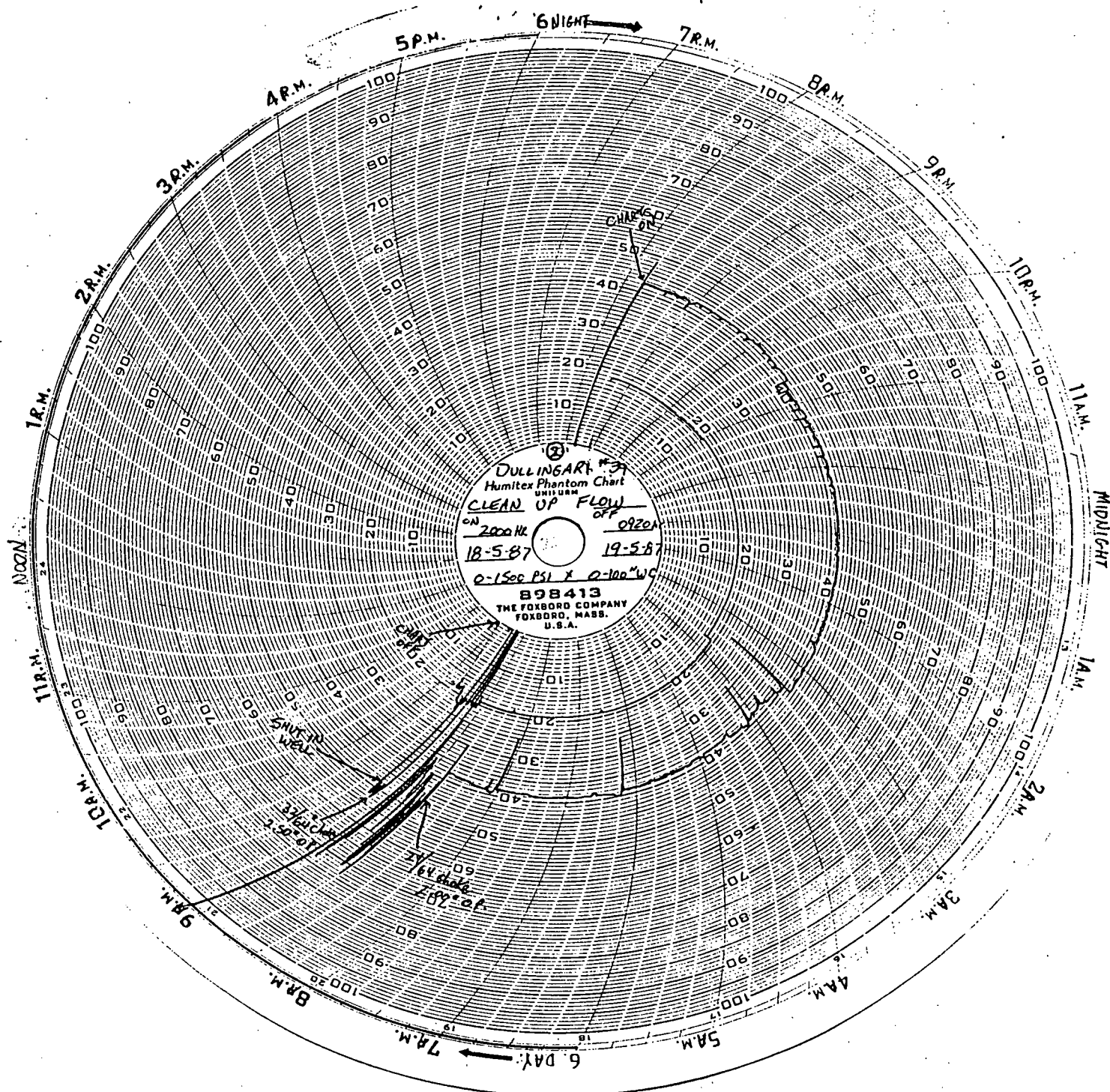
PAGE 3 OF 3

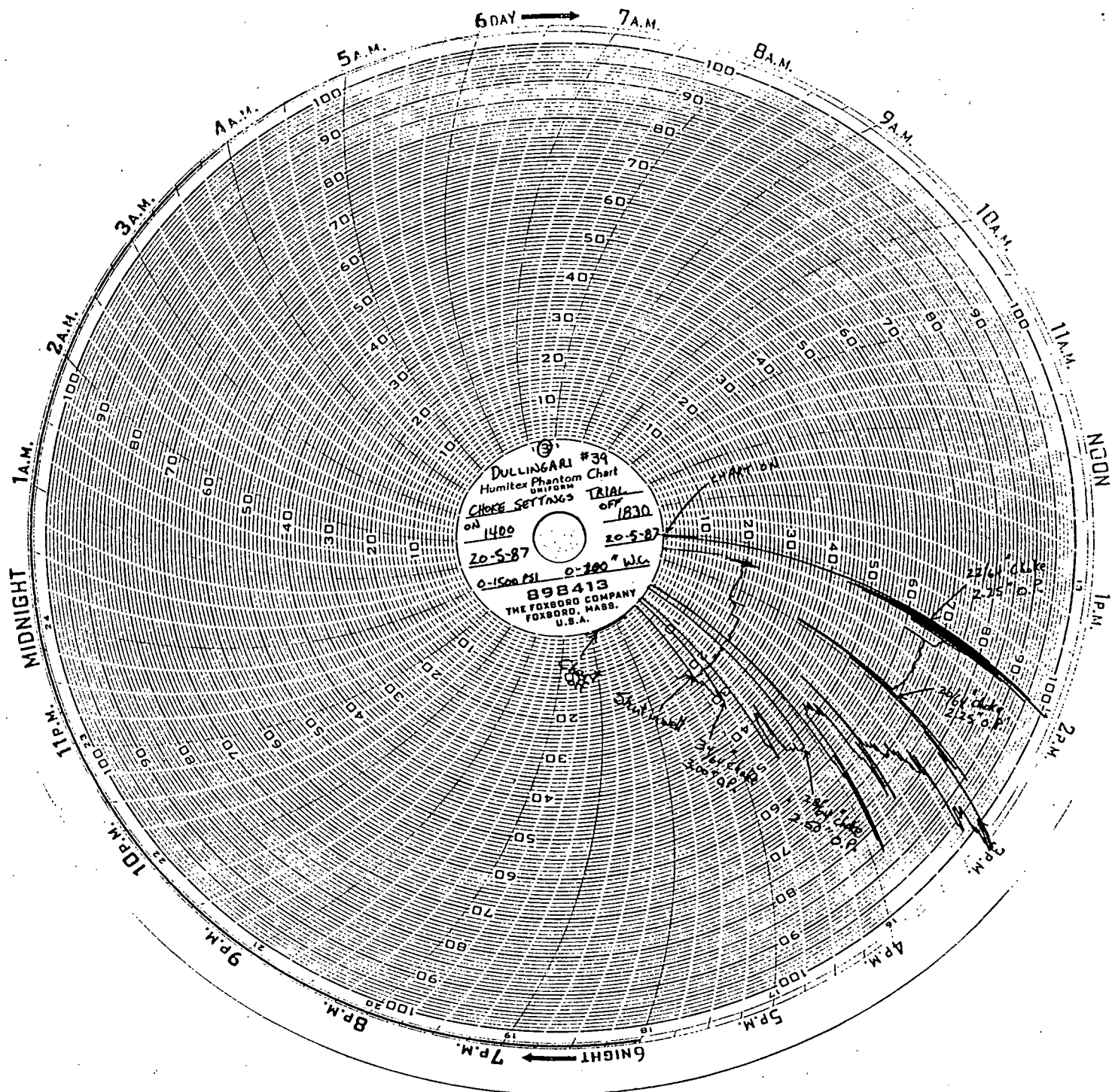
TIME DATA		CHOKE SIZE 64THS. INCH	METER RUN DATA				$\sqrt{P_1 \times h_w}$	$C' = F_b \times F_{pb} \times F_{Tb} \times F_g \times F_{Ti} \times F_r \times Y \times F_{pv}$								FLOW RATE $Q = C' \times 24 \times$ $\sqrt{P_1 \times h_w}$ MMSCF/DAY	REMARKS	
DATE & TIME HOURS	ELAPSED TIME HOURS		PRESS. PSIA	DIFF. INCHES WATER	TEMP. °F	PLATE SIZE INCHES		F_b	F_{pb}	F_{Tb}	F_g	F_{Ti}	F_r	Y	F_{pv}			C'
			DETERMINING CHOKE SIZES															
20 th	MAY	1987																
1410		22/64	300	70	41	2.25	144.914	1089.9	1	1	1.118	1.0188	1	1.0014	1.057	1314.01	4.570	Specific gravity assumed to be 0.80
1430		22/64	300	66	45	2.25	140.712	1089.9	1	1	1.118	1.0147	1	1.0013	1.057	1308.60	4.419	
1445		22/64	290	65	46	2.25	137.295	1089.9	1	1	1.118	1.0137	1	1.0013	1.052	1301.12	4.287	
1500		22/64	285	63	46	2.25	133.996	1089.9	1	1	1.118	1.0137	1	1.0013	1.052	1301.12	4.184	
1515		24/64	315	96	61	2.25	173.897	1089.9	1	1	1.118	.9990	1	1.0018	1.052	1282.89	5.354	
1540		24/64	350	63	64	2.25	148.492	1089.9	1	1	1.118	.9962	1	1.0010	1.056	1283.14	4.573	
1600		26/64	350	62	68	2.25	147.309	1089.9	1	1	1.118	.9924	1	1.0010	1.051	1272.19	4.498	
1615		28/64	355	53	72	2.50	137.168	1387.2	1	1	1.118	.9887	1	1.0008	1.055	1618.99	5.330	
1635		28/64	355	47	75	2.50	129.170	1387.2	1	1	1.118	.9859	1	1.0007	1.053	1611.19	4.995	
1645		34/64	325	28	90	3.00	95.394	2195.0	1	1	1.118	.9723	1	1.0004	1.042	2487.24	5.694	
1700		34/64	320	24	91	3.00	87.636	2195.0	1	1	1.118	.9715	1	1.0004	1.042	2485.20	5.227	
			Shut in well															

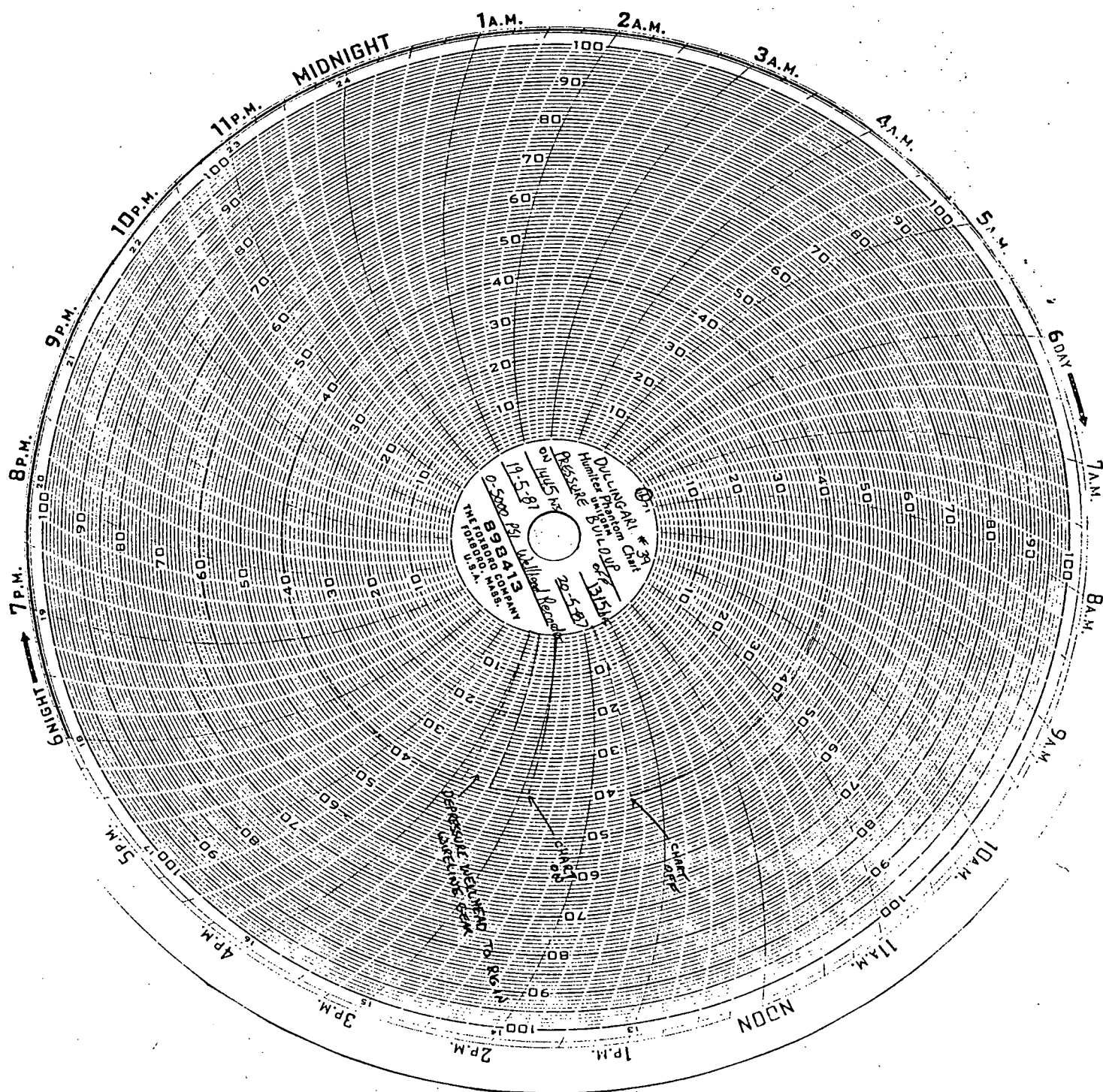
000186

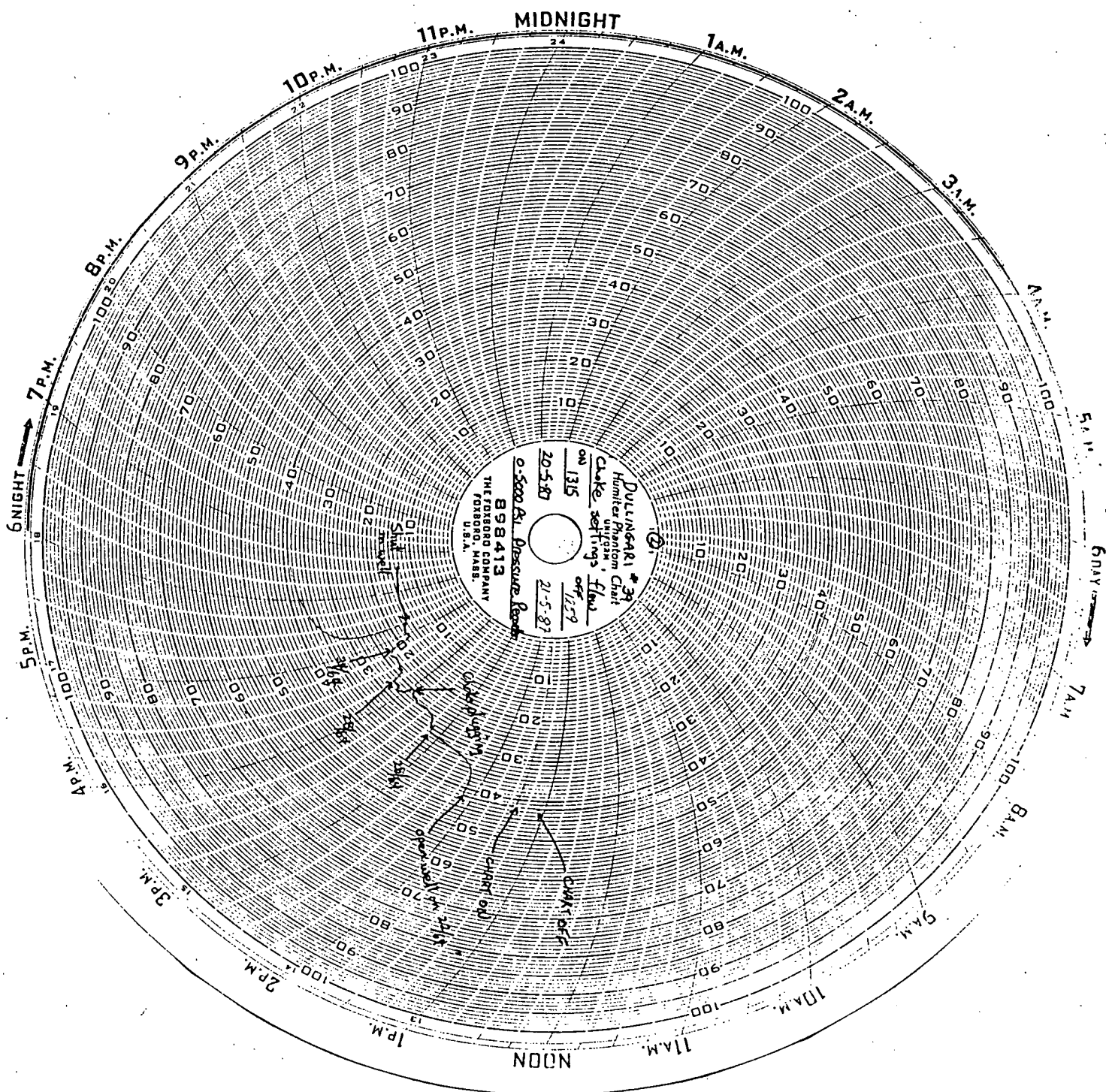
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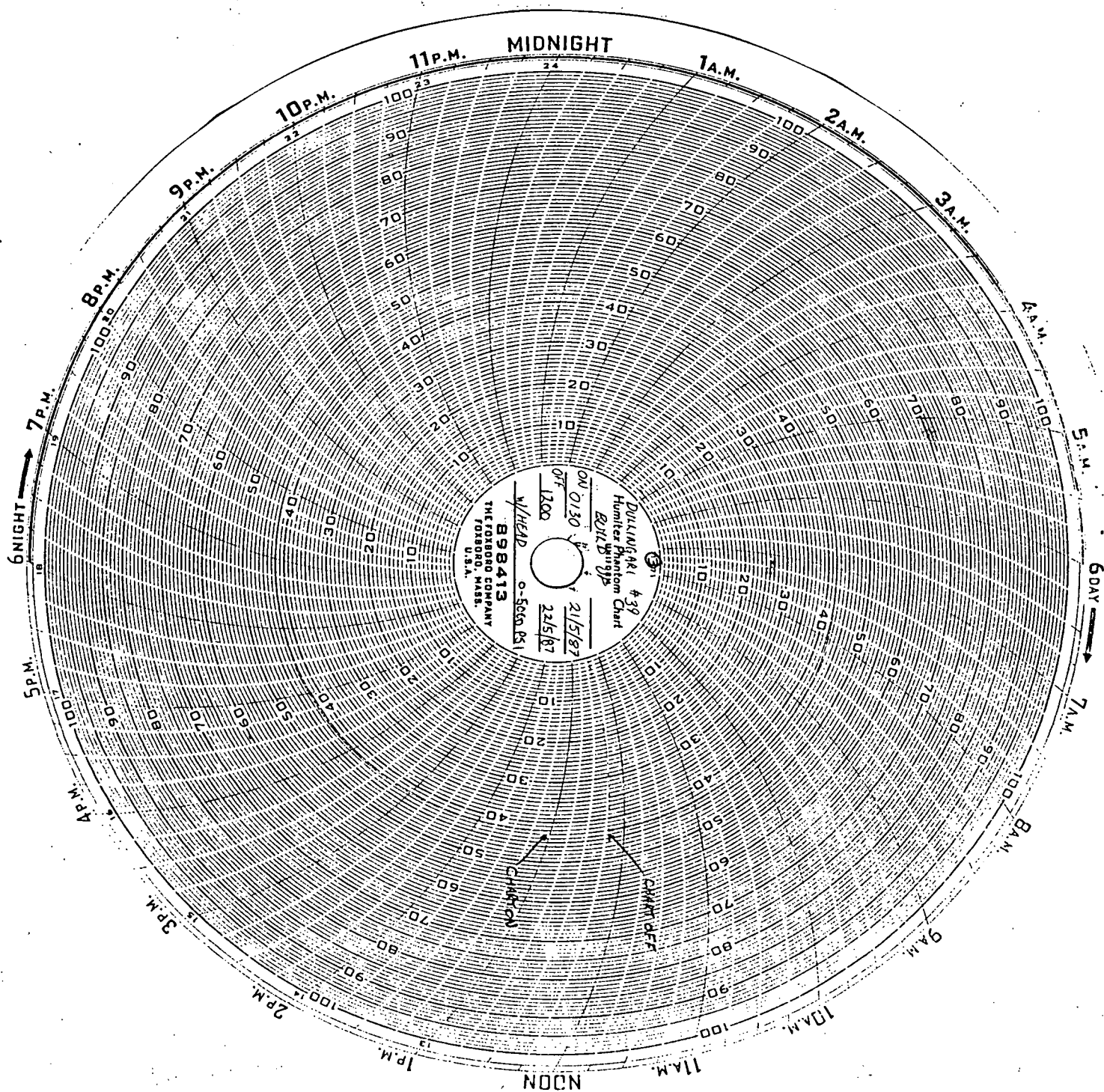


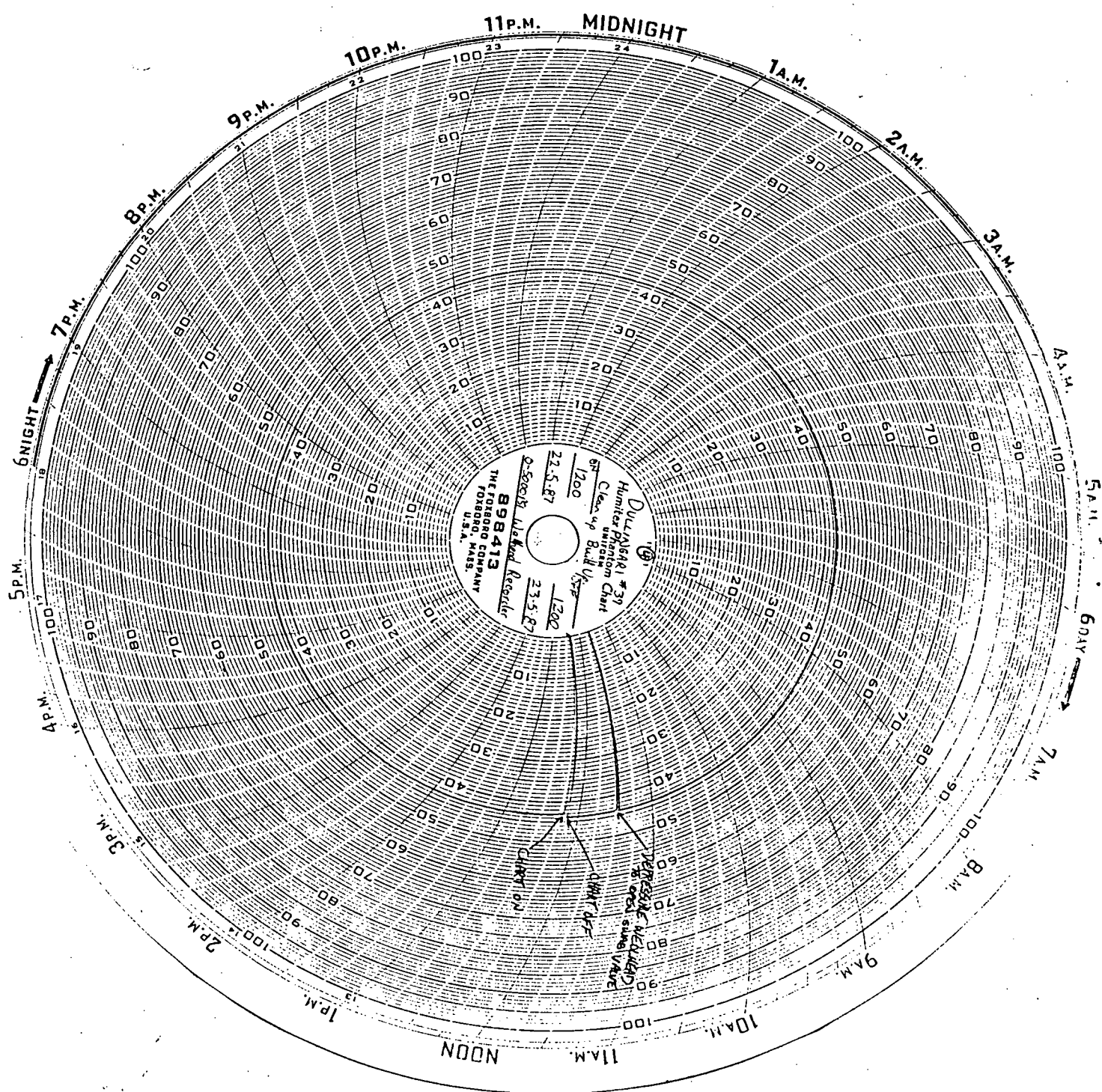






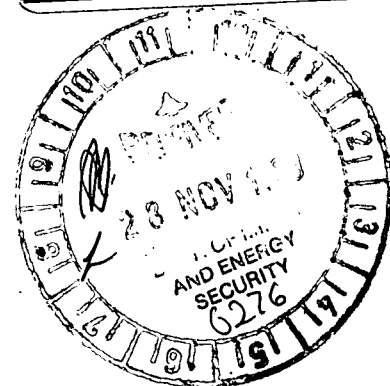






SANTOS LIMITED
PETROLEUM DEVELOPMENT DEPARTMENT
DULLINGARI #39
PATCHAWARRA FORMATION
POST-FRAC MODIFIED ISOCHRONAL
20/5 - 7/6/87

Report No:RE:050/89
Author: A.G. Burdon
Date: October, 1989



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1. INTRODUCTION

Dullingari #39 was drilled in November - December 1985 as a gas appraisal well to evaluate the Toolachee, Daralingie and Patchawarra Formations. The well was completed in March 1987 for future stimulation of the 79-7, 79-8, 79-9 and 80-4 Patchawarra sands. A single rate production test was also carried out in February 1987.

A fracture stimulation of the Patchawarra sands was carried out in April 1987. A premature screen-out occurred during the final bauxite stage after 132,000 lbs of proppant was placed. Subsequent clean-out operations utilizing a coil tubing unit failed and resulted in 2240 feet of coil tubing being lost in the hole.

The sand, pay thickness and perforated intervals are listed below.

FORMATION	SAND	NET PAY (ft)	PERFORATIONS (ft KB)
Patchawarra	79-7	8	8109 - 8128
	79-8	6	8131 - 8139
	79-9	15	8145 - 8154
	80-4	<u>6</u>	8161 - 8212
		35	

A clean up flow was conducted between May 16 and May 20, 1987. This was followed by a modified isochronal test commencing May 23, to determine the well deliverability characteristics and reservoir parameters.

Separator fluid samples were collected during the extended flow period and these have been recombined into a full well stream composition for fluid properties. A static pressure survey was also conducted at the completion of testing.

This report presents the results and conclusions arising from the post frac isochronal well test. The results of the pre-frac single rate production test are also included for comparison purposes.

2. RESULTS

The following results were obtained from modified isochronal analysis techniques.

Simplified Analysis:

AOF	4.127	MMscfd
c	3.7 E-6	MMscf/d/psi
n	0.88	

LIT Analysis:

AOF	4.208	MMscfd
a	9.37 E7	psia ² /cp/MMscfd
b	3.46	psia ² /cp/MMscfd
D	0.167	day/MMscf

The following results were obtained from pressure build-up analysis using numerical modelling techniques.

Flow capacity	49.0 md-ft
Permeability	1.4 md
Apparent Skin	-2.28
True Skin	-2.85
Extrapolated Pressure	3012 psia @ 6171' KB
Flow rate	3.081 MMscfd @ FTHP 715 psig
Condensate Production	4.08 BBLS/MMscf
Water Production	11.9 BBLS/MMscf

Reservoir Pressure at MPP of 8160' KB

P.B.U.	3133 psia (estimated with gas gradient in wellbore)
Static Survey	N/A

3. CONCLUSIONS/RECOMMENDATIONS

1. The modified isochronal test was successful in establishing the well deliverability relationships and reservoir parameters.
2. The fracture stimulation of the well appears to have only been successful in promoting flow from the completed intervals and breaking through completion damage. Fracture properties are not clearly evident in the test data.
3. The well test is significantly affected by boundary conditions indicating the well is positioned in a channel sand approximately 200 feet wide.
4. Reservoir pressure can not be determined accurately from the test results due to unknown well bore pressure gradient between pressure measurements and formation. However, reservoir pressure is estimated to be 3133 psia at MPP depth of 8160' KB.
5. Quality checking of fluid samples revealed significant inconsistencies in the HP gas requiring major corrections in composition before a satisfactory recombination was achieved.

4. DISCUSSION

During testing, the well flowed at modest rates, producing a low condensate yield and relatively high water-gas-ratio. It was not possible to maintain steady flow rates which were seen to decline during each flow period.

The simplified and LIT isochronal analyses were undertaken after discarding flow periods 4 and 5 from the data set. Being the higher of the flow rates, these two points are significantly affected by rate decline during the flow period. The results indicate a very low stabilized AOF and a negligible turbulence component.

The extended flow period of the test sequence was interrupted by a 3 hour shut-in after approximately 29 hours. Since rate decline was being observed the extended flow period was continued for a further 68 hours before the final pressure buildup was recorded. Both pressure buildup profiles were analysed.

A fracture analysis was performed using the matrix permeability defined by pre-frac testing results. Whilst a reasonable model can be constructed which indicates good fracture properties, the analysis does not possess a high degree of consistency and lacks clear evidence of good correlation with the pressure data.

The pressure buildup data does not exhibit any clear evidence of fracture flow. The log log plot does not possess either a 1.0, 0.5 or 0.25 slope indicating that there is no significant wellbore storage, early time linear or bi-linear flow. Without these indicators, it is impractical to pursue an analysis based on fracture conductivity.

The intermediate pressure buildup data was examined in a superposition buildup plot which indicated an average permeability of 1.53 md with an apparent skin of -2.13. No boundary conditions were evident in the data. The extended flow was continued for a further 68 hours during which time the rate continued to decline. An equivalent flow time of 73.31 hours was calculated for the second stage of extended flow using the final measured flow rate.

The superposition plot of the final pressure buildup exhibits an upward curve towards infinite shut-in time. This curve can be sectioned into two distinct doubling of slopes indicating no flow boundaries at approximately 70 and 150 feet from the wellbore. Permeability is indicated to be 1.4 md with a skin of -2.53 values which are similar to those obtained in the intermediate buildup phase.

A simulation model was constructed using a wellbore storage and skin inner boundary and a semi-infinite outer boundary with the indicated no-flow boundaries arranged parallel to one another. An optimising solution was run which obtained an excellent match to the data.

The only other test of the completion interval is a pre-frac single rate test conducted in February 1987. This test was re-interpreted (see Appendix I) and the results indicated an average permeability of 0.15 md with an apparent skin of 5.8. No boundary conditions were evident in the data. Reservoir pressure was indicated to be 3360 psia at gauge depth of 8149' KB.

A significant improvement in well condition is indicated between the pre and post frac tests. The flow capacity of the well and the productivity have both increased approximately 10 fold. The increase in productivity is not commensurate with fracture stimulation only, i.e. the creation of an active fracture flow path. Since such a fracture can not be identified from the data, an alternative explanation for the productivity increase is that the fracture procedure has simply opened additional productive interval not previously active, i.e. the pre-frac net pay was considerably less than the assumed total perforated interval. This theory is supported by the apparent 10 fold increase in measured flow capacity and the change in extrapolated reservoir pressure (from 3360 psia to 3133 psia) which could be a result of opening partly depleted reservoir sands.

High pressure gas and condensate samples were collected from the separator towards the end of the extended flow period and these have been analysed by the AMDEL laboratory. During quality checking of the compositions, the condensate sample required corrections to the C1, C2, C7 and C8 fractions to establish consistency in the sample. The gas sample required corrections to the C3 and C5+ components to establish consistency before a satisfactory recombination could be achieved. The full well stream composition derived is given in Appendix IV but is considered to be of doubtful quality given the amount of manipulation required to achieve the recombination.

A static pressure gradient survey was run at the completion of the test but was only able to obtain measurements to a depth of 6177 ft KB due to junk in the well. A gas gradient is indicated to this depth and is extrapolated a further 2000 ft to the mid point perforation depth to obtain an estimate of reservoir pressure which is 3133 psia. The junk must be removed from the well before any confident reservoir pressure measurements can be made.

APPENDIX I

Pre-Frac Test Analysis

SCANNED

FIELD : DULLINGARI

WELL : DULLINGARI 39

TEST NO. : PRE FRAC SINGLE RATE

DATE : 14 FEB 1987

RUN TYPE : Analysis

PHASE : GAS

NO. OF WELLS : 1

PVT DATA : Reservoir temperature = 255.0 deg F
 Standard temperature = 60.0 deg F
 Standard pressure = 14.7 psia

Table	Pressure	Z-factor	Viscosity
	psia		cpoise
	100.0	0.994	0.01380
	500.0	0.97	0.01430
	1000.0	0.946	0.01510
	1500.0	0.929	0.01590
	1800.0	0.923	0.01650
	2000.0	0.921	0.01690
	2200.0	0.92	0.01730
	2400.0	0.92	0.01780
	2600.0	0.922	0.01830
	2800.0	0.925	0.01880
	3000.0	0.929	0.01930
	3200.0	0.934	0.01980
	3400.0	0.94	0.02040

WELL DATA : Well radius = 0.354 feet
 Formation thickness = 35.0 feet
 Porosity = 0.098
 Rock compressibility = 4.500E-06 1/psi
 Water saturation = 0.293
 Water compressibility = 3.600E-06 1/psi

RATE DATA

Time	Rate
Hours	Mscf/day
0.0	300.0
57.5	0.0

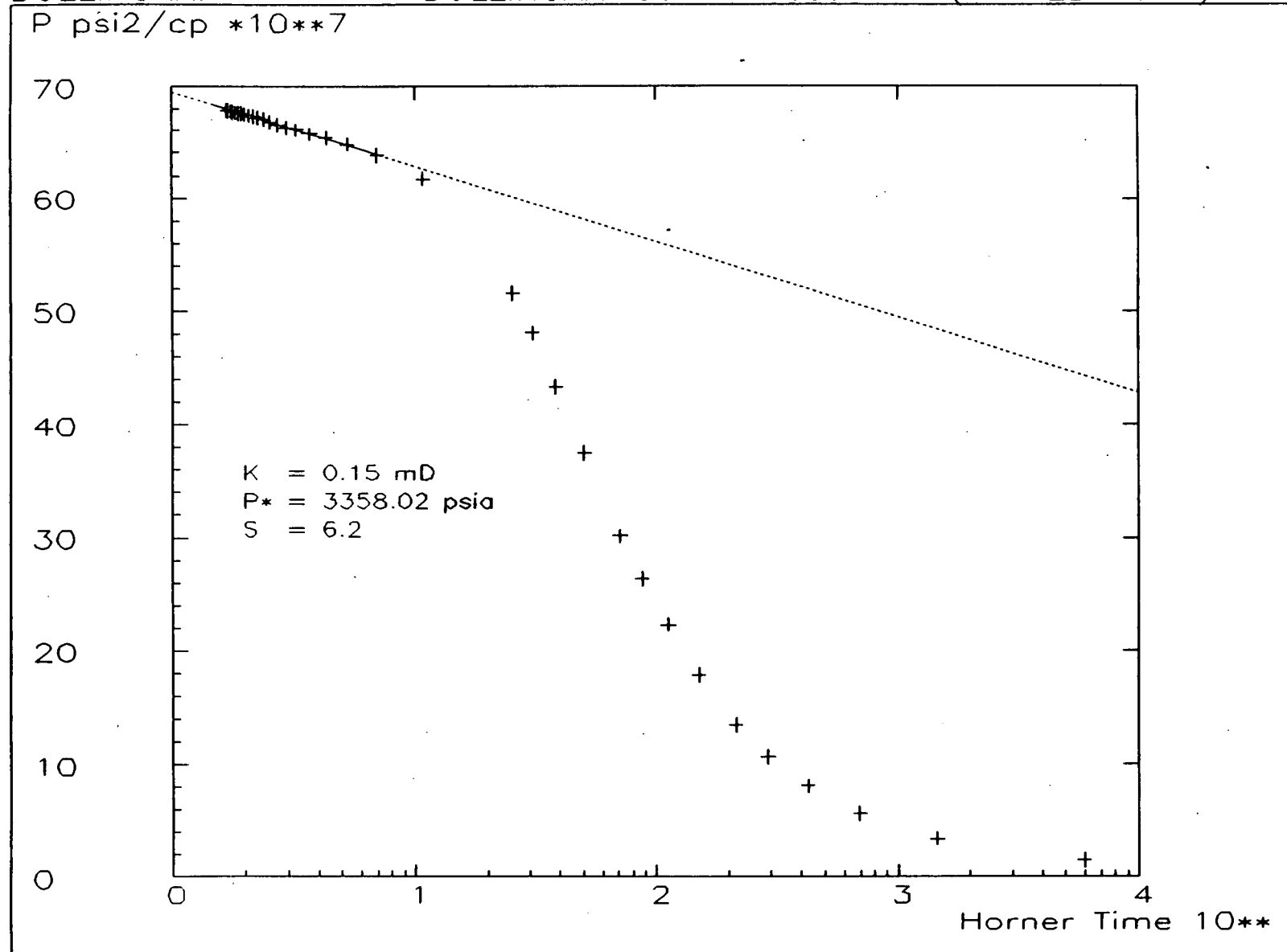
PRESSURE DATA

Time	Pressure
Hours	psia
0.0	3310.0
57.5	130.0
57.667	455.1
57.833	690.8
58.0	885.5
58.167	1066.8
58.333	1226.6
58.5	1384.8
58.75	1602.1
59.0	1797.9
59.25	1963.9
59.5	2110.6
60.0	2373.2
60.5	2568.3
61.0	2720.9
61.5	2830.6
65.5	3133.9
69.5	3193.4
73.5	3222.5
77.5	3240.3
81.5	3250.2
85.5	3261.2
89.5	3267.0
93.5	3275.0
97.5	3282.4
101.52	3290.0
105.5	3293.9
109.5	3298.0
113.5	3298.7
117.5	3302.3
121.5	3303.9
125.5	3305.1
129.5	3306.8
133.5	3309.1
137.5	3310.6
141.5	3311.5
143.53	3313.1

DULLINGARI

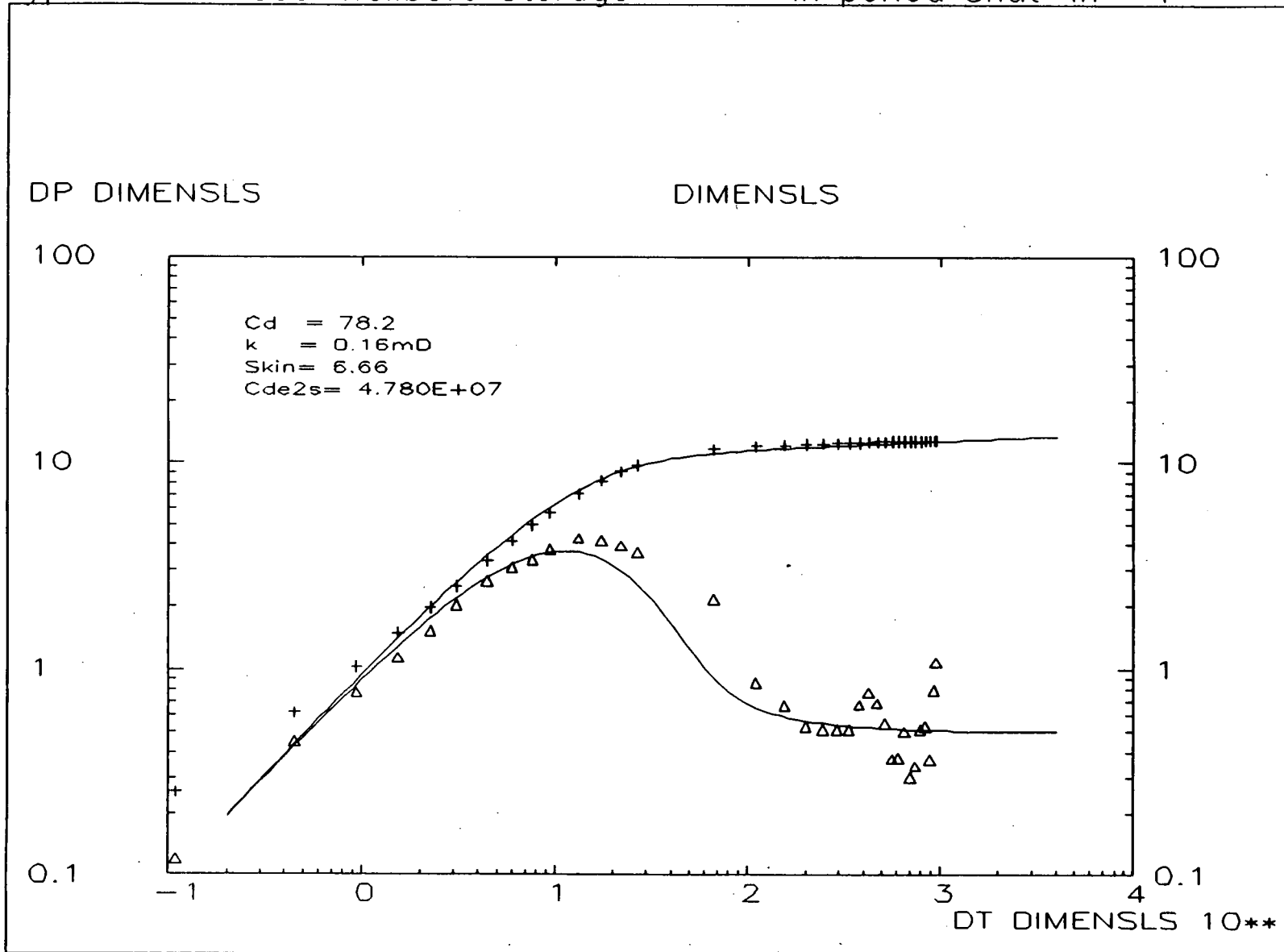
DULLINGARI 39

Test 1 (14 FEB 1987)



000208

Type curve model Wellbore Storage in period Shut-in 1

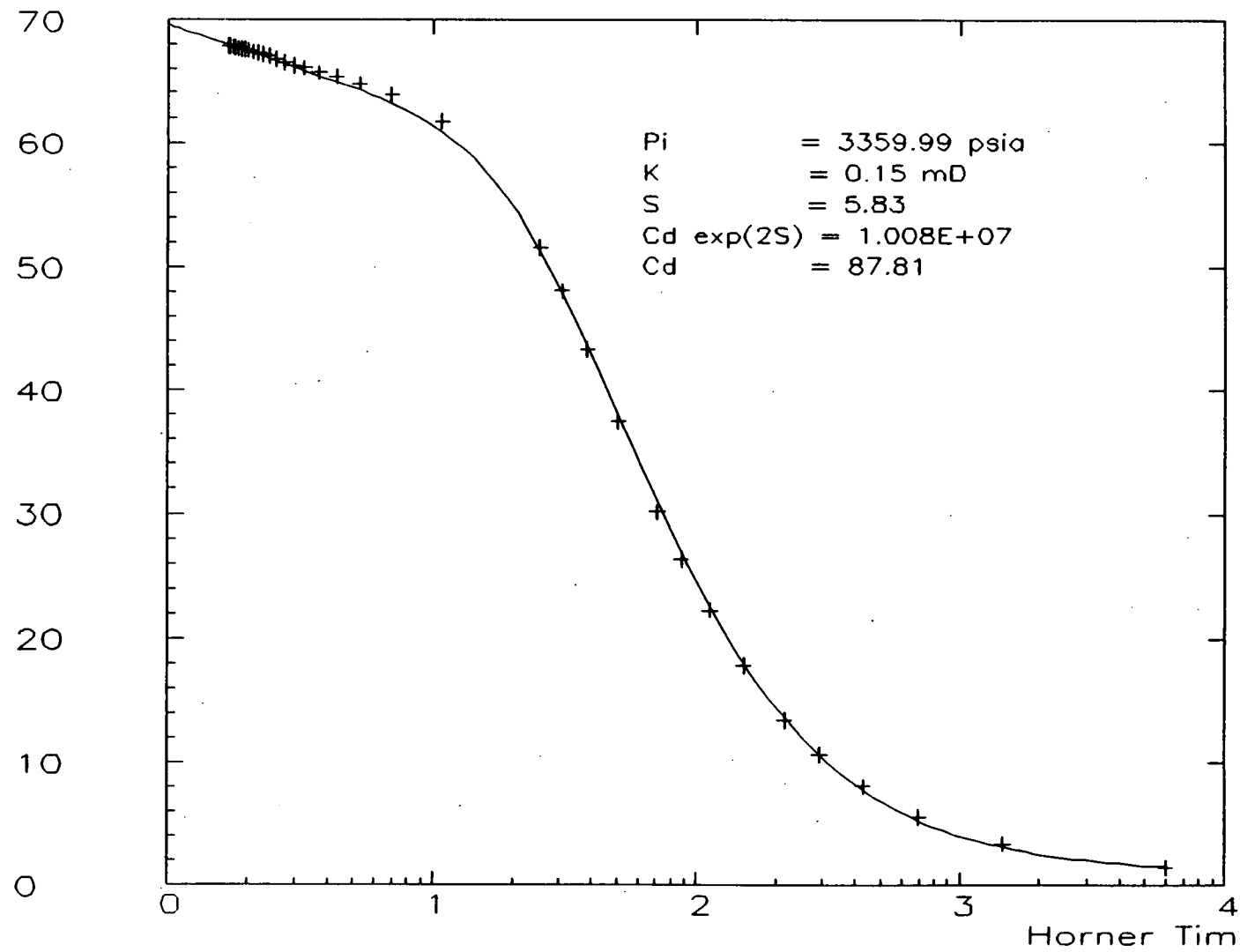


DULLINGARI

DULLINGARI 39

Test 1 (14 FEB 1987)

P psi²/cp *10**7



000210

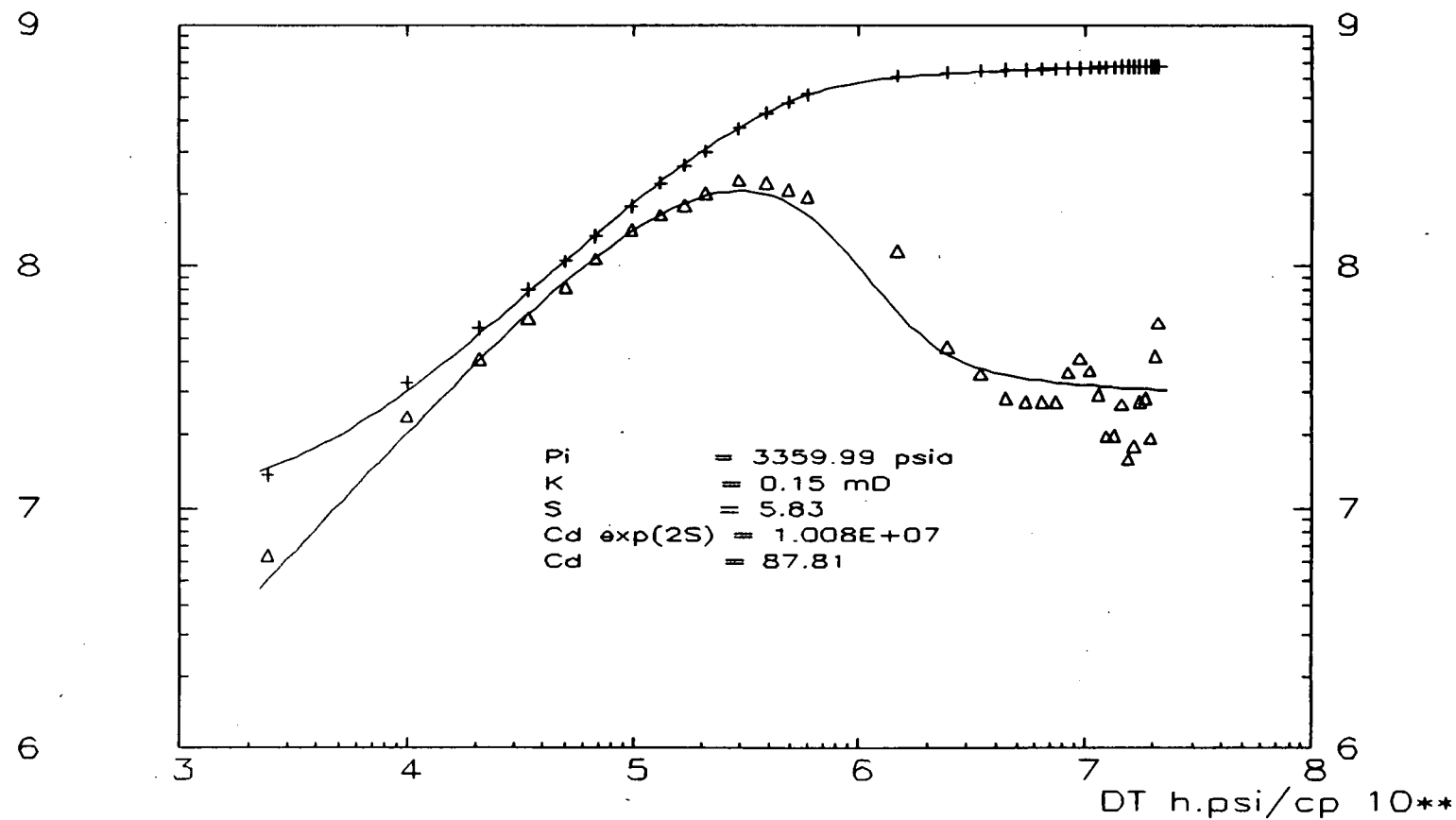
DULLINGARI

DULLINGARI 39

Test 1 (14 FEB 1987)

DP psi²/cp 10**

Derivative P psi²/cp 10**

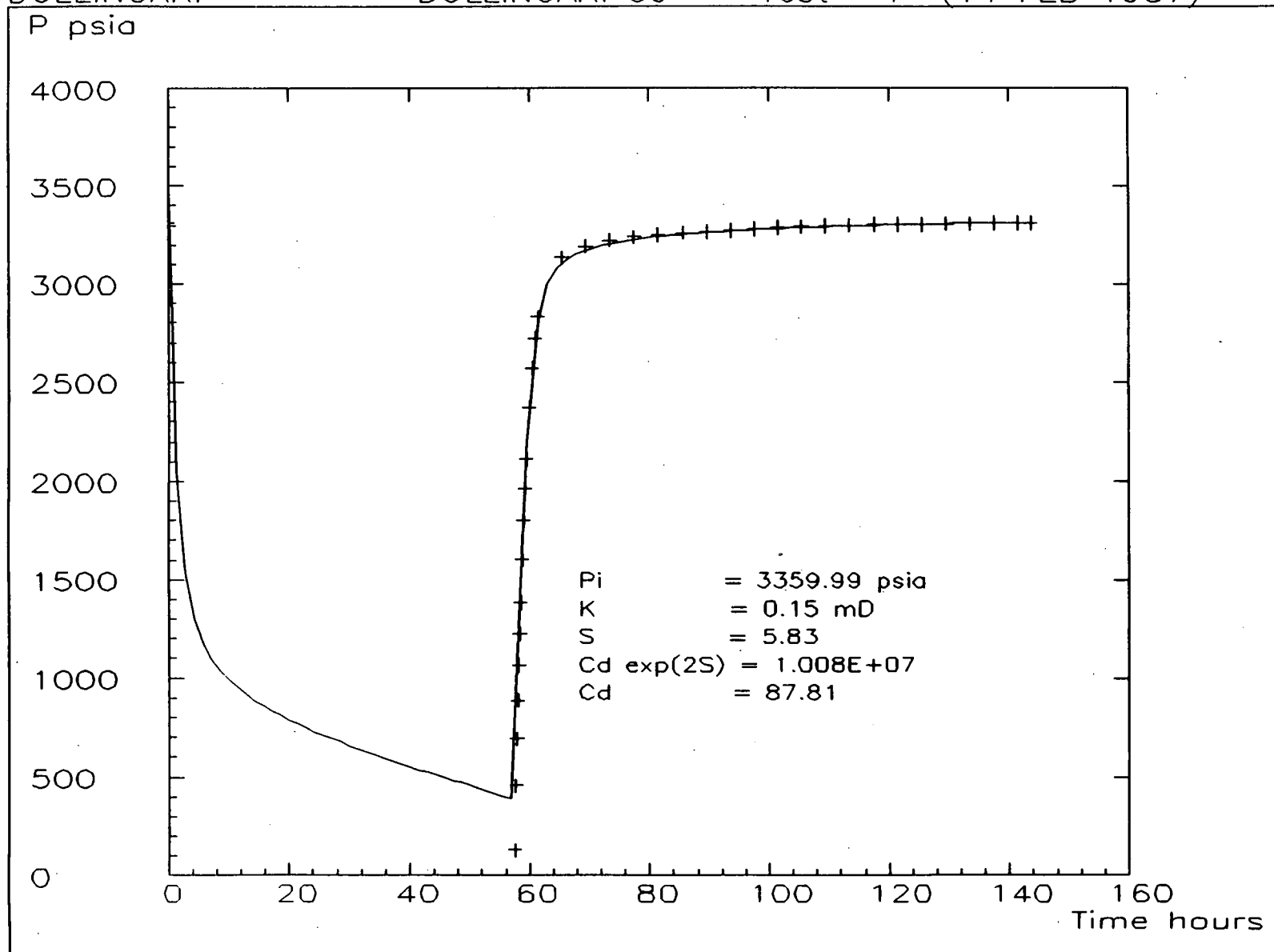


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DULLINGARI

DULLINGARI 39

Test 1 (14 FEB 1987)



000212

APPENDIX II

Modified Isochronal Analysis

FIELD : DULLINGARI

WELL : DULLINGARI 39

TEST NO. : POST FRAC ISOCHRONAL

DATE : 20 MAY 1987

RUN TYPE : Analysis

PHASE : GAS

NO. OF WELLS : 1

PVT DATA : Reservoir temperature = 255.0 deg F
 Standard temperature = 60.0 deg F
 Standard pressure = 14.7 psia

Table	Pressure	Z-factor	Viscosity
	psia		cpoise
	100.0	0.994	0.01380
	500.0	0.97	0.01430
	1000.0	0.946	0.01510
	1500.0	0.929	0.01590
	1800.0	0.923	0.01650
	2000.0	0.921	0.01690
	2200.0	0.92	0.01730
	2400.0	0.92	0.01780
	2600.0	0.922	0.01830
	2800.0	0.925	0.01880
	3000.0	0.929	0.01930
	3200.0	0.934	0.01980
	3400.0	0.94	0.02040

WELL DATA : Well radius = 0.354 feet
 Formation thickness = 35.0 feet
 Porosity = 0.098
 Rock compressibility = 4.500E-06 1/psi
 Water saturation = 0.293
 Water compressibility = 3.600E-06 1/psi

RATE DATA

Time	Rate
Hours	Mscf/day
0.0	2700.0
59.0	0.0
88.0	5000.0
91.0	0.0
160.0	3407.0
162.0	0.0
164.0	3989.0
166.0	0.0
168.0	4748.0
170.0	0.0
172.0	5799.0
174.0	0.0
176.0	5144.0
178.0	3429.0
210.376	0.0
213.359	3081.0
286.673	0.0

PRESSURE DATA

Time	Pressure	Time	Pressure	Time	Pressure
Hours	psia	Hours	psia	Hours	psia
0.0	2820.0	211.851	1991.45	293.673	1999.05
59.0	2000.0	211.964	2000.95	298.673	2075.55
88.0	2700.0	212.078	2007.55	304.673	2145.35
91.0	1500.0	212.191	2018.05	310.673	2194.25
160.0	2641.35	212.304	2024.05	313.673	2214.85
162.0	2128.95	212.418	2031.15	316.673	2234.65
164.0	2567.65	212.531	2039.05	322.673	2268.05
166.0	1916.25	212.644	2048.25	328.673	2296.15
168.0	2512.35	212.758	2052.25	334.673	2319.05
170.0	1638.05	212.871	2057.45	340.673	2339.75
172.0	2450.95	212.984	2062.75	342.673	2348.75
174.0	1324.75	213.121	2069.25	352.673	2375.35
176.0	2385.95	213.213	2060.35	358.673	2391.75
178.0	1199.25	213.359	2054.85	367.173	2410.35
210.376	1149.65	286.673	1064.65	378.843	2435.65
210.421	1510.15	286.753	1281.85	390.843	2455.25
210.466	1710.35	286.843	1473.05	401.843	2473.45
210.513	1739.25	286.923	1473.55	408.023	2487.85
210.558	1763.95	287.173	1563.95	411.523	2495.55
210.603	1780.55	287.423	1753.95	427.173	2515.35
210.716	1812.95	287.673	1753.25	439.673	2532.65
210.829	1847.05	287.923	1752.95	448.673	2543.65
210.943	1873.15	288.173	1831.85	463.673	2561.35
211.056	1894.45	288.423	1831.75	472.673	2571.05
211.169	1911.55	288.673	1831.75	487.673	2587.25
211.283	1926.55	289.173	1878.25	496.673	2596.05
211.398	1939.65	289.673	1892.35	511.673	2608.65
211.511	1957.55	290.673	1915.25	520.673	2615.85
211.624	1968.65	291.673	1954.05	522.673	2621.15
211.738	1981.25	292.673	1979.75		

Analysis Type :SIMPLIFIED

Initial Pressure: 2641.35 psia

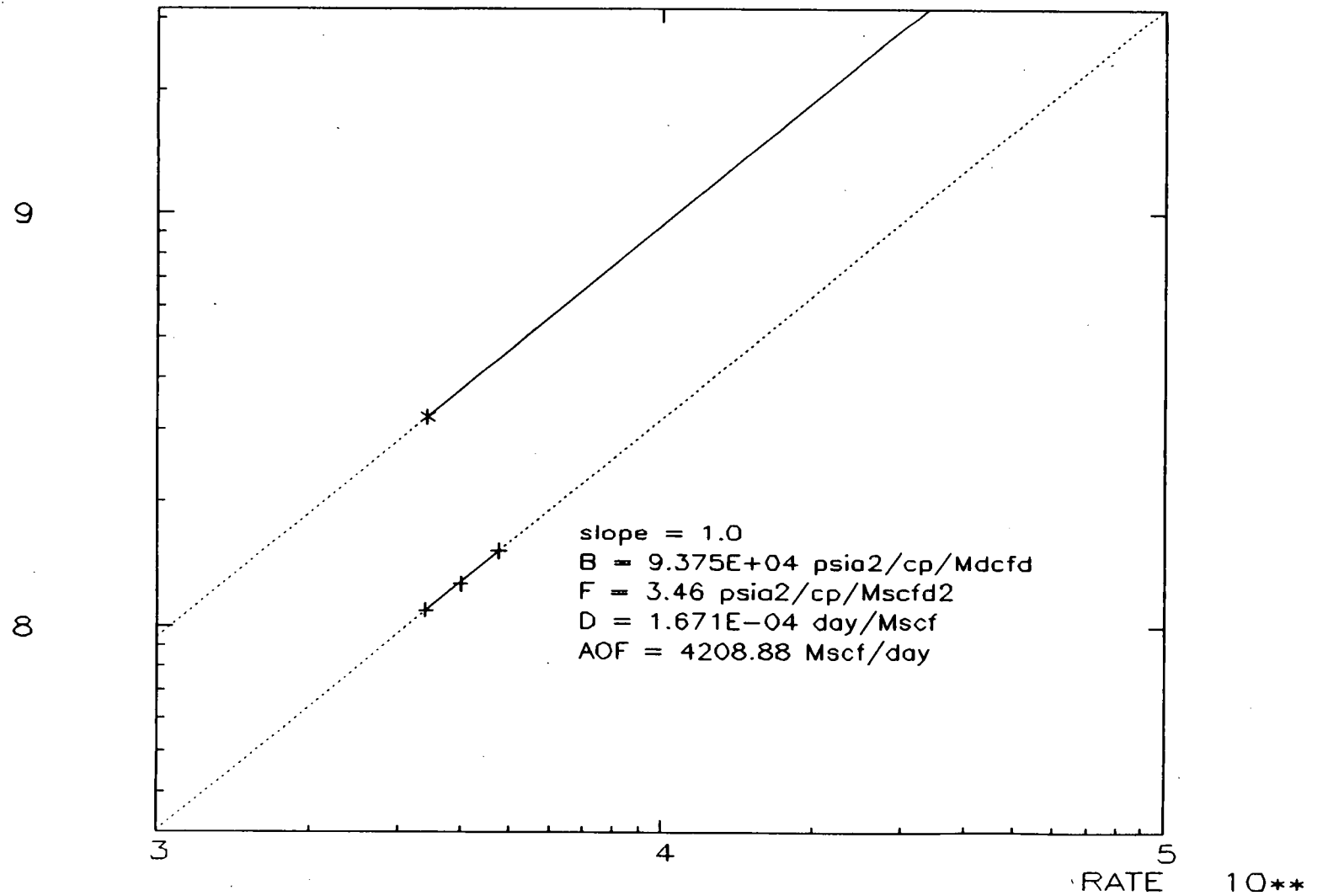
Period	Type	Duration hours	Final Pressure psia	Rate Mscf/day
1	FLOWING	2.00	2128.95	3407.00
2	SHUT-IN	2.00	2567.65	0.00
3	FLOWING	2.00	1916.25	3989.00
4	SHUT-IN	2.00	2512.35	0.00
5	FLOWING	2.00	1638.05	4748.00
6	SHUT-IN	2.00	2450.95	0.00
7	FLOWING	2.00	1324.75	5799.00
8	SHUT-IN	2.00	2385.95	0.00
9	FLOWING	2.00	1199.25	5144.00
10	EXTENDED	32.38	1149.65	3429.00

DULLINGARI

DULLINGARI 39

Test 1 (20 MAY 1987)

dm(P) - FQ**2 10**



000219

DULLINGARI

DULLINGARI 39

Test 1 (20 MAY 1987)

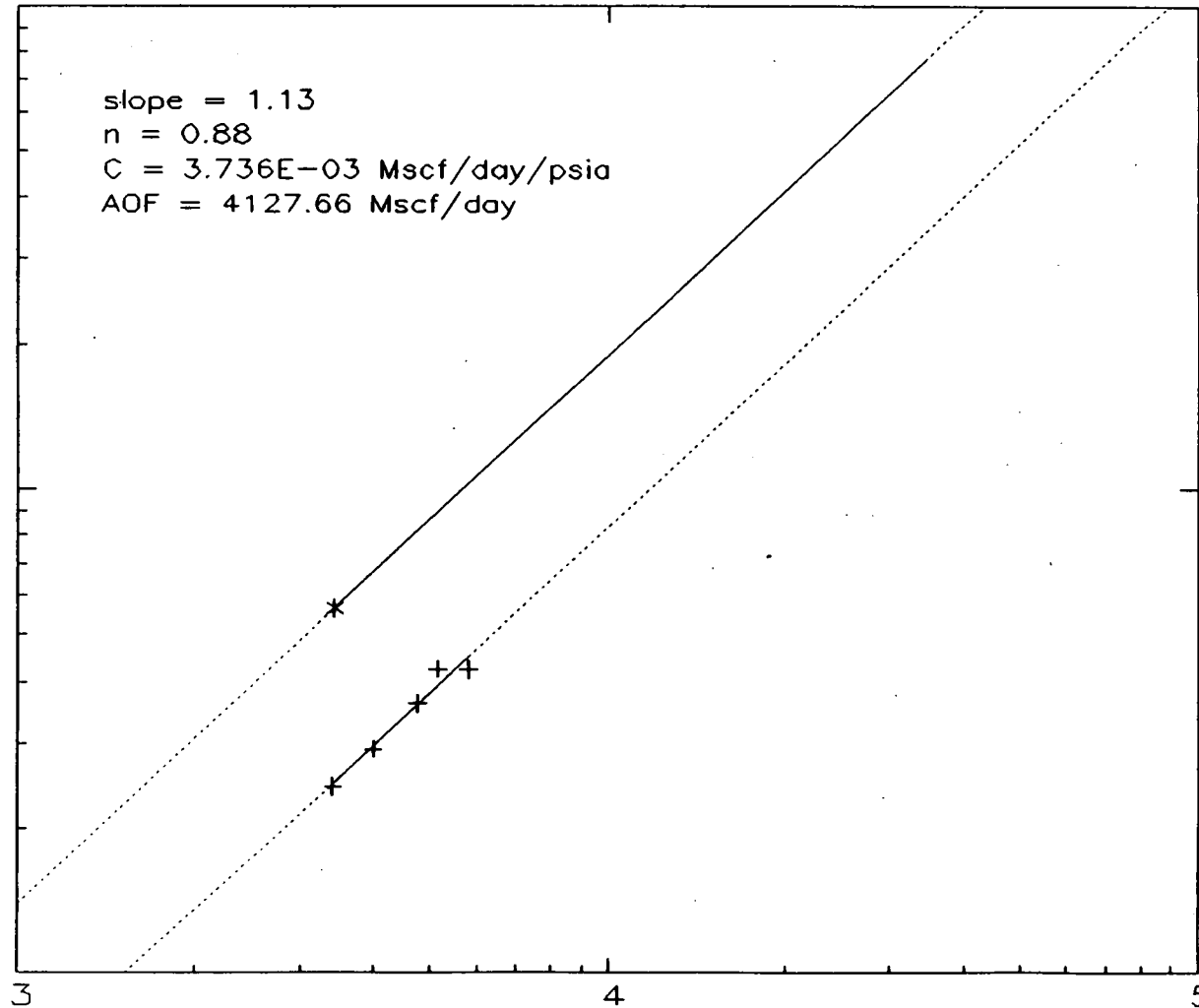
dP**2 10**

8

7

6

slope = 1.13
n = 0.88
C = 3.736E-03 Mscf/day/psia
AOF = 4127.66 Mscf/day



RATE 10**

000220

APPENDIX III

Pressure Build-up Analysis

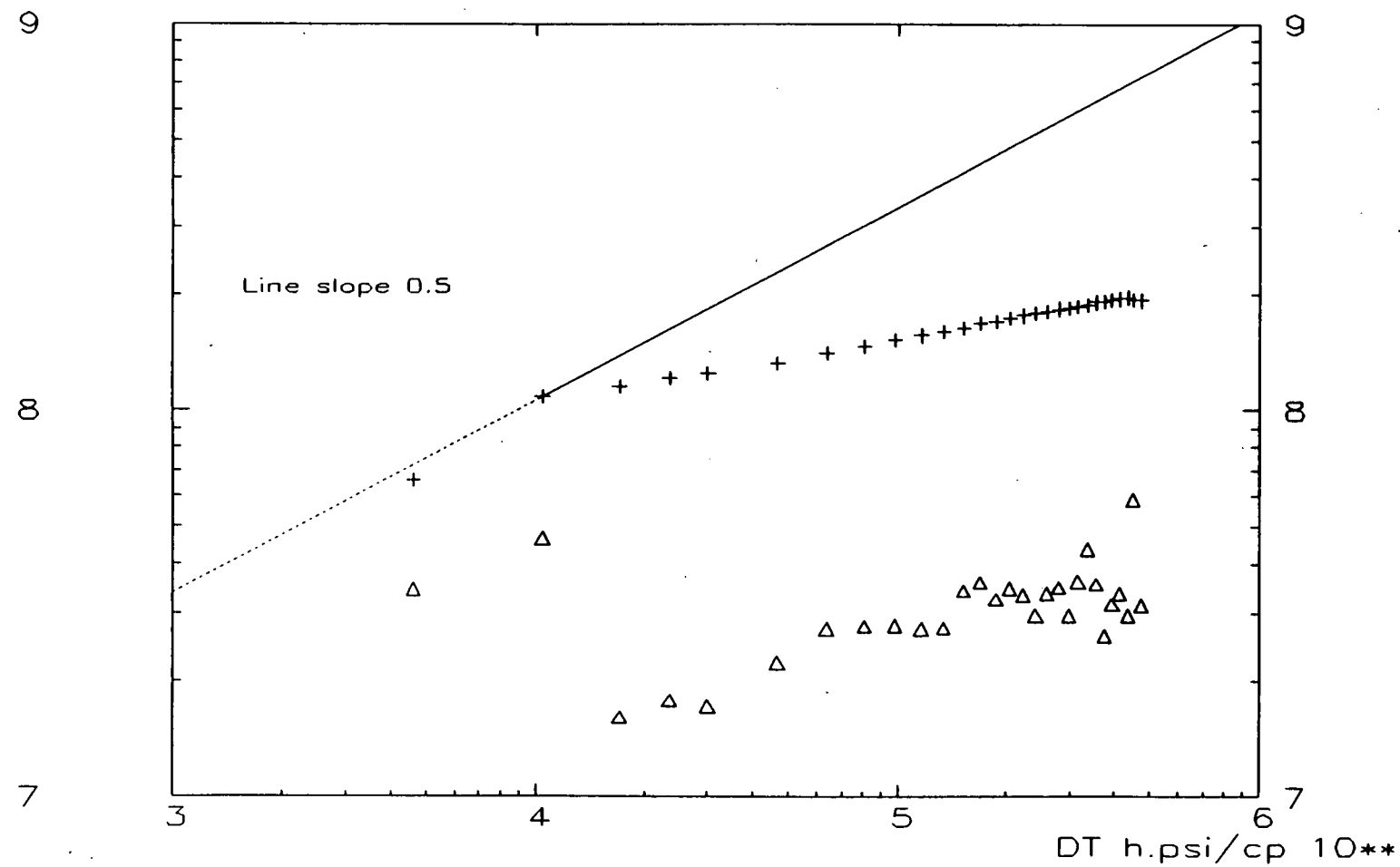
DULLINGARI

DULLINGARI 39

Test 1 (20 MAY 1987)

DP $\psi^2/\text{cp } 10^{**}$

Derivative P $\psi^2/\text{cp } 10^{**}$

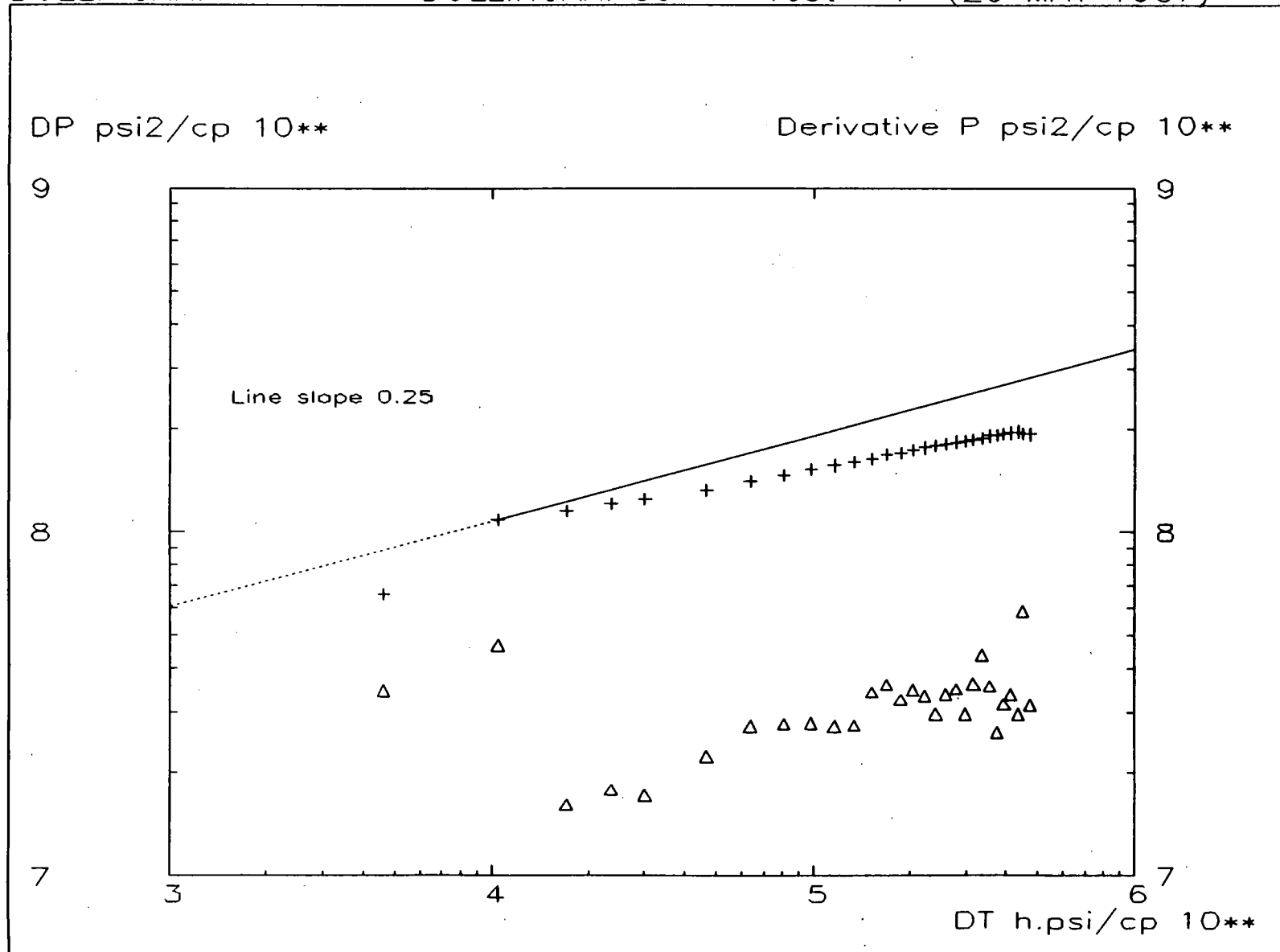


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DULLINGARI

DULLINGARI 39

Test 1 (20 MAY 1987)



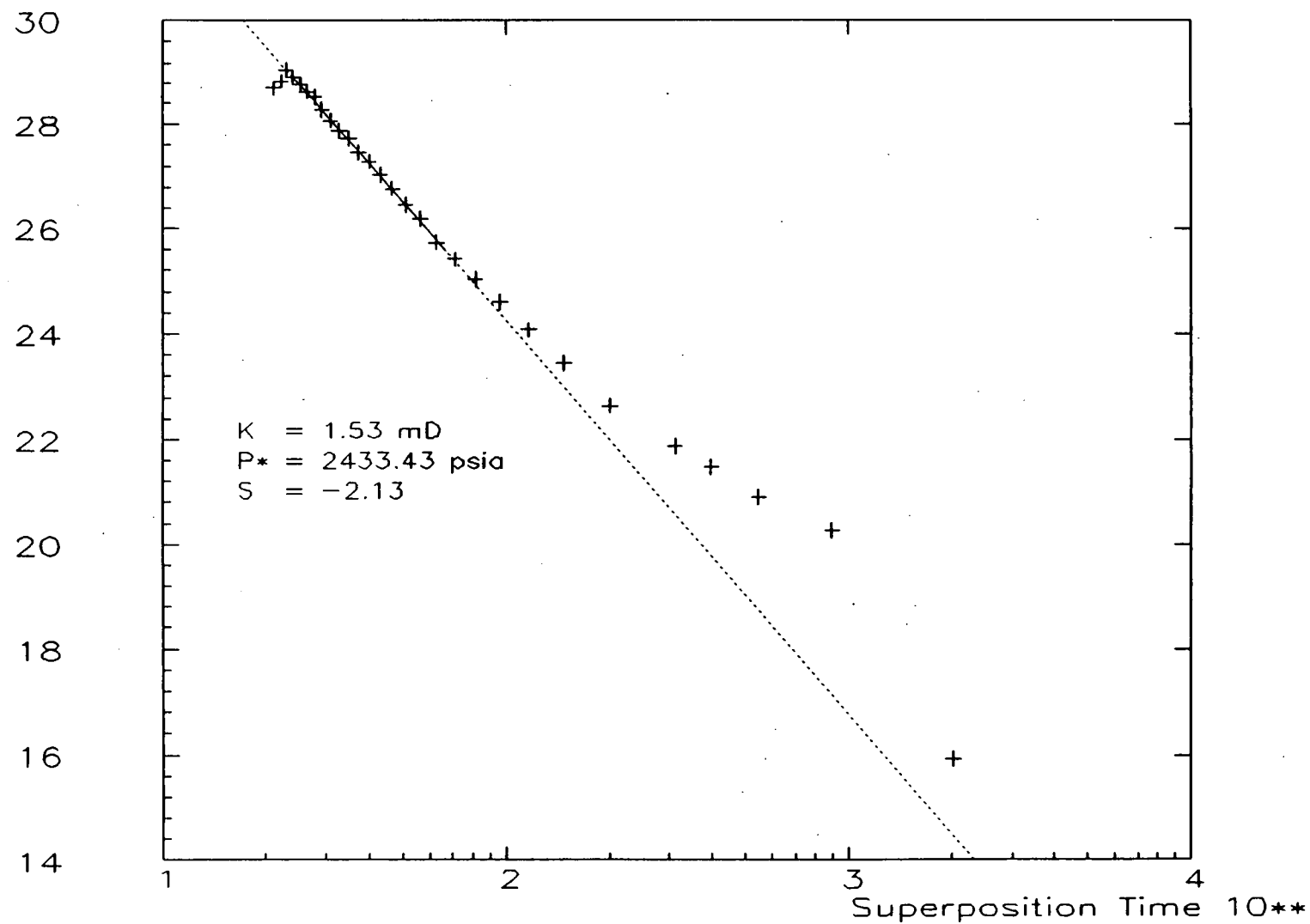
000223

DULLINGARI

DULLINGARI 39

Test 1 (20 MAY 1987)

P psi²/cp *10**7



000224

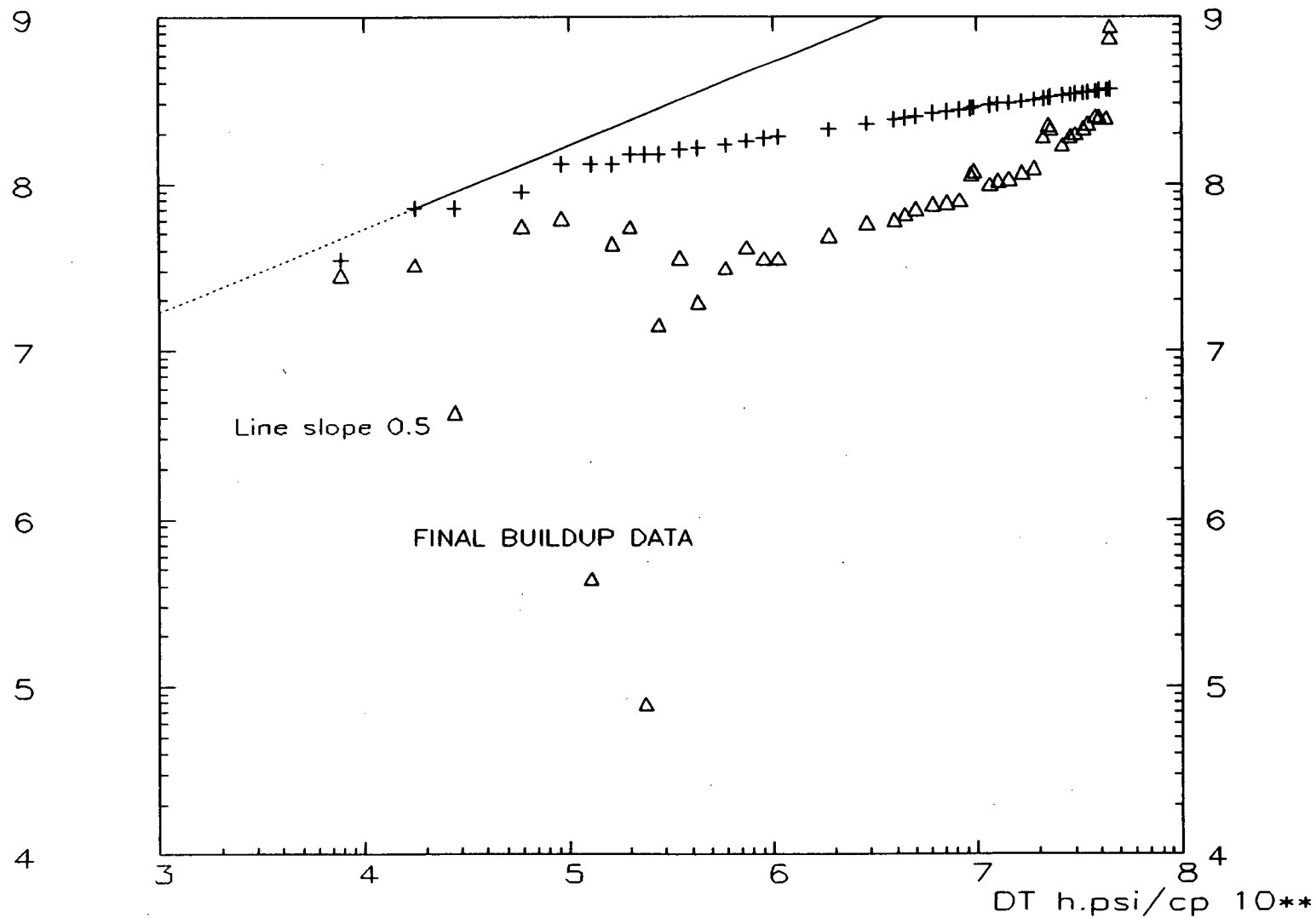
DULLINGARI

DULLINGARI 39

Test 1 (20 MAY 1987)

DP psi²/cp 10**

Derivative P psi²/cp 10**



000225

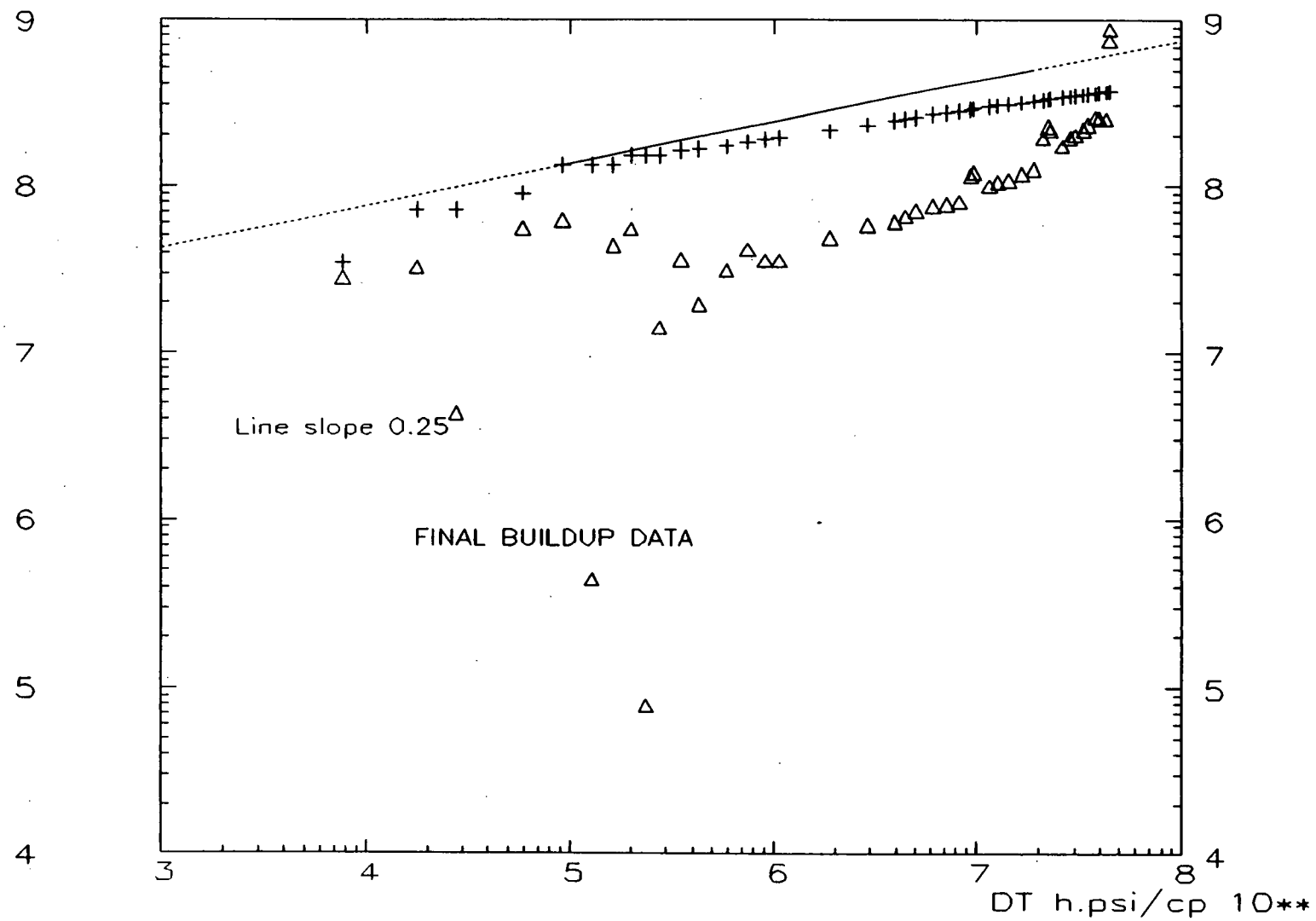
DULLINGARI

DULLINGARI 39

Test 1 (20 MAY 1987)

DP psi²/cp 10**

Derivative P psi²/cp 10**

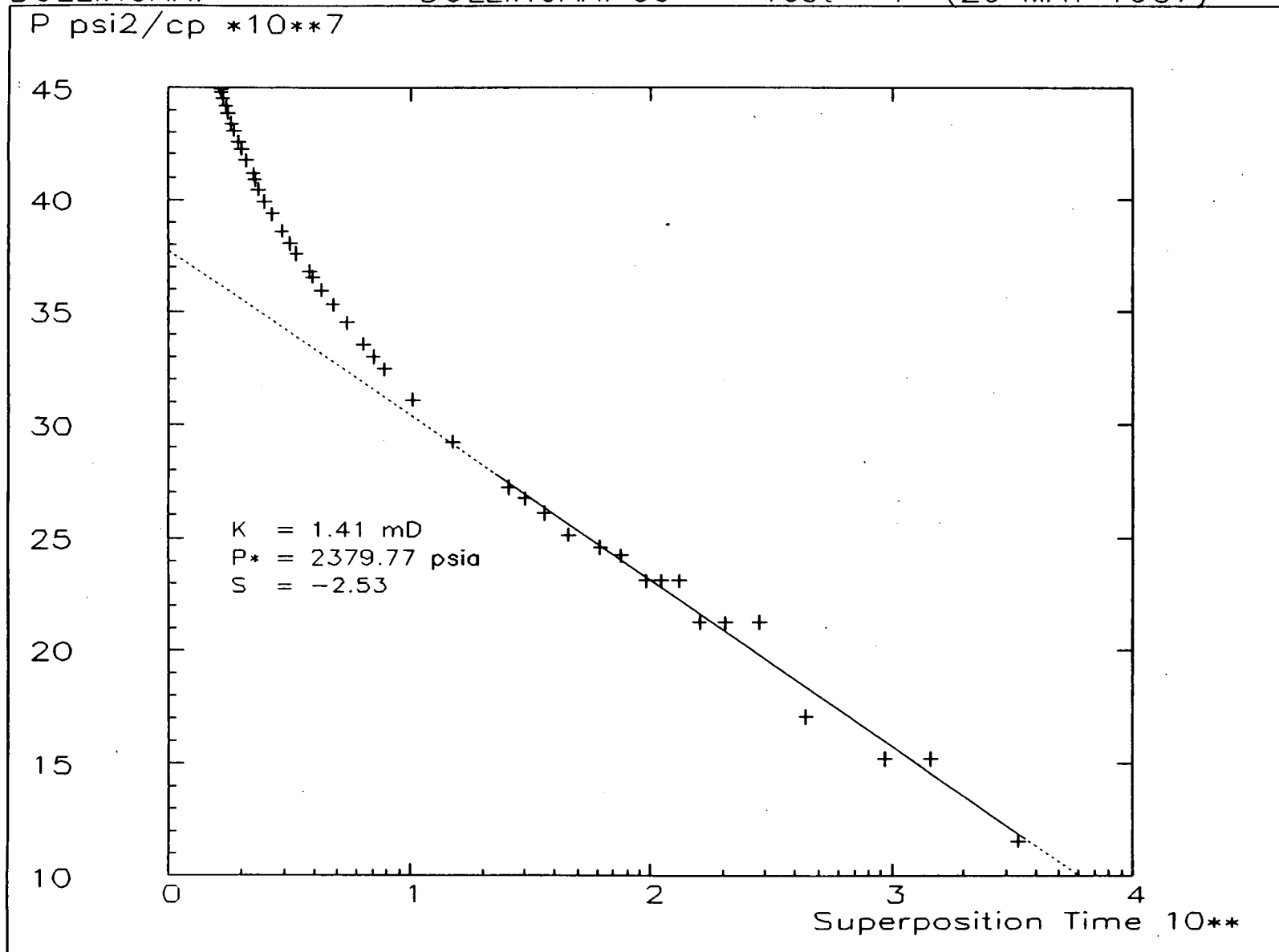


000226

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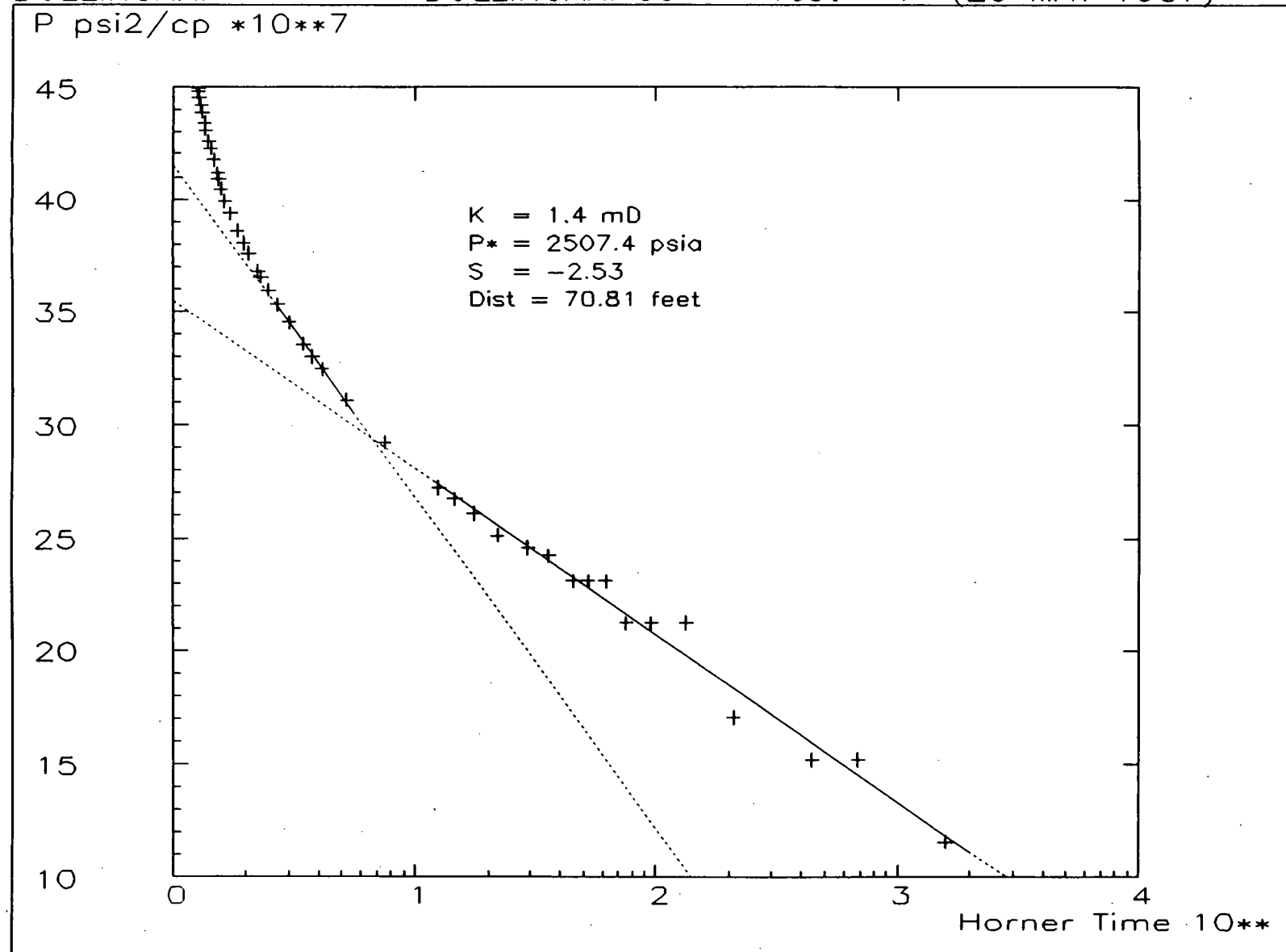
DULLINGARI 39

Test 1 (20 MAY 1987)



000227

DULLINGARI DULLINGARI 39 Test 1 (20 MAY 1987)

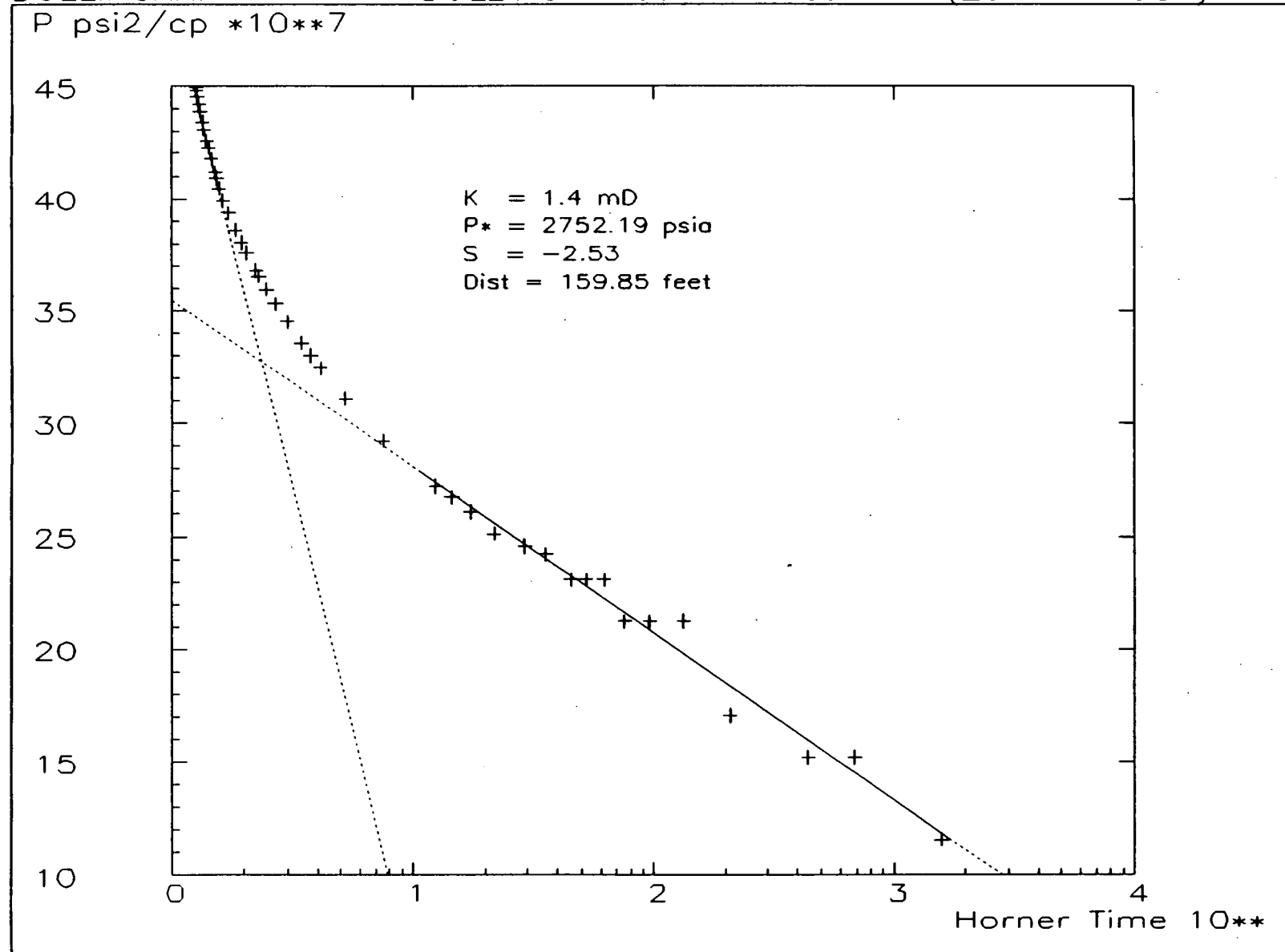


000228

DULLINGARI

DULLINGARI 39

Test 1 (20 MAY 1987)



000229

MODEL :
Homogeneous

INNER BOUNDARY :
Wellbore Storage Skin

OUTER BOUNDARY :
Semi-Infinite Reservoir

000230

Test Seq: Shut-in 8 len 44 : Fitted 1 to 44 : Total Superposition

Match Accuracy (RMS error) : 12.25 psi : Accuracy achieved

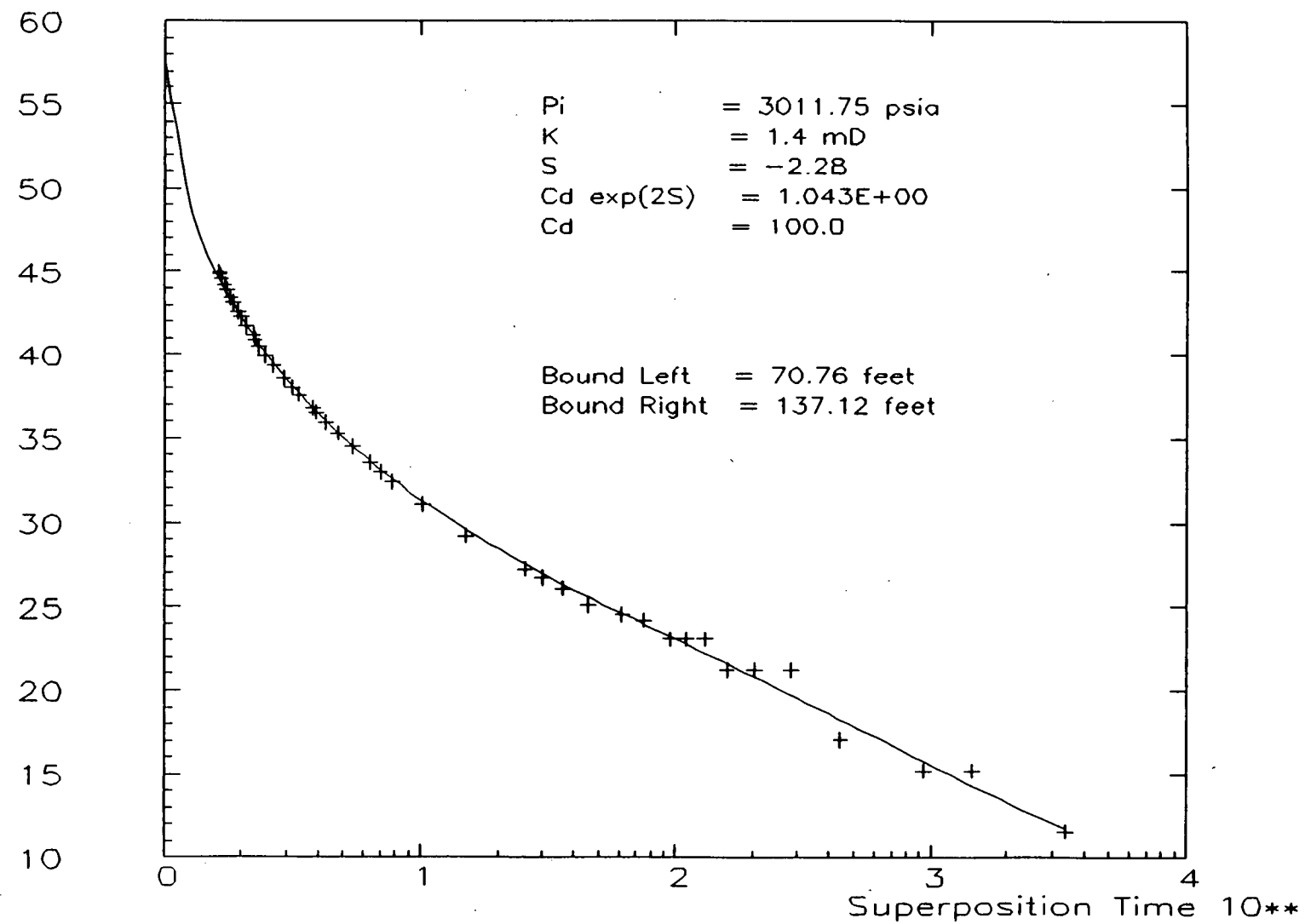
				Range In Optimiser
Initial Reservoir Pressure	:	3011.75	psia	: 2900.0 to 3050.0
Reservoir Permeability	:	1.4	mD	: 1.4 to 1.4
Skin Factor	:	-2.28		
Cd exp(2S)	:	1.043E+00		: 5.000E-01 to 2.500E+00
Dim'less Wellbore Storage (Cd)	:	100.0		: 100.0 to 100.0
Dist: NoFlow Flt Left Bound	:	70.76	feet	: 50.81 to 70.81
Dist: NoFlow Flt Right Bound	:	137.12	feet	: 120.0 to 160.0

DULLINGARI

DULLINGARI 39

Test 1 (20 MAY 1987)

P psi2/cp *10**7



000233

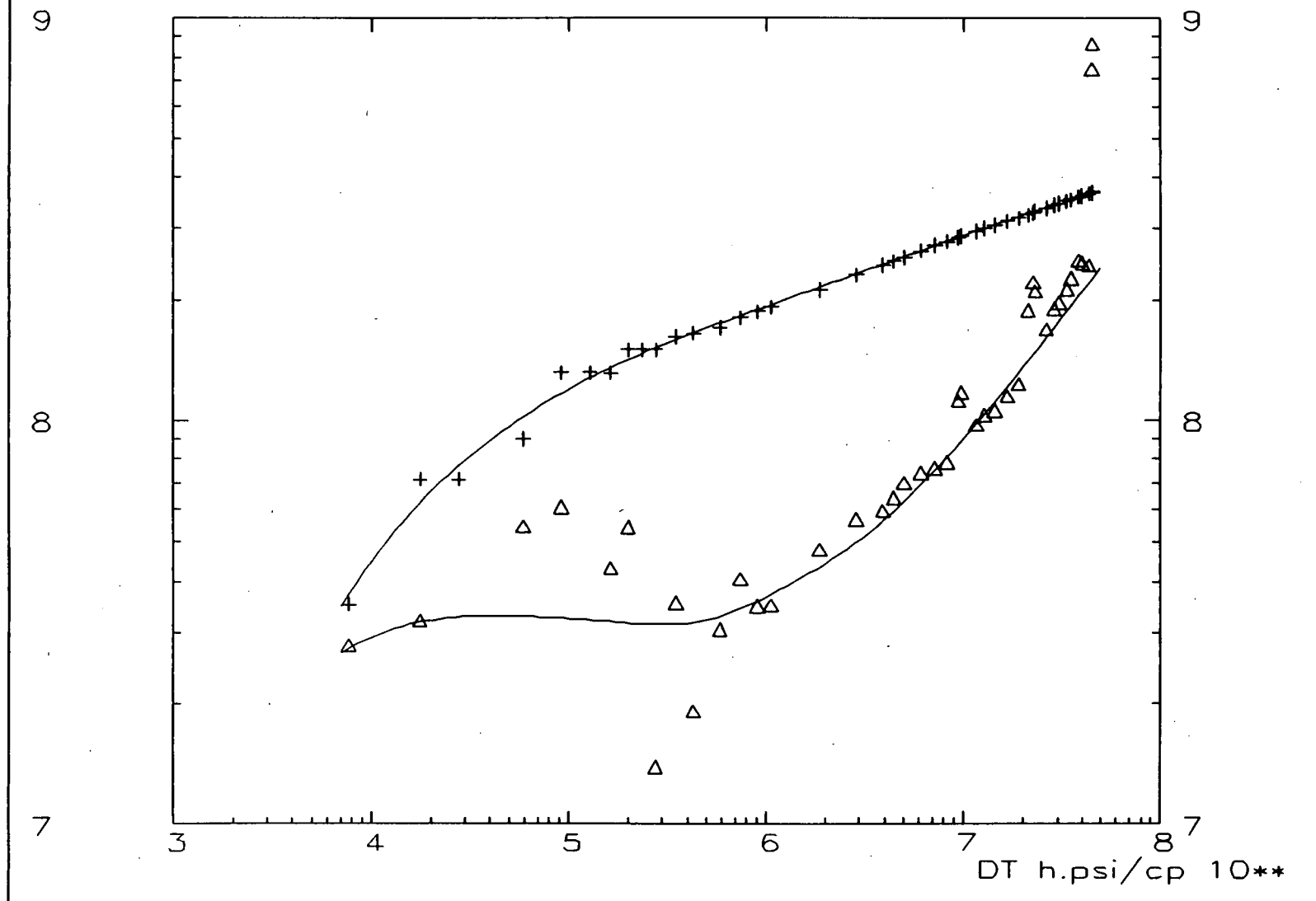
DULLINGARI

DULLINGARI 39

Test 1 (20 MAY 1987)

DP $\psi^2/\text{cp } 10^{**}$

Derivative P $\psi^2/\text{cp } 10^{**}$

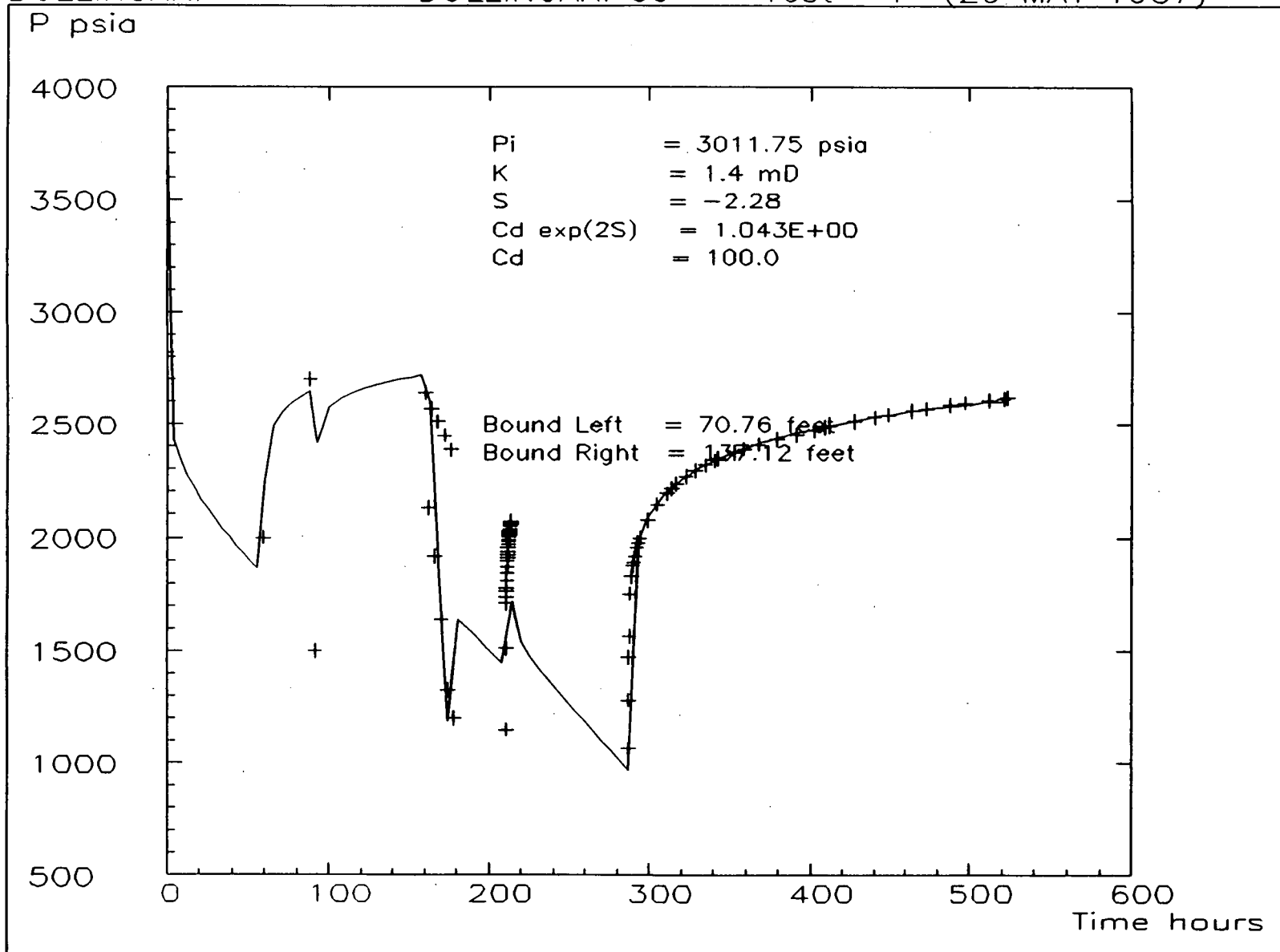


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DULLINGARI

DULLINGARI 39

Test 1 (20 MAY 1987)



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APPENDIX VI

Welltest Data

SANTOS LTD.
WELL TEST SUMMARY

Page 1.

WELL: Dullingari # 39 LOCATION: Lat.: 28°05'58.39"S Long: 140°54'05.40"E
 TESTED BY: Oilserv PERFORATIONS: 8109'-8212' ft DATE: 20/5 - 7/6/87 FORMATION: Patchawarra
 CASING SIZE: 7 ins WEIGHT: 23 & 26 lb/ft PRODUCING THROUGH: Tubing
 TUBING SIZE: 2-7/8 ins WEIGHT: 6.5 lb/ft GRADE: J55 & N80
 GRADE: L80

DESCRIPTION OF TEST

INITIAL SHUT IN PERIOD

Time of Observations			Observed Pressures			REMARKS
Date	Time	Shut In Time (Hours)	Tubing psig	Casing psig	Temp. °F	
20/5	1701	0	806	685	122	
23/5	1400	68.98	2211	610		Shut well in
						Opened well on rate # 1

Flow Period

Run No.: 1 Duration of Run: 2 Hours. Orifice Size: 2.000 ins
 Flow Well On: 20/64" Choke. Meter Run: 4.026 ins

Date	Time	Flow Time (Hours)	Wellhead Readings			Meter or Prover		Data	Condensate Production Bbls/d	Water Production Bbls/d
			Tubing	Casing	Temp.	Pf	Hw	Temp.		
			psig	psig	°F	psig	inches	°F		
23/5	1400	0	2211	610						
	1415	0.25	1892	650	97	300	76	28		
	1430	0.5	1834	680	100	300	74	32		
	1445	0.75	1820	710	102	300	72	37		
	1500	1	1797	745	104	300	71	37	39.248	NIL
	1530	1.5	1770	775	106	300	70	43		
	1600	2	1750	820	108	290	68	45	24.153	NIL

SANTOS LTD.
WELL TEST SUMMARY

Page 2. ✓

2nd SHUT IN PERIOD

Time of Observations			Observed Pressures			REMARKS
Date	Time	Shut In Time (Hours)	Tubing psig	Casing psig	Temp. °F	
23/5	1600	0	1750	820	108	Shut well in
	1605	0.08	1962	820		
	1610	0.17	2016	805		
	1615	0.25	2055	795		
	1630	0.5	2100	775		
	1645	0.75	2123	750		
	1700	1	2137	740		
	1715	1.25	2146	730		
	1730	1.5	2151	725		
	1745	1.75	2156	720		
	1800	2	2162	715		Opened well on rate # 2

Flow Period

Run No.: 2 Duration of Run: 2 Hours.
Flow Well On: 21/64" Choke.

Orifice Size: 2.250 ins
Meter Run: 4.026 ins

Date	Time	Flow Time (Hours)	Wellhead Readings			Meter or Prover Data			Condensate Production Bbls/d	Water Production Bbls/d
			Tubing psig	Casing psig	Temp. °F	Pf psig	Hw inches	Temp. °F		
23/5	1800	0	2162	715						
	1815	0.25	1725	750	104	300	71	34		
	1830	0.5	1682	775	106	300	68	39		
	1900	1	1622	845	111	300	63	43	30.191	3.019
	1930	1.5	1577	900	111	300	60	46		
	2000	2	1538	945	115	270	60	46	66.420	22.643

000236

SANTOS LTD.
WELL TEST SUMMARY

Page 4.1

4TH SHUT IN PERIOD

Time of Observations			Observed Pressures			REMARKS
Date	Time	Shut In Time (Hours)	Tubing	Casing	Temp.	
			psig	psig	°F	
23/2	2400	0	1258	1070		Shut well in
24/2	0005	0.08	1680	1050		
	0010	0.17	1767	1045		
	0015	0.25	1825	1020		
	0030	0.5	1940	975		
	0045	0.75	1993	940		
	0100	1	2022	900		
	0115	1.25	2040	875		
	0130	1.5	2054	860		
	0145	1.75	2065	845		
	0200	2	2075	845		Opened well on rate # 4

Flow Period

Run No.: 4 Duration of Run: 2 Hours.
Flow Well On: 36/64" Choke.

Orifice Size: 2.500 ins
Meter Run: 4.026 ins

Date	Time	Flow Time (Hours)	Wellhead Readings			Meter or Prover Data			Condensate Production Bbls/d	Water Production Bbls/d
			Tubing	Casing	Temp.	Rf	Hw	Temp.		
			psig	psig	°F	psig	inches	°F		
24/2	0200	0	2075	845						
	0215	0.25	1130	920	117	300	100	68		
	0230	0.5	1040	960	118	300	89	77		
	0300	1	935	1045	122	305	75	86	26.417	71.704
	0330	1.5	915	1125	124	300	74	90		
	0400	2	870	1150	124	300	78	91	30.191	22.643

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SANTOS LTD.
WELL TEST SUMMARY

5 TH SHUT IN PERIOD

Time of Observations			Observed Pressures			REMARKS
Date	Time	Shut In Time (Hours)	Tubing psig	Casing psig	Temp. °F	
24/5	0400	0	870	1150	124	
	0405	0.08	1490	1175		Shut well in
	0410	0.17	1660	1140		
	0415	0.25	1733	1135		
	0430	0.5	1850	1100		
	0445	0.75	1914	1025		
	0500	1	1955	1000		
	0515	1.25	1976	980		
	0530	1.5	2005	960		
	0545	1.75	2014	925		
	0600	2	2021	905		Opened well on mte # 5

Flow Period

Run No.: 5 Duration of Run: 2 Hours.
Flow Well On: 40/64" Choke.

Orifice Size: 3.000 ins
Meter Run: 4.026 ins

[illegible]

WP 2548G

000239

SANTOS LTD.
WELL TEST SUMMARY
FINAL STABILIZATION FLOW PERIOD

Page 5. a ✓

Flow Period

Run No.: 6 Duration of Run: 100 Hours.
 Flow Well On: 32/64" Choke.

Orifice Size: 2.250 ins
 Meter Run: 4.026 ins

Date	Time	Flow Time (Hours)	Wellhead Readings			Meter or Prover Data			Condensate Production Bbls/d	Water Production Bbls/d
			Tubing psig	Casing psig	Temp. °F	Pf psig	Hw inches	Temp. °F		
24/5	0800	0	735	1240	127					
	0900	1	980	1295	129	300	70	97	19.102	38.261
	1000	2	960	1345	129	310	63	95	20.107	40.275
	1100	3	939	1370	133	320	59	97	17.091	34.234
	1200	4	948	1400	133	315	60	97	22.621	45.309
	1300	5	919	1425	135	310	59	100	27.172	39.248
	1400	6	890	1440	135	310	60	104	16.605	40.758
	1500	7	899	1455	136	290	63	106	27.172	30.191
	1600	8	891	1460	138	280	63	106	12.076	48.306
	1700	9	883	1475	138	275	63	106	1.510	52.834
	1800	10	903	1480	140	270	67	106	13.586	61.892
	1900	11	876	1490	140	300	55	108	15.096	43.717
	2000	12	858	1500	140	295	62	108	9.057	58.873
	2100	13	865	1515	140	290	57	108	NIL	61.892
	2200	14	857	1510	140	285	57	108	NIL	52.834
	2300	15	853	1510	142	285	57	109	10.567	42.267
	2400	16	854	1510	142	285	57	109	7.548	52.834
25/5	0100	17	845	1510	142	275	57	109	34.720	40.758
	0200	18	842	1510	142	270	57	109	10.567	49.815
	0300	19	839	1515	142	270	57	109	19.624	40.758
	0400	20	834	1515	142	270	56	109	16.605	55.853
	0500	21	830	1520	142	265	56	109	16.605	43.717
	0600	22	826	1520	142	260	56	109	18.115	52.834
	0700	23	822	1525	142	250	57	109	15.096	42.267
	0800	24	819	1530	144	305	47	111	13.586	27.172
	0900	25	819	1535	144	305	47	113	3.019	45.287
	1000	26	813	1545	144	310	47	115	12.076	55.853
	1100	27	813	1550	144	290	49	117	10.567	49.815
	1200	28	812	1550	144	280	49	117	10.567	51.325
	1300	29	810	1550	145	280	48	117	6.038	72.458
	1301	29.02	Well	Shut	In					
	1600	32	Brought	Well	On	Line				
	1615	32.25	1151	1175	133	300	99	82		

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SANTOS LTD.
WELL TEST SUMMARY
FINAL STABILIZATION FLOW PERIOD

Page 5. b

Flow Period

Run No.: 6 Duration of Run: 100 Hours.
Flow Well On: 32/64" Choke.

Orifice Size: 2.250 ins
Meter Run: 4.026 ins

Date	Time	Flow Time (Hours)	Wellhead Readings			Meter or Prover Data			Condensate Production Bbls/d	Water Production Bbls/d
			Tubing psig	Casing psig	Temp. °F	Pf psig	Hw inches	Temp. °F		
25/5	1630	32.5	1000	1225	135	300	79	84		
	1700	33	957	1310	136	290	70	95		
	1800	34	877	1400	138	285	62	100	21.134	31.701
	1900	35	847	1410	140	300	52	104		
	2000	36	831	1435	140	295	53	105	11.322	33.965
	2100	37	824	1470	142	285	53	105		
	2200	38	815	1490	142	280	53	106	16.982	32.078
	2300	39	808	1500	142	270	53	106		
	2400	40	803	1500	142	265	54	106	18.869	26.417
26/5	0100	41	801	1505	144	260	54	106		
	0200	42	794	1505	144	255	53	106	10.944	44.909
	0300	43	791	1510	144	255	52	106		
	0400	44	790	1510	144	255	52	106	20.378	52.080
	0500	45	787	1515	144	255	52	106		
	0600	46	785	1520	144	253	52	106	9.057	37.739
	0700	47	781	1515	144	253	52	107		
	0800	48	779	1515	144	295	45	110	15.096	60.382
	0900	49	776	1515	144	305	42	110		
	1000	50	769	1515	144	315	40	110	12.076	32.455
	1100	51	770	1515	144	325	39	110		
	1200	52	770	1515	144	330	38	109	10.567	34.720
	1300	53	767	1510	144	315	40	109		
	1400	54	766	1510	145	315	40	109	18.869	30.191
	1500	55	763	1505	145	295	43	109		
	1600	56	765	1505	145	285	44	108	7.548	37.739
	1700	57	762	1505	145	280	44	107		
	1800	58	759	1500	145	295	43	108	25.662	19.624
	1900	59	756	1500	145	285	43	106		
	2000	60	755	1500	145	285	43	105	15.096	30.191
	2100	61	752	1500	144	280	43	104		
	2200	62	753	1500	144	275	44	103	8.303	44.532
	2300	63	750	1475	144	280	44	103		
	2400	64	749	1475	145	270	44	103	7.548	37.739

SANTOS LTD.
WELL TEST SUMMARY
FINAL STABILIZATION FLOW PERIOD

Page 5.

Flow Period

Run No.: 6 Duration of Run: 100 Hours.
Flow Well On: 32/64" Choke.

Orifice Size: 2.250 ins
Meter Run: 4.026 ins

Date	Time	Flow Time (Hours)	Wellhead Readings			Meter or Prover Data			Condensate Production Bbls/d	Water Production Bbls/d
			Tubing psig	Casing psig	Temp. °F	Pf psig	Hw inches	Temp. °F		
27/5	0100	65	749	1460	145	270	45	102		
	0200	66	748	1450	144	255	46	103	7.548	49.060
	0300	67	748	1430	144	255	47	104		
	0400	68	745	1430	144	245	48	104	14.341	28.681
	0500	69	743	1430	144	240	50	105		
	0600	70	741	1440	145	235	50	105	6.793	29.436
	0700	71	740	1440	145	235	50	106		
	0800	72	742	1435	145	285	41	108	6.038	18.869
	0900	73	741	1435	145	270	43	106		
	1000	74	738	1435	145	260	45	106	7.925	36.984
	1100	75	739	1430	145	265	43	106		
	1200	76	736	1425	145	270	42	107	6.793	61.137
	1300	77	738	1425	145	270	42	107		
	1400	78	736	1425	145	270	42	106	10.944	37.739
	1500	79	734	1420	145	255	45	105		
	1600	80	732	1415	145	255	45	105	NIL	42.267
	1700	81	727	1410	144	245	46	105		
	1800	82	732	1410	144	240	47	105	3.774	40.003
	1900	83	730	1405	145	240	48	105		
	2000	84	731	1400	145	235	48	107	3.019	41.513
	2100	85	730	1390	145	240	48	107		
	2200	86	727	1400	145	235	49	106	11.322	33.965
	2300	87	725	1390	145	230	49	107		
	2400	88	725	1375	143	230	49	107	4.529	48.306
28/5	0100	89	725	1370	143	230	49	106		
	0200	90	724	1365	143	225	49	106	11.322	26.417
	0300	91	720	1370	145	215	51	106		
	0400	92	720	1360	145	210	53	106	3.774	23.398
	0500	93	719	1360	145	205	53	105		
	0600	94	717	1360	145	200	53	105	11.322	39.248
	0700	95	717	1355	145	210	50	106		
	0800	96	716	1350	145	225	48	107	14.341	64.156
	0900	97	716	1350	145	230	47	107		

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Run No.: 6 Duration of Run: 100 Hours.
Flow Well On: 32/64" Choke.

Orifice Size: 2.250 ins
Meter Run: 4.026 ins

[illegible]

SANTOS LTD.
WELL TEST SUMMARY
FINAL BUILD-UP PERIOD

Page 6.a ✓

Date	Time	Shut in Period (Hours)	Tubing Pressure psig	Casing Pressure psig	Wellhead Temp. °F	REMARKS
28/5/87	1200	0	715	1340	145	Shut well in
	1205	0.08	1145	1325		
	1210	0.17	1260	1310		
	1215	0.25	1310	1300		
	1230	0.5	1407	1260		
	1245	0.75	1459	1215		
	1300	1	1498	1170		
	1315	1.25	1523	1135		
	1330	1.5	1544	1110		
	1345	1.75	1560	1090		
	1400	2	1575	1065		
	1430	2.5	1600	1025		
	1500	3	1621	1000		
	1600	4	1655	945		
	1700	5	1682	905		
	1800	6	1704	875		
	1900	7	1724	840		
	2400	12	1792	805		
29/5/87	0600	18	1856	710		
	1200	24	1891	690		
	1500	27	1911	675		
	1800	30	1925	640		
	2400	36	1949	635		
30/5/87	0600	42	1973	660		
	1200	48	1994	680		
	1800	54	2010	710		
	2045	56.75	2025	730		
31/5/87	0600	66	2045	750		
	1200	72	2056	760		
	2030	80.5	2080	820		
1/6/87	0810	92.17	2103	895		
	2010	104.17	2117	950		
2/6/87	0710	115.17	2126	990		
	1321	121.35	2136	1030		P.O.O.H.
	1651	124.85				On bottom
3/6/87	0830	140.5	2158	1100		
	2100	153	2175	1145		
4/6/87	0600	162	2185	1175		

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SANTOS LTD.
WELL TEST SUMMARY
FINAL BUILD-UP PERIOD

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[illegible]

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000245

SANTOS LTD.
WELL TEST SUMMARY
FINAL BUILD-UP, SUBSURFACE PRESSURES

Page 7. ✓

ELEMENT NO. 44918

BOMB DEPTH 6171 'KB

<u>IN</u>	<u>OUT</u>	<u>IN</u>	<u>OUT</u>	<u>IN</u>	<u>OUT</u>
DWT 2209	738	732	2136	2138	2152
LUB.2222	743	719	N/A	2143	2254

Date	Time	Shut In Time (Hours)	PRESSURE		T + θ θ	REMARKS
			psig	psia ² x 10 ³		
28/5	1200	0	1050.0	1133		Shut well in
	1205	0.08	1267.2	1643	1441.6	
	1210	0.17	1458.4	2170	678.9	
	1215	0.25	1458.9	2171	462.0	
	1230	0.5	1549.3	2446	231.5	
	1245	0.75	1739.3	3076	154.7	
	1300	1	1738.6	3074	116.3	
	1315	1.25	1738.3	3073	93.2	
	1330	1.5	1817.2	3356	77.8	
	1345	1.75	1817.1	3355	66.9	
	1400	2	1817.1	3355	58.6	
	1430	2.5	1863.6	3528	47.1	
	1500	3	1877.7	3581	39.4	
	1600	4	1900.6	3668	29.8	T = Cumulative Production / Last Production rate = (14.521 / 3.024) x 24 = 115.25 hours
	1700	5	1939.4	3818	24.1	
	1800	6	1965.1	3919	20.2	
	1900	7	1984.4	3996	17.5	
	2400	12	2060.9	4308	10.6	
29/5	0600	18	2130.7	4603	7.4	
	1200	24	2179.6	4815	5.8	
	1500	27	2200.2	4906	5.3	
	1800	30	2220.0	4994	4.8	
	2400	36	2253.4	5144	4.2	
30/5	0600	42	2281.5	5272	3.7	
	1200	48	2304.4	5378	3.4	
	1800	54	2325.1	5474	3.1	
	2045	56.75	2334.1	5517	3.0	
31/5	0600	66	2360.7	5642	2.7	
	1200	72	2377.1	5720	2.6	
	2030	80.5	2395.7	5810	2.4	
1/6	0810	92.17	2421.0	5932	2.3	
	2010	104.17	2440.6	6028	2.1	
2/6	0710	115.17	2458.8	6118	2.0	
	1321	121.35	2473.2	6189	1.9	P.O.O.H.
	1651	124.85	2530.9	6480	1.9	On bottom

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BOMB DEPTH 6171

' KB

DWT 2209

738

732

213b

2138

2252

LUB. 2222

743

729

N/A

2143

2254

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000247

SANTOS LTD.
WELL TEST SUMMARY
CALCULATION SHEET

Page 8.

GAS RATES THROUGH SEPARATOR

Run No.	Hw (inches in water)	Pf (psig)	Size Orifice Plate (inches)	Ft (°F)
1	68	290	2.000	45
2	60	270	2.250	46
3	52	285	2.500	66
4	78	300	2.500	91
5	25	295	3.000	100
6	38	280	2.250	108

Separator Gas Properties

Specific Gravity = 0.8004

TC = 398.9 °R

PC = 713.4 psia

CO2 CONTENT = 13.390 mole %

Meter Run = 4.026"

GAS RATES THROUGH SEPARATOR

Run No.	Q (Mmscfd)	Time
1	3.407	2
2	3.989	2
3	4.748	2
4	5.799	2
5	5.114	2
6	3.024	100

PRODUCTION

0.284

0.332

0.396

0.483

0.426

12.600

14.521

Please Note : All flow periods did not reach steady rates ie. Flow rate was still dropping when well was shut in.

The above rates are the final rates for each flow period and therefore are not truly representative of entire flow period.

000248

GAS WELL DELIVERABILITY TEST CALCULATIONS
 (Base Conditions = 14.65 psia and 60°F)

WELL NAME: Dullingori # 39DATE: 20/5 - 7/6/87ELEMENT NO: 44918DEPTH TESTED: 6171' KBDWT IN: 2209OUT: 2252LUB IN: 2222OUT: 2254

SIMPLIFIED ANALYSIS

	Duration (hours)	Sandface Pressure (psia)	Temp. (°F)	Meas.	Δp^2 ($\times 10^6$ psia ²)	Flow Rate (Mmscfd)	H/Carbon Prod. (BBLS/D)	Water Prod. (BBLS/D)	REMARKS
Initial Shut In	68.98	2641.35		✓	—	—	—	—	$q = C(\bar{p}_R^2 - p_{wf}^2)^n$ slope n = _____ $\bar{p}_R =$ _____ psia $C = \frac{q}{(\bar{p}_R^2 - p_{wf}^2)^n}$ = _____ AOF (Mmscfd) = _____
Flow 1	2	2128.95		✓	2.444	3.407	31.701	NIL	
Shut In	2	2567.65		✓	—	—	—	—	
Flow 2	2	1916.25	NOT AVAILABLE	✓	2.921	3.989	48.306	12.831	
Shut In	2	2512.35		✓	—	—	—	—	
Flow 3	2	1638.05		✓	3.629	4.748	11.322	31.701	
Shut In	2	2450.95		✓	—	—	—	—	
Flow 4	2	1324.75		✓	4.252	5.799	28.304	47.174	
Shut In	2	2385.95		✓	—	—	—	—	
Flow 5	2	1199.25		✓	4.255	5.144	22.002	43.663	
Extended Flow	100	1064.65		✓	6.002	3.024	11.814	40.628	
Final Shut In	236.83	2671.15		✓	—	—	—	—	

000249

APPENDIX V

Compositional Data

WELL: DULLINGARI #39

FORMATION: PATCHAWARRA

DATE: 25/5/87

000251

MOLECULAR COMPOSITION OF RESERVOIR FLUID

COMPONENT	RECOMBINED		RECOMBINED
	SEPARATOR	SEPARATOR	RESERVOIR
	LIQUID	GAS	FLUID
	Mole (%)	Mole (%)	Mole (%)
NITROGEN	1.38	1.56	1.56
CARBON DIOXIDE	3.38	13.60	13.57
METHANE	2.39	77.65	77.43
ETHANE	1.70	4.73	4.72
PROPANE	1.73	1.54	1.54
i - BUTANE	0.44	0.18	0.18
n - BUTANE	1.21	0.33	0.33
i - PENTANE	0.68	0.08	0.08
n - PENTANE	0.98	0.09	0.09
HEXANES	1.82	0.08	0.09
HEPTANES	5.62	0.08	0.10
OCTANES+	78.67	0.08	0.31
TOTALS	100.00	100.00	100.00
MOLECULAR WT.	132.5	21.67	22.01
SPECIFIC GRAVITY		0.748	0.760
MOLAR RATIO	0.3	99.7	100.00
SPECIFIC GRAVITY OF C8+			0.823
MOLECULAR WEIGHT OF C8+			152.0

REF: AMDEL REPORT # F5070/88 (Corrected by SANTOS)

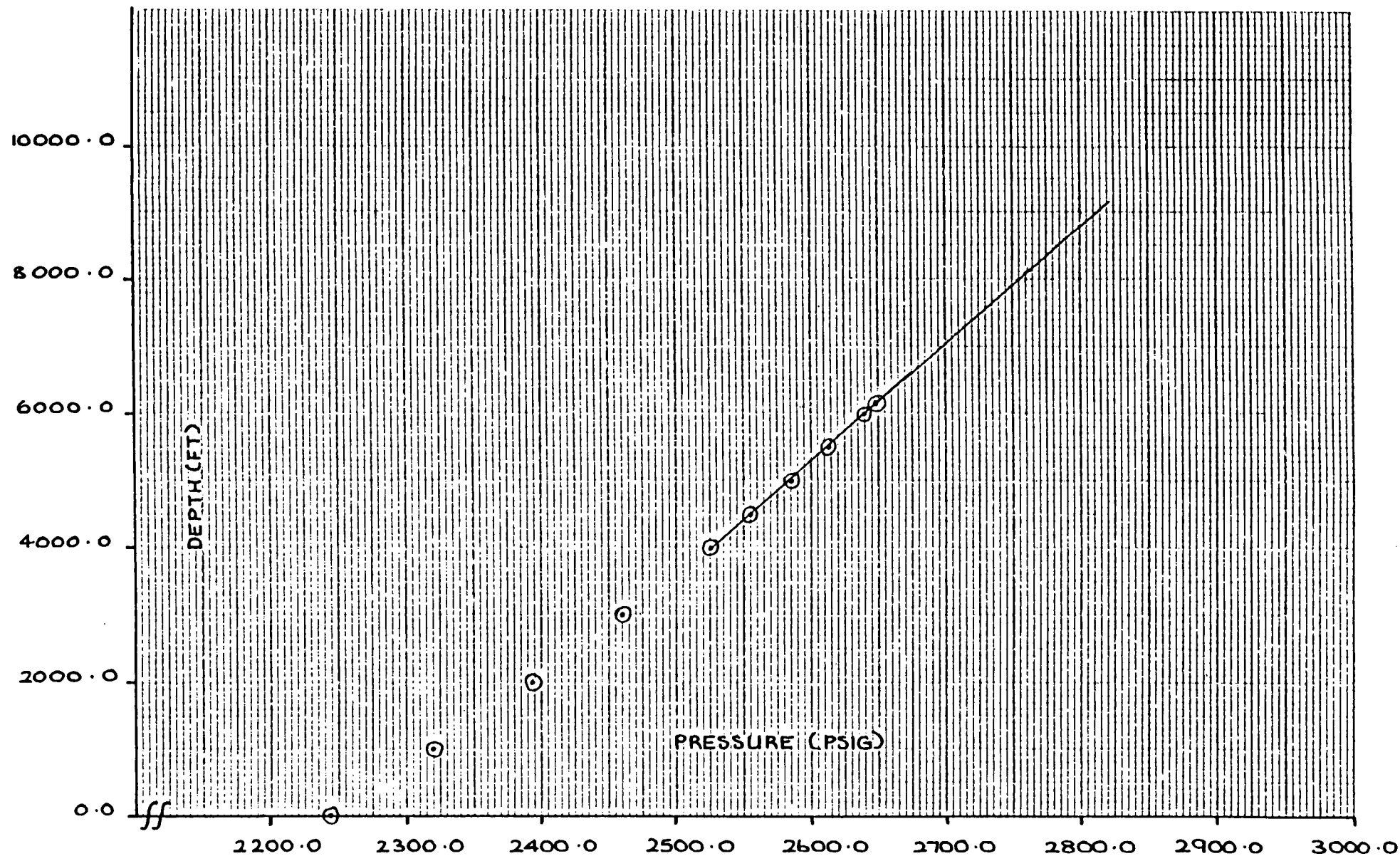
WP:6342N(12)

APPENDIX VI

Static Gradient

DULLINGARI # 39 - STATIC GRADIENT SURVEY - 7/6/87

ELEMENT # 44918 / 5000 (TOP)



SEQUENCE OF EVENTS

CUSTOMER : SANTOS LTD.

PERFORATIONS: 8109' - 8212'

PAGE: 1 OF 2

WELL NAME: DULLINGARI # 89

FORMATION : PATCHAWARRA

DATE: 23RD JANUARY 1994.

TEST TYPE : B.H.P.S. + S.G.S.

OPR : B. HULL.

DATE/TIME

DESCRIPTION OF EVENTS

23RD JANUARY 1994

12:45 ARRIVE ON LOCATION - WELL SHUT IN DUE TO COMPRESSOR SHUT DOWN @ DULLINGARI SATELLITE.

12:50 FIT SWAB VALVE + PRESSURE TEST TO FULL SHUT IN WELL HEAD PRESSURE.

13:05 WELL BACK ON LINE @ 100% CHOKE.

13:10 RIG IN WIRELINE EQUIPMENT WITH 1.75" BLIND BOX FOR DRIFT RUN.

13:30 RUN IN HOLE WITH 1.75" BLIND BOX, PERFORMING PICK UPS EVERY 1000'.

13:51 ARRIVE @ GAUGE RING DEPTH OF 6197' K.B. - TUBING CLEAR.

13:52 PULL OUT OF HOLE.

14:15 ARRIVE @ SURFACE WITH TOOLSTRING + DEPRESSURE LUBRICATOR.

14:30 PREPARE 2x 3000 PSI GAUGES + 1x MIBHT TO 120 HR CLOCKS.

14:35 GAUGES IN LUBRICATOR + PRESSURE LUBRICATOR.

15:35 DEPRESSURE LUBRICATOR.

16:35 PRESSURE LUBRICATOR + RUN IN HOLE.

17:00 ARRIVE @ HANG DEPTH OF 6177' K.B.

18:00 HANG GAUGES OVERNIGHT WHILE WELL FLOWING @ 100% CHOKE.

24TH JANUARY 1994

08:00 SHUT WELL IN FOR 96 HR BUILD UP.

MONITOR BUILD UP.

25TH JANUARY 1994

CONTINUE TO MONITOR BUILD UP.

26TH JANUARY 1994

CONTINUE TO MONITOR BUILD UP.

27TH JANUARY 1994

CONTINUE TO MONITOR BUILD UP.

Mines & Energy SA

R95/02093



00123662

000254

SEQUENCE OF EVENTS

CUSTOMER : SANTOS LTD

PERFORATIONS: 8109' - 8212'

PAGE: 2 OF 2

WELL NAME: DWLLINGARI # 39

FORMATION : PATCHAWARRA

DATE: 28th JANUARY 1994

TEST TYPE : B.I.P.S. & S.G.S.

OPR : B. HULL

DATE/TIME

DESCRIPTION OF EVENTS

28th JANUARY 1994

08:00 PULL OUT OF HOLE.

08:23 ARRIVE @ SURFACE WITH GAUGES & DEPRESSURE LUBRICATOR.

09:23 PRESSURE LUBRICATOR.

10:23 DEPRESSURE LUBRICATOR - RECOVER CHARTS - CHARTS OK. - BHPS COMPLETE

10:38 PREPARE GAUGES (2x3000 PSI) & 1x M.B.H.T. TO 3hr CLOCK.

10:45 GAUGES IN LUBRICATOR & PRESSURE LUBRICATOR.

10:55 DEPRESSURE LUBRICATOR.

11:00 PRESSURE LUBRICATOR & RUN IN HOLE.

11:55 ARRIVE @ BOTTOM STOP OF 6177' K.B.

12:05 PULL OUT OF HOLE

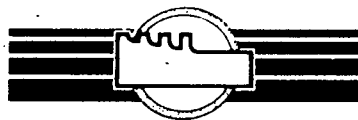
12:24 ARRIVE @ SURFACE WITH GAUGES & DEPRESSURE LUBRICATOR.

12:29 PRESSURE LUBRICATOR.

12:39 DEPRESSURE LUBRICATOR & RECOVER CHARTS - CHARTS OK.

13:20 RIG DOWN WIRELINE EQUIPMENT.

13:30 SECURE LEASE & HAND WELL BACK TO PRODUCTION



FIELD READINGS

CUSTOMER : SANTOS LTD.

PERFORATIONS: 8109' - 8212'

PAGE: 1 OF 4

WELL NAME: DULLINGARI # 39

FORMATION : PATCHAWARRA

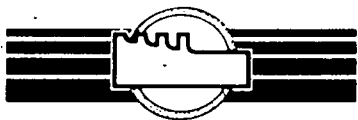
DATE: 23rd JANUARY 1994

TEST TYPE : B.H.P.S. & S.G.S.

OPR : B. HULL

TIME		WELLHEAD DATA					SEPARATOR DATA				LIQUID PRODUCTION			
DATE TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE (PSI/KPa)	ANNULUS PRESSURE (PSI/KPa)	WELLHEAD TEMP (°F/°C)	CHOKE SIZE %	BS&W (%)	ORIFICE PLATE SIZE (IN)	STATIC PRESS. (PSIG)	DIFF PRESS. (IN WC)	GAS TEMP (°F)	TOTAL LIQUID (IN/CM)	OIL (IN/CM)	OIL API GRAVITY @ 60°F	WATER (IN/CM)
23 RD	JANUARY	1994												
12:45														
12:50														
13:05														
13:10														
13:30														
13:51														
13:52														
14:15														
14:30														
14:35		531	0	46										
15:35		531		48										
16:35		526		48										
17:00	0	525		48										
18:00	1	525		48										
24 TH	JANUARY	1994												
06:00	13	296		45										
08:00	15	296		50	100									
08:00	0	296												
08:05		543												
08:10		670	0											

EXPERTEST PTY. LTD.



FIELD READINGS

CUSTOMER : SANTOS LTD.

PERFORATIONS: 8109' - 8212'

PAGE: 2 OF 4

WELL NAME: DULLINGARI # 39

FORMATION : PATCHAWARRA

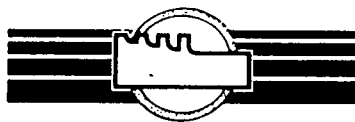
DATE: 24th JANUARY 1994

TEST TYPE : B.H.P.S. & S.G.S.

OPR : B. HULL

TIME		WELLHEAD DATA					SEPARATOR DATA				LIQUID PRODUCTION			
DATE	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE (PSI/KPa)	ANNULUS PRESSURE (PSI/KPa)	WELLHEAD TEMP (°F/°C)	CHOKE SIZE	BS&W (%)	ORIFICE PLATE SIZE (IN)	STATIC PRESS. (PSIG)	DIFF. PRESS. (IN WC)	GAS TEMP (°F)	TOTAL LIQUID (IN/CM)	OIL (IN/CM)	OIL API GRAVITY @ 60°F	WATER (IN/CM)
24 th JANUARY 1994														
08:15		750	0											
08:30		818												
08:45		848												
09:00	1	870												
09:15		880												
09:30		885												
09:45		895												
10:00	2	902												
10:15		909												
10:30		911												
10:45		915												
11:00	3	920												
11:15		925												
11:30		929												
11:45		932												
12:00	4	935												
16:00	8	1008												
18:00	10	1027												
25 th JANUARY 1994														
06:00	22	1034	0											
10:00	26	1040												

000257



FIELD READINGS

CUSTOMER : SANTOS LTD.

PERFORATIONS: 8109' - 8212'

PAGE: 3 OF 4

WELL NAME: DWLLINGARI # 39

FORMATION : PATCHAWARZA

DATE: 25th JANUARY 1994

TEST TYPE : B.H.P.S. & S.G.S.

OPR : B. HULL

TIME		WELLHEAD DATA					SEPARATOR DATA				LIQUID PRODUCTION			
DATE	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE (PSI/KPa)	ANNULUS PRESSURE (PSI/KPa)	WELLHEAD TEMP (°F/°C)	CHOKE SIZE	BS&W (%)	ORIFICE PLATE SIZE (IN)	STATIC PRESS. (PSIG)	DIFF PRESS. (IN WC)	GAS TEMP (°F)	TOTAL LIQUID (IN/CM)	OIL (IN/CM)	OIL API GRAVITY @ 60°F	WATER (IN/CM)
TIME														
25 th JANUARY 1994														
14:00	30	1045	0											
18:00	34	1050	↑											
26 th JANUARY 1994														
06:00	46.	1091												
10:00	50	1092												
14:00	54	1093												
18:00	58	1097												
27 th JANUARY 1994														
06:00	70	1126												
10:00	74	1134												
14:00	78	1141												
18:00	82	1139												
28 th JANUARY 1994														
06:00	94	1154												
08:00	96	1156												
08:23		1154												
09:23		1154												
10:23		1154												
10:38														
10:45		1154	↓											
10:55		1154	0											

PULL OUT OF HOLE.

ARRIVE @ SURFACE WITH GAUGES + DEPRESSURE LUBRICATOR.

PRESSURE LUBRICATOR.

DEPRESSURE LUBRICATOR - RELOVER CHARTS - CHARTS OK - BHPS COMPLETE

PREPARE 2x 3000 PSI GAUGES, 1x MBHT TO 3hr CLOCKS

GAUGES IN LUBRICATOR + PRESSURE LUBRICATOR.

DEPRESSURE LUBRICATOR

000258

FIELD READINGS

CUSTOMER : SANTOS LTD .

PERFORATIONS: 8109' - 8212'

PAGE: 4 OF 4

WELL NAME: MULLINGARI #39

FORMATION : PATCHAWARRA

DATE: 28th JANUARY 1994

TEST TYPE : B.H.P.S. & S.G.S.

OPR : B. HULL

[illegible]

000255

CUSTOMER : SANTOS LTD.

PERFORATIONS: 8109'-8212'

PAGE: 1 OF 4

WELL NAME: DULLINGARI # 39

FORMATION : PATCHAWARRA

DATE: 23RD JANUARY 1994

TEST TYPE : B.H.P.S. & S.G.S.

OPR : B. HULL.

TIME		WELLHEAD DATA							FLOW RATES			CUMULATIVE PRODUCTION				
DATE	TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE (PSI/KPa)	ANNULUS PRESSURE (PSI/KPa)	WELLHEAD TEMP (°F/°C)	CHOKE SIZE %	PRESSURE (PSI/KPa)	TEMP (°F/°C)	GAS MMSCFD m ³ 10 ³ /D	OIL BPD m ³ /D	WATER BPD m ³ /D	GAS MMSCFD m ³ 10 ³	OIL BBLS m ³	WATER BBLS m ³		
23 RD	JANUARY	1994														
12:45																
12:50																
13:05						100										
13:10																
13:30																
13:51																
13:52																
14:15																
14:30																
14:35			3665	0	46											
15:35			3664		48											
16:35			3630		48											
17:00	0		3620		48											
18:00	1		3620		48											
24 TH	JANUARY	1994														
06:00	13		2040		45											
08:00	15		2040		50	100										
08:00	0		2040													
08:05			3745													
08:10			4620	0												

000266C

EXPERTEST PTY. LTD.



TEST RESULTS

CUSTOMER : SANTOS LTD.

PERFORATIONS: 8109' - 8212'

PAGE: 2 OF 4

WELL NAME: DOLLINGARI #39

FORMATION : PATCHAWARRA

DATE: 24th JANUARY 1994

TEST TYPE : B.H.P.S. & S.G.S.

OPR : B. HULL

TIME		WELLHEAD DATA						FLOW RATES			CUMULATIVE PRODUCTION				
DATE TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE (PSI/KPa)	ANNULUS PRESSURE (PSI/KPa)	WELLHEAD TEMP (°F/°C)	CHOKE SIZE	PRESSURE (PSI/KPa)	TEMP (°F/°C)	GAS MMSCFD m³10³/D	OIL BPD m³/D	WATER BPD m³/D	GAS MMSCF m³10³	OIL BBLS m³	WATER BBLS m³		
24 th JANUARY		1994													
08:15		5170	0												
08:30		5640													
08:45		5850													
09:00	1	5998													
09:15		6067													
09:30		6102													
09:45		6171													
10:00	2	6219													
10:15		6253													
10:30		6281													
10:45		6309													
11:00	3	6343													
11:15		6378													
11:30		6410													
11:45		6426													
12:00	4	6447													
16:00	8	6950													
18:00	10	7080													
25 th JANUARY		1994													
06:00	22	7130	0												
10:00	26	7171													

000261

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD.

PERFORATIONS: 8109' - 8212'

PAGE: 3 OF 4

WELL NAME: DULLINGAZI #39.

FORMATION : PATCHAWARZA

DATE: 25th JANUARY 1994

TEST TYPE : R.H.P.S. + S.G.S.

OPR : B. HULL

TIME		WELLHEAD DATA						FLOW RATES			CUMULATIVE PRODUCTION				
DATE TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE (PSI/KPa)	ANNULUS PRESSURE (PSI/KPa)	WELLHEAD TEMP (°F/°C)	CHOKE SIZE	PRESSURE (PSI/KPa)	TEMP (°F/°C)	GAS MMSCFD m³10³/D	OIL BPD m³/D	WATER BPD m³/D	GAS MMSCF m³10³	OIL BBLS m³	WATER BBLS m³		
25 th JANUARY 1994															
14:00	30	7205	Q												
18:00	34	7239													
26 th JANUARY 1994															
06:00	46	7522													
10:00	50	7530													
14:00	54	7540													
18:00	58	7570													
27 th JANUARY 1994															
06:00	70	7770													
10:00	74	7820													
14:00	78	7870													
18:00	82	7860													
28 th JANUARY 1994															
06:00	94	7960													
08:00		7970				PULL OUT OF HOLE									
08:23		7960				ARRIVE • SURFACE WITH GAUGES • DEPRESSURE LUBRICATOR.									
09:23		7960				PRESSURE LUBRICATOR.									
10:23		7960				DEPRESSURE LUBRICATOR • RECORDER CHARTS - CHARTS OK - BHPS COMPLETE.									
10:38						PREPARE 2x3000 PSI GAUGES • 1x MIGHT TO 3H CLOCKS									
10:45		7960	↓			GAUGES IN LUBRICATOR • PRESSURE LUBRICATOR.									
10:55		7960	0			DEPRESSURE LUBRICATOR.									

PULL OUT OF HOLE

ARRIVE SURFACE WITH GAUGES + DEPRESSURE LUBRICATOR.

PRESSURE LUBRICATOR.

DEPRESSURE LUBRICATOR + REMOVED CHARTS - CHARTS OK - R.H.P.S. COMPLETE.

PREPARE 2x3000 PSI GAUGES + 1x MIST TO 3H CLOCKS

GAUGES IN LUBRICATOR + PRESSURE LUBRICATOR.

DEPRESSURE LUBRICATOR.

000262

TEST RESULTS

CUSTOMER : SANTOS LTD.

PERFORATIONS: 8109' - 8212'

PAGE: 4 OF 4

WELL NAME: MILLINGARI # 39

FORMATION : PATCHAWAZRA

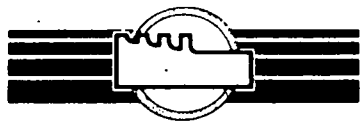
DATE: 28th JANUARY 1994

TEST TYPE : R.H.P.S. , S.G.S

OPR : B. Hull

[illegible]

EXPERTEST PTY. LTD.



BHP/BHT GAUGE RUN DATA

CUSTOMER : SANTOS LTD.

PERFORATIONS: 8109' - 8212'

PAGE: 1 OF 1

WELL NAME: DULLINGARI # 39

FORMATION : PATCHAWARRA

DATE: 23RD JANUARY 1994

TEST TYPE : B.H.P.S. & S.G.S.

OPR : B. HULL

GAUGE DATA

UPPER
PRESSURE
GAUGELOWER
PRESSURE
GAUGETEMPERATURE
GAUGE

RUN DATA

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

ELEMENT SERIAL NO.

56431

56428

DATE : 23.1.94

ELEMENT RANGE

psi

3000

3000

PRESSURE LUBRICATOR

1435

3665

0

RECORDING SECTION SERIAL NO.

14929

13029

RUN IN HOLE

16:35

3630

DATE OF CALIBRATION:

@ 290°F.

10.1.94

10.1.94

ON DEPTH AT

6177 FT/M

17:00

3620

CLOCK SERIAL NO.

3

2

DATE : 28.1.94

CLOCK RANGE

hrs

120

120

PULL OUT OF HOLE

08:00

7970

LEAD SCREW TYPE

L.T.S.

15

15

AT SURFACE

08:25

7960

DEPRESSURE LUBRICATOR

10:25

7960

0

ENGAGE STYLUS DATE 23.1.94 TIME

14:30

14:30

MAXIMUM BHT AT 6177 FT/M = 264 °F

DISENGAGE STYLUS DATE 28.1.94 TIME

10:30

10:30

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

DATE

TIME

REMARKS

SUB-SURFACE PRESSURE SURVEY

CO. SANTOS		RUN 01 FIELD DULLINGARI	WELL 39
EFF DEPTH		WELL STAT	TOOL HUNG 6177'KB
CASING	-	CASING PRESS	ON BOTTOM 1800 23/1
LINER	-	TUBING PRESS	OFF BOTTOM 0800 28/1
DATE	940124	ELEMENT RANGE 0 - 3111	ZERO POINT
ELEVATION		ZONE	SHUT-IN 0800 24/1
MAX TEMP	264	PICK-UP	ON-PROD
PERF	-	CAL SER NO. 56428	MPP
TUBING	-		
UNITS	ENGLISH	PURPOSE	BHP

SURVEY DATA

CO. SANTOS				RUN 01 FIELD DULLINGARI				WELL 39			
	TIME	P-T	DP-DT	DTIME		TIME	P-T	DP-DT	DTIME		
START Bu	8:00	445.4	445.4	.0		10:49	1212.9	1212.9	26.8		
	8:00	462.8	462.8	.0		14:07	1224.0	1224.0	30.1		
	8:00	505.8	505.8	.0		17:44	1234.2	1234.2	33.7		
	8:02	554.4	554.4	.0		21:14	1243.0	1243.0	37.2		
	8:05	607.3	607.3	.1		0:41	1252.1	1252.1	40.7		
	8:06	650.0	650.0	.1		4:19	1260.4	1260.4	44.3		
	8:08	689.8	689.8	.1		8:12	1268.9	1268.9	48.2		
	8:09	739.9	739.9	.2		12:05	1276.8	1276.8	52.1		
	8:14	785.7	785.7	.2		16:14	1285.9	1285.9	56.2		
	8:18	833.5	833.5	.3		20:33	1294.2	1294.2	60.5		
	8:22	881.9	881.9	.4		1:02	1303.0	1303.0	65.0		
	8:27	918.8	918.8	.4		4:53	1308.4	1308.4	68.9		
	8:34	953.2	953.2	.6		9:11	1315.8	1315.8	73.2		
	8:48	983.9	983.9	.8		13:03	1322.0	1322.0	77.1		
	9:02	1005.9	1005.9	1.0		17:37	1329.1	1329.1	81.6		
	9:18	1019.9	1019.9	1.3		21:58	1335.7	1335.7	86.0		
	9:37	1033.4	1033.4	1.6		2:00	1341.8	1341.8	90.0		
	10:06	1045.0	1045.0	2.1		5:54	1346.6	1346.6	93.9		
	10:45	1059.6	1059.6	2.7		8:00	1349.3	1349.3	96.0	END B/L	
	11:31	1074.0	1074.0	3.5	-	5:17	673.7	673.7	-13.3		
	12:33	1087.8	1087.8	4.5	-	3:50	661.5	661.5	-11.8		
	14:19	1105.9	1105.9	6.3	-	2:07	657.0	657.0	-10.1		
	16:00	1119.8	1119.8	8.0		0:01	648.4	648.4	-8.0		
	17:51	1132.7	1132.7	9.8		0:26	609.8	609.8	-7.6		
	19:38	1145.2	1145.2	11.6		0:50	543.0	543.0	-7.2		
	21:14	1155.1	1155.1	13.2		1:16	502.7	502.7	-6.7		
	23:22	1166.2	1166.2	15.4		1:46	466.4	466.4	-6.2		
	1:36	1179.4	1179.4	17.6		2:54	456.6	456.6	-5.1		
	4:27	1190.1	1190.1	20.5		4:07	467.0	467.0	-3.9		
	7:33	1201.5	1201.5	23.6		5:13	466.5	466.5	-2.8		

SURVEY DATA

CO. SANTOS				RUN 01 FIELD DULLINGARI			WELL 39
TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME
5:27	455.3	455.3	-2.5	7:21	445.9	445.9	-.7
6:14	447.8	447.8	-1.8	0:00	.0	.0	.0

LUBRICATOR; DWT: IN: 532 psig / OUT: 1154 psig
AMERADA: IN: 523 psig / OUT: 1155 psig

ELEMENT #56431 was also run but the clock stopped
mid-way through the build-up.

DULLINGARI #39

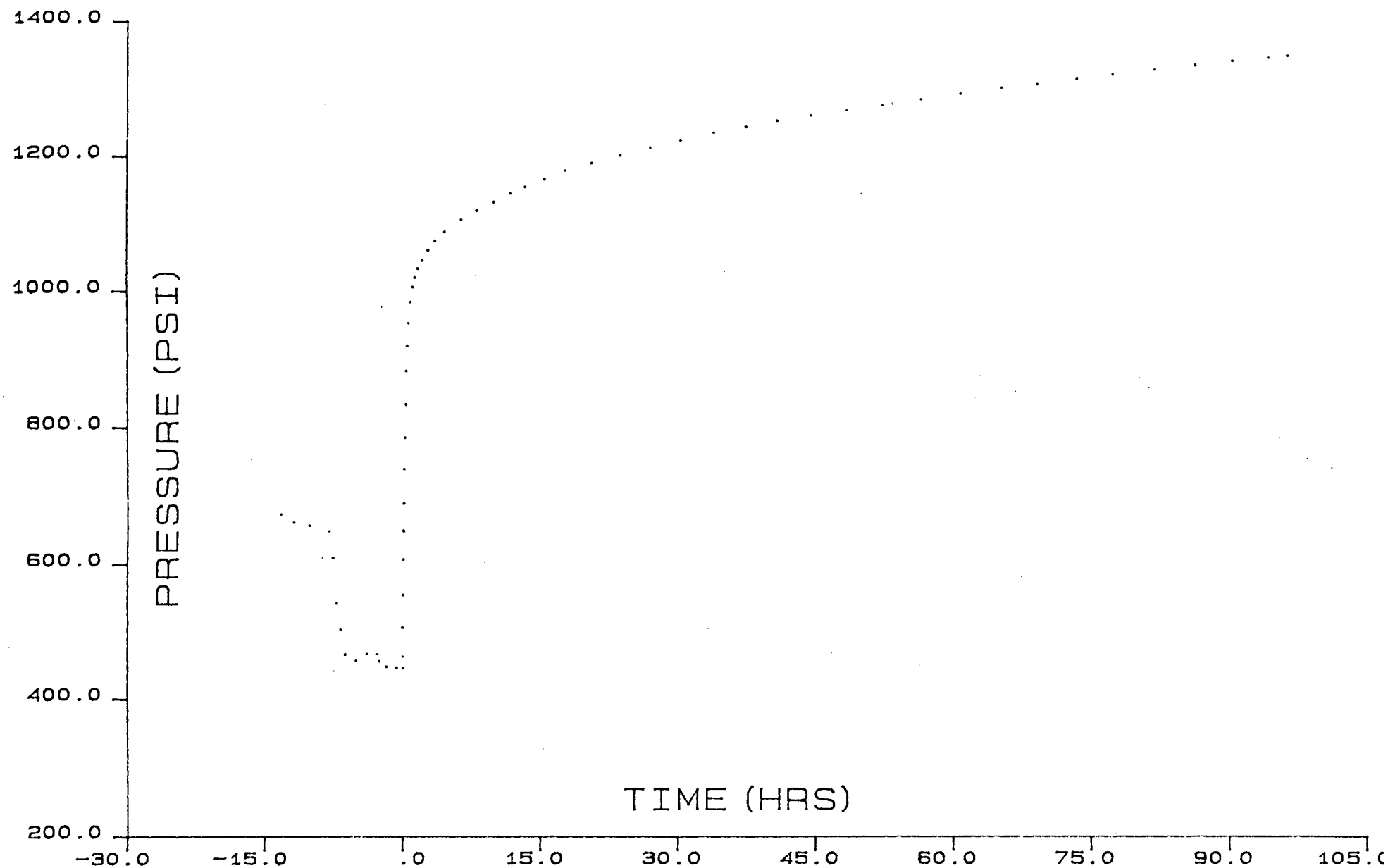
BHP

JANUARY 1994

ELEMENT #56428

@

6177'KB



000267

PERFORATIONS:	
FORMATION :	

WELL NAME: DULLINGARI # 39

	UPPER PRESSURE GAUGE	LOWER PRESSURE GAUGE
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FORMATION : PATCHAWARRA

ATURE E	RUN DATA
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DATE: 28th JANUARY 1994

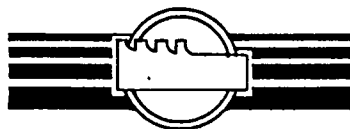
OPR : B-HULL

GAUGE DATA		UPPER PRESSURE GAUGE	LOWER PRESSURE GAUGE	TEMPERATURE GAUGE	RUN DATA	TIME (HOURS)	TUBING PRESSURE (PSI/KPa)	ANNULUS PRESSURE (PSI/KPa)
ELEMENT SERIAL NO.		56431	56428	/	DATE : 28.1.94			0
ELEMENT RANGE PSI		3000	3000		PRESSURE LUBRICATOR :	10:45	7960	↑
RECORDING SECTION SERIAL NO.		14979	13029		RUN IN HOLE :	11:00	7960	
DATE OF CALIBRATION: @ 290° F		10.1.94	10.1.94		ON DEPTH AT :	6177 FT/M	7960	
CLOCK SERIAL NO.		2489	2395		DATE : 28.1.94			
CLOCK RANGE hrs		3	3		PULL OUT OF HOLE :	12:05	7970	
LEAD SCREW TYPE L.T.S.		15	15		AT SURFACE :	12:24	7970	↓
					DEPRESSURE LUBRICATOR :	12:39	7960	0
ENGAGE STYLUS DATE 28.1.94 TIME	10:38	10:38			MAXIMUM BHT AT 6177 FT/M = 262 °F/°C			
DISENGAGE STYLUS DATE 28.1.94 TIME	12:45	12:45			N.B. ALL DEPTHS ARE MEASURED FROM K.B.			

[illegible]

EXPERTEST PTY. LTD.

STATIC PRESSURE GRADIENT SURVEY



Location: DULLINGARI #39

Tested: 28th January 1994.

Formation: PATCHAWARRA

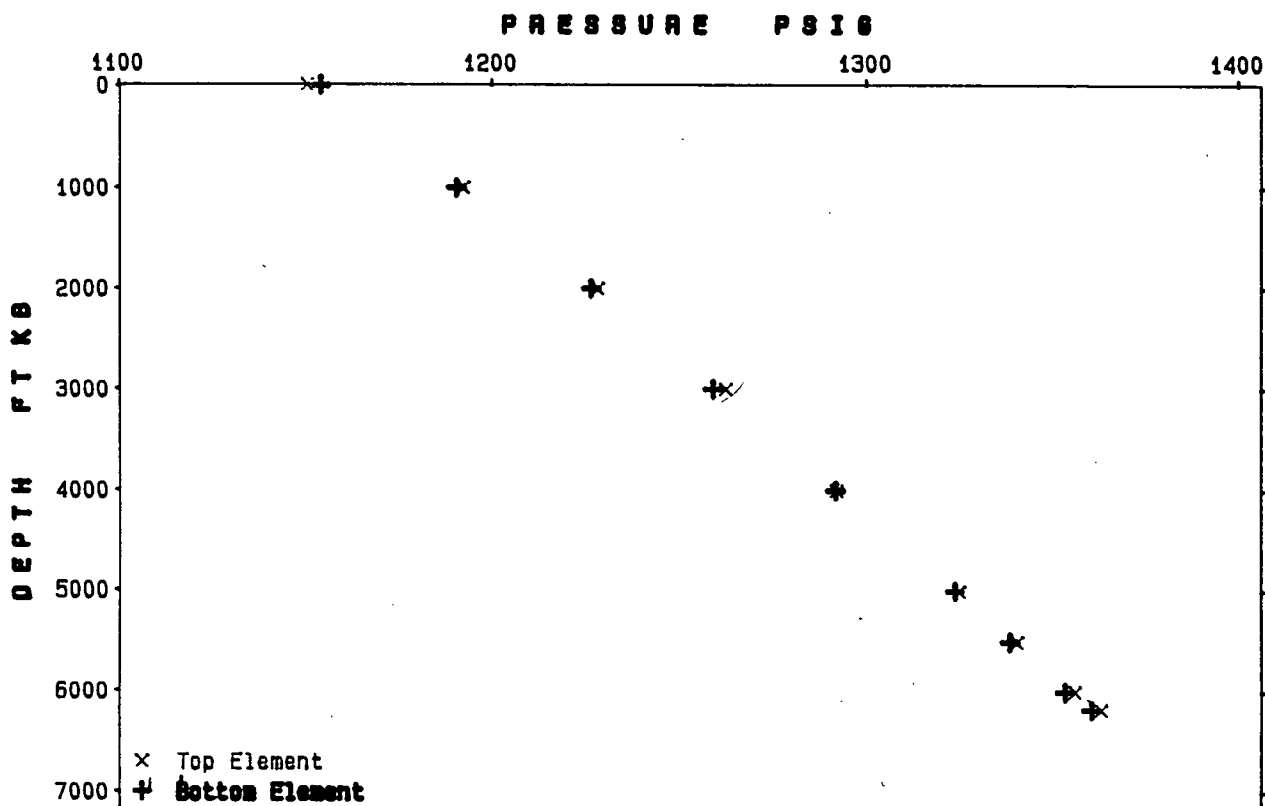
Client: SANTOS LTD.

PRESSURE ELEMENT DATA

Position	Serial No	Range	Calibrated
Top	56431	3000	10/ 1/94
Bottom	56428	3000	10/ 1/94

WELL DATA

DWT In	1154 PSIG
DWT Out	1154 PSIG
Max BHT	262 DEG F



TOP ELEMENT

BOTTOM ELEMENT

Depth FT KB	Deflection Inches	Pressure PSIG	Gradient PSI/FT	Deflection Inches	Pressure PSIG	Gradient PSI/FT
LUB.	0.7425	1150.9	-	0.7460	1154.6	-
1000	0.7690	1192.3	0.041	0.7690	1190.4	0.036
2000	0.7920	1228.1	0.036	0.7920	1226.3	0.036
3000	0.8140	1262.4	0.034	0.8130	1259.0	0.033
4000	0.8330	1292.0	0.030	0.8340	1291.7	0.033
5000	0.8540	1324.7	0.033	0.8545	1323.6	0.032
5500	0.8640	1340.3	0.031	0.8640	1338.4	0.030
6000	0.8740	1355.9	0.031	0.8735	1353.2	0.030
6177	0.8785	1362.9	0.040	0.8780	1360.3	0.040
LUB.	0.7470	1158.0	-	0.7495	1160.0	-

GENERAL REMARKS