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NUMBER 7146/2

PEL 5 AND PEL 6, MERRIMELIA-INNAMINCKA BLOCK

EROMANGA AND COOPER BASINS

NARIE 1

TEST REPORTS

Submitted by

Santos Ltd
1994

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MINES AND ENERGY
SOUTH AUSTRALIA

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ENVELOPE 7146/2

TENEMENT: PEL 5 and PEL 6, Merrimelia-Innamincka Block; Eromanga and Cooper Basins

TENEMENT HOLDER: Santos Ltd (operator), Alliance Oil Development Australia NL, Delhi Petroleum Pty Ltd, Vamgas Ltd and Sagasco Resources Ltd

CONTENTS OF VOLUME ONE

		MESA NO.
REPORTS:	**Halliburton Services, 1988.** Formation testing service report, DST 1 (28/4/88).	**7146/2 R 1** Pgs 3-30
	Halliburton Services, 1988. Formation testing service report, DST 2 (4/5/88).	**7146/2 R 2** Pgs 31-65
	Halliburton Services, 1988. Formation testing service report, DST 3 (14/9/88).	**7146/2 R 3** Pgs 66-74
	Halliburton Services, 1988. Formation testing service report, DST 4 (8/5/88).	**7146/2 R 4** Pgs 75-105
	Halliburton Services, 1989. Formation testing service report, DST 5 (17/7/89).	**7146/2 R 5** Pgs 106-117
	Halliburton Services, 1989. Formation testing service report, DST 6 (18/7/89).	**7146/2 R 6** Pgs 118-128
	Norcross, D., Metcalfe, J. and Chapman, T., 1990. Field maintenance contractor's results of the modified isochronal gas production test, 96 hour reservoir pressure buildup and static pressure gradient surveys (SGS) of the Tirrawarra Sandstone gas reservoir perforated interval 8830-8970 feet KB, conducted over the period 16-31 January 1990 (Expertest Pty Ltd).	**7146/2 R 7** Pgs 129-285

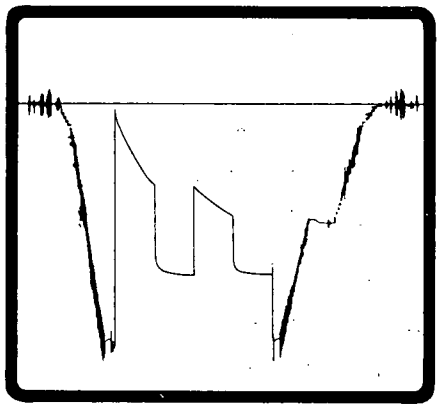
CONTENTS OF VOLUME TWO

Buckland, R., Smith, A. and Mueller, M., 1990. Field maintenance contractor's results of a sequence of variable flow rate flowing and static pressure gradient surveys of the Tirrawarra producing zone, conducted over the period 28/7 - 3/8/90 (Expertest Pty Ltd).	**7146/2 R 8** Pgs 286-302
Mueller, M., 1990. Field maintenance contractor's results of the in-line liquids evaluation test (LET) and 2-rate flowing pressure gradient surveys (FGS) of the Tirrawarra producing zone, conducted over the period 6-19/11/90 (Expertest Pty Ltd).	**7146/2 R 9** Pgs 303-354
Larkin, R., Hilder, C. and Kurasiak, I., 1990. Field maintenance contractor's results of the LET plus flowing bottomhole pressure, 176 hour reservoir pressure buildup and SGS of the Tirrawarra producing zone, conducted using a single readout gauge (SRO) over the period 7-17/12/90 (Expertest Pty Ltd).	**7146/2 R 10** Pgs 355-386

REPORTS:		MESA NO.
	Bowyer, P., 1991. Field maintenance contractor's results of the in-line LET and 4-rate FGS of the Tirrawarra producing zone, conducted over the period 14-22/12/91 (Expertest Pty Ltd).	**7146/2 R 11** Pgs 387-432
	Hull, B. and Bowyer, P., 1994. Field maintenance contractor's results of the single rate LET and FGS of the entire Tirrawarra producing zone, plus of a separate LET/FGS/SGS of the upper Tirrawarra reservoir interval 8830-8922 feet KB (i.e. isolating the lower productive sands), conducted over the period 1-3/1/94 (Expertest Pty Ltd).	**7146/2 R 12** Pgs 433-457
	Keresztesi, J. and Hahn, P., 1994. Field maintenance contractor's results of the (interrupted) SGS of the Tirrawarra producing zone (consequently split into two run intervals 8830-8850 and 8860-8790 feet KB), conducted over the period 31/1-4/2/94 (Expertest Pty Ltd).	**7146/2 R 13** Pgs 458-465
	Potter, B., 1994. Field maintenance contractor's results of the FGS of the Tirrawarra producing zone, conducted over the period 15-16/3/94 (Expertest Pty Ltd).	**7146/2 R 14** Pgs 466-468
	Taylor, S., 1994. Field maintenance contractor's results of the FGS of the Tirrawarra producing zone, conducted on 4/4/94 (Expertest Pty Ltd).	**7146/2 R 15** Pgs 469-471
	Potter, B., 1994. Field maintenance contractor's results of the incomplete (suspended) 2-rate LET and FGS of the commingled Toolachee/Patchawarra/Tirrawarra producing interval 8012-8970 feet KB, conducted over the period 17-19/8/94 (Expertest Pty Ltd).	**7146/2 R 16** Pgs 472-483
	Potter, B., 1994. Field maintenance contractor's results of the continuation of the above LET and FGS, this time addressing only the Patchawarra producing interval 8391-8719 feet KB, conducted over the period 21-24/8/94 (Expertest Pty Ltd).	**7146/2 R 17** Pgs 484-499
	Potter, B., 1994. Field maintenance contractor's results of the continuation of the above LET and FGS, this time addressing only the Toolachee producing interval 8012-8063 feet KB, plus of an associated 96 hour buildup and SGS, conducted over the period 24-27/8/94 (Expertest Pty Ltd).	**7146/2 R 18** Pgs 500-521

END OF CONTENTS

FORMATION TESTING SERVICE REPORT



HALLIBURTON
SERVICES

Duncan, Oklahoma 73536

A Halliburton Company

NOMENCLATURE

B	=	Formation Volume Factor (Res Vol / Std Vol)	——
c_t	=	System Total Compressibility	(Vol / Vol) / psi
DR	=	Damage Ratio	——
h	=	Estimated Net Pay Thickness	Ft
k	=	Permeability	md
m	=	(Liquid) Slope Extrapolated Pressure Plot	psi/cycle
		(Gas) Slope Extrapolated m(P) Plot	MM psi^2/ cp/cycle
$m(P^*)$	=	Real Gas Potential at P^*	MM psi^2/cp
$m(P_f)$	=	Real Gas Potential at P_f	MM psi^2/cp
AOF_1	=	Maximum Indicated Absolute Open Flow at Test Conditions	MCFD
AOF_2	=	Minimum Indicated Absolute Open Flow at Test Conditions	MCFD
P^*	=	Extrapolated Static Pressure	Psig
P_f	=	Final Flow Pressure	Psig
Q	=	Liquid Production Rate During Test	BPD
Q_1	=	Theoretical Liquid Production w/ Damage Removed	BPD
Q_g	=	Measured Gas Production Rate	MCFD
r_i	=	Approximate Radius of Investigation	Ft
r_w	=	Radius of Well Bore	Ft
S	=	Skin Factor	
t	=	Total Flow Time Previous to Closed-in	Minutes
Δt	=	Closed-in Time at Data Point	Minutes
T	=	Temperature Rankine	°R
ϕ	=	Porosity	——
μ	=	Viscosity of Gas or Liquid	cp
Log	=	Common Log	

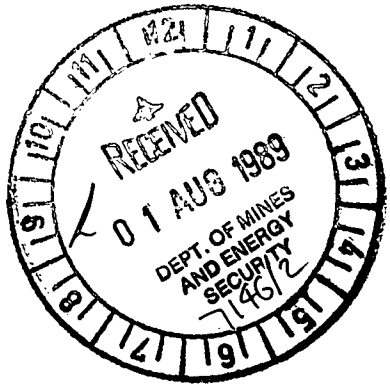
FORMATION TEST REPORT

HALLIBURTON SERVICES

A Halliburton Company

Customer: SANTOS LIMITED
Well Description: NARIE #1

TEST NO. :DST #1
TEST DATE :28-APR-88
TICKET NO. :328366



HALLIBURTON
SERVICES

REPORT TICKET NO: 328366
BT-GAUGE TICKET NO: 328366
DATE: 28 APR 88
HALLIBURTON CAMP: MOOMBA
TESTER: B. HOOVER
WITNESS:

DRILLING CONTRACTOR: ATCO RIG #1
LEGAL LOCATION: 27 46' 19.6"S
140 05' 35.6"E

OPERATOR: SANTOS LIMITED
LEASE NAME: NARIE
WELL NO: 1
TEST NO: 1
TESTED INTERVAL: 5648.00 - 5672.00 ft

FIELD AREA: COOPER BASIN
COUNTY/LSD: MOOMBA
STATE/PROVINCE: SOUTH AUSTRALIA
COUNTRY: AUSTRALIA

NOTICE: THIS REPORT IS BASED ON SOUND ENGINEERING PRACTICES, BUT BECAUSE OF VARIABLE WELL CONDITIONS AND OTHER INFORMATION WHICH MUST BE RELIED UPON HALLIBURTON MAKES NO WARRANTY, EXPRESS OR IMPLIED AS TO THE ACCURACY OF THE DATA OR OF ANY CALCULATIONS OR OPINIONS EXPRESSED HEREIN. YOU AGREE THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, WHETHER DUE TO NEGLIGENCE OR OTHERWISE ARISING OUT OF OR IN CONNECTION WITH SUCH DATA, CALCULATIONS OR OPINIONS.

TABLE OF CONTENTS

SECTION 1: TEST SUMMARY & INFORMATION

Summary of Test Results	1.1
Test Period Summary	1.2
Pressure vs. Time Plot	1.3
Test and Formation Data	1.4
Rate History Table	1.5
Tool String Configuration	1.6
Operator Job Log	1.7

SECTION 2: ANALYSIS

Plots	2.1

SECTION 3: MECHANICAL GAUGE DATA

Gauge No. 8568	3.1
Gauge No. 7900	3.2
Gauge No. 5093	3.3

Date: 28 APR 88 Ticket No: 328366 Page No: 1.1

SUMMARY OF TEST

Lease Owner: SANTOS LIMITED Lease Name: NARIE

Well No.: 1 Test No.: 1

County/LSD: MOOMBA State/Province: SOUTH AUSTRALIA

Country: AUSTRALIA

Formation Tested: NAMUR

Hole Temp: 208.00 F

Total Depth: 5672.00 ft

Net Pay: 24.00 ft

Gross Tested Interval: 5648.00 - 5672.00 ft

Perforated Interval (ft):

RECOVERY:

1368' H20

REMARKS:

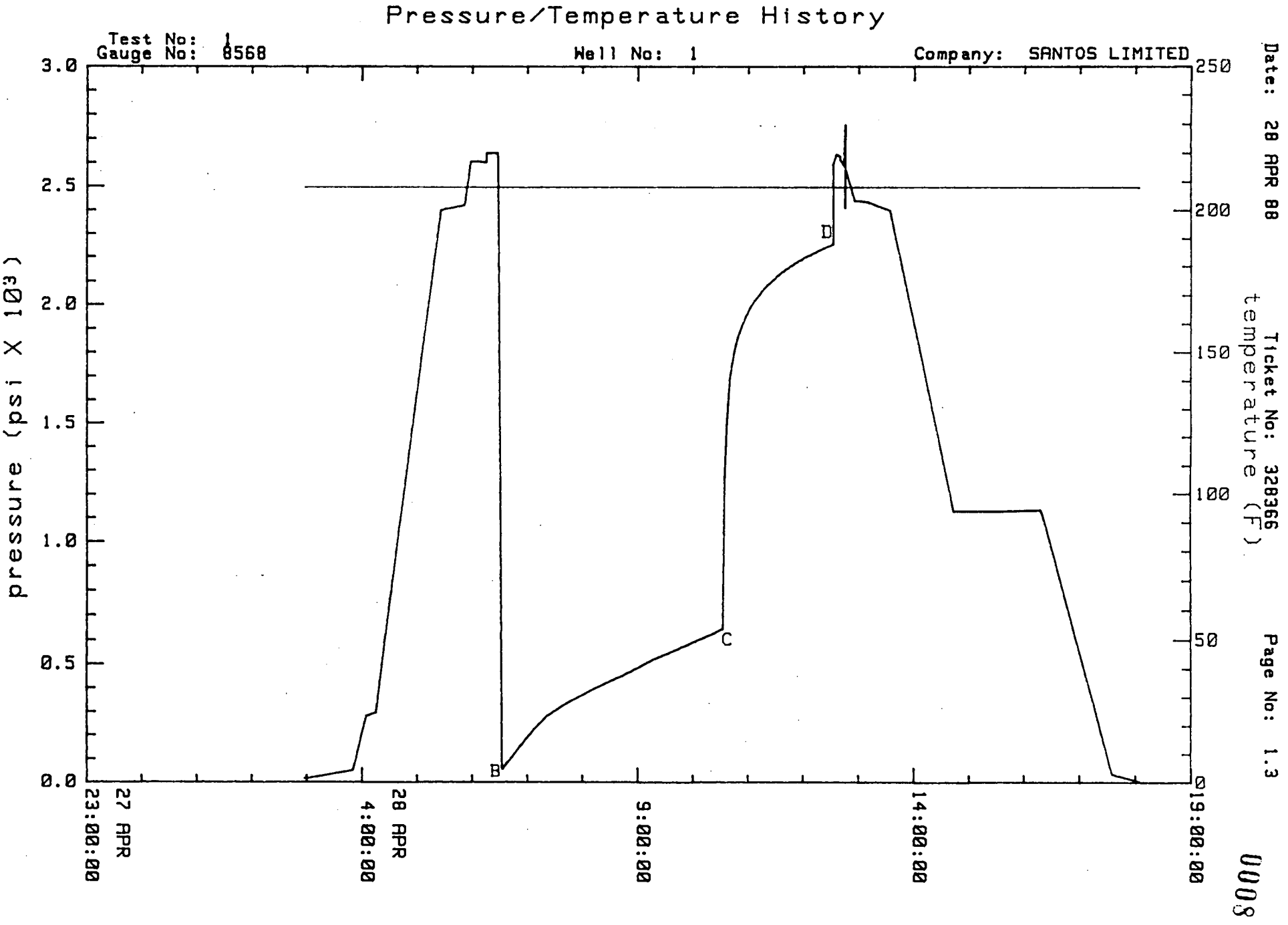
Date: 28 APR 88 Ticket No: 328366 Page No: 1.2

TEST PERIOD SUMMARY

Gauge No.: 8568 Depth: 5669.00 ft Blanked off : Yes
Hour of clock: 24

ID	PERIOD	DESCRIPTION	PRESSURE (psi)	DURATION (min)
A		Initial Hydrostatic	2635.52	
B	1	Start Draw-down	56.73	
C		End Draw-down	644.23	240.00
C	2	Start Build-up	644.23	
D		End Build-up	2252.64	120.00
E		Final Hydrostatic	2589.84	

NOTE: for Pressure vs. Time Plot, see next page.


Pressure/Temperature History
Test No: 1
Gauge No: 8568
Well No: 1
Company: SANTOS LIMITED
Date: 28 APR 88
Ticket No: 328366
Page No: 1.3
pressure (psi X 10³)
temperature (F)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
250
200
150
100
50
0
B
C
D
23:00:00
27 APR
4:00:00
28 APR
9:00:00
14:00:00
19:00:00
0008

Date: 28 APR 88 Ticket No: 328366 Page No: 1.4

TEST AND FORMATION DATA

Formation Tested: NAMUR
All Depths Measured From: K.B.
Elevation: 133.00 ft
Total Depth: 5672.00 ft
Net Pay: 24.00 ft
Hole or Casing Size: 8.500 in
Gross Tested Interval: 5648.00 - 5672.00 ft
Perforated Interval (ft):

HOLE FLUID

Type: MUD
Weight: 9.00 lb/gal
Viscosity: 39 seconds

HOLE TEMPERATURE

Depth: 5668.00 ft
Estimated: 0.00 F
Actual: 208.00 F

HYDROCARBON PROPERTIES

Oil Gravity (API): 0.0 @ 60 F
Gas/Oil ratio (ScF/STB): 0.0
Gas Gravity (SG): 0.00

CUSHION DATA

TYPE	AMOUNT	WEIGHT

FLUID PROPERTIES FOR RECOVERED MUD AND WATER

SOURCE	RESISTIVITY	CHLORIDES	SG	PH
	@ F	PPM		
	@ F	PPM		
	@ F	PPM		
	@ F	PPM		
	@ F	PPM		
	@ F	PPM		

SAMPLER DATA

Surface Pressure: 0 psi
Volume of Gas: 0 ft3
Volume of Oil: 0 cc
Volume of Water: 0 cc
Volume of Mud: 0 cc
Total Liquids: 0 cc

REMARKS:

Date:28 APR 88 Ticket no: 328366 Page no: 1.6.1

TEST STRING CONFIGURATION

	O.D. (in)	I.D. (in)	LENGTH (ft)	DEPTH (ft)
DRILL PIPE.....	4.500	3.826	5064.610	
FLEX WEIGHT.....	6.000	2.875	182.000	
DRILL COLLARS.....	6.250	2.875	269.560	
IMPACT REVERSING SUB.....	6.000	3.000	1.000	
DRILL COLLARS.....	6.250	2.875	59.650	
PUMP OUT REVERSING SUB.....	6.000	3.000	1.000	
DRILL COLLARS.....	6.250	2.875	29.440	
CROSSOVER.....	5.750		1.000	
AP RUNNING CASE.....	5.000	2.250	4.140	5604.19
CROSSOVER.....	5.000	2.200	1.000	
DUAL CIP VALVE.....	5.000	0.870	4.870	5613.86
SAMPLE CHAMBER.....	5.000	2.500	4.870	
DRAIN VALVE.....	5.000	2.200	0.860	
HYDROSPRING TESTER.....	5.000	0.750	5.310	
AP RUNNING CASE.....	5.000	2.250	4.140	5625.24
JAR.....	5.000	1.750	5.000	
VR SAFETY JOINT.....	5.000	1.000	2.700	
OPEN HOLE PACKER.....	5.000	1.530	5.810	5640.02
DISTRIBUTOR VALVE.....	5.000	1.680	2.000	
OPEN HOLE PACKER.....	5.000	1.530	5.810	5647.83
ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.300	
FLUSH JOINT ANCHOR.....	5.000	2.370	14.000	

CONTINUED

Date:28 APR 88 Ticket no: 328366 Page no: 1.6.2

TEST STRING CONFIGURATION

	O.D. (in)	I.D. (in)	LENGTH (ft)	DEPTH (ft)
BLANKED-OFF RUNNING CASE.....	5.000	2.440	4.060	5669.00
TOTAL DEPTH				5672.00

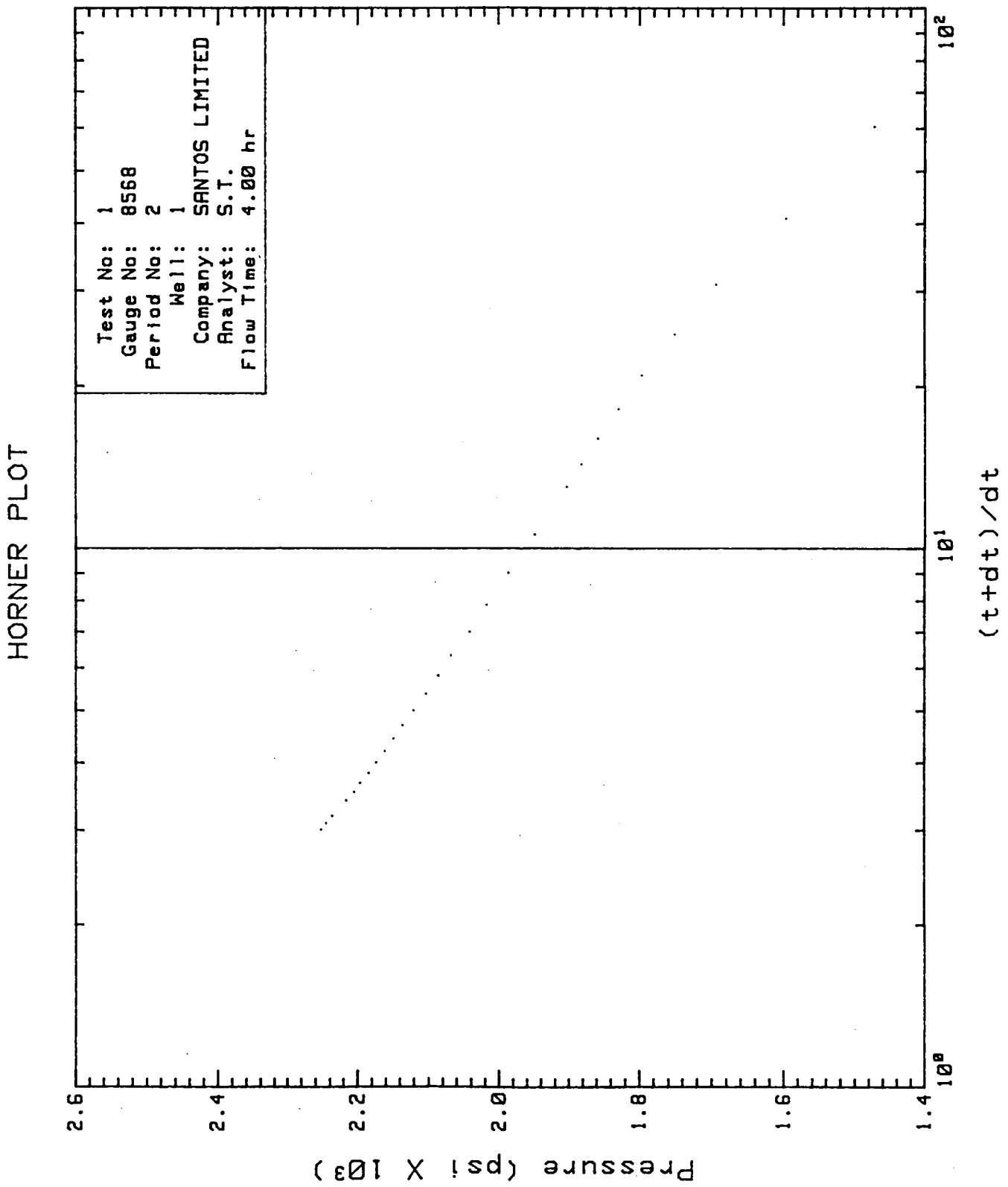
OPERATOR JOB LOG

0012

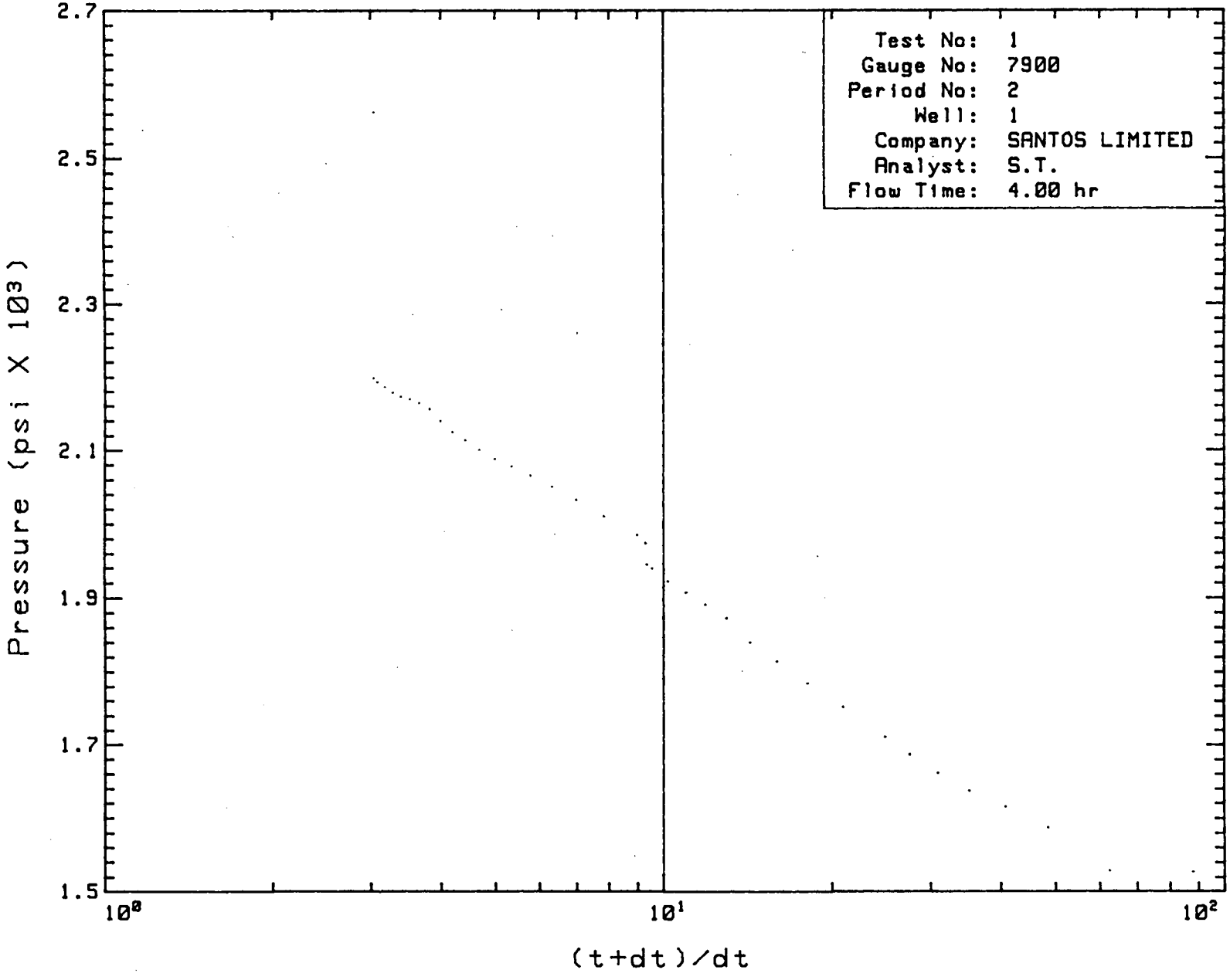
Type of Flow Measuring Device: 6" CERAMIC CHKE

TIME HH:MM:SS	CHOKE SIZE (in)	SURFACE PRESSURE (psi)	GAS RATE (MCF/D)	LIQUID RATE (bbl/d)	REMARKS
28-APR-88					
02:20:00					START MAKE UP TOOL
03:10:00					TOOLS MADE UP
03:30:00					MAKE UP TEST HEAD ON SINGLE & LAY OUT. TOOL IN HOLE
03:30:00					RIG UP TEST HEAD & CHICKSANS.
06:09:00					STRING WEIGHT 100,000#
06:09:00					SET WEIGHT ON TOOL 30,000#
06:22:00					TOOL OPEN. WEAK BLOW
06:33:00	32/64				SLIGHT INCREASE. WEAK TO MODERATE BLOW
06:39:00	32/64				WEAK TO MODERATE BLOW
06:39:00	32/64				WEAK TO MODERATE BLOW
06:45:00	32/64				WEAK TO MODERATE BLOW
06:50:00	32/64				WEAK TO MODERATE BLOW
07:00:00	32/64				WEAK TO MODERATE BLOW
07:20:00	32/64				WEAK TO MODERATE BLOW
07:40:00	32/64				WEAK TO MODERATE BLOW
08:00:00	32/64				WEAK TO MODERATE BLOW
08:20:00	32/64				WEAK TO MODERATE BLOW
08:40:00	32/64				SLIGHT DECREASE. WEAK BLOW
08:50:00	32/64				WEAK BLOW
09:10:00	32/64				WEAK BLOW
09:30:00	32/64				WEAK BLOW
10:00:00	32/64				CLOSE TOOL
10:33:00	32/64				PULL FREE. OKAY
12:33:00					BREAK DOWN TESTHEAD & CHICKSAN
12:36:00					TOOL OUT OF HOLE
17:32:00					START BREAK OUT TOOLS
17:40:00					START LAY OUT TOOLS
18:18:00					TOOLS LAYED OUT
18:45:00					

0013


HORNER PLOT
Test No: 1
Gauge No: 8568
Period No: 2
Well: 1
Company: SANTOS LIMITED
Analyst: S.T.
Flow Time: 4.00 hr
Pressure (psi X 10³)
2.6
2.4
2.2
2.0
1.8
1.6
1.4
10²
10¹
10⁰
(t+dt)/dt

HORNER PLOT



Date: 28 APR 88 Ticket No: 328366 Page No: 2.2.2

0014

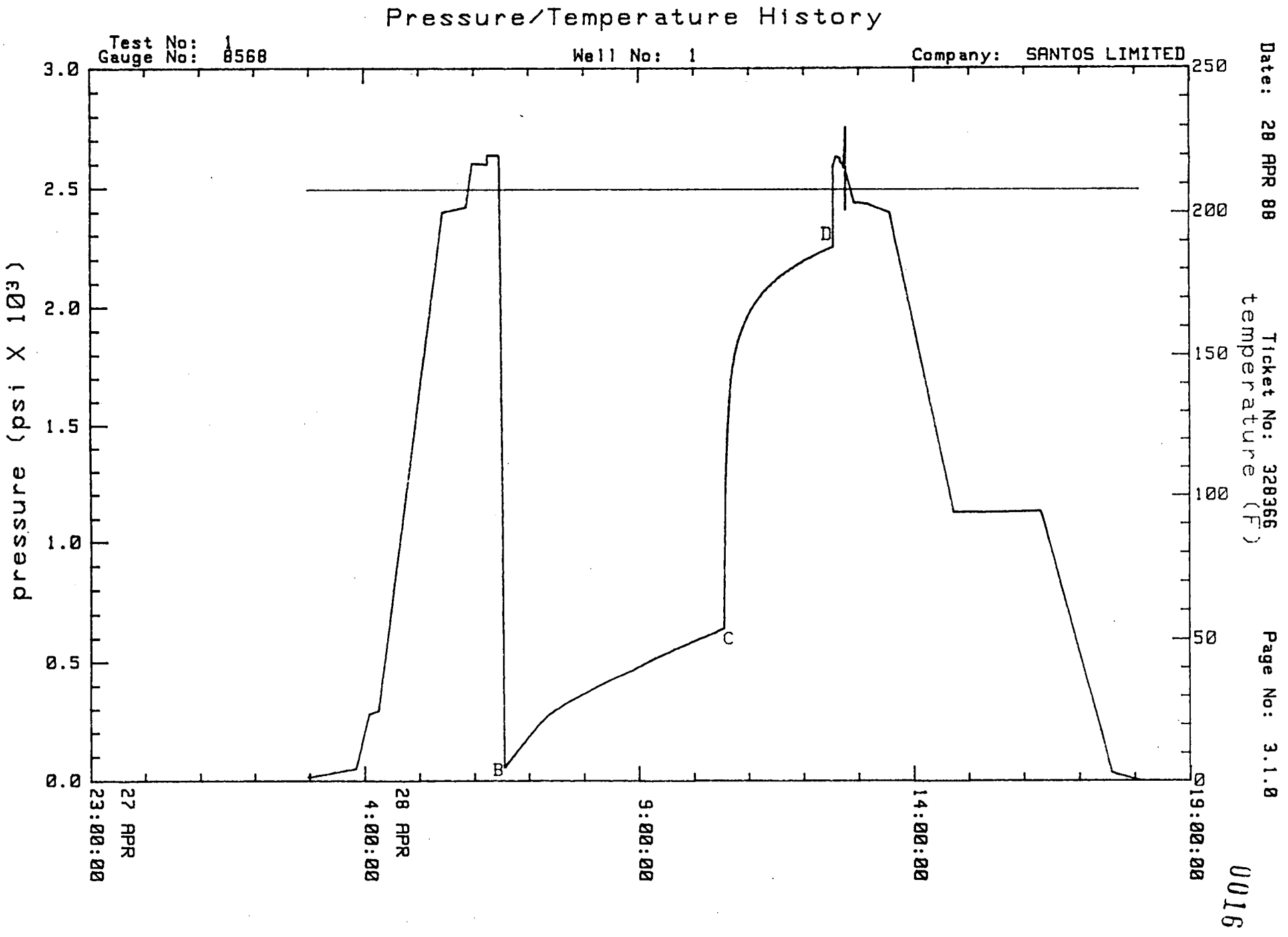
0015

TEST PERIOD SUMMARY

Gauge No.: 8568 Depth: 5669.00 ft Blanked off : Yes
Hour of clock: 24

ID	PERIOD	DESCRIPTION	PRESSURE (psi)	DURATION (min)
A		Initial Hydrostatic	2635.52	
B	1	Start Draw-down	56.73	
C		End Draw-down	644.23	240.00
C	2	Start Build-up	644.23	
D		End Build-up	2252.64	120.00
E		Final Hydrostatic	2589.84	

NOTE: for Pressure vs. Time Plot, see next page.


Pressure/Temperature History
Test No: 1
Gauge No: 8568
Well No: 1
Company: SANTOS LIMITED
Date: 28 APR 88
Ticket No: 328366
Page No: 3.1.0
pressure (psi X 10³)
temperature (F)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
250
200
150
100
50
0
B
C
D
23:00:00
27 APR
4:00:00
28 APR
9:00:00
14:00:00
19:00:00
0016

PRESSURE VS TIME

MECHANICAL gauge no.: 8568 Gauge Depth: 5669.00 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
28-APR-88		Data Print Frequency: 1		
02:20:00				START MAKE UP TOOL
02:57:54		14.309	208.0	
03:10:00				TOOLS MADE UP
03:30:00				MAKE UP TEST HEAD ON SINGLE &
03:30:00				LAY OUT. TOOL IN HOLE
03:50:25		51.533	208.0	
04:05:13		283.018	208.0	
04:15:23		296.427	208.0	
05:26:15		2399.517	208.0	
05:51:53		2420.123	208.0	
05:58:32		2602.276	208.0	
06:09:00				RIG UP TEST HEAD & CHICKSANS.
06:09:00				STRING WEIGHT 100,000#
06:15:17		2594.556	208.0	
06:15:19		2638.089	208.0	
06:22:00				SET WEIGHT ON TOOL 30,000#
06:28:05		2635.515	208.0	
06:33:00				TOOL OPEN. WEAK BLOW
		*** Start of Period 1 ***		
06:33:00	0.00	56.726	208.0	
06:34:00	1.00	57.159	208.0	
06:35:02	2.03	64.733	208.0	
06:36:01	3.02	69.710	208.0	
06:37:01	4.02	74.904	208.0	
06:38:01	5.02	81.396	208.0	
06:39:00				SLIGHT INCREASE. WEAK TO
06:39:00				MODERATE BLOW
06:43:00	10.01	103.683	208.0	
06:45:00				WEAK TO MODERATE BLOW
06:50:00				WEAK TO MODERATE BLOW
06:53:01	20.01	154.312	208.0	
07:00:00				WEAK TO MODERATE BLOW
07:03:01	30.02	201.690	208.0	
07:13:02	40.03	247.764	208.0	
07:20:00				WEAK TO MODERATE BLOW
07:23:00	50.00	284.965	208.0	
07:33:00	60.01	311.133	208.0	
07:40:00				WEAK TO MODERATE BLOW
07:43:03	70.04	335.569	208.0	
07:53:01	80.02	355.463	208.0	
08:00:00				WEAK TO MODERATE BLOW
08:03:00	90.00	374.924	208.0	
08:13:02	100.03	396.762	208.0	
08:20:00				WEAK TO MODERATE BLOW
08:23:01	110.01	414.490	208.0	
08:33:01	120.02	434.164	208.0	

Date: 28 APR 88 Ticket No: 328366 Page No: 3.1.2

PRESSURE VS TIME

MECHANICAL gauge no.: 8568 Gauge Depth: 5669.00 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
28-APR-88		Data Print Frequency: 1		
08:40:00				WEAK TO MODERATE BLOW
08:43:01	130.02	451.242	208.0	
08:50:00				SLIGHT DECREASE. WEAK BLOW
08:53:00	140.00	468.968	208.0	
09:03:00	150.00	489.286	208.0	
09:10:00				WEAK BLOW
09:13:02	160.04	509.820	208.0	
09:23:01	170.02	527.327	208.0	
09:30:00				WEAK BLOW
09:33:01	180.02	542.672	208.0	
09:43:00	190.00	560.393	208.0	
09:53:00	200.01	576.601	208.0	
10:00:00				WEAK BLOW
10:03:02	210.04	593.888	208.0	
10:13:01	220.02	610.094	208.0	
10:23:01	230.02	626.083	208.0	
10:33:00				CLOSE TOOL
10:33:00	240.00	644.232	208.0	
		*** End of Period 1 ***		
		*** Start of Period 2 ***		
10:35:01	2.02	1268.660	208.0	
10:37:02	4.03	1471.268	208.0	
10:39:01	6.02	1596.853	208.0	
10:41:02	8.04	1694.178	208.0	
10:43:01	10.02	1751.437	208.0	
10:45:02	12.04	1797.278	208.0	
10:47:00	14.00	1829.125	208.0	
10:49:01	16.01	1858.602	208.0	
10:51:00	18.00	1881.836	208.0	
10:53:01	20.02	1902.917	208.0	
10:58:00	25.00	1948.731	208.0	
11:03:00	30.01	1986.795	208.0	
11:08:01	35.02	2017.542	208.0	
11:13:02	40.03	2042.267	208.0	
11:18:03	45.04	2068.709	208.0	
11:23:01	50.02	2086.120	208.0	
11:28:00	55.00	2103.745	208.0	
11:33:01	60.02	2122.013	208.0	
11:38:02	65.03	2136.627	208.0	
11:43:02	70.04	2149.520	208.0	
11:48:01	75.02	2161.984	208.0	
11:53:00	80.00	2174.016	208.0	
11:58:01	85.01	2184.974	208.0	
12:03:01	90.02	2197.221	208.0	
12:08:02	95.03	2205.385	208.0	
12:13:01	100.02	2216.126	208.0	

Date: 28 APR 88 Ticket No: 328366 Page No: 3.1.3

PRESSURE VS TIME

MECHANICAL gauge no.: 8568 Gauge Depth: 5669.00 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
28-APR-88		Data Print Frequency: 1		
12:23:02	110.04	2235.890	208.0	
12:28:01	115.02	2244.912	208.0	
12:33:00				PULL FREE. OKAY
12:33:00	120.00	2252.644	208.0	
12:32:10	119.17	2589.837	208.0	
12:32:18	119.29	2586.620	208.0	
12:36:00				BREAK DOWN TESTHEAD & CHICKSAN
		*** End of Period 2 ***		
12:36:07		2630.584	208.0	
12:40:09		2621.792	208.0	
12:41:00		2606.780	208.0	
12:44:40		2581.687	208.0	
12:46:02		2755.134	208.0	
12:46:06		2404.883	208.0	
12:46:20		2567.531	208.0	
12:56:14		2434.933	208.0	
13:10:53		2429.352	208.0	
13:34:29		2393.936	208.0	
14:43:38		1123.298	208.0	
16:18:23		1133.005	208.0	
17:23:14		216.616	208.0	
17:32:00				TOOL OUT OF HOLE
17:35:23		32.705	208.0	
17:40:00				START BREAK OUT TOOLS
18:04:54		1.540	208.0	
18:18:00				START LAY OUT TOOLS
18:45:00				TOOLS LAYED OUT

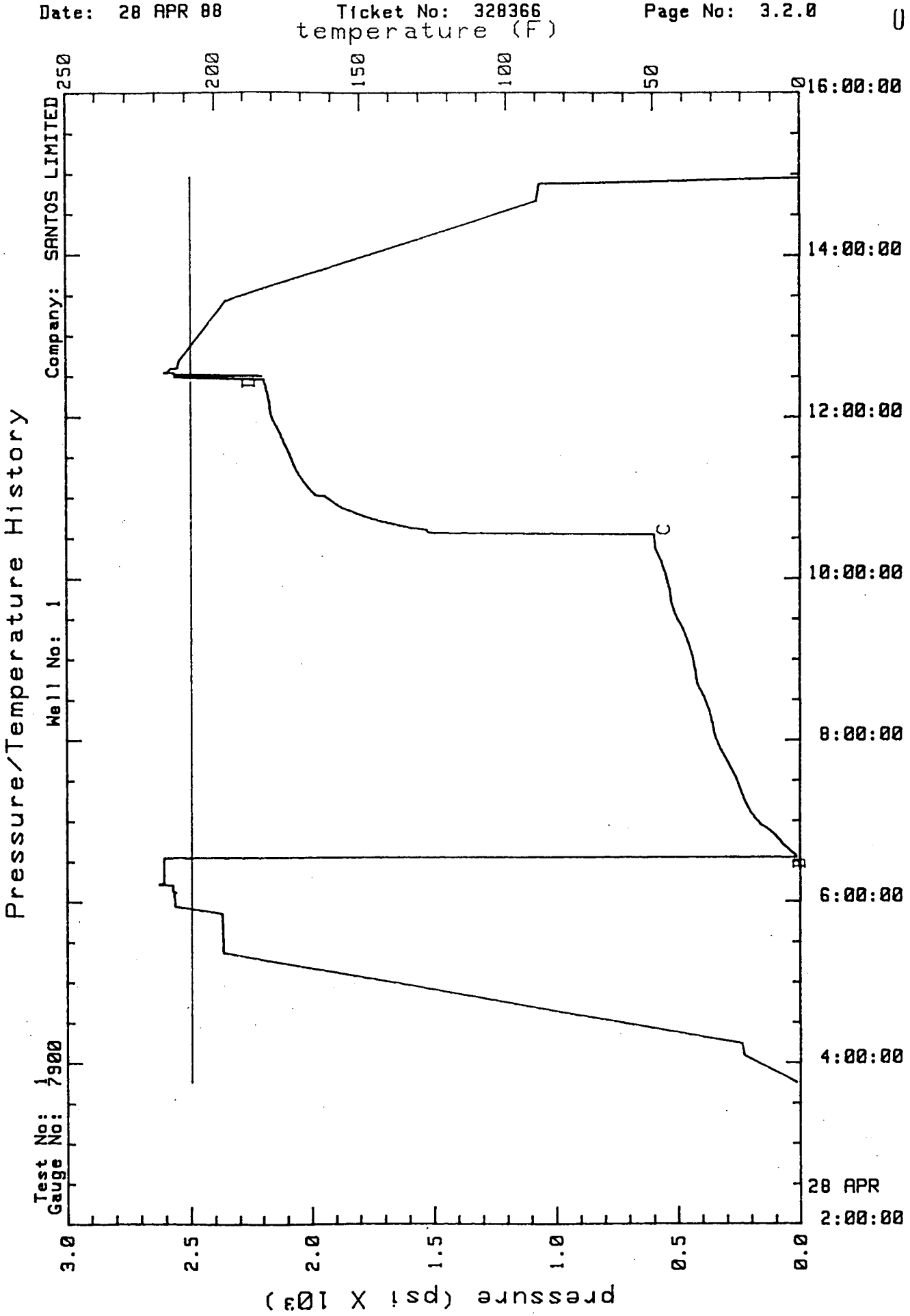
Date: 28 APR 88 Ticket No: 328366 Page No: 3.2

TEST PERIOD SUMMARY

Gauge No.: 7900 Depth: 5625.24 ft Blanked off : No
Hour of clock: 24

ID	PERIOD	DESCRIPTION	PRESSURE (psi)	DURATION (min)
A		Initial Hydrostatic	2571.19	
B	1	Start Draw-down	12.29	
C		End Draw-down	597.52	240.00
C	2	Start Build-up	597.52	
D		End Build-up	2197.77	117.89
E		Final Hydrostatic	2562.64	

NOTE: for Pressure vs. Time Plot, see next page.


temperature (F)
250
200
150
100
50
0
Company: SANTOS LIMITED
Well No: 1
Test No: 1
Gauge No: 7900
Pressure/Temperature History
16:00:00
14:00:00
12:00:00
10:00:00
8:00:00
6:00:00
4:00:00
28 APR
2:00:00
B
C
D
3.0
2.5
2.0
1.5
1.0
0.5
0.0
pressure (psi X 10³)

Date: 28 APR 88 Ticket No: 328366 Page No: 3.2.1

PRESSURE VS TIME

MECHANICAL gauge no.: 7900 Gauge Depth: 5625.24 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
28-APR-88		Data Print Frequency: 1		
02:20:00				START MAKE UP TOOL
03:10:00				TOOLS MADE UP
03:30:00				MAKE UP TEST HEAD ON SINGLE &
03:30:00				LAY OUT. TOOL IN HOLE
03:45:19		14.934	208.0	
04:05:42		231.298	208.0	
04:14:20		240.117	208.0	
05:22:33		2367.957	208.0	
05:51:46		2373.001	208.0	
05:57:02		2561.766	208.0	
06:06:39		2567.684	208.0	
06:07:15		2556.724	208.0	
06:08:32		2570.972	208.0	
06:09:00				RIG UP TEST HEAD & CHICKSANS.
06:09:00				STRING WEIGHT 100,000#
06:12:31		2571.192	208.0	
06:12:38		2572.507	208.0	
06:13:25		2627.304	208.0	
06:14:08		2605.167	208.0	
06:22:00				SET WEIGHT ON TOOL 30,000#
06:32:53		2605.167	208.0	
06:33:00				TOOL OPEN. WEAK BLOW
		*** Start of Period 1 ***		
06:33:00	0.00	12.286	208.0	
06:34:01	1.02	16.699	208.0	
06:35:00	2.01	20.229	208.0	
06:36:01	3.02	26.406	208.0	
06:37:01	4.01	35.231	208.0	
06:38:02	5.03	42.291	208.0	
06:39:00				SLIGHT INCREASE. WEAK TO
06:39:00				MODERATE BLOW
06:39:01	6.02	48.027	208.0	
06:40:00	7.01	53.763	208.0	
06:41:00	8.00	60.381	208.0	
06:42:03	9.04	68.543	208.0	
06:43:00	10.00	73.396	208.0	
06:44:01	11.02	79.131	208.0	
06:45:00				WEAK TO MODERATE BLOW
06:45:00	12.01	82.661	208.0	
06:46:00	13.00	86.852	208.0	
06:47:01	14.01	93.028	208.0	
06:48:02	15.03	97.660	208.0	
06:49:01	16.02	102.513	208.0	
06:50:00				WEAK TO MODERATE BLOW
06:50:00	17.01	106.042	208.0	
06:51:02	18.03	112.438	208.0	

PRESSURE VS TIME

MECHANICAL gauge no.: 7900 Gauge Depth: 5625.24 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
28-APR-88		Data Print Frequency: 1		
06:52:01	19.01	119.496	208.0	
06:53:00	20.00	125.231	208.0	
06:58:00	25.00	164.707	208.0	
07:00:00				WEAK TO MODERATE BLOW
07:03:00	30.00	188.082	208.0	
07:08:00	35.00	207.706	208.0	
07:13:00	40.00	221.377	208.0	
07:18:00	45.01	234.605	208.0	
07:20:00				WEAK TO MODERATE BLOW
07:23:00	50.01	244.747	208.0	
07:33:02	60.04	266.352	208.0	
07:40:00				WEAK TO MODERATE BLOW
07:43:01	70.01	294.348	208.0	
07:53:01	80.01	324.766	208.0	
08:00:00				WEAK TO MODERATE BLOW
08:03:01	90.01	349.010	208.0	
08:13:01	100.01	359.368	208.0	
08:20:00				WEAK TO MODERATE BLOW
08:23:01	110.01	372.591	208.0	
08:33:01	120.01	394.628	208.0	
08:40:00				WEAK TO MODERATE BLOW
08:43:01	130.02	421.952	208.0	
08:50:00				SLIGHT DECREASE. WEAK BLOW
08:53:01	140.02	429.223	208.0	
09:03:01	150.02	440.240	208.0	
09:10:00				WEAK BLOW
09:13:01	160.02	457.645	208.0	
09:23:01	170.02	479.676	208.0	
09:30:00				WEAK BLOW
09:33:01	180.02	509.196	208.0	
09:43:01	190.02	528.360	208.0	
09:53:01	200.02	534.968	208.0	
10:00:00				WEAK BLOW
10:03:02	210.03	548.624	208.0	
10:13:00	220.00	565.803	208.0	
10:23:00	230.00	590.910	208.0	
10:33:00				CLOSE TOOL
10:33:00	240.00	597.517	208.0	
		*** End of Period 1 ***		
		*** Start of Period 2 ***		
10:34:01	1.02	1491.378	208.0	
10:34:44	1.74	1519.936	208.0	
10:35:45	2.75	1526.746	208.0	
10:36:54	3.89	1528.723	208.0	
10:38:02	5.03	1586.712	208.0	
10:39:01	6.02	1615.044	208.0	

Date: 28 APR 88 Ticket No: 328366 Page No: 3.2.3

PRESSURE VS TIME

MECHANICAL gauge no.: 7900 Gauge Depth: 5625.24 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
28-APR-88		Data Print Frequency: 1		
10:40:00	7.01	1637.006	208.0	
10:41:00	8.00	1661.163	208.0	
10:42:01	9.01	1686.635	208.0	
10:43:00	10.00	1710.350	208.0	
10:45:00	12.01	1751.189	208.0	
10:47:01	14.01	1783.682	208.0	
10:49:01	16.02	1813.539	208.0	
10:51:02	18.03	1839.661	208.0	
10:53:00	20.00	1871.490	208.0	
10:55:01	22.01	1890.366	208.0	
10:57:01	24.01	1906.608	208.0	
10:59:01	26.02	1921.971	208.0	
11:01:02	28.03	1939.090	208.0	
11:01:43	28.72	1944.357	208.0	
11:01:54	28.90	1973.325	208.0	
11:03:02	30.03	1984.297	208.0	
11:08:02	35.03	2009.972	208.0	
11:13:02	40.03	2031.914	208.0	
11:18:02	45.04	2050.784	208.0	
11:23:00	50.01	2065.704	208.0	
11:28:00	55.01	2077.771	208.0	
11:33:00	60.01	2087.644	208.0	
11:38:00	65.01	2100.369	208.0	
11:43:01	70.01	2113.971	208.0	
11:48:01	75.01	2124.941	208.0	
11:53:02	80.04	2139.639	208.0	
11:58:02	85.04	2155.434	208.0	
12:03:02	90.04	2163.989	208.0	
12:08:03	95.04	2169.473	208.0	
12:13:03	100.04	2172.544	208.0	
12:18:03	105.04	2178.467	208.0	
12:23:03	110.04	2186.144	208.0	
12:28:01	115.01	2193.163	208.0	
12:30:25	117.41	2561.547	208.0	
12:30:53	117.89	2197.770	208.0	
		*** End of Period 2 ***		
12:32:14		2562.643	208.0	
12:33:00				PULL FREE. OKAY
12:33:17		2562.643	208.0	
12:33:26		2602.098	208.0	
12:33:44		2584.343	208.0	
12:36:00				BREAK DOWN TESTHEAD & CHICKSAN
12:36:19		2574.699	208.0	
12:36:38		2545.545	208.0	
12:42:05		2539.626	208.0	
13:26:15		2349.976	208.0	

PRESSURE VS TIME

MECHANICAL gauge no.: 7900 Gauge Depth: 5625.24 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
28-APR-88		Data Print Frequency: 1		
14:40:13		1071.771	208.0	
14:52:49		1061.434	208.0	
14:57:33		4.784	208.0	
17:32:00				TOOL OUT OF HOLE
17:40:00				START BREAK OUT TOOLS
18:18:00				START LAY OUT TOOLS
18:45:00				TOOLS LAYED OUT

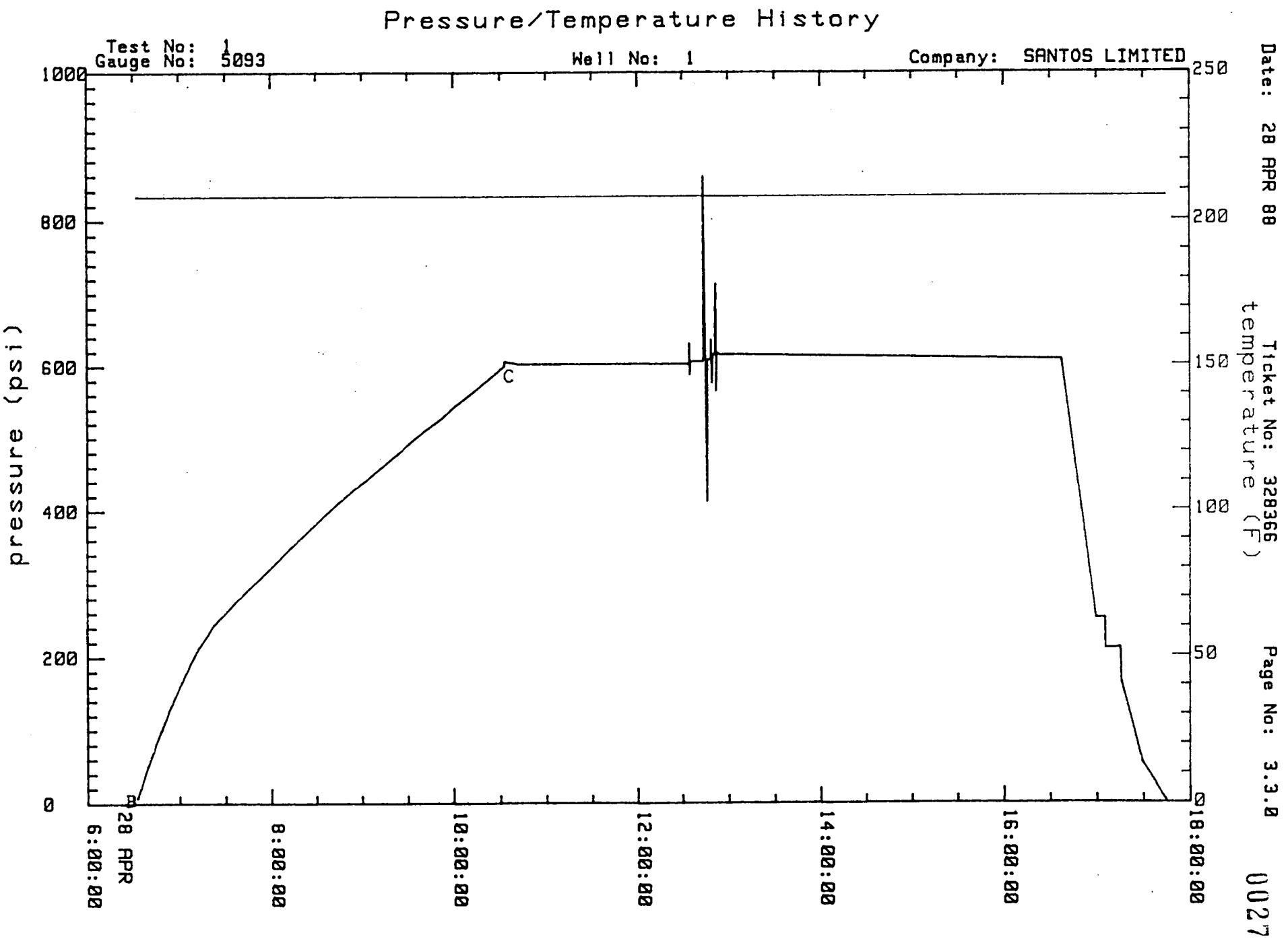
0026

TEST PERIOD SUMMARY

Gauge No.: 5093 Depth: 5604.19 ft Blanked off : No
Hour of clock: 24

ID	PERIOD	DESCRIPTION	PRESSURE (psi)	DURATION (min)
A		Initial Hydrostatic	2635.52	
B	1	Start Draw-down	6.40	
C		End Draw-down	599.54	240.00
D		Final Hydrostatic	2589.84	

NOTE: for Pressure vs. Time Plot, see next page.


Pressure/Temperature History
Test No: 1
Gauge No: 5093
Well No: 1
Company: SANTOS LIMITED
Date: 28 APR 88
Ticket No: 328366
Page No: 3.3.0
0027
pressure (psi)
temperature (F)
1000
800
600
400
200
0
250
200
150
100
50
0
B
C
28 APR
6:00:00
8:00:00
10:00:00
12:00:00
14:00:00
16:00:00
18:00:00

0028

PRESSURE VS TIME

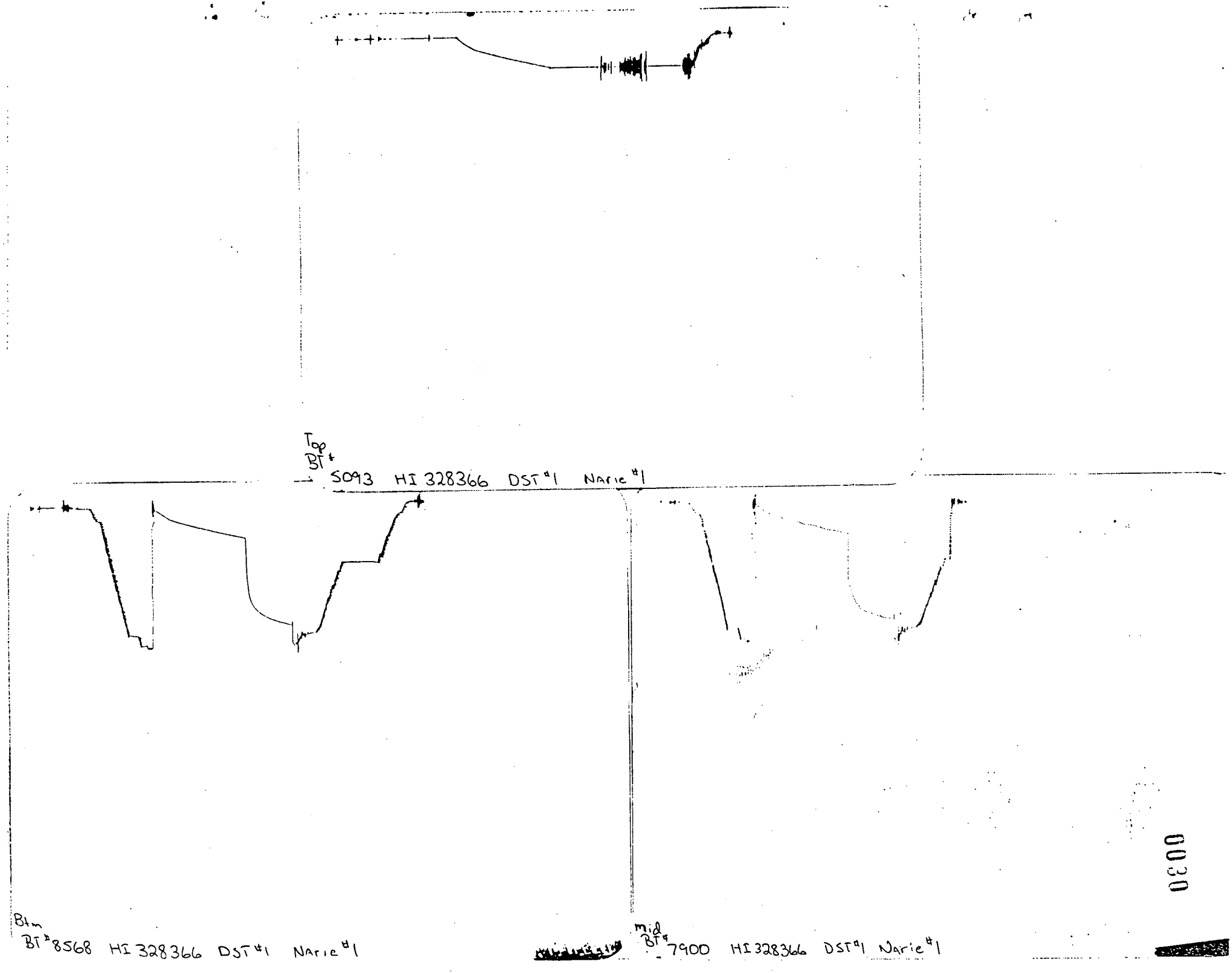
MECHANICAL gauge no.: 5093 Gauge Depth: 5604.19 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
28-APR-88		Data Print Frequency: 1		
02:20:00				START MAKE UP TOOL
03:10:00				TOOLS MADE UP
03:30:00				MAKE UP TEST HEAD ON SINGLE &
03:30:00				LAY OUT. TOOL IN HOLE
06:09:00				RIG UP TEST HEAD & CHICKSANS.
06:09:00				STRING WEIGHT 100,000#
06:22:00				SET WEIGHT ON TOOL 30,000#
06:32:47		7.483	208.0	
06:33:00				TOOL OPEN. WEAK BLOW
		*** Start of Period 1 ***		
06:33:00	0.00	6.402	208.0	
06:39:00				SLIGHT INCREASE. WEAK TO
06:39:00				MODERATE BLOW
06:39:58	6.96	50.506	208.0	
06:45:00				WEAK TO MODERATE BLOW
06:48:32	15.53	98.919	208.0	
06:50:00				WEAK TO MODERATE BLOW
06:54:55	21.91	133.057	208.0	
07:00:00				WEAK TO MODERATE BLOW
07:01:51	28.84	165.458	208.0	
07:09:23	36.38	197.204	208.0	
07:13:02	40.04	212.103	208.0	
07:20:00				WEAK TO MODERATE BLOW
07:23:00	50.00	243.838	208.0	
07:33:01	60.02	266.070	208.0	
07:40:00				WEAK TO MODERATE BLOW
07:43:02	70.03	287.436	208.0	
07:53:01	80.02	307.503	208.0	
08:00:00				WEAK TO MODERATE BLOW
08:03:00	90.01	327.567	208.0	
08:13:02	100.03	348.923	208.0	
08:20:00				WEAK TO MODERATE BLOW
08:23:01	110.01	368.549	208.0	
08:33:02	120.03	388.173	208.0	
08:40:00				WEAK TO MODERATE BLOW
08:43:03	130.05	408.010	208.0	
08:50:00				SLIGHT DECREASE. WEAK BLOW
08:53:02	140.04	425.904	208.0	
09:03:01	150.02	441.855	208.0	
09:10:00				WEAK BLOW
09:13:01	160.01	459.314	208.0	
09:23:00	170.00	476.770	208.0	
09:30:00				WEAK BLOW
09:33:01	180.02	495.516	208.0	
09:43:02	190.03	512.752	208.0	
09:53:01	200.02	528.047	208.0	

PRESSURE VS TIME

MECHANICAL gauge no.: 5093 Gauge Depth: 5604.19 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
28-APR-88		Data Print Frequency: 1		
10:00:00				WEAK BLOW
10:03:00	210.01	547.002	208.0	
10:13:02	220.03	563.800	208.0	
10:23:01	230.01	581.027	208.0	
10:33:00				CLOSE TOOL
10:33:00	240.00	599.544	208.0	
		*** End of Period 1 ***		
10:33:07		605.357	208.0	
10:43:01		601.697	208.0	
12:33:00				PULL FREE. OKAY
12:34:44		601.051	208.0	
12:34:58		630.113	208.0	
12:35:23		586.841	208.0	
12:35:49		605.357	208.0	
12:36:00				BREAK DOWN TESTHEAD & CHICKSAN
12:43:54		605.572	208.0	
12:44:05		858.509	208.0	
12:46:26		411.244	208.0	
12:46:46		607.725	208.0	
12:48:42		607.725	208.0	
12:48:57		635.278	208.0	
12:49:33		575.429	208.0	
12:50:13		614.399	208.0	
12:51:26		614.399	208.0	
12:52:08		712.957	208.0	
12:52:20		564.231	208.0	
12:52:51		617.628	208.0	
12:54:31		614.614	208.0	
16:37:43		606.649	208.0	
16:59:43		250.746	208.0	
17:05:27		250.746	208.0	
17:05:43		208.864	208.0	
17:15:33		211.024	208.0	
17:15:57		164.810	208.0	
17:29:39		53.965	208.0	
17:32:00				TOOL OUT OF HOLE
17:40:00				START BREAK OUT TOOLS
17:45:00		1.861	208.0	
18:18:00				START LAY OUT TOOLS
18:45:00				TOOLS LAYED OUT


Top
BT
5093 HI 328366 DST #1 Narie #1
Btm
BT 8568 HI 328366 DST #1 Narie #1
mid
BT 7900 HI 328366 DST #1 Narie #1
0030

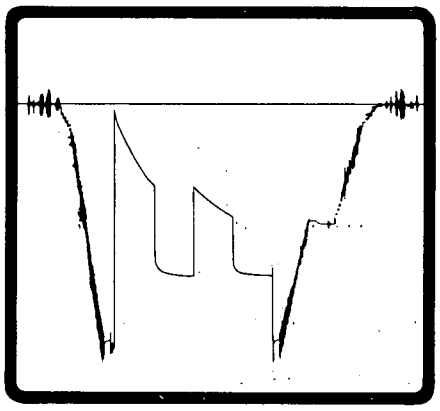
EQUATIONS FOR DST LIQUID WELL ANALYSIS

Transmissibility	$\frac{kh}{\mu} = \frac{162.6\ QB}{m}$	$\frac{\text{md-ft}}{\text{cp}}$
Indicated Flow Capacity	$kh = \frac{kh}{\mu}\ \mu$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151\left[\frac{P^* - P_f}{m} - \text{LOG}\left(\frac{k(t/60}{\phi\ \mu\ c_t r_w^2}\right) + 3.23\right]$	—
Damage Ratio	$DR = \frac{P^* - P_f}{P^* - P_f - 0.87\ mS}$	—
Theoretical Potential w / Damage Removed	$Q_1 = Q\ DR$	BPD
Approx. Radius of Investigation	$r_i = 0.032\sqrt{\frac{k(t/60)}{\phi\mu c_t}}$	ft

EQUATIONS FOR DST GAS WELL ANALYSIS

Indicated Flow Capacity	$kh = \frac{1637\ Q_g\ T}{m}$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151\left[\frac{m(P^*) - m(P_f)}{m} - \text{LOG}\left(\frac{k(t/60)}{\phi\ \mu\ c_t r_w^2}\right) + 3.23\right]$	—
Damage Ratio	$DR = \frac{m(P^*) - m(P_f)}{m(P^*) - m(P_f) - 0.87\ mS}$	—
Indicated Flow Rate (Maximum)	$AOF_1 = \frac{Q_g\ m(P^*)}{m(P^*) - m(P_f)}$	MCFD
Indicated Flow Rate (Minimum)	$AOF_2 = Q_g\sqrt{\frac{m(P^*)}{m(P^*) - m(P_f)}}$	MCFD
Approx. Radius of Investigation	$r_i = 0.032\sqrt{\frac{k(t/60)}{\phi\mu c_t}}$	ft

FORMATION TESTING SERVICE REPORT



HALLIBURTON
SERVICES

Duncan, Oklahoma 73536

A Halliburton Company

NOMENCLATURE

B	=	Formation Volume Factor (Res Vol / Std Vol)	——
c_t	=	System Total Compressibility	(Vol / Vol) / psi
DR	=	Damage Ratio	——
h	=	Estimated Net Pay Thickness	Ft
k	=	Permeability	md
m	=	(Liquid) Slope Extrapolated Pressure Plot	psi/cycle
		(Gas) Slope Extrapolated m(P) Plot	MM psi^2/ cp/cycle
$m(P^*)$	=	Real Gas Potential at P^*	MM psi^2/cp
$m(P_f)$	=	Real Gas Potential at P_f	MM psi^2/cp
AOF_1	=	Maximum Indicated Absolute Open Flow at Test Conditions	MCFD
AOF_2	=	Minimum Indicated Absolute Open Flow at Test Conditions	MCFD
P^*	=	Extrapolated Static Pressure	Psig
P_f	=	Final Flow Pressure	Psig
Q	=	Liquid Production Rate During Test	BPD
Q_1	=	Theoretical Liquid Production w/ Damage Removed	BPD
Q_g	=	Measured Gas Production Rate	MCFD
r_i	=	Approximate Radius of Investigation	Ft
r_w	=	Radius of Well Bore	Ft
S	=	Skin Factor	
t	=	Total Flow Time Previous to Closed-in	Minutes
Δt	=	Closed-in Time at Data Point	Minutes
T	=	Temperature Rankine	°R
ϕ	=	Porosity	——
μ	=	Viscosity of Gas or Liquid	cp
Log	=	Common Log	

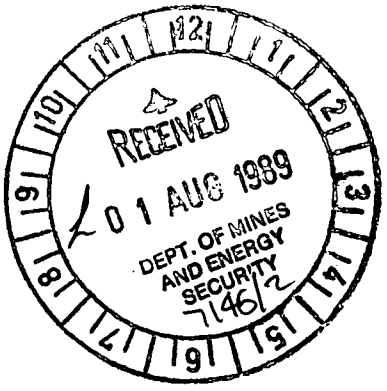
FORMATION TEST REPORT

HALLIBURTON SERVICES

A Halliburton Company

Customer: SANTOS LIMITED
Well Description: NARIE #1

TEST NO. :DST #2
TEST DATE :04-MAY-88
TICKET NO. :328368



HALLIBURTON
SERVICES

REPORT TICKET NO: 328368
BT-GAUGE TICKET NO: 328368
DATE: 04 MAY 88
HALLIBURTON CAMP: MOOMBA
TESTER: B. HOOVER
WITNESS:

DRILLING CONTRACTOR: ATCO RIG #1
LEGAL LOCATION: 27 46' 19.6"S
140 05' 35.6E

OPERATOR: SANTOS LIMITED
LEASE NAME: NARIE
WELL NO: 1
TEST NO: 2
TESTED INTERVAL: 7990.00 - 8201.00 ft

FIELD AREA: COOPER BASIN
COUNTY/LSD: MOOMBA
STATE/PROVINCE: SOUTH AUSTRALIA
COUNTRY: AUSTRALIA

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TABLE OF CONTENTS

SECTION 1: TEST SUMMARY & INFORMATION

Summary of Test Results	1.1
Test Period Summary	1.2
Pressure vs. Time Plot	1.3
Test and Formation Data	1.4
Rate History Table	1.5
Tool String Configuration	1.6
Operator Job Log	1.7

SECTION 2: ANALYSIS

Plots	2.1

SECTION 3: MECHANICAL GAUGE DATA

Gauge No. 8568	3.1
Gauge No. 7900	3.2
Gauge No. 5093	3.3

Date: 04 MAY 88 Ticket No: 328368 Page No: 1.1

SUMMARY OF TEST

Lease Owner: SANTOS LIMITED

Lease Name: NARIE

Well No.: 1

Test No.: 2

County/LSD: MOOMBA

State/Province: SOUTH AUSTRALIA

Country: AUSTRALIA

Formation Tested: TOOLACHIE

Hole Temp: 234.00 F

Total Depth: 8201.00 ft

Net Pay: 211.00 ft

Gross Tested Interval: 7990.00 - 8201.00 ft

Perforated Interval (ft):

RECOVERY:

375' GAS CUT MUD
566' CONDENSATE CUT WATER
965' CONDENSATE

REMARKS:

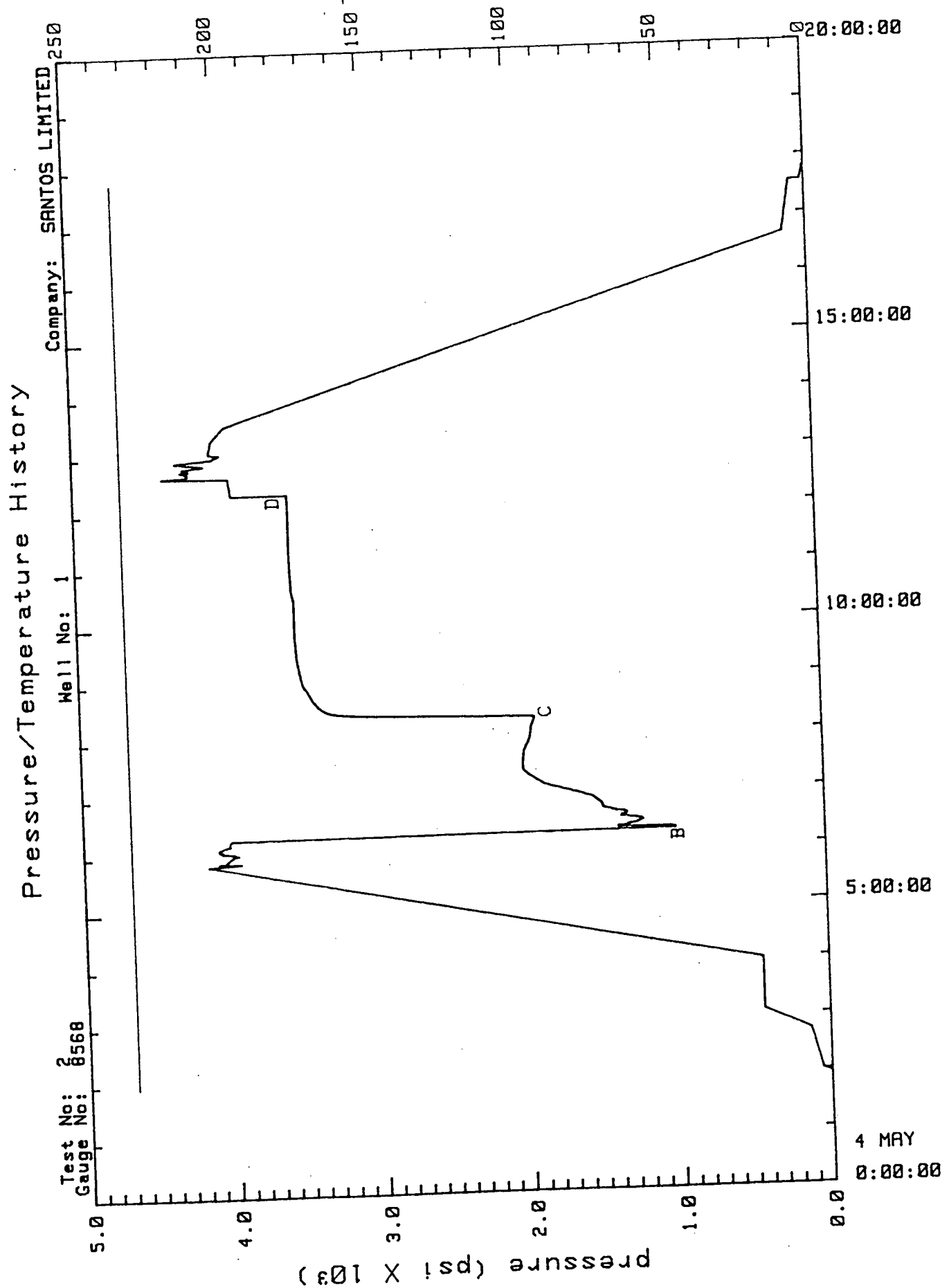
Date: 04 MAY 88 Ticket No: 328368 Page No: 1.2

TEST PERIOD SUMMARY

Gauge No.: 8568 Depth: 8198.00 ft Blanked off : Yes
Hour of clock: 24

ID	PERIOD	DESCRIPTION	PRESSURE (psi)	DURATION (min)
A		Initial Hydrostatic	3976.49	
B	1	Start Draw-down	1006.44	
C		End Draw-down	1918.00	120.64
C	2	Start Build-up	1918.00	
D		End Build-up	3558.39	240.00
E		Final Hydrostatic	3942.21	

NOTE: for Pressure vs. Time Plot, see next page.


temperature (F)
250
200
150
100
50
0
20:00:00
15:00:00
10:00:00
5:00:00
4 MAY
0:00:00
Pressure/Temperature History
Company: SANTOS LIMITED
Well No: 1
Test No: 2
Gauge No: 8568
A
B
C
D
5.0
4.0
3.0
2.0
1.0
0.0
pressure (psi X 10³)

Date: 04 MAY 88 Ticket No: 328368 Page No: 1.4

TEST AND FORMATION DATA

Formation Tested: TOOLACHIE
All Depths Measured From: K.B.
Elevation: 133.00 ft
Total Depth: 8201.00 ft
Net Pay: 211.00 ft
Hole or Casing Size: 8.500 in
Gross Tested Interval: 7990.00 - 8201.00 ft
Perforated Interval (ft):

HOLE FLUID

Type: MUD
Weight: 9.30 lb/gal
Viscosity: 39 seconds

HOLE TEMPERATURE

Depth: 8197.00 ft
Estimated: 0.00 F
Actual: 234.00 F

HYDROCARBON PROPERTIES

Oil Gravity (API): 0.0 @ 60 F
Gas/Oil ratio (ScF/STB): 0.0
Gas Gravity (SG): 0.75

CUSHION DATA

TYPE	AMOUNT	WEIGHT

FLUID PROPERTIES FOR RECOVERED MUD AND WATER

SOURCE	RESISTIVITY	CHLORIDES	SG	PH
	@ F	PPM		
	@ F	PPM		
	@ F	PPM		
	@ F	PPM		
	@ F	PPM		
	@ F	PPM		

SAMPLER DATA

Surface Pressure: 0 psi
Volume of Gas: 0 ft3
Volume of Oil: 0 cc
Volume of Water: 0 cc
Volume of Mud: 0 cc
Total Liquids: 0 cc

REMARKS:

Date:04 MAY 88 Ticket no: 328368 Page no: 1.6.1

TEST STRING CONFIGURATION

	O.D. (in)	I.D. (in)	LENGTH (ft)	DEPTH (ft)
DRILL PIPE.....	4.500	3.826	7406.280	
FLEX WEIGHT.....	4.500	2.875	182.800	
DRILL COLLARS.....	6.250	2.875	299.340	
IMPACT REVERSING SUB.....	6.000	3.000	1.000	
DRILL COLLARS.....	6.250	2.875	29.870	
PUMP OUT REVERSING SUB.....	6.000	3.000	1.000	
DRILL COLLARS.....	6.250	2.875	29.440	
CROSSOVER.....	5.750		1.000	
AP RUNNING CASE.....	5.000	2.250	4.140	7946.22
CROSSOVER.....	5.000	2.200	1.000	
DUAL CIP VALVE.....	5.000	0.870	4.870	
SAMPLE CHAMBER.....	5.000	2.500	4.870	
DRAIN VALVE.....	5.000	2.200	0.860	
HYDROSPRING TESTER.....	5.000	0.750	5.310	
AP RUNNING CASE.....	5.000	2.250	4.140	7967.27
JAR.....	5.000	1.750	5.000	
VR SAFETY JOINT.....	5.000	1.000	2.750	
OPEN HOLE PACKER.....	5.000	1.530	5.810	7982.85
DISTRIBUTOR VALVE.....	5.000	1.680	2.000	
OPEN HOLE PACKER.....	5.000	1.530	5.810	7989.86
ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.300	
CROSSOVER.....	6.000	3.000	1.000	
DRILL COLLARS.....	6.250	2.875	178.970	

CONTINUED

Date:04 MAY 88 Ticket no: 328368 Page no: 1.6.2

TEST STRING CONFIGURATION

	O.D. (in)	I.D. (in)	LENGTH (ft)	DEPTH (ft)
CROSSOVER.....	6.000	3.000	1.000	
FLUSH JOINT ANCHOR.....	5.000	2.370	20.000	
BLANKED-OFF RUNNING CASE.....	5.000	2.440	4.060	
TOTAL DEPTH				8201.00

Date: 04 MAY 88 Ticket No: 328368 Page No: 1.7.1
Test No: 2

OPERATOR JOB LOG

Type of Flow Measuring Device: 6" CERAMIC CHKE

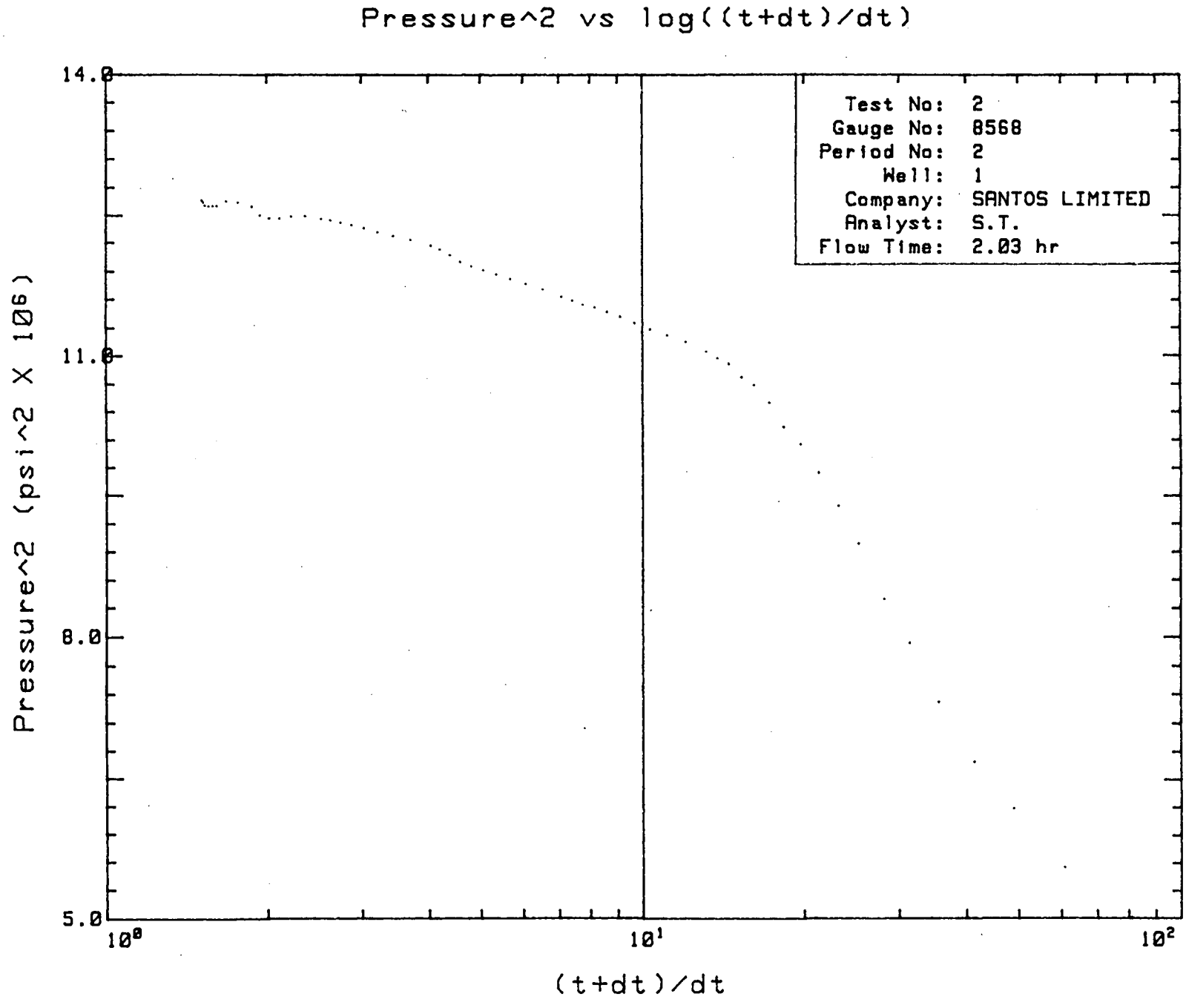
TIME HH:MM:SS	CHOKE SIZE (in)	SURFACE PRESSURE (psi)	GAS RATE (MCF/D)	LIQUID RATE (bbl/d)	REMARKS
4-MAY-88					
01:45:00					START MAKE UP TOOL
02:37:00					TOOL MADE UP
02:45:00					TOOL IN HOLE
05:55:00					RIG UP TEST HEAD & CHICKSANS.
05:55:00					STRING WEIGHT 136,000#
06:08:00					SET WEIGHT ON TOOL 42,000#
06:18:00	32/64				TOOL OPEN. WEAK TO MODERATE
06:18:00	32/64				BLOW
06:20:00	32/64				MODERATE BLOW
06:22:00	32/64	1.00			STRONG BLOW
06:25:00	32/64	2.00			STRONG BLOW
06:29:00	32/64	66.00			STRONG BLOW. GAS TO SURFACE
06:35:00	32/64	132.00			STRONG BLOW. GAS TO SURFACE
06:40:00	32/64	153.00			STRONG BLOW. GAS TO SURFACE
06:45:00	32/64	150.00			STRONG BLOW. GAS TO SURFACE
06:50:00	32/64	144.00			STRONG BLOW. GAS TO SURFACE
06:55:00	32/64	204.00			SMALL AMOUNT CONDENSATE TO
06:55:00	32/64	204.00			SURFACE
06:56:00	32/64	204.00			FLARE LINE OUT. 1/2" CHOKE
06:56:00	32/64	204.00			BLOCKED. SWITCH OVER TO 1/4"
06:56:00	32/64	204.00			CLEAN OUT 1/2". PIECE OF
06:56:00	32/64	204.00			RUBBER BLOCKING IT. SWITCH
06:56:00	32/64	204.00			BACK TO 1/2". CLOSE OFF 1/4"
07:05:00	32/64	321.00			PRESSURE FLUCTUATING 321-413
07:13:00	32/64	321.00			PRESSURE FLUCTUATING 321-413
07:13:00	32/64	413.00			MUD TO SURFACE.
07:21:00	32/64	480.00			FLARE OUT
07:25:00	32/64	500.00			FLARE OUT
07:29:00	32/64	480.00			GAS TO SURFACE
07:35:00	32/64	500.00			CONDENSATE TO SURFACE
07:40:00	32/64	520.00			GAS & CONDENSATE TO SURFACE
07:50:00	32/64	480.00			GAS & CONDENSATE TO SURFACE
08:00:00	32/64	480.00			GAS & CONDENSATE TO SURFACE
08:10:00	32/64	460.00			GAS & CONDENSATE TO SURFACE
08:15:00	32/64	460.00			GAS & CONDENSATE TO SURFACE
08:20:00					CLOSE TOOL
12:20:00					PULL FREE. OKAY. PICKED UP
12:20:00					APPROXIMATELY 12,000#
12:25:00					DROP BAR TO REVERSE
12:28:00					PIN SHEARED. START REVERSE
12:37:00					FLUID TO SURFACE. GAS &
12:37:00					CONDENSATE CUT MUDDY WATER
12:41:00					WATERY CONDENSATE
12:57:00					RIG UP TO PUMP PILL
13:19:00					RIG DOWN HEAD & CHICKSAN. LAY

Date: 04 MAY 88 Ticket No: 328368 Page No: 1.7.2
Test No: 2

OPERATOR JOB LOG

Type of Flow Measuring Device: 6" CERAMIC CHKE

TIME HH:MM:SS	CHOKE SIZE (in)	SURFACE PRESSURE (psi)	GAS RATE (MCF/D)	LIQUID RATE (bbl/d)	REMARKS
4-MAY-88					
13:19:00					OUT
13:25:00					START OUT OF HOLE WITH TOOL
16:34:00					TOOL OUT OF HOLE
16:45:00					START BREAK OUT
17:55:00					TOOL LAYED OUT



Date: 04 MAY 88 Ticket No: 328368 Page No: 2.2.1

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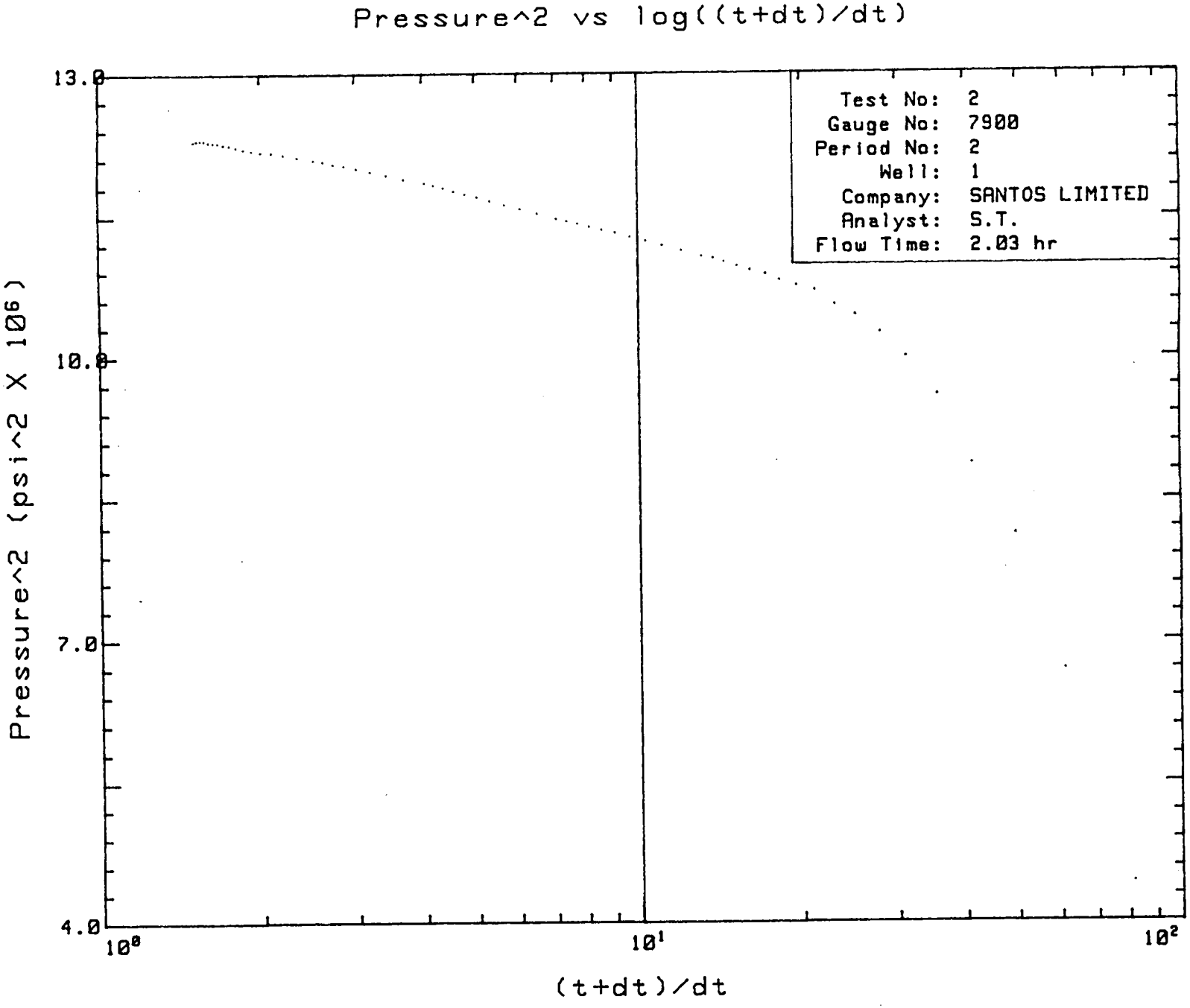


Date: 04 MAY 88 Ticket No: 328368 Page No: 2.2.2

0043

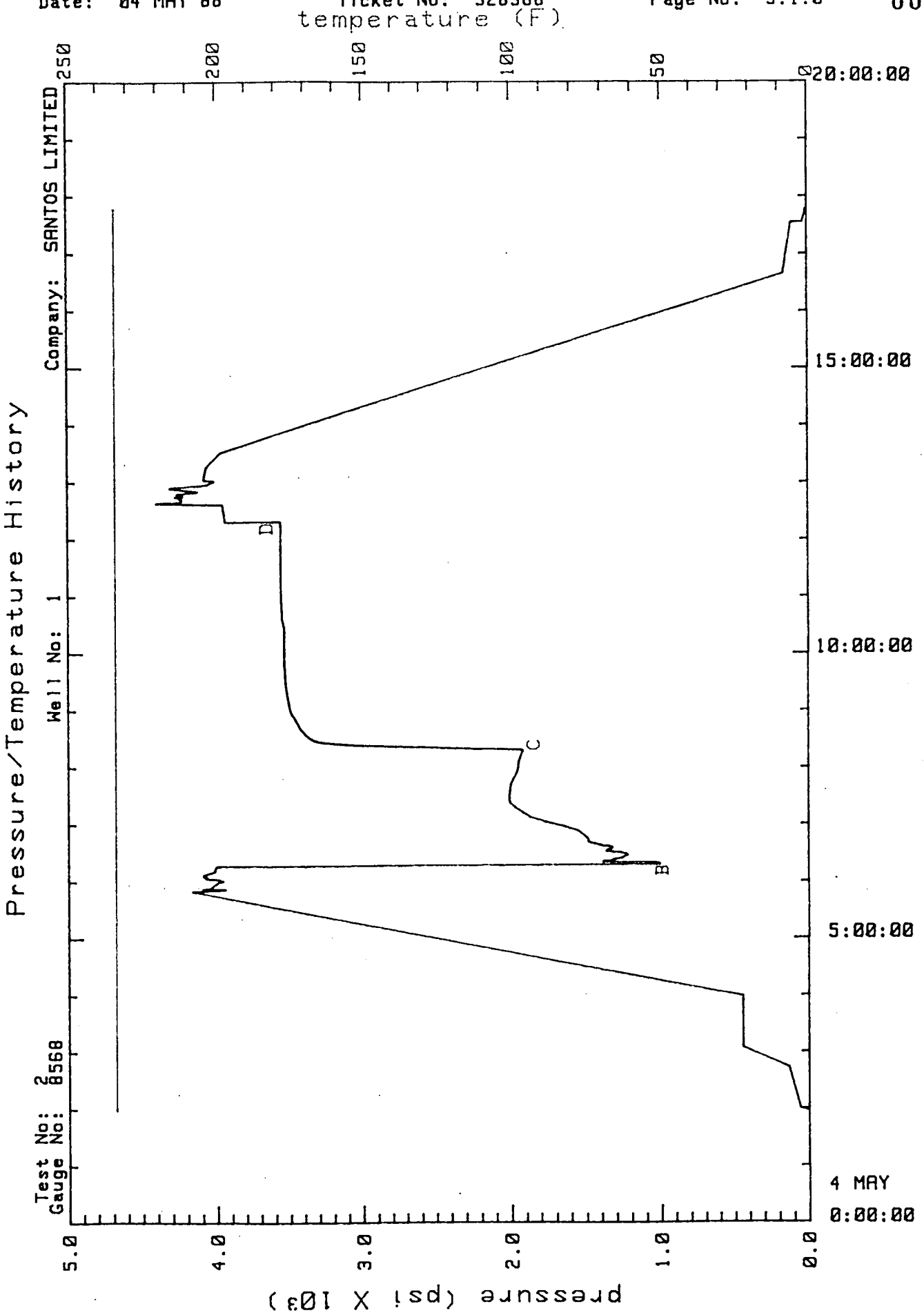
Date: 04 MAY 88 Ticket No: 328368 Page No: 3.1

TEST PERIOD SUMMARY

Gauge No.: 8568 Depth: 8198.00 ft Blanked off : Yes
Hour of clock: 24

ID	PERIOD	DESCRIPTION	PRESSURE (psi)	DURATION (min)
A		Initial Hydrostatic	3976.49	
B	1	Start Draw-down	1006.44	
C		End Draw-down	1918.00	120.64
C	2	Start Build-up	1918.00	
D		End Build-up	3558.39	240.00
E		Final Hydrostatic	3942.21	

NOTE: for Pressure vs. Time Plot, see next page.


temperature (F)
250
200
150
100
50
0
Company: SANTOS LIMITED
Well No: 1
Test No: 2
Gauge No: 8568
Pressure/Temperature History
20:00:00
15:00:00
10:00:00
5:00:00
4 MAY
0:00:00
A
B
C
D
5.0
4.0
3.0
2.0
1.0
0.0
pressure (psi X 10³)

Date: 04 MAY 88 Ticket No: 328368 Page No: 3.1.1

PRESSURE VS TIME

MECHANICAL gauge no.: 8568 Gauge Depth: 8198.00 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
4-MAY-88		Data Print Frequency: 1		
01:45:00				START MAKE UP TOOL
01:57:49		4.940	234.0	
02:00:48		59.688	234.0	
02:37:00				TOOL MADE UP
02:43:54		136.493	234.0	
02:45:00				TOOL IN HOLE
03:04:54		443.965	234.0	
03:59:01		445.910	234.0	
05:49:54		4163.493	234.0	
05:52:06		3933.058	234.0	
05:52:35		4092.458	234.0	
05:53:11		4039.482	234.0	
05:55:00				RIG UP TEST HEAD & CHICKSANS.
05:55:00				STRING WEIGHT 136,000#
06:00:32		3979.679	234.0	
06:00:50		3948.600	234.0	
06:01:31		3976.273	234.0	
06:02:19		3976.486	234.0	
06:03:40		4071.822	234.0	
06:04:53		4059.057	234.0	
06:05:22		4085.438	234.0	
06:07:15		4085.438	234.0	
06:08:00				SET WEIGHT ON TOOL 42,000#
06:11:15		4008.200	234.0	
06:16:11		3996.494	234.0	
06:18:00				TOOL OPEN. WEAK TO MODERATE
06:18:00				BLOW
		*** Start of Period 1 ***		
06:18:00	0.00	1006.438	234.0	
06:19:01	1.02	1006.438	234.0	
06:20:00				MODERATE BLOW
06:20:00	2.00	1033.833	234.0	
06:20:13	2.21	1382.387	234.0	
06:21:21	3.35	1382.387	234.0	
06:21:51	3.85	1307.842	234.0	
06:22:00				STRONG BLOW
06:22:50	4.84	1319.477	234.0	
06:24:58	6.96	1254.829	234.0	
06:25:00				STRONG BLOW
06:27:48	9.80	1216.680	234.0	
06:29:00				STRONG BLOW. GAS TO SURFACE
06:29:01	11.02	1229.397	234.0	
06:30:02	12.04	1257.416	234.0	
06:31:01	13.02	1314.091	234.0	
06:32:01	14.01	1362.137	234.0	
06:33:01	15.02	1355.674	234.0	

Date: 04 MAY 88 Ticket No: 328368 Page No: 3.1.2

PRESSURE VS TIME

MECHANICAL gauge no.: 8568 Gauge Depth: 8198.00 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
4-MAY-88		Data Print Frequency: 1		
06:34:02	16.04	1330.466	234.0	
06:35:00				STRONG BLOW. GAS TO SURFACE
06:35:00	17.00	1322.494	234.0	
06:36:02	18.04	1320.770	234.0	
06:37:00	19.00	1341.885	234.0	
06:38:01	20.01	1395.096	234.0	
06:39:00	21.00	1416.420	234.0	
06:40:00				STRONG BLOW. GAS TO SURFACE
06:40:01	22.01	1439.897	234.0	
06:41:02	23.03	1465.309	234.0	
06:42:01	24.01	1479.953	234.0	
06:43:02	25.03	1481.891	234.0	
06:44:01	26.02	1484.044	234.0	
06:45:00				STRONG BLOW. GAS TO SURFACE
06:45:00	27.00	1485.121	234.0	
06:46:01	28.02	1488.781	234.0	
06:47:02	29.03	1495.456	234.0	
06:48:01	30.02	1505.361	234.0	
06:50:00				STRONG BLOW. GAS TO SURFACE
06:53:00	35.01	1542.823	234.0	
06:55:00				SMALL AMOUNT CONDENSATE TO
06:55:00				SURFACE
06:56:00				FLARE LINE OUT. 1/2" CHOKE
06:56:00				BLOCKED. SWITCH OVER TO 1/4"
06:56:00				CLEAN OUT 1/2". PIECE OF
06:56:00				RUBBER BLOCKING IT. SWITCH
06:56:00				BACK TO 1/2". CLOSE OFF 1/4"
06:58:01	40.02	1637.747	234.0	
07:03:03	45.04	1759.739	234.0	
07:05:00				PRESSURE FLUCTUATING 321-413
07:08:02	50.03	1868.771	234.0	
07:13:00				PRESSURE FLUCTUATING 321-413
07:13:00				MUD TO SURFACE.
07:13:01	55.02	1917.788	234.0	
07:18:00	60.01	1968.943	234.0	
07:21:00				FLARE OUT
07:23:00	65.00	2001.609	234.0	
07:24:28	66.46	2006.766	234.0	
07:25:00				FLARE OUT
07:28:01	70.01	2007.411	234.0	
07:29:00				GAS TO SURFACE
07:33:00	75.00	2001.824	234.0	
07:35:00				CONDENSATE TO SURFACE
07:38:01	80.02	1997.741	234.0	
07:40:00				GAS & CONDENSATE TO SURFACE
07:43:00	85.01	1992.153	234.0	

Date: 04 MAY 88 Ticket No: 328368 Page No: 3.1.3

PRESSURE VS TIME

MECHANICAL gauge no.: 8568 Gauge Depth: 8198.00 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
4-MAY-88		Data Print Frequency: 1		
07:48:00	90.00	1979.259	234.0	
07:50:00				GAS & CONDENSATE TO SURFACE
07:53:01	95.01	1961.851	234.0	
07:58:02	100.03	1950.245	234.0	
08:00:00				GAS & CONDENSATE TO SURFACE
08:03:01	105.02	1945.301	234.0	
08:08:01	110.01	1941.002	234.0	
08:10:00				GAS & CONDENSATE TO SURFACE
08:15:00				GAS & CONDENSATE TO SURFACE
08:18:03	120.04	1916.928	234.0	
08:18:39	120.64	1918.002	234.0	
		*** End of Period 1 ***		
		*** Start of Period 2 ***		
08:19:09	0.51	1932.620	234.0	
08:19:39	1.02	2033.840	234.0	
08:20:00				CLOSE TOOL
08:20:10	1.52	2238.942	234.0	
08:20:40	2.03	2357.196	234.0	
08:21:11	2.54	2488.470	234.0	
08:21:40	3.02	2587.090	234.0	
08:22:10	3.52	2706.874	234.0	
08:22:39	4.00	2818.028	234.0	
08:23:07	4.48	2897.022	234.0	
08:23:40	5.02	2998.449	234.0	
08:24:08	5.50	3064.971	234.0	
08:24:39	6.00	3122.706	234.0	
08:25:09	6.51	3171.447	234.0	
08:25:40	7.02	3199.873	234.0	
08:26:08	7.50	3240.476	234.0	
08:26:41	8.03	3269.748	234.0	
08:27:09	8.51	3282.566	234.0	
08:27:40	9.02	3303.501	234.0	
08:28:08	9.50	3312.473	234.0	
08:28:39	10.01	3323.152	234.0	
08:29:40	11.02	3339.171	234.0	
08:30:39	12.01	3349.636	234.0	
08:31:40	13.02	3359.246	234.0	
08:32:41	14.04	3369.282	234.0	
08:33:40	15.02	3378.678	234.0	
08:34:39	16.01	3386.365	234.0	
08:35:40	17.03	3393.197	234.0	
08:36:41	18.04	3397.254	234.0	
08:37:38	19.00	3403.659	234.0	
08:38:41	20.04	3409.851	234.0	
08:40:41	22.04	3421.166	234.0	
08:42:39	24.01	3429.705	234.0	

Date: 04 MAY 88 Ticket No: 328368 Page No: 3.1.4

PRESSURE VS TIME

MECHANICAL gauge no.: 8568 Gauge Depth: 8198.00 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
4-MAY-88		Data Print Frequency: 1		
08:44:40	26.02	3436.963	234.0	
08:46:40	28.02	3444.007	234.0	
08:48:40	30.02	3451.051	234.0	
08:50:40	32.02	3457.241	234.0	
08:52:40	34.02	3464.712	234.0	
08:54:40	36.02	3475.170	234.0	
08:56:40	38.02	3483.920	234.0	
08:58:40	40.02	3489.682	234.0	
09:03:41	45.04	3498.645	234.0	
09:08:39	50.00	3504.407	234.0	
09:13:40	55.02	3510.382	234.0	
09:18:39	60.01	3516.356	234.0	
09:23:38	65.00	3521.264	234.0	
09:28:41	70.04	3525.105	234.0	
09:33:40	75.03	3528.732	234.0	
09:38:40	80.02	3530.652	234.0	
09:48:38	90.00	3535.133	234.0	
09:58:39	100.00	3533.639	234.0	
10:08:41	110.04	3530.652	234.0	
10:18:39	120.01	3531.506	234.0	
10:28:40	130.02	3535.986	234.0	
10:38:38	140.00	3549.001	234.0	
10:58:41	160.04	3554.974	234.0	
11:18:40	180.02	3557.108	234.0	
11:38:39	200.00	3549.214	234.0	
11:48:41	210.04	3549.001	234.0	
11:58:40	220.02	3549.001	234.0	
12:08:40	230.02	3550.281	234.0	
12:13:39	235.01	3555.188	234.0	
12:18:39	240.00	3558.388	234.0	
		*** End of Period 2 ***		
12:19:07		3935.187	234.0	
12:20:00				PULL FREE. OKAY. PICKED UP
12:20:00				APPROXIMATELY 12,000#
12:25:00				DROP BAR TO REVERSE
12:27:31		3942.213	234.0	
12:28:00				PIN SHEARED. START REVERSE
12:37:00				FLUID TO SURFACE. GAS &
12:37:00				CONDENSATE CUT MUDDY WATER
12:37:20		3953.283	234.0	
12:38:55		4396.393	234.0	
12:39:35		4293.581	234.0	
12:40:20		4234.501	234.0	
12:41:00				WATERY CONDENSATE
12:41:19		4222.597	234.0	
12:43:13		4225.998	234.0	

Date: 04 MAY 88 Ticket No: 328368 Page No: 3.1.5

PRESSURE VS TIME

MECHANICAL gauge no.: 8568 Gauge Depth: 8198.00 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
4-MAY-88		Data Print Frequency: 1		
12:45:44		4268.931	234.0	
12:46:16		4216.008	234.0	
12:46:36		4236.839	234.0	
12:47:33		4224.085	234.0	
12:48:41		4254.055	234.0	
12:51:23		4115.218	234.0	
12:55:21		4305.905	234.0	
12:57:00				RIG UP TO PUMP PILL
12:58:40		4053.312	234.0	
13:02:22		4003.730	234.0	
13:03:43		4075.652	234.0	
13:16:46		4056.504	234.0	
13:19:00				RIG DOWN HEAD & CHICKSAN. LAY OUT
13:25:00				START OUT OF HOLE WITH TOOL
13:31:55		3962.863	234.0	
16:34:00				TOOL OUT OF HOLE
16:39:58		155.096	234.0	
16:45:00				START BREAK OUT
17:33:15		101.446	234.0	
17:33:31		25.498	234.0	
17:47:19		4.291	234.0	
17:55:00				TOOL LAYED OUT

Date: 04 MAY 88 Ticket No: 328368 Page No: 3.1.5

PRESSURE VS TIME

MECHANICAL gauge no.: 8568 Gauge Depth: 8198.00 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
4-MAY-88		Data Print Frequency: 1		
12:45:44		4268.931	234.0	
12:46:16		4216.008	234.0	
12:46:36		4236.839	234.0	
12:47:33		4224.085	234.0	
12:48:41		4254.055	234.0	
12:51:23		4115.218	234.0	
12:55:21		4305.905	234.0	
12:57:00				RIG UP TO PUMP PILL
12:58:40		4053.312	234.0	
13:02:22		4003.730	234.0	
13:03:43		4075.652	234.0	
13:16:46		4056.504	234.0	
13:19:00				RIG DOWN HEAD & CHICKSAN. LAY OUT
13:25:00				START OUT OF HOLE WITH TOOL
13:31:55		3962.863	234.0	
16:34:00				TOOL OUT OF HOLE
16:39:58		155.096	234.0	
16:45:00				START BREAK OUT
17:33:15		101.446	234.0	
17:33:31		25.498	234.0	
17:47:19		4.291	234.0	
17:55:00				TOOL LAYED OUT

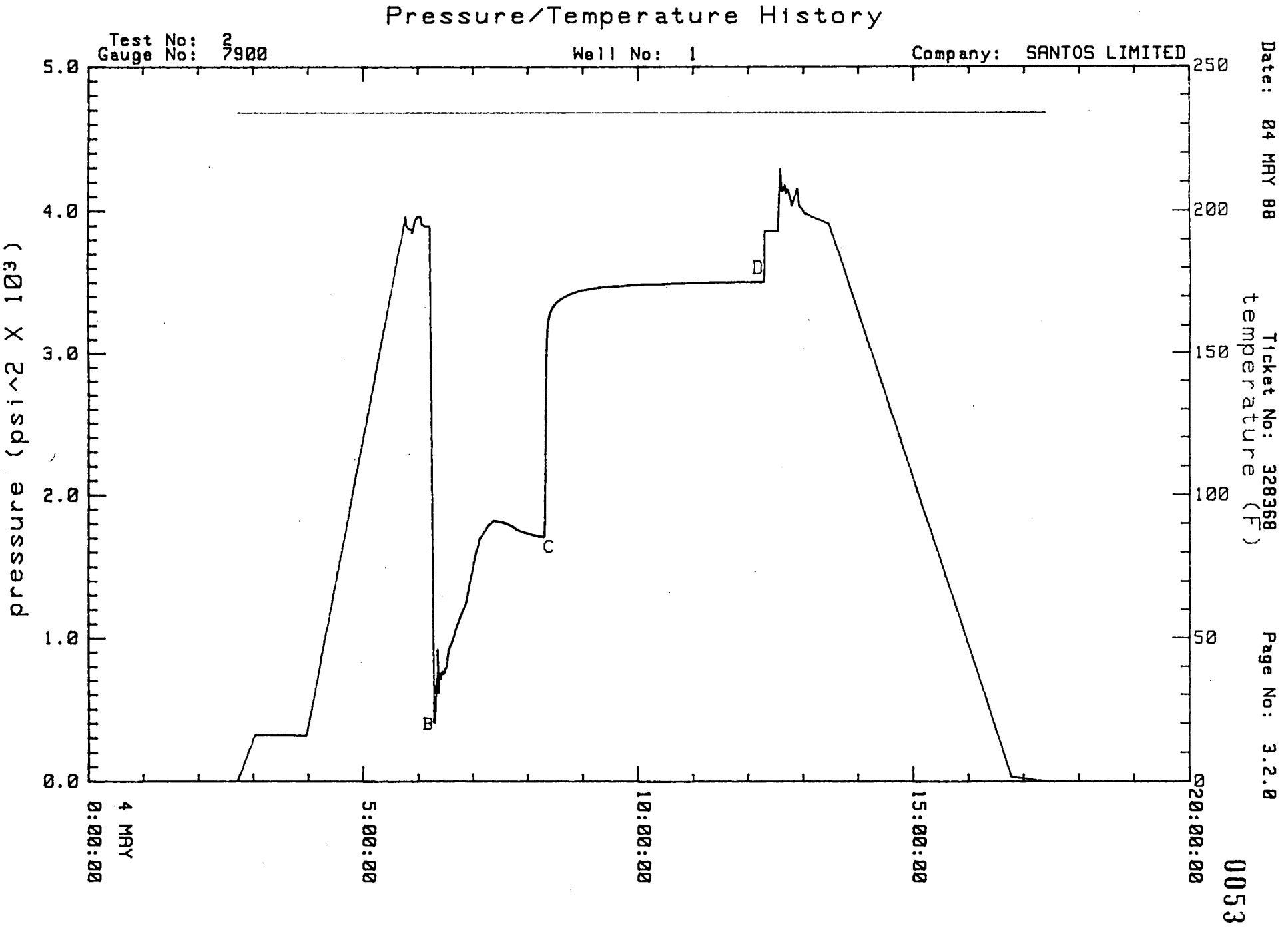
Date: 04 MAY 88 Ticket No: 328368 Page No: 3.2

TEST PERIOD SUMMARY

Gauge No.: 7900 Depth: 7967.27 ft Blanked off : No
Hour of clock: 24

ID	PERIOD	DESCRIPTION	PRESSURE (psi)	DURATION (min)
A		Initial Hydrostatic	3867.00	
B	1	Start Draw-down	410.25	
C		End Draw-down	1708.36	120.14
C	2	Start Build-up	1708.36	
D		End Build-up	3505.59	239.64
E		Final Hydrostatic	3863.50	

NOTE: for Pressure vs. Time Plot, see next page.


Pressure/Temperature History
Test No: 2
Gauge No: 7900
Well No: 1
Company: SANTOS LIMITED
Date: 04 MAY 88
Ticket No: 328368
Page No: 3.2.0
pressure (psi^2 X 10³)
temperature (F)
5.0
4.0
3.0
2.0
1.0
0.0
250
200
150
100
50
0
B
C
D
4 MAY
0:00:00
5:00:00
10:00:00
15:00:00
20:00:00
0053

Date: 04 MAY 88 Ticket No: 328368 Page No: 3.2.1

PRESSURE VS TIME

MECHANICAL gauge no.: 7900 Gauge Depth: 7967.27 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
4-MAY-88		Data Print Frequency: 1		
01:45:00				START MAKE UP TOOL
02:37:00				TOOL MADE UP
02:43:07		2.140	234.0	
02:45:00				TOOL IN HOLE
03:02:05		320.120	234.0	
03:58:33		313.287	234.0	
05:47:12		3962.207	234.0	
05:48:01		3895.455	234.0	
05:50:20		3872.912	234.0	
05:53:24		3867.002	234.0	
05:53:58		3866.564	234.0	
05:54:20		3841.613	234.0	
05:55:00				RIG UP TEST HEAD & CHICKSANS.
05:55:00				STRING WEIGHT 136,000#
05:57:57		3944.699	234.0	
05:58:52		3944.699	234.0	
05:59:52		3960.238	234.0	
06:01:35		3957.174	234.0	
06:02:44		3964.396	234.0	
06:05:00		3903.991	234.0	
06:07:29		3893.047	234.0	
06:08:00				SET WEIGHT ON TOOL 42,000#
06:13:28		3891.734	234.0	
06:18:00				TOOL OPEN. WEAK TO MODERATE
06:18:00				BLOW
		*** Start of Period 1 ***		
06:18:00	0.00	410.251	234.0	
06:19:00	1.00	410.251	234.0	
06:20:00				MODERATE BLOW
06:20:02	2.03	587.138	234.0	
06:20:38	2.63	716.165	234.0	
06:21:38	3.63	716.165	234.0	
06:21:41	3.69	921.498	234.0	
06:22:00				STRONG BLOW
06:22:59	4.99	611.802	234.0	
06:23:26	5.44	756.448	234.0	
06:23:59	5.99	722.329	234.0	
06:25:00				STRONG BLOW
06:25:35	7.59	712.863	234.0	
06:26:44	8.74	769.215	234.0	
06:27:17	9.28	759.090	234.0	
06:27:51	9.86	765.033	234.0	
06:28:22	10.37	754.027	234.0	
06:29:00				STRONG BLOW. GAS TO SURFACE
06:29:02	11.03	756.889	234.0	
06:30:00	12.00	788.804	234.0	

Date: 04 MAY 88 Ticket No: 328368 Page No: 3.2.2

PRESSURE VS TIME

MECHANICAL gauge no.: 7900 Gauge Depth: 7967.27 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
4-MAY-88		Data Print Frequency: 1		
06:31:02	13.03	794.747	234.0	
06:32:00	14.00	814.555	234.0	
06:34:01	16.02	921.058	234.0	
06:35:00				STRONG BLOW. GAS TO SURFACE
06:36:01	18.02	954.939	234.0	
06:38:01	20.01	983.097	234.0	
06:40:00				STRONG BLOW. GAS TO SURFACE
06:43:02	25.03	1091.751	234.0	
06:45:00				STRONG BLOW. GAS TO SURFACE
06:48:01	30.02	1173.771	234.0	
06:50:00				STRONG BLOW. GAS TO SURFACE
06:53:02	35.04	1251.157	234.0	
06:55:00				SMALL AMOUNT CONDENSATE TO
06:55:00				SURFACE
06:56:00				FLARE LINE OUT. 1/2" CHOKE
06:56:00				BLOCKED. SWITCH OVER TO 1/4"
06:56:00				CLEAN OUT 1/2". PIECE OF
06:56:00				RUBBER BLOCKING IT. SWITCH
06:56:00				BACK TO 1/2". CLOSE OFF 1/4"
06:58:02	40.03	1421.706	234.0	
07:03:01	45.01	1580.983	234.0	
07:05:00				PRESSURE FLUCTUATING 321-413
07:08:00	50.00	1700.457	234.0	
07:13:00				PRESSURE FLUCTUATING 321-413
07:13:00				MUD TO SURFACE.
07:13:01	55.02	1746.130	234.0	
07:18:00	60.01	1791.359	234.0	
07:21:00				FLARE OUT
07:23:00	65.00	1820.119	234.0	
07:25:00				FLARE OUT
07:28:03	70.04	1813.972	234.0	
07:29:00				GAS TO SURFACE
07:33:02	75.03	1807.605	234.0	
07:35:00				CONDENSATE TO SURFACE
07:38:01	80.02	1798.604	234.0	
07:40:00				GAS & CONDENSATE TO SURFACE
07:43:00	85.01	1781.260	234.0	
07:48:02	90.03	1762.378	234.0	
07:50:00				GAS & CONDENSATE TO SURFACE
07:53:01	95.01	1746.569	234.0	
07:58:00	100.00	1736.688	234.0	
08:00:00				GAS & CONDENSATE TO SURFACE
08:03:01	105.02	1727.905	234.0	
08:08:01	110.01	1719.561	234.0	
08:10:00				GAS & CONDENSATE TO SURFACE
08:13:00	115.00	1710.997	234.0	

Date: 04 MAY 88 Ticket No: 328368 Page No: 3.2.3

PRESSURE VS TIME

MECHANICAL gauge no.: 7900 Gauge Depth: 7967.27 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
4-MAY-88		Data Print Frequency: 1		
08:15:00				GAS & CONDENSATE TO SURFACE
08:18:08	120.14	1708.362	234.0	
		*** End of Period 1 ***		
		*** Start of Period 2 ***		
08:18:39	0.51	1717.585	234.0	
08:19:08	1.00	1788.724	234.0	
08:19:39	1.51	2102.796	234.0	
08:20:00				CLOSE TOOL
08:20:10	2.03	2585.056	234.0	
08:20:39	2.51	2850.251	234.0	
08:21:10	3.02	2978.209	234.0	
08:21:39	3.51	3097.381	234.0	
08:22:09	4.02	3161.998	234.0	
08:22:38	4.50	3201.642	234.0	
08:23:09	5.02	3231.428	234.0	
08:23:38	5.50	3248.292	234.0	
08:24:09	6.02	3271.506	234.0	
08:24:40	6.53	3278.952	234.0	
08:25:11	7.04	3287.931	234.0	
08:25:38	7.50	3297.786	234.0	
08:26:11	8.04	3304.137	234.0	
08:26:40	8.53	3310.926	234.0	
08:27:10	9.04	3318.372	234.0	
08:27:40	9.52	3324.284	234.0	
08:28:10	10.04	3327.788	234.0	
08:29:08	11.00	3336.766	234.0	
08:30:10	12.03	3345.307	234.0	
08:31:08	13.00	3352.971	234.0	
08:32:10	14.03	3359.103	234.0	
08:33:10	15.02	3365.672	234.0	
08:34:09	16.02	3370.490	234.0	
08:35:09	17.02	3375.307	234.0	
08:36:09	18.02	3380.124	234.0	
08:37:09	19.01	3383.847	234.0	
08:38:09	20.01	3387.789	234.0	
08:40:09	22.01	3395.890	234.0	
08:42:10	24.03	3403.116	234.0	
08:44:08	26.00	3409.248	234.0	
08:46:10	28.02	3416.035	234.0	
08:48:09	30.02	3421.729	234.0	
08:50:11	32.04	3426.327	234.0	
08:52:11	34.04	3430.925	234.0	
08:54:10	36.03	3436.180	234.0	
08:56:08	38.00	3439.902	234.0	
08:58:10	40.03	3443.625	234.0	
09:03:11	45.04	3449.318	234.0	

Date: 04 MAY 88 Ticket No: 328368 Page No: 3.2.4

PRESSURE VS TIME

MECHANICAL gauge no.: 7900 Gauge Depth: 7967.27 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
4-MAY-88		Data Print Frequency: 1		
09:08:08	50.00	3455.886	234.0	
09:13:09	55.02	3460.922	234.0	
09:18:10	60.04	3465.520	234.0	
09:23:10	65.03	3469.680	234.0	
09:28:09	70.01	3472.527	234.0	
09:33:10	75.03	3476.468	234.0	
09:38:11	80.05	3478.657	234.0	
09:48:10	90.03	3483.255	234.0	
09:58:08	100.00	3487.196	234.0	
10:08:09	110.01	3490.262	234.0	
10:18:09	120.02	3490.919	234.0	
10:28:09	130.02	3493.327	234.0	
10:38:10	140.03	3495.516	234.0	
10:48:08	150.00	3498.363	234.0	
10:58:09	160.01	3501.209	234.0	
11:08:09	170.02	3502.523	234.0	
11:18:10	180.02	3504.712	234.0	
11:28:10	190.03	3505.150	234.0	
11:38:08	200.01	3506.026	234.0	
11:48:11	210.04	3508.215	234.0	
11:58:09	220.02	3508.434	234.0	
12:08:10	230.02	3507.121	234.0	
12:13:09	235.01	3506.902	234.0	
12:17:46	239.64	3505.588	234.0	
		*** End of Period 2 ***		
12:18:55		3863.938	234.0	
12:20:00				PULL FREE. OKAY. PICKED UP
12:20:00				APPROXIMATELY 12,000#
12:25:00				DROP BAR TO REVERSE
12:28:00				PIN SHEARED. START REVERSE
12:32:41		3863.500	234.0	
12:33:19		3863.500	234.0	
12:35:57		4291.329	234.0	
12:37:00				FLUID TO SURFACE. GAS &
12:37:00				CONDENSATE CUT MUDDY WATER
12:37:16		4135.968	234.0	
12:38:40		4135.968	234.0	
12:40:50		4173.387	234.0	
12:41:00				WATERY CONDENSATE
12:42:08		4119.337	234.0	
12:42:26		4141.657	234.0	
12:43:15		4137.718	234.0	
12:44:41		4144.940	234.0	
12:48:27		4029.832	234.0	
12:54:19		4153.255	234.0	
12:56:37		4029.394	234.0	

PRESSURE VS TIME

MECHANICAL gauge no.: 7900 Gauge Depth: 7967.27 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
4-MAY-88		Data Print Frequency: 1		
12:57:00				RIG UP TO PUMP PILL
13:03:07		3977.308	234.0	
13:19:00				RIG DOWN HEAD & CHICKSAN. LAY OUT
13:25:00				START OUT OF HOLE WITH TOOL
13:29:07		3903.553	234.0	
16:34:00				TOOL OUT OF HOLE
16:45:00				START BREAK OUT
16:47:35		30.379	234.0	
17:23:22		0.817	234.0	
17:55:00				TOOL LAYED OUT

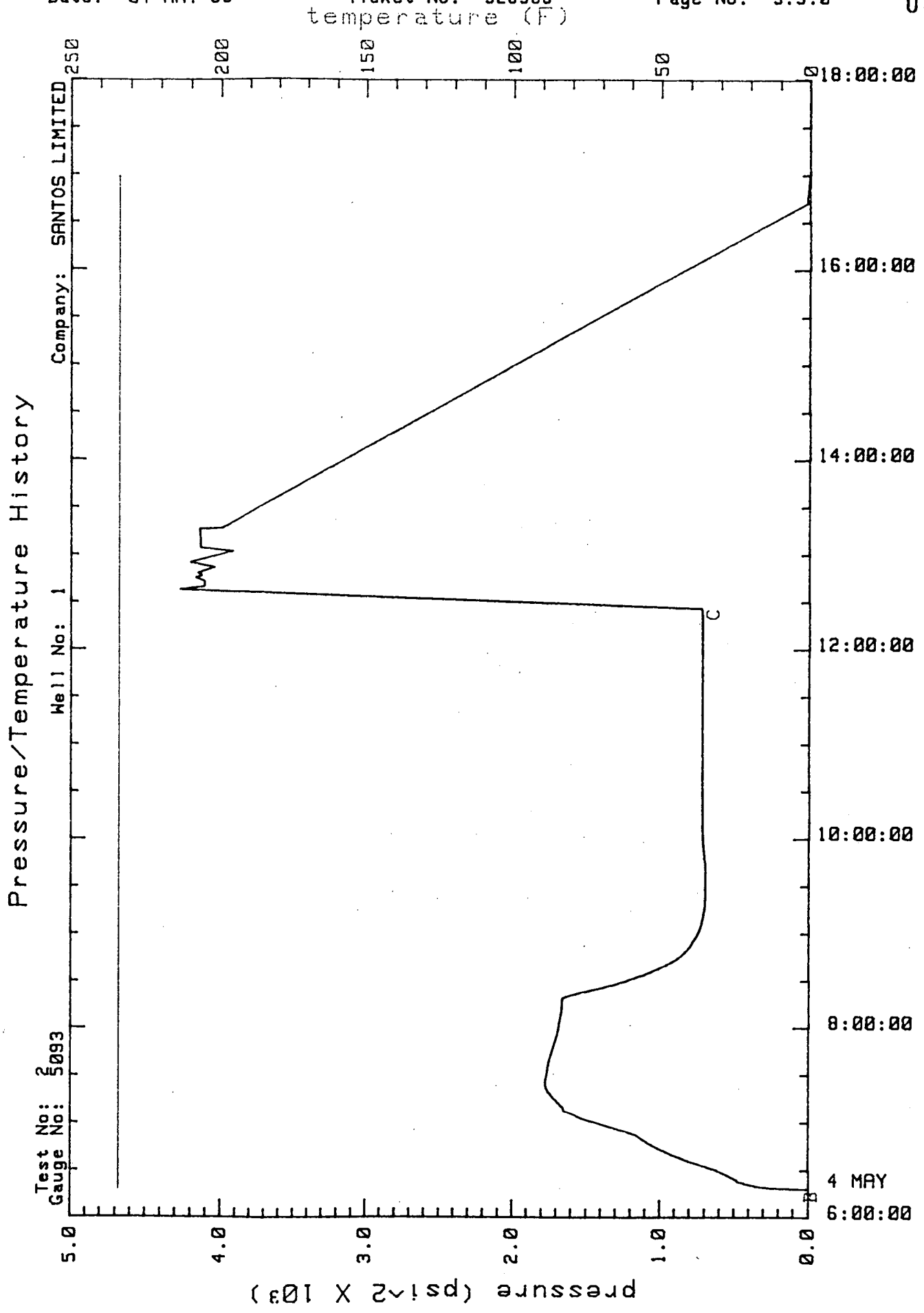
Date: 04 MAY 88 Ticket No: 328368 Page No: 3.3

TEST PERIOD SUMMARY

Gauge No.: 5093 Depth: 7946.22 ft Blanked off : No
Hour of clock: 24

ID	PERIOD	DESCRIPTION	PRESSURE (psi)	DURATION (min)
A		Initial Hydrostatic	3867.00	
B	1	Start Draw-down	-2.64	
C		End Draw-down	721.84	362.00
D		Final Hydrostatic	721.84	

NOTE: for Pressure vs. Time Plot, see next page.


temperature (F)
250
200
150
100
50
0
Company: SANTOS LIMITED
Well No: 1
Test No: 2
Gauge No: 5093
Pressure/Temperature History
18:00:00
16:00:00
14:00:00
12:00:00
10:00:00
8:00:00
4 MAY
6:00:00
C
B
5.0
4.0
3.0
2.0
1.0
0.0
pressure (psi^2 X 10^3)

PRESSURE VS TIME

MECHANICAL gauge no.: 5093 Gauge Depth: 7946.22 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
4-MAY-88		Data Print Frequency: 1		
01:45:00				START MAKE UP TOOL
02:37:00				TOOL MADE UP
02:45:00				TOOL IN HOLE
05:55:00				RIG UP TEST HEAD & CHICKSANS.
05:55:00				STRING WEIGHT 136,000#
06:08:00				SET WEIGHT ON TOOL 42,000#
06:18:00				TOOL OPEN. WEAK TO MODERATE
06:18:00				BLOW
		*** Start of Period 1 ***		
06:18:00	0.00	-2.635	234.0	
06:18:02	0.03	7.951	234.0	
06:19:01	1.02	269.324	234.0	
06:20:00				MODERATE BLOW
06:20:02	2.04	353.179	234.0	
06:21:00	3.00	395.842	234.0	
06:22:00				STRONG BLOW
06:22:01	4.02	434.615	234.0	
06:23:02	5.04	478.113	234.0	
06:24:00	6.00	482.635	234.0	
06:25:00				STRONG BLOW
06:25:01	7.02	502.010	234.0	
06:26:01	8.01	524.396	234.0	
06:27:00	9.00	544.842	234.0	
06:28:03	10.05	570.018	234.0	
06:29:00				STRONG BLOW. GAS TO SURFACE
06:30:02	12.03	616.270	234.0	
06:32:02	14.04	681.212	234.0	
06:34:01	16.02	742.039	234.0	
06:35:00				STRONG BLOW. GAS TO SURFACE
06:36:00	18.00	807.565	234.0	
06:38:02	20.04	859.319	234.0	
06:40:00				STRONG BLOW. GAS TO SURFACE
06:40:01	22.02	916.418	234.0	
06:42:02	24.03	965.770	234.0	
06:44:01	26.01	1010.386	234.0	
06:45:00				STRONG BLOW. GAS TO SURFACE
06:46:01	28.02	1053.272	234.0	
06:48:00	30.00	1086.070	234.0	
06:50:00				STRONG BLOW. GAS TO SURFACE
06:53:01	35.01	1168.780	234.0	
06:55:00				SMALL AMOUNT CONDENSATE TO
06:55:00				SURFACE
06:56:00				FLARE LINE OUT. 1/2" CHOKE
06:56:00				BLOCKED. SWITCH OVER TO 1/4"
06:56:00				CLEAN OUT 1/2". PIECE OF
06:56:00				RUBBER BLOCKING IT. SWITCH

0062

PRESSURE VS TIME

MECHANICAL gauge no.: 5093 Gauge Depth: 7946.22 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
4-MAY-88		Data Print Frequency: 1		
06:56:00				BACK TO 1/2". CLOSE OFF 1/4"
06:58:01	40.02	1354.154	234.0	
07:03:00	45.00	1525.595	234.0	
07:05:00				PRESSURE FLUCTUATING 321-413
07:08:02	50.04	1649.866	234.0	
07:10:01	52.02	1656.481	234.0	
07:12:02	54.03	1677.607	234.0	
07:13:00				PRESSURE FLUCTUATING 321-413
07:13:00				MUD TO SURFACE.
07:14:01	56.01	1698.090	234.0	
07:16:01	58.02	1720.062	234.0	
07:18:00	60.00	1738.405	234.0	
07:20:00	62.01	1757.172	234.0	
07:21:00				FLARE OUT
07:22:01	64.02	1767.620	234.0	
07:24:02	66.03	1774.017	234.0	
07:25:00				FLARE OUT
07:26:00	68.01	1774.870	234.0	
07:28:01	70.02	1767.620	234.0	
07:29:00				GAS TO SURFACE
07:33:00	75.00	1757.172	234.0	
07:35:00				CONDENSATE TO SURFACE
07:38:00	80.01	1748.855	234.0	
07:40:00				GAS & CONDENSATE TO SURFACE
07:43:01	85.02	1733.073	234.0	
07:48:02	90.03	1716.649	234.0	
07:50:00				GAS & CONDENSATE TO SURFACE
07:53:02	95.04	1698.516	234.0	
07:58:01	100.02	1684.222	234.0	
08:00:00				GAS & CONDENSATE TO SURFACE
08:03:02	105.03	1675.900	234.0	
08:08:02	110.04	1666.085	234.0	
08:10:00				GAS & CONDENSATE TO SURFACE
08:13:01	115.02	1657.122	234.0	
08:15:00				GAS & CONDENSATE TO SURFACE
08:19:28	121.47	1653.280	234.0	
08:20:00				CLOSE TOOL
08:22:01	124.02	1569.381	234.0	
08:24:00	126.00	1479.230	234.0	
08:26:00	128.01	1380.248	234.0	
08:28:01	130.02	1297.028	234.0	
08:30:02	132.03	1227.888	234.0	
08:32:00	134.01	1166.852	234.0	
08:34:01	136.02	1104.716	234.0	
08:36:00	138.00	1057.131	234.0	
08:38:02	140.04	1006.955	234.0	

Date: 04 MAY 88 Ticket No: 328368 Page No: 3.3.3

PRESSURE VS TIME

MECHANICAL gauge no.: 5093 Gauge Depth: 7946.22 ft
Clock no.: Hour: 24

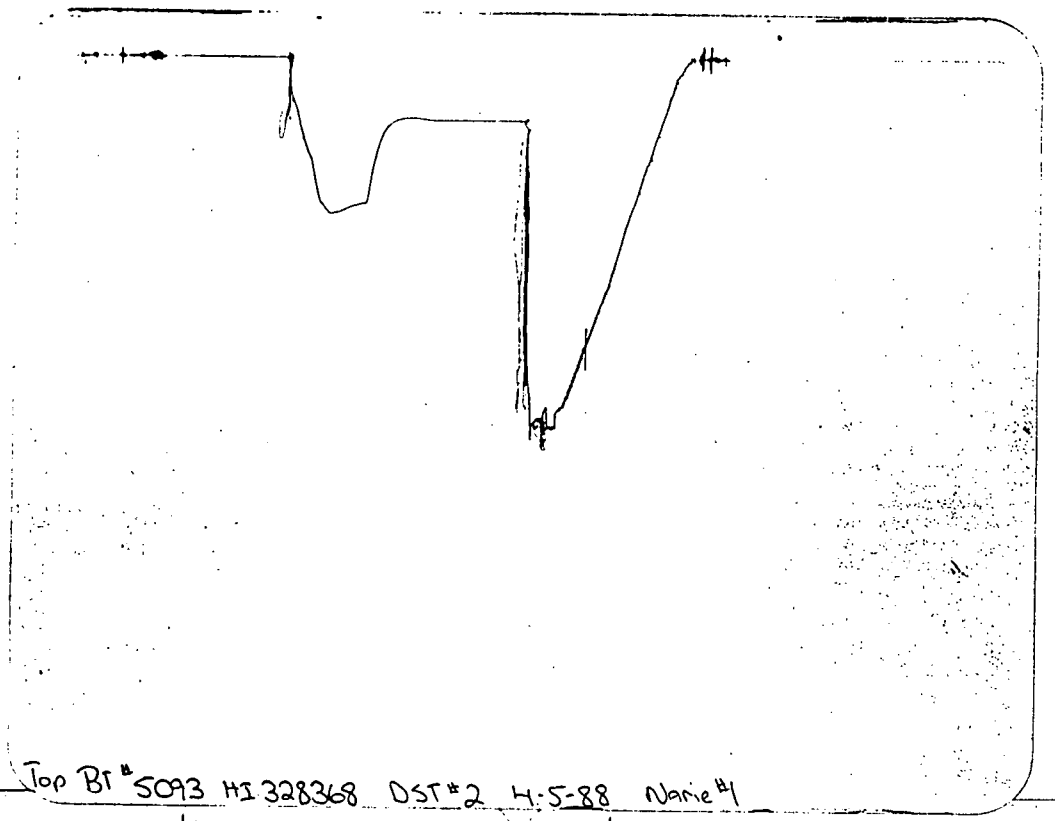
TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
4-MAY-88		Data Print Frequency: 1		
08:40:01	142.02	959.549	234.0	
08:42:02	144.03	922.642	234.0	
08:44:02	146.04	885.081	234.0	
08:46:01	148.02	856.313	234.0	
08:48:02	150.03	833.122	234.0	
08:50:02	152.04	811.217	234.0	
08:52:01	154.02	793.818	234.0	
08:54:00	156.00	781.144	234.0	
08:56:02	158.04	768.468	234.0	
08:58:01	160.02	754.288	234.0	
09:00:00	162.00	744.188	234.0	
09:02:02	164.04	734.518	234.0	
09:04:01	166.02	726.566	234.0	
09:06:00	168.00	720.119	234.0	
09:08:00	170.01	716.035	234.0	
09:13:01	175.02	704.858	234.0	
09:18:02	180.03	696.905	234.0	
09:23:00	185.00	694.755	234.0	
09:28:01	190.01	693.465	234.0	
09:38:02	200.03	694.755	234.0	
09:48:01	210.02	705.933	234.0	
09:58:01	220.01	714.961	234.0	
10:08:00	230.00	719.689	234.0	
10:18:01	240.02	719.689	234.0	
10:28:01	250.01	720.549	234.0	
10:38:00	260.00	721.193	234.0	
11:18:01	300.02	720.334	234.0	
11:38:00	320.00	720.334	234.0	
11:58:02	340.04	720.334	234.0	
12:08:00	350.00	720.334	234.0	
12:20:00				PULL FREE. OKAY. PICKED UP
12:20:00				APPROXIMATELY 12,000#
12:20:00	362.00	721.838	234.0	
12:25:00				DROP BAR TO REVERSE
		*** End of Period 1 ***		
12:25:10		721.838	234.0	
12:26:29		726.566	234.0	
12:28:00				PIN SHEARED. START REVERSE
12:37:00				FLUID TO SURFACE. GAS &
12:37:00				CONDENSATE CUT MUDDY WATER
12:38:05		4269.054	234.0	
12:40:01		4106.059	234.0	
12:41:00				WATERY CONDENSATE
12:43:13		4106.059	234.0	
12:45:35		4163.343	234.0	
12:46:29		4127.805	234.0	

Date: 04 MAY 88 Ticket No: 328368 Page No: 3.3.4

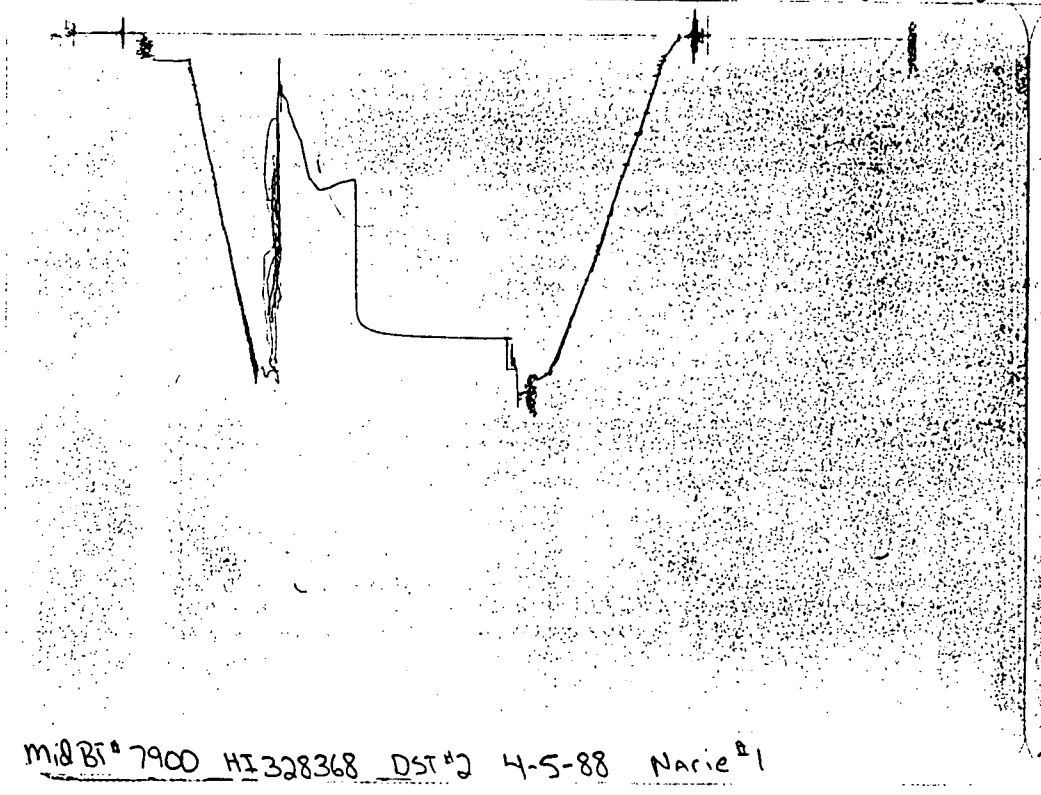
PRESSURE VS TIME

MECHANICAL gauge no.: 5093 Gauge Depth: 7946.22 ft
Clock no.: Hour: 24

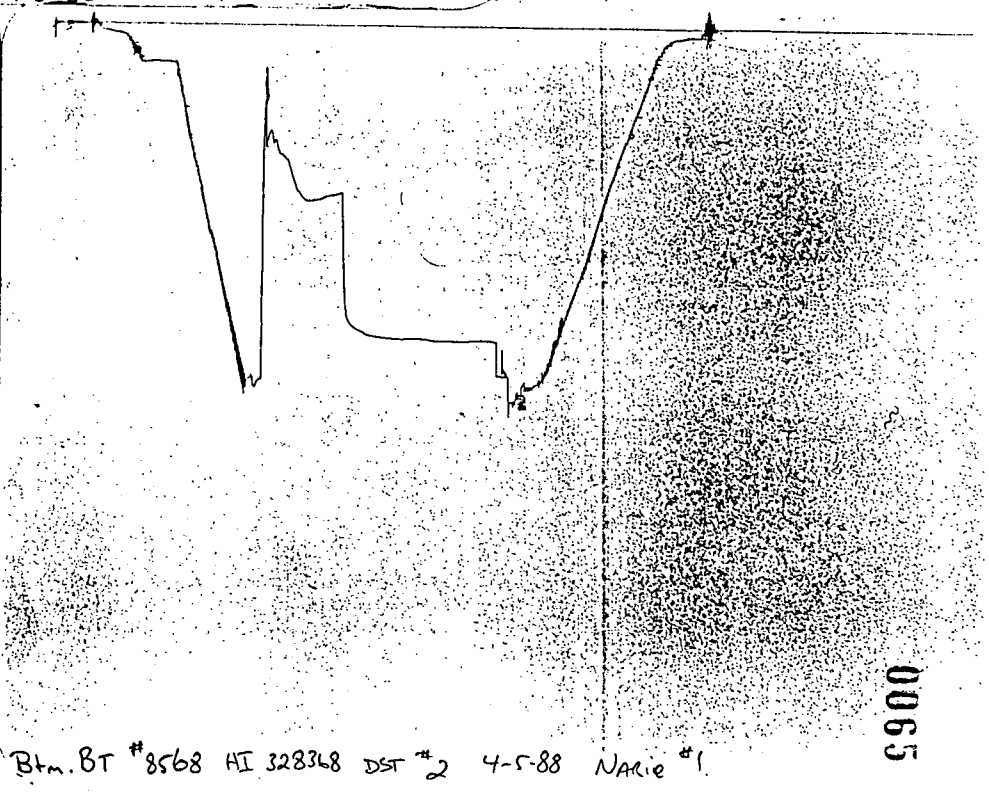
TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
4-MAY-88		Data Print Frequency: 1		
12:47:27		4127.805	234.0	
12:48:34		4148.084	234.0	
12:52:08		4035.145	234.0	
12:55:08		4202.004	234.0	
12:57:00				RIG UP TO PUMP PILL
13:02:16		3912.668	234.0	
13:04:35		4132.823	234.0	
13:16:17		4141.394	234.0	
13:16:55		3982.821	234.0	
13:19:00				RIG DOWN HEAD & CHICKSAN. LAY OUT
13:19:00				
13:25:00				START OUT OF HOLE WITH TOOL
16:34:00				TOOL OUT OF HOLE
16:42:35		16.160	234.0	
16:45:00				START BREAK OUT
16:59:05		0.390	234.0	
17:55:00				TOOL LAYED OUT



Top BT #5093 HI 328368 DST #2 4-5-88 Narie #1



Mid BT #7900 HI 328368 DST #2 4-5-88 Narie #1



Btm. BT #8568 HI 328368 DST #2 4-5-88 Narie #1

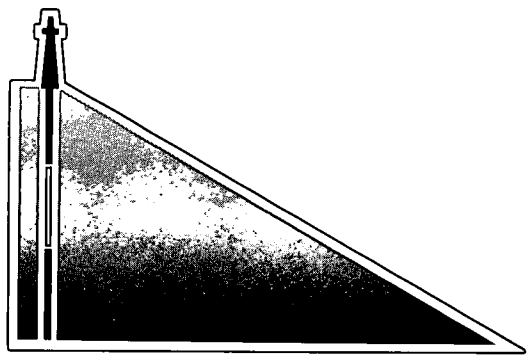
5900

EQUATIONS FOR DST LIQUID WELL ANALYSIS

Transmissibility	$\frac{kh}{\mu} = \frac{162.6\ QB}{m}$	$\frac{\text{md-ft}}{\text{cp}}$
Indicated Flow Capacity	$kh = \frac{kh}{\mu}\ \mu$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151\left[\frac{P^* - P_f}{m} - \text{LOG}\left(\frac{k(t/60}{\phi\ \mu\ c_t r_w^2}\right) + 3.23\right]$	—
Damage Ratio	$DR = \frac{P^* - P_f}{P^* - P_f - 0.87\ mS}$	—
Theoretical Potential w / Damage Removed	$Q_1 = Q\ DR$	BPD
Approx. Radius of Investigation	$r_i = 0.032\sqrt{\frac{k(t/60)}{\phi\mu c_t}}$	ft

EQUATIONS FOR DST GAS WELL ANALYSIS

Indicated Flow Capacity	$kh = \frac{1637\ Q_g\ T}{m}$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151\left[\frac{m(P^*) - m(P_f)}{m} - \text{LOG}\left(\frac{k(t/60)}{\phi\ \mu\ c_t r_w^2}\right) + 3.23\right]$	—
Damage Ratio	$DR = \frac{m(P^*) - m(P_f)}{m(P^*) - m(P_f) - 0.87\ mS}$	—
Indicated Flow Rate (Maximum)	$AOF_1 = \frac{Q_g\ m(P^*)}{m(P^*) - m(P_f)}$	MCFD
Indicated Flow Rate (Minimum)	$AOF_2 = Q_g\sqrt{\frac{m(P^*)}{m(P^*) - m(P_f)}}$	MCFD
Approx. Radius of Investigation	$r_i = 0.032\sqrt{\frac{k(t/60)}{\phi\mu c_t}}$	ft



Halliburton Reservoir Evaluation System

HALLIBURTON SERVICES
Duncan, Oklahoma 73536
A Halliburton Company

NOMENCLATURE

B	=	Formation Volume Factor	(Res Vol/Std Vol)
c_t	=	System Total Compressibility	(Vol/Vol)/psi
DR	=	Damage Ratio	
h	=	Estimated Net Pay Thickness	Ft
k	=	Permeability	md
m	=	(Liquid) Slope Extrapolated Pressure Plot	psi/cycle
		(Gas) Slope Extrapolated m(P) Plot	MM psi^2/ cp/cycle
$m(P^*)$	=	Real Gas Potential at P^*	MM psi^2/cp
$m(P_f)$	=	Real Gas Potential at P_f	MM psi^2/cp
AOF_1	=	Maximum Indicated Absolute Open Flow at Test Conditions	MCFD
AOF_2	=	Minimum Indicated Absolute Open Flow at Test Conditions	MCFD
P^*	=	Extrapolated Static Pressure	Psig
P_f	=	Final Flow Pressure	Psig
Q	=	Liquid Production Rate During Test	BPD
Q_1	=	Theoretical Liquid Production w/Damage Removed	BPD
Q_g	=	Measured Gas Production Rate	MCFD
r_i	=	Approximate Radius of Investigation	Ft
r_w	=	Radius of Well Bore	Ft
S	=	Skin Factor	
t	=	Total Flow Time Previous to Closed-in	Minutes
Δt	=	Closed-in Time at Data Point	Minutes
T	=	Temperature Rankine	°R
ϕ	=	Porosity (fraction)	
μ	=	Viscosity of Gas or Liquid	cp
Log	=	Common Log	

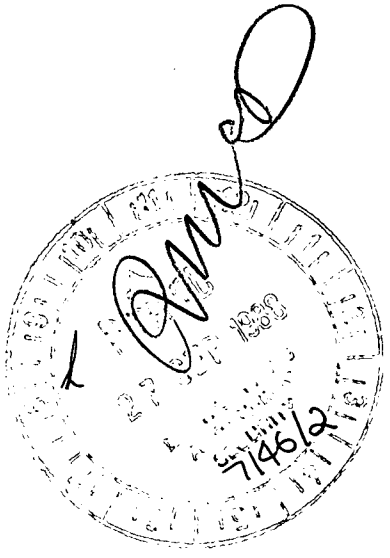
NARIE			SANTOS LIMITED
LEASE NAME	1	3	LEASE OWNER/COMPANY NAME
LEGAL LOCATION SEC. - TWP. - RNG.	WELL NO.	TEST NO.	8389.3 - 8439.3
SEE REMARKS	FIELD AREA	COOPER BASIN	TESTED INTERVAL
	COUNTY	SOUTH AUSTRALIA	STATE AUSTRALIA IC

HALLIBURTON SERVICES

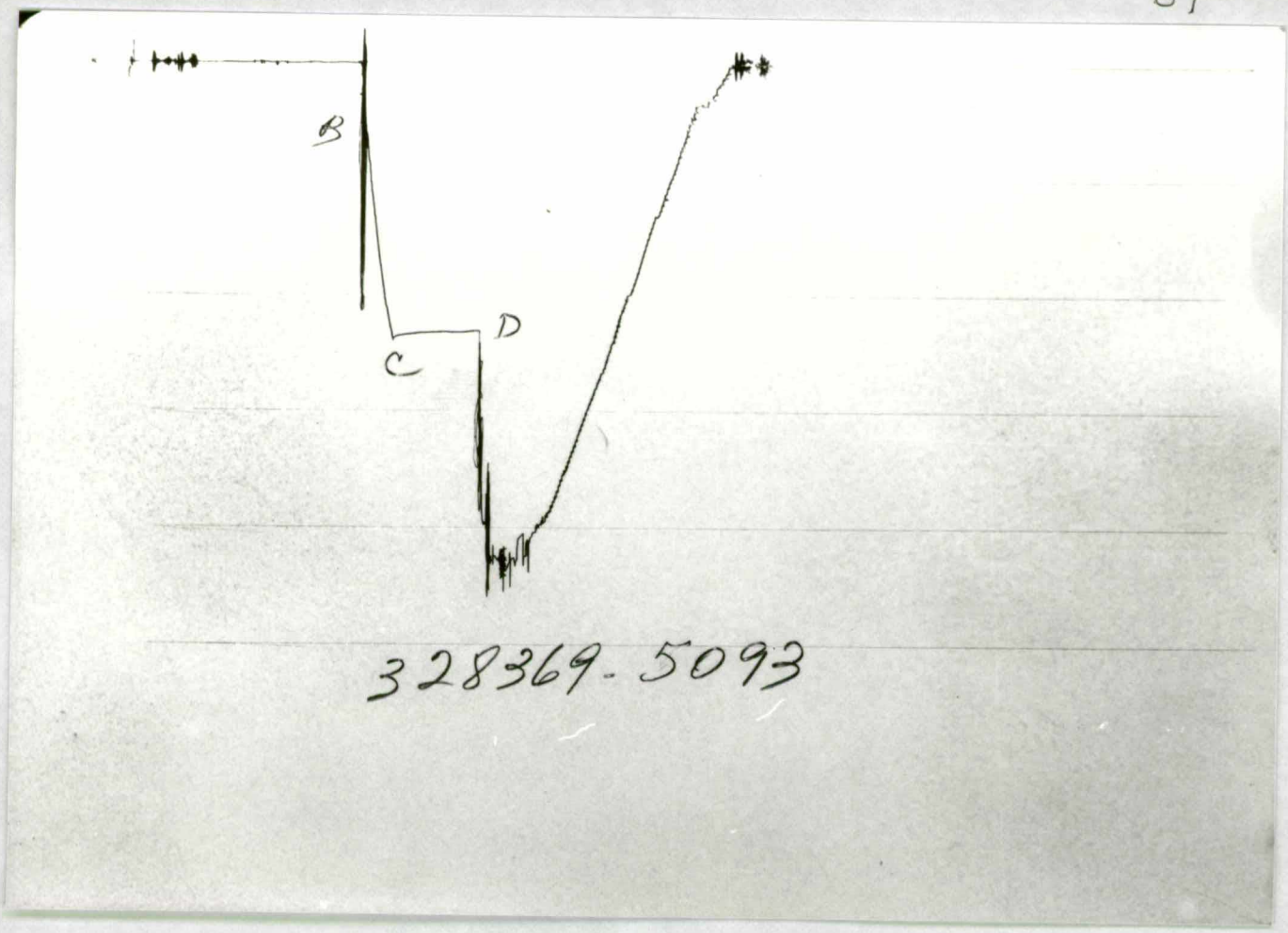
TICKET NO. 32836900

14-SEP-88

MOOMBA

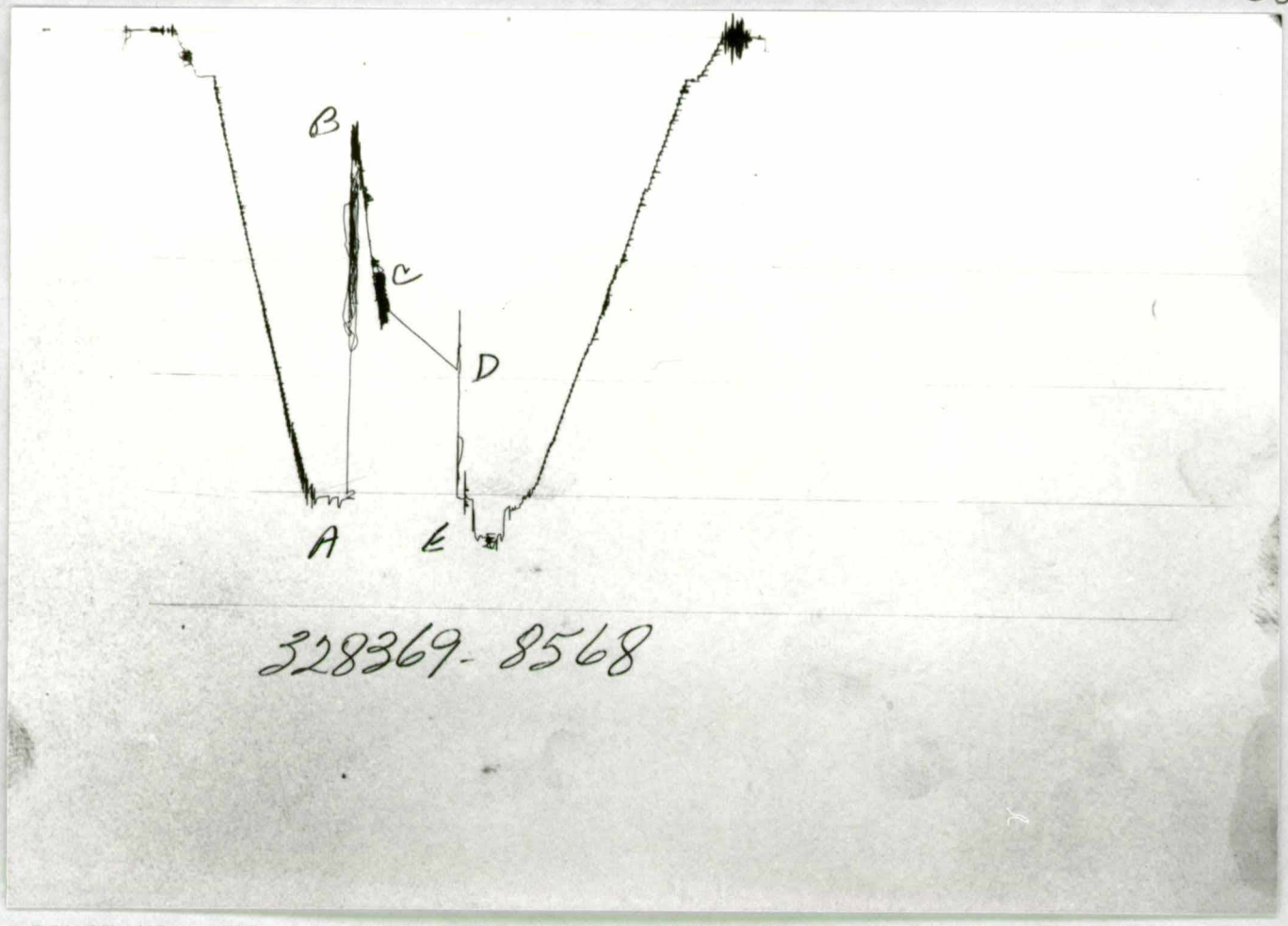


FORMATION TESTING SERVICE REPORT



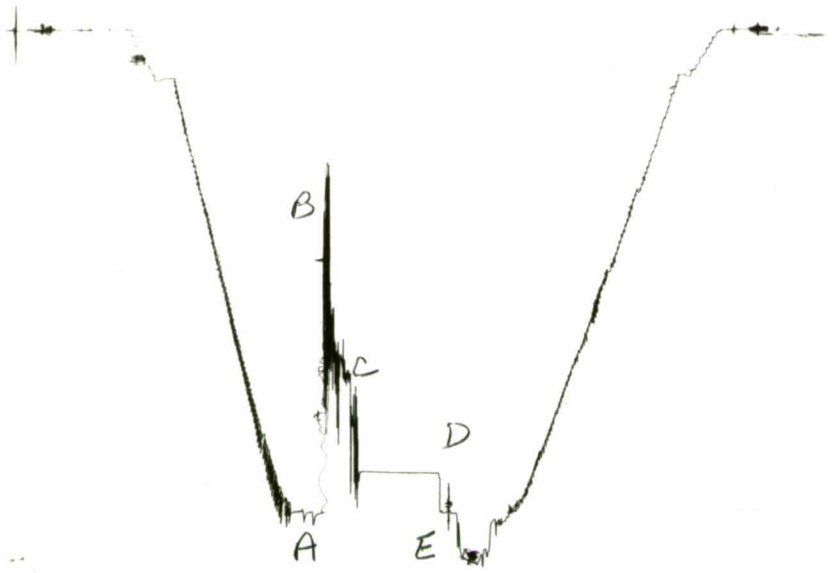
GAUGE NO: 5093 DEPTH: 8344.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW		405.8	43.0	43.0	F
C	FINAL FIRST FLOW	2381	2381.7			
C	INITIAL FIRST CLOSED-IN	2381	2381.7	90.0	90.0	C
D	FINAL FIRST CLOSED-IN	2313	2313.5			
E	FINAL HYDROSTATIC					



GAUGE NO: 8568 DEPTH: 8365.0 BLANKED OFF: NO HOUR OF CLOCK: 24

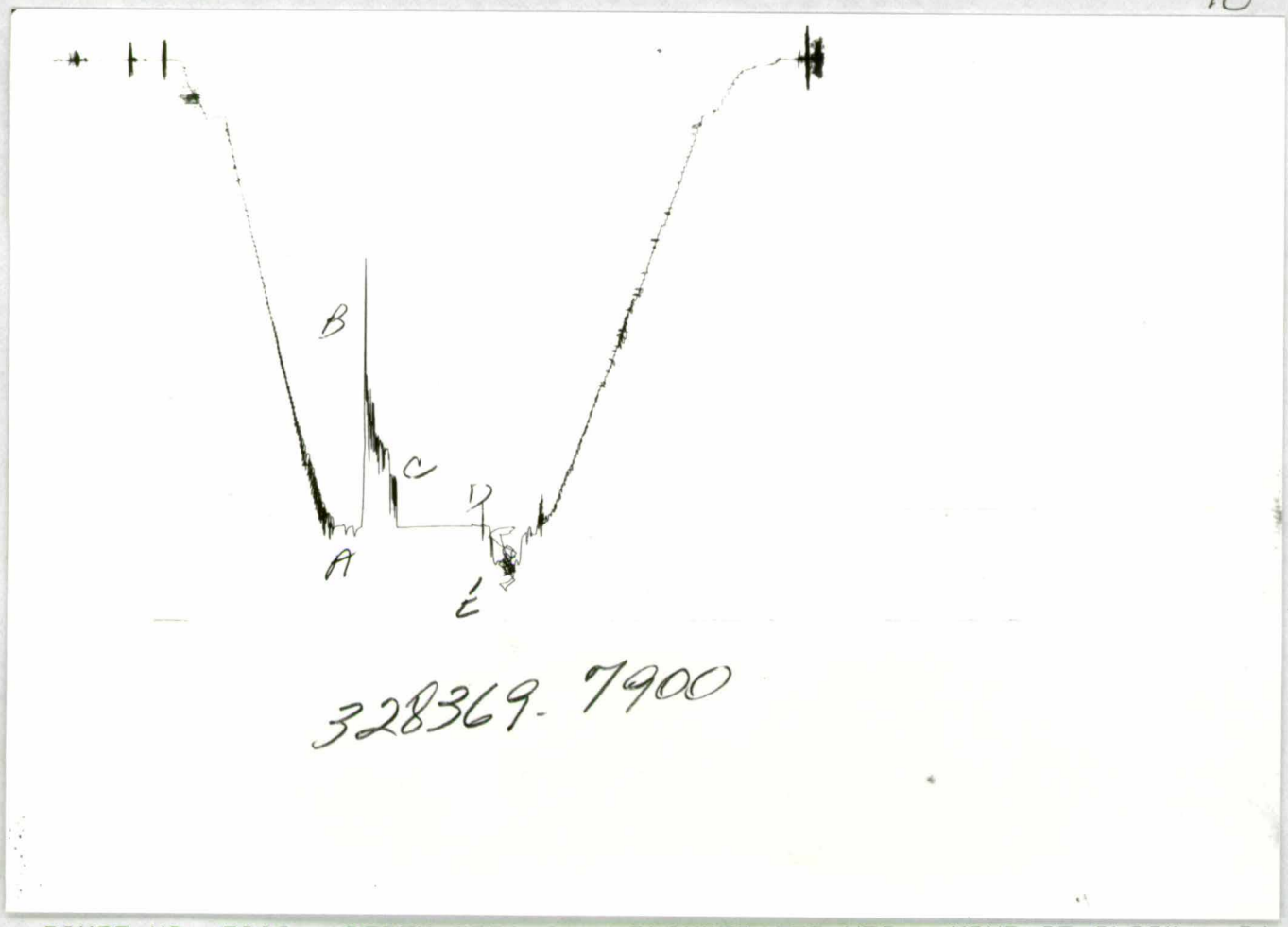
ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4040	4053.0			
B	INITIAL FIRST FLOW	829	817.1	43.0	43.0	F
C	FINAL FIRST FLOW	2341	2375.8			
C	INITIAL FIRST CLOSED-IN	2341	2375.8	90.0	90.0	C
D	FINAL FIRST CLOSED-IN	2936	2934.6			
E	FINAL HYDROSTATIC	4036	4053.0			



3283.69-3289

GAUGE NO: 3289 DEPTH: 8401.3 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4032	4027.4			
B	INITIAL FIRST FLOW	1232	1233.4	43.0	43.0	F
C	FINAL FIRST FLOW		2915.2			
C	INITIAL FIRST CLOSED-IN		2915.2	90.0	90.0	C
D	FINAL FIRST CLOSED-IN	3686	3694.6			
E	FINAL HYDROSTATIC	4032	4027.4			



GAUGE NO: 7900 DEPTH: 8571.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4153	4157.8			
B	INITIAL FIRST FLOW	2899	1627.7	43.0	43.0	F
C	FINAL FIRST FLOW	3471	3737.2			
C	INITIAL FIRST CLOSED-IN	3471	3737.2	90.0	90.0	C
D	FINAL FIRST CLOSED-IN	4131	4156.6			
E	FINAL HYDROSTATIC	4153	4157.8			

0071

EQUIPMENT & HOLE DATA

FORMATION TESTED: PATCHAWARRA
NET PAY (ft): _____
GROSS TESTED FOOTAGE: 50.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft): _____
HOLE OR CASING SIZE (in): 8.500
ELEVATION (ft): 133.0
TOTAL DEPTH (ft): 8574.0
PACKER DEPTH(S) (ft): 8381, 8389, 8439, 8447
FINAL SURFACE CHOKE (in): 0.50000
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.30
MUD VISCOSITY (sec): 41
ESTIMATED HOLE TEMP. (°F): _____
ACTUAL HOLE TEMP. (°F): 248 @ 8570.0 ft

TICKET NUMBER: 32836900

DATE: 5-6-88 TEST NO: 3

TYPE DST: STRADDLE

HALLIBURTON CAMP: MOOMBA

TESTER: B. HOOVER / F. OBORN

WITNESS: B. SPEECHLEY

DRILLING CONTRACTOR: ATCO RIG #1

FLUID PROPERTIES FOR RECOVERED MUD & WATER

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

SAMPLER DATA

Psig AT SURFACE: _____
cu.ft. OF GAS: _____
cc OF OIL: _____
cc OF WATER: _____
cc OF MUD: _____
TOTAL LIQUID cc: _____

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): _____ @ ___ °F
GAS/OIL RATIO (cu.ft. per bbl): _____
GAS GRAVITY: _____

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

4850 FEET OF GAS CUT MUD

MEASURED FROM TESTER VALVE

REMARKS:

LEGAL LOCATION: LAT. 27 DEG., 46', 19.6"S; LONG. 140 DEG., 05', 35.6"E.

MISRUN - PACKER SEAT UNSUCCESSFUL - ALL READINGS ARE HIGHLY QUESTIONABLE.

TYPE & SIZE MEASURING DEVICE: 6" CERAMIC SURFACE CHOKE					TICKET NO: 32836900
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
5-6-88					
0050					PICKED UP TOOL
0255					TOOL MADE UP AND RAN IN HOLE
0605					HEAD UP TO FLOOR MANIFOLD
0630					SET PACKERS WITH 28000#
0639	.5				OPENED TOOL WITH WEAK BLOW -
					LOSING MUD AROUND PACKER
0640		9			BLOW INCREASED TO STRONG
0644		31			GAS TO SURFACE
0650		57			INCREASE IN WEIGHT
0655		60			
0700		57			
0705		51			
0710		34			
0711		34			LOSING MUD AT RATE OF
					1/2 BARREL PER MINUTE
0715		17			
0722		7			CLOSED TOOL
0852					OPENED BYPASS - PACKERS FREE
					HAD 15000# INCREASE IN WEIGHT
0858					DROPPED BAR TO REVERSE
0903					PIN BROKE - STARTED REVERSING
0907					GAS CUT MUD TO SURFACE
1005					BROKE OFF HEAD AND CHICKSANS -
					PULLED OUT OF HOLE
1400					TOOL AT FLOOR - STARTED BREAKING
					DOWN
1544					TOOL BROKE DOWN AND LAID OUT

0073

TICKET NO. 32836900

		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE	4.500	3.826	7635.0	
4	FLEX WEIGHT	4.500	2.764	182.8	
3	DRILL COLLARS	6.500	2.812	479.0	
51	PUMP OUT REVERSING SUB	6.000	3.000	1.0	8281.0
3	DRILL COLLARS	6.500	2.812	29.8	
50	IMPACT REVERSING SUB	6.000	3.000	1.0	8312.0
3	DRILL COLLARS	6.500	2.812	29.8	
258	BAR CATCHER SUB	6.000	1.120	1.0	
80	AP RUNNING CASE	5.000	2.250	4.1	8344.0
5	CROSSOVER	5.000	2.250	1.0	
12	DUAL CIP VALVE	5.000	0.870	4.9	
202	SAMPLE CHAMBER	5.000	3.000	4.9	
33	DRAIN VALVE	5.000	2.200	0.9	
60	HYDROSPRING TESTER	5.000	0.750	5.3	8363.0
80	AP RUNNING CASE	5.000	2.250	4.1	8365.0
15	JAR	5.000	1.750	5.0	
16	VR SAFETY JOINT	5.000	2.780	2.8	
17	PRESSURE EQUALIZING CROSSOVER	4.870	0.750	1.0	
70	OPEN HOLE PACKER	7.500	1.680	5.8	8381.5
18	DISTRIBUTOR VALVE	5.000	1.680	2.0	
70	OPEN HOLE PACKER	7.500	1.680	5.8	8389.3
20	FLUSH JOINT ANCHOR	5.000	2.370	7.0	
17	PRESSURE EQUALIZING CROSSOVER	4.620	2.750	1.0	
81	BLANKED-OFF RUNNING CASE	5.000		4.1	8401.3
5	CROSSOVER	4.800	2.200	1.0	
20	FLUSH JOINT ANCHOR	5.000	2.370	30.0	
5	CROSSOVER	4.800	2.200	1.0	
70	OPEN HOLE PACKER	7.500	1.680	5.8	8439.3

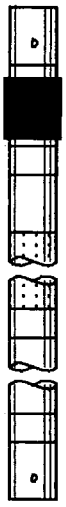
CONTINUED

EQUIPMENT DATA

0074

TICKET NO. 32836900

		O.D.	I.D.	LENGTH	DEPTH
18	DISTRIBUTOR VALVE	5.000	1.680	2.0	
70	OPEN HOLE PACKER	7.500	1.680	5.8	8447.1
5	CROSSOVER	4.800	2.200	1.0	
19	ANCHOR PIPE SAFETY JOINT	5.000	1.500	4.3	
20	FLUSH JOINT ANCHOR	5.000	2.370	23.0	
5	CROSSOVER	6.000	2.250	1.0	
3	DRILL COLLARS	6.500	2.812	89.7	
5	CROSSOVER	6.000	2.250	1.0	
81	BLANKED-OFF RUNNING CASE	5.000		4.1	8571.0
	TOTAL DEPTH				8574.0



EQUIPMENT DATA

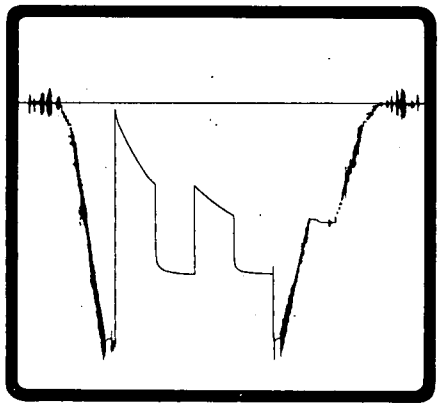
EQUATIONS FOR DST LIQUID WELL ANALYSIS

Transmissibility	$\frac{kh}{\mu} = \frac{162.6\ QB}{m}$	$\frac{md\text{-}ft}{cp}$
Indicated Flow Capacity	$kh = \frac{kh}{\mu} \cdot \mu$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151 \left[\frac{P^*-P_f}{m} - LOG\left(\frac{k\ (t/60)}{\phi\ \mu\ c_t r_w^{\ 2}}\right) + 3.23 \right]$	
Damage Ratio	$DR = \frac{P^* - P_f}{P^* - P_f - 0.87\ mS}$	
Theoretical Potential w/Damage Removed	$Q_1 = Q\ DR$	BPD
Approx. Radius of Investigation	$r_i = 0.032 \sqrt{\frac{k\ (t/60)}{\phi \mu c_t}}$	ft

EQUATIONS FOR DST GAS WELL ANALYSIS

Indicated Flow Capacity	$kh = \frac{.001637\ Q_g\ T}{m}$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151 \left[\frac{m(P^*)-m(P_f)}{m} - LOG\left(\frac{k\ (t/60)}{\phi\ \mu\ c_t r_w^{\ 2}}\right) + 3.23 \right]$	
Damage Ratio	$DR = \frac{m(P^*) - m(P_f)}{m(P^*) - m(P_f) - 0.87\ mS}$	
Indicated Flow Rate (Maximum)	$AOF_1 = \frac{Q_g\ m(P^*)}{m(P^*) - m(P_f)}$	MCFD
Indicated Flow Rate (Minimum)	$AOF_2 = Q_g \sqrt{\frac{m(P^*)}{m(P^*) - m(P_f)}}$	MCFD
Approx. Radius of Investigation	$r_i = 0.032 \sqrt{\frac{k\ (t/60)}{\phi\ \mu\ c_t}}$	ft

FORMATION TESTING SERVICE REPORT



HALLIBURTON
SERVICES

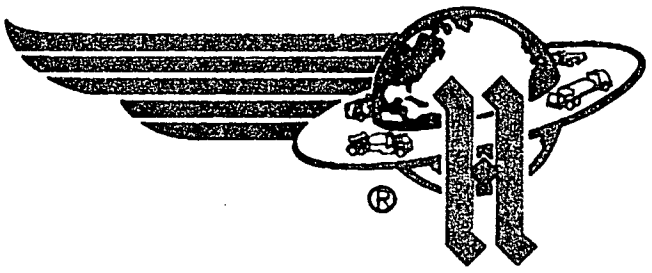
Duncan, Oklahoma 73536

A Halliburton Company

NOMENCLATURE

B	=	Formation Volume Factor (Res Vol / Std Vol)	—
c_t	=	System Total Compressibility	(Vol / Vol) / psi
DR	=	Damage Ratio	—
h	=	Estimated Net Pay Thickness	Ft
k	=	Permeability	md
m	=	(Liquid) Slope Extrapolated Pressure Plot	psi/cycle
		(Gas) Slope Extrapolated m(P) Plot	MM psi^2/ cp/cycle
$m(P^*)$	=	Real Gas Potential at P^*	MM psi^2/cp
$m(P_f)$	=	Real Gas Potential at P_f	MM psi^2/cp
AOF_1	=	Maximum Indicated Absolute Open Flow at Test Conditions	MCFD
AOF_2	=	Minimum Indicated Absolute Open Flow at Test Conditions	MCFD
P^*	=	Extrapolated Static Pressure	Psig
P_f	=	Final Flow Pressure	Psig
Q	=	Liquid Production Rate During Test	BPD
Q_1	=	Theoretical Liquid Production w/ Damage Removed	BPD
Q_g	=	Measured Gas Production Rate	MCFD
r_i	=	Approximate Radius of Investigation	Ft
r_w	=	Radius of Well Bore	Ft
S	=	Skin Factor	
t	=	Total Flow Time Previous to Closed-in	Minutes
Δt	=	Closed-in Time at Data Point	Minutes
T	=	Temperature Rankine	°R
ϕ	=	Porosity	—
μ	=	Viscosity of Gas or Liquid	cp
Log	=	Common Log	

FORMATION TEST REPORT

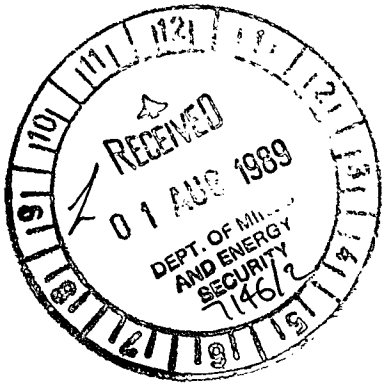


HALLIBURTON SERVICES

A Halliburton Company

Customer: SANTOS LIMITED
Well Description: NARIE #1

TEST NO. :DST #4
TEST DATE :08-MAY-88
TICKET NO. :328370



HALLIBURTON
SERVICES

REPORT TICKET NO: 328370
BT-GAUGE TICKET NO: 328370
DATE: 08 MAY 88
HALLIBURTON CAMP: MOOMBA
TESTER: F. OBORN
WITNESS: B. SPEECHLY

DRILLING CONTRACTOR: ATCO RIG #1
LEGAL LOCATION: 27 46' 19.6"S
140 05' 35.6"E

OPERATOR: SANTOS LIMITED
LEASE NAME: NARIE
WELL NO: 1
TEST NO: 4
TESTED INTERVAL: 8793.00 - 8887.00 ft

FIELD AREA: COOPER BASIN
COUNTY/LSD: MOOMBA
STATE/PROVINCE: SOUTH AUSTRALIA
COUNTRY: AUSTRALIA

NOTICE: THIS REPORT IS BASED ON SOUND ENGINEERING PRACTICES, BUT BECAUSE OF VARIABLE WELL CONDITIONS AND OTHER INFORMATION WHICH MUST BE RELIED UPON HALLIBURTON MAKES NO WARRANTY, EXPRESS OR IMPLIED AS TO THE ACCURACY OF THE DATA OR OF ANY CALCULATIONS OR OPINIONS EXPRESSED HEREIN. YOU AGREE THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, WHETHER DUE TO NEGLIGENCE OR OTHERWISE ARISING OUT OF OR IN CONNECTION WITH SUCH DATA, CALCULATIONS OR OPINIONS.

TABLE OF CONTENTS

SECTION 1: TEST SUMMARY & INFORMATION

Summary of Test Results	1.1
Test Period Summary	1.2
Pressure vs. Time Plot	1.3
Test and Formation Data	1.4
Rate History Table	1.5
Tool String Configuration	1.6
Operator Job Log	1.7

SECTION 2: ANALYSIS

Plots	2.1

SECTION 3: MECHANICAL GAUGE DATA

Gauge No.	7900	3.1
Gauge No.	5093	3.2
Gauge No.	8568	3.3

Date: 08 MAY 88 Ticket No: 328370 Page No: 1.1

SUMMARY OF TEST

Lease Owner: SANTOS LIMITED Lease Name: NARIE

Well No.: 1 Test No.: 4

County/LSD: MOOMBA State/Province: SOUTH AUSTRAL

Country: AUSTRALIA

Formation Tested: PATCHAWARRA

Hole Temp: 275.00 F

Total Depth: 8887.00 ft

Net Pay: 94.00 ft

Gross Tested Interval: 8793.00 - 8887.00 ft

Perforated Interval (ft):

RECOVERY:

10 BBL CONDENSATE

REMARKS:

Date: 08 MAY 88 Ticket No: 328370 Page No: 1.2

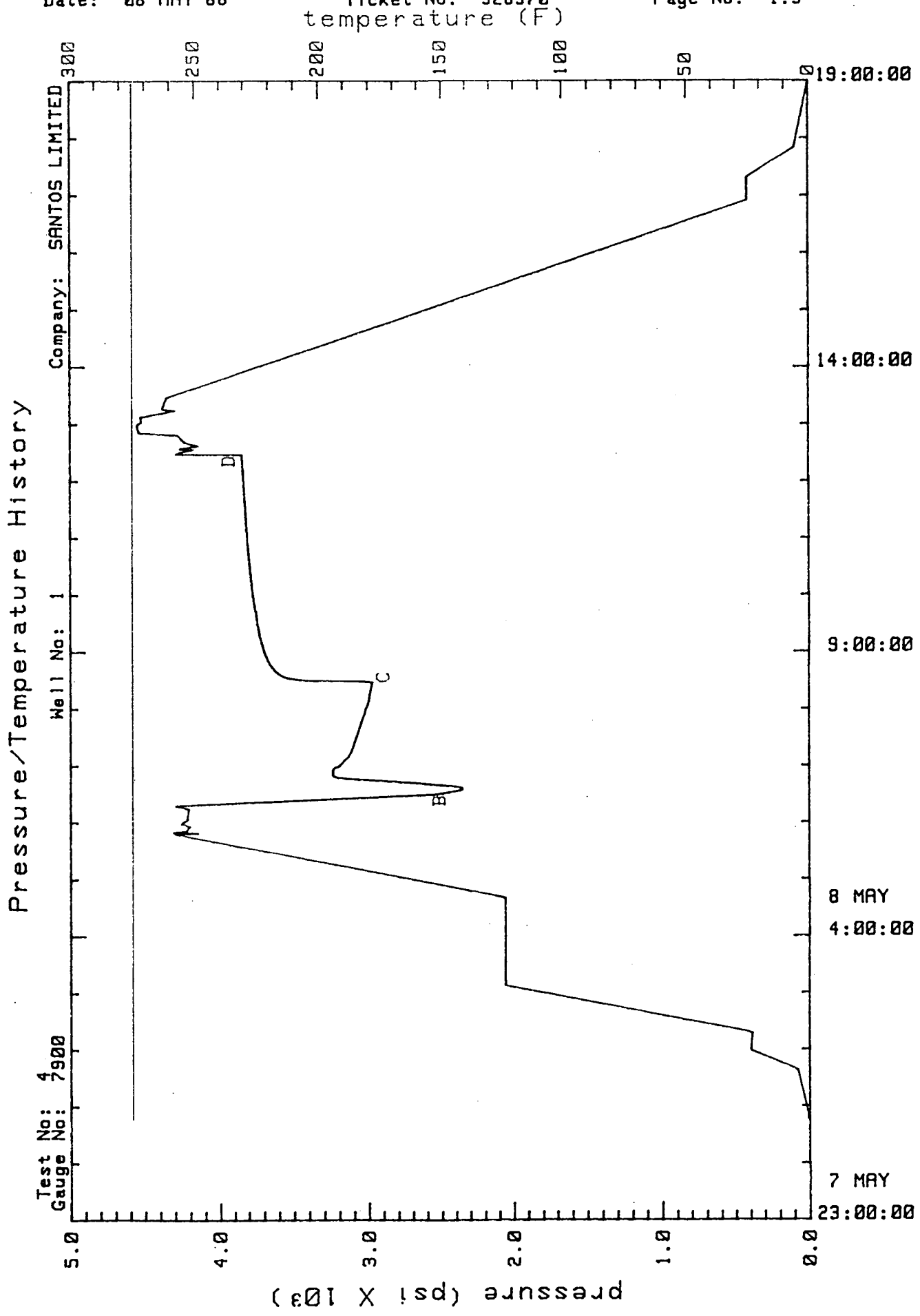
TEST PERIOD SUMMARY

Gauge No.: 7900 Depth: 8884.00 ft Blanked off : Yes
Hour of clock: 24

ID	PERIOD	DESCRIPTION	PRESSURE (psi)	DURATION (min)
A		Initial Hydrostatic	4201.96	
B	1	Start Draw-down	2530.89	
C		End Draw-down	2968.08	118.59
C	2	Start Build-up	2968.08	
D		End Build-up	3840.67	239.73
E		Final Hydrostatic	4260.85	

NOTE: for Pressure vs. Time Plot, see next page.

Date: 08 MAY 88 Ticket No: 328370 Page No: 1.3



Date: 08 MAY 88 Ticket No: 328370 Page No: 1.4

TEST AND FORMATION DATA

Formation Tested: PATCHAWARRA
All Depths Measured From: K.B.
Elevation: 133.00 ft
Total Depth: 8887.00 ft
Net Pay: 94.00 ft
Hole or Casing Size: 8.500 in
Gross Tested Interval: 8793.00 - 8887.00 ft
Perforated Interval (ft):

HOLE FLUID

Type: MUD
Weight: 9.30 lb/gal
Viscosity: 41 seconds

HOLE TEMPERATURE

Depth: 8883.00 ft
Estimated: 0.00 F
Actual: 275.00 F

HYDROCARBON PROPERTIES

Oil Gravity (API): 0.0 @ 60 F
Gas/Oil ratio (ScF/STB): 0.0
Gas Gravity (SG): 0.75

CUSHION DATA

TYPE	AMOUNT	WEIGHT
WATER	600 FT	8.34

FLUID PROPERTIES FOR RECOVERED MUD AND WATER

SOURCE	RESISTIVITY	CHLORIDES	SG	PH
	@ F	PPM		
	@ F	PPM		
	@ F	PPM		
	@ F	PPM		
	@ F	PPM		
	@ F	PPM		

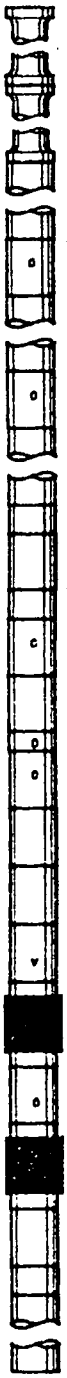
SAMPLER DATA

Surface Pressure: 0 psi
Volume of Gas: 0 ft3
Volume of Oil: 0 cc
Volume of Water: 0 cc
Volume of Mud: 0 cc
Total Liquids: 0 cc

REMARKS:

Date:08 MAY 89 Ticket no: 328370 Page no: 1.6.1

TEST STRING CONFIGURATION



	O.D. (in)	I.D. (in)	LENGTH (ft)	DEPTH (ft)
DRILL PIPE.....	4.500	3.000	8187.830	
FLEX WEIGHT.....	4.500	2.812	182.800	
DRILL COLLARS.....	6.500	2.812	329.500	
PUMP OUT REVERSING SUB.....	6.000	3.000	1.000	8692.74
DRILL COLLARS.....	6.500	2.812	30.650	
IMPACT REVERSING SUB.....	6.000	3.000	1.000	8723.99
DRILL COLLARS.....	6.500	2.812	29.780	
CROSSOVER.....	5.750	3.000	1.000	
AP RUNNING CASE.....	5.000	2.250	4.140	8755.51
CROSSOVER.....	5.000	2.250	1.000	
DUAL CIP VALVE.....	5.000	0.860	4.870	8763.38
SAMPLE CHAMBER.....	5.000	2.500	4.870	
DRAIN VALVE.....	5.000	2.200	0.860	
HYDROSPRING TESTER.....	5.000	0.750	5.310	
AP RUNNING CASE.....	5.000	2.250	4.140	8775.56
JAR.....	5.000	1.750	5.000	
VR SAFETY JOINT.....	5.000	1.000	2.780	
OPEN HOLE PACKER.....	7.500	1.530	5.810	8786.34
DISTRIBUTOR VALVE.....	5.000	1.680	2.000	
OPEN HOLE PACKER.....	7.500	1.530	5.810	8793.52
ANCHOR PIPE SAFETY JOINT.....	5.000	1.500	4.300	
CROSSOVER.....	5.750	3.000	1.000	
DRILL COLLARS.....	6.500	2.812	59.310	

CONTINUED

Date:08 MAY 89 Ticket no: 328370 Page no: 1.6.2

TEST STRING CONFIGURATION

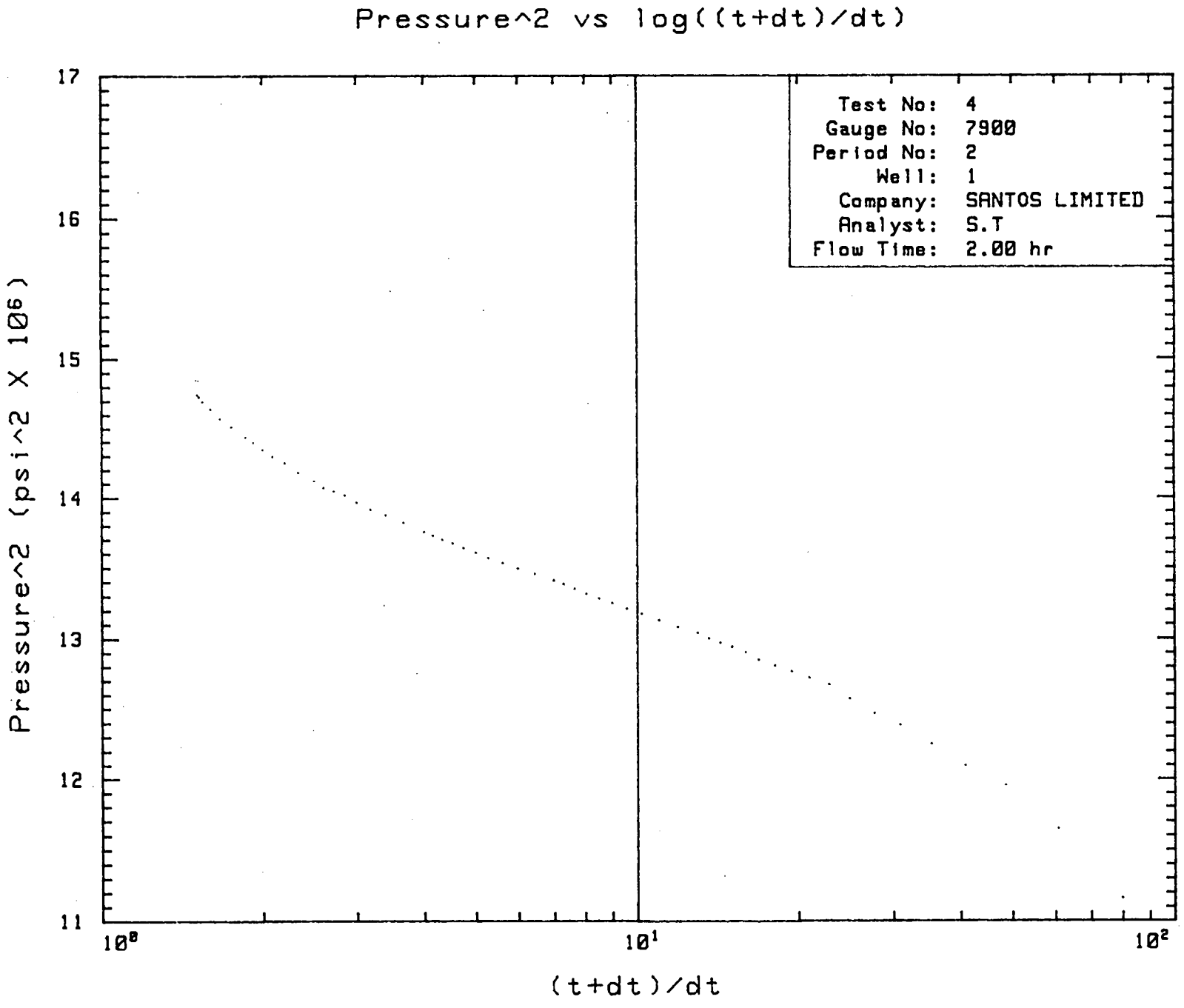
	O.D. (in)	I.D. (in)	LENGTH (ft)	DEPTH (ft)
CROSSOVER.....	5.750	3.000	1.000	
FLUSH JOINT ANCHOR.....	5.000	2.370	22.000	
BLANKED-OFF RUNNING CASE.....	5.000	4.060	4.060	8884.00
TOTAL DEPTH				8887.00

Date: 08 MAY 88 Ticket No: 328370 Page No: 1.7.1
Test No: 4

OPERATOR JOB LOG

Type of Flow Measuring Device: 6" CERAMIC CHKE

TIME HH:MM:SS	CHOKE SIZE (in)	SURFACE PRESSURE (psi)	GAS RATE (MCF/D)	LIQUID RATE (bbl/d)	REMARKS
8-MAY-88					
00:45:00					PICK UP TOOL
01:40:00					TOOL MADE UP & RUN INTO HOLE
05:55:00					HEAD UP TO FLOOR MANIFOLD
06:25:00					SEAT PACKERS WITH 28000 LBS
06:30:00	32/64				TOOL OPEN WITH WEAK BLOW
06:32:00	32/64	1.00			BLOW INCREASED TO MODERATE
06:33:00	32/64	20.00			BLOW INCREASED TO STRONG
06:36:00	32/64	145.00			STRONG BLOW
06:37:00	32/64				CHOKE BLOCKED. NO BLOW. CHAN
06:37:00	32/64				TO 0.25" CHOKE
06:38:00	16/64				CHOKE BLOCKED. NO BLOW. OPEN
06:38:00	16/64				2" VALVE. GAS TO SURFACE.
06:38:00	16/64				CLEAN & REPLACE .5" CHOKE
06:52:00	32/64	1466.00			CLOSE 2" VALVE & OPEN .5"
06:52:00	32/64	1466.00			CHOKE. GAS TO SURFACE.
06:55:00	32/64	1431.00			WATER CUSHION TO SURFACE
07:00:00	32/64	1488.00			FLUCTUATING PRESSURE 1475-14
07:00:00	32/64	1488.00			PSI
07:15:00	32/64	1440.00			FLUCTUATING PRESSURE 1432-14
07:15:00	32/64	1440.00			PSI
07:30:00	32/64	1458.00			FLUCTUATING PRESSURE 1446-14
07:30:00	32/64	1458.00			PSI
07:35:00	32/64	1444.00			PRESSURE STEADY
07:50:00	32/64	1436.00			PRESSURE STEADY
08:03:00	32/64	1450.00			PRESSURE STEADY. GAUGE CHANG
08:03:00	32/64	1450.00			OUT
08:15:00	32/64	1450.00			PRESSURE STEADY
08:30:00	32/64	1450.00			CLOSE TOOL FOR CLOSED IN
08:30:00	32/64	1450.00			FORMATION PRESSURE
08:32:00					TOOL CLOSED
12:32:00					OPEN BYPASS. PACKERS FREE
12:35:00					DROP BAR TO REVERSE
12:37:00					PIN SHEARED. START REVERSING
12:40:00					GAS TO SURFACE
12:47:00					CONDENSATE TO SURFACE
13:10:00					PUMP PILL AND PULL OUT OF HO
17:25:00					TOOL AT FLOOR. START BREAKIN
17:25:00					DOWN
18:20:00					TOOL BROKEN DOWN & LAID OUT.
18:20:00					FINISHED.



Date: 08 MAY 88 Ticket No: 328370 Page No: 2.2.1

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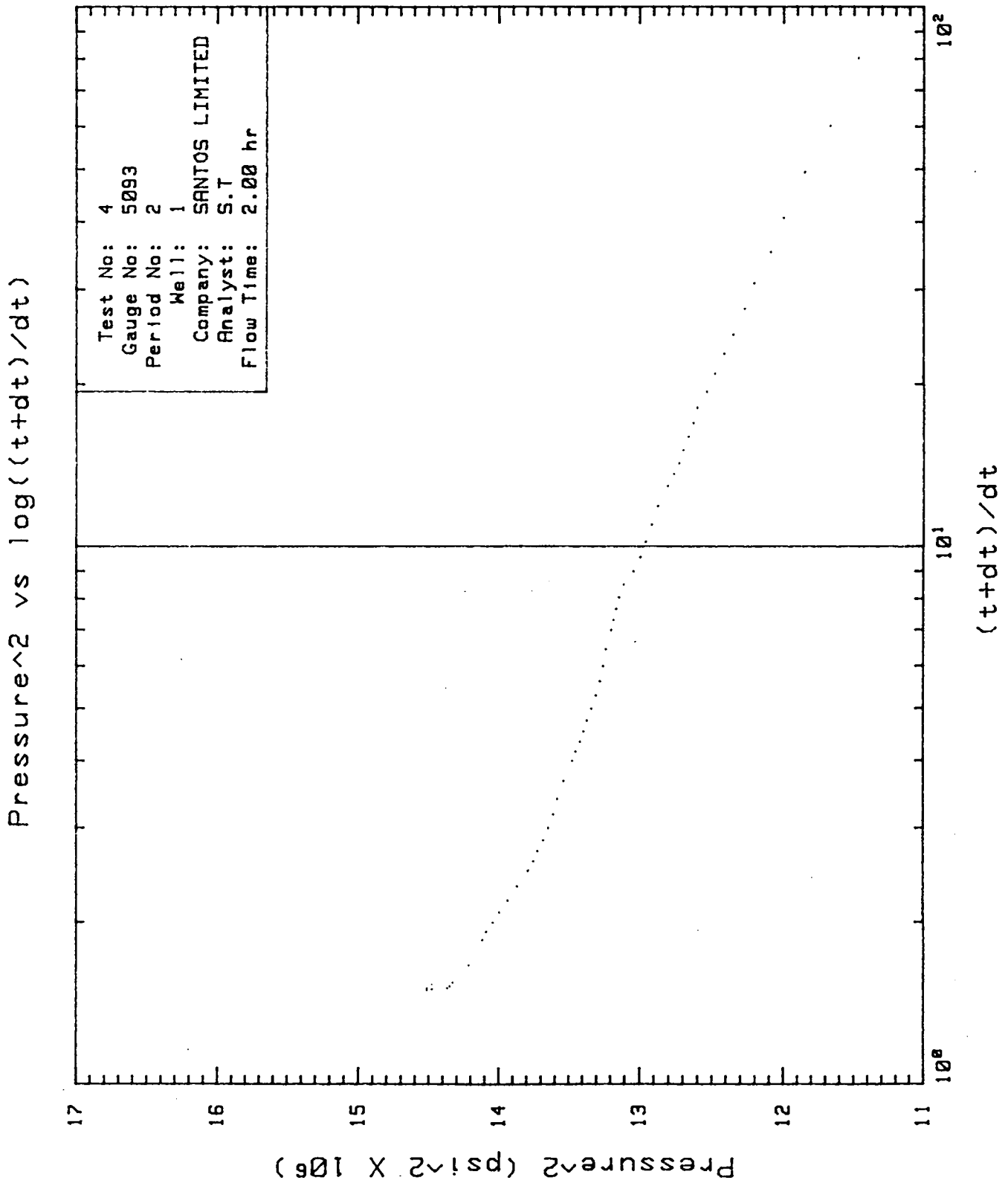

Test No: 4
Gauge No: 5093
Period No: 2
Well: 1
Company: SANTOS LIMITED
Analyst: S.T
Flow Time: 2.00 hr
Pressure^2 vs log((t+dt)/dt)
Pressure^2 (psi^2 X 10^6)
17
16
15
14
13
12
11
10^2
10^1
10^0
(t+dt)/dt

Date: 08 MAY 88 Ticket No: 328370 Page No: 3.1

TEST PERIOD SUMMARY

Gauge No.: 7900 Depth: 8884.00 ft Blanked off : Yes
Hour of clock: 24

ID	PERIOD	DESCRIPTION	PRESSURE (psi)	DURATION (min)
A		Initial Hydrostatic	4201.96	
B	1	Start Draw-down	2530.89	
C		End Draw-down	2968.08	118.59
C	2	Start Build-up	2968.08	
D		End Build-up	3840.67	239.73
E		Final Hydrostatic	4260.85	

NOTE: for Pressure vs. Time Plot, see next page.

Date: 08 MAY 88 Ticket No: 328370 Page No: 3.1.1

PRESSURE VS TIME

MECHANICAL gauge no.: 7900 Gauge Depth: 8884.00 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
8-MAY-88		Data Print Frequency: 1		
00:45:00				PICK UP TOOL
00:46:32		4.803	275.0	
00:51:15		7.891	275.0	
01:38:42		81.766	275.0	
01:40:00				TOOL MADE UP & RUN INTO HOLE
01:59:25		398.485	275.0	
02:17:42		386.589	275.0	
03:08:16		2060.271	275.0	
04:41:01		2057.418	275.0	
05:48:03		4299.602	275.0	
05:49:03		4141.095	275.0	
05:49:51		4310.986	275.0	
05:51:31		4217.066	275.0	
05:55:00				HEAD UP TO FLOOR MANIFOLD
05:56:04		4195.830	275.0	
05:58:52		4254.066	275.0	
06:03:14		4212.250	275.0	
06:14:18		4201.960	275.0	
06:14:40		4202.398	275.0	
06:17:56		4295.224	275.0	
06:25:00				SEAT PACKERS WITH 28000 LBS
06:30:00				TOOL OPEN WITH WEAK BLOW
		*** Start of Period 1 ***		
06:30:00	0.00	2530.892	275.0	
06:31:02	1.03	2489.219	275.0	
06:32:00				BLOW INCREASED TO MODERATE
06:32:02	2.04	2451.712	275.0	
06:33:00				BLOW INCREASED TO STRONG
06:33:00	3.01	2415.957	275.0	
06:34:01	4.01	2374.058	275.0	
06:35:03	5.04	2352.121	275.0	
06:36:00				STRONG BLOW
06:36:01	6.01	2350.365	275.0	
06:37:00				CHOKE BLOCKED. NO BLOW. CHANGE
06:37:00				TO 0.25" CHOKE
06:37:01	7.02	2359.360	275.0	
06:38:00				CHOKE BLOCKED. NO BLOW. OPEN
06:38:00				2" VALVE. GAS TO SURFACE.
06:38:00				CLEAN & REPLACE .5" CHOKE
06:38:01	8.02	2393.363	275.0	
06:39:01	9.02	2449.080	275.0	
06:40:01	10.02	2547.560	275.0	
06:41:02	11.03	2606.334	275.0	
06:42:00	12.00	2672.558	275.0	
06:43:00	13.00	2779.555	275.0	
06:44:00	14.00	2867.466	275.0	

Date: 08 MAY 88 Ticket No: 328370 Page No: 3.1.2

PRESSURE VS TIME

MECHANICAL gauge no.: 7900 Gauge Depth: 8884.00 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
8-MAY-88		Data Print Frequency: 1		
06:45:00	15.01	2950.544	275.0	
06:46:02	16.04	3058.598	275.0	
06:47:01	17.01	3147.573	275.0	
06:48:01	18.01	3210.025	275.0	
06:49:01	19.02	3232.156	275.0	
06:50:01	20.02	3239.168	275.0	
06:51:01	21.02	3240.044	275.0	
06:52:00				CLOSE 2" VALVE & OPEN .5"
06:52:00				CHOKE. GAS TO SURFACE.
06:52:01	22.02	3240.702	275.0	
06:53:01	23.02	3241.359	275.0	
06:54:00	24.00	3241.140	275.0	
06:55:00				WATER CUSHION TO SURFACE
06:55:00	25.00	3239.168	275.0	
06:56:02	26.03	3237.196	275.0	
06:57:02	27.03	3231.499	275.0	
06:58:00	28.01	3225.583	275.0	
06:59:02	29.04	3209.806	275.0	
07:00:00				FLUCTUATING PRESSURE 1475-1488
07:00:00				PSI
07:00:03	30.04	3194.248	275.0	
07:05:01	35.02	3164.666	275.0	
07:10:02	40.04	3131.137	275.0	
07:15:00				FLUCTUATING PRESSURE 1432-1440
07:15:00				PSI
07:15:01	45.02	3112.510	275.0	
07:20:02	50.03	3099.799	275.0	
07:25:01	55.01	3089.938	275.0	
07:30:00				FLUCTUATING PRESSURE 1446-1458
07:30:00				PSI
07:30:01	60.02	3078.761	275.0	
07:35:00				PRESSURE STEADY
07:35:00	65.00	3066.707	275.0	
07:40:01	70.02	3056.187	275.0	
07:45:02	75.03	3045.667	275.0	
07:50:00				PRESSURE STEADY
07:50:02	80.04	3035.805	275.0	
07:55:01	85.02	3023.093	275.0	
08:00:02	90.03	3015.860	275.0	
08:03:00				PRESSURE STEADY. GAUGE CHANGED
08:03:00				OUT
08:05:01	95.02	3000.956	275.0	
08:10:02	100.03	2991.970	275.0	
08:15:00				PRESSURE STEADY
08:15:02	105.04	2987.587	275.0	
08:20:01	110.02	2979.696	275.0	

PRESSURE VS TIME

MECHANICAL gauge no.: 7900 Gauge Depth: 8884.00 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
8-MAY-88		Data Print Frequency: 1		
08:25:00	115.00	2974.216	275.0	
08:28:35	118.59	2968.079	275.0	
		*** End of Period 1 ***		
		*** Start of Period 2 ***		
08:29:04	0.49	2998.765	275.0	
08:29:37	1.03	3056.845	275.0	
08:30:00				CLOSE TOOL FOR CLOSED IN
08:30:00				FORMATION PRESSURE
08:30:06	1.52	3340.174	275.0	
08:30:36	2.00	3412.691	275.0	
08:31:07	2.52	3457.819	275.0	
08:31:36	3.01	3477.973	275.0	
08:32:00				TOOL CLOSED
08:32:05	3.49	3499.878	275.0	
08:32:36	4.01	3519.374	275.0	
08:33:05	4.50	3531.203	275.0	
08:33:36	5.01	3545.441	275.0	
08:34:05	5.50	3559.898	275.0	
08:34:36	6.01	3566.907	275.0	
08:35:05	6.50	3573.040	275.0	
08:35:36	7.02	3578.735	275.0	
08:36:09	7.56	3584.649	275.0	
08:36:36	8.02	3591.877	275.0	
08:37:07	8.54	3597.134	275.0	
08:37:37	9.02	3601.296	275.0	
08:38:06	9.51	3605.458	275.0	
08:38:37	10.02	3610.933	275.0	
08:39:35	11.00	3617.066	275.0	
08:40:35	12.00	3623.418	275.0	
08:41:37	13.03	3629.770	275.0	
08:42:35	14.00	3634.808	275.0	
08:43:36	15.01	3640.283	275.0	
08:44:36	16.01	3644.883	275.0	
08:45:36	17.01	3649.482	275.0	
08:46:38	18.04	3654.301	275.0	
08:47:36	19.02	3658.900	275.0	
08:48:36	20.02	3662.186	275.0	
08:50:37	22.02	3668.756	275.0	
08:52:37	24.03	3673.794	275.0	
08:54:35	26.00	3679.050	275.0	
08:56:36	28.01	3683.869	275.0	
08:58:36	30.01	3689.125	275.0	
09:00:36	32.02	3693.505	275.0	
09:02:37	34.02	3698.105	275.0	
09:04:37	36.03	3701.609	275.0	
09:06:35	38.00	3705.551	275.0	

Date: 08 MAY 88 Ticket No: 328370 Page No: 3.1.4

PRESSURE VS TIME

MECHANICAL gauge no.: 7900 Gauge Depth: 8884.00 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
8-MAY-88		Data Print Frequency: 1		
09:08:36	40.01	3709.055	275.0	
09:13:36	45.02	3717.816	275.0	
09:18:37	50.03	3725.262	275.0	
09:23:38	55.04	3730.299	275.0	
09:28:37	60.02	3737.089	275.0	
09:33:36	65.00	3744.097	275.0	
09:38:36	70.02	3747.820	275.0	
09:43:35	75.00	3751.105	275.0	
09:48:36	80.01	3757.894	275.0	
09:58:37	90.03	3766.216	275.0	
10:08:37	100.03	3775.195	275.0	
10:18:37	110.02	3781.108	275.0	
10:28:36	120.02	3787.459	275.0	
10:38:38	130.04	3794.248	275.0	
10:48:35	140.00	3799.504	275.0	
11:08:36	160.02	3809.578	275.0	
11:28:38	180.04	3817.681	275.0	
11:48:37	200.03	3826.441	275.0	
12:08:36	220.01	3833.448	275.0	
12:18:37	230.04	3838.047	275.0	
12:23:36	235.02	3840.018	275.0	
12:28:19	239.73	3840.675	275.0	
		*** End of Period 2 ***		
12:28:55		4289.094	275.0	
12:29:35		4261.728	275.0	
12:30:26		4260.852	275.0	
12:32:00				OPEN BYPASS. PACKERS FREE
12:33:54		4170.652	275.0	
12:34:27		4262.604	275.0	
12:35:00				DROP BAR TO REVERSE
12:37:00				PIN SHEARED. START REVERSING
12:37:49		4137.592	275.0	
12:40:00				GAS TO SURFACE
12:41:13		4229.327	275.0	
12:47:00				CONDENSATE TO SURFACE
12:48:51		4276.177	275.0	
12:51:35		4537.120	275.0	
12:59:49		4547.627	275.0	
13:02:27		4515.667	275.0	
13:07:46		4523.329	275.0	
13:10:00				PUMP PILL AND PULL OUT OF HOLE
13:15:04		4290.188	275.0	
13:16:18		4375.786	275.0	
13:28:22		4344.262	275.0	
16:55:28		411.924	275.0	
17:19:04		420.075	275.0	

Date: 08 MAY 88 Ticket No: 328370 Page No: 3.1.5

PRESSURE VS TIME

MECHANICAL gauge no.: 7900 Gauge Depth: 8884.00 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
8-MAY-88		Data Print Frequency: 1		
17:25:00				TOOL AT FLOOR. START BREAKING
17:25:00				DOWN
17:50:49		89.925	275.0	
18:20:00				TOOL BROKEN DOWN & LAID OUT.
18:20:00				FINISHED.
18:57:20		0.833	275.0	

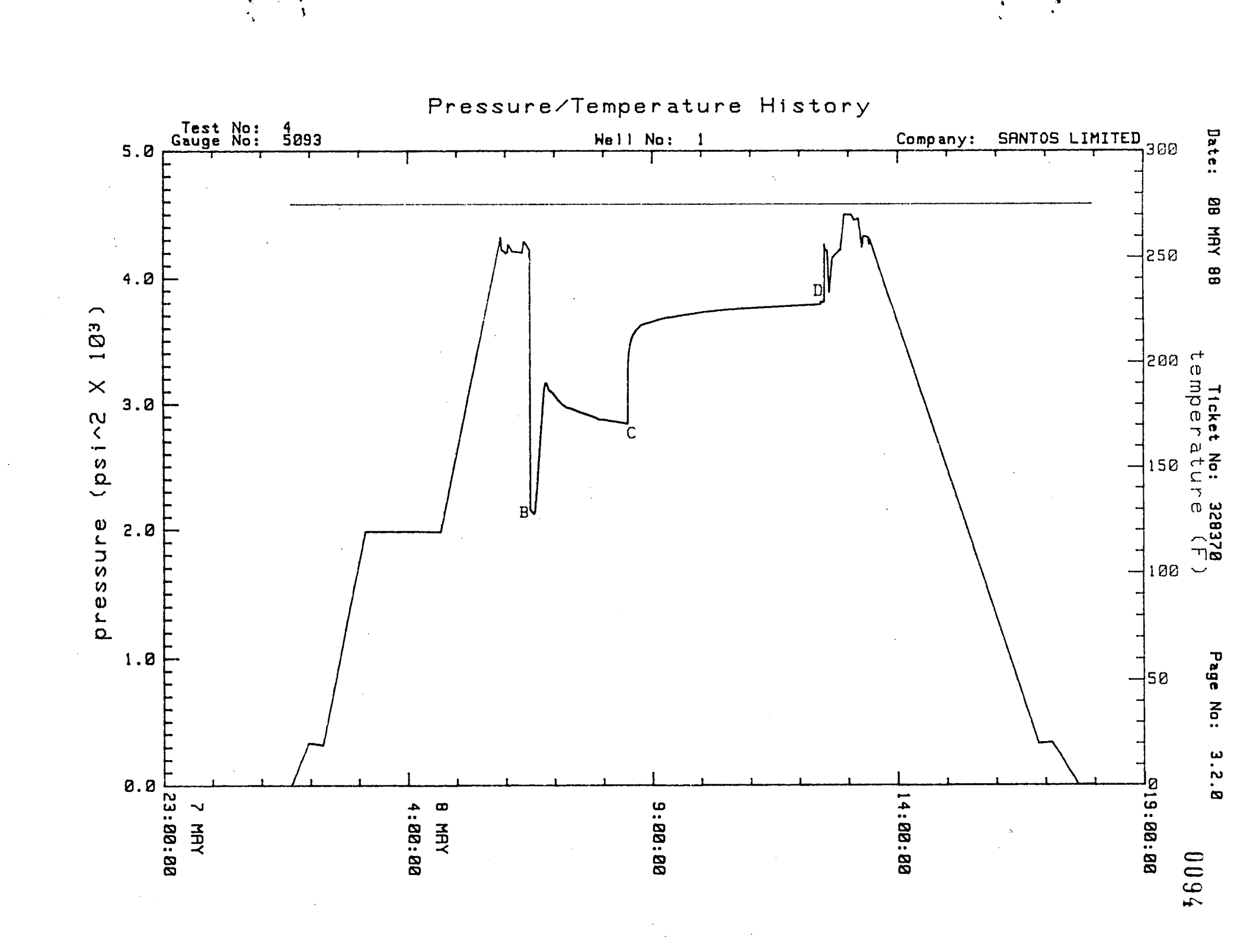
Date: 08 MAY 88 Ticket No: 328370 Page No: 3.2

TEST PERIOD SUMMARY

Gauge No.: 5093 Depth: 8775.56 ft Blanked off : No
Hour of clock: 24

ID	PERIOD	DESCRIPTION	PRESSURE (psi)	DURATION (min)
A		Initial Hydrostatic	4197.34	
B	1	Start Draw-down	2154.51	
C		End Draw-down	2839.98	120.00
C	2	Start Build-up	2839.98	
D		End Build-up	3809.62	241.12
E		Final Hydrostatic	4219.25	

NOTE: for Pressure vs. Time Plot, see next page.


Pressure/Temperature History
Test No: 4
Gauge No: 5093
Well No: 1
Company: SANTOS LIMITED
Date: 08 MAY 88
Ticket No: 328370
Page No: 3.2.0
pressure (psi^2 X 10³)
temperature (F)
5.0
4.0
3.0
2.0
1.0
0.0
300
250
200
150
100
50
0
B
C
D
7 MAY
23:00:00
8 MAY
4:00:00
9:00:00
14:00:00
19:00:00
0094

Date: 08 MAY 88 Ticket No: 328370 Page No: 3.2.1

PRESSURE VS TIME

MECHANICAL gauge no.: 5093 Gauge Depth: 8775.56 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
8-MAY-88		Data Print Frequency: 1		
00:45:00				PICK UP TOOL
01:36:47		11.349	275.0	
01:40:00				TOOL MADE UP & RUN INTO HOLE
01:57:23		333.403	275.0	
02:15:12		314.718	275.0	
03:07:40		1986.683	275.0	
04:40:07		1978.615	275.0	
05:54:27		4323.731	275.0	
05:55:00				HEAD UP TO FLOOR MANIFOLD
05:55:50		4219.873	275.0	
06:00:06		4200.051	275.0	
06:01:02		4191.912	275.0	
06:01:53		4201.929	275.0	
06:03:03		4200.885	275.0	
06:03:31		4263.471	275.0	
06:08:59		4207.771	275.0	
06:20:35		4197.338	275.0	
06:21:14		4195.877	275.0	
06:22:51		4288.288	275.0	
06:25:00				SEAT PACKERS WITH 28000 LBS
06:29:44		4223.837	275.0	
06:30:00				TOOL OPEN WITH WEAK BLOW
		*** Start of Period 1 ***		
06:30:00	0.00	2154.511	275.0	
06:31:02	1.03	2148.362	275.0	
06:32:00				BLOW INCREASED TO MODERATE
06:32:01	2.02	2140.728	275.0	
06:33:00				BLOW INCREASED TO STRONG
06:33:01	3.02	2133.942	275.0	
06:34:01	4.02	2127.791	275.0	
06:35:01	5.01	2122.065	275.0	
06:36:00				STRONG BLOW
06:36:02	6.04	2138.607	275.0	
06:37:00				CHOKE BLOCKED. NO BLOW. CHANGE
06:37:00				TO 0.25" CHOKE
06:37:00	7.01	2216.413	275.0	
06:38:00				CHOKE BLOCKED. NO BLOW. OPEN
06:38:00				2" VALVE. GAS TO SURFACE.
06:38:00				CLEAN & REPLACE .5" CHOKE
06:38:02	8.03	2290.573	275.0	
06:39:02	9.03	2369.350	275.0	
06:40:00	10.00	2464.371	275.0	
06:41:01	11.02	2561.861	275.0	
06:42:01	12.02	2637.308	275.0	
06:43:01	13.02	2736.149	275.0	
06:44:03	14.04	2823.733	275.0	

Date: 08 MAY 88 Ticket No: 328370 Page No: 3.2.2

PRESSURE VS TIME

MECHANICAL gauge no.: 5093 Gauge Depth: 8775.56 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
8-MAY-88		Data Print Frequency: 1		
06:45:01	15.01	2901.982	275.0	
06:46:00	16.01	2997.884	275.0	
06:47:00	17.00	3058.760	275.0	
06:48:00	18.00	3125.080	275.0	
06:49:02	19.03	3164.435	275.0	
06:50:02	20.03	3167.381	275.0	
06:51:01	21.02	3162.120	275.0	
06:52:00				CLOSE 2" VALVE & OPEN .5"
06:52:00				CHOKE. GAS TO SURFACE.
06:52:01	22.02	3142.760	275.0	
06:53:01	23.02	3120.660	275.0	
06:54:01	24.01	3106.135	275.0	
06:55:00				WATER CUSHION TO SURFACE
06:55:01	25.01	3100.661	275.0	
06:56:00	26.01	3095.609	275.0	
06:57:02	27.03	3090.766	275.0	
06:58:02	28.03	3083.818	275.0	
06:59:02	29.03	3076.870	275.0	
07:00:00				FLUCTUATING PRESSURE 1475-1488
07:00:00				PSI
07:00:01	30.02	3070.131	275.0	
07:05:00	35.01	3027.377	275.0	
07:10:01	40.02	2993.880	275.0	
07:15:00				FLUCTUATING PRESSURE 1432-1440
07:15:00				PSI
07:15:02	45.03	2971.755	275.0	
07:20:01	50.02	2963.957	275.0	
07:25:00	55.00	2950.680	275.0	
07:30:00				FLUCTUATING PRESSURE 1446-1458
07:30:00				PSI
07:30:01	60.02	2937.190	275.0	
07:35:00				PRESSURE STEADY
07:35:00	65.00	2926.439	275.0	
07:40:03	70.04	2914.000	275.0	
07:45:00	75.00	2903.037	275.0	
07:50:00				PRESSURE STEADY
07:50:02	80.04	2890.596	275.0	
07:55:01	85.02	2872.882	275.0	
08:00:00	90.01	2869.507	275.0	
08:03:00				PRESSURE STEADY. GAUGE CHANGED
08:03:00				OUT
08:05:01	95.02	2866.133	275.0	
08:10:00	100.01	2860.860	275.0	
08:15:00				PRESSURE STEADY
08:15:01	105.02	2856.431	275.0	
08:20:02	110.03	2850.947	275.0	

Date: 08 MAY 88 Ticket No: 328370 Page No: 3.2.3

PRESSURE VS TIME

MECHANICAL gauge no.: 5093 Gauge Depth: 8775.56 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
8-MAY-88		Data Print Frequency: 1		
08:25:01	115.02	2844.197	275.0	
08:30:00				CLOSE TOOL FOR CLOSED IN
08:30:00				FORMATION PRESSURE
08:30:00	120.00	2839.978	275.0	
		*** End of Period 1 ***		
		*** Start of Period 2 ***		
08:30:31	0.51	3266.028	275.0	
08:31:02	1.03	3340.016	275.0	
08:31:31	1.51	3386.236	275.0	
08:32:00				TOOL CLOSED
08:32:01	2.02	3415.850	275.0	
08:32:29	2.48	3442.518	275.0	
08:33:01	3.02	3464.142	275.0	
08:33:30	3.50	3477.157	275.0	
08:34:01	4.02	3493.318	275.0	
08:34:30	4.50	3502.972	275.0	
08:35:03	5.04	3514.514	275.0	
08:35:30	5.50	3523.747	275.0	
08:36:01	6.01	3532.769	275.0	
08:36:31	6.52	3540.112	275.0	
08:37:00	7.01	3549.762	275.0	
08:37:31	7.52	3553.748	275.0	
08:38:00	8.00	3558.363	275.0	
08:38:31	8.52	3563.607	275.0	
08:39:02	9.03	3567.593	275.0	
08:39:29	9.48	3572.627	275.0	
08:40:02	10.03	3578.499	275.0	
08:41:01	11.02	3588.147	275.0	
08:42:01	12.02	3594.018	275.0	
08:43:01	13.02	3599.680	275.0	
08:44:01	14.01	3604.713	275.0	
08:45:01	15.01	3611.213	275.0	
08:46:00	16.01	3620.858	275.0	
08:47:02	17.03	3625.261	275.0	
08:48:02	18.03	3628.196	275.0	
08:49:02	19.03	3630.712	275.0	
08:50:02	20.03	3633.018	275.0	
08:52:01	22.02	3638.049	275.0	
08:54:01	24.01	3640.774	275.0	
08:56:02	26.04	3643.709	275.0	
08:58:00	28.00	3647.482	275.0	
09:00:01	30.02	3651.675	275.0	
09:02:01	32.02	3656.286	275.0	
09:04:01	34.01	3659.849	275.0	
09:06:00	36.00	3663.622	275.0	
09:08:00	38.00	3667.814	275.0	

PRESSURE VS TIME

MECHANICAL gauge no.: 5093 Gauge Depth: 8775.56 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
8-MAY-88		Data Print Frequency: 1		
09:10:01	40.02	3671.167	275.0	
09:15:00	45.00	3679.969	275.0	
09:20:01	50.02	3685.836	275.0	
09:25:00	55.00	3689.608	275.0	
09:30:01	60.02	3694.637	275.0	
09:35:00	65.00	3699.247	275.0	
09:40:01	70.01	3704.695	275.0	
09:45:00	75.00	3708.885	275.0	
09:50:01	80.01	3713.704	275.0	
10:00:02	90.04	3724.598	275.0	
10:10:02	100.04	3733.396	275.0	
10:20:00	110.00	3741.565	275.0	
10:30:00	120.00	3747.639	275.0	
10:40:02	130.03	3753.713	275.0	
10:50:02	140.03	3757.692	275.0	
11:30:01	180.02	3770.467	275.0	
12:10:02	220.04	3785.544	275.0	
12:20:02	230.03	3788.475	275.0	
12:25:01	235.02	3790.778	275.0	
12:26:19	236.32	3792.244	275.0	
12:26:42	236.71	3809.830	275.0	
12:28:29	238.49	3804.387	275.0	
12:31:07	241.12	3809.620	275.0	
		*** End of Period 2 ***		
12:31:11		4265.140	275.0	
12:31:51		4217.161	275.0	
12:32:00				OPEN BYPASS. PACKERS FREE
12:34:50		4210.901	275.0	
12:35:00				DROP BAR TO REVERSE
12:37:00				PIN SHEARED. START REVERSING
12:37:09		3882.241	275.0	
12:40:00				GAS TO SURFACE
12:41:12		4158.517	275.0	
12:47:00				CONDENSATE TO SURFACE
12:50:18		4219.247	275.0	
12:50:52		4220.708	275.0	
12:55:22		4495.795	275.0	
13:04:19		4492.256	275.0	
13:07:20		4451.449	275.0	
13:10:00				PUMP PILL AND PULL OUT OF HOLE
13:12:37		4465.816	275.0	
13:17:18		4235.312	275.0	
13:18:47		4325.607	275.0	
13:25:09		4313.933	275.0	
13:25:51		4261.594	275.0	
13:26:42		4298.505	275.0	

Date: 08 MAY 88 Ticket No: 328370 Page No: 3.2.5

PRESSURE VS TIME

MECHANICAL gauge no.: 5093 Gauge Depth: 8775.56 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
8-MAY-88		Data Print Frequency: 1		
16:51:27		328.249	275.0	
17:07:33		339.631	275.0	
17:25:00				TOOL AT FLOOR. START BREAKING
17:25:00				DOWN
17:38:19		24.477	275.0	
17:38:45		4.893	275.0	
17:57:19		4.893	275.0	
18:20:00				TOOL BROKEN DOWN & LAID OUT.
18:20:00				FINISHED.

Date: 08 MAY 88 Ticket No: 328370 Page No: 3.3

TEST PERIOD SUMMARY

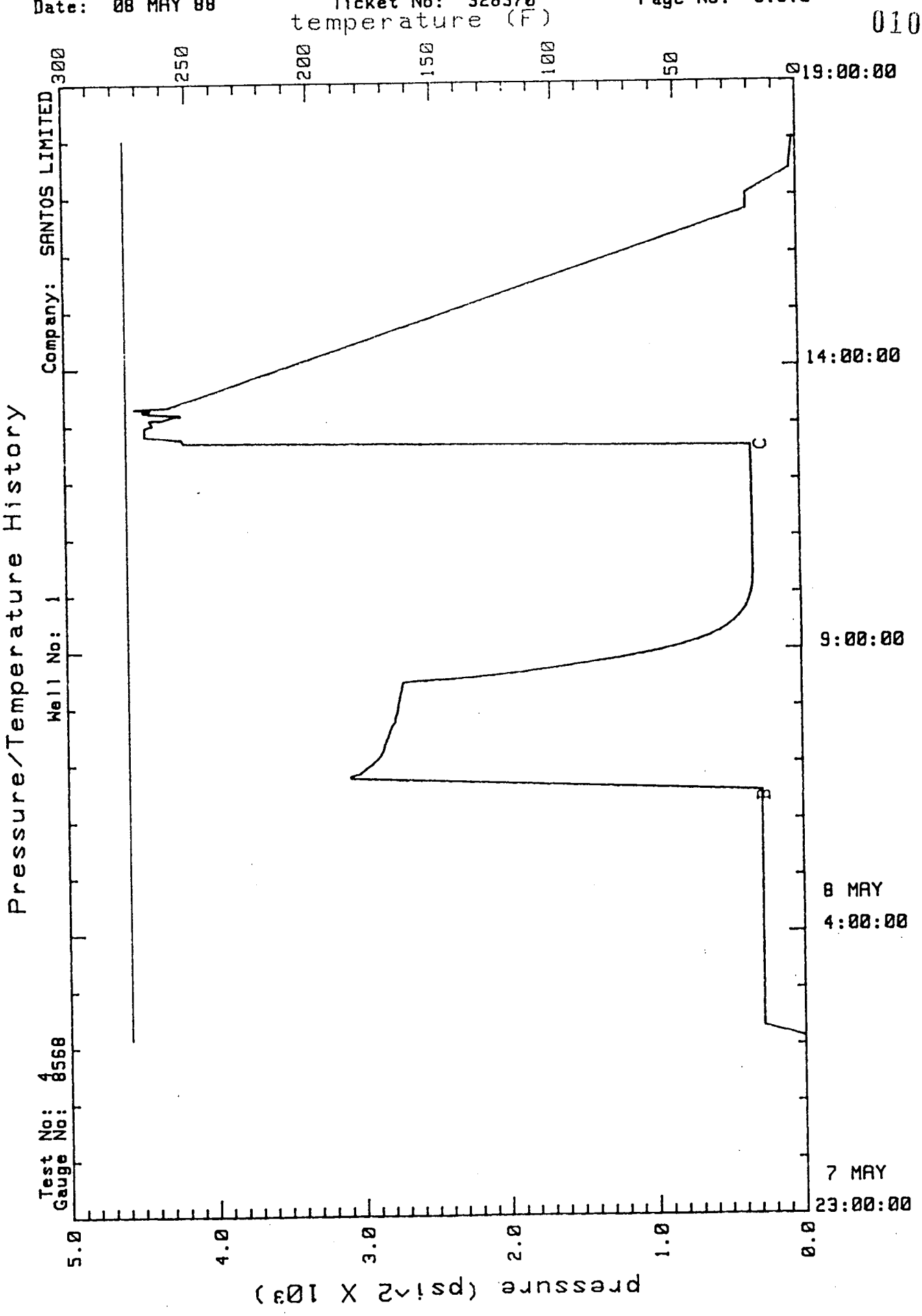
Gauge No.: 8568 Depth: 8755.51 ft Blanked off : No
Hour of clock: 24

ID	PERIOD	DESCRIPTION	PRESSURE (psi)	DURATION (min)
A		Initial Hydrostatic	4197.34	
B	1	Start Draw-down	280.76	
C		End Draw-down	334.11	360.00
D		Final Hydrostatic	333.68	

NOTE: for Pressure vs. Time Plot, see next page.

Date: 08 MAY 88 Ticket No: 328370 Page No: 3.3.0

0100



Date: 08 MAY 88 Ticket No: 328370 Page No: 3.3.1

PRESSURE VS TIME

MECHANICAL gauge no.: 8568 Gauge Depth: 8755.51 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
8-MAY-88		Data Print Frequency: 1		
00:45:00				PICK UP TOOL
01:40:00				TOOL MADE UP & RUN INTO HOLE
02:07:59		4.899	275.0	
02:19:48		276.436	275.0	
05:55:00				HEAD UP TO FLOOR MANIFOLD
06:25:00				SEAT PACKERS WITH 28000 LBS
06:29:15		280.757	275.0	
06:30:00				TOOL OPEN WITH WEAK BLOW
		*** Start of Period 1 ***		
06:30:00	0.00	280.757	275.0	
06:32:00				BLOW INCREASED TO MODERATE
06:33:00				BLOW INCREASED TO STRONG
06:36:00				STRONG BLOW
06:37:00				CHOKE BLOCKED. NO BLOW. CHANGE
06:37:00				TO 0.25" CHOKE
06:38:00				CHOKE BLOCKED. NO BLOW. OPEN
06:38:00				2" VALVE. GAS TO SURFACE.
06:38:00				CLEAN & REPLACE .5" CHOKE
06:45:20	15.33	3071.059	275.0	
06:45:52	15.87	3078.952	275.0	
06:46:30	16.50	3082.792	275.0	
06:47:29	17.49	3075.325	275.0	
06:50:01	20.01	3016.437	275.0	
06:52:00				CLOSE 2" VALVE & OPEN .5"
06:52:00				CHOKE. GAS TO SURFACE.
06:55:00				WATER CUSHION TO SURFACE
06:55:01	25.02	2980.799	275.0	
07:00:00				FLUCTUATING PRESSURE 1475-1488
07:00:00				PSI
07:00:00	30.00	2933.627	275.0	
07:05:01	35.01	2896.054	275.0	
07:10:01	40.02	2869.578	275.0	
07:15:00				FLUCTUATING PRESSURE 1432-1440
07:15:00				PSI
07:15:02	45.03	2853.350	275.0	
07:20:02	50.04	2845.662	275.0	
07:25:01	55.02	2831.354	275.0	
07:30:00				FLUCTUATING PRESSURE 1446-1458
07:30:00				PSI
07:30:02	60.03	2817.899	275.0	
07:35:00				PRESSURE STEADY
07:35:01	65.01	2807.006	275.0	
07:40:01	70.02	2794.832	275.0	
07:45:00	75.00	2772.403	275.0	
07:50:00				PRESSURE STEADY
07:50:01	80.01	2768.985	275.0	

Date: 08 MAY 88 Ticket No: 328370 Page No: 3.3.2

PRESSURE VS TIME

MECHANICAL gauge no.: 8568 Gauge Depth: 8755.51 ft
Clock no.: Hour: 24

TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
8-MAY-88		Data Print Frequency: 1		
07:55:01	85.02	2756.808	275.0	
08:00:00	90.00	2751.895	275.0	
08:03:00				PRESSURE STEADY. GAUGE CHANGED OUT
08:03:00				
08:05:01	95.01	2746.767	275.0	
08:10:01	100.02	2740.144	275.0	
08:15:00				PRESSURE STEADY
08:15:02	105.03	2733.521	275.0	
08:20:02	110.04	2725.402	275.0	
08:26:31	116.52	2717.710	275.0	
08:28:01	118.02	2650.181	275.0	
08:30:00				CLOSE TOOL FOR CLOSED IN FORMATION PRESSURE
08:30:00				
08:30:02	120.03	2407.678	275.0	
08:32:00				TOOL CLOSED
08:32:02	122.04	2238.799	275.0	
08:34:01	124.02	2099.362	275.0	
08:36:02	126.03	1977.631	275.0	
08:38:01	128.01	1862.054	275.0	
08:40:01	130.02	1762.297	275.0	
08:42:02	132.03	1658.201	275.0	
08:44:01	134.01	1565.868	275.0	
08:46:01	136.02	1476.505	275.0	
08:48:02	138.03	1387.535	275.0	
08:50:01	140.01	1304.335	275.0	
08:52:01	142.02	1219.168	275.0	
08:54:02	144.03	1148.385	275.0	
08:56:02	146.04	1078.224	275.0	
08:58:01	148.02	1007.610	275.0	
09:00:02	150.03	942.358	275.0	
09:05:01	155.01	813.089	275.0	
09:10:01	160.02	704.873	275.0	
09:15:02	165.03	617.529	275.0	
09:20:01	170.01	548.706	275.0	
09:25:01	175.02	496.050	275.0	
09:30:00	180.00	454.174	275.0	
09:35:01	185.01	420.927	275.0	
09:40:01	190.02	392.641	275.0	
09:45:02	195.03	370.831	275.0	
09:50:02	200.04	357.657	275.0	
09:55:01	205.02	345.346	275.0	
10:00:02	210.03	336.058	275.0	
10:10:01	220.02	323.530	275.0	
10:20:02	230.04	320.290	275.0	
10:30:00	240.00	320.074	275.0	
10:40:01	250.02	320.722	275.0	

Date: 08 MAY 88 Ticket No: 328370 Page No: 3.3.3

PRESSURE VS TIME

MECHANICAL gauge no.: 8568 Gauge Depth: 8755.51 ft
Clock no.: Hour: 24

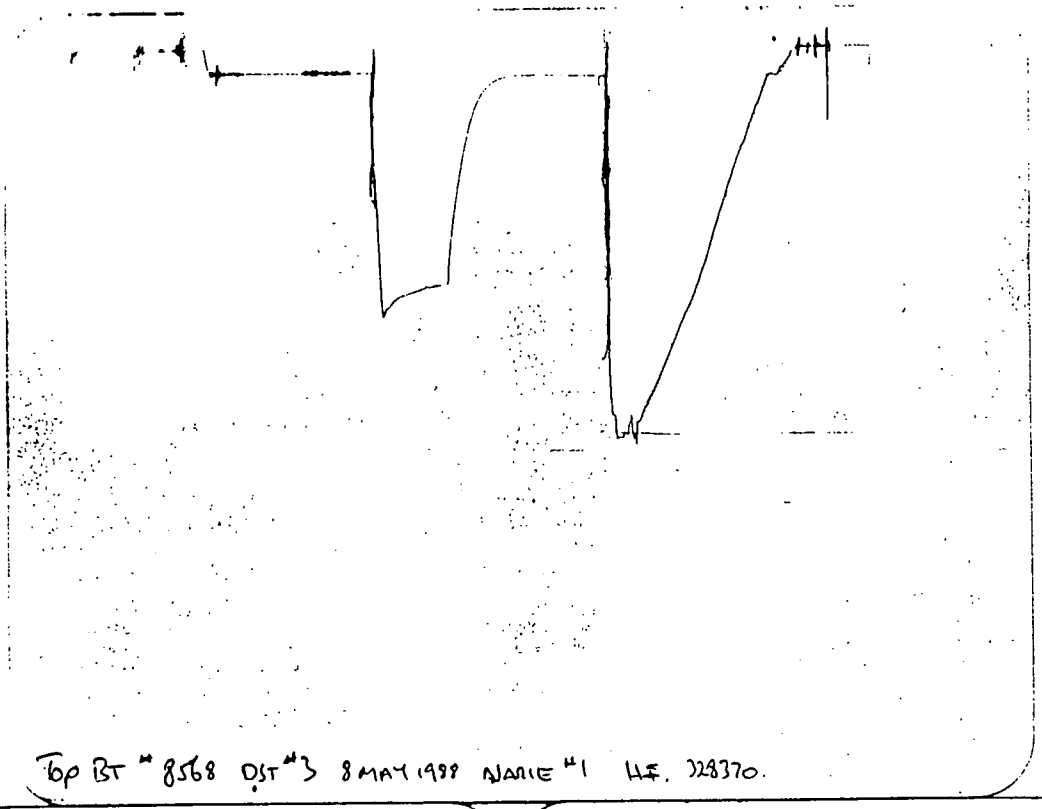
TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
8-MAY-88		Data Print Frequency: 1		
11:00:00	270.00	322.018	275.0	
11:20:01	290.01	327.419	275.0	
11:40:01	310.02	328.931	275.0	
12:10:01	340.02	331.091	275.0	
12:30:00	360.00	334.114	275.0	
		*** End of Period 1 ***		
12:30:43		331.955	275.0	
12:32:00				OPEN BYPASS. PACKERS FREE
12:35:00				DROP BAR TO REVERSE
12:35:13		333.682	275.0	
12:35:42		331.955	275.0	
12:37:00				PIN SHEARED. START REVERSING
12:40:00				GAS TO SURFACE
12:42:04		4196.039	275.0	
12:45:56		4207.079	275.0	
12:47:00				CONDENSATE TO SURFACE
12:49:23		4454.709	275.0	
12:58:32		4450.679	275.0	
13:01:01		4402.955	275.0	
13:06:38		4420.773	275.0	
13:06:47		4328.910	275.0	
13:10:00				PUMP PILL AND PULL OUT OF HOLE
13:10:53		4256.540	275.0	
13:11:04		4208.777	275.0	
13:12:00		4217.057	275.0	
13:13:46		4431.590	275.0	
13:14:28		4431.590	275.0	
13:14:37		4461.919	275.0	
13:14:55		4441.347	275.0	
13:15:41		4437.741	275.0	
13:15:47		4465.525	275.0	
13:15:56		4418.864	275.0	
13:16:16		4433.711	275.0	
13:17:19		4425.439	275.0	
13:17:24		4453.436	275.0	
13:17:33		4415.894	275.0	
13:17:38		4424.379	275.0	
13:18:16		4417.167	275.0	
13:18:45		4520.445	275.0	
13:20:06		4291.773	275.0	
16:45:23		342.754	275.0	
17:01:57		342.970	275.0	
17:25:00				TOOL AT FLOOR. START BREAKING
17:25:00				DOWN
17:28:19		42.105	275.0	
18:00:49		18.744	275.0	

Date: 08 MAY 88 Ticket No: 328370 Page No: 3.3.4

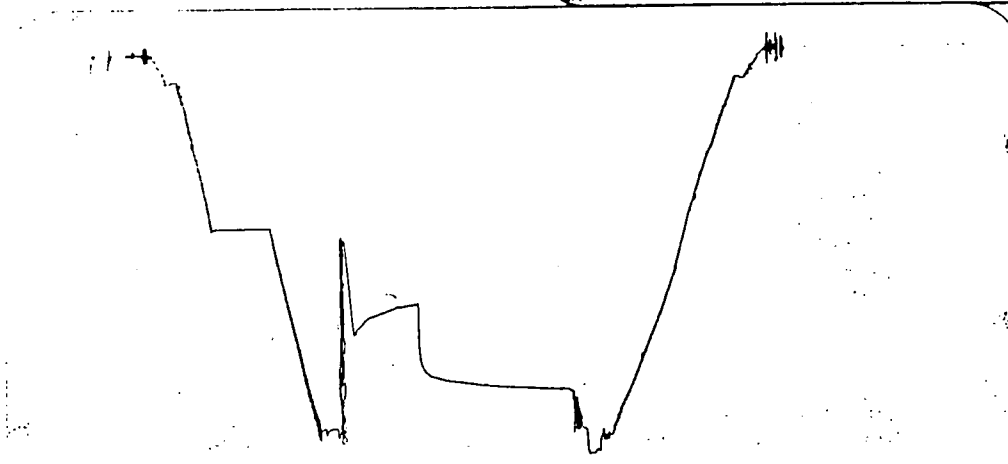
PRESSURE VS TIME

MECHANICAL gauge no.: 8568 Gauge Depth: 8755.51 ft
Clock no.: Hour: 24

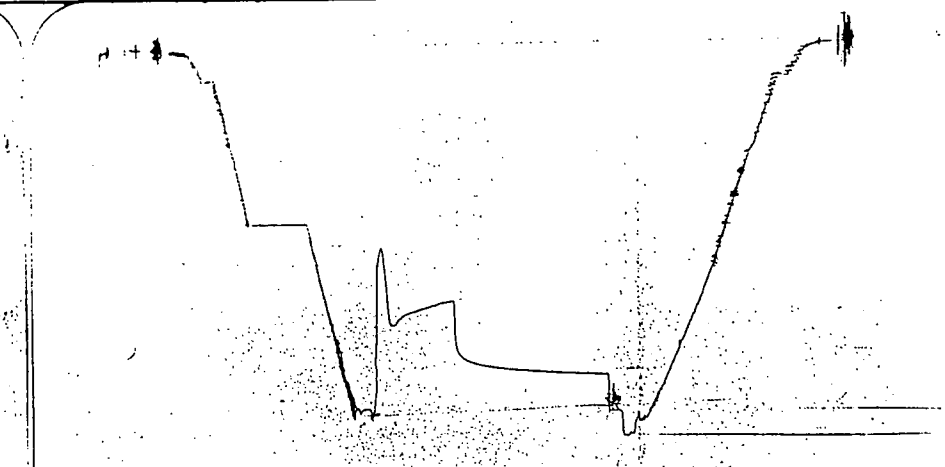
TIME HH:MM:SS	D TIME (min)	PRESSURE (psi)	TEMP (F)	COMMENTS
8-MAY-88		Data Print Frequency: 1		
18:20:00				TOOL BROKEN DOWN & LAID OUT.
18:20:00				FINISHED.



Top BT "8568 DST "3 8 MAY 1988 MARIE "1 HI. 328370.



Mid B.T 5093 DST "3. 8 MAY 1988 MARIE "1 HI 328370



Bottom B.T. 7900. DST "4 8 MAY 1988 Marie "1 HI 328370.

0105

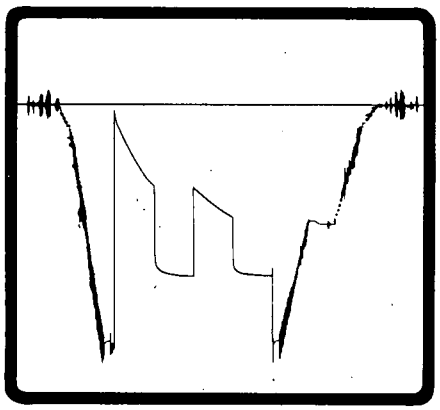
EQUATIONS FOR DST LIQUID WELL ANALYSIS

Transmissibility	$\frac{kh}{\mu} = \frac{162.6\ QB}{m}$	$\frac{\text{md-ft}}{\text{cp}}$
Indicated Flow Capacity	$kh = \frac{kh}{\mu}\ \mu$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151\left[\frac{P^* - P_f}{m} - \text{LOG}\left(\frac{k(t/60}{\phi\ \mu\ c_t r_w^2}\right) + 3.23\right]$	—
Damage Ratio	$DR = \frac{P^* - P_f}{P^* - P_f - 0.87\ mS}$	—
Theoretical Potential w / Damage Removed	$Q_1 = Q\ DR$	BPD
Approx. Radius of Investigation	$r_i = 0.032\sqrt{\frac{k(t/60)}{\phi\mu c_t}}$	ft

EQUATIONS FOR DST GAS WELL ANALYSIS

Indicated Flow Capacity	$kh = \frac{1637\ Q_g\ T}{m}$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151\left[\frac{m(P^*) - m(P_f)}{m} - \text{LOG}\left(\frac{k(t/60)}{\phi\ \mu\ c_t r_w^2}\right) + 3.23\right]$	—
Damage Ratio	$DR = \frac{m(P^*) - m(P_f)}{m(P^*) - m(P_f) - 0.87\ mS}$	—
Indicated Flow Rate (Maximum)	$AOF_1 = \frac{Q_g\ m(P^*)}{m(P^*) - m(P_f)}$	MCFD
Indicated Flow Rate (Minimum)	$AOF_2 = Q_g\sqrt{\frac{m(P^*)}{m(P^*) - m(P_f)}}$	MCFD
Approx. Radius of Investigation	$r_i = 0.032\sqrt{\frac{k(t/60)}{\phi\mu c_t}}$	ft

FORMATION TESTING SERVICE REPORT



HALLIBURTON
SERVICES

Duncan, Oklahoma 73536

A Halliburton Company

NOMENCLATURE

B	=	Formation Volume Factor (Res Vol / Std Vol)	—
c_t	=	System Total Compressibility	(Vol / Vol) / psi
DR	=	Damage Ratio	—
h	=	Estimated Net Pay Thickness	Ft
k	=	Permeability	md
m	=	(Liquid) Slope Extrapolated Pressure Plot	psi/cycle
		(Gas) Slope Extrapolated m(P) Plot	MM psi^2/ cp/cycle
$m(P^*)$	=	Real Gas Potential at P^*	MM psi^2/cp
$m(P_f)$	=	Real Gas Potential at P_f	MM psi^2/cp
AOF_1	=	Maximum Indicated Absolute Open Flow at Test Conditions	MCFD
AOF_2	=	Minimum Indicated Absolute Open Flow at Test Conditions	MCFD
P^*	=	Extrapolated Static Pressure	Psig
P_f	=	Final Flow Pressure	Psig
Q	=	Liquid Production Rate During Test	BPD
Q_1	=	Theoretical Liquid Production w/ Damage Removed	BPD
Q_g	=	Measured Gas Production Rate	MCFD
r_i	=	Approximate Radius of Investigation	Ft
r_w	=	Radius of Well Bore	Ft
S	=	Skin Factor	
t	=	Total Flow Time Previous to Closed-in	Minutes
Δt	=	Closed-in Time at Data Point	Minutes
T	=	Temperature Rankine	°R
ϕ	=	Porosity	—
μ	=	Viscosity of Gas or Liquid	cp
Log	=	Common Log	

LEASE NAME: NARIE	WELL NO.: 1	TEST NO.: 5	LEASE OWNER/COMPANY NAME: SANTOS LTD.
LEGAL LOCATION SEC. - TWP. - RNG.: SEE REMARKS SECTION	FIELD AREA: COOPER BASIN	TESTED INTERVAL: 8878.5 - 8942.4	
	COUNTY: SOUTH AUSTRALIA	STATE: AUSTRALIA	SM

SANTOS LTD.

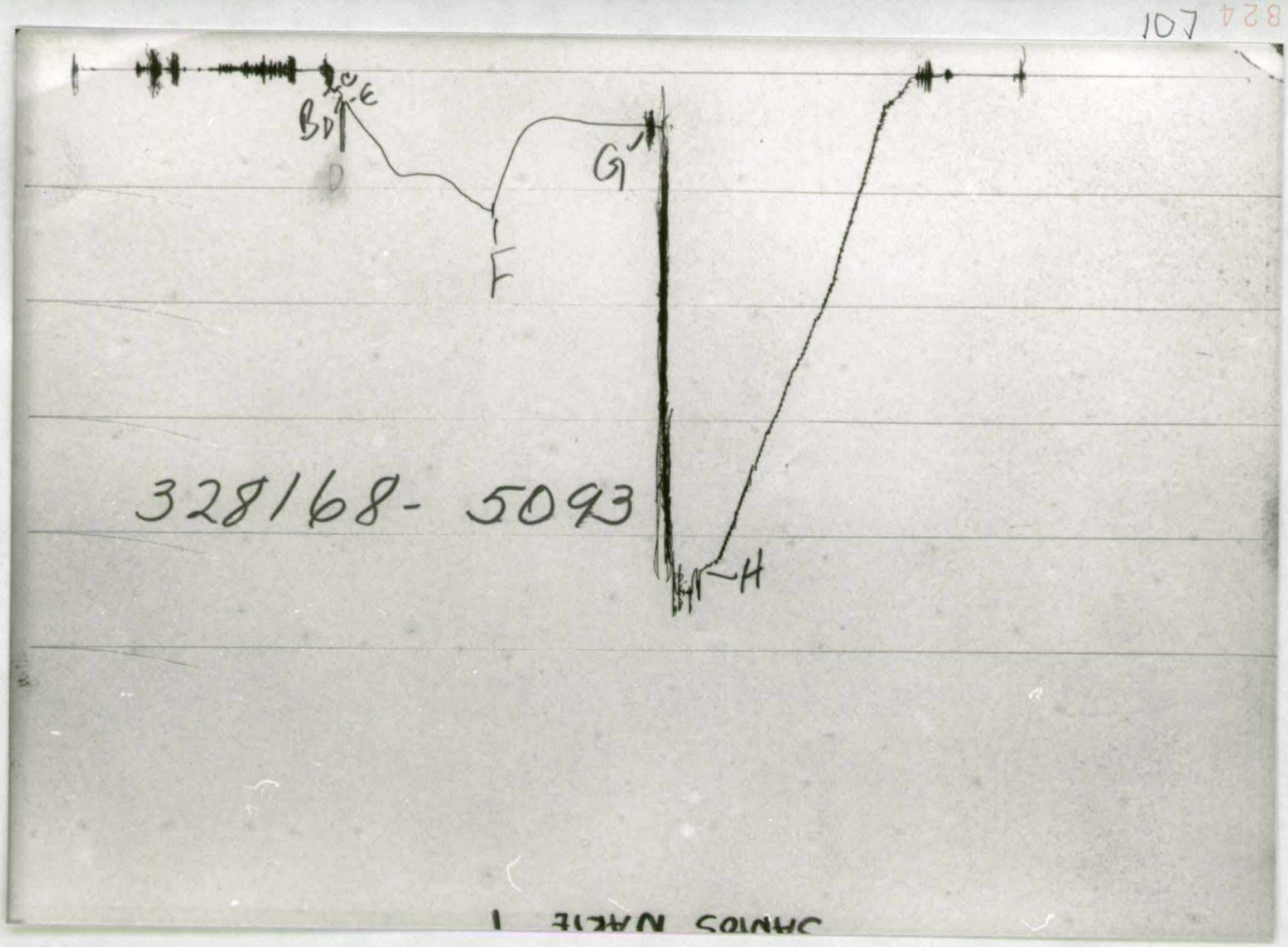
LEASE : NARIE

WELL NO.: 1

TEST NO.: 5

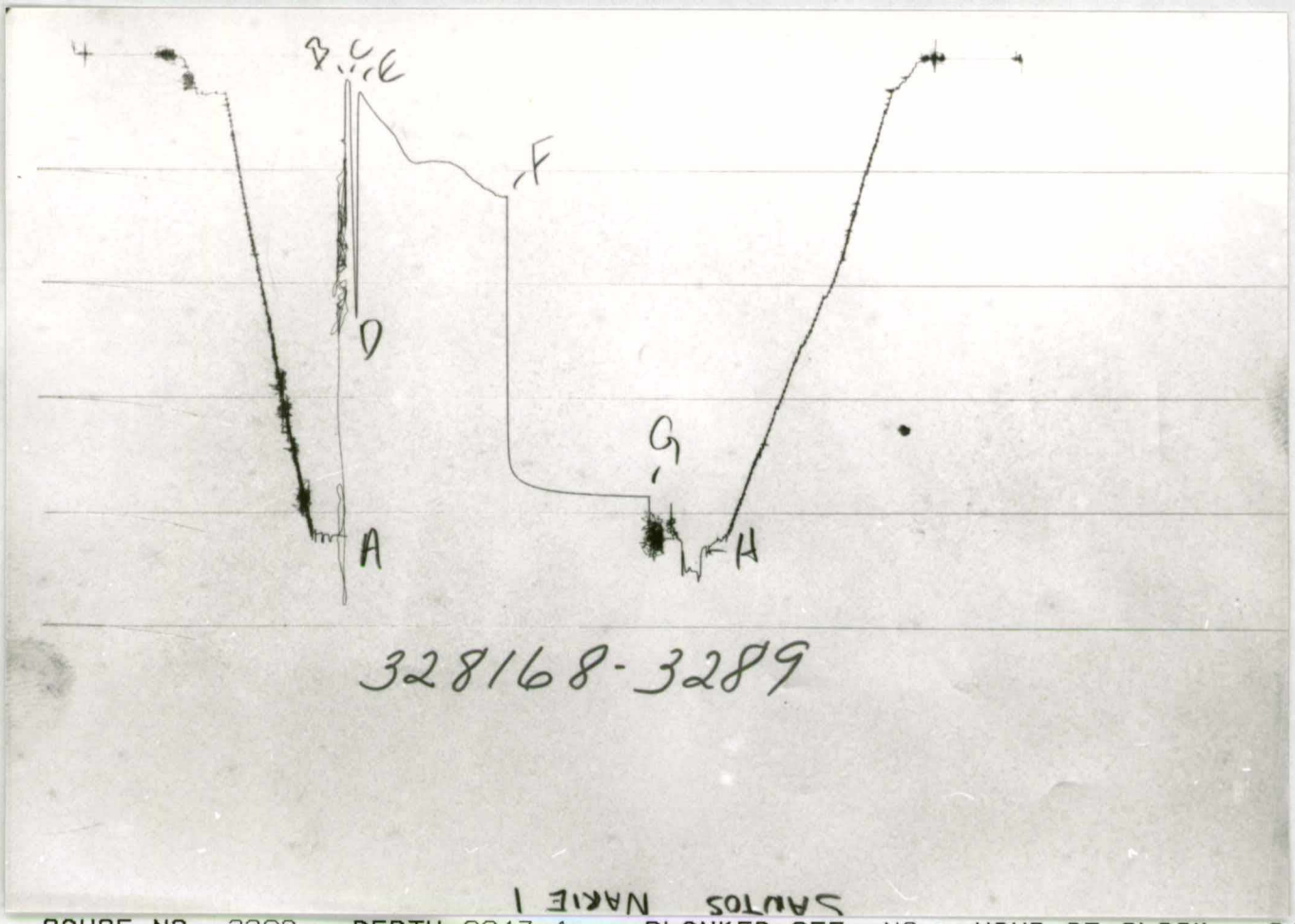
TICKET NO. 32816800
17-JUL-89
MOOMBA

DST REPORT PRODUCED BY HRS
A DIVISION OF HALLIBURTON COMPANY



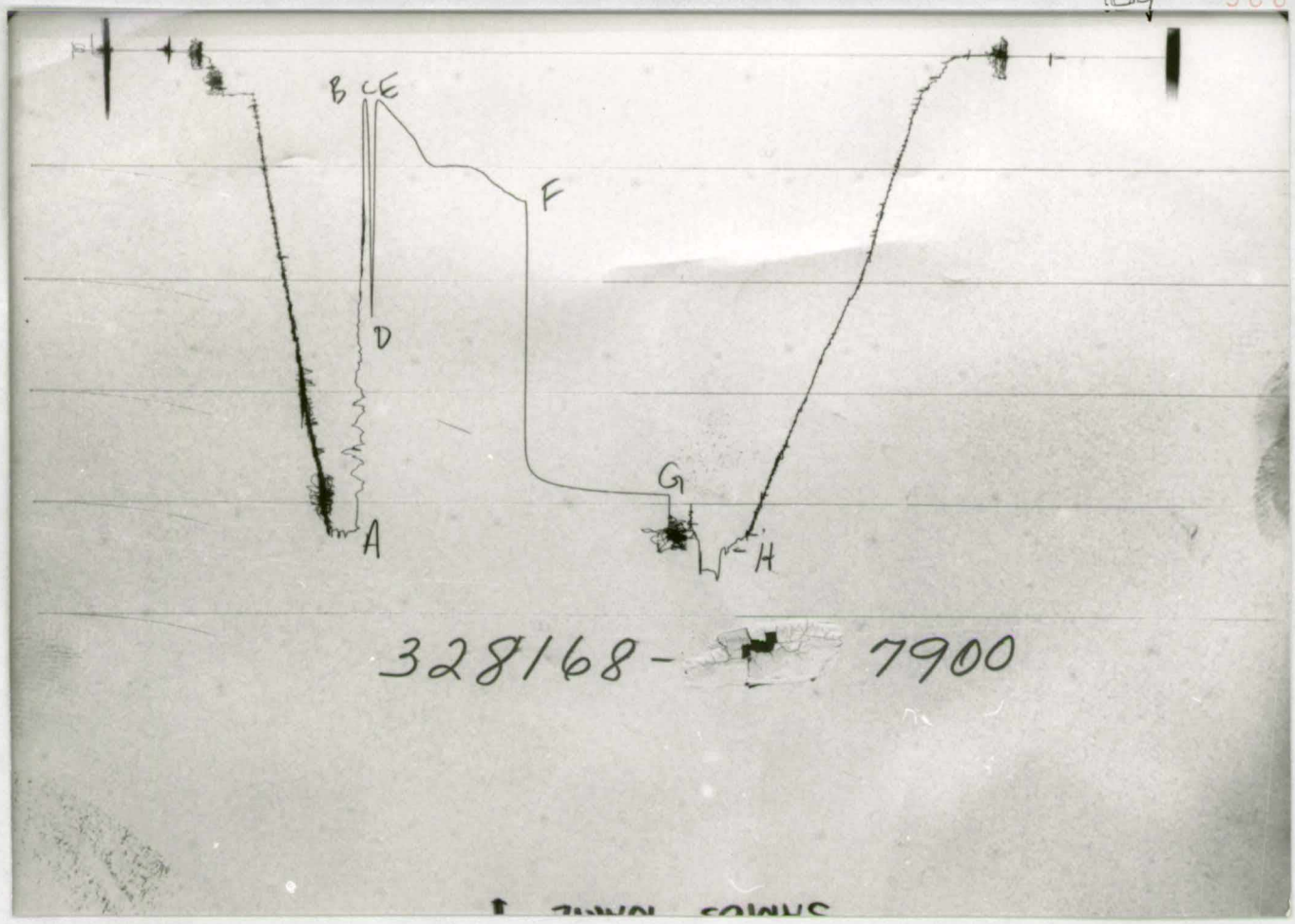
GAUGE NO: 5093 DEPTH: 8824.7 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW		160.9	6.0	3.5	F
C	FINAL FIRST FLOW		182.5			
C	INITIAL FIRST CLOSED-IN		182.5	10.0	6.3	C
D	FINAL FIRST CLOSED-IN		209.8			
E	INITIAL SECOND FLOW		294.7	187.0	186.9	F
F	FINAL SECOND FLOW		1184.3			
F	INITIAL SECOND CLOSED-IN		1184.3	181.0	181.1	C
G	FINAL SECOND CLOSED-IN	449	449.6			
H	FINAL HYDROSTATIC		4266.3			



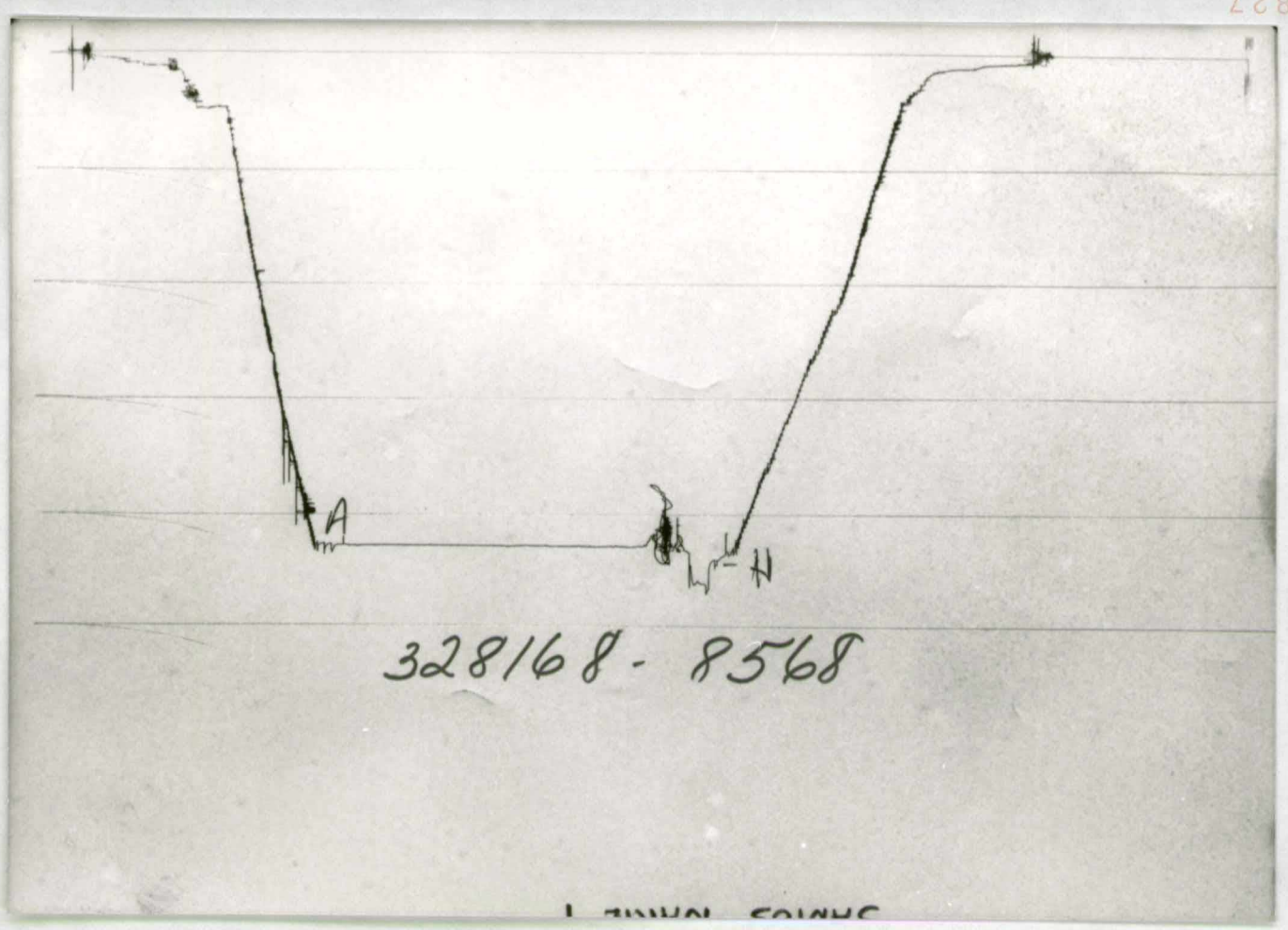
GAUGE NO: 3289 DEPTH: 8847.1 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4203	4216.7			
B	INITIAL FIRST FLOW	225	264.2	6.0	3.5	F
C	FINAL FIRST FLOW	208	230.7			
C	INITIAL FIRST CLOSED-IN	208	230.7	10.0	6.3	C
D	FINAL FIRST CLOSED-IN	2308	2311.5			
E	INITIAL SECOND FLOW	327	321.9	187.0	186.9	F
F	FINAL SECOND FLOW	1236	1239.5			
F	INITIAL SECOND CLOSED-IN	1236	1239.5	181.0	181.1	C
G	FINAL SECOND CLOSED-IN	3873	3867.4			
H	FINAL HYDROSTATIC	4203	4237.7			



GAUGE NO: 7900 DEPTH: 8905.2 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4237	4271.9			
B	INITIAL FIRST FLOW	422	429.9	6.0	3.5	F
C	FINAL FIRST FLOW	413	357.8			
C	INITIAL FIRST CLOSED-IN	413	357.8	10.0	6.3	C
D	FINAL FIRST CLOSED-IN	2336	2305.7			
E	INITIAL SECOND FLOW	427	368.4	187.0	186.9	F
F	FINAL SECOND FLOW	1297	1259.5			
F	INITIAL SECOND CLOSED-IN	1297	1259.5	181.0	181.1	C
G	FINAL SECOND CLOSED-IN	3921	3925.1			
H	FINAL HYDROSTATIC	4237	4300.0			



GAUGE NO: 8568 DEPTH: 9106.9 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4293	4297.0			
B	INITIAL FIRST FLOW			6.0		F
C	FINAL FIRST FLOW					
C	INITIAL FIRST CLOSED-IN			10.0		C
D	FINAL FIRST CLOSED-IN					
E	INITIAL SECOND FLOW			187.0		F
F	FINAL SECOND FLOW					
F	INITIAL SECOND CLOSED-IN			181.0		C
G	FINAL SECOND CLOSED-IN					
H	FINAL HYDROSTATIC	4303	4318.8			

EQUIPMENT & HOLE DATA

FORMATION TESTED: TIRRAWARRA
NET PAY (ft):
GROSS TESTED FOOTAGE: 63.9
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 8.500
ELEVATION (ft): 133.0
TOTAL DEPTH (ft): 9110.0
PACKER DEPTH(S) (ft): 8871, 8879, 8942, 8950
FINAL SURFACE CHOKE (in): 0.50000
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.30
MUD VISCOSITY (sec): 43
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 268 @ 9106.0 ft

TICKET NUMBER: 32816800

DATE: 5-12-88 TEST NO: 5

TYPE DST: ON BTM. STRADDLE

FIELD CAMP: MOOMBA

TESTER: G. BOOTS

WITNESS: B. SPEECHLEY

DRILLING CONTRACTOR: ATCO RIG #1

FLUID PROPERTIES FOR RECOVERED MUD & WATER

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

SAMPLER DATA

Psig AT SURFACE:
cu.ft. OF GAS:
cc OF OIL:
cc OF WATER:
cc OF MUD:
TOTAL LIQUID cc:

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F
GAS/OIL RATIO (cu.ft. per bbl):
GAS GRAVITY:

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

FLOWED GAS AT 1.23 MCF/DAY.
FLOWED CONDENSATE AT 282 BBLS./DAY
FLOWED WATER AT 37 BBLS./DAY.

MEASURED FROM TESTER VALVE

REMARKS:

LEGAL LOCATION: LAT. 027 DEG. 46' 19.6"S.
LONG. 140 DEG. 05' 35.6" E.

TYPE & SIZE MEASURING DEVICE: 6" CERAMIC SURFACE CHOKE					TICKET NO: 32816800
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
5-12-88					
1200					STARTED PICKING UP TOOLS
1400					STARTED IN HOLE
1635					RIGGED UP HEAD AND FLOOR
1655					SEATED PACKERS
1709	1/2				TOOL OPENED WITH MODERATE BLOW
1715					CLOSED TOOL
1720					GAS TO THE SURFACE
1725	1/2	4			OPENED TOOL
1730	1/2	21			STRONG BLOW
1745	1/2	61			STRONG BLOW
1800	1/2	83			STRONG BLOW
1814	1/2	115			CONDENSATE, GAS CUT WATERY MUD
					TO THE SURFACE
1830	1/2	293			
1843	1/2	340			CONDENSATE TO THE SURFACE
1900	1/2	311			
1930	1/2	273			
2000	1/2	350			
2025	1/2	443			STARTED TO CLOSE TOOL...
					DIFFERENTIALLY STUCK
2032	1/2	443			CLOSED TOOL
2333					PULLED FREE
2355					DROPPED REVERSING BAR
					STARTED OUT OF HOLE
5-13-88					
0510					TOOLS TO THE SURFACE
0715					TOOLS BROKEN DOWN

011.3

TICKET NO: 32816800	GAUGE NO: 5093
CLOCK NO: 26218 HOUR: 24	DEPTH: 8824.7

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
			FIRST FLOW			
B	1	0.0	160.9			
C	2	3.5	182.5	21.6		
			FIRST CLOSED-IN			
C	1	0.0	182.5			
D	2	6.3	209.8	27.4	2.2	0.191
			SECOND FLOW			
E	1	0.0	294.7			
	2	10.0	328.6	34.0		
	3	20.0	423.7	95.1		
	4	30.0	513.7	90.0		
	5	40.0	592.5	78.8		
	6	50.0	687.4	94.9		
	7	60.0	822.0	134.6		
	8	70.0	892.7	70.7		
	9	80.0	897.2	4.5		
	10	90.0	885.7	-11.5		
	11	100.0	884.2	-1.5		
	12	110.0	889.5	5.3		
	13	120.0	897.6	8.1		
	14	130.0	932.5	34.8		
	15	140.0	984.6	52.1		
	16	150.0	1055.8	71.2		
	17	160.0	1108.7	52.9		
	18	170.0	1142.0	33.3		
	19	180.0	1185.4	43.3		
F	20	186.9	1184.3	-1.1		
			SECOND CLOSED-IN			
F	1	0.0	1184.3			
G	2	181.1	449.6	-734.7	92.8	0.312

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

REMARKS:

TICKET NO: 32816800	GAUGE NO: 3289
CLOCK NO: 30169 HOUR: 24	DEPTH: 8847.1

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	264.2			
C	2	3.5	230.7	-33.6		
			FIRST CLOSED-IN			
C	1	0.0	230.7			
D	2	6.3	2311.5	2080.9	2.2	0.191
			SECOND FLOW			
E	1	0.0	321.9			
	2	10.0	392.7	70.9		
	3	20.0	493.2	100.4		
	4	30.0	578.1	85.0		
	5	40.0	654.3	76.2		
	6	50.0	755.6	101.3		
	7	60.0	878.6	123.0		
	8	70.0	941.5	62.9		
	9	80.0	936.9	-4.6		
	10	90.0	927.4	-9.5		
	11	100.0	926.5	-0.9		
	12	110.0	932.9	6.4		
	13	120.0	953.6	20.8		
	14	130.0	994.0	40.4		
	15	140.0	1062.7	68.7		
	16	150.0	1115.0	52.3		
	17	160.0	1167.5	52.5		
	18	170.0	1203.5	36.0		
	19	180.0	1239.0	35.6		
F	20	186.9	1239.5	0.4		
			SECOND CLOSED-IN			
F	1	0.0	1239.5			
	2	1.0	2978.0	1738.5	1.0	2.298
	3	2.0	3395.7	2156.2	1.9	1.992
	4	3.0	3528.5	2289.0	2.9	1.811
	5	4.0	3579.5	2340.0	3.9	1.685
	6	5.0	3609.7	2370.2	4.9	1.594
	7	6.0	3627.9	2388.4	5.8	1.517
	8	7.0	3646.9	2407.4	6.8	1.448
	9	8.0	3660.5	2421.0	7.7	1.395
	10	9.0	3671.3	2431.8	8.6	1.344
	11	10.0	3681.2	2441.7	9.5	1.304
	12	12.0	3697.2	2457.7	11.3	1.227
	13	14.0	3711.4	2472.0	13.0	1.164
	14	16.0	3722.9	2483.4	14.8	1.110
	15	18.0	3732.6	2493.1	16.5	1.063
	16	20.0	3740.6	2501.1	18.1	1.022

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log \frac{t+\Delta t}{\Delta t}$
		SECOND CLOSED-IN - CONTINUED				
	17	22.0	3747.7	2508.3	19.7	0.985
	18	24.0	3756.8	2517.3	21.3	0.951
	19	26.0	3762.9	2523.4	22.9	0.921
	20	28.0	3767.0	2527.5	24.4	0.892
	21	30.0	3772.6	2533.1	25.9	0.866
	22	35.0	3785.1	2545.6	29.6	0.809
	23	40.0	3794.8	2555.3	33.0	0.761
	24	45.0	3804.1	2564.6	36.4	0.718
	25	50.0	3811.0	2571.5	39.6	0.682
	26	55.0	3817.7	2578.2	42.7	0.649
	27	60.0	3821.8	2582.3	45.6	0.620
	28	70.0	3832.6	2593.1	51.2	0.571
	29	80.0	3838.4	2599.0	56.3	0.529
	30	90.0	3844.3	2604.8	61.1	0.493
	31	100.0	3848.6	2609.1	65.6	0.463
	32	110.0	3854.6	2615.2	69.7	0.436
	33	120.0	3857.9	2618.4	73.6	0.413
	34	135.0	3861.3	2621.9	79.0	0.382
	35	150.0	3864.4	2624.9	83.9	0.356
	36	165.0	3866.5	2627.0	88.4	0.333
G	37	181.1	3867.4	2627.9	92.8	0.312

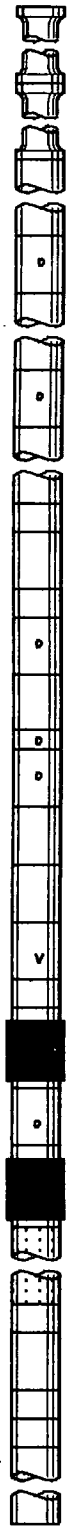
REMARKS:

TICKET NO: 32816800	GAUGE NO: 7900
CLOCK NO: 32070 HOUR: 24	DEPTH: 8905.2

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	429.9			
C	2	3.5	357.8	-72.1		
		FIRST CLOSED-IN				
C	1	0.0	357.8			
D	2	6.3	2305.7	1947.8	2.2	0.191
		SECOND FLOW				
E	1	0.0	368.4			
	2	10.0	394.3	25.9		
	3	20.0	478.6	84.3		
	4	30.0	554.5	75.9		
	5	40.0	637.6	83.1		
	6	50.0	725.9	88.3		
	7	60.0	870.6	144.6		
	8	70.0	944.3	73.7		
	9	80.0	954.6	10.4		
	10	90.0	947.7	-6.9		
	11	100.0	946.1	-1.6		
	12	110.0	950.7	4.6		
	13	120.0	962.8	12.1		
	14	130.0	991.6	28.8		
	15	140.0	1050.5	58.9		
	16	150.0	1113.8	63.3		
	17	160.0	1167.8	54.0		
	18	170.0	1202.8	35.0		
	19	180.0	1247.5	44.7		
F	20	186.9	1259.5	12.0		
		SECOND CLOSED-IN				
F	1	0.0	1259.5			
	2	1.0	1342.7	83.2	1.0	2.263
	3	2.0	1586.2	326.7	2.0	1.984
	4	3.0	3631.6	2372.1	2.9	1.812
	5	4.0	3655.9	2396.4	3.9	1.684
	6	5.0	3673.3	2413.8	4.9	1.591
	7	6.0	3687.4	2427.9	5.8	1.516
	8	7.0	3699.2	2439.7	6.8	1.450
	9	8.0	3711.7	2452.2	7.7	1.395
	10	9.0	3721.7	2462.3	8.6	1.344
	11	10.0	3730.7	2471.2	9.5	1.300
	12	12.0	3746.7	2487.3	11.3	1.228
	13	14.0	3758.1	2498.7	13.1	1.163
	14	16.0	3768.2	2508.7	14.8	1.111
	15	18.0	3777.3	2517.9	16.4	1.064
	16	20.0	3785.6	2526.1	18.1	1.022

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log \frac{t+\Delta t}{\Delta t}$
		SECOND CLOSED-IN - CONTINUED				
	17	22.0	3794.3	2534.8	19.7	0.985
	18	24.0	3801.2	2541.7	21.3	0.952
	19	26.0	3807.2	2547.8	22.9	0.920
	20	28.0	3812.4	2552.9	24.4	0.892
	21	30.0	3818.2	2558.7	25.9	0.866
	22	35.0	3828.9	2569.4	29.6	0.809
	23	40.0	3837.4	2577.9	33.1	0.760
	24	45.0	3846.3	2586.8	36.4	0.719
	25	50.0	3852.3	2592.9	39.6	0.682
	26	55.0	3858.4	2598.9	42.7	0.649
	27	60.0	3864.6	2605.1	45.6	0.620
	28	70.0	3874.2	2614.7	51.2	0.570
	29	80.0	3883.6	2624.1	56.3	0.529
	30	90.0	3889.2	2629.7	61.1	0.493
	31	100.0	3895.6	2636.2	65.6	0.463
	32	110.0	3901.4	2642.0	69.7	0.436
	33	120.0	3906.1	2646.7	73.6	0.413
	34	135.0	3909.7	2650.2	79.0	0.382
	35	150.0	3915.3	2655.8	83.9	0.356
	36	165.0	3919.8	2660.3	88.4	0.333
G	37	181.1	3925.1	2665.6	92.8	0.312

REMARKS:



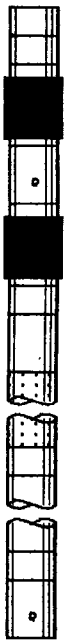
		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE	4.500	3.826	8176.5	
4	FLEX WEIGHT	4.500	2.764	182.8	
3	DRILL COLLARS	6.250	2.810	419.8	
51	PUMP OUT REVERSING SUB	6.000	3.000	1.0	8762.0
3	DRILL COLLARS	6.250	2.810	29.4	
50	IMPACT REVERSING SUB	6.000	3.000	1.0	8792.4
3	DRILL COLLARS	6.250	2.810	29.8	
258	BAR CATCHER SUB	5.750	1.120	1.0	
80	AP RUNNING CASE	5.000	2.250	4.1	8824.7
5	CROSSOVER	5.000	2.200	1.0	
12	DUAL CIP VALVE	5.000	0.870	7.0	
202	SAMPLE CHAMBER	5.000	2.500	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	8847.1
15	JAR	5.000	1.750	5.0	
16	VR SAFETY JOINT	5.000	1.000	2.8	
5	CROSSOVER	5.000		1.0	
70	OPEN HOLE PACKER	7.750	1.680	5.8	8870.9
18	DISTRIBUTOR VALVE	5.000	1.680	2.0	
70	OPEN HOLE PACKER	7.750	1.680	5.8	8878.5
20	FLUSH JOINT ANCHOR	5.000	2.370	29.0	
5	CROSSOVER	5.000	2.500	1.0	
80	AP RUNNING CASE	5.000	2.250	4.1	8905.2
5	CROSSOVER	5.000	2.200	1.0	
5	CROSSOVER	6.000	2.370	1.0	
3	DRILL COLLARS	6.250	2.810	29.8	

CONTINUED

EQUIPMENT DATA

0117

TICKET NO. 32816800



		O.D.	I.D.	LENGTH	DEPTH
5	CROSSOVER	6.250	2.200	1.0	
5	CROSSOVER	6.000	2.200	1.0	
70	OPEN HOLE PACKER	7.750	1.680	5.8	8942.4
18	DISTRIBUTOR VALVE	5.000	1.680	2.0	
70	OPEN HOLE PACKER	7.750	1.680	5.8	8950.2
5	CROSSOVER	5.000	2.500	1.0	
19	ANCHOR PIPE SAFETY JOINT	5.000	1.500	4.3	
20	FLUSH JOINT ANCHOR	5.000	2.370	25.0	
5	CROSSOVER	5.000	2.200	1.0	
3	DRILL COLLARS	6.250	2.810	119.4	
5	CROSSOVER	6.000	2.200	1.0	
81	BLANKED-OFF RUNNING CASE	5.000		4.1	9106.9
	TOTAL DEPTH				9110.0

EQUIPMENT DATA

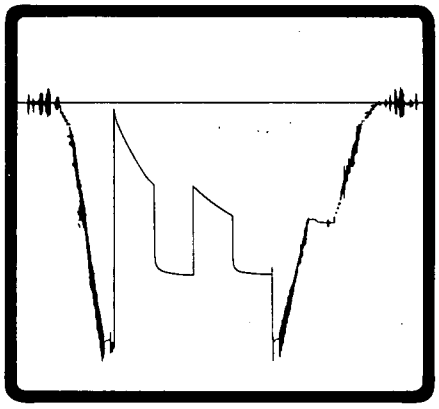
EQUATIONS FOR DST LIQUID WELL ANALYSIS

Transmissibility	$\frac{kh}{\mu} = \frac{162.6\ QB}{m}$	$\frac{\text{md-ft}}{\text{cp}}$
Indicated Flow Capacity	$kh = \frac{kh}{\mu}\ \mu$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151\left[\frac{P^* - P_f}{m} - \text{LOG}\left(\frac{k(t/60}{\phi\ \mu\ c_t r_w^2}\right) + 3.23\right]$	—
Damage Ratio	$DR = \frac{P^* - P_f}{P^* - P_f - 0.87\ mS}$	—
Theoretical Potential w / Damage Removed	$Q_1 = Q\ DR$	BPD
Approx. Radius of Investigation	$r_i = 0.032\sqrt{\frac{k(t/60)}{\phi\mu c_t}}$	ft

EQUATIONS FOR DST GAS WELL ANALYSIS

Indicated Flow Capacity	$kh = \frac{1637\ Q_g\ T}{m}$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151\left[\frac{m(P^*) - m(P_f)}{m} - \text{LOG}\left(\frac{k(t/60)}{\phi\ \mu\ c_t r_w^2}\right) + 3.23\right]$	—
Damage Ratio	$DR = \frac{m(P^*) - m(P_f)}{m(P^*) - m(P_f) - 0.87\ mS}$	—
Indicated Flow Rate (Maximum)	$AOF_1 = \frac{Q_g\ m(P^*)}{m(P^*) - m(P_f)}$	MCFD
Indicated Flow Rate (Minimum)	$AOF_2 = Q_g\sqrt{\frac{m(P^*)}{m(P^*) - m(P_f)}}$	MCFD
Approx. Radius of Investigation	$r_i = 0.032\sqrt{\frac{k(t/60)}{\phi\mu c_t}}$	ft

FORMATION TESTING SERVICE REPORT



HALLIBURTON
SERVICES

Duncan, Oklahoma 73536

A Halliburton Company

NOMENCLATURE

B	=	Formation Volume Factor (Res Vol / Std Vol)	——
c_t	=	System Total Compressibility	(Vol / Vol) / psi
DR	=	Damage Ratio	——
h	=	Estimated Net Pay Thickness	Ft
k	=	Permeability	md
m	=	(Liquid) Slope Extrapolated Pressure Plot	psi/cycle
		(Gas) Slope Extrapolated m(P) Plot	MM psi^2/ cp/cycle
$m(P^*)$	=	Real Gas Potential at P^*	MM psi^2/cp
$m(P_f)$	=	Real Gas Potential at P_f	MM psi^2/cp
AOF_1	=	Maximum Indicated Absolute Open Flow at Test Conditions	MCFD
AOF_2	=	Minimum Indicated Absolute Open Flow at Test Conditions	MCFD
P^*	=	Extrapolated Static Pressure	Psig
P_f	=	Final Flow Pressure	Psig
Q	=	Liquid Production Rate During Test	BPD
Q_1	=	Theoretical Liquid Production w/ Damage Removed	BPD
Q_g	=	Measured Gas Production Rate	MCFD
r_i	=	Approximate Radius of Investigation	Ft
r_w	=	Radius of Well Bore	Ft
S	=	Skin Factor	
t	=	Total Flow Time Previous to Closed-in	Minutes
Δt	=	Closed-in Time at Data Point	Minutes
T	=	Temperature Rankine	°R
ϕ	=	Porosity	——
μ	=	Viscosity of Gas or Liquid	cp
Log	=	Common Log	

8118

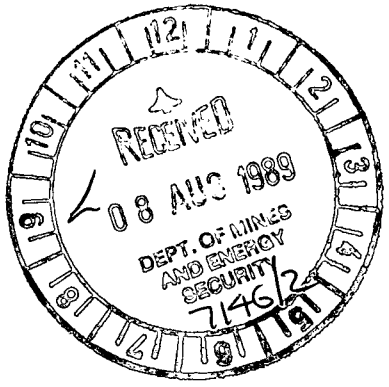
SANTOS LTD.

LEASE : NARIE

WELL NO.: 1

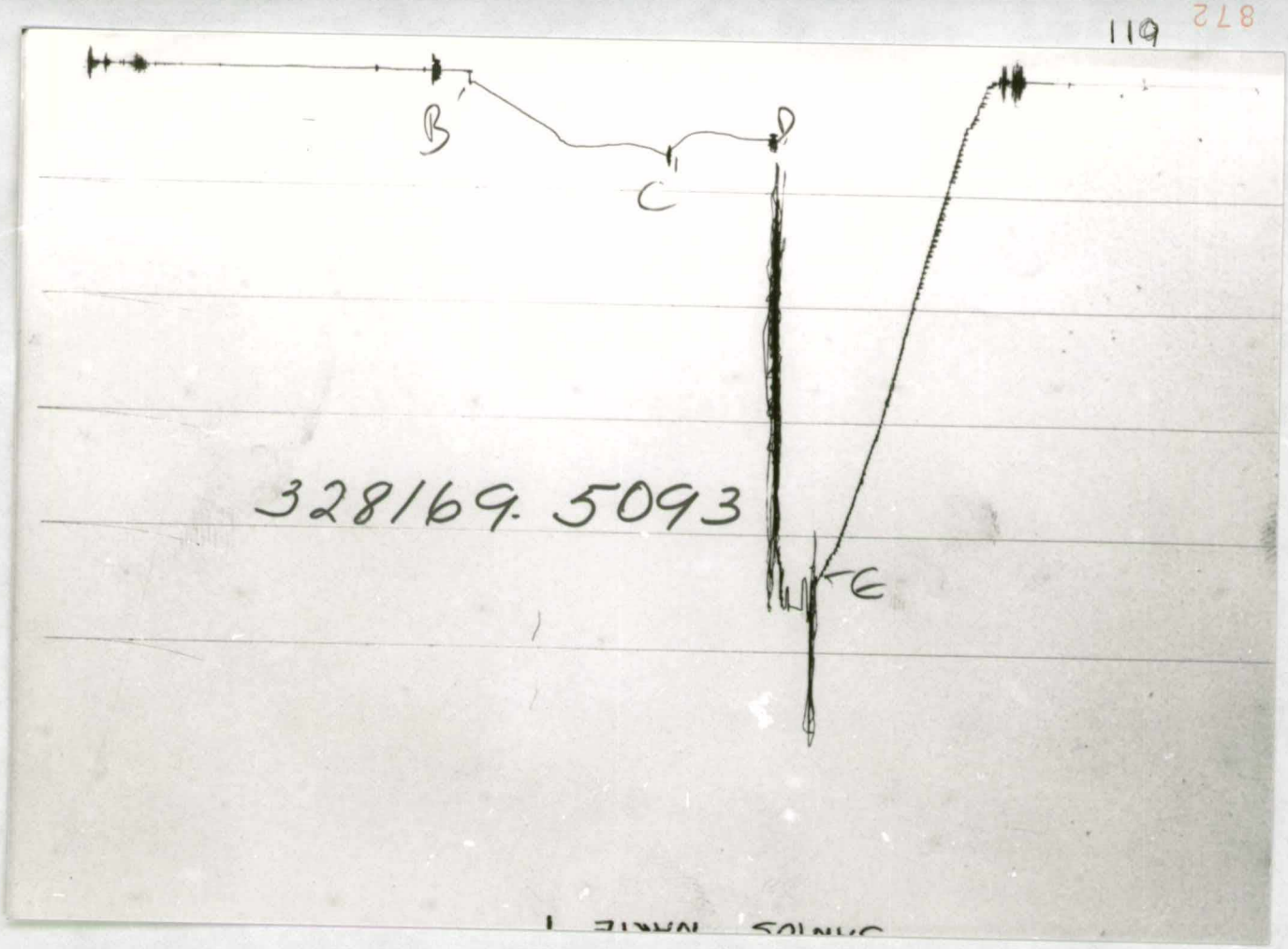
TEST NO.: 6

TICKET NO. 32816900
18-JUL-89
MOOMBA



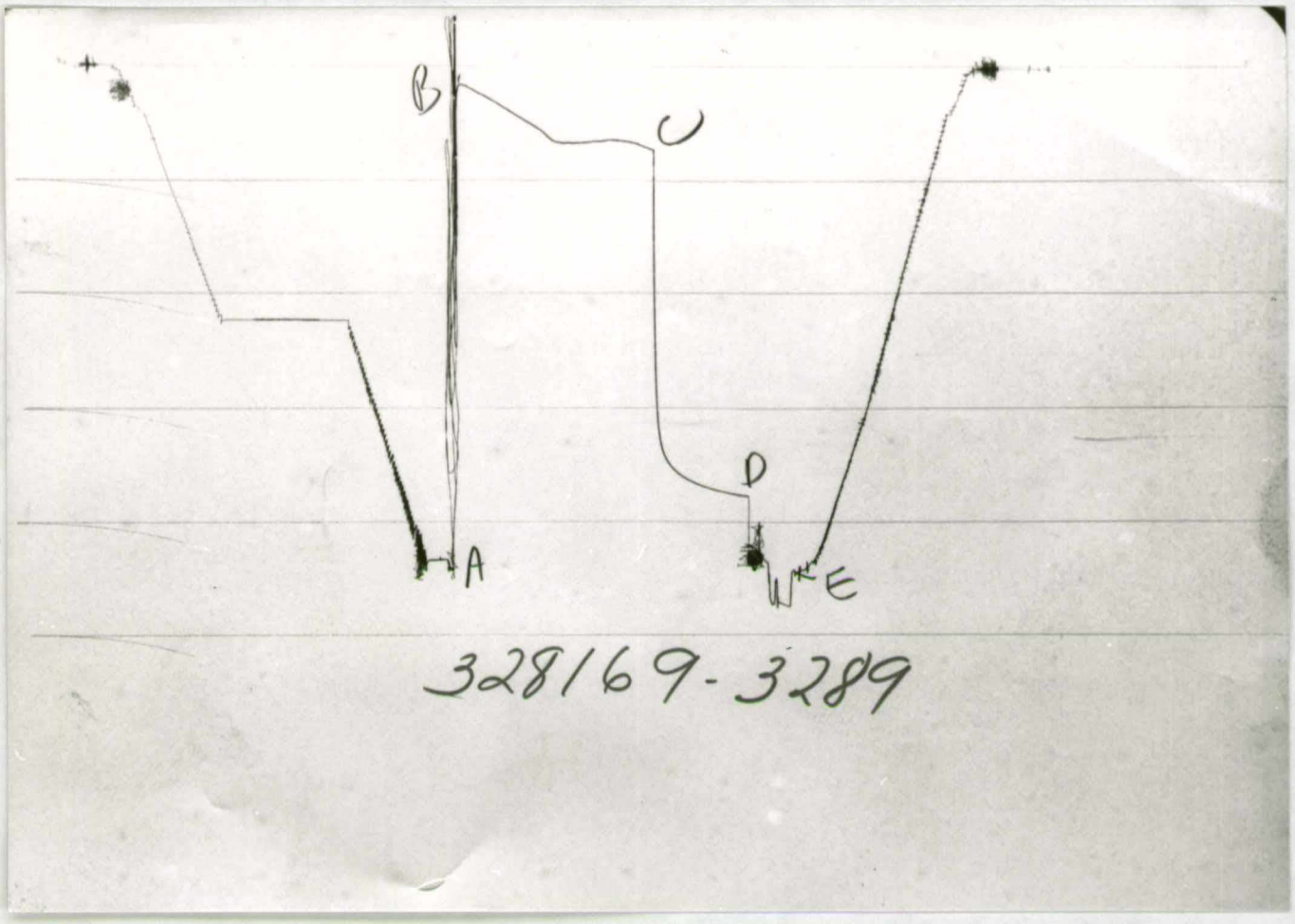
DST REPORT PRODUCED BY HRS
A DIVISION OF HALLIBURTON COMPANY

LEASE NAME: NARIE	WELL NO.: 1	TEST NO.: 6	
LEGAL LOCATION SEC. - TWP. - RNG.: SEE REMARKS	FIELD AREA: COOPER BASIN	TESTED INTERVAL: 8942.4 - 8977.2	
	COUNTY: SOUTH AUSTRALIA	STATE: AUSTRALIA	LEASE OWNER/COMPANY NAME: SANTOS LTD. SM



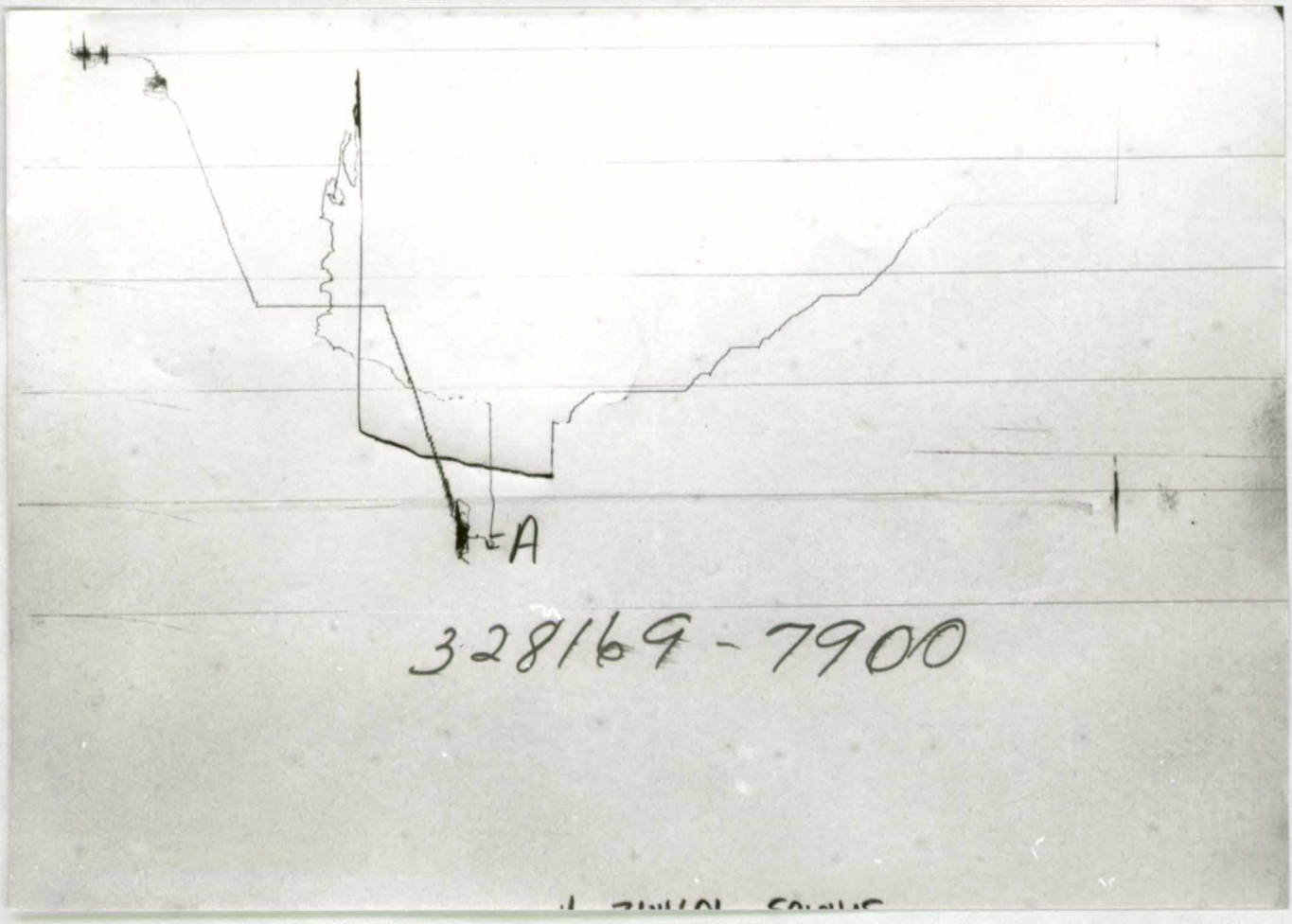
GAUGE NO: 5093 DEPTH: 8899.2 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW		120.7	247.0	247.1	F
C	FINAL FIRST FLOW		695.7			
C	INITIAL FIRST CLOSED-IN		695.7	119.0	118.9	C
D	FINAL FIRST CLOSED-IN	538	538.7			
E	FINAL HYDROSTATIC		4340.8			



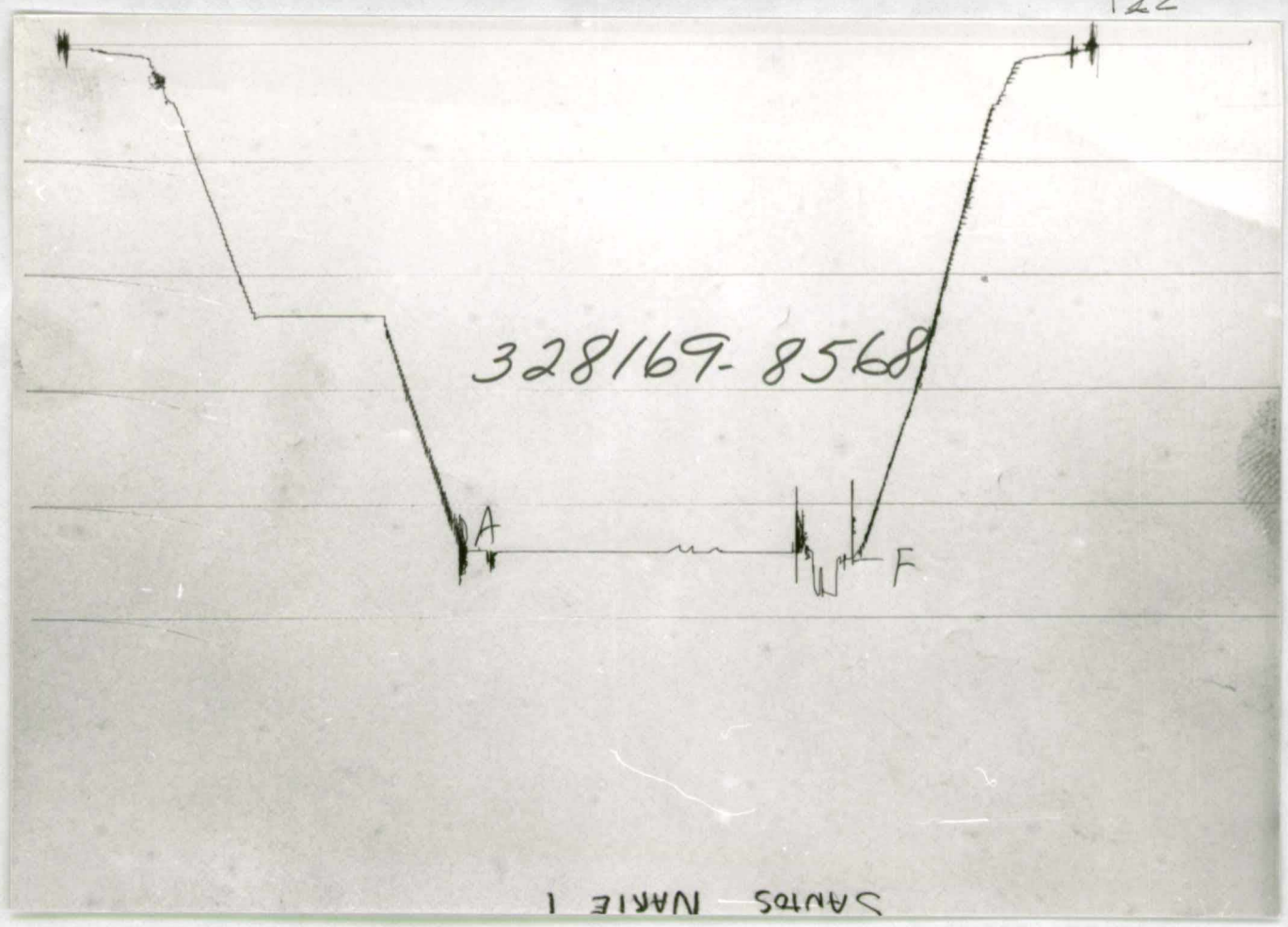
GAUGE NO: 3289 DEPTH: 8918.5 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4341	4341.5			
B	INITIAL FIRST FLOW	177	170.2	247.0	247.1	F
C	FINAL FIRST FLOW	733	737.3			
C	INITIAL FIRST CLOSED-IN	733	737.3	119.0	118.9	C
D	FINAL FIRST CLOSED-IN	3778	3785.5			
E	FINAL HYDROSTATIC	4341	4342.2			



GAUGE NO: 7900 DEPTH: 8972.2 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4352	4361.1			
B	INITIAL FIRST FLOW			247.0		F
C	FINAL FIRST FLOW					
C	INITIAL FIRST CLOSED-IN			119.0		C
D	FINAL FIRST CLOSED-IN					
E	FINAL HYDROSTATIC					



GAUGE NO: 8568 DEPTH: 9106.9 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4412	4413.5			
B	INITIAL FIRST FLOW			247.0		F
C	FINAL FIRST FLOW					
C	INITIAL FIRST CLOSED-IN			119.0		C
D	FINAL FIRST CLOSED-IN					
E	FINAL HYDROSTATIC	4412	4413.5			

EQUIPMENT & HOLE DATA

FORMATION TESTED: TIRRAWARRA
NET PAY (ft): _____
GROSS TESTED FOOTAGE: 34.8
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft): _____
HOLE OR CASING SIZE (in): 8.500
ELEVATION (ft): 133.0
TOTAL DEPTH (ft): 9110.0
PACKER DEPTH(S) (ft): 8935, 8942, 8977, 8985
FINAL SURFACE CHOKE (in): 0.50000
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.30
MUD VISCOSITY (sec): 43
ESTIMATED HOLE TEMP. (°F): _____
ACTUAL HOLE TEMP. (°F): 268 @ 9106.0 ft

TICKET NUMBER: 32816900

DATE: 5-14-88 TEST NO: 6

TYPE DST: ON BTM. STRADDLE

FIELD CAMP: MOOMBA

TESTER: G. BOOTS

WITNESS: B. SPEECHLEY

DRILLING CONTRACTOR: ATCO RIG #1

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
_____	_____ @ ____ °F	_____ ppm
_____	_____ @ ____ °F	_____ ppm
_____	_____ @ ____ °F	_____ ppm
_____	_____ @ ____ °F	_____ ppm
_____	_____ @ ____ °F	_____ ppm
_____	_____ @ ____ °F	_____ ppm

SAMPLER DATA

Psig AT SURFACE: _____
cu.ft. OF GAS: _____
cc OF OIL: _____
cc OF WATER: _____
cc OF MUD: _____
TOTAL LIQUID cc: _____

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): _____ @ ____ °F
GAS/OIL RATIO (cu.ft. per bbl): _____
GAS GRAVITY: _____

CUSHION DATA

TYPE	AMOUNT	WEIGHT
_____	_____	_____
_____	_____	_____

RECOVERED:

FINAL FLOW RATES:
FLOWED GAS AT .511 MCF/DAY
FLOWED CONDENSATE AT 25.6 BBLS./DAY
FLOWED WATER AT 25.6 BBLS./DAY

MEASURED FROM TESTER VALVE

REMARKS:

LEGAL LOCATION: LAT. 027 DEG, 46', 19.6"S.
LONG. 140 DEG. 05', 35.6"E.

GAUGE # 7900 MALFUNCTIONED WHEN TOOL OPENED.....

TYPE & SIZE MEASURING DEVICE: 6" CERAMIC SURFACE CHOKE					TICKET NO: 32816900
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
5-14-88					
2100					STARTED PICKING UP TOOLS
2300					STARTED IN HOLE
5-15-88					
0535					RIGGED UP HEAD AND FLOOR
0558					SEATED PACKERS
0600	1/2				OPENED TOOL WITH MODERATE BLOW
0605	1/2	3			STRONG BLOW
0606	1/2	18			GAS TO THE SURFACE
0610	1/2	20			
0615	1/2	18			
0630	1/2				
0700	1/2	23			
0730	1/2	29			
0749	1/2	38			MUD TO SURFACE
0800	1/2	113			
0801	1/2	96			GAS CUT WATERY CONDENSATE
0813	1/2	158			GAS CUT CONDENSATE
0816	1/2	160			FLOW THROUGH SEPARATOR
0830	1/2	175			
0900	1/2	185			
0930	1/2	143			
1000	1/2	137			
1007					TOOL CLOSED
1206					PULLED FREE
1220					STARTED REVERSING OUT
1310					PULLED OUT OF HOLE
1700					TOOLS TO SURFACE
1900					TOOLS OFF FLOOR

TICKET NO: 32816900	GAUGE NO: 5093
CLOCK NO: 26218 HOUR: 24	DEPTH: 8899.2

	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	120.7			
	2	15.0	137.8	17.1		
	3	30.0	201.9	64.1		
	4	45.0	265.0	63.0		
	5	60.1	326.7	61.8		
	6	75.0	390.4	63.7		
	7	90.0	448.7	58.3		
	8	105.0	517.7	69.0		
	9	120.0	614.5	96.8		
	10	135.0	635.3	20.7		
	11	150.0	634.2	-1.1		
	12	165.0	625.0	-9.2		
	13	180.0	614.5	-10.5		
	14	195.0	602.8	-11.8		
	15	210.0	617.7	15.0		
	16	225.0	639.7	22.0		
	17	240.0	682.9	43.2		
C	18	247.1	695.7	12.8		
			FIRST CLOSED-IN			
C	1	0.0	695.7			
D	2	118.9	538.7	-157.1	80.3	0.488

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

REMARKS:

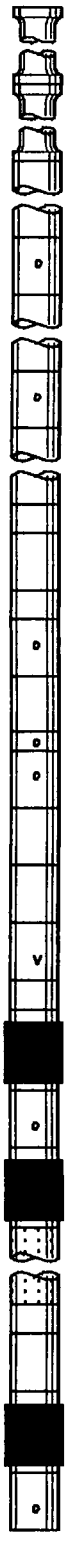
0126

TICKET NO: 32816900	GAUGE NO: 3289
CLOCK NO: 30169 HOUR: 24	DEPTH: 8918.5

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t+\Delta t}$	$\log \frac{t+\Delta t}{\Delta t}$
			FIRST FLOW			
B	1	0.0	170.2			
	2	15.0	180.1	9.9		
	3	30.0	238.4	58.3		
	4	45.0	298.0	59.6		
	5	60.0	361.6	63.6		
	6	75.0	424.7	63.1		
	7	90.0	492.3	67.5		
	8	105.0	556.3	64.0		
	9	120.0	647.2	90.9		
	10	135.0	673.5	26.3		
	11	150.0	674.6	1.1		
	12	165.0	666.7	-7.9		
	13	180.0	657.8	-8.8		
	14	195.0	645.7	-12.1		
	15	210.0	656.3	10.6		
	16	225.0	676.8	20.5		
	17	240.0	719.6	42.8		
C	18	247.1	737.3	17.7		
			FIRST CLOSED-IN			
C	1	0.0	737.3			
	2	3.0	2850.2	2112.9	2.9	1.928
	3	6.0	3180.8	2443.5	5.9	1.625
	4	9.0	3319.0	2581.7	8.7	1.452
	5	12.0	3389.0	2651.7	11.5	1.333
	6	15.0	3434.6	2697.3	14.1	1.243
	7	18.0	3475.2	2737.9	16.8	1.168
	8	21.0	3505.2	2767.9	19.4	1.106
	9	24.0	3530.2	2792.9	21.9	1.053
	10	27.0	3551.8	2814.5	24.3	1.007
	11	30.0	3572.6	2835.3	26.7	0.966
	12	35.0	3598.9	2861.6	30.7	0.906
	13	40.0	3620.3	2883.0	34.4	0.856
	14	45.0	3637.1	2899.8	38.1	0.812
	15	50.0	3654.9	2917.6	41.6	0.774
	16	55.0	3670.8	2933.5	45.0	0.740
	17	60.0	3688.6	2951.2	48.3	0.709
	18	70.0	3711.4	2974.1	54.5	0.656
	19	80.0	3731.5	2994.2	60.4	0.612
	20	90.0	3749.7	3012.4	65.9	0.574
	21	100.0	3764.1	3026.8	71.2	0.540
	22	110.0	3776.0	3038.7	76.1	0.511
D	23	118.9	3785.5	3048.2	80.3	0.488

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

REMARKS:



		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE	4.500	3.826	8188.7	
4	FLEX WEIGHT	4.500	2.764	182.8	
3	DRILL COLLARS	6.500	2.810	479.1	
51	PUMP OUT REVERSING SUB	6.000	3.000	1.0	8836.1
3	DRILL COLLARS	6.500	2.810	29.8	
50	IMPACT REVERSING SUB	6.000	3.000	1.0	8866.9
3	DRILL COLLARS	6.500	2.810	29.8	
258	BAR CATCHER SUB	6.250	1.120	1.0	
80	AP RUNNING CASE	5.750	2.250	4.1	8899.2
5	CROSSOVER	5.000	2.200	1.0	
12	DUAL CIP VALVE	5.000	0.870	4.9	
202	SAMPLE CHAMBER	5.000	2.500	4.1	
33	DRAIN VALVE	5.000	2.200	0.9	
60	HYDROSPRING TESTER	5.000	0.750	5.3	8916.5
80	AP RUNNING CASE	5.000	2.250	4.1	8918.5
15	JAR	5.000	1.750	5.0	
16	VR SAFETY JOINT	5.000	1.000	2.8	
5	CROSSOVER	5.000		1.0	
70	OPEN HOLE PACKER	7.750	1.680	5.8	8934.6
18	DISTRIBUTOR VALVE	5.000	1.680	2.0	
70	OPEN HOLE PACKER	7.750	1.680	5.8	8942.4
20	FLUSH JOINT ANCHOR	5.000	2.370	24.0	
5	CROSSOVER	5.000	2.500	1.0	
80	AP RUNNING CASE	5.000	2.200	4.1	8972.2
70	OPEN HOLE PACKER	7.750	1.680	5.8	8977.2
18	DISTRIBUTOR VALVE	5.000	1.680	2.0	

CONTINUED

EQUIPMENT DATA

TICKET NO. 32816900

		O.D.	I.D.	LENGTH	DEPTH
70	OPEN HOLE PACKER	7.750	1.680	5.8	8985.0
5	CROSSOVER	5.000	2.500	1.0	
19	ANCHOR PIPE SAFETY JOINT	5.000	1.500	4.3	
20	FLUSH JOINT ANCHOR	5.000	2.370	20.0	
5	CROSSOVER	6.000	2.200	1.0	
3	DRILL COLLARS	6.500	2.810	89.7	
5	CROSSOVER	6.000	2.200	1.0	
81	BLANKED-OFF RUNNING CASE	5.000		4.1	9106.9
	TOTAL DEPTH				9110.0

EQUIPMENT DATA

EQUATIONS FOR DST LIQUID WELL ANALYSIS

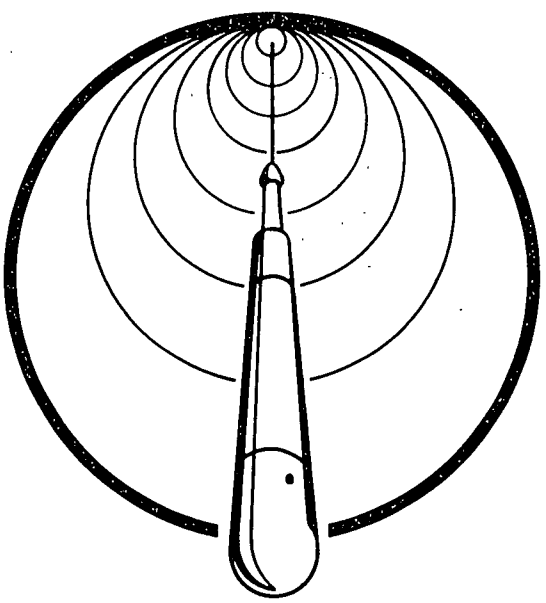
Transmissibility	$\frac{kh}{\mu} = \frac{162.6\ QB}{m}$	$\frac{\text{md-ft}}{\text{cp}}$
Indicated Flow Capacity	$kh = \frac{kh}{\mu}\ \mu$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151\left[\frac{P^* - P_f}{m} - \text{LOG}\left(\frac{k(t/60}{\phi\ \mu\ c_t r_w^2}\right) + 3.23\right]$	—
Damage Ratio	$DR = \frac{P^* - P_f}{P^* - P_f - 0.87\ mS}$	—
Theoretical Potential w / Damage Removed	$Q_t = Q\ DR$	BPD
Approx. Radius of Investigation	$r_i = 0.032\sqrt{\frac{k(t/60)}{\phi\mu c_t}}$	ft

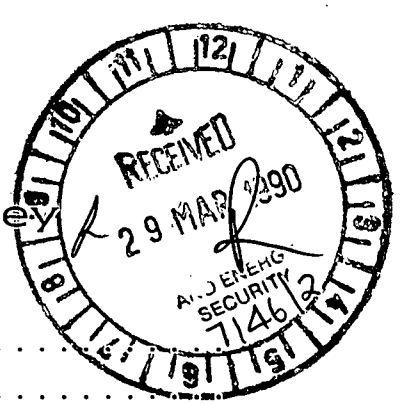
EQUATIONS FOR DST GAS WELL ANALYSIS

Indicated Flow Capacity	$kh = \frac{1637\ Q_g\ T}{m}$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151\left[\frac{m(P^*) - m(P_f)}{m} - \text{LOG}\left(\frac{k(t/60)}{\phi\ \mu\ c_t r_w^2}\right) + 3.23\right]$	—
Damage Ratio	$DR = \frac{m(P^*) - m(P_f)}{m(P^*) - m(P_f) - 0.87\ mS}$	—
Indicated Flow Rate (Maximum)	$AOF_1 = \frac{Q_g\ m(P^*)}{m(P^*) - m(P_f)}$	MCFD
Indicated Flow Rate (Minimum)	$AOF_2 = Q_g\sqrt{\frac{m(P^*)}{m(P^*) - m(P_f)}}$	MCFD
Approx. Radius of Investigation	$r_i = 0.032\sqrt{\frac{k(t/60)}{\phi\mu c_t}}$	ft

EXPERTEST

ELECTRIC WIRELINE
SERVICE





Electronic BHP/BHT Survey

Customer: SANTOS LTD

Location: NARIE #1

Formation: TIRRAWARRA

Date: 16th to 31st JAN 1990

CUSTOMER: SANTOS LTD

LOCATION: NARIE #1

FORMATION: TIRRAWARRA

DATE: 16th to 31st JANUARY 1990

TIME	DESCRIPTION OF EVENTS
	16th JANUARY 1990
0900	MOVE ON TO LOCATION AND RIG UP FOR SLICK LINE OPERATION
1106	PRESSURE UP THE LUBRICATOR
1110	RUN IN THE HOLE WITH A 1.75" O.D. DRIFT
1130	TAG T.D. AT 9058'KB - PULL OUT OF HOLE
1200	ARRIVE AT SURFACE
1210	RUN IN THE HOLE WITH A 2.5" B SHIFTING TOOL
1245	OPEN THE SLIDING SLEEVE AT 8787'KB - PULL OUT OF HOLE
1315	AT SURFACE - RIG DOWN SLICK LINE LUBRICATOR
	RIG UP ELECTRIC LINE LUBRICATOR AND SURFACE TESTING EQUIPMENT
	17th JANUARY 1990
0945	PRESSURE UP THE LUBRICATOR
1050	RUN IN THE HOLE WITH C.C.L. TO CORRELATE FOR CABLE STRETCH
1130	CABLE DEPTH CORRECTION = 43'
1226	ARRIVE AT SURFACE
	FUNCTION TEST HP S.R.O. GAUGE ON THE BENCH - OK
1524	PRESSURE UP THE LUBRICATOR
1725	RUN IN THE HOLE WITH HP S.R.O. GAUGE AND AN AMERADA
1804	HANG OFF AT 9000'KB
2030	GAUGE SIGNAL FAILS
	18th JANUARY 1990
0730	PULL OUT OF HOLE
0815	AT SURFACE - FAIL TO REGAIN SIGNAL IN THE LUBRICATOR
	REDRESS HP GAUGE AND CABLE HEAD
1740	PRESSURE UP THE LUBRICATOR
1750	RUN IN THE HOLE AND HANG OFF AT 9000'KB ✓— D.
1830	GAUGE SIGNAL BECOMES ERRATIC

CUSTOMER: SANTOS LTD

LOCATION: NARIE #1

FORMATION: TIRRAWARRA

DATE: 16th to 31st JANUARY 1990

TIME	DESCRIPTION OF EVENTS
	TRACE FAULT TO BAD LINE CONNECTION
2010	MONITOR SHUT IN BOTTOM HOLE PRESSURE OVERNIGHT
	19th JANUARY 1990
	START CLEAN UP FLOW
0700	OPEN THE WELL ON A 10/64ths CHOKE AND MONITOR THE
	FLOWING BOTTOM HOLE PRESSURE
	20th JANUARY 1990
1000	INCREASE THE CHOKE TO 18/64ths AND CONTINUE TO
	MONITOR THE FLOWING BOTTOM HOLE PRESSURE
	21st JANUARY 1990
0945	START TO TAKE SURFACE SAMPLES
1200	FINISH SAMPLING
	CONTINUE TO MONITOR FLOWING BOTTOM HOLE PRESSURE
1900	SHUT IN THE WELL AND MONITOR BOTTOM HOLE PRESS. BUILD UP
	22nd JANUARY 1990
0001	CONTINUE TO MONITOR BOTTOM HOLE PRESSURE BUILD UP
	23rd JANUARY 1990
0001	CONTINUE TO MONITOR BOTTOM HOLE PRESSURE BUILD UP
1715	PULL OUT OF HOLE TO REDRESS HP GAUGE AND CABLE HEAD IN
	PREPARATION FOR THE MODIFIED ISOCHRONAL SURVEY
1800	AT SURFACE
2300	FUNCTION TEST GAUGES IN THE LUBRICATOR
2325	PRESSURE UP THE LUBRICATOR
	HANG AT SURFACE OVER NIGHT

CUSTOMER: SANTOS LTD

LOCATION: NARIE #1

FORMATION: TIRRAWARRA

DATE: 16th to 31st JANUARY 1990

TIME	DESCRIPTION OF EVENTS
	24th JANUARY 1990
0715	RUN IN THE HOLE WITH HP GAUGE AND REDRESSED AMERADA
0800	HANG OFF AT 9000'KB AND ALLOW GAUGE TO STABILIZE
	START MOD. ISOCHRONAL RATE #1
1100	OPEN WELL ON 10/64ths CHOKE FOR 4 HOURS FLOW / 4 HOURS BUILD UP
	START MOD. ISOCHRONAL RATE #2
1900	OPEN WELL ON 18/64ths CHOKE FOR 4 HOURS FLOW / 4 HOURS BUILD UP
	25th JANUARY 1990
0115	HP GAUGE FAILS IN THE HOLE
	CONTINUE TO MONITOR ISOCHRONAL WITH BACK UP AMERADA GAUGE
	START MOD. ISOCHRONAL RATE #3
0300	OPEN WELL ON 28/64ths CHOKE FOR 4 HOURS FLOW / 4 HOURS BUILD UP
	START MOD. ISOCHRONAL RATE #4
1100	OPEN WELL ON 40/64ths FOR 4 HOURS FLOW ONLY
	START EXTENDED FLOW PERIOD
1500	REDUCE CHOKE TO 32/64ths AND FLOW FOR EXTENDED RATE
1630	PULL OUT OF HOLE TO CHANGE OUT HP GAUGE
1700	CHOKE THE WELL BACK TO 16/64ths TO PREVENT BEING
	BLOWN UP THE HOLE
1720	ARRIVE AT SURFACE - DEPRESSURE THE LUBRICATOR
1730	RETURN WELL TO EXTENDED FLOW CHOKE SETTING OF 32/64ths

CUSTOMER: SANTOS LTD

LOCATION: NARIE #1

FORMATION: TIRRAWARRA

DATE: 16th to 31st JANUARY 1990

TIME	DESCRIPTION OF EVENTS
	SEND HP GAUGE TO MOOMBA FOR REDRESS
	CHANGE OUT AMERADA CHART AND REWIND CLOCK
	REDRESS CABLE HEAD
2200	HP GAUGE FOUND TO HAVE A BLOWN DIODE - CHANGE OUT GAUGE
2350	PRESSURE UP THE LUBRICATOR AND FUNCTION TEST GAUGE
	26th JANUARY 1990
0100	CHOKE WELL BACK TO 16/64ths AND RUN IN THE HOLE
0157	HANG OFF AT 9000'KB AND ALLOW GAUGE TO STABILIZE
0200	RETURN WELL TO EXTENDED FLOW CHOKE SETTING OF 32/64ths
	CONTINUE TO MONITOR FLOWING BOTTOM HOLE PRESSURE
	27th JANUARY 1990
0001	CONTINUE TO MONITOR FLOWING BOTTOM HOLE PRESSURE
	START THE FINAL BUILD UP
0800	SHUT IN THE WELL AND MONITOR BOTTOM HOLE PRESS. BUILD UP
1000	HP GAUGE SHOWS SIGNS OF FAILING BY IRREGULAR READINGS
1100	SUSPEND HP SURVEY AND ATTEMPT TO FIND PROBLEM FROM SURFACE
1300	CONTINUE TO MONITOR PRESSURE AFTER REGAINING THE SIGNAL
	AT THIS POINT WE HAD SEVERAL FAILURES WITH THE AIR COMPRESSOR
	THAT POWERS OUR GREASE PUMP. THIS CAUSED SOME LOSS OF PRESS.
	AT SURFACE WHICH APPEARS TO SHOW UP IN THE DOWN HOLE READINGS.
	28th JANUARY 1990
0001	CONTINUE TO MONITOR THE BOTTOM HOLE PRESSURE BUILD UP
	29th JANUARY 1990

CUSTOMER: SANTOS LTD

LOCATION: NARIE #1

FORMATION: TIRRAWARRA

DATE: 16th to 31st JANUARY 1990

TIME	DESCRIPTION OF EVENTS
0001	CONTINUE TO MONITOR THE BOTTOM HOLE PRESSURE BUILD UP
	30th JANUARY 1990
0001	CONTINUE TO MONITOR THE BOTTOM HOLE PRESSURE BUILD UP
	31st JANUARY 1990
0001	CONTINUE TO MONITOR THE BOTTOM HOLE PRESSURE BUILD UP
1100	END OF BUILD UP
	PULL OUT OF HOLE CONDUCTING A STATIC GRADIENT TO SURFACE
1939	ARRIVE AT SURFACE FOR LAST GRADIENT STOP
	LOSE SIGNAL IN LUBRICATOR
2100	DEPRESSURE THE LUBRICATOR - HANG OVERNIGHT
	1st FEBRUARY 1990
0630	START TO RIG DOWN ALL EQUIPMENT FROM LOCATION
	HAND WELL BACK TO PRODUCTION
	END OF SURVEY

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 18-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
18-01-90	17:37:00	0.117	1904.59	-954.68	101.52		Start Survey.
18-01-90	17:38:00	0.133	1908.21	3.62	101.52		
18-01-90	17:39:00	0.150	1908.31	0.10	101.52		Hang in lub.
18-01-90	17:40:00	0.167	1905.15	-3.16	95.66		(PUL 14:55 hrs).
18-01-90	17:41:00	0.183	1903.32	-1.83	102.04		
18-01-90	17:42:00	0.200	1907.38	4.06	102.04		1 min sample rate.
18-01-90	17:43:00	0.217	1909.08	1.70	102.04		
18-01-90	17:44:00	0.233	1907.19	-1.89	102.04	1909	Csg = 0
18-01-90	17:45:00	0.250	1908.71	1.52	102.04		
18-01-90	17:46:00	0.267	1908.51	-0.20	102.04		R.I.H.
18-01-90	18:30:00	1.000	0.00	-908.51	0.00		Hang @ 9000'KB
18-01-90	18:31:00	1.017	0.00	0.00	0.00	1908	Csg = 0.
18-01-90	18:32:00	1.033	0.00	0.00	0.00		Pressure readings
18-01-90	18:33:00	1.050	0.00	0.00	0.00		unstable.
18-01-90	18:34:00	1.067	0.00	0.00	0.00		
18-01-90	18:35:00	1.083	0.00	0.00	0.00		
18-01-90	18:40:00	1.167	0.00	0.00	0.00		5 min sample rate.
18-01-90	18:45:00	1.250	0.00	0.00	0.00		
18-01-90	18:50:00	1.333	0.00	0.00	0.00		Delta P from
18-01-90	18:55:00	1.417	0.00	0.00	0.00		previous sample.
18-01-90	19:00:00	1.500	0.00	0.00	0.00		
18-01-90	19:05:00	1.583	0.00	0.00	0.00		Delta T from
18-01-90	19:10:00	1.667	0.00	0.00	0.00		original start-up.
18-01-90	19:15:00	1.750	0.00	0.00	0.00		
18-01-90	20:25:00	2.917	3913.56	3913.56	281.22		
18-01-90	20:40:00	3.167	3912.53	-1.03	281.22		
18-01-90	21:00:00	3.500	3913.23	0.70	281.22		
18-01-90	21:05:00	3.583	3914.81	1.57	281.22		
18-01-90	21:15:00	3.750	3914.11	-0.69	281.22		
18-01-90	21:20:00	3.833	3912.54	-1.57	281.22		
18-01-90	21:25:00	3.917	3913.45	0.91	281.22		
18-01-90	21:30:00	4.000	3914.39	0.94	285.02		
18-01-90	21:35:00	4.083	3914.18	-0.21	281.22		
18-01-90	22:05:00	4.583	3912.95	-1.23	281.22		
18-01-90	22:20:00	4.833	3914.04	1.09	281.22		
18-01-90	22:25:00	4.917	3914.08	0.05	281.22		
18-01-90	22:35:00	5.083	3913.93	-0.16	281.22		Corrected problem
18-01-90	22:40:00	5.167	3913.81	-0.12	281.22		with signal
18-01-90	22:45:00	5.250	3913.85	0.04	281.22		connections.
18-01-90	22:55:00	5.417	3913.79	-0.06	281.22		
18-01-90	23:00:00	5.500	3913.91	0.12	281.22	1895	Csg = 0.
18-01-90	23:05:00	5.583	3914.02	0.11	281.22		
18-01-90	23:10:00	5.667	3914.19	0.18	281.22		
18-01-90	23:15:00	5.750	3914.21	0.02	281.22		
18-01-90	23:20:00	5.833	3914.27	0.06	281.22		
18-01-90	23:30:00	6.000	3914.36	0.09	281.22		
18-01-90	23:35:00	6.083	3914.35	-0.01	281.22		
18-01-90	23:40:00	6.167	3914.37	0.02	281.22		
18-01-90	23:45:00	6.250	3914.88	0.51	281.22		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 18-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
18-01-90	23:50:00	6.333	3915.39	0.51	281.22		
18-01-90	23:55:00	6.417	3915.48	0.09	281.22		
19-01-90	00:00:00	6.500	3915.09	-0.39	281.22	1892	Csg = 0.
19-01-90	00:05:00	6.583	3915.11	0.02	281.22		
19-01-90	00:10:00	6.667	3914.95	-0.16	281.22		
19-01-90	00:15:00	6.750	3913.50	-1.46	281.22		
19-01-90	00:20:00	6.833	3914.82	1.32	281.22		
19-01-90	00:25:00	6.917	3914.76	-0.06	281.22		
19-01-90	00:30:00	7.000	3914.79	0.03	281.22		
19-01-90	00:35:00	7.083	3914.83	0.04	281.22		
19-01-90	00:40:00	7.167	3914.06	-0.76	281.22		
19-01-90	00:45:00	7.250	3914.40	0.34	281.22		
19-01-90	00:50:00	7.333	3914.75	0.35	281.22		
19-01-90	00:55:00	7.417	3914.78	0.03	281.22		
19-01-90	01:00:00	7.500	3914.81	0.03	281.22		
19-01-90	01:05:00	7.583	3914.07	-0.73	281.22		
19-01-90	01:10:00	7.667	3914.83	0.75	281.22		
19-01-90	01:15:00	7.750	3914.82	-0.01	281.22		
19-01-90	01:20:00	7.833	3914.82	0.00	281.22		
19-01-90	01:25:00	7.917	3914.71	-0.11	281.22		
19-01-90	01:30:00	8.000	3914.73	0.02	281.22		
19-01-90	01:35:00	8.083	3914.74	0.01	281.22		
19-01-90	01:40:00	8.167	3914.88	0.14	281.22		
19-01-90	01:45:00	8.250	3914.74	-0.14	281.22		
19-01-90	01:50:00	8.333	3914.76	0.02	281.22		
19-01-90	01:55:00	8.417	3914.83	0.07	281.22		
19-01-90	02:00:00	8.500	3914.80	-0.03	281.22	1888	Csg = 0.
19-01-90	02:05:00	8.583	3914.84	0.04	281.22		
19-01-90	02:10:00	8.667	3914.76	-0.08	281.22		
19-01-90	02:15:00	8.750	3914.80	0.04	281.22		
19-01-90	02:20:00	8.833	3913.89	-0.91	281.22		
19-01-90	02:25:00	8.917	3914.84	0.95	281.22		
19-01-90	02:30:00	9.000	3914.42	-0.42	281.22		Hang overnight
19-01-90	02:35:00	9.083	3914.11	-0.31	281.22		to confirm
19-01-90	02:40:00	9.167	3914.83	0.71	281.22		signal stability.
19-01-90	02:45:00	9.250	3914.86	0.03	281.22		
19-01-90	02:50:00	9.333	3914.86	0.00	281.22		
19-01-90	02:55:00	9.417	3914.93	0.08	281.22		
19-01-90	03:00:00	9.500	3914.98	0.05	281.22		
19-01-90	03:05:00	9.583	3914.97	-0.01	281.22		
19-01-90	03:10:00	9.667	3914.96	-0.01	281.22		
19-01-90	03:15:00	9.750	3914.98	0.02	281.22		
19-01-90	03:20:00	9.833	3915.06	0.08	281.22		
19-01-90	03:25:00	9.917	3915.11	0.05	281.22		
19-01-90	03:30:00	10.000	3915.17	0.06	281.22		
19-01-90	03:35:00	10.083	3915.24	0.07	281.22		
19-01-90	03:40:00	10.167	3915.25	0.01	281.22		
19-01-90	03:45:00	10.250	3915.27	0.02	281.22		
19-01-90	03:50:00	10.333	3914.52	-0.74	281.22		
19-01-90	03:55:00	10.417	3915.27	0.74	281.22		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 19-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
19-01-90	04:00:00	10.500	3915.20	0.32	281.22		
19-01-90	04:05:00	10.583	3914.47	-0.73	281.22		
19-01-90	04:10:00	10.667	3915.18	0.71	281.22		
19-01-90	04:15:00	10.750	3915.28	0.10	281.22		
19-01-90	04:20:00	10.833	3915.29	0.01	281.22		
19-01-90	04:25:00	10.917	3915.30	0.01	281.22		
19-01-90	04:30:00	11.000	3915.32	0.02	281.22		
19-01-90	04:35:00	11.083	3915.35	0.04	281.22		
19-01-90	04:40:00	11.167	3915.30	-0.06	281.22		
19-01-90	04:45:00	11.250	3915.43	0.14	281.22		
19-01-90	04:50:00	11.333	3915.46	0.03	281.22		
19-01-90	04:55:00	11.417	3914.77	-0.69	281.22		
19-01-90	05:00:00	11.500	3915.41	0.65	281.22		
19-01-90	05:05:00	11.583	3915.35	-0.07	281.22		
19-01-90	05:10:00	11.667	3915.43	0.09	281.22		
19-01-90	05:15:00	11.750	3915.48	0.05	281.22		
19-01-90	05:20:00	11.833	3915.57	0.09	281.22		
19-01-90	05:25:00	11.917	3915.60	0.03	281.22		
19-01-90	05:30:00	12.000	3915.64	0.04	281.22		
19-01-90	05:35:00	12.083	3916.10	0.46	281.22		
19-01-90	05:40:00	12.167	3916.23	0.14	281.22		
19-01-90	05:45:00	12.250	3916.31	0.08	281.22		
19-01-90	05:50:00	12.333	3916.33	0.02	281.22		
19-01-90	05:55:00	12.417	3916.38	0.05	281.22		
19-01-90	06:00:00	12.500	3916.41	0.03	281.22	1875	Csg = 0.
19-01-90	06:05:00	12.583	3916.47	0.06	281.22		
19-01-90	06:10:00	12.667	3916.53	0.06	281.22		
19-01-90	06:15:00	12.750	3916.59	0.06	281.22		
19-01-90	06:20:00	12.833	3916.65	0.06	281.22		
19-01-90	06:25:00	12.917	3865.28	-51.37	281.22		Pressure up heater
19-01-90	06:30:00	13.000	3916.69	51.42	281.22		and seperator lines
19-01-90	06:35:00	13.083	3798.49	-118.21	281.22		
19-01-90	06:40:00	13.167	3869.67	71.18	281.22		
19-01-90	06:45:00	13.250	3898.81	29.14	281.22		
19-01-90	06:50:00	13.333	3907.90	9.09	281.22		
19-01-90	06:55:00	13.417	3908.40	0.50	281.22		
19-01-90	07:00:00	0.000	3907.16	-1.24	281.22		Open well to flare.
19-01-90	07:02:00	0.033	3859.26	-47.90	281.22	1869	Csg = 0.
19-01-90	07:04:00	0.067	3826.78	-32.48	281.22		
19-01-90	07:06:00	0.100	3817.77	-9.01	281.22		2 min sample rate.
19-01-90	07:08:00	0.133	3805.22	-12.55	281.22		
19-01-90	07:10:00	0.167	3795.97	-9.25	281.22		
19-01-90	07:12:00	0.200	3789.37	-6.60	281.22		
19-01-90	07:14:00	0.233	3784.55	-4.82	281.22		
19-01-90	07:16:00	0.267	3781.04	-3.51	281.22		
19-01-90	07:18:00	0.300	3778.45	-2.60	281.22		
19-01-90	07:20:00	0.333	3776.05	-2.39	281.22		
19-01-90	07:22:00	0.367	3774.29	-1.76	281.22		
19-01-90	07:24:00	0.400	3773.17	-1.12	281.22		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 19-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
19-01-90	07:26:00	0.433	3772.66	-0.51	281.22		
19-01-90	07:28:00	0.467	3772.12	-0.55	281.22		
19-01-90	07:30:00	0.500	3771.97	-0.15	281.22		
19-01-90	07:32:00	0.533	3772.16	0.20	281.22		
19-01-90	07:34:00	0.567	3772.61	0.45	281.22		
19-01-90	07:36:00	0.600	3772.83	0.21	281.22		
19-01-90	07:38:00	0.633	3772.58	-0.24	281.22		
19-01-90	07:40:00	0.667	3772.09	-0.49	281.22		
19-01-90	07:42:00	0.700	3771.61	-0.48	281.22		
19-01-90	07:44:00	0.733	3772.31	0.70	281.22		
19-01-90	07:46:00	0.767	3773.20	0.89	281.22		
19-01-90	07:48:00	0.800	3777.70	4.50	281.22		
19-01-90	07:50:00	0.833	3782.46	4.76	281.22		
19-01-90	07:52:00	0.867	3786.06	3.60	281.22		
19-01-90	07:54:00	0.900	3788.50	2.43	281.22		
19-01-90	07:56:00	0.933	3789.95	1.46	281.22		
19-01-90	07:58:00	0.967	3783.80	-6.15	281.22		
19-01-90	08:00:00	1.000	3783.09	-0.70	281.22	1830	Csg = 0.WHT = 28'C
19-01-90	08:02:00	1.033	3782.56	-0.54	281.22		
19-01-90	08:04:00	1.067	3783.26	0.70	281.22		
19-01-90	08:06:00	1.100	3784.03	0.77	281.22		
19-01-90	08:08:00	1.133	3785.16	1.12	281.22		
19-01-90	08:10:00	1.167	3786.59	1.44	281.22		
19-01-90	08:12:00	1.200	3787.40	0.81	281.22		
19-01-90	08:14:00	1.233	3787.75	0.35	281.22		
19-01-90	08:16:00	1.267	3788.02	0.26	281.22		
19-01-90	08:18:00	1.300	3788.12	0.11	281.22		
19-01-90	08:20:00	1.333	3788.80	0.67	281.22		
19-01-90	08:22:00	1.367	3789.42	0.63	281.22		
19-01-90	08:24:00	1.400	3789.60	0.18	281.22		
19-01-90	08:26:00	1.433	3789.83	0.23	281.22		
19-01-90	08:28:00	1.467	3790.30	0.47	281.22		
19-01-90	08:30:00	1.500	3790.39	0.09	281.22		
19-01-90	08:32:00	1.533	3790.35	-0.04	281.22		
19-01-90	08:34:00	1.567	3790.28	-0.07	281.22		
19-01-90	08:36:00	1.600	3787.55	-2.74	281.22		
19-01-90	08:38:00	1.633	3792.71	5.16	281.22		
19-01-90	08:40:00	1.667	3787.18	-5.53	281.22		
19-01-90	08:42:00	1.700	3793.88	6.70	281.22		
19-01-90	08:44:00	1.733	3794.35	0.47	281.22		
19-01-90	08:46:00	1.767	3794.24	-0.11	281.22		
19-01-90	08:48:00	1.800	3793.20	-1.04	281.22		
19-01-90	08:50:00	1.833	3793.00	-0.21	281.22		
19-01-90	08:52:00	1.867	3793.09	0.09	281.22		
19-01-90	08:54:00	1.900	3793.21	0.13	281.22		
19-01-90	08:56:00	1.933	3793.59	0.37	281.22		
19-01-90	08:58:00	1.967	3794.55	0.97	281.22		
19-01-90	09:00:00	2.000	3795.27	0.71	281.22	1824	Csg 2psig.WHT 28'C
19-01-90	09:05:00	2.083	3795.97	0.70	281.22		
19-01-90	09:10:00	2.167	3794.62	-1.35	281.22		5 min sample rate.

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 19-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
19-01-90	09:15:00	2.250	3796.25	1.63	281.22		
19-01-90	09:20:00	2.333	3796.70	0.45	281.22		
19-01-90	09:25:00	2.417	3797.13	0.43	281.22		
19-01-90	09:30:00	2.500	3796.20	-0.93	281.22		
19-01-90	09:35:00	2.583	3796.09	-0.12	281.22		
19-01-90	09:40:00	2.667	3790.30	-5.78	281.22		
19-01-90	09:45:00	2.750	3796.25	5.95	281.22		
19-01-90	09:50:00	2.833	3796.06	-0.20	281.22		
19-01-90	09:55:00	2.917	3795.97	-0.09	281.22		
19-01-90	10:00:00	3.000	3795.77	-0.20	281.22	1812	Csg 3psig.WHT 30'C
19-01-90	10:05:00	3.083	3797.68	1.90	281.22		
19-01-90	10:10:00	3.167	3799.59	1.91	281.22		
19-01-90	11:30:00	4.500	3835.04	35.44	281.41	1834	Csg 3psig.WHT 32'C
19-01-90	11:35:00	4.583	3834.96	-0.08	281.41		
19-01-90	11:40:00	4.667	3822.41	-12.55	281.41		
19-01-90	11:45:00	4.750	3833.29	10.88	281.41		
19-01-90	11:50:00	4.833	3834.85	1.56	281.41		
19-01-90	11:55:00	4.917	3829.35	-5.50	281.41		
19-01-90	12:00:00	5.000	3824.24	-5.11	281.41	1835	Csg 3psig.WHT 32'C
19-01-90	12:05:00	5.083	3833.20	8.96	281.41		
19-01-90	12:10:00	5.167	3837.35	4.15	281.41		
19-01-90	12:15:00	5.250	3836.85	-0.50	281.41		
19-01-90	12:20:00	5.333	3831.60	-5.26	281.41		
19-01-90	12:25:00	5.417	3837.99	6.39	281.41		
19-01-90	12:30:00	5.500	3841.34	3.35	281.41		
19-01-90	12:35:00	5.583	3841.93	0.60	281.41		
19-01-90	12:40:00	5.667	3841.26	-0.67	281.41		
19-01-90	12:45:00	5.750	3840.25	-1.01	281.41		
19-01-90	12:50:00	5.833	3839.09	-1.16	281.41		
19-01-90	12:55:00	5.917	3838.61	-0.48	281.41		
19-01-90	13:00:00	6.000	3837.22	-1.39	281.41	1832	Csg 3psig.WHT 33'C
19-01-90	13:05:00	6.083	3826.82	-10.41	281.41		
19-01-90	13:10:00	6.167	3824.61	-2.21	281.41		
19-01-90	13:15:00	6.250	3824.10	-0.51	281.41		
19-01-90	13:20:00	6.333	3822.87	-1.23	281.41		
19-01-90	13:25:00	6.417	3821.34	-1.53	281.41		
19-01-90	13:30:00	6.500	3818.78	-2.56	281.41		
19-01-90	13:35:00	6.583	3817.10	-1.68	281.41		
19-01-90	13:40:00	6.667	3813.75	-3.35	281.41		
19-01-90	13:45:00	6.750	3815.84	2.09	281.41		
19-01-90	13:50:00	6.833	3814.63	-1.20	281.41		
19-01-90	13:55:00	6.917	3812.54	-2.09	281.41		
19-01-90	14:00:00	7.000	3810.78	-1.77	281.41	1827	Csg 3psig.WHT 33'C
19-01-90	14:05:00	7.083	3809.04	-1.74	281.41		
19-01-90	14:10:00	7.167	3798.74	-10.30	281.41		
19-01-90	14:15:00	7.250	3806.93	8.19	281.41		
19-01-90	14:20:00	7.333	3805.03	-1.90	281.41		
19-01-90	14:25:00	7.417	3803.10	-1.93	281.41		
19-01-90	14:30:00	7.500	3800.60	-2.49	281.41		
19-01-90	14:35:00	7.583	3802.31	1.71	281.41		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 19-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
19-01-90	14:40:00	7.667	3804.09	1.78	281.41		
19-01-90	14:45:00	7.750	3803.74	-0.35	281.41		
19-01-90	14:50:00	7.833	3804.34	0.60	281.41		
19-01-90	14:55:00	7.917	3802.61	-1.73	281.41		
19-01-90	15:00:00	8.000	3803.16	0.56	281.41	1825	Csg 5psig.WHT 33'C
19-01-90	15:05:00	8.083	3805.33	2.17	281.41		
19-01-90	15:10:00	8.167	3807.31	1.97	281.41		
19-01-90	15:15:00	8.250	3806.43	-0.88	281.41		
19-01-90	15:20:00	8.333	3806.07	-0.36	281.41		
19-01-90	15:25:00	8.417	3806.65	0.59	281.41		
19-01-90	15:30:00	8.500	3808.05	1.40	281.41		
19-01-90	15:35:00	8.583	3812.01	3.96	281.41		
19-01-90	15:40:00	8.667	3815.16	3.16	281.41		
19-01-90	15:45:00	8.750	3815.21	0.05	281.41		
19-01-90	15:50:00	8.833	3813.79	-1.42	281.41		
19-01-90	15:55:00	8.917	3812.10	-1.69	281.41		
19-01-90	16:00:00	9.000	3807.61	-4.49	281.41	1829	Csg 3psig.WHT 32'C
19-01-90	16:05:00	9.083	3785.86	-21.75	281.41		
19-01-90	16:10:00	9.167	3806.14	20.28	281.41		
19-01-90	16:15:00	9.250	3807.94	1.80	281.41		
19-01-90	16:20:00	9.333	3807.71	-0.23	281.41		
19-01-90	16:25:00	9.417	3806.33	-1.38	281.41		
19-01-90	16:30:00	9.500	3805.84	-0.49	281.41		
19-01-90	16:35:00	9.583	3805.21	-0.64	281.41		
19-01-90	16:40:00	9.667	3802.70	-2.51	281.41		
19-01-90	16:45:00	9.750	3802.15	-0.55	281.41		
19-01-90	16:50:00	9.833	3800.76	-1.39	281.41		
19-01-90	16:55:00	9.917	3797.94	-2.82	281.41		
19-01-90	17:00:00	10.000	3798.01	0.07	281.41	1823	Csg 0psig.WHT 32'C
19-01-90	17:05:00	10.083	3798.31	0.30	281.41		
19-01-90	17:10:00	10.167	3799.35	1.05	281.41		
19-01-90	17:15:00	10.250	3796.70	-2.66	281.41		
19-01-90	17:20:00	10.333	3797.09	0.39	281.41		
19-01-90	17:25:00	10.417	3796.52	-0.57	280.70		
19-01-90	17:30:00	10.500	3796.61	0.09	280.70		
19-01-90	17:35:00	10.583	3795.09	-1.52	280.70		
19-01-90	17:40:00	10.667	3794.36	-0.72	280.70		
19-01-90	17:45:00	10.750	3793.29	-1.07	280.70		
19-01-90	17:50:00	10.833	3793.18	-0.11	280.70		
19-01-90	17:55:00	10.917	3792.84	-0.34	280.70		
19-01-90	18:00:00	11.000	3791.69	-1.15	280.70	1834	Csg 0psig.WHT 32'C
19-01-90	18:05:00	11.083	3791.64	-0.05	280.70		
19-01-90	18:10:00	11.167	3795.85	4.21	280.70		
19-01-90	18:15:00	11.250	3795.37	-0.48	280.70		
19-01-90	18:20:00	11.333	3796.14	0.77	280.70		
19-01-90	18:25:00	11.417	3796.85	0.71	280.70		
19-01-90	18:30:00	11.500	3794.92	-1.93	280.70		
19-01-90	18:35:00	11.583	3801.52	6.60	280.70		
19-01-90	18:40:00	11.667	3800.64	-0.89	280.70		
19-01-90	18:45:00	11.750	3800.14	-0.50	280.70		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 19-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
19-01-90	18:50:00	11.833	3798.21	-1.92	280.70		
19-01-90	18:55:00	11.917	3799.76	1.54	280.70		
19-01-90	19:00:00	12.000	3799.08	-0.67	280.70	1845	Csg 1psig.WHT. 31'C
19-01-90	19:05:00	12.083	3799.63	0.55	280.70		
19-01-90	19:10:00	12.167	3799.84	0.21	280.70		
19-01-90	19:15:00	12.250	3801.42	1.57	280.70		
19-01-90	19:20:00	12.333	3800.98	-0.44	280.70		
19-01-90	19:25:00	12.417	3798.54	-2.43	280.70		
19-01-90	19:30:00	12.500	3797.61	-0.94	280.70		
19-01-90	19:35:00	12.583	3797.77	0.17	280.70		
19-01-90	19:40:00	12.667	3797.21	-0.57	280.70		
19-01-90	19:45:00	12.750	3797.78	0.58	280.70		
19-01-90	19:50:00	12.833	3797.27	-0.51	280.70		
19-01-90	19:55:00	12.917	3799.18	1.90	280.70		
19-01-90	20:00:00	13.000	3797.48	-1.70	280.70	1849	Csg 1psig.WHT 30'C
19-01-90	20:05:00	13.083	3794.23	-3.25	280.70		
19-01-90	20:10:00	13.167	3788.57	-5.66	280.70		
19-01-90	20:15:00	13.250	3797.50	8.93	280.70		
19-01-90	20:20:00	13.333	3801.36	3.86	280.70		
19-01-90	20:25:00	13.417	3801.93	0.57	280.70		
19-01-90	20:30:00	13.500	3802.51	0.58	280.70		
19-01-90	20:35:00	13.583	3803.79	1.28	280.90		
19-01-90	20:40:00	13.667	3803.50	-0.29	280.90		
19-01-90	20:45:00	13.750	3799.82	-3.68	280.90		
19-01-90	20:50:00	13.833	3801.42	1.60	280.90		
19-01-90	20:55:00	13.917	3799.01	-2.41	280.90		
19-01-90	21:00:00	14.000	3800.17	1.16	280.90	1857	Csg 1psig.WHT 29'C
19-01-90	21:05:00	14.083	3800.73	0.56	280.90		
19-01-90	21:10:00	14.167	3800.93	0.21	280.90		
19-01-90	21:15:00	14.250	3798.18	-2.75	280.90		
19-01-90	21:20:00	14.333	3799.53	1.35	280.90		
19-01-90	21:25:00	14.417	3796.52	-3.01	280.90		
19-01-90	21:30:00	14.500	3798.43	1.91	280.90		
19-01-90	21:35:00	14.583	3798.08	-0.35	280.90		
19-01-90	21:40:00	14.667	3791.09	-6.99	280.90		
19-01-90	21:45:00	14.750	3795.17	4.08	280.90		
19-01-90	21:50:00	14.833	3790.29	-4.87	280.90		
19-01-90	21:55:00	14.917	3797.03	6.74	280.90		
19-01-90	22:00:00	15.000	3792.49	-4.54	280.90	1849	Csg 1psig.WHT 29'C
19-01-90	22:05:00	15.083	3796.78	4.29	280.90		
19-01-90	22:10:00	15.167	3726.52	-70.26	280.90		
19-01-90	22:15:00	15.250	3710.57	-15.95	280.90		
19-01-90	22:20:00	15.333	3786.60	76.03	280.90		
19-01-90	22:25:00	15.417	3793.98	7.37	280.90		
19-01-90	22:30:00	15.500	3796.28	2.31	280.90		
19-01-90	22:35:00	15.583	3796.01	-0.27	280.90		
19-01-90	22:40:00	15.667	3795.56	-0.45	280.90		
19-01-90	22:45:00	15.750	3795.99	0.43	281.14		
19-01-90	22:50:00	15.833	3793.47	-2.52	281.14		
19-01-90	22:55:00	15.917	3793.79	0.32	281.14		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 19-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
19-01-90	23:00:00	16.000	3796.49	2.70	281.14	1850	Csg 1psig.WHT 28'C
19-01-90	23:05:00	16.083	3737.17	-59.31	281.14		
19-01-90	23:10:00	16.167	3796.67	59.50	281.14		
19-01-90	23:15:00	16.250	3795.87	-0.80	281.14		
19-01-90	23:20:00	16.333	3796.78	0.91	281.14		
19-01-90	23:25:00	16.417	3778.06	-18.72	281.14		
19-01-90	23:30:00	16.500	3792.92	14.86	281.14		
19-01-90	23:35:00	16.583	3792.73	-0.20	281.14		
19-01-90	23:40:00	16.667	3792.96	0.23	281.14		
19-01-90	23:45:00	16.750	3792.69	-0.27	281.14		
19-01-90	23:50:00	16.833	3791.06	-1.63	281.14		
19-01-90	23:55:00	16.917	3788.34	-2.72	281.14		
20-01-90	00:00:00	17.000	3791.40	3.06	281.14	1850	Csg 1psig.WHT 28'C
20-01-90	00:05:00	17.083	3787.16	-4.24	281.14		
20-01-90	00:10:00	17.167	3789.05	1.89	281.14		
20-01-90	00:15:00	17.250	3793.52	4.46	281.14		
20-01-90	00:20:00	17.333	3794.00	0.48	281.14		
20-01-90	00:25:00	17.417	3786.76	-7.24	281.14		
20-01-90	00:30:00	17.500	3793.40	6.64	281.14		
20-01-90	00:35:00	17.583	3794.36	0.96	281.14		
20-01-90	00:40:00	17.667	3789.03	-5.32	281.14		
20-01-90	00:45:00	17.750	3786.33	-2.71	281.14		
20-01-90	00:50:00	17.833	3788.23	1.90	281.14		
20-01-90	00:55:00	17.917	3792.56	4.33	281.14		
20-01-90	01:00:00	18.000	3792.28	-0.28	281.14	1851	Csg 0.WHT 28'C
20-01-90	01:05:00	18.083	3790.89	-1.39	281.14		
20-01-90	01:10:00	18.167	3794.03	3.15	281.14		
20-01-90	01:15:00	18.250	3787.53	-6.51	281.14		
20-01-90	01:20:00	18.333	3773.61	-13.92	281.14		
20-01-90	01:25:00	18.417	3791.90	18.28	281.14		
20-01-90	01:30:00	18.500	3791.92	0.02	281.14		
20-01-90	01:35:00	18.583	3788.98	-2.93	281.14		
20-01-90	01:40:00	18.667	3794.51	5.53	281.14		
20-01-90	01:45:00	18.750	3793.79	-0.72	281.14		
20-01-90	01:50:00	18.833	3787.62	-6.17	281.14		
20-01-90	01:55:00	18.917	3792.88	5.27	281.14		
20-01-90	02:00:00	19.000	3793.07	0.19	281.14	1852	Csg 0.WHT 28'C
20-01-90	02:05:00	19.083	3792.38	-0.68	281.14		
20-01-90	02:10:00	19.167	3793.14	0.75	281.14		
20-01-90	02:15:00	19.250	3791.80	-1.34	281.14		
20-01-90	02:20:00	19.333	3790.47	-1.33	280.89		
20-01-90	02:25:00	19.417	3783.09	-7.38	280.89		
20-01-90	02:30:00	19.500	3784.77	1.68	280.89		
20-01-90	02:35:00	19.583	3792.65	7.88	280.89		
20-01-90	02:40:00	19.667	3790.84	-1.81	280.89		
20-01-90	02:45:00	19.750	3781.87	-8.98	280.89		
20-01-90	02:50:00	19.833	3793.68	11.81	280.89		
20-01-90	02:55:00	19.917	3788.19	-5.49	280.89		
20-01-90	03:00:00	20.000	3793.49	5.30	280.89	1853	Csg 0.WHT 28'C
20-01-90	03:05:00	20.083	3788.09	-5.40	280.89		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 20-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
20-01-90	03:10:00	20.167	3790.80	2.72	280.89		
20-01-90	03:15:00	20.250	3790.69	-0.12	280.89		
20-01-90	03:20:00	20.333	3789.42	-1.27	280.89		
20-01-90	03:25:00	20.417	3788.43	-0.99	280.89		
20-01-90	03:30:00	20.500	3790.28	1.85	280.89		
20-01-90	03:35:00	20.583	3769.77	-20.50	280.89		
20-01-90	03:40:00	20.667	3789.44	19.66	280.89		
20-01-90	03:45:00	20.750	3766.43	-23.01	280.89		
20-01-90	03:50:00	20.833	3789.53	23.11	280.89		
20-01-90	03:55:00	20.917	3787.05	-2.48	280.89		
20-01-90	04:00:00	21.000	3786.25	-0.80	280.89	1854	Csg 0.WHT 28'C
20-01-90	04:05:00	21.083	3790.73	4.47	280.89		
20-01-90	04:10:00	21.167	3790.85	0.13	280.89		
20-01-90	04:15:00	21.250	3791.12	0.26	280.89		
20-01-90	04:20:00	21.333	3787.64	-3.48	280.89		
20-01-90	04:25:00	21.417	3789.39	1.75	280.89		
20-01-90	04:30:00	21.500	3790.58	1.19	280.89		
20-01-90	04:35:00	21.583	3788.98	-1.60	280.89		
20-01-90	04:40:00	21.667	3785.62	-3.36	280.89		
20-01-90	04:45:00	21.750	3788.11	2.49	280.89		
20-01-90	04:50:00	21.833	3764.05	-24.06	280.89		
20-01-90	04:55:00	21.917	3787.51	23.46	280.89		
20-01-90	05:00:00	22.000	3783.30	-4.21	280.89	1849	Csg 0.WHT 28'C
20-01-90	05:05:00	22.083	3791.23	7.93	280.89		
20-01-90	05:10:00	22.167	3787.16	-4.07	280.89		
20-01-90	05:15:00	22.250	3783.34	-3.82	280.89		
20-01-90	05:20:00	22.333	3788.68	5.34	280.89		
20-01-90	05:25:00	22.417	3783.63	-5.05	280.89		
20-01-90	05:30:00	22.500	3784.43	0.79	280.89		
20-01-90	05:35:00	22.583	3788.69	4.27	280.89		
20-01-90	05:40:00	22.667	3787.89	-0.80	280.89		
20-01-90	05:45:00	22.750	3783.99	-3.91	280.89		
20-01-90	05:50:00	22.833	3786.72	2.73	280.89		
20-01-90	05:55:00	22.917	3785.36	-1.36	280.89		
20-01-90	06:00:00	23.000	3784.15	-1.21	280.89	1851	Csg 0.WHT 27'C
20-01-90	06:05:00	23.083	3788.30	4.15	280.89		
20-01-90	06:10:00	23.167	3787.54	-0.76	280.89		
20-01-90	06:15:00	23.250	3782.47	-5.07	280.89		
20-01-90	06:20:00	23.333	3776.99	-5.48	280.89		
20-01-90	06:25:00	23.417	3782.83	5.84	280.89		
20-01-90	06:30:00	23.500	3788.49	5.66	280.89		
20-01-90	06:35:00	23.583	3768.36	-20.13	280.89		
20-01-90	06:40:00	23.667	3789.70	21.34	280.89		
20-01-90	06:45:00	23.750	3788.51	-1.19	280.89		
20-01-90	06:50:00	23.833	3789.25	0.74	280.89		
20-01-90	06:55:00	23.917	3788.58	-0.67	280.89		
20-01-90	07:00:00	24.000	3780.01	-8.57	280.89	1854	Csg 0.WHT 30'C
20-01-90	07:05:00	24.083	3780.59	0.58	280.89		
20-01-90	07:10:00	24.167	3788.50	7.91	280.89		
20-01-90	07:15:00	24.250	3787.67	-0.83	280.89		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 20-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
20-01-90	07:20:00	24.333	3785.77	-1.89	280.89		
20-01-90	07:25:00	24.417	3768.41	-17.37	280.89		
20-01-90	07:30:00	24.500	3783.60	15.19	280.89		
20-01-90	07:35:00	24.583	3783.15	-0.45	280.89		
20-01-90	07:40:00	24.667	3769.32	-13.83	280.89		
20-01-90	07:45:00	24.750	3775.01	5.69	280.89		
20-01-90	07:50:00	24.833	3777.79	2.78	280.89		
20-01-90	07:55:00	24.917	3780.57	2.78	280.56		
20-01-90	08:00:00	25.000	3781.79	1.22	280.56	1853	Csg 0.WHT 32'C
20-01-90	08:05:00	25.083	3782.16	0.37	280.56		
20-01-90	08:10:00	25.167	3779.15	-3.01	280.56		
20-01-90	08:15:00	25.250	3770.12	-9.03	280.56		
20-01-90	08:20:00	25.333	3777.70	7.58	280.56		
20-01-90	08:25:00	25.417	3777.76	0.06	280.56		
20-01-90	08:30:00	25.500	3778.62	0.86	280.56		
20-01-90	08:35:00	25.583	3779.26	0.64	280.56		
20-01-90	08:40:00	25.667	3777.07	-2.19	280.56		
20-01-90	08:45:00	25.750	3778.12	1.05	280.56		
20-01-90	08:50:00	25.833	3757.92	-20.20	280.56		
20-01-90	08:55:00	25.917	3778.22	20.29	280.56		
20-01-90	09:00:00	26.000	3778.05	-0.17	280.56	1851	Csg 0.WHT 34'C
20-01-90	09:05:00	26.083	3778.53	0.48	280.56		
20-01-90	09:10:00	26.167	3778.08	-0.45	280.56		
20-01-90	09:15:00	26.250	3778.92	0.84	280.56		
20-01-90	09:20:00	26.333	3779.99	1.07	280.56		
20-01-90	09:25:00	26.417	3777.61	-2.38	280.56		
20-01-90	09:30:00	26.500	3778.48	0.87	280.56		
20-01-90	09:35:00	26.583	3778.76	0.28	280.56		
20-01-90	09:40:00	26.667	3779.67	0.91	280.56		
20-01-90	09:45:00	26.750	3777.97	-1.70	280.56		
20-01-90	09:50:00	26.833	3778.12	0.15	280.56		
20-01-90	09:55:00	26.917	3778.81	0.69	280.56		
20-01-90	10:00:00	27.000	3778.51	-0.30	280.56	1854	Csg 0psig.WHT 33'C
20-01-90	10:05:00	27.083	3693.75	-84.76	280.56		Choke increased to
20-01-90	10:10:00	27.167	3498.48	-195.27	280.56		18/64".
20-01-90	10:15:00	27.250	3409.58	-88.90	280.56		
20-01-90	10:20:00	27.333	3372.42	-37.17	280.56		
20-01-90	10:25:00	27.417	3347.73	-24.69	280.56		
20-01-90	10:30:00	27.500	3317.33	-30.40	280.56		
20-01-90	10:35:00	27.583	3305.90	-11.43	280.56		
20-01-90	10:40:00	27.667	3294.01	-11.89	280.56		
20-01-90	10:45:00	27.750	3288.72	-5.30	280.56		
20-01-90	10:50:00	27.833	3287.45	-1.27	280.56		
20-01-90	10:55:00	27.917	3286.18	-1.27	280.41		
20-01-90	11:00:00	28.000	3275.50	-10.68	280.41	1655	Csg 69psig.WHT 36'C
20-01-90	11:05:00	28.083	3270.23	-5.28	280.41		
20-01-90	11:10:00	28.167	3260.36	-9.87	280.41		
20-01-90	11:15:00	28.250	3250.23	-10.13	280.41		
20-01-90	11:20:00	28.333	3246.56	-3.67	280.41		
20-01-90	11:25:00	28.417	3237.79	-8.77	280.41		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 20-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
20-01-90	11:30:00	28.500	3231.20	-6.59	280.41		
20-01-90	11:35:00	28.583	3233.30	2.10	280.41		
20-01-90	11:40:00	28.667	3221.36	-11.94	280.41		
20-01-90	11:45:00	28.750	3226.39	5.02	280.41		
20-01-90	11:50:00	28.833	3222.11	-4.27	280.41		
20-01-90	11:55:00	28.917	3218.07	-4.05	280.41		
20-01-90	12:00:00	29.000	3218.32	0.25	280.41	1665	Csg 199psig.WHT 37'
20-01-90	12:05:00	29.083	3220.26	1.94	280.41		
20-01-90	12:10:00	29.167	3209.57	-10.68	280.41		
20-01-90	12:15:00	29.250	3216.41	6.84	280.41		
20-01-90	12:20:00	29.333	3214.17	-2.25	280.41		
20-01-90	12:25:00	29.417	3210.93	-3.24	280.41		
20-01-90	12:30:00	29.500	3207.68	-3.25	280.19		
20-01-90	12:35:00	29.583	3208.26	0.57	280.19		
20-01-90	12:40:00	29.667	3204.49	-3.76	280.19		
20-01-90	12:45:00	29.750	3201.63	-2.86	280.19		
20-01-90	12:50:00	29.833	3198.77	-2.86	280.45		
20-01-90	12:55:00	29.917	3198.83	0.07	280.45		
20-01-90	13:00:00	30.000	3192.71	-6.13	280.45	1664	Csg 193psig.WHT 38'
20-01-90	13:05:00	30.083	3193.49	0.79	280.45		
20-01-90	13:10:00	30.167	3192.17	-1.32	280.45		
20-01-90	13:15:00	30.250	3188.49	-3.68	280.45		
20-01-90	13:20:00	30.333	3184.65	-3.84	280.45		
20-01-90	13:25:00	30.417	3183.79	-0.86	280.45		
20-01-90	13:30:00	30.500	3180.42	-3.38	280.45		
20-01-90	13:35:00	30.583	3180.82	0.40	280.45		
20-01-90	13:40:00	30.667	3174.66	-6.16	280.45		
20-01-90	13:45:00	30.750	3175.61	0.95	280.45		
20-01-90	13:50:00	30.833	3175.40	-0.21	280.45		
20-01-90	13:55:00	30.917	3174.21	-1.19	280.45		
20-01-90	14:00:00	31.000	3172.93	-1.28	280.45	1661	Csg 610psig.WHT 38'
20-01-90	14:05:00	31.083	3172.27	-0.66	280.45		
20-01-90	14:10:00	31.167	3171.38	-0.89	280.45		
20-01-90	14:15:00	31.250	3168.35	-3.03	280.45		
20-01-90	14:20:00	31.333	3168.78	0.43	280.45		
20-01-90	14:25:00	31.417	3167.03	-1.74	280.45		
20-01-90	14:30:00	31.500	3167.09	0.06	280.45		
20-01-90	14:35:00	31.583	3165.65	-1.44	280.45		
20-01-90	14:40:00	31.667	3164.18	-1.48	280.45		
20-01-90	14:45:00	31.750	3162.62	-1.56	280.45		
20-01-90	14:50:00	31.833	3163.84	1.23	280.45		
20-01-90	14:55:00	31.917	3163.13	-0.71	280.45		
20-01-90	15:00:00	32.000	3161.65	-1.49	280.45	1663	Csg 740psig.WHT 39'
20-01-90	15:05:00	32.083	3160.81	-0.84	280.45		
20-01-90	15:10:00	32.167	3158.17	-2.64	280.45		
20-01-90	15:15:00	32.250	3158.75	0.57	280.45		
20-01-90	15:20:00	32.333	3157.46	-1.29	280.35		
20-01-90	15:25:00	32.417	3156.18	-1.28	280.35		
20-01-90	15:30:00	32.500	3154.60	-1.58	280.35		
20-01-90	15:35:00	32.583	3153.63	-0.97	280.51		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 20-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
20-01-90	15:40:00	32.667	3150.75	-2.88	280.68		
20-01-90	15:45:00	32.750	3149.27	-1.48	280.68		
20-01-90	15:50:00	32.833	3145.70	-3.57	280.72		
20-01-90	15:55:00	32.917	3147.20	1.49	280.74		
20-01-90	16:00:00	33.000	3147.12	-0.08	280.74	1663	Csg 859psig.WHT 40'
20-01-90	16:05:00	33.083	3148.00	0.88	280.75		
20-01-90	16:10:00	33.167	3147.79	-0.21	280.75		
20-01-90	16:15:00	33.250	3148.15	0.36	280.76		
20-01-90	16:20:00	33.333	3146.85	-1.30	280.77		
20-01-90	16:25:00	33.417	3145.58	-1.27	280.76		
20-01-90	16:30:00	33.500	3146.18	0.60	280.77		
20-01-90	16:35:00	33.583	3145.15	-1.03	280.76		
20-01-90	16:40:00	33.667	3145.28	0.12	280.77		
20-01-90	16:45:00	33.750	3142.08	-3.19	280.78		
20-01-90	16:50:00	33.833	3144.69	2.60	280.79		
20-01-90	16:55:00	33.917	3141.88	-2.81	280.79		
20-01-90	17:00:00	34.000	3140.20	-1.68	280.78	1663	Csg 970psig.WHT 40'
20-01-90	17:05:00	34.083	3140.13	-0.07	280.78		
20-01-90	17:10:00	34.167	3139.53	-0.60	280.72		
20-01-90	17:15:00	34.250	3140.70	1.17	280.74		
20-01-90	17:20:00	34.333	3139.97	-0.73	280.74		
20-01-90	17:25:00	34.417	3142.79	2.82	280.73		
20-01-90	17:30:00	34.500	3145.51	2.72	280.74		
20-01-90	17:35:00	34.583	3149.18	3.67	280.74		
20-01-90	17:40:00	34.667	3149.67	0.48	280.79		
20-01-90	17:45:00	34.750	3150.62	0.95	280.80		
20-01-90	17:50:00	34.833	3150.98	0.36	280.81		
20-01-90	17:55:00	34.917	3152.99	2.01	280.82		Csg bled down
20-01-90	18:00:00	35.000	3150.63	-2.36	280.84	1670	Csg 205psig.WHT 40'
20-01-90	18:05:00	35.083	3149.38	-1.25	280.84		
20-01-90	18:10:00	35.167	3146.27	-3.11	280.66		
20-01-90	18:15:00	35.250	3147.29	1.02	280.72		
20-01-90	18:20:00	35.333	3147.33	0.04	280.72		
20-01-90	18:25:00	35.417	3147.42	0.09	280.74		
20-01-90	18:30:00	35.500	3148.44	1.02	280.76		
20-01-90	18:35:00	35.583	3148.35	-0.09	280.80		
20-01-90	18:40:00	35.667	3146.53	-1.82	280.82		
20-01-90	18:45:00	35.750	3146.12	-0.41	280.84		
20-01-90	18:50:00	35.833	3145.85	-0.27	280.80		
20-01-90	18:55:00	35.917	3144.65	-1.20	280.80		
20-01-90	19:00:00	36.000	3144.41	-0.24	280.80	1671	Csg 285psig.WHT 40'
20-01-90	19:05:00	36.083	3144.39	-0.02	280.81		
20-01-90	19:10:00	36.167	3142.26	-2.13	280.81		
20-01-90	19:15:00	36.250	3142.93	0.67	280.81		
20-01-90	19:20:00	36.333	3140.74	-2.19	280.82		
20-01-90	19:25:00	36.417	3141.65	0.91	280.82		
20-01-90	19:30:00	36.500	3140.08	-1.57	280.82		
20-01-90	19:35:00	36.583	3139.70	-0.38	280.83		
20-01-90	19:40:00	36.667	3134.09	-5.60	280.84		
20-01-90	19:45:00	36.750	3127.89	-6.20	280.82		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 20-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
20-01-90	19:50:00	36.833	3123.12	-4.77	280.82		
20-01-90	19:55:00	36.917	3111.29	-11.83	280.82		
20-01-90	20:00:00	37.000	3119.05	7.76	280.77	1663	Csg 343psig.WHT 39'
20-01-90	20:05:00	37.083	3121.95	2.90	280.76		
20-01-90	20:10:00	37.167	3123.92	1.97	280.77		
20-01-90	20:15:00	37.250	3123.56	-0.36	280.77		
20-01-90	20:20:00	37.333	3125.17	1.61	280.77		
20-01-90	20:25:00	37.417	3125.02	-0.15	280.75		
20-01-90	20:30:00	37.500	3124.90	-0.12	280.76		
20-01-90	20:35:00	37.583	3124.27	-0.63	280.76		
20-01-90	20:40:00	37.667	3122.36	-1.91	280.76		
20-01-90	20:45:00	37.750	3120.70	-1.66	280.79		
20-01-90	20:50:00	37.833	3118.85	-1.85	280.80		
20-01-90	20:55:00	37.917	3120.06	1.21	280.79		
20-01-90	21:00:00	38.000	3119.47	-0.59	280.79	1663	Csg 400psig.WHT 39'
20-01-90	21:05:00	38.083	3118.94	-0.53	280.80		
20-01-90	21:10:00	38.167	3118.54	-0.40	280.80		
20-01-90	21:15:00	38.250	3117.95	-0.59	280.80		
20-01-90	21:20:00	38.333	3118.16	0.21	280.79		
20-01-90	21:25:00	38.417	3117.08	-1.08	280.79		
20-01-90	21:30:00	38.500	3117.66	0.58	280.78		
20-01-90	21:35:00	38.583	3116.96	-0.70	280.78		
20-01-90	21:40:00	38.667	3113.21	-3.75	280.78		
20-01-90	21:45:00	38.750	3115.81	2.60	280.78		
20-01-90	21:50:00	38.833	3115.59	-0.21	280.78		
20-01-90	21:55:00	38.917	3114.76	-0.84	280.78		
20-01-90	22:00:00	39.000	3112.95	-1.81	280.79	1663	Csg 445psig.WHT 39'
20-01-90	22:05:00	39.083	3112.80	-0.15	280.79		
20-01-90	22:10:00	39.167	3113.00	0.21	280.78		
20-01-90	22:15:00	39.250	3112.76	-0.24	280.78		
20-01-90	22:20:00	39.333	3104.25	-8.51	280.79		
20-01-90	22:25:00	39.417	3112.32	8.07	280.78		
20-01-90	22:30:00	39.500	3111.10	-1.23	280.79		
20-01-90	22:35:00	39.583	3107.89	-3.21	280.79		
20-01-90	22:40:00	39.667	3106.31	-1.58	280.65		
20-01-90	22:45:00	39.750	3095.57	-10.74	280.79		
20-01-90	22:50:00	39.833	3110.56	15.00	280.78		
20-01-90	22:55:00	39.917	3108.70	-1.87	280.78		
20-01-90	23:00:00	40.000	3109.69	0.99	280.80	1661	Csg 500psig.WHT 39'
20-01-90	23:05:00	40.083	3102.50	-7.18	280.79		
20-01-90	23:10:00	40.167	3105.65	3.15	280.80		
20-01-90	23:15:00	40.250	3109.60	3.95	280.80		
20-01-90	23:20:00	40.333	3107.43	-2.17	280.76		
20-01-90	23:25:00	40.417	3107.67	0.24	280.77		
20-01-90	23:30:00	40.500	3107.42	-0.25	280.83		
20-01-90	23:35:00	40.583	3107.59	0.17	280.84		
20-01-90	23:40:00	40.667	3106.51	-1.08	280.84		
20-01-90	23:45:00	40.750	3106.86	0.34	280.84		
20-01-90	23:50:00	40.833	3105.79	-1.06	280.85		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 20-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
20-01-90	23:55:00	40.917	3106.03	0.23	280.85		
21-01-90	00:00:00	41.000	3100.91	-5.11	280.84	1666	Csg 537psig.WHT 39'
21-01-90	00:05:00	41.083	3093.04	-7.88	280.85		
21-01-90	00:10:00	41.167	3105.87	12.84	280.84		
21-01-90	00:15:00	41.250	3105.48	-0.39	280.86		
21-01-90	00:20:00	41.333	3105.05	-0.43	280.86		
21-01-90	00:25:00	41.417	3102.11	-2.94	280.76		
21-01-90	00:30:00	41.500	3104.70	2.60	280.85		
21-01-90	00:35:00	41.583	3102.94	-1.76	280.85		
21-01-90	00:40:00	41.667	3103.72	0.77	280.82		
21-01-90	00:45:00	41.750	3099.92	-3.80	280.88		
21-01-90	00:50:00	41.833	3100.47	0.55	280.81		
21-01-90	00:55:00	41.917	3094.48	-6.00	280.85		
21-01-90	01:00:00	42.000	3099.21	4.74	280.88	1661	Csg 585psig.WHT 38'
21-01-90	01:05:00	42.083	3102.80	3.59	280.88		
21-01-90	01:10:00	42.167	3100.65	-2.15	280.88		
21-01-90	01:15:00	42.250	3102.19	1.54	280.90		
21-01-90	01:20:00	42.333	3102.43	0.23	280.90		
21-01-90	01:25:00	42.417	3102.44	0.01	280.90		
21-01-90	01:30:00	42.500	3103.04	0.60	280.91		
21-01-90	01:35:00	42.583	3101.61	-1.43	280.92		
21-01-90	01:40:00	42.667	3101.71	0.10	280.94		
21-01-90	01:45:00	42.750	3098.68	-3.03	280.93		
21-01-90	01:50:00	42.833	3100.81	2.14	280.95		
21-01-90	01:55:00	42.917	3101.07	0.26	280.96		
21-01-90	02:00:00	43.000	3100.06	-1.01	280.97	1664	Csg 613psig.WHT 38'
21-01-90	02:05:00	43.083	3100.14	0.09	280.98		
21-01-90	02:10:00	43.167	3101.12	0.97	280.98		
21-01-90	02:15:00	43.250	3098.21	-2.90	281.00		
21-01-90	02:20:00	43.333	3101.08	2.86	281.03		
21-01-90	02:25:00	43.417	3100.87	-0.20	281.10		
21-01-90	02:30:00	43.500	3098.64	-2.24	281.15		
21-01-90	02:35:00	43.583	3100.39	1.75	281.07		
21-01-90	02:40:00	43.667	3099.79	-0.60	281.18		
21-01-90	02:45:00	43.750	3098.76	-1.02	281.20		
21-01-90	02:50:00	43.833	3099.84	1.08	281.21		
21-01-90	02:55:00	43.917	3099.79	-0.05	281.22		
21-01-90	03:00:00	44.000	3099.50	-0.29	281.24	1664	Csg 644psig.WHT 40'
21-01-90	03:05:00	44.083	3096.43	-3.07	281.24		
21-01-90	03:10:00	44.167	3098.06	1.63	281.25		
21-01-90	03:15:00	44.250	3098.20	0.14	281.26		
21-01-90	03:20:00	44.333	3097.25	-0.96	281.27		
21-01-90	03:25:00	44.417	3098.13	0.88	281.29		
21-01-90	03:30:00	44.500	3096.53	-1.60	281.30		
21-01-90	03:35:00	44.583	3097.71	1.18	281.30		
21-01-90	03:40:00	44.667	3097.29	-0.42	281.30		
21-01-90	03:45:00	44.750	3096.66	-0.63	281.32		
21-01-90	03:50:00	44.833	3096.57	-0.09	281.32		
21-01-90	03:55:00	44.917	3096.80	0.22	281.33		
21-01-90	04:00:00	45.000	3097.16	0.36	281.33	1665	Csg 667psig.WHT 40'

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 21-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
21-01-90	04:05:00	45.083	3096.57	-0.59	281.34		
21-01-90	04:10:00	45.167	3096.89	0.32	281.35		
21-01-90	04:15:00	45.250	3096.61	-0.28	281.35		
21-01-90	04:20:00	45.333	3096.93	0.33	281.36		
21-01-90	04:25:00	45.417	3096.32	-0.62	281.35		
21-01-90	04:30:00	45.500	3091.01	-5.31	281.35		
21-01-90	04:35:00	45.583	3094.75	3.74	281.36		
21-01-90	04:40:00	45.667	3096.40	1.65	281.44		
21-01-90	04:45:00	45.750	3097.08	0.68	281.41		
21-01-90	04:50:00	45.833	3096.86	-0.22	281.48		
21-01-90	04:55:00	45.917	3096.19	-0.67	281.43		
21-01-90	05:00:00	46.000	3095.74	-0.44	281.33	1665	Csg 695psig.WHT 39'
21-01-90	05:05:00	46.083	3094.85	-0.89	281.49		
21-01-90	05:10:00	46.167	3094.05	-0.81	281.45		
21-01-90	05:15:00	46.250	3088.25	-5.79	281.52		
21-01-90	05:20:00	46.333	3095.17	6.92	281.47		
21-01-90	05:25:00	46.417	3093.50	-1.67	281.50		
21-01-90	05:30:00	46.500	3094.43	0.93	281.50		
21-01-90	05:35:00	46.583	3094.62	0.18	281.50		
21-01-90	05:40:00	46.667	3094.91	0.29	281.50		
21-01-90	05:45:00	46.750	3093.52	-1.39	281.53		
21-01-90	05:50:00	46.833	3093.43	-0.10	281.56		
21-01-90	05:55:00	46.917	3072.46	-20.97	281.58		
21-01-90	06:00:00	47.000	3089.72	17.26	281.55	1665	Csg 721psig.WHT 39'
21-01-90	06:05:00	47.083	3092.40	2.68	281.61		
21-01-90	06:10:00	47.167	3091.65	-0.75	281.61		
21-01-90	06:15:00	47.250	3092.03	0.39	281.62		
21-01-90	06:20:00	47.333	3091.86	-0.18	281.59		
21-01-90	06:25:00	47.417	3091.68	-0.18	281.60		
21-01-90	06:30:00	47.500	3091.50	-0.18	281.60		
21-01-90	06:35:00	47.583	3091.54	0.04	281.63		
21-01-90	06:40:00	47.667	3091.28	-0.26	281.64		
21-01-90	06:45:00	47.750	3089.42	-1.86	281.66		
21-01-90	06:50:00	47.833	3090.00	0.58	281.67		
21-01-90	06:55:00	47.917	3089.42	-0.58	281.66		
21-01-90	07:00:00	48.000	3089.29	-0.13	281.67	1665	Csg 752psig.WHT 41'
21-01-90	07:05:00	48.083	3089.01	-0.28	281.70		
21-01-90	07:10:00	48.167	3090.44	1.43	281.71		
21-01-90	07:15:00	48.250	3090.73	0.29	281.72		
21-01-90	07:20:00	48.333	3089.38	-1.35	281.74		
21-01-90	07:25:00	48.417	3087.91	-1.47	281.74		
21-01-90	07:30:00	48.500	3090.14	2.23	281.74		
21-01-90	07:35:00	48.583	3088.32	-1.81	281.76		
21-01-90	07:40:00	48.667	3089.55	1.22	281.76		
21-01-90	07:45:00	48.750	3090.31	0.76	281.77		
21-01-90	07:50:00	48.833	3089.71	-0.60	281.78		
21-01-90	07:55:00	48.917	3089.96	0.25	281.79		
21-01-90	08:00:00	49.000	3088.37	-1.59	281.79	1665	Csg 773psig.WHT 42'
21-01-90	08:05:00	49.083	3089.50	1.14	281.80		
21-01-90	08:10:00	49.167	3089.57	0.07	281.81		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 21-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
21-01-90	08:15:00	49.250	3089.50	-0.07	281.81		
21-01-90	08:20:00	49.333	3089.60	0.11	281.82		
21-01-90	08:25:00	49.417	3089.65	0.05	281.82		
21-01-90	08:30:00	49.500	3090.04	0.39	281.83		
21-01-90	08:35:00	49.583	3089.59	-0.45	281.83		
21-01-90	08:40:00	49.667	3089.53	-0.06	281.83		
21-01-90	08:45:00	49.750	3087.39	-2.14	281.85		
21-01-90	08:50:00	49.833	3086.82	-0.57	281.85		
21-01-90	08:55:00	49.917	3089.22	2.40	281.86		
21-01-90	09:00:00	50.000	3089.75	0.53	281.86	1664	Csg 792psig.WHT 41'
21-01-90	09:05:00	50.083	3088.24	-1.51	281.86		
21-01-90	09:10:00	50.167	3089.21	0.97	281.88		
21-01-90	09:15:00	50.250	3087.92	-1.29	281.88		
21-01-90	09:20:00	50.333	3087.40	-0.52	281.89		
21-01-90	09:25:00	50.417	3087.26	-0.14	281.89		
21-01-90	09:30:00	50.500	3084.69	-2.57	281.80		
21-01-90	09:35:00	50.583	3087.95	3.26	281.88		
21-01-90	09:40:00	50.667	3087.51	-0.44	281.89		
21-01-90	09:45:00	50.750	3087.43	-0.08	281.89		Start Sample Set 1.
21-01-90	09:50:00	50.833	3087.75	0.32	281.90		
21-01-90	09:55:00	50.917	3087.65	-0.10	281.91		
21-01-90	10:00:00	51.000	3086.39	-1.26	281.91	1667	Csg 811psig.WHT 42'
21-01-90	10:05:00	51.083	3087.63	1.23	281.91		
21-01-90	10:10:00	51.167	3087.21	-0.42	281.93		
21-01-90	10:15:00	51.250	3088.39	1.18	281.94		
21-01-90	10:20:00	51.333	3087.56	-0.83	281.94		
21-01-90	10:25:00	51.417	3087.59	0.03	281.94		
21-01-90	10:35:00	51.583	3086.97	-0.62	281.96		
21-01-90	10:40:00	51.667	3087.03	0.06	281.95		
21-01-90	10:50:00	51.833	3086.32	-0.72	281.95		
21-01-90	10:55:00	51.917	3085.17	-1.15	281.95		
21-01-90	11:00:00	52.000	3083.50	-1.67	281.95	1665	Csg 832psig.WHT 43'
21-01-90	11:05:00	52.083	3086.04	2.54	281.97		
21-01-90	11:10:00	52.167	3085.78	-0.26	281.97		
21-01-90	11:20:00	52.333	3081.43	-4.35	281.21		
21-01-90	11:25:00	52.417	3083.97	2.54	281.69		
21-01-90	11:30:00	52.500	3081.45	-2.53	281.81		
21-01-90	11:35:00	52.583	3077.43	-4.02	281.85		
21-01-90	11:40:00	52.667	3083.04	5.61	281.88		
21-01-90	11:45:00	52.750	3082.70	-0.35	281.91		Start Sample Set 3.
21-01-90	11:50:00	52.833	3083.07	0.38	281.92		
21-01-90	11:55:00	52.917	3083.65	0.58	281.94		
21-01-90	12:00:00	53.000	3082.97	-0.68	281.96	1665	Csg 847psig.WHT 44'
21-01-90	12:05:00	53.083	3083.80	0.83	281.96		
21-01-90	12:10:00	53.167	3083.13	-0.67	281.97		
21-01-90	12:15:00	53.250	3083.74	0.61	281.97		
21-01-90	12:20:00	53.333	3083.68	-0.06	281.98		
21-01-90	12:25:00	53.417	3083.45	-0.24	281.99		
21-01-90	12:30:00	53.500	3083.29	-0.15	281.99		
21-01-90	12:35:00	53.583	3083.35	0.06	281.99		

EXPERTEST PTY. LTD.

0151

CUSTOMER : SANTOS Ltd. DATE: 21-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
21-01-90	12:40:00	53.667	3083.33	-0.02	282.00		
21-01-90	12:45:00	53.750	3083.79	0.46	282.02		
21-01-90	12:50:00	53.833	3082.92	-0.87	282.06		
21-01-90	12:55:00	53.917	3082.57	-0.35	282.08		
21-01-90	13:00:00	54.000	3082.52	-0.05	282.03	1665	Csg 865psig.WHT 43'
21-01-90	13:05:00	54.083	3082.81	0.29	282.10		
21-01-90	13:10:00	54.167	3083.03	0.22	282.11		
21-01-90	13:15:00	54.250	3082.44	-0.60	282.12		
21-01-90	13:20:00	54.333	3082.38	-0.06	282.12		
21-01-90	13:25:00	54.417	3081.97	-0.41	282.08		
21-01-90	13:30:00	54.500	3082.50	0.54	282.12		
21-01-90	13:35:00	54.583	3082.19	-0.31	282.11		
21-01-90	13:40:00	54.667	3082.40	0.20	282.11		
21-01-90	13:45:00	54.750	3082.12	-0.28	282.11		
21-01-90	13:50:00	54.833	3081.68	-0.43	281.92		
21-01-90	13:55:00	54.917	3081.34	-0.35	281.85		
21-01-90	14:00:00	55.000	3082.50	1.16	281.90	1667	Csg 880psig.WHT 45'
21-01-90	14:05:00	55.083	3079.87	-2.62	281.89		
21-01-90	14:10:00	55.167	3082.18	2.31	281.91		
21-01-90	14:15:00	55.250	3081.69	-0.49	281.89		
21-01-90	14:30:00	55.500	3057.29	-24.40	281.57		
21-01-90	14:35:00	55.583	3081.49	24.20	281.61		
21-01-90	14:40:00	55.667	3081.24	-0.25	281.73		
21-01-90	14:45:00	55.750	3081.57	0.33	281.64		
21-01-90	14:50:00	55.833	3081.37	-0.21	281.66		
21-01-90	14:55:00	55.917	3081.40	0.03	281.70		
21-01-90	15:00:00	56.000	3081.43	0.03	281.76	1667	Csg 897psig.WHT 46'
21-01-90	15:05:00	56.083	3082.67	1.24	281.07		
21-01-90	15:10:00	56.167	3082.22	-0.45	281.04		
21-01-90	15:15:00	56.250	3082.06	-0.16	281.31		
21-01-90	15:20:00	56.333	3081.86	-0.20	281.32		
21-01-90	15:25:00	56.417	3081.39	-0.47	281.34		
21-01-90	15:30:00	56.500	3081.48	0.09	281.38		
21-01-90	15:35:00	56.583	3081.35	-0.13	281.40		
21-01-90	15:40:00	56.667	3081.67	0.32	281.39		
21-01-90	15:45:00	56.750	3081.08	-0.59	281.38		
21-01-90	15:50:00	56.833	3081.08	0.00	281.37		
21-01-90	15:55:00	56.917	3080.62	-0.46	281.51		
21-01-90	16:00:00	57.000	3081.37	0.75	281.54	1667	Csg 909psig.WHT 45'
21-01-90	16:05:00	57.083	3081.31	-0.07	281.49		
21-01-90	16:10:00	57.167	3080.26	-1.05	281.57		
21-01-90	16:15:00	57.250	3082.26	2.00	281.57		
21-01-90	16:20:00	57.333	3078.68	-3.58	281.61		
21-01-90	16:25:00	57.417	3082.19	3.51	281.62		
21-01-90	16:30:00	57.500	3081.53	-0.66	281.63		
21-01-90	16:35:00	57.583	3082.83	1.30	281.70		
21-01-90	16:40:00	57.667	3081.55	-1.28	281.70		
21-01-90	16:45:00	57.750	3081.76	0.21	281.70		
21-01-90	16:50:00	57.833	3081.49	-0.26	281.74		
21-01-90	16:55:00	57.917	3081.92	0.43	281.72		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 21-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
21-01-90	17:00:00	58.000	3075.91	-6.01	281.81	1667	Csg 922psig.WHT 46'
21-01-90	17:05:00	58.083	2685.51	-390.41	281.76		Start flow rate
21-01-90	17:10:00	58.167	2484.78	-200.73	281.55		tests.
21-01-90	17:11:00	58.183	2461.03	-23.75	281.46		32/64" choke.
21-01-90	17:12:00	58.200	2438.86	-22.17	281.42		
21-01-90	17:13:00	58.217	2421.81	-17.05	281.35		1 min sample rate.
21-01-90	17:14:00	58.233	2405.65	-16.16	281.30		
21-01-90	17:15:00	58.250	2391.72	-13.94	281.31		
21-01-90	17:16:00	58.267	2380.10	-11.62	281.31		
21-01-90	17:17:00	58.283	2368.26	-11.84	281.29		
21-01-90	17:18:00	58.300	2357.34	-10.92	281.30		
21-01-90	17:19:00	58.317	2347.56	-9.78	281.28		
21-01-90	17:20:00	58.333	2338.61	-8.95	281.28		
21-01-90	17:21:00	58.350	2328.88	-9.73	281.25		
21-01-90	17:22:00	58.367	2322.33	-6.55	281.27		
21-01-90	17:23:00	58.383	2317.19	-5.14	281.21		
21-01-90	17:24:00	58.400	2312.80	-4.39	281.21		
21-01-90	17:25:00	58.417	2311.90	-0.91	281.20		
21-01-90	17:26:00	58.433	2308.10	-3.80	281.25		
21-01-90	17:27:00	58.450	2304.93	-3.17	281.24		
21-01-90	17:28:00	58.467	2300.80	-4.13	281.24		
21-01-90	17:29:00	58.483	2297.91	-2.89	281.24		
21-01-90	17:30:00	58.500	2297.19	-0.72	281.24	1154	Csg 1130psig.WHT 48
21-01-90	17:31:00	58.517	2294.77	-2.43	281.22		
21-01-90	17:32:00	58.533	2293.57	-1.20	281.22		
21-01-90	17:33:00	58.550	2291.55	-2.01	281.21		
21-01-90	17:34:00	58.567	2291.02	-0.54	281.22		
21-01-90	17:35:00	58.583	2289.45	-1.57	281.23		
21-01-90	17:36:00	58.600	2288.61	-0.84	281.25		
21-01-90	17:37:00	58.617	2287.33	-1.28	281.25		
21-01-90	17:38:00	58.633	2286.17	-1.16	281.27		
21-01-90	17:39:00	58.650	2284.17	-1.99	281.29		
21-01-90	17:40:00	58.667	2282.93	-1.24	281.27		
21-01-90	17:41:00	58.683	2280.51	-2.42	281.31		
21-01-90	17:42:00	58.700	2282.02	1.51	281.28		
21-01-90	17:43:00	58.717	2280.42	-1.60	281.27		
21-01-90	17:44:00	58.733	2279.39	-1.03	281.26		
21-01-90	17:45:00	58.750	2279.83	0.44	281.28	1143	Csg 1202psig.WHT 48
21-01-90	17:46:00	58.767	2280.31	0.48	281.29		Change choke
21-01-90	17:47:00	58.783	2259.18	-21.12	281.28		40/64".
21-01-90	17:48:00	58.800	2228.79	-30.39	281.27		
21-01-90	17:49:00	58.817	2202.12	-26.68	281.28		
21-01-90	17:50:00	58.833	2173.13	-28.98	281.30		
21-01-90	17:51:00	58.850	2144.92	-28.21	281.26		
21-01-90	17:52:00	58.867	2121.19	-23.73	281.24		
21-01-90	17:53:00	58.883	2103.04	-18.15	281.22		
21-01-90	17:54:00	58.900	2086.94	-16.11	281.23		
21-01-90	17:55:00	58.917	2073.88	-13.06	281.18		
21-01-90	17:56:00	58.933	2063.73	-10.14	281.12		
21-01-90	17:57:00	58.950	2053.02	-10.72	281.13		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 21-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
21-01-90	17:58:00	58.967	2047.15	-5.86	281.15		
21-01-90	17:59:00	58.983	2040.69	-6.47	281.11		
21-01-90	18:00:00	59.000	2034.50	-6.18	281.12	950	Csg 1284psig.WHT 49
21-01-90	18:01:00	59.017	2030.34	-4.17	281.15		
21-01-90	18:02:00	59.033	2025.53	-4.81	281.15		
21-01-90	18:03:00	59.050	2021.59	-3.94	281.14		
21-01-90	18:04:00	59.067	2018.49	-3.09	281.12		
21-01-90	18:05:00	59.083	2015.98	-2.51	281.15		
21-01-90	18:06:00	59.100	2013.50	-2.48	281.15		
21-01-90	18:07:00	59.117	2010.65	-2.85	281.16		
21-01-90	18:08:00	59.133	2008.33	-2.32	281.15		
21-01-90	18:09:00	59.150	2008.85	0.52	281.15		
21-01-90	18:10:00	59.167	2006.43	-2.42	281.14	939	Csg 1330psig.WHT 48
21-01-90	18:11:00	59.183	2006.84	0.41	281.15		Change choke
21-01-90	18:12:00	59.200	2006.08	-0.76	281.14		28/64".
21-01-90	18:13:00	59.217	2006.38	0.30	281.17		
21-01-90	18:14:00	59.233	2031.11	24.74	281.17		
21-01-90	18:15:00	59.250	2086.41	55.30	281.18		
21-01-90	18:16:00	59.267	2138.27	51.86	281.18		
21-01-90	18:17:00	59.283	2183.37	45.10	281.23		
21-01-90	18:18:00	59.300	2219.36	35.99	281.25		
21-01-90	18:19:00	59.317	2256.04	36.68	281.30		
21-01-90	18:20:00	59.333	2284.97	28.93	281.31		
21-01-90	18:21:00	59.350	2312.58	27.61	281.31		
21-01-90	18:22:00	59.367	2333.73	21.15	281.34		
21-01-90	18:23:00	59.383	2354.97	21.23	281.36		
21-01-90	18:24:00	59.400	2372.87	17.90	281.38		
21-01-90	18:25:00	59.417	2387.95	15.09	281.40		
21-01-90	18:26:00	59.433	2400.33	12.38	281.41		
21-01-90	18:27:00	59.450	2412.12	11.79	281.42		
21-01-90	18:28:00	59.467	2422.17	10.05	281.45		
21-01-90	18:29:00	59.483	2430.71	8.54	281.42		
21-01-90	18:30:00	59.500	2439.54	8.83	281.45		
21-01-90	18:31:00	59.517	2446.55	7.01	281.43		
21-01-90	18:32:00	59.533	2450.13	3.58	281.42		
21-01-90	18:33:00	59.550	2457.67	7.53	281.46		
21-01-90	18:34:00	59.567	2463.47	5.81	281.43		
21-01-90	18:35:00	59.583	2466.90	3.43	281.44		
21-01-90	18:36:00	59.600	2471.44	4.54	281.48		
21-01-90	18:37:00	59.617	2474.45	3.01	281.49		
21-01-90	18:38:00	59.633	2477.32	2.87	281.50		
21-01-90	18:39:00	59.650	2478.52	1.20	281.45		
21-01-90	18:40:00	59.667	2481.71	3.20	281.46		
21-01-90	18:41:00	59.683	2483.81	2.09	281.49		
21-01-90	18:42:00	59.700	2484.43	0.62	281.46		
21-01-90	18:43:00	59.717	2486.65	2.22	281.46		
21-01-90	18:44:00	59.733	2487.68	1.03	281.45		
21-01-90	18:45:00	59.750	2485.63	-2.05	281.48		
21-01-90	18:46:00	59.767	2489.14	3.51	281.48		
21-01-90	18:47:00	59.783	2489.24	0.10	281.48		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 21-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: D Norcross
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Clean up flow

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
21-01-90	18:48:00	59.800	2490.48	1.24	281.47		
21-01-90	18:49:00	59.817	2490.97	0.49	281.49		
21-01-90	18:50:00	59.833	2491.35	0.38	281.47		
21-01-90	18:51:00	59.850	2491.04	-0.31	281.48		
21-01-90	18:52:00	59.867	2491.50	0.46	281.49		
21-01-90	18:53:00	59.883	2492.49	0.99	281.52		
21-01-90	18:54:00	59.900	2492.66	0.17	281.49		
21-01-90	18:55:00	59.917	2491.36	-1.30	281.46		
21-01-90	18:56:00	59.933	2492.88	1.52	281.47		
21-01-90	18:57:00	59.950	2492.87	-0.01	281.49		
21-01-90	18:58:00	59.967	2492.32	-0.55	281.48		End Rate Test.
21-01-90	18:59:00	59.983	2489.42	-2.90	281.48	1285	Csg 1395psig.WHT 48
21-01-90	19:00:00	0.000	2492.83	3.41	281.48		Shut-In Well.
21-01-90	19:00:10	0.003	2492.83	0.00	281.30		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 21-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: J.Metcalfe
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Build-Up. S.I.W. 1900 hrs 21/1/90.

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
21-01-90	18:59:00	101.283	2489.42	-3.41	281.48	1285	Csg 1395psig.WHT 48
21-01-90	19:00:00	0.000	2492.83	0.00	281.48		Shut-In Well.
21-01-90	19:00:10	0.003	2492.83	0.00	281.30		
21-01-90	19:00:20	0.006	2494.73	1.90	281.30		START BUILD-UP.
21-01-90	19:00:30	0.008	2509.94	17.11	281.30		
21-01-90	19:00:40	0.011	2529.38	36.55	281.30		10 sec sample rate.
21-01-90	19:00:50	0.014	2551.05	58.22	281.30		
21-01-90	19:01:00	0.017	2572.46	79.63	281.30		
21-01-90	19:01:10	0.019	2593.28	100.45	281.30		Delta T from
21-01-90	19:01:20	0.022	2614.43	121.60	281.30		Shut-In.
21-01-90	19:01:30	0.025	2636.02	143.19	281.30		
21-01-90	19:01:40	0.028	2656.72	163.89	281.30		
21-01-90	19:01:50	0.031	2676.77	183.94	281.30		Delta P from last
21-01-90	19:02:00	0.033	2697.64	204.81	281.30		flowing pressure
21-01-90	19:02:10	0.036	2715.31	222.48	281.30		(2492.83psig).
21-01-90	19:02:20	0.039	2736.61	243.78	281.30		
21-01-90	19:02:30	0.042	2755.84	263.01	281.30		
21-01-90	19:02:40	0.044	2775.25	282.42	281.30		
21-01-90	19:02:50	0.047	2793.07	300.24	281.30		
21-01-90	19:03:00	0.050	2812.11	319.28	281.30		
21-01-90	19:03:10	0.053	2830.72	337.89	281.30		
21-01-90	19:03:20	0.056	2848.13	355.30	281.30		
21-01-90	19:03:30	0.058	2863.56	370.73	281.30		
21-01-90	19:03:40	0.061	2882.05	389.22	281.30		
21-01-90	19:03:50	0.064	2898.02	405.19	281.30		
21-01-90	19:04:00	0.067	2915.26	422.43	281.30		
21-01-90	19:04:10	0.069	2931.63	438.80	281.30		
21-01-90	19:04:20	0.072	2946.30	453.47	281.30		
21-01-90	19:04:30	0.075	2960.29	467.46	281.30		
21-01-90	19:04:40	0.078	2978.35	485.52	281.30		
21-01-90	19:04:50	0.081	2993.21	500.38	281.30		
21-01-90	19:05:00	0.083	3007.68	514.85	281.30		
21-01-90	19:05:10	0.086	3007.68	514.85	278.49		
21-01-90	19:05:20	0.089	3036.71	543.88	278.49		
21-01-90	19:05:30	0.092	3049.03	556.20	278.49		
21-01-90	19:05:40	0.094	3063.87	571.04	278.49		
21-01-90	19:05:50	0.097	3074.88	582.05	278.49		
21-01-90	19:06:00	0.100	3089.06	596.23	278.49		
21-01-90	19:06:10	0.103	3101.09	608.26	278.49		
21-01-90	19:06:20	0.106	3113.84	621.01	278.49		
21-01-90	19:06:30	0.108	3126.56	633.73	278.49		
21-01-90	19:06:40	0.111	3136.98	644.15	278.49		
21-01-90	19:06:50	0.114	3149.56	656.73	278.49		
21-01-90	19:07:00	0.117	3160.84	668.01	278.49		
21-01-90	19:07:30	0.125	3191.84	699.01	278.49		30 sec sample rate.
21-01-90	19:08:00	0.133	3228.56	735.73	278.77		
21-01-90	19:08:30	0.142	3256.15	763.32	278.99		
21-01-90	19:09:00	0.150	3281.70	788.87	279.32		
21-01-90	19:09:30	0.158	3305.55	812.72	279.44		
21-01-90	19:10:00	0.167	3327.73	834.90	279.53		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 21-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: J.Metcalfe
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Build-Up. S.I.W. 1900 hrs 21/1/90.

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
21-01-90	19:10:30	0.175	3344.76	851.93	279.60		
21-01-90	19:11:00	0.183	3366.42	873.59	279.69		
21-01-90	19:11:30	0.192	3383.87	891.04	279.74		
21-01-90	19:12:00	0.200	3400.22	907.39	279.82		
21-01-90	19:12:30	0.208	3413.62	920.79	279.81		
21-01-90	19:13:00	0.217	3427.38	934.55	279.90		
21-01-90	19:13:30	0.225	3439.23	946.40	279.87		
21-01-90	19:14:00	0.233	3449.86	957.03	279.89		
21-01-90	19:14:30	0.242	3459.40	966.57	279.91		
21-01-90	19:15:00	0.250	3467.80	974.97	279.94	1939	Csg 1310 psig.
21-01-90	19:15:30	0.258	3476.08	983.25	279.97		
21-01-90	19:16:00	0.267	3483.16	990.32	279.95		
21-01-90	19:16:30	0.275	3490.26	997.43	279.96		
21-01-90	19:17:00	0.283	3492.44	999.61	279.93		
21-01-90	19:17:30	0.292	3502.42	1009.59	279.99		
21-01-90	19:18:00	0.300	3507.82	1014.99	279.96		
21-01-90	19:18:30	0.308	3511.55	1018.72	280.01		
21-01-90	19:19:00	0.317	3517.73	1024.90	279.99		
21-01-90	19:19:30	0.325	3521.99	1029.16	279.96		
21-01-90	19:20:00	0.333	3526.04	1033.21	279.96		
21-01-90	19:20:30	0.342	3529.93	1037.10	279.93		
21-01-90	19:21:00	0.350	3532.89	1040.06	279.94		
21-01-90	19:21:30	0.358	3534.89	1042.06	279.97		
21-01-90	19:22:00	0.367	3540.19	1047.36	279.95		
21-01-90	19:22:30	0.375	3541.13	1048.30	279.89		
21-01-90	19:23:00	0.383	3545.43	1052.60	279.90		
21-01-90	19:23:30	0.392	3546.04	1053.21	279.90		
21-01-90	19:24:00	0.400	3550.64	1057.81	279.89		
21-01-90	19:24:30	0.408	3551.74	1058.91	279.93		
21-01-90	19:25:00	0.417	3551.78	1058.95	279.94		
21-01-90	19:25:30	0.425	3556.94	1064.11	279.94		
21-01-90	19:26:00	0.433	3560.43	1067.60	279.96		
21-01-90	19:26:30	0.442	3562.37	1069.54	279.94		
21-01-90	19:27:00	0.450	3562.92	1070.09	279.93		
21-01-90	19:27:30	0.458	3564.10	1071.27	279.90		
21-01-90	19:28:00	0.467	3567.94	1075.11	279.89		
21-01-90	19:28:30	0.475	3569.64	1076.81	279.89		
21-01-90	19:29:00	0.483	3571.26	1078.43	279.89		
21-01-90	19:29:30	0.492	3572.84	1080.01	279.86		
21-01-90	19:30:00	0.500	3573.62	1080.79	279.86	1999	Csg 1103 psig.
21-01-90	19:31:00	0.517	3577.20	1084.37	279.96		
21-01-90	19:32:00	0.533	3567.99	1075.16	280.02		
21-01-90	19:33:00	0.550	3581.64	1088.81	280.04		1 min sample rate.
21-01-90	19:34:00	0.567	3583.34	1090.51	280.11		
21-01-90	19:35:00	0.583	3586.92	1094.09	280.09		
21-01-90	19:36:00	0.600	3589.00	1096.17	280.09		
21-01-90	19:37:00	0.617	3590.41	1097.58	280.09		
21-01-90	19:38:00	0.633	3593.00	1100.17	280.12		
21-01-90	19:39:00	0.650	3594.84	1102.01	280.10		
21-01-90	19:40:00	0.667	3596.61	1103.78	280.06		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 21-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: J.Metcalfe
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Build-Up. S.I.W. 1900 hrs 21/1/90.

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
21-01-90	19:41:00	0.683	3585.87	1093.04	280.08		
21-01-90	19:42:00	0.700	3599.94	1107.11	280.10		
21-01-90	19:43:00	0.717	3601.40	1108.57	280.09		
21-01-90	19:44:00	0.733	3602.75	1109.92	280.12		
21-01-90	19:45:00	0.750	3602.74	1109.91	280.11	2009	Csg 955 psig.
21-01-90	19:46:00	0.767	3605.43	1112.60	280.12		
21-01-90	19:47:00	0.783	3606.74	1113.91	280.12		
21-01-90	19:48:00	0.800	3608.06	1115.23	280.08		
21-01-90	19:49:00	0.817	3607.08	1114.25	280.15		
21-01-90	19:50:00	0.833	3606.38	1113.55	280.11		
21-01-90	19:51:00	0.850	3596.38	1103.55	280.14		
21-01-90	19:52:00	0.867	3594.15	1101.32	280.11		
21-01-90	19:53:00	0.883	3614.30	1121.47	280.12		
21-01-90	19:54:00	0.900	3613.37	1120.54	280.18		
21-01-90	19:55:00	0.917	3615.23	1122.40	280.13		
21-01-90	19:56:00	0.933	3617.74	1124.91	280.17		
21-01-90	19:57:00	0.950	3618.90	1126.07	280.13		
21-01-90	19:58:00	0.967	3619.97	1127.14	280.15		
21-01-90	19:59:00	0.983	3621.05	1128.22	280.10		
21-01-90	20:00:00	1.000	3622.10	1129.27	280.12	2015	Csg 823 psig.
21-01-90	20:01:00	1.017	3621.04	1128.21	280.17		
21-01-90	20:02:00	1.033	3624.18	1131.35	280.21		
21-01-90	20:03:00	1.050	3625.16	1132.33	280.15		
21-01-90	20:04:00	1.067	3625.43	1132.60	280.14		
21-01-90	20:05:00	1.083	3626.40	1133.57	280.14		
21-01-90	20:06:00	1.100	3628.10	1135.27	280.20		
21-01-90	20:07:00	1.117	3629.02	1136.19	280.16		
21-01-90	20:08:00	1.133	3629.21	1136.38	280.18		
21-01-90	20:09:00	1.150	3630.90	1138.07	280.19		
21-01-90	20:10:00	1.167	3631.80	1138.97	280.20		
21-01-90	20:11:00	1.183	3630.58	1137.75	280.22		
21-01-90	20:12:00	1.200	3633.59	1140.76	280.27		
21-01-90	20:13:00	1.217	3634.44	1141.61	280.27		
21-01-90	20:14:00	1.233	3633.17	1140.34	280.25		
21-01-90	20:15:00	1.250	3635.45	1142.62	280.25	2017	Csg 715 psig.
21-01-90	20:16:00	1.267	3636.93	1144.10	280.28		
21-01-90	20:17:00	1.283	3637.71	1144.88	280.24		
21-01-90	20:18:00	1.300	3638.50	1145.67	280.28		
21-01-90	20:19:00	1.317	3639.23	1146.40	280.29		
21-01-90	20:20:00	1.333	3632.37	1139.54	280.29		
21-01-90	20:21:00	1.350	3640.85	1148.02	280.25		
21-01-90	20:22:00	1.367	3638.87	1146.04	280.30		
21-01-90	20:23:00	1.383	3631.72	1138.89	280.24		
21-01-90	20:24:00	1.400	3642.39	1149.56	280.25		
21-01-90	20:25:00	1.417	3643.81	1150.98	280.27		
21-01-90	20:26:00	1.433	3643.85	1151.02	280.25		
21-01-90	20:27:00	1.450	3643.93	1151.10	280.21		
21-01-90	20:28:00	1.467	3643.92	1151.09	280.25		
21-01-90	20:29:00	1.483	3646.60	1153.77	280.27		
21-01-90	20:30:00	1.500	3647.21	1154.38	280.27	2021	Csg 615 psig.

EXPERTEST PTY. LTD.

0158

CUSTOMER : SANTOS Ltd. DATE: 21-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: J.Metcalfe
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Build-Up. S.I.W. 1900 hrs 21/1/90.

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
21-01-90	20:31:00	1.517	3647.14	1154.31	280.26		
21-01-90	20:32:00	1.533	3647.75	1154.92	280.31		
21-01-90	20:33:00	1.550	3649.05	1156.22	280.39		
21-01-90	20:34:00	1.567	3649.69	1156.86	280.38		
21-01-90	20:35:00	1.583	3650.34	1157.52	280.33		
21-01-90	20:36:00	1.600	3650.94	1158.11	280.28		
21-01-90	20:37:00	1.617	3650.82	1157.99	280.30		
21-01-90	20:38:00	1.633	3650.75	1157.92	280.31		
21-01-90	20:39:00	1.650	3652.04	1159.21	280.33		
21-01-90	20:40:00	1.667	3653.38	1160.55	280.40		
21-01-90	20:41:00	1.683	3653.25	1160.42	280.37		
21-01-90	20:42:00	1.700	3654.51	1161.68	280.40		
21-01-90	20:43:00	1.717	3655.14	1162.31	280.42		
21-01-90	20:44:00	1.733	3653.57	1160.74	280.44		
21-01-90	20:45:00	1.750	3653.40	1160.57	280.47	2029	Csg 550 psig.
21-01-90	20:46:00	1.767	3656.77	1163.94	280.50		
21-01-90	20:47:00	1.783	3657.14	1164.31	280.57		
21-01-90	20:48:00	1.800	3657.20	1164.37	280.57		
21-01-90	20:49:00	1.817	3657.36	1164.53	280.57		
21-01-90	20:50:00	1.833	3657.73	1164.90	280.57		
21-01-90	20:51:00	1.850	3658.14	1165.31	280.61		
21-01-90	20:52:00	1.867	3657.29	1164.46	280.63		
21-01-90	20:53:00	1.883	3659.28	1166.45	280.63		
21-01-90	20:54:00	1.900	3659.77	1166.94	280.65		
21-01-90	20:55:00	1.917	3658.13	1165.30	280.64		
21-01-90	20:56:00	1.933	3660.70	1167.87	280.64		
21-01-90	20:57:00	1.950	3661.27	1168.44	280.64		
21-01-90	20:58:00	1.967	3661.05	1168.22	280.64		
21-01-90	20:59:00	1.983	3661.47	1168.64	280.66		
21-01-90	21:00:00	2.000	3659.90	1167.07	280.67	2020	Csg 452 psig.
21-01-90	21:01:00	2.017	3663.19	1170.36	280.67		
21-01-90	21:02:00	2.033	3663.76	1170.93	280.69		
21-01-90	21:03:00	2.050	3664.42	1171.59	280.66		
21-01-90	21:04:00	2.067	3665.03	1172.20	280.62		
21-01-90	21:05:00	2.083	3665.65	1172.82	280.66		
21-01-90	21:06:00	2.100	3664.75	1171.92	280.63		
21-01-90	21:07:00	2.117	3666.76	1173.93	280.63		
21-01-90	21:08:00	2.133	3666.74	1173.91	280.63		
21-01-90	21:09:00	2.150	3667.41	1174.58	280.64		
21-01-90	21:10:00	2.167	3668.58	1175.75	280.64		
21-01-90	21:11:00	2.183	3669.09	1176.26	280.65		
21-01-90	21:12:00	2.200	3668.23	1175.40	280.70		
21-01-90	21:13:00	2.217	3667.97	1175.14	280.67		
21-01-90	21:14:00	2.233	3670.59	1177.76	280.64		
21-01-90	21:15:00	2.250	3669.70	1176.87	280.63		
21-01-90	21:16:00	2.267	3671.56	1178.73	280.65		
21-01-90	21:17:00	2.283	3672.04	1179.21	280.64		
21-01-90	21:18:00	2.300	3672.46	1179.63	280.69		
21-01-90	21:19:00	2.317	3672.91	1180.08	280.68		
21-01-90	21:20:00	2.333	3672.90	1180.07	280.71		

EXPERTEST PTY. LTD.

0159

CUSTOMER : SANTOS Ltd. DATE: 21-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: J.Metcalfe
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Build-Up. S.I.W. 1900 hrs 21/1/90.

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
21-01-90	21:21:00	2.350	3673.00	1180.17	280.70		
21-01-90	21:22:00	2.367	3673.13	1180.30	280.70		
21-01-90	21:23:00	2.383	3672.67	1179.84	280.71		
21-01-90	21:24:00	2.400	3673.69	1180.86	280.69		
21-01-90	21:25:00	2.417	3673.98	1181.15	280.71		
21-01-90	21:26:00	2.433	3674.43	1181.60	280.73		
21-01-90	21:27:00	2.450	3672.62	1179.79	280.67		
21-01-90	21:28:00	2.467	3674.98	1182.15	280.73		
21-01-90	21:29:00	2.483	3673.95	1181.12	280.74		
21-01-90	21:30:00	2.500	3675.67	1182.84	280.76	2021	Csg 315 psig.
21-01-90	21:31:00	2.517	3675.27	1182.44	280.73		
21-01-90	21:32:00	2.533	3675.72	1182.89	280.71		
21-01-90	21:33:00	2.550	3677.29	1184.46	280.71		
21-01-90	21:34:00	2.567	3677.55	1184.72	280.71		
21-01-90	21:35:00	2.583	3677.81	1184.98	280.72		
21-01-90	21:36:00	2.600	3678.23	1185.40	280.77		
21-01-90	21:37:00	2.617	3679.01	1186.18	280.78		
21-01-90	21:38:00	2.633	3679.65	1186.82	280.79		
21-01-90	21:39:00	2.650	3680.24	1187.41	280.80		
21-01-90	21:40:00	2.667	3682.36	1189.53	280.85		
21-01-90	21:43:00	2.717	3680.70	1187.87	280.99		
21-01-90	21:44:00	2.733	3668.58	1175.75	280.94		
21-01-90	21:45:00	2.750	3684.39	1191.56	280.87		
21-01-90	21:46:00	2.767	3684.70	1191.87	280.86		
21-01-90	21:47:00	2.783	3682.35	1189.52	280.84		
21-01-90	21:48:00	2.800	3683.45	1190.62	280.84		
21-01-90	21:49:00	2.817	3681.66	1188.83	280.87		
21-01-90	21:50:00	2.833	3685.84	1193.01	280.84		
21-01-90	21:51:00	2.850	3683.13	1190.30	280.86		
21-01-90	21:52:00	2.867	3678.55	1185.72	280.80		
21-01-90	21:53:00	2.883	3686.65	1193.82	280.80		
21-01-90	21:54:00	2.900	3687.72	1194.89	280.83		
21-01-90	21:55:00	2.917	3687.32	1194.49	280.84		
21-01-90	21:56:00	2.933	3688.34	1195.51	280.85		
21-01-90	21:57:00	2.950	3688.75	1195.92	280.83		
21-01-90	21:58:00	2.967	3689.04	1196.21	280.84		
21-01-90	21:59:00	2.983	3689.11	1196.28	280.82		
21-01-90	22:00:00	3.000	3689.73	1196.90	280.86	2024	Csg 194 psig.
21-01-90	22:05:00	3.083	3691.33	1198.50	280.94		
21-01-90	22:10:00	3.167	3692.12	1199.29	280.97		5 min sample rate.
21-01-90	22:15:00	3.250	3694.26	1201.43	281.02		
21-01-90	22:20:00	3.333	3695.69	1202.86	281.08		
21-01-90	22:25:00	3.417	3696.44	1203.61	281.07		
21-01-90	22:30:00	3.500	3698.44	1205.61	281.11	2025	Csg 93 psig.
21-01-90	22:35:00	3.583	3699.06	1206.23	281.06		
21-01-90	22:40:00	3.667	3700.48	1207.65	281.10		
21-01-90	22:45:00	3.750	3702.45	1209.62	281.14		
21-01-90	22:50:00	3.833	3703.66	1210.83	281.09		
21-01-90	22:55:00	3.917	3704.86	1212.03	281.14		
21-01-90	23:00:00	4.000	3706.06	1213.23	281.15	2026	Csg 4 psig.
21-01-90	23:05:00	4.083	3706.50	1213.67	281.21		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 21-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: J.Metcalfe
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Build-Up. S.I.W. 1900 hrs 21/1/90.

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
21-01-90	23:10:00	4.167	3708.38	1215.55	281.17		
21-01-90	23:15:00	4.250	3709.52	1216.69	281.17		
21-01-90	23:20:00	4.333	3710.62	1217.79	281.19		
21-01-90	23:25:00	4.417	3710.92	1218.09	281.19		
21-01-90	23:30:00	4.500	3712.81	1219.98	281.20		
21-01-90	23:35:00	4.583	3713.87	1221.04	281.20		
21-01-90	23:40:00	4.667	3714.90	1222.07	281.23		
21-01-90	23:45:00	4.750	3715.16	1222.33	281.23		
21-01-90	23:50:00	4.833	3715.46	1222.63	281.25		
21-01-90	23:55:00	4.917	3716.97	1224.14	281.24		
22-01-90	00:00:00	5.000	3718.83	1226.00	281.28	2029	Csg Ø.
22-01-90	00:05:00	5.083	3717.74	1224.91	281.26		
22-01-90	00:10:00	5.167	3720.05	1227.22	281.25		
22-01-90	00:15:00	5.250	3721.71	1228.88	281.29		
22-01-90	00:20:00	5.333	3721.83	1229.00	281.35		
22-01-90	00:25:00	5.417	3723.45	1230.62	281.34		
22-01-90	00:30:00	5.500	3724.34	1231.51	281.36		
22-01-90	00:35:00	5.583	3725.29	1232.46	281.37		
22-01-90	00:40:00	5.667	3726.12	1233.29	281.36		
22-01-90	00:45:00	5.750	3726.98	1234.15	281.38		
22-01-90	00:50:00	5.833	3727.89	1235.06	281.37		
22-01-90	00:55:00	5.917	3728.64	1235.81	281.39		
22-01-90	01:00:00	6.000	3729.52	1236.69	281.40		
22-01-90	01:05:00	6.083	3730.39	1237.56	281.37		
22-01-90	01:10:00	6.167	3731.14	1238.31	281.38		
22-01-90	01:15:00	6.250	3731.22	1238.39	281.40		
22-01-90	01:20:00	6.333	3732.65	1239.82	282.18		
22-01-90	01:25:00	6.417	3733.43	1240.60	282.34		
22-01-90	01:30:00	6.500	3734.09	1241.26	282.42		
22-01-90	01:35:00	6.583	3734.84	1242.01	282.47		
22-01-90	01:40:00	6.667	3734.16	1241.33	282.49		
22-01-90	01:45:00	6.750	3735.52	1242.69	282.52		
22-01-90	01:50:00	6.833	3735.58	1242.75	282.51		
22-01-90	01:55:00	6.917	3737.78	1244.95	282.44		
22-01-90	02:00:00	7.000	3738.51	1245.68	282.51	2033	Csg Ø.
22-01-90	02:05:00	7.083	3739.28	1246.45	282.55		
22-01-90	02:10:00	7.167	3740.03	1247.20	281.71		
22-01-90	02:15:00	7.250	3740.79	1247.96	281.59		
22-01-90	02:20:00	7.333	3741.53	1248.70	281.50		
22-01-90	02:25:00	7.417	3742.20	1249.37	281.59		
22-01-90	02:30:00	7.500	3736.60	1243.77	281.60		
22-01-90	02:35:00	7.583	3740.06	1247.23	281.61		
22-01-90	02:40:00	7.667	3725.40	1232.57	281.62		
22-01-90	02:45:00	7.750	3744.87	1252.04	281.62		
22-01-90	02:50:00	7.833	3745.53	1252.70	281.64		
22-01-90	02:55:00	7.917	3745.44	1252.61	281.69		
22-01-90	03:00:00	8.000	3742.35	1249.52	282.48		
22-01-90	03:10:00	8.167	3747.82	1254.99	282.60		10 min sample rate.
22-01-90	03:20:00	8.333	3745.58	1252.75	282.60		
22-01-90	03:30:00	8.500	3750.32	1257.49	282.64		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 22-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: J.Metcalfe
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Build-Up. S.I.W. 1900 hrs 21/1/90.

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
22-01-90	03:40:00	8.667	3750.76	1257.93	282.61		
22-01-90	03:50:00	8.833	3751.29	1258.46	282.65		
22-01-90	04:00:00	9.000	3753.80	1260.97	282.71		
22-01-90	04:10:00	9.167	3755.02	1262.19	282.59		
22-01-90	04:20:00	9.333	3756.12	1263.29	282.66		
22-01-90	04:30:00	9.500	3757.29	1264.46	282.59		
22-01-90	04:40:00	9.667	3757.77	1264.94	282.62		
22-01-90	04:50:00	9.833	3758.04	1265.21	282.66		
22-01-90	05:00:00	10.000	3758.41	1265.58	282.67		
22-01-90	05:10:00	10.167	3761.57	1268.74	282.67		
22-01-90	05:20:00	10.333	3762.56	1269.73	282.56		
22-01-90	05:30:00	10.500	3763.63	1270.80	282.61		
22-01-90	05:40:00	10.667	3764.57	1271.74	282.79		
22-01-90	05:50:00	10.833	3765.57	1272.74	282.84		
22-01-90	06:00:00	11.000	3766.59	1273.76	282.95	2039	Csg Ø.
22-01-90	06:10:00	11.167	3767.49	1274.66	283.01		
22-01-90	06:20:00	11.333	3765.57	1272.74	283.06		
22-01-90	06:30:00	11.500	3768.68	1275.85	283.03		
22-01-90	06:40:00	11.667	3768.65	1275.82	284.81		
22-01-90	06:50:00	11.833	3770.54	1277.71	283.13		
22-01-90	07:00:00	12.000	3771.47	1278.64	283.14		
22-01-90	07:10:00	12.167	3773.03	1280.20	283.12		
22-01-90	07:20:00	12.333	3773.30	1280.47	283.20		
22-01-90	07:30:00	12.500	3774.84	1282.01	283.13		
22-01-90	07:40:00	12.667	3775.61	1282.78	283.13		
22-01-90	07:50:00	12.833	3770.11	1277.28	283.17		
22-01-90	08:00:00	13.000	3772.21	1279.38	283.19		
22-01-90	08:10:00	13.167	3774.21	1281.38	283.14		
22-01-90	08:20:00	13.333	3773.49	1280.66	283.20		
22-01-90	08:30:00	13.500	3771.37	1278.54	283.28		
22-01-90	08:40:00	13.667	3779.09	1286.26	283.31		
22-01-90	08:50:00	13.833	3778.89	1286.06	283.30		
22-01-90	09:00:00	14.000	3780.37	1287.54	283.24		
22-01-90	09:10:00	14.167	3780.34	1287.51	283.22		
22-01-90	09:20:00	14.333	3781.79	1288.96	283.20		
22-01-90	09:30:00	14.500	3781.81	1288.98	283.26		
22-01-90	09:40:00	14.667	3783.23	1290.40	283.21		
22-01-90	09:50:00	14.833	3780.97	1288.14	283.23		
22-01-90	10:00:00	15.000	3783.86	1291.03	283.30	2039	Csg Ø.
22-01-90	10:10:00	15.167	3785.10	1292.27	283.27		
22-01-90	10:20:00	15.333	3785.46	1292.63	283.33		
22-01-90	10:30:00	15.500	3786.06	1293.23	283.27		
22-01-90	10:40:00	15.667	3776.85	1284.02	283.22		
22-01-90	10:50:00	15.833	3777.00	1284.17	283.23		
22-01-90	11:00:00	16.000	3783.31	1290.48	283.19		
22-01-90	11:10:00	16.167	3784.90	1292.07	283.21		
22-01-90	11:20:00	16.333	3786.32	1293.49	283.27		
22-01-90	11:30:00	16.500	3785.65	1292.82	283.27		
22-01-90	11:40:00	16.667	3784.97	1292.14	283.17		
22-01-90	11:50:00	16.833	3786.36	1293.53	283.15		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 22-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: J.Metcalfe
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Build-Up. S.I.W. 1900 hrs 21/1/90.

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
22-01-90	12:00:00	17.000	3788.61	1295.78	283.11		
22-01-90	12:10:00	17.167	3789.41	1296.58	283.12		
22-01-90	12:20:00	17.333	3789.19	1296.36	283.05		
22-01-90	12:30:00	17.500	3789.60	1296.77	283.14		
22-01-90	12:40:00	17.667	3789.23	1296.40	283.22		
22-01-90	12:50:00	17.833	3790.49	1297.66	283.24		
22-01-90	13:00:00	18.000	3791.09	1298.26	283.26		
22-01-90	13:10:00	18.167	3791.64	1298.81	283.28		
22-01-90	13:20:00	18.333	3785.53	1292.70	283.18		
22-01-90	13:30:00	18.500	3785.16	1292.33	283.19		
22-01-90	13:40:00	18.667	3784.09	1291.26	283.25		
22-01-90	13:50:00	18.833	3786.08	1293.25	283.17		
22-01-90	14:00:00	19.000	3786.55	1293.72	283.26	1941	Csg Ø.
22-01-90	14:10:00	19.167	3787.08	1294.25	283.49		
22-01-90	14:20:00	19.333	3787.49	1294.66	283.38		
22-01-90	14:30:00	19.500	3785.81	1292.98	283.26		
22-01-90	14:40:00	19.667	3788.36	1295.53	283.23		
22-01-90	14:50:00	19.833	3789.06	1296.23	283.24		
22-01-90	15:00:00	20.000	3788.24	1295.41	283.31		
22-01-90	15:10:00	20.167	3788.76	1295.93	283.35		
22-01-90	15:20:00	20.333	3784.27	1291.44	283.47		
22-01-90	15:30:00	20.500	3790.70	1297.87	283.42		
22-01-90	15:40:00	20.667	3795.01	1302.18	283.45		
22-01-90	15:50:00	20.833	3794.12	1301.29	283.50		
22-01-90	16:00:00	21.000	3794.86	1302.03	283.52		
22-01-90	16:10:00	21.167	3795.98	1303.15	283.51		
22-01-90	16:20:00	21.333	3796.42	1303.59	283.55		
22-01-90	16:30:00	21.500	3796.87	1304.04	283.55		
22-01-90	16:40:00	21.667	3797.37	1304.54	283.56		
22-01-90	16:50:00	21.833	3797.76	1304.93	283.90		
22-01-90	17:00:00	22.000	3797.54	1304.71	283.51		
22-01-90	17:10:00	22.167	3798.69	1305.86	283.55		
22-01-90	17:20:00	22.333	3799.12	1306.29	283.52		
22-01-90	17:30:00	22.500	3799.10	1306.27	283.43		
22-01-90	17:40:00	22.667	3800.92	1308.09	283.38		
22-01-90	17:50:00	22.833	3801.38	1308.55	283.46		
22-01-90	18:00:00	23.000	3801.17	1308.34	283.36	1927	Csg Ø.
22-01-90	18:10:00	23.167	3802.31	1309.48	283.40		
22-01-90	18:20:00	23.333	3802.78	1309.95	283.30		
22-01-90	18:30:00	23.500	3803.10	1310.27	283.51		
22-01-90	18:40:00	23.667	3803.45	1310.62	283.55		
22-01-90	18:50:00	23.833	3803.18	1310.35	283.74		
22-01-90	19:00:00	24.000	3803.26	1310.43	283.91		
22-01-90	19:10:00	24.167	3812.15	1319.32	283.57		
22-01-90	19:20:00	24.333	3814.36	1321.53	283.45		
22-01-90	19:30:00	24.500	3815.21	1322.38	283.40		
22-01-90	19:50:00	24.833	3816.72	1323.89	282.04		
22-01-90	20:00:00	25.000	3816.55	1323.72	282.69		
22-01-90	20:10:00	25.167	3817.59	1324.76	282.80		
22-01-90	20:20:00	25.333	3817.34	1324.51	282.95		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 22-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: J.Metcalfe
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Build-Up. S.I.W. 1900 hrs 21/1/90.

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
22-01-90	20:30:00	25.500	3815.69	1322.86	283.06		
22-01-90	20:40:00	25.667	3816.80	1323.97	283.06		
22-01-90	20:50:00	25.833	3819.38	1326.55	283.11		
22-01-90	21:00:00	26.000	3819.89	1327.06	283.16		
22-01-90	21:10:00	26.167	3815.37	1322.54	283.18		
22-01-90	21:20:00	26.333	3820.72	1327.89	283.23		
22-01-90	21:30:00	26.500	3821.09	1328.26	283.25		
22-01-90	21:40:00	26.667	3821.51	1328.68	283.26		
22-01-90	21:50:00	26.833	3819.80	1326.97	283.29		
22-01-90	22:00:00	27.000	3822.29	1329.46	283.31	1934	Csg Ø.
22-01-90	22:10:00	27.167	3822.65	1329.82	283.43		
22-01-90	22:20:00	27.333	3823.09	1330.26	283.38		
22-01-90	22:30:00	27.500	3823.43	1330.60	283.37		
22-01-90	22:40:00	27.667	3823.85	1331.02	283.41		
22-01-90	22:50:00	27.833	3823.49	1330.66	283.38		
22-01-90	23:00:00	28.000	3823.87	1331.04	283.40		
22-01-90	23:10:00	28.167	3824.86	1332.03	283.54		
22-01-90	23:20:00	28.333	3825.20	1332.37	283.74		
22-01-90	23:30:00	28.500	3822.85	1330.02	283.50		
22-01-90	23:40:00	28.667	3825.97	1333.14	283.54		
22-01-90	23:50:00	28.833	3826.37	1333.54	283.52		
23-01-90	00:00:00	29.000	3826.74	1333.91	283.55		
23-01-90	00:10:00	29.167	3823.56	1330.73	283.55		
23-01-90	00:20:00	29.333	3827.43	1334.60	283.55		
23-01-90	00:30:00	29.500	3827.65	1334.82	283.58		
23-01-90	00:40:00	29.667	3828.06	1335.23	283.59		
23-01-90	00:50:00	29.833	3828.36	1335.53	283.59		
23-01-90	01:00:00	30.000	3827.95	1335.12	283.61		
23-01-90	01:10:00	30.167	3829.02	1336.19	283.59		
23-01-90	01:20:00	30.333	3829.37	1336.54	283.59		
23-01-90	01:30:00	30.500	3829.75	1336.92	283.60		
23-01-90	01:40:00	30.667	3830.02	1337.19	283.60		
23-01-90	01:50:00	30.833	3830.36	1337.53	283.60		
23-01-90	02:00:00	31.000	3830.72	1337.89	283.58	1939	Csg Ø.
23-01-90	02:10:00	31.167	3831.03	1338.20	283.57		
23-01-90	02:20:00	31.333	3831.26	1338.43	283.56		
23-01-90	02:30:00	31.500	3831.58	1338.75	283.54		
23-01-90	02:40:00	31.667	3831.88	1339.05	283.64		
23-01-90	02:50:00	31.833	3830.11	1337.28	283.38		
23-01-90	03:00:00	32.000	3832.55	1339.72	283.28		
23-01-90	03:10:00	32.167	3829.30	1336.47	283.30		
23-01-90	03:20:00	32.333	3829.51	1336.68	283.31		
23-01-90	03:30:00	32.500	3832.69	1339.86	283.22		
23-01-90	03:40:00	32.667	3833.63	1340.80	283.27		
23-01-90	03:50:00	32.833	3833.29	1340.46	283.36		
23-01-90	04:00:00	33.000	3832.79	1339.96	283.49		
23-01-90	04:10:00	33.167	3834.50	1341.67	283.47		
23-01-90	04:20:00	33.333	3834.14	1341.31	283.43		
23-01-90	04:30:00	33.500	3835.14	1342.31	283.29		
23-01-90	04:40:00	33.667	3833.97	1341.14	283.43		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 23-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: J.Metcalfe
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Build-Up. S.I.W. 1900 hrs 21/1/90.

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
23-01-90	04:50:00	33.833	3835.73	1342.90	283.37		
23-01-90	05:00:00	34.000	3835.93	1343.10	283.53		
23-01-90	05:10:00	34.167	3835.45	1342.62	283.87		
23-01-90	05:20:00	34.333	3836.51	1343.68	283.47		
23-01-90	05:30:00	34.500	3836.70	1343.87	283.43		
23-01-90	05:40:00	34.667	3836.30	1343.47	283.44		
23-01-90	05:50:00	34.833	3835.85	1343.02	283.12		
23-01-90	06:00:00	35.000	3837.52	1344.69	283.38	1939	Csg Ø.
23-01-90	06:10:00	35.167	3837.78	1344.95	283.41		
23-01-90	06:20:00	35.333	3837.97	1345.14	283.37		
23-01-90	06:30:00	35.500	3838.21	1345.38	283.16		
23-01-90	06:40:00	35.667	3838.44	1345.61	283.32		
23-01-90	06:50:00	35.833	3836.65	1343.82	283.15		
23-01-90	07:00:00	36.000	3836.24	1343.41	283.24		
23-01-90	07:10:00	36.167	3839.43	1346.60	283.05		
23-01-90	07:20:00	36.333	3839.70	1346.87	282.89		
23-01-90	07:30:00	36.500	3838.54	1345.71	282.99		
23-01-90	07:40:00	36.667	3840.45	1347.62	281.48		
23-01-90	07:50:00	36.833	3839.91	1347.08	282.56		
23-01-90	08:00:00	37.000	3841.29	1348.46	281.71		
23-01-90	08:10:00	37.167	3841.11	1348.28	282.61		
23-01-90	08:20:00	37.333	3841.12	1348.29	282.57		
23-01-90	08:30:00	37.500	3841.32	1348.49	282.75		
23-01-90	08:40:00	37.667	3841.48	1348.65	282.71		
23-01-90	08:50:00	37.833	3841.73	1348.90	282.77		
23-01-90	09:00:00	38.000	3841.33	1348.50	282.15		
23-01-90	09:10:00	38.167	3831.58	1338.75	282.89		
23-01-90	09:20:00	38.333	3842.50	1349.67	282.17		
23-01-90	09:30:00	38.500	3842.66	1349.83	282.67		
23-01-90	09:40:00	38.667	3842.86	1350.03	282.76		
23-01-90	09:50:00	38.833	3843.09	1350.26	282.59		
23-01-90	10:00:00	39.000	3843.19	1350.36	283.69	1940	Csg Ø.
23-01-90	10:10:00	39.167	3843.53	1350.70	282.66		
23-01-90	10:20:00	39.333	3843.65	1350.82	282.74		
23-01-90	10:30:00	39.500	3843.86	1351.03	282.58		
23-01-90	10:40:00	39.667	3844.02	1351.19	282.76		
23-01-90	10:50:00	39.833	3844.20	1351.37	282.81		
23-01-90	11:00:00	40.000	3844.47	1351.64	282.82		
23-01-90	11:10:00	40.167	3844.66	1351.83	282.82		
23-01-90	11:20:00	40.333	3844.83	1352.00	282.89		
23-01-90	11:30:00	40.500	3845.07	1352.24	282.85		
23-01-90	11:40:00	40.667	3838.22	1345.39	282.81		
23-01-90	11:50:00	40.833	3845.45	1352.62	282.91		
23-01-90	12:00:00	41.000	3844.36	1351.53	282.73		
23-01-90	12:10:00	41.167	3846.04	1353.21	282.25		
23-01-90	12:20:00	41.333	3841.10	1348.27	282.58		
23-01-90	12:30:00	41.500	3846.22	1353.39	282.86		
23-01-90	12:40:00	41.667	3846.48	1353.65	282.85		
23-01-90	12:50:00	41.833	3846.57	1353.74	282.78		
23-01-90	13:00:00	42.000	3844.64	1351.81	282.19		

EXPERTEST PTY. LTD.

0165

CUSTOMER : SANTOS Ltd. DATE: 23-01-90 HP GAUGE S/N: 795
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: J.Metcalfe
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Build-Up. S.I.W. 1900 hrs 21/1/90.

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
23-01-90	13:10:00	42.167	3846.94	1354.11	282.87		
23-01-90	13:20:00	42.333	3847.26	1354.43	282.74		
23-01-90	13:30:00	42.500	3847.29	1354.46	282.87		
23-01-90	13:40:00	42.667	3847.54	1354.71	282.83		
23-01-90	13:50:00	42.833	3847.69	1354.86	282.84		
23-01-90	14:00:00	43.000	3846.45	1353.62	282.87	1939	Csg Ø.
23-01-90	14:10:00	43.167	3848.02	1355.19	282.86		
23-01-90	14:20:00	43.333	3847.54	1354.71	282.87		
23-01-90	14:30:00	43.500	3848.38	1355.55	282.86		
23-01-90	14:40:00	43.667	3848.56	1355.73	282.86		
23-01-90	14:50:00	43.833	3848.69	1355.86	282.89		
23-01-90	15:00:00	44.000	3848.90	1356.07	282.89		
23-01-90	15:10:00	44.167	3849.07	1356.24	282.90		
23-01-90	15:20:00	44.333	3849.20	1356.37	282.87		
23-01-90	15:30:00	44.500	3849.46	1356.63	282.89		
23-01-90	15:40:00	44.667	3849.51	1356.68	284.34		
23-01-90	15:50:00	44.833	3849.74	1356.91	282.88		
23-01-90	16:00:00	45.000	3843.36	1350.53	282.91		
23-01-90	16:10:00	45.167	3837.06	1344.23	282.76		
23-01-90	16:20:00	45.333	3837.42	1344.59	282.68		
23-01-90	16:30:00	45.500	3848.28	1355.45	282.86		
23-01-90	16:40:00	45.667	3849.67	1356.84	282.83		
23-01-90	16:50:00	45.833	3848.02	1355.19	283.00		
23-01-90	17:00:00	46.000	3849.80	1356.97	282.73	1939	Csg Ø.
23-01-90	17:10:00	46.167	3850.67	1357.84	282.50		P.O.H. to redress
23-01-90	22:11:00	51.183	0.00	-492.83	0.00		gauge & cable.
23-01-90	22:24:00	51.400	-6.20	-499.03	79.27		
23-01-90	23:45:00	52.750	1927.46	-565.37	83.18	1925	Hang overnight
24-01-90	00:00:00	53.000	1925.93	-566.90	82.41		in lub.
24-01-90	00:30:00	53.500	1925.07	-567.76	81.41		
24-01-90	01:00:00	54.000	1926.92	-565.91	80.90		
24-01-90	01:30:00	54.500	1925.17	-567.66	81.22		30 min sample rate.
24-01-90	02:00:00	55.000	1926.25	-566.58	81.21	1925	Csg Ø.
24-01-90	02:30:00	55.500	1926.46	-566.37	80.51		
24-01-90	03:00:00	56.000	1924.46	-568.37	79.68		
24-01-90	03:30:00	56.500	1926.07	-566.76	78.96		
24-01-90	04:00:00	57.000	1926.32	-566.51	78.86		
24-01-90	04:30:00	57.500	1926.47	-566.36	79.46		
24-01-90	05:00:00	58.000	1927.69	-565.14	79.23		
24-01-90	05:30:00	58.500	1928.01	-564.82	78.54		
24-01-90	06:00:00	59.000	1928.16	-564.67	77.49	1930	Csg Ø.
24-01-90	06:30:00	59.500	1927.90	-564.93	76.69		
24-01-90	06:40:00	59.667	1927.69	-565.14	76.52		
24-01-90	06:50:00	59.833	1927.07	-565.76	76.50		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 24-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS :

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
24-01-90	07:00:00	60.000	1925.66	-567.17	76.91		10 Min sample rate
24-01-90	07:10:00	60.167	1924.14	-568.69	77.82		
24-01-90	07:20:00	60.333	1923.46	-569.37	79.13	1930	Run in the hole
24-01-90	08:30:00	61.500	3857.45	1364.62	281.18		Continue to monitor
24-01-90	08:40:00	61.667	3853.45	1360.62	281.15		bottom hole press.
24-01-90	08:50:00	61.833	3857.94	1365.11	281.15		Build up
24-01-90	09:00:00	62.000	3856.16	1363.33	281.13		
24-01-90	09:10:00	62.167	3858.50	1365.67	281.12		Delta T from
24-01-90	09:20:00	62.333	3858.67	1365.84	281.17		Shut in
24-01-90	09:30:00	62.500	3858.17	1365.34	281.19		
24-01-90	09:40:00	62.667	3855.51	1362.68	281.09		
24-01-90	09:50:00	62.833	3858.58	1365.75	281.13		
24-01-90	10:00:00	63.000	3858.61	1365.78	281.18	1943	Csg = 0 psig
24-01-90	10:10:00	63.167	3859.43	1366.60	281.21		
24-01-90	10:20:00	63.333	3859.69	1366.86	281.25		
24-01-90	10:30:00	63.500	3859.70	1366.87	281.21		
24-01-90	10:40:00	63.667	3859.90	1367.07	281.18		Prepare to start
24-01-90	10:50:00	63.833	3860.01	1367.18	281.12		Isochronal

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 24-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : First rate 4 hours flow, 4 hours build up

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
24-01-90	11:00:00	0.000	3820.01	-40.00	281.12		
24-01-90	11:01:00	0.017	3783.11	-36.91	281.03	1940	Open on 10/64 choke
24-01-90	11:02:00	0.033	3774.21	-8.90	280.98		and flow to flare
24-01-90	11:03:00	0.050	3774.87	0.66	280.94		
24-01-90	11:04:00	0.067	3771.50	-3.36	280.90		1 min sample rate
24-01-90	11:05:00	0.083	3768.19	-3.31	280.88		
24-01-90	11:06:00	0.100	3764.65	-3.54	280.86		
24-01-90	11:07:00	0.117	3762.18	-2.47	280.85		Delta T from
24-01-90	11:08:00	0.133	3759.90	-2.28	280.87		start of rate
24-01-90	11:09:00	0.150	3758.83	-1.07	280.85		
24-01-90	11:10:00	0.167	3757.04	-1.80	280.84		Delta P from
24-01-90	11:11:00	0.183	3754.95	-2.09	280.84		previous value
24-01-90	11:12:00	0.200	3754.29	-0.65	280.84		
24-01-90	11:13:00	0.217	3753.32	-0.98	280.84		
24-01-90	11:14:00	0.233	3752.26	-1.06	280.85		
24-01-90	11:15:00	0.250	3728.78	-23.48	280.84	1896	Csg = 0 psig
24-01-90	11:18:00	0.300	3748.67	19.89	280.96		
24-01-90	11:21:00	0.350	3746.40	-2.27	280.99		3 min sample rate
24-01-90	11:24:00	0.400	3744.47	-1.93	280.99		
24-01-90	11:27:00	0.450	3741.95	-2.52	280.99		
24-01-90	11:30:00	0.500	3740.33	-1.62	280.99	1916	Csg = 0 psig
24-01-90	11:33:00	0.550	3737.18	-3.14	280.99		
24-01-90	11:36:00	0.600	3737.45	0.27	280.97		
24-01-90	11:39:00	0.650	3735.97	-1.48	280.98		
24-01-90	11:42:00	0.700	3734.51	-1.46	280.98		
24-01-90	11:45:00	0.750	3732.29	-2.22	281.03	1944	Csg = 0 psig
24-01-90	11:48:00	0.800	3731.99	-0.29	281.03		
24-01-90	11:51:00	0.850	3730.69	-1.31	281.04		
24-01-90	11:54:00	0.900	3729.96	-0.72	281.05		
24-01-90	11:57:00	0.950	3729.44	-0.52	280.99		
24-01-90	12:00:00	1.000	3729.47	0.03	280.98	1965	Csg = 0 psig
24-01-90	12:03:00	1.050	3728.17	-1.30	280.98		
24-01-90	12:06:00	1.100	3728.13	-0.05	280.98		
24-01-90	12:09:00	1.150	3726.56	-1.57	281.02		
24-01-90	12:12:00	1.200	3725.33	-1.23	280.99		
24-01-90	12:15:00	1.250	3724.25	-1.08	281.03	1975	Csg = 0 psig
24-01-90	12:18:00	1.300	3723.12	-1.14	280.98		
24-01-90	12:21:00	1.350	3719.87	-3.24	280.93		
24-01-90	12:24:00	1.400	3721.04	1.16	280.99		
24-01-90	12:27:00	1.450	3720.27	-0.77	280.98		
24-01-90	12:30:00	1.500	3719.50	-0.77	280.95	1975	Csg = 0 psig
24-01-90	12:33:00	1.550	3718.80	-0.69	280.97		
24-01-90	12:36:00	1.600	3718.11	-0.69	280.97		
24-01-90	12:39:00	1.650	3716.81	-1.30	280.87		
24-01-90	12:42:00	1.700	3716.83	0.02	280.97		
24-01-90	12:45:00	1.750	3716.22	-0.61	280.95	1973	Csg = 0 psig
24-01-90	12:48:00	1.800	3715.71	-0.51	280.94		
24-01-90	12:51:00	1.850	3715.16	-0.56	280.94		
24-01-90	12:54:00	1.900	3714.67	-0.48	280.89		
24-01-90	12:57:00	1.950	3713.18	-1.50	280.92		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 24-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : First rate 4 hours flow, 4 hours build up

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
24-01-90	13:00:00	2.000	3712.78	-0.40	280.90	1970	Csg = 0 psig
24-01-90	13:03:00	2.050	3710.98	-1.80	280.93		
24-01-90	13:06:00	2.100	3710.44	-0.54	280.93		
24-01-90	13:09:00	2.150	3711.25	0.81	280.92		
24-01-90	13:12:00	2.200	3709.18	-2.08	280.97		
24-01-90	13:15:00	2.250	3702.94	-6.24	280.98	1969	Csg = 0 psig
24-01-90	13:18:00	2.300	3703.81	0.88	280.93		
24-01-90	13:21:00	2.350	3705.30	1.49	280.98		
24-01-90	13:24:00	2.400	3708.43	3.13	280.92		
24-01-90	13:27:00	2.450	3708.20	-0.23	280.92		
24-01-90	13:30:00	2.500	3707.64	-0.56	280.91	1969	Csg = 0 psig
24-01-90	13:33:00	2.550	3707.24	-0.40	280.93		
24-01-90	13:36:00	2.600	3707.10	-0.13	280.91		
24-01-90	13:39:00	2.650	3706.61	-0.50	280.91		
24-01-90	13:42:00	2.700	3706.22	-0.39	280.95		
24-01-90	13:45:00	2.750	3705.13	-1.10	280.97	1969	Csg = 0 psig
24-01-90	13:48:00	2.800	3704.88	-0.25	280.92		
24-01-90	13:51:00	2.850	3704.68	-0.20	280.92		
24-01-90	13:54:00	2.900	3704.98	0.29	280.91		
24-01-90	13:57:00	2.950	3694.07	-10.90	280.90		
24-01-90	14:00:00	3.000	3696.11	2.04	280.90	1969	Csg = 0 psig
24-01-90	14:03:00	3.050	3689.64	-6.47	280.91		
24-01-90	14:06:00	3.100	3700.26	10.62	280.91		
24-01-90	14:09:00	3.150	3702.93	2.67	280.91		
24-01-90	14:12:00	3.200	3703.23	0.30	280.93		
24-01-90	14:15:00	3.250	3703.66	0.43	280.92	1969	Csg = 0 psig
24-01-90	14:18:00	3.300	3693.36	-10.30	280.92		
24-01-90	14:21:00	3.350	3701.68	8.32	280.92		
24-01-90	14:24:00	3.400	3702.13	0.45	280.91		
24-01-90	14:27:00	3.450	3701.86	-0.26	280.92		
24-01-90	14:30:00	3.500	3688.93	-12.93	280.95	1965	Csg = 0 psig
24-01-90	14:33:00	3.550	3699.10	10.17	280.91		
24-01-90	14:36:00	3.600	3700.98	1.88	280.92		
24-01-90	14:39:00	3.650	3695.05	-5.93	280.91		
24-01-90	14:42:00	3.700	3700.57	5.53	280.91		
24-01-90	14:45:00	3.750	3700.24	-0.33	280.91	1965	Csg = 0 psig
24-01-90	14:48:00	3.800	3699.91	-0.33	280.92		
24-01-90	14:51:00	3.850	3697.87	-2.04	280.91		
24-01-90	14:54:00	3.900	3698.76	0.89	280.90		
24-01-90	14:57:00	3.950	3699.15	0.39	280.92		
24-01-90	15:00:00	4.000	3706.08	6.93	280.86	1964	Shut in the well
24-01-90	15:01:00	4.017	3730.12	24.05	280.78		for four hour
24-01-90	15:02:00	4.033	3753.91	23.78	280.73		build up
24-01-90	15:03:00	4.050	3771.84	17.93	280.72		
24-01-90	15:04:00	4.067	3782.91	11.07	280.73		1 min sample rate
24-01-90	15:05:00	4.083	3793.37	10.46	280.73		
24-01-90	15:06:00	4.100	3794.13	0.76	280.74		
24-01-90	15:07:00	4.117	3804.65	10.51	280.80		
24-01-90	15:08:00	4.133	3807.64	2.99	280.79		
24-01-90	15:09:00	4.150	3813.00	5.36	280.76		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 24-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : First rate 4 hours flow, 4 hours build up

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
24-01-90	15:10:00	4.167	3813.00	0.00	280.75		
24-01-90	15:11:00	4.183	3817.00	4.00	280.75		
24-01-90	15:12:00	4.200	3817.54	0.54	280.75		
24-01-90	15:13:00	4.217	3811.93	-5.61	280.75		
24-01-90	15:14:00	4.233	3822.45	10.52	280.75		
24-01-90	15:15:00	4.250	3821.79	-0.66	280.78	2053	Csg = 0 psig
24-01-90	15:18:00	4.300	3822.00	0.21	280.93		
24-01-90	15:21:00	4.350	3829.33	7.33	280.94		3 min sample rate
24-01-90	15:24:00	4.400	3828.13	-1.20	280.93		
24-01-90	15:27:00	4.450	3831.71	3.58	280.91		
24-01-90	15:30:00	4.500	3813.98	-17.73	280.90	2057	Csg = 0 psig
24-01-90	15:33:00	4.550	3834.62	20.64	280.91		
24-01-90	15:36:00	4.600	3835.45	0.83	280.91		
24-01-90	15:39:00	4.650	3833.46	-1.98	280.92		
24-01-90	15:42:00	4.700	3833.78	0.32	280.88		
24-01-90	15:45:00	4.750	3836.36	2.58	280.91	2059	Csg = 0 psig
24-01-90	15:48:00	4.800	3834.84	-1.51	280.90		
24-01-90	15:51:00	4.850	3838.89	4.04	280.91		
24-01-90	15:54:00	4.900	3838.99	0.10	280.90		
24-01-90	15:57:00	4.950	2038.54	-800.45	280.93		
24-01-90	16:00:00	5.000	3837.66	1799.12	280.91	2059	Csg = 0 psig
24-01-90	16:03:00	5.050	3838.18	0.53	280.92		
24-01-90	16:06:00	5.100	3841.44	3.25	280.92		
24-01-90	16:09:00	5.150	3841.84	0.40	280.92		
24-01-90	16:12:00	5.200	3842.28	0.44	280.94		
24-01-90	16:15:00	5.250	3841.97	-0.31	280.95	2061	Csg = 0 psig
24-01-90	16:18:00	5.300	3843.06	1.09	280.93		
24-01-90	16:21:00	5.350	3842.06	-.00	280.92		
24-01-90	16:24:00	5.400	3843.75	1.69	280.93		
24-01-90	16:27:00	5.450	3844.10	0.35	280.92		
24-01-90	16:30:00	5.500	3844.42	0.31	280.93	2062	Csg = 0 psig
24-01-90	16:33:00	5.550	3844.79	0.37	280.93		
24-01-90	16:36:00	5.600	3845.12	0.33	280.93		
24-01-90	16:39:00	5.650	3845.30	0.18	280.92		
24-01-90	16:42:00	5.700	3844.94	-0.35	280.92		
24-01-90	16:45:00	5.750	3844.87	-0.07	280.93	2064	Csg = 0 psig
24-01-90	16:48:00	5.800	3845.01	0.14	280.93		
24-01-90	16:51:00	5.850	3846.47	1.46	280.94		
24-01-90	16:54:00	5.900	3846.81	0.34	280.94		
24-01-90	16:57:00	5.950	3846.66	-0.15	280.94		
24-01-90	17:00:00	6.000	3843.71	-2.95	280.93	2063	Csg = 0 psig
24-01-90	17:03:00	6.050	3846.00	2.29	280.89		
24-01-90	17:06:00	6.100	3847.66	1.66	280.89		
24-01-90	17:09:00	6.150	3846.46	-1.20	280.89		
24-01-90	17:12:00	6.200	3848.05	1.58	280.89		
24-01-90	17:15:00	6.250	3844.60	-3.44	280.92	2064	Csg = 0 psig
24-01-90	17:18:00	6.300	3848.49	3.88	280.90		
24-01-90	17:21:00	6.350	3843.12	-5.37	280.98		
24-01-90	17:24:00	6.400	3839.46	-3.66	280.88		
24-01-90	17:27:00	6.450	3848.37	8.91	280.87		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 24-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : First rate 4 hours flow, 4 hours build up

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
24-01-90	17:30:00	6.500	3849.15	0.78	280.90	2064	Csg = 0 psig
24-01-90	17:33:00	6.550	3849.95	0.80	280.89		
24-01-90	17:36:00	6.600	3848.83	-1.12	280.88		
24-01-90	17:39:00	6.650	3849.08	0.26	280.87		
24-01-90	17:42:00	6.700	3849.91	0.83	280.88		
24-01-90	17:45:00	6.750	3849.45	-0.47	280.88	2064	Csg = 0 psig
24-01-90	17:48:00	6.800	3843.11	-6.33	280.87		
24-01-90	17:51:00	6.850	3843.51	0.39	280.86		
24-01-90	17:54:00	6.900	3850.76	7.25	280.87		
24-01-90	17:57:00	6.950	3850.77	0.02	280.87		
24-01-90	18:00:00	7.000	3850.84	0.07	280.86	2064	Csg = 0 psig
24-01-90	18:03:00	7.050	3850.93	0.09	280.87		
24-01-90	18:06:00	7.100	3851.32	0.39	280.89		
24-01-90	18:09:00	7.150	3851.47	0.15	280.86		
24-01-90	18:12:00	7.200	3850.81	-0.66	280.85		
24-01-90	18:15:00	7.250	3851.88	1.07	280.87	2064	Csg = 0 psig
24-01-90	18:18:00	7.300	3833.52	-18.36	280.87		
24-01-90	18:21:00	7.350	3835.52	2.00	280.89		
24-01-90	18:24:00	7.400	3846.09	10.57	280.89		
24-01-90	18:27:00	7.450	3827.25	-18.85	280.87		3846.09
24-01-90	18:30:00	7.500	3852.22	24.98	280.86	2064	Csg = 0 psig
24-01-90	18:33:00	7.550	3850.86	-1.37	280.85		
24-01-90	18:36:00	7.600	3851.60	0.75	280.83		
24-01-90	18:39:00	7.650	3850.38	-1.22	280.88		
24-01-90	18:42:00	7.700	3851.91	1.53	280.85		
24-01-90	18:45:00	7.750	3851.89	-0.02	280.85	2063	Csg = 0 psig
24-01-90	18:48:00	7.800	3845.94	-5.95	280.87		
24-01-90	18:51:00	7.850	3852.92	6.98	280.86		
24-01-90	18:54:00	7.900	3848.14	-4.77	280.89		
24-01-90	18:57:00	7.950	3852.58	4.44	280.89		END FIRST RATE

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 24-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Second rate 4 hours flow, 4 hours build up

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
24-01-90	19:00:00	0.000	3844.54	-8.04	280.89		Open on 18/64 choke
24-01-90	19:01:00	0.017	3692.73	-151.81	280.83		and flow to flare
24-01-90	19:02:00	0.033	3622.52	-70.20	280.77		
24-01-90	19:03:00	0.050	3580.74	-41.78	280.71		
24-01-90	19:04:00	0.067	3546.63	-34.11	280.66		1 min sample rate
24-01-90	19:05:00	0.083	3517.80	-28.83	280.61		
24-01-90	19:06:00	0.100	3494.94	-22.86	280.61		
24-01-90	19:07:00	0.117	3474.42	-20.52	280.55		Delta T from
24-01-90	19:08:00	0.133	3456.49	-17.94	280.51		start of rate
24-01-90	19:09:00	0.150	3442.02	-14.47	280.49		
24-01-90	19:10:00	0.167	3428.30	-13.73	280.47		Delta P from
24-01-90	19:11:00	0.183	3416.63	-11.67	280.45		previous value
24-01-90	19:12:00	0.200	3398.91	-17.72	280.44		
24-01-90	19:13:00	0.217	3393.25	-5.66	280.42		
24-01-90	19:14:00	0.233	3391.17	-2.08	280.39		
24-01-90	19:15:00	0.250	3386.33	-4.85	280.38	1713	Csg = 0 psig
24-01-90	19:18:00	0.300	3362.94	-23.38	280.48		
24-01-90	19:21:00	0.350	3360.33	-2.61	280.48		3 min sample rate
24-01-90	19:24:00	0.400	3347.40	-12.93	280.49		
24-01-90	19:27:00	0.450	3337.30	-10.10	280.48		
24-01-90	19:30:00	0.500	3325.23	-12.08	280.50	1675	Csg = 0 psig
24-01-90	19:33:00	0.550	3317.15	-8.08	280.53		
24-01-90	19:36:00	0.600	3313.09	-4.06	280.54		
24-01-90	19:39:00	0.650	3303.67	-9.42	280.55		
24-01-90	19:42:00	0.700	3291.85	-11.83	280.55		
24-01-90	19:45:00	0.750	3287.66	-4.19	280.56	1679	Csg = 0 psig
24-01-90	19:48:00	0.800	3292.81	5.15	280.55		
24-01-90	19:51:00	0.850	3290.84	-1.97	280.55		
24-01-90	19:54:00	0.900	3283.58	-7.26	280.58		
24-01-90	19:57:00	0.950	3275.45	-8.14	280.58		
24-01-90	20:00:00	1.000	3271.95	-3.49	280.58	1689	Csg = 0 psig
24-01-90	20:03:00	1.050	3261.36	-10.59	280.59		
24-01-90	20:06:00	1.100	3256.08	-5.28	280.59		
24-01-90	20:09:00	1.150	3260.99	4.91	280.59		
24-01-90	20:12:00	1.200	3262.96	1.97	280.61		
24-01-90	20:15:00	1.250	3248.42	-14.55	280.59	1689	Csg = 0 psig
24-01-90	20:18:00	1.300	3243.75	-4.66	280.60		
24-01-90	20:21:00	1.350	3255.28	11.52	280.61		
24-01-90	20:24:00	1.400	3254.82	-0.46	280.62		
24-01-90	20:27:00	1.450	3253.56	-1.25	280.62		
24-01-90	20:30:00	1.500	3247.53	-6.03	280.64	1693	Csg = 0 psig
24-01-90	20:33:00	1.550	3250.03	2.50	280.62		
24-01-90	20:36:00	1.600	3250.25	0.22	280.62		
24-01-90	20:39:00	1.650	3243.78	-6.47	280.61		
24-01-90	20:42:00	1.700	3243.15	-0.63	280.62		
24-01-90	20:45:00	1.750	3245.00	1.85	280.62	1691	Csg = 0 psig
24-01-90	20:48:00	1.800	3243.81	-1.19	280.63		
24-01-90	20:51:00	1.850	3229.06	-14.75	280.64		
24-01-90	20:54:00	1.900	3242.28	13.21	280.64		
24-01-90	20:57:00	1.950	3237.31	-4.97	280.66		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 24-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Second rate 4 hours flow, 4 hours build up

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
24-01-90	21:00:00	2.000	3238.87	1.56	280.65	1694	Csg = 0 psig
24-01-90	21:03:00	2.050	3232.24	-6.63	280.66		
24-01-90	21:06:00	2.100	3235.22	2.98	280.65		
24-01-90	21:09:00	2.150	3239.38	4.16	280.65		
24-01-90	21:12:00	2.200	3237.60	-1.77	280.67		
24-01-90	21:15:00	2.250	3239.07	1.47	280.67	1694	Csg = 0 psig
24-01-90	21:18:00	2.300	3237.67	-1.40	280.67		
24-01-90	21:21:00	2.350	3229.07	-8.60	280.68		
24-01-90	21:24:00	2.400	3237.40	8.33	280.69		
24-01-90	21:27:00	2.450	3225.89	-11.51	280.70		
24-01-90	21:30:00	2.500	3236.14	10.25	280.68	1695	Csg = 0 psig
24-01-90	21:33:00	2.550	3210.13	-26.01	280.69		
24-01-90	21:36:00	2.600	3233.15	23.02	280.69		
24-01-90	21:39:00	2.650	3203.85	-29.30	280.70		
24-01-90	21:42:00	2.700	3225.11	21.26	280.69		
24-01-90	21:45:00	2.750	3225.29	0.18	280.69	1696	Csg = 0 psig
24-01-90	21:48:00	2.800	3222.51	-2.77	280.69		
24-01-90	21:51:00	2.850	3204.19	-18.32	280.71		
24-01-90	21:54:00	2.900	3220.20	16.01	280.70		
24-01-90	21:57:00	2.950	3223.85	3.65	280.69		
24-01-90	22:00:00	3.000	3227.26	3.42	280.77	1699	Csg = 0 psig
24-01-90	22:03:00	3.050	3228.01	0.75	280.74		
24-01-90	22:06:00	3.100	3222.24	-5.77	280.73		
24-01-90	22:09:00	3.150	3222.07	-0.17	280.73		
24-01-90	22:12:00	3.200	3218.62	-3.45	280.72		
24-01-90	22:15:00	3.250	3207.78	-10.83	280.73	1700	Csg = 0 psig
24-01-90	22:18:00	3.300	3212.47	4.69	280.74		
24-01-90	22:21:00	3.350	3223.68	11.21	280.73		
24-01-90	22:24:00	3.400	3210.18	-13.51	280.74		
24-01-90	22:27:00	3.450	3231.03	20.85	280.74		
24-01-90	22:30:00	3.500	3229.59	-1.43	280.71	1700	Csg = 0 psig
24-01-90	22:33:00	3.550	3224.79	-4.80	280.73		
24-01-90	22:36:00	3.600	3227.51	2.72	280.74		
24-01-90	22:39:00	3.650	3228.40	0.89	280.73		
24-01-90	22:42:00	3.700	3225.73	-2.67	280.75		
24-01-90	22:45:00	3.750	3228.49	2.76	280.75	1702	Csg = 0 psig
24-01-90	22:48:00	3.800	3227.73	-0.77	280.75		
24-01-90	22:51:00	3.850	3227.90	0.18	280.74		
24-01-90	22:54:00	3.900	3223.31	-4.59	280.75		
24-01-90	22:57:00	3.950	3225.08	1.77	280.75		
24-01-90	23:00:00	4.000	3225.29	0.21	280.74	1702	Shut in the well
24-01-90	23:01:00	4.017	3309.46	84.18	280.68		for four hour
24-01-90	23:02:00	4.033	3389.01	79.55	280.66		build up
24-01-90	23:03:00	4.050	3433.53	44.52	280.67		
24-01-90	23:04:00	4.067	3485.52	51.99	280.69		1 min sample rate
24-01-90	23:05:00	4.083	3552.04	66.53	280.70		
24-01-90	23:06:00	4.100	3558.05	6.00	280.73		
24-01-90	23:07:00	4.117	3582.63	24.58	280.74		
24-01-90	23:08:00	4.133	3631.21	48.58	280.81		
24-01-90	23:09:00	4.150	3659.86	28.65	280.79		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 24-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Second rate 4 hours flow, 4 hours build up

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
24-01-90	23:10:00	4.167	3649.70	-10.16	280.81		
24-01-90	23:11:00	4.183	3685.13	35.42	280.81		
24-01-90	23:12:00	4.200	3677.94	-7.19	280.83		
24-01-90	23:13:00	4.217	3701.28	23.34	280.85		
24-01-90	23:14:00	4.233	3622.81	-78.46	280.85		
24-01-90	23:15:00	4.250	3706.92	84.10	280.86	2025	Csg = 0 psig
24-01-90	23:18:00	4.300	3725.34	18.42	280.99		
24-01-90	23:21:00	4.350	3715.17	-10.17	281.03		3 min sample rate
24-01-90	23:24:00	4.400	3670.03	-45.14	281.04		
24-01-90	23:27:00	4.450	3729.52	59.49	281.04		
24-01-90	23:30:00	4.500	3732.95	3.43	281.05	2043	Csg = 0 psig
24-01-90	23:33:00	4.550	3726.63	-6.32	281.03		
24-01-90	23:36:00	4.600	3744.42	17.78	281.01		
24-01-90	23:39:00	4.650	3759.09	14.68	281.01		
24-01-90	23:42:00	4.700	3760.93	1.84	280.99		
24-01-90	23:45:00	4.750	3756.48	-4.45	281.03	2050	Csg = 0 psig
24-01-90	23:48:00	4.800	3766.38	9.89	281.04		
24-01-90	23:51:00	4.850	3767.01	0.63	281.00		
24-01-90	23:54:00	4.900	3763.19	-3.82	281.01		
24-01-90	23:57:00	4.950	3772.06	8.87	280.99		
25-01-90	00:00:00	5.000	3758.01	-14.04	280.98	2054	Csg = 0 psig
25-01-90	00:03:00	5.050	3759.95	1.93	280.99		
25-01-90	00:06:00	5.100	3772.10	12.15	280.97		
25-01-90	00:09:00	5.150	3776.45	4.35	280.97		
25-01-90	00:12:00	5.200	3775.62	-0.82	280.98		
25-01-90	00:15:00	5.250	3778.40	2.77	280.98	2055	Csg = 0 psig
25-01-90	00:18:00	5.300	3781.78	3.38	280.96		
25-01-90	00:21:00	5.350	3781.56	-0.22	280.97		
25-01-90	00:24:00	5.400	3782.67	1.10	280.96		
25-01-90	00:27:00	5.450	3766.72	-15.95	280.96		During the first
25-01-90	00:30:00	5.500	3732.85	-33.87	280.93	2059	and second rates
25-01-90	00:33:00	5.550	3761.36	28.51	280.96		of the isochronal
25-01-90	00:36:00	5.600	3779.70	18.34	280.96		some erratic
25-01-90	00:39:00	5.650	3780.28	0.58	280.97		readings were
25-01-90	00:42:00	5.700	3790.92	10.64	280.95		noticed.
25-01-90	00:45:00	5.750	3790.36	-0.56	280.97	2060	
25-01-90	00:48:00	5.800	3792.59	2.23	280.97		This at first
25-01-90	00:51:00	5.850	3792.61	0.02	280.99		was thaught to
25-01-90	00:54:00	5.900	3793.30	0.70	280.97		be well conditions
25-01-90	00:57:00	5.950	3793.45	0.15	280.90		but an increase
25-01-90	01:00:00	6.000	3795.68	2.23	280.97	2060	in their number
25-01-90	01:03:00	6.050	3796.24	0.57	280.97		indicated that
25-01-90	01:06:00	6.100	3796.31	0.07	280.96		it was infact
25-01-90	01:15:00	6.250	3794.63	-1.69	280.95	2061	an equipment
25-01-90	01:24:00	6.400	3780.80	-13.82	280.95		failure.
25-01-90	01:27:00	6.450	3796.30	15.49	280.95		
25-01-90	01:30:00	6.500	3787.26	-9.04	280.95	2061	Unable to
25-01-90	01:33:00	6.550	3801.20	13.94	280.95		continue to
25-01-90	01:39:00	6.650	3787.11	-14.09	280.95		monitor bottom
25-01-90	01:42:00	6.700	3803.62	16.51	280.95		hole pressure

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 25-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Second rate 4 hours flow, 4 hours build up

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
25-01-90	01:48:00	6.800	3789.85	-13.77	280.95		with HP gauge
25-01-90	01:54:00	6.900	3790.18	0.33	280.95		
25-01-90	02:03:00	7.050	3804.00	13.82	280.95		Complete survey
25-01-90	02:06:00	7.100	3807.86	3.86	280.95		with the back up
25-01-90	02:09:00	7.150	3787.43	-20.44	280.95		Amerada gauge.

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 26-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Extended flow period - on a 32/64ths choke

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
26-01-90	00:00:00	9.000	1156.71	1156.71	87.14		Restart survey in
26-01-90	00:09:00	9.150	1162.77	6.06	86.14		the lubricator
26-01-90	00:12:00	9.200	1162.54	-0.23	86.20		during extended
26-01-90	00:15:00	9.250	1163.55	1.01	86.22		flow period.
26-01-90	00:18:00	9.300	1165.42	1.87	86.18		
26-01-90	00:21:00	9.350	1165.26	-0.16	86.10		Extended flow
26-01-90	00:24:00	9.400	1167.47	2.21	85.98		started at
26-01-90	00:27:00	9.450	1166.23	-1.24	85.87		15:00 hours
26-01-90	00:30:00	9.500	1168.32	2.09	85.77		25-01-90
26-01-90	00:33:00	9.550	1167.21	-1.11	85.69		
26-01-90	00:36:00	9.600	1166.48	-0.73	85.65		
26-01-90	00:39:00	9.650	1167.26	0.77	85.55		Changed out the
26-01-90	00:42:00	9.700	1166.33	-0.92	85.78		H.P. gauge and
26-01-90	00:45:00	9.750	1167.77	1.44	85.52		reload the
26-01-90	00:48:00	9.800	1167.29	-0.48	85.27		Amerada
26-01-90	00:51:00	9.850	1167.66	0.36	85.02		
26-01-90	00:54:00	9.900	1166.63	-1.03	84.79	1707	
26-01-90	00:57:00	9.950	1168.10	1.47	84.57		
26-01-90	01:00:00	10.000	1168.03	-0.07	84.33		Run in the hole
26-01-90	01:57:00	10.950	3168.22	2000.18	286.11		hang off at 9000'KB
26-01-90	02:00:00	11.000	3168.63	0.42	286.98		
26-01-90	02:05:00	11.083	2743.77	-424.86	287.12		[survey hang depth]
26-01-90	02:10:00	11.167	2588.45	-155.32	286.21		
26-01-90	02:15:00	11.250	2387.80	-200.65	287.01		Allow gauge to
26-01-90	02:20:00	11.333	2376.78	-11.02	287.52		stabilize.
26-01-90	02:21:00	11.350	2368.17	-8.61	287.52		
26-01-90	02:22:00	11.367	2361.60	-6.56	287.52		
26-01-90	02:23:00	11.383	2355.45	-6.15	287.52		Continue to monitor
26-01-90	02:24:00	11.400	2350.55	-4.91	287.52		extended flow
26-01-90	02:25:00	11.417	2345.71	-4.84	287.52		bottom hole press.
26-01-90	02:26:00	11.433	2341.27	-4.44	287.52		
26-01-90	02:27:00	11.450	2337.50	-3.77	287.52		
26-01-90	02:28:00	11.467	2334.29	-3.21	287.52		Delta T from
26-01-90	02:29:00	11.483	2330.74	-3.55	287.52		start ext. flow
26-01-90	02:30:00	11.500	2328.69	-2.05	287.52		
26-01-90	02:31:00	11.517	2326.92	-1.76	287.52		Delta P from
26-01-90	02:32:00	11.533	2324.27	-2.65	287.52		previous value
26-01-90	02:33:00	11.550	2322.00	-2.28	287.52		
26-01-90	02:34:00	11.567	2319.90	-2.09	287.52		1 min sample rate
26-01-90	02:35:00	11.583	2318.75	-1.15	287.52		
26-01-90	02:36:00	11.600	2316.89	-1.86	287.52		Man temp = 287.52 F
26-01-90	02:37:00	11.617	2315.34	-1.55	287.52		
26-01-90	02:38:00	11.633	2313.83	-1.50	287.52		Temp/Press switch
26-01-90	02:39:00	11.650	2312.98	-0.85	287.52		[relay actuator]
26-01-90	02:40:00	11.667	2311.67	-1.31	287.52		malfunctions.
26-01-90	02:41:00	11.683	2310.51	-1.16	287.52		Use manual temp
26-01-90	02:42:00	11.700	2309.06	-1.44	287.52		taken from the
26-01-90	02:43:00	11.717	2308.26	-0.80	287.52		gauge by manually
26-01-90	02:44:00	11.733	2307.30	-0.96	287.52		reversing the

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 26-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Extended flow period - on a 32/64ths choke

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
26-01-90	02:45:00	11.750	2306.46	-0.84	287.52		polarity of the
26-01-90	02:46:00	11.767	2305.52	-0.94	287.52		signal processor
26-01-90	02:47:00	11.783	2304.72	-0.79	287.52		and in doing so
26-01-90	02:48:00	11.800	2303.78	-0.94	287.52		switch the gauge.
26-01-90	02:49:00	11.817	2302.93	-0.85	287.52		
26-01-90	02:50:00	11.833	2302.46	-0.47	287.52		
26-01-90	02:51:00	11.850	2301.66	-0.80	287.52		
26-01-90	02:52:00	11.867	2301.34	-0.32	287.52		
26-01-90	02:53:00	11.883	2300.59	-0.75	287.52		
26-01-90	02:54:00	11.900	2300.41	-0.18	287.52		
26-01-90	02:55:00	11.917	2299.44	-0.97	287.52		
26-01-90	02:56:00	11.933	2299.17	-0.27	287.52		
26-01-90	02:57:00	11.950	2298.71	-0.46	287.52		
26-01-90	02:58:00	11.967	2297.81	-0.90	287.52		
26-01-90	02:59:00	11.983	2297.09	-0.72	287.52		
26-01-90	03:00:00	12.000	2296.99	-0.11	287.52	1165	Csg = 98 psig
26-01-90	03:01:00	12.017	2296.48	-0.50	287.52		
26-01-90	03:02:00	12.033	2295.50	-0.98	287.52		
26-01-90	03:03:00	12.050	2295.36	-0.15	287.52		
26-01-90	03:04:00	12.067	2294.82	-0.53	287.52		
26-01-90	03:05:00	12.083	2294.55	-0.27	287.52		
26-01-90	03:06:00	12.100	2294.04	-0.51	287.52		
26-01-90	03:07:00	12.117	2294.02	-0.02	287.52		
26-01-90	03:08:00	12.133	2293.59	-0.43	287.52		
26-01-90	03:09:00	12.150	2293.07	-0.52	287.52		
26-01-90	03:10:00	12.167	2292.69	-0.38	287.52		
26-01-90	03:11:00	12.183	2292.78	0.09	287.52		
26-01-90	03:12:00	12.200	2292.92	0.15	287.52		
26-01-90	03:13:00	12.217	2291.75	-1.17	287.52		
26-01-90	03:14:00	12.233	2291.42	-0.33	287.52		
26-01-90	03:15:00	12.250	2291.35	-0.07	287.52		
26-01-90	03:16:00	12.267	2291.30	-0.06	287.52		
26-01-90	03:17:00	12.283	2290.77	-0.52	287.52		
26-01-90	03:18:00	12.300	2290.38	-0.39	287.52		
26-01-90	03:19:00	12.317	2290.68	0.29	287.52		
26-01-90	03:20:00	12.333	2290.03	-0.65	287.52		5 min sample rate
26-01-90	03:25:00	12.417	2289.21	-0.81	287.52		
26-01-90	03:30:00	12.500	2287.91	-1.30	287.52		
26-01-90	03:35:00	12.583	2286.63	-1.28	287.52		
26-01-90	03:40:00	12.667	2285.75	-0.88	287.52		
26-01-90	03:45:00	12.750	2284.96	-0.79	287.52		
26-01-90	03:50:00	12.833	2284.32	-0.64	287.52		
26-01-90	03:55:00	12.917	2283.77	-0.54	287.52		
26-01-90	04:00:00	13.000	2283.72	-0.06	287.52	1159	Csg = 163 psig
26-01-90	04:05:00	13.083	2282.46	-1.26	287.52		
26-01-90	04:10:00	13.167	2281.73	-0.73	287.52		
26-01-90	04:15:00	13.250	2281.47	-0.26	287.52		
26-01-90	04:20:00	13.333	2280.50	-0.97	287.52		
26-01-90	04:25:00	13.417	2279.62	-0.88	287.52		
26-01-90	04:30:00	13.500	2279.31	-0.31	287.52		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 26-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Extended flow period - on a 32/64ths choke

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
26-01-90	04:35:00	13.583	2278.90	-0.41	287.52		
26-01-90	04:40:00	13.667	2278.80	-0.10	287.52		
26-01-90	04:45:00	13.750	2278.04	-0.77	287.52		
26-01-90	04:50:00	13.833	2277.05	-0.99	287.52		
26-01-90	04:55:00	13.917	2276.84	-0.20	287.52		
26-01-90	05:00:00	14.000	2276.69	-0.16	287.52	1155	Csg = 205 psig
26-01-90	05:05:00	14.083	2276.10	-0.59	287.52		
26-01-90	05:10:00	14.167	2276.03	-0.07	287.52		
26-01-90	05:15:00	14.250	2275.25	-0.78	287.52		
26-01-90	05:20:00	14.333	2274.83	-0.43	287.52		
26-01-90	05:25:00	14.417	2275.10	0.27	287.52		
26-01-90	05:30:00	14.500	2274.25	-0.85	287.52		
26-01-90	05:35:00	14.583	2273.68	-0.56	287.52		
26-01-90	05:40:00	14.667	2272.87	-0.81	287.52		
26-01-90	05:45:00	14.750	2273.15	0.28	287.52		
26-01-90	05:50:00	14.833	2272.27	-0.88	287.52		
26-01-90	05:55:00	14.917	2272.27	0.00	287.52		
26-01-90	06:00:00	15.000	2272.01	-0.26	287.52	1157	Csg = 229 psig
26-01-90	06:05:00	15.083	2271.32	-0.69	287.52		
26-01-90	06:10:00	15.167	2270.62	-0.70	287.52		
26-01-90	06:15:00	15.250	2270.45	-0.17	287.52		
26-01-90	06:20:00	15.333	2270.14	-0.31	287.52		
26-01-90	06:25:00	15.417	2269.94	-0.19	287.52		
26-01-90	06:30:00	15.500	2269.28	-0.66	287.52		
26-01-90	06:35:00	15.583	2269.54	0.25	287.52		
26-01-90	06:40:00	15.667	2268.65	-0.88	287.52		
26-01-90	06:45:00	15.750	2268.28	-0.38	287.52		
26-01-90	06:50:00	15.833	2267.42	-0.85	287.52		
26-01-90	06:55:00	15.917	2267.47	0.05	287.52		
26-01-90	07:00:00	16.000	2268.08	0.61	287.52	1155	Csg = 254 psig
26-01-90	07:05:00	16.083	2266.98	-1.10	287.52		
26-01-90	07:10:00	16.167	2266.66	-0.32	287.52		
26-01-90	07:15:00	16.250	2266.34	-0.32	287.52		
26-01-90	07:20:00	16.333	2266.00	-0.34	287.52		
26-01-90	07:25:00	16.417	2265.86	-0.14	281.51		Man temp = 281.51 F
26-01-90	07:30:00	16.500	2265.58	-0.28	281.51		
26-01-90	07:35:00	16.583	2265.97	0.40	281.51		
26-01-90	07:40:00	16.667	2265.85	-0.13	281.51		
26-01-90	07:45:00	16.750	2264.95	-0.90	281.51		
26-01-90	07:50:00	16.833	2265.29	0.35	281.51		
26-01-90	07:55:00	16.917	2264.53	-0.77	281.51		
26-01-90	08:00:00	17.000	2264.21	-0.32	281.51	1155	Csg = 265 psig
26-01-90	08:05:00	17.083	2264.02	-0.19	281.51		
26-01-90	08:10:00	17.167	2262.77	-1.25	281.51		
26-01-90	08:15:00	17.250	2262.39	-0.38	281.51		
26-01-90	08:20:00	17.333	2261.58	-0.81	281.51		
26-01-90	08:25:00	17.417	2262.30	0.73	281.51		
26-01-90	08:30:00	17.500	2262.45	0.15	281.51		
26-01-90	08:35:00	17.583	2260.90	-1.55	281.51		
26-01-90	08:40:00	17.667	2261.13	0.23	281.51		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 26-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Extended flow period - on a 32/64ths choke

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
26-01-90	08:45:00	17.750	2260.68	-0.45	281.51		
26-01-90	08:50:00	17.833	2260.38	-0.30	281.51		
26-01-90	08:55:00	17.917	2259.73	-0.66	281.51		
26-01-90	09:00:00	18.000	2260.43	0.71	281.51	1153	Csg = 280 psig
26-01-90	09:05:00	18.083	2259.13	-1.31	281.51		
26-01-90	09:10:00	18.167	2259.00	-0.13	281.51		
26-01-90	09:15:00	18.250	2258.16	-0.84	281.51		
26-01-90	09:20:00	18.333	2258.47	0.31	281.51		
26-01-90	09:25:00	18.417	2258.36	-0.11	281.51		
26-01-90	09:30:00	18.500	2258.58	0.22	281.51		
26-01-90	09:35:00	18.583	2257.92	-0.66	281.51		
26-01-90	09:40:00	18.667	2257.07	-0.85	281.51		
26-01-90	09:45:00	18.750	2257.78	0.71	281.51		
26-01-90	09:50:00	18.833	2258.13	0.35	281.51		
26-01-90	09:55:00	18.917	2257.53	-0.60	281.51		
26-01-90	10:00:00	19.000	2256.98	-0.54	281.51	1156	Csg = 295 psig
26-01-90	10:05:00	19.083	2256.15	-0.83	281.51		
26-01-90	10:10:00	19.167	2256.55	0.40	281.51		
26-01-90	10:15:00	19.250	2255.95	-0.60	281.51		
26-01-90	10:20:00	19.333	2255.47	-0.47	281.51		
26-01-90	10:25:00	19.417	2255.51	0.04	281.51		
26-01-90	10:30:00	19.500	2255.52	0.01	281.51		
26-01-90	10:35:00	19.583	2254.88	-0.64	281.51		
26-01-90	10:40:00	19.667	2254.99	0.11	281.51		
26-01-90	10:45:00	19.750	2254.45	-0.54	281.51		
26-01-90	10:50:00	19.833	2254.38	-0.07	283.06		Man temp = 283.06 F
26-01-90	10:55:00	19.917	2254.51	0.14	283.06		
26-01-90	11:00:00	20.000	2254.01	-0.50	283.06	1154	Csg = 305 psig
26-01-90	11:05:00	20.083	2254.07	0.06	283.06		
26-01-90	11:10:00	20.167	2253.31	-0.76	283.06		
26-01-90	11:15:00	20.250	2253.52	0.20	283.06		
26-01-90	11:20:00	20.333	2253.31	-0.20	283.06		
26-01-90	11:25:00	20.417	2252.81	-0.50	283.06		
26-01-90	11:30:00	20.500	2252.35	-0.46	283.06		
26-01-90	11:35:00	20.583	2252.86	0.50	283.06		
26-01-90	11:40:00	20.667	2252.25	-0.61	283.06		
26-01-90	11:45:00	20.750	2251.98	-0.27	283.06		
26-01-90	11:50:00	20.833	2251.78	-0.19	283.06		
26-01-90	11:55:00	20.917	2252.51	0.73	283.06		
26-01-90	12:00:00	21.000	2251.69	-0.81	283.06	1156	Csg = 319 psig
26-01-90	12:05:00	21.083	2251.33	-0.37	283.06		
26-01-90	12:10:00	21.167	2250.92	-0.41	283.06		
26-01-90	12:15:00	21.250	2250.40	-0.52	283.06		
26-01-90	12:20:00	21.333	2250.65	0.25	283.06		
26-01-90	12:25:00	21.417	2250.49	-0.15	283.06		
26-01-90	12:30:00	21.500	2250.38	-0.12	283.06		
26-01-90	12:35:00	21.583	2249.79	-0.59	283.06		
26-01-90	12:40:00	21.667	2249.65	-0.14	283.06		
26-01-90	12:45:00	21.750	2249.51	-0.14	283.06		
26-01-90	12:50:00	21.833	2248.89	-0.62	283.06		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 26-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Extended flow period - on a 32/64ths choke

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
26-01-90	12:55:00	21.917	2248.62	-0.27	283.06		
26-01-90	13:00:00	22.000	2248.41	-0.21	283.06	1153	Csg = 329 psig
26-01-90	13:05:00	22.083	2248.17	-0.24	283.06		
26-01-90	13:10:00	22.167	2248.43	0.26	283.06		
26-01-90	13:15:00	22.250	2247.50	-0.93	283.06		
26-01-90	13:20:00	22.333	2247.35	-0.15	283.06		
26-01-90	13:25:00	22.417	2246.83	-0.52	283.06		
26-01-90	13:30:00	22.500	2246.62	-0.21	283.06		
26-01-90	13:35:00	22.583	2246.36	-0.26	283.06		
26-01-90	13:40:00	22.667	2247.01	0.65	283.06		
26-01-90	13:45:00	22.750	2246.13	-0.87	283.06		
26-01-90	13:50:00	22.833	2245.97	-0.16	283.06		
26-01-90	13:55:00	22.917	2245.53	-0.44	283.06		
26-01-90	14:00:00	23.000	2245.50	-0.03	283.06	1159	Csg = 342 psig
26-01-90	14:05:00	23.083	2245.00	-0.50	283.06		
26-01-90	14:10:00	23.167	2244.86	-0.15	283.06		
26-01-90	14:15:00	23.250	2244.72	-0.14	283.06		
26-01-90	14:20:00	23.333	2244.93	0.21	283.06		
26-01-90	14:25:00	23.417	2244.58	-0.35	283.06		
26-01-90	14:30:00	23.500	2243.53	-1.06	283.06		
26-01-90	14:35:00	23.583	2244.08	0.55	283.06		
26-01-90	14:40:00	23.667	2243.67	-0.41	283.06		
26-01-90	14:45:00	23.750	2243.22	-0.46	283.06		
26-01-90	14:50:00	23.833	2243.40	0.18	283.06		
26-01-90	14:55:00	23.917	2242.74	-0.66	283.06		
26-01-90	15:00:00	24.000	2243.64	0.90	283.06	1159	Csg = 350 psig
26-01-90	15:10:00	24.167	2242.24	-1.40	283.06		
26-01-90	15:20:00	24.333	2241.41	-0.83	283.06		10 min sample rate
26-01-90	15:30:00	24.500	2240.72	-0.69	283.06		
26-01-90	15:40:00	24.667	2240.20	-0.52	283.06		
26-01-90	15:50:00	24.833	2239.89	-0.31	283.06		
26-01-90	16:00:00	25.000	2240.43	0.54	283.06	1155	Csg = 359 psig
26-01-90	16:10:00	25.167	2239.28	-1.15	283.06		
26-01-90	16:20:00	25.333	2238.88	-0.40	283.06		
26-01-90	16:30:00	25.500	2238.48	-0.40	283.06		
26-01-90	16:40:00	25.667	2237.72	-0.77	283.06		
26-01-90	16:50:00	25.833	2238.41	0.70	283.06		
26-01-90	17:00:00	26.000	2237.11	-1.31	283.06	1154	Csg = 366 psig
26-01-90	17:10:00	26.167	2237.69	0.58	283.06		
26-01-90	17:20:00	26.333	2236.28	-1.40	283.06		
26-01-90	17:30:00	26.500	2235.56	-0.73	283.06		
26-01-90	17:40:00	26.667	2235.20	-0.36	283.06		
26-01-90	17:50:00	26.833	2235.12	-0.08	283.06		
26-01-90	18:00:00	27.000	2235.65	0.53	283.06		
26-01-90	18:10:00	27.167	2233.55	-2.10	283.06		
26-01-90	18:20:00	27.333	2234.35	0.79	283.06		
26-01-90	18:30:00	27.500	2232.41	-1.94	283.06		
26-01-90	18:40:00	27.667	2232.49	0.08	283.06		
26-01-90	18:50:00	27.833	2232.04	-0.45	283.06		
26-01-90	19:00:00	28.000	2231.84	-0.20	286.01	1150	Csg = 379 psig

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 26-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Extended flow period - on a 32/64ths choke

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
26-01-90	19:10:00	28.167	2231.28	-0.56	286.01		
26-01-90	19:20:00	28.333	2230.66	-0.62	286.01		Man temp = 286.01 F
26-01-90	19:30:00	28.500	2230.22	-0.44	286.01		
26-01-90	19:40:00	28.667	2229.23	-0.99	286.01		
26-01-90	19:50:00	28.833	2229.54	0.31	286.01		
26-01-90	20:00:00	29.000	2229.53	-0.01	286.01	1154	Csg = 384 psig
26-01-90	20:10:00	29.167	2228.54	-.00	286.01		
26-01-90	20:20:00	29.333	2227.39	-1.14	286.01		
26-01-90	20:30:00	29.500	2227.66	0.27	286.01		
26-01-90	20:40:00	29.667	2226.76	-0.90	286.01		
26-01-90	20:50:00	29.833	2226.63	-0.14	286.01		
26-01-90	21:00:00	30.000	2226.19	-0.44	286.01	1147	Csg = 390 psig
26-01-90	21:10:00	30.167	2224.59	-1.60	286.01		
26-01-90	21:20:00	30.333	2225.05	0.46	286.01		
26-01-90	21:30:00	30.500	2225.16	0.12	286.01		
26-01-90	21:40:00	30.667	2224.20	-0.97	286.01		
26-01-90	21:50:00	30.833	2223.16	-1.04	286.01		
26-01-90	22:00:00	31.000	2223.66	0.50	286.01	1150	Csg = 399 psig
26-01-90	22:10:00	31.167	2222.89	-0.78	286.01		
26-01-90	22:20:00	31.333	2222.58	-0.31	286.01		
26-01-90	22:30:00	31.500	2222.12	-0.46	286.01		
26-01-90	22:40:00	31.667	2221.12	-.00	286.01		
26-01-90	22:50:00	31.833	2221.73	0.61	286.01		
26-01-90	23:00:00	32.000	2220.74	-.00	286.01	1150	Csg = 405 psig
26-01-90	23:10:00	32.167	2220.24	-0.49	286.01		
26-01-90	23:20:00	32.333	2220.13	-0.12	286.01		
26-01-90	23:30:00	32.500	2219.13	-.00	286.01		
26-01-90	23:40:00	32.667	2219.89	0.77	286.01		
26-01-90	23:50:00	32.833	2218.67	-1.22	286.01		
27-01-90	00:00:00	33.000	2218.28	-0.39	286.01	1152	Csg = 415 psig
27-01-90	00:10:00	33.167	2217.94	-0.35	286.01		
27-01-90	00:20:00	33.333	2217.44	-0.49	286.01		
27-01-90	00:30:00	33.500	2217.14	-0.30	286.01		
27-01-90	00:40:00	33.667	2217.27	0.13	286.01		
27-01-90	00:50:00	33.833	2216.02	-1.25	286.01		
27-01-90	01:00:00	34.000	2216.59	0.57	286.01	1150	Csg = 413 psig
27-01-90	01:10:00	34.167	2215.65	-0.94	286.01		
27-01-90	01:20:00	34.333	2215.19	-0.46	286.01		
27-01-90	01:30:00	34.500	2215.20	0.01	286.01		
27-01-90	01:40:00	34.667	2215.54	0.34	286.01		
27-01-90	01:50:00	34.833	2214.84	-0.71	286.01		
27-01-90	02:00:00	35.000	2213.11	-1.72	286.01	1149	Csg = 419 psig
27-01-90	02:10:00	35.167	2213.93	0.81	286.01		
27-01-90	02:20:00	35.333	2212.98	-0.95	286.01		
27-01-90	02:30:00	35.500	2212.89	-0.09	286.01		
27-01-90	02:40:00	35.667	2212.49	-0.40	286.01		
27-01-90	02:50:00	35.833	2212.42	-0.07	286.01		
27-01-90	03:00:00	36.000	2212.79	0.37	286.01	1150	Csg = 423 psig
27-01-90	03:10:00	36.167	2211.89	-0.90	286.01		
27-01-90	03:20:00	36.333	2211.35	-0.54	286.01		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 27-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Extended flow period - on a 32/64ths choke

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
27-01-90	03:30:00	36.500	2210.66	-0.69	286.01		
27-01-90	03:40:00	36.667	2211.23	0.57	286.01		
27-01-90	03:50:00	36.833	2209.31	-1.92	286.01		
27-01-90	04:00:00	37.000	2210.13	0.81	286.01	1148	Csg = 430 psig
27-01-90	04:10:00	37.167	2209.77	-0.36	286.01		
27-01-90	04:20:00	37.333	2208.28	-1.49	286.01		
27-01-90	04:30:00	37.500	2208.03	-0.24	286.01		
27-01-90	04:40:00	37.667	2207.52	-0.51	286.01		
27-01-90	04:50:00	37.833	2208.01	0.48	286.01		
27-01-90	05:00:00	38.000	2207.40	-0.60	286.01	1149	Csg = 433 psig
27-01-90	05:10:00	38.167	2207.01	-0.40	286.01		
27-01-90	05:20:00	38.333	2206.79	-0.21	286.01		
27-01-90	05:30:00	38.500	2206.25	-0.54	286.01		
27-01-90	05:40:00	38.667	2205.94	-0.31	286.01		
27-01-90	05:50:00	38.833	2205.48	-0.47	286.01		
27-01-90	06:00:00	39.000	2204.84	-0.64	286.01	1145	Csg = 439 psig
27-01-90	06:10:00	39.167	2205.20	0.36	286.01		
27-01-90	06:20:00	39.333	2203.97	-1.23	286.01		
27-01-90	06:30:00	39.500	2204.63	0.67	286.01		
27-01-90	06:40:00	39.667	2203.48	-1.15	286.01		
27-01-90	06:50:00	39.833	2203.39	-0.09	286.01		
27-01-90	07:00:00	40.000	2203.51	0.12	286.01	1144	Csg = 443 psig
27-01-90	07:10:00	40.167	2202.95	-0.56	286.01		
27-01-90	07:20:00	40.333	2202.54	-0.41	286.01		
27-01-90	07:30:00	40.500	2201.92	-0.62	286.01		
27-01-90	07:40:00	40.667	2202.59	0.67	286.01		
27-01-90	07:50:00	40.833	2202.50	-0.09	286.01		END OF EXT. FLOW

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 27-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Final build up Shut in at 08:00 hrs 27/01/90

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
27-01-90	08:00:00	0.000	2202.33	-0.00	286.01		SHUT IN THE WELL
27-01-90	08:00:10	0.003	2202.33	-0.00	286.01		AND MONITOR THE
27-01-90	08:00:20	0.006	2219.62	17.29	286.01		
27-01-90	08:00:30	0.008	2241.80	39.47	286.01		BUILD UP
27-01-90	08:00:40	0.011	2265.58	63.25	286.01		
27-01-90	08:00:50	0.014	2289.42	87.09	286.01		
27-01-90	08:01:00	0.017	2312.89	110.56	286.01		10 sec sample rate
27-01-90	08:01:10	0.019	2336.29	133.96	286.01		
27-01-90	08:01:20	0.022	2359.54	157.21	286.01		
27-01-90	08:01:30	0.025	2381.80	179.47	286.01		
27-01-90	08:01:40	0.028	2403.90	201.57	286.01		Delta T from
27-01-90	08:01:50	0.031	2425.51	223.18	286.01		shut in
27-01-90	08:02:00	0.033	2446.96	244.63	286.01		
27-01-90	08:02:10	0.036	2467.70	265.37	286.01		
27-01-90	08:02:20	0.039	2488.19	285.86	286.01		Delta P from
27-01-90	08:02:30	0.042	2508.70	306.37	286.01		shut in
27-01-90	08:02:40	0.044	2530.56	328.23	286.01		
27-01-90	08:02:50	0.047	2547.92	345.59	286.01		
27-01-90	08:03:00	0.050	2567.16	364.83	286.01		
27-01-90	08:03:10	0.053	2587.91	385.58	286.01		
27-01-90	08:03:20	0.056	2604.45	402.12	286.01		
27-01-90	08:03:30	0.058	2622.22	419.89	286.01		
27-01-90	08:03:40	0.061	2639.80	437.47	286.01		
27-01-90	08:03:50	0.064	2658.73	456.40	286.01		
27-01-90	08:04:00	0.067	2673.92	471.59	286.01		
27-01-90	08:04:10	0.069	2690.80	488.47	286.01		
27-01-90	08:04:20	0.072	2706.96	504.63	286.01		
27-01-90	08:04:30	0.075	2722.72	520.39	286.01		
27-01-90	08:04:40	0.078	2738.17	535.84	286.01		
27-01-90	08:04:50	0.081	2753.64	551.31	286.01		
27-01-90	08:05:00	0.083	2768.59	566.26	286.01	1589	Csg = 444 psig
27-01-90	08:05:10	0.086	2768.59	566.26	286.01		
27-01-90	08:05:20	0.089	2797.41	595.08	286.01		
27-01-90	08:05:30	0.092	2811.25	608.92	286.01		
27-01-90	08:05:40	0.094	2824.92	622.59	286.01		
27-01-90	08:05:50	0.097	2838.32	635.99	286.01		
27-01-90	08:06:00	0.100	2851.46	649.13	286.01		
27-01-90	08:06:10	0.103	2864.19	661.86	286.01		
27-01-90	08:06:20	0.106	2876.51	674.18	286.01		
27-01-90	08:06:30	0.108	2888.48	686.15	286.01		
27-01-90	08:06:40	0.111	2900.27	697.94	286.01		
27-01-90	08:06:50	0.114	2911.87	709.54	286.01		
27-01-90	08:07:00	0.117	2923.10	720.77	286.01		
27-01-90	08:07:10	0.119	2934.05	731.72	286.01		
27-01-90	08:07:20	0.122	2944.62	742.29	286.01		
27-01-90	08:07:30	0.125	2955.16	752.83	286.01		
27-01-90	08:07:40	0.128	2965.37	763.04	286.01		
27-01-90	08:07:50	0.131	2975.34	773.01	286.01		
27-01-90	08:08:00	0.133	2984.96	782.63	286.01		
27-01-90	08:08:10	0.136	2994.37	792.04	286.01		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 27-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Final build up Shut in at 08:00 hrs 27/01/90

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
27-01-90	08:08:20	0.139	3003.68	801.35	286.01		
27-01-90	08:08:30	0.142	3012.79	810.46	286.01		
27-01-90	08:08:40	0.144	3021.64	819.31	286.01		
27-01-90	08:08:50	0.147	3030.21	827.88	286.01		
27-01-90	08:09:00	0.150	3038.39	836.06	286.01		
27-01-90	08:09:10	0.153	3046.47	844.14	286.01		
27-01-90	08:09:20	0.156	3054.33	852.00	286.01		
27-01-90	08:09:30	0.158	3061.91	859.58	286.01		
27-01-90	08:09:40	0.161	3069.40	867.07	286.01		
27-01-90	08:09:50	0.164	3076.63	874.30	286.01		
27-01-90	08:10:00	0.167	3083.60	881.27	286.01	1763	Csg = 414 psig
27-01-90	08:10:10	0.169	3083.60	881.27	286.01		
27-01-90	08:10:20	0.172	3097.08	894.75	286.01		
27-01-90	08:10:30	0.175	3103.49	901.16	286.01		
27-01-90	08:10:40	0.178	3109.61	907.28	286.01		
27-01-90	08:10:50	0.181	3115.05	912.72	286.01		
27-01-90	08:11:00	0.183	3120.98	918.65	286.01		
27-01-90	08:11:10	0.186	3126.65	924.32	286.01		
27-01-90	08:11:20	0.189	3132.87	930.54	286.01		
27-01-90	08:11:30	0.192	3138.26	935.93	286.01		
27-01-90	08:11:40	0.194	3143.61	941.28	286.01		
27-01-90	08:11:50	0.197	3148.82	946.49	286.01		
27-01-90	08:12:00	0.200	3153.74	951.41	286.01		
27-01-90	08:12:10	0.203	3158.62	956.29	286.01		
27-01-90	08:12:20	0.206	3163.35	961.02	286.01		
27-01-90	08:12:30	0.208	3168.04	965.71	286.01		
27-01-90	08:12:40	0.211	3172.65	970.32	286.01		
27-01-90	08:12:50	0.214	3177.21	974.88	286.01		
27-01-90	08:13:00	0.217	3181.56	979.23	286.01		
27-01-90	08:13:10	0.219	3185.37	983.04	286.01		
27-01-90	08:13:20	0.222	3189.93	987.60	286.01		
27-01-90	08:13:30	0.225	3194.15	991.82	286.01		
27-01-90	08:13:40	0.228	3197.88	995.55	286.01		
27-01-90	08:13:50	0.231	3202.10	999.77	286.01		
27-01-90	08:14:00	0.233	3206.01	1003.68	286.01		
27-01-90	08:14:10	0.236	3209.39	1007.06	286.01		
27-01-90	08:14:20	0.239	3213.56	1011.23	286.01		
27-01-90	08:14:30	0.242	3217.27	1014.94	286.01		
27-01-90	08:14:40	0.244	3220.79	1018.46	286.01		
27-01-90	08:14:50	0.247	3224.36	1022.03	286.01		
27-01-90	08:15:00	0.250	3227.83	1025.50	286.01	1852	Csg = 360 psig
27-01-90	08:15:30	0.258	2237.23	34.90	286.01		
27-01-90	08:16:00	0.267	3249.21	1046.88	286.01		30 sec sample rate
27-01-90	08:16:30	0.275	3257.81	1055.48	286.01		
27-01-90	08:17:00	0.283	3266.02	1063.69	286.01		
27-01-90	08:17:30	0.292	3273.38	1071.05	286.01		
27-01-90	08:18:00	0.300	3280.49	1078.16	286.01		
27-01-90	08:18:30	0.308	3287.53	1085.20	286.01		
27-01-90	08:19:00	0.317	3293.65	1091.32	286.01		
27-01-90	08:19:30	0.325	3299.63	1097.30	286.01		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 27-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Final build up Shut in at 08:00 hrs 27/01/90

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
27-01-90	08:20:00	0.333	3305.23	1102.90	286.01	1895	Csg = 305 psig
27-01-90	08:20:30	0.342	3310.40	1108.07	286.01		
27-01-90	08:21:00	0.350	3315.57	1113.24	286.01		
27-01-90	08:21:30	0.358	3320.44	1118.11	286.01		
27-01-90	08:22:00	0.367	3325.21	1122.88	286.01		
27-01-90	08:22:30	0.375	3329.68	1127.35	286.01		
27-01-90	08:23:00	0.383	3333.83	1131.50	286.01		
27-01-90	08:23:30	0.392	3337.82	1135.49	286.01		
27-01-90	08:24:00	0.400	3341.30	1138.97	286.01		
27-01-90	08:24:30	0.408	3344.57	1142.24	286.01		
27-01-90	08:25:00	0.417	3347.71	1145.38	286.01		
27-01-90	08:25:30	0.425	3350.61	1148.28	286.01	1919	Csg = 245 psig
27-01-90	08:26:00	0.433	3353.37	1151.04	286.01		
27-01-90	08:26:30	0.442	3355.91	1153.58	286.01		
27-01-90	08:27:00	0.450	3358.74	1156.41	286.01		
27-01-90	08:27:30	0.458	3361.09	1158.76	286.01		
27-01-90	08:28:00	0.467	3363.43	1161.10	286.01		
27-01-90	08:28:30	0.475	3366.30	1163.97	286.01		
27-01-90	08:29:00	0.483	3368.41	1166.08	286.01		
27-01-90	08:29:30	0.492	3370.53	1168.20	286.01		
27-01-90	08:30:00	0.500	3372.18	1169.85	286.01	1931	Csg = 195 psig
27-01-90	08:31:00	0.517	3376.22	1173.89	286.01		
27-01-90	08:32:00	0.533	3380.12	1177.79	286.01		1 min sample rate
27-01-90	08:33:00	0.550	3383.18	1180.85	286.01		
27-01-90	08:34:00	0.567	3385.91	1183.58	286.01		
27-01-90	08:35:00	0.583	3388.64	1186.31	286.01	1940	Csg = 140 psig
27-01-90	08:36:00	0.600	3391.23	1188.90	286.01		
27-01-90	08:37:00	0.617	3393.91	1191.58	286.01		
27-01-90	08:38:00	0.633	3396.29	1193.96	286.01		
27-01-90	08:39:00	0.650	3398.64	1196.31	286.01		
27-01-90	08:40:00	0.667	3400.84	1198.51	286.01	1945	Csg = 97 psig
27-01-90	08:41:00	0.683	3403.44	1201.11	286.01		
27-01-90	08:42:00	0.700	3405.36	1203.03	286.01		
27-01-90	08:43:00	0.717	3407.48	1205.15	286.01		
27-01-90	08:44:00	0.733	3409.11	1206.78	286.01		
27-01-90	08:45:00	0.750	3410.98	1208.65	286.01	1950	Csg = 53 psig
27-01-90	08:46:00	0.767	3412.88	1210.55	286.01		
27-01-90	08:47:00	0.783	3414.97	1212.64	286.01		
27-01-90	08:48:00	0.800	3416.74	1214.41	286.01		
27-01-90	08:49:00	0.817	3418.17	1215.84	286.01		
27-01-90	08:50:00	0.833	3419.63	1217.30	286.01	1954	Csg = 19 psig
27-01-90	08:51:00	0.850	3421.51	1219.18	286.01		
27-01-90	08:52:00	0.867	3423.85	1221.52	286.01		
27-01-90	08:53:00	0.883	3425.24	1222.91	286.01		
27-01-90	08:54:00	0.900	3426.95	1224.62	286.01		
27-01-90	08:55:00	0.917	3428.26	1225.93	286.01	1957	Csg = 2 psig
27-01-90	08:56:00	0.933	3429.59	1227.26	286.01		
27-01-90	08:57:00	0.950	3430.34	1228.01	286.01		
27-01-90	08:58:00	0.967	3431.59	1229.26	286.01		
27-01-90	08:59:00	0.983	3432.53	1230.20	286.01		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 27-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Final build up Shut in at 08:00 hrs 27/01/90

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
27-01-90	09:00:00	1.000	3433.60	1231.27	286.01	1960	Csg = 0 psig
27-01-90	09:01:00	1.017	3435.30	1232.97	286.01		
27-01-90	09:02:00	1.033	3436.99	1234.66	286.01		casing remains
27-01-90	09:03:00	1.050	3438.47	1236.14	286.01		at zero for the
27-01-90	09:04:00	1.067	3439.05	1236.72	286.01		duration of
27-01-90	09:05:00	1.083	3439.89	1237.56	286.01		build up
27-01-90	09:06:00	1.100	3440.76	1238.43	286.01		
27-01-90	09:07:00	1.117	3441.85	1239.52	286.01		
27-01-90	09:08:00	1.133	3443.64	1241.31	286.01		
27-01-90	09:09:00	1.150	3444.54	1242.21	286.01		
27-01-90	09:10:00	1.167	3445.84	1243.52	286.01		
27-01-90	09:11:00	1.183	3447.12	1244.79	286.01		
27-01-90	09:12:00	1.200	3448.75	1246.42	286.01		
27-01-90	09:13:00	1.217	3449.79	1247.46	286.01		
27-01-90	09:14:00	1.233	3450.22	1247.89	286.01		
27-01-90	09:15:00	1.250	3450.27	1247.94	286.01	1967	
27-01-90	09:16:00	1.267	3450.95	1248.62	286.01		
27-01-90	09:17:00	1.283	3452.21	1249.88	286.01		
27-01-90	09:18:00	1.300	3453.46	1251.13	286.01		
27-01-90	09:19:00	1.317	3454.82	1252.49	286.01		
27-01-90	09:20:00	1.333	3455.36	1253.03	286.01		
27-01-90	09:21:00	1.350	3456.35	1254.02	286.01		
27-01-90	09:22:00	1.367	3457.31	1254.98	286.01		
27-01-90	09:23:00	1.383	3456.42	1254.09	286.01		
27-01-90	09:24:00	1.400	3457.54	1255.21	286.01		
27-01-90	09:25:00	1.417	3451.95	1249.62	286.01		
27-01-90	09:26:00	1.433	3461.21	1258.88	286.01		
27-01-90	09:27:00	1.450	3462.17	1259.84	286.01		
27-01-90	09:28:00	1.467	3454.77	1252.44	286.01		
27-01-90	09:29:00	1.483	3452.65	1250.32	286.01		
27-01-90	09:30:00	1.500	3453.31	1250.98	286.01	1972	
27-01-90	09:35:00	1.583	3449.67	1247.34	286.01		
27-01-90	09:40:00	1.667	3455.05	1252.72	286.01		
27-01-90	09:45:00	1.750	3459.51	1257.18	286.01	1975	
27-01-90	09:50:00	1.833	3454.80	1252.47	286.01		
27-01-90	09:55:00	1.917	3469.52	1267.19	286.01		
27-01-90	10:00:00	2.000	3432.76	1230.43	286.01	1975	
27-01-90	10:05:00	2.083	3438.80	1236.47	286.01		
27-01-90	10:10:00	2.167	3310.67	1108.34	286.01		
27-01-90	10:15:00	2.250	3317.68	1115.35	286.01	1970	
27-01-90	10:20:00	2.333	3334.03	1131.70	286.01		
27-01-90	10:25:00	2.417	3315.18	1112.85	286.01		
27-01-90	10:30:00	2.500	3242.41	1040.08	286.01	1975	GAUGE FAILS IN
27-01-90	10:35:00	2.583	3295.84	1093.51	286.01		THE HOLE
27-01-90	10:40:00	2.667	3294.90	1092.57	286.01		
27-01-90	10:45:00	2.750	3329.11	1126.78	286.01		CONTINUE SURVEY
27-01-90	10:50:00	2.833	3346.58	1144.25	286.01		WITH BACK UP
27-01-90	10:55:00	2.917	3333.56	1131.23	286.01		AMERADA GAUGE
27-01-90	11:00:00	3.000	3298.48	1096.15	286.01	1980	SUSPEND E-LINE

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 27-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Final build up Shut in at 08:00 hrs 27/01/90

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
27-01-90	14:00:00	6.000	3549.65	1347.32	286.01	1979	Resume build up
27-01-90	14:05:00	6.083	3548.83	1346.50	286.01		after technitian
27-01-90	14:10:00	6.167	3555.15	1352.82	286.01		repairs signal
27-01-90	14:15:00	6.250	3556.07	1353.74	286.01		processor.
27-01-90	14:20:00	6.333	3557.29	1354.96	286.01		
27-01-90	14:25:00	6.417	3562.92	1360.59	286.01		
27-01-90	14:30:00	6.500	3555.40	1353.07	286.01		
27-01-90	14:35:00	6.583	3564.47	1362.14	286.01		
27-01-90	14:40:00	6.667	3563.64	1361.31	286.01		Delta T from
27-01-90	14:45:00	6.750	3563.07	1360.74	286.01		Shut in
27-01-90	14:50:00	6.833	3570.64	1368.31	286.01		
27-01-90	15:00:00	7.000	3573.68	1371.35	286.01		
27-01-90	15:30:00	7.500	3383.29	1180.96	286.01		
27-01-90	15:40:00	7.667	3519.90	1317.57	286.01		
27-01-90	16:00:00	8.000	3490.09	1287.76	286.01		
27-01-90	16:10:00	8.167	3577.64	1375.31	286.01		
27-01-90	16:20:00	8.333	3587.08	1384.75	286.01		
27-01-90	16:30:00	8.500	3585.78	1383.45	286.01		
27-01-90	16:40:00	8.667	3592.20	1389.87	286.01		Delta P from
27-01-90	16:50:00	8.833	3596.68	1394.35	286.01		previous value
27-01-90	17:00:00	9.000	3599.24	1396.91	286.01		
27-01-90	17:10:00	9.167	3601.78	1399.45	286.01		10 min sample rate
27-01-90	17:20:00	9.333	3603.22	1400.89	286.01		
27-01-90	17:30:00	9.500	3606.00	1403.67	286.01		
27-01-90	17:40:00	9.667	3599.41	1397.08	286.01		
27-01-90	17:50:00	9.833	3607.65	1405.32	286.01		
27-01-90	18:00:00	10.000	3609.25	1406.92	286.01	1992	
27-01-90	18:10:00	10.167	3612.24	1409.91	286.01		
27-01-90	18:20:00	10.333	3614.05	1411.72	286.01		
27-01-90	18:30:00	10.500	3615.71	1413.38	286.01		
27-01-90	18:40:00	10.667	3615.66	1413.33	286.01		
27-01-90	18:50:00	10.833	3618.74	1416.41	286.01		
27-01-90	19:00:00	11.000	3620.40	1418.07	286.01		
27-01-90	19:10:00	11.167	3623.39	1421.06	286.01		
27-01-90	19:20:00	11.333	3623.25	1420.92	286.01		
27-01-90	19:30:00	11.500	3625.35	1423.02	286.01		
27-01-90	19:40:00	11.667	3626.81	1424.48	286.01		
27-01-90	19:50:00	11.833	3628.76	1426.43	286.01		
27-01-90	20:00:00	12.000	3629.70	1427.37	286.01		
27-01-90	20:10:00	12.167	3631.77	1429.44	286.01		
27-01-90	20:20:00	12.333	3632.07	1429.74	286.01		
27-01-90	20:30:00	12.500	3633.84	1431.52	286.01		
27-01-90	20:40:00	12.667	3635.20	1432.87	286.01		
27-01-90	20:50:00	12.833	3636.34	1434.01	286.01		
27-01-90	21:00:00	13.000	3638.11	1435.78	286.01		
27-01-90	21:30:00	13.500	3638.03	1435.70	286.01		
27-01-90	21:40:00	13.667	3643.01	1440.68	286.01		
27-01-90	21:50:00	13.833	3643.30	1440.97	286.01		
27-01-90	22:00:00	14.000	3646.12	1443.79	286.01	1986	
27-01-90	22:10:00	14.167	3647.19	1444.86	286.01		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 27-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Final build up Shut in at 08:00 hrs 27/01/90

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
27-01-90	22:20:00	14.333	3645.23	1442.90	286.01		
27-01-90	22:30:00	14.500	3647.38	1445.05	286.01		
27-01-90	22:40:00	14.667	3648.17	1445.84	286.01		
27-01-90	22:50:00	14.833	3648.19	1445.86	286.01		
27-01-90	23:00:00	15.000	3651.01	1448.68	286.01		
27-01-90	23:10:00	15.167	3652.68	1450.35	286.01		
27-01-90	23:20:00	15.333	3655.37	1453.04	286.01		
27-01-90	23:30:00	15.500	3656.09	1453.76	286.01		
27-01-90	23:40:00	15.667	3657.12	1454.79	286.01		
27-01-90	23:50:00	15.833	3653.60	1451.27	286.01		
28-01-90	00:00:00	16.000	3660.43	1458.10	286.01		
28-01-90	00:10:00	16.167	3659.51	1457.18	286.01		
28-01-90	00:20:00	16.333	3661.11	1458.78	286.01		
28-01-90	00:30:00	16.500	3662.50	1460.17	286.01		
28-01-90	00:40:00	16.667	3660.15	1457.82	286.01		
28-01-90	00:50:00	16.833	3666.76	1464.43	286.01		
28-01-90	01:00:00	17.000	3667.26	1464.93	286.01		
28-01-90	01:10:00	17.167	3668.88	1466.55	286.01		
28-01-90	01:20:00	17.333	3669.63	1467.30	286.01		
28-01-90	01:30:00	17.500	3670.69	1468.36	286.01		
28-01-90	01:40:00	17.667	3671.78	1469.45	286.01		
28-01-90	01:50:00	17.833	3672.85	1470.52	286.01		
28-01-90	02:00:00	18.000	3673.76	1471.43	286.01	1972	
28-01-90	02:10:00	18.167	3674.88	1472.55	286.01		
28-01-90	02:20:00	18.333	3675.94	1473.61	286.01		
28-01-90	02:30:00	18.500	3677.10	1474.77	286.01		
28-01-90	02:40:00	18.667	3678.14	1475.81	286.01		
28-01-90	02:50:00	18.833	3679.30	1476.97	286.01		
28-01-90	03:00:00	19.000	3679.95	1477.62	286.01		
28-01-90	03:10:00	19.167	3680.79	1478.46	286.01		
28-01-90	03:20:00	19.333	3682.05	1479.72	286.01		
28-01-90	03:30:00	19.500	3683.08	1480.75	286.01		
28-01-90	03:40:00	19.667	3683.89	1481.56	286.01		
28-01-90	03:50:00	19.833	3684.98	1482.65	286.01		
28-01-90	04:00:00	20.000	3685.84	1483.51	286.01		
28-01-90	04:10:00	20.167	3687.09	1484.76	286.01		
28-01-90	04:20:00	20.333	3687.63	1485.30	286.01		
28-01-90	04:30:00	20.500	3688.92	1486.59	286.01		
28-01-90	04:40:00	20.667	3689.79	1487.46	286.01		
28-01-90	04:50:00	20.833	3691.11	1488.78	286.01		
28-01-90	05:00:00	21.000	3691.62	1489.29	286.01		
28-01-90	05:10:00	21.167	3692.45	1490.12	286.01		
28-01-90	05:20:00	21.333	3693.22	1490.89	286.01		
28-01-90	05:30:00	21.500	3694.25	1491.92	286.01		
28-01-90	05:40:00	21.667	3695.21	1492.88	286.01		
28-01-90	05:50:00	21.833	3695.89	1493.56	286.01		
28-01-90	06:00:00	22.000	3696.53	1494.20	286.01		
28-01-90	06:10:00	22.167	3697.53	1495.20	286.01		
28-01-90	06:20:00	22.333	3698.21	1495.88	286.01		
28-01-90	06:30:00	22.500	3699.42	1497.09	286.01		

0188

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 28-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Final build up Shut in at 08:00 hrs 27/01/90

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
28-01-90	06:40:00	22.667	3700.06	1497.73	286.01		
28-01-90	06:50:00	22.833	3697.79	1495.46	286.01		
28-01-90	07:00:00	23.000	3698.03	1495.70	286.01		
28-01-90	07:10:00	23.167	-502.61	-704.94	286.01		
28-01-90	07:20:00	23.333	-502.61	-704.94	286.01		
28-01-90	07:30:00	23.500	-502.61	-704.94	286.01		
28-01-90	07:40:00	23.667	-502.61	-704.94	286.01		
28-01-90	07:50:00	23.833	3700.61	1498.28	286.01		
28-01-90	08:00:00	24.000	3703.70	1501.37	286.01		
28-01-90	08:10:00	24.167	3705.79	1503.46	286.01		
28-01-90	08:20:00	24.333	3707.42	1505.09	286.01		
28-01-90	08:30:00	24.500	3707.60	1505.28	286.01		
28-01-90	08:40:00	24.667	3708.29	1505.96	286.01		
28-01-90	08:50:00	24.833	3710.56	1508.23	286.01		
28-01-90	09:00:00	25.000	3710.60	1508.27	286.01		
28-01-90	09:10:00	25.167	3711.41	1509.08	286.01		
28-01-90	09:20:00	25.333	3712.93	1510.60	286.01		
28-01-90	09:30:00	25.500	3712.99	1510.66	286.01		
28-01-90	09:40:00	25.667	3710.19	1507.86	286.01		
28-01-90	09:50:00	25.833	3715.15	1512.82	286.01		
28-01-90	10:00:00	26.000	3715.61	1513.28	286.01	1973	
28-01-90	10:10:00	26.167	3716.44	1514.11	286.01		
28-01-90	10:20:00	26.333	3717.11	1514.78	286.01		
28-01-90	10:30:00	26.500	3717.55	1515.22	286.01		
28-01-90	10:40:00	26.667	3718.95	1516.62	286.01		
28-01-90	10:50:00	26.833	3719.32	1516.99	286.01		
28-01-90	11:00:00	27.000	3720.28	1517.95	286.01		
28-01-90	11:10:00	27.167	3720.61	1518.28	286.01		
28-01-90	11:20:00	27.333	3721.75	1519.42	286.01		
28-01-90	11:30:00	27.500	3722.37	1520.04	286.01		
28-01-90	11:40:00	27.667	3723.09	1520.76	286.01		
28-01-90	11:50:00	27.833	3723.82	1521.49	286.01		
28-01-90	12:00:00	28.000	3724.17	1521.84	286.01		
28-01-90	12:10:00	28.167	3724.93	1522.60	286.01		
28-01-90	12:20:00	28.333	3725.41	1523.08	286.01		
28-01-90	12:30:00	28.500	3726.08	1523.76	286.01		
28-01-90	12:40:00	28.667	3726.96	1524.63	286.01		
28-01-90	12:50:00	28.833	3727.87	1525.54	286.01		
28-01-90	13:00:00	29.000	3720.94	1518.61	286.01		
28-01-90	13:10:00	29.167	3727.42	1525.09	286.01		
28-01-90	13:20:00	29.333	3728.92	1526.59	286.01		
28-01-90	13:30:00	29.500	3729.54	1527.21	286.01		
28-01-90	13:40:00	29.667	3728.41	1526.08	286.01		
28-01-90	13:50:00	29.833	3727.66	1525.33	286.01		
28-01-90	14:00:00	30.000	3729.88	1527.55	286.01	1977	
28-01-90	14:10:00	30.167	3731.55	1529.22	286.01		
28-01-90	14:20:00	30.333	3732.78	1530.45	286.01		
28-01-90	14:30:00	30.500	3733.89	1531.56	286.01		
28-01-90	14:40:00	30.667	3734.34	1532.01	286.01		
28-01-90	14:50:00	30.833	3734.58	1532.25	286.01		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 28-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Final build up Shut in at 08:00 hrs 27/01/90

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
28-01-90	15:00:00	31.000	3735.62	1533.29	286.01		
28-01-90	15:10:00	31.167	3735.97	1533.64	286.01		
28-01-90	15:20:00	31.333	3729.71	1527.38	286.01		
28-01-90	15:30:00	31.500	3735.11	1532.78	286.01		
28-01-90	15:40:00	31.667	3736.99	1534.66	286.01		
28-01-90	15:50:00	31.833	3730.16	1527.83	286.01		
28-01-90	16:00:00	32.000	3734.43	1532.10	286.01		
28-01-90	16:30:00	32.500	3738.00	1535.67	286.01		
28-01-90	16:40:00	32.667	3733.82	1531.49	286.01		
28-01-90	16:50:00	32.833	3739.79	1537.46	286.01		
28-01-90	17:00:00	33.000	3740.41	1538.08	286.01		
28-01-90	17:10:00	33.167	3739.66	1537.33	286.01		
28-01-90	17:20:00	33.333	3741.57	1539.24	286.01		
28-01-90	17:30:00	33.500	3742.88	1540.55	286.01		
28-01-90	17:40:00	33.667	3743.99	1541.66	286.01		
28-01-90	17:50:00	33.833	3741.32	1538.99	286.01		
28-01-90	18:00:00	34.000	3742.11	1539.78	286.01	1979	
28-01-90	18:10:00	34.167	3744.90	1542.57	286.01		
28-01-90	18:20:00	34.333	3746.00	1543.67	286.01		
28-01-90	18:30:00	34.500	3744.40	1542.07	286.01		
28-01-90	18:40:00	34.667	3736.88	1534.55	286.01		Air compressor
28-01-90	18:50:00	34.833	3734.25	1531.92	286.01		fails causing loss
28-01-90	19:00:00	35.000	3734.25	1531.92	286.01		of pressure at
28-01-90	19:10:00	35.167	3734.51	1532.18	286.01		surface
28-01-90	19:20:00	35.333	3743.37	1541.04	286.01		
28-01-90	19:30:00	35.500	3748.23	1545.90	286.01		
28-01-90	19:40:00	35.667	3749.12	1546.79	286.01		
28-01-90	19:50:00	35.833	3748.52	1546.19	286.01		
28-01-90	20:00:00	36.000	3750.21	1547.88	286.01		
28-01-90	20:10:00	36.167	3750.09	1547.76	286.01		
28-01-90	20:20:00	36.333	3750.97	1548.64	286.01		
28-01-90	20:30:00	36.500	3751.95	1549.62	286.01		
28-01-90	20:40:00	36.667	3752.36	1550.03	286.01		
28-01-90	20:50:00	36.833	3752.85	1550.52	286.01		
28-01-90	21:00:00	37.000	3753.27	1550.94	286.01		
28-01-90	21:10:00	37.167	3753.84	1551.51	286.01		
28-01-90	21:20:00	37.333	3754.29	1551.96	286.01		
28-01-90	21:30:00	37.500	3754.50	1552.17	286.01		
28-01-90	21:40:00	37.667	3755.06	1552.73	286.01		
28-01-90	21:50:00	37.833	3752.52	1550.19	286.01		
28-01-90	22:00:00	38.000	3752.66	1550.33	286.01	1979	
28-01-90	22:10:00	38.167	3746.41	1544.08	286.01		
28-01-90	22:20:00	38.333	3746.63	1544.30	286.01		
28-01-90	22:30:00	38.500	3746.47	1544.14	286.01		
28-01-90	22:40:00	38.667	3755.92	1553.59	286.01		
28-01-90	22:50:00	38.833	3753.13	1550.80	286.01		
28-01-90	23:00:00	39.000	3754.47	1552.14	286.01		
28-01-90	23:10:00	39.167	3747.49	1545.16	286.01		
28-01-90	23:20:00	39.333	3749.29	1546.96	286.01		
28-01-90	23:30:00	39.500	3750.72	1548.39	286.01		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 28-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Final build up Shut in at 08:00 hrs 27/01/90

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
28-01-90	23:40:00	39.667	3748.21	1545.88	286.01		
28-01-90	23:50:00	39.833	3752.32	1549.99	286.01		
29-01-90	00:00:00	40.000	3753.38	1551.05	286.01		
29-01-90	00:10:00	40.167	3756.81	1554.48	286.01		
29-01-90	00:20:00	40.333	3761.63	1559.30	286.01		
29-01-90	00:30:00	40.500	3750.65	1548.32	286.01		
29-01-90	00:40:00	40.667	3752.42	1550.09	286.01		
29-01-90	00:50:00	40.833	3755.67	1553.34	286.01		
29-01-90	01:00:00	41.000	3755.42	1553.09	286.01		
29-01-90	01:10:00	41.167	3760.08	1557.75	286.01		
29-01-90	01:20:00	41.333	3755.65	1553.32	286.01		
29-01-90	01:30:00	41.500	3758.25	1555.92	286.01		
29-01-90	01:40:00	41.667	3765.48	1563.15	286.01		
29-01-90	01:50:00	41.833	3763.42	1561.09	286.01		
29-01-90	02:00:00	42.000	3762.61	1560.28	286.01	1979	
29-01-90	02:10:00	42.167	3760.39	1558.06	286.01		
29-01-90	02:20:00	42.333	3766.03	1563.70	286.01		
29-01-90	02:30:00	42.500	3760.00	1557.67	286.01		
29-01-90	02:40:00	42.667	3754.52	1552.19	286.01		
29-01-90	02:50:00	42.833	3767.96	1565.63	286.01		
29-01-90	03:00:00	43.000	3768.01	1565.68	286.01		
29-01-90	03:10:00	43.167	3760.90	1558.57	286.01		
29-01-90	03:20:00	43.333	3761.69	1559.36	286.01		
29-01-90	03:30:00	43.500	3768.78	1566.45	286.01		
29-01-90	03:40:00	43.667	3768.97	1566.64	286.01		
29-01-90	03:50:00	43.833	3769.54	1567.21	286.01		
29-01-90	04:00:00	44.000	3769.87	1567.54	286.01		
29-01-90	04:10:00	44.167	3770.83	1568.50	286.01		
29-01-90	04:20:00	44.333	3765.96	1563.63	286.01		
29-01-90	04:30:00	44.500	3766.96	1564.63	286.01		
29-01-90	04:40:00	44.667	3771.96	1569.63	286.01		
29-01-90	04:50:00	44.833	3772.41	1570.08	286.01		
29-01-90	05:00:00	45.000	3769.72	1567.39	286.01		
29-01-90	05:10:00	45.167	3772.88	1570.55	286.01		
29-01-90	05:20:00	45.333	3773.20	1570.87	286.01		
29-01-90	05:30:00	45.500	3765.10	1562.77	286.01		
29-01-90	05:40:00	45.667	3774.30	1571.97	286.01		
29-01-90	05:50:00	45.833	3774.16	1571.83	286.01		
29-01-90	06:00:00	46.000	3773.69	1571.36	286.01	1979	
29-01-90	06:10:00	46.167	3768.51	1566.18	286.01		
29-01-90	06:20:00	46.333	3774.96	1572.63	286.01		
29-01-90	06:30:00	46.500	3775.54	1573.21	286.01		
29-01-90	06:40:00	46.667	3773.49	1571.16	286.01		
29-01-90	06:50:00	46.833	3774.85	1572.52	286.01		
29-01-90	07:00:00	47.000	3776.77	1574.44	286.01		
29-01-90	07:10:00	47.167	3771.12	1568.79	286.01		
29-01-90	07:20:00	47.333	3770.53	1568.20	286.01		
29-01-90	07:30:00	47.500	3775.57	1573.24	286.01		
29-01-90	07:40:00	47.667	3766.24	1563.91	286.01		
29-01-90	07:50:00	47.833	3761.38	1559.05	286.01		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 29-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Final build up Shut in at 08:00 hrs 27/01/90

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
29-01-90	08:00:00	48.000	3762.67	1560.34	286.01		
29-01-90	08:10:00	48.167	3759.67	1557.34	286.01		
29-01-90	08:20:00	48.333	3754.67	1552.34	286.01		
29-01-90	08:30:00	48.500	3759.31	1556.98	286.01		
29-01-90	08:40:00	48.667	3751.92	1549.59	286.01		
29-01-90	08:50:00	48.833	3749.62	1547.29	286.01		
29-01-90	09:00:00	49.000	3747.48	1545.15	286.01		
29-01-90	09:10:00	49.167	3757.12	1554.79	286.01		
29-01-90	09:20:00	49.333	3748.12	1545.79	286.01		
29-01-90	09:30:00	49.500	3748.53	1546.20	286.01		
29-01-90	09:40:00	49.667	3753.58	1551.25	286.01		
29-01-90	09:50:00	49.833	3749.09	1546.76	286.01		
29-01-90	10:00:00	50.000	3748.84	1546.51	286.01	1983	
29-01-90	10:10:00	50.167	3750.76	1548.43	286.01		
29-01-90	10:20:00	50.333	3747.18	1544.85	286.01		
29-01-90	10:30:00	50.500	3751.80	1549.47	286.01		
29-01-90	10:40:00	50.667	3752.91	1550.58	286.01		
29-01-90	10:50:00	50.833	3748.27	1545.94	286.01		
29-01-90	11:00:00	51.000	3751.76	1549.43	286.01		
29-01-90	11:10:00	51.167	3761.34	1559.01	286.01		
29-01-90	11:20:00	51.333	3766.22	1563.89	286.01		
29-01-90	11:30:00	51.500	3760.38	1558.05	286.01		
29-01-90	11:40:00	51.667	3760.86	1558.53	286.01		
29-01-90	11:50:00	51.833	3752.12	1549.79	286.01		
29-01-90	12:00:00	52.000	3784.63	1582.30	286.01		
29-01-90	12:10:00	52.167	3785.01	1582.68	286.01		
29-01-90	12:20:00	52.333	3785.41	1583.08	286.01		
29-01-90	12:30:00	52.500	3785.38	1583.05	286.01		
29-01-90	12:40:00	52.667	3785.98	1583.65	286.01		
29-01-90	12:50:00	52.833	3785.42	1583.09	286.01		
29-01-90	13:00:00	53.000	3786.33	1584.00	286.01		
29-01-90	13:10:00	53.167	3786.53	1584.20	286.01		
29-01-90	13:20:00	53.333	3786.64	1584.31	286.01		
29-01-90	13:30:00	53.500	3787.34	1585.01	286.01		
29-01-90	13:40:00	53.667	3786.77	1584.44	286.01		
29-01-90	13:50:00	53.833	3787.27	1584.94	286.01		
29-01-90	14:00:00	54.000	3787.93	1585.60	286.01	1983	
29-01-90	14:10:00	54.167	3788.21	1585.88	286.01		
29-01-90	14:20:00	54.333	3788.42	1586.09	286.01		
29-01-90	14:30:00	54.500	3788.44	1586.11	286.01		
29-01-90	14:40:00	54.667	3788.57	1586.24	286.01		
29-01-90	14:50:00	54.833	3788.93	1586.60	286.01		
29-01-90	15:00:00	55.000	3786.94	1584.61	286.01		
29-01-90	15:10:00	55.167	3789.62	1587.29	286.01		
29-01-90	15:20:00	55.333	3789.74	1587.41	286.01		
29-01-90	15:30:00	55.500	3789.79	1587.46	286.01		
29-01-90	15:40:00	55.667	3790.24	1587.91	286.01		
29-01-90	15:50:00	55.833	3790.42	1588.09	286.01		
29-01-90	16:00:00	56.000	3790.50	1588.17	286.01		
29-01-90	16:10:00	56.167	3790.67	1588.34	286.01		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 29-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Final build up Shut in at 08:00 hrs 27/01/90

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
29-01-90	16:20:00	56.333	3788.16	1585.83	286.01		
29-01-90	16:30:00	56.500	3791.12	1588.79	286.01		
29-01-90	16:40:00	56.667	3791.62	1589.29	286.01		
29-01-90	16:50:00	56.833	3791.96	1589.63	286.01		
29-01-90	17:00:00	57.000	3790.41	1588.08	286.01		
29-01-90	17:10:00	57.167	3792.27	1589.94	286.01		
29-01-90	17:20:00	57.333	3792.51	1590.18	286.01		
29-01-90	17:30:00	57.500	3792.73	1590.40	286.01		
29-01-90	17:40:00	57.667	3792.94	1590.61	286.01		
29-01-90	17:50:00	57.833	3793.06	1590.73	286.01		
29-01-90	18:00:00	58.000	3793.26	1590.93	286.01	1982	
29-01-90	18:10:00	58.167	3793.44	1591.11	286.01		
29-01-90	18:20:00	58.333	3793.54	1591.21	286.01		
29-01-90	18:30:00	58.500	3794.16	1591.83	286.01		
29-01-90	18:40:00	58.667	3794.06	1591.73	286.01		
29-01-90	18:50:00	58.833	3794.11	1591.78	286.01		
29-01-90	19:00:00	59.000	3794.34	1592.01	286.01		
29-01-90	19:10:00	59.167	3794.70	1592.37	286.01		
29-01-90	19:20:00	59.333	3794.65	1592.32	286.01		
29-01-90	19:30:00	59.500	3795.00	1592.67	286.01		
29-01-90	19:40:00	59.667	3795.31	1592.98	286.01		
29-01-90	19:50:00	59.833	3795.48	1593.15	286.01		
29-01-90	20:00:00	60.000	3795.52	1593.19	286.01		
29-01-90	20:10:00	60.167	3796.00	1593.67	286.01		
29-01-90	20:20:00	60.333	3795.93	1593.60	286.01		
29-01-90	20:30:00	60.500	3796.15	1593.82	286.01		
29-01-90	20:40:00	60.667	3796.39	1594.06	286.01		
29-01-90	20:50:00	60.833	3796.60	1594.27	286.01		
29-01-90	21:00:00	61.000	3797.01	1594.68	286.01		
29-01-90	21:10:00	61.167	3797.09	1594.76	286.01		
29-01-90	21:20:00	61.333	3797.52	1595.19	286.01		
29-01-90	21:30:00	61.500	3797.59	1595.26	286.01		
29-01-90	21:40:00	61.667	3797.54	1595.21	286.01		
29-01-90	21:50:00	61.833	3797.95	1595.62	286.01		
29-01-90	22:00:00	62.000	3797.81	1595.48	286.01	1983	
29-01-90	22:10:00	62.167	3798.15	1595.82	286.01		
29-01-90	22:20:00	62.333	3798.28	1595.95	286.01		
29-01-90	22:30:00	62.500	3797.81	1595.48	286.01		
29-01-90	22:40:00	62.667	3798.81	1596.48	286.01		
29-01-90	22:50:00	62.833	3797.92	1595.59	286.01		
29-01-90	23:00:00	63.000	3798.90	1596.57	286.01		
29-01-90	23:10:00	63.167	3798.97	1596.64	286.01		
29-01-90	23:20:00	63.333	3799.30	1596.97	286.01		
29-01-90	23:30:00	63.500	3799.04	1596.71	286.01		
29-01-90	23:40:00	63.667	3799.76	1597.43	286.01		
29-01-90	23:50:00	63.833	3800.05	1597.72	286.01		
30-01-90	00:00:00	64.000	3800.22	1597.89	286.01		
30-01-90	00:10:00	64.167	3800.56	1598.23	286.01		
30-01-90	00:20:00	64.333	3800.51	1598.18	286.01		
30-01-90	00:30:00	64.500	3800.54	1598.21	286.01		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 30-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Final build up Shut in at 08:00 hrs 27/01/90

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
30-01-90	00:40:00	64.667	3800.93	1598.60	286.01		
30-01-90	00:50:00	64.833	3801.12	1598.79	286.01		
30-01-90	01:00:00	65.000	3801.40	1599.07	286.01		
30-01-90	01:10:00	65.167	3801.15	1598.82	286.01		
30-01-90	01:20:00	65.333	3801.71	1599.38	286.01		
30-01-90	01:30:00	65.500	3801.83	1599.50	286.01		
30-01-90	01:40:00	65.667	3802.17	1599.84	286.01		
30-01-90	01:50:00	65.833	3802.24	1599.91	286.01		
30-01-90	02:00:00	66.000	3802.44	1600.11	286.01	1979	
30-01-90	02:10:00	66.167	3802.50	1600.17	286.01		
30-01-90	02:20:00	66.333	3802.37	1600.04	286.01		
30-01-90	02:30:00	66.500	3802.92	1600.59	286.01		
30-01-90	02:40:00	66.667	3802.87	1600.54	286.01		
30-01-90	02:50:00	66.833	3803.19	1600.86	286.01		
30-01-90	03:00:00	67.000	3803.76	1601.43	286.01		
30-01-90	03:10:00	67.167	3803.36	1601.03	286.01		
30-01-90	03:20:00	67.333	3803.77	1601.44	286.01		
30-01-90	03:30:00	67.500	3803.95	1601.62	286.01		
30-01-90	03:40:00	67.667	3804.05	1601.72	286.01		
30-01-90	03:50:00	67.833	3804.15	1601.82	286.01		
30-01-90	04:00:00	68.000	3804.28	1601.95	286.01		
30-01-90	04:10:00	68.167	3804.32	1601.99	286.01		
30-01-90	04:20:00	68.333	3804.55	1602.22	286.01		
30-01-90	04:30:00	68.500	3804.83	1602.51	286.01		
30-01-90	04:40:00	68.667	3804.91	1602.58	286.01		
30-01-90	04:50:00	68.833	3804.95	1602.62	286.01		
30-01-90	05:00:00	69.000	3804.94	1602.61	286.01		
30-01-90	05:10:00	69.167	3805.11	1602.78	286.01		
30-01-90	05:20:00	69.333	3805.77	1603.44	286.01		
30-01-90	05:30:00	69.500	3805.73	1603.40	286.01		
30-01-90	05:40:00	69.667	3805.77	1603.44	286.01		
30-01-90	05:50:00	69.833	3805.83	1603.50	286.01		
30-01-90	06:00:00	70.000	3805.82	1603.49	286.01	1979	
30-01-90	06:10:00	70.167	3806.03	1603.70	286.01		
30-01-90	06:20:00	70.333	3806.21	1603.88	286.01		
30-01-90	06:30:00	70.500	3805.62	1603.29	286.01		
30-01-90	06:40:00	70.667	3806.66	1604.33	286.01		
30-01-90	06:50:00	70.833	3806.92	1604.59	286.01		
30-01-90	07:00:00	71.000	3806.77	1604.44	286.01		
30-01-90	07:10:00	71.167	3807.08	1604.75	286.01		
30-01-90	07:20:00	71.333	3807.12	1604.79	286.01		
30-01-90	07:30:00	71.500	3807.66	1605.33	286.01		
30-01-90	07:40:00	71.667	3807.51	1605.18	286.01		
30-01-90	07:50:00	71.833	3807.83	1605.50	286.01		
30-01-90	08:00:00	72.000	3807.94	1605.61	286.01		
30-01-90	08:10:00	72.167	3808.10	1605.77	286.01		
30-01-90	08:20:00	72.333	3808.25	1605.92	286.01		
30-01-90	08:30:00	72.500	3808.33	1606.00	286.01		
30-01-90	08:40:00	72.667	3808.34	1606.01	286.01		
30-01-90	08:50:00	72.833	3808.62	1606.29	286.01		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 30-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Final build up Shut in at 08:00 hrs 27/01/90

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
30-01-90	09:00:00	73.000	3809.17	1606.84	286.01		
30-01-90	09:10:00	73.167	3808.83	1606.50	286.01		
30-01-90	09:20:00	73.333	3809.17	1606.84	286.01		
30-01-90	09:30:00	73.500	3809.35	1607.02	286.01		
30-01-90	09:40:00	73.667	3809.59	1607.26	286.01		
30-01-90	09:50:00	73.833	3809.58	1607.25	286.01		
30-01-90	10:00:00	74.000	3809.73	1607.40	286.01	1983	
30-01-90	10:10:00	74.167	3809.83	1607.50	286.01		
30-01-90	10:20:00	74.333	3809.94	1607.61	286.01		
30-01-90	10:30:00	74.500	3810.38	1608.05	286.01		
30-01-90	10:40:00	74.667	3809.90	1607.57	286.01		
30-01-90	10:50:00	74.833	3810.23	1607.90	286.01		
30-01-90	11:00:00	75.000	3810.44	1608.11	286.01		
30-01-90	11:10:00	75.167	3810.60	1608.27	286.01		
30-01-90	11:20:00	75.333	3810.71	1608.38	286.01		
30-01-90	11:30:00	75.500	3810.88	1608.55	286.01		
30-01-90	11:40:00	75.667	3811.05	1608.72	286.01		
30-01-90	11:50:00	75.833	3811.31	1608.98	286.01		
30-01-90	12:00:00	76.000	3811.19	1608.86	286.01		
30-01-90	12:10:00	76.167	3811.51	1609.18	286.01		
30-01-90	12:20:00	76.333	3811.40	1609.07	286.01		
30-01-90	12:30:00	76.500	3811.75	1609.42	286.01		
30-01-90	12:40:00	76.667	3811.99	1609.66	286.01		
30-01-90	12:50:00	76.833	3811.82	1609.49	286.01		
30-01-90	13:00:00	77.000	3812.18	1609.85	286.01		
30-01-90	13:10:00	77.167	3812.24	1609.91	286.01		
30-01-90	13:20:00	77.333	3812.57	1610.24	286.01		
30-01-90	13:30:00	77.500	3812.63	1610.30	286.01		
30-01-90	13:40:00	77.667	3812.62	1610.29	286.01		
30-01-90	13:50:00	77.833	3812.48	1610.15	286.01		
30-01-90	14:00:00	78.000	3811.42	1609.09	286.01	1983	
30-01-90	14:10:00	78.167	3812.97	1610.64	286.01		
30-01-90	14:20:00	78.333	3813.08	1610.75	286.01		
30-01-90	14:30:00	78.500	3812.89	1610.56	286.01		
30-01-90	14:40:00	78.667	3813.53	1611.20	286.01		
30-01-90	14:50:00	78.833	3813.72	1611.39	286.01		
30-01-90	15:00:00	79.000	3813.27	1610.94	286.01		
30-01-90	15:10:00	79.167	3813.99	1611.66	286.01		
30-01-90	15:20:00	79.333	3814.18	1611.85	286.01		
30-01-90	15:30:00	79.500	3813.82	1611.49	286.01		
30-01-90	15:40:00	79.667	3813.94	1611.61	286.01		
30-01-90	16:00:00	80.000	3814.62	1612.29	286.01		
30-01-90	16:10:00	80.167	3814.43	1612.10	286.01		
30-01-90	16:20:00	80.333	3814.70	1612.37	286.01		
30-01-90	16:30:00	80.500	3814.67	1612.34	286.01		
30-01-90	16:40:00	80.667	3814.86	1612.53	286.01		
30-01-90	16:50:00	80.833	3814.76	1612.43	286.01		
30-01-90	17:00:00	81.000	3815.10	1612.77	286.01		
30-01-90	17:10:00	81.167	3815.46	1613.13	286.01		
30-01-90	17:20:00	81.333	3815.20	1612.87	286.01		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 30-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Final build up Shut in at 08:00 hrs 27/01/90

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
30-01-90	17:30:00	81.500	3815.16	1612.83	286.01		
30-01-90	17:40:00	81.667	3815.51	1613.18	286.01		
30-01-90	17:50:00	81.833	3815.45	1613.12	286.01		
30-01-90	18:00:00	82.000	3815.59	1613.26	286.01	1982	
30-01-90	18:10:00	82.167	3816.10	1613.77	286.01		
30-01-90	18:20:00	82.333	3815.97	1613.64	286.01		
30-01-90	18:30:00	82.500	3816.04	1613.71	286.01		
30-01-90	18:50:00	82.833	3816.43	1614.10	286.01		
30-01-90	19:00:00	83.000	3816.80	1614.47	286.01		
30-01-90	19:10:00	83.167	3816.49	1614.16	286.01		
30-01-90	19:20:00	83.333	3816.62	1614.29	286.01		
30-01-90	19:50:00	83.833	3816.88	1614.55	286.01		
30-01-90	20:00:00	84.000	3817.27	1614.94	286.01		
30-01-90	20:10:00	84.167	3817.17	1614.84	286.01		
30-01-90	20:20:00	84.333	3817.31	1614.98	286.01		
30-01-90	20:40:00	84.667	3817.34	1615.01	286.01		
30-01-90	20:50:00	84.833	3817.54	1615.21	286.01		
30-01-90	21:00:00	85.000	3818.04	1615.71	286.01		
30-01-90	21:10:00	85.167	3818.18	1615.85	286.01		
30-01-90	21:20:00	85.333	3818.05	1615.72	286.01		
30-01-90	21:30:00	85.500	3818.14	1615.81	286.01		
30-01-90	21:40:00	85.667	3818.53	1616.20	286.01		
30-01-90	22:00:00	86.000	3818.41	1616.08	286.01	1983	
30-01-90	22:10:00	86.167	3818.34	1616.01	286.01		
30-01-90	22:20:00	86.333	3818.56	1616.23	286.01		
30-01-90	22:30:00	86.500	3818.56	1616.23	286.01		
30-01-90	22:40:00	86.667	3817.34	1615.01	286.01		
30-01-90	22:50:00	86.833	3819.04	1616.71	286.01		
30-01-90	23:00:00	87.000	3819.22	1616.89	286.01		
30-01-90	23:10:00	87.167	3819.12	1616.79	286.01		
30-01-90	23:20:00	87.333	3819.63	1617.30	286.01		
30-01-90	23:30:00	87.500	3819.36	1617.03	286.01		
30-01-90	23:40:00	87.667	3819.53	1617.20	286.01		
30-01-90	23:50:00	87.833	3819.69	1617.36	286.01		
30-01-90	00:00:00	88.000	3819.73	1617.40	286.01		
30-01-90	00:10:00	88.167	3819.72	1617.39	286.01		
30-01-90	00:20:00	88.333	3820.17	1617.84	286.01		
30-01-90	00:30:00	88.500	3820.33	1618.00	286.01		
30-01-90	00:40:00	88.667	3820.06	1617.73	286.01		
30-01-90	00:50:00	88.833	3820.21	1617.88	286.01		
30-01-90	01:00:00	89.000	3820.60	1618.27	286.01		
30-01-90	01:10:00	89.167	3820.31	1617.98	286.01		
30-01-90	01:20:00	89.333	3820.70	1618.37	286.01		
30-01-90	01:30:00	89.500	3820.69	1618.36	286.01		
30-01-90	01:40:00	89.667	3820.63	1618.30	286.01		
30-01-90	01:50:00	89.833	3821.14	1618.81	286.01		
30-01-90	02:00:00	90.000	3821.23	1618.90	286.01	1982	
30-01-90	02:10:00	90.167	3821.32	1618.99	286.01		
30-01-90	02:20:00	90.333	3821.37	1619.04	286.01		
30-01-90	02:30:00	90.500	3821.17	1618.84	286.01		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 30-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: 9000'KB
COMMENTS : Final build up Shut in at 08:00 hrs 27/01/90

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
30-01-90	02:40:00	90.667	3821.33	1619.00	286.01		
30-01-90	02:50:00	90.833	3821.60	1619.27	286.01		
30-01-90	03:00:00	91.000	3821.59	1619.26	286.01		
30-01-90	03:10:00	91.167	3821.63	1619.30	286.01		
30-01-90	03:20:00	91.333	3822.08	1619.75	286.01		
30-01-90	03:30:00	91.500	3821.53	1619.20	286.01		
30-01-90	03:40:00	91.667	3822.08	1619.75	286.01		
30-01-90	03:50:00	91.833	3821.95	1619.62	286.01		
30-01-90	04:00:00	92.000	3821.92	1619.59	286.01		
30-01-90	04:10:00	92.167	3821.93	1619.60	286.01		
30-01-90	04:20:00	92.333	3822.59	1620.26	286.01		
30-01-90	04:30:00	92.500	3822.69	1620.36	286.01		
30-01-90	04:40:00	92.667	3822.47	1620.14	286.01		
30-01-90	04:50:00	92.833	3822.64	1620.31	286.01		
30-01-90	05:00:00	93.000	3822.74	1620.41	286.01		
30-01-90	05:10:00	93.167	3822.74	1620.41	286.01		
30-01-90	05:20:00	93.333	3822.96	1620.63	286.01		
30-01-90	05:30:00	93.500	3823.31	1620.98	286.01		
30-01-90	05:40:00	93.667	3823.08	1620.75	286.01		
30-01-90	05:50:00	93.833	3822.95	1620.62	286.01		
30-01-90	06:00:00	94.000	3823.56	1621.23	286.01	1983	
30-01-90	06:10:00	94.167	3822.49	1620.16	286.01		
31-01-90	06:20:00	94.333	3817.04	1614.71	286.01		
31-01-90	06:30:00	94.500	3823.54	1621.21	286.01		
31-01-90	06:40:00	94.667	3806.86	1604.53	286.01		
31-01-90	06:50:00	94.833	3822.13	1619.80	286.01		
31-01-90	07:00:00	95.000	3820.99	1618.66	286.01		
31-01-90	07:10:00	95.167	3819.15	1616.82	286.01		
31-01-90	07:20:00	95.333	3823.19	1620.86	286.01		
31-01-90	07:30:00	95.500	3823.40	1621.07	286.01		
31-01-90	07:40:00	95.667	3821.84	1619.51	286.01		
31-01-90	07:50:00	95.833	3824.57	1622.24	286.01		
31-01-90	08:00:00	96.000	3824.54	1622.21	286.01		
31-01-90	08:10:00	96.167	3824.47	1622.14	286.01		
31-01-90	08:20:00	96.333	3824.55	1622.22	286.01		
31-01-90	08:30:00	96.500	3824.59	1622.26	286.01		
31-01-90	08:40:00	96.667	3823.91	1621.58	286.01		
31-01-90	08:50:00	96.833	3824.70	1622.37	286.01		
31-01-90	09:00:00	97.000	3824.36	1622.03	286.01		
31-01-90	09:10:00	97.167	3824.34	1622.01	286.01		
31-01-90	09:30:00	97.500	3824.25	1621.92	286.01		
31-01-90	09:40:00	97.667	3825.28	1622.95	286.01		
31-01-90	09:50:00	97.833	3824.76	1622.43	286.01		
31-01-90	10:00:00	98.000	3825.48	1623.15	286.01	1983	
31-01-90	10:10:00	98.167	3825.52	1623.19	286.01		
31-01-90	10:30:00	98.500	3824.17	1621.84	286.01		End of build up
31-01-90	10:40:00	98.667	3825.68	1623.35	286.01		
31-01-90	10:50:00	98.833	3825.89	1623.56	286.01		Conduct static
31-01-90	10:51:00	98.850	3824.40	1622.07	286.01		gradient pulling
31-01-90	10:53:00	98.883	3825.74	1623.41	286.01		out of hole

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 31-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: Grad'nt
COMMENTS : Static Gradient pulling out of hole

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
31-01-90	10:54:00	98.900	3825.76	1623.43	286.01		
31-01-90	10:55:00	98.917	3825.76	1623.43	286.01		1st stop at 9000'KB
31-01-90	10:56:00	98.933	3826.01	1623.68	286.01		
31-01-90	10:57:00	98.950	3826.09	1623.76	286.01		1 min sample rate
31-01-90	10:58:00	98.967	3824.69	1622.36	286.01		
31-01-90	10:59:00	98.983	3826.04	1623.71	286.01		Pull out of hole
31-01-90	11:00:00	99.000	3825.97	1623.64	286.01	1983	
31-01-90	11:04:00	0.067	3790.00	-35.98	286.01		2nd stop at 8915'KB
31-01-90	11:05:00	0.083	3790.28	0.28	286.01		
31-01-90	11:06:00	0.100	3788.46	-1.82	286.01		
31-01-90	11:07:00	0.117	3790.10	1.65	286.01		
31-01-90	11:08:00	0.133	3788.79	-1.32	286.01		
31-01-90	11:09:00	0.150	3789.57	0.78	286.01		
31-01-90	11:10:00	0.167	3791.11	1.54	286.01		
31-01-90	11:11:00	0.183	3790.49	-0.61	286.01		
31-01-90	11:12:00	0.200	3777.88	-12.62	286.01		
31-01-90	11:13:00	0.217	3791.32	13.44	286.01		
31-01-90	11:14:00	0.233	3791.36	0.04	286.01		
31-01-90	11:15:00	0.250	3791.41	0.05	286.01		
31-01-90	11:16:00	0.267	3791.35	-0.06	286.01		
31-01-90	11:17:00	0.283	3791.35	0.00	286.01		
31-01-90	11:18:00	0.300	3789.25	-2.10	286.01		
31-01-90	11:19:00	0.317	3789.98	0.72	286.01		
31-01-90	11:20:00	0.333	3790.01	0.03	286.01		
31-01-90	11:21:00	0.350	3791.46	1.45	286.01		Gradient = .406
31-01-90	11:22:00	0.367	3791.48	0.02	286.01		Pull out of hole
31-01-90	11:25:00	0.417	3777.02	-14.46	286.01		3RD stop at 8855'KB
31-01-90	11:26:00	0.433	3777.62	0.60	286.01		
31-01-90	11:27:00	0.450	3777.33	-0.29	286.01		
31-01-90	11:28:00	0.467	3777.56	0.22	286.01		
31-01-90	11:30:00	0.500	3778.41	0.86	286.01		
31-01-90	11:32:00	0.533	3778.63	0.21	286.01		
31-01-90	11:33:00	0.550	3778.64	0.01	286.01		
31-01-90	11:34:00	0.567	3778.57	-0.07	286.01		
31-01-90	11:35:00	0.583	3778.54	-0.03	286.01		
31-01-90	11:36:00	0.600	3778.58	0.04	286.01		
31-01-90	11:37:00	0.617	3778.56	-0.02	286.01		
31-01-90	11:38:00	0.633	3778.58	0.02	286.01		
31-01-90	11:39:00	0.650	3778.54	-0.04	286.01		Gradient = .236
31-01-90	11:40:00	0.667	3778.49	-0.05	286.01		Pull out of hole
31-01-90	11:45:00	0.750	3738.97	-39.52	271.31		4th stop at 8500'KB
31-01-90	12:27:00	1.450	3707.91	-31.06	259.38		
31-01-90	12:28:00	1.467	3706.57	-1.34	259.38		
31-01-90	12:29:00	1.483	3707.87	1.30	259.38		
31-01-90	12:30:00	1.500	3707.93	0.06	259.38		
31-01-90	12:31:00	1.517	3706.46	-1.47	259.38		
31-01-90	12:32:00	1.533	3709.40	2.94	259.38		
31-01-90	12:33:00	1.550	3706.47	-2.93	259.38		

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 31-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: Grad'nt
COMMENTS : Static Gradient pulling out of hole

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
31-01-90	12:34:00	1.567	3709.27	2.80	259.38		Gradient = .195
31-01-90	12:35:00	1.583	3709.29	0.02	259.38		Pull out of hole
31-01-90	12:41:00	1.683	3610.89	-98.40	259.38		5th stop at 8000'KB
31-01-90	13:34:00	2.567	3624.29	13.40	254.11		
31-01-90	13:35:00	2.583	3622.21	-2.08	254.11		
31-01-90	13:36:00	2.600	3622.93	0.72	254.11		
31-01-90	13:37:00	2.617	3624.32	1.39	254.11		
31-01-90	13:38:00	2.633	3623.66	-0.66	254.11		
31-01-90	13:39:00	2.650	3622.97	-0.69	254.11		Gradient = .170
31-01-90	13:40:00	2.667	3624.40	1.43	254.11		Pull out of hole
31-01-90	13:47:00	2.783	3525.69	-98.71	254.11		6th stop at 7500'KB
31-01-90	14:11:00	3.183	3528.28	2.59	245.72		
31-01-90	14:12:00	3.200	3529.63	1.35	245.72		
31-01-90	14:14:00	3.233	3528.23	-1.40	245.72		
31-01-90	14:15:00	3.250	3529.70	1.47	245.72		
31-01-90	14:16:00	3.267	3529.69	-0.01	245.72		
31-01-90	14:17:00	3.283	3529.72	0.03	245.72		
31-01-90	14:19:00	3.317	3529.02	-0.70	245.72		Gradient = .188
31-01-90	14:20:00	3.333	3530.43	1.41	245.72		Pull out of hole
31-01-90	14:25:00	3.417	3425.21	-105.22	245.72		7th stop at 7000'KB
31-01-90	14:48:00	3.800	3429.56	4.35	238.50		
31-01-90	14:54:00	3.900	3431.64	2.08	238.50		
31-01-90	14:55:00	3.917	3431.69	0.05	238.50		
31-01-90	14:56:00	3.933	3432.37	0.68	238.50		
31-01-90	14:57:00	3.950	3432.39	0.02	238.50		
31-01-90	14:58:00	3.967	3428.14	-4.25	238.50		
31-01-90	14:59:00	3.983	3432.41	4.27	238.50		
31-01-90	15:02:00	4.033	3431.66	-0.75	238.50		Gradient = .198
31-01-90	15:03:00	4.050	3426.73	-4.93	238.50		Pull out of hole
31-01-90	15:11:00	4.183	3188.18	-238.55	238.50		8th stop at 6000'KB
31-01-90	15:27:00	4.450	3220.05	31.87	218.25		
31-01-90	15:28:00	4.467	3220.72	0.67	218.25		
31-01-90	15:29:00	4.483	3220.70	-0.02	218.25		
31-01-90	15:30:00	4.500	3220.03	-0.67	218.25		
31-01-90	15:31:00	4.517	3218.63	-1.40	218.25		
31-01-90	15:32:00	4.533	3217.95	-0.68	218.25		
31-01-90	15:33:00	4.550	3218.65	0.70	218.25		Gradient = .213
31-01-90	15:34:00	4.567	3218.63	-0.02	218.25		Pull out of hole
31-01-90	15:41:00	4.683	3006.01	-212.62	218.25		9th stop at 5000'KB
31-01-90	15:58:00	4.967	3010.19	4.18	209.81		
31-01-90	15:59:00	4.983	3010.19	0.00	209.81		
31-01-90	16:00:00	5.000	3010.87	0.68	209.81		
31-01-90	16:01:00	5.017	3010.90	0.03	209.81		
31-01-90	16:02:00	5.033	3010.90	0.00	209.81		
31-01-90	16:03:00	5.050	3011.63	0.73	209.81		
31-01-90	16:04:00	5.067	3010.90	-0.73	209.81		Gradient = .207
31-01-90	16:05:00	5.083	3010.85	-0.05	209.81		Pull out of hole
31-01-90	16:12:00	5.200	1984.81	-026.04	209.81		10th stop at 4000'K

EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 31-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: Grad'nt
COMMENTS : Static Gradient pulling out of hole

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
31-01-90	17:39:00	6.650	2784.25	799.44	178.06		
31-01-90	17:40:00	6.667	2782.21	-2.03	178.06		
31-01-90	17:41:00	6.683	2779.38	-2.84	178.06		
31-01-90	17:42:00	6.700	2781.51	2.13	178.06		
31-01-90	17:43:00	6.717	2782.86	1.35	178.06		
31-01-90	17:44:00	6.733	2780.18	-2.68	178.06		
31-01-90	17:45:00	6.750	2784.40	4.22	178.06		
31-01-90	17:46:00	6.767	2785.05	0.65	178.06		Gradient = .227
31-01-90	17:47:00	6.783	2784.36	-0.69	178.06		Pull out of hole
31-01-90	17:54:00	6.900	2548.66	-235.70	178.06	1981	11th stop at 3000'K
31-01-90	18:10:00	7.167	2546.96	-1.70	159.11		
31-01-90	18:11:00	7.183	2549.81	2.85	159.11		
31-01-90	18:12:00	7.200	2549.08	-0.73	159.11		
31-01-90	18:13:00	7.217	2551.17	2.09	159.11		
31-01-90	18:14:00	7.233	2551.15	-0.02	159.11		
31-01-90	18:15:00	7.250	2551.85	0.69	159.11		
31-01-90	18:16:00	7.267	2551.89	0.05	159.11		
31-01-90	18:17:00	7.283	2551.00	-0.90	159.11		
31-01-90	18:18:00	7.300	2551.89	0.90	159.11		
31-01-90	18:19:00	7.317	2552.58	0.68	159.11		
31-01-90	18:20:00	7.333	2549.79	-2.78	159.11		Gradient = .231
31-01-90	18:21:00	7.350	2552.57	2.77	159.11		Pull out of hole
31-01-90	18:30:00	7.500	2316.09	-236.48	159.11		12th stop at 2000'K
31-01-90	18:40:00	7.667	2313.23	-2.86	159.11		
31-01-90	18:41:00	7.683	2313.96	0.73	159.11		
31-01-90	18:42:00	7.700	2314.63	0.67	159.11		
31-01-90	18:43:00	7.717	2313.95	-0.68	159.11		
31-01-90	18:44:00	7.733	2314.67	0.72	159.11		
31-01-90	18:45:00	7.750	2312.59	-2.08	159.11		
31-01-90	18:46:00	7.767	2313.29	0.69	159.11		
31-01-90	18:47:00	7.783	2311.21	-2.08	159.11		
31-01-90	18:48:00	7.800	2313.33	2.13	159.11		
31-01-90	18:49:00	7.817	2314.70	1.37	159.11		Gradient = .241
31-01-90	18:50:00	7.833	2311.27	-3.42	159.11		Pull out of hole
31-01-90	18:59:00	7.983	2112.94	-198.33	159.11		13th stop at 1000'K
31-01-90	19:12:00	8.200	2108.66	-4.29	159.11		
31-01-90	19:13:00	8.217	2108.75	0.10	159.11		
31-01-90	19:14:00	8.233	2107.28	-1.47	159.11		
31-01-90	19:15:00	8.250	2107.34	0.06	159.11		
31-01-90	19:16:00	8.267	2106.61	-0.73	159.11		
31-01-90	19:17:00	8.283	2106.60	-0.01	159.11		
31-01-90	19:18:00	8.300	2108.69	2.10	159.11		
31-01-90	19:19:00	8.317	2108.71	0.02	159.11		
31-01-90	19:20:00	8.333	2105.95	-2.76	159.11		
31-01-90	19:21:00	8.350	2109.49	3.54	159.11		
31-01-90	19:22:00	8.367	2108.69	-0.80	159.11		
31-01-90	19:23:00	8.383	2108.03	-0.66	159.11		
31-01-90	19:24:00	8.400	2105.24	-2.79	159.11		
31-01-90	19:25:00	8.417	2106.66	1.41	159.11		Gradient = .204
31-01-90	19:26:00	8.433	2107.36	0.70	159.11		Pull out of hole

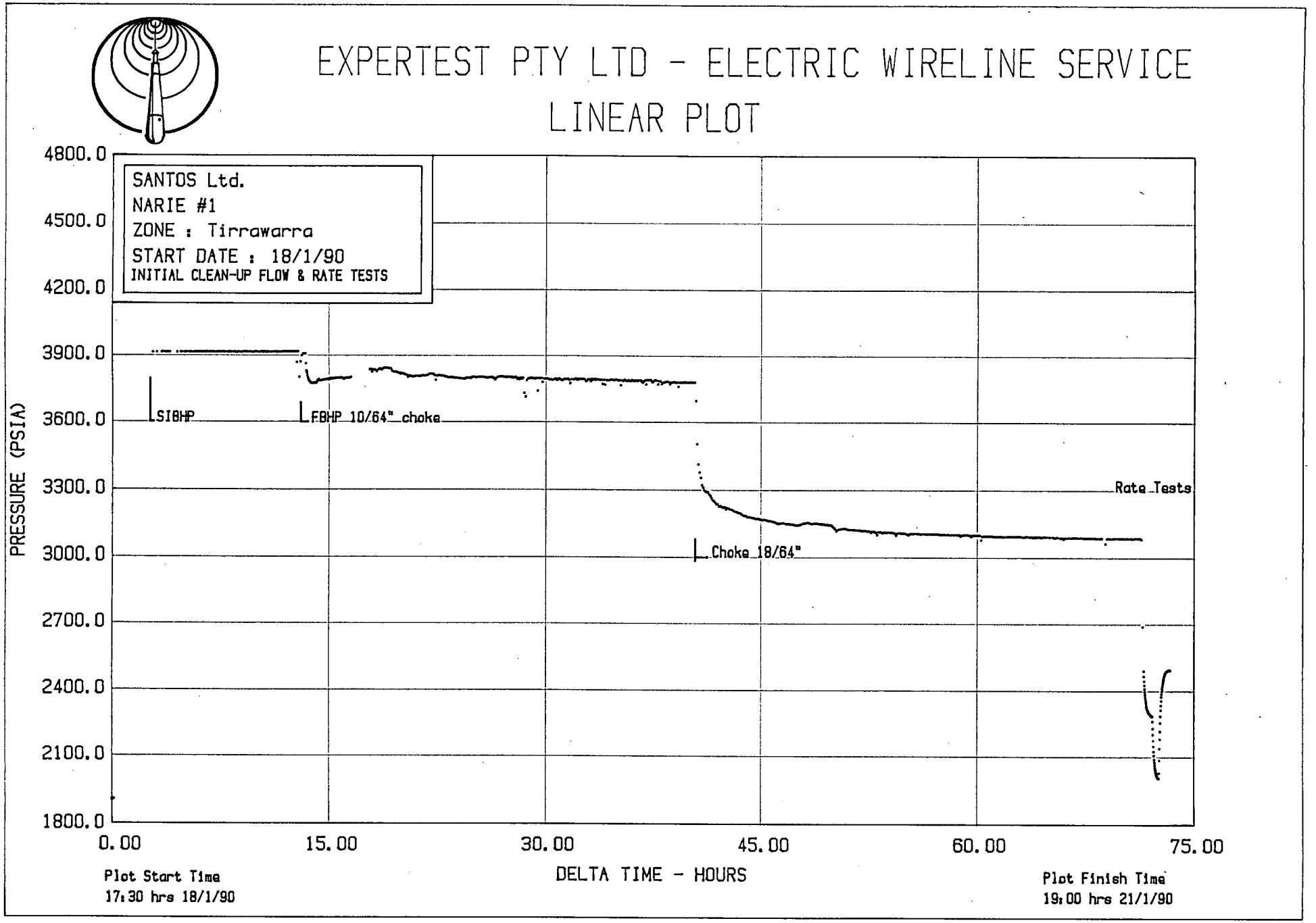
EXPERTEST PTY. LTD.

CUSTOMER : SANTOS Ltd. DATE: 31-01-90 HP GAUGE S/N: 725
LOCATION : NARIE #1 TEST: Mod. Isochronal OPERATOR: T Chapman
FORMATION: Tirrawarra PERFORATIONS: 8830'-8970'KB GAUGE DEPTH: Grad'nt
COMMENTS : Static Gradient pulling out of hole

DATE	REAL TIME	DELTA T (HRS)	B.H.P. (PSIA)	DELTA P (PSI)	TEMP (°F)	SURFACE (PSIG)	REMARKS
31-01-90	19:40:00	8.667	304.76	-802.60	159.11		14th stop at surfac
31-01-90	20:39:00	9.650	1956.41	1651.65	80.65		
31-01-90	20:40:00	9.667	1953.65	-2.76	80.65		Gauge fails in
31-01-90	20:41:00	9.683	1947.06	-6.59	80.65		the lubricator
31-01-90	20:42:00	9.700	1956.17	9.11	80.65		
31-01-90	20:43:00	9.717	1961.28	5.11	80.65		Gradient = .112
31-01-90	20:44:00	9.733	1963.94	2.66	80.65		
31-01-90	20:45:00	9.750	1956.11	-7.83	80.65	1980	END OF SURVEY

EXPERTEST PTY LTD - ELECTRIC WIRELINE SERVICE

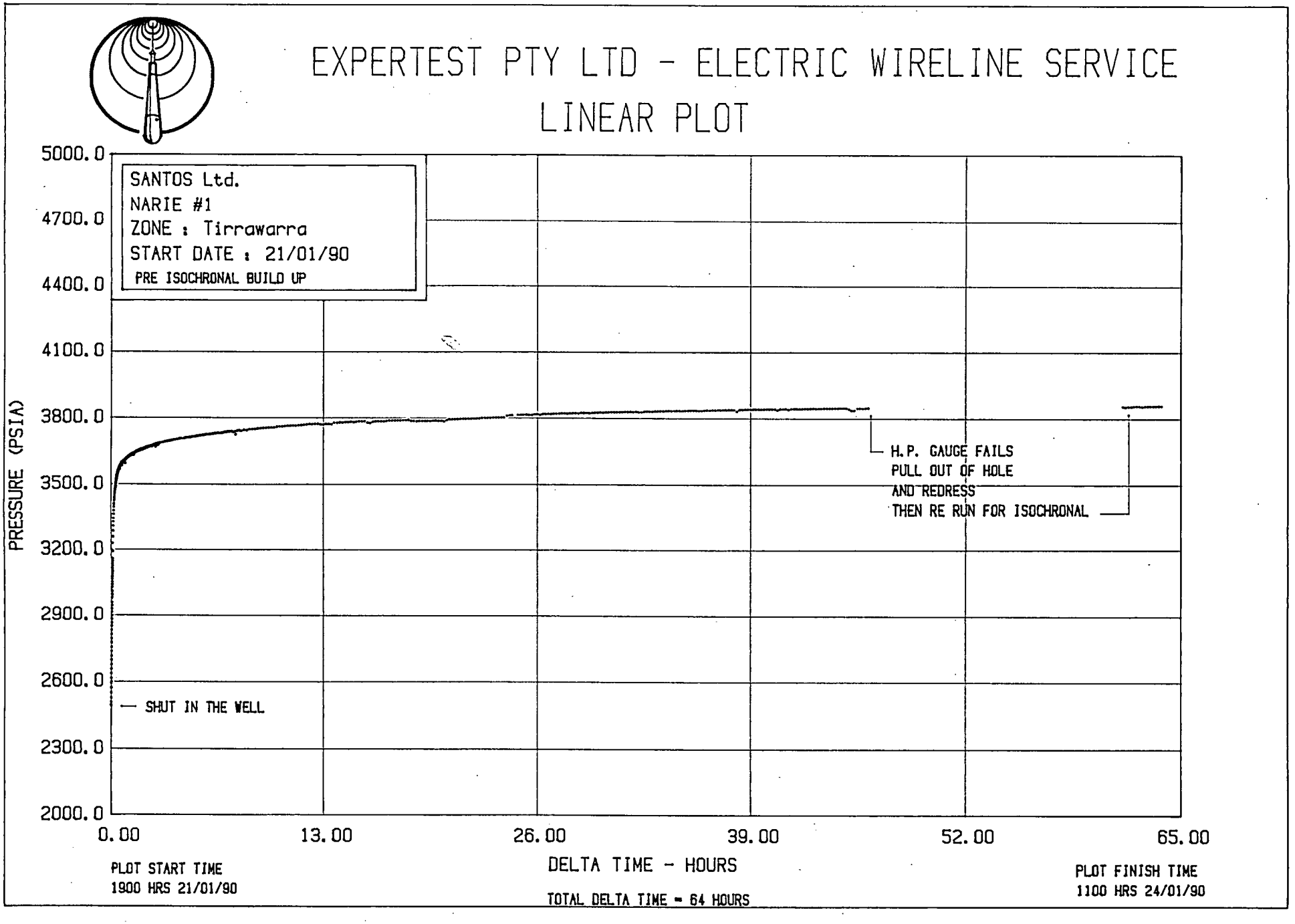
LINEAR PLOT



0201

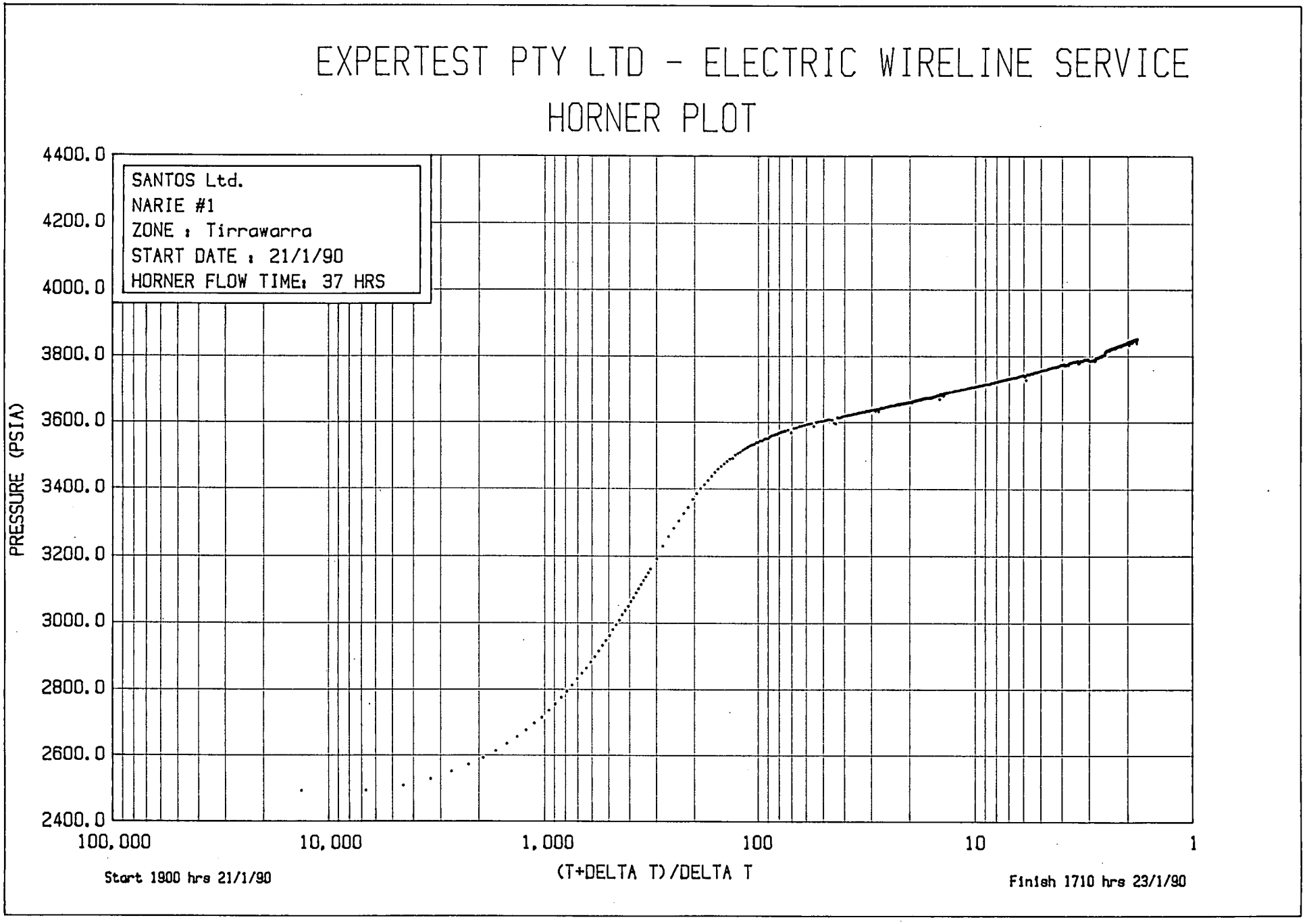
EXPERTEST PTY LTD - ELECTRIC WIRELINE SERVICE

LINEAR PLOT



EXPERTEST PTY LTD - ELECTRIC WIRELINE SERVICE

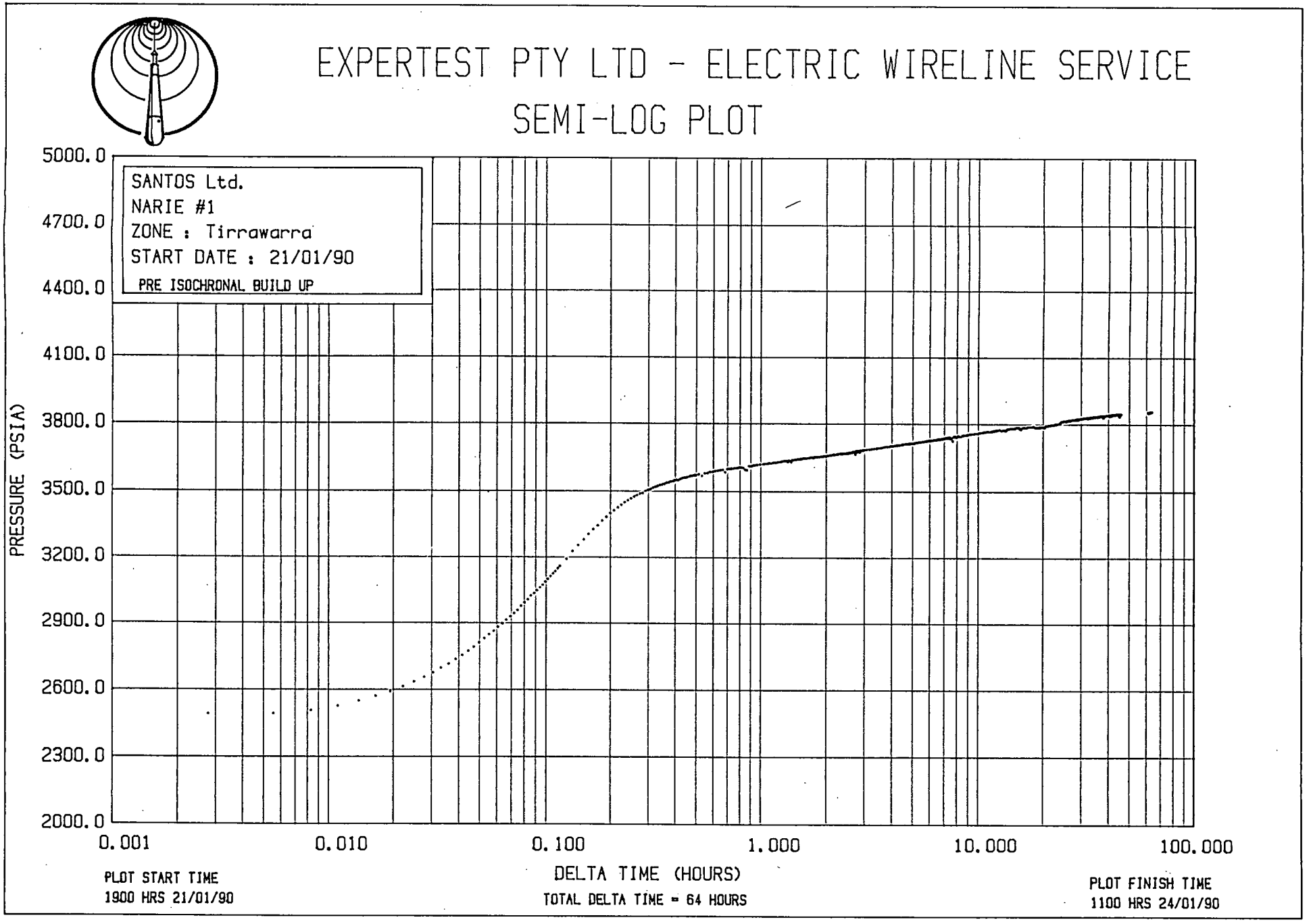
HORNER PLOT



0203

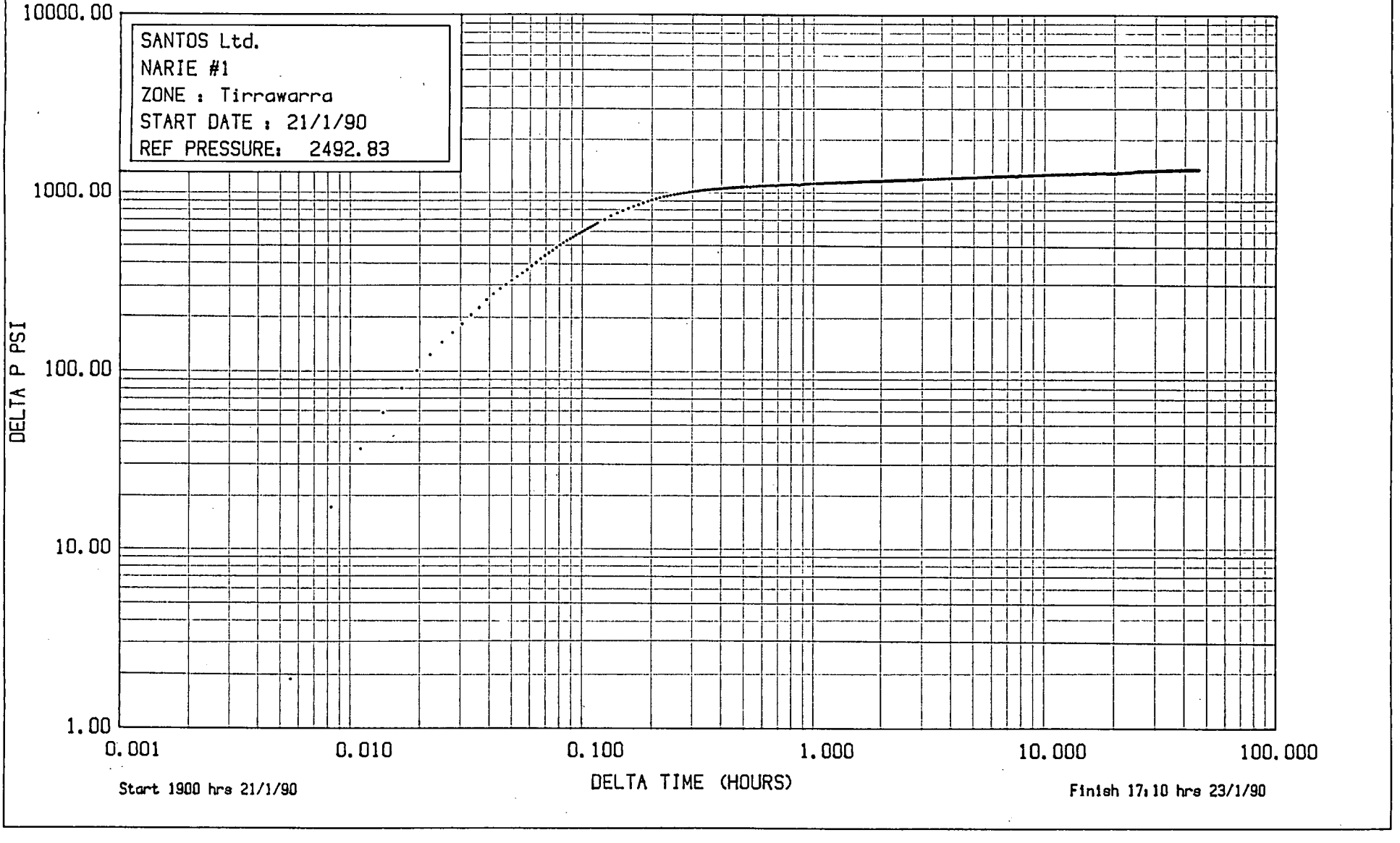
EXPERTEST PTY LTD - ELECTRIC WIRELINE SERVICE

SEMI-LOG PLOT



EXPERTEST PTY LTD - ELECTRIC WIRELINE SERVICE

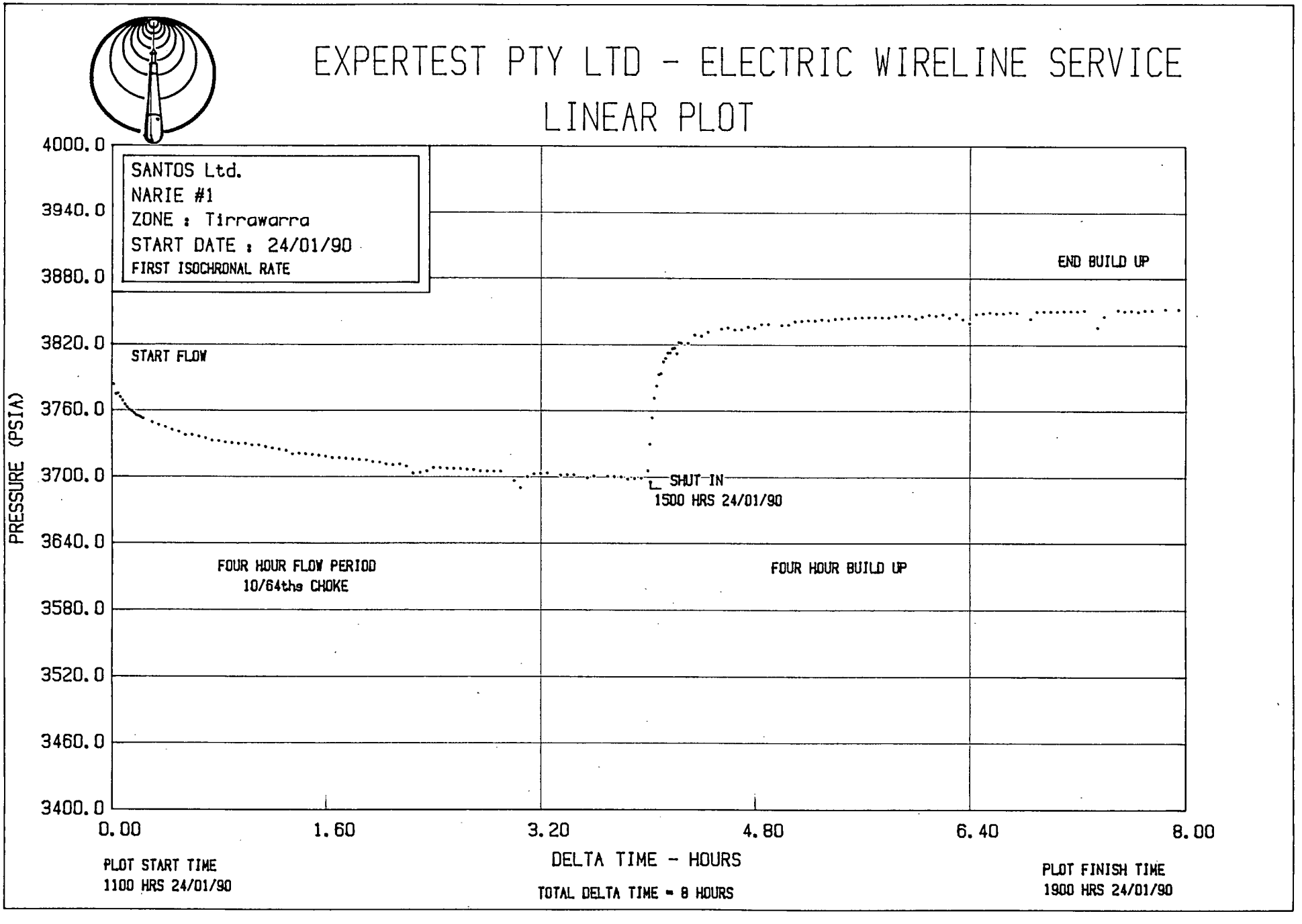
LOG-LOG PLOT



0205

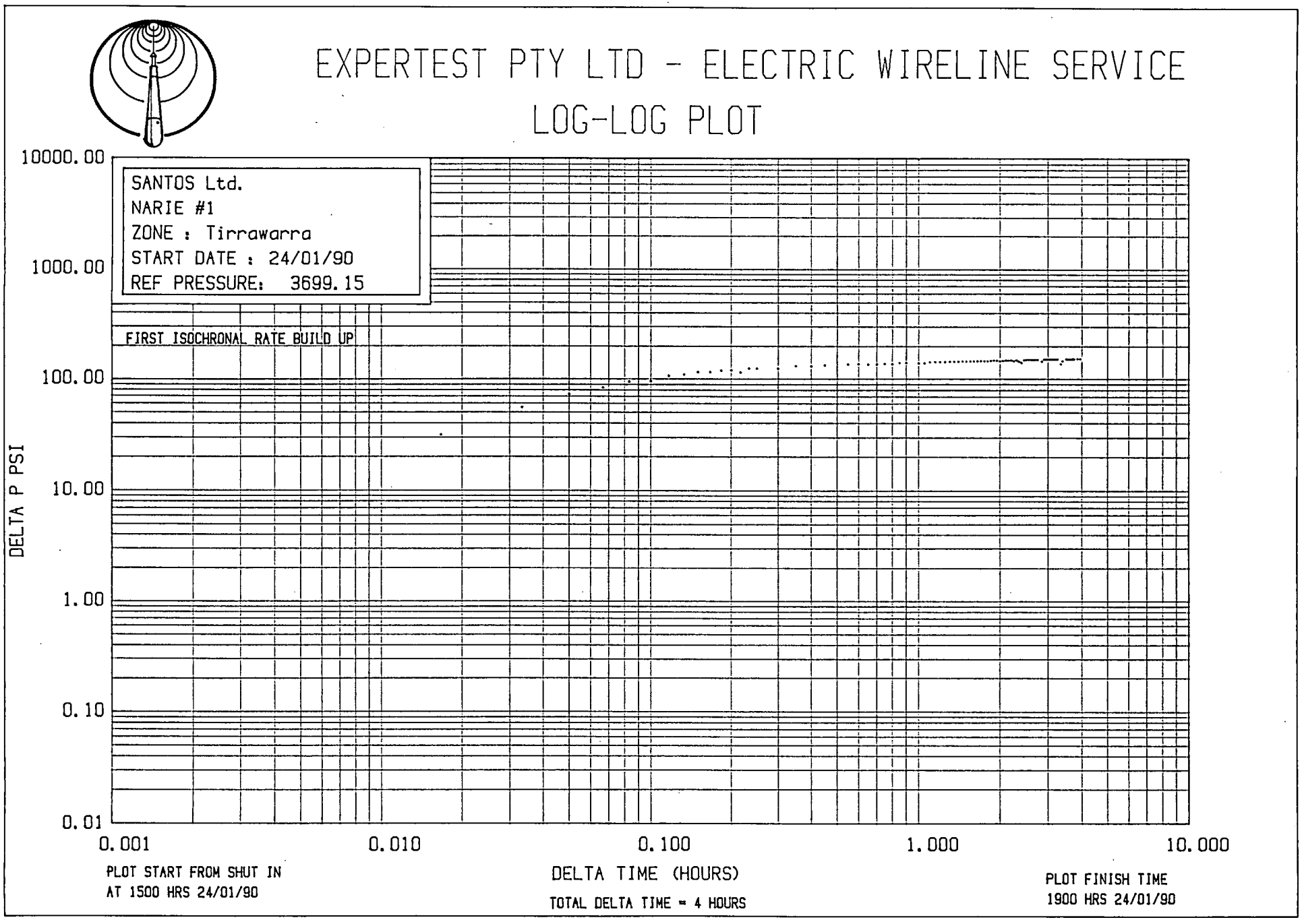
EXPERTEST PTY LTD - ELECTRIC WIRELINE SERVICE

LINEAR PLOT



EXPERTEST PTY LTD - ELECTRIC WIRELINE SERVICE

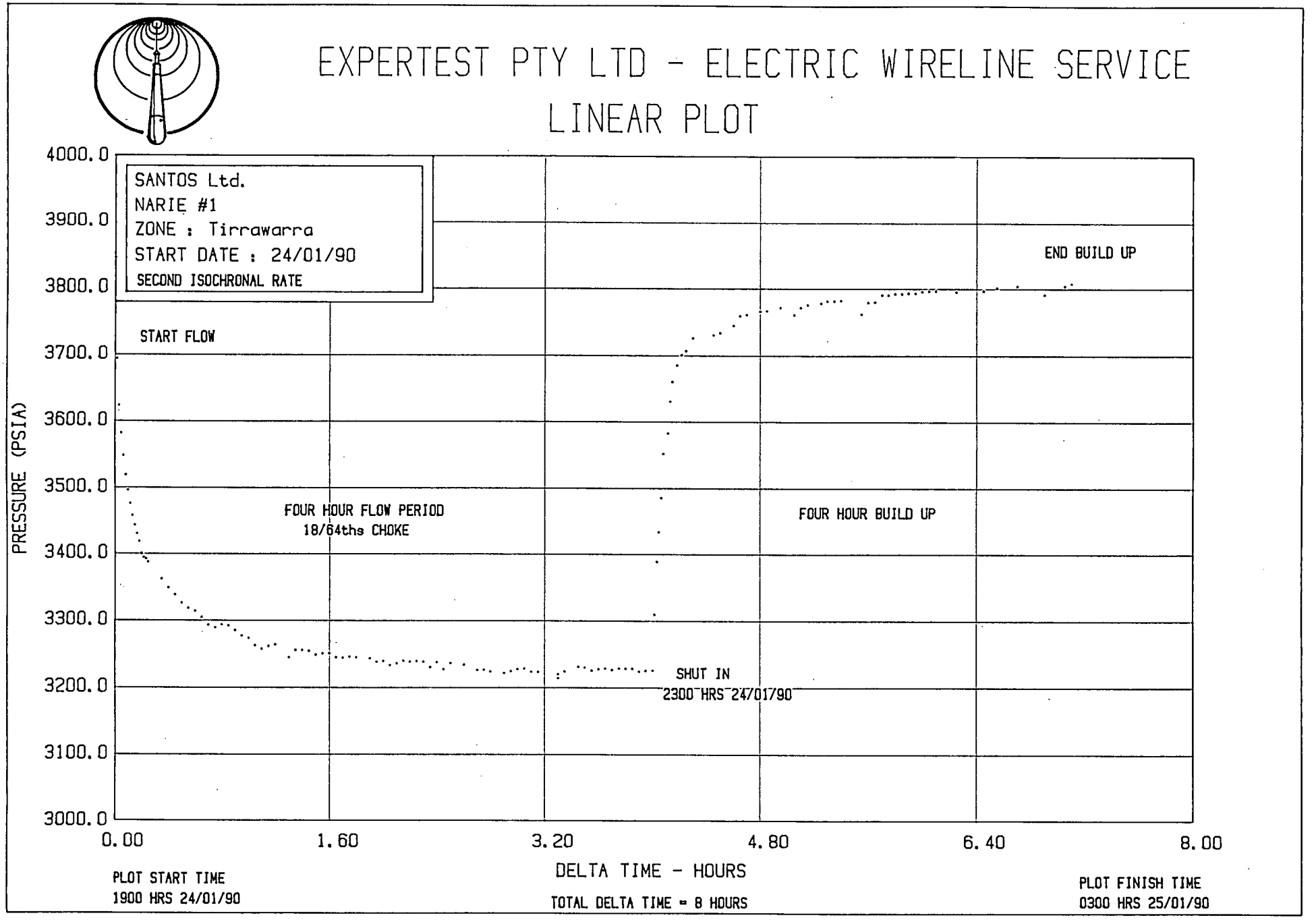
LOG-LOG PLOT



0206

EXPERTEST PTY LTD - ELECTRIC WIRELINE SERVICE

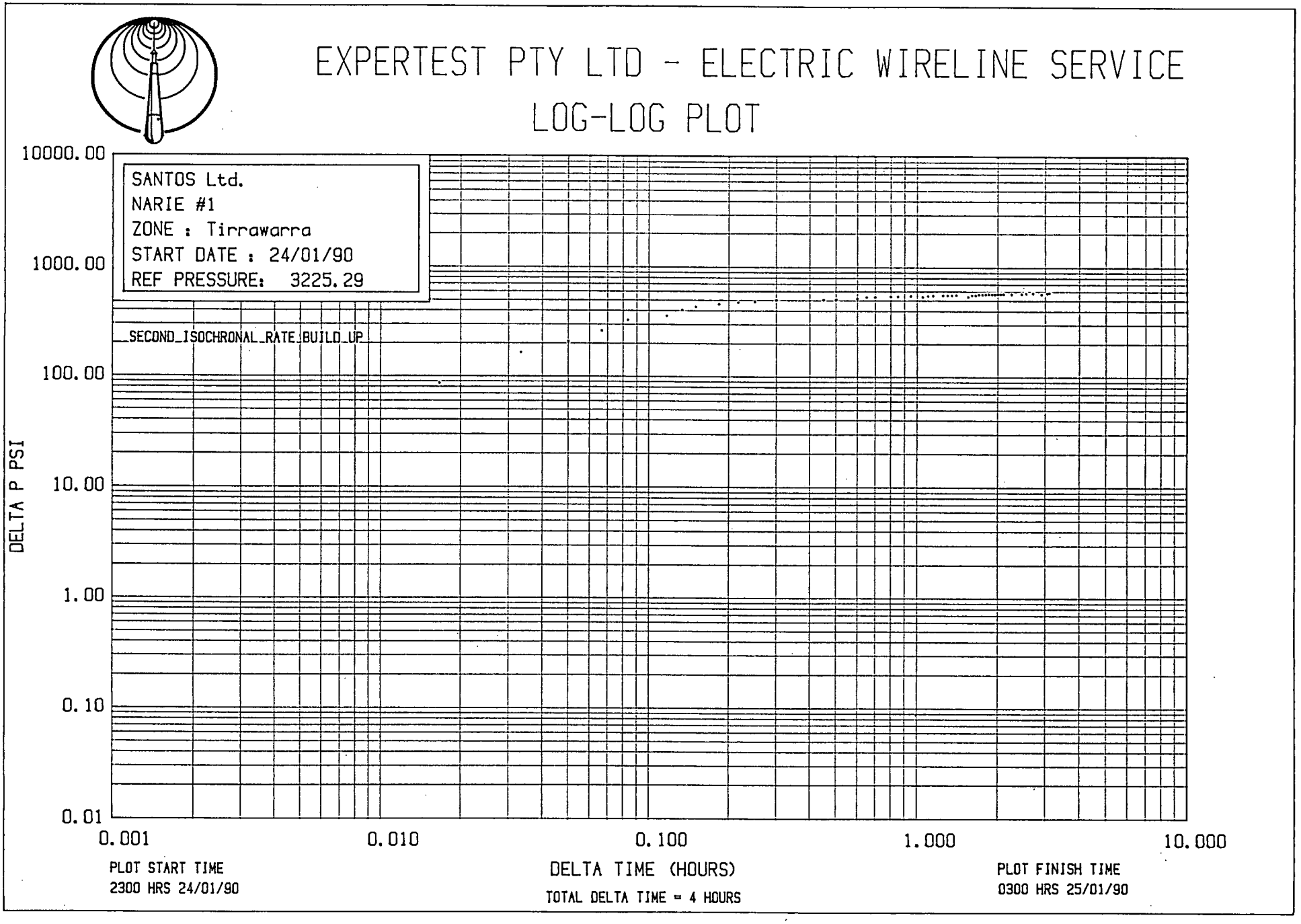
LINEAR PLOT



0207

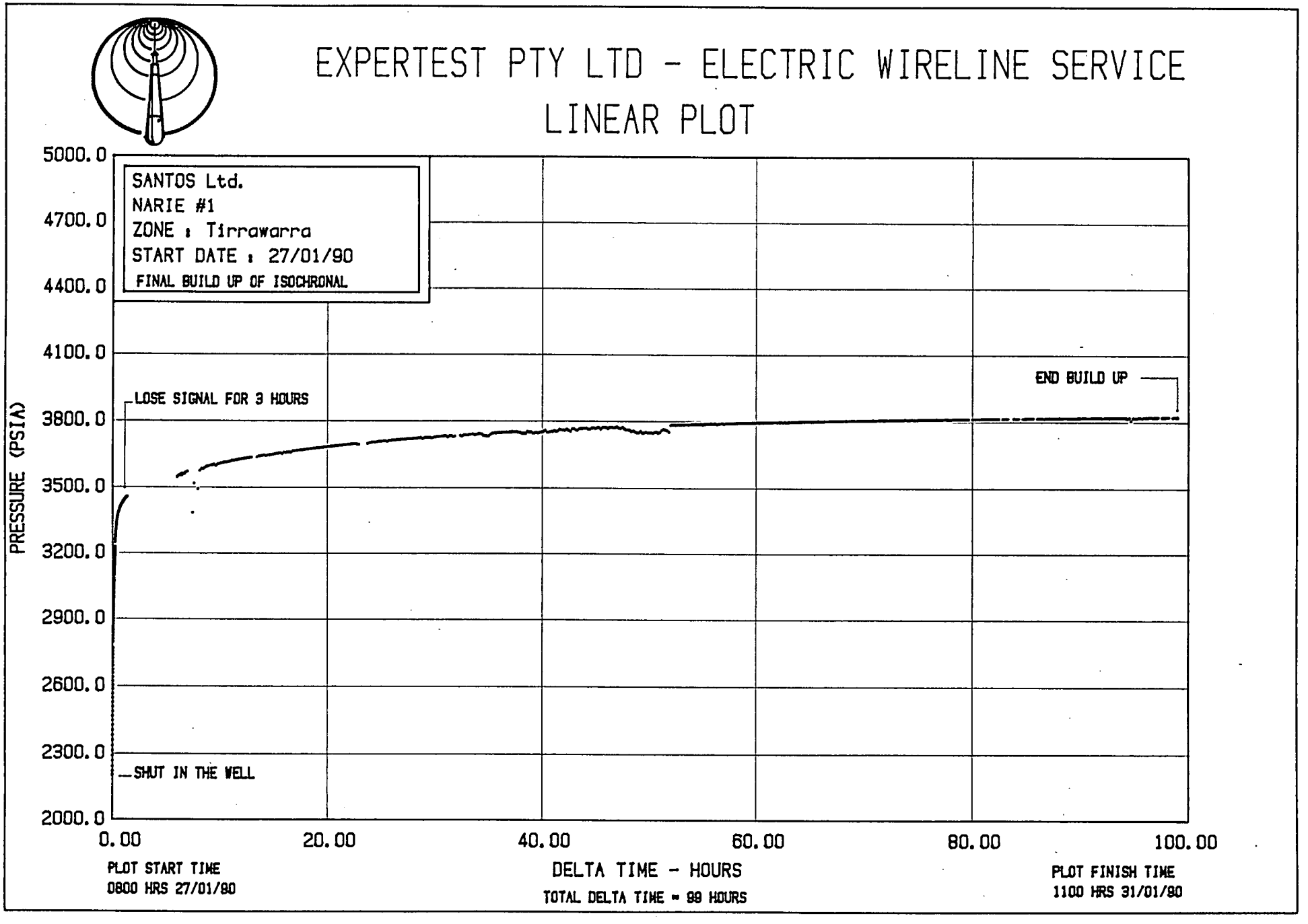
EXPERTEST PTY LTD - ELECTRIC WIRELINE SERVICE

LOG-LOG PLOT



EXPERTEST PTY LTD - ELECTRIC WIRELINE SERVICE

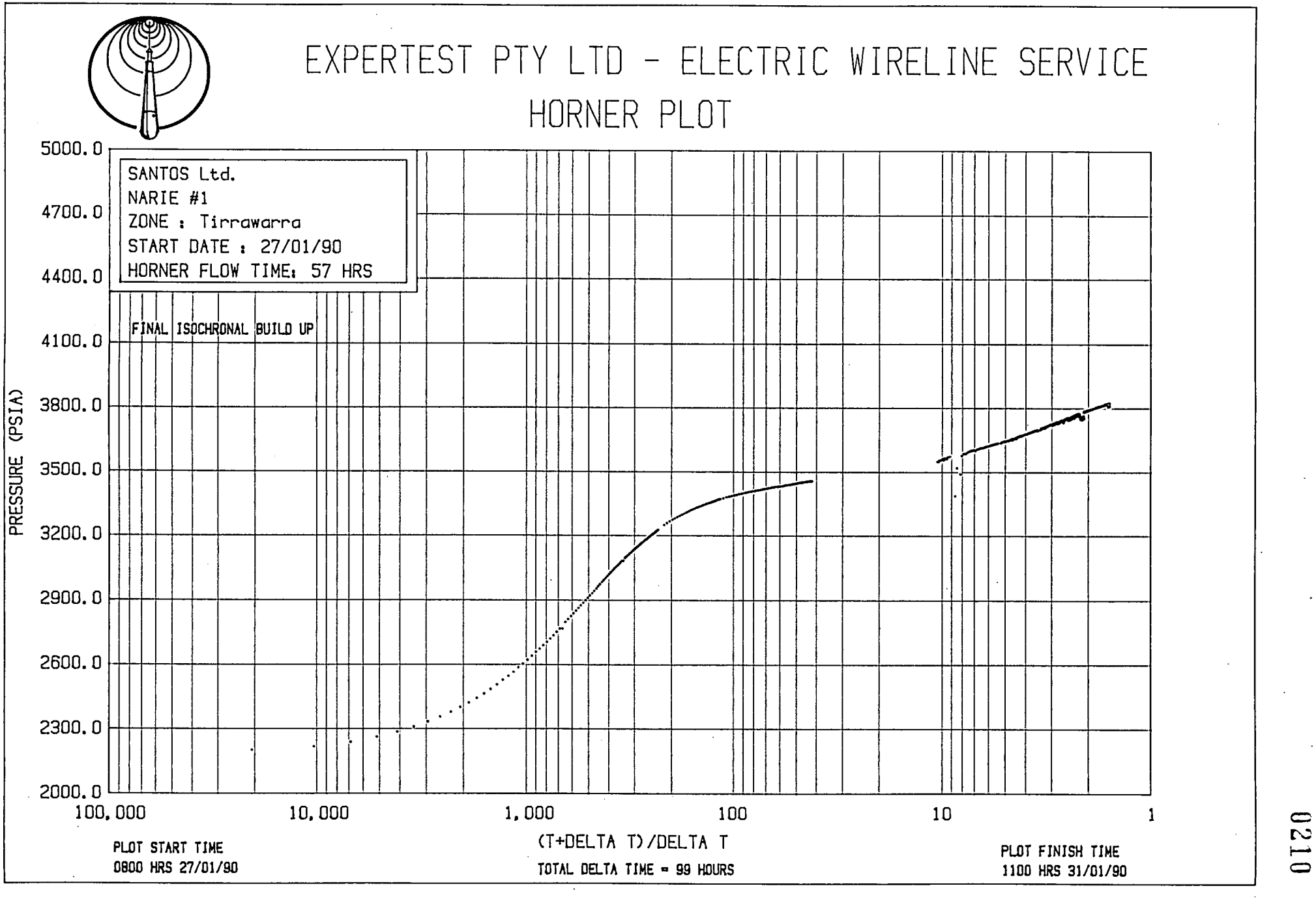
LINEAR PLOT



0209

EXPERTEST PTY LTD - ELECTRIC WIRELINE SERVICE

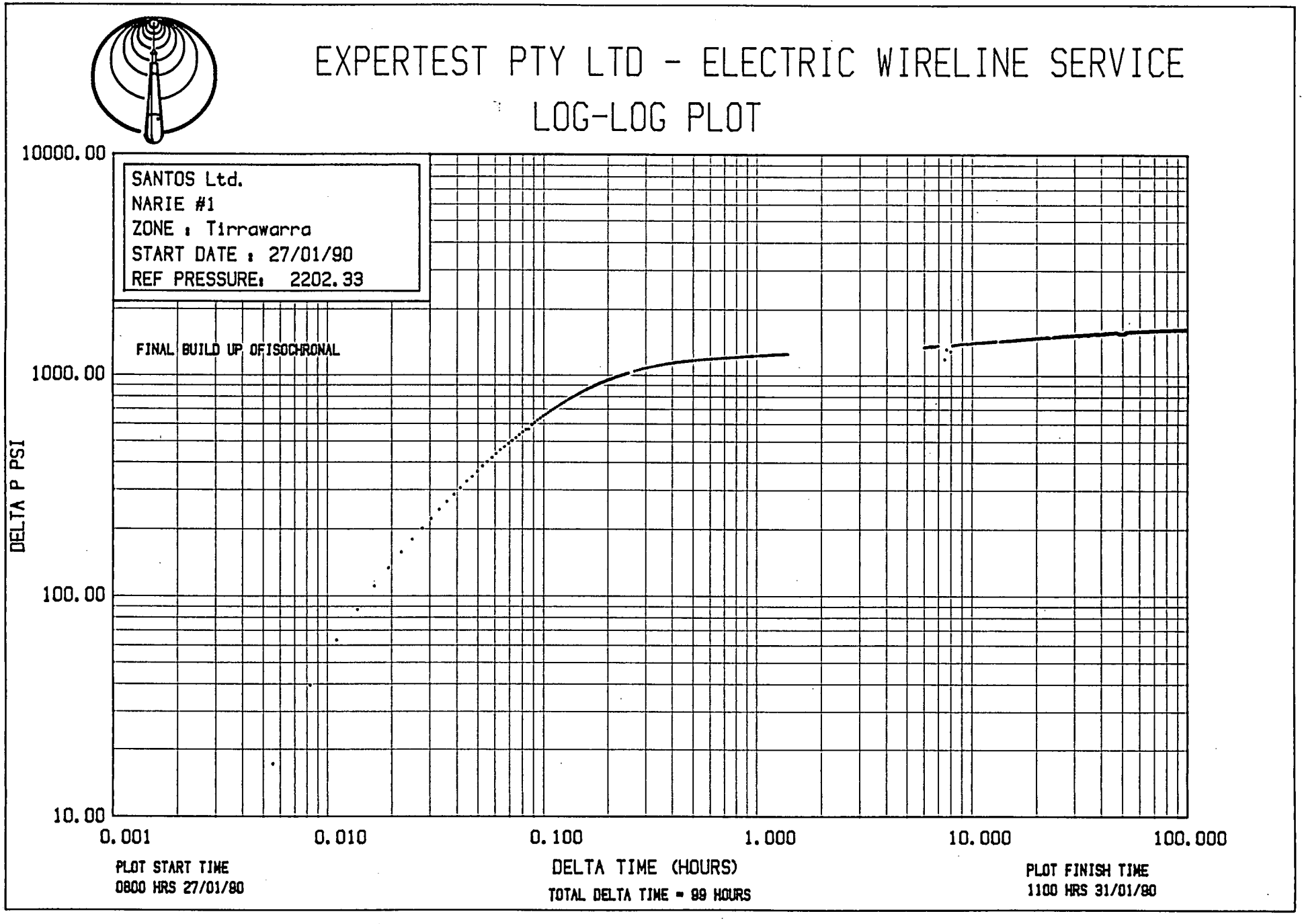
HORNER PLOT



0210

EXPERTEST PTY LTD - ELECTRIC WIRELINE SERVICE

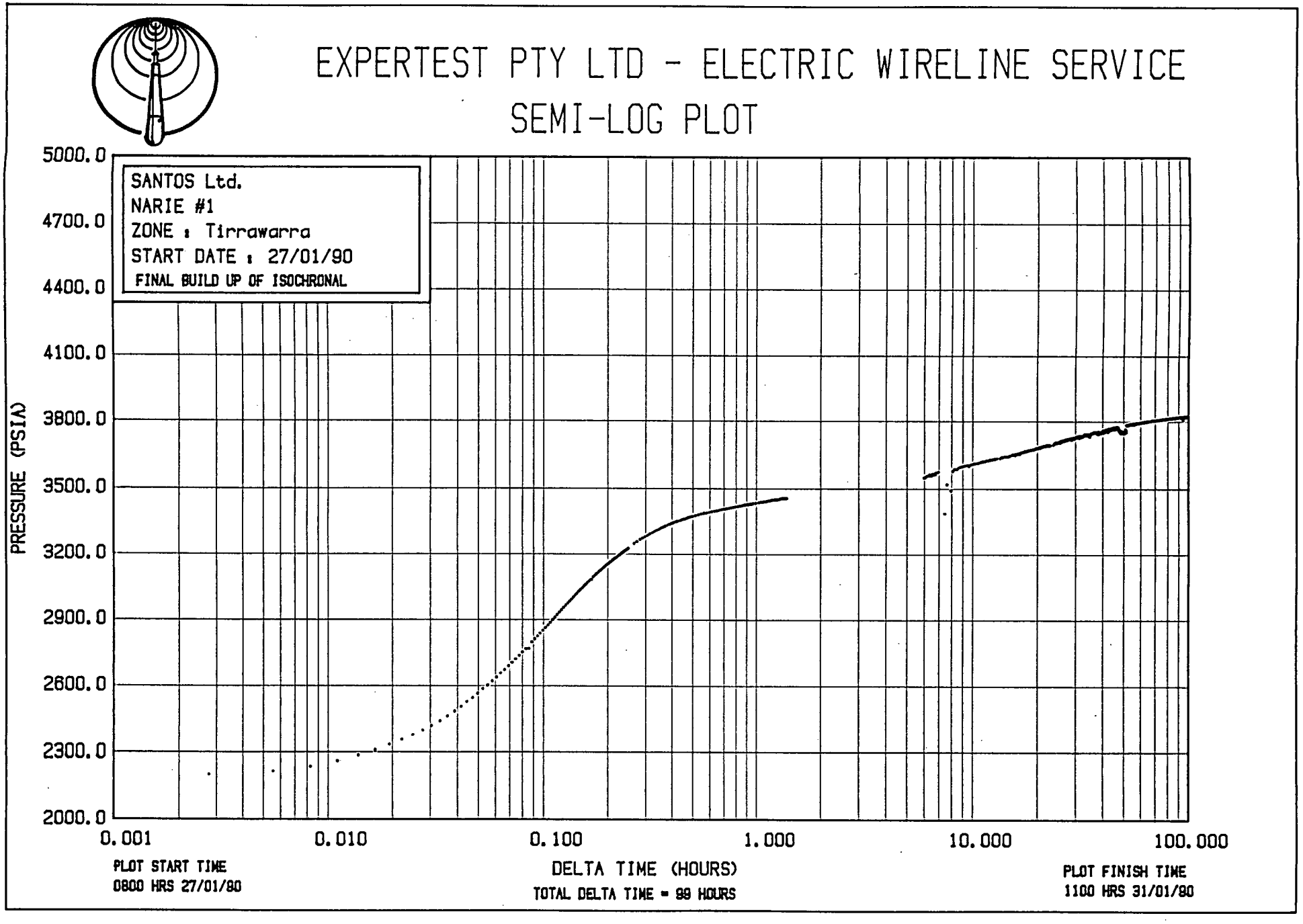
LOG-LOG PLOT



0211

EXPERTEST PTY LTD - ELECTRIC WIRELINE SERVICE

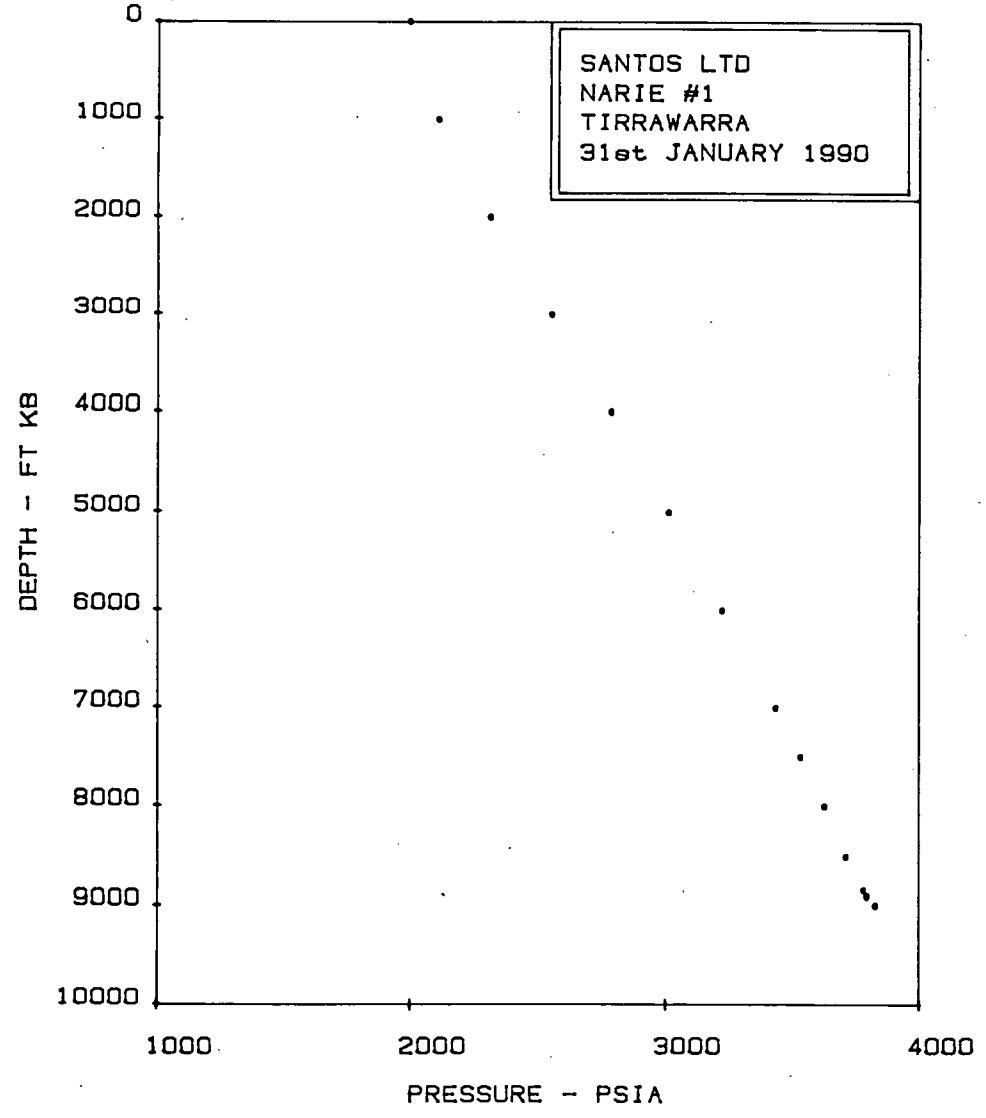
SEMI-LOG PLOT



0212

EXPERTEST PTY LTD - ELECTRIC WIRELINE SERVICE

STATIC GRADIENT SURVEY



STOP	TIME	DEPTH ('KB)	PRESSURE (PSIA)	GRADIENT (PSI/FT)
1	1050	9000	3825.97	----
2	1104	8915	3791.48	0.4058
3	1125	8855	3778.49	0.2165
4	1150	8500	3709.29	0.1949
5	1241	8000	3624.40	0.1698
6	1347	7500	3530.43	0.1879
7	1425	7000	3431.66	0.1975
8	1511	6000	3218.63	0.2130
9	1541	5000	3010.85	0.2078
10	1612	4000	2784.36	0.2265
11	1754	3000	2552.57	0.2318
12	1830	2000	2311.27	0.2413
13	1859	1000	2107.36	0.2039
14	1939	LUB.	1995.00	0.1124

GRADIENT CONDUCTED WHILE PULLING OUT OF HOLE

SANTOS LIMITED

NARIE #1

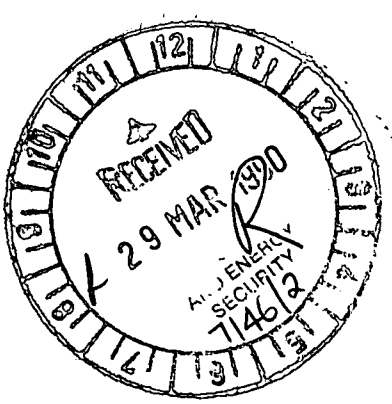
TIRRAWARRA

MODIFIED ISOCHRONAL

IN CONJUNCTION WITH

ELECTRICLINE SURVEY

16TH - 31ST JANUARY, 1990



EXPERTEST PTY. LTD.

SEQUENCE OF EVENTS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 1 OF 4.
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 16TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL TEST		OPR : I. KURASIAK

DATE/TIME	DESCRIPTION OF EVENTS
1500	ARRIVE ON LOCATION AND RIG IN HEATER-SEPARATOR #37 - TEST TANK AND FRAC TANK. WAIT ON ELECTRIC WIRELINE UNIT.
17TH JANUARY 1990	
	WAIT ON ELECTRIC WIRELINE UNIT.
1645	PRESSURE TEST ALL LINES UP TO GATE VALVE ON SEPARATOR AND WAIT ON ELECTRIC WIRELINE UNIT.
18TH JANUARY 1990	
	WAIT ON ELECTRIC WIRELINE UNIT.
1815	PRESSURE UP SEPARATOR AND START HEATER - WAIT ON STABLE SIGNAL OF BOTTOM HOLE GAUGES.
19TH JANUARY 1990	
0637	PRESSURE UP SEPARATOR AND START HEATER.
0700	OPEN WELL BYPASS SEPARATOR ON 10/64 CHOKE SIZE (ADJUSTABLE) LIQUID TO THE SURFACE IN FIRST MIN OF FLOW.
0800	TRIM FLOW THROUGH SEPARATOR AND START TESTING.
1500	CHANGED TANK COMPARTMENTS FROM #1 TO #2.
1700	SALINITY 107700PPM/SALT.
2200	CHANGED TANK COMPARTMENTS FROM #2 TO #1 SALINITY 71400PPM/SALT
2300	CHANGED TANK COMPARTMENTS FROM #1 TO #2.
2400	CHANGED TANK COMPARTMENTS FROM #2 TO #1.
20TH JANUARY 1990	
0100	CHANGED TANK COMPARTMENTS FROM #1 TO #2.
0200	CHANGED TANK COMPARTMENTS FROM #2 TO #1.
0300	CHANGED TANK COMPARTMENTS FROM #1 TO #2.
0400	CHANGED TANK COMPARTMENTS FROM #2 TO #1.

EXPERTEST PTY. LTD.

SEQUENCE OF EVENTS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 2 OF 4
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 20TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : I. KURASIAK

DATE/TIME	DESCRIPTION OF EVENTS
0500	CHANGED TANK COMPARTMENTS FROM #1 TO #2.
0600	CHANGED TANK COMPARTMENTS FROM #2 TO #1.
0700	CHANGED TANK COMPARTMENTS FROM #1 TO #2 AND DRAIN COMPARTMENT #1.
0800	CHANGED TANK COMPARTMENTS FROM #2 TO #1 AND DRAIN COMPARTMENT #2.
0900	CHANGED TANK COMPARTMENTS FROM #1 TO #2.
1000	OPEN CHOKE SIZE TO 8/64 AND CHANGE ORIFICE PLATE TO 1.250".
1100	CHANGED TANK COMPARTMENTS FROM #2 TO #1.
1200	CHANGED FLOW FROM TEST TANK TO FRAC TANK #65.
1300	SALINITY - 55400PPM/SALT.
1500	RIG IN FRAC TANK #61 TO TANK MANIFOLD.
1700	DEPRESSURE ANNULUS PRESSURE TO 120psi.
2100	SALINITY - 33900PPM/SALT.
2400	CHANGED FRAC TANKS FROM #65 TO #61.
21ST JANUARY 1990	
0600	SALINITY - 19300PPM/SALT.
0945	START TAKING GAS SAMPLE #1 BOTTLE NO #5586 AND H.P. OIL SAMPLE #1 BOTTLE NO #014.
1030	SAMPLE OF GAS AND OIL #1 COMPLETED.
1045	START TAKING HP GAS SAMPLE #2 BOTTLE NO #5589 AND HP OIL SAMPLE #2 BOTTLE NO #031.
1130	SAMPLE OF GAS AND OIL #2 COMPLETED.
1145	START TAKING HP GAS SAMPLE #3 BOTTLE NO # 5588 AND HP OIL SAMPLE 33 BOTTLE NO # 117.
1230	SAMPLE OF GAS AND OIL #3 COMPLETED.
1230	SALINITY - 19300PPM/SALT.
	FLOW WELL TO VERIFY SAMPLES WERE TAKEN AT STABLE CONDITIONS.

EXPERTEST PTY. LTD.

SEQUENCE OF EVENTS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 3 OF 4
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 21ST JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : I. KURASIAK

DATE/TIME	DESCRIPTION OF EVENTS
1700	CHANGED FRAC TANKS FROM #61 TO #65.
1700	INCREASE VARIABLE CHOKE SETTING TO 32/64 FOR RATE NO5 OF ISOCHRONAL TEST FLOW.
1745	INCREASE VARIABLE CHOKE SETTING TO 40/64 FOR RATE NO4 " " " ".
1810	DECREASE CHOKE SETTING TO 28/64 FOR RATE NO3 " " " ".
1900	SHUT WELL IN FOR BUILD UP. SALINITY OF H^2O SAMPLE 9620PPM/SALT.
	FOR RATE NO 2 CHOKE SETTING IS 18/64.
	FOR RATE NO 1 CHOKE SETTING IS 10/64.
22ND JANUARY 1990	
	CONTINUE BUILD UP.
0730	EMPTY TEST TANKS AND FRAC TANKS AND TRANSFER OIL TO MOOMBA.
23RD JANUARY 1990	
	CONTINUE BUILD UP.
1715	PULL OUT OF HOLE E-LINE AND RESET GAUGES.
2325	PRESSURE UP LUBRICATOR.
24TH JANUARY 1990	
0715	RUN IN HOLE E-LINE.
0800	ON BOTTOM @ 9000'KB.
1000	PRESSURE UP VESSEL AND START HEATER.
1100	OPEN WELL ON 10/64 CHOKE SIZE AND START RATE NO1 OF ISO TEST.
1500	END OF RATE #1.
1900	START RATE #2 18/64
2300	END OF RATE #2

EXPERTEST PTY. LTD.

SEQUENCE OF EVENTS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 4 OF 4
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 25TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : J. HOFF

DATE/TIME	DESCRIPTION OF EVENTS
0300	START RATE #3 28/64 B.H.P. GAUGE FAILED NOT ON LINE.
0700	SHUT IN END RATE #3.
1100	START RATE #4 40/64.
1500	DECREASE CHOKE TO 32/64 FOR EXTENDED RATE.
1630	PULL B.H.P. GAUGE OUT OF HOLE/SHIP OIL FROM FRAC TANKS #61 & #65 64571 LITRES/406BBLS.
1706	CUT CHOKE TO 16/64 TO BRING GAUGE TO SURFACE.
1723	@ SURFACE OPEN WELL ON 32/64.
26TH JANUARY 1990	
0105	CUT CHOKE TO R.I.H. WITH GAUGE.
0200	OPEN CHOKE TO 32/64 FOR EXTENDED RATE GAUGE @ HANG DEPTH 8957' 9000'KB.
1600	SHIP OIL FROM TKS # 65 & 61 = 61512 LITRES OR 387 BBLS.
27TH JANUARY 1990	
0800	SHUT IN WELL FOR BUILD UP. REFER TO E-LINE BUILD UP REPORT.
1100	E-LINE GAUGE CRASHED.
1630	E-LINE GAUGE BACK ON LINE CONTINUE BUILD UP.
28TH JANUARY 1990	
0800	RIG OUT TESTING EQUIPMENT.
	SANTOS PRODUCTION TO SHIP OIL.
29TH JANUARY 1990	
1000	TEST EQUIPMENT TO BE MOVED OFF LOCATION.

EXPERTEST PTY. LTD.

BHP/BHT GAUGE RUN DATA

CUSTOMER :	SANTOS LIMITED	PERFORATIONS: 8830' - 8970' KB	PAGE: ONE OF ONE
WELL NAME:	NARIE #1	FORMATION : TIRRAWARRA	DATE: 23/1/90
TEST TYPE :	MODIFIED ISOCHRONAL		OPR : J. METCALF

GAUGE DATA	UPPER PRESSURE GAUGE	LOWER PRESSURE GAUGE	TEMPERATURE GAUGE
ELEMENT SERIAL NO.	HP SRO	59451	
ELEMENT RANGE		5000 psi	
RECORDING SECTION SERIAL NO.		13028	
DATE OF CALIBRATION:			
CLOCK SERIAL NO.		2891	
CLOCK RANGE		180 hrs	
LEAD SCREW TYPE		15 tls	
ENGAGE STYLUS DATE 18/1/90 TIME		14:37 hrs	
DISENGAGE STYLUS DATE 23/1/90 TIME		18:10 hrs	

RUN DATA		TIME (HOURS)	TUBING PRESSURE (PSI/KPa)	ANNULUS PRESSURE (PSI/KPa)
DATE : 18/1/90				
PRESSURE LUBRICATOR :		14:55	13307	Ø
RUN IN HOLE :		17:50	13163	Ø
ON DEPTH AT : 9000	FT/M	18:25	13156	Ø
DATE : 23/1/90				
PULL OUT OF HOLE :		17:15	13369	Ø
AT SURFACE :		18:00	13273	Ø
DEPRESSURE LUBRICATOR :		18:05		

MAXIMUM BHT AT 9000 FT/M = 283 °F/C

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

DATE	TIME	REMARKS
18/1/90	18:25	HANG OFF AT 9000' KB OVERNIGHT AND MONITOR STATIC BOTTOM HOLE PRESSURE
19/1/90	07:00	START CLEAN UP FLOW, OPEN ON 10/64ths CHOKE - FLOW THROUGH SEPARATOR TO FLARE
20/1/90	10:00	INCREASE CHOKE TO 18/64ths.
21/1/90	17:00	SET ISOCHRONAL FLOW RATES
	19:00	SHUT IN THE WELL FOR BUILD UP
23/1/90	17:15	PULL OUT OF HOLE TO REDRESS HP SOR GAUGE - CABLE HEAD AND AMERADA

ET-108

EXPERTEST PTY. LTD.

BHP/BHT GAUGE RUN DATA

CUSTOMER :	SANTOS LIMITED	PERFORATIONS: 8830' - 8970' KB	PAGE: ONE OF 1
WELL NAME:	NARIE #1	FORMATION : TIRRAWARRA	DATE: 25/1/90
TEST TYPE :	MODIFIED ISOCHRONAL		OPR : TIM CHAPMAN

GAUGE DATA	UPPER PRESSURE GAUGE	LOWER PRESSURE GAUGE	TEMPERATURE GAUGE
ELEMENT SERIAL NO.	HP SRO 795	60322	
ELEMENT RANGE		5000 psi	
RECORDING SECTION SERIAL NO.		12952	
DATE OF CALIBRATION:			
CLOCK SERIAL NO.		#2	
CLOCK RANGE		120 hr.	
LEAD SCREW TYPE		15 tls.	
ENGAGE STYLUS DATE 23/1/90 TIME		22:15	
DISENGAGE STYLUS DATE 25/1/90 TIME		18:37	

RUN DATA	TIME (HOURS)	TUBING PRESSURE (PSI/KPa)	ANNULUS PRESSURE (PSI/KPa)
DATE : 23/1/90			
PRESSURE LUBRICATOR :	28:25	13273	ø
RUN IN HOLE : 24/1/90	07:15	13307	ø
ON DEPTH AT : 9000 FT/M	08:00	13307	ø
DATE : 25/1/90			
PULL OUT OF HOLE :	16:30	8025	9053
AT SURFACE :	17:20	11197	9232
DEPRESSURE LUBRICATOR :	17:25		
MAXIMUM BHT AT 9000 FT/M = 292 °F/C WITH THERMOMETER			
N.B. ALL DEPTHS ARE MEASURED FROM K.B.			

DATE	TIME	REMARKS
24/1/90	08:00	HANG OFF AT 9000'KB AND MONITOR STATIC BOTTOM HOLE PRESSURE
	11:00	START ISOCHRONAL SURVEY
	11:00	FIRST RATE: 4 HOURS FLOW ON 10/64 CHOKE FOLLOWED BY 4 HOURS BUILD UP
	19:00	SECOND RATE: 4 HOURS FLOW ON 18/64 CHOKE FOLLOWED BY FOUR HOURS BUILD UP
	*	HP. SRO GAUGE FAILS - CONTINUE SURVEY WITH AMERADA
25/1/90	03:00	THIRD RATE: 4 HOURS FLOW ON 28/64 CHOKE FOLLOWED BY 4 HOURS BUILD UP
	11:00	FOURTH RATE: 4 HOUSE FLOW ON 40/64 CHOKE
	15:00	CUT THE CHOKE TO 32/64 AND START 24 HOUR EXTENDED FLOW PERIOD
	16:30	PULL OUT OF HOLE TO CHANGE OUT HP. SOR GAUGE & REDRESS CABLE HEAD & AMERADA

EXPERTEST PTY. LTD.

BHP/BHT GAUGE RUN DATA

CUSTOMER :	SANTOS LIMITED	PERFORATIONS: 8830' - 8970' KB	PAGE: 1 OF 1
WELL NAME:	NAIRE #1	FORMATION : TIRRAWARRA	DATE: 1/2/90
TEST TYPE :	MODIFIED ISOCHRONAL		OPR :

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.	HP SOR 725	60322		DATE : 25/1/90			
ELEMENT RANGE		5000 psi		PRESSURE LUBRICATOR :	23:50	7991	786
RECORDING SECTION SERIAL NO.		12952		RUN IN HOLE : 26/1/90	01:00	7978	1083
DATE OF CALIBRATION:				ON DEPTH AT : 9000 FT/M	01:57	11770	VAC.
CLOCK SERIAL NO.		#2		DATE : 31/1/90			
CLOCK RANGE		120 hr.		PULL OUT OF HOLE :	11:00	13673	VAC.
LEAD SCREW TYPE		15 tls.		AT SURFACE :	19:39	13666	VAC.
				DEPRESSURE LUBRICATOR :	21:00	13652	VAC.
ENGAGE STYLUS DATE 25/1/90 TIME		18:45		MAXIMUM BHT AT 9000' FT/M = 291 °F/C BY THERMOMETER			
DISENGAGE STYLUS DATE 1/2/90 TIME		07:50		N.B. ALL DEPTHS ARE MEASURED FROM K.B.			

DATE	TIME	REMARKS
26/1/90	01:00	WELL FLOWING ON EXTENDED RATE OF 32/64 CHOKE, CUT BACK TO 16/64 CHOKE TO RUN IN HOLE
	02:00	ON DEPTH INCREASE CHOKE BACK TO SURVEY SETTING OF 32/64
27/1/90	08:00	SHUT IN THE WELL FOR FINAL BUILD UP
30/1/90	18:45	120 hr. CLOCK RUNS OUT DOWN HOLE
31/1/90	11:00	END OF BUILD UP - CONDUCT A STATIC GRADIENT PULLING OUT OF HOLE
		END OF SURVEY.

ET 108

0221

EXPERTEST PTY. LTD.

BHP/BHT REPORT

CUSTOMER : SANTOS LIMITED		PERFORATIONS: 8830' - 8970' KB	PAGE: 1 OF 6
WELL NAME: NARIE #1		FORMATION : TIRRAWARRA	DATE: 24/1/90
TEST TYPE : MODIFIED ISOCHRONAL			OPR : TIM CHAPMAN

TIME		SURVEY	UPPER SRO PRESSURE GAUGE		LOWER PRESSURE GAUGE		TEMPERATURE GAUGE		WELLHEAD		
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	DEPTH (FT/M KB)	DEFLECTION (INCHES)	PRESSURE /KPa)	DEFLECTION (INCHES)	PRESSURE (PSI/KPa)	DEFLECTION (INCHES)	TEMPERATURE (°F/°C)	TUBING KPA	CASING KPA	REMARKS
			CLEAN UP FLOW AND BUILD UP COMPLETED - GAUGES BEING					REDRESSED			
24/1/90											
07:15		LUB		13262					13307	Ø	RUN IN THE HOLE
08:00		9000'							13397	Ø	AT SURVEY DEPTH
10:00				26339							
11:00	0		START THE FIRST ISOCHRONAL RATE:- 4 HOURS FLOW/4 HOURS BUILD UP.								
				26339					13376	Ø	FLOW ON 10/64 CHOKE
11:15				25710					13073	Ø	
11:30				25790					13211	Ø	
11:45				25734					13404	Ø	
12:00	1			25715					13549	Ø	
12:15				25679					13617	Ø	
12:30				25646					13618	Ø	
12:45				25623					13604	Ø	
13:00	2			25600					13583	Ø	
13:15				25532					13676	Ø	
13:30				25564					13576	Ø	
13:45				25547					13576	Ø	
14:00	3			25485					13576	Ø	
14:15				25054					13576	Ø	
14:30				25435					13549	Ø	
14:45				25513					13549	Ø	

ET 109

EXPERTEST PTY. LTD.

BHP/BHT REPORT

CUSTOMER : SANTOS LIMITED | PERFORATIONS: 8830' - 8970' KB | PAGE: 2 OF 6

WELL NAME: NARIE #1 | FORMATION : TIRRAWARRA | DATE: 24/1/90

TEST TYPE : MODIFIED ISOCHRONAL | OPR : TIM CHAPMAN

TIME		SURVEY	UPPER SRO PRESSURE GAUGE		LOWER PRESSURE GAUGE		TEMPERATURE GAUGE		WELLHEAD		
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	DEPTH (FT/M KB)	DEFLECTION (INCHES)	PRESSURE /KPa)	DEFLECTION (INCHES)	PRESSURE (PSI/KPa)	DEFLECTION (INCHES)	TEMPERATURE (°F/°C)	TUBING KPA	CASING KPA	REMARKS
24/1/90											1ST RATE CONT.
15:00	4 / 0	9000'		25553					13542	0	SHUT IN THE WELL
15:15				26351					14155	0	
15:30				26321					14183	0	
15:45				26452					14197	0	
16:00	1			26461					14197	0	
16:15				26490					14211	0	
16:30				26507					14218	0	
16:45				26469					14231	0	
17:00	2			26502					14224	0	
17:15				26509					14231	0	
17:30				26540					14231	0	
17:45				26542					14231	0	
18:00	3			26552					14231	0	
18:15				26551					14231	0	
18:30				26561					14231	0	
18:45				26310					14224	0	
19:00	4 / 0		START THE SECOND ISOCHRONAL RATE - 4 HOURS FLOW / 4 HOURS BUILD UP								
				26508					14231	0	FLOW ON 18/64 CHOKE
19:15				23349					11811	0	
19:30				22928					11549	0	
19:45				22668					11577	0	

ET 109

EXPERTEST PTY. LTD.

BHP/BHT REPORT

CUSTOMER : SANTOS LIMITED

WELL NAME: NARIE #1

TEST TYPE : MODIFIED ISOCHRONAL

PERFORATIONS: 8830' - 8970' KB

FORMATION : TIRRAWARRA

DATE: 24/1/90

OPR : TIM CHAPMAN

TIME		SURVEY	UPPER SRO PRESSURE GAUGE		LOWER PRESSURE GAUGE		TEMPERATURE GAUGE		WELLHEAD		
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	DEPTH (FT/M KB)	DEFLECTION (INCHES)	PRESSURE /KPa)	DEFLECTION (INCHES)	PRESSURE (PSI/KPa)	DEFLECTION (INCHES)	TEMPERATURE (°F/°C)	TUBING KPA	CASING KPA	REMARKS
24/1/90											2ND RATE FLOW CONT.
20:00	1	9000		22560					11646	0	
20:15				22398					11646	0	
20:30				22392					11673	0	
20:45				22374					11659	0	
21:00	2			22332					11680	0	
21:15				22333					11680	0	
21:30				22313					11687	0	
21:45				22238					11694	0	
22:00	3			22252					11715	0	
22:15				22118					11722	0	
22:30				22268					11722	0	
22:45				22260					11735	0	
23:00	4 0			22238					11735	0	SHUT IN THE WELL
23:15				25559					13962	0	
23:30				25739					14087	0	
23:45				25901					14135	0	
24:00	1			25911					14162	0	
25/1/90											
00:15		9000		26052					14169	0	
00:30				25738					14197	0	
00:45				26135					14204	0	

ET 109

EXPERTEST PTY. LTD.

[redacted] BHP/BHT REPORT [redacted]

CUSTOMER : SANTOS LIMITED

WELL NAME: NARIE #1

TEST TYPE : MODIFIED ISOCHRONAL

PERFORATIONS: 8830' - 8970' KB

FORMATION : TIRRAWARRA

DATE: 25/1/90

OPR : TIM CHAPMAN

TIME		SURVEY	UPPER SRO PRESSURE GAUGE		LOWER PRESSURE GAUGE		TEMPERATURE GAUGE		WELLHEAD		
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	DEPTH (FT/M KB)	DEFLECTION (INCHES)	PRESSURE /KPa)	DEFLECTION (INCHES)	PRESSURE (PSI/KPa)	DEFLECTION (INCHES)	TEMPERATURE (°F/°C)	TUBING KPA	CASING KPA	REMARKS
25/1/90											2ND RATE BUILD UP
01:00	2	9000		26171					14204	0	
01:15				26164					14211	0	HP GAUGE FAILS
01:30									14211	0	
01:45									14224	0	
02:00	3								14224	0	
02:15									14224	0	
02:30									14224	0	
02:45									14224	0	
03:00	4 / 0								14224	0	
			START THE THIRD ISOCHRONAL RATE - 4 HOURS FLOW/4 HOURS BUILD UP								
03:15									9370	0	FLOW ON 28/64 CHOKE
03:30									9260	0	
03:45									9095	0	
04:00	1								9060	0	
04:15									9039	28	
04:30									9005	738	
04:45									9026	1510	
05:00	2								8984	1938	
05:15									8984	2758	
05:30									8984	3310	
05:45									8970	3723	

ET 109

EXPERTEST PTY. LTD.

[redacted] BHP/BHT REPORT

CUSTOMER : SANTOS LIMITED

WELL NAME: NARIE #1

TEST TYPE : MODIFIED ISOCHRONAL

PERFORATIONS: 8830' - 8970' KB

FORMATION : TIRRAWARRA

DATE: 25/1/90

OPR : TIM CHAPMAN

TIME		SURVEY	UPPER SRO PRESSURE GAUGE		LOWER PRESSURE GAUGE		TEMPERATURE GAUGE		WELLHEAD		
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	DEPTH (FT/M KB)	DEFLECTION (INCHES)	PRESSURE KPa)	DEFLECTION (INCHES)	PRESSURE (PSI/KPa)	DEFLECTION (INCHES)	TEMPERATURE (°F/°C)	TUBING KPA	CASING KPA	REMARKS
25/1/90											THIRD RATE FLOW CONT.
06:00	3	9000							8970	4151	
06:15									8977	4654	
06:30									8964	4930	
06:45									8957	5268	
07:00	4 / 0								8977	5626	SHUT IN THE WELL
07:15									13652	4427	
07:30									13949	3406	
07:45									14018	3227	
08:00	1								14059	1407	
08:15									14087	565	
08:30									14100	62	
08:45									14114	0	
09:00	2								14100	0	
09:15									14100	0	
09:30									14114	0	
09:45									14128	0	
10:00	3								14128	0	
10:15									14128	0	
10:30									14128	0	
10:45									14128	0	

ET 109

EXPERTEST PTY. LTD.

[redacted] BHP/BHT REPORT

CUSTOMER : SANTOS LIMITED | PERFORATIONS: 8830' - 8970' KB | PAGE: 6 OF 6

WELL NAME: NARIE #1 | FORMATION : TIRRAWARRA | DATE: 25/1/90

TEST TYPE : MODIFIED ISOCHRONAL | OPR : TIM CHAPMAN

TIME		SURVEY	UPPER SRO PRESSURE GAUGE		LOWER PRESSURE GAUGE		TEMPERATURE GAUGE		WELLHEAD		
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	DEPTH (FT/M KB)	DEFLECTION (INCHES)	PRESSURE KPa)	DEFLECTION (INCHES)	PRESSURE (PSI/KPa)	DEFLECTION (INCHES)	TEMPERATURE (°F/°C)	TUBING KPA	CASING KPA	REMARKS
25/1/90											
11:00	4 / 0	9000	START FOURTH ISOCHRONAL RATE - 4 HOURS FLOW/4 HOURS BUILD UP								
									14135	0	
11:15									7378	76	
11:30									6688	310	
11:45									6633	1655	
12:00	1								6592	2668	
12:15									6577	3716	
12:30									6564	4426	
12:45									6550	5102	
13:00	2								6543	5619	
13:15									6523	6226	
13:30									6522	6619	
13:45									6509	7026	
14:00	3								6502	7516	
14:15									6502	7716	
14:30									6502	7991	
14:45									6502	8267	
15:00			START EXTENDED FLOW PERIOD								
									6502	8448	CUT CHOKE TO 32/64
16:00									8025	9053	
16:30											PULL OUT OF HOLE

ET 109

EXPERTEST PTY. LTD.

FIELD READINGS

CUSTOMER : SANTOS LTD
WELL NAME: NARIE #1
TEST TYPE : MODIFIED ISOCHRONAL

PERFORATIONS: 8830'-8970'KB
FORMATION : TIRRAWARRA

PAGE: 1 OF 13
DATE: 16TH JANUARY 1990
OPR : I. KURASIAK

TIME		WELLHEAD DATA					SEPARATOR DATA				LIQUID PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE (KPa)	ANNULUS PRESSURE (KPa)	WELLHEAD TEMP (°C)	CHOKE SIZE	BS&W (%)	ORIFICE PLATE SIZE (IN)	STATIC PRESS. (PSIG)	DIFF PRESS. (IN WC)	GAS TEMP (°F)	TOTAL LIQUID (IN)	OIL (IN)	OIL API GRAVITY @ 60°F	WATER (IN)	
1500		ARRIVE ON LOCATION RIG IN SEPARATOR #37 HEATER AND TEST TANK PLUS FRAC TANK FOR MODIFIED ISOCHRONAL TEST													
		AND WAIT ON ELECTRIC WIRELINE UNIT.													
17TH JANUARY 1990															
		WAIT ON ELECTRIC WIRELINE UNIT													
1645		PRESSURE TEST ALL LINES TO THE GATE VALVE ON SEPARATOR #37 PLUS GAS SUPPLY LINE IN TO THE HEATER.													
		WAIT ON ELECTRIC WIRELINE UNIT.													
1725		13514	0												
2000		13507	0												
2200		13459	0												
18TH JANUARY 1990															
0200		13445	0												
0600		13445	0	WAIT ON ELECTRIC WIRELINE UNIT											
1455		13307	0												
1815				PRESSURE UP SEPARATOR AND START HEATER											
1830		13156	0	WAIT ON STABLE SIGNAL OF THE GAUGES											
2130		13121	0												
2200		13066	0												
2400		13018	0												
19TH JANUARY 1990															
0200		13018	0	WAIT ON STABLE SIGNAL											

ET 103

0228

EXPERTEST PTY. LTD.

FIELD READINGS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970' KB	PAGE: 2 OF 13
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 19TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : I. KURASIAK

TIME		WELLHEAD DATA					SEPARATOR DATA				LIQUID PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE (KPa)	ANNULUS PRESSURE (KPa)	WELLHEAD TEMP (°C)	CHOKE SIZE	BS&W (%)	ORIFICE PLATE SIZE (IN)	STATIC PRESS. (PSIG)	DIFF PRESS. (IN WC)	GAS TEMP (°F)	TOTAL LIQUID (IN/	OIL (IN/	OIL API GRAVITY @ 60°F	WATER (IN/	SALINITY PPM SALT
0600		12928	0	SHUT IN TUBING PRESSURE											
0637		12928	0	PRESSURE UP SEPARATOR AND START HEATER											
0700	0	12859	0	OPEN WELL BYPASS SEPARATOR ON 10/64 ADJUSTABLE CHOKE - LIQUID TO SURFACE IN FIST MIN											
0800	1	12493	0	TRIM FLOW THROUGH SEPARATOR							1.75	0		1.75" OPENING	
0900	2	12576	14	28	10/64		.500	636	128	116.6	11"	9.25		1.75" TK #1	
1000	3	12494	21	30	10/64		.500	630	100	116.6	20.5"	18.75"		1.75"	
1100	4	12645	21	32	10/64		.500	600	44	116.6	21.5	19.75		1.75	
1200	5	12652	21	32	10/64		.500	600	44	118.4	24.75	22.75		2	
1300	6	12631	21	33	10/64		.500	600	44	125.6	28.5	26.5		2	
1400	7	12597	21	33	10/64		.500	600	80	134.6	37.5	34.5		3	
1500	8	12583	34	33	10/64		.500	600	96	127.4	38.5	34.5		4	
1500				CHANGED TANK COMPARTMENTS OPENING DIP							.5	0		.5	TK#2
1600	9	12611	21	32	10/64		.500	600	80	131.0	6	4.5		1.5	
1700	10	12569	0	32	10/64		.500	600	100	129.2	11.5	9.75	58.8	1.75	107700
1800	11	12645	0	32	10/64		.500	600	116	127.4	17	14.5		2.5	
1900	12	12721	7	31	10/64		.500	600	100	131.0	22.25	19.25		3	
2000	13	12749	7	30	10/64		.500	600	100	131.0	26.5	22.5		4	
2100	14	12804	7	29	10/64		.500	600	100	129..2	32	27.75		4.25	
2200	15	12749	7	29	10/64		.500	600	104	127.4	37	32.5	58.0	4.5	71400
2200	15			CHANGED TANK COMPARTMENTS - OPENING DIP							37.5	34		3.5	TK#1
2300	16	12756	7	28	10/64		.500	600	104	127.4	42	38		4	TK#1

EXPERTEST PTY. LTD.

FIELD READINGS

CUSTOMER : SANTOS LTD.
WELL NAME: NARIE #1
TEST TYPE : MODIFIED ISOCHRONAL
PERFORATIONS: 8830'-8970'KB
FORMATION : TIRRAWARRA

DATE: 20TH JANUARY 1990
OPR : I. KURASIAK

TIME		WELLHEAD DATA					SEPARATOR DATA				LIQUID PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE KPa)	ANNULUS PRESSURE /KPa)	WELLHEAD TEMP /°C)	CHOKE SIZE	BS&W (%)	ORIFICE PLATE SIZE (IN)	STATIC PRESS. (PSIG)	DIFF PRESS. (IN WC)	GAS TEMP (°F)	TOTAL LIQUID (IN/	OIL (IN//	OIL API GRAVITY @ 60°F	WATER (IN/	
2300	16	TANK COMPARTMENTS CHANGED			OPENING DIP						37	32.5		4.5	TK#2
2400	17	12756	7	28	10/64		.500	600	104	127.4	42	37		5	TK#2
2400	17	CHANGED TANK COMPARTMENTS			OPENING DIP						42	38		4	TK#1
20TH JANUARY 1990															
0100	18	12762	0	28	10/64		.500	600	108	127.4	46.5	42.25		4.25	TK #1
0100	18	CHANGED TANK COMPARTMENTS			OPENING DIP										TK#2
0200	19	12769	0	28	10/64		.500	600	100	127.4	46.75	41.5		5.25	TK#2
0200	19	CHANGED TANK COMPARTMENTS			OPENING DIP						46.5	42.25		4.25	TK#1
0300	20	12776	0	28	10/64		.500	600	100	127.4	53.5	49		4.5	TK#1
0300	20	CHANGED TANK COMPARTMENTS			OPENING DIP						46.75	41.5		5.25	TK#2
0400	21	12783	0	28	10/64		.500	600	108	127.4	50	44.5		5.5	TK#2
0400	21	CHANGED TANK COMPARTMENTS			OPENING DIP						53.5	49		4.5	TK#1
0500	22	12755	0	28	10/64		.500	600	110	127.4	59.5	54.75		4.75	TK#1
0500	22	CHANGED TANK COMPARTMENTS			OPENING DIP						50	44.5		5.5	TK#2
0600	23	12762	0	27	10/64		.500	600	110	127.4	54.5	48.5		6	TK#2
0600	23	CHANGED TANK COMPARTMENTS			OPENING DIP						59.5	54.75		4.75	TK#1
0700	24	12783	7	30	10/64		.500	600	114	122.0	64.5	59.25		5.25	TK#1
0700	24	CHANGED TANK COMPARTMENTS			OPENING DIP						54.5	48.5		6	TK#2
0800	25	12776	0	32	10/64		.500	595	116	120.2	60	53.5		6.5	TK#2
0800	25	CHANGED TANK COMPARTMENTS			OPENING DIP						31	29		2	TK#1
0900	26	12762	0	34	10/64		.500	595	118	122.0	36.5	34		2.5	TK#1

0230

EXPERTEST PTY. LTD.

FIELD [illegible]

CUSTOMER : SANTOS LTD	PERFORATIONS: 8830'-8970'KB	PAGE: 4 OF 13
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 20TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : I. KURASIAK

TIME		WELLHEAD DATA					SEPARATOR DATA				LIQUID PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE /KPa)	ANNULUS PRESSURE /KPa)	WELLHEAD TEMP /°C)	CHOKE SIZE	BS&W (%)	ORIFICE PLATE SIZE (IN)	STATIC PRESS. (PSIG)	DIFF PRESS. (IN WC)	GAS TEMP (°F)	TOTAL LIQUID (IN/	OIL (IN/	OIL API GRAVITY @ 60°F	WATER (IN/	SALINITY PPM SALT
0900	26	CHANGED TANK COMPARTMENTS OPENING DIP									3.5	2		1.5	TK#2
1000	27	12852	0	33	10/64		.500	595	124	125.6	9	7		2	TK#2
1000	27	OPEN CHOKE SIZE TO 18/64 ORIFICE PLATE ON SEPARATOR TO 1.25"													
1100	28	11411	475	36	18/64		1.25	480	106	120.2	39	29.5		9.5	TK#2
1100	28	CHANGED TANK COMPARTMENTS OPENING DIP									36.5	34.5		2	TK#1
1200	29	11480	1372	37	18/64		1.25	480	108	116.6	64.5	59		5.5	TK#1
1200	29	CHANGED FLOW FROM TEST TANK TO FRAC TANK #65.													
1200	29	OPENING DIP IN FRAC TANK									34	31.5		2.5	
1300	30	11473	1330	38	18/64		1.25	490	108	116.6	43.5	41		2.5	55400
1400	31	11453	4205	38	18/64		1.25	490	112.5	116.6	56.5	52.5		4	
1500	32	11466	5102	39	18/64		1.25	490	112	113.0	68	63		5	
1600	33	11466	5923	40	18/64		1.25	483	112	111.2	78	72.5		5.5	
1700	34	11466	6412	40	18/64		1.25	490	112	113.0	88.5	82.5		6	
1700	DEPRESSURE ANNULUS PRESSURE TO 120psi OR 827kPa														
1800	35	11514	1413	40	18/64		1.25	490	109	113.0	101	94.25		6.5	
1900	36	11521	1965	40	18/64		1.25	490	109	111.2	112	105		7	
2000	37	11466	2365	39	18/64		1.25	490	110	109.4	123	115.5		7.5	
2100	38	11466	2758	39	18/64		1.25	490	110	107.6	134	126.0	48.8	8	33900
2200	39	11466	3068	39	18/64		1.25	490	110	105.8	144	135.5		8.5	
2300	40	11453	3447	39	18/64		1.25	490	110	105.8	157	148		9	
2400	41	11487	3703	39	18/64		1.25	490	110	105.8	167	157.5		9.5	

ET 103

EXPERTEST PTY. LTD.

[redacted] FIELD READINGS

CUSTOMER : SANTOS LTD.

WELL NAME: NARIE #1

TEST TYPE : MODIFIED ISOCHRONAL

PERFORATIONS: 8830'-8970'KB

FORMATION : TIRRAWARRA

PAGE: 5 OF 13

DATE: 21ST JANAURAY 1990

OPR : I KURASIAK

TIME		WELLHEAD DATA					SEPARATOR DATA				LIQUID PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE /KPa)	ANNULUS PRESSURE /KPa)	WELLHEAD TEMP /°C)	CHOKE SIZE	BS&W (%)	ORIFICE PLATE SIZE (IN)	STATIC PRESS. (PSIG)	DIFF PRESS. (IN WC)	GAS TEMP C	TOTAL LIQUID (IN/	OIL (IN/	OIL API GRAVITY @ 60°F	WATER (IN/CM)	SALINITY PPM SALT
0000	41	CHANGED FRAC TANKS FROM #63 TO #61													
0000	41	OPENING DIP									1	1		0	
0100	42	11452	4033	38	18/64		1.25	490	110	41	12	11.5		.5	
0200	43	11473	4226	38	18/64		1.25	490	110	41	23.5	22		1.5	
0300	44	11473	4440	40	18/64		1.25	490	110	41	32.5	30.5		2	
0400	45	11480	4599	40	18/64		1.25	490	110	41	47.5	45		2.5	
0500	46	11487	4792	39	18/64		1.25	490	110	41	58	54.5		3.5	
0600	47	11480	4971	39	18/64		1.25	490	110	41	70	66		4	19300
0700	48	11480	5185	41	18/64		1.25	490	112	42	80.5	76		4.5	
0800	49	11480	5329	42	18/64		1.25	490	115	44	91	86		5	
0900	50	11473	5461	41	18/64		1.25	490	114	45	102	96.5		5.5	
0945	START TAKING SAMPLE OF GAS #1 BOTTLE #5586 AND H.P. OIL #1 BOTTLE #014														
1000	51	11494	5592	42	18/64		1.25	490	113	46	112	106		6	
1030	SAMPLE OF GAS AND OIL #1 COMPLETED														
1045	START TAKING SAMPLE OF GAS #2 BOTTLE #5589 AND H.P. OIL #2 BOTTLE #031														
1100	52	11480	5737	43	18/64		1.25	490	113	45	123.5	117		6.5	
1130	SAMPLE OF H.P. GAS AND OIL #2 COMPLETED														
1145	START TAKING SAMPLE OF H.P. GAS #3 BOTTLE 5588 AND H.P. OIL #3 BOTTLE #117														
1200	53	11480	5840	44	18/64		1.25	490	111	49	136	129		7	
1230	SAMPLE OF GAS AND OIL #3 COMPLETED														
	SEE NEXT PAGE														

ET 103

0232

EXPERTEST PTY. LTD.

FIELD READINGS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 6 OF 13
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 21ST JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : I. KURASIAK

TIME		WELLHEAD DATA					SEPARATOR DATA				LIQUID PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE 'KPa)	ANNULUS PRESSURE :/KPa)	WELLHEAD TEMP .°C)	CHOKE SIZE	BS&W (%)	ORIFICE PLATE SIZE (IN)	STATIC PRESS. (PSIG)	DIFF PRESS. (IN WC)	GAS TEMP C	TOTAL LIQUID (IN/	OIL (IN/	OIL API GRAVITY @ 60°F	WATER (IN.	SALINITY PPM SALT
1300	54	11480	5964	43	18/64		1.25	490	114	49	147	139		7.5	
1400	55	11493	6067	45	18/64		1.25	490	114	49	157.5	149.5		8	
1500	56	11494	6185	46	18/64		1.25	490	112	46	168.5	160		8.5	
1600	57	11494	6267	45	18/64		1.25	490	111	45	179.5	170.5		9	
1700	58	11494	6357	46	18/64		1.25	490	110	46	190	180.5		9.5	
1700	INCREASE VARIABLE CHOKE SETTING TO 32/64 FOR RATE #5 OF ISOCHRONAL FLOW.														
1715		8274	7309	47	32/64										
1730		7957	7791	48	32/64										
1745		7881	8288	48	32/64		2.25	500	44	45	W.H.F.P. 7881 kPa OR 1143psi				
1745	INCREASE VARIABLE CHOKE SETTING TO 40/64 FOR RATE #4 OF ISOCHRONAL TEST FLOW.														
1800	59	6550	8853	49	40/64		2.25								
1810		6474	9170	48	40/64		2.25	500	56	48	W.H.F.P. 6474kPa OR 939psi				
1810	DECREASED VARIABLE CHOKE SETTING TO 28/64 FOR RATE #3 OF ISOCHRONAL TEST FLOW														
1830		8687	9481	48	28/64										
1900		8860	9618	48	28/64		1.75	500	83	45	W.H.F.P. 8860kPa OR 1285psi				
	FOR RATE #2 CHOKE SETTING IS 18/64										W.H.F.P. 11494kPa OR 1667psi				
	FOR RATE #1 CHOKE SETTING IS 10/64										W.H.F.P. 12762kPa OR 1851psi				
1900	60	SHUT IN WELL FOR BUILD UP													
		FOR BUILD UP READING SEE "TEST RESULTS" SHEET													

ET 103

EXPERTEST PTY. LTD.

FIELD HEADINGS

CUSTOMER : SANTOS LTD.
WELL NAME: NARIE #1
TEST TYPE : MODIFIED ISOCHRONAL

PERFORATIONS: 8830'-8970'KB
FORMATION : TIRRAWARRA

PAGE: 7 OF 13
DATE: 24TH JANUARY 1990
OPR : I. KURASIAK

TIME		WELLHEAD DATA					SEPARATOR DATA				LIQUID PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE /KPa)	ANNULUS PRESSURE /KPa)	WELLHEAD TEMP /°C)	CHOKE SIZE 64/64	BS&W (%)	ORIFICE PLATE SIZE (IN)	STATIC PRESS. (PSIG)	DIFF PRESS. (IN WC)	GAS TEMP (°F)	TOTAL LIQUID (IN/	OIL (IN/	OIL API GRAVITY @ 60°F	WATER (IN/	TK#
											4	2.25		1.75	
1100	0	13376	0	45	0		OPEN WELL ON 10/64 CHOKE SIZE FOR RATE #1 OF ISO TEST								
1115	.15	13073	0	34	10/64		.750	630	54	131					
1130	.30	13210	0	34	10/64		.750	655	50	149					
1145	.45	13404	0	34	10/64		.750	658	52	149					
1200	1	13549	0	34	10/64		.750	658	53	150.8	14	12.25		1.75	TK#1
1215	1.15	13617	0	35	10/64		.750	658	60	150.8					
1230	1.30	13617	0	35	10/64		.750	658	68	150.8					
1245	1.45	13604	0	35	10/64		.750	658	68	150.8					
1300	2	13583	0	35	10/64		.750	656	74	149	25	23.5		1.5	TK#2
1315	2.15	13576	0	35	10/64		.750	656	75	149					
1330	2.30	13576	0	35	10/64		.750	658	72	147.2					
1345	2.45	13576	0	35	10/64		.750	655	69	143					
1400	3	13576	0	35	10/64		.750	658	69	145.4	23	22		2	TK#1
1415		13576	0	35	10/64		.750	656	69	145					
1430		13548	0	35	10/64		.750	656	69	144					
1445		13548	0	35	10/64		.750	658	69	142					
1500	4	13541	0	35	10/64		.750	658	69	142	33.75	32		1.75	TK#2
	SHUT IN WELL END OF RATE #1														
	REFER TEST RESULT SHEET FOR RATE #1 BUILD UP														

ET 103

0234

EXPERTEST PTY. LTD.

FIELD READINGS

CUSTOMER : SANTOS LTD	PERFORATIONS: 8830'-8970'KB	PAGE: 8 OF 13
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 24TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : J. HOFF

TIME		WELLHEAD DATA					SEPARATOR DATA				LIQUID PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE (KPa)	ANNULUS PRESSURE (KPa)	WELLHEAD TEMP (°C)	CHOKE SIZE	BS&W (%)	ORIFICE PLATE SIZE (IN)	STATIC PRESS. (PSIG)	DIFF PRESS. (IN WC)	GAS TEMP (°F)	TOTAL LIQUID (IN)	OIL (IN)	OIL API GRAVITY @ 60°F	WATER (IN)	TK#
											23	21		2	TK#1
1900		14231	0	OPEN WELL ON 18/64 RATE #2											
1910				METER IN SERVICE 1.5" ORIFICE											
1915		11811	0	37	18/64		1.500	405	64	127					
1930		11549	0	37	"		"	400	70	116					
1945		11576	0	37	"		"	400	70	107					
2000	5	11645	0	37	"		"	400	64	102	52.25	48.75		3.5	1
2015		11645	0	37	"		"	400	60	93	CHANGE TO TK#65 3.75			2	65
2030		11659	0	37	"		"	400	60	89					
2045		11659	0	37	"		"	400	60	88					
2100	6	11680	0	37	"		"	400	60	88	17.75	15.75		2	65
2115		11680	0	37	"		"	400	62	88					
2130		11687	0	37	"		"	400	60	88					
2145		11693	0	37	"		"	400	60	88					
2200	7	11714	0	37	"		"	400	60	88	30	27.5		2.5	65
2215		11721	0	38	"		"	400	60	88					
2230		11721	0	38	"		"	400	61	89					
2245		11735	0	38	"		"	400	61	89					
2300	8	11735	0	38	18/64		1.500	400	61	89	43.25	40.75		2.5	65
				SHUT IN WELL END OF RATE #2											
				REFER TO TEST RESULTS FOR BUILD UP READINGS											

ET 103

EXPERTEST PTY. LTD.

[redacted] WELLHEAD DATA

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 9 OF 13
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 25TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : J. HOFF

TIME		WELLHEAD DATA					SEPARATOR DATA				LIQUID PRODUCTION				
DATE / TIME	FLOW TIME (HOURS)	TUBING PRESSURE /KPa)	ANNULUS PRESSURE 'KPa)	WELLHEAD TEMP °C)	CHOKE SIZE 64ths"	BS&W (%)	ORIFICE PLATE SIZE (IN)	STATIC PRESS. (PSIG)	DIFF PRESS. (IN WC)	GAS TEMP (°F)	TOTAL LIQUID (IN/	OIL (IN/	OIL API GRAVITY @ 60°F	WATER (IN'	TK #
0300		14224	0	OPEN WELL ON 28/64 CHOKE RATE #3				B.H.P.	GAUGE NOT WORKING						
0315		9370	"	37	28/64		2.000	410	66	82					
0330		9259	"	38	"		"	410	67	89					
0345		9094	"	38	"		"	410	67	95					
0400	9	9060	0	38	"		"	410	67	97	67	61		6	65
0415		9039	27	39	"		"	410	67	98					
0430		9004	737	40	"		"	410	68	98					
0445		9025	1510	40	"		"	410	68	98					
0500	10	8984	1937	40	"		"	410	68	98	89.25	80.75		8.5	65
0515		8984	2758	41	"		"	410	68	98					
0530		8984	3309	41	"		"	410	68	98					
0545		8970	3723	42	"		"	410	68	100					
0600	11	8970	4150	42	"		"	410	68	100	111.5	100.5	52.6	11	65
0615		8977	4654	42	"		"	410	68	100					
0630		8963	4929	42	"		"	410	68	100					
0645		8956	5267	43	"		"	410	68	100					
0700	12	8977	5626	46	28/64		2.000	410	68	100	132	119		13	65
				SHUT IN FOR END OF RATE #3											
				REFER TO TEST RESULTS SHEETS FOR BUILD UP											

ET 103

U236

EXPERTEST PTY. LTD.

FIELD READINGS

CUSTOMER : SANTOS LTD
WELL NAME: NARIE #1
TEST TYPE : MODIFIED ISOCHRONAL

PERFORATIONS: 8830'-8970'KB
FORMATION : TIRRAWARRA

PAGE: 10 OF 13
DATE: 25TH JANUARY 1990
OPR : J. HOFF

TIME		WELLHEAD DATA					SEPARATOR DATA				LIQUID PRODUCTION				
DATE / TIME	FLOW TIME (HOURS)	TUBING PRESSURE 'KPa)	ANNULUS PRESSURE '/KPa)	WELLHEAD TEMP ,°C)	CHOKE SIZE 64th"	BS&W (%)	ORIFICE PLATE SIZE (IN)	STATIC PRESS. (PSIG)	DIFF PRESS. (IN WC)	GAS TEMP (°F)	TOTAL LIQUID (IN/	OIL (IN/	OIL API GRAVITY @ 60°F	WATER (IN:	TK#
1100		OPEN WELL ON 40/64 CHOKE			RATE #4						132	119		13	
1115		7377	75	43	40/64		2.25	410	76	97					
1130		6688	310	44	"		"	410	74	98					
1145		6632	1654	46	"		"	410	64	100					
1200	13	6591	2668	46	"		"	410	64	100	161.5	148.5		13	65
1215		6577	3716	47	"		"	410	64	102					
1230		6564	4426	48	"		"	410	64	102					
1245		6550	5102	48	"		"	410	64	104					
1300	14	6543	5619	49	"		"	410	64	104	189.5	176.5		13	65
1315		6522	6226	49	"		"	410	64	104	6	2.5	TK#19	3.5	
1330		6522	6619	49	"		"	410	64	106					
1345		6508	7026	49	"		"	410	63	106					
1400	15	6501	7515	50	"		"	410	63	106	34	28.5		5.5	19
1415		6501	7715	50	"		"	410	63	107					
1430		6501	7991	50	"		"	410	62	107					
1445		6501	8267	51	"		"	410	62	107					
1500	16	6501	8487	51	40/64		2.25	410	62	107	58.5	52		6.5	19
		DECREASE CHOKE TO 32/64 FOR EXTENDED RATE					END OF RATE #4								
1505		CHANGE ORIFICE TO 2.000"													

ET 103

0237

EXPERTEST PTY. LTD.

FIELD READINGS

CUSTOMER : SANTOS LTD | PERFORATIONS: 8830'-8971'KB | PAGE: 11 OF 13

WELL NAME: NARIE #1 | FORMATION : TIRRAWARRA | DATE: 25TH JANUARY 1990

TEST TYPE : MODIFIED ISOCHRONAL | OPR : J. HOFF

TIME		WELLHEAD DATA					SEPARATOR DATA				LIQUID PRODUCTION				
DATE / TIME	FLOW TIME (HOURS)	TUBING PRESSURE KPa)	ANNULUS PRESSURE 'KPa)	WELLHEAD TEMP /°C)	CHOKE SIZE 64th"	BS&W (%)	ORIFICE PLATE SIZE (IN)	STATIC PRESS. (PSIG)	DIFF PRESS. (IN WC)	GAS TEMP (°F)	TOTAL LIQUID (IN/	OIL (IN:	OIL API GRAVITY @ 60°F	WATER (IN/	TK#
		EXTENDED RATE			32/64										
1600	17	8025	9053	52	32/64		2.000	400	76	104	81	73.5		7.5	19
1630		PULL SRO GAUGES OUT OF HOLE													
1700	18	8060	9653	52	32/64			410	76	106	105	96.5		8.5	"
1706		DECREASE CHOKE TO 16/64 TO PULL SRO GAUGES TO SURFACE													
1723		11197	9232	50	GAUGE IN LUB		INCREASE CHOKE TO 32/64								
1800	19	8074	9715	53	32/64		2.000	410	80	106	123.75	114.25	52.4	9.5	"
1900	20	8018	10321	52	"		"	410	80	106	145.5	135		10.5	19
								CHANGE TANKS			29	24		5	65
2000	21	8018	10707	53	"		"	410	80	106	54	48.5		5.5	"
2100	22	7998	11018	53	"		"	410	80	106	74.5	68.5		6	"
2200	23	7998	11259	54	"		"	410	80	106	95.5	89		6.5	"
		BLOW DOWN ANNULUS													
2300	24	7991	565	55	"		"	410	80	107	118.5	111.5		7	"
2400	25	7991	889	54	"		"	410	80	107	140	132		8	"
26TH JANUARY 1990															
0100	26	7977	1082	54	32/64		2.000	410	80	107	161	152		9	"
0105		CUT CHOKE TO 16/64 TO RUN SRO GAUGE IN HOLE													
0154		HANG @ 8957' - 9000'KB													"
0200	27	11769	0	50	16/64			400	12	97	171	161.5	54.6	9.5	65
		OPEN CHOKE TO 32/64 CONTINUE EXTENDED RATE													

ET 103

0238

EXPERTEST PTY. LTD.

[redacted] FIELD [redacted] ADDRESS [redacted]

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'8970'KB	PAGE: 12 OF 13
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 26TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : J. HOFF

TIME		WELLHEAD DATA					SEPARATOR DATA				LIQUID PRODUCTION				
DATE / TIME	FLOW TIME (HOURS)	TUBING PRESSURE (KPa)	ANNULUS PRESSURE (KPa)	WELLHEAD TEMP (°C)	CHOKE SIZE 64th"	BS&W (%)	ORIFICE PLATE SIZE (IN)	STATIC PRESS. (PSIG)	DIFF PRESS. (IN WC)	GAS TEMP (°F)	TOTAL LIQUID (IN)	OIL (IN)	OIL API GRAVITY @ 60°F	WATER (IN)	TANK#
0300	28	8032	675	53	32/64		2.000	410	82	106	195	184.5		10.5	65
0400	29	7991	1124	53	"		"	410	82	107	72.5	67		5.5	61
0500	30	7963	1413	54	"		"	410	82	107	93	86.5		6.5	
0600	31	7977	1580	54	"		"	410	82	107	115	107.5		7.5	
0630	LOST SUPPLY PRESSURE TO B.P. CONTROLLER FAILED OPEN														
0700	32	7963	1751	59	"		"	270	134	102	137	128.5	53.4	8.5	
	CONTROL BACK PRESSURE WITH MANUAL VALVE														
0800	33	7963	1827	61	"		"	415	79	113	158	149		9	
0900	34	7949	1930	61	"		"	415	79	115	179.25	169.25		10	61
1000	35	7970	2034	61	"		"	415	80	118	20.25	19.75		.5	56
1100	36	7956	2102	62	"		"	415	80	120	199.75	189		10.75	61
1200	37	7970	2199	63	"		"	415	80	120	42	40.5		1.5	56
1300	38	7949	2268	64	"		"	415	80	122	62	59.5		2.5	"
1400	39	7991	2358	64	"		"	415	81	122	82.25	79.25		3	"
1500	40	7991	2413	64	"		"	415	81	122	102	98.5		3.5	"
1600	41	7963	2475	65	"		"	415	81	122	123	118.5		4.5	"
1700	42	7956	2523	65	"		"	420	80	122	142.75	137.75		5	"
1800	43	7963	2585	65	"		"	420	80	122	162	156.5		5.5	"
1900	44	7929	2613	64	"		"	420	80	120	181.25	175.25	53.7	6	"
2000	45	7956	2647	63	"		"	420	80	120	200.5	193.5		7	56
2100	46	7908	2689	63	32/64		2.000	420	80	118	70.5	62.25		5.25	61

ET 103

0239

EXPERTEST PTY. LTD. [redacted] LD [redacted] ADI [redacted]

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 13 OF 13
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 26TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : J. HOFF

TIME		WELLHEAD DATA					SEPARATOR DATA				LIQUID PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE (KPa)	ANNULUS PRESSURE (KPa)	WELLHEAD TEMP (°C)	CHOKE SIZE 64th"	BS&W (%)	ORIFICE PLATE SIZE (IN)	STATIC PRESS. (PSIG)	DIFF PRESS. (IN WC)	GAS TEMP (°F)	TOTAL LIQUID (IN)	OIL (IN)	OIL API GRAVITY @ 60°F	WATER (IN)	TK#
2200	47	7929	2751	63	32/64		2.000	420	79	118	90.5	84.75		5.75	61
2300	48	7929	2792	64	"		"	420	79	118	110	103.75		6.25	"
2400	49	7929	2861	65	"		"	420	79	118	130	123		7	"
27TH JANUARY 1990															
0100	50	7929	2847	65	"		"	420	79	120	150	142		8	"
0200	51	7922	2889	65	"		"	420	79	120	169.5	160.5		9	"
0300	52	7929	2916	65	"		"	420	79	120	189	179.5		9.5	61
	CHANGE TANK TO #65										68	65		2.5	65
0400	53	7915	2964	65	"		"	425	79	118	87.5	84.5		3	"
0500	54	7922	2985	65	"		"	425	79	118	107	103		4	"
0600	55	7894	3026	65	"		"	425	79	118	126	121.5	53.6	4.5	"
0700	56	7887	3054	65	"		"	425	79	118	145.5	140.25		5.25	"
0800	57	7887	3061	65	32/64		2.000	425	79	118	165	159		6	65
	SHUT IN WELL END OF TEST RECORD BUILD UP.														
	REFER TO TEST RESULTS SHEET FOR BUILD UP AND E-LINE REPORT														

ET 103

0240

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD
WELL NAME: NARIE #1
TEST TYPE : MODIFIED ISOCHRONAL TEST
PERFORATIONS: 8830'-8970'KB
FORMATION : TIRRAWARRA
DATE: 19TH JANUARY 1990
OPR : I. KURASIAK

TIME		WELLHEAD DATA						FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE (KPa)	ANNULUS PRESSURE (KPa)	WELLHEAD TEMP (°C)	CHOKE SIZE	PRESSURE (KPa)	TEMP (°C)	GAS $m^3 10^3/D$	OIL m^3/D	WATER m^3/D	GAS $m^3 10^3$	OIL m^3	WATER m^3	TOTAL LIQUID m^3	GLR m^3/m^3
0700	0	12859	0		OPEN WELL BYPASS SEPARATOR ON 10/64 ADJ CHOKE SIZE LIQUID TO SURFACE IN FIRST MIN.										
0800	1	12493	0	28	10/64	TRIM FLOW THROUGH SEPARATOR									
0900	2	12576	0	28	10/64	4385	47	10.853	22.67	0	.452	.9446	0	22.67	478.73
1000	3	12494	21	30	10/64	4343	47	9.513	23.28	0	.848	1.9147	0	23.28	408.63
1100	4	12645	21	32	10/64	4137	47	6.059	2.45	0	1.100	2.0168	0	2.45	2473.06
1200	5	12652	21	32	10/64	4137	48	6.029	7.353	.6127	1.351	2.3231	.0255	7.965	756.93
1300	6	12631	21	33	10/64	4137	52	5.920	9.191	0	1.597	2.7060	.0255	9.191	644.10
1400	7	12597	21	33	10/64	4137	57	7.822	19.608	2.451	1.922	3.530	.128	22.059	354.59
1500	8	12583	34	33	10/64	4137	53	8.711	0	2.451	2.284	3.530	.2301	2.45	3555.51
1600	9	12611	21	32	10/64	4137	55	7.884	11.029	2.451	2.612	3.9825	.3322	13.48	584.86
1700	10	12569	0	32	10/64	4137	54	8.854	12.867	.6127	2.981	4.5186	.3577	13.48	656.82
1800	11	12645	0	32	10/64	4137	53	9.578	11.642	1.838	3.380	5.0036	.4342	13.48	710.53
1900	12	12721	7	31	10/64	4137	55	8.817	11.642	1.226	3.747	5.489	.4850	12.868	685.188
2000	13	12749	7	30	10/64	4137	55	8.817	7.965	2.451	4.1144	5.820	.5871	10.416	846.486
2100	14	12804	7	29	10/64	4137	54	8.858	12.867	.6127	4.483	6.3570	.6126	13.480	657.122
2200	15	12749	7	29	10/64	4137	53	9.068	11.642	.6127	4.861	6.8420	.6380	12.255	739.943
2300	16	12756	7	28	10/64	4137	53	9.068	9.804	1.226	5.238	7.2505	.6890	11.030	822.121
2400	17	12756	7	28	10/64	4137	53	9.068	11.029	1.226	5.615	7.7100	.7400	12.255	739.943
20TH JANUARY 1990															
0100	18	12762	0	28	10/64	4137	53	9.241	10.416	.6127	6.000	8.144	.7655	11.029	837.882
0200	19	12769	0	28		4137	53	8.891	11.029	.6127	6.370	8.603	.7910	11.6417	763.720

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD
WELL NAME: NARIE #1
TEST TYPE : MODIFIED ISOCHRONAL

PERFORATIONS: 8830'-8970'KB
FORMATION : TIRRAWARRA

DATE: 20TH JANUARY 1990
OPR : I. KURASIAK

TIME		WELLHEAD DATA				SEPARATOR		FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE :/KPa)	ANNULUS PRESSURE .KPa)	WELLHEAD TEMP °C)	CHOKE SIZE	PRESSURE :(Pa)	TEMP /°C)	GAS $m^3 10^3/D$	OIL m^3/D	WATER m^3/D	GAS $m^3 10^3$	OIL m^3	WATER m^3	TOTAL LIQUID m^3	GLR m^3/m^3
0200	20	12776	0	28	10/64	4137	53	8.891	16.544	.6127	6.741	9.292	.8165	17.1567	518.22
0400	21	12783	0	28	10/64	4137	53	8.891	7.353	.6127	7.111	9.583	.8420	7.966	1116.119
0500	22	12755	0	28	10/64	4137	53	9.326	14.093	.6127	7.500	10.170	.8675	14.706	634.163
0600	23	12762	0	28	10/64	4137	53	9.326	9.804	1.225	7.888	10.987	.9185	11.029	845.589
0600	SALINITY PPM SALT 80,400PPM (H^2O SAMPLE)														
0700	24	12783	7	30	10/64	4137	50	9.621	11.029	1.225	8.288	11.446	.9695	12.254	785.131
0800	25	12776	0	32	10/64	4102	49	9.689	12.255	1.225	8.6917	11.956	1.0205	13.480	718.768
0900	26	12762	0	34	10/64	4102	50	9.722	12.255	1.225	9.0967	12.466	1.0715	13.480	721.216
1000	27	12852	0	33	10/64	4102	52	9.884	12.255	1.225	9.5085	12.976	1.1225	13.480	733.234
1000	CHANGED CHOKE SIZE TO 18/64 AND ORIFICE PLATE TO 1.25"														
1100	28	11411	476	36	18/64	3309	49	50.435	55.147	18.382	11.609	15.273	1.8884	73.529	685.919
1200	29	11480	1372	37	18/64	3309	47	51.258	60.049	8.578	13.744	17.775	2.2458	68.627	746.907
1200	CHANGED FLOW FROM TEST TANK TO FRAC TANK #65														
1300	30	11473	1331	38	18/64	3378	47	51.964	60.797	0	15.908	20.308	2.2458	60.797	854.713
1400	31	11453	4205	38	18/64	3378	47	53.038	73.597	9.599	18.118	23.374	2.6457	83.196	637.506
1500	32	11466	5102	39	18/64	3378	45	53.304	67.197	6.399	20.339	26.173	2.9123	73.596	724.278
1600	33	11466	5923	40	18/64	3330	44	52.983	60.797	3.1998	22.546	28.706	3.0456	63.996	827.911
1700	34	11466	6412	40	18/64	3378	45	53.304	63.997	3.1998	24.767	31.372	3.1789	67.1968	793.252
1700	DEPRESSURE ANNULUS PRESSURE TO 120psi OR 827kPa														
1800	35	11514	1413	40	18/64	3378	45	52.583	75.197	3.1998	26.958	34.505	3.3121	78.396	670.736
1900	36	11521	1965	40	18/64	3378	44	52.779	68.797	23.1998	29.157	37.371	3.4455	71.996	733.082

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD | PERFORATIONS: 8830'-8970'KB | PAGE: 3 OF 19

WELL NAME: NARIE #1 | FORMATION : TIRRAWARRA | DATE: 20TH JANUARY 1990

TEST TYPE : MODIFIED ISOCHRONAL | OPR : I. KURASIAK

TIME		WELLHEAD DATA						FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE /KPa)	ANNULUS PRESSURE /KPa)	WELLHEAD TEMP /°C)	CHOKE SIZE	PRESSURE /KPa)	TEMP /°C)	GAS $m^3 10^3/D$	OIL m^3/D	WATER m^3/D	GAS $m^3 10^3$	OIL m^3	WATER m^3	TOTAL LIQUID m^3	GLR m^3/m^3
2000	37	11466	2365	39	18/64	3378	43	53.221	67.1973	3.199	31.375	40.170	3.578	70.396	756.023
2100	38	11466	2758	39	18/64	3378	42	53.426	67.1973	3.199	33.601	42.969	3.712	70.396	758.935
2200	39	11466	3068	39	18/64	3378	41	53.636	60.7976	3.199	35.836	45.502	3.845	63.996	838.114
2300	40	11453	3447	39	18/64	3378	41	53.636	79.996	3.199	38.070	48.835	3.978	83.195	644.702
2400	41	11487	3703	39	18/64	3378	41	53.636	60.7976	3.199	40.304	51.368	4.1116	63.996	838.114
21ST JANUARY 1990															
0000	41	CHANGED FRAC TANKS FROM #63 TO #61													
0100	42	11452	4033	38	18/64	3378	41	53.636	67.197	3.199	42.538	54.167	4.244	70.396	761.918
0200	43	11473	4226	38	18/64	3378	41	53.636	67.197	6.399	44.773	56.966	4.5110	73.596	728.789
0300	44	11473	4440	40	18/64	3378	41	53.636	54.397	3.199	47.008	59.232	4.644	57.596	931.245
0400	45	11480	4599	40	18/64	3378	41	53.636	92.796	3.199	49.243	63.098	4.777	95.995	558.737
0500	46	11487	4792	39	18/64	3378	41	53.636	60.797	6.399	51.478	65.631	5.044	67.196	798.202
0600	47	11480	4971	39	18/64	3378	41	53.636	73.597	3.199	53.712	68.697	5.177	76.796	698.421
0600	SALINITY 19300PPM/SALT														
0700	48	11480	5185	41	18/64	3378	42	53.911	63.997	3.199	55.958	71.363	5.310	67.196	802.295
0800	49	11480	5329	42	18/64	3378	44	54.216	63.997	3.199	58.624	74.030	5.443	67.196	806.838
0900	50	11470	5461	41	18/64	3378	45	53.779	67.200	3.199	60.864	76.830	5.570	70.399	763.917
0945	START TAKING HP SAMPLE OF GAS & OIL FROM THE SEPARATOR FOR MORE INFORMATION SEE "SEQUENCE OF EVENTS"														
1000	51	11494	5592	42	18/64	3378	46	53.347	60.797	3.199	63.086	79.363	5.7099	63.996	833.598
1100	52	11480	5737	43	18/64	3378	45	53.542	70.397	3.199	65.316	82.296	5.8432	73.596	727.512
1200	53	11480	5840	44	18/64	3378	49	52.316	76.796	3.199	67.495	85.495	5.976	79.995	653.990

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD.
WELL NAME: NARIE #1
TEST TYPE : MODIFIED ISOCHRONAL

PERFORATIONS: 8830'-8970'KB
FORMATION : TIRRAWARRA

DATE: 21ST JANUARY 1990
OPR : I KURASIAK

TIME		WELLHEAD DATA				SEPARATOR		FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE !/KPa)	ANNULUS PRESSURE ./KPa)	WELLHEAD TEMP /°C)	CHOKE SIZE	PRESSURE ./KPa)	TEMP /°C)	GAS $m^3 10^3/D$	OIL m^3/D	WATER m^3/D	GAS $m^3 10^3$	OIL m^3	WATER m^3	TOTAL LIQUID m^3	GLR m^3/m^3
1230	END OF SAMPLING														
1300	54	11480	5964	43	18/64	3378	49	53.021	63.997	3.199	69.704	88.162	6.109	67.196	789.050
1400	55	11493	6067	45	18/64	3378	49	53.021	67.797	3.199	71.913	90.962	6.243	70.99	746.880
1500	56	11494	6085	46	18/64	3378	46	53.110	67.797	3.199	74.126	93.762	6.3763	70.99	748.134
1600	57	11494	6267	45	18/64	3378	45	53.065	67.797	3.199	76.337	96.562	6.5100	70.99	747.500
1700	58	11494	6357	46	18/64	3378	46	52.632	63.997	3.199	78.530	99.229	6.6430	67.19	783.331
1700	INCREASE VARIABLE CHOKE SETTING TO 32/64 FOR RATE #5 OF ISOCHRONAL TEST														
1715		8274	7309	47	32/64										
1730		7957	7791	48	32/64										
1745		7881	8288	48	32/64	3447	45	117.545							
1745	INCREASE VARIABLE CHOKE SETTING TO 40/64 FOR RATE #4 OF ISOCHRONAL TEST														
1800	59	6550	8853	49	40/64										
1810		6474	9170	48	40/64	3447	48	131.171							
1810	DECREASE VARIABLE CHOKE SETTING TO 28/64 FOR RATE #3 OF ISOCHRONAL TEST														
1830		8687	9481	48	28/64										
1900	60	8860	9618	48	28/64	3447	45	93.266							
	FOR RATE #2 CHOKE SETTING IS 18/64 W.H.F.P. 11494kPa														
	FOR RATE #1 CHOKE SETTING IS 10/64 W.H.F.P. 12762kPa														
1900	60	SHUT WELL IN FOR BUILD UP.													
		SEE NEXT PAGE FOR BUILD UP READINGS													

02447

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD
WELL NAME: NARIE #1
TEST TYPE : MODIFIED ISOCHRONAL

PERFORATIONS: 8830'-8970'KB
FORMATION : TIRRAWARRA

DATE: 21ST JANUARY 1990
OPR : I. KURASIAK

TIME		WELLHEAD DATA				BOTTOM HOLE		FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE /KPa)	ANNULUS PRESSURE /KPa)	WELLHEAD TEMP °C)	CHOKE SIZE	PRESSURE KPa)	TEMP °C)	GAS MMSCFD $m^3 10^3/D$	OIL BPD m^3/D	WATER BPD m^3/D	GAS MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
1900	0	8860	9618	48	28/64	17188									
1915		13369	9032			23910									
1930		13783	7605			24640									
1945		13852	6585			24841									
2000	1	13893	5675			24974									
2015		13907	4930			25066									
2030		13935	4240			25148									
2045		13990	3792			25190									
2100	2	13928	3117			25235									
2130		13935	2172			25344									
2200	3	13955	1338			25441									
2230		13962	641			25501									
2300	4	13969	28			25553									
2400	5	13990	0			25641									
22ND JANUARY 1990															
0200	7	14018	0			25777									
0600	11	14059	0			25971									
1000	15	14059	0			26090									
1400	19	13383	0			26108	LOST GREASE INJECTION SEAL								
1800	23	13287	0			26209									
2200	27	13335	0			26355									

0245

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD | PERFORATIONS: 8830'-8970'KB | PAGE: 6 OF 19

WELL NAME: NARIE #1 | FORMATION : TIRRAWARRA | DATE: 23RD JANUARY 1990

TEST TYPE : MODIFIED ISOCHRONAL | OPR : I. KURASIAK

TIME		WELLHEAD DATA				BOTTOM HOLE		FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE KPa)	ANNULUS PRESSURE KPa)	WELLHEAD TEMP /°C)	CHOKE SIZE	PRESSURE KPa)	TEMP (°F/°C)	GAS MMSCFD $m^3 10^3/D$	OIL BPD m^3/D	WATER BPD m^3/D	GAS MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
0200	31	13369	0			26413									
0600	35	13376	0			26460									
1000	39	13383	0			26499									
1400	43	13369	0			26522									
1715		13369	0			PULL OUT OF HOLE									
1800	47	13273	0			DEPRESSURE LUBRICATOR									
2200	51	13287	0												
2325		13273	0												
24TH JANUARY 1990															
0200	55	13273	0												
0600	59	13307	0												
0715		13307	0			RUN IN HOLE WITH E-LINE									
0800	61	13307	0			ON BOTTOM @ 9000'KB									
1100	64	13376	0	45	0	OPEN WELL ON 10/64 CHOKE SIZE FOR RATE #1 OF ISO.									
						SEE NEXT PAGE FOR ISOCHRONAL TEST									

0246

ET 104

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD
PERFORATIONS: 8830'-8970'KB
PAGE: 7 OF 19
WELL NAME: NARIE #1
FORMATION : TIRRAWARRA
DATE: 24TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL TEST
OPR : J. HOFF

TIME		WELLHEAD DATA				SEPARATOR		FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE I/KPa)	ANNULUS PRESSURE !/KPa)	WELLHEAD TEMP /°C)	CHOKE SIZE	PRESSURE :/KPa)	TEMP °C)	GAS $m^3 10^3/D$	OIL m^3/D	WATER m^3/D	GAS $m^3 10^3$	OIL m^3	WATER m^3	TOTAL LIQUID m^3/d	GLR m^3/m^3
1100	0	13376	0	45	0	OPEN WELL ON 10/64 CHOKE SIZE FOR RATE #1 OF ISO TEST									
1115	.15	13073	0	34	10/64	4344	55	15.124			.158				
1130	.30	13210	0	34	10/64	4516	65	14.364			.308				
1145	.45	13404	0	34	10/64	4537	65	14.699			.461				
1200	1	13549	0	34	10/64	4537	66	14.783	24.51	0	.615	1.021	0	24.51	603.142
1215	1.15	13617	0	34	10/64	4537	66	15.730			.778				
1230	1.30	13617	0	34	10/64	4537	66	16.747			.952				
1245	1.45	13604	0	35	10/64	4537	66	16.747			1.126				
1300	2	13583	0	35	10/64	4523	65	17.501	20.83	0	1.308	1.889	0	20.83	840.182
1315	2.15	13576	0	35	10/64	4523	65	17.619			1.492				
1330	2.30	13576	0	35	10/64	4537	64	17.368			1.673				
1345	2.45	13576	0	35	10/64	4516	62	17.106			1.851				
1400	3	13576	0	35	10/64	4536	63	17.070	21.44	.613	2.029	2.783	.026	22.053	774.044
1415		13576	0	35	10/64	4523	63	17.047			2.206				
1430		13548	0	35	10/64	4523	62	17.086			2.383				
1445		13548	0	35	10/64	4536	61	17.203			2.562				
1500	4	13541	0	35	10/64	4536	61	17.203	20.83	.612	2.741	3.651	.051	21.442	825.87
	SHUT IN END RATE #1														

0247

ET 104

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD.
WELL NAME: NARIE #1
TEST TYPE : MODIFIED ISOCHRONAL
PERFORATIONS: 8830'-8970'KB
FORMATION : TIRRAWARRA

DATE: 24TH JANUARY 1990
OPR : J. HOFF

TIME		WELLHEAD DATA				SEPARATOR		FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE /KPa)	ANNULUS PRESSURE :/KPa)	WELLHEAD TEMP :°C)	B.H.P. kPa	PRESSURE (PSI/KPa)	TEMP (°F/°C)	GAS MMSCFD $m^3 10^3/D$	OIL BPD m^3/D	WATER BPD m^3/D	GAS MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
1515		14155	0		26351										
1530		14183			26321										
1545		14197			26452										
1600		14197			26461										
1615		14211			26490										
1630		14218			26507										
1645		14231			26469										
1700		14224			26502										
1715		14231			26509										
1730		14231			26540										
1745		14231			26542										
1800		14231			26552										
1815		14231			26551										
1830		14231			26561										
1845		14224			26310										
1900		14231	0		26508										

0248

ET 104

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD
PERFORATIONS: 8830'-8970'KB
PAGE: 9 OF 19
WELL NAME: NARIE #1
FORMATION : TIRRAWARRA
DATE: 24TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL
OPR : J. HOFF

TIME		WELLHEAD DATA				SEPARATOR		FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE /KPa)	ANNULUS PRESSURE :KPa)	WELLHEAD TEMP /°C)	CHOKE SIZE 64th"	PRESSURE /KPa)	TEMP °C)	GAS $m^3 10^3/D$	OIL m^3/D	WATER m^3/D	GAS $m^3 10^3$	OIL m^3	WATER m^3	TOTAL LIQUID m^3/d	GLR m^3/m^3
											2.741	3.651	.051		
1900		14231	0	OPEN WELL ON 18/64 CHOKE RATE #2											
1910				METER IN SERVICE 1.5" ORIFICE											
1915		11811	0	37	18/64	2792	53	50.646							
1930		11549	0	37	"	2758	47	53.493							
1945		11576	"	37	"	2758	42	54.301							
2000	5	11645	"	37	"	2758	39	52.373	68.015	.612	4.936	6.484	.208	68.627	767.67
2015		11645	"	37	"	2758	34	51.558							
2030		11659	"	37	"	2758	32	51.963							
2045		11659	"	37	"	2758	31	52.067							
2100	6	11680	"	37	"	2758	31	52.067	89.376	0	7.099	10.208	.208	89.376	529.20
2115		11680	"	37	"	2758	31	52.929							
2130		11687	"	37	"	2758	31	52.067							
2145		11693	"	37	"	2758	31	52.067							
2200	7	11714	"	37	"	2758	31	52.067	75.012	3.192	9.277	13.333	.341	78.204	665.78
2215		11721	"	38	"	2758	31	52.067							
2230		11721	"	38	"	2758	32	52.395							
2245		11735	"	38	"	2758	32	52.395							
2300	8	11735	0	38	18/64	2758	32	52.395	84.588	0	11.406	16.857	.341	84.588	619.41
				SHUT IN WELL END OF RATE #2.											

0249

ET 104

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD.
WELL NAME: NARIE #1
TEST TYPE : MODIFIED ISOCHRONAL
PERFORATIONS: 8830'-8970'KB
FORMATION : TIRRAWARRA

DATE: 24TH JANUARY 1990
OPR : J. HOFF

TIME		WELLHEAD DATA						FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	SHUT IN TIME (HOURS)	TUBING PRESSURE /KPa)	ANNULUS PRESSURE /KPa)	WELLHEAD TEMP (°F/°C)	B.H.P. kPa	PRESSURE (PSI/KPa)	TEMP (°F/°C)	GAS MMSCFD $m^3 10^3/D$	OIL BPD m^3/D	WATER BPD m^3/D	GAS MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
2315		13962	0		25559										
2330		14087	"		25739										
2345		14135	"		25901										
2400	5	14162	"		25911										
25TH JANUARY 1990															
0015		14169	"		26052										
0030		14197	"		25738										
0045		14204	"		26135										
0100	6	14204	"		26171										
0115		14211	"		26164										
0130		14211	"		B.H.P. GAUGE FAILURE										
0145		14224	"												
0200	7	14224	"												
0215		14224	"												
0230		14224	"												
0245		14224	"												
0300	8	14224	0												

0250

ET 104

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD | PERFORATIONS: 8830'-8970'KB | PAGE: 11 OF 19

WELL NAME: NARIE #1 | FORMATION : TIRRAWARRA | DATE: 25TH JANUARY 1990

TEST TYPE : MODIFIED ISOCHRONAL | OPR : J. HOFF

TIME		WELLHEAD DATA				SEPARATOR		FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	FLOW TIME (HOURS)	TUBING PRESSURE /KPa)	ANNULUS PRESSURE /KPa)	WELLHEAD TEMP /°C)	CHOKE SIZE 64th"	PRESSURE /KPa)	TEMP °C)	GAS $m^3 10^3/D$	OIL m^3/D	WATER m^3/D	GAS $m^3 10^3$	OIL m^3	WATER m^3	TOTAL LIQUID m^3/d	GLR m^3/m^3
0300		14224	0	OPEN WELL ON 28/64 CHOKE RATE #3 B.H.P. GAUGE NOT WORKING											
0315		9370	"	37	28/64	2826	28	103.307							
0330		9259	"	38	"	2826	32	102.554							
0345		9094	"	38	"	2826	35	101.335							
0400	9	9060	0	38	"	2826	36	100.946	129.276	22.344	15.657	22.243	1.272	151.62	665.78
0415		9039	27	39	"	2826	37	100.755							
0430		9004	737	40	"	2826	37	101.506							
0445		9025	1510	40	"	2826	37	101.506							
0500	10	8984	1937	40	"	2826	37	101.506	126.084	15.96	19.878	27.496	1.937	142.044	714.60
0515		8984	2758	41	"	2826	37	101.506							
0530		8984	3309	41	"	2826	37	101.506							
0545		8970	3723	42	"	2826	38	101.126							
0600	11	8970	4150	42	"	2826	38	101.126	126.084	15.96	24.099	32.749	2.602	142.044	711.93
0615		8977	4654	42	"	2826	38	101.126							
0630		8963	4929	42	"	2826	38	101.126							
0645		8956	5267	43	"	2826	38	101.126							
0700	12	8977	5626	46	28/64	2826	38	101.126	118.104	12.76	28.312	37.670	3.134	130.864	772.75
				SHUT IN WELL END OF RATE #3											

0251

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD
WELL NAME: NARIE #1
TEST TYPE : MODIFIED ISOCHRONAL
PERFORATIONS: 8830'-8970'KB
FORMATION : TIRRAWARRA
PAGE: 12 OF 19
DATE: 25TH JANUARY 1990
OPR : J. HOFF

TIME		WELLHEAD DATA						FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	SHUT IN TIME (HOURS)	TUBING PRESSURE 'KPa)	ANNULUS PRESSURE /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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
0715		13652	4427												
0730		13949	3406												
0745		14018	2227												
0800	9	14059	1407												
0815		14087	565												
0830		14100	62												
0845		14114	0												
0900	10	14100	"												
0915		14100	"												
0930		14114	"												
0945		14128	"												
1000	11	14128	"												
1015		14128	"												
1030		14128	"												
1045		14128	"												
1100	12	14135	0	OPEN WELL 40/64											

0252

ET 104

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD
WELL NAME: NARIE #1
TEST TYPE : MODIFIED ISOCHRONAL
PERFORATIONS: 8830'-8970'KB
FORMATION : TIRRAWARRA
PAGE: 13 OF 19
DATE: 25TH JANUARY 1990
OPR : J. HOFF

TIME		WELLHEAD DATA				SEPARATOR		FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	FLOW TIME (HOURS)	TUBING PRESSURE /KPa)	ANNULUS PRESSURE /KPa)	WELLHEAD TEMP /°C)	CHOKE SIZE 64th "	PRESSURE /KPa)	TEMP /°C)	GAS $m^3 10^3/D$	OIL m^3/D	WATER m^3/D	GAS $m^3 10^3$	OIL m^3	WATER m^3	TOTAL LIQUID m^3/d	GLR m^3/m^3
1100		14134			OPEN WELL ON 40/64 RATE #4						28.312				
1115		7377	75	43	40/64	2826	36	139.829							
1130		6688	310	44	"	2826	37	137.712							
1145		6632	1654	46	"	2826	38	127.574							
1200	13	6591	2668	46	"	2826	38	127.574	188.32	0	33.860	45.517	3.134	188.32	674.95
1215		6577	3716	47	"	2826	39	127.104							
1230		6564	4426	48	"	2826	39	127.104							
1245		6550	5102	48	"	2826	40	126.644							
1300	14	6543	5619	49	"	2826	40	126.644	178.75	0	39.146	52.965	3.134	178.75	708.49
1315		6522	6226	49	"	2826	40	126.644							
1330		6522	6619	49	"	2826	41	126.192							
1345		6508	7026	49	"	2826	41	125.201							
1400	15	6501	7515	50	"	2826	41	125.201	165.98	12.768	44.388	59.881	3.666	178.75	700.42
1415		6501	7715	50	"	2826	42	124.980							
1430		6501	7991	50	"	2826	42	124.980							
1445		6501	8267	51	"	2826	42	124.980							
1500	16	6501	8487	51	40/64	2826	42	124.980	150.02	6.384	49.595	66.132	3.932	156.40	799.10
					DECREASE CHOKE TO 32/64 FOR EXTENDED RATE. END OF RATE #4										
1505					CHANGE ORIFICE PLate to 2.000"										

0253

ET 104

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD.
PERFORATIONS: 8830'-8970'KB
PAGE: 14 OF 19
WELL NAME: NARIE #1
FORMATION : TIRRAWARRA
DATE: 25TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL
OPR : J. HOFF

TIME		WELLHEAD DATA				SEPARATOR		FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	FLOW TIME (HOURS)	TUBING PRESSURE (KPa)	ANNULUS PRESSURE (KPa)	WELLHEAD TEMP (°C)	CHOKE SIZE	PRESSURE (KPa)	TEMP (°C)	GAS $m^3 10^3/D$	OIL m^3/D	WATER m^3/D	GAS $m^3 10^3$	OIL m^3	WATER m^3	TOTAL LIQUID m^3/d	GLR m^3/m^3
				EXTENDED RATE							49.595	66.123	3.932		
1600	17	8025	9053	52	32/64	2758	40	104.509	95.76	6.38		70.122	4.198	102.14	1023.19
1630				PULL SRO OUT OF HOLE											
1700	18	8060	9653	52	32/64	2826	41	105.763	146.83	6.38		76.240	4.464	153.21	690.31
1706				CUT CHOKE TO 16/64 TO P.O.O.H. WITH SRO GAUGE											
1723		11197	9232	50	16/64	2758	39	RETRIEVE GAUGE							
				INCREASE CHOKE TO 32/64											
1800	19	8074	9715	53	32/64	2826	41	108.517	113.31	6.38		80.961	4.73	119.69	906.65
1900	20	8018	10321	52	"	2826	41	108.517	132.46	6.38		86.480	4.99	138.84	781.59
2000	21	8018	10707	53	"	2826	41	108.517	156.40	3.194		92.997	5.12	159.59	679.97
2100	22	7998	11018	53	"	2826	41	108.517	127.68	3.194		98.317	5.26	130.87	892.19
2200	23	7998	11259	54	"	2826	41	108.517	130.87	3.194		103.77	5.39	134.06	809.46
				BLOW DOWN ANNULUS											
2300	24	7991	565	55	"	2826	42	108.325	143.64	3.194		109.755	5.52	146.83	737.75
2400	25	7991	889	54	"	2826	42	108.325	130.87	6.384		115.208	5.79	137.25	789.25
26TH JANUARY 1990															
0100	26	7977	1082	54	32/64	2826	42	108.325	127.68	6.384		120.52	6.06	134.06	808.03
0105				CUT CHOKE TO 16/64 TO RUN SRO GAUGE IN HOLE											
0154				GAUGE @ HANG DEPTH 8957' - 9000'KB.											
0200	27	11769	0	50	16/64	2758	36	42.017	60.64	3.194	96.255	123.04	6.19	63.83	658.26
				OPEN CHOKE TO 32/64 CONTINUE EXTENDED RATE											

ET 104

025

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD | PERFORATIONS: 8830'-8970'KB | PAGE: 15 OF 19

WELL NAME: NARIE #1 | FORMATION : TIRRAWARRA | DATE: 26TH JANUARY 1990

TEST TYPE : MODIFIED ISOCHRONAL | OPR : J. HOFF

TIME		WELLHEAD DATA				SEPARATOR		FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	FLOW TIME (HOURS)	TUBING PRESSURE /KPa)	ANNULUS PRESSURE /KPa)	WELLHEAD TEMP /°C)	CHOKE SIZE 64ths	PRESSURE /KPa)	TEMP /°C)	GAS $m^3 10^3/D$	OIL m^3/D	WATER m^3/D	GAS $m^3 10^3$	OIL m^3	WATER m^3	TOTAL LIQUID M^3/d	GLR m^3/m^3
0300	28	8032	675	53	32/64	2826	41	109.868	146.83	6.38		129.165	6.459	153.21	717.10
0400	29	7991	1124	53	"	2826	42	109.674	140.44	3.19		135.017	6.592	143.63	763.58
0500	30	7963	1413	54	"	2826	42	109.674	124.48	6.38		140.204	6.858	130.86	838.10
0600	31	7977	1580	54	"	2826	42	109.674	134.06	6.38	114.54	145.79	7.124	140.44	780.93
0620	SUPPLY LINE OF BACK PRESSURE CONTROLLER BLOWN OFF LOST SEPARATOR PRESS TO 1861 kPa.														
0700	32	7963	1751	59	"	1861	39	115.678	134.06	6.38		151.37	7.39	140.44	823.68
	CONTROL SEPARATOR PRESSURE WITH MANUAL CONTROL VALVE.														
0800	33	7963	1827	61	"	2861	45	107.340	130.87	3.19		156.82	7.52	134.06	800.68
0900	34	7949	1930	61	"	2861	46	106.978	129.276	6.38		162.215	7.78	135.65	788.63
1000	35	7970	2034	61	"	2861	48	107.119	126.084	3.19		167.468	7.92	129.27	828.64
1100	36	7956	2102	62	"	2861	49	106.770	126.084	4.77		172.721	8.12	130.85	815.97
1200	37	7970	2199	63	"	2861	49	106.770	132.46	6.384		178.24	8.387	138.84	769.01
1300	38	7949	2268	64	"	2861	50	106.427	121.29	6.384		183.29	8.653	127.67	833.61
1400	39	7991	2358	64	"	2861	50	107.09	126.08	3.194		188.54	8.786	129.27	828.42
1500	40	7991	2413	64	"	2861	50	107.091	122.89	3.194		193.66	8.919	126.08	849.38
1600	41	7963	2475	65	"	2861	50	107.091	127.68	6.384		198.98	9.18	134.064	798.8
1700	42	7956	2523	65	"	2895	50	107.205	122.89	3.194		204.1	9.31	126.08	850.29
1800	43	7963	2585	65	"	2895	50	107.205	119.7	3.194		209.09	9.45	122.89	872.36
1900	44	7929	2613	64	"	2895	49	107.555	119.7	3.194		214.08	9.58	122.89	875.21
2000	45	7956	2647	63	"	2895	49	107.555	116.5	6.384		218.93	9.85	122.88	875.28
2100	46	7908	2689	63	32/64	2895	48	107.910	121.29	3.194	181.864	223.98	9.98	124.48	866.88

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD.
PERFORATIONS: 8830'-8970'KB
PAGE: 16 OF 19
WELL NAME: NARIE #1
FORMATION : TIRRAWARRA
DATE: 26TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL
OPR : J. HOFF

TIME		WELLHEAD DATA				SEPARATOR		FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE 'KPa)	ANNULUS PRESSURE (KPa)	WELLHEAD TEMP °C)	CHOKE SIZE 64ths	PRESSURE „KPa)	TEMP °C)	GAS $m^3 10^3/D$	OIL m^3/D	WATER m^3/D	GAS $m^3 10^3$	OIL m^3	WATER m^3	TOTAL LIQUID m^3/d	GLR m^3/m^3
2200	47	7929	2751	63	32/64	2895	48	107.232	124.48	3.194		229.17	10.116	127.67	839.91
2300	48	7929	2792	64		2895	48	107.232	121.29	3.194		234.26	10.249	125.23	856.28
2400	49	7929	2861	65		2895	48	107.232	124.48	4.788		239.35	10.448	129.26	829.58
27TH JANUARY1990															
0100	50	7929	2847	65		2895	49	106.879	121.29	6.384		244.404	10.714	127.67	837.15
0200	51	7922	2889	65		2895	49	106.879	118.10	6.384		249.325	10.98	124.48	858.60
0300	52	7929	2916	65		2895	49	106.879	121.29	3.194		254.379	11.113	124.48	858.60
0400	53	7915	2964	65		2930	48	107.331	121.29	3.194		259.433	11.246	124.48	862.23
0500	54	7922	2985	65		2930	48	107.331	118.10	6.384		263.724	11.512	124.48	862.23
0600	55	7894	3026	65		2930	48	107.331	118.10	3.194	222.044	269.645	11.645	121.29	884.91
0700	56	7887	3054	65		2930	48	107.331	119.7	4.788		273.632	11.844	124.48	862.23
0800	57	7887	3061	65		2930	48	107.331	119.7	4.788	230.988	278.619	12.043	862.23	
	SHUT WELL IN FOR BUILD UP END OF EXTENDED RATE														
	CUMMULATIVE PROD = GAS = 230.988$m^3 10^3$														
			OIL = 278.619m^3												
			H^2O = 12.043m^3												

0259

ET 104

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD
WELL NAME: NARIE #1
TEST TYPE : MODIFIED ISOCHRONAL (BUILD UP)
PERFORATIONS: 8830'-8970'KB
FORMATION : TIRRAWARRA

DATE: 27TH JANUARY 1990
OPR : J. HOFF

TIME		WELLHEAD DATA						FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	SHUT IN TIME (HOURS)	TUBING PRESSURE /KPa)	ANNULUS PRESSURE /KPa)	WELLHEAD TEMP (°F/°C)	B.H.P. kPa	PRESSURE (PSI/KPa)	TEMP (°F/°C)	GAS MMSCFD $m^3 10^3/D$	OIL BPD m^3/D	WATER BPD m^3/D	GAS MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
0805		10956	3061		19089										
0810		12155	2854		21261										
0815		12769	2482		22256										
0820		13066	2102		22790										
0825		13231	1689		23082										
0830		13314	1344		23251										
0835		13376	965		23365										
0840		13410	668		23449										
0845		13445	365		23519										
0850		13472	131		23578										
0855		13493	13		23638										
0900	1	13514	VAC		23675										
0915		13562	"		23790										
0930		13596	"		23811										
0945		13617	"		23853										
1000	2	13617	"		23669										
1100		13652	"		22747	E-LINE SUSPENDED									
1200		13700	"												
1300		13645	"												
1400	6	13645	VAC												

0257

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LIMITED | PERFORATIONS: 8830' - 8970' | PAGE: 18 OF 19

WELL NAME: NARIE #1 | FORMATION : TIRRAWARRA | DATE: 27/1/90

TEST TYPE : MODIFIED ISOCHRONAL (BUILD UP) | OPR : J. HOFF

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
27/1/90						N.B. AT 16:30 S.R.O. GAUGE BACK ON LINE.									
18:00	10	13673	VAC		24885										
	14	13775	"		25140										
28/1/90															
02:00	18	13790	"±		25327										
06:00	22	13824	"		25483										
10:00	26	13756	"		25619										
14:00	30	13742	"		25718										
18:00	34	13735			25802										
22:00	38	13694	"		25875										
29/1/90															
02:00	42	13597	"		25943										
06:00	46	13604	"		26020										
10:00	50	13604	"		25848										
14:00	54	13631	"		26118										
18:00	58	13645	"		26155										
22:00	62	13645	"		26186										
30/1/90															
02:00	66	13645	"		26218										
06:00	70	13645	"		26241										

0258

ET 104

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LIMITED

WELL NAME: NARIE #1

TEST TYPE : MODIFIED ISOCHRONAL (BUILD UP)

PERFORATIONS: 8830' -8970' KB

FORMATION : TIRRAWARRA

DATE: 30/1/90

OPR : TIM CHAPMAN

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
30/1/90															
15:00	78	13673	VAC		26280										
18:00	82	13666	"		26309										
22:00	86	13673	"		26328										
31/1/90															
02:00	90	13666	"		26347										
06:00	94	13673	"		26363										
10:00	98	13673	"		26377										
11:00	99					PULL OUT OF HOLE CONDUCTING STATIC GRADIENT TO SURFACE									
								END OF MODIFIED ISOCHRONAL SURVEY							

0259

ET 104

EXPERTEST PTY. LTD. [redacted] LIQUID PRODUCTION [redacted]

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 1 OF 8
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 19TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : I. KURASIAK

TANK NUMBER	#1 =	TANK CAPACITY	#1 = 51.70BBLS or 8.220m³ bbls/m³	TANK SCALE	#1 = 1"= .1021257 m³ bbls/in - m³/cm	OIL API GRAVITY = 58.8 @ 60°F
	#2 =		#2 = 51.70BBls or 8.220m³ bbls/m³		#2 = 1"= .1021257 m³ bbls/in - m³/cm	

DATE / TIME	FLOW TIME (HOURS)	TANK USED (NUMBER)	TOTAL TANK DIP (IN/ ,	OIL/CONDENSATE PRODUCTION				WATER PRODUCTION			
				TANK DIP (IN/	TANK PRODUCTION S/m³)	FLOW RATE m³D)	CUMULATIVE PRODUCTION S/m³)	TANK DIP (IN/	TANK PRODUCTION ;m³)	FLOW RATE ³/m³D)	CUMULATIVE PRODUCTION ;m³)
0800	1	1	1.75	0				1.75	OPENING DIP		
0900	2	1	11	9.25	.9446	22.67	.9446	1.75	0	0	0
1000	3	1	20.5	18.75	.9701	23.28	1.9147	1.75	0	0	0
1100	4	1	21.5	19.75	.10212	2.45	2.0168	1.75	0	0	0
1200	5	1	24.75	22.75	.3063	7.353	2.3231	2	.0255	.6127	.0255
1300	6	1	28.5	26.5	.3829	9.1913	2.7060	2	0	0	.0255
1400	7	1	37.5	34.5	.8170	19.608	3.5230	3	.102125	2.451	.128
1500	8	1	38.5	34.5	0	0	3.5230	4	.102125	2.451	.2301
1500	8	2	.5	0	CHANGED TANK COMPARTMENTS			.5	OPENING DIP		
1600	9	2	6	4.5	.4595	11.029	3.9825	1.5	.102125	2.451	.3322
1700	10	2	11.5	9.75	.5361	12.867	4.5186	1.75	.0255	.6127	.3577
1800	11	2	17	14.5	.4850	11.642	5.0036	2.5	.0765	1.838	.4342
1900	12	2	22.25	19.25	.4850	11.642	5.4890	3	.051	1.226	.485
2000	13	2	26.5	22.5	.3319	7.9658	5.8209	4	.10212	2.451	.5871
2100	14	2	32.0	27.75	.5361	12.867	6.3570	4.25	.0255	.6127	.6126
2200	15	2	37.0	32.5	.4850	11.642	6.8420	4.5	.0255	.6127	.6380
2200	15	1	37.5	34	CHANGED TANK COMPARTMENTS			3.5	OPENING DIP		
2300	16	1	42	38	.4085	9.804	7.2505	4	.0510	1.226	.6890
2300	16	2	37.0	32.5	CHANGED TANK COMPARTMENTS			4.5	OPENING DIP		
2400	17	2	42	37	.4595	11.029	7.7100	5	.0510	1.226	.7400

ET 105

0260

EXPERTEST PTY. LTD. — [redacted] LIQUID PRODUCTION [redacted]

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 2 OF 8
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 20TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : I. KURASIAK

TANK NUMBER	#1 =	TANK CAPACITY	#1 = 51.70BBLS or 8.220m³ bbls/m³	TANK SCALE	#1 = 1" = .1021257m³ bbls/in - m³/cm	OIL API GRAVITY = 58.8@ 60°F
	#2 =		#2 = 51.70BBLS or 8.220m³ bbls/m³		#2 = 1" = .1021257m³ bbls/in - m³/cm	

DATE / TIME	FLOW TIME (HOURS)	TANK USED (NUMBER)	TOTAL TANK DIP (IN/	OIL/CONDENSATE PRODUCTION				WATER PRODUCTION			
				TANK DIP (IN/	TANK PRODUCTION /m³)	FLOW RATE /m³D)	CUMULATIVE PRODUCTION /m³)	TANK DIP (IN.'	TANK PRODUCTION ,/m³)	FLOW RATE /m³D)	CUMULATIVE PRODUCTION 'm³)
2400	17	1	42	38	CHANGED TANK COMPARTMENTS			4	OPENING DIP		
0100	18	1	46.5	42.25	.4340	10.416	8.144	4.25	.0255	.6127	.7655
0100	18	2	42	37	CHANGED TANK COMPARTMENT			5	OPENING DIP		
0200	19	2	46.75	41.5	.4595	11.029	8.603	5.25	.0255	.6127	.7910
0200	19	1	46.5	42.25	CHANGED TANK COMPARTMENT			4.25	OPENING DIP		
0300	20	1	53.5	49	.6893	16.544	9.292	4.5	.0255	.6127	.8165
0300	20	2	46.75	41.5	CHANGED TANK COMPARTMENT			5.25	OPENING DIP		
0400	21	2	50	44.5	.3063	7.353	9.583	5.5	.0255	.6127	.8420
0400	21	1	53.5	49	CHANGED TANK COMPARTMENT			4.5	OPENING DIP		
0500	22	1	59.5	54.75	.5872	14.093	10.170	4.75	.0255	.6127	.8675
0500	22	2	50	44.5	CHANGED TANK COMPARTMENT			5.5	OPENING DIP		
0600	23	2	54.5	48.5	.4085	9.804	10.987	6	.0510	1.225	.9185
0600	23	1	59.5	54.75	CHANGED TANK COMPARTMENT			4.75	OPENING DIP		
0700	24	1	64.5	59.25	.4595	11.029	11.446	5.25	.0510	1.225	.9695
0700	24	2	54.5	48.5	CHANGED TANK COMPARTMENT			6	OPENING DIP		
0800	25	2	60	53.5	.5106	12.255	11.956	6.5	.0510	1.225	1.0205
0800	25	1	31	29	CHANGED TANK COMPARTMENT			2	OPENING DIP		
0900	26	1	36.5	34	.5106	12.255	12.466	2.5	.0510	1.225	1.0715
0900	26	2	3.5	2	CHANGED TANK COMPARTMENT			1.5	OPENING DIP		
1000	27	2	9	7	.5106	12.255	12.976	2	.0510	1.225	1.1225

ET 105

0191

EXPERTEST PTY. LTD.

[redacted] LIQUID PRODUCTION [redacted]

CUSTOMER : SANTOS LTD	PERFORATIONS: 8830'-8970'KB	PAGE: 3 OF 8
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 20TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : I. KURASIAK

TANK NUMBER	#1 =	TANK CAPACITY	#1 = 51.70BBLS or 8.220m³ bbls/m³	TANK SCALE	#1 = 1"=.1021257m³ bbls/in - m³/cm	OIL API GRAVITY = 58.0 @ 60°F
	#2 =		#2 = 51.70BBLS or 8.220m³ bbls/m³		#2 = 1"=.1021257m³ bbls/in - m³/cm	

DATE / TIME	FLOW TIME (HOURS)	TANK USED (NUMBER)	TOTAL TANK DIP (IN/	OIL/CONDENSATE PRODUCTION				WATER PRODUCTION			
				TANK DIP (IN/	TANK PRODUCTION /m³)	FLOW RATE /m³D)	CUMULATIVE PRODUCTION /m³)	TANK DIP (IN/	TANK PRODUCTION /m³)	FLOW RATE n³D)	CUMULATIVE PRODUCTION 'm³)
1000	27	OPEN CHOKE SIZE TO 18/64									
1100	28	TK#2	39	29.5	2.2978	55.147	15.273	9.5	.7659	18.382	1.8884
1100	28	#1	36.5	34.5	CHANGED TANK COMPARTMENT			2	OPENING DIP		
1200	29	#1	64.5	59	2.5020	60.049	17,775	5.5	.3574	8.5785	2.2458
1200	29	CHANGED FLOW FROM TEST TANK TO FRAC TANK #65									
1200		TANK CAPACITY 356BBLS or 56.60m³ 1"=.2666562m³									
1200	29	#65	34	31.5				2.5	OPENING DIP		
1300	30	#65	43.5	41	2.533	60.797	20.308	2.5	0	0	2.2458
1400	31	#65	56.5	52.5	3.066	73.597	23.374	4	.3999	9.599	2.6457
1500	32	#65	68	63	2.799	67.197	26.173	5	.2666	6.399	2.9123
1600	33	#65	78	72.5	2.533	60.797	28.706	5.5	.1333	3.1998	3.0456
1700	34	#65	88.5	82.5	2.6665	63.997	31.372	6	.1333	3.1998	3.1789
1800	35	#65	101	94.25	3.133	75.1970	34.505	6.5	.1333	3.1998	3.3121
1900	36	#65	112	105	2.866	68.7972	37.371	7	.1333	3.1998	3.4455
2000	37	#65	123	115.5	2.799	67.1973	40.170	7.5	.1333	3.1998	3.5788
2100	38	#65	134	126.0	2.799	67.1973	42.969	8	.1333	3.1998	3.7121
2200	39	#65	144	135.5	2.533	60.7976	45.502	8.5	.1333	3.1998	3.8454
2300	40	#65	157	148	3.333	79.9968	48.835	9	.1333	3.1998	3.9783
2400	41	#65	167	157.5	2.533	60.7976	51.368	9.5	.1333	3.1998	4.1116

ET 105

0262

EXPERTEST PTY. LTD. — [redacted] LIQUID PRODUCTION [redacted]

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 4 OF 8
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 21ST JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : I. KURASIAK

TANK NUMBER	#1 = #65 #2 = #61	TANK CAPACITY	#1 = 56.60m³ bbls/m³ #2 = 56.60m³ bbls/m³	TANK SCALE	#1 = 1"=.2666562 bbls/in - m³/cm #2 = 1"=.2666562 bbls/in - m³/cm	OIL API GRAVITY = 48.8@ 60°F	

DATE / TIME	FLOW TIME (HOURS)	TANK USED (NUMBER)	TOTAL TANK DIP (IN/	OIL/CONDENSATE PRODUCTION				WATER PRODUCTION			
				TANK DIP (IN/	TANK PRODUCTION /m³)	FLOW RATE /m³D)	CUMULATIVE PRODUCTION /m³)	TANK DIP (IN/	TANK PRODUCTION /m³)	FLOW RATE /m³D)	CUMULATIVE PRODUCTION /m³)
0000	41	#61		CHANGED FRAC TANKS				0	OPENING DIP		
0100	42	#61	12	11.5	2.799	67.197	54.167	.5	.1333	3.199	4.244
0200	43	#61	23.5	22	2.799	67.197	56.966	1.5	.2666	6.399	4.5110
0300	44	#61	32.5	30.5	2.266	54.397	59.232	2	.1333	3.199	4.644
0400	45	#61	47.5	45	3.866	92.796	63.098	2.5	.1333	3.199	4.777
0500	46	#61	58	54.5	2.533	60.797	65.631	3.5	.2666	6.399	5.044
0600	47	#61	70	66	3.066	73.597	68.697	4	.1333	3.199	5.177
0700	48	#61	80.5	76	2.666	63.997	71.363	4.5	.1333	3.199	5.310
0800	49	#61	91	86	2.666	63.997	74.030	5	.1333	3.199	5.443
0900	50	#61	102	96.5	2.800	67.200	76.830	5.5	.1333	3.199	5.5766
1000	51	#61	112	106	2.533	60.797	79.363	6	.1333	3.199	5.7099
1100	52	#61	123.5	117	2.933	70.397	82.296	6.5	.1333	3.199	5.8432
1200	53	#61	136	129	3.199	76.796	85.495	7	.1333	3.199	5.9765
1300	54	#61	147	139	2.666	63.997	88.162	7.5	.1333	3.199	6.1098
1400	55	#61	157.5	149.5	2.800	67.797	90.962	8	.1333	3.199	6.2431
1500	56	#61	168.5	160	2.800	67.797	93.762	8.5	.1333	3.199	6.3763
1600	57	#61	179.5	170.5	2.800	67.797	96.562	9	.1333	3.199	6.5100
1700	58	#61	190	180.5	2.666	63.997	99.229	9.5	.1333	3.199	6.643
1700	END OF CLEAN UP FLOW START CHOKE SETTING FOR ISOCHRONAL FLOW TEST										
1900	SHUT WELL IN FOR BUILD UP										

ET 105

U263

EXPERTEST PTY. LTD.

[redacted] LIQUID PRODUCTION [redacted]

CUSTOMER : SANTOS LTD	PERFORATIONS: 8830'-8970'KB	PAGE: 5 OF 8
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 24TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : I. KURASIAK

TANK NUMBER	#1 =	TANK CAPACITY	#1 = 51.70BBLS/8.220m³ bbls/m³	TANK SCALE	#1 = 1"=.1021257m³ bbls/in - m³/cm	OIL API GRAVITY = 58.@ 60°F
	#2 =		#2 = 8.220m³ bbls/m³		#2 = 1"=.1021257m³ bbls/in - m³/cm	

DATE / TIME	FLOW TIME (HOURS)	TANK USED (NUMBER)	TOTAL TANK DIP (IN/	OIL/CONDENSATE PRODUCTION				WATER PRODUCTION			
				TANK DIP (IN/	TANK PRODUCTION /m³)	FLOW RATE m³D)	CUMULATIVE PRODUCTION /m³)	TANK DIP (IN.	TANK PRODUCTION m³)	FLOW RATE m³D)	CUMULATIVE PRODUCTION /m³)
1100	0	1	4	2.25				1.75	OPENING DIP		
1200	1	1	14	12.25	1.021	24.51	1.021	1.75	0	0	0
1200		2	16.5	15	CHANGED TANK COMPARTMENT			1.5	OPENING DIP		
1300	2	2	25	23.5	.868	20.83	1.889	1.5	0	0	0
1300		1	14	12.25	CHANGED TANK COMPARTMENT			1.75	OPENING DIP		
1400	3	1	23	21	.894	21.44	2.783	2	.026	.613	.026
1400		2	25	23.5	CHANGED TANK COMPARTMENT			1.5	OPENING DIP		
1500	4	2	33.75	32	.868	20.83	3.651	1.75	.025	.612	.051
1500		1	23	21	CHANGE TANK			2	RATE #2		
2000	5	1	52.25	48.75	2.833	68.015	6.484	3.5	.157	3.676	.208
		CHANGE TO TK#65 OPENING GAUGE = 3.75" OIL 2" H^2O CALI =1"=1.677BBLS/ .266m³									
2000		65	3.75	1.75				2			
2100	6	65	17.75	15.75	3.724	89.376	10.208	2	0	0	.208
2200	7	"	30	27.5	3.125	75.012	13.333	2.5	.133	3.192	.341
2300	8	"	43.25	40.75	3.524	84.588	16.857	2.5	0	0	.341
25TH JANUARY 1990											
0400	9	65	67	61	5.386	129.276	22.243	6	.931	22.344	1.272
0500	10		89.25	80.75	5.253	126.084	27.496	8.5	.665	15.96	1.937
0600	11		111.5	100.5	5.253	126.084	32.749	11	.665	15.96	2.602
0700	12		132	119	4.921	118.104	37.67	13	.53	12.76	3.134

ET 105

U264

EXPERTEST PTY. LTD.

[redacted] LIQUID PRODUCTION [redacted]

CUSTOMER : SANTOS LTD.
WELL NAME: NARIE #1
TEST TYPE : MODIFIED ISOCHRONAL

PERFORATIONS: 8830'-8970'KB
FORMATION : TIRRAWARRA

PAGE: 6 OF 8
DATE: 25TH JANUARY 1990
OPR : J. HOFF

TANK NUMBER	#1 = 65 #2 = 61	TANK CAPACITY	#1 = 56.6 /m³ #2 = 56.6 /m³	TANK SCALE	#1 = .266m³/inch bbls/in - m³/cm #2 = .266m³/inch bbls/in - m³/cm	OIL API GRAVITY = @ 60°F

DATE / TIME	FLOW TIME (HOURS)	TANK USED (NUMBER)	TOTAL TANK DIP (IN/CM)	OIL/CONDENSATE PRODUCTION				WATER PRODUCTION			
				TANK DIP (IN/	TANK PRODUCTION /m³)	FLOW RATE m³D)	CUMULATIVE PRODUCTION /m³)	TANK DIP CM)	TANK PRODUCTION /m³)	FLOW RATE m³D)	CUMULATIVE PRODUCTION /m³)
		65	132	119			37.670	13			3.134
1100	START RATE #4										
1200	13		161.5	148.5	7.847	188.32	45.517	13	0	0	3.134
1300	14	65	189.5	176.5	7.448	178.75	52.965	13	0	0	3.134
		61	6	2.5				3.5			
1400	15	"	34	28.5	6.916	165.98	59.881	5.5	.532	12.768	3.666
1500	16	"	58.5	52	6.251	150.02	66.132	6.5	.266	6.384	3.932
	ÈND OF RATE#4 DECREASE CHOKE FOR EXTENDED RATE										
1600	17	"	81	73.5	3.99	95.76	70.122	7.5	.266	6.384	4.198
1700	18	"	105	96.5	6.118	146.83	76.240	8.5	.266	6.384	4.464
1800	19	"	123.75	114.25	4.721	113.31	80.961	9.5	.266	6.384	4.73
1900	20	61	145.5	135	5.519	132.46	86.480	10.5	.266	6.384	4.996
		65	29	24	CHANGE TANKS			5			
2000	21	"	54	48.5	6.517	156.40	92.997	5.5	.133	3.194	5.129
2100	22	"	74.5	68.5	5.32	127.68	98.317	6	.133	3.194	5.262
2200	23	"	95.5	89	5.453	130.87	103.77	6.5	.133	3.194	5.395
2300	24	"	118.5	111.5	5.985	143.64	109.755	7	.133	3.194	5.528
2400	25	65	140	132	5.453	130.87	115.208	8	.266	6.384	5.794

ET 105

U265

EXPERTEST PTY. LTD. [redacted] LIQUID PRODUCTION [redacted]

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 7 OF 8
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 26TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : J. HOFF

TANK NUMBER	#1 = 65	TANK CAPACITY	#1 = 56.6 /m³	TANK SCALE	#1 = 1"=.266m³ /in - m³/	OIL API GRAVITY = @ 60°F
	#2 = 61		#2 = 56.6 /m³		#2 = 1"=.266m³ /in - m³/	

DATE / TIME	FLOW TIME (HOURS)	TANK USED (NUMBER)	TOTAL TANK DIP (IN/	OIL/CONDENSATE PRODUCTION				WATER PRODUCTION			
				TANK DIP (IN/	TANK PRODUCTION /m³)	FLOW RATE /m³D)	CUMULATIVE PRODUCTION /m³)	TANK DIP (IN/	TANK PRODUCTION /m³)	FLOW RATE 'm³D)	CUMULATIVE PRODUCTION /m³)
		65	140	132			115.208	8			5.794
0100	26	"	161	152	5.32	127.68	120.52	9	.266	6.384	6.060
0200	27	"	171	161.5	2.527	60.64	123.047	9.5	.133	3.194	6.193
0300	28	65	195	184.5	6.118	146.83	129.165	10.5	.266	6.384	6.459
			50	45	CHANGE TO TANK #61			5			
0400	29	61	72.5	67	5.857	140.44	135.017	5.5	.133	3.194	6.592
0500	30	"	93	86.5	5.187	124.48	140.204	6.5	.266	6.384	6.858
0600	31	"	115	107.5	5.586	134.064	145.79	7.5	.266	6.384	7.124
0700	32	"	137	128.5	5.586	134.064	151.376	8.5	.266	6.384	7.39
0800	33	"	158	149	5.453	130.872	156.829	9	.133	3.194	7.523
0900	34	61	179.25	169.25	5.386	129.276	162.215	10	.266	6.384	7.789
			0	0	CHANGE TO TANK #56			0			
1000	35	56	20.25	19.75	5.253	126.084	167.468	.5	.133	3.194	7.922
			179.25	169.25	CHANGE TO TANK #61			10			
1100	36	61	199.75	189	5.253	126.084	172.721	10.75	.199	4.776	8.121
			20.25	19.75	CHANGE TO TANK #56			.5			
1200	37	56	42	40.5	5.519	132.46	178.24	1.5	.266	6.384	8.387
1300	38	"	62	59.5	5.054	121.29	183.294	2.5	.266	6.384	8.653
1400	39	"	82.25	79.25	5.253	126.08	188.547	3	.133	3.194	8.786
1500	40	56	102	98.5	5.120	122.89	193.667	3.5	.133	3.194	8.919

ET 105

C 256

EXPERTEST PTY. LTD.

[redacted] L[redacted]D P[redacted]DU[redacted]ON [redacted]

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 8 OF 8
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 26TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : J. HOFF

TANK NUMBER	#1 = 56&65	TANK CAPACITY	#1 = 56.6m³ bbls/m³	TANK SCALE	#1 = .266m³/inch bbls/in - m³/cm	OIL API GRAVITY = @ 60°F
	#2 = 61		#2 = 56.6m³ bbls/m³		#2 = " " bbls/in - m³/cm	

DATE / TIME	FLOW TIME (HOURS)	TANK USED (NUMBER)	TOTAL TANK DIP (IN/	OIL/CONDENSATE PRODUCTION				WATER PRODUCTION			
				TANK DIP (IN/	TANK PRODUCTION m³)	FLOW RATE ³D)	CUMULATIVE PRODUCTION /m³)	TANK DIP /CM)	TANK PRODUCTION /m³)	FLOW RATE m³D)	CUMULATIVE PRODUCTION /m³)
			102	98.5			193.667	3.5			8.919
1600	41	56	123	118.5	5.320	127.68	198.987	4.5	.266	6.384	9.185
1700	42	"	142.75	137.75	5.120	122.89	204.107	5	.133	3.194	9.318
1800	43	"	162	156.5	4.987	119.7	209.094	5.5	.133	3.194	9.451
1900	44	"	181.25	175.25	4.987	119.70	214.081	6	.133	3.194	9.584
2000	45	56	200.5	193.5	4.854	116.50	218.935	7	.266	6.384	9.85
			51	46.25 CHANGE TO TANK #61				4.75			
2100	46	61	70.5	65.25	5.054	121.296	223.989	5.25	.133	3.194	9.983
2200	47	"	90.5	84.75	5.187	124.488	229.176	5.75	.133	3.194	10.116
2300	48	"	110	103.75	5.054	121.296	234.23	6.25	.133	3.194	10.249
2400	49	"	130	123	5.120	122.89	239.35	7	.199	4.788	10.448
27TH JANUARY 1990											
0100	50	"	150	142	5.054	121.296	244.404	8	.266	6.384	10.714
0200	51	"	169.5	160.5	4.921	118.10	249.325	9	.266	6.384	10.98
0300	52	61	189	179.5	5.054	121.296	254.379	9.5	.133	3.194	11.113
			68	65.5	CHANGE TO TANK #65			2.5			
0400	53	65	87.5	84.5	5.054	121.296	259.433	3	.133	3.194	11.246
0500	54	"	107	103	4.921	118.10	263.724	4	.266	6.384	11.512
0600	55	"	126	121.5	4.921	118.10	268.645	4.5	.133	3.194	11.645
0700	56	"	145.5	140.25	4.987	119.7	273.632	5.25	.199	4.788	11.844
0800	57	65	165	159	4.987	119.7	278.619	6	.199	4.788	12.043

ET 105

SHUT IN WELL FOR BUILD UP END OF TEST

0267

EXPERTEST PTY. LTD.

GAS FLOW CALCULATIONS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 1	OF 11
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 19TH JANUARY 1990	
TEST TYPE : MODIFIED ISOCHRONAL		OPR : I. KURASIAK	

ORIFICE METER TYPE: DANIEL SENIOR	STATIC PRESSURE RANGE : 0-1500 PSIG	GAS SPECIFIC GRAVITY (SG) = 1.094
METER RUN SIZE : 3.826"	DIFFERENTIAL PRESS. RANGE: 0-200 IN WC	FG $\sqrt{(1/SG)}$ = .9560
SEPARATOR NO : 37	STANDARD CONDITIONS : 14.73 PSI @ 60°F	C_2 (FU × FG) = 22.9457

DATE / TIME	FLOW TIME (HOURS)	CHOKE SIZE	STATIC PRESS P_F (PSIA)	DIFF PRESS H_W (IN WC)	GAS FLOW TEMP (°F)	ORIF. PLATE SIZE (IN)	$\sqrt{(P_F \times H_W)}$	$C_1 = F_B \times F_{TF} \times F_{PV} \times Y_2$				C_1	C ($C = C_1 \times C_2$)	GAS FLOW RATE $Q = \sqrt{(P_F \times H_W)} \times C$	
								F_B	F_{TF}	F_{PV}	Y_2			(MMSCFD)	($m^3 10^3/D$)
0700	0	OPEN WELL BYPASS SEPARATOR ON 10/64 CHOKE SIZE													
0800	1	10/64	TRIM FLOW THROUGH SEPARATOR START TESTING												
0900	2	10/64	650.7	128	116.6	.500	288.6060	50.234	.9497	1.2177	1.0013	58.1686	1334.6899	.385	10.853
1000	3	10/64	644.7	100	116.6	.500	253.9153	50.234	.9497	1.21135	1.0010	57.9506	1329.7132	.338	9.513
1100	4	10/64	614.7	44	116.6	.500	164.4631	50.234	.9497	1.1940	1.0005	56.9909	1307.6585	.215	6.059
1200	5	10/64	614.7	44	118.4	.500	164.4631	50.234	.9482	1.1901	1.0005	56.7150	1301.2800	.214	6.029
1300	6	10/64	614.7	44	125.6	.500	164.4631	50.234	.9423	1.1757	1.0005	55.680	1277.6044	.210	5.920
1400	7	10/64	614.7	80	134.6	.500	221.7620	50.234	.9352	1.1604	1.0007	55.005	1251.8960	.278	7.822
1500	8	10/64	614.7	96	127.4	.500	242.9281	50.234	.9409	1.1724	1.0010	55.4690	1272.8092	.309	8.711
1600	9	10/64	614.7	80	131.0	.500	221.7620	50.234	.9380	1.1662	1.0009	55.0002	1261.9834	.280	7.884
1700	10	10/64	614.7	100	129.2	.500	247.9375	50.9375	.9394	1.1692	1.0011	55.2350	1267.4926	.314	8.854
1800	11	10/64	614.7	116	127.4	.500	267.0369	50.234	.9409	1.1724	1.0013	55.4857	1273.0854	.340	9.578
1900	12	10/64	614.7	100	131.0	.500	247.9375	50.234	.9380	1.1662	1.0011	55.0110	1262.2572	.313	8.817
2000	13	10/64	614.7	100	131	.500	247.9375	50.234	.9380	1.1662	1.0011	55.0110	1262.2572	.313	8.817
2100	14	10/64	614.7	100	129.0	.500	247.9375	50.234	.9396	1.1696	1.0011	55.2656	1268.0826	.314	8.858
2200	15	10/64	614.7	104	127.4	.500	252.8476	50.234	.9409	1.1724	1.0011	55.4746	1272.9196	.322	9.068
2300	16	10/64	614.7	104	127.4	.500	252.8476	50.234	.9409	1.1724	1.0011	55.4746	1272.9196	.322	9.068
2400	17	10/64	614.7	104	127.4	.500	252.8476	50.234	.9409	1.1724	1.0011	55.4746	1272.9196	.322	9.068

ET 106

026

EXPERTEST PTY. LTD.

GAS FLOW CALCULATIONS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 2 OF 11
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 20TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : I. KURASIAK

ORIFICE METER TYPE: DANIELS SENIOR	STATIC PRESSURE RANGE : 0-1500 PSIG	GAS SPECIFIC GRAVITY (SG) = 1.094
METER RUN SIZE : 3.826"	DIFFERENTIAL PRESS. RANGE: 0-200 IN WC	FG $\sqrt{(1/SG)}$ = .9560
SEPARATOR NO : 37	STANDARD CONDITIONS : 14.73 PSI @ 60°F	C_2 (FU × FG) = 22.9457

DATE / TIME	FLOW TIME (HOURS)	CHOKE SIZE	STATIC PRESS P_F (PSIA)	DIFF PRESS H_W (IN WC)	GAS FLOW TEMP (°F)	ORIF. PLATE SIZE (IN)	$\sqrt{(P_F \times H_W)}$	$C_1 = F_B \times F_{TF} \times F_{PV} \times Y_2$				C_1	C ($C = C_1 \times C_2$)	GAS FLOW RATE $Q = \sqrt{(P_F \times H_W)} \times C$	
								F_B	F_{TF}	F_{PV}	Y_2			(MMSCFD)	($m^3 10^3$/D)
0100	18	10/64	614.7	108	127.4	.500	257.6642	50.234	.9409	1.1724	1.0012	55.480	1272.9749	.328	9.241
0200	18	10/64	614.7	100	127.4	.500	247.9375	50.234	.9409	1.1724	1.0011	55.475	1272.8644	.316	8.891
0300	20	10/64	614.7	100	127.4	.500	247.9375	50.234	.9409	1.1724	1.0011	55.475	1272.8644	.316	8.891
0400	21	10/64	614.7	100	127.4	.500	247.9375	50.234	.9409	1.1724	1.0011	55.475	1272.8644	.316	8.891
0500	22	10/64	614.7	1100	127.4	.500	260.0390	50.234	.9409	1.1724	1.0012	55.480	1273.0025	.331	9.326
0600	23	10/64	614.7	110	127.4	.500	260.0390	50.234	.9409	1.1724	1.0012	55.480	1273.0025	.331	9.326
0700	24	10/64	614.7	114	122.0	.500	264.7248	50.234	.9452	1.1826	1.0012	56.219	1290.0764	.342	9.621
0800	25	10/64	609.7	116	120.2	.500	265.9486	50.234	.9467	1.1835	1.0013	56.356	1293.0612	.344	9.689
0900	26	10/64	609.7	118	122.2	.500	268.2315	50.234	.9451	1.1795	1.0013	56.071	1286.5525	.345	9.722
1000	27	10/64	609.7	124	125.6	.500	274.9664	50.234	.9423	1.1732	1.0014	55.612	1275.9820	.351	9.884
1000	INCREASE CHOKE SIZE TO	18/64	AND CHANGED ORIFICE PLATE TO 1.250"												
1100	28	18/64	494.7	106	120.2	1.25	229.0008	318.83	.9467	1.1299	1.0014	341.522	7817.1447	1.790	50.435
1200	29	18/64	494.7	108	116.6	1.25	231.1511	318.83	.9497	1.1341	1.0014	343.878	7870.8399	1.819	51.258
1300	30	18/64	504.7	108	116.6	1.25	233.4756	318.83	.9497	1.1381	1.0014	345.091	7899.7842	1.844	51.964
1400	31	18/64	504.7	112.5	116.6	1.25	238.2900	318.83	.9496	1.1383	1.0015	345.150	7900.2466	1.883	53.038
1500	32	18/64	504.7	112	113.0	1.25	237.7599	318.83	.9526	1.1430	1.0015	347.670	7957.4609	1.892	53.304
1600	33	18/64	497.7	112	111.2	1.25	236.1054	318.83	.9541	1.1422	1.0015	347.8626	7964.8626	1.881	52.983
1700	34	18/64	504.7	112	113.0	1.25	237.7599	318.83	.9526	1.1430	1.0015	347.670	7957.4609	1.892	53.304
1800	35	18/64	504.7	109	113.0	1.25	234.5540	318.83	.9526	1.1430	1.0014	347.635	7957.1505	1.866	52.583

2269

EXPERTEST PTY. LTD.

GAS FLOW CALCULATIONS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 3 OF 11
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 20TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : I. KURASIAK

ORIFICE METER TYPE: DANIEL SENIOR	STATIC PRESSURE RANGE : 0-1500 PSIG	GAS SPECIFIC GRAVITY (SG) = 1.094
METER RUN SIZE : 3.826"	DIFFERENTIAL PRESS. RANGE: 0-200 IN WC	FG $\sqrt{(1/SG)}$ = .9560
SEPARATOR NO : 37	STANDARD CONDITIONS : 14.73 PSI @ 60°F	C_2 (FU × FG) = 22.9457

DATE / TIME	FLOW TIME (HOURS)	CHOKE SIZE	STATIC PRESS P_F (PSIA)	DIFF PRESS H_W (IN WC)	GAS FLOW TEMP (°F)	ORIF. PLATE SIZE (IN)	$\sqrt{(P_F \times H_W)}$	$C_1 = F_B \times F_{TF} \times F_{PV} \times Y_2$				C_1	C ($C = C_1 \times C_2$)	GAS FLOW RATE $Q = \sqrt{(P_F \times H_W)} \times C$	
								F_B	F_{TF}	F_{PV}	Y_2			(MMSCFD)	($m^3 10^3$/D)
1900	36	18/64	504.7	109	111.2	1.25	234.5540	318.83	.9541	1.1454	1.0014	348.9135	7986.6936	1.873	52.779
2000	37	18/64	504.7	110	109.4	1.25	235.6275	318.83	.9556	1.1480	1.0014	350.2553	8016.9867	1.889	53.221
2100	38	18/64	504.7	110	107.6	1.25	235.6275	318.83	.9572	1.1506	1.0014	351.6364	8047.8531	1.896	53.426
2200	39	18/64	504.7	110	105.8	1.25	235.6275	318.83	.9572	1.1532	1.0014	352.4309	8079.4304	1.904	53.636
2300	40	18/64	504.7	110	105.8	1.25	235.6275	318.83	.9572	1.1532	1.0014	352.4309	8079.4304	1.904	53.636
2400	41	18/64	504.7	110	105.8	1.25	235.6275	318.83	.9572	1.1532	1.0014	352.4409	8079.4304	1.904	53.636
21ST JANUARY 1990															
0100	42	18/64	504.7	110	105.8	1.25	235.6275	318.83	.9572	1.1532	1.0014	352.4409	8079.4304	1.904	53.636
0200	43	18/64	504.7	110	105.8	1.25	235.6275	318.83	.9572	1.1532	1.0014	352.4409	8079.4304	1.904	53.636
0300	44	18/64	504.7	110	105.8	1.25	235.6275	318.83	.9572	1.1532	1.0014	352.4409	8079.4304	1.904	53.636
0400	45	18/64	504.7	110	105.8	1.25	235.6275	318.83	.9572	1.1532	1.0014	352.4409	8079.4303	1.904	53.636
0500	46	18/64	504.7	110	105.8	1.25	235.6275	318.83	.9572	1.1532	1.0014	352.4409	8079.4303	1.904	53.636
0600	47	18/64	504.7	110	105.8	1.25	235.6275	318.83	.9572	1.1532	1.0014	352.4409	8079.4304	1.904	53.636
0700	48	18/64	504.7	112	107.6	1.25	237.7599	318.83	.9572	1.1506	1.0015	351.6715	8048.0624	1.914	53.911
0800	49	18/64	504.7	115	111.2	1.25	240.9231	318.83	.9541	1.1454	1.0015	348.9483	7987.3168	1.924	54.216
0900	50	18/64	504.7	114	113	1.25	239.8733	318.83	.9526	1.1430	1.0015	347.6697	7957.6679	1.909	53.779
1000	51	18/64	504.7	113	114.8	1.25	238.8189	318.83	.9511	1.1406	1.0015	346.3934	7928.6365	1.894	53.347
1100	52	18/64	504.7	113	113	1.25	238.8189	318.83	.9526	1.1430	1.0015	347.6697	7957.5644	1.900	53.542
1200	53	18/64	504.7	111	120.2	1.25	236.6961	318.83	.9467	1.1339	1.0014	342.7314	7845.0848	1.857	52.316

EXPERTEST PTY. LTD.

GAS FLOW CALCULATIONS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970' KB	PAGE: 4 OF 11
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 21ST JANAURY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : I. KURASIAK

ORIFICE METER TYPE: DANIEL SENIOR	STATIC PRESSURE RANGE : 0-1500 PSIG	GAS SPECIFIC GRAVITY (SG) = 1.094
METER RUN SIZE : 3.826"	DIFFERENTIAL PRESS. RANGE: 0-200 IN WC	FG $\sqrt{(1/SG)}$ = .9560
SEPARATOR NO : 37	STANDARD CONDITIONS : 14.73 PSI @ 60°F	C_2 (FU × FG) = 22.9457

DATE / TIME	FLOW TIME (HOURS)	CHOKE SIZE	STATIC PRESS P_F (PSIA)	DIFF PRESS H_W (IN WC)	GAS FLOW TEMP (°F)	ORIF. PLATE SIZE (IN)	$\sqrt{(P_F \times H_W)}$	$C_1 = F_B \times F_{TF} \times F_{PV} \times Y_2$				C_1	C ($C = C_1 \times C_2$)	GAS FLOW RATE $Q = \sqrt{(P_F \times H_W)} \times C$	
								F_B	F_{TF}	F_{PV}	Y_2			(MMSCFD)	($m^3 10^3$/D)
1300	54	18/64	504.7	114	120.2	1.25	239.8733	318.03	.9467	1.1339	1.0015	341.9055	7845.3909	1.882	53.021
1400	55	18/64	504.7	114	120.2	1.25	239.8733	318.03	.9467	1.1339	1.0015	341.9055	7845.3909	1.882	53.021
1500	56	18/64	504.7	112	114.8	1.25	237.7599	318.03	.9511	1.1406	1.0015	345.5242	7928.533	1.885	53.110
1600	57	18/64	504.7	111	113.0	1.25	236.6961	318.03	.9526	1.1430	1.0014	346.7627	7957.3575	1.883	53.065
1700	58	18/64	504.7	110	114.8	1.25	235.6275	318.03	.9511	1.1406	1.0014	345.4897	7928.3272	1.868	52.632
1700	INCREASE VARIABLE CHOKE SETTING TO 32/64 FOR RATE #5 OF ISOCHRONAL TEST														
1745		32/64	514.7	44	113	2.25	150.4929	1104.67	.9526	1.1476	1.0005	1208.2332	27722.9302	4.172	117.545
1745	INCREASE VARIABLE CHOKE SETTING TO 40/64 FOR RATE NO 4 OF ISOCHROANL TEST														
1810		40/64	514.7	56	118.4	2.25	169.7789	1104.67	.9482	1.1403	1.0006	1195.1217	27422.3867	4.656	131.171
1810	DECREASE VARIABLE CHOKE SETTING TO 28/64 FOR RATE NO 3 OF ISOCHRONAL TEST														
1900	60	28/64	514.7	83	113	1.75	206.6944	637.83	.9526	1.1476	1.0010	697.9754	16015.6818	3.310	93.266
1900	SHUT WELL IN FOR BUILD UP														
	FOR ISOCHRONAL FLOW SEE NEXT PAGE														

0271

EXPERTEST PTY. LTD.

GAS FLOW CALCULATIONS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 5 OF 11
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 24TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : I. KURASIAK

ORIFICE METER TYPE: DANIEL SENIOR	STATIC PRESSURE RANGE : 0-1500 PSIG	GAS SPECIFIC GRAVITY (SG) = 1.094
METER RUN SIZE : 3.826"	DIFFERENTIAL PRESS. RANGE: 0-200 IN WC	FG $\sqrt{(1/SG)}$ = .9560
SEPARATOR NO : 37	STANDARD CONDITIONS : 14.73 PSI @ 60°F	C_2 (FU × FG) = 22.9457

DATE / TIME	FLOW TIME (HOURS)	CHOKE SIZE	STATIC PRESS P_F (PSIA)	DIFF PRESS H_W (IN WC)	GAS FLOW TEMP (°F)	ORIF. PLATE SIZE (IN)	$\sqrt{(P_F \times H_W)}$	$C_1 = F_B \times F_{TF} \times F_{PV} \times Y_2$				C_1	C	GAS FLOW RATE $Q = \sqrt{(P_F \times H_W)} \times C$	
								F_B	F_{TF}	F_{PV}	Y_2		($C = C_1 \times C_2$)	(MMSCFD)	($m^3 10^3/D$)
1100	0	10/64				.750		OPEN WELL ON 10/64 CHOKE SIZE FOR RATE				#1 OF ISO.			
1115		10/64	644.7	54	131	.750	186.5889	113.152	.9380	1.1807	1.0006	125.3884	2877.0727	.537	15.124
1130		10/64	669.7	50	149	.750	182.9932	113.152	.9240	1.1609	1.0005	121.4356	2786.5650	.510	14.364
1145		10/64	672.7	52	149	.750	187.0346	113.152	.9240	1.1621	1.0005	121.5611	2789.4695	.522	14.699
1200	1	10/64	672.73	53	150.8	.750	188.8245	113.152	.9227	1.1593	1.0005	121.0980	2778.7866	.525	14.783
1215		10/64	672.7	60	150.8	.750	200.9074	113.152	.9227	1.1593	1.0006	121.1097	2778.9790	.558	15.730
1230		10/64	672.7	68	150.8	.750	213.8823	113.152	.9227	1.1593	1.0007	124.643	2779.1990	.594	16.747
1245		10/64	672.7	68	150.8	.750	213.8823	113.152	.9227	1.1593	1.0007	124.643	2779.1990	.594	16.747
1300	2	10/64	670.7	74	149	.750	222.7869	113.152	.9240	1.1613	1.0007	121.502	2788.1762	.621	17.501
1315		10/64	670.7	75	149	.750	224.2872	113.152	.9240	1.1613	1.0007	121.502	2788.2039	.625	17.619
1330		10/64	672.7	72	147.2	.750	220.0831	113.152	.9254	1.1649	1.0007	122.063	2800.9878	.616	17.368
1345		10/64	669.7	69	143	.750	214.9683	113.152	.9286	1.1706	1.0007	123.084	2824.3869	.607	17.106
1400	3	10/64	672.7	69	145.4	.750	215.4432	113.152	.9268	1.1679	1.0007	122.666	2812.1379	.606	17.070
1415		10/64	670.7	69	145	.750	215.128	113.15	.9271	1.1677	1.0007	122.577	2812.632	.605	17.047
1430		10/64	670.7	69	144	.750	215.128	113.15	.9279	1.1694	1.0007	122.854	2818.991	.606	17.086
1445		10/64	672.7	69	142	.750	215.449	113.15	.9294	1.1737	1.0007	123.514	2834.136	.611	17.203
1500	4	10/64	672.7	69	142	.750	215.449	113.15	.9294	1.1737	1.0007	123.514	2834.136	.611	17.203
		END OF RATE #1													

EXPERTEST PTY. LTD.

GAS FLOW CALCULATIONS

CUSTOMER :	SANTOS LTD.	PERFORATIONS:	8830'-8970'KB
WELL NAME:	NARIE #1	FORMATION :	TIRRAWARRA
TEST TYPE :	MODIFIED ISOCHRONAL		

DATE: 24TH JANUARY 1990

OPR : J. HOFF

ORIFICE METER TYPE: DANIELS SENIOR	STATIC PRESSURE RANGE : 0-1500 PSIG	GAS SPECIFIC GRAVITY (SG) = 1.094
METER RUN SIZE : 3.826	DIFFERENTIAL PRESS. RANGE: 0-200 IN WC	FG $\sqrt{(1/SG)}$ = .9560
SEPARATOR NO : 37 (1440psi)	STANDARD CONDITIONS : 14.73 PSI @ 60°F	C_2 (FU × FG) = 22.945

DATE / TIME	FLOW TIME (HOURS)	CHOKE SIZE	STATIC PRESS P_F (PSIA)	DIFF PRESS H_W (IN WC)	GAS FLOW TEMP (°F)	ORIF. PLATE SIZE (IN)	$\sqrt{(P_F \times H_W)}$	$C_1 = F_B \times F_{TF} \times F_{PV} \times Y_2$				C_1	C ($C = C_1 \times C_2$)	GAS FLOW RATE $Q = \sqrt{(P_F \times H_W)} \times C$	
								F_B	F_{TF}	F_{PV}	Y_2			(MMSCFD)	($m^3 10^3$/D)
1900	RATE	#2													
1915		18/64	420	64	127	1.500	163.898	462.27	.9412	1.0975	1.0010	477.993	1096.934	1.798	50.646
1930		"	415	70	116	"	170.385	"	.9501	1.045	1.0011	485.636	11143.310	1.899	53.493
1945		"	415	70	107	"	170.385	"	.9577	1.1§24	1.011	492.973	11311.655	1.927	54.301
2000	5	"	415	64	102	"	162.919	"	.9619	1.1172	1.0010	497.262	11410.079	1.859	52.373
2015		"	415	60	93	"	157.746	"	.9697	1.1268	1.0099	505.580	11600.940	1.830	51.558
2030		"	415	60	89	"	157.746	"	.9732	1.1315	1.0009	509.547	11691.965	1.844	51.963
2045		"	415	60	88	"	157.746	"	.9741	1.1328	1.0009	510.566	11715.350	1.848	52.067
2100	6	"	415	60	88	"	157.746	"	.9741	1.1328	1.0009	510.566	11715.350	1.848	52.067
2115		"	415	62	88	"	160.353	"	.9741	1.1328	1.0010	510.582	11715.714	1.879	52.929
2130		"	415	60	88	"	157.746	"	.9741	1.1328	1.0009	510.566	11715.350	1.848	52.067
2145		"	415	60	88	"	157.746	"	.9741	1.1328	1.0009	510.566	11715.350	1.848	52.067
2200	7	"	415	60	88	"	157.746	"	.9741	1.1328	1.0009	510.566	11715.350	1.848	52.067
2215		"	415	60	88	"	157.746	"	.9741	1.1328	1.0009	510.566	11715.350	1.848	52.067
2230		"	415	61	89	"	159.055	"	.9732	1.1315	1.0009	509.555	11692.147	1.860	52.395
2245		"	415	61	89	"	159.055	"	.9732	1.1315	1.009	509.555	11692.147	1.860	52.395
2300	8	18/64	415	61	89	1.500	159.055	462.27	.9732	1.1315	1.0009	509.555	11692.147	1.860	52.395
	SHUT	IN WELL END OF RATE #2													

EXPERTEST PTY. LTD.

GAS FLOW CALCULATIONS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 7 OF 11
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 25TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : J. HOFF

ORIFICE METER TYPE: DANIELS SENIOR	STATIC PRESSURE RANGE : 0-1500 PSIG	GAS SPECIFIC GRAVITY (SG) = 1.094
METER RUN SIZE : 3.826	DIFFERENTIAL PRESS. RANGE: 0-200 IN WC	FG $\sqrt{(1/SG)}$ = .9560
SEPARATOR NO : 37 (1440psi)	STANDARD CONDITIONS : 14.73 PSI @ 60°F	C_2 (FU × FG) = 22.945

DATE / TIME	FLOW TIME (HOURS)	CHOKE SIZE	STATIC PRESS P_F (PSIA)	DIFF PRESS H_W (IN WC)	GAS FLOW TEMP (°F)	ORIF. PLATE SIZE (IN)	$\sqrt{(P_F \times H_W)}$	$C_1 = F_B \times F_{TF} \times F_{PV} \times Y_2$				C_1	C ($C = C_1 \times C_2$)	GAS FLOW RATE $Q = \sqrt{(P_F \times H_W)} \times C$	
								F_B	F_{TF}	F_{PV}	Y_2			(MMSCFD)	($m^3 10^3/D$)
0300	START RATE #3														
0315		28/64	425	66	82	2.000	167.428	849.41	.9795	1.1461	1.0009	954.44	21900.391	3.667	103.307
0330		"	425	67	89	"	168.691	"	.9732	1.1365	1.0009	940.390	21577.969	3.640	102.554
0345		"	425	67	95	"	168.691	"	.9680	1.1291	1.0009	929.214	21321.527	3.597	101.335
0400	9	"	425	67	97	"	168.691	"	.9662	1.1268	1.0009	925.648	21239.703	3.583	100.946
0415		"	425	67	98	"	168.691	"	.9653	1.1257	1.0009	923.892	21199.430	3.576	100.755
0430		"	425	68	98	"	169.946	"	.9653	1.1257	1.0010	923.905	21199.727	3.603	101.506
0445		"	425	68	98	"	169.946	"	.9653	1.1257	1.0010	923.905	21199.727	3.603	101.506
0500	10	"	425	68	98	"	169.946	"	.9653	1.1257	1.0010	923.905	21199.727	3.603	101.506
0515		"	425	68	98	"	169.946	"	.9653	1.1257	1.0010	923.905	21199.727	3.603	101.506
0530		"	425	68	98	"	169.946	"	.9653	1.1257	1.0010	923.905	21199.727	3.603	101.506
0545		"	425	68	100	"	169.946	"	.9636	1.1235	1.0010	920.449	21120.409	3.589	101.126
0600	11	"	425	68	100	"	169.946	"	.9637	1.1235	1.0010	920.449	21120.409	3.589	101.126
0615		"	425	68	100	"	169.946	"	.9637	1.1235	1.0010	920.449	21120.409	3.589	101.126
0630		"	425	68	100	"	169.946	"	.9637	1.1235	1.0010	920.449	21120.409	3.589	101.126
0645		"	425	68	100	"	169.946	"	.9637	1.1235	1.0010	920.449	21120.409	3.589	101.126
0700	12	28/64	425	68	100	2.000	169.946	849.41	.9637	1.1235	1.0010	920.449	21120.409	3.589	101.126
	SHUT IN END OF RATE #3														

0274

ET 106

EXPERTEST PTY. LTD.

GAS FLOW CALCULATIONS

CUSTOMER : SANTOS LTD	PERFORATIONS: 8830'-8970"KB	PAGE: 8 OF 11
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 25TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : J. HOFF

ORIFICE METER TYPE: DANIELS SENIOR	STATIC PRESSURE RANGE : 0-1500 PSIG	GAS SPECIFIC GRAVITY (SG) = 1.094
METER RUN SIZE : 3.826	DIFFERENTIAL PRESS. RANGE: 0-200 IN WC	FG $\sqrt{(1/SG)}$ = .9560
SEPARATOR NO : 37 (1440psi)	STANDARD CONDITIONS : 14.73 PSI @ 60°F	C_2 (FU × FG) = 22.945

DATE / TIME	FLOW TIME (HOURS)	CHOKE SIZE	STATIC PRESS P_F (PSIA)	DIFF PRESS H_W (IN WC)	GAS FLOW TEMP (°F)	ORIF. PLATE SIZE (IN)	$\sqrt{(P_F \times H_W)}$	$C_1 = F_B \times F_{TF} \times F_{PV} \times Y_2$				C_1	C ($C = C_1 \times C_2$)	GAS FLOW RATE $Q = \sqrt{(P_F \times H_W)} \times C$	
								F_B	F_{TF}	F_{PV}	Y_2			(MMSCFD)	($m^3 10^3/D$)
1100	START	RATE #4													
1115		40/64	425	76	97	2.25	179.664	1104.67	.9662	1.1268	1.0010	1203.881	27623.99	4.963	139.829
1130		"	425	74	98	"	177.285	"	.9653	1.1257	1.0010	1201.567	27570.89	4.888	137.712
1145		"	425	64	100	"	164.871	"	.9636	1.1235	1.0008	1196.916	27464.17	4.528	127.574
1200	13	"	425	64	100	"	164.871	"	.9636	1.1235	1.0008	1196.916	27464.17	4.528	127.574
1215		"	425	64	102	"	164.871	"	.9619	1.1213	1.0008	1192.511	27363.08	4.511	127.104
1230		"	425	64	102	"	164.871	"	.9619	1.1213	1.0008	1192.511	27363.08	4.511	127.104
1245		"	425	64	104	"	164.871	"	.9602	1.1193	1.0008	1188.191	27263.97	4.495	126.644
1300	14	"	425	64	104	"	164.871	"	.9602	1.1193	1.0008	1188.191	27263.97	4.495	126.644
1315		"	425	64	104	"	164.871	"	.9602	1.1193	1.0008	1188.191	27263.97	4.495	126.644
1330		"	425	64	106	"	164.871	"	.9585	1.1172	1.0008	1183.954	27166.74	4.479	126.192
1345		"	425	63	106	"	163.578	"	.9585	1.1172	1.0008	1183.939	27166.38	4.444	125.201
1400	15	"	425	63	106	"	163.578	"	.9585	1.1172	1.0008	1183.939	27166.38	4.444	125.201
1415		"	425	63	107	"	163.578	"	.9577	1.1163	1.0008	1181.850	27118.45	4.436	124.980
1430		"	425	63	107	"	163.578	"	.9577	1.1163	1.0008	1181.850	27118.45	4.436	124.980
1445		"	425	63	107	"	163.578	"	.9577	1.1163	1.0008	1181.850	27118.45	4.436	124.980
1500	16	40/64	425	63	107	2.25	163.578	1104.67	.9577	1.1163	1.0008	1181.850	27§§8.45	4.436	124.980
	DECREASE CHOKE TO 32/64 FOR EXTENDED RATE END OF RATE #4														

0275

EXPERTEST PTY. LTD.

GAS FLOW CALCULATIONS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 9 OF 11
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 25TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : J. HOFF
ORIFICE METER TYPE: DANIEL SENIOR	STATIC PRESSURE RANGE : 0-1500 PSIG	GAS SPECIFIC GRAVITY (SG) = 1.094
METER RUN SIZE : 3.826	DIFFERENTIAL PRESS. RANGE: 0-200 IN WC	FG $\sqrt{(1/SG)}$ = .9560
SEPARATOR NO : 37 (1440psi)	STANDARD CONDITIONS : 14.73 PSI @ 60°F	C_2 (FU × FG) = 22.945

DATE / TIME	FLOW TIME (HOURS)	CHOKE SIZE	STATIC PRESS P_F (PSIA)	DIFF PRESS H_W (IN WC)	GAS FLOW TEMP (°F)	ORIF. PLATE SIZE (IN)	$\sqrt{(P_F \times H_W)}$	$C_1 = F_B \times F_{TF} \times F_{PV} \times Y_2$				C_1	C ($C = C_1 \times C_2$)	GAS FLOW RATE $Q = \sqrt{(P_F \times H_W)} \times C$	
								F_B	F_{TF}	F_{PV}	Y_2			(MMSCFD)	($m^3 10^3$/D)
1600	17	32/64	415	76	104	2.000	177.537	849.41	.9602	1.1152	1.0011	910.565	20893.62	3.709	104.509
1700	18	"	425	76	106	"	179.664	"	.9585	1.1172	1.0011	910.582	20894.02	3.754	105.763
1800	19	"	425	80	106	"	184.332	"	.9585	1.1172	1.0011	910.633	20895.19	3.852	108.517
1900	20	"	425	80	106	"	184.332	"	.9585	1.1172	1.0011	910.633	20895.19	3.852	108.517
2000	21	"	425	80	106	"	184.332	"	.9585	1.1172	1.0011	910.633	20895.19	3.852	108.517
2100	22	"	425	80	106	"	184.332	"	.9585	1.1172	1.0011	910.633	20895.19	3.852	108.517
2200	23	"	425	80	106	"	184.332	"	.9585	1.1172	1.0011	910.633	20895.19	3.852	108.517
2300	24	"	425	80	107	"	184.332	"	.9577	1.1163	1.0011	909.027	20858.32	3.845	108.325
2400	25	"	425	80	107	"	184.332	"	.9577	1.1163	1.0011	909.027	20858.32	3.845	108.325
26TH JANUARY 1990															
0100	26	"	425	80	107	"	184.332	"	.9577	1.1163	1.0011	909.027	20858.32	3.845	108.325
0200	27	"	415	12	97		70.546	"	.9662	1.1224	1.0002	921.304	21140.026	1.491	42.017
0300	28	"	425	82	106	"	186.622	"	.9585	1.1172	1.0011	910.659	20895.78	3.900	109.868
0400	29	"	425	82	107	"	186.622	"	.9577	1.1163	1.0011	909.052	20858.91	3.893	109.674
0500	30	"	425	82	107	"	186.622	"	.9577	1.1163	1.0011	909.052	20858.91	3.893	109.674
0600	31	"	425	82	107	"	186.622	"	.9577	1.1163	1.0011	909.052	20858.91	3.893	109.674
0700	32	"	285	134	93	"	200.409	"	.9697	1.0811	1.0027	892.854	20487.23	4.106	115.678
0800	33	"	430	79	113	"	184.251	"	.9526	1.1125	1.0011	901.157	20677.75	3.810	107.340
0900	34	32/64	430	79	115	2.000	184.251	849.41	.9510	1.1106	1.0011	898.116	20607.96	3.797	106.978

EXPERTEST PTY. LTD.

GAS FLOW CALCULATIONS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8830'-8970'KB	PAGE: 10 OF 11
WELL NAME: NARIE #1	FORMATION : TIRRAWARRA	DATE: 26TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL		OPR : J. HOFF

ORIFICE METER TYPE: DANIEL S SENIOR	STATIC PRESSURE RANGE : 0-1500 PSIG	GAS SPECIFIC GRAVITY (SG) = 1.094
METER RUN SIZE : 3.826	DIFFERENTIAL PRESS. RANGE: 0-200 IN WC	FG $\sqrt{(1/SG)}$ = .9560
SEPARATOR NO : 37 (1440psi)	STANDARD CONDITIONS : 14.73 PSI @ 60°F	C_2 (FU × FG) = 22.945

DATE / TIME	FLOW TIME (HOURS)	CHOKE SIZE	STATIC PRESS P_F (PSIA)	DIFF PRESS H_W (IN WC)	GAS FLOW TEMP (°F)	ORIF. PLATE SIZE (IN)	$\sqrt{(P_F \times H_W)}$	$C_1 = F_B \times F_{TF} \times F_{PV} \times Y_2$				C_1	C ($C = C_1 \times C_2$)	GAS FLOW RATE $Q = \sqrt{(P_F \times H_W)} \times C$	
								F_B	F_{TF}	F_{PV}	Y_2			(MMSCFD)	($m^3 10^3$/D)
1000	35	32/64	430	80	118	2.000	185.414	849.41	.9485	1.1080	1.0011	893.664	20505.81	3.802	107.119
1100	36	"	430	80	120	"	185.414	"	.9469	1.1063	1.0011	890.750	20438.95	3.790	106.770
1200	37	"	430	80	120	"	185.414	"	.9469	1.1063	1.0011	890.750	20438.95	3.790	106.770
1300	38	"	430	80	122	"	185.414	"	.9452	1.1046	1.0011	887.884	20373.19	3.777	106.427
1400	39	"	430	81	122	"	186.569	"	.9452	1.1046	1.0011	887.896	20373.47	3.801	107.091
1500	40	"	430	81	122	"	186.569	"	.9452	1.1046	1.0011	887.896	20373.47	3.801	107.091
1600	41	"	430	81	122	"	186.569	"	.9452	1.1046	1.0011	887.896	20373.47	3.801	107.091
1700	42	"	435	80	122	"	186.489	"	.9452	1.1063	1.0011	889.221	20403.877	3.805	107.205
1800	43	"	435	80	122	"	186.489	"	.9452	1.1063	1.0011	889.221	20403.877	3.805	107.205
1900	44	"	435	80	120	"	186.489	"	.9469	1.1080	1.0011	892.121	20420.403	3.818	107.555
2000	45	"	435	80	120	"	186.489	"	.9469	1.1080	1.0011	892.121	20470.403	3.818	107.555
2100	46	"	435	80	118	"	186.489	"	.9485	1.1098	1.0011	895.069	20538.057	3.830	107.910
2200	47	"	435	79	118	"	185.320	"	.9485	1.1098	1.0011	895.057	20537.776	3.806	107.232
2300	48	"	435	79	118	"	185.320	"	.9485	1.1098	1.0011	895.059	20537.776	3.806	107.232
2400	49	32/64	435	79	118	2.000	185.320	849.41	.9485	1.1098	1.0011	895.059	20537.776	3.806	107.232

ET 106

0277

EXPERTEST PTY. LTD.

GAS FLOW CALCULATIONS

CUSTOMER : SANTOS LTD.
PERFORATIONS: 8830'-8970'KB
PAGE: 11 OF 11
WELL NAME: NARIE #1
FORMATION : TIRRAWARRA
DATE: 27TH JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL
OPR : J. HOFF

ORIFICE METER TYPE: DANIELS SENIOR
STATIC PRESSURE RANGE : 0-1500 PSIG
GAS SPECIFIC GRAVITY (SG) = 1.094
METER RUN SIZE : 3.826
DIFFERENTIAL PRESS. RANGE: 0-200 IN WC
FG $\sqrt{(1/SG)}$ = .9560
SEPARATOR NO : 37 (1440psi)
STANDARD CONDITIONS : 14.73 PSI @ 60°F
C_2 (FU × FG) = 22.945

DATE / TIME	FLOW TIME (HOURS)	CHOKE SIZE	STATIC PRESS P_F (PSIA)	DIFF PRESS H_W (IN WC)	GAS FLOW TEMP (°F)	ORIF. PLATE SIZE (IN)	$\sqrt{(P_F \times H_W)}$	$C_1 = F_B \times F_{TF} \times F_{PV} \times Y_2$				C_1	C ($C = C_1 \times C_2$)	GAS FLOW RATE $Q = \sqrt{(P_F \times H_W)} \times C$	
								F_B	F_{TF}	F_{PV}	Y_2			(MMSCFD)	($m^3 10^3$/D)
0100	50	32/64	435	79	120	2.000	185.320	849.41	.9469	1.1080	1.0011	892.108	20470.122	3.794	106.879
0200	51	"	435	79	120	"	185.320	"	.9469	1.1080	1.0011	892.108	20470.122	3.794	106.879
0300	52	"	435	79	120	"	185.320	"	.9469	1.1080	1.0011	892.108	20470.122	3.794	106.879
0400	53	"	440	78	118	"	185.199	"	.9485	1.1115	1.0011	896.466	20570.100	3.810	107.331
0500	54	"	440	78	118	"	185.199	"	.9485	1.1115	1.0011	896.466	20570.100	3.810	107.331
0600	55	"	440	78	118	"	185.199	"	.9485	1.1115	1.0011	896.466	20570.100	3.810	107.331
0700	56	"	440	78	118	"	185.199	"	.9485	1.1115	1.0011	896.466	20570.100	3.810	107.331
0800	57	32/64	440	78	118	2.000	185.199	849.41	.9485	1.1115	1.0011	896.466	20570.100	3.810	107.331
	SHUT IN WELL FOR BUILD UP END OF TEST														

0278

ET 106

EXPERTEST PTY. LTD.

SAMPLING DATA

CUSTOMER : SANTOS LTD.
PERFORATIONS: 8830'-8970'KB
PAGE: 1 OF 2
WELL NAME: NARIE #1
FORMATION : TIRRAWARRA
DATE: 21ST JANUARY 1990
TEST TYPE : MODIFIED ISOCHRONAL
OPR : I. KURASIAK

SAMPLE #

TIME SAMPLE COLLECTED	CYLINDER SERIAL NO.	CYLINDER VOLUME	SAMPLE TYPE	SAMPLING DURATION (MINS)	CYLINDER INITIALLY FILLED WITH	OUTAGE (CC)	VOLUME OF FILL REMAINING WITH SAMPLE (CC)	SAMPLE POINT	SAMPLE PRESS (KPa)	SAMPLE TEMP (°C)	AMBIENT PRESS (KPa)	AMBIENT TEMP (°C)
0945	5586	20L	HP GAS	45	EVACUATED	0	20L	METER RUN ON SEP	3378	46	101.56	30

WELLHEAD DATA				SEPARATOR DATA			GRAVITIES		FLOW RATES			RATIOS	BOTTOM HOLE	
TUBING PRESS (KPa)	WELLHEAD TEMP (°C)	CHOKE SIZE	BS&W (%)	SEPARATOR PRESS (KPa)	SEPARATOR TEMP (°C)	FPV	GAS SPECIFIC GRAVITY	OIL API GRAV @60°F	GAS MMSCFD $m^3 10^3/D$	OIL BPD m^3/D	WATER BPD m^3/D	G.L.R. m^3/m^3	PRESSURE (KPa)	TEMPERATURE (°C)
11494	42	18/64		3378	46	1.1406	1.094	58.0	53.347	60.797	3.199	833.598	21281	138

REMARKS:

SAMPLE # 2

TIME SAMPLE COLLECTED	CYLINDER SERIAL NO.	CYLINDER VOLUME	SAMPLE TYPE	SAMPLING DURATION (MINS)	CYLINDER INITIALLY FILLED WITH	OUTAGE	VOLUME OF FILL REMAINING WITH SAMPLE (CC)	SAMPLE POINT	SAMPLE PRESS (KPa)	SAMPLE TEMP (°C)	AMBIENT PRESS (KPa)	AMBIENT TEMP (°C)
1045	5589	20L	HP GAS	45	EVACUATED	0	20L	METER RUN ON SEP	3378	45	101.56	32

WELLHEAD DATA				SEPARATOR DATA			GRAVITIES		FLOW RATES			RATIOS	BOTTOM HOLE	
TUBING PRESS (KPa)	WELLHEAD TEMP (°C)	CHOKE SIZE	BS&W (%)	SEPARATOR PRESS (KPa)	SEPARATOR TEMP (°C)	FPV	GAS SPECIFIC GRAVITY	OIL API GRAV @60°F	GAS MMSCFD $m^3 10^3/D$	OIL BPD m^3/D	WATER BPD m^3/D	G.L.R. m^3/m^3	PRESSURE (KPa)	TEMPERATURE (°C)
11480	43	18/64		3378	45	1.1430	1.094	58.0	53.542	70.397	3.199	727.512	21261	138

REMARKS:

SAMPLE # 3

TIME SAMPLE COLLECTED	CYLINDER SERIAL NO.	CYLINDER VOLUME (CC)	SAMPLE TYPE	SAMPLING DURATION (MINS)	CYLINDER INITIALLY FILLED WITH	OUTAGE (CC)	VOLUME OF FILL REMAINING WITH SAMPLE (CC)	SAMPLE POINT	SAMPLE PRESS (KPa)	SAMPLE TEMP (°C)	AMBIENT PRESS (KPa)	AMBIENT TEMP (°C)
1145	5588	20L	HP GAS	45	EVACUATED	0	20L	METER RUN ON SEP	3378	49	101.56	33

WELLHEAD DATA				SEPARATOR DATA			GRAVITIES		FLOW RATES			RATIOS	BOTTOM HOLE	
TUBING PRESS (KPa)	WELLHEAD TEMP (°C)	CHOKE SIZE	BS&W (%)	SEPARATOR PRESS (KPa)	SEPARATOR TEMP (°C)	FPV	GAS SPECIFIC GRAVITY	OIL API GRAV @60°F	GAS MMSCFD $m^3 10^3/D$	OIL BPD m^3/D	WATER BPD m^3/D	G.L.R. m^3/m^3	PRESSURE (KPa)	TEMPERATURE (°C)
11480	44	18/64		3378	49	1.1339	1.094	58.0	52.316	76.316	3.199	653.990	21257	138

REMARKS:

ET 107

0279

EXPERTEST PTY. LTD.

SAMPLING DATA

CUSTOMER : SANTOS LTD.
WELL NAME: NARIE #1
TEST TYPE : MODIFIED ISOCHRONAL
PERFORATIONS: 8830'-8970'KB
FORMATION : TIRRAWARRA
PAGE: 2 OF 2
DATE: 21ST JANUARY 1990
OPR : I. KURASIAK

SAMPLE # 1

TIME SAMPLE COLLECTED	CYLINDER SERIAL NO.	CYLINDER VOLUME (CC)	SAMPLE TYPE	SAMPLING DURATION (MINS)	CYLINDER INITIALLY FILLED WITH	OUTAGE (CC)	VOLUME OF FILL REMAINING WITH SAMPLE (CC)	SAMPLE POINT	SAMPLE PRESS (KPa)	SAMPLE TEMP (°C)	AMBIENT PRESS (PSI/KPa)	AMBIENT TEMP (°F/°C)
0945	014	.500	HP OIL	45	BRINE SOLUTION	475	25	DUMPLINE ON SEP.	3378	46	101.56	30

WELLHEAD DATA				SEPARATOR DATA			GRAVITIES		FLOW RATES			RATIOS	BOTTOM HOLE	
TUBING PRESS (KPa)	WELLHEAD TEMP (°C)	CHOKE SIZE	BS&W (%)	SEPARATOR PRESS (KPa)	SEPARATOR TEMP (°C)	FPV	GAS SPECIFIC GRAVITY	OIL API GRAV @60°F	GAS MMSCFD $m^3 10^3/D$	OIL BPD m^3/D	WATER BPD m^3/D	G.L.R. m^3/m^3	PRESSURE (KPa)	TEMPERATURE (°C)
11494	42	18/64		3378	46	1.1406	1.094	58.0	53.347	60.797	3.199	833.598	212.81	138

REMARKS:

SAMPLE # 2

TIME SAMPLE COLLECTED	CYLINDER SERIAL NO.	CYLINDER VOLUME (CC)	SAMPLE TYPE	SAMPLING DURATION (MINS)	CYLINDER INITIALLY FILLED WITH	OUTAGE (CC)	VOLUME OF FILL REMAINING WITH SAMPLE (CC)	SAMPLE POINT	SAMPLE PRESS (KPa)	SAMPLE TEMP (°C)	AMBIENT PRESS (KPa)	AMBIENT TEMP (°C)
1045	031	.500	HP OIL	45	BRINE SOLUTION	475	25	DUMPLINE ON SEP	3378	45	101.56	30

WELLHEAD DATA				SEPARATOR DATA			GRAVITIES		FLOW RATES			RATIOS	BOTTOM HOLE	
TUBING PRESS (KPa)	WELLHEAD TEMP (°C)	CHOKE SIZE	BS&W (%)	SEPARATOR PRESS (KPa)	SEPARATOR TEMP (°C)	FPV	GAS SPECIFIC GRAVITY	OIL API GRAV @60°F	GAS MMSCFD $m^3 10^3/D$	OIL BPD m^3/D	WATER BPD m^3/D	G.L.R. m^3/m^3	PRESSURE (KPa)	TEMPERATURE (°C)
11480	43	18/64		3378	45	1.1430	1.094	58.0	53.542	70.39	3.199	727.512	212.61	138

REMARKS:

SAMPLE # 3

TIME SAMPLE COLLECTED	CYLINDER SERIAL NO.	CYLINDER VOLUME (CC)	SAMPLE TYPE	SAMPLING DURATION (MINS)	CYLINDER INITIALLY FILLED WITH	OUTAGE (CC)	VOLUME OF FILL REMAINING WITH SAMPLE (CC)	SAMPLE POINT	SAMPLE PRESS (KPa)	SAMPLE TEMP (°C)	AMBIENT PRESS (KPa)	AMBIENT TEMP (°C)
1145	117	.500	HP OIL	45	BRINE SOLUTION	475	25	DUMPLINE ON SEP	3378	49	101.56	33

WELLHEAD DATA				SEPARATOR DATA			GRAVITIES		FLOW RATES			RATIOS	BOTTOM HOLE	
TUBING PRESS (KPa)	WELLHEAD TEMP (°C)	CHOKE SIZE	BS&W (%)	SEPARATOR PRESS (KPa)	SEPARATOR TEMP (°C)	FPV	GAS SPECIFIC GRAVITY	OIL API GRAV @60°F	GAS MMSCFD $m^3 10^3/D$	OIL BPD m^3/D	WATER BPD m^3/D	G.L.R. m^3/m^3	PRESSURE (KPa)	TEMPERATURE (°C)
11480	44	18/64		3378	49	1.1339	1.094	58.0	52.316	76.316	3.199	653.990	21257	138

REMARKS:

ET 107

SUB-SURFACE PRESSURE SURVEY

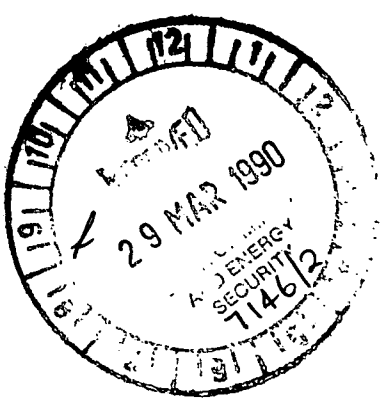
0281

CO. RUN 01 FIELD NARIE WELL 01
EFF DEPTH WELL STAT TOOL HUNG 9000'
CASING - CASING PRESS ON BOTTOM 0800 24/1
LINER - TUBING PRESS OFF BOTTOM 1630 25/1
DATE 900125 ELEMENT RANGE 0 - 5135 ZERO POINT
ELEVATION ZONE SHUT-IN
MAX TEMP PICK-UP ON-PROD
PERF - CAL SER NO. 60322 MPP
TUBING -
UNITS ENGLISH PURPOSE MODIFIED ISOCHRONAL

SURVEY DATA

CO. RUN 01 FIELD NARIE WELL 01

TIME	P-T	DP-DT	DTIME		TIME	P-T	DP-DT	DTIME
8:00	3869.0	3869.0	.0		21:50	3260.5	3260.5	13.8
8:39	3885.4	3885.4	.7	F2	23:10	3252.1	3252.1	15.2
9:51	3884.8	3884.8	1.9		23:16	3404.7	3404.7	15.3
1:16	3884.2	3884.2	3.3		23:20	3584.9	3584.9	15.3
1:17	3840.4	3840.4	3.3		23:26	3709.3	3709.3	15.4
11:19	3801.9	3801.9	3.3		23:38	3755.7	3755.7	15.6
1:26	3789.5	3789.5	3.4		23:53	3779.7	3779.7	15.9
1:34	3777.4	3777.4	3.6		0:16	3796.0	3796.0	16.3
11:48	3769.6	3769.6	3.8		1:08	3815.6	3815.6	17.1
12:30	3750.5	3750.5	4.5		2:08	3830.8	3830.8	18.1
3:07	3740.2	3740.2	5.1	SI	3:12	3839.0	3839.0	19.2
3:50	3731.7	3731.7	5.8		3:14	3635.7	3635.7	19.2
14:53	3727.6	3727.6	6.9		3:15	3325.7	3325.7	19.2
5:18	3725.4	3725.4	7.3		3:18	2937.5	2937.5	19.3
5:19	3759.0	3759.0	7.3		3:24	2789.7	2789.7	19.4
15:21	3790.1	3790.1	7.4		3:37	2715.2	2715.2	19.6
15:24	3817.0	3817.0	7.4		3:56	2676.8	2676.8	19.9
5:35	3847.4	3847.4	7.6		4:10	2659.3	2659.3	20.2
15:52	3859.3	3859.3	7.9		4:31	2642.0	2642.0	20.5
16:24	3864.9	3864.9	8.4		5:08	2620.9	2620.9	21.1
7:17	3868.4	3868.4	9.3		6:16	2594.0	2594.0	22.3
8:11	3874.6	3874.6	10.2	F3	6:59	2577.6	2577.6	23.0
19:15	3875.4	3875.4	11.3		7:06	2832.9	2832.9	23.1
9:17	3706.0	3706.0	11.3		7:10	3132.3	3132.3	23.2
9:19	3544.9	3544.9	11.3		7:23	3499.4	3499.4	23.4
19:26	3427.9	3427.9	11.4		7:34	3644.8	3644.8	23.6
19:36	3381.4	3381.4	11.6		7:48	3685.4	3685.4	23.8
9:52	3328.6	3328.6	11.9		8:11	3715.8	3715.8	24.2
20:16	3298.7	3298.7	12.3		8:45	3742.0	3742.0	24.8
20:54	3273.6	3273.6	12.9		10:09	3775.8	3775.8	26.2



SURVEY DATA

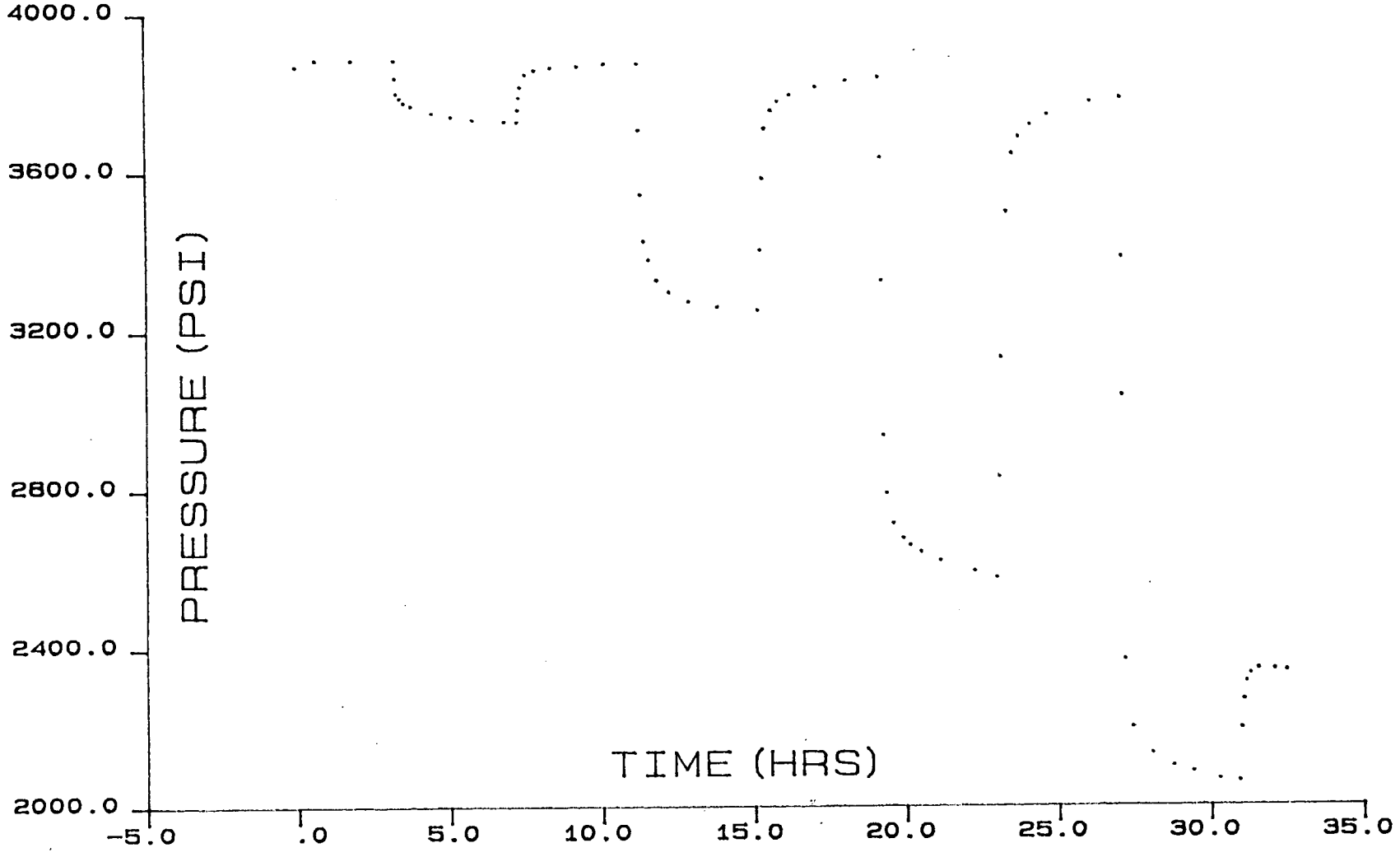
0282

CO. RUN 01 FIELD NARIE WELL 01

TIME	P-T	DP-DT	DTIME		TIME	P-T	DP-DT	DTIME
11:09	3784.6	3784.6	27.1	F4	14:55	2060.1	2060.1	30.9
11:09	3385.1	3385.1	27.2		15:00	2196.1	2196.1	31.0
11:08	3036.7	3036.7	27.1		15:05	2267.7	2267.7	31.1
11:12	2367.9	2367.9	27.2		15:10	2312.9	2312.9	31.2
11:27	2199.5	2199.5	27.4		15:18	2332.5	2332.5	31.3
12:05	2132.0	2132.0	28.1		15:34	2345.2	2345.2	31.6
12:47	2099.7	2099.7	28.8		16:06	2342.1	2342.1	32.1
13:25	2084.6	2084.6	29.4		16:30	2338.9	2338.9	32.5
14:16	2065.8	2065.8	30.3		0:00	.0	.0	.0

LUB IN DWT = 1925 PSI / OUT = 1624 PSI
LUB IN AMERADA = 1921 PSI / OUT = 1665 PSI

NARIE #1 MODIFIED ISOCHRONAL JAN 90
ELEMENT #60322 @ 9000'KB



SUB-SURFACE PRESSURE SURVEY

CO.		RUN 02	FIELD NARIE	WELL 01	
EF DEPTH		WELL STAT		TOOL HUNG	9000'
CASING	-	CASING PRESS		ON BOTTOM	0157 26/1
LINER	-	TUBING PRESS		OFF BOTTOM	1100 31/1
DATE	900131	ELEMENT RANGE	0 - 5135	ZERO POINT	
ELEVATION		ZONE		SHUT-IN	0800 27/1
MAX TEMP		PICK-UP		ON-PROD	
PERF	-	CAL SER NO.	60322	MPP	
TUBING	-				
UNITS	ENGLISH	PURPOSE	BUILD-UP		

SURVEY DATA

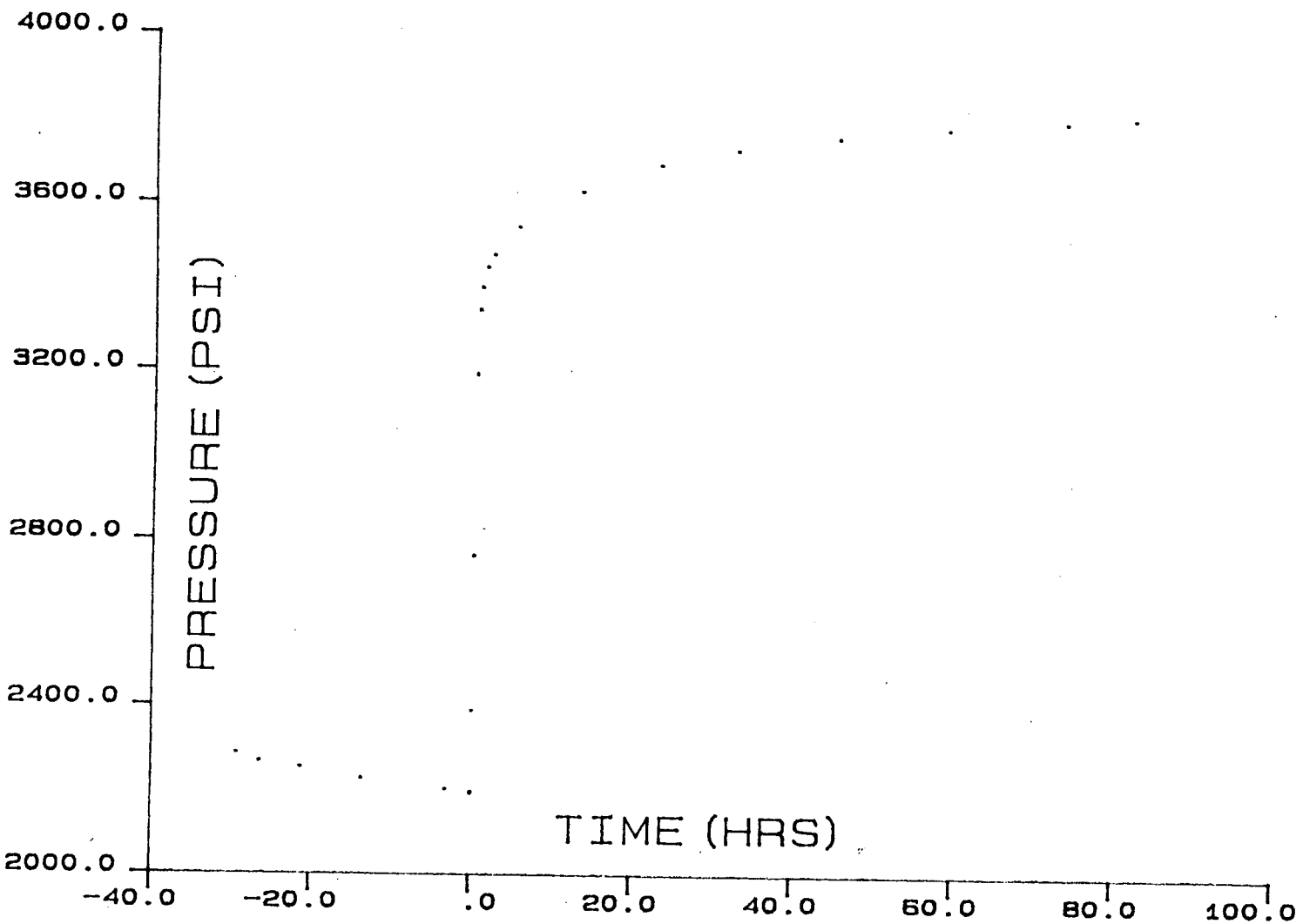
CO. RUN 02 FIELD NARIE WELL 01

TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME
8:00	2192.1	2192.1	.0	16:49	3729.1	3729.1	32.8
8:06	2388.0	2388.0	.1	5:25	3759.1	3759.1	45.4
8:14	2763.5	2763.5	.2	19:07	3782.2	3782.2	59.1
8:26	3190.8	3190.8	.4	9:51	3799.5	3799.5	73.8
8:41	3342.1	3342.1	.7	18:24	3810.0	3810.0	82.4
8:59	3395.9	3395.9	1.0	- 21:17	2285.2	2285.2	-29.3
9:34	3444.3	3444.3	1.6	- 18:19	2265.3	2265.3	-26.3
10:23	3475.1	3475.1	2.4	- 13:17	2251.6	2251.6	-21.3
13:28	3542.5	3542.5	5.5	- 5:36	2225.9	2225.9	-13.6
21:27	3627.8	3627.8	13.4	4:51	2201.5	2201.5	-3.2
7:09	3692.8	3692.8	23.1	8:00	2194.7	2194.7	.0

LUB IN DWT = 1159 PSI / OUT = 1980 PSI
LUB IN AMERADA = 1152 PSI / OUT = 1979 PSI

NOTE;CLOCK RAN OUT.

NARIE #1 EXT FLOW & BUILD-UP JAN 1990
ELEMENT #60322



ENVELOPE 7146/2

TENEMENT: PEL 5 and PEL 6, Merrimelia-Innamincka Block; Eromanga and Cooper Basins

TENEMENT HOLDER: Santos Ltd (operator), Alliance Oil Development Australia NL, Delhi Petroleum Pty Ltd, Vamgas Ltd and Sagasco Resources Ltd

CONTENTS OF VOLUME ONE

		MESA NO.
REPORTS:	**Halliburton Services, 1988.** Formation testing service report, DST 1 (28/4/88).	**7146/2 R 1** Pgs 3-30
	Halliburton Services, 1988. Formation testing service report, DST 2 (4/5/88).	**7146/2 R 2** Pgs 31-65
	Halliburton Services, 1988. Formation testing service report, DST 3 (14/9/88).	**7146/2 R 3** Pgs 66-74
	Halliburton Services, 1988. Formation testing service report, DST 4 (8/5/88).	**7146/2 R 4** Pgs 75-105
	Halliburton Services, 1989. Formation testing service report, DST 5 (17/7/89).	**7146/2 R 5** Pgs 106-117
	Halliburton Services, 1989. Formation testing service report, DST 6 (18/7/89).	**7146/2 R 6** Pgs 118-128
	Norcross, D., Metcalfe, J. and Chapman, T., 1990. Field maintenance contractor's results of the modified isochronal gas production test, 96 hour reservoir pressure buildup and static pressure gradient surveys (SGS) of the Tirrawarra Sandstone gas reservoir perforated interval 8830-8970 feet KB, conducted over the period 16-31 January 1990 (Expertest Pty Ltd).	**7146/2 R 7** Pgs 129-285

CONTENTS OF VOLUME TWO

Buckland, R., Smith, A. and Mueller, M., 1990. Field maintenance contractor's results of a sequence of variable flow rate flowing and static pressure gradient surveys of the Tirrawarra producing zone, conducted over the period 28/7 - 3/8/90 (Expertest Pty Ltd).	**7146/2 R 8** Pgs 286-302
Mueller, M., 1990. Field maintenance contractor's results of the in-line liquids evaluation test (LET) and 2-rate flowing pressure gradient surveys (FGS) of the Tirrawarra producing zone, conducted over the period 6-19/11/90 (Expertest Pty Ltd).	**7146/2 R 9** Pgs 303-354
Larkin, R., Hilder, C. and Kurasiak, I., 1990. Field maintenance contractor's results of the LET plus flowing bottomhole pressure, 176 hour reservoir pressure buildup and SGS of the Tirrawarra producing zone, conducted using a single readout gauge (SRO) over the period 7-17/12/90 (Expertest Pty Ltd).	**7146/2 R 10** Pgs 355-386

REPORTS:		MESA NO.
	Bowyer, P., 1991. Field maintenance contractor's results of the in-line LET and 4-rate FGS of the Tirrawarra producing zone, conducted over the period 14-22/12/91 (Expertest Pty Ltd).	**7146/2 R 11** Pgs 387-432
	Hull, B. and Bowyer, P., 1994. Field maintenance contractor's results of the single rate LET and FGS of the entire Tirrawarra producing zone, plus of a separate LET/FGS/SGS of the upper Tirrawarra reservoir interval 8830-8922 feet KB (i.e. isolating the lower productive sands), conducted over the period 1-3/1/94 (Expertest Pty Ltd).	**7146/2 R 12** Pgs 433-457
	Keresztesi, J. and Hahn, P., 1994. Field maintenance contractor's results of the (interrupted) SGS of the Tirrawarra producing zone (consequently split into two run intervals 8830-8850 and 8860-8790 feet KB), conducted over the period 31/1-4/2/94 (Expertest Pty Ltd).	**7146/2 R 13** Pgs 458-465
	Potter, B., 1994. Field maintenance contractor's results of the FGS of the Tirrawarra producing zone, conducted over the period 15-16/3/94 (Expertest Pty Ltd).	**7146/2 R 14** Pgs 466-468
	Taylor, S., 1994. Field maintenance contractor's results of the FGS of the Tirrawarra producing zone, conducted on 4/4/94 (Expertest Pty Ltd).	**7146/2 R 15** Pgs 469-471
	Potter, B., 1994. Field maintenance contractor's results of the incomplete (suspended) 2-rate LET and FGS of the commingled Toolachee/Patchawarra/Tirrawarra producing interval 8012-8970 feet KB, conducted over the period 17-19/8/94 (Expertest Pty Ltd).	**7146/2 R 16** Pgs 472-483
	Potter, B., 1994. Field maintenance contractor's results of the continuation of the above LET and FGS, this time addressing only the Patchawarra producing interval 8391-8719 feet KB, conducted over the period 21-24/8/94 (Expertest Pty Ltd).	**7146/2 R 17** Pgs 484-499
	Potter, B., 1994. Field maintenance contractor's results of the continuation of the above LET and FGS, this time addressing only the Toolachee producing interval 8012-8063 feet KB, plus of an associated 96 hour buildup and SGS, conducted over the period 24-27/8/94 (Expertest Pty Ltd).	**7146/2 R 18** Pgs 500-521

END OF CONTENTS

47 Woodforde Road, Magill,
South Australia, 5072
P.O. Box 410,
Magill, South Australia, 5072

PETROLAB

Fax: 364 1500
Telex: AA88214
Tel: (08) 364 1500
(08) 333 0787

Reservoir Fluid and Core Services, Laboratory Consulting and Analysis

Adelaide, September 12 1990
P. O. Box 410
Magill, S. A. 5072

Santos Limited
101 Grenfell Street
Adelaide
S.A. 5001

Subject: Reservoir Fluid Study
Well : Pelican # 2 Lower
File : S - 90001

Attention: Mr. Bruce Richardson

Dear Sirs,

Please find enclosed our results of reservoir fluid analyses performed on samples from the subject well.

Part of this report, including the quality checks on the three sets of separator samples received, separator gas and liquid compositions, as well as the calculated wellstream had been reported on pages 1 through 8, earlier this year.

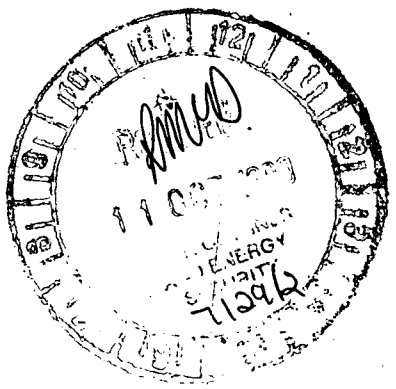
The remainder of this report, pages 9 through 16, contain data pertaining to a constant mass experiment, using recombined reservoir fluid of the best set of separator samples.

During this constant mass study at the reservoir temperature of 230 °F, a dew point pressure of 2210 psig was observed.

We thank Santos Limited for the opportunity to be of service. If there remain any questions or if we can assist in any other way please do not hesitate in contacting us.

Yours sincerely,

Jan G. Bon
Manager



P E T R O L A B

Company : Santos Limited
Well : Pelican # 2 Lower
File : S-90001

Surface Samples Set # 1

Sampling Conditions

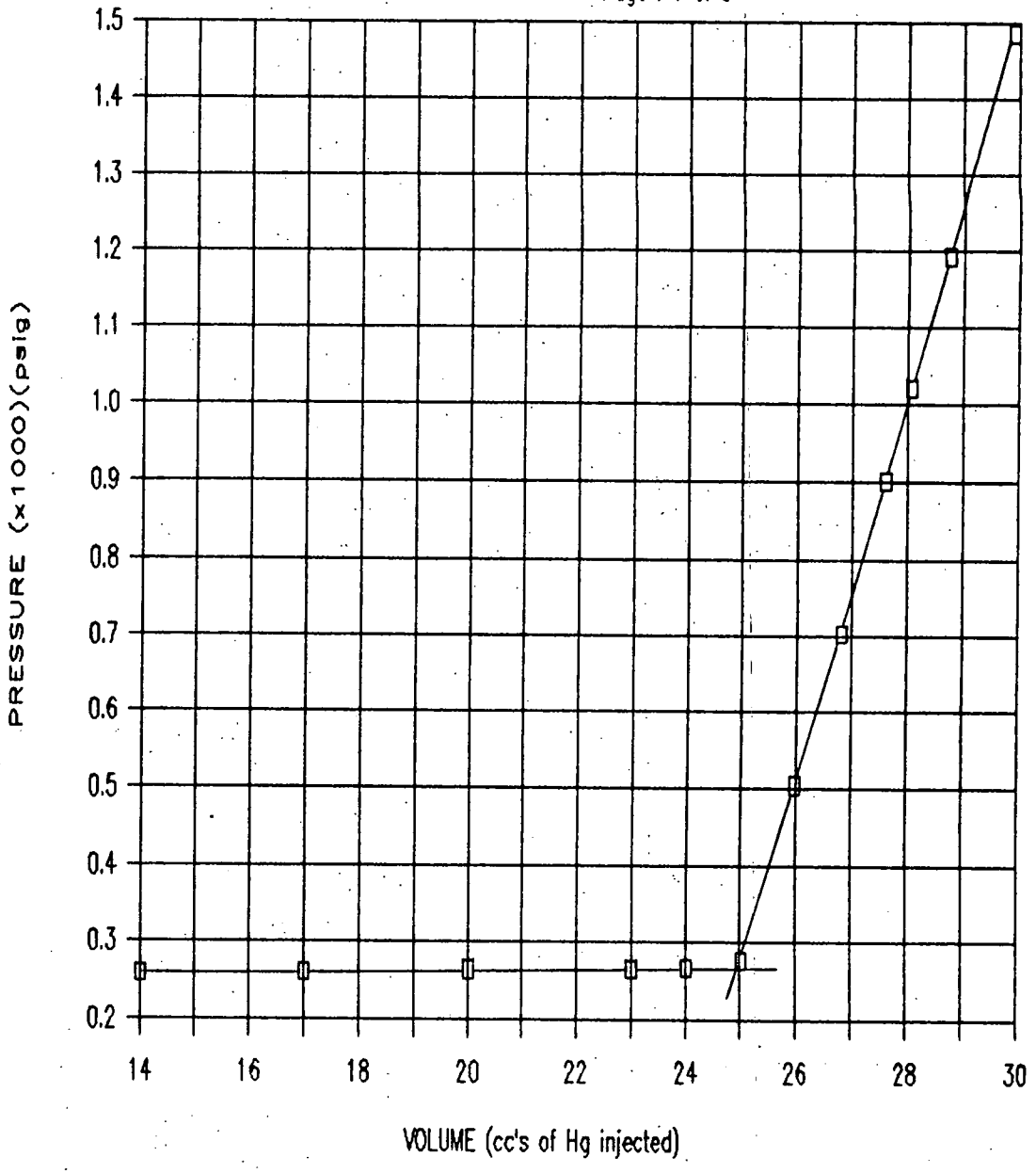
Date : December 26 1989
Pressure : 290 psig
Temperature : 96 deg F

Cylinder # : EC 9448 (gas)
Opening Pressure : 310 psig @ 149 deg F

Cylinder # : 300 (liquid)
Opening Pressure : 255 psig @ 93 deg F

Volume (cc's)	Pressure (psig)
14.00	259
17.00	261
20.00	264
23.00	266
24.00	267
25.00	277
25.97	503
26.81	703
27.60	902
28.07	1020
28.76	1193
29.91	1486

Saturation Pressure : 268 psig @ 91 deg F.



PETROLAB

Company : Santos Limited
Well : Pelican # 2 Lower
File : S-90001

Surface Samples Set # 2

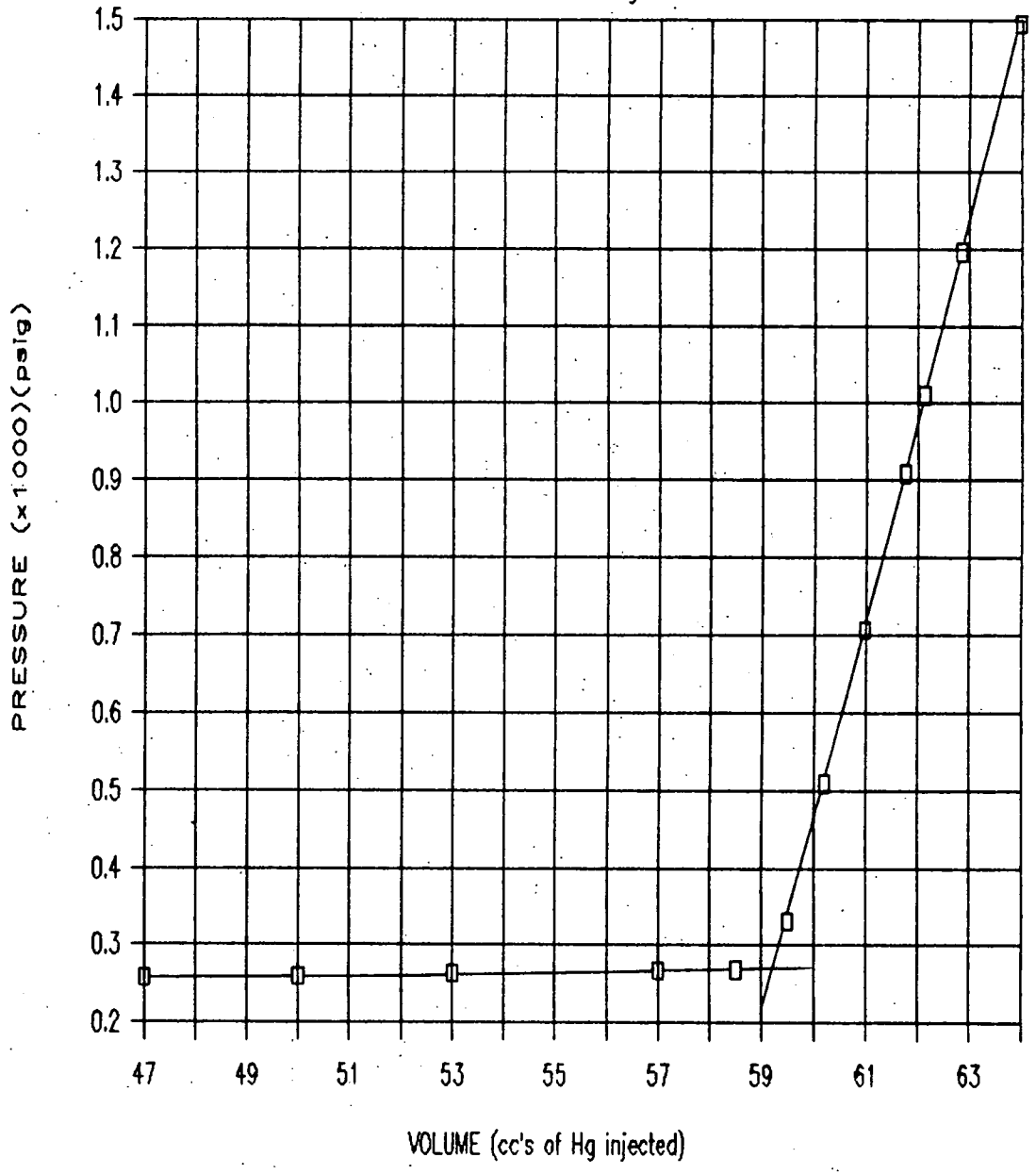
Sampling Conditions
Date : December 26 1989
Pressure : 290 psig
Temperature : 96 deg F

Cylinder # : EC 9464 (gas)
Opening Pressure : 315 psig @ 149 deg F

Cylinder # : A - 009 (liquid)
Opening Pressure : 250 psig @ 91 deg F

Volume (cc's)	Pressure (psig)
47.00	258
50.00	260
53.00	263
57.00	267
58.50	268
59.50	331
60.21	509
60.97	706
61.75	908
62.13	1010
62.85	1197
63.98	1495

Saturation Pressure : 269 psig @ 91 deg F.



P E T R O L A B

Company : Santos Limited
Well : Pelican # 2 Lower
File : S-90001

Surface Samples Set # 3

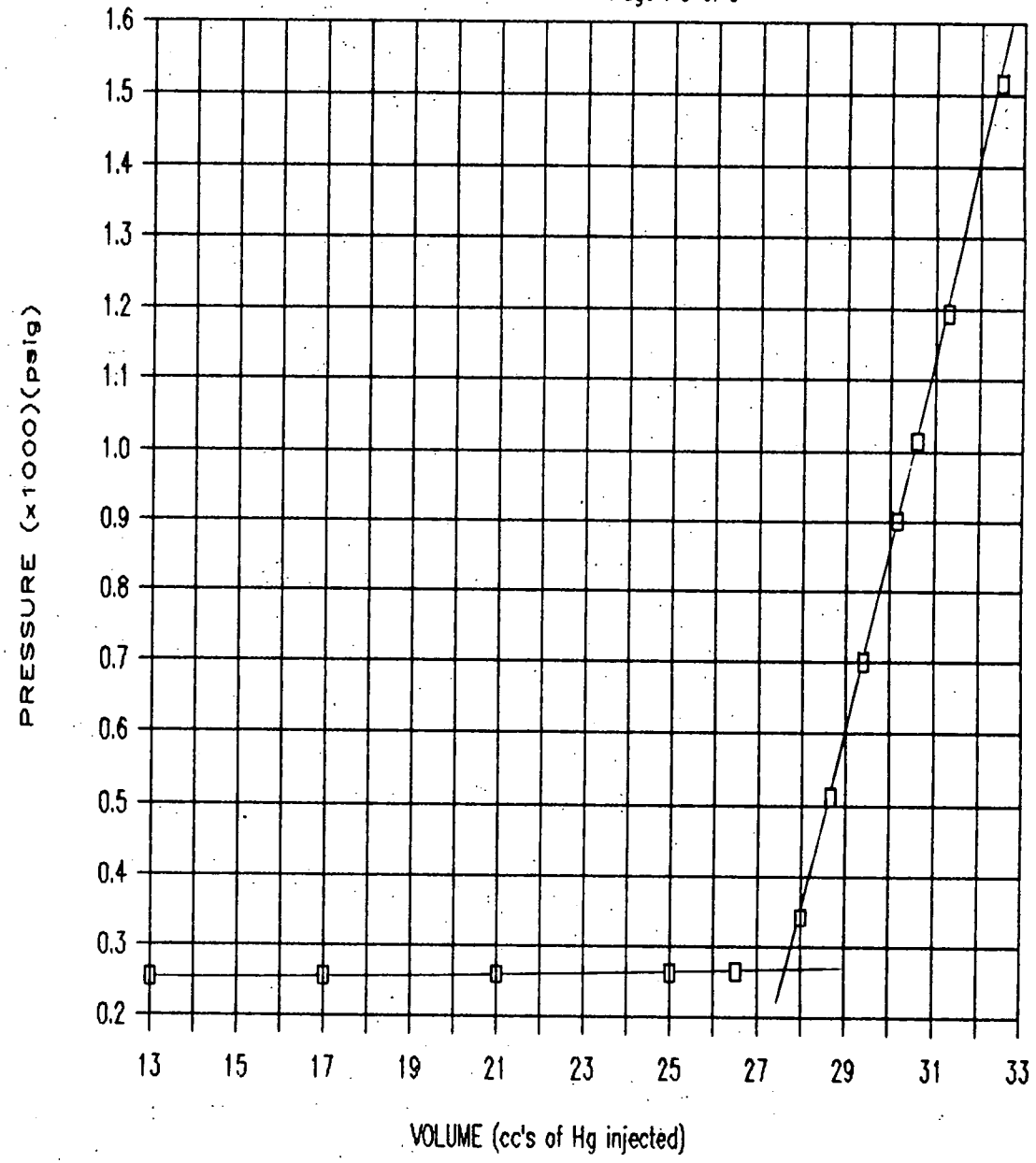
Sampling Conditions
Date : December 26 1989
Pressure : 290 psig
Temperature : 96 deg F

Cylinder # : EC 9455 (gas)
Opening Pressure : 310 psig @ 149 deg F

Cylinder # : A - 006 (liquid)
Opening Pressure : 253 psig @ 91 deg F

Volume (cc's)	Pressure (psig)
13.00	254
17.00	257
21.00	260
25.00	263
26.50	265
28.00	342
28.65	512
29.39	701
30.16	901
30.60	1015
31.29	1195
32.50	1515

Saturation Pressure : 267 psig @ 91 deg F.



P E T R O L A B

Company: Santos Limited
Well : Pelican # 2 Lower

COMPOSITIONAL ANALYSIS OF SEPARATOR GAS

Cyl # EC 9448

Component	Mol %	GPM
Hydrogen Sulphide	0.00	
Carbon Dioxide	26.72	
Nitrogen	0.27	
Methane	61.73	
Ethane	5.82	1.558
Propane	2.03	0.560
Iso-Butane	0.26	0.085
N-Butane	0.63	0.199
Iso-Pentane	0.21	0.077
N-Pentane	0.28	0.101
Hexanes	0.35	0.136
Heptanes	1.00	0.421
Octanes	0.43	0.196
Nonanes	0.19	0.095
Decanes	0.08	0.044
Undecanes	0.00	0.000
Dodecanes Plus	0.00	0.000
TOTAL	100.00	3.472

Pressure Base :	14.696
Zsc:	0.996
Mol Weight :	27.31
Gas Gravity:	0.946
Pc :	767.9
Tc :	435.2
Mol Weight C7+:	103.4
Density C7+:	0.6935
Mol Weight C8+:	113.9
Density C8+:	0.7063
Heating Value (BTU/ft3)	
Gross:	944
Nett:	857
Wobbe Index:	971
Zpt:	0.939

Liquid Content (Bbl/MMSCF of Raw Gas):

Ethane :	27.6
L P G :	19.3
Pentanes Plus:	26.6

Remarks: Laboratory Opening Pressure - 310 psig @ 149 deg F

Sampled at 290 psig and 96 deg F

P E T R O L A B

Company: Santos Limited
Well : Pelican # 2 Lower

File: S 90001

COMPOSITIONAL ANALYSIS OF SEPARATOR GAS

Cyl # EC 9464

Component	Mol %	GPM
Hydrogen Sulphide	0.00	
Carbon Dioxide	26.87	
Nitrogen	0.27	
Methane	62.42	
Ethane	5.81	1.555
Propane	2.00	0.552
Iso-Butane	0.25	0.082
N-Butane	0.58	0.183
Iso-Pentane	0.16	0.059
N-Pentane	0.26	0.094
Hexanes	0.38	0.148
Heptanes	0.47	0.198
Octanes	0.27	0.123
Nonanes	0.18	0.090
Decanes	0.08	0.044
Undecanes	0.00	0.000
Dodecanes Plus	0.00	0.000
TOTAL	100.00	3.128

Pressure Base :	14.696
Zsc:	0.997
Mol Weight :	26.71
Gas Gravity:	0.926
Pc :	770.5
Tc :	430.6
Mol Weight C7+:	106.5
Density C7+:	0.6974
Mol Weight C8+:	115.8
Density C8+:	0.7085
Heating Value (BTU/ft3)	
Gross:	909
Nett:	824
Wobbe Index:	945
Zpt:	0.942
Liquid Content (Bbl/MMSCF of Raw Gas):	
Ethane :	27.6
L P G :	18.6
Pentanes Plus:	18.8

Remarks: Laboratory Opening Pressure - 315 psig @ 149 deg F

Sampled at 290 psig and 96 deg F

P E T R O L A B

Company: Santos Limited
Well : Pelican # 2 Lower

COMPOSITIONAL ANALYSIS OF SEPARATOR GAS

Cyl # EC 9455

Component	Mol %	GPM
Hydrogen Sulphide	0.00	
Carbon Dioxide	26.96	
Nitrogen	0.28	
Methane	63.33	
Ethane	5.77	1.544
Propane	1.92	0.529
Iso-Butane	0.23	0.075
N-Butane	0.50	0.158
Iso-Pentane	0.15	0.055
N-Pentane	0.20	0.072
Hexanes	0.30	0.117
Heptanes	0.24	0.101
Octanes	0.09	0.041
Nonanes	0.03	0.015
Decanes	0.00	0.000
Undecanes	0.00	0.000
Dodecanes Plus	0.00	0.000
TOTAL	100.00	2.707

Pressure Base :	14.696
Zsc:	0.997
Mol Weight :	25.98
Gas Gravity:	0.900
Pc :	773.2
Tc :	425.0
Mol Weight C7+:	100.8
Density C7+:	0.6902
Mol Weight C8+:	110.5
Density C8+:	0.7023

Heating Value (BTU/ft3)

Gross:	867
Nett:	785
Wobbe Index:	914
Zpt:	0.946

Liquid Content (Bbl/MMSCF of Raw Gas):

Ethane :	27.4
L P G :	17.4
Pentanes Plus:	9.9

Remarks: Laboratory Opening Pressure - 310 psig @ 149 deg F

Sampled at 290 psig and 96 deg F

P E T R O L A B

Company: Santos Limited
Well : Pelican # 2 Lower

COMPOSITIONAL ANALYSIS OF RECOMBINED SEPARATOR LIQUID

Cylinder # A 009

Component		Stock Tank Liquid Mol %	Stock Tank Gas Mol %	Separator Liquid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	0.44	30.58	5.36
Nitrogen	N2	0.00	0.07	0.01
Methane	C1	0.18	30.96	5.20
Ethane	C2	0.46	13.70	2.62
Propane	C3	1.23	10.29	2.71
Iso-Butane	iC4	0.54	1.81	0.75
N-Butane	nC4	1.86	4.34	2.27
Iso-Pentane	iC5	1.40	1.24	1.37
N-Pentane	nC5	2.56	1.77	2.43
Hexanes	C6	6.39	2.08	5.68
Heptanes	C7	21.65	2.24	18.49
Octanes	C8	18.90	0.71	15.93
Nonanes	C9	17.56	0.16	14.72
Decanes	C10	8.61	0.05	7.21
Undecanes	C11	4.35	0.00	3.64
Dodecanes Plus	C12+	13.86	0.00	11.61
TOTAL		100.00	100.00	100.00
Ratios				
Molar Ratio	:	0.8368	0.1632	1.0000
Mass Ratio	:	0.9421	0.0579	1.0000
Liquid Ratio (bbl/bbl)	:	1.0000 @ SC	--	1.0476 @ PT*
Gas Liquid Ratio	:	1.0000 bbl @ SC	164 SCF	--
Stream Properties				
Molecular Weight	:	119.8	37.77	106.4
Density obs. (gm/cc)	:	0.7576 @ 60 F	--	0.7680 @ PT*
Gravity (AIR = 1.000)	:	55.1 API @60F	1.315	--
GHV (BTU/scf)	:	--	1420	--
Hexanes Plus Properties				
Mol %	:	91.33	5.24	77.28
Molecular Weight	:	125.6	93.9	125.2
Density (gm/cc @ 60 F)	:	0.7674	0.6807	0.7666
Gravity (API @ 60 F)	:	52.7	76.2	52.9
Heptanes Plus Properties				
Mol %	:	84.94	3.16	71.60
Molecular Weight	:	128.7	100.3	128.5
Density (gm/cc @ 60 F)	:	0.7720	0.6896	0.7714
Gravity (API @ 60 F)	:	51.6	73.5	51.7
Decanes Plus Properties				
Mol %	:	26.82	0.05	22.46
Molecular Weight	:	175.4	--	175.3
Density (gm/cc @ 60 F)	:	0.8133	--	0.8133
Gravity (API @ 60 F)	:	42.3	--	42.3
Undecanes Plus Properties				
Mol %	:	18.21	0.00	15.25
Molecular Weight	:	195.0	--	194.8
Density (gm/cc @ 60 F)	:	0.8255	--	0.8255
Gravity (API @ 60 F)	:	39.8	--	39.8
Dodecanes Plus Properties				
Mol %	:	13.86	0.00	11.61
Molecular Weight	:	210.0	--	209.8
Density (gm/cc @ 60 F)	:	0.8339	--	0.8339
Gravity (API @ 60 F)	:	38.0	--	38.0

* (P)ressure 290 psig, (T)emperature 96 deg.F

P E T R O L A B

Company: Santos Limited
Well : Pelican # 2 Lower

File: S 90001

COMPOSITIONAL ANALYSIS OF RECOMBINED RESERVOIR FLUID

Cyl. # A 009 Cyl. # EC 9455

Component		Separator Liquid Mol %	Separator Gas Mol %	Reservoir Fluid Mol %
Hydrogen Sulphide	H2S	0.00	0.00	0.00
Carbon Dioxide	CO2	5.36	26.96	26.79
Nitrogen	N2	0.01	0.28	0.28
Methane	C1	5.20	63.33	62.87
Ethane	C2	2.62	5.77	5.75
Propane	C3	2.71	1.92	1.93
Iso-Butane	iC4	0.75	0.23	0.23
N-Butane	nC4	2.27	0.50	0.51
Iso-Pentane	iC5	1.37	0.15	0.16
N-Pentane	nC5	2.43	0.20	0.22
Hexanes	C6	5.68	0.30	0.34
Heptanes	C7	18.49	0.24	0.38
Octanes	C8	15.93	0.09	0.21
Nonanes	C9	14.72	0.03	0.15
Decanes	C10	7.21	0.00	0.06
Undecanes	C11	3.64	0.00	0.03
Dodecanes Plus	C12+	11.61	0.00	0.09
TOTAL		100.00	100.00	100.00
Ratios				
Molar Ratio	:	0.0078	0.9922	1.0000
Mass Ratio	:	0.0314	0.9686	1.0000
Gas Liquid Ratio	:	1.0000 bbl @ PT*	121478 SCF**	--
Stream Properties				
Molecular Weight	:	106.4	25.98	26.6
Density obs. (gm/cc)	:	0.7680 @ PT*	--	--
Gravity (AIR = 1.000)	:	--	0.900	--
GHV (BTU/scf)	:	--	867	--
Hexanes Plus Properties				
Mol %	:	77.28	0.66	1.26
Molecular Weight	:	125.2	93.2	108.6
Density (gm/cc @ 60 F)	:	0.7666	0.6798	0.7253
Gravity (API @ 60 F)	:	52.9	76.5	63.4
Heptanes Plus Properties				
Mol %	:	71.60	0.36	0.92
Molecular Weight	:	128.5	100.8	117.6
Density (gm/cc @ 60 F)	:	0.7714	0.6902	0.7423
Gravity (API @ 60 F)	:	51.8	73.3	58.9
m.w C_{8+} = 131.5 $\rho_{C_{8+}}$ = 0.767				
Decanes Plus Properties				
Mol %	:	22.46	0.00	0.18
Molecular Weight	:	175.3	--	171.5
Density (gm/cc @ 60 F)	:	0.8133	--	0.8133
Gravity (API @ 60 F)	:	42.3	--	42.3
Undecanes Plus Properties				
Mol %	:	15.25	0.00	0.12
Molecular Weight	:	194.8	--	194.1
Density (gm/cc @ 60 F)	:	0.8255	--	0.8255
Gravity (API @ 60 F)	:	39.7	--	39.7
Dodecanes Plus Properties				
Mol %	:	11.61	0.00	0.09
Molecular Weight	:	209.8	--	212.2
Density (gm/cc @ 60 F)	:	0.8339	--	0.8339
Gravity (API @ 60 F)	:	38.0	--	38.0

* (P)ressure 290 psig, (T)emperature 96 deg F
** 121478 SCF / SEP BBL @ PT = 127260 SCF / ST BBL
GOR correction: * 1.054 (=Fg lab) / 0.926 (=Fg field)

P E T R O L A B

Company: Santos Limited
Well : Pelican # 2 Lower

CONSTANT MASS STUDY
@ 230 deg F

Pressure (psig)	Relative Volume (V/Vsat) (1)	Formation Volume Factor (Bg) (2)	Gas Expansion Factor (E) (3)	Deviation Factor (Z)	Specific Volume (CFT/LB)
5000	0.4968	0.00353	283.53	0.907	0.05008
4520	0.5306	0.00377	265.46	0.876	0.05349
4030	0.5752	0.00408	244.88	0.847	0.05798
3538 *	0.6370	0.00452	221.10	0.824	0.06422
3315	0.6723	0.00477	209.51	0.815	0.06777
3100	0.7143	0.00507	197.19	0.810	0.07200
2710	0.8094	0.00575	174.00	0.803	0.08160
2520	0.8712	0.00619	161.67	0.804	0.08782
2210 **	1.0000	0.00710	140.84	0.810	0.10081

* Reservoir Pressure
** Dew Point Pressure

(1) Cubic feet of gas at indicated pressure and temperature per cubic foot at saturation pressure

(2) Cubic feet of gas at indicated pressure and temperature per cubic foot at 14.696 psia and 60 deg F

(3) Cubic feet of gas at 14.696 psia and 60 deg F per cubic foot at indicated pressure and temperature

P E T R O L A B

Company: Santos Limited
Well : Pelican # 2 Lower

CONSTANT MASS STUDY
@ 230 deg F

Pressure (psig)	Relative Volume (V/Vsat) (1)	Retrograde Liquid Deposit (Bbl/MMSCF) (2)	Retrograde Liquid Deposit (Volume%) (3)
2210 *	1.0000	0.00	0.00
2135	1.0387	0.51	0.04
2015	1.1055	3.34	0.26
1910	1.1701	5.81	0.46
1800	1.2471	8.22	0.65
1635	1.3835	10.97	0.87
1510	1.5077	12.45	0.98
1350	1.7006	13.76	1.09

* Dew Point Pressure

(1) Cubic feet at indicated pressure and temperature per cubic foot at saturation pressure

(2) Barrels of liquid at indicated pressure and temperature per MMSCF of original reservoir fluid

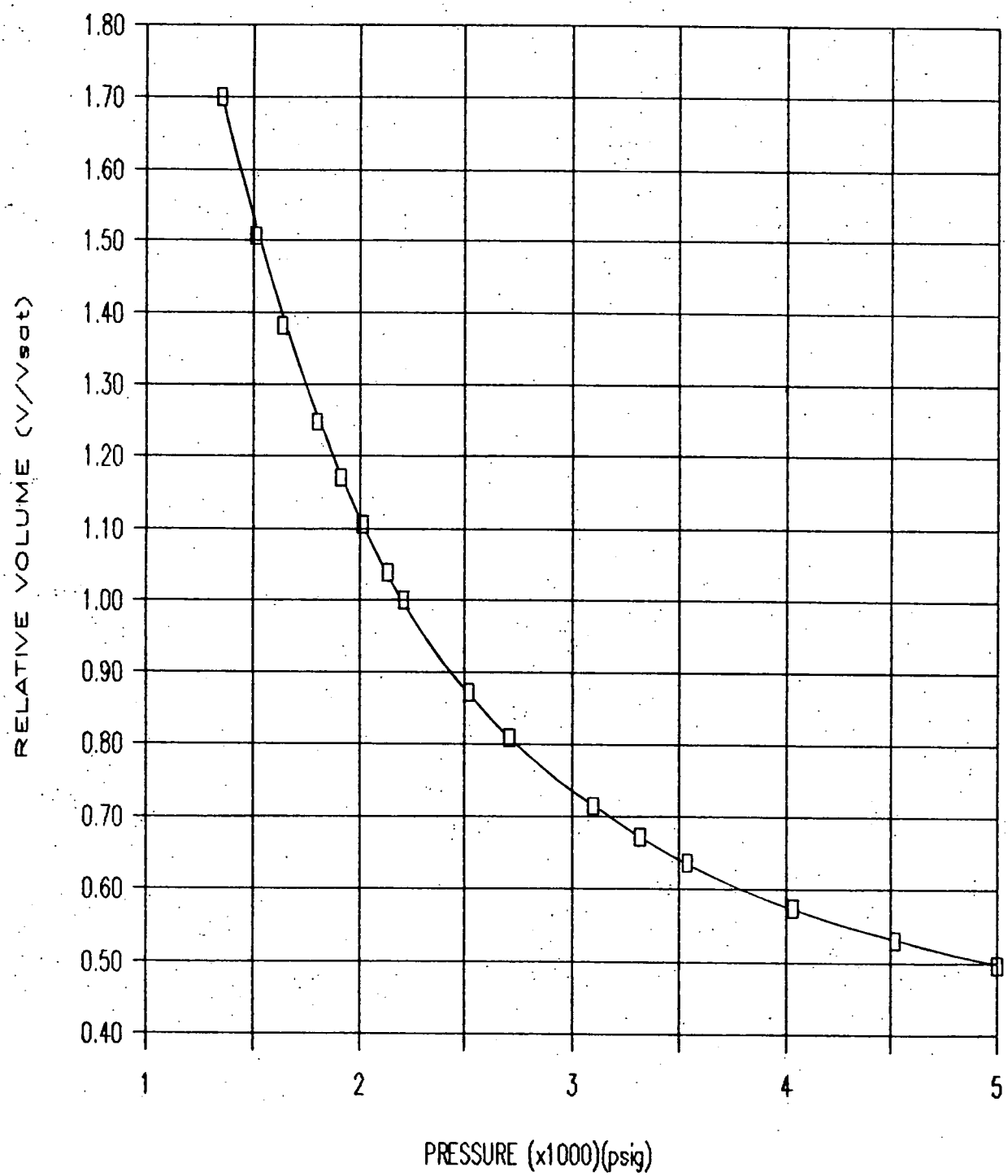
(3) Percent of reservoir hydrocarbon pore space at dew point

P E T R O L A B

Company: Santos Limited
Well : Pelican # 2 Lower

File: S 90001

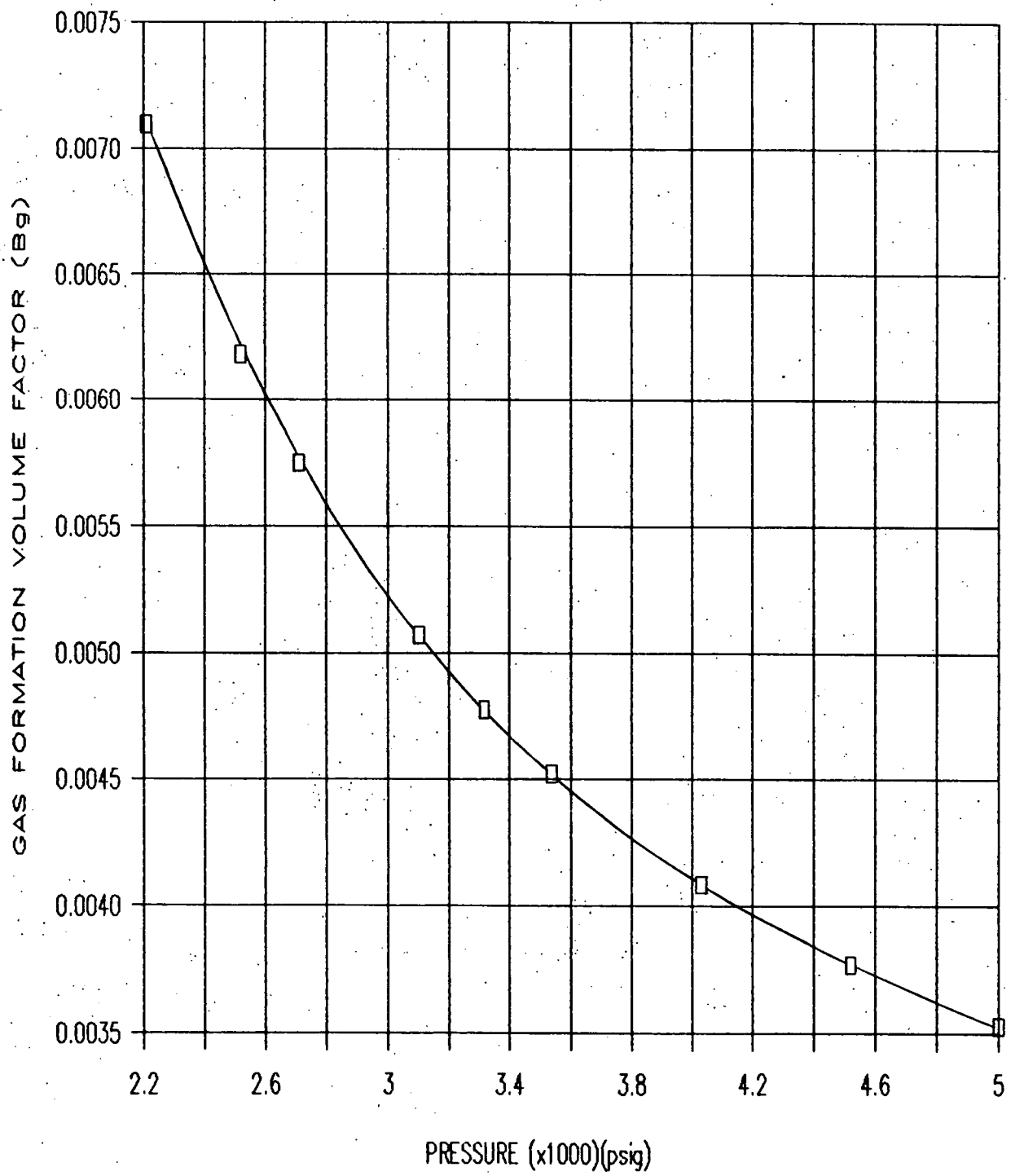
RELATIVE VOLUME



P E T R O L A B

Company: Santos Limited
Well : Pelican # 2 Lower

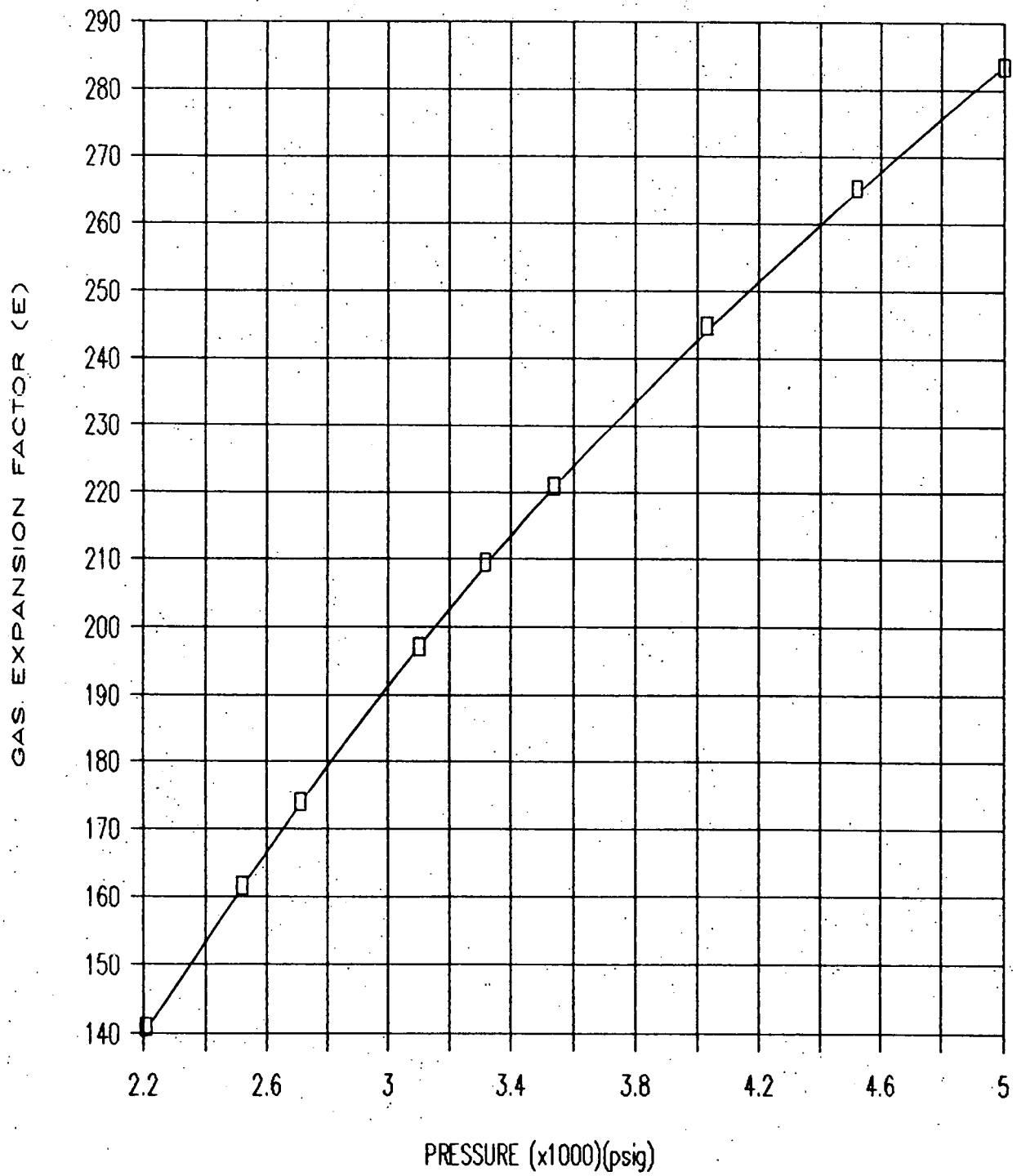
GAS FORMATION VOLUME FACTOR



P E T R O L A B

Company: Santos Limited
Well : Pelican # 2 Lower

GAS EXPANSION FACTOR

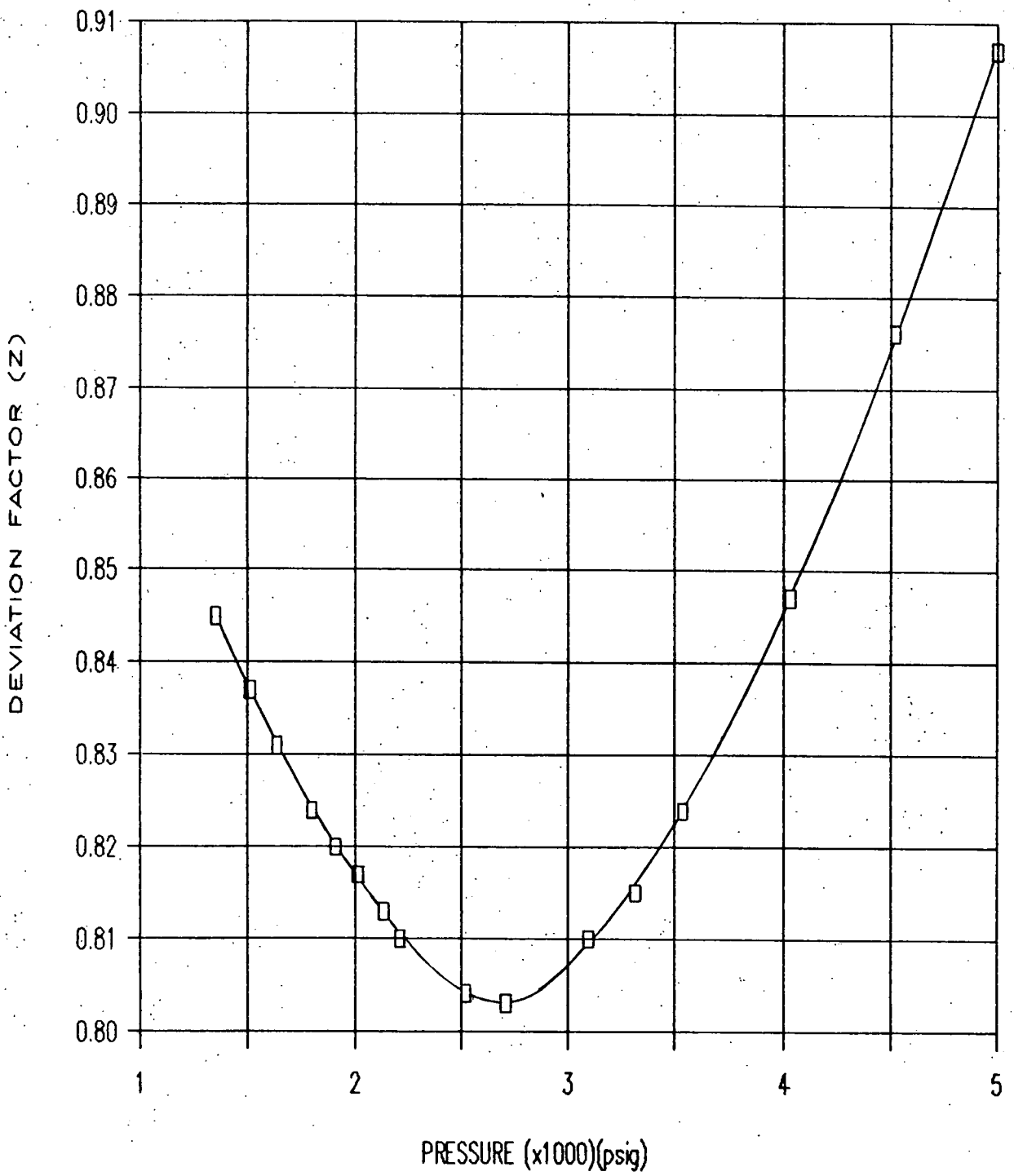


P E T R O L A B

Company: Santos Limited
Well : Pelican # 2 Lower

File: S 90001

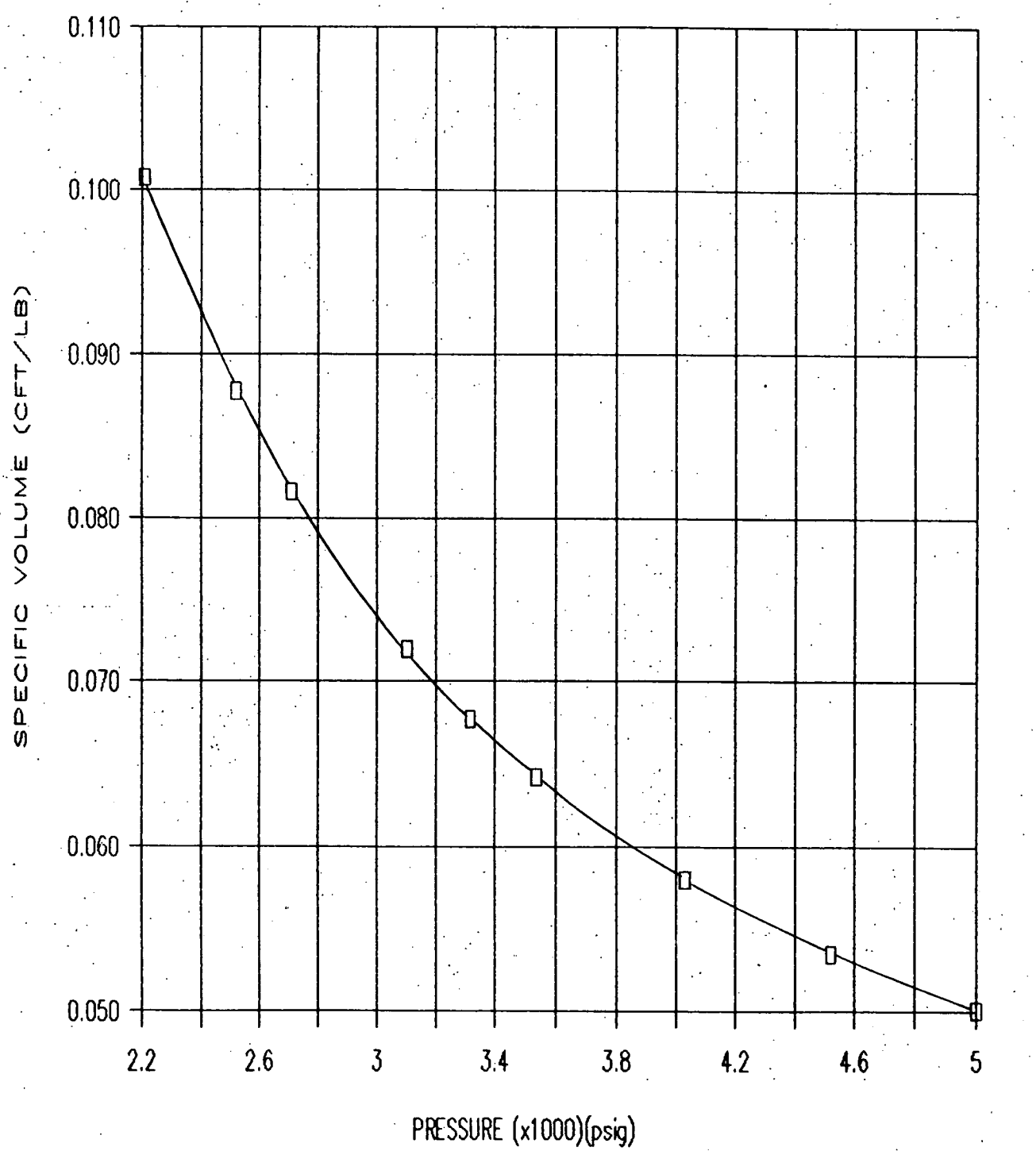
GAS DEVIATION FACTOR



P E T R O L A B

Company: Santos Limited
Well : Pelican # 2 Lower

RESERVOIR FLUID SPECIFIC VOLUME

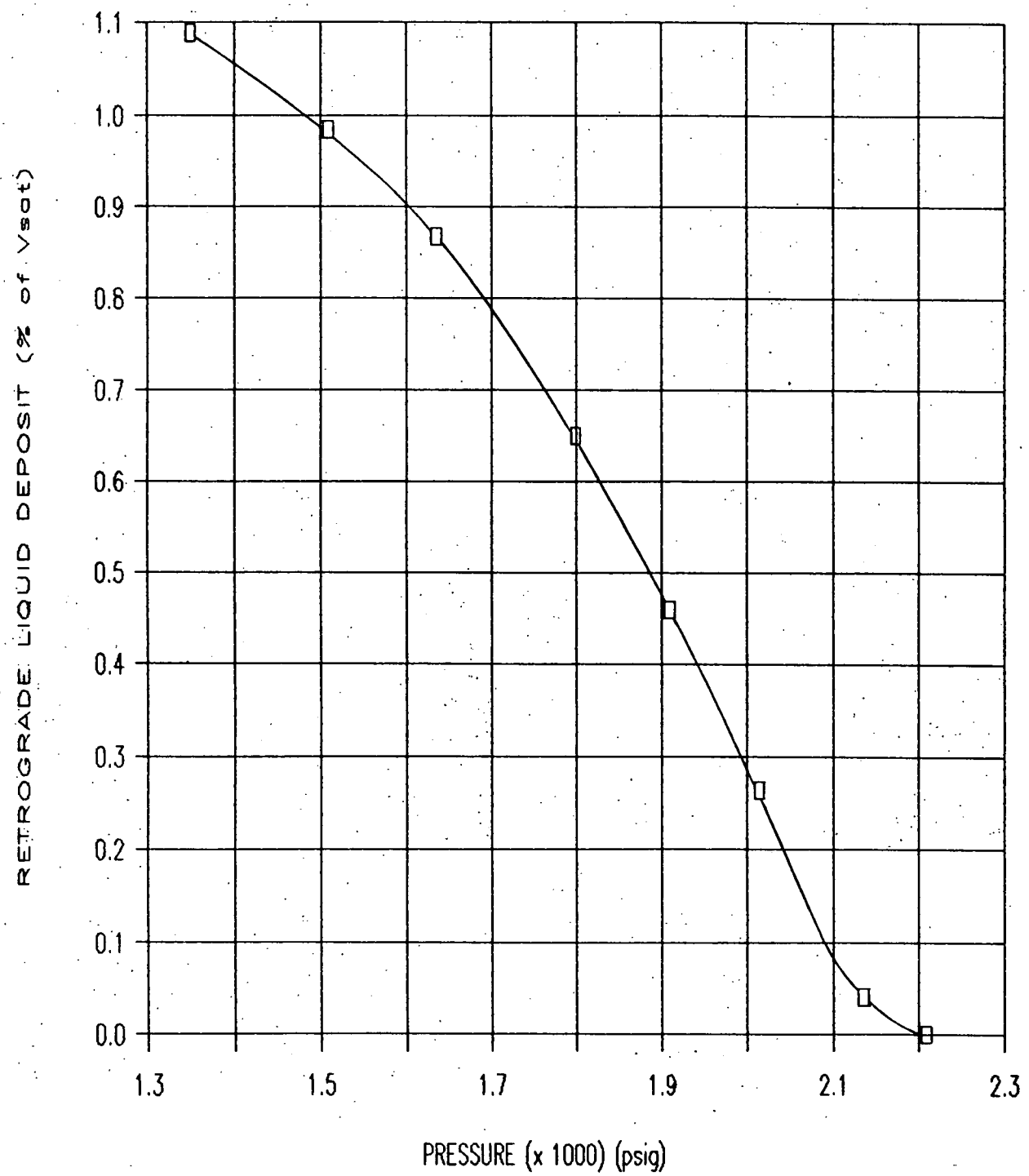


P E T R O L A B

Company: Santos Limited
Well : Pelican # 2 Lower

File: S 90001

RETROGRADE CONDENSATION



Pelican 2 Upper
Bottomhole Pressure Buildup
16-21 August 1991.

Pressure Buildup

16-8-91 Ran in the hole with amerados and reached hang depth of 7650' KB @ 1341 hours.
Shut well in @ 1800 hours and monitored pressures until 0610 hours on 21-8-91 for a buildup time of 108 hours 10 minutes.
Element # 21379
F.B.H.P. @ shut-in = 1470.2 psig = 10,137 kPag
S.I.B.H.P. final = 2723.4 psig = 18,778 kPag
Max. BHT = 254.3 °F = 123.5 °C

Static Gradient

21-08-91 A static gradient was run to 7650 ft. KB
Element # 21379
S.I.B.H.P. = 2720 psig = 18754 kPag

Production Summary

Cumulative production to end July 1991 = 24.7 $10^6 m^3$
Production rate for July 1991 = 32.8 $10^3 m^3/d$.
Assume production to test shut-in = 15.75 days × 32.8 $10^3 m^3/d$
= 516.6 $10^3 m^3$
New cumulative = 24,700 + 516.6 = 25216.6 $10^3 m^3$

$$t = \frac{25216.6\ 10^3 m^3}{32.8\ 10^3 m^3/d} \times 24 \qquad t = 18451 \text{ hrs.}$$

RECEIVED
7/29/2

DEAL BOSS

SUB-SURFACE PRESSURE SURVEY

CO. SANTOS		RUN 01 FIELD PELICAN		WELL 02UPPER	
EFF DEPTH		WELL STAT		TOOL HUNG	7644 FT KB
CASING	-	CASING PRESS		ON BOTTOM	1341 910816
LINER	-	TUBING PRESS		OFF BOTTOM	1610 910821
DATE	910816	ELEMENT RANGE	0 - 4950	ZERO POINT	
ELEVATION		ZONE		SHUT-IN	1800 910816
MAX TEMP		PICK-UP		ON-PROD	
PERF	-	CAL SER NO.	21379	MPP	
TUBING	-				
UNITS	ENGLISH	PURPOSE	BOTTOMHOLE PRESSURE BUILDUP		

SURVEY DATA

CO. SANTOS — RUN 01 FIELD PELICAN — WELL 02UPPER

TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME
18:00	1470.2	1470.2	.0	20:58	2640.5	2640.5	3.0
18:02	1556.2	1556.2	.0	21:12	2645.8	2645.8	3.2
18:04	1637.8	1637.8	.1	21:22	2645.7	2645.7	3.4
18:05	1699.4	1699.4	.1	21:45	2645.5	2645.5	3.7
18:09	1785.8	1785.8	.1	22:01	2641.7	2641.7	4.0
18:10	1861.2	1861.2	.2	22:23	2638.2	2638.2	4.4
18:13	1901.9	1901.9	.2	22:47	2638.0	2638.0	4.8
18:14	1941.2	1941.2	.2	23:23	2637.7	2637.7	5.4
18:16	1981.9	1981.9	.3	0:10	2637.2	2637.2	6.2
18:18	2049.7	2049.7	.3	1:23	2639.3	2639.3	7.4
18:22	2115.1	2115.1	.4	3:09	2642.5	2642.5	9.2
18:27	2172.5	2172.5	.5	4:22	2642.6	2642.6	10.4
18:32	2236.1	2236.1	.5	5:45	2649.2	2649.2	11.8
18:38	2290.0	2290.0	.6	7:27	2652.7	2652.7	13.4
18:45	2329.7	2329.7	.7	9:13	2651.7	2651.7	15.2
18:48	2356.5	2356.5	.8	11:22	2654.2	2654.2	17.4
18:53	2379.7	2379.7	.9	13:30	2661.0	2661.0	19.5
18:56	2400.6	2400.6	.9	15:18	2659.7	2659.7	21.3
19:00	2422.6	2422.6	1.0	17:57	2663.4	2663.4	24.0
19:07	2455.5	2455.5	1.1	20:10	2664.9	2664.9	26.2
19:15	2485.3	2485.3	1.3	22:21	2667.9	2667.9	28.3
19:24	2510.7	2510.7	1.4	0:45	2672.5	2672.5	30.7
19:34	2542.2	2542.2	1.6	3:41	2673.3	2673.3	33.7
19:46	2565.1	2565.1	1.8	7:58	2677.1	2677.1	38.0
19:55	2577.8	2577.8	1.9	12:29	2680.8	2680.8	42.5
20:04	2590.1	2590.1	2.1	17:08	2686.6	2686.6	47.1
20:13	2600.4	2600.4	2.2	22:35	2687.5	2687.5	52.6
20:27	2616.6	2616.6	2.4	3:44	2691.1	2691.1	57.7
20:36	2623.7	2623.7	2.6	8:18	2696.0	2696.0	62.3
20:45	2629.3	2629.3	2.7	13:40	2698.4	2698.4	67.7

SURVEY DATA

CO. SANTOS RUN 01 FIELD PELICAN WELL 02UPPER

TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME
19:29	2703.8	2703.8	73.5	6:10	2723.4	2723.4	108.2
1:49	2708.2	2708.2	79.8	13:38	1467.1	1467.1	-4.4
7:11	2710.7	2710.7	85.2	15:34	1466.1	1466.1	-2.4
12:31	2714.1	2714.1	90.5	16:36	1465.5	1465.5	-1.4
18:09	2716.7	2716.7	96.1	17:19	1471.0	1471.0	-.7
0:24	2721.6	2721.6	102.4	17:44	1470.8	1470.8	-.3
5:50	2723.8	2723.8	107.8	0:00	.0	.0	.0

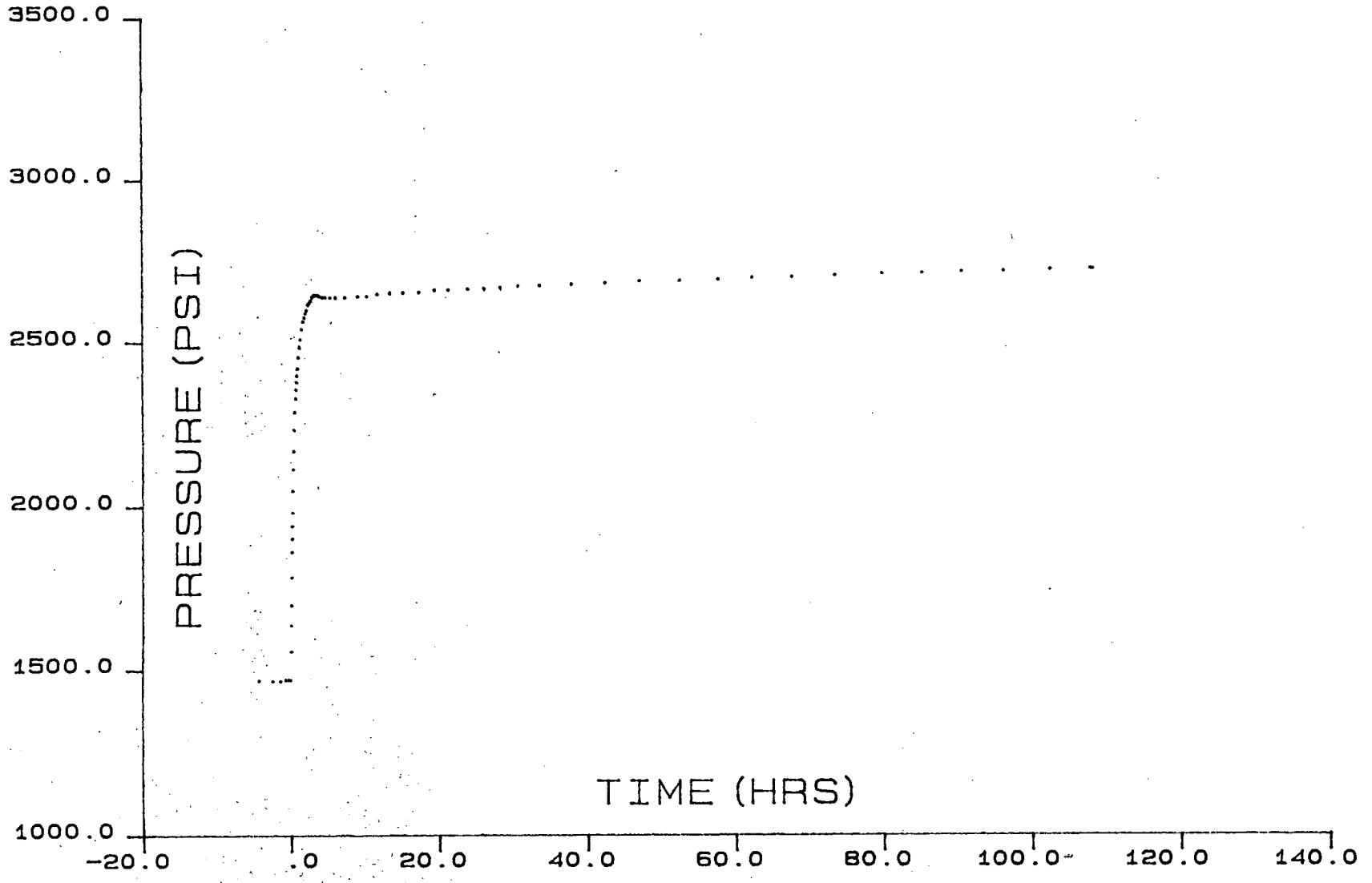
LUB IN DWT = 1168 PSI / OUT = 2221 PSI
LUB IN AMERADA = 1172 PSI / OUT = 2226 PSI

00292

PELICAN 2 UPPER B.H.P. SURVEY

16 - 21 AUGUST 1991

ELEMENT #21379 @ 7644 FT KB



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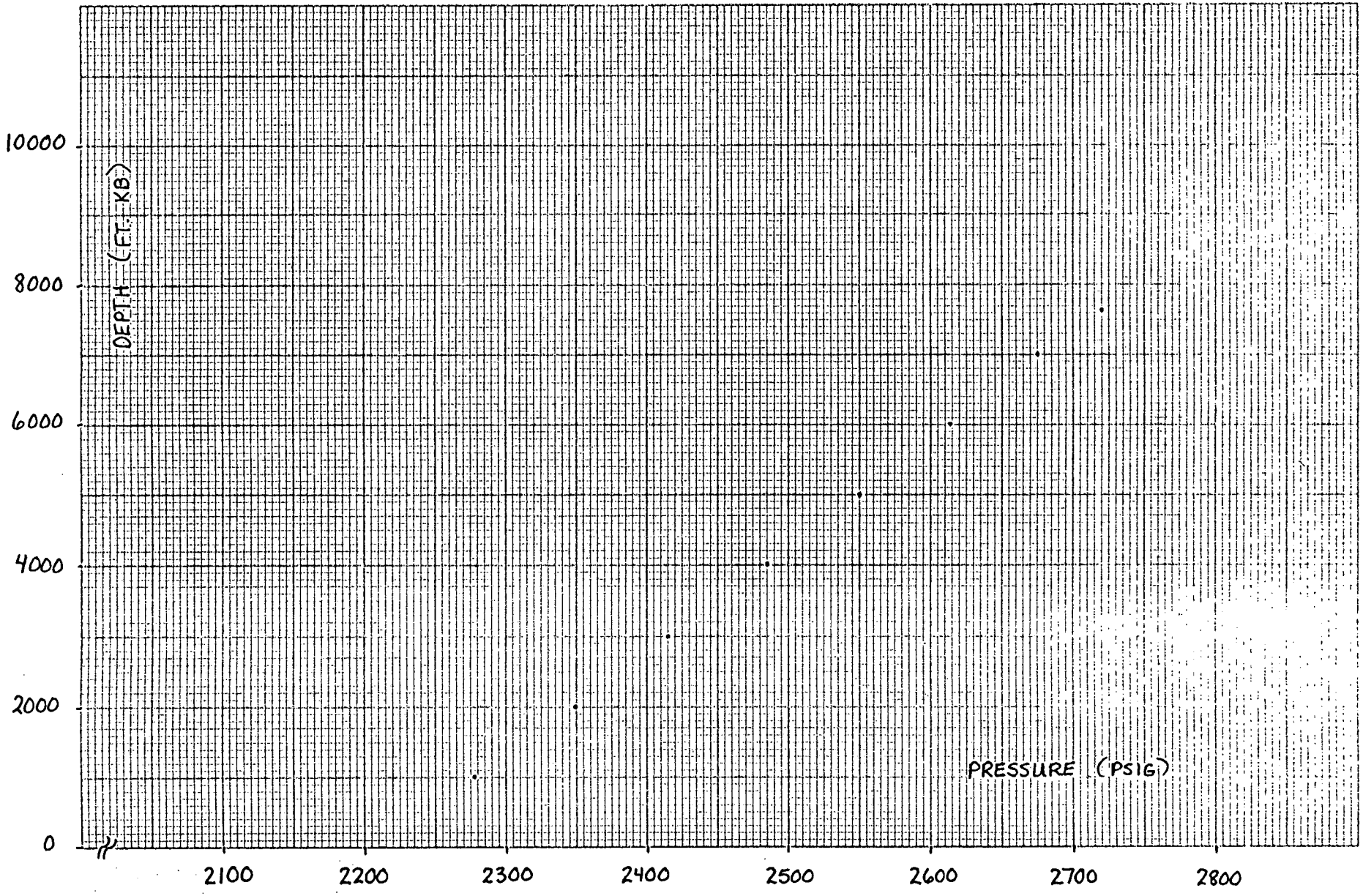
00293

PELICAN 2UPPER - STATIC PRESSURE GRADIENT - 21/08/91.

ELEMENT # 21379



EXPERTEST PTY. LTD.	SEQUENCE OF EVENTS		
	CUSTOMER : SANTOS	PERFORATIONS: 7807 - 7877	PAGE: ONE OF ONE
	WELL NAME: PELICAN #2 U	FORMATION : TOOLACHEE	DATE: 16th AUGUST 1991
	TEST TYPE : BHP		OPR : W. BRIANCOURT.

DATE/TIME	DESCRIPTION OF EVENTS
16.8.91	
0800	ARRIVE LOCATION RIG UP W/LINE + SWAB VALVE.
0915	RIH 1.75 BLIND BOX
0930	PICK UP AT 7750' KB + POOH
0945	ARRIVE SURFACE + MAKE UP BHP GAUGES
1020	HANG IN LUB WITH NO PRESSURE
1120	PRESSURE LUB
1220	BLEED LUB.
1320	PRESSURE LUB AND RIH.
1341	HANG GAUGES AT 7650' KB ON WIRE FOR 4 HRS FLOW AND 4 DAY BUILD UP.
1800	SHUT WELL IN + MONITOR BUILD UP
21.8.91	
0610	PULL GAUGES FROM 7650'
0625	ARRIVE LUB
0825	BLEED LUB RECOVER CHARTS + PREPARE GAUGES FOR STATIC GRADIENT.
0905	RIH FOR STATIC GRADIENT
1017	ARRIVE LUB + RECOVER CHARTS. RIG DOWN
1130	DEPART FOR MOOMBA.

294

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS
WELL NAME: PELICAN *2
TEST TYPE : BHP

PERFORATIONS: 7807-7877
FORMATION : TOOLACHEE

PAGE: ONE OF THREE
DATE : 16th AUGUST 91
OPR : W. BRIANCOURT.

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
16/8/91															
1341		8094	35	51		AMERADAS ON BOTTOM									
1400		8053	35	52											
1430		8053	35	53											
1500		8074	35	53											
1530		8060	35	53											
1600		8067	35	53											
1630		8053	35	52											
1700		8067	35	52.											
1730		8060	35	51											
1800		8067	35	51	SWI										
1815		11510	35												
1830		12921	35												
1846		13472	35												
1900		13893	35												
1915		14176	35												
1930		14369	35												
1945		14500	35												
2000		14617	35												
2015		14707	35												
2030		14762	35												
2045		14810	35												

ET 104

11295

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS
WELL NAME: PELICAN "2"
TEST TYPE : BHP

PERFORATIONS: 7807 - 7827
FORMATION : TOOLACHEE

PAGE: TWO OF THREE
DATE: 16th AUGUST 91
OPR : W. BRIANKOURT

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
16/8/91															
2100		14858	35												
2115		14865	35												
2130		14851	35												
2145		14831	35												
2200		14817	35												
17/8/91															
0200		14824	35												
0600		14851	28												
1000		14859	28												
1400		14893	28												
1800		14955	28												
2200		15100	28												
18/8/91															
0200		14982	28												
0600		15031	28												
1000		15003	28												
1400		15038	28												
1800		15031	28												
2200		15093	28												
19/8/91															
0200		15093	28												

ET 104

00298

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS
WELL NAME: PELICAN 2U
TEST TYPE : BHP

PERFORATIONS: 7807 - 7877
FORMATION : TOOLACHEE

PAGE: THREE OF THREE
DATE: 19th AUGUST 1991
OPR : W. BRIANCOURT

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
19/8/91															
0600		15107	28												
1000		15114	28												
1400		15121	28												
1800		15127	28												
2200		15141	28												
20/8/91															
0200		15176	28												
0600		15183	28												
1000		15197	28												
1400		15205	28												
1800		15212	28												
2200		15224	28												
21/8/91															
0200		15238	28												
0600		15252	28	END TEST											

ET 104

11297

EXPERTEST PTY. LTD.

BHP/BHT GAUGE RUN DATA

CUSTOMER : SANTOS	PERFORATIONS: 7807 - 7877	PAGE: ONE OF ONE
WELL NAME: PELICAN #2 U	FORMATION : TOOLACHEE	DATE: 16th AUGUST
TEST TYPE : BHP		OPR : W. BRIANCOURT

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.	21821	21379	22819	DATE : 16·8·91		1168 psi	
ELEMENT RANGE	4625	4625	190 - 442°F	PRESSURE LUBRICATOR :	1120	8053	34
RECORDING SECTION SERIAL NO.	14619	59288	14633	RUN IN HOLE :	1320	8094	34
DATE OF CALIBRATION: 4·6·91	290°F	290°F		ON DEPTH AT : 7650 FT/M	1341.	8094	34
CLOCK SERIAL NO.	6	5	15682	DATE : 21·8·91			
CLOCK RANGE	120	120	120	PULL OUT OF HOLE :	0610	15252	28
LEAD SCREW TYPE	15	15	15	AT SURFACE :	0625	15254	28
				DEPRESSURE LUBRICATOR :	0825	15314	28
ENGAGE STYLUS DATE 16·8·91 TIME	1015	1015	1015	MAXIMUM BHT AT FT/M = °F/C		2221 psi	
DISENGAGE STYLUS DATE 21·8·91 TIME	0832	0832	0832	N.B. ALL DEPTHS ARE MEASURED FROM K.B.			

DATE	TIME	REMARKS

ET 108

U0298

EXPERTEST PTY. LTD.

BHP/BHT GAUGE RUN DATA

CUSTOMER : SANTOS
WELL NAME: PELICAN 2 J
TEST TYPE : STATIC GRADIENT

PERFORATIONS: 7807 - 7877
FORMATION : TOOLACHEE

PAGE: ONE OF ONE
DATE: 21st AUGUST 91
OPR : W. BRIANCOURT

GAUGE DATA	UPPER PRESSURE GAUGE	LOWER PRESSURE GAUGE	TEMPERATURE GAUGE
ELEMENT SERIAL NO.	21821	21379	22819
ELEMENT RANGE	4625	4625	190 - 412°F
RECORDING SECTION SERIAL NO.	14619	59288	14633
DATE OF CALIBRATION: 4-6-91	290°F	290°F	
CLOCK SERIAL NO.	A12047	A16031	~~27~~510
CLOCK RANGE	3	3	3
LEAD SCREW TYPE	15	15	15
ENGAGE STYLUS DATE 21-8-91 TIME	0838	0838	0838
DISENGAGE STYLUS DATE 21-8-91 TIME	1044	1044	1044

RUN DATA		TIME (HOURS)	TUBING PRESSURE (PSI/KPa)	ANNULUS PRESSURE (PSI/KPa)
DATE	: 21-8-91			
PRESSURE LUBRICATOR	:	0848	15258	28
RUN IN HOLE	:	0905	15258	28
ON DEPTH AT	: 7650' FT/M	0952	15258	28
DATE	: 21-8-91			
PULL OUT OF HOLE	:	1002	15252	28
AT SURFACE	:	1017	15252	28
DEPRESSURE LUBRICATOR	:	1037	15252	28
MAXIMUM BHT AT	FT/M = °F/C			
N.B. ALL DEPTHS ARE MEASURED FROM K.B.				

DATE	TIME	REMARKS
21-8-91	0905	RUN STATIC GRADIENT AS PER PROGRAM.
		ARRIVE LUB

ET 108

n299

????

EXPERTEST

WIRELINE & WELL TESTING SERVICE

PO BOX 354 COWANDILLA 5033

PH. (08) 354 0488 TELEX AA87183
FAX (08) 43 7408

138 RICHMOND ROAD MARLESTON
SOUTH AUSTRALIA 5033

Tested Wednesday, 21st August 1991.

CLIENT	LOCATION	FORMATION
Santos Ltd.	PELICAN Z U	TOOLACHEE

STATIC PRESSURE GRADIENT REPORT

PRESSURE ELEMENT DATA			
POSITION	SERIAL NO.	RANGE	CALIBRATED
Top	21821	4750	4/ 6/91
Bottom	21379	4825	4/ 6/91

WELL DATA	
PARAMETER	VALUE
OWT In	2213 PSIG
OWT Out	2212 PSIG
Max BHT	

	TOP ELEMENT			BOTTOM ELEMENT		
DEPTH FT KB	DEFLECTION INCHES	PRESSURE PSIG	GRADIENT PSI/FT	DEFLECTION INCHES	PRESSURE PSIG	GRADIENT PSI/FT
LUB.	0.8850	2221.3	-----	0.8950	2202.5	-----
1000	0.9130	2291.8	0.070	0.9250	2276.7	0.074
2000	0.9410	2362.2	0.070	0.9540	2348.4	0.072
3000	0.9690	2432.6	0.071	0.9810	2415.2	0.067
4000	0.9950	2498.1	0.065	1.0090	2484.5	0.069
5000	1.0190	2558.5	0.060	1.0350	2548.9	0.064
6000	1.0450	2624.0	0.066	1.0610	2613.3	0.064
7000	1.0680	2681.9	0.058	1.0860	2675.3	0.062
7650	1.0810	2714.7	0.050	1.1040	2719.9	0.069
LUB.	0.8840	2218.8	----	0.8950	2202.5	----

GENERAL REMARKS

Pelican 2 Tower
Bottomhole Pressure Survey
26-31 August 1991.

Pressure Buildup

26-08-91 Ran in the hole with amerados and reached hang depth of 7650 ft. KB @ 1805 hours. Well flowed on 100% choke.

27-08-91 Shut well in @ 0800 hours and monitored pressures until 0800 hrs. on 31/08/91 for a buildup time of 96 hours.

Element # 21379 @ 7638 ft. KB.

F.B.H.P. @ shut-in = 1503.4 psig = 10366 kPag

S.I.B.H.P. final = 1972.8 psig = 13602 kPag

Max. B.H.T. = 245.2 °F = 118.4 °C.

Static Gradient

31-08-91 A static gradient was run to 7650 ft. KB.

Element # 21379

S.I.B.H.P. = 1970.3 psig = 13585 kPag

Production Summary

Cumulative production to end Aug. 1991 (test shut-in) = 31.6 $10^6 m^3$

Average production rate for Aug. 1991 = 30.2 $10^3 m^3/d$

$$t = \frac{31600\ 10^3 m^3}{30.2\ 10^3 m^3/d} \times 24 \qquad t = 25.13 \text{ hours.}$$

DEPT. OF MINES AND ENERGY SECURITY 7/29/2

SUB-SURFACE PRESSURE SURVEY

CO. SANTOS		RUN 01 FIELD PELICAN		WELL 02LOWER	
EFF DEPTH		WELL STAT		TOOL HUNG	7638 FT KB
CASING	-	CASING PRESS		ON BOTTOM	1805 910826
LINER	-	TUBING PRESS		OFF BOTTOM	0800 910831
DATE	910826	ELEMENT RANGE	0 - 4950	ZERO POINT	
ELEVATION		ZONE		SHUT-IN	0800 910827
MAX TEMP		PICK-UP		ON-PROD	
PERF	-	CAL SER NO.	21379	MPP	
TUBING	-				
UNITS	ENGLISH	PURPOSE	BOTTOMHOLE PRESSURE BUILDUP		

SURVEY DATA

CO. SANTOS RUN 01 FIELD PELICAN WELL 02LOWER

TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME
8:00	1503.4	1503.4	.0	5:55	1908.4	1908.4	21.9
8:02	1525.9	1525.9	.0	8:56	1913.3	1913.3	24.9
8:02	1550.9	1550.9	.0	11:38	1916.2	1916.2	27.6
8:02	1576.8	1576.8	.0	14:02	1919.1	1919.1	30.0
8:04	1600.6	1600.6	.1	16:43	1922.2	1922.2	32.7
8:07	1628.5	1628.5	.1	18:54	1927.7	1927.7	34.9
8:11	1650.2	1650.2	.2	20:49	1926.6	1926.6	36.8
8:14	1667.0	1667.0	.2	0:12	1929.3	1929.3	40.2
8:19	1684.5	1684.5	.3	2:28	1931.0	1931.0	42.5
8:23	1696.1	1696.1	.4	6:15	1933.0	1933.0	46.2
8:31	1711.6	1711.6	.5	9:36	1935.8	1935.8	49.6
8:37	1718.9	1718.9	.6	11:36	1939.4	1939.4	51.6
8:45	1731.0	1731.0	.8	14:06	1942.2	1942.2	54.1
9:01	1742.4	1742.4	1.0	17:01	1940.5	1940.5	57.0
9:14	1752.7	1752.7	1.2	20:13	1945.1	1945.1	60.2
9:31	1761.2	1761.2	1.5	23:11	1946.1	1946.1	63.2
9:52	1772.1	1772.1	1.9	1:10	1948.4	1948.4	65.2
10:16	1783.7	1783.7	2.3	4:28	1951.3	1951.3	68.5
10:56	1797.2	1797.2	2.9	7:39	1954.9	1954.9	71.7
11:44	1809.3	1809.3	3.7	10:27	1955.5	1955.5	74.4
12:31	1820.7	1820.7	4.5	14:00	1958.4	1958.4	78.0
13:25	1833.1	1833.1	5.4	16:02	1960.0	1960.0	80.0
14:36	1847.0	1847.0	6.6	19:14	1960.9	1960.9	83.2
16:06	1860.9	1860.9	8.1	21:39	1964.9	1964.9	85.6
17:45	1874.3	1874.3	9.7	2:33	1969.3	1969.3	90.6
18:56	1878.8	1878.8	10.9	6:46	1970.6	1970.6	94.8
20:04	1883.9	1883.9	12.1	8:00	1972.8	1972.8	96.0
21:31	1889.2	1889.2	13.5	- 5:56	1507.6	1507.6	-13.9
0:10	1895.1	1895.1	16.2	- 3:53	1508.7	1508.7	-11.9
2:58	1901.4	1901.4	19.0	- 2:26	1511.1	1511.1	-10.4

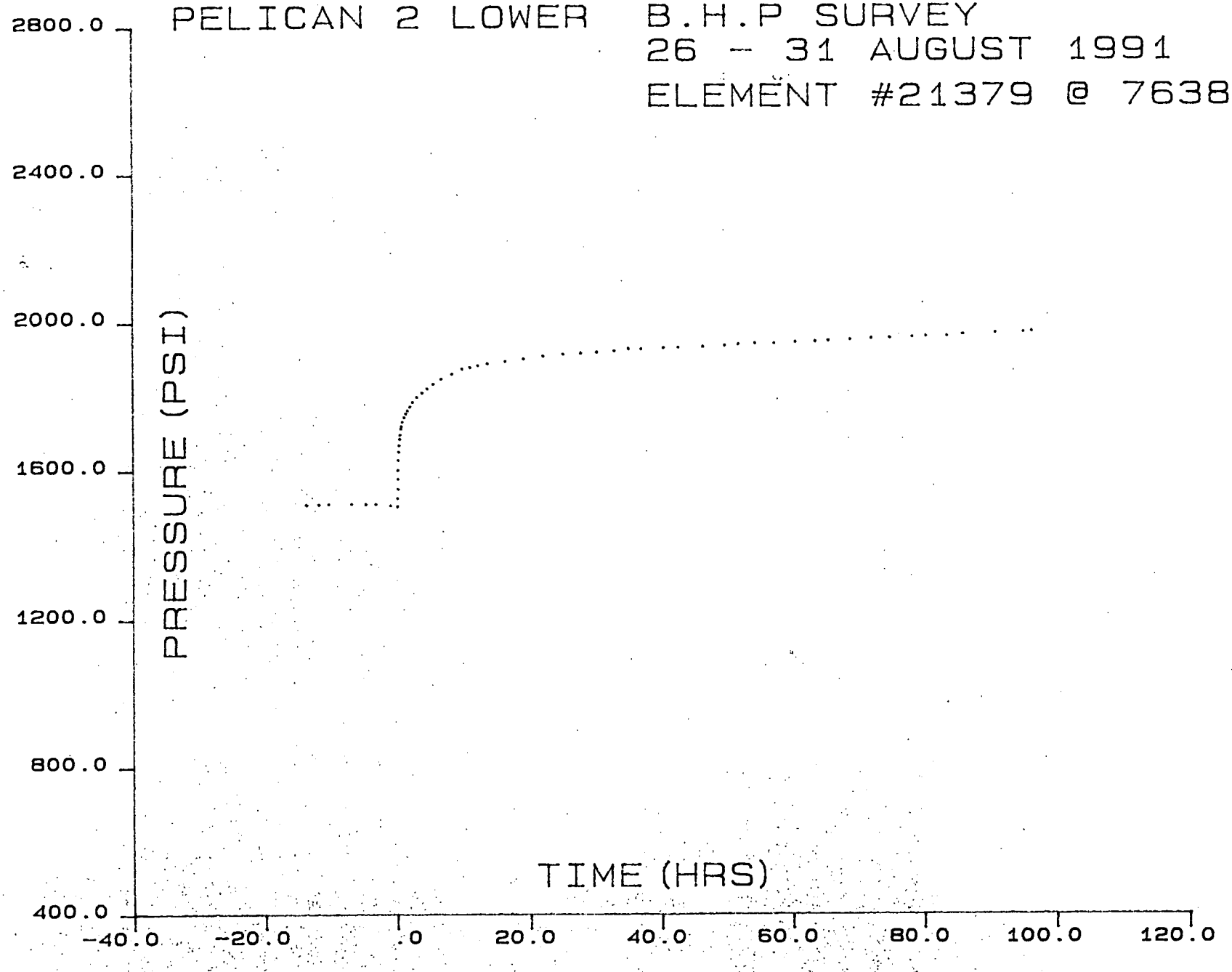
SURVEY DATA

CO. SANTOS RUN 01 FIELD PELICAN WELL 02LOWER

TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME
1:01	1511.1	1511.1	-7.0	4:44	1509.0	1509.0	-3.3
3:13	1509.8	1509.8	-4.8	6:59	1504.7	1504.7	-1.0

LUB IN DWT = 1143 PSI / OUT = 1546 PSI
LUB IN AMERADA = 1147 PSI / OUT = 1551 PSI

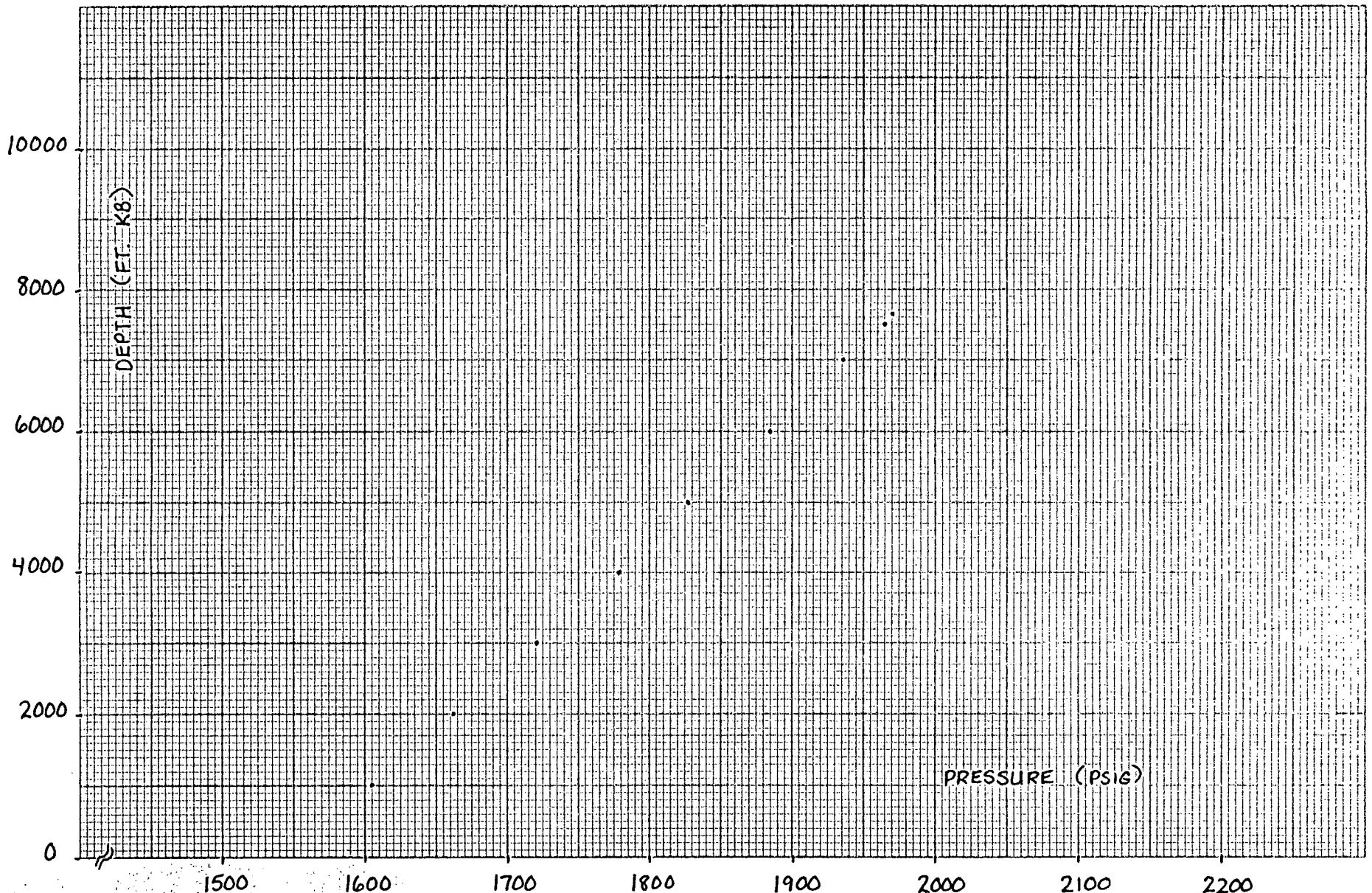
PELICAN 2 LOWER B.H.P SURVEY
26 - 31 AUGUST 1991
ELEMENT #21379 @ 7638 FT KB



00300

PELICAN 2 LOWER - STATIC GRADIENT SURVEY - 31/08/91.

ELEMENT # 21379 (TOP)



00305

EXPERTEST PTY. LTD.

SEQUENCE OF EVENTS

CUSTOMER : SANTOS LTD	PERFORATIONS: 8127' - 8555	PAGE: 1 OF 2
WELL NAME: PELICAN #2 LOWER	FORMATION : PATCHAWARRA	DATE: 22-8-91
TEST TYPE : B.H.P SURVEY		OPR : A. GRINAWAY

DATE/TIME	DESCRIPTION OF EVENTS
22.8.91	
0850	S.W.I FIT SWAB VALVE AND PRESSURE TEST.
0925	B.O.L. 100% CHOKE.
1330	PREPARE TOOLSTRING.
1355	PRESSURE UP LUBRICATOR.
1357	R.I.H WITH A 1.75" BLIND BOX.
1425	TAG TIGHT SPOT AT 7747' KB.
1428	P.O.O.H. TUBING CLEAR AND FREE OF OBSTRUCTIONS PAST GAUGE HANG DEPTH.
1440	TOOLSTRING IN LUBRICATOR. SECURE WELLHEAD.
26.8.91	
1420	PREPARE AMERADAS FOR B.H.P. SURVEY.
1450	AMERADAS IN LUBRICATOR. ATMOSPHERIC. PRESSURE.
1550	PRESSURE UP LUBRICATOR.
1650	DEPRESSURE LUBRICATOR.
1750	PRESSURE UP LUBRICATOR. R.I.H TO HANG DEPTH.
1805	AT. 7650' KB HANG GAUGES OVERNIGHT
27.8.91	
0800	S.W.I AT WING VALVE AND MONITOR BUILD-UP.
31.8.91	
0800	P.O.O.H END BUILD-UP SURVEY.
0822	GAUGES AT SURFACE. DEPRESSURE LUBRICATOR.
0922	PRESSURE UP LUBRICATOR.
1022	DEPRESSURE LUBRICATOR. RIG OUT ELEMENTS. INSPECT CHARTS.

00306

EXPERTEST PTY. LTD.

SEQUENCE OF EVENTS

CUSTOMER :	SANTOS LTD	PERFORATIONS:	8127'- 8555'	PAGE:	2 OF 2
WELL NAME:	PELICAN #2 LOWER	FORMATION :	PATTHAWARRA	DATE:	31.8.91
TEST TYPE :	B.H.P. SURVEY			OPR :	A. GRINDLAY

DATE/TIME	DESCRIPTION OF EVENTS
31.8.91	
1030	PREPARE AMERADAS FOR A STATIC GRADIENT SURVEY.
1050	PRESSURE UP LUBRICATOR.
1100	DEPRESSURE LUBRICATOR
1105	PRESSURE UP. R.I.H WITH 2x AMERADAS AND 1 x TEMPERATURE ELEMENT
	TO PERFORM A STATIC GRADIENT SURVEY.
1210	AT BOTTOM STOP. 7650'KB.
1220	P.O.O.H.
1240	AT SURFACE WITH GAUGES. DEPRESSURE LUBRICATOR.
1245	PRESSURE UP LUBRICATOR.
1255	DEPRESSURE LUBRICATOR. RIG OUT ELEMENTS. INSPECT CHARTS.
1305	R.D. M.O.
1545	B.O.L.

ET 102

00307

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD | PERFORATIONS: 8127' – 8555' | PAGE: 1 OF 3

WELL NAME: PELICAN #2 LOWER | FORMATION : PATCHAWARRA | DATE: 26.8.91

TEST TYPE : B.H.P. SURVEY | OPR : A. GRINDLAY

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
26TH	AUGUST 1991														
1420						PREPARE AMERADAS FOR B.H.P SURVEY.									
1450		7888	28	55	100	GAUGES IN LUBRICATOR. ATMOSPHERIC PRESSURE									
1550		7881	28	55	"	PRESSURE UP LUBRICATOR.									
1650		7881	28	54	"	DEPRESSURE LUBRICATOR.									
1750		7881	28	54	"	PRESSURE UP LUBRICATOR. R.I.H TO HANG DEPTH.									
1805		7853	28	53	"	AT 7650'KB. HANG GAUGES OVERNIGHT.									
2200		7867	28	51	"										
27TH	AUGUST 1991														
0600		7853	28	49	"										
0700		7848	21	49	"										
0730		7846	21	48	"										
0800	Ø	7846	21	48	"	S.W.I. MONITOR BUILD-UP.									
0815		9219	21	46											
0830		9294	21	40											
0845		9363	14	34											
0900	1	9432	14	28											
0915		9494	14	26											
0930		9563	14	25											
0945		9639	14	25											
1000	2	9668	14	23											
1015		9687	14	21											

ET 104

00308

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD
WELL NAME: PELICAN #2 LOWER
TEST TYPE : B.H.P. SURVEY.

PERFORATIONS: 8127'- 8555'
FORMATION : PATCHAWARRA

PAGE: 2 OF 3
DATE: 27.8.91
OPR : A. GRINDLAY

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		O
27th	AUGUST 1991														
1030		9722	14	21		WELL	SHUT IN.	MONITORING			BUILD-UP.				
1045		9743	21	22											
1100	3	9770	21	21											
1115		9798	21	22											
1130		9825	21	20											
1145		9846	21	22											
1200	4	9874	21	23											
1400	6	9984	21	24											
1800	10	10136	21	18											
2200	14	10225	28	15											
28th	AUGUST		1991												
0200	18	10301	28	8											
0600	22	10336	28	7											
1000	26	10356	21	15											
1400	30	10384	21	25		READING		TAKEN FROM CHART.							
1800	34	10398	21	20											
2200	38	10439	21	13											
29th	AUGUST 1991														
0200	42	10460	21	10											
0600	46	10501	21	6											
1000	50	10515	21	20											

ET 104

00309

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD
WELL NAME: PELICAN # 2 LOWER
TEST TYPE : B.H.P. SURVEY

PERFORATIONS: 8127' – 8555'
FORMATION : PATCHAWARRA

DATE: 29'-8-91
OPR : A. GRINDLAY

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
29TH	AUGUST 1991														
1400	54	10529	21	25		READINGS		FROM CHART			CREW IN BULLINGARI				
1800	58	10542	21	22		"		"	"		"	"	"		
2200	62	10549	21	13											
30TH	AUGUST 1991														
0200	66	10563	21	8											
0600	70	10577	14	6											
1000	74	10583	14	18		READINGS		FROM CHART.			CREW IN BULLINGARI				
1400	78	10597	14	25		"		"	"		" "		"		
1800	82	10611	14	20		"		"	"		CREW IN	MOOMBA.			
2200	86	10625	14	12											
31ST	AUGUST 1991														
0200	90	10653	14	8											
0600	94	10667	14	3											
0800	96	10667	14	13		P.O.O.H.		END	BUILD-UP		PERIOD				

ET 104

001310

EXPERTEST PTY. LTD.

BHP/BHT GAUGE RUN DATA

CUSTOMER : SANTOS LTD
WELL NAME: PELICAN #2 LOWER
TEST TYPE : B.H.P SURVEY
PERFORATIONS: 8127' – 8555'
FORMATION : PATCHAWARRA
PAGE: 1 OF 1
DATE: 26.8.91
OPR : A. GRINSLAW

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.	21379	21821	22819	DATE : 26.8.91			
ELEMENT RANGE	4825 PSI	4750 PSI	190°-412°F	PRESSURE LUBRICATOR :	1550	7881 (1143 psi)	28
RECORDING SECTION SERIAL NO.	59288	14619	14633	RUN IN HOLE :	1750	7881	28
DATE OF CALIBRATION:	4.6.91	4.6.91		ON DEPTH AT : 7650' FT/~~M~~	1805	7853	28
CLOCK SERIAL NO.	N°5	N°6	F15682	DATE : 31.8.91			
CLOCK RANGE	120HRS	120HRS	120HRS	PULL OUT OF HOLE :	0800	10667	14
LEAD SCREW TYPE	15TLS	15TLS	15TLS	AT SURFACE :	0822	10667	14
				DEPRESSURE LUBRICATOR :	1022	10660	14
ENGAGE STYLUS DATE 26.8.91 TIME	1430	1430	1430	MAXIMUM BHT AT FT/M = °F/C	TEMP. 1546 psi ELEMENT.		
DISENGAGE STYLUS DATE 31.8.91 TIME	1027	1027	1027	N.B. ALL DEPTHS ARE MEASURED FROM K.B.			

DATE	TIME	REMARKS
26.8.91	1550	100% CHOKE WELL FLOWING IN LINE.
27.8.91	0800	S.W.I MONITOR BUILD-UP.

ET 108

00311

EXPERTEST PTY. LTD.

BHP/BHT GAUGE RUN DATA

CUSTOMER : SANTOS LTD
WELL NAME: PELICAN # 2 LOWER
TEST TYPE : STATIC GRADIENT

PERFORATIONS: 8127' - 8555'
FORMATION : PATCHAWARRA

PAGE: 1 OF 1
DATE: 31. 8. 91
OPR : A. GRINDLAY

GAUGE DATA	UPPER PRESSURE GAUGE	LOWER PRESSURE GAUGE	TEMPERATURE GAUGE
ELEMENT SERIAL NO.	21379	21821	22819
ELEMENT RANGE	4825 PSI	4750 PSI	90° - 412°F
RECORDING SECTION SERIAL NO.	59288	14619	14633
DATE OF CALIBRATION:	4.6.91	4.6.91	
CLOCK SERIAL NO.	A15012	25510	A12047
CLOCK RANGE	3HRS	3HRS	3HRS
LEAD SCREW TYPE	15TLS	15TLS	15TLS
ENGAGE STYLUS DATE 31. 8. 91 TIME	1040	1040	1040
DISENGAGE STYLUS DATE 31. 8. 91 TIME	1303	1303	1303

RUN DATA	TIME (HOURS)	TUBING PRESSURE (PSI/KPa)	ANNULUS PRESSURE (PSI/KPa)
DATE : 31. 8. 91			
PRESSURE LUBRICATOR :	1050	10646	14
RUN IN HOLE :	1105	10646	14
ON DEPTH AT : 7650 FT/M	1210	10639	14
DATE : 31. 8. 91			
PULL OUT OF HOLE :	1220	10646	14
AT SURFACE :	1240	10639	14
DEPRESSURE LUBRICATOR :	1255	10646	14
MAXIMUM BHT AT FT/M = °F/C	TEMP. ELEMENT RUN.		
N.B. ALL DEPTHS ARE MEASURED FROM K.B.			

DATE	TIME	REMARKS

ET 108

01312

EXPERTEST
WIRELINE & WELL TESTING SERVICE
PO BOX 354 COWANDILLA 5033
PH. (08) 354 0488 TELEX AA87183
FAX (08) 43 7408
138 RICHMOND ROAD MARLESTON
SOUTH AUSTRALIA 5033

Tested Saturday, 31st August 1991.

CLIENT	LOCATION	FORMATION
Santos Ltd.	PELICAN #ZLOWER	PATCHAWARRA

STATIC PRESSURE GRADIENT REPORT

PRESSURE ELEMENT DATA			
POSITION	SERIAL NO.	RANGE	CALIBRATED
Top	21379	4825	4/ 6/91
Bottom	21821	4750	4/ 6/91

WELL DATA	
PARAMETER	VALUE
DWT In	1544 PSIG
DWT Out	1544 PSIG
Max BHT	TEMP EL.

	TOP ELEMENT			BOTTOM ELEMENT		
DEPTH Ft KB	DEFLECTION INCHES	PRESSURE PSIG	GRADIENT PSI/FT	DEFLECTION INCHES	PRESSURE PSIG	GRADIENT PSI/FT
LUB.	0.6290	1546.2	-----	0.6190	1553.2	-----
1000	0.6530	1605.3	0.059	0.6420	1610.9	0.058
2000	0.6760	1662.0	0.057	0.6655	1669.9	0.059
3000	0.7000	1721.2	0.059	0.6880	1726.4	0.057
4000	0.7230	1777.9	0.057	0.7090	1779.1	0.053
5000	0.7430	1827.2	0.049	0.7300	1831.9	0.053
6000	0.7660	1884.0	0.057	0.7510	1884.6	0.053
7000	0.7870	1935.8	0.052	0.7720	1937.4	0.053
7500	0.7990	1965.4	0.059	0.7820	1962.5	0.050
7650	0.8010	1970.3 /	0.033	0.7850	1970.0	0.050
LUB.	0.6290	1546.2	-----	0.6190	1553.2	-----

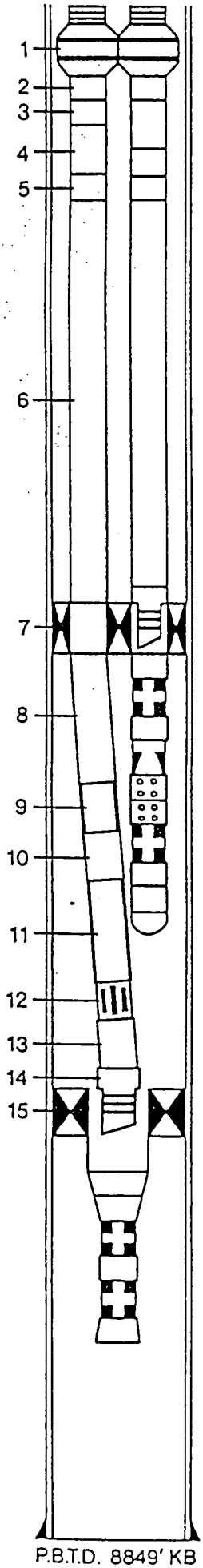
GENERAL REMARKS

TEMPERATURE ELEMENT ALSO RUN.

00314

PETROLEUM ENGINEERING DEPARTMENT

DOWNHOLE INSTALLATION PELICAN 2 L



ITEM NO.	DESCRIPTION	LENGTH (ft)	DEPTH K.B. (ft)	MIN. I.D. (in)
	K.B. to top of tubinghead spool	17 · 50	0 · 00	
1	C.I.W. 2⅞" split hanger segment 2⅞" CS	0 · 67	17 · 50	
	Hydril box up x 2⅞" AB-DSS box down			
2	2⅞" AB-DSS J55 pin x pin nipple	0 · 35		
3	X-over 2⅞" x 2⅜" AB-IJ3SS box x pin	1 · 76		
4	1 joint 2⅜" J55 4·7# Baker Duece tubing	30 · 45		
5	1 x 4' & 1 x 2' 2⅜" AB-DSS J55 4·7#	5 · 72		
	pup joints			
6	241 joints 2⅜" J55 4·7# Baker Duece tubing	7635 · 37		
7	Baker A5 dual packer size47C4 c/w 2⅜"	10 · 07	7691 · 82	
	AB-IJ3SS box up pin down			
8	3 joints 2⅜" J55 4·7# Baker Duece tubing	94 · 96		
9	1 20' x 2⅜" AB-IJ3SS L80 box x pin	19 · 72	7796 · 85	
	blast joint			
10	1 joint 2⅜" J55 4·7# Baker Duece tubing	30 · 67	7816 · 57	
11	2 20' x 2⅜" AB-IJ3SS L80 box x pin	39 · 44	7847 · 24	
	blast joints			
12	Otis 121XDH18710 2⅜" AB-IJ3SS sliding	3 · 50	7886 · 68	
	sleeve			
13	1 joint 2⅜" J55 4·7# Baker Duece tubing	31 · 62		
14	Baker G-22 locator seal assembly size 81-32	2 · 84	7921 · 80	
	c/w 2⅜" AB-IJ3SS box up			
	Permanent Downhole Equipment			
15	Baker 7" DB packer 84-32 4½" AB-IJ3SS	4 · 08	7921 · 80	
	box down			

PERFORATED INTERVALS:

FORMATION	INTERVAL	GUN: SIZE	GUN: TYPE	CHARGES: S.P.F.	CHARGES: TYPE	CHARGES: WT(g)
PATCHAWARRA						
81-0	8127' – 8158'	5"	HSD	6	HMX	22
82-8	8340' – 8367'	5"	HSD	6	HMX	22
85-7	8547' – 8555'	5"	HSD	6	HMX	22

REMARKS: NOTE: Could not pass thru 7744' KB on Long String with 1·5" Stem and jars

ANNULUS FLUID : 1102 kg/m³ 2% KCl brine plus 1 drum Applied 2100

INDICATED STRING WEIGHT : 28,000#

CALCULATED STRING WEIGHT : 32,000#

SLACK-OFF WEIGHT : 4,000#

TENSION :

NOT TO SCALE		WELLSITE SUPERVISOR	W. Baer		
PROPOSED		DATE OF INSTALLATION	23/5/1989		
RE-COMPLETION		DRAFTED	E. Coppins	DATE	28/8/1989
COMPLETION	✓	REVISED		DATE	

SUB-SURFACE PRESSURE SURVEY

CO.		RUN 10 FIELD PELICAN		WELL 02U	
EFF DEPTH		WELL STAT		TOOL HUNG	7588'
CASING	-	CASING PRESS		ON BOTTOM	1641 2/9
LINER	-	TUBING PRESS		OFF BOTTOM	0800 7/9
DATE	920907	ELEMENT RANGE	0 - 4030	ZERO POINT	
ELEVATION		ZONE		SHUT-IN	0800 3/9
MAX TEMP	243°F	PICK-UP		ON-PROD	
PERF	-	CAL SER NO.	29321	MPP	
TUBING	-				
UNITS	ENGLISH	PURPOSE	BHP		

SURVEY DATA

CO. RUN 10 FIELD PELICAN WELL 02U

TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME
8:00	863.3	863.3	.0	6:59	2444.1	2444.1	23.0
8:01	916.3	916.3	.0	12:43	2455.5	2455.5	28.7
8:02	1018.8	1018.8	.0	19:42	2466.5	2466.5	35.7
8:04	1132.2	1132.2	.1	4:21	2480.8	2480.8	44.3
8:06	1233.8	1233.8	.1	13:12	2491.4	2491.4	53.2
8:11	1351.5	1351.5	.2	23:34	2501.5	2501.5	63.6
8:14	1450.2	1450.2	.2	7:19	2507.1	2507.1	71.3
8:17	1549.0	1549.0	.3	15:06	2519.8	2519.8	79.1
8:27	1711.8	1711.8	.5	0:04	2523.3	2523.3	88.1
8:34	1826.2	1826.2	.6	8:00	2529.9	2529.9	96.0
8:46	1970.6	1970.6	.8	- 7:31	853.4	853.4	-15.5
9:07	2126.9	2126.9	1.1	- 6:03	848.9	848.9	-14.1
9:25	2213.6	2213.6	1.4	- 4:01	868.2	868.2	-12.0
9:38	2268.1	2268.1	1.6	- 1:05	874.9	874.9	-9.1
10:05	2324.1	2324.1	2.1	2:43	851.2	851.2	-5.3
10:25	2358.3	2358.3	2.4	4:39	850.9	850.9	-3.4
10:50	2367.9	2367.9	2.8	4:41	872.2	872.2	-3.3
11:35	2382.1	2382.1	3.6	5:01	850.6	850.6	-3.0
12:41	2388.3	2388.3	4.7	5:03	892.7	892.7	-3.0
13:59	2393.3	2393.3	6.0	5:12	873.1	873.1	-2.8
16:54	2408.5	2408.5	8.9	5:54	867.3	867.3	-2.1
20:33	2423.5	2423.5	12.5	7:03	863.7	863.7	-.9
0:18	2431.3	2431.3	16.3	8:00	863.5	863.5	.0

LUB IN DWT = 630 PSI / OUT = 2073 PSI
LUB IN AMERADA = 628 PSI / OUT = 2073 PSI

SWI @ 0800 hrs 3/9/92
August Total Gas Cum = 37.9 E6m³
August Mean Gas daily = 39.4 E3m³/d = 0.0394 E6m³/d

Assume well O/L 2.3̄ days before S/I
Then Total Gas Cumulative = (2.3̄ x 0.0394) + 37.9
= 37.992 E6m³ ✓

Assume Qg prior to S/I = August mean gas daily
= 39.4 E3m³/d ✓

PELICAN #2U BHP SEPTEMBER 1992
ELEMENT #29321 (TOP) @7588' KB

PRESSURE (PSI)

3200.0
2800.0
2400.0
2000.0
1600.0
1200.0
800.0
400.0

TIME (HRS)

-40.0 -20.0 .0 20.0 40.0 60.0 80.0 100.0

EXPERTEST PTY. LTD.

SEQUENCE OF EVENTS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 7807' – 7877'	PAGE: 1 OF 2
WELL NAME: PELICAN #2 upper.	FORMATION : TOOLACHEE	DATE: 2-9-92.
TEST TYPE : B.H.P.S.		OPR : B. HULL
		I. KURASIAK.

DATE/TIME	DESCRIPTION OF EVENTS
1-9-92	
12:50	ARRIVE ON LOCATION
13:00	SHUT WELL IN - RIG IN SWAB VALVE
13:20	OPEN WELL BACK UP.
2-9-92	
09:00	RIG UP WIRELINE UNIT & TOOLSTRING WITH 1.75" BLIND BOX FOR DRIFT RUN
10:00	RUN IN HOLE WITH 1.75" BLIND BOX
10:30	RUN IN TO DEPTH OF 7608' KB - OBSTRUCTION DOWNHOLE
10:35	CALL MOOMBA FOR INSTRUCTION FROM P.E.
10:40	PULL OUT OF HOLE
11:05	ARRIVE AT SURFACE
11:30	RIG DOWN DOWN 1.75" BLIND BOX
11:45	RUN IN HOLE WITH 1.50" TOOLSTRING
12:05	ARRIVE AT DEPTH OF 7608' KB - PERFORM PICKUP & RUN AGAIN TO DEPTH OF 7638' KB.
	UNABLE TO RUN PAST THIS DEPTH - POSSIBLE WAX BUILD UP, PERFORM PICK UPS,
	UNSUCCESSFUL,
12:10	P.O.O.H.
12:30	ARRIVE AT SURFACE - CALL MOOMBA FOR FURTHER INSTRUCTIONS.
1345	Prepare amerada's for B.H.P.S.
1423	Pressure Lub for B.H.P.S. (2 pressure elements & 1 Temp element.)
1523	Depressure Lub.
1623	Pressure Lub & R.I.H.
1641	At 7600' KB, Hang depth., flow well overnight.

ET 102

EXPERTEST PTY. LTD.

SEQUENCE OF EVENTS

CUSTOMER : Santos.	PERFORATIONS: 7807' - 7877' KB	PAGE: 2 OF 2
WELL NAME: Pelican # 2 Upper	FORMATION : Toolachee	DATE: 3/9/92.
TEST TYPE : B.H.P.S.		OPR : P. Bowyer

DATE/TIME	DESCRIPTION OF EVENTS
3/9/92	
0800	Shut well in for 96 HR Build up.
7/9/92.	
0800	P.O.O.H to end 96 HR build up.
0820	In Lub. depressure.
0920	Pressure Lub.
1020	Depressure Lub. remove ameradas & check charts. ; good charts.
	Reload gauges for static Gradient.
1053	Pressure Lub for S.G.S. (2x pressure elements & 1 Temp element)
1108	Depressure Lub.
1113	Pressure Lub & R.I.H to stops as per program.
1215	At 7600' KB, bottom stop.
1230	P.O.O.H
1247	In Lub, depressure.
1252	Pressure Lub
1307	Depressure Lub, remove ameradas & check charts ; good charts.
	Rig on to Lower zone to run B.H.P.S.
1553	Upper Zone B.O.L on 100% choke.

ET 102

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : Santos.
WELL NAME: Pelican # 2 Upper.
TEST TYPE : B.H.P.S.

PERFORATIONS: 7807' - 7877' KB.
FORMATION : Toolachee.

PAGE: 1 OF 4
DATE: 1/9/92.
OPR : B. Hull
I. Kurasiak.

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
1/9/92															
1250					100	A.O.L.									
1300						S.W.I to fit a swab valve.									
1320						B.O.L on 100% choke.									
2/9/92.															
0900						Rig up w/line unit.									
1000						R.I.H with 1.75" B/Box & 1.5 toolstring.									
1030						Tag obstruction @ 7608'KB call Moomba.									
1040						P.O.O.H									
1105						At surface, remove 1.75" B/Box.									
1145						R.I.H with 1.5" tool string.									
1205						At 7608'KB, perform pickup & run to 7638'KB unable to run past this depth.									
1210						P.O.O.H.									
1230						At surface, call Moomba for further instructions.									
						*Revised hang depth of 7600'KB.									
1345						Prepare ameradas for B.H.P.S.									
1423		4344	0	56		Pressure Lub for B.H.P.S (2 pressure elements & 1 Temp element.)									
1523		4351		56		Depressure Lub.									
1623		4344		56		Pressure Lub & R.I.H									W
1641		4344	0	56	100	At 7600'KB, Hang depth.									O
						Flow well overnight & monitor pressures.									

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : Santos.
WELL NAME: Pelican # 2 Upper.
TEST TYPE : B.H.P.S.
PERFORATIONS: 7807' - 7877' KB.
FORMATION : Toolachee.
PAGE: 2. OF 4
DATE: 2/9/92.
OPR : P. Bowyer

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
2/9/92.															
1800		4357	0	56	100										
2200		4357		55	↓										
3/9/92.			↓												
0200		4337		54											
0600		4330		54	↓										
0800	0	4330		54	100	S.W.I for 96 HR Build up.									
0805		7088		47	S/I										
0810		8336		40	↓										
0815		9081		35											
0830		10549		24											
0845		11500		20											
0900	1	12066		19											
0915		12528		18											
0930		12831		18											
0945		13114		16											
1000	2.	13231		18											
1015		13362		19											
1030		13383		19											
1045		13383	↓	21											
1100	3	13452		21	↓										
1115		13472	0	21	S/I										

220

ET 104

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : Santos. | PERFORATIONS: 7807' - 7877' KB. | PAGE: 3 OF 4

WELL NAME: Pelican* 2 upper. | FORMATION : Toolachee. | DATE: 3/9/92.

TEST TYPE : B.H.P.S. | OPR : P. Bowyer.

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
3/9/92															
1130		13479	0	22	S/I	Build up con't									
1145		13486		22											
1200	4	13493		22											
1600	8	13597													
2200	14	13679													
4/9/92															
0200	18	13714													
0600	22	13728													
1000	26	13776				Taken from recorder, performing other duties.									
1400	30	13865				"									
1800	34	13921				"									
2200	38	13962													
5/9/92															
0200	42	13962													
0600	46	13969													
1000	50	14031													
1400	54	14059				Taken from recorder									
1800	58	14086				"									
2200	62	14107													
6/9/92			↓		↓										
0200	66	14114	0		S/I										

ET 104

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : Santos
WELL NAME : Pelican # 2 Upper
TEST TYPE : B.H.P.S.
PERFORATIONS: 7807' - 7877' KB
FORMATION : Toolachee
PAGE: 4 OF 4
DATE: 6/9/92
OPR : P. Bowyer

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
6/9/92															
0600	70	14148	0		S/I	Build up con't									
1000	74	14155													
1400	78	14190													
1800	82	14210													
2200	86	14231													
7/9/92															
0200	90	14245													
0600	94	14252													
0800	96	14258				P.O.OH to end 96 HR Build up.									
0820		14258				At surface, depressure.									
0920		14210				Pressure Lub.									
1020		14293				Depressure Lub, remove ameradas & check charts. good charts.									
						Re'load for static Gradient.									
1053		14272				Pressure Lub for S.G.S (2x pressure elements & 1 Temp element).									
1108		14293				Depressure Lub.									
1113		14272				Pressure Lub & R.I.H to stops as per program									
1215		14300				At 7600' KB, bottom stop.									
1230		14300				P.O.O.H									
1247		14300				In Lub, depressure.									
1252		14272	↓		↓	Pressure Lub.									
1307		14300	0		S/I	Depressure Lub, remove ameradas & check charts.; good charts.									
						Rig onto Lower Zone.									

ET 104

EXPERTEST PTY. LTD.

BHP/BHT GAUGE RUN DATA

CUSTOMER : Santos.	PERFORATIONS: 7807'-7877' KB	PAGE: 1 OF 1
WELL NAME: Pelican* 2 Upper.	FORMATION : Toolachee.	DATE: 2/9/92.
TEST TYPE : B.H.P.S.		OPR : P. Bowyer.

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.	29321	29323	29216	DATE 2/9/92.		630	
ELEMENT RANGE PSI	4000	3950	156°-366°	PRESSURE LUBRICATOR	1423	4344	0
RECORDING SECTION SERIAL NO.	14631	12963	14926	RUN IN HOLE	1623	4344	0
DATE OF CALIBRATION: @ 290°F	20/5/92	20/5/92.		ON DEPTH AT Hang depth 7600 FT/M	1641	4344	0
CLOCK SERIAL NO.	F-15690	F-15695	F-15694	DATE 7/9/92.			
CLOCK RANGE HR	120	120	120	PULL OUT OF HOLE	0800	14258	0
LEAD SCREW TYPE TLS	15	15	15	AT SURFACE	0820	14258	0
				DEPRESSURE LUBRICATOR	1020	14293	0
ENGAGE STYLUS DATE 2/9/92. TIME	1407	1407	1407	MAXIMUM BHT AT FT/M = 243 °F/M		2073	
DISENGAGE STYLUS DATE 7/9/92. TIME	1031	1031	1031	N.B. ALL DEPTHS ARE MEASURED FROM K.B.			

DATE	TIME	REMARKS
		NB: Hang depth adjusted due to drift run results. IN / OUT
3/9/92	0800	Shut well in for 96 HR Build up. Top: 628/2073

ET 108

323

EXPERTEST PTY. LTD.

BHP/BHT GAUGE RUN DATA

CUSTOMER : Santos
WELL NAME: Pelican * 2 Upper
TEST TYPE : Static Gradient

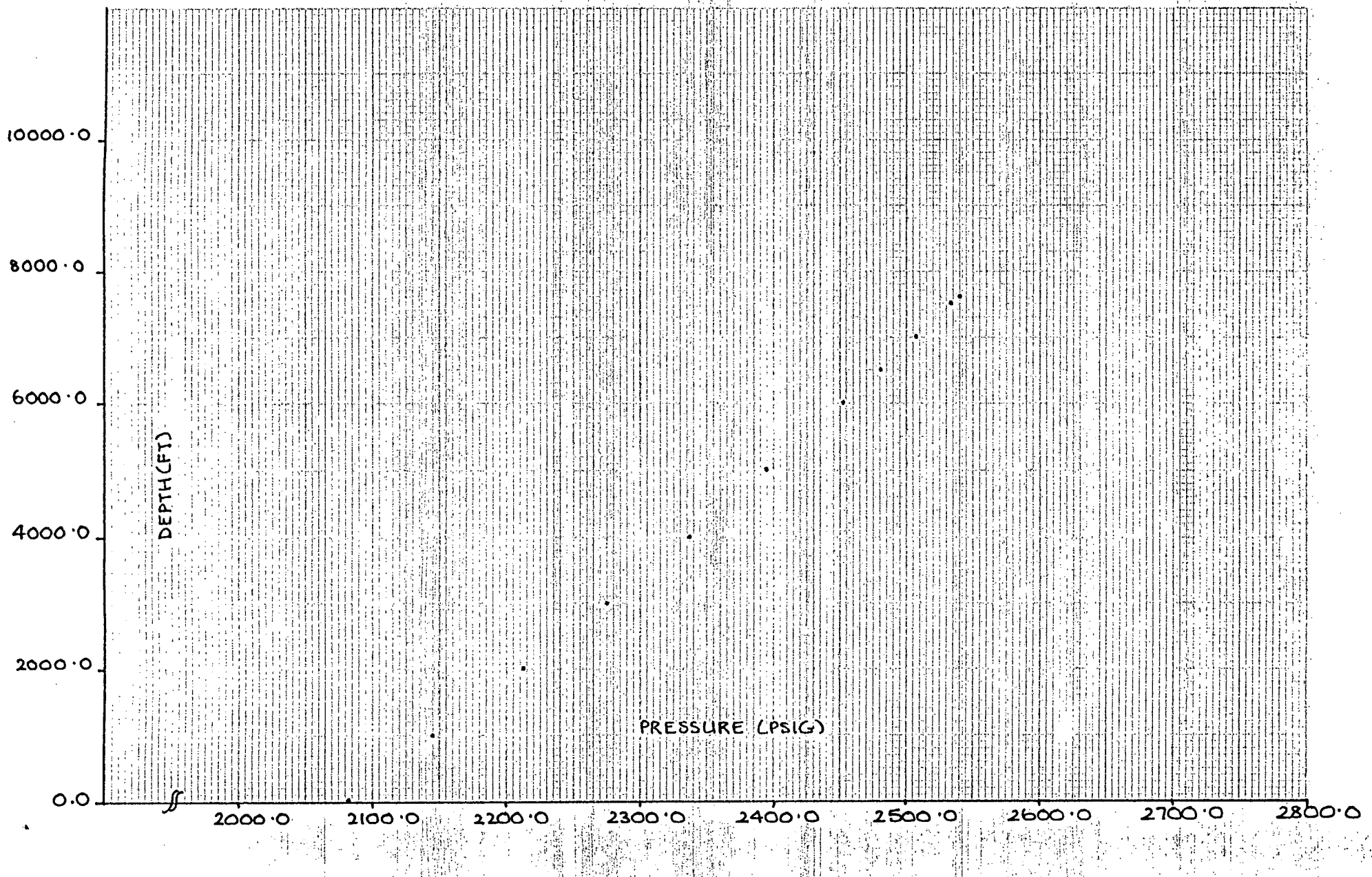
PERFORATIONS: 7807' - 7877' KB.
FORMATION : Toolachee.

PAGE: 1 OF 1
DATE: 7/9/92.
OPR : P. Bawyer.

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.		29321	29323	29216	DATE : 7/9/92.			
ELEMENT RANGE	PSI	4000	3950	156°-366°F	PRESSURE LUBRICATOR :	1053	14272	0
RECORDING SECTION SERIAL NO.		14631	12963	14926	RUN IN HOLE :	1113	14272	0
DATE OF CALIBRATION:	@ 290°F	20/5/92	20/5/92		ON DEPTH AT : 7600 FT/M	1215	14300	0
CLOCK SERIAL NO.		2387	2431	2180	DATE : 7/9/92.			
CLOCK RANGE	HR	3	3	3	PULL OUT OF HOLE :	1230	14300	0
LEAD SCREW TYPE	TLS	15	15	15	AT SURFACE :	1247	14300	0
					DEPRESSURE LUBRICATOR :	1307	14300	0
ENGAGE STYLUS DATE	7/9/92 TIME	1043	1043	1043.	MAXIMUM BHT AT FT/M = °F/C			
DISENGAGE STYLUS DATE	7/9/92 TIME	1318	1318	1318	N.B. ALL DEPTHS ARE MEASURED FROM K.B.			

DATE	TIME	REMARKS

PELICAN # 2 UPPER — STATIC PRESSURE GRADIENT — 7/9/92
ELEMENT # 29323/3950 (BOT)



Fm 5030

EXPERTEST
WIRELINE & WELL TESTING SERVICE
A.C.N. 008 034 062 PO BOX 354 COWANDILLA 5033
PH. (08) 354 0488 TELEX AA87183
FAX (08) 43 7408
138 RICHMOND ROAD MARLESTON
SOUTH AUSTRALIA 5033

Tested Monday, 7th September 1992.

CLIENT	LOCATION	FORMATION
Santos Ltd.	PELICAN#ZUPPER	TOOLACHEE

STATIC PRESSURE GRADIENT REPORT

PRESSURE ELEMENT DATA

POSITION	SERIAL NO.	RANGE	CALIBRATED
Top	29321	4000	20/ 5/92
Bottom	29323	3950	20/ 5/92

WELL DATA

PARAMETER	VALUE
DWT In	2073 PSIG
DWT Out	2074 PSIG
Max BHT	

	TOP ELEMENT			BOTTOM ELEMENT		
DEPTH FT KB	DEFLECTION INCHES	PRESSURE PSIG	GRADIENT PSI/FT	DEFLECTION INCHES	PRESSURE PSIG	GRADIENT PSI/FT
LUB.	1.0340	2075.3	-----	1.0440	2081.7	-----
1000	1.0660	2139.9	0.065	1.0760	2145.5	0.064
2000	1.0980	2204.5	0.065	1.1095	2212.3	0.067
3000	1.1310	2271.1	0.067	1.1410	2275.1	0.063
4000	1.1610	2331.7	0.061	1.1720	2336.9	0.062
5000	1.1900	2390.3	0.059	1.2015	2395.8	0.059
6000	1.2190	2448.9	0.059	1.2300	2452.6	0.057
6500	1.2340	2479.2	0.061	1.2435	2479.6	0.054
7000	1.2470	2505.4	0.053	1.2575	2507.5	0.056
7500	1.2595	2530.7	0.051	1.2710	2534.4	0.054
7600	1.2640	2539.8	0.091	1.2740	2540.4	0.060
LUB.	1.0320	2071.2	-----	1.0415	2076.7	-----

GENERAL REMARKS

TEMP ELE 29216 / 156-366 F RUN ON SURVEY

SUB-SURFACE PRESSURE SURVEY

CO.		RUN 10 FIELD PELICAN		WELL 02L	
EFF DEPTH		WELL STAT		TOOL HUNG	7644'
CASING	-	CASING PRESS		ON BOTTOM	1618 8/9
LINER	-	TUBING PRESS		OFF BOTTOM	0800 13/9
DATE	920913	ELEMENT RANGE	0 - 3994	ZERO POINT	
ELEVATION		ZONE		SHUT-IN	0800 9/9
MAX TEMP	234°F	PICK-UP		ON-PROD	
PERF	-	CAL SER NO.	29323	MPP	
TUBING	-				
UNITS	ENGLISH	PURPOSE	BHP		

SURVEY DATA

CO. RUN 10 FIELD PELICAN WELL 02L

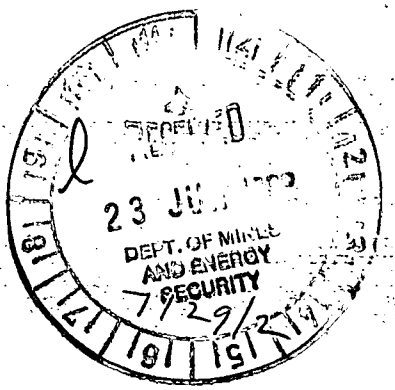
TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME
8:00	951.4	951.4	.0	14:22	1466.2	1466.2	30.4
8:00	974.1	974.1	.0	19:18	1472.4	1472.4	35.3
8:03	1026.7	1026.7	.1	0:07	1478.9	1478.9	40.1
8:07	1079.7	1079.7	.1	6:18	1485.2	1485.2	46.3
8:12	1124.7	1124.7	.2	12:15	1493.4	1493.4	52.2
8:19	1161.5	1161.5	.3	18:15	1497.0	1497.0	58.2
8:29	1184.2	1184.2	.5	1:12	1501.2	1501.2	65.2
8:43	1213.0	1213.0	.7	8:22	1508.9	1508.9	72.4
9:05	1243.9	1243.9	1.1	15:01	1514.4	1514.4	79.0
9:35	1264.3	1264.3	1.6	22:29	1519.0	1519.0	86.5
10:20	1287.9	1287.9	2.3	5:31	1522.6	1522.6	93.5
11:16	1311.5	1311.5	3.3	8:00	1524.4	1524.4	96.0
12:14	1333.2	1333.2	4.2	- 7:47	940.4	940.4	-15.8
13:38	1356.8	1356.8	5.6	- 5:42	944.4	944.4	-13.7
15:04	1374.8	1374.8	7.1	- 3:48	948.2	948.2	-11.8
17:09	1393.3	1393.3	9.1	- 1:07	948.5	948.5	-9.1
19:56	1412.1	1412.1	11.9	2:19	951.9	951.9	-5.7
23:47	1429.8	1429.8	15.8	5:49	951.3	951.3	-2.2
4:18	1443.7	1443.7	20.3	8:00	952.0	952.0	.0
9:03	1453.8	1453.8	25.1	0:00	.0	.0	.0

LUB IN DWT = 631 PSI / OUT = 1207 PSI
LUB IN AMERADA = 640 PSI / OUT = 1211 PSI

SWI @ 0800 hrs 9/9/92
August Total Gas Cum = 42.6 E6m³
August Mean Gas daily = 33.6 E3m³/d = 0.0336 E6m³/d

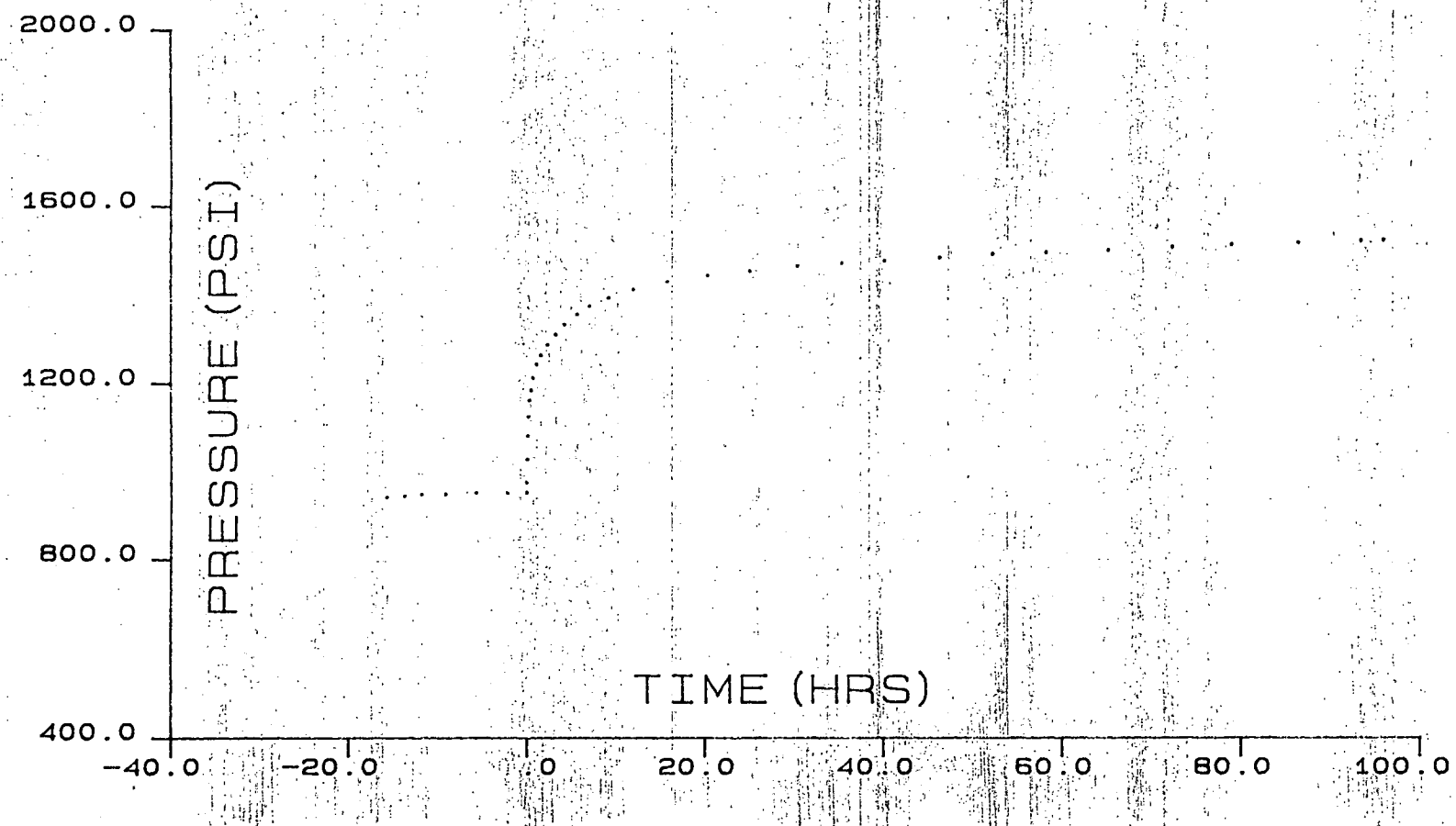
Assume well O/L 8.3 days before S/I
Then Total Gas Cumulative = (8.3 x 0.0336) + 42.6
= 42.880 E6m³ ✓

Assume Qg prior to S/I = Aug mean gas daily
= 33.6 E3m³/d ✓



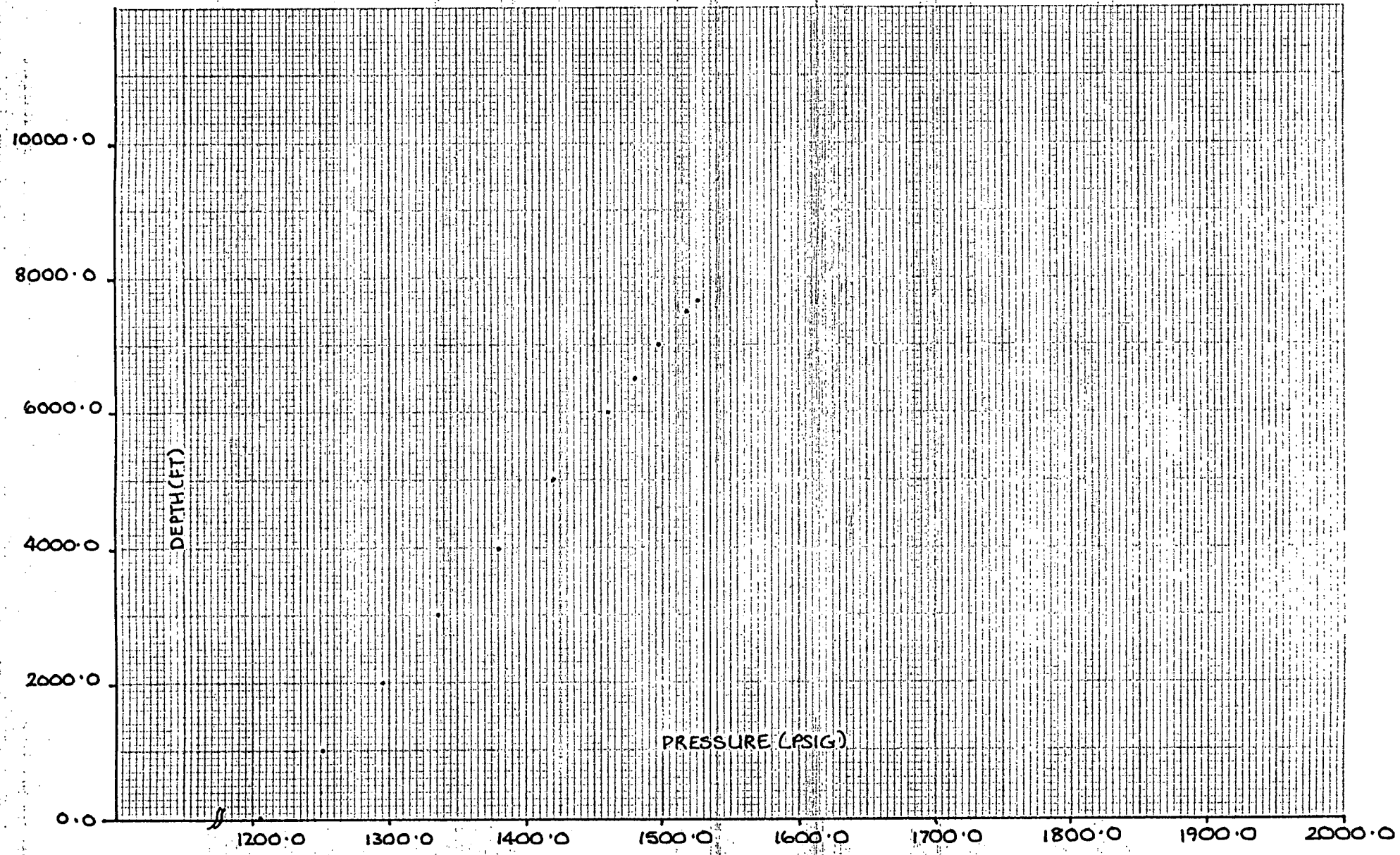
PELICAN #2L BHP SEPTEMBER 1992

ELEMENT #29323 (BOT) @7644'KB



00328

PELICAN # 2 LOWER — STATIC PRESSURE GRADIENT — 13/9/92
ELEMENT # 29321/4000 (TOP)



00229

Fm 5030

EXPERTEST PTY. LTD.

SEQUENCE OF EVENTS

CUSTOMER : Santos.	PERFORATIONS: 8127'-8555' KB	PAGE: 1 OF 2
WELL NAME: Pelican # 2 Lower	FORMATION : Patchawarra.	DATE: 7/9/92.
TEST TYPE : B.H.P.S.		OPR : P. Bowyer

DATE/TIME	DESCRIPTION OF EVENTS
7/9/92.	Upper zone B.H.P.S completed.
1525	S.W.I to install a swab valve.
1600	B.O.L on 100% choke, rig up wire line unit.
1615	Rig in complete; secure well overnight.
8/9/92.	
1230	Arrive on location & make up toolstring for drift run
1250	R.I.H with 1.5" toolstring & 1.75" B/Box
1318	Tag tight spot @ 7748' KB
1319	Tag an obstruction @ 7760' KB, unable to jar through, P.O.O.H
1337	In Lub, depressure, remove toolstring & prepare ameradas.
1400	Pressure Lub for B.H.P.S. (2x pressure elements & 1 Temp element).
1500	Depressure Lub
1600	Pressure Lub & R.I.H
1618	At 7650' KB, Hang depth, flow well overnight
9/9/92	
0800	S.W.I for 96 HR build up.
13/9/92.	
0800	P.O.O.H to end 96 HR build up.
0820	In Lub, depressure.
0920	Pressure Lub
1020	Depressure, remove ameradas & check charts.
..	Re load ameradas for static gradient.
1055	Pressure Lub for S.G.S. (2x pressure elements & 1 Temp element)
1110	Depressure Lub

ET 102

EXPERTEST PTY. LTD.

SEQUENCE OF EVENTS

CUSTOMER : Santos	PERFORATIONS: 8127' - 8555' KB	PAGE: 2 OF 2
WELL NAME: Pelican # 2 Lower	FORMATION : Patchawarra	DATE: 13/9/92.
TEST TYPE : B.H.P.S		OPR : P. Bowyer

DATE/TIME	DESCRIPTION OF EVENTS
13/9/92	
1115	Pressure Lub & R.I.H to stops as per program
1220	At 7650' KB, bottom stop.
1235	P.O.O.H
1255	In Lub, depressure
1300	Pressure Lub
1315	Depressure Lub, remove ameradas & check charts good charts.
1340	Rig down wire line unit.
1430	Move off location.

ET 102

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : Santos.
WELL NAME: Pelican # 2 Lower.
TEST TYPE : B.H.P.S.

PERFORATIONS: 8127' - 8555' KB.
FORMATION : Patchawarra

DATE: 7/9/92.
OPR : P. Bowyer

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
7/9/92							Upper Zone B.H.P.S completed.								
1525					100		S.W.I to install a swab valve								
1600							B.O.L on 100% choke. rig up wire line unit.								
1615							Rig in complete, secure well overnight.								
8/9/92.															
1230							Arrive on location & make up toolstring for drift run.								
1250							R.I.H with 1.5" toolstring & 1.75" B/Box. pickups every 1000' to 3000' & every 500' to tag.								
1318							Tag tight spot @ 7748' KB'								
1319							Tag an obstruction @ 7760' KB. unable to jar through P.O.O.H								
1337							In Lub, depressure, remove toolstring & prepare amerada's								
1400		4351	0	57			Pressure Lub for B.H.P.S (2x pressure elements & 1 Temp element).								
1500		4357		58			Depressure Lub								
1600		4330		58			Pressure Lub & R.I.H								
1618		4344		58			At 7650' KB. Hang depth. flow well overnight.								
1800		4344		58											
2200		4344		58											
9/9/92															
0200		4337	↓	56											
0600		4330	0	56	100										

ET 104

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : Santos.
WELL NAME: Pelican # 2 Lower
TEST TYPE : B.H.P.S.
PERFORATIONS: 8127' - 8555' KB
FORMATION : Patchawarra
PAGE: 2 OF 4
DATE: 9/9/92.
OPR : P. Bowyer

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
9/9/92.															
0800	0	4330	0	56	100	Shut well in for 96 HR build up.									
0805		5812		54	S/I										
0810		6164		50											
0815		6295		45											
0830		6557		36											
0845		6715		30											
0900	1	6798		28											
0915		6867		28											
0930		6922		29											
0945		6970		30											
1000	2	7019		31											
1015		7060		33											
1030		7074		34											
1045		7115		35											
1100	3	7143		35											
1115		7171		35											
1130		7198		35											
1145		7226		35											
1200	4	7260		35											
1800	10	7626	↓		↓										
2200	14	7763	0		S/I										

ET 104

323

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : Santos
WELL NAME: Pelican #2 Lower
TEST TYPE : B.H.P.S.

PERFORATIONS: 8127' - 8555' KB
FORMATION : Patchawarra

PAGE: 3 OF 4
DATE: 10/9/92
OPR : P. Bowyer

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
10/9/92															
0200	18	7826	0		S/I	Build up con't									
0600	22	7901													
1000	26	7936				Taken from recorder									
1400	30	7977				"									
1800	34	8025													
2200	38	8053													
11/9/92															
0200	42	8074													
0600	46	8108													
1000	50	8115													
1400	54	8136				Taken from recorder									
1800	58	8163				"									
2200	62	8191													
12/9/92															
0200	66	8205													
0600	70	8212													
1000	74	8232													
1400	78	8260													
1800	82	8274	↓		↓										
2200	86	8288	0		S/I										

ET 104

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : Santos.
WELL NAME: Pelican # 2 Lower
TEST TYPE : B.H.P.S.
PERFORATIONS: 8127' - 8555' KB.
FORMATION : Patchawarra
PAGE: 4 OF 4
DATE: 13/9/92.
OPR : P. Bowyer

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
13/9/92															
0200	90	8301	0		S/I	Build up con't									
0600	94	8308													
0800	96	8315				P.O.O.H to end 96 HR build up									
0820		8315				In Lub, depressure									
0920		8315				Pressure Lub									
1020		8322				Depressure Lub, remove ameradas & check charts									
						Re load ameradas for static Gradient									
1055		8329				Pressure Lub for S.G.S (2 x pressure elements & 1 temp ele).									
1110		8329				Depressure Lub									
1115		8329				Pressure Lub & R.I.H to stops as per program									
1220		8336				At 7650' KB, bottom stop.									
1235		8336				P.O.O.H									
1255		8350				In Lub, depressure									
1300		8350	↓		↓	Pressure Lub									
1315		8350	0		S/I	Depressure Lub, remove ameradas & check charts good charts.									
1340						Rig down wire line unit.									
1430						Move off location.									

WWA

ET 104

EXPERTEST PTY. LTD.

BHP/BHT GAUGE RUN DATA

CUSTOMER : Santos.
WELL NAME: Pelican # 2 Lower
TEST TYPE : B.H.P.S.
PERFORATIONS: 8127' - 8555' KB
FORMATION : Patchawarra.
PAGE: 1 OF
DATE: 8/9/92.
OPR : P. Bowyer

GAUGE DATA		UPPER PRESSURE GAUGE	LOWER PRESSURE GAUGE	TEMPERATURE GAUGE
ELEMENT SERIAL NO.		29321	29323	29216
ELEMENT RANGE	PSI	4000	3950	156°-366°F
RECORDING SECTION SERIAL NO.		14631	12963	14926
DATE OF CALIBRATION:	@ 290°F	20/5/92	20/5/92	
CLOCK SERIAL NO.		F15296	F15695	F15306
CLOCK RANGE	HR	120	120	120
LEAD SCREW TYPE	TLS	15	15	15
ENGAGE STYLUS DATE	8/9/92. TIME	1352	1352	1352.
DISENGAGE STYLUS DATE	13/9/92 TIME	1032	1032	1032

RUN DATA	TIME (HOURS)	TUBING PRESSURE (~~PSI~~/KPa)	ANNULUS PRESSURE (~~PSI~~/KPa)
DATE 8/9/92.		631	
PRESSURE LUBRICATOR	1400	4351	0
RUN IN HOLE	1600	4330	0
ON DEPTH AT Hang depth 7650 FT/M	1618	4344	0
DATE 13/9/92.			
PULL OUT OF HOLE	0800	8315	0
AT SURFACE	0820	8315	0
DEPRESSURE LUBRICATOR	1020	8322	0
MAXIMUM BHT AT FT/M = 234 °F/~~C~~		1207	
N.B. ALL DEPTHS ARE MEASURED FROM K.B.			

DATE	TIME	REMARKS
		IN / OUT
9/9/92	0800	Shut well in for 96 HR build up.
		BOT : 640/1211
		No last Lub stop on QE # 29321 x 4000 PSI.

W30

EXPERTEST PTY. LTD.

BHP/BHT GAUGE RUN DATA

CUSTOMER : Santos
WELL NAME: Pelican # 2 Lower
TEST TYPE : Static Gradient

PERFORATIONS: 8127' - 8555' KB
FORMATION : Patchawarra

PAGE: 1 OF 1
DATE: 13/9/92
OPR : P. Bowyer

GAUGE DATA		UPPER PRESSURE GAUGE	LOWER PRESSURE GAUGE	TEMPERATURE GAUGE
ELEMENT SERIAL NO.		29321	29323	29216
ELEMENT RANGE	PSI	4000	3950	156°-366°F
RECORDING SECTION SERIAL NO.		14631	12963	14926
DATE OF CALIBRATION:	@290°F	20/5/92	20/5/92	
CLOCK SERIAL NO.		2431	2180	2395
CLOCK RANGE	HR	3	3	3
LEAD SCREW TYPE	TLS	15	15	15
ENGAGE STYLUS DATE	13/9/92 TIME	1047	1047	1047
DISENGAGE STYLUS DATE	TIME	1325	1325	1325

RUN DATA	TIME (HOURS)	TUBING PRESSURE (~~PSI~~/KPa)	ANNULUS PRESSURE (~~PSI~~/KPa)
DATE 13/9/92			
PRESSURE LUBRICATOR	1055	8329	0
RUN IN HOLE	1115	8329	0
ON DEPTH AT 7650 FT/~~M~~	1220	8336	0
DATE 13/9/92			
PULL OUT OF HOLE	1235	8336	0
AT SURFACE	1255	8350	0
DEPRESSURE LUBRICATOR	1315	8350	0
MAXIMUM BHT AT FT/M = °F/C			
N.B. ALL DEPTHS ARE MEASURED FROM K.B.			

DATE	TIME	REMARKS

32H

ET 108

EXPERTEST
WIRELINE & WELL TESTING SERVICE
A.C.N. 008 034 062 PO BOX 354 COWANDILLA 5033
PH. (08) 354 0488 TELEX AA87183
FAX (08) 43 7408
138 RICHMOND ROAD MARLESTON
SOUTH AUSTRALIA 5033

Tested Sunday, 13th September 1992.

CLIENT	LOCATION	FORMATION
Santos Ltd.	PELICAN #2LOWER	PATCHAWARRA

STATIC PRESSURE GRADIENT REPORT

PRESSURE ELEMENT DATA			
POSITION	SERIAL NO.	RANGE	CALIBRATED
Top	29321	4000	20/ 5/92
Bottom	29323	3950	20/ 5/92

WELL DATA	
PARAMETER	VALUE
DWT In	1208 PSIG
DWT Out	1211 PSIG
Max BHT	

	TOP ELEMENT			BOTTOM ELEMENT		
DEPTH FT KB	DEFLECTION INCHES	PRESSURE PSIG	GRADIENT PSI/FT	DEFLECTION INCHES	PRESSURE PSIG	GRADIENT PSI/FT
LUB.	0.6030	1206.7	-----	0.6085	1214.1	-----
1000	0.6250	1250.9	0.044	0.6300	1256.9	0.043
2000	0.6475	1296.7	0.045	0.6525	1301.7	0.045
3000	0.6675	1336.5	0.040	0.6730	1342.6	0.041
4000	0.6895	1380.8	0.044	0.6940	1384.4	0.042
5000	0.7090	1420.0	0.039	0.7145	1425.2	0.041
6000	0.7290	1460.3	0.040	0.7350	1466.1	0.041
6500	0.7390	1480.4	0.040	0.7445	1485.0	0.038
7000	0.7475	1497.6	0.034	0.7540	1503.9	0.038
7500	0.7580	1518.7	0.042	0.7640	1523.8	0.040
7650	0.7615	1525.8	0.047	0.7680	1531.8	0.053
LUB.	0.6030	1206.7	-----	0.6090	1215.1	-----

GENERAL REMARKS

TEMP ELE 29216 / 156 - 366 F RUN ON SERVEY

..'ERTEST PTY. LTD.

SEQUENCE OF EVENTS

CUSTOMER : SANTOS LTD	PERFORATIONS: 7807' - 7877'	PAGE: 1 OF 2
WELL NAME: DELICAN #2 UPPER	FORMATION : TOOLACHEE	DATE: 10/7/93
TEST TYPE : B.H.P.S.		OPR : K. KEANE

DATE/TIME	DESCRIPTION OF EVENTS
10/7/93	
0745	ARRIVE LOCATION. HOLD SAFETY MEETING.
0855	SHUT WELL IN. ATTEMPT TO INSTALL SWAB VALVE. AB XOVER TOO LARGE - O.D.
	TO FIT ON DUAL COMPLETION (2 3/8" AND 2 7/8" TOO CLOSE TOGETHER - REQUIRE SMALLER
	2 3/8" AB XOVER (O.D)
	REMOVE EQUIPMENT.
0915	WELL BACK ON LINE.
1310	SHUT WELL IN. INSTALL AND PRESSURE TEST SWAB VALVE.
1325	WELL BACK ON LINE.
	RIG IN WIRELINE & EQUIPMENT.
1415	R.I.H. WITH 1.750" BLIND BOX.
1440	TAG OBSTRUCTION. AT 7457' K.B. P.O.O.H. F.T.H.P = 3850 KPA F.C.H.P = 0 KPA.
1500	ARRIVE LUBRICATOR. ADVISE MOOMBA OF OBSTRUCTION AND THE PRESENCE
	OF SCALE ON BLIND BOX AND SPANG JARS.
	STANDBY FOR INSTRUCTIONS FROM MOOMBA.
11/7/93.	
09:48	R.I.H 1.5" TOOL STRING. WORK THROUGH 7400' - 7600' KB TUBING CLEAR. NO OBSTRUCTIONS. P.O.O.H
10:30	AT SURFACE. DEPRESSURE LUBRICATOR. SECURE WELL.
14:00	PREPARE 2 PRESSURE ELEMENTS AND ONE TEMPERATURE ELEMENT FOR B.H.P.S.
16:22	R.I.H WITH BHP/BHT ELEMENTS TO SURVEY DEPTH OF 7600' KB AS PER PROGRAM. CONTINUE FLOWING WELL OVER-NIGHT
	ON A 100% CHOKE.

SECURITY 7129/2

00339

EXPERTEST PTY. LTD.

SEQUENCE OF EVENTS

CUSTOMER : SANTOS LTD	PERFORATIONS: 7807' - 7877' KB	PAGE: 2 OF 2
WELL NAME: PELICAN # 2 UPPER.	FORMATION : TOOLACHEE	DATE: 12/7/93.
TEST TYPE : B.H.P.S.		OPR : K. KEANE.

DATE/TIME	DESCRIPTION OF EVENTS
12/7/93.	
08:00	SHUT IN WELL. COMMENCE 96 HOUR BUILD UP PERIOD
12-16/7/93.	CONTINUE MONITORING BUILD UP.
16/7/93.	
08:00	BUILD UP PERIOD COMPLETED. P.O.O.H WITH BHP/B.H.T GAUGES.
08:22	IN LUBRICATOR
10:33	DEPRESSURE LUBRICATOR. RIG OUT GAUGES. TEMPRATURE GAUGE FAILED.
11:40	PREPARE B.H.P/BHT GAUGES FOR STATIC GRADIENT SURVEY.
12:13.	R.I.H WITH B.H.P/B.H.T GAUGES AND PREFORM STATIC GRADIENT SURVEY AS PER PROGRAM.
13:03.	BOTTOM GRADIENT STOP @ 7600' KB.
13:13.	PULL OUT OF HOLE.
13:40	IN LUBRICATOR
13:58	DEPRESSURE LUBRICATOR. RIG OUT GAUGES, GOOD CHARTS.
15:00	HAND WELL BACK TO PRODUCTION.

05801

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD
WELL NAME: DELICAN #2 UPPER
TEST TYPE : B.H.P.S.
PERFORATIONS: 7807' - 7877'
FORMATION : TOOLACHEE
PAGE: 1 OF 3
DATE: 11/7/93
OPR : K. KEANE.

TIME		WELLHEAD DATA						FLOW RATES			CUMULATIVE PRODUCTION			
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE (.KPa)	ANNULUS PRESSURE (.KPa)	WELLHEAD TEMP °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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3	
11/7/93														
14:22		3920	ø	56	100	PRESSURE LUBRICATOR.								
16:22		3900	ø	54	"	RUN IN HOLE WITH BHP GAUGES.								
16:42		3890	ø	52.	"	GAUGES HANGING @ SURVEY DEPTH OF 7600' KB AS PER PROGRAM.								
18:00		3890	ø	50.	"	CONTINUE FLOWING WELL OVERNIGHT ON A 100% CHOKE.								
12/7/93.														
0600		3700	ø	50	100									
0800	14:75	3760	ø	50		FINAL FLOWING PRESSURE.								
0800	0					SHUT IN WELL. COMMENCE 96 HR BUILD UP PERIOD								
08:05	.^	6450	ø											
08:10		7700	ø											
08:15	.25	8500	ø											
08:30	.5	10130	ø											
08:45	.75	11120	ø											
09:00.	1	11660	ø											
09:15	1.25	12140	ø											
09:30	1.5	12440	ø											
09:45	1.75	12600	ø											
10:00	2	12850	ø											
10:15	2.25	12900	ø											
10:30	2.5	13100	ø											

ET 104

00941

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD
WELL NAME: PELICAN #2 UPPER.
TEST TYPE : B.H.P.S.

PERFORATIONS: 7807' - 7877' KB
FORMATION : TOOLACHEE

DATE: 12/7/93
OPR : K. KEANE.

TIME		WELLHEAD DATA						FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE 'KPa)	ANNULUS PRESSURE (/KPa)	WELLHEAD TEMP (.°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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
12/7/93															
10:45	2.75	13170	ø												
11:00	3.	13210	ø												
11:15	3.25	13260	ø												
11:30	3.5	13300	ø												
11:45	3.75	13330	ø												
12:00	4.	13350	ø												
14:00	6	13480	ø												
18:00	10	13540	ø												
13/7/93															
0600	22.	13690	ø												
10:00	26	13730	ø												
14:00	30	13770	ø												
18:00	34	13810	ø												
14/7/93															
06:00	46	13840	ø												
10:00	50	13860	ø												
14:00	54	13880	ø												
18:00	58	13900	ø												
15/7/93															
06:00	70	13920	ø												

00042

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD
WELL NAME: PELICAN # 2 UPPER.
TEST TYPE : B.H.P.S.

PERFORATIONS: 7807' – 7877' KB.
FORMATION : TOOLACHEE.

PAGE: 3. OF 3.
DATE: 15/7/93
OPR : K. KEANE.

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
15/7/93.															
10:00	74	13930	ø												
14:00	78	13950	ø												
18:00	82.	13970	ø												
16/7/93.															
06:00.	94	13990	ø												
08:00	96	14000	ø	FINAL SHUT IN PRESSURE											
				BUILD UP PERIOD COMPLETED.											
				P.O.O.H WITH B.H.P GAUGES.											
08:22		14000	ø	IN LUBRICATOR											
10:33		14000	ø	DEPRESSURE LUBRICATOR RIG OUT GAUGES CHARTS OK.											
12:13.				PREFORM STATIC GRADIENT SURVEY. SEE ATTACHED DATA.											
15:00				HANDOVER WELL TO PRODUCTION.											

ET 104

EXPERTEST PTY. LTD.

BHP/BHT GAUGE RUN DATA

CUSTOMER : SANTOS LTD	PERFORATIONS: 7807' - 7877'	PAGE: 1 OF 1
WELL NAME: PELICAN #2 UPPER	FORMATION : TOOLACHEE	DATE: 12/7/93.
TEST TYPE : B. H. P. S.		OPR : K. KEANE

GAUGE DATA	UPPER PRESSURE GAUGE	LOWER PRESSURE GAUGE	TEMPERATURE GAUGE	RUN DATA	TIME (HOURS)	TUBING PRESSURE (l/KPa)	ANNULUS PRESSURE (KPa)
ELEMENT SERIAL NO.	56429	56432	65865	DATE : 11/7/93			
ELEMENT RANGE	3000 PSI	3000 PSI	234°F/441°F	PRESSURE LUBRICATOR :	14:22	3920	ø
RECORDING SECTION SERIAL NO.	14628	70544	59288	RUN IN HOLE :	16:22	3900	ø
DATE OF CALIBRATION:	6/1/93	6/1/93		ON DEPTH AT : 7600 FT/	16:42	3890	ø
CLOCK SERIAL NO.	7	3604	F8243	DATE : 16/7/93			
CLOCK RANGE HRS	120	120	120	PULL OUT OF HOLE :	08:00	14000	ø
LEAD SCREW TYPE TLS	15	15	15	AT SURFACE :	08:22	14000	ø
				DEPRESSURE LUBRICATOR :	10:33	14000	ø
ENGAGE STYLUS DATE 11/7/93 TIME	14:12	14:12	14:12.	MAXIMUM BHT AT FT/M = °F/C			
DISENGAGE STYLUS DATE 16/7/93 TIME	10:42	10:42	10:42.	N.B. ALL DEPTHS ARE MEASURED FROM K.B.			

DATE	TIME	REMARKS
12/7/93.		
	08:00	SHUT IN WELL. COMMENCE 96 HOUR BUILD UP.
16/7/93.		
	08:00	BUILD UP COMPLETED. P.O.O.H.

ET 108

003475

SUB-SURFACE PRESSURE SURVEY

CO. SANTOS		RUN 01 FIELD PELICAN		WELL 2U	
EFF DEPTH		WELL STAT		TOOL HUNG	7594'KB
CASING	-	CASING PRESS		ON BOTTOM	1642 11/7
LINER	-	TUBING PRESS		OFF BOTTOM	0800 16/7
DATE	930712	ELEMENT RANGE	0 - 3093	ZERO POINT	
ELEVATION		ZONE		SHUT-IN	0800 12/6
MAX TEMP	243	PICK-UP		ON-PROD	
PERF	-	CAL SER NO.	56432	MPP	
TUBING	-				
UNITS	ENGLISH	PURPOSE	BHP		

SURVEY DATA

CO. SANTOS — RUN 01 FIELD PELICAN — WELL 2U

TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME
START BUILD-UP 8:00	764.4	764.4	.0	1:17	2420.8	2420.8	17.3
8:02	816.0	816.0	.0	3:55	2427.6	2427.6	19.9
8:02	854.1	854.1	.0	7:31	2434.3	2434.3	23.5
8:04	906.7	906.7	.1	11:01	2438.6	2438.6	27.0
8:07	1010.3	1010.3	.1	12:12	2440.4	2440.4	28.2
8:09	1100.0	1100.0	.2	12:28	2444.9	2444.9	28.5
8:13	1195.8	1195.8	.2	12:44	2450.1	2450.1	28.7
8:16	1295.8	1295.8	.3	13:18	2451.7	2451.7	29.3
8:19	1355.4	1355.4	.3	14:52	2452.1	2452.1	30.9
8:23	1458.2	1458.2	.4	16:47	2451.7	2451.7	32.8
8:28	1544.3	1544.3	.5	19:52	2452.7	2452.7	35.9
8:34	1629.0	1629.0	.6	23:27	2456.0	2456.0	39.4
8:43	1757.0	1757.0	.7	3:13	2457.8	2457.8	43.2
8:50	1841.5	1841.5	.8	6:04	2460.0	2460.0	46.1
8:58	1920.6	1920.6	1.0	9:25	2462.5	2462.5	49.4
9:08	1998.9	1998.9	1.1	13:56	2463.8	2463.8	53.9
9:20	2073.0	2073.0	1.3	17:38	2466.7	2466.7	57.6
9:31	2126.6	2126.6	1.5	21:32	2469.9	2469.9	61.5
9:45	2179.6	2179.6	1.8	1:19	2472.2	2472.2	65.3
10:02	2232.1	2232.1	2.0	4:45	2475.3	2475.3	68.7
10:15	2262.6	2262.6	2.3	7:59	2477.2	2477.2	72.0
10:33	2295.1	2295.1	2.6	12:26	2480.8	2480.8	76.4
10:55	2322.3	2322.3	2.9	16:42	2482.7	2482.7	80.7
11:29	2343.2	2343.2	3.5	21:26	2484.8	2484.8	85.4
12:08	2359.8	2359.8	4.1	2:23	2487.9	2487.9	90.4
13:20	2375.6	2375.6	5.3	6:24	2491.1	2491.1	94.4
14:54	2387.6	2387.6	6.9	8:00	2492.0	2492.0	96.0 END BUILD-UP
16:55	2397.4	2397.4	8.9	- 6:21	776.4	776.4	-14.4
19:26	2409.1	2409.1	11.4	- 5:22	771.2	771.2	-13.4
22:37	2415.3	2415.3	14.6	- 4:15	769.3	769.3	-12.3

SURVEY DATA

CO. SANTOS RUN 01 FIELD PELICAN WELL 2U

	TIME	P-T	DP-DT	DTIME	TIME	P-T	DP-DT	DTIME
-	3:30	764.7	764.7	-11.5	1:51	761.8	761.8	-6.2
-	2:47	742.7	742.7	-10.8	3:09	755.2	755.2	-4.9
-	2:09	723.3	723.3	-10.1	4:23	705.3	705.3	-3.6
-	2:04	810.4	810.4	-10.1	4:54	715.0	715.0	-3.1
-	1:38	761.5	761.5	-9.6	5:32	715.7	715.7	-2.5
-	0:54	736.2	736.2	-8.9	5:45	742.9	742.9	-2.2
-	0:32	705.4	705.4	-8.5	6:11	690.8	690.8	-1.8
-	0:30	786.1	786.1	-8.5	6:50	739.2	739.2	-1.2
-	0:27	844.6	844.6	-8.5	7:06	703.8	703.8	-.9
-	0:12	776.2	776.2	-8.2	7:12	799.3	799.3	-.8
	0:31	766.2	766.2	-7.5	7:51	771.0	771.0	-.1

LUBRICATOR DWT; IN:569 psi / OUT:2030 psi
LUBRICATOR AMERADA; IN:559 psi / OUT:2026 psi
ELEMENT #56429 WAS ALSO RUN.
MAXIMUM TEMPERATURE WAS OBTAINED FROM THE SGS RUN TEMPERATURE ELEMENT.

WELL WAS SHUT IN @ 0800 HRS ON 12/7/93

. WELL WAS ON LINE FOR 11.333 DAYS IN JULY BEFORE S/I.

JUNE CUMULATIVE TOTAL = $47.6\ E^6 m^3$

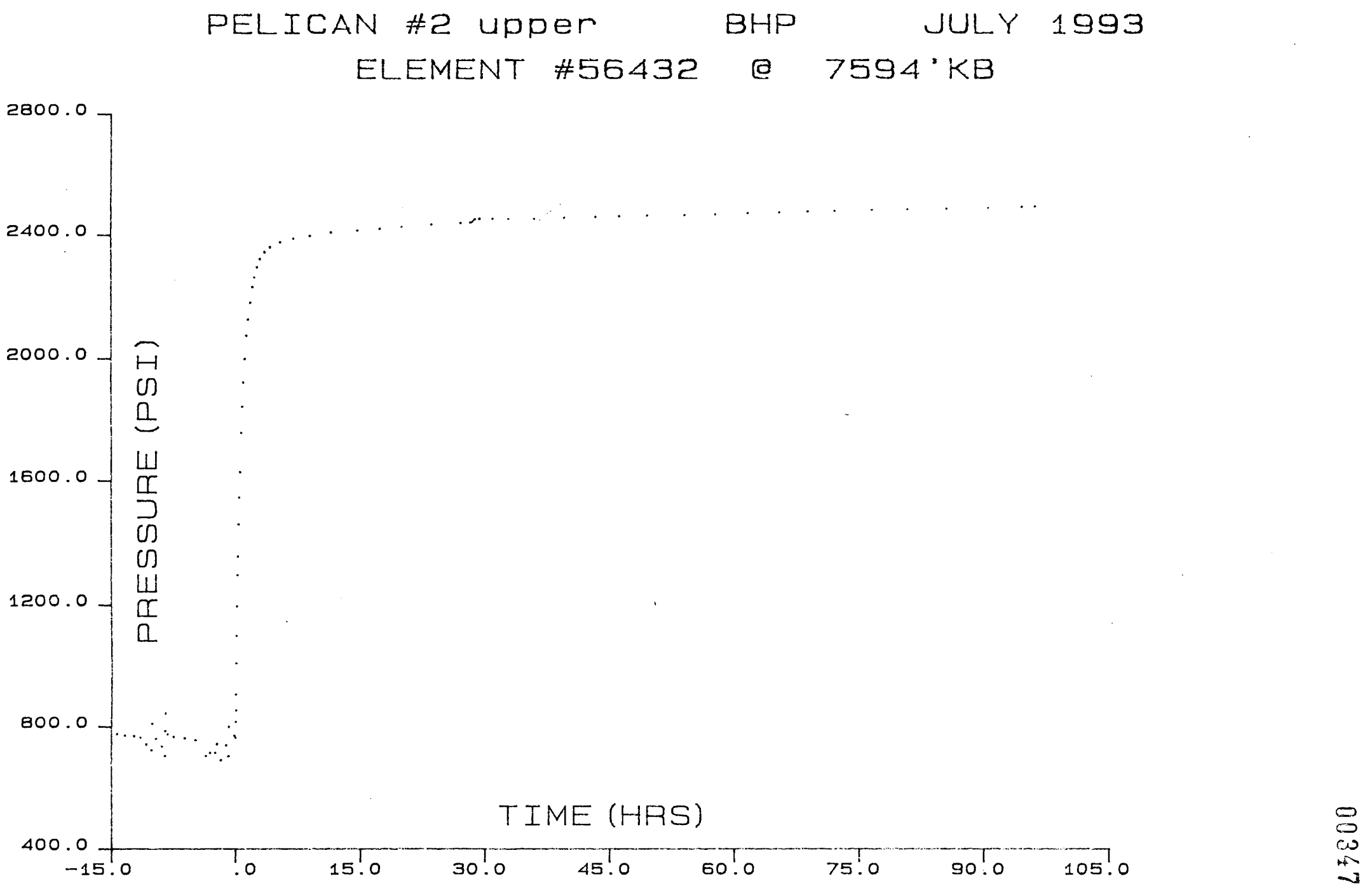
JUNE MEAN GAS DAILY = $35.8\ E3 m^3/d = 0.0358 E6 m^3$

. JULY CUMULATIVE TOTAL BEFORE SHUT IN

$= 47.6 + (11.333 \times 0.0358)$

$= 48.0\ E6 m^3$

NOTE: ASSUMES JULY MEAN GAS DAILY IS EQUIVALENT TO THE JUNE MEAN GAS DAILY.


PELICAN #2 upper BHP JULY 1993
ELEMENT #56432 @ 7594'KB
2800.0
2400.0
2000.0
1600.0
1200.0
800.0
400.0
PRESSURE (PSI)
-15.0
.0
15.0
30.0
45.0
60.0
75.0
90.0
105.0
TIME (HRS)

00847

EXPERTEST PTY. LTD.

BHP/BHT GAUGE RUN DATA

CUSTOMER : SANTOS LTD	PERFORATIONS: 7801' - 7877' KB.	PAGE: 1 OF 1
WELL NAME: PELICAN # 2 UPPER	FORMATION : TOOLACHEE	DATE: 16/7/93
TEST TYPE : S.G.S.		OPR : K. KEANE.

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.	56429	56432.	63256	DATE : 16/7/93			
ELEMENT RANGE	3000 PSI	3000 PSI	195-471°F	PRESSURE LUBRICATOR :	11:58	14000	ø
RECORDING SECTION SERIAL NO.	14628	70544	30929	RUN IN HOLE :	12:13	14000	ø
DATE OF CALIBRATION:	6/1/93	6/1/93.		ON DEPTH AT : 7600 FT/M	13:03	14000	ø
CLOCK SERIAL NO.	9140H4	A15013	A15014	DATE : 16/7/93.			
CLOCK RANGE	3HR	3HR	3HR	PULL OUT OF HOLE :	13:13	14000	ø
LEAD SCREW TYPE	15 TLS	15 TLS	15 TLS.	AT SURFACE :	13:40	14000	ø
				DEPRESSURE LUBRICATOR :	13:58	14000	ø
ENGAGE STYLUS DATE 16/7/93. TIME	11:48	11:48	11:48	MAXIMUM BHT AT FT/M = °F/C			
DISENGAGE STYLUS DATE 16/7/93 TIME	14:02	14:02	14:02.	N.B. ALL DEPTHS ARE MEASURED FROM K.B.			

DATE	TIME	REMARKS

ET 108

00348

EXPERTEST

WIRELINE & WELL TESTING SERVICE

PO BOX 354 COWANDILLA 5033

PH. (08) 354 0488 TELEX AA87183
FAX (08) 43 7408

138 RICHMOND ROAD MARLESTON
SOUTH AUSTRALIA 5033

Tested Friday, 16th July 1993.

STATIC PRESSURE GRADIENT REPORT

CLIENT	LOCATION	FORMATION
SANTOS LTD.	PELICAN #2U	TOOLACHEE

PRESSURE ELEMENT DATA

POSITION	SERIAL NO.	RANGE	CALIBRATED
Top	56429	3000	6/ 1/93
Bottom	56432	3000	6/ 1/93

WELL DATA

PARAMETER	VALUE
DWT In	2030 PSIG
DWT Out	2030 PSIG
Max BHT	N/A

TOP ELEMENT				BOTTOM ELEMENT		
DEPTH FT KB	DEFLECTION INCHES	PRESSURE PSIG	GRADIENT PSI/FT	DEFLECTION INCHES	PRESSURE PSIG	GRADIENT PSI/FT
LUB.	1.3170	2031.9	-	1.3160	2028.2	-
1000	1.3580	2095.5	0.064	1.3580	2093.3	0.065
2000	1.4020	2163.7	0.068	1.4020	2161.4	0.068
3000	1.4400	2222.7	0.059	1.4420	2223.4	0.062
4000	1.4800	2284.7	0.062	1.4810	2283.9	0.061
5000	1.5160	2340.6	0.056	1.5200	2344.4	0.061
6000	1.5560	2402.7	0.062	1.5580	2403.3	0.059
7000	1.5940	2461.6	0.059	1.5980	2465.4	0.062
7500	1.6120	2489.6	0.056	1.6170	2494.9	0.059
7600	1.6160	2495.8	0.062	1.6200	2499.6	0.047
LUB.	1.3140	2027.3	-	1.3180	2031.3	-

GENERAL REMARKS

EXPERTEST PTY. LTD.

STATIC PRESSURE GRADIENT SURVEY

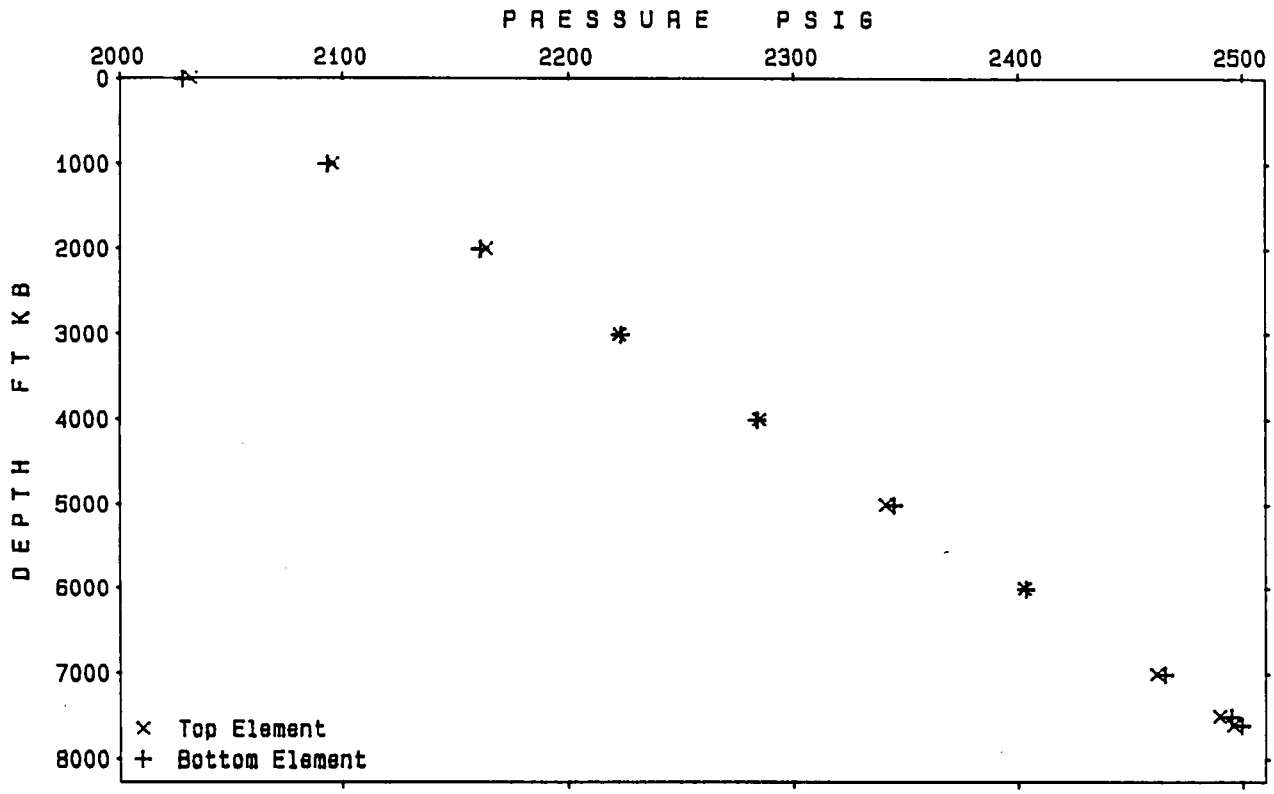
Location: PELICAN #2U	Tested: 16th July 1993.
Formation: TOOLACHEE	Client: SANTOS LTD.

PRESSURE ELEMENT DATA

Position	Serial No	Range	Calibrated
Top	56429	3000	6/ 1/93
Bottom	56432	3000	6/ 1/93

WELL DATA

DWT In	2030 PSIG
DWT Out	2030 PSIG
Max BHT	N/A



Depth FT KB	TOP ELEMENT Deflection Inches	TOP ELEMENT Pressure PSIG	TOP ELEMENT Gradient PSI/FT	BOTTOM ELEMENT Deflection Inches	BOTTOM ELEMENT Pressure PSIG	BOTTOM ELEMENT Gradient PSI/FT
LUB.	1.3170	2031.9	-	1.3160	2028.2	-
1000	1.3580	2095.5	0.064	1.3580	2093.3	0.065
2000	1.4020	2163.7	0.068	1.4020	2161.4	0.068
3000	1.4400	2222.7	0.059	1.4420	2223.4	0.062
4000	1.4800	2284.7	0.062	1.4810	2283.9	0.060
5000	1.5160	2340.6	0.056	1.5200	2344.4	0.060
6000	1.5560	2402.7	0.062	1.5580	2403.3	0.059
7000	1.5940	2461.6	0.059	1.5980	2465.4	0.062
7500	1.6120	2489.6	0.056	1.6170	2494.9	0.059
7600	1.6160	2495.8	0.062	1.6200	2499.6	0.047
LUB.	1.3140	2027.3	-	1.3180	2031.3	-

GENERAL REMARKS

EXPERTEST PTY. LTD.

SEQUENCE OF EVENTS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8127'- 8555' K.B.	PAGE: 1 OF 3
WELL NAME: PELICAN # 2 LWR.	FORMATION : PATCHAWARRA.	DATE: 14th JULY 199
TEST TYPE : L.E.T. & B.H.P.S		OPR : B. HULL.

DATE/TIME	DESCRIPTION OF EVENTS
14th JULY 1993.	
14:15	ARRIVE ON LOCATION. - WELL IS FLOWING @ 100/c CHOKE — T 3840 Kpa; C Ø kpa
14:30	SPOT WELL TESTING EQUIPMENT
15th JULY 1993.	
	COMMENCE RIG IN OF TEST FLANGES & WELL TESTING EQUIPMENT FOR IN-LINE TEST.
	RIG IN COMPLETE, PRESSURE TEST FLOW LINES TO FLOWING WELL HEAD PRESSURE.
	DIVERT FLOW THROUGH FLOW LINE — BYPASS SEPARATOR.
10:00	TRIM FLOW THROUGH SEPARATOR - COMMENCE TEST.
16th JULY 1993	
	CONTINUE TO MONITER WELL
17th JULY 1993.	
	CONTINUE TO MONITER WELL.
08:00	1 x H.P. GAS, 1 x H.P. OIL, 1 x L.P. H_2O SAMPLES COLLECTED
09:00	1 x H.P. GAS, 1 x H.P. OIL, 1 x L.P. H_2O SAMPLES COLLECTED.
15:00	L.E.T. COMPLETE - DIVERT PRODUCTION FLOW DOWN LINE
15:20	SHUT WELL IN - FIT SNAB VALVE
15:27	PRESSURE TEST SNAB VALVE TO FULL SIWHP — WELL BACK ON LINE. 22 DEC
15:30	RIG IN 1.75" BLIND BOX FOR DRIFT RUN
15:50	RUN IN HOLE WITH 1.75" BLIND BOX.
16:18	TAG TIGHT SPOT @ 7723' K.B.
16:20	TAG OBSTRUCTION @ 7737' K.B.
16:24	PULL OUT OF HOLE

RECEIVED
DEPARTMENT OF MINERALS AND ENERGY
SECURITY
7129/2

ET 102

EXPERTEST PTY. LTD.

SEQUENCE OF EVENTS

CUSTOMER : SANTOS LTD	PERFORATIONS: 8127'-8555' K.B.	PAGE: 2 OF 3
WELL NAME: PELICAN #2 LWR	FORMATION : PATCHAWARRA	DATE: 17th JULY 1993
TEST TYPE : L.E.T. & B.H.P.S.		OPR : B. HULL

DATE/TIME	DESCRIPTION OF EVENTS
17th July 1993.	
16:43	@ SURFACE WITH TOOLSTRING & DEPRESSURE LUBRICATOR
17:15	COMPLETE RIG DOWN OF WELL TESTING EQUIPMENT. - SECURE LEASE.
18/7/93.	
14:45	PREPARE TWO B.H.P AND ONE B.H.T GAUGE AS PER PROGRAM.
15:07	PRESSURE LUBRICATOR
16:07	DEPRESSURE LUBRICATOR
17	PRESSURE LUBRICATOR AND R.I.H WITH B.H.P/B.H.T GAUGES.
	AT AMMENDED HANG DEPTH OF 7727' KB CONTINUE FLOWING WELL ON A 100% CHOKE OVER NIGHT.
19/7/93.	
08:00	SHUT WELL IN. COMMENCE 96 HR BUILD UP.
23/7/93	
08:00	P.O.O.H. WITH GAUGES
08:17	AT SURFACE & DEPRESSURE LUB.
09:17	PRESSURE LUB
10:17	DEPRESSURE LUB
10:25	PREPARE GAUGES FOR S.G.S.
10:44	PRESSURE LUB
10:59	DEPRESSURE LUB
11:04	PRESSURE LUB & R.I.H. WITH GAUGES
12:08	AT BOTTOM STOP OF 7727' K.B.
12:23	P.O.O.H WITH GAUGES
12:41	AT SURFACE & DEPRESSURE LUB.
12:46	PRESSURE LUB

ET 102

EXPERTEST PTY. LTD.

SEQUENCE OF EVENTS

CUSTOMER : SANTOS LTD	PERFORATIONS: 8127' - 8555' K.B.	PAGE: 3 OF 3
WELL NAME: PELICAN #2 LOWER	FORMATION : PATCHAWARRA	DATE: 23.7.93
TEST TYPE : L.E.T./ B.H.P.S.		OPR : P. BLACK

DATE/TIME	DESCRIPTION OF EVENTS
23.7.93	
13:01	DEPRESSURE LUB.
13:45	R.D.M.O., HAND WELL BACK TO PRODUCTION.

CHOKE : 100%
FTHP : 3975 kPa
Q_g : 27.653 E3 m^3/d
Q_c = 0.974 m^3/d
Q_w = 1.539 m^3/d

ET 102

U1330

EXPERTEST PTY. LTD.

FIELD READINGS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8127'- 8555' K.B.	PAGE: 1 OF 2
WELL NAME: PELICAN # 2 LWR.	FORMATION : PATCHAWARRA	DATE: 14TH JULY 1993
TEST TYPE : L.E.T. & B.H.P.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 (~~PF~~/°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~~)	
14TH	JULY 1993.														
14:15							ARRIVE ON LOCATION - WELL FLOWING @ 100% CHOKE.								
14:30							SPOT WELL TESTING EQUIPMENT.								
15TH	JULY 1993.														
07:30							RIG IN TEST FLANGES. TESTING EQUIPMENT FOR IN LINE TEST.								
09:30		560	0				RIG IN COMPLETE, PRESSURE TEST FLOW LINES TO F.W.H.P.								
09:45							DIVERT FLOW THROUGH FLOW LINE - BYPASS SEPARATOR.								
10:00	0	560	0		100		TRIM FLOW THROUGH SEPARATOR - COMMENCE TEST.								
12:00	2	567	↑	52	↑		1.00	560	62	113	5.5	4.0	INITIAL DIP.	1.5	
14:00	4	565	↑	51	↑		↑	559	63	113	5.75	4.0		1.75	
16:00	6	565	↑	50	↑		↑	557	64	117	6.75	4.75		2.0	
18:00	8	559	↑	48	↑		↑	551	63	108	7.25	5.00		2.25	
22:00	12	557	↑	47	↑		↑	550	63	101	8.75	5.50		3.25	
16TH	JULY 1993.		↑		↑		↑								
06:00	20	553	↑	47	↑		↑	544	66	104	12.75	6.75		6.00	
08:00	22	556	↑	48	↑		↑	550	64	104	13.25	7.00		6.25	
10:00	24	562	↑	48	↑		↑	553	60	104	14.25	7.75		6.50	
12:00	26	564	↑	49	↑		↑	556	62	104	15.25	8.00		7.25	
14:00	28	564	↑	50	↑		↑	567	62	108	16.00	8.25		7.75	
16:00	30	597	↓	50	↓		↓	591	52	108	16.75	8.25		8.50	
18:00	32	599	0	48	100		1.00	593	49	108	17.25	8.5		8.75	

ET 103

U1354

EXPERTEST PTY. LTD.

FIELD READINGS

CUSTOMER : SANTOS LTD.
WELL NAME: PELICAN #2 LWR
TEST TYPE : L.E.T. & B.H.P.S.

PERFORATIONS: 8127'-8555' K.B.
FORMATION : PATCHAWARRA

PAGE: 2 OF 2
DATE: 16th JULY 1993.
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~~)
16th JULY	1993													
22:00	36	593	0	47	100		1.00	587	49	104	19.0	9.25		9.75
17th JULY 1993														
06:00	44	586	0	50				579	53	104	22.25	10.5		11.75
08:00	46	587		52				578	53	104	23.0	10.75	53.4	12.25
08:00								1x H.P. GAS, 1x H.P. OIL			1x L.P. H_2O SAMPLES COLLECTED			
09:00	47	586	0	52				577	54	104	23.5	11.0	47.6	12.5
09:00								1x H.P. GAS, 1x H.P. OIL, 1x L.P. H_2O SAMPLES COLLECTED						
1000	48	587	0	52				579	54	106	23.75	11		12.75
1200	50	585	0	53				579	55	113	24.5	11.5		13
1400	52	599	0	54				593	52	113	25	11.5		13.5
1500	53	600	0	53	100		1.00	592	52	115	25.5	11.75		13.75
1500							LET COMPLETE - DIVERT PRODUCTION FLOW DOWN LINE							
1520							SHUT WELL IN - FIT SWAB VALVE							
1527		600					PRESSURE TEST SWAB VALVE TO FSIWHP - WELL BACK ON LINE							
15:30							RIG IN 1.75" BLIND BOX FOR DRIFT RUN							
15:50							RUN IN HOLE WITH 1.75" BLIND BOX							
16:18							TAG TIGHT SPOT @ 7723' K.B.							
16:20							TAG OBSTRUCTION @ 7737' K.B.							
16:24							PULL OUT OF HOLE							
16:43							@ SURFACE WITH TOOLSTRING & DEPRESSURE LUBRICATOR.							
17:15							COMPLETE RIG DOWN OF TESTING EQUIPMENT - SECURE LEASE							

ET 103

011357

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD.
WELL NAME: PELICAN #2 RWR.
TEST TYPE : L.E.T & B.H.P.S.

PERFORATIONS: 8127'-8555' K.B.
FORMATION : PATCHAWARRA.

PAGE: 1 OF 6
DATE: 14th JULY 1993
OPR : B HULL

TIME		WELLHEAD DATA				SEPARATOR		FLOW RATES			CUMULATIVE PRODUCTION			RATIO
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 ~~MMSCF~~ $m^3 10^3$	OIL ~~BBLS~~ m^3	WATER ~~BBLS~~ m^3		G.L.R. $m^3/10^6 m^3$
14th	JULY	1993.													
14:15						ARRIVE ON LOCATION - WELL FLOWING @ 100% CHOKE T; 3840 Kpa C; 0 Kpa									
14:30						SPOT WELL TESTING EQUIPMENT.									
15th	JULY	1993.													
07:30						RIG IN TEST FLANGES & TESTING EQUIPMENT FOR IN-LINE TEST.									
09:30		3861	0			RIG IN COMPLETE - PRESSURE TEST FLOW LINES TO F.W.H.P.									
09:45						DIVERT FLOW THROUGH FLOW LINES - BYPASS SEPARATOR.									
10:00	0	3861	0		100	TRIM FLOW THROUGH SEPARATOR - COMMENCE TEST.									
12:00	2	3909	↑	52	↑	3861	45	28.41	0	0	2.367	0	0		0
14:00	4	3895		51		3854	45	28.61	0	.804	4.751	0	.067		28.1
16:00	6	3895		50		3840	47	28.60	2.412	.804	7.134	.201	.134		112.4
18:00	8	3854		48		3799	41	28.58	.804	.804	9.515	.268	.201		56.3
22:00	12	3840		47		3792	38	28.86	.804	1.602	14.325	.402	.468		83.3
16th	JULY	1993.													
06:00	20	3813		47		3751	40	29.21	1.002	2.202	24.061	.736	1.202		109.6
08:00	22	3833		48		3792	40	28.95	.804	.804	26.473	.803	1.269		55.5
10:00	24	3875		48		3813	40	28.13	2.412	.804	28.817	1.004	1.336		114.3
12:00	26	3888		49		3833	40	28.68	.804	2.412	31.207	1.071	1.537		112.1
14:00	28	3888		50		3840	41	28.53	.804	1.608	33.577	1.138	1.671		85.0
16:00	30	4116	↓	50	↓	4075	41	27.07	0	2.412	35.832	1.138	1.872		89.1
18:00	32	4130	0	48	100	4089	41	26.33	.804	.804	38.026	1.205	1.939		61.1

ET 104

00356

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD
WELL NAME: PELICAN #2 LWR
TEST TYPE : L.E.T. & B.H.P.S.

PERFORATIONS: 8127' – 8555' K.B.
FORMATION : PATCHAWARRA

DATE: 16TH JULY 1993
OPR : B. HULL

TIME		WELLHEAD DATA				SEPARATOR		FLOW RATES			CUMULATIVE PRODUCTION			RATIO
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE (PSI/KPa)	ANNULUS PRESSURE (PSI/KPa)	WELLHEAD TEMP (°F/°C)	CHOKE SIZE 0/0	PRESSURE (PSI/KPa)	TEMP (°F/°C)	GAS MMSCFD $m^3 10^3/D$	OIL BPD m^3/D	WATER BPD m^3/D	GAS MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3	G.O.R. $m^3/10^6 m^3$
16TH	JULY	1993												
22:00	36	4088	0	47	100	4097	40	26·34	1·206	1·602	42·416	1·472	2·206	106·6
17TH	JULY	1993												
06:00	44	4040		50		3992	40	27·17	1·002	1·602	51·472	1·740	2·740	95·8
08:00	46	4047		52		3985	40	27·14	·804	1·608	53·133	1·807	2·874	88·8
08:00						1x H.P. GAS, 1x H.P. OIL, 1x L.P. H_2O SAMPLES COLLECTED.								
09:00	47	4040		52		3978	40	27·37	1·608	1·608	54·873	1·874	2·941	117·5
09:00						1x H.P. GAS, 1x H.P. OIL, 1x L.P. H_2O SAMPLES COLLECTED.								
10:00	48	4047		52		3992	41	27·34	0	1·608	56·012	1·874	3·008	59
12:00	50	4034		53		3992	45	27·29	1·608	·804	58·286	2·008	3·075	88
14:00	52	4130		54		4089	45	26·91	0	1·608	60·529	2·008	3·209	60
15:00	53	4137	0	53	100	4081	46	26·80	1·608	1·608	61·645	2·075	3·276	120·0
15:00		(3975)				L.E.T. COMPLETE - DIVERT PRODUCTION FLOW DOWN LINE.								
15:20						SHUT WELL IN - FIT SWAB VALVE.								
15:27		4137.				PRESSURE TEST SWAB VALVE TO FULL SIWHP - WELL BACK ON LINE								
15:30						RIG IN 1·75" BLIND BOX FOR DRIFT RUN								
15:50						RUN IN HOLE WITH 1·75" BLIND BOX.								
16:18						TAG TIGHT SPOT @ 7723' K.B.								
16:20						TAG OBSTRUCTION @ 7737' K.B.								
16:24						PULL OUT OF HOLE.								
16:43						@ SURFACE WITH TOOLSTRING & DEPRESSURE LUBRICATOR.								
17:15						COMPLETE RIG DOWN OF WELL TESTING EQUIPMENT. – SECURE LEASE.								

ET 104

00357

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD | PERFORATIONS: 8127' - 8555' KB | PAGE: 3 OF 6

WELL NAME: PELICAN #2 LOWER | FORMATION : PATCHAWARRA | DATE: 17-7-93

TEST TYPE : B.H.P.S. | OPR : K. KEANE

TIME		WELLHEAD DATA						FLOW RATES			CUMULATIVE PRODUCTION				
DATE / TIME	FLOW OR SHUT IN TIME (HOURS)	TUBING PRESSURE (. (Pa)	ANNULUS PRESSURE /KPa)	WELLHEAD TEMP , °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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
18/7/93															
15:18		3900	∅	51	100	PRESSURE LUBRICATOR									
16:18		3860	∅	48	"	DEPRESSURE LUBRICATOR.									
17:18		3890	∅	48	"	PRESSURE LUBRICATOR AND R.I.H									
17:38		3870	∅	47	"	HANG GAUGES. @ AMENDED HANG DEPTH OF 7727' KB									
						CONTINUE FLOWING WELL OVERNIGHT ON A 100% CHOKE.									
19/7/93															
00:00		3860	∅	45	100										
08:00		3880	∅	47	"	FINAL FLOWING PRESSURE.									
08:00	0					SHUT WELL IN. COMMENCE 96 HR BUILD UP PERIOD									
08:05		5030	∅												
08:10		5340	∅												
08:15	.25	5440	∅												
08:30	.5	5580	∅												
08:45	.75	5740	∅												
09:00	1	5860	∅												
09:15	1.25	5900													
09:30	1.5	5930	∅												
09:45	1.75	5980	∅												
10:00	2	6020	∅												
10:15	2.25	6040	∅												

ET 104

U13358

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD
WELL NAME: PELICAN # 2 LOWER.
TEST TYPE : B.H.P.S.

PERFORATIONS: 8127' - 8555' K.B.
FORMATION : PATCHAWARRA.

PAGE: 4 OF 6
DATE: 19/7/93
OPR : K. KEANE.

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
19/7/93.															
10:30	2.5	6070	ø												
10:45	2.75	6100	ø												
11:00	3	6140	ø												
11:15	3.25	6170	ø												
11:30	3.5	6200	ø												
11:45	3.75	6240	ø												
12:00	4.	6260	ø												
14:00	6	6470	ø												
18:00	10	6488	ø												
22:00	14	6632	—		READINGS FROM CHART.										
20/7/93															
02:00	18	6791	—		—— " ——										
06:00	22	6900	ø												
10:00	26	6915	ø												
14:00	30	6943	ø												
18:00	34	7000	ø												
22:00	38	7012	—		READINGS FROM CHART.										
21/7/93															
02:00	42	7032	—		—— " ——										
06:00	46	7060	ø												
10:00	50	7081	ø												

ET 104

011359

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD
WELL NAME: PELICAN # 2 LOWER.
TEST TYPE : B.H.P.S.

PERFORATIONS: 8127' - 8555' K.B
FORMATION : PATCHAWARRA

PAGE: 5 OF 6
DATE: 21/7/93
OPR : P. BLACK

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
21/7/93															
14:00	54	7110	Ø												
18:00	58	7123	Ø												
22:06	62	7136	—				READINGS FROM CHART.								
22/7/93															
02:00	66	7150	—				—— " ——								
06:00	70	7170	Ø												
10:00	74	7177	Ø												
14:00	78	7191	Ø												
18:00	82	7205	Ø												
22:00	86	7212	—				READINGS FROM CHART.								
23/7/93															
02:00	90	7219	—				—— " ——								
06:00	94	7250	Ø												
08:00	96	7250	Ø		P.O.O.H WITH GAUGES										
08:17		7250	0		AT SURFACE & DEPRESSURE LUB.										
09:17		7260	Ø		PRESSURE LUB										
10:17		7270	Ø		DEPRESSURE LUB (ALL CHARTS GOOD.)										
10:25		7280	Ø		PREPARE GAUGES FOR S.G.S.										
10:44		7280	Ø		PRESSURE LUB										
10:59		7280	Ø		DEPRESSURE LUB										
11:04		7280	Ø		PRESSURE LUB & R.I.H. WITH GAUGES.										

ET 104

EXPERTEST PTY. LTD.

TEST RESULTS

CUSTOMER : SANTOS LTD
WELL NAME: PELICAN # 2 LOWER
TEST TYPE : B.H.P.S.

PERFORATIONS: 8127' - 8555' K.B.
FORMATION : PATCHAWARRA

DATE: 23 · 7 · 93
OPR : P. BLACK

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 MMSCF $m^3 10^3$	OIL BBLS m^3	WATER BBLS m^3		
23 · 7 · 93															
12:08		7280	Ø		AT BOTTOM STOP OF 7727' K.B.										
12:23		7280	Ø		P.O.O.H WITH GAUGES										
12:41		7280	Ø		AT SURFACE & DEPRESSURE LUB										
12:46		7280	Ø		PRESSURE LUB										
13:01		7280	Ø		DEPRESSURE LUB										
13:45					R.D.M.O., HAND WELL BACK TO PRODUCTION.										

ET 104

00361

EXPERTEST PTY. LTD.

GAS FLOW CALCULATIONS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8127' - 8555' K.B.	PAGE: 1 OF 2
WELL NAME: PELICAN # 2 LWR.	FORMATION : PATCHAWARRA.	DATE: 15TH JULY 1993
TEST TYPE : L.E.T. & B.H.P.S.		OPR : B. HULL.

ORIFICE METER TYPE: DANIELS SNR.	STATIC PRESSURE RANGE : 0-1500 PSIG	GAS SPECIFIC GRAVITY (SG) = .9185
METER RUN SIZE : 3.068"	DIFFERENTIAL PRESS. RANGE: 0-200 IN WC	FG $\sqrt{(1/SG)}$ = 1.0434
SEPARATOR NO : 459.	STANDARD CONDITIONS : 14.73 PSI @ 60°F	C_2 (FU × FG) = 25.0421

DATE / TIME	FLOW TIME (HOURS)	CHOKE SIZE %	STATIC PRESS P_F (PSIA)	DIFF PRESS H_W (IN WC)	GAS FLOW TEMP (°F)	ORIF. PLATE SIZE (IN)	$\sqrt{(P_F \times H_W)}$	$C_1 = F_B \times F_{TF} \times F_{PV} \times Y_2$				C_1	C ($C = C_1 \times C_2$)	GAS FLOW RATE $Q = \sqrt{(P_F \times H_W)} \times C$	
								F_B	F_{TF}	F_{PV}	Y_2			(MMSCFD)	($m^3 10^3/D$)
15TH JULY 1993.															
10:00	0	100				1.00		COMMENCE TEST.							
12:00	2		576	62	113		188.812	203.541	.9526	1.0936	1.0007	212.199	5313.930	1.01	28.91
14:00	4		574	63	113		190.163		.9526	1.0934	1.0007	212.163	5313.037	1.01	28.61
16:00	6		572	64	117		191.332		.9493	1.0903	1.0007	210.833	5279.720	1.01	28.60
18:00	8		566	63	168		188.833		.9568	1.0953	1.0007	213.468	5345.717	1.01	28.58
22:00	12	100	565	63	101		188.666		.9627	1.1003	1.0007	215.776	5403.510	1.02	28.86
16TH JULY 1993.															
06:00	20	100	559	66	104		192.078		.9602	1.0967	1.0007	214.514	5371.895	1.03	29.21
08:00	22		565	64	104		190.157		.9602	1.0980	1.0007	214.758	5378.007	1.02	28.95
10:00	24		568	60	104		184.607		.9602	1.0986	1.0006	214.873	5380.889	.99	28.13
12:00	26		571	62	104		188.154		.9602	1.0993	1.0007	215.003	5384.153	1.01	28.68
14:00	28		572	62	108		188.318		.9568	1.0965	1.0007	213.706	5351.663	1.01	28.53
16:00	30		606	52	108		177.516		.9568	1.1036	1.0005	215.063	5385.663	.96	27.07
18:00	32		608	49	108		172.604		.9568	1.1041	1.0005	215.139	5387.554	.93	26.33
22:00	36		602	49	104		171.749		.9602	1.1060	1.0005	216.286	5416.282	.93	26.34
17TH JULY 1993.															
06:00	44		594	53	104		177.431		.9602	1.1043	1.0005	215.953	5407.941	.96	27.17
08:00	46	100	593	53	104	1.00	177.282	203.541	.9602	1.1040	1.0005	215.910	5406.873	.96	27.14

ET 106

UI1362

EXPERTEST PTY. LTD.

GAS FLOW CALCULATIONS

CUSTOMER : SANTOS LTD.	PERFORATIONS: 8127' - 8555' K.B.	PAGE: 2 OF 2
WELL NAME: PELICAN # 2 LWR.	FORMATION : PATCHAWARRA	DATE: 17TH JULY 1993
TEST TYPE : L.E.T. & B.H.P.S.		OPR : B. HULL

ORIFICE METER TYPE: DANIELS SNR	STATIC PRESSURE RANGE : 0 - 1500 PSIG	GAS SPECIFIC GRAVITY (SG) = .9185
METER RUN SIZE : 3.068	DIFFERENTIAL PRESS. RANGE: 0 - 200 IN WC	FG $\sqrt{(1/SG)}$ = 1.0434
SEPARATOR NO : 459	STANDARD CONDITIONS : 14.73 PSI @ 60°F	C_2 (FU x FG) = 25.0421

DATE / TIME	FLOW TIME (HOURS)	CHOKE SIZE %	STATIC PRESS P_F (PSIA)	DIFF PRESS H_W (IN WC)	GAS FLOW TEMP (°F)	ORIF. PLATE SIZE (IN)	$\sqrt{(P_F \times H_W)}$	$C_1 = F_B \times F_{TF} \times F_{PV} \times Y_2$				C_1	C	GAS FLOW RATE $Q = \sqrt{(P_F \times H_W)} \times C$	
								F_B	F_{TF}	F_{PV}	Y_2		(C = $C_1 \times C_2$)	(MMSCFD)	($m^3 10^3$/D)
17th JULY 1993.															
09:00	47	100	592	54	104	1.00	178.795	203.541	.9602	1.1038	1.0005	215.870	5405.866	.96	27.37
10:00	48	"	594	54	106		179.098		.9585	1.1027	1.0006	215.261	5390.601	.96	27.34
12:00	50	"	594	55	113		180.748		.9526	1.0974	1.0006	212.912	5331.764	.96	27.29
14:00	52	"	608	52	113		177.809		.9526	1.1002	1.0006	213.448	5345.206	.95	26.91
15:00	53	100	607	52	115	1.00	177.662	203.541	.9509	1.0985	1.0005	212.748	5327.675	.94	26.80
								L.E.T.	COMPLETE.				Qg =	0.981	27.653

ET 106

003693

EXPERTEST PTY. LTD.

LIQUID PRODUCTION

CUSTOMER : SANTOS LTD.
WELL NAME: PELICAN # 2 LWR.
TEST TYPE : L.E.T. & B.H.P.S.

PERFORATIONS: 8127'- 8555' K.B.
FORMATION : PATCHAWARRA.

DATE: 15th JULY 1993.
OPR : B. HULL.

TANK NUMBER	TANK CAPACITY	TANK SCALE	OIL API GRAVITY = @ 60°F
#1 = 58	#1 = 56.6 ~~bbls~~/m³	#1 = .267 m³/inch ~~bbls/in~~ ~~m³/cm~~	
#2 =	#2 = bbls/m³	#2 = bbls/in - m³/cm	

DATE / TIME	FLOW TIME (HOURS)	TANK USED (NUMBER)	TOTAL TANK DIP (IN/~~CM~~)	OIL/CONDENSATE PRODUCTION				WATER PRODUCTION			
				TANK DIP (IN/~~CM~~)	TANK PRODUCTION (~~BBLS~~/m³)	FLOW RATE (~~BPD~~/m³D)	CUMULATIVE PRODUCTION (~~BBLS~~/m³)	TANK DIP (IN/~~CM~~)	TANK PRODUCTION (~~BBLS~~/m³)	FLOW RATE (~~BPD~~/m³D)	CUMULATIVE PRODUCTION (~~BBLS~~/m³)
15th JULY 1993.											
10:00	0		5.50	4.0	OPENING DIP.			1.50	COMMENCE TEST.		
12:00	2		5.50	4.0	0	0	0	1.50	0	0	0
14:00	4		5.75	4.0	0	0	0	1.75	.067	.804	.067
16:00	6		6.75	4.75	.201	2.412	.201	2.00	.067	.804	.134
18:00	8		7.25	5.00	.067	.804	.268	2.25	.067	.804	.201
22:00	12		8.75	5.50	.134	.804	.402	3.25	.267	1.602	.468
16th JULY 1993.											
06:00	20		12.75	6.75	.334	1.002	.736	6.00	.734	2.202	1.202
08:00	22		13.25	7.00	.067	.804	.803	6.25	.067	.804	1.269
10:00	24		14.25	7.75	.201	2.412	1.004	6.50	.067	.804	1.336
12:00	26		15.25	8.00	.067	.804	1.071	7.25	.201	2.412	1.537
14:00	28		16.00	8.25	.067	.804	1.138	7.75	.134	1.608	1.671
16:00	30		16.75	8.25	0	0	1.138	8.50	.201	2.412	1.872
18:00	32		17.25	8.5	.067	.804	1.205	8.75	.067	.804	1.939
22:00	36		19.0	9.25	.201	1.206	1.406	9.75	.267	1.602	2.206
17th JULY 1993.											
06:00	44		22.25	10.5	.334	1.002	1.740	11.75	.534	1.602	2.740
08:00	46		23.0	10.75	.067	.804	1.807	12.25	.134	1.608	2.874
09:00	47		23.5	11.0	.067	1.608	1.874	12.50	.067	1.608	2.941
10:00	48	1	23.75	11	—	—	1.874	12.75	.067	1.608	3.008

EXPERTEST PTY. LTD.

LIQUID PRODUCTION

CUSTOMER : SANTOS LTD.
WELL NAME: PELICAN #2 LOWER
TEST TYPE : L.E.T. / B.H.P.

PERFORATIONS: 8127' - 8555' K.B.
FORMATION : PATCHAWARRA

DATE: 17/7/93
OPR : B. HULL

TANK NUMBER		TANK CAPACITY		TANK SCALE		OIL API GRAVITY = @ 60°F
	#1 = 58		#1 = 56.6 bbls/m³		#1 = .267 m³/IN bbls/in - m³/cm	
	#2 =		#2 = bbls/m³		#2 = bbls/in - m³/cm	

DATE / TIME	FLOW TIME (HOURS)	TANK USED (NUMBER)	TOTAL TANK DIP (IN/CM)	OIL/CONDENSATE PRODUCTION				WATER PRODUCTION			
				TANK DIP (IN/CM)	TANK PRODUCTION (BBLS/m³)	FLOW RATE (BPD/m³D)	CUMULATIVE PRODUCTION (BBLS/m³)	TANK DIP (IN/CM)	TANK PRODUCTION (BBLS/m³)	FLOW RATE (BPD/m³D)	CUMULATIVE PRODUCTION (BBLS/m³)
17/7/93			23.75	11			1.874	12.75			3.008
1200	50	1	24.5	11.5	.134	1.608	2.008	13	.067	.804	3.075
1400	52	"	25	11.5	—	—	2.008	13.5	.134	1.608	3.209
1500	53	1	25.5	11.75	.067	1.608	2.075	13.75	.067	1.608	3.276
51 HRS	TOTAL				L.E.T. COMPLETE.						
			Qc:	0.974 m³/d			Qw:	1.539 m³/d			

ET 105

00365

EXPERTEST PTY. LTD.

SAMPLING DATA

CUSTOMER : SANTOS LTD.
WELL NAME: PELICAN #2 LWR
TEST TYPE : L.E.T. & B.H.P.S.

PERFORATIONS: 8127' - 8555' K.B.
FORMATION : PATCHAWARRA

PAGE: 2 OF 2
DATE: 17th JULY 1993.
OPR : B. HULL

SAMPLE #

TIME SAMPLE COLLECTED	CYLINDER SERIAL NO.	CYLINDER VOLUME (CC)	SAMPLE TYPE	SAMPLING DURATION (MINS)	CYLINDER INITIALLY FILLED WITH	OUTAGE (CC)	VOLUME OF FILL REMAINING WITH SAMPLE (CC)	SAMPLE POINT	SAMPLE PRESS (~~PSI~~/KPa)	SAMPLE TEMP (~~°F~~/°C)	AMBIENT PRESS (PSI/KPa)	AMBIENT TEMP (°F/°C)
09:00	SPE 261	500	H.P. GAS	10	EVACUATED	500	—	GAS METER RUN	3978	40	/	/

WELLHEAD DATA				SEPARATOR DATA			GRAVITIES		FLOW RATES			RATIOS	BOTTOM HOLE	
TUBING PRESS (~~PSI~~/KPa)	WELLHEAD TEMP (~~°F~~/°C)	CHOKE SIZE %	BS&W (%)	SEPARATOR PRESS (~~PSI~~/KPa)	SEPARATOR TEMP (~~°F~~/°C)	FPV	GAS SPECIFIC GRAVITY	OIL API GRAV @60°F	GAS ~~MMSCFD~~ $m^3 10^3/D$	OIL ~~BPD~~ m^3/D	WATER ~~BPD~~ m^3/D	L.G.R $m^3 10^6/m^3$	PRESSURE (PSI/KPa)	TEMPERATURE (°F/°C)
4040	52	100		3978	40	1.1038	.9185	47.6	27.37	1.608	1.608	117.5	/	/

REMARKS:

SAMPLE #

TIME SAMPLE COLLECTED	CYLINDER SERIAL NO.	CYLINDER VOLUME (CC)	SAMPLE TYPE	SAMPLING DURATION (MINS)	CYLINDER INITIALLY FILLED WITH	OUTAGE (CC)	VOLUME OF FILL REMAINING WITH SAMPLE (CC)	SAMPLE POINT	SAMPLE PRESS (~~PSI~~/KPa)	SAMPLE TEMP (~~°F~~/°C)	AMBIENT PRESS (PSI/KPa)	AMBIENT TEMP (°F/°C)
09:00	SPE 281	500	H.P. OIL	15	BRINE	475	25	OIL SIGHT GLASS	3978	40	/	/

WELLHEAD DATA				SEPARATOR DATA			GRAVITIES		FLOW RATES			RATIOS	BOTTOM HOLE	
TUBING PRESS (~~PSI~~/KPa)	WELLHEAD TEMP (~~°F~~/°C)	CHOKE SIZE %	BS&W (%)	SEPARATOR PRESS (~~PSI~~/KPa)	SEPARATOR TEMP (~~°F~~/°C)	FPV	GAS SPECIFIC GRAVITY	OIL API GRAV @60°F	GAS ~~MMSCFD~~ $m^3 10^3/D$	OIL ~~BPD~~ m^3/D	WATER ~~BPD~~ m^3/D	L.G.R $m^3 10^6/m^3$	PRESSURE (PSI/KPa)	TEMPERATURE (°F/°C)
4040	52	100		3978	40	1.1038	.9185	47.6	27.37	1.608	1.608	117.5	/	/

REMARKS:

SAMPLE #

TIME SAMPLE COLLECTED	CYLINDER SERIAL NO.	CYLINDER VOLUME (CC)	SAMPLE TYPE	SAMPLING DURATION (MINS)	CYLINDER INITIALLY FILLED WITH	OUTAGE (CC)	VOLUME OF FILL REMAINING WITH SAMPLE (CC)	SAMPLE POINT	SAMPLE PRESS (~~PSI~~/KPa)	SAMPLE TEMP (~~°F~~/°C)	AMBIENT PRESS (PSI/KPa)	AMBIENT TEMP (°F/°C)
09:00	#2	500	L.P. H_2O	10	/	/	/	WATER DUMP LINE	3978	40	/	/

WELLHEAD DATA				SEPARATOR DATA			GRAVITIES		FLOW RATES			RATIOS	BOTTOM HOLE	
TUBING PRESS (~~PSI~~/KPa)	WELLHEAD TEMP (~~°F~~/°C)	CHOKE SIZE %	BS&W (%)	SEPARATOR PRESS (~~PSI~~/KPa)	SEPARATOR TEMP (~~°F~~/°C)	FPV	GAS SPECIFIC GRAVITY	OIL API GRAV @60°F	GAS ~~MMSCFD~~ $m^3 10^3/D$	OIL ~~BPD~~ m^3/D	WATER ~~BPD~~ m^3/D	L.G.R $m^3 10^6/m^3$	PRESSURE (PSI/KPa)	TEMPERATURE (°F/°C)
4040	52	100		3978	40	1.1038	.9185	47.6	27.37	1.608	1.608	117.5	/	/

REMARKS:

ET 107

03500

EXPERTEST PTY. LTD.

SAMPLING DATA

CUSTOMER : SANTOS LTD. | PERFORATIONS: 8127' - 8555' K.B. | PAGE: 1 OF 2

WELL NAME: PELICAN # 2 LWR | FORMATION : PATCHAWARRA | DATE: 17th JULY 1993

TEST TYPE : L.E.T. & B.H.P.S. | OPR : B. HULL

SAMPLE

TIME SAMPLE COLLECTED	CYLINDER SERIAL NO.	CYLINDER VOLUME (CC)	SAMPLE TYPE	SAMPLING DURATION (MINS)	CYLINDER INITIALLY FILLED WITH	OUTAGE (CC)	VOLUME OF FILL REMAINING WITH SAMPLE (CC)	SAMPLE POINT	SAMPLE PRESS (~~PSI~~/KPa)	SAMPLE TEMP (~~°F~~/°C)	AMBIENT PRESS (PSI/KPa)	AMBIENT TEMP (°F/°C)
08:00	SPE 165	500	H.P. GAS	10	EVACUATED	500	—	METER RUN	3985	40	/	/

WELLHEAD DATA				SEPARATOR DATA			GRAVITIES		FLOW RATES			RATIOS	BOTTOM HOLE	
TUBING PRESS (~~PSI~~/KPa)	WELLHEAD TEMP (~~°F~~/°C)	CHOKE SIZE o/o	BS&W (%)	SEPARATOR PRESS (~~PSI~~/KPa)	SEPARATOR TEMP (~~°F~~/°C)	FPV	GAS SPECIFIC GRAVITY	OIL API GRAV @60°F	GAS ~~MMSCFD~~ $m^3 10^3/D$	OIL ~~BPD~~ m^3/D	WATER ~~BPD~~ m^3/D	L.G.R. $m^3 10^6/m^3$	PRESSURE (PSI/KPa)	TEMPERATURE (°F/°C)
4047	52	100		3985	40	1.1040	.9185	53.4	27.14	.804	1.608	88.8	/	/

REMARKS:

SAMPLE

TIME SAMPLE COLLECTED	CYLINDER SERIAL NO.	CYLINDER VOLUME (CC)	SAMPLE TYPE	SAMPLING DURATION (MINS)	CYLINDER INITIALLY FILLED WITH	OUTAGE (CC)	VOLUME OF FILL REMAINING WITH SAMPLE (CC)	SAMPLE POINT	SAMPLE PRESS (~~PSI~~/KPa)	SAMPLE TEMP (~~°F~~/°C)	AMBIENT PRESS (PSI/KPa)	AMBIENT TEMP (°F/°C)
08:00	SPE 046	500	H.P. OIL	15	BRINE	475	25	OIL SIGHT GLASS	3985	40	/	/

WELLHEAD DATA				SEPARATOR DATA			GRAVITIES		FLOW RATES			RATIOS	BOTTOM HOLE	
TUBING PRESS (~~PSI~~/KPa)	WELLHEAD TEMP (~~°F~~/°C)	CHOKE SIZE o/o	BS&W (%)	SEPARATOR PRESS (~~PSI~~/KPa)	SEPARATOR TEMP (~~°F~~/°C)	FPV	GAS SPECIFIC GRAVITY	OIL API GRAV @60°F	GAS ~~MMSCFD~~ $m^3 10^3/D$	OIL ~~BPD~~ m^3/D	WATER ~~BPD~~ m^3/D	L.G.R. $m^3 10^6/m^3$	PRESSURE (PSI/KPa)	TEMPERATURE (°F/°C)
4047	52	100		3985	40	1.1040	.9185	53.4	27.14	.804	1.608	88.8	/	/

REMARKS:

SAMPLE

TIME SAMPLE COLLECTED	CYLINDER SERIAL NO.	CYLINDER VOLUME (CC)	SAMPLE TYPE	SAMPLING DURATION (MINS)	CYLINDER INITIALLY FILLED WITH	OUTAGE (CC)	VOLUME OF FILL REMAINING WITH SAMPLE (CC)	SAMPLE POINT	SAMPLE PRESS (~~PSI~~/KPa)	SAMPLE TEMP (~~°F~~/°C)	AMBIENT PRESS (PSI/KPa)	AMBIENT TEMP (°F/°C)
08:00	#1	500	L.P. H_2O	10	/	/	/	WATER DUMPLINE	3985	40	/	/

WELLHEAD DATA				SEPARATOR DATA			GRAVITIES		FLOW RATES			RATIOS	BOTTOM HOLE	
TUBING PRESS (~~PSI~~/KPa)	WELLHEAD TEMP (~~°F~~/°C)	CHOKE SIZE o/o	BS&W (%)	SEPARATOR PRESS (~~PSI~~/KPa)	SEPARATOR TEMP (~~°F~~/°C)	FPV	GAS SPECIFIC GRAVITY	OIL API GRAV @60°F	GAS ~~MMSCFD~~ $m^3 10^3/D$	OIL ~~BPD~~ m^3/D	WATER ~~BPD~~ m^3/D	L.G.R. $m^3 10^6/m^3$	PRESSURE (PSI/KPa)	TEMPERATURE (°F/°C)
4047	52	100		3985	40	1.1040	.9185	53.4	27.14	.804	1.608	88.8.	/	/

REMARKS:

ET 107

00367

EXPERTEST PTY. LTD.

BHP/BHT GAUGE RUN DATA

CUSTOMER : SANTOS LTD
WELL NAME: PELICAN # 2 LOWER
TEST TYPE : B.H.P.S
PERFORATIONS: 8127' - 8555' KB.
FORMATION : PATCHAWARRA
PAGE: 1 OF 2
DATE: 18/7/93
OPR : K. KEANE.

GAUGE DATA	UPPER PRESSURE GAUGE	LOWER PRESSURE GAUGE	TEMPERATURE GAUGE
ELEMENT SERIAL NO.	56429	56432	63256
ELEMENT RANGE	3000 PSI	3000 PSI	95°-471° F
RECORDING SECTION SERIAL NO.	14628	70544	30929
DATE OF CALIBRATION: @ 290°F	6.1.93	6.1.93.	
CLOCK SERIAL NO.	# 7	3604	F 15306
CLOCK RANGE	120 HR	120 HR	120 HR.
LEAD SCREW TYPE	15 TLS	15 TLS	15 TLS
ENGAGE STYLUS DATE 18/7/93 TIME	15:05	15:05	15:05
DISENGAGE STYLUS DATE 23.7.93 TIME	10:27	10:27	10:27

RUN DATA		TIME (HOURS)	TUBING PRESSURE (~~PSI~~/KPa)	ANNULUS PRESSURE (~~PSI~~/KPa)
DATE	: 18/7/93			
PRESSURE LUBRICATOR	:	15:18	3900	ø
RUN IN HOLE	:	17:18	3890	ø
ON DEPTH AT	: 7727' FT/~~M~~	17:38	3870	ø
DATE	: 23.7.93			
PULL OUT OF HOLE	:	08:00	7250	ø
AT SURFACE	:	08:17	7250	ø
DEPRESSURE LUBRICATOR	:	10:17	7270	ø
MAXIMUM BHT AT	FT/M = °F/C			
N.B. ALL DEPTHS ARE MEASURED FROM K.B.				

DATE	TIME	REMARKS
18/7/93.		
		AMENDED HANG DEPTH OF 7727' KB.

ET 108

SUB-SURFACE PRESSURE SURVEY

CO. SANTOS		RUN 01 FIELD PELICAN		WELL 2L	
EFF DEPTH		WELL STAT		TOOL HUNG	7721'KB
CASING	-	CASING PRESS		ON BOTTOM	1738 18/7
LINER	-	TUBING PRESS		OFF BOTTOM	0800 23/7
DATE	930719	ELEMENT RANGE	0 - 3093	ZERO POINT	
ELEVATION		ZONE		SHUT-IN	0800 19/7
MAX TEMP	239	PICK-UP		ON-PROD	
PERF	-	CAL SER NO.	56432	MPP	
TUBING	-				
UNITS	ENGLISH	PURPOSE	LET/BHP		

SURVEY DATA

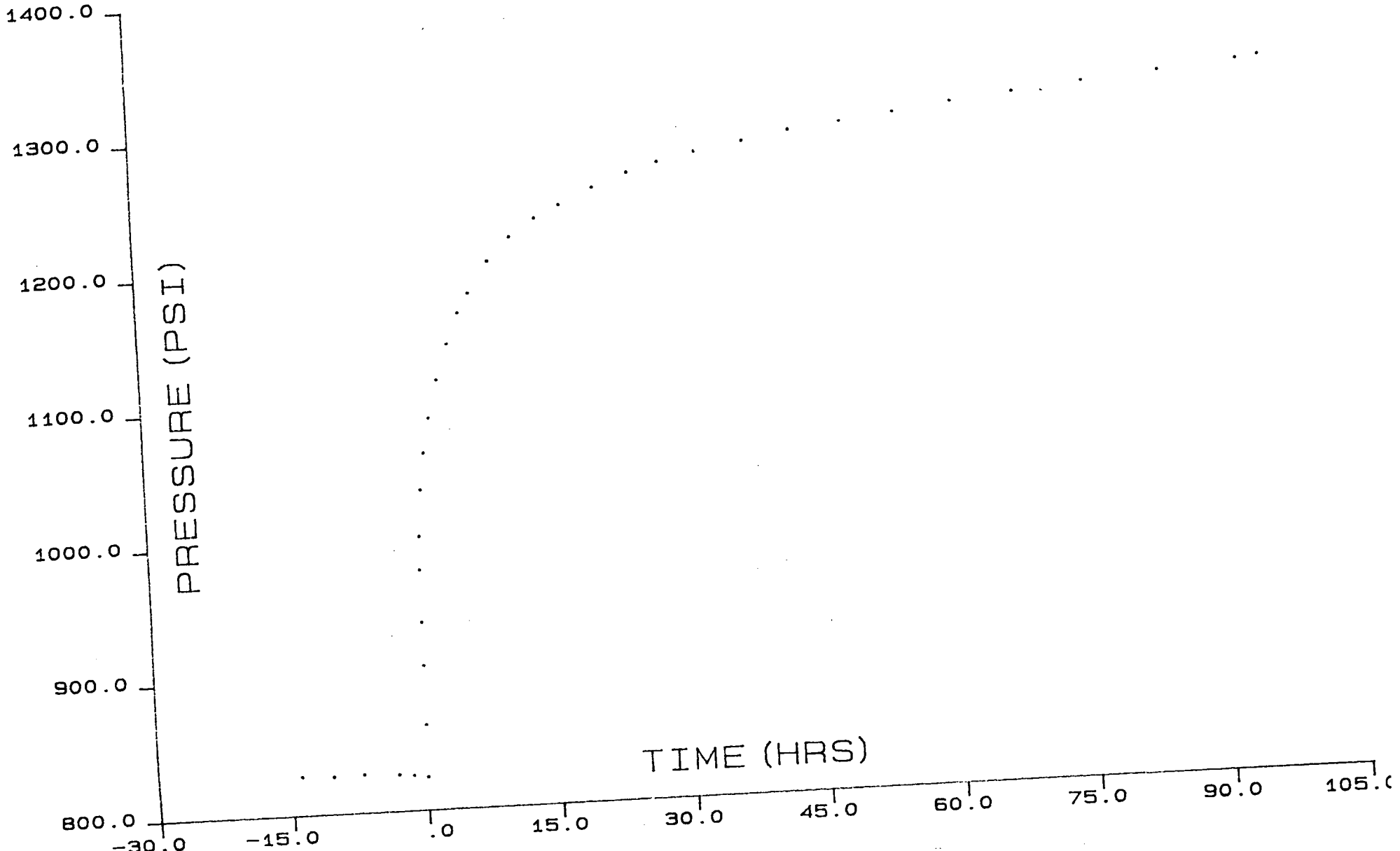
CO. SANTOS — RUN 01 FIELD PELICAN — WELL 2L

	TIME	P-T	DP-DT	DTIME		TIME	P-T	DP-DT	DTIME
SHUT WELL IN	8:00	824.3	824.3	0		9:21	1264.3	1264.3	25.4
	8:03	862.5	862.5	.1		12:47	1271.3	1271.3	28.8
	8:05	906.5	906.5	.1		16:57	1277.6	1277.6	33.0
	8:07	938.8	938.8	.1		22:19	1283.5	1283.5	38.3
	8:10	977.9	977.9	.2		3:31	1289.7	1289.7	43.5
	8:18	1002.8	1002.8	.3		9:16	1294.7	1294.7	49.3
	8:40	1037.6	1037.6	.7		15:12	1298.9	1298.9	55.2
	9:13	1064.6	1064.6	1.2		21:39	1305.1	1305.1	61.7
	9:58	1090.0	1090.0	2.0		4:35	1309.7	1309.7	68.6
	11:05	1117.9	1117.9	3.1		12:19	1315.8	1315.8	76.3
	12:23	1144.2	1144.2	4.4		20:51	1321.4	1321.4	84.8
	13:48	1166.8	1166.8	5.8		5:33	1327.0	1327.0	93.6
	15:03	1180.8	1180.8	7.1	END BUILD UP	8:00	1329.4	1329.4	96.0
	17:23	1204.1	1204.1	9.4		6:05	828.2	828.2	-14.1
	19:57	1221.0	1221.0	11.9	-	2:29	827.3	827.3	-10.5
	22:51	1233.8	1233.8	14.9		0:54	828.1	828.1	-7.1
	1:38	1242.9	1242.9	17.6		4:47	826.4	826.4	-3.2
	5:24	1254.6	1254.6	21.4		6:25	825.6	825.6	-1.6

LUBRICATOR DWT; IN: 566 psi / OUT: 1054 psi
LUBRICATOR AMERADA; IN: 554 psi / OUT: 1047 psi
ELEMENT #56429 WAS ALSO RUN.

PELICAN #2L LET/BHP JULY 1993

ELEMENT #56432 @ 7721'KB



EXPERTEST PTY. LTD.

BHP/BHT GAUGE RUN DATA

CUSTOMER : SANTOS LTD	PERFORATIONS: 8127' – 8555' K.B.	PAGE: 2 OF 2
WELL NAME: PELICAN #2 LOWER	FORMATION : PATCHAWARRA	DATE: 23·7·93
TEST TYPE : S.G.S.		OPR : P. BLACK

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.	56429	56432	63256	DATE : 23·7·93			
ELEMENT RANGE	3000 P.S.I	3000 P.S.I.	95°–171°F	PRESSURE LUBRICATOR :	10:44	7280	Ø
RECORDING SECTION SERIAL NO.	14628	70544	30929	RUN IN HOLE :	11:04	"	"
DATE OF CALIBRATION: @ 290°F	6·1·93	6·1·93		ON DEPTH AT : 7727' FT/M	12:08	"	"
CLOCK SERIAL NO.	2297	2509	2431	DATE : 23·7·93			
CLOCK RANGE	3 HRS	3 HRS	3 HRS	PULL OUT OF HOLE :	12:23	7280	Ø
LEAD SCREW TYPE	15 TLS	15 TLS	15 TLS	AT SURFACE :	12:41	"	"
				DEPRESSURE LUBRICATOR :	13:01	"	"
ENGAGE STYLUS DATE 23·7·93 TIME	10:38	10:38	10:38	MAXIMUM BHT AT FT/M = °F/C			
DISENGAGE STYLUS DATE 23·7·93 TIME	13:09	13:09	13:09	N.B. ALL DEPTHS ARE MEASURED FROM K.B.			

DATE	TIME	REMARKS
		Gradient survey conducted at the conclusion of the PBU survey.

ET 108

0021

EXPERTEST

WIRELINE & WELL TESTING SERVICE

PO BOX 354 COWANDILLA 5033

PH. (08) 354 0488 TELEX AA87183
FAX (08) 43 7408

138 RICHMOND ROAD MARLESTON
SOUTH AUSTRALIA 5033

Tested Friday, 23rd July 1993.

STATIC PRESSURE GRADIENT REPORT

CLIENT	LOCATION	FORMATION
SANTOS LTD.	PELICAN #2 L	PATCHAWARRA

PRESSURE ELEMENT DATA

POSITION	SERIAL NO.	RANGE	CALIBRATED
Top	56429	3000	6/ 1/93
Bottom	56432	3000	6/ 1/93

WELL DATA

PARAMETER	VALUE
DWT In	1056 PSIG
DWT Out	1056 PSIG
Max BHT	N/A

	TOP ELEMENT			BOTTOM ELEMENT		
DEPTH FT KB	DEFLECTION INCHES	PRESSURE PSIG	GRADIENT PSI/FT	DEFLECTION INCHES	PRESSURE PSIG	GRADIENT PSI/FT
LUB.	0.6800	1046.8	-	0.6815	1044.8	-
1000	0.7050	1085.4	0.039	0.7070	1084.4	0.040
2000	0.7300	1124.0	0.039	0.7320	1123.1	0.039
3000	0.7540	1161.0	0.037	0.7560	1160.4	0.037
4000	0.7780	1198.1	0.037	0.7810	1199.1	0.039
5000	0.8020	1235.2	0.037	0.8045	1235.6	0.036
6000	0.8260	1272.2	0.037	0.8250	1267.4	0.032
7000	0.8490	1307.7	0.036	0.8515	1308.5	0.041
7500	0.8600	1324.7	0.034	0.8630	1326.3	0.036
7727	0.8670	1335.6	0.048	0.8685	1334.8	0.038
LUB.	0.6840	1053.0	-	0.6850	1050.2	-

GENERAL REMARKS

RAN TEMP ELEMENT #63256,RANGE 95-471 F,RECORDING SECTION #30929

EXPERTEST PTY. LTD.

STATIC PRESSURE GRADIENT SURVEY

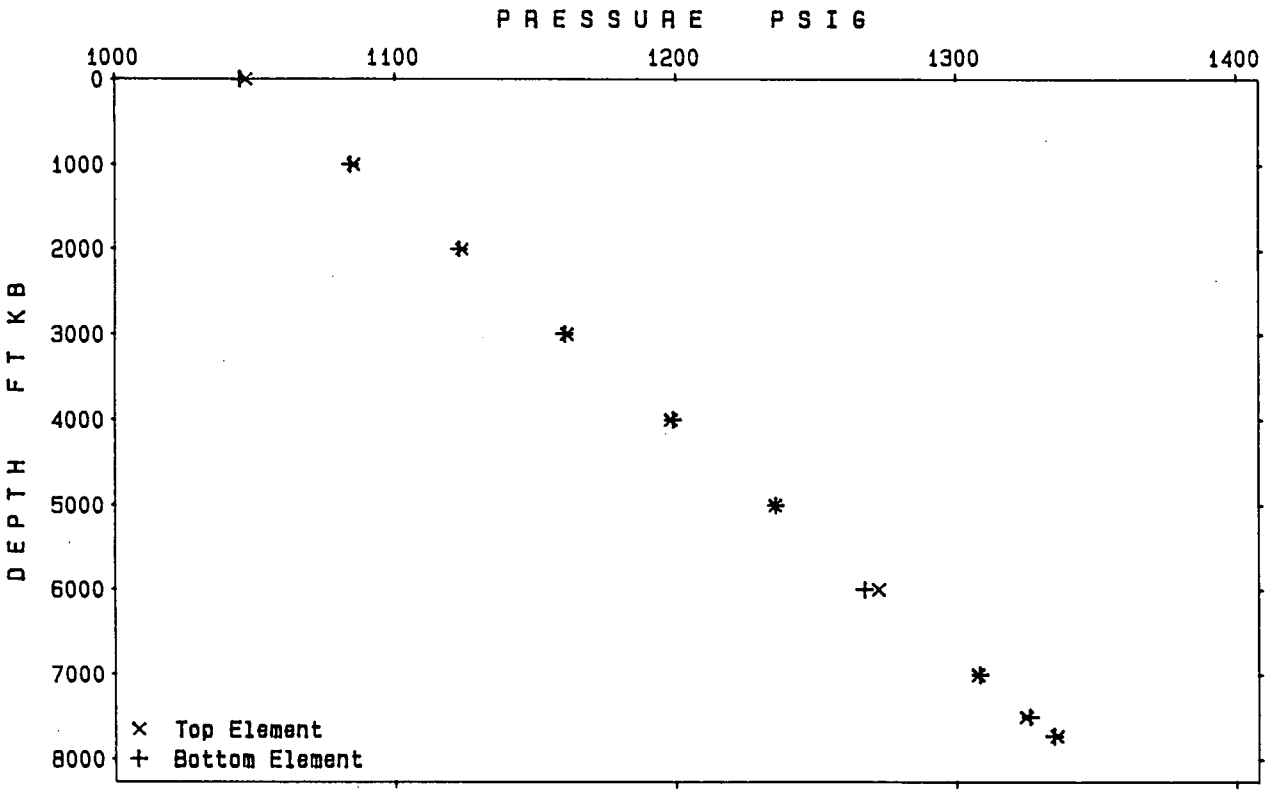
Location: PELICAN #2 L	Tested: 23rd July 1993.
Formation: PATCHAWARRA	Client: SANTOS LTD.

PRESSURE ELEMENT DATA

Position	Serial No	Range	Calibrated
Top	56429	3000	6/ 1/93
Bottom	56432	3000	6/ 1/93

WELL DATA

DWT In	1056 PSIG
DWT Out	1056 PSIG
Max BHT	N/A



Depth FT KB	TOP ELEMENT Deflection Inches	TOP ELEMENT Pressure PSIG	TOP ELEMENT Gradient PSI/FT	BOTTOM ELEMENT Deflection Inches	BOTTOM ELEMENT Pressure PSIG	BOTTOM ELEMENT Gradient PSI/FT
LUB.	0.6800	1046.8	-	0.6815	1044.8	-
1000	0.7050	1085.4	0.039	0.7070	1084.4	0.040
2000	0.7300	1124.0	0.039	0.7320	1123.1	0.039
3000	0.7540	1161.0	0.037	0.7560	1160.4	0.037
4000	0.7780	1198.1	0.037	0.7810	1199.1	0.039
5000	0.8020	1235.2	0.037	0.8045	1235.6	0.036
6000	0.8260	1272.2	0.037	0.8250	1267.4	0.032
7000	0.8490	1307.7	0.036	0.8515	1308.5	0.041
7500	0.8600	1324.7	0.034	0.8630	1326.3	0.036
7727	0.8670	1335.6	0.048	0.8685	1334.8	0.038
LUB.	0.6840	1053.0	-	0.6850	1050.2	-

GENERAL REMARKS

RAN TEMP ELEMENT #63256, RANGE 95-471 F, RECORDING SECTION #30929