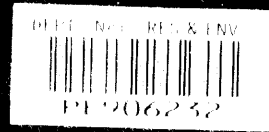


LASMO ENERGY AUSTRALIA LTD



VIC/P11

WELL COMPLETION REPORT

PATRICIA - 1

VOLUME I. TEXT AND BASIC APPENDICES

REPORT NUMBER: RN93

Vol 1.

LASMO ENERGY AUSTRALIA LTD.

18 JAN 1988

PETROLEUM DIVISION

PATRICIA NO. 1

WELL COMPLETION REPORT

LASMO ENERGY AUSTRALIA LTD.

OCTOBER, 1987

MAB:ad/2800K:0039K

Written By: M.A. Battrick
(Geologist)
N. Thorpe
P. Griffiths
(Engineers)

Report Number: RN 93

Copy Number : 4

LASMO ENERGY AUSTRALIA LTD

WELL: PATRICIA NO. 1	PERMIT: VIC/P11
	AREA: OFFSHORE GIPPSLAND BASIN
LOCATION: Latitude: 38°01'53.00"S	STATUS: Suspended Gas Well
Longitude: 148°26'47.26"E	
AMG Co-ordinates 626945.4 E	RIG: Diamond 'M' Epoch
5789700.2 N	
Shot Point 302.8 Line: GB79-172	TOTAL DEPTH: Driller 900m RT
ELEVATION: RT = 22 metres above MSL	Schlumb 899.5m RT
WATER DEPTH: 51 metres	PERFORATED INTERVALS (m RT):
DATES: Spud : 26.06.87	703 - 738, 744 - 747
T.D. : 03.07.87	CASING SHOES (m RT):
Rig Release : 18.07.87	20" @ 215
	13-3/8" @ 641
	9-5/8" @ 883

FORMATION	LITHO STRATIGRAPHY			
	DEPTH (mRT)	ELEVATION (m subsea)	THICKNESS (m)	
<u>SEASPRAY GROUP</u>				<u>627</u>
Gippsland Limestone	73	51	582	
Lakes Entrance Formation	655	633	45	
<u>LATROBE GROUP</u>				<u>100</u>
Gurnard Formation	700	678	44	
Barracouta Formation	744	722	56	
<u>STRZELECKI GROUP</u>	800	778		<u>100+</u>

WIRELINE LOGGING: LOGGING SUITE 1	INTERVAL (m RT)	BHT/TIME* (°C)(HRS)	NOTES
DLL-MSFL-GR-CAL-SP	218 - 642	30.6, 4.25	GR to surface
BHC-GR	218 - 642	Tool Run	30.6, 4.25 in combination
CST-GR	286 - 644	30.6, 7.75	30 Shots

No. hours circulation before logging: 1.75 hours
 * Time since circulation ceased (hours)

WIRELINE LOGGING: LOGGING SUITE 2	INTERVAL (m RT)	BHT/TIME* (°C)(HRS)	NOTES
DLL-MSFL-GR-SP-CAL	641 - 895	42.2, 5.0	Run in combination
LDL-CNL-GR	641 - 895	42.2, 5.0	
SLS-NGT	641 - 895	44.5, 8.25	Waveforms taped
SAT	445 - 895	45, 11.5	37 levels, 15 m intervals
RFT-HP-GR	702 - 795	45, 16	31 tests, 1 sample
CST	656 - 880	45, 32.25	30 shots

No. of hours circulation before logging: 2.25 hours
 *Time since circulation ceased (hours)

PRODUCTION TESTS (Cased Hole)

No.	Interval	Formation	Notes & Results
	Schlumb. Depth (SCH)		
1	744 - 747 metres RT	Barracouta	2.59 MMCFD 1" Choke
2	719 - 728 metres RT	Gurnard	8.30 MMCFD 1" Choke
3	703 - 738 metres RT	Gurnard	13.24 MMCFD 1-3/4" Choke
3A	703 - 738 metres RT	Gurnard	24.11 MMCFD 1-3/4" Choke & 5" Drill Pipe

WELL: PATRICIA NO. 1 (continued)

CONVENTIONAL CORING

No.	Cut Interval Driller	Cut Interval Schlumb.	Formation	Cut Total	Rec. Total	% Rec.
1	703 - 721.7 m RT	704-722m RT	Gurnard	18.7m	17.7m	95
2	721.7 - 740 m RT	722-740m RT	Gurnard	18.3m	18.3m	100
3	740 - 758 m RT	741-744.8m	Gurnard/Barracouta	18m	3.8m	21

NOTE: 5-1/4" core with fibreglass inner barrel. Recovery cannot be accurately defined at wellsite.

RFT POINTS (Depth = m RT, Press. = Formation Pressure, psia)

DEPTH	PRESS	DEPTH	PRESS	DEPTH	PRESS	DEPTH	PRESS
795.0	1150.2	768.5	Tight	701.8	Tight	736.0	Tight
790.0	-	770.7	Tight	702.8	Tight	735.4	1093.3
790.5	1089.0	760.5	1102.0	703.0	1091.2	727.0	Tight
783.0	Tight	753.0	1090.9	745.5	Tight	728.0	Tight
783.5	Tight	745.5	1086.8	746.3	1085.5	727.5	Tight
781.5	1131.5	733.0	1095.7	751.0	1086.8	711.5	-
776.0	-	717.0	1090.5	747.5	1086.8	711.6	1091.9
775.8	1123.3	707.5	1092.0	736.5	Tight	758.0	1096.5

SIDEWALL CORES 2 Runs (Depths in metres RT)

SHOT: 60 LOST BULLETS: 2 NO. REC.: 3 REC. 55 = 92%

DEPTH	LITHOLOGY	DEPTH	LITHOLOGY	DEPTH	LITHOLOGY	DEPTH	LITHOLOGY
286	CLSLT	563	CLST	656	EMPTY	746.5	SST
305	CLCLT	573	CLSLT	665	CLCLT	749.5	SST
323	CLCLT	583	LOST	672	MARL	751	SST
344	CLCLT	589	CLCLT	678	CLST	752.5	SST
365	CLSLT	595	MARL	683	CLST	756.5	SST
385	CLCLT	600	MARL	687	EMPTY	759.5	LOST
405	CLSLT	606	CLSLT	692	CLST	761	CGL
425	CLCLT	612	CLCLT	697	EMPTY	769	SST
445	CLCLT	617	CLSLT	699.5	SLTST	781	SST
463	CLCLT	622	CLST	700.3	SST	786.5	SST
484	MARL	628	MARL	701.5	SST	803	CLST
497	MARL	632	CLCLT	702.5	SST	821	CLST
514	CLCLT	636	MARL	703.5	SST	862	CLST
531	MARL	640	CLST	743	SST	876.5	CLST
548	CLST	644	CLST	745	SST	880	CLST

WELL: PATRICIA NO. 1 (Interpretative Section)

MICROPALAEONTOLOGICAL ZONATIONS (N/S = not studied)

FORAM ZONE	DEPTH (mRT)	FORAM ZONE	NANNO ZONE	DEPTH (mRT)	FORAM ZONE	NANNO ZONE	DEPTH (mRT)
C	286	F	N/S	606	N/S		675-680
D1	344	F	N/S	622	I2	NP24	683
D1	385	G	N/S	632	I2	NP24	680-685
D1	445	G	N/S	640	INDET	NP22	685-690
D2	484	G	N/S	644	INDET	NP22	690-695
D2	531	H1	N/S	665	J2	NP22	692
D2	563	H1	NN1	672	INDET	NP22	695-700
D2	573	N/S	NN1	670-675	-	BARREN	699.5, 700.3
F	589	H2	NP24	678	-	BARREN	705, 720
					-	BARREN	722, 739.8
					-	BARREN	743.5

PALYNOLOGICAL ZONATIONS

SPORE/POLLEN ZONE	DEPTH (mRT)	SPORE/POLLEN ZONE	DEPTH (mRT)
<u>U.P. tuberculatus</u>	672	<u>L.N. asperus</u>	739.8
<u>U.N. asperus</u>	683	<u>P. asperopolus</u>	743.5
<u>U.N. asperus</u>	692	indeterminate	769
<u>M.N. asperus</u>	705	indeterminate	786.5
<u>L.N. asperus</u>	720	<u>P. pannosus</u>	821
<u>L.N. asperus</u>	722	<u>P. pannosus</u>	880

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CONTENTS

Page No.

VOLUME I

1. WELL HISTORY

1.1	General Data	1
1.2	Drilling Summary	3
1.3	Geological Summary	6

2. DRILLING

2.1	Drilling Equipment Data	7
2.2	Drilling Fluid System Data	9
2.3	Bit, Hydraulics and BHA Record	10
2.4	Casing Running and Cementing Record	11
2.5	Drilling Fluid Report Summary	12
2.6	Testing Summary	15
2.7	Daily Operations Record	19
2.8	Formation Sampling	30
2.9	Logging and Surveys	32

3. GEOLOGY

3.1	Stratigraphy	33
3.2	Lithological Descriptions and Hydrocarbon Indications	35
3.3	Contributions to Geological Knowledge	36

FIGURES

1.	Location Map
2.	Drilling Time vs Depth Chart
3A.	Suspension Status
3B.	Schematic of Wellhead as Suspended
4.	Predicted vs Actual Section

BASIC APPENDICES

- I Final Report Rig Move
- II Complete Mud and Bit Recap
- III Well Testing Reports
- IV Cuttings Descriptions
- V Conventional Core Descriptions
- VI Sidewall Core Descriptions
- VII Routine Core Analysis
- VIII Micropalaeontological Species Chart
- IX Palynological Species Lists
- X Gas Analysis Results

VOLUME II

INTERPRETIVE APPENDICES

- XI Micropalaeontology Analysis
- XII Palynology Report
- XIII Preliminary Log Analysis
- XIV Petrology Report

ENCLOSURES

- ✓ I Mudlog
- II Wellsite Lithology Log
- ✓ III Composite Log
- IV Seismic Calibration Log

ATTACHMENTS ADDED BY DNRE

- 1, DST RESULTS
- 2, WELL SEISMIC PROCESSING REPORT (Vols 1 & 2).

1. WELL HISTORY

1.1 GENERAL DATA

1.1.1 Name and Address of Operator

LASMO Energy Australia Ltd.,
15th Floor, Colonial Mutual Building,
300 Queen Street,
BRISBANE. QLD. 4000

1.1.2 Participants

(a) LASMO Energy Australia Ltd.

(b) Gas & Fuel Exploration NL.,
171 Flinders Street,
G.P.O. Box 18410
MELBOURNE. VIC. 3001

(c) TCPL Resources Limited,
6th Floor, Zurich House,
5 Blue Street,
NORTH SYDNEY. N.S.W. 2060.

1.1.3 Permit

VIC/P11, Offshore Gippsland Basin, Victoria.

1.1.4 Location Co-ordinates (JRL Satnav)

Shot point 302.8 on seismic line GB79-172.

Latitude $38^{\circ} 01' 53.00''$ South

Longitude $148^{\circ} 26' 47.26''$ East

UTM Co-ordinates:-

Northing 5789700.2 metres
Easting 626945.4 metres

The final location is 8.6 metres at a bearing of 44° from the intended location (Tri-sponder).

1.1.5 Datum and Elevations

Unless otherwise noted, all depths refer to metres (m) below Rotary Table (RT):

RT to Mean Spring Low Water (MSLW) = 22.0 metres
RT to Sea Bed = 73.1 metres
Water Depth = 51.0 metres
Total Depth (RT) = 900 metres (driller)
= 899.5 metres RT (logger)
True Vertical Depth = 900 metres RT (driller)

1.1.6 Dates and Duration

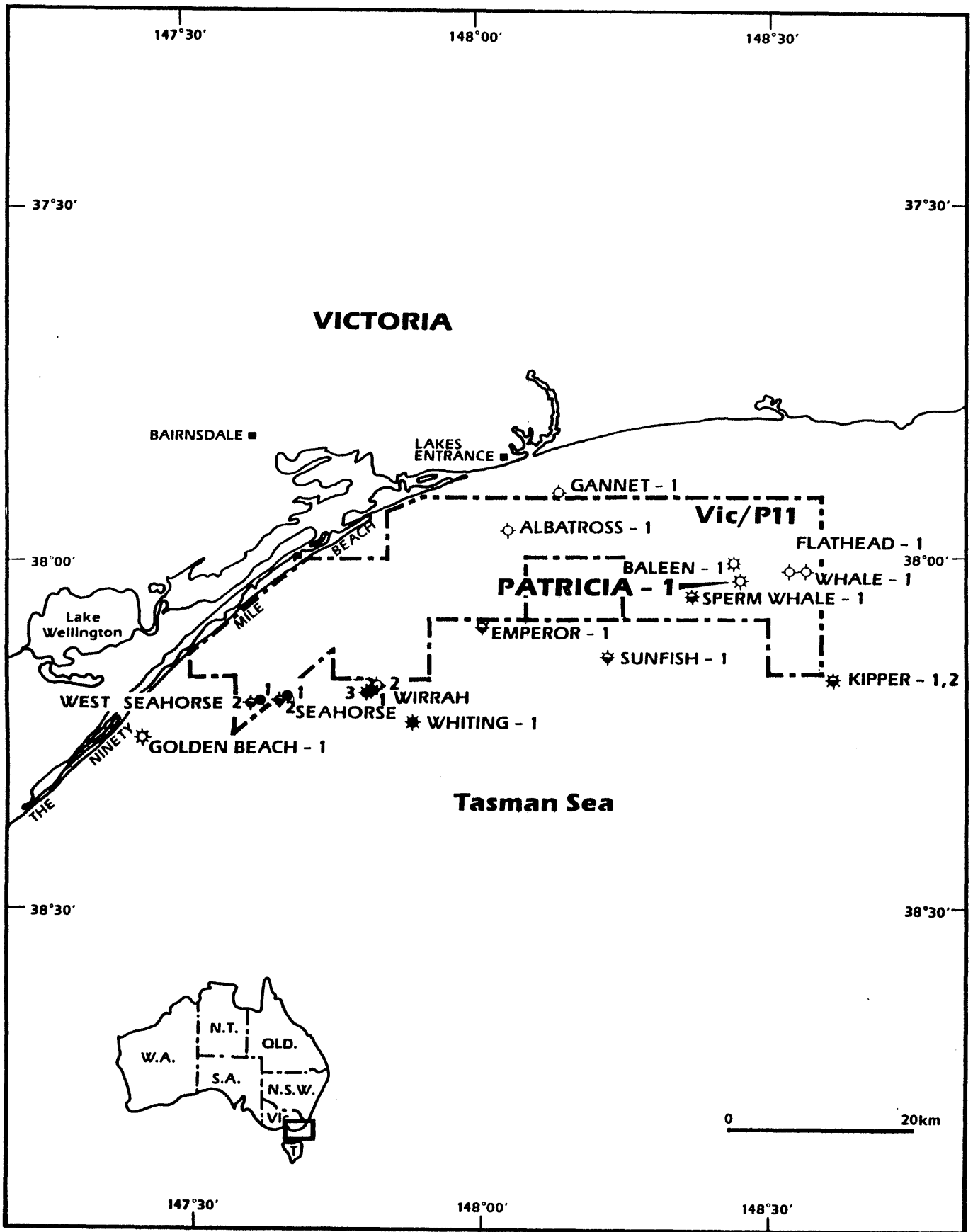
Commenced move to location : 0001 hours 24.6.87
Arrived at location : 0230 hours 25.6.87
Spudded well : 0200 hours 26.6.87
Reached Total Depth : 0915 hours 3.7.87
Suspended well : 1830 hours 16.7.87
Left location : 1430 hours 17.7.87
Rig released : 2035 hours 18.7.87
Spud to T.D. = 7.3 days
Spud to Suspension = 20.3 days
Rig on Hire = 24.9 days

1.1.7 Hole Sizes and Casing Depths

Hole Size (inches)	Depth (metres)	Casing Size (inches)	Weight (ppf)	Grade	Depth (m RT)
26	220	20	94	X52	215
17-1/2	654	13-3/8	(54.5)	K55	452
			(61)	K55	641
12-1/4	900	9-5/8	40	K55	883

1.1.8 Status

Plugged and suspended as a gas producer with corrosion cap installed on the wellhead. (Refer Figure 1 and 3).



VASMO ENERGY AUSTRALIA LTD.
 AUTHOR: M. BATTRICK
 DRAWN: C. POULTON
 DATE: NOVEMBER 1987
 DRAWING No : A4 - GL - 1185

VIC/P11
PATRICIA - 1
LOCATION MAP

RN 93 FIGURE 1

1.2 DRILLING SUMMARY

The Diamond 'M' Epoch was taken on contract at 0001 hours 24th June 1987 when the first anchor was bolstered at its stacking point offshore of Rabbit Island, Victoria. The remaining anchors were pulled and the rig was placed under-tow to the Patricia No. 1 location.

The Rig was positioned using a Trisponder navigation chain and pre-laid marker buoys. The first anchor was dropped at 0830 hours on the 25th June 1987. Eight anchors were run and successfully storm tested. The final position was confirmed by satellite navigation.

Patricia No. 1 was spudded at 0200 hours 26th June 1987 and a 26" hole was drilled to 220m. (RT to mudline 73m and water depth 51m). The hole was displaced to mud and a wiper trip made to the sea-bed. The 20" casing, together with the 18-3/4" wellhead/pile joint made up to the temporary and permanent guide bases, was run and cemented with the shoe at 215m. The 18-3/4" BOP stack was run and successfully pressure tested.

The 20" casing was drilled out with a 17-1/2" bit and a formation leak off test was performed which recorded an equivalent mud weight of 1.72 SG (14.3 ppg). Drilling of the 17-1/2" hole continued to 600m using sea-water, from 600m to casing point at 654m a gel/sea-water mud system was used. Tight hole (90,000 lbs overpull) was encountered between 571-517m on pulling out of the hole for the wiper trip at casing point, however after working through this tight spot, no further problems were experienced. Schlumberger was rigged up and the DLL/MSFL/BHC/GR/SP/Cal and CST logs were run. Prior to running the 13-3/8" casing a conditioning trip was made. The 13-3/8" casing was run and cemented with the shoe at 641m. The seal assembly was set and pressure tested to 1000 psi. The 13-3/8" casing was drilled out with a 12-1/4" bit and a

formation leak-off test was performed which recorded an equivalent mud weight of 1.60 SG (13.3 ppg). Drilling continued to 703m where the bit was pulled for coring. Three cores were cut in the interval 703m to 758m. A drilling assembly was run back in the hole and 12-1/4" hole was drilled to a total depth of 900m.

The well reached total depth at 0915 hours 3rd July 1987. The final logging suite consisted of the DLL/MSFL/LDL/CNL/GR,SLS/NGT, SAT, RFT and CST. On completion of the logging programme a conditioning trip was made and the 9-5/8" casing was run and cemented with the shoe at 883m.

The BOP stack was pulled and 3-1/2" pipe rams installed. The BOP stack was re-run on the marine riser and latched onto the wellhead.

The CBL/VDL/GR/CCL ran in 9-5/8" casing indicated the bonding between the DST No. 1 and No. 3 intervals was questionable. To confirm isolation between the zones the 9-5/8" casing was perforated at 741.5m to 741.8m at 8spf and an inflow test performed. The test consisted of setting a RTTS packer on drillpipe at 724m and displacing to diesel. This subjected the formation/bonding to a 200 psi drawdown. No flowback was observed; it was therefore concluded that isolation existed between these zones.

DST No. 1 was run over the interval 744-747m and maximum flow rate of 2.6 mmscf/d with a tubing head pressure of 75 psig was obtained on a 1" choke. The well was killed and the perforated zone isolated by means of a bridge plug set at 740.5m.

DST No. 2 was run over the interval 719m to 728m and a maximum flow rate of 8.3 mmscf/day with a tubing head pressure of 435 psig was obtained on a 1" choke. After killing the well the DST No. 2 interval was reperforated and increased to cover 703m to 738m for DST No. 3. A maximum flowrate of 13.2 mmscf/day was measured on a 1-3/4" equivalent choke size with a

tubing head pressure of 230 psig. It was determined that DST No. 3 was being restricted by the downhole test tools, therefore the test string was modified for DST No. 3A by replacing the 3-1/2" tubing with 5" drillpipe and removing the downhole test valves. A maximum flow rate of 24.1 mmscf/day was recorded on a 1-3/4" equivalent choke size with a tubing head pressure of 419 psig.

The well was killed and temporarily plugged by means of one bridge plug and two cement plugs. The BOP stack was retrieved and a corrosion cap installed on the wellhead. The anchors were pulled and the Diamond 'M' Epoch left the location at 1430 hours on the 17th July 1987. The rig proceeded to its stacking point offshore of Rabbit Island, Victoria and was placed off charter when four of its anchors were run at 2035 hours on 18th July 1987.

1.3 GEOLOGICAL SUMMARY

The Patricia No. 1 exploration well was drilled by LASMO Energy Australia Ltd. during June and July 1987, to a total depth of 900 metres RT (driller). The well is located approximately 2.5 kilometres south-southeast of the Baleen No. 1 gas discovery and 7.8 kilometres east-northeast of the Sperm Whale gas and oil discovery, at shot point 302.8 on line GB79-172.

Patricia No. 1 was drilled primarily to test the extent of the gas encountered in Baleen No. 1 in a structural culmination south of the Baleen No. 1 well. The well was also expected to encounter the hydrocarbon-water contact of the field above basement and investigate the presence of an oil leg.

Drilling commenced on the 27th June 1987, penetrating 627 metres of Tertiary Seaspray Group sediments above 100 metres of Tertiary Latrobe Group sediments above 100 metres of Early Cretaceous Strzelecki Group sediments. The well reached a total depth of 900m RT on the 3rd July 1987.

The well encountered a total gas column of 50 metres which was reservoired in both the Gurnard Formation (44 metres) and the Barracouta Formation (6 metres). A gas-water contact was intersected at 750 metres RT (728 metres SS).

Conventional coring was undertaken throughout the gas column but unfortunately the gas bearing sand of the Barracouta Formation was not recovered. The coring technique involved the recovery and handling of the core in 5-1/4" fibreglass sleeves.

No hydrocarbon fluorescence was observed throughout the well but significant gas readings were recorded while drilling and coring through the gas reservoir.

The well flowed gas through casing up to 2.59 MMCFD from the Barracouta reservoir (DST No. 1) and up to 24.11 MMCFD from the Gurnard Formation (DST No. 3A). The well was temporarily plugged and suspended as a gas producer.

DRILLING

2. DRILLING

2.1 DRILLING EQUIPMENT DATA

Drilling Contractor : Diamond 'M' Exploration 113A,
Raymond Street, Sale, Victoria,
3850.

Drilling Vessel : Diamond 'M' Epoch semi-submersible
drilling vessel.

Water Depth Capacity 46 to 366m.

Drilling Depth Capacity 9144m.

Power Supply Two EMD 3070 HP diesel engines
each driving an EMD 2000 KW AC
generator.

One EMD 16E-8 diesel engine
driving an EMD 1500 KW AC
generator.

Power distribution by a Bayler IPS
Model 2000, 5 bay SCR System 750v,
1000/1400 amps.

One emergency generator. Detroit
Diesel 8V-71N engine driving a 250
KW AC generator.

Derrick : 160 ft Derrick with 1,000,000 lb
hook load capacity with a 50ft x
50 ft welded sub-structure.

Blow-out Equipment : One Regan Model DFKH-3 diverter
system.

One 18-3/4" 10000 psi W.P. BOP system consisting of two Cameron 5000 psi W.P. type DL annular preventors, two Cameron double type U Mark II 10000 psi W.P. ram type preventors.

Mud Pumps : Two Oilwell A 1700 PT Triplex pumps each driven by two G.E.-752 DC motors.

Draw works : Oilwell E-3000 driven by two GE 752 DC motors with a Baylor 7838 electric brake and Crown-O-Matic.

Rotary Table : Oilwell 37-1/2" table driven by a GE-752 DC motor.

Motion Compensator : Vetco Model 400-20D with 400,000 lb capacity and 20 ft stroke.

Travelling Block : Oilwell 650 ton capacity with BJ5500 Dynaplex hook.

Swivel : Oilwell PC-650.

2.2 DRILLING FLUID SYSTEM DATA

2.2.1 Mud Type by Interval

Mudline - 220m	Sea-water, displaced to pre-hydrated gel at casing point. 1.04 SG (8.7 ppg).
220m - 654m	Sea-water until 600m and then a gel/polymer sea-water mud. 1.04 - 1.07 SG (8.7 - 8.9 ppg).
654m - 900m	Sea-water gel/polymer mud 1.22 - 1.26 SG (10.2 - 10.5 ppg).

2.2.2 Mud Equipment

Shale Shaker	-	SWACO dual Super Shaker
Desander	-	Demco 86V with 6 x 8" cones
Desilter	-	SWACO PO-4C16 with 16 x 4" cones
Mudcleaner	-	2 x SWACO units

LASMO ENERGY AUSTRALIA LTD

Casing, Running Report

Well Name and No. PATRICIA No. 1

Date 30th JUNE 1987

Casing Size 13.3/8"

HOLE	Size	17.1/2"			
	Depth (m)	654			
CASING	Size	13.3/8"			
	Depth (m)	641			
MUD: Type	GEI/SEAWATER	s.g. 1.07	Vis. 34	YP 15	WL N/C
Power Tong Torque	Maximum		ft/lbs. Minimum		ft/lbs.
Fill up Points	EVERY JOINT				
Calc. Displ. (m ³)			Pump Strokes		
	psi			psi	

CASING INFORMATION

TD	654
OFF BOTTOM	
Shoe (make and type)	Landed at 641
Length Shoe	
1 Joints. Grade K55 wt. 61 lb ft 10. ins.	
Landing Collar (make and type)	629
31 JOINTS K55 61 PPF BTC	
16 JOINTS K55 54.5 PPF BTC	
1 PUP JOINT K55 61 PPF BTC	
Hanger or Suspension joint (make and type)	CAMERON
Top Hanger or Suspension joint	72
Landing String	13.3/8" CASING
metres above R.T. at Zero Tide	
Less tide of	
metres up from R.T.	

DETAILED CASING AND CEMENTING REPORT

Started running casing at 2000Hrs. Finished at 0330Hrs.

Circulated casing volume, tested lines to 2000psi.

Pumped 40 BBL seawater.

Mixed 480 sacks class 'G' cement at 1.90 S.G. with 57 BBLS seawater.

Displaced with 316 BBL's seawater. Maximum pump pressure 700psi.

Bumped plug with 1000psi. Full returns through-out job.

Displaced at 11BPM. Floats held OK.

Started mixing at 0715Hrs. Finished at 0740Hrs.

Started displacing at 0745Hrs. Finished at 0815Hrs.

Top of cement - 400m (calculated).

Cooperators Representative P. Griffiths

2.5 DRILLING FLUID REPORT SUMMARY

2.5.1 Drilling Fluid Summary by Interval

Interval: Seabed 73 - 220.84 Metres 26" Hole 20" Casing

The Patricia No. 1 well was spudded on the 26th June 1987 with a 17-1/2" bit and 26" hole opener and using a flocculated bentonite system with seawater. Upon reaching the interval depth the hole was circulated clean with high viscosity gel sweeps and a wiper trip was made. The hole was circulated clean and a string of 20" casing was run and cemented at 215 metres without any problems.

Interval: 220.84 - 654 Metres 17-1/2" Hole 13-3/8" Casing

The blow out preventers were nipped up and tested, and a 17-1/2" drilling assembly was run in to tag the cement at 210 metres. Seawater was used to drill out the cement, float collar, float shoe and new formation to 223 metres, where a formation integrity test resulted in a 1.72 SG (14.3 ppg) equivalent mud weight.

Drilling then continued using seawater to 610 metres where the circulating system was closed and pre-hydrated bentonite was strung into the system. At the interval depth of 654 metres the hole was circulated clean and a wiper trip was made. Extra pre-hydrated bentonite was strung into the system to raise the yield point. A suite of electronic logs were run without any problems and, after a wiper trip, a string of 13-3/8" casing was run and cemented at 641 metres without any hole problems. During cementing, the casing was displaced to seawater.

Interval: 654 - 900 Metres 12-1/4" Hole 9-5/8" Casing

While waiting on the cement to cure and setting the seal assembly, the active mud system (930 barrels) was treated to the program specifications and weighted up to 1.22 SG (10.2 ppg.) In addition, 280 barrels of pre-hydrated bentonite was mixed and stored in the reserve pit.

A 12-1/4" drilling assembly was run in to tag cement at 627 metres and drill out the cement, float collar, float shoe and rat hole with seawater before displacing to mud. After drilling 3 metres of new formation to 657 metres, a formation integrity test resulted in a 1.60 SG (13.3 ppg) equivalent mud weight. Drilling of the 12-1/4" interval began and the surface volume was increased with a mud weight of 1.22 SG (10.2 ppg) being maintained.

Drilling continued with regular geological samples being circulated out of the hole. Increases in the viscosity and yield point due to formation clays necessitated larger additions of lignosulphonate than expected. Prior to the start of the coring program at 703 metres the mud weight was increased to 1.26 SG (10.5 ppg).

Three 18 metre cores were cut from 703 metres to 758 metres before drilling to the Total Depth of 900 metres. During drilling of the last 50 metres the rheology again was increased and was allowed to stay higher prior to the logging run. The shaker screens were changed from 80 x 80 to 40 x 60 to counter the increased mud losses caused by the higher viscosity.

At Total Depth the hole was circulated clean with a high viscosity sweep prior to making a 10 stand wiper trip, after which the hole was circulated clean before logging. A suite of electronic logs was run and a wiper trip was

made. There was no fill on bottom and the hole was circulated to replace the well mud with a lower yield point mud from the surface. The 9-5/8" casing was run and cemented successfully.

Prior to commencing the extensive testing programme, the mud was circulated and treated with lignosulphonate to reduce the yield point to reduce the danger of swabbing the well during subsequent pulling of the test strings.

After completing the testing programme, the well was suspended.

2.6 TESTING SUMMARY

Four drill stem tests were run on this well.

The first drill stem test was run over the interval 744-747m RT. The interval was perforated with 3-3/8" tubing conveyed perforating guns at 18 shots/metre.

Two downhole gauges were used to record pressures and temperatures during the test.

The well was opened on a 1/4" adjustable choke for an initial 5 minute flow period followed by a 40 minute initial shut-in period. A four hour clean-up flow followed with the gas flow rate stabilizing at 2.593 mmscf/d at a flowing bottom hole pressure of 169 psia, over a 1" fixed choke. The well was shut-in at the P.C.T. for a downhole build-up with a bottom hole pressure at the end of the four hour build up of 1089 psia. The well was then opened for a second four hour flow period with the gas flowrate stabilizing at 1.81 mmscf/d at a flowing bottom hole pressure of 635 psia over a 3/8" choke. The well was then shut in at the P.C.T. for a four hour build-up with the bottom hole pressure building to 1089 psia. A third four hour flow period commenced with the flow rate stabilizing at 2.023 mmscf/d at a flowing bottom hole pressure of 423 psia over a 1/2" choke. The well was then shut-in at the P.C.T. for a four hour build-up with the bottom hole pressure building to 1089 psia. The fourth and final flow period followed with the flowrate stabilizing at 2.050 mmscf/d at a flowing bottom hole pressure of 251 psia over a 5/8" choke. The well was then shut-in at surface for 15 minutes before the well was killed. The shut-in bottom hole pressure had built to 1089 psia before the well was killed.

The second drill stem test was run over the interval 719 - 728m RT. The interval was perforated with 3-3/8" tubing conveyed perforating guns at 36 spm.

Two downhole gauges were used to record pressures and temperatures during the test.

The well was opened initially on a 1/2" adjustable choke for the initial 5 minute flow period followed by a 35 minute shut-in period. The first flow period of four hours commenced with the gas flowrate stabilizing at 8.30 mmscf/d at a bottom hole flowing pressure of 671 psia over a 1" choke. The well was shut-in at the P.C.T. for a 4-1/2 hour build-up with the bottom hole pressure building to 1089 psia. The well was then opened for the second 4 hour flow period with the gas flowrate stabilizing at 5.15 mmscf/d at a bottom hole flowing pressure of 895 psia, before being shut-in at the P.C.T. for a four hour shut-in. Bottom hole pressure built to 1089 psia during the shut-in. The third and final flow period commenced through 1-1/4" choke for two hours before beaning back to a 1" choke for 1 hour. The gas flowrate stabilized at 6.123 mmscf/d at a flowing bottom hole pressure of 833 psia over the 1" choke. The well was then shut-in at surface for 15 minutes before the well was killed. During this time, the bottom hole pressure built to 1075 psia. During the drill stem test, downhole choking was experienced due to the MUST tool seating in the drill collars of the test string.

The third drill stem test was run over the interval 703-738m RT. The interval was perforated with 5" tubing conveyed perforating guns at 39 shots/metre.

Two downhole gauges were used to record pressures and temperatures during the test.

The well was opened initially on a 1/4" adjustable choke for the initial flow and was beaned up to 1" before being shut-in at the P.C.T. after 7 minutes flowing time. After a shut-in period of fifteen minutes, the first 4 hours flow period commenced on 1-1/4" fixed and adjustable chokes (effectively giving open flow) with the gas flowrate stabilizing at 13.24 mmscf/d, at a flowing bottom hole pressure of 890 psia. The well was then

shut-in at the P.C.T. for 4 hours, with the bottom hole pressure stabilizing at 1083 psia. The second flow period, lasting 3 hours followed with the gas flowrate stabilizing at 3.2 mmscf/d at a bottom hole flowing pressure of 1049 psia over a 3/8" choke. The well was shut-in for 3 hours with the bottom hole pressure building to 1086 psia. The third flow period, lasting 3 hours followed with the gas flowrate stabilizing at 5.89 mmscf/d at a bottom hole flowing pressure of 1013 psia over a 1/2" choke. The well was then shut-in for 3 hours with the bottom hole pressure building to 1085 psia. The fourth flow period lasting 3 hours followed with the gas flowrate stabilizing at 8.354 mmscf/d at a bottom hole flowing pressure of 980 psia over a 5/8" choke. The well was then shut-in for 2 hours with the bottom hole pressure building to 1085 psia. A short two hour flow period followed before the well was shut-in and killed. During the DST, it was noted that downhole choking was occurring due to the size of the test string.

A fourth drill stem test (DST No. 3A) was run using 5" drill pipe and a RTTS packer in order to overcome the downhole choking problems. The same test interval as for DST No. 3 was used. This test was run to flow the well at the maximum rate possible. The well was opened up on 3/8" adjustable choke and was beaned up to 1-1/4" before being opened with 1-1/4" fixed choke to give an effective wide open flow at surface. The gas flowrate stabilized at 22.83 mmscf/d at a flowing bottom hole pressure of 765 psia. The well was then shut-in for two hours with the bottom hole pressure building to 1078 psia. The second and final flow period commenced on 1-1/4" fixed and adjustable chokes with the gas flowrate stabilizing at 24.11 mmscf/d at a flowing bottom hole pressure of 774 psia. The well was then shut-in for a final 4 hours build up before the well was killed. The final measured shut-in pressure was 1076 psia.

SUMMARY OF PATRICIA NO. 1 FLOW TESTING RESULTS

TEST	OPERATION	CHOKE SIZE (inches)	DURATION (Min)	BOTTOMHOLE PRESSURE psia	WELLHEAD PRESSURE psia	GAS FLOWRATE mmscf/d
DST 1	Clean-up flow	1	233	169	75	2.593
	Build up	-	230	1089	-	-
	Flowing well	3/8	237	635	570	1.810
	Build up	-	236	1089	-	-
	Flowing well	1/2	242	423	365	2.023
	Build up	-	238	1089	-	-
	Flowing well	5/8	251	251	191	2.050
	Build up	-	30	1089	1017	-
DST 2	Clean-up flow	1	235	671	435	8.30
	Build up	-	223	1089	-	-
	Flowing well	5/8	241	895	575	5.15
	Build up	-	242	1089	-	-
	Flowing well	1	169	833	282	6.123
	Build up	-	8	1075	1000	-
DST 3	Clean-up flow	1 1/4 + 1 1/4	153	906	217	12.31
	Build up	-	3	1040	310	-
	Clean-up flow	1 1/4 + 1 1/4	83	890	230	13.24
	Build up	-	235	1083	-	-
	Flowing well	3/8	180	1049	971	3.20
	Build up	-	180	1086	-	-
	Flowing well	1/2	181	1013	906	5.89
	Build up	-	178	1085	-	-
	Flowing well	5/8	188	980	826	8.354
	Build up	-	107	1080	-	-
DST 3A	Clean-up	1 1/4 + 1 1/4	126	765	374	22.83
	Build up	-	108	1078	1004	-
	Flowing well	1 1/4 + 1 1/4	240	774	419	24.11
	Build up	-	254	1076	1004	-

A detailed report and analysis of results is included in the appendix.

2.7 DRILLING OPERATIONS RECORD

2.7.1 Daily Drilling Operations

Detailed record of operations during 24 hour periods commencing 0600 hours each day.

DATE	DAYS	DEPTH	DESCRIPTION
1987	SINCE	BELOW	
	SPUD	ROTARY	
		TABLE	
24.6	-	-	Rig on hire at 0001 hours 24th June 1987. Pulled and bolstered anchors at Rabbit Island, Victoria. Connected the Lady Penelope to the tow bridle. Commenced tow to location.
25.6	-	-	Towed rig to location. Arrived at 0220 hours 25th June 1987. Unable to see positioning buoy. Waited on daylight.
26.6	-	180m	Ran anchors. Pretensioned anchors. Ballasted rig to drilling draft. Spudded well at 0200 hours 26th June 1987. Drilled to 180m.
27.6	1	220m	Drilled to 220m with sea-water. Circulated hole clean. Pumped a 50 bbl high viscous slug. Displaced hole to pre-hydrated gel. Dropped survey. Pulled back to 110m. Retrieved survey - 1/2 degree at 220m. Ran back to bottom. No fill. POOH. Rigged up to run 20" casing. Positioned temporary and permanent guide bases in the moon pool. Ran 20" casing. Hit bridge at

DATE	DAYS	DEPTH	DESCRIPTION
1987	SINCE	BELOW	
	SPUD	ROTARY	
		TABLE	
			90m. Made up circulating head and washed through. Made up wellhead into guide base. Backed out running tool and made up cement stinger. Made up running tool to wellhead. Ran guide base on drillpipe and landed on sea-bed. Shoe at 215m. Cemented casing with 1106 sx class 'G' cement + 1% CaCl ₂ mixed with sea-water. Displaced cement with 15.5 bbls of sea-water. Backed out running tool and POOH. Rigged up and ran BOP stack and riser.
28.6	2	276m	Landed BOP stack and tested shear rams against the casing to 600 psi. Nippled up diverter and flowline. Ran test plug and tested upper rams, and kill valve to 5000 psi and annulars to 3500 psi. Repaired No. 6 choke valve. Pressure tested middle rams and choke valves to 5000 psi. Pulled test plug and ran wear bushing. Made up new BHA. RIH. Tagged cement at 210m. Drilled out cement, shoe and 3m of new formation to 223m. Circulated hole clean. Ran leak off test to equivalent of 1.72 SG mud weight. Drilled to 276m.
29.6	3	654m	Drilled from 276m to 654m. Changing from sea-water to mud at 600m. Circulated bottoms up. Pulled to heavy

DATE	DAYS	DEPTH	DESCRIPTION
1987	SINCE	BELOW	
	SPUD	ROTARY	
		TABLE	
			weight drillpipe. Hole very tight from 571 to 517m - 90,000 lbs overpull. Worked through tight spots. RIH. Pumped 50 bbls high viscous mud and circulated hole clean. Dropped survey. Pulled to drill collars - no drag. Retrieved survey - 3/4 degrees at 543m. POOH. Rigged up Schlumberger.
30.6	4	654m	Ran DLL/MSFL/BHC/GR/SP/Cal and CST Logs. Rigged down Schlumberger. Made conditioning trip while unloading 13-3/8" casing from the Lady Diana. Retrieved wear bushing. Rigged up and ran 13-3/8" casing. Shoe landed at 641m. Rigged up cement head and lines. Broke circulation. Head leaked. Replaced 'O' ring.
1.7	5	680m	Tested lines to 2000 psi. Pumped 40 bbl pre-flush. Mixed and pumped 480 sx class 'G' cement with 57 bbl of sea-water. Bumped plug with 1000 psi - no flowback. Rigged down cement head and lines. Laid down running tool. RIH with wash tool and jetted wellhead. POOH. Ran and set seal assembly. Pressure tested seal assembly and BOP to 1000 psi. POOH. Ran and set wear bushing. POOH. Made up new BHA. RIH. Tagged cement at 627m. Drilled out shoe with

DATE	DAYS	DEPTH	DESCRIPTION
1987	SINCE	BELOW	
	SPUD	ROTARY	
		TABLE	
			sea-water. Displaced to 1.20 SG mud while drilling 3m of new formation. Circulated hole clean. Ran leak off test to equivalent of 1.60 SG mud. Drilled from 657m to 680m circulating samples up at every 5m.
2.7	6	721m	Drilled from 680m to 703m circulating samples out every 5m. At 703m circulated sample and flow checked well. Performed swab test and circulated bottoms up - no significant increase in gas. POOH. RIH with core barrel. Cut Core No. 1 from 703m to 721m. Circulated bottoms up and POOH. Laid out fibreglass inner sleeves (95% core recovery). Inserted new sleeves. RIH with core barrel.
3.7	7	836m	Circulated and dropped ball. Cut Core No. 2 from 721m to 739.5m. POOH. Laid out inner fibreglass sleeves (100% core recovery). Made up new sleeves. RIH with core barrel. Circulated and dropped ball. Cut Core No. 3 from 739.5 to 758m. POOH. Recovered Core No. 3 - 21% recovery. Laid out core barrel. Made up 12-1/4" drilling assembly. RIH. No fill. Drilled from 758m to 836m.

DATE	DAYS	DEPTH	DESCRIPTION
1987	SINCE	BELOW	
	SPUD	ROTARY	
		TABLE	
4.7	8	900m	Drilled from 836m to 900m. Circulated bottoms up. Made wiper trip to shoe - no drag or fill. Circulated bottoms up. Dropped survey. POOH. Survey 1 degree at 900m. Rigged up Schlumberger. Ran the DLL/MSFL/LDL/CNL/GR, LSS/NGT and SAT logs. Made up the RFT tool.
5.7	9	900m	Ran the RFT and CST. Rigged down Schlumberger. RIH with 12-1/4" bit. No fill. Circulated bottoms up. POOH. Retrieved wear bushing. Rigged up and ran 9-5/8" casing.
6.7	10	900m	Landed 9-5/8" casing in the wellhead with the shoe at 883m. Made up cementing head. Circulated casing volume. Pressure tested lines to 2000 psi. Pumped 40 bbl sea-water pre-flush. Mixed and pumped 434 sx of Class 'G' cement plus 0.8% (by weight of cement) halad-9 at 1.90 SG. Displaced riser to sea-water. Pulled BOP to change upper rams to 3-1/2".
7.7	11	900m	Worked on BOP. Stump tested 3-1/2" rams to 5000 psi. Started running BOP. Repaired guideline sheave. Continued running BOP stack. Repaired subsea TV cable. Landed BOP stack on wellhead. RIH with weight set test

DATE	DAYS	DEPTH	DESCRIPTION
1987	SINCE	BELOW	
	SPUD	ROTARY	
		TABLE	

plug. Tested choke and kill lines and upper (3-1/2") rams to 5000 psi. Pressure tested middle (5") rams to 5000 psi and annulars to 3500 psi. Picked up small handling tools. Ran 8-1/2" bit and scraper on 4-3/4" drill collars.

8.7	12	900m	RIH with bit and scraper on 3-1/2" tubing. Picked up subsea test tree hanger. landed in wellhead and closed middle pipe rams to check spacing. Circulated and conditioned mud. Slipped and cut drill-line. POOH. Ran CBL/VDL/GR/CCL. Picked up flowhead and made up to a joint of 5" drillpipe. Pressure tested valves to 5000 psi. Laid down flowhead. Picked up lubricator valve and EZ tree. Tightened connections. Laid down same. Laid down 8" drill collars.
-----	----	------	--

9.7	13	900m	Rigged up Schlumberger and perforated 741.5 - 741.8m at 8 s.p.f. Made up 9-5/8" RTTS, safety point and circulating valve on drillpipe. RIH. Displaced to diesel. Set RTTS at 924m. Attempted to back flow well. No flowback with 200 psi drawdown. Reversed out diesel to tank. POOH. Made up DST No. 1 assembly and RIH with 3-1/2" tubing.
-----	----	------	--

DATE	DAYS	DEPTH	DESCRIPTION
1987	SINCE	BELOW	
	SPUD	ROTARY	
		TABLE	
10.7	14	900m	Rigged up Schlumberger and ran GR/CCL correlation log. Tool hung up. Rigged up and ran MUST valve actuator as a drift. POOH. Re-ran correlation log with 1 11/16ths sinker bars. Changed out bails. Picked up and installed flowhead. Set packer at 738m. Landed fluted hanger and pressure tested flowhead and surface lines. Opened PCT and perforated well. Opened well for 10 minute initial flow. Shut well in for buildup. Flowed well on 1" choke. Shut well in. Rigged up to run MUST tool. Wireline parted at weak point, and MUST tool dropped onto lubricator valve. Could not fish with slickline. Recovered fish with Schlumberger line. Bullnose on tool not recovered. Flowed well on 24/64ths choke.
11.7	15	900m	Shut well in. Flowed well on 32/64ths choke. Shut well in. Flowed well on 40/64ths choke. Shut in at surface. Bullheaded gas back to the formation with 21 bbls mud. Opened circulating valve and reverse circulated test string. Unseated packer. POOH.
12.7	16	740.5m (PBDT)	Rigged up Schlumberger and set bridge plug at 740.5m. Pressure tested plug to 2000 psi. Made up test tools for DST No. 2. RIH. Pressure tested

DATE	DAYS	DEPTH	DESCRIPTION
1987	SINCE	BELOW	
	SPUD	ROTARY	
		TABLE	
			tubing to 2500 psi with 350m of water cushion. Rigged up Schlumberger and ran correlation log. made up flowhead. Pressure tested lines to 5000 psi. Perforated well and flowed for 10 minutes. Shut well in. Flowed well on 1" choke. Shut in at PCT. Rigged up and ran MUST tool. Flowed well on 5/8" choke. MUST gauge giving abnormal readings.
13.7	17	740.5m (PBSD)	Flowed well on 5/8" choke. Shut well in. Attempted to recover MUST tool. Wireline parted at weak point. Flowed well on 1" choke. Shut in at surface. Bullheaded gas back into the formation. Opened reversing valve and reverse circulated string. POOH. Made up test tools for DST No. 3 RIH. Pressure tested tubing at the top of the water cushion at 350m. Landed subsea test tree in wellhead. Ran correlation log.
14.7	18	740.5m (PBSD)	Picked up flowhead. Set packer. Pressure tested flowhead and surface liens to 5000 psi. Perforated well and flowed for 10 minutes. Shut in for buildup. Flowed well on 1-1/4" fixed and 1-1/4" adjustable choke. Shut well in. Flowed well on 24/64ths choke. Shut well in. Flowed well in 32/64ths choke. Shut well in. Flowed well on 40/64ths choke.

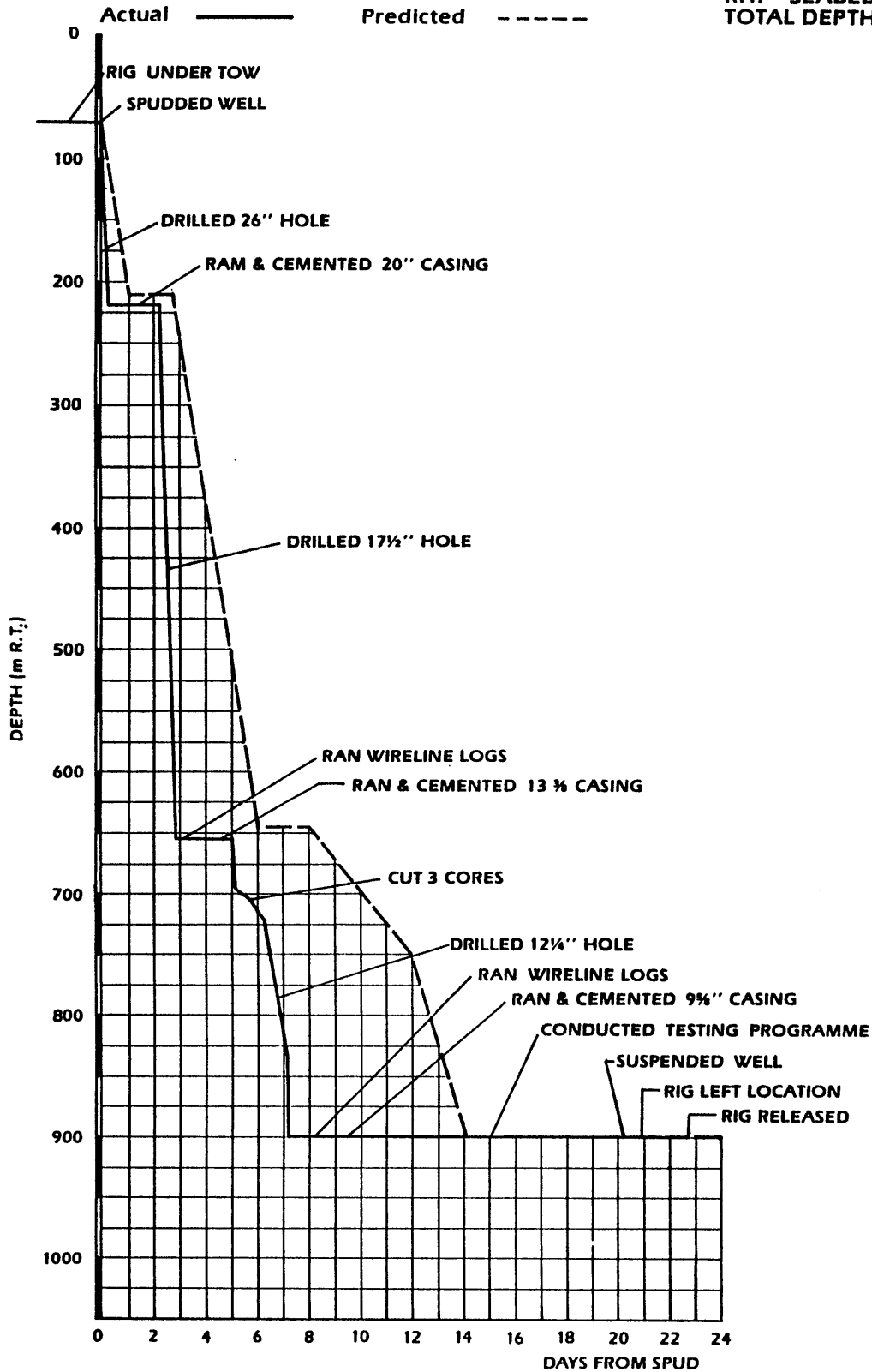
DATE	DAYS	DEPTH	DESCRIPTION
1987	SINCE	BELOW	
	SPUD	ROTARY	
		TABLE	
<hr/>			
15.7	19	740.5m (PBSD)	Flowed well on 40/64ths choke. Shut well in. Flowed well on choke manifold bypass. Shut in at surface. Killed well by bullheading gas to formation. Opened circulating valve and reverse circulated string. POOH. Laid down tubing and test tools. Redressed pressure gauges. Picked up RTTS packer and RIH with 5" drillpipe for DST No. 3A. Pressure tested flowhead and flowlines. Displaced string to diesel. Set packer at 697.7m. Pressure tested annulus to 1500 psi. Waited on daylight.
16.7	20	650m (PBSD)	Waited on daylight. Opened well for cleanup flow. Shut in well. Opened well on 1-1/4" fixed and 1-1/4" adjustable choke. Shut in well. Bullheaded 48 bbls of mud to kill well. Unseated packer and reverse circulated. POOH. Laid down tools. Rigged up Schlumberger and set bridge plug at 696m. Pressure tested plug to 2000 psi. RIH with open ended drillpipe. Circulated and treated mud with corrosion inhibitor. Set 55 sx cement plug from 695 to 650m. Pulled 3 stands and circulated. Laid down drillpipe.

DATE	DAYS	DEPTH	DESCRIPTION
1987	SINCE	BELOW	
	SPUD	ROTARY	
		TABLE	
<hr/>			
17.7	21	115m (PBSD)	Laid down drillpipe and HWDP. RIH with opened ended drillpipe to 160m. Displaced to sea-water. Set cement plug No. 2 from 160 to 115m. Pulled two stands. Circulated and flushed through kill and choke lines. POOH. Retrieved wear bushing. Unlatched, pulled and secured riser and BOP. Ran corrosion cap. Deballasted rig to transit draft. Cut guidelines. Secured rig for tow. Pulled anchors.
18.7	22	-	Pulled anchors. Rig under tow to Rabbit Island.
19.7	23	-	Rig under tow. Ran 4 anchors at Rabbit Island stacking point. Rig off charter at 20.35 hours 18th July, 1987.

RIG COMMENCED: 24 JUNE 1987
 SPUDDED: 26 JUNE 1987
 REACHED T.D.: 3 JULY 1987
 SUSPENDED WELL: 16 JULY 1987
 RIG RELEASED: 18 JULY 1987

SPUD TO T.D.: 7.3 DAYS
 SPUD TO SUSPENSION: 20.3 DAYS
 RIG ON HIRE 24.9 DAYS

R.T. - M.S.L.W.: 22m
 R.T. - SEABED: 73m
 TOTAL DEPTH: 900m R.T.



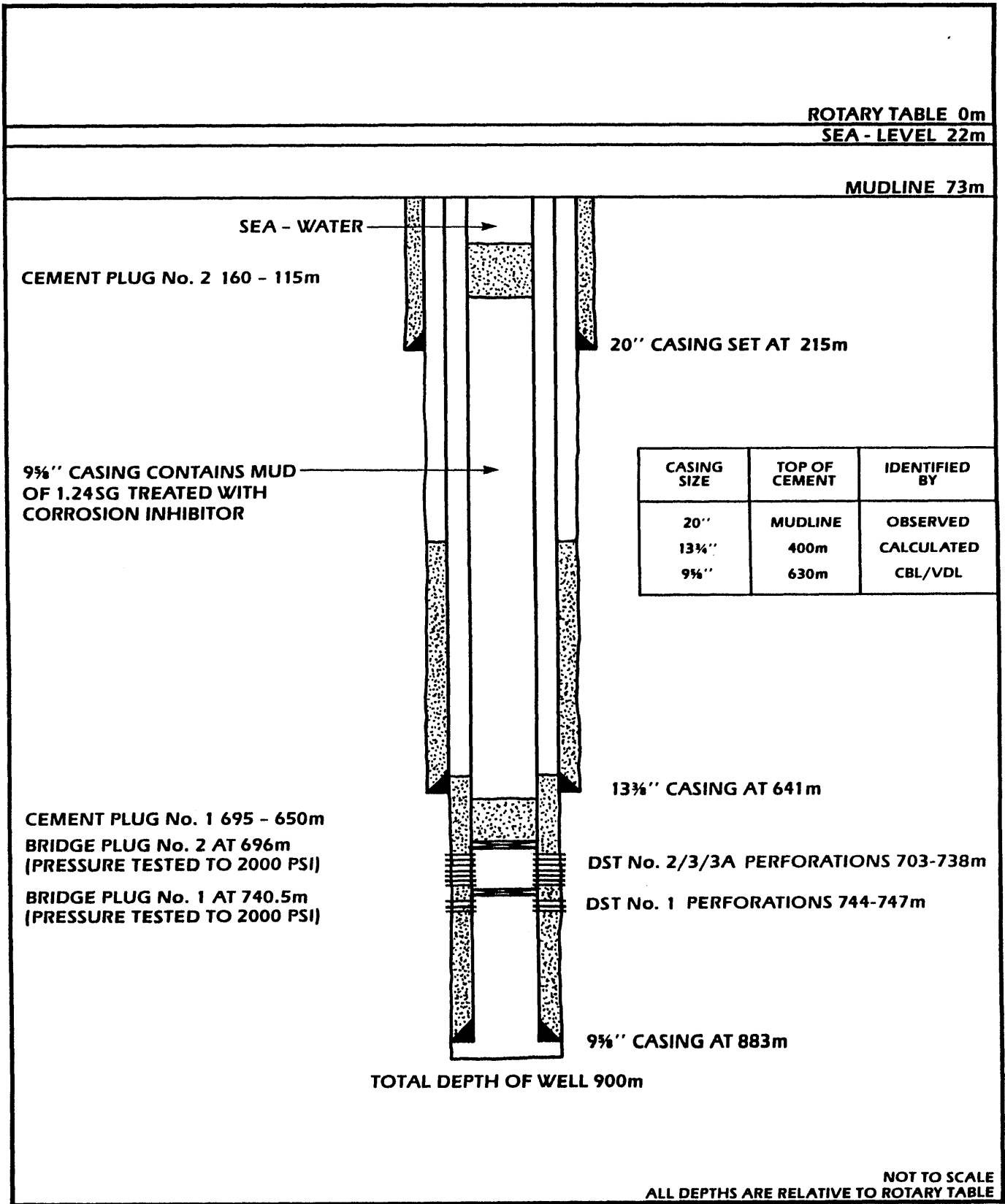
VAGO ENERGY AUSTRALIA LTD
 AUTHOR: P. GRIFFITHS
 DRAWN: A. W. LEGGE
 DATE: SEPTEMBER 1987
 DRAWING NO: A4 - DR - 1181

VIC/P11

PATRICIA - 1

DRILLING TIME V. DEPTH

RN 93 FIGURE 2



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 DATE: JULY 1987
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VIC/P11
PATRICIA - 1
SUSPENSION STATUS
 RN 93 FIGURE 3A

2.7.2 Time Breakdown

<u>OPERATION</u>	<u>HOURS</u>	<u>% OF TOTAL TIME</u>
Moving	53.5	8.97
Anchoring and Ballasting	40	6.71
Drilling	37.5	6.29
Tripping including picking up/ laying down pipe	23.75	3.98
Conditioning trips/circulating	39.25	6.58
Running and cementing casing	40.50	6.79
Running/Pulling BOP	45.50	7.63
Testing BOP/Wellhead	20.25	3.40
Abandonment	11.75	1.97
Leak off tests	3.50	0.59
Repairs	7.75	1.30
Circulating for sample	5.25	0.88
Coring (including trip time)	32.75	5.49
Logging	40.25	6.75
Drill Stem Testing	178.25	29.86
Waiting on daylight	6.50	1.09
Others	<u>10.25</u>	<u>1.72</u>
TOTAL	596.50	100.00

2.7.3 Deviation Surveys

All downhole surveys are performed using an Eastco non-directional single shot survey instrument (0-6 degree range).

<u>DEPTH</u>	<u>DEVIATION</u>
220m	1/2 ⁰
654m	3/4 ⁰
900m	1 ⁰

2.8 FORMATION SAMPLING

2.8.1 Cuttings (Appendix IV)

Samples were collected at 20 metre intervals from the 20" casing shoe of the conductor pipe at 215 metres RT to 390 metres RT. Ten metre samples were collected from 390 metres to 650 metres RT and 5 metre samples from 650 - TD at 900 metres RT (driller).

5 sets of washed and dried cuttings samples were bagged from 215 metres RT to TD. One set each was despatched to the Victorian Department of Industry, Technology and Resources, the Bureau of Mineral Resources and Gas and Fuel Exploration NL; 2 sets were despatched to LASMO Energy (Australia) Ltd. and are stored at Core Laboratories, Brisbane.

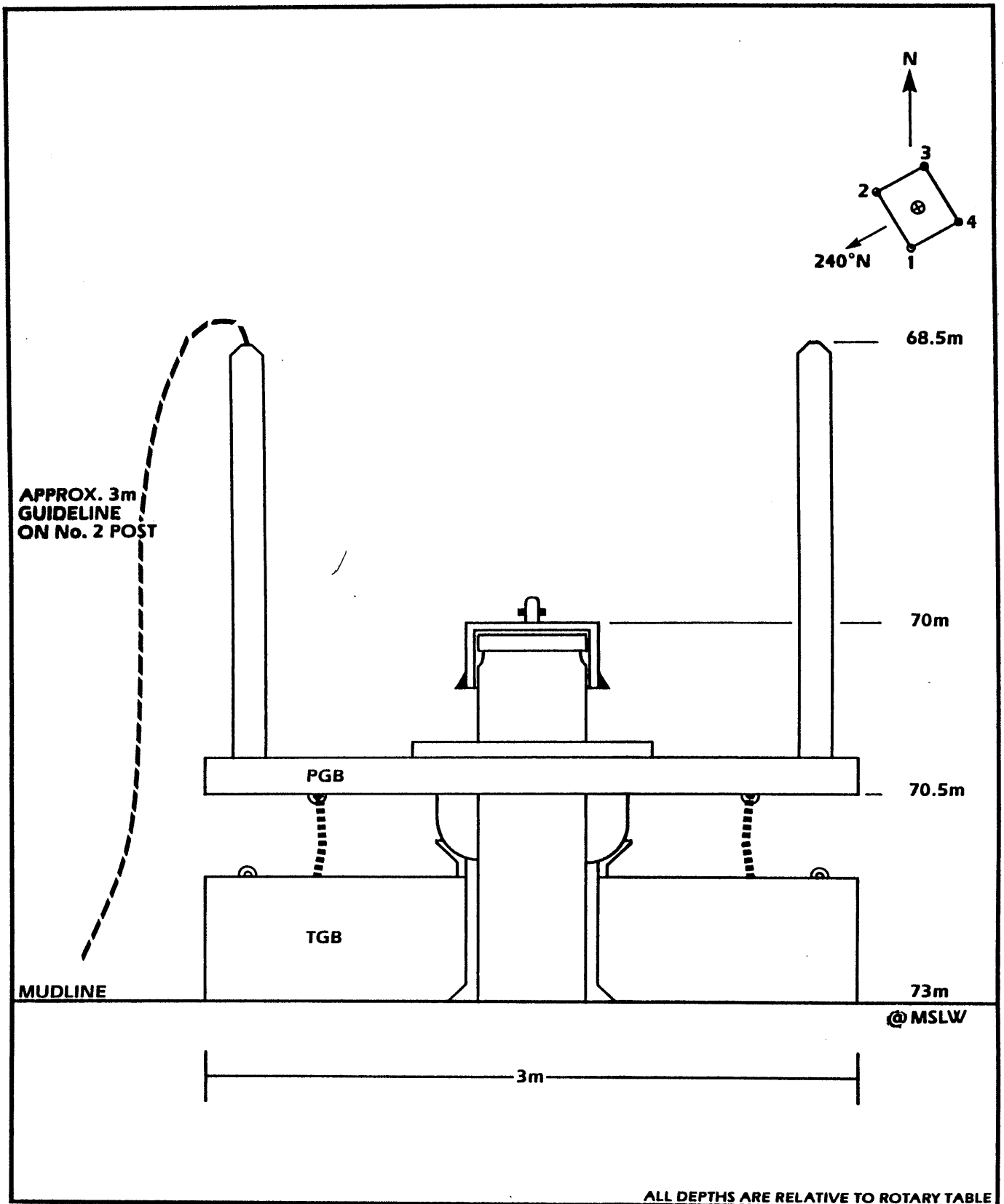
Two sets of unwashed and air dried cuttings samples were collected at the same sampling increments from the 20 inch casing shoe at 215 metres to TD for future palynological and geochemical analyses. One set was despatched to the Bureau of Mineral Resources and one was retained by LASMO.

2.8.2 Conventional Cores (Appendix V)

Three 18 metre cores were cut within the Latrobe Group at Patricia No. 1. Core analysis results are in Appendix VII and core description sheets in Appendix V.

No.	Cut Interval Driller	Cut Interval Schlumb.	Formation	Cut Total	Rec. Total	% Rec.
1	703-721.7m RT	704-722m RT	Gurnard	18.7m	17.7m	95
2	721.7-740m RT	722-740m RT	Gurnard	18.3m	18.3m	100
3	740-758m RT	741-744.8m RT	Gurnard/ Barracouta	18m	3.8m	21

Note: 5-1/4" core with fibreglass inner barrel. Recovery cannot be accurately defined at wellsite.



ALL DEPTHS ARE RELATIVE TO ROTARY TABLE

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 AUTHOR: N. THORPE
 DRAWN: P.M. COLLETT
 DATE: JULY 1987
 DRAWING No.: ENG - 36

VIC/P11
PATRICIA - 1
SCHEMATIC OF WELLHEAD
AS SUSPENDED
 RN 93 FIGURE 3B

The following whole core sections were removed for S.C.A.L. analysis:

704.85 - 705 metres
709.85 - 710 metres
721.7 - 722 metres
730.9 - 731.2 metres
734 - 734.25 metres

A whole core section, between 709.1 - 709.25 metres, has been sealed (un-slabbed) for possible future analysis (sealed 31/8/87). The remaining core was slabbed and distributed as follows:

1/4 to DITR, Victoria
1/4 to BMR, Canberra
1/2 retained by LASMO

2.8.3 Sidewall Cores (Appendix VI)

Two 30 shot guns of sidewall cores were run on Patricia No. 1.

	Run 1	Run 2
Shots attempted	30	30
Fired	30	30
No recovery	1	4
Recovered	29	26
Purchased	29	26

Sidewall core descriptions are in Appendix VI.

2.9 LOGGING AND SURVEYS

2.9.1 Mudlogging (Enclosure I)

Mudlogging services were provided by Anadrill Schlumberger.

Total gas and its chromatographic breakdown were measured on a Baseline F.I.D. chromatograph. Drill rate, engineering data, lithological descriptions and hydrocarbon shows were recorded from the 20" casing shoe to total depth on a LASMO mudlog (Enclosure I). The LASMO geologist maintained a separate lithological log over the same interval (Enclosure II).

2.9.2 Wireline Logging (Enclosure III, Appendix XIII)

The following wireline logs were run by Schlumberger:-

WIRELINE LOGGING: LOGGING RUN 1	INTERVAL (m RT)	BHT/TIME* (°C)(HRS)	NOTES
DLL-MSFL-GR-CAL-SP	218 - 642	30.6, 4.25	GR to surface
BHC-GR	218 - 642 Tool Run	30.6, 4.25	in combination
CST-GR	286 - 644	30.6, 7.75	30 Shots

No. hours circulation before logging: 1.75 hours

* Time since circulation ceased (hours)

WIRELINE LOGGING: LOGGING RUN 2	INTERVAL (m RT)	BHT/TIME* (°C)(HRS)	NOTES
DLL-MSFL-GR-SP-CAL	641 - 895	42.2, 5.0	Run in
LDL-CNL-GR	641 - 895	42.2, 5.0	combination
SLS-NGT	641 - 895	44.5, 8.25	Waveforms taped
SAT	445 - 895	45, 11.5	37 levels, 15 m intervals
RFT-HP-GR **	702 - 795	45, 16	31 tests, 1 sample
CST	656 - 880	45, 32.25	30 shots

No. of hours circulation before logging: 2.25 hours

*Time since circulation ceased (hours)

** RFT sample at 758m RT recovered 8800cc of water with 70,000 ppm Cl.

Rw = 0.80 ohm @ 20°C, 0.75 ohm @ 23.9°C.

GEOLOGY

3. GEOLOGY

3.1 STRATIGRAPHY

FORMATION	AGE	DEPTH (m RT)	ELEVATION (m SS)	THICKNESS (m)
<u>Seaspray Group</u>				
Gippsland Limestone	Miocene	73	51	582
Lakes Entrance	Oligocene to E.Miocene	655	633	45
<u>Latrobe Group</u>				
Gurnard	L. Eocene	700	678	44
Barracouta	M. Eocene	744	722	56
<u>Strzelecki Group</u>				
Undifferentiated	E. Cretaceous	800	778	100 +
Total depth (driller)		900	878	
(Schlumberger)		899.5	877.5	

3.1.1 Gippsland Limestone (Early to Middle Miocene)

The Patricia No. 1 well intersected 582 metres of fine-grained marine carbonates which gradually coarsen upward from calcareous claystone and marl through calcilutite to calcisiltite and calcarenite. The entire sequence contained variable amounts of, and diverse species of foraminifera as well as bryozoa, and other skeletal metazoa.

3.1.2 Lakes Entrance Formation (Early Oligocene to earliest Miocene)

The boundary between the Gippsland Limestone and the underlying Lakes Entrance Formation is somewhat gradational. In the Patricia No. 1 well the top is taken as a shift in the gamma ray log indicative of an abrupt

downward increase in clay content. The dominant lithology is calcareous claystone although marl and calcilutite are present. The Lakes Entrance Formation is also distinctive because of the abundant glauconite dispersed throughout, indicative of a restricted marine environment. The lowermost 6 metres of the Formation contains abundant iron nodules and possible interbeds of sideritic, clayey siltstone. This unit is a transitional, oxidised layer which caps the lithologically similar Gurnard Formation of the Latrobe Group.

3.1.3 Gurnard Formation (Middle to Late Eocene)

The gas discovered in the Patricia No. 1 well is primarily reservoired in the Gurnard Formation. The total thickness of Gurnard was conventionally cored with excellent recovery achieved. The Formation consists of very fine-grained sandstone which is often silty and clayey. The entire sequence is intensely burrowed and no bedding is preserved. The sandstone also contains variable amounts of glauconite, biotite, muscovite, lithic fragments, heavy mineral grains and siderite. The siderite is patchy and often totally cements the sandstone, making it virtually impermeable. The basal two metres contains abundant pyrite nodules and quartz pebbles. The boundary between the Gurnard and the underlying Barracouta Formation is defined by a 10cm band of pyritic conglomerate. The Gurnard Formation is believed to have been deposited in a restricted marine environment.

3.1.4 Barracouta Formation (Early to Middle Eocene)

The Barracouta Formation at Patricia No. 1 contains typical Latrobe Group "coarse clastics" assemblages. The formation has an overall coarsening - upward character, grading from fine to medium grained clayey sandstone at the base to conglomeratic sandstone at the top. Thin

interbeds of micaceous, laminated siltstones are probably present throughout although they were only sampled in the base of core No. 3. The entire sequence is thought to be non-marine. The gas-water contact was intersected 6 metres below the top of the Barracouta Formation.

3.1.5 Strzelecki Group (Latest Early Cretaceous)

The Patricia No. 1 well intersected 100 metres of non-marine claystone and silicified, lithic sandstone. They are among the youngest Strzelecki Group sediments penetrated in the Gippsland Basin.

3.2 LITHOLOGICAL DESCRIPTIONS AND HYDROCARBON INDICATIONS

Detailed lithological descriptions are present on the LASMO Lithology Log in Enclosure II and in Appendix IV and are summarised on the Composite Log in Enclosure III.

No oil shows were observed throughout the drilling of the well.

The gas readings observed during drilling are summarized in the following table:

Depth	Total					
<u>Interval</u>	<u>Gas (ppm)</u>	<u>C₁ (ppm)</u>	<u>C₂ (ppm)</u>	<u>C₃ (ppm)</u>	<u>C₄ (ppm)</u>	<u>C₅ (ppm)</u>
220-425	100-300	100-300	0	0	0	0
425-505	400-1000	300-900	0	0	0	0
505-660	900-6000	800-5500	0	0	0	0
660-703	950-35000	750-28000	0	0	0	0
703*-755	2000-5500	1500-5000	0	0	0	0
755-800	1500-4200	650-3000	0-800	0	0-600	0
800-900	700-2000	500-1500	0	0	0	0

* Mud weight increased to 10.5 ppg below 703m RT.

3.3 CONTRIBUTIONS TO GEOLOGICAL KNOWLEDGE

- The Patricia No. 1 well successfully tested the presence of dry gas in the Patricia structure.
- The gas occurs throughout the Gurnard Formation and in the uppermost sand unit of the Barracouta Formation, both of the Latrobe Group.
- Traces of hydrogen sulphide were detected in the gas produced from the Barracouta Formation but no traces were detected in the Gurnard Formation.
- The fine grained sandstone of the Gurnard Formation was found to be intensely bioturbated throughout and irregularly cemented by siderite.
- The well confirmed the lateral continuity of the reservoir sequence between Baleen No. 1 and Patricia No. 1.

PE906233

This is an enclosure indicator page.
The enclosure PE906233 is enclosed within the
container PE906232 at this location in this
document.

The enclosure PE906233 has the following characteristics:

- ITEM_BARCODE = PE906233
- CONTAINER_BARCODE = PE906232
- NAME = Geological Section
- BASIN = GIPPSLAND
- PERMIT = VIC/P11
- TYPE = WELL
- SUBTYPE = DIAGRAM
- DESCRIPTION = Predicted vs Actual Geological Section
for Patricia-1
- REMARKS =
- DATE_CREATED = 31/05/87
- DATE_RECEIVED = 18/01/88
- W_NO = W963
- WELL_NAME = PATRICIA-1
- CONTRACTOR =
- CLIENT_OP_CO = LASMO ENERGY AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

BASIC APPENDICES

LOCATION SURVEY

APPENDIX I

FINAL REPORT, RIG MOVE PATRICIA NO. 1

FINAL REPORT

RIG MOVE

PATRICIA 1 LOCATION

FOR : LASMO ENERGY AUSTRALIA LTD
BY : RACAL SURVEY

AREA : GIPPSLAND BASIN
SYSTEM : TRISPONDER

DATE : JUNE 20-28. 1987
JOB No : 1360

Prepared by:

Racal Survey
Cnr Stock and Stockdale Roads
O'CONNOR 6163 WA

P.O. Box 261
HAMILTON HILL 6163 WA

Telephone : (09) 331 1199
Telex : AA94341

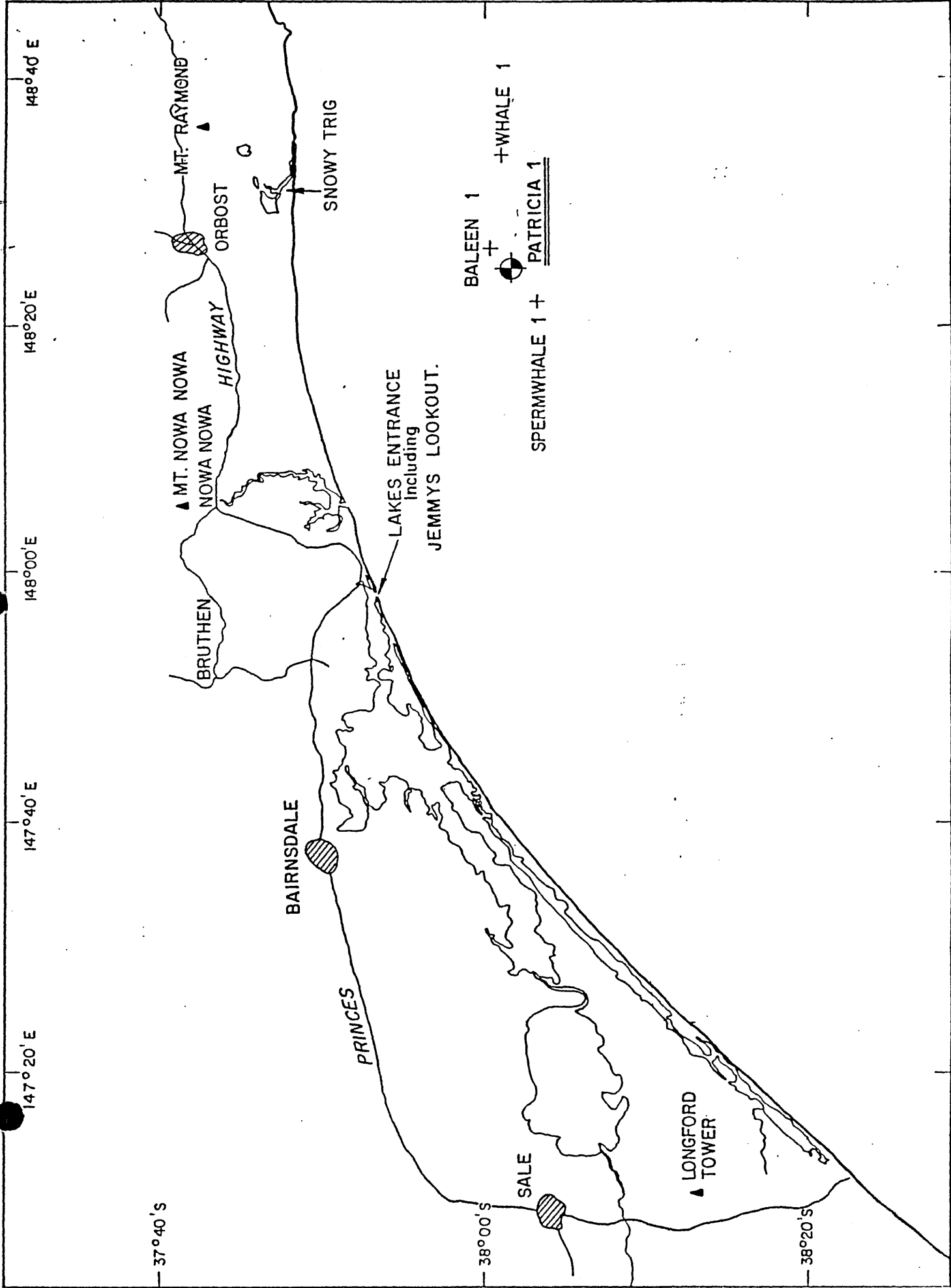
CONTENTS

	Abstract
Section 1.	Requirements
Section 2.	Instrumentation:
2.1	Trisponder
2.2	JMR-4 Satnav
2.2.1	JMR-4 Initialisation
Section 3.	Geodetic Data
Section 4.	Trisponder Calibration Results
Section 5.	Marker Buoys
Section 6.	Final Fix:
6.1	Trisponder
6.2	Satnav
Section 7.	Survey Diary
Section 8.	Personnel
Section 9.	Distribution

APPENDICES

A.	Rig Antenna Diagram
B.	Station Descriptions
C.	Satnav Convergence Graph

AREA OF OPERATIONS



ABSTRACT

Racal Survey was contracted by Lasmo Energy Australia Limited to provide positioning for the semi-submersible rig Diamond M "Epoch" onto the Patricia 1 location which was given as follows:

Lat: 38 degrees 01' 53.23" S
Long: 148 degrees 26' 46.82" E
(A.G.D. 1966)

The vessel "Tasman Hauler" was provided to perform the survey work.

The Diamond M "Epoch" moved onto location on June 25, 1987. A final Trisponder fix was observed at 0015 hours June 26, 1987.

Drillstem position:

Lat: 38 degrees 01' 53.04" S
Long: 148 degrees 26' 47.05" E

which is 8.5 metres at 44 degrees from the intended Patricia 1 location. A JMR Satnav fix confirmed this result.

SECTION 1

REQUIREMENTS

The requirements of the project were as follows:

- a) to supply and calibrate a positioning system.
- b) to lay anchor marker buoys and to guide the semi-submersible "Epoch" onto location.
- c) to provide positioning co-ordinates for the "Epoch" prior to the commencement of drilling operations.
- d) to confirm drilling co-ordinates by transit satellite fix.

SECTION 2

INSTRUMENTATION

2.1

TRISPONDER

The equipment used was the Trisponder System comprising of a distance measuring unit DDMU 540 connected to a Master and one Remote on each base station.

The Trisponder Monitor DDMU 540 was interfaced to the Racal Survey Mini-Computer System which was based on a Hewlett Packard 85 computer and Hewlett Packard 9872C Plotter. The system generates hard-copy printouts of fix data and online tracking of the ship's position on the 9872C plotter.

Trisponder is a "line of sight" microwave ranging system designed for applications which demand a repeatable accuracy of typically +/- 1 metre. The minimum equipment requirement to provide a position fix consists of three stations:

- one mobile installation on the users vehicle/
ship
- two remote stations occupied at known locations

The mobile's position is presented directly as two range measurements from these remotes, effected by an interrogator/Transponder technique utilising pulse coded transmissions. The mobile interrogates both remotes on one frequency and each remote transponds on a second frequency. All units are powered by 24 volts (DC).

INSTRUMENTATION cont.

2.2

JMR-4 SATELLITE NAVIGATION

The JMR-4 is a portable receiving and data recording system which receives Navy Navigation Satellite System (NNSS) transmissions and records orbit and doppler information. The JMR-4 has an integral microprocessor to produce an on-line fix.

The receiver can be readily moved to an extremely remote area by four wheel drive or helicopter, set up, and operated by one man. The set will automatically record adequate data for a precision survey in one or two days of unattended operation.

The JMR-4 receives two coherently related satellite transmitted signals, at frequencies of approximately 150 and 400 MHz, and extracts and records timing information, predicted satellite ephemeris and doppler shift data.

The doppler shift data, which is used to determine the position of the receiving station relative to satellite, is detected from both signals and combined in analogue circuitry to accomplish a first order correction for ionospheric refraction. The zero-crossings of the resulting "offset doppler" cycles are counted in approximate 4.6 second "satellite time" increments and recorded.

The precise time of the beginning and ending zero-crossing of each increment of doppler cycles is also recorded from the JMR-4's internal digital clock.

This digital clock epoch-synchronised with a received satellite time mark at the beginning of each satellite pass, then read out at a succeeding satellite time marks to allow a smoothed estimate of the time of arrival of

JMR-4 SATELLITE NAVIGATION cont.

the time mark. Since the local clock is relatively noise free, and the ending zero-crossing of one doppler counting interval is the beginning zero crossing of the next interval, a precise, noise free, and continuous measure of the period of the integral doppler samples throughout the pass is obtained.

The JMR-4 allows entry of local pressure, temperature and humidity which can be used by software to refine the tropospheric correction. Indicators of minimum received signal strength are recorded with each doppler count, and are used by the program to reject counts taken while signal strength is poor.

2.2.1

INITIALISATION DATA

The raw data was recorded on certified cassette tapes and processed in real time using the JMR-4 program. The following criteria were used for the computations.

- a) Tropospheric constant : 0.00013
- b) Atmospheric pressure : 998
- c) Doppler edit : tight
- d) Pass elevation low angle cut-off : 20 degrees
- e) Pass elevation high angle cut-off: 78 degrees
- f) Drill rig heading : 240 degrees
- g) Offset antenna to drillstem : brg - 100.2
degrees (T)
dist - 37.2m

SECTION 3

GEODETTIC DATA

The following geodetic data was used throughout the surveys:

Spheroid: Australian National
a 6378160 m
i/f 298.25
Datum: Australian Geodetic 1966
Grid: UTM
CM: 147 degrees E

All remote stations (excepting Snowy) were offset from the co-ordinated geodetic station. Refer to the station descriptions in the Appendices for these offsets.

Remote station co-ordinates:

Jemmy's (code 664) 584 670.9 E
5 806 791.4 N
Ht. 74m

Nowa Nowa (code 644) 596 071.0 E
5 827 551.2 N
Ht. 371m

Raymond (code 634) 640 916.2 E
5 824 774.9 N
Ht. 300m

Snowy (code 684) 632 477.7 E
5 815 031.6 N
Ht. 43m

SECTION 4

TRISPONDER CALIBRATION RESULTS

The calibration of all Trisponder equipment was carried out over the Esso calibration range at Longford near Sale, on June 14, 1987.

As a tree obscured visibility between both ends of the baseline a slightly shorter distance was used. See the Appendix for a diagram showing the location of the baseline.

Equipment calibrated was as follows:

2 x DDMU	S/nos 897, 139
5 x Remotes	Codes 664, 684, 644, 634, 624
2 x Master	S/nos 1128, 2977
3 x Cables	plus two joining cables

The Esso baseline was measured at the completion of the calibration and a 1 metre difference occurred.

DDMU serial number 139, Master unit serial number 2977 were found to be unserviceable on the Site Survey and replacement equipment was required.

At 1800 hours June 21, 1987 the replacement equipment was calibrated to previously calibrated equipment over an arbitrary baseline at Port Welshpool.

DATE: 14-6-87JOB NO: 1359OBSERVER: T. FREEMAN

TRISPOUNDER CALIBRATION SHEET

DDMU 897

REMOTE S/N.	REMOTE CODE	REMOTE ANTENNA S/N	MASTER S/N	MASTER ANTENNA S/N	INITIAL MEASURED RANGE	CALIB RANGE	CALIB. FACTOR	REMARKS	
888	664	1	1128	037		1897.8	887.0	PRIME UNITS	
2051	684	31	1128	037		1897.8	867.5		
702	644	083	1128	037		1897.8	919.0		
2967	634	433	1128	037		1897.8	841.2		
3139	624	131	1128	037		1897.8	845.0		
3139	624	131	2977	799		1897.8	808.2		
		SWAPPED OUT MASTER - CHANGE CALIBRATION FACTOR BY						-36.8	
3139	624	131	1128	037		1897.8	844.7		
		SWAPPED OUT CABLE - CHANGE CALIBRATION FACTOR BY						-3	
3139	624	131	1128	037		1897.8	844.7		
		SWAPPED OUT CABLE - CHANGE CALIBRATION FACTOR BY						-3	

Baseline Description

ESSO BASELINE - LONGFORD

PAGE 1 OF 3

SECTION 5

MARKER BUOYS

At the completion of the Site Survey at 0031 hours June 20, 1987 a single anchor marker buoy was deployed.

On June 24, 1987 the "Tasman Hauler" returned to the Patricia location and observed a fix on the marker buoy. The buoy had shifted some 120 metres and was subsequently recovered.

At 1700 hours June 24, 1987 all ten marker buoys had been deployed and checked. The marker buoy pattern consisted as follows:

- 8 anchor marker buoys on a radius of 1100 metres
- 2 heading buoys on the intended heading of 230 degrees for a distance of 100, 250 metres from location

In the early hours of June 25, 1987 a heavy storm (wind gust to 50 knots) caused the marker buoys to drift off their respective locations.

The "Tasman Hauler" was used to spot locations when anchors were being run from the rig.

Eight of the ten marker buoys were recovered.

SECTION 6FINAL FIX6.1TRISPONDER FINAL FIX

At 0015 hours June 26, 1987 a set of ten ranges were observed from four remote stations. Their meaned values are as follows:

<u>STATION</u>	<u>MEAN</u>	<u>S.D.</u>
Jemmy's	45572.1	0.1
Nowa Nowa	48829.3	0.2
Raymond	37777.3	1.7
Snowy	25938.4	0.2

Antenna position: 626 903.0 E
 5 789 703.8 N
 RMS 1.5

Antenna to drillstem offset 97.2 degrees for 37.2m

Drillstem position: 626 939.9 E
 5 789 699.1 N

Intended position: 626 934 E
 5 789 693 N

The drillstem lies 8.5m at 44 degrees from intended Patricia 1 location.

Final drillstem position: 38 degrees 01' 53.04" S
 148 degrees 26' 47.05" E
 (A.G.D. 1966)

FINAL FIX cont.

6.2 SATNAV FINAL FIX

At 0015 hours June 26, 1987 the first of 20 SM01 satellite fixes was commenced.

At 0845 hours June 27, 1987 Satnav observations were terminated as values had converged to such a degree that further observations would be superfluous for a confirmation fix. Refer Appendix C.

Antenna position: 38 degrees 01' 47.343" S
 148 degrees 26' 49.563" E
 (WGS-72)

Using transformation constants WGS-72 to A.G.D.:

dx = 120

dy = 35

dz = -147

Antenna position: 38 degrees 01' 52.81" S
 148 degrees 26' 45.77" E
 (A.N.S.)

which converts to: 626 908.8 E
 5 789 706.8 N (AMG)

Antenna to drillstem offset 100.2 degrees for 37.2m.

Drillstem position: 626 945.4 E
 5 789 700.2 N

This position lies 5.6 metres at 78 degrees from the Trisponder final fix.

SECTION 7SURVEY DIARY

Prior to the Patricia 1 Rig Move a Debris Survey was performed by Racal Survey using the same navigation equipment and personnel. This project commenced on June 15 and when the survey vessel returned to Port Welshpool on June 20, 1987 survey equipment was demobilised.

<u>DATE</u>	<u>TIME</u>	<u>EVENT</u>
20-06-87	1700	Survey equipment boxed and demobilised from the vessel.
	2000	T. Freeman, D. Bell departed Welshpool for Melbourne.
21-06-87	1000	B. Hanson acquires replacement Trisponder Master.
	1300	T. Freeman locates replacement DDMU at Melbourne airport.
	1400	D. Bell departed Melbourne for Perth.
	1700	T. Freeman arrived Welshpool.
	1800	Replacement equipment calibrated to operational. Trisponder kit on arbitrary baseline.
22-06-87	A.M.	Vessel ferrying drilling personnel to rig.
	1330	B. Hanson departed Welshpool for Lakes Entrance. T. Freeman, F. Renton attended drilling meeting.
23-06-87	1030	Survey vessel departed Port Welshpool.
	1300	T. Freeman, F. Renton transferred to rig. Survey vessel continued to Patricia location.

SURVEY DIARY cont.

<u>DATE</u>	<u>TIME</u>	<u>EVENT</u>
24-06-87	0235	Rig commenced tow to location.
	P.M.	All anchor marker buoys deployed by survey vessel with R. Hayes aboard.
25-06-87	0830	Rig dropped first anchor.
	1400	All anchors out.
	1510	Re-running number 1 anchor.
	1812	Anchor number 1 re-run.
	1915	Rig commenced ballast operation.
	2400	Rig ballasted down.
26-06-87	0015	Trisponder final fix observed. First SM01 Satnav pass observed.
	1500	helicopter backloaded with Trisponder navigation equipment.
27-06-87	0800	R. Hayes transferred to rig. Trisponder navigation equipment to remain boxed, aboard vessel.
	0825	Twentieth Satnav pass observed. Readings terminated.
	1030	Personnel departed rig.
	1200	All personnel departed Bairnsdale. Racal personnel to Port Welshpool.
28-06-87		Personnel in Melbourne for Perth.

SECTION 8

PERSONNEL

Client representative: F. Renton (ECL)

Racal Personnel

Surveyor/Party Chief: T. Freeman M.I.S. L.S.

Navigator: R. Hayes

Underwater Technician: D. Bell

Shore Supervisor: B. Hanson

SECTION 9

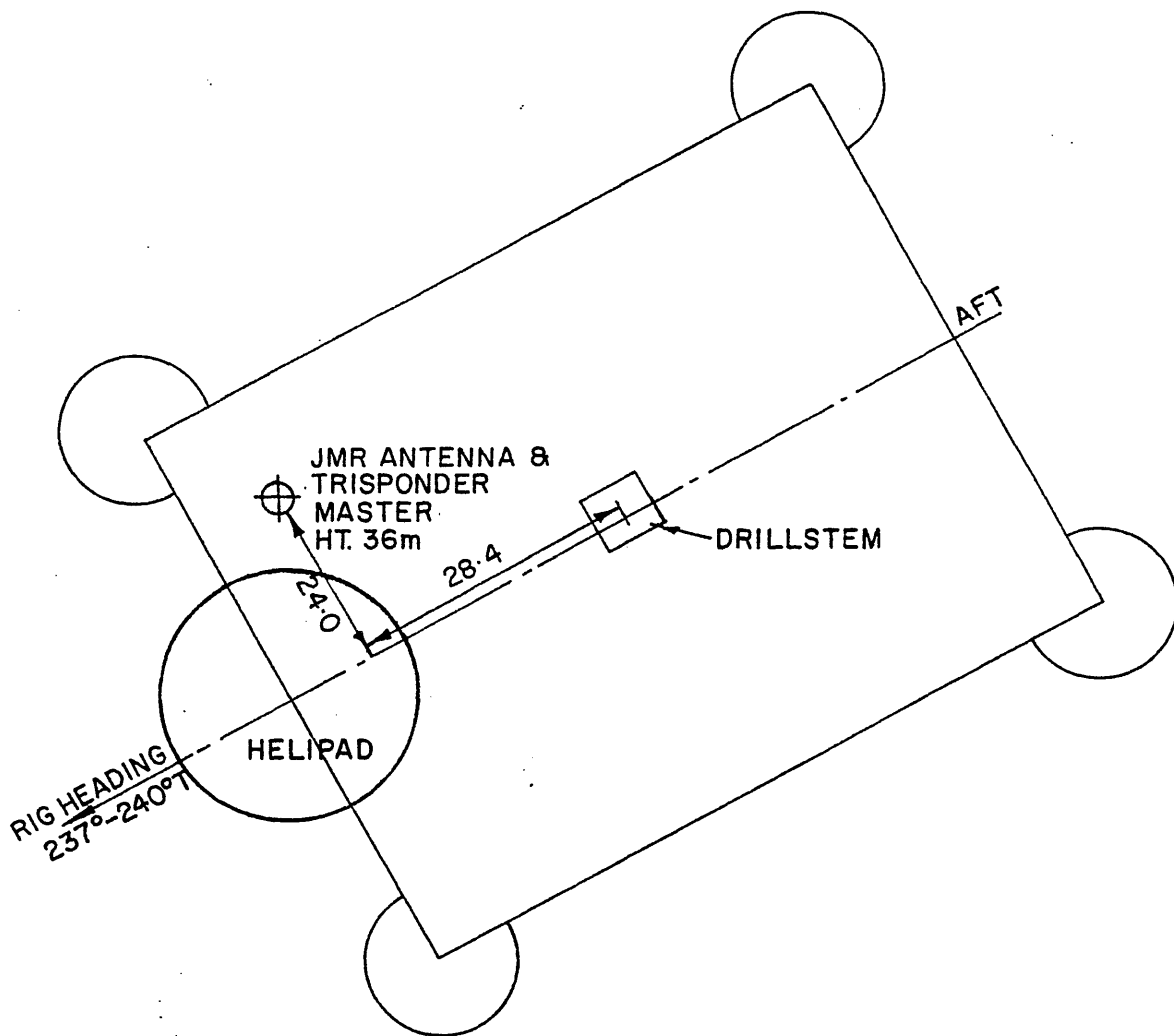
DISTRIBUTION

4 copies Lasmo Energy Australia Limited
1 copy Racal Survey

APPENDIX A

RIG. DIAMOND M "EPOCH"

NOTE TO SCALE

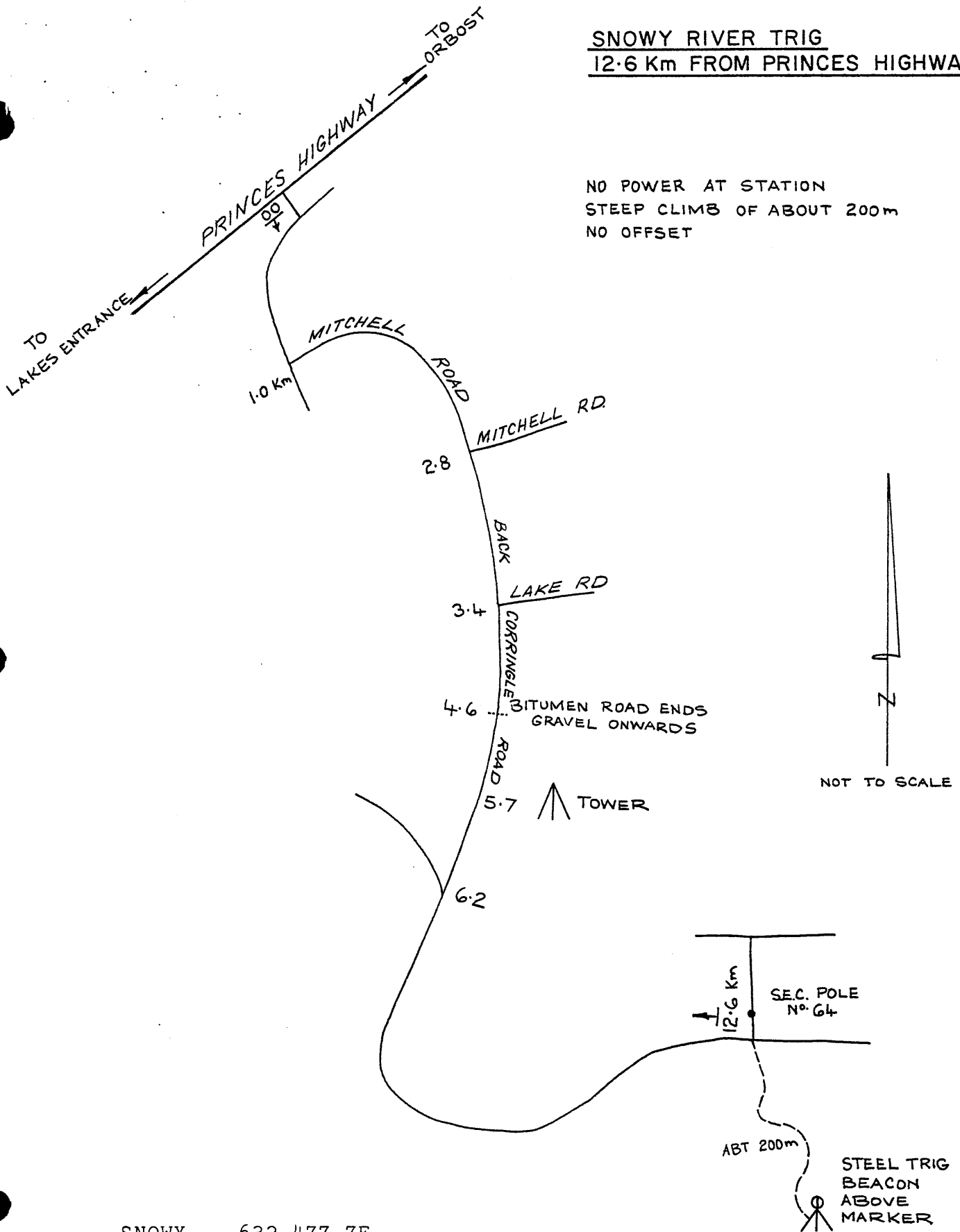


NOTE: Antenna Height ± 5 metres related to sealevel.

RACAL

SNOWY RIVER TRIG
12.6 Km FROM PRINCES HIGHWAY

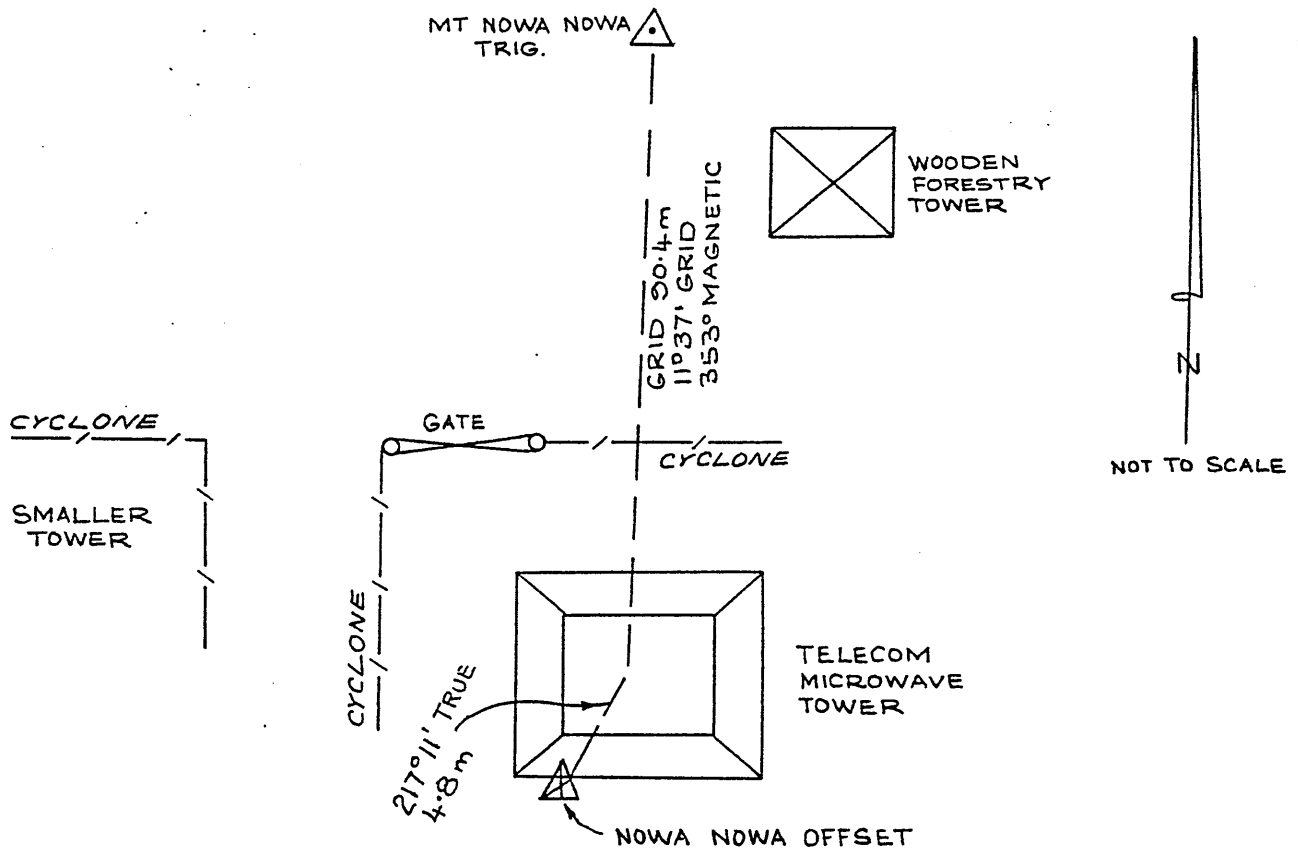
NO POWER AT STATION
 STEEP CLIMB OF ABOUT 200m
 NO OFFSET



SNOWY 632 477.7E
 5 815 031.6N

RACAL

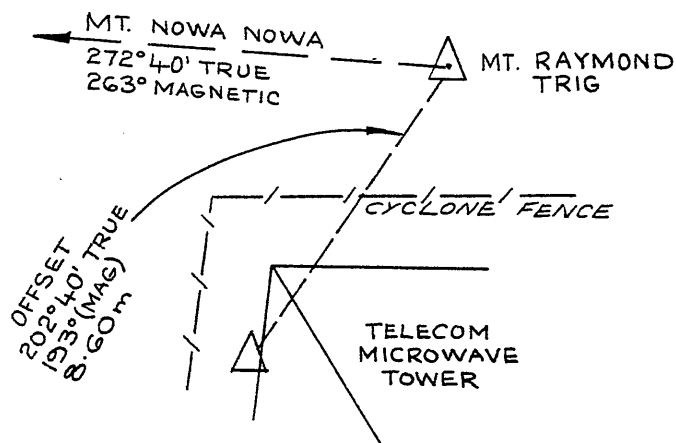
MT. NOWA NOWA OFFSET



MT. NOWA NOWA TRIG.	596 092.18 E	
	5827643.59 N	HT. 353.92
NOWA NOWA TOWER	596 073.94 E	
	5827554.99 N	
NOWA NOWA OFFSET	596 071.0 E	
	5827551.2 N	HT. 371

- NOTE: - 240V. POWER ON FORRESTRY LOOKOUT LEVEL.
 - ACCESS TO TELECOM TOWER ENCLOSURE BY KEY OBTAINED FROM DEPT. LANDS AND CONSERVATION, NOWA NOWA.
 PH. (051) 557 233
 - 4 WHEEL DRIVE NOT ESSENTIAL.

MT. RAYMOND OFFSET

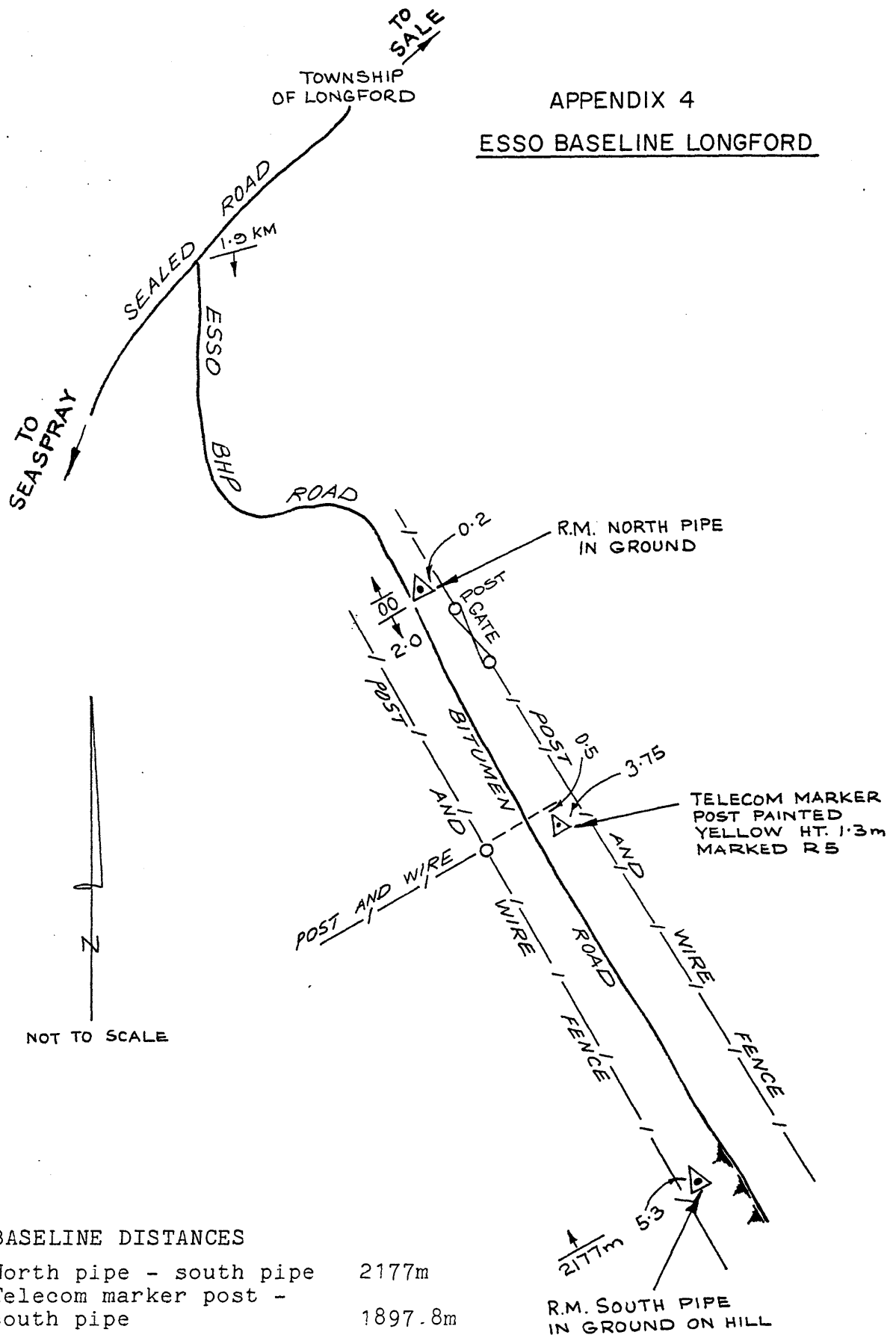


Mt. Raymond Trig	640 919.48E	
	5 824 782.87N	Ht. 293.03
Raymond (offset)	640 916.2E	
	5 824 774.9N	Ht. 300

- NOTE:
- Access to Telecom tower enclosure by key obtained from Dept. Lands and Conservation. Orbest (ph. 051 541 133)
 - Ask permission to occupy tower from Telecom.
 - Power on site. either ground level inside Telecom shed or half way up tower at Forrestry Lookout.
 - 4 wheel drive not essential.

RACAL

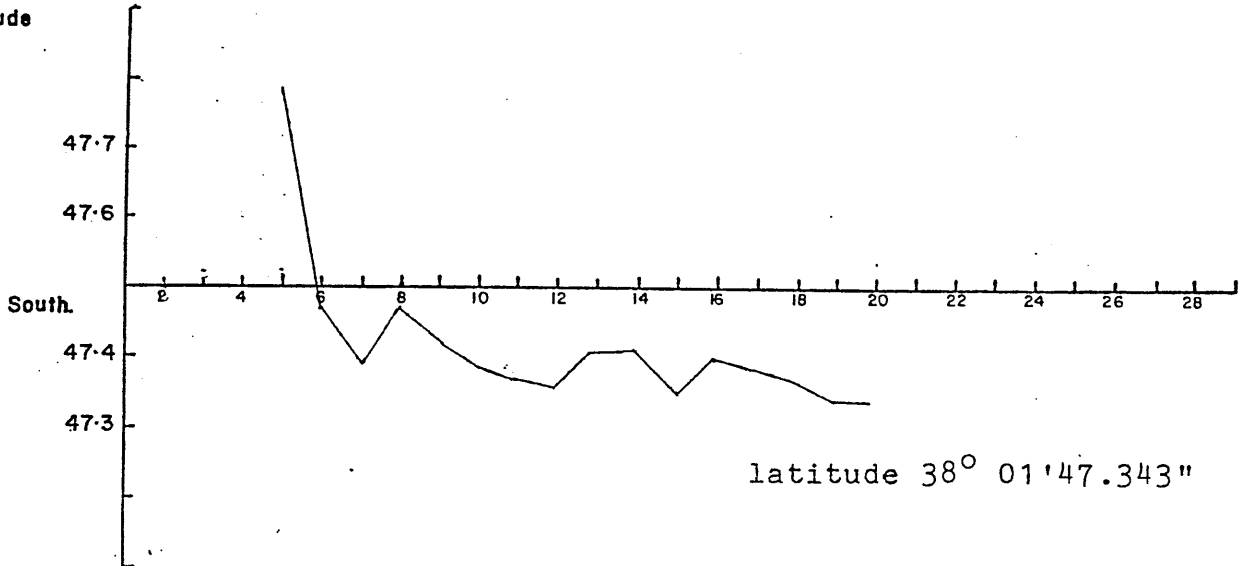
APPENDIX 4
ESSO BASELINE LONGFORD



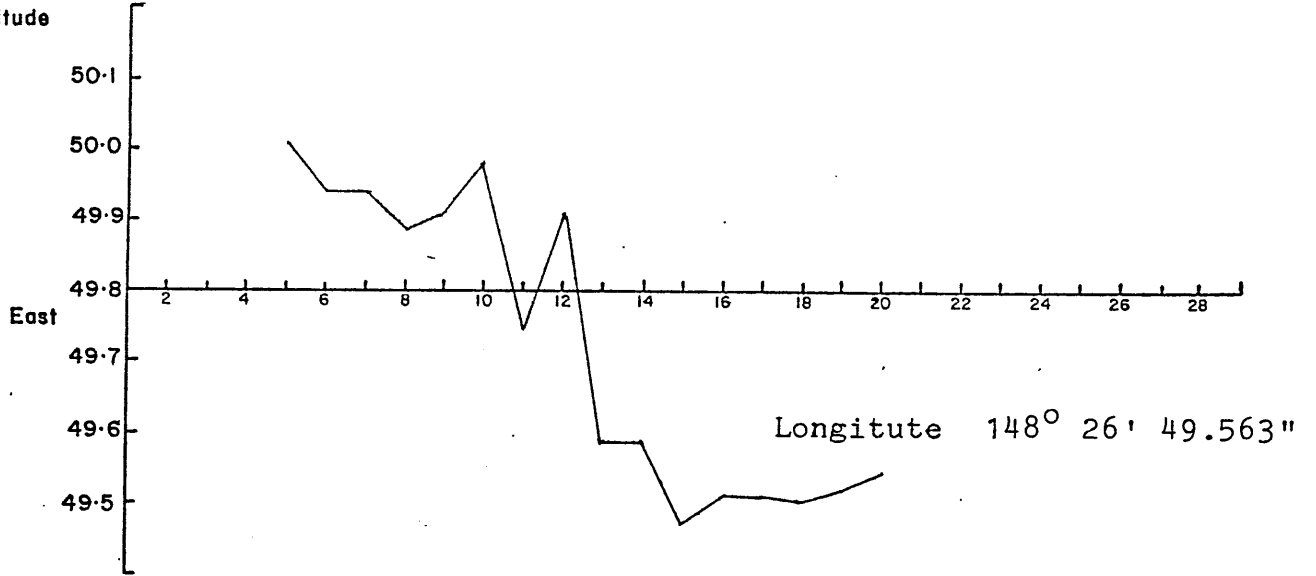
APPENDIX C

JMR 4 Satnav Convergence Graph

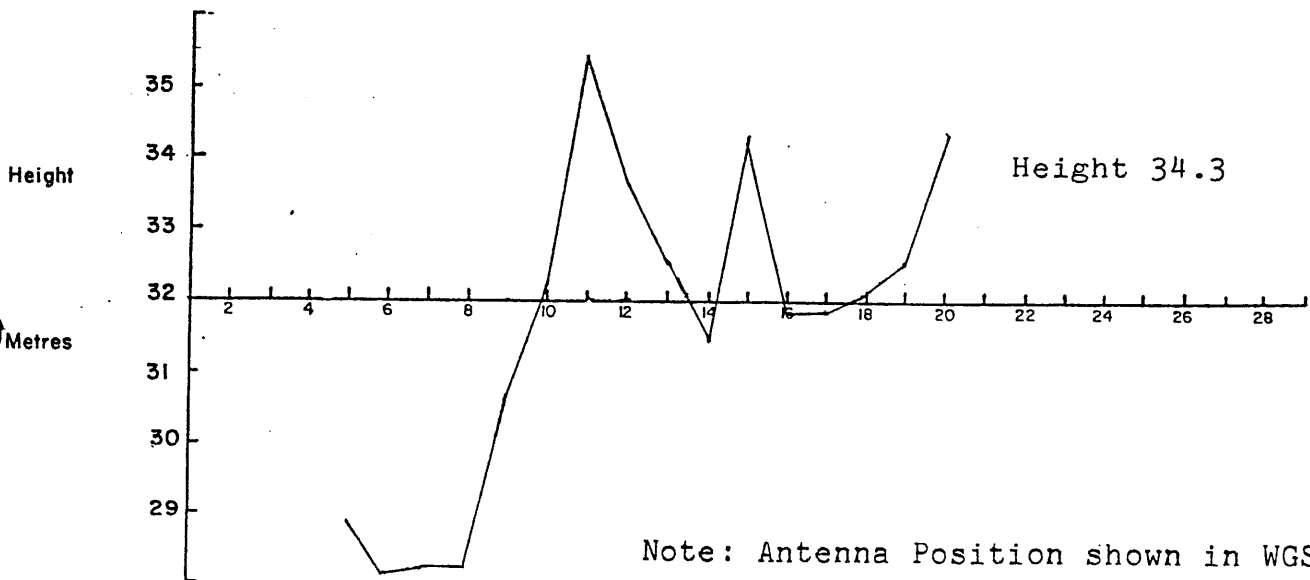
Latitude



Longitude



Height



Note: Antenna Position shown in WGS-72

MUD AND BIT RECAP

APPENDIX II

COMPLETE MUD AND BIT RECAP

Dresser Magco

DIVISION OF DRESSER INDUSTRIES, INC.

WELL SUMMARY

OPERATOR: LASMO ENERGY AUSTRALIA

WELLSITE REP: M. MURTAGH
P. GRIFFITHS

CONTRACTOR: DIAMOND M DRILLING

CONTRACTOR REP: J. BRACEY

RIG: DIAMOND M EPOCH

WELL: PATRICIA NO. 1

TOTAL DRILLING DAYS: 8

SPUD DATE: 26TH JUNE, 1987

TOTAL DAYS ON WELL: 21

TOTAL DEPTH DATE: 3RD JULY, 1987

DRILLING FLUID BY INTERVALMUD COST BY INTERVAL

Spud Mud	Seabed 73 m RKB to 220.84 meters	\$ 2,158.80
(1) Seawater		
(2) Seawater/Gel	220.84 to 654 meters	\$ 5,997.20
Seawater/Gel	654 to 900 meters	\$25,046.20
TOTAL MUD COST:		\$33,202.20

DRESSER MAGCOBAR ENGINEER:

R. PARK
T. KOWALSKI

Dresser Magobar



DIVISION OF DRESSER INDUSTRIES, INC.

WELL SUMMARY

COMPLETE MUD AND BIT RECAP

LASMO ENERGY AUSTRALIA.

WELL : PATRICIA NO. 1



WELL SUMMARY

T A B L E O F C O N T E N T S

- . INTRODUCTION
- . SUMMARY OF WELL EVENTS
- . OBSERVATIONS AND RECOMMENDATIONS
- . MATERIAL COST AND CONSUMPTION
- . GRAPHS:
 - DEPTH VS DAYS
 - DEPTH VS MUD COST
 - DEPTH VS MUD WEIGHT
- . BIT AND HYDRAULIC RECORD
- . DAILY WELL HISTORY
- . DAILY MUD REPORTS



WELL SUMMARY

INTRODUCTION

Lasmo Energy Australia Limited's exploration well, Patricia No. 1, was spudded by the semi-submersible rig Diamond M Epoch on the 26th June 1987. The well was located in permit VIC/P11 of the Gippsland Basin at a latitude of 38 degrees 01'53.23" South and a longitude of 148 degrees 26' 46.82" East.

The well was located in 51 meters of water and the geological tops were:

Formation	Depth (RKB Meters)	Lithology
Seabed	73	
Gippsland Limestone	73	Limestone/Claystone
Lakes Entrance Formation	582	Claystone
Green Sand Unit	677	Sandstone
Latrobe Formation	710	Siltstone/Sands/Claystones
Strezlecki Group	827	Siltstones/Claystones
TOTAL DEPTH	900	

The objective of the exploration well was gas accumulation in the Latrobe Formation which had been discovered by the Baleen No. 1 and Whale No. 1 wells.

The well was drilled to a total depth of 900 meters in a total of eight drilling days, before an extensive testing programme was carried out. The well was then suspended and the rig was demobilised.



WELL SUMMARY

WELL SUMMARY BY INTERVAL

Interval: Seabed 73 - 220.84 Meters 26" Hole 20" Casing

The Diamond M Epoch was positioned on location, Patricia No. 1, on the 25th June 1987 and ballasted down. The well was spudded on the 26th June 1987 with a 17.1/2" bit and 26" hole opener and using a flocculated bentonite system with seawater. Upon reaching the interval depth the hole was circulated clean with high viscosity gel sweeps and a wiper trip was made. The hole was circulated clean and a string of 20" casing was run and cemented at 215 meters without any problems.

Interval: 220.84 - 654 Meters 17.1/2" Hole 13.3/8" Casing

The blow out preventers were nipped up and tested, and a 17.1/2" drilling assembly was run in to tag the cement at 210 meters. Seawater was used to drill out the cement, float collar, float shoe and new formation to 223 meters, where a formation integrity test resulted in a 14.3 ppg equivalent mud weight.

Drilling then continued using seawater to 610 meters where the circulating system was closed and pre-hydrated bentonite was strung into the system. At the interval depth of 654 meters the hole was circulated clean and a wiper trip was made. Extra pre-hydrated bentonite was strung into the system to raise the yield point. A suite of electronic logs were run without any problems and, after a wiper trip, a string of 13.3/8" casing was run and cemented at 641 meters without any hole problems. During the running of the casing, 210 barrels of mud were lost overboard due to the dump gate being left open. After cementing, the casing was displaced to seawater.

Interval: 654 - 900 Meters 12.1/4" Hole 9.5/8" Casing

While waiting on the cement to cure and setting the seal assembly, the active mud system (930 barrels) was treated to the program specifications and weighted up to 10.2 ppg. In addition, 280 barrels of pre-hydrated bentonite was mixed and stored in the reserve pit.

A 12.1/4" drilling assembly was run in to tag cement at 627 meters and drill out cement, float collar, float shoe and rat hole with seawater before displacing to mud. After drilling 3 meters of new formation to 657 meters, a formation integrity test resulted in a 13.4 ppg equivalent mud weight. Drilling of the 12.1/4" interval began and the surface volume was increased with a mud weight of 10.2 ppg being maintained.



WELL SUMMARY

Drilling continued with regular geological samples being circulated out of the hole. Increases in the viscosity and yield point due to formation clays necessitated larger addition of lignosulphonate than expected. Prior to the start of the coring program at 703 meters the mud weight was increased to 10.5 ppg.

Three 18 meter cores were cut from 703 meters to 757 meters before drilling to the Total Depth of 900 meters. During drilling of the last 50 meters the rheology again was increased and was allowed to stay higher prior to the logging run. The shaker screens were changed from S60 and S80, S60/S60 to S40/S60 and S40/S60 to counter the increased mud losses caused by the higher viscosity.

At Total Depth the hole was circulated clean with a high viscosity sweep prior to making a 10 stand wiper trip, after which the hole was circulated clean before logging. A suite of electronic logs was run and a wiper trip was made. There was no fill on bottom and the hole was circulated to replace the well mud with a lower yield point mud from the surface. The 9.5/8" casing was run and cemented successfully.

The drilling fluids engineer was released from the rig and a comprehensive testing program was carried out before suspending the well.



WELL SUMMARY

OBSERVATIONS AND RECOMMENDATIONS

On Patricia No. 1 large amounts of clay were encountered that raised the viscosity, yield point and MBT level of the mud system. Consequently, more lignosulphonate was used than anticipated to control the mud parameters. There was no evidence of the bit balling that had been experienced on previous wells. The seawater based system appeared to counter this, however, in future it would be recommended that the bentonite level of the mud be lower prior to drilling the claystones.

The cost of the well was \$33,202 as compared with the estimated cost of \$38,184. Over half the cost of the well can be attributed to barite usage. An extra 880 sacks of Barite were sent to the rig but not used. The unavailability of sea containers caused the barite to be bulked out to the rig. A list of the extra chemicals used is contained in this report.



WELL SUMMARY

OPERATOR: LASMO ENERGY AUSTRALIA

WELL: PATRICIA NO. 1

HOLE SIZE: 26"

INTERVAL: SEABED RKB 73 - 220.84 METERS

CASING SIZE: 20" AT 215 METERS

PRODUCT	UNIT SIZE	QUANTITY	COST
Magcogel	100 lb	90	1,710.00
Soda Ash	40 kg	1	19.80
Caustic	25 kg	1	24.00
Lime	25 kg	5	34.00
Calcium Chloride*	25 kg	28	371.00

			\$2,158.80

COST PER METER (Excluding * above)			\$12.09



DIVISION OF DRESSER INDUSTRIES, INC.

WELL SUMMARY

OPERATOR: LASMO ENERGY AUSTRALIA

WELL: PATRICIA NO. 1

HOLE SIZE: 17.1/2"

INTERVAL: 220.84 - 654 METERS

CASING SIZE: 13.3/8" AT 641 METERS

PRODUCT	UNIT SIZE	QUANTITY	COST
Magcogel	100 lb	251	4,769.00
Soda Ash	40 kg	3	59.40
Caustic	25 kg	13	312.00
Lime	25 kg	1	6.80
Barite	25 kg	100	850.00

			\$5,997.20

		COST PER METER	\$13.85



WELL SUMMARY

OPERATOR: LASMO ENERGY AUSTRALIA

WELL: PATRICIA NO. 1

HOLE SIZE: 12.1/4"

INTERVAL: 654 - 900 METERS

CASING SIZE: 9.5/8" AT 883 METERS

PRODUCT	UNIT SIZE	QUANTITY	COST
Barite	100 lb	2210	18,785.00
Magcogel	100 lb	52	988.00
Caustic	25 kg	26	624.00
Soda Ash	40 kg	4	79.20
Spersene	25 kg	50	1,275.00
Polysal	25 kg	80	3,040.00
Polypac	25 kg	3	255.00

			\$25,046.20

		COST PER METER	\$101.81



WELL SUMMARY

TOTAL MATERIAL CONSUMPTION

OPERATOR: LASMO ENERGY AUSTRALIA

WELL: PATRICIA NO. 1

LOCATION: GIPPS LANS BASIN

PRODUCT	UNIT SIZE	UNIT	COST	% COST
Barite	100 lb	2310	19,635.00	59.14
Magcogel	100 lb	393	7,467.00	22.48
Lime	25 kg	6	40.80	0.12
Calcium Chloride	25 kg	28	371.00	1.12
Caustic	25 kg	40	960.00	2.89
Spersene	25 kg	50	1,275.00	3.84
Polysal	25 kg	80	3,040.00	9.16
Polypac	25 kg	3	255.00	0.77
Soda Ash	40 kg	8	158.40	0.48
			-----	-----
			\$33,202.20	100.00%
			-----	-----



WELL SUMMARY

The following material was used during the testing program after the mud engineer had been released. These materials were detected on restocking the Dresser warehouse.

PRODUCT	UNIT SIZE	UNIT	COST
Magcogel	100 lb	3	57.00
Spersene	35 kg	12	306.00
Caustic Soda	25 kg drm	11	264.00
Mica	15 kg	3	34.50
Polysal	25 kg	1	38.00
Polypac	25 kg	1	85.00

Testing Chemicals

Applied 2100	205 ltr drm	2	1,828.00
Diethylene Glycol	205 ltr drm	1	651.00
Monethylene Glycol	205 ltr drm	1	670.00

\$ 3,933.50

DRESSER MAGCOBAR

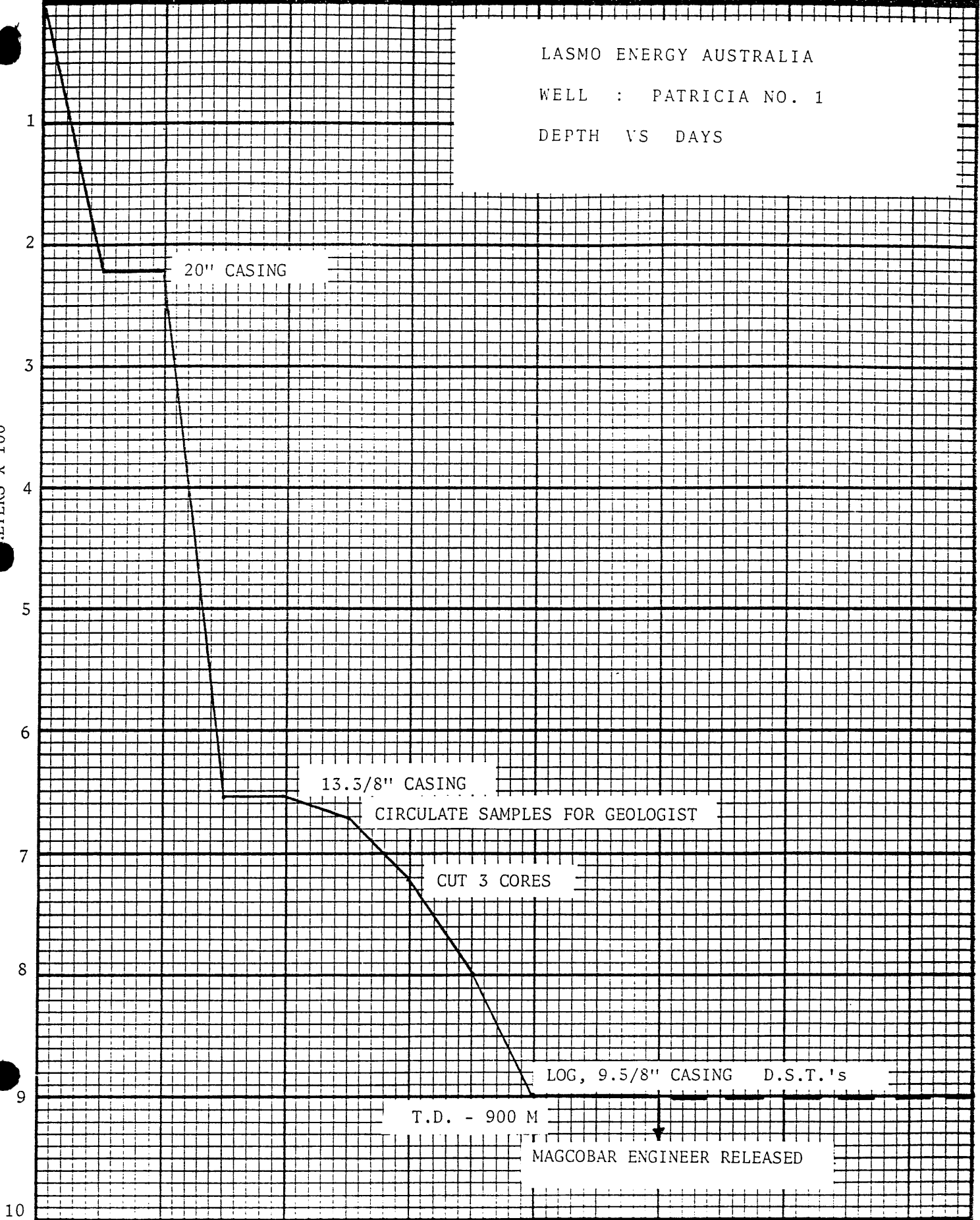
WELL SUMMARY

LASMO ENERGY AUSTRALIA

WELL : PATRICIA NO. 1

DEPTH VS DAYS

DEPTH
METERS X 100



DEPTH VS DAYS

LASMO ENERGY AUSTRALIA
WELL : PATRICIA NO. 1
DEPTH VS COST

METERS X 100
DEPTH

SPUD MUD

20" CASING

SEAWATER

MUD UP

13.3/8" CASING

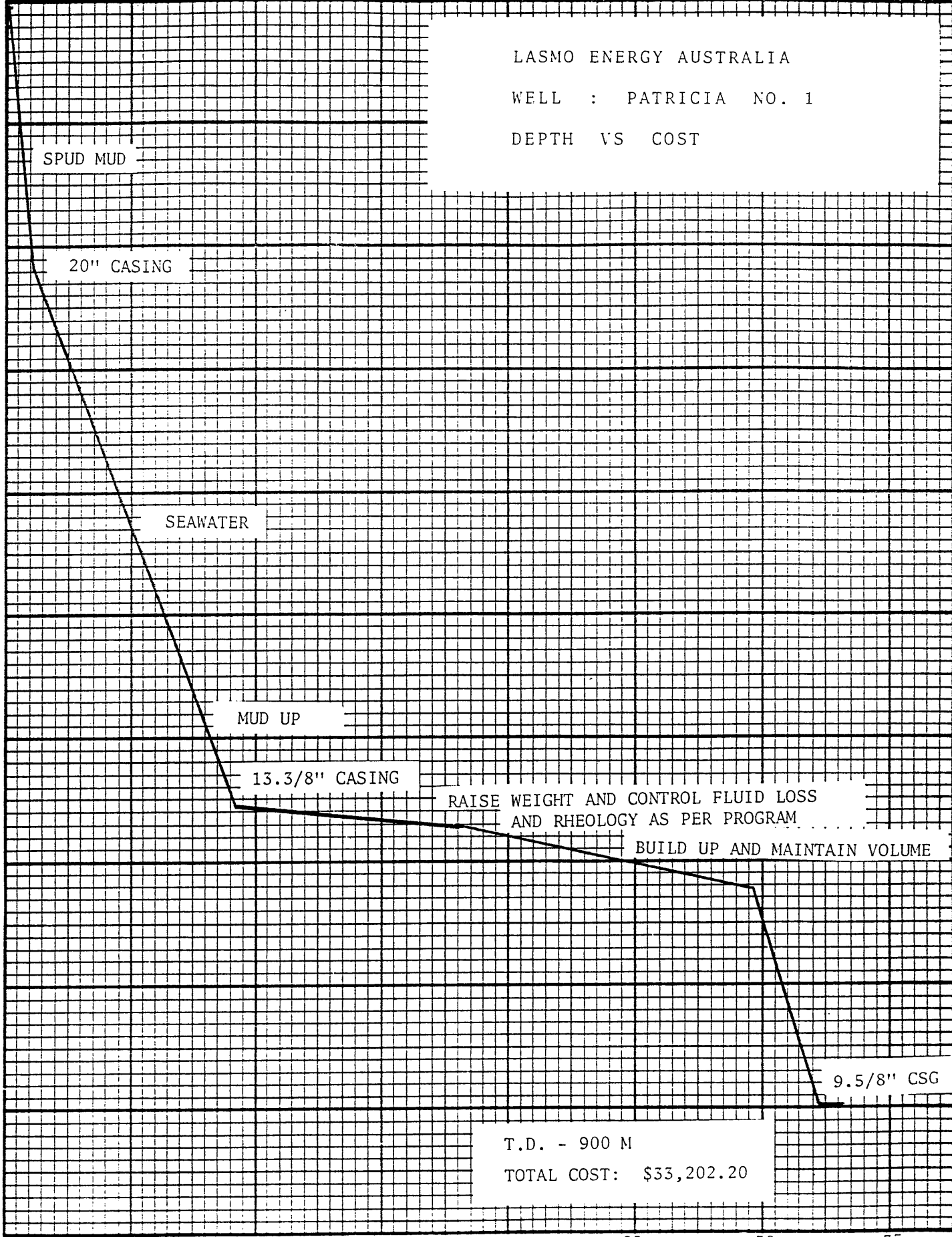
RAISE WEIGHT AND CONTROL FLUID LOSS
AND RHEOLOGY AS PER PROGRAM

BUILD UP AND MAINTAIN VOLUME

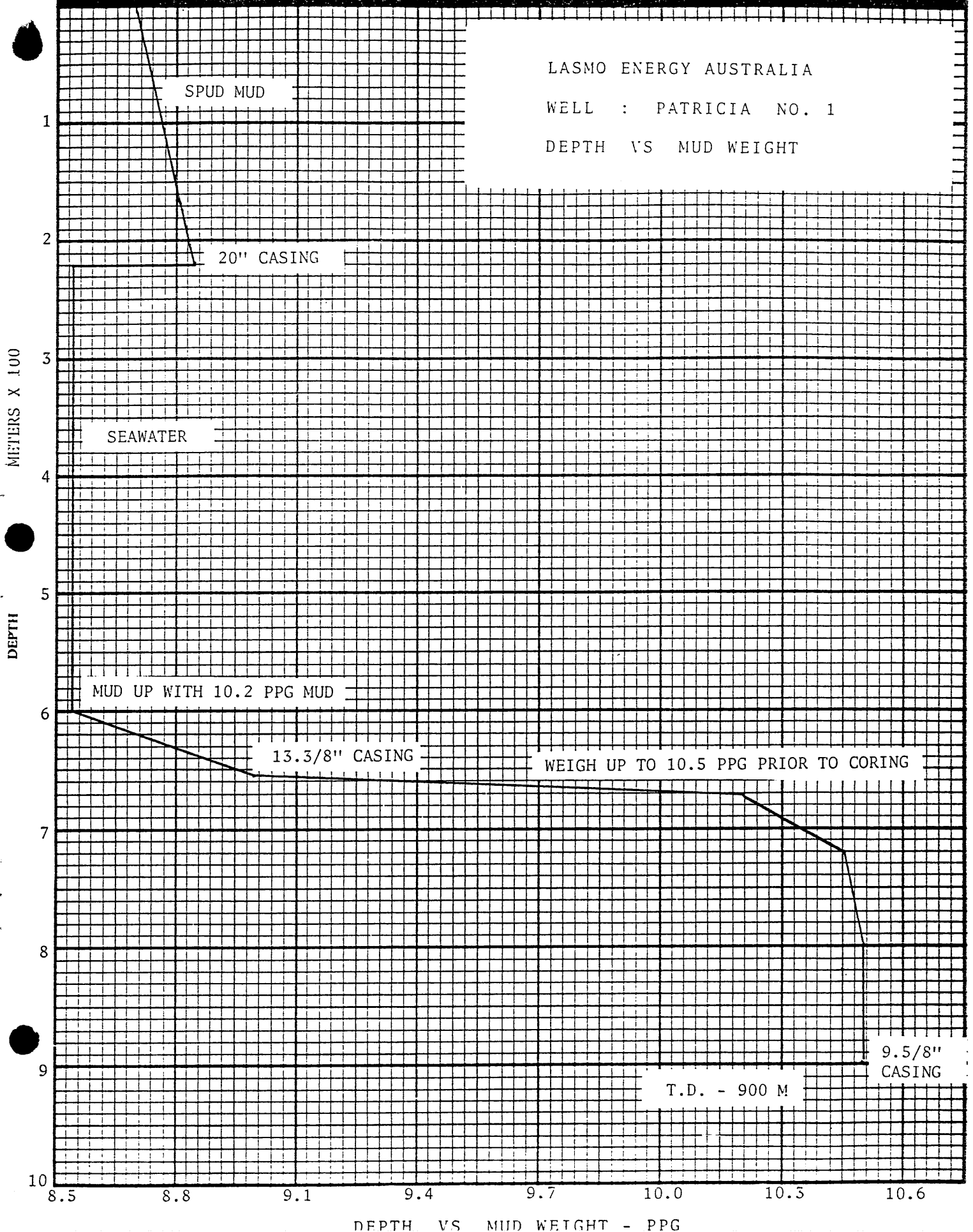
9.5/8" CSG

T.D. - 900 M
TOTAL COST: \$33,202.20

DEPTH VS COST X \$1000



LASMO ENERGY AUSTRALIA
WELL : PATRICIA NO. 1
DEPTH VS MUD WEIGHT





WELL SUMMARY

WELL HISTORY SHEET : DRILLING FLUID PROPERTIES.

OPERATOR: LASMO ENERGY AUSTRALIA
 WELL: PATRICIA NO. 1
 CONTRACTOR: DIAMOND M DRILLERS

LOCATION: VIC P11, BASS STRAIT
 STATE: VICTORIA
 MUD TYPE: SPUD MUD / SEAWATER

NO.	DATE	DEPTH	MW	VIS	GPM	PV	YP	pH	APIWL	HTHP	Pf	Mf	Pm	CL-	Ca	SOL%	OIL%	MBL
1	28-Jun-87	645	8.9	37	932	8	16	9.5	N/C	*	0.3	0.6	0.6	14500	770	4	*	*
2	29-Jun-87	654	9.0	36	932	9	16	9.5	N/C	*	0.3	0.5	0.5	13500	680	4.5	*	17.5
3	30-Jun-87	670	10.2	46	513	19	19	9.5	9.3	*	0.3	0.6	0.5	13500	360	8.5	*	17.5
4	01-Jul-87	721	10.4	48	391	19	18	9.5	7.8	*	0.4	0.6	0.6	13000	320	12.5	*	20
5	02-Jul-87	797	10.5	38	522	18	15	10.0	6.2	*	0.5	0.8	0.7	14000	200	12	*	17.5
6	03-Jul-87	900	10.5	47	559	16	19	9.5	6.9	*	0.3	0.5	0.6	14500	220	12.5	*	22.5
7	04-Jul-87	900	10.4	42	560	15	12	9.0	7.8	*	0.7	0.5	0.4	13500	180	11.5	*	20



WELL SUMMARY

WELL HISTORY SHEET : DRILLING FLUID COMMENTS

OPERATOR: LASMO ENERGY AUSTRALIA LOCATION: BASS STRAIT
WELL: PATRICIA NO. 1 STATE: VICTORIA
CONTRACTOR: DIAMOND M DRILLING MUD TYPE: SPUD MUD/SEAWATER GEL

1. 28 JUNE 1987

SPUDED PATRICIA NO. 1 AT 0200 HOURS WITH 17.1/2" BIT AND 26" H.O. DRILLED TO 220 METERS. PUMP HI VIS SWEEPS. WIPER TRIP. POOH. RUN 20" CASING AND CEMENT AT 215 METERS. DRILL OUT CASING. DRILL 17.1/2" HOLE WITH SEAWATER. MUD UP AT 600 METERS. DRILL TO 654 METERS.

2. 29 JUNE 1987

POOH TO LOG. LOG HOLE. RIH FOR WIPER TRIP. CIRC AND POOH TO RUN CASING. RUN 13.3/8" CASING TO 641 METERS AND CIRC. PRIOR TO CEMENTING. LOST 210 BBL VOLUME DURING CASING RUNNING OPERATIONS.

3. 30 JUNE 1987

CEMENT 13.3/8" CASING AT 641 METERS. DISPLACE CASING TO S/WATER. TREAT AND WEIGH UP 930 BBL SURFACE MUD TO REQ. SPECS. MIXED 280 BBL PRE-HYDR GEL. RIH WITH 17.1/2" BIT. DRILL OUT CASING AND 3 METERS NEW FORMATION. LEAK OFF TO 13.4 PPG. DRILL TO 670 METERS AND CIRC SAMPLE.

4. 1 JULY 1987

DRILL TO 703 METERS. WEIGH UP SYSTEM TO 10.5 PPG. TREAT HIGH FLOW PROPERTIES. POOH TO CORE AT 703 METERS. CUT CORE NO. 1 FROM 703 - 721 METERS. POOH WITH CORE BARREL.

5. 2 JULY 1987

RECOVER CORE NO. 1 - 95% RECOVERY. RIH AND CUT CORE NO. 2 FROM 721 - 739 METERS. POOH WITH 100% RECOVERY. CUT CORE NO. 3 FROM 739 - 757 METERS. POOH WITH 20% RECOVERY. RIH WITH 12.1/4" BIT. DRILL TO 797 METERS. OVERCHARGED 12 SPERSENE ON REPORT NO. 4 - ADJUSTED TODAY.

Dresser Magobar



DIVISION OF DRESSER INDUSTRIES, INC.

WELL SUMMARY

6. 3 JULY 1987

DRILLED TO T.D. AT 900 METERS. HIGH FV AND YP DUE TO DRILLING CLAY DISPERSING IN SYSTEM, ALLOWING TO REMAIN HIGH FOR LOGGING. PUMPED HI VIS SWEEP. MADE 10 STAND WIPER TRIP. POOH TO LOG. LOGGING.

7. 4 JULY 1987

LOGGING. RIH FOR WIPER TRIP AND CIRCULATE HOLE CLEAN WHILE PUMPING LOW YIELD POINT MUD DOWN HOLE AND LETTING HIGH YIELD POINT RETURNS GO TO RESERVE TANKS. POOH TO RUN 9.5/8" CASING.



P. O. BOX 6504
HOUSTON, TEXAS 77265



MAGCOBAR GROUP
Dresser Industries, Inc.

DRILLING MUD REPORT NO.	1				
DATE	June 28 1987	DEPTH	654'		
SPUD DATE	26-6-87	PRESENT ACTIVITY	PUSH TO LOG		
OPERATOR	LASMO	CONTRACTOR	OLANUM M	RIG NO.	EACH

REPORT FOR	M. MURTAUGH / P. GRIFFITHS	REPORT FOR	J. GRACEY	SECT., TOWNSHIP., RANGE	-		
WELL NAME AND NO.	PATERIA #1	FIELD OR BLOCK NO.	111 P11	CTY., PAR. OR OFFSHORE AREA	-	STATE / PROVINCE	VICTORIA

DRILLING ASSEMBLY			CASING		MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE	TYPE	JET SIZE	SURFACE SET @	20"	HOLE	PITS	PUMP SIZE	X	IN.	ANNULAR VEL. (FT/MIN)
17 1/2"	S135	18-18-10	INTERMEDIATE SET @	215 FT	646	570	15	X	12	DP 81 DC 94/106
DRILL PIPE SIZE	TYPE	LENGTH	INTERMEDIATE SET @	FT.	TOTAL CIRCULATING VOL.	1216	PUMP MAKE, MODEL	ASSUMED EFF.	912 %	CIRCULATION PRESSURE (PSI)
5"	145" 6"	2239'	INTERMEDIATE SET @	FT.	IN STORAGE WEIGHT	250 BBL - 8.6 BBL	WILCOX ATW-10	912 %		2750
DRILL PIPE SIZE	TYPE	LENGTH	PRODUCTION OR LINER SET @	FT.	MUD TYPE	SEAWATER GEL	BBL/STK	STK/MIN	200	BOTTOMS UP (MIN)
5"	HEAP	56.38'					2.111			28
DRILL COLLAR SIZE	LENGTH	PRODUCTION OR LINER SET @	FT.			BBL/MIN	GAL/MIN	22.2	932	TOTAL CIRC. TIME (MIN)
8"	115.6'									55

MUD PROPERTIES			MUD PROPERTY SPECIFICATIONS		
SAMPLE FROM	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	WEIGHT	VISCOSITY	FILTRATE
TIME SAMPLE TAKEN	2145	0230	SEAWATER	4.2-4.5	N/C
DEPTH (ft)	645'	645'	BY AUTHORITY:	<input type="checkbox"/> OPERATOR'S WRITTEN	<input type="checkbox"/> DRILLING CONTRACTOR
WEIGHT (ppg) (lb/cu. ft) (Sp. G)	88	89	<input type="checkbox"/> OPERATOR'S REPRESENTATIVE	<input type="checkbox"/> OTHER	PH 9.5-10.0
FUNNEL VISCOSITY (sec./qt.) API @	34	37	PRODUCTS	TREATMENT	
PLASTIC VISCOSITY cP @	8	8	DELAUNA	14.2	6.8
YIELD POINT (lb/100ft²)	16	16	DEILINA	12.3	8.8
GEL STRENGTH (lb/100ft²) 10 sec./10 min.	4/7	5/9			
FILTRATE API (cm³ /30 min.)		N/C	REMARKS:		
API HTHP FILTRATE (cm³ /30 min.) @			- SPUD PATERIA #1 @ 2200' ON JUNE 26, 1987		
CAKE THICKNESS (32nd in. API/HTHP)	/	- / -	- WITH 17 1/2" BIT + 26" HOLE OPEN		
SOLIDS CONTENT (% BY Vol.) CALCD. RETORT		4.0	- DRILL TO 220.840' PUMP GEL SWELL + WASH TRIP		
LIQUID CONTENT (% BY Vol.) OIL/WATER	/	- / 96.0	- GEL GEL + P.W.J.H		
SAND CONTENT (% BY Vol.)			- RUN 20' CIG + CEMENT AT 215'		
METHYLENE BLUE CAPACITY (lb/bbl equiv. cm³ /cm³ mud)			- RUN STAGN + RIGG TEST SAME		
PH (STRIP) (METER @)	9.5	9.5	- RIG W/ 17 1/2" BIT TAG TO 210'		
ALKALINITY MUD (Pm)		0.6	- DRILL WITH SEAWATER TO 600' AND RUN CIG		
ALKALINITY FILTRATE (P, /M,)	/	0.3 / 0.5	- STAGN + RIGG OF PRE-HYDRATED GEL		
ALTERNATE ALKALINITY FILTRATE (P, /P,)	/	- / -	- DRILL TO 650' GEL GEL + MAIN WITH TRIP TO HWT		
CHLORIDE (mg/L)		14,500	- CIG ON RIG + PUMP H.W. SWELL RIGG STAGN 4.8		
TOTAL HARDNESS AS CALCIUM (mg/L)		720	- P.W.J.H TO LOG		

PRODUCT INVENTORY	EQUIPMENT				
	HOURS	HOURS	HOURS	HOURS	HOURS
STARTING INVENTORY	5W	24	96	4W	4W
RECEIVED					
USED LAST 24 HR.	34	4	12	6	28
CLOSING INVENTORY	219	20	84	34	12
COST LAST 24 HR.	DAILY COST FROM SPUD			CUMULATIVE COST	
	\$ 7,258.00			\$ 7,258.00	

MAGCOBAR ENGINEER	TIM KUNAWAT	HOME ADDRESS	ANGLADE	PHONE	(08) 356-7470
MOBILE UNIT	THANK!	WAREHOUSE LOCATION		PHONE	

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Products	UNITS	UNIT COST	COST	Csg Seat Frac Press	14.3 APG	HYDRAULICS
MAGCO GEL	341	19.00	6,479.00	ECD @ Csg Seat		DRILL Collars in
SUGA AIN	4	19.00	76.00	ECD @ Bottom		Hole
CAUSTIC	12	24.00	288.00	SOLIDS DISTRIBUTION ANALYSIS		
LDAL	6	6.80	40.80	#/bbl Barite	%	Flow
CALCIUM CHLORIDE	28	13.25	371.00	#/bbl Bentonite	%	Ann. Press Loss
			7,258.00	#/bbl Drill Solids	%	DRILL Pipe in
				Bbl. Water last 24 hrs.	%	Hole
				TIME DISTRIBUTION		
				Drilling	Circulating	Ann. Press Loss
				TRIP	Wash/Ream	DRILL Pipe in
				Rig Service	Logging	Csg
				Survey	Fm Testing	Flow
						Ann. Press Loss



P. O. BOX 6504
HOUSTON, TEXAS 77265



DRILLING MUD REPORT NO. 2
DATE June 29 19 87 DEPTH 654'
PRESENT ACTIVITY
SPUD DATE 26-6-87 CONCRETE 13 1/4" CSG
RIG NO. ER2H

MAGCOBAR GROUP
Dresser Industries, Inc.

OPERATOR LARRY EMMETT CONTRACTOR OLANSON M
REPORT FOR M. MYRTAGH / P. CRIVELLO REPORT FOR J. BRALCY SECT., TOWNSHIP., RANGE
WELL NAME AND NO. Palencia #1 FIELD OR BLOCK NO. VIC. P11 CTY., PAR. OR OFFSHORE AREA STATE / PROVINCE VEC

DRILLING ASSEMBLY			CASING		MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE <u>1 7/8"</u>	TYPE <u>S135</u>	JET SIZE <u>18-18-18</u>	SURFACE SET @ <u>7'5"</u>	HOLE <u>6 1/2"</u>	PITS <u>870</u>	PUMP SIZE <u>6 1/2" x 12"</u>	ANNULAR VEL. (FT/MIN) DP <u>81</u> DC <u>94/106</u>				
DRILL PIPE SIZE <u>5"</u>	TYPE <u>19 5/8" E</u>	LENGTH <u>150.39'</u>	INTERMEDIATE SET @ <u>FT. 13 3/4"</u>	TOTAL CIRCULATING VOL. <u>1110</u>	WEIGHT <u>9.2</u>	PUMP MAKE, MODEL <u>WELCH A17W-AT</u>	CIRCULATION PRESSURE (PSI) <u>2850</u>				
DRILL PIPE SIZE <u>5"</u>	TYPE <u>Hump</u>	LENGTH <u>150.39'</u>	INTERMEDIATE SET @ <u>FT. 17.5' @ 11"</u>	IN STORAGE <u>8.6'</u>	STK/MIN <u>200</u>	ASSUMED EFF. <u>97%</u>	BOTTOMS UP (MIN) <u>28</u>				
DRILL COLLAR SIZE <u>8"</u>	LENGTH <u>115.0'</u>	PRODUCTION OR LINER SET @ <u>FT. 3265'</u>	MUD TYPE <u>SEAWATER / GEL</u>	BBL/MIN <u>22.2</u>	GAL/MIN <u>936</u>	TOTAL CIRC. TIME (MIN) <u>50</u>					

MUD PROPERTIES			MUD PROPERTY SPECIFICATIONS		
SAMPLE FROM	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	WEIGHT	VISCOSITY	FILTRATE <u>MLC</u>	
TIME SAMPLE TAKEN	<u>1500</u>				
<u>FLAME TOP UP</u>	<u>580</u>	BY AUTHORITY:	<input type="checkbox"/> OPERATOR'S WRITTEN	<input type="checkbox"/> DRILLING CONTRACTOR	
DEPTH (ft)	<u>654'</u>		<input type="checkbox"/> OPERATOR'S REPRESENTATIVE	<input type="checkbox"/> OTHER	
WEIGHT (ppg) <input type="checkbox"/> (lb/cu. ft) <input type="checkbox"/> Sp. G	<u>9.2</u>	PRODUCTS	TREATMENT		
FUNNEL VISCOSITY (sec./qt.) API @	<u>36</u>	<u>DEMANIA</u>	<u>138</u>	<u>1.5</u>	<u>134</u>
PLASTIC VISCOSITY cP @	<u>9</u>	<u>DESLITE</u>	<u>118</u>	<u>7.4</u>	<u>8PH</u>
YIELD POINT (lb/100ft ²)	<u>16</u>	REMARKS:			
GEL STRENGTH (lb/100ft ²) 10 sec./10 min.	<u>6/12</u>	- RUSH TO LOG			
FILTRATE API (cm ³ /30 min.)	<u>MLC</u>	- LOG HOLD			
API HTHP FILTRATE (cm ³ /30 min.) @	<u>-/-</u>	- R.E.M. RUN WITH TRIP AND CONCRETE HOLD			
CAKE THICKNESS (32nd in. API/HTHP)	<u>-/-</u>	- RUSH TO RUN CASING			
SOLIDS CONTENT (% BY Vol.) <input type="checkbox"/> CALCD. <input checked="" type="checkbox"/> RETORT	<u>4.5</u>	- RIG UP + RUN 13 1/4" CSG			
LIQUID CONTENT (% BY Vol.) OIL/WATER	<u>-/95.5</u>	- CONCRETE CSG FROM IN CONCRETE			
SAND CONTENT (% BY Vol.)	<u>-</u>	NB - LOST APPROX 210 GALLONS DURING CASING RUNNING OPERATIONS			
METHYLENE BLUE CAPACITY <input type="checkbox"/> #/bbl equiv. <input type="checkbox"/> cm ³ /cm ³ mud	<u>17.5</u>				
PH <input checked="" type="checkbox"/> STRIP <input type="checkbox"/> METER @	<u>9.5</u>				
ALKALINITY MUD (Pm)	<u>0.45</u>				
ALKALINITY FILTRATE (P, /M ₁)	<u>0.25 / 0.45</u>				
ALTERNATE ALKALINITY FILTRATE (P, /P ₂)	<u>- / -</u>				
CHLORIDE (mg/L)	<u>13,500</u>				
TOTAL HARDNESS AS CALCIUM (mg/L)	<u>600</u>				

PRODUCT INVENTORY	EQUIPMENT			
	HOURS	HOURS	HOURS	HOURS
STARTING INVENTORY	Centrifuge	Desilter	H. S. Cent.	
RECEIVED	Degasser	Shaker	Super Cyclone	
USED LAST 24 HR.	Desander	Other		
CLOSING INVENTORY	DAILY COST		CUMULATIVE COST	
COST LAST 24 HR.	\$ 898.00		\$ 8,156.00	

MAGCOBAR ENGINEER Tom Kurnasui HOME ADDRESS ADDY PHONE (408) 366-7070
MOBILE UNIT THWNS! WAREHOUSE LOCATION PHONE

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Products	UNITS	UNIT COST	COST		
<u>BARITE</u>	<u>100</u>	<u>8.50</u>	<u>850.00</u>	<u>14.3 M</u>	HYDRAULICS
<u>CASING</u>	<u>2</u>	<u>2600</u>	<u>5200</u>		DRILL Collars in Hole
			<u>898.00</u>		Ann. Vel.
				SOLIDS DISTRIBUTION ANALYSIS	
				Flow	Re
				Ann. Press Loss	
				DRILL Pipe in	Hole
				Ann. Vel.	
				Flow	Re
				Ann. Press Loss	
				DRILL Pipe in	Csg
				Ann. Vel.	
				Flow	
				Ann. Press Loss	



P. O. BOX 6504
HOUSTON, TEXAS 77265



DRILLING MUD REPORT NO. 3
DATE June 30 19 87 DEPTH 670'
PRESENT ACTIVITY Circulation Sample

MAGCOBAR GROUP
Dresser Industries, Inc.

OPERATOR Lance E. Enright CONTRACTOR Diamond M RIG NO. EPUCI
REPORT FOR Lance Enright REPORT FOR Diamond M SECT., TWSHP., RANGE EPUCI
WELL NAME AND NO. A. MURPHY / P. Cement FIELD OR BLOCK NO. T. P. 100 STATE / PROVINCE INDIA

DRILLING ASSEMBLY		CASING		MUD VOLUME (BBL)		CIRCULATION DATA	
BIT SIZE	TYPE	JET SIZE	SURFACE SET @	HOLE SET @	PITS	PUMP SIZE	ANNULAR VEL. (FT/MIN)
1 1/2"	S335	11/16"	2 1/2"	2 1/2"	775	6 1/2" x 17"	DP - 147 DC - 116
DRILL PIPE SIZE	TYPE	LENGTH	INTERMEDIATE SET @	TOTAL CIRCULATING VOL.	IN STORAGE	PUMP MAKE, MODEL	CIRCULATION PRESSURE (PSI)
5"	19 1/2" IF	6250'	6 1/2"	1144	1144	Diamond ATW-AT	2850
DRILL PIPE SIZE	TYPE	LENGTH	INTERMEDIATE SET @	WEIGHT	BBL/STK	STK/MIN	BOTTOMS UP (MIN)
5"	19 1/2" IF	6250'	6 1/2"	195	195	111	28
DRILL COLLAR SIZE	TYPE	LENGTH	PRODUCTION OR LINER SET @	MUD TYPE	BBL/STK	STK/MIN	TOTAL CIRC. TIME (MIN)
8"	19 1/2" IF	6250'	6 1/2"	Siaman / Gel	221	111	94

MUD PROPERTIES			MUD PROPERTY SPECIFICATIONS		
SAMPLE FROM	<input type="checkbox"/> F.L. <input checked="" type="checkbox"/> WT	<input type="checkbox"/> F.L. <input checked="" type="checkbox"/> WT	WEIGHT	VISCOSITY	FILTRATE
TIME SAMPLE TAKEN			10.5 MPa	Yield Point 15-18	6.0-8.0"
DEPTH (ft)					
WEIGHT <input checked="" type="checkbox"/> (ppg) <input type="checkbox"/> (lb/cu. ft) <input type="checkbox"/> Sp. G					
FUNNEL VISCOSITY (sec./qt.) API @					
PLASTIC VISCOSITY cP @					
YIELD POINT (lb/100ft ²)					
GEL STRENGTH (lb/100ft ²) 10 sec./10 min.					
FILTRATE API (cm ³ /30 min.)					
API HTHP FILTRATE (cm ³ /30 min.) @					
CAKE THICKNESS (32nd in. API/HTHP)					
SOLIDS CONTENT (% BY Vol.) <input type="checkbox"/> CALCD. <input type="checkbox"/> RETORT					
LIQUID CONTENT (% BY Vol.) OIL/WATER					
SAND CONTENT (% BY Vol.)					
METHYLENE BLUE CAPACITY <input type="checkbox"/> bbl/bbl equiv. <input type="checkbox"/> cm ³ /cm ³ mud					
PH <input type="checkbox"/> STRIP <input type="checkbox"/> METER @					
ALKALINITY MUD (Pm)					
ALKALINITY FILTRATE (P ₁ , M ₁)					
ALTERNATE ALKALINITY FILTRATE (P ₂ , M ₂)					
CHLORIDE (mg/L)					
TOTAL HARDNESS AS CALCIUM (mg/L)					

BY AUTHORITY: OPERATOR'S WRITTEN DRILLING CONTRACTOR
 OPERATOR'S REPRESENTATIVE OTHER

PRODUCTS: Delamix, Delidex, Mud Cement

TREATMENT: CPA

REMARKS:
- MIXED 200 AMU of Pre-Hardened Gel - 18% APA Gel
- TREATED 930 ppm of MUD AT SURFACE AS PER 2152m AMU CEMENT
- BUILD UP + MUD ACTING UNDER WITH PAUSE
- LUMPY MUDS PRE-HARDENED GEL AND MUD
- MUDS W/ D 1122
- CEMENT 13 1/2" CSU @ 641' CSU DISPLACED TO WATER
- LAM DOWN LAMING STRONG
- RIG AND WAIT WITH MUD
- SET SEAL ASSUMED + W/EAR BUSHING
- LAM DOWN 17 1/2" BHA + RIG UP 12 1/2" BHA
- RIG W/ 12 1/2" BIT (TAG TOC @ 617'
- DRILL OUT CASING + CLEAN RAT HOLE WITH WATER
- DISPLACE 101' TO 102' AMU MUD
- RIG TO 657M. CIRC FROM CEMENT + W/ BALANCE
- CARRY OUT CLEAN OUT TEST TO 13.6 MPa MUD EQUIV
- DRILL TO 670' AND CIRCULATE SAMPLE

PRODUCT INVENTORY	EQUIPMENT						
	CENTRIFUGE	DEGASSER	DESANDER	HOURS	DESITTER	HOURS	H. S. CENT.
STARTING INVENTORY	2200	219	82	20	60	100	80
RECEIVED							
USED LAST 24 HR.	690	52	10	4	26	55	1
CLOSING INVENTORY	1560	167	72	16	14	105	74
COST LAST 24 HR.							
MAGCOBAR ENGINEER	Tomy Kowalski			HOME ADDRESS			PHONE
MOBILE UNIT	Tomy!			WAREHOUSE LOCATION			PHONE (OR) 356-7470
PRINTED IN U.S.A.	THIS REPORT IS GOVERNED BY THE TERMS AND CONDITIONS AS SET FORTH ON THE REVERSE SIDE			DAILY COST			CUMULATIVE COST
				\$ 10,010.20			\$ 18,166.20

MAGCOBAR ENGINEER Tomy Kowalski HOME ADDRESS _____ PHONE _____
MOBILE UNIT Tomy! WAREHOUSE LOCATION Acadian PHONE (OR) 356-7470
PRINTED IN U.S.A. THIS REPORT IS GOVERNED BY THE TERMS AND CONDITIONS AS SET FORTH ON THE REVERSE SIDE

Products	UNITS	UNIT COST	COST	Csg Seat Frac Press (13 1/2")	HYDRAULICS
Barite	640	8.50	5,865.00	134 MPa	8" DRILL Collars in 12 1/2" Hole
MAGCOBAR	52	19.00	988.00	ECD @ Csg Seat 10.47 MPa	Ann. Vel. 146
Cause	10	20.00	200.00	ECD @ Bottom 10.46 MPa	Flow LAMMAN Re 1210
Siaman	4	19.50	78.00	SOLIDS DISTRIBUTION ANALYSIS	Ann. Press Loss 2
SP-100	26	25.50	663.00	#/bbl Barite	8" DRILL Pipe in 13 1/2" Csg
Polymer	55	38.00	2,090.00	#/bbl Bentonite 10.7	Ann. Vel. 134
Bush	1	85.00	85.00	#/bbl Drill Solids 61.5	Flow LAMMAN Re 1116
			10,010.20	Eff. Water Loss 24 hrs 8.0%	Ann. Press Loss 7
				TIME DISTRIBUTION	5" DRILL Pipe in 13 1/2" Csg
				Drilling Circulating	Ann. Vel. 97
				TRIP Wash/Ream	Flow LAMMAN
				Rig Service Logging	Ann. Press Loss 15
				Survey Fm Testing	



P. O. BOX 6504
HOUSTON, TEXAS 77265



MAGCOBAR GROUP
Dresser Industries, Inc.

DRILLING MUD REPORT NO. 4

DATE July 1 19 87 DEPTH 721 M

SPUD DATE 26-6-87 PRESENT ACTIVITY PUOH with Core Barrel

OPERATOR Layan Gurely CONTRACTOR Diamant M RIG NO. 572H

REPORT FOR M. MURTAJAH / P. CAITRICH REPORT FOR J. RAHIC SECT., TWSHP., RANGE -

WELL NAME AND NO. Parmica M FIELD OR BLOCK NO. VIC P11 CTY., PAR. OR OFFSHORE AREA - STATE / PROVINCE VICARIA

DRILLING ASSEMBLY		CASING		MUD VOLUME (BBL)		CIRCULATION DATA	
BIT SIZE <u>1 1/2"</u>	TYPE <u>6 1/2-3/32</u>	JET SIZE <u>-</u>	SURFACE SET @ <u>215</u> FT.	HOLE <u>372</u>	PITS <u>780</u>	PUMP SIZE <u>6" x 11"</u>	ANNULAR VEL. (FT/MIN) DP <u>7076</u> DC <u>48/111</u>
DRILL PIPE SIZE <u>1 3/4"</u>	TYPE <u>196 1/2"</u>	LENGTH <u>1144.32</u> M	INTERMEDIATE SET @ <u>641</u> FT.	TOTAL CIRCULATING VOL. <u>1112</u>	IN STORAGE <u>1112</u>	PUMP MAKE, MODEL <u>Mitsui 11700-PT</u>	CIRCULATION PRESSURE (PSI) <u>690</u>
DRILL PIPE SIZE <u>1 3/4"</u>	TYPE <u>196 1/2"</u>	LENGTH <u>1129.7</u> M	INTERMEDIATE SET @ <u>641</u> FT.	WEIGHT <u>120</u>	STK/MIN <u>100</u>	ASSUMED EFF. <u>90</u> %	BOTTOMS UP (MIN) <u>36</u>
DRILL COLLAR SIZE <u>8"</u>	LENGTH <u>165.71</u> M	PRODUCTION OR LINER SET @ <u>-</u> FT.	MUD TYPE <u>Siaman Gel</u>	BBL/STK <u>2111</u>	BBL/MIN <u>9.32</u>	TOTAL CIRC. TIME (MIN) <u>124</u>	

MUD PROPERTIES		MUD PROPERTY SPECIFICATIONS	
SAMPLE FROM	<input type="checkbox"/> F.L. <input checked="" type="checkbox"/> PIT	WEIGHT	VISCOSITY
TIME SAMPLE TAKEN	<u>1115'</u> <u>2315'</u>	<u>10.5 PPL</u>	<u>Yield Point 15-18</u>
DEPTH (M)	<u>82'</u> <u>721'</u>	BY AUTHORITY:	<input checked="" type="checkbox"/> OPERATOR'S WRITTEN <input type="checkbox"/> DRILLING CONTRACTOR
WEIGHT	<input type="checkbox"/> (ppg) <input type="checkbox"/> (lb/cu. ft) <input type="checkbox"/> Sp. G	<input checked="" type="checkbox"/> OPERATOR'S REPRESENTATIVE <input type="checkbox"/> OTHER	PRODUCTS
FUNNEL VISCOSITY (sec./qt.) API @	<u>47</u> <u>40</u>		TREATMENT
PLASTIC VISCOSITY cP @	<u>19</u> <u>19</u>		<u>6.00</u> <u>0.7</u>
YIELD POINT (lb/100ft ²)	<u>19</u> <u>18</u>		<u>0.04</u> <u>1.0</u>
GEL STRENGTH (lb/100ft ²) 10 sec./10 min.	<u>8/20</u> <u>9/20</u>		
FILTRATE API (cm ³ /30 min.)	<u>81</u> <u>76</u>		
API HTHP FILTRATE (cm ³ /30 min.) @	<u>2/32</u> <u>2/11</u>		
CAKE THICKNESS (32nd in. API/HTHP)	<u>11.5</u> <u>12.5</u>		
SOLIDS CONTENT (% BY Vol.)	<u>88.5</u> <u>87.5</u>		
LIQUID CONTENT (% BY Vol.) OIL/WATER			
SAND CONTENT (% BY Vol.)			
METHYLENE BLUE CAPACITY	<input type="checkbox"/> bbl/equiv. <input checked="" type="checkbox"/> cm ³ /cm ³ mud		
PH	<input checked="" type="checkbox"/> STRIP <input type="checkbox"/> METER @		
ALKALINITY MUD (Pm)	<u>200</u> <u>175-200</u>		
ALKALINITY FILTRATE (P, M ₂)	<u>0.4</u> <u>0.6</u>		
ALTERNATE ALKALINITY FILTRATE (P, IP ₂)	<u>0.35/0.75</u> <u>0.35/0.6</u>		
CHLORIDE (mg/L)	<u>14,000</u> <u>13,000</u>		
TOTAL HARDNESS AS CALCIUM (mg/L)	<u>380</u> <u>370</u>		
REMARKS:			
<u>- DRILL 12" MUD + CONC. UP SAMPLE AS AC2</u>			
<u>- BUILD UP AC2 SWATHS UNDER</u>			
<u>- MAINTAIN 10.5 PPL AND WT + TREAT WITH RINOLITE</u>			
<u>- PUGH TO CONC @ 70'</u>			
<u>- MAKE UP + R.I.H. W/ CONC-BARREL</u>			
<u>- CUT CORE #1 FROM 703' - 721'</u>			
<u>- CONCENTRIC BLUE</u>			
<u>- PUGH WITH CORE BARREL</u>			

PRODUCT INVENTORY	EQUIPMENT			
	HOURS	HOURS	HOURS	HOURS
STARTING INVENTORY	Centrifuge	Desilter	H. S. Cent.	
RECEIVED	Degasser	Shaker	Super Cyclone	
USED LAST 24 HR.	Desander	Other	Mud	
CLOSING INVENTORY				
COST LAST 24 HR.				
DAILY COST		CUMULATIVE COST		
<u>\$ 11,493.00</u>		<u>\$ 24,657.20</u>		

MAGCOBAR ENGINEER Tommy Kovalic HOME ADDRESS Acacia PHONE (409) 356-2620

MOBILE UNIT THAM1 WAREHOUSE LOCATION - PHONE -

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Products	UNITS	UNIT COST	COST	Csg Seat Frac Press (1 3/4")	HYDRAULICS
Barite	1180	8.50	10,020.00	13.6 PPL	8" DRILL Collars in 12 1/2" Hole
Caustic	8	24.00	192.00	10.66 PPL	Ann. Vel. 111
Spmont	26	25.50	663.00	11.66 PPL	Flow Laminar Re 891
Surfactant	16	38.00	608.00		Ann. Press Loss 5
			11,493.00		8" DRILL PUGH 1 3/4" Hole
					Ann. Vel. 98
					Flow Laminar Re 822
					Ann. Press Loss 5
					5" DRILL Pipe in 1 3/4" Csg
					Ann. Vel. 70
					Flow Laminar Re 604
					Ann. Press Loss 15

5" DRILL PIPE 2' 20" L.A. PUGH



P. O. BOX 6504
HOUSTON, TEXAS 77265

MAGCOBAR GROUP
Dresser Industries, Inc.



DRILLING MUD REPORT NO. 5
DATE July 2 1987 DEPTH 797'
SPUD DATE 26-6-87 PRESENT ACTIVITY
CONTRACTOR DIANUM M RIG NO. 1732H
REPORT FOR T. BRACY
WELL NAME AND NO. M. NUTTALL / P. GARZA
FIELD OR BLOCK NO. Via P11 CTY., PAR. OR OFFSHORE AREA STATE / PROVINCE Victoria

DRILLING ASSEMBLY		CASING		MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE 12"	TYPE S335	JET SIZE 1/4"	SURFACE SET @ 215 FT	HOLE 1 1/4"	PITS 785	PUMP SIZE 12" X 12"	ANNULAR VEL. (FT/MIN) DC 149	
DRILL PIPE SIZE 4"	TYPE S335	LENGTH 577.48	INTERMEDIATE SET @ 641 FT	TOTAL CIRCULATING VOL. 1194		PUMP MAKE, MODEL OILWELL AUTUM	CIRCULATION PRESSURE (PSI) 1900	
DRILL PIPE SIZE 4"	TYPE S335	LENGTH 110.97	INTERMEDIATE SET @ FT.	IN STORAGE 30.91	WEIGHT 146.17	BBL/STK 2.11	STK/MIN 112	BOTTOMS UP (MIN) 30
DRILL COLLAR SIZE 8"	TYPE S335	LENGTH 4.855	PRODUCTION OR LINER SET @ FT.	MUD TYPE SEAWATER GEL		BBL/MIN 12.43	GAL/MIN 583	TOTAL CIRC. TIME (MIN) 96

MUD PROPERTIES		MUD PROPERTY SPECIFICATIONS	
SAMPLE FROM	<input type="checkbox"/> F.L. <input checked="" type="checkbox"/> PIT	<input type="checkbox"/> F.L. <input checked="" type="checkbox"/> PIT	WEIGHT 10.5 MM
TIME SAMPLE TAKEN	0915	0600	VISCOSITY 4.000 RPM 15-18
DEPTH (ft) 733'	58'	797'	FILTRATE 6.0-8.0"
WEIGHT (lb/gal) 12.4	12.5	12.5	BY AUTHORITY: <input checked="" type="checkbox"/> OPERATOR'S WRITTEN <input type="checkbox"/> DRILLING CONTRACTOR
FUNNEL VISCOSITY (sec./qt.) API @ 300 RPM 14	14	10	<input checked="" type="checkbox"/> OPERATOR'S REPRESENTATIVE <input type="checkbox"/> OTHER
PLASTIC VISCOSITY cP @ 300 RPM 14	14	10	PRODUCTS DIANUM TREATMENT 6.00 8.00
YIELD POINT (lb/100ft ²) 14	14	15	
GEL STRENGTH (lb/100ft ²) 10 sec./10 min. 7/17	7/17	6/13	REMARKS: - PUGH WITH CONC #1 - 95% RECOVERED
FILTRATE API (cm ³ /30 min.) 7.5	7.5	6.2	- RCH WITH CONC #2 - 70% RECOVERED
API HTHP FILTRATE (cm ³ /30 min.) @ 300 RPM 7.5	7.5	6.2	- 733' PUGH WITH CONC #2 - 70% RECOVERED
CAKE THICKNESS (32nd in. API/HTHP) 2/32	2/32	3/32	- RCH WITH CONC #3 - 70% RECOVERED
SOLIDS CONTENT (% BY Vol.) CALCD. 12.5	12.5	12.5	- RCH WITH CONC #4 - 70% RECOVERED
LIQUID CONTENT (% BY Vol.) OIL/WATER 12.5	12.5	12.5	
SAND CONTENT (% BY Vol.) 0.65%	0.65%	0.4%	
METHYLENE BLUE CAPACITY 17.5	17.5	17.5	
PH 9.51	9.51	10.0	
ALKALINITY MUD (Pm) 0.65	0.65	0.65	
ALKALINITY FILTRATE (P, /M ₂) 0.4/0.8	0.4/0.8	0.45/0.75	
ALTERNATE ALKALINITY FILTRATE (P, /P ₂) -/-	-/-	-/-	
CHLORIDE (mg/L) 14,000	14,000	14,000	
TOTAL HARDNESS AS CALCIUM (mg/L) 200	200	200	

PRODUCT INVENTORY	EQUIPMENT			
	HOURS	HOURS	HOURS	HOURS
STARTING INVENTORY	780	64	89	79
RECEIVED	960			
USED LAST 24 HR.	220	5	9	1
CLOSING INVENTORY	1140	59	80	78
COST LAST 24 HR.				
MAGCOBAR ENGINEER Tony Kowaluk		HOME ADDRESS		PHONE (409) 356-7420
MOBILE UNIT THAMU!		WAREHOUSE LOCATION		PHONE
PRINTED IN U.S.A.		THIS REPORT IS GOVERNED BY THE TERMS AND CONDITIONS AS SET FORTH ON THE REVERSE SIDE		

Products	UNITS	UNIT COST	COST		HYDRAULICS
BARITE	220	8.50	1,870.00	Csg Seat Frac Press (13 3/4") 13.4 MPa	
Caustic	5	24.00	120.00	ECD @ Csg Seat 12.66 MPa	5" DRILL Collars in 12 1/4" Hole
Pulsator	9	78.00	702.00	ECD @ Bottom 12.68 MPa	Ann. Vel. 144
POLYMER	1	85.00	85.00	SOLIDS DISTRIBUTION ANALYSIS	
			2,417.00	#/bbl Barite 0%	Flow LAMDA Re 1584
				#/bbl Bentonite 6.7%	Ann. Press Loss 8
				#/bbl Drill Solids 96.9%	5" DRILL Pipe in 13 3/4" Hole
				Bbl Water last 24 hrs. 115 gal	Ann. Vel. 102
				TIME DISTRIBUTION	
				Drilling Circulating	Ann. Press Loss 1
				TRIP Wash/Ream	5" DRILL Pipe in 13 3/4" Csg
				Rig Service Logging	Ann. Vel. 97
				Survey Fm Testing	Flow LAMDA Re 1584
					Ann. Press Loss 15

LESS \$306.00 Due to overpayment on 17 sales on 5/24/87 on REPORT # 11 < 306.00

5" Drill Pipe in 13 3/4" Hole Ann Vel: 34 Flow: LAMDA



P. O. BOX 6504 HOUSTON, TEXAS 77265



MAGCOBAR GROUP Dresser Industries, Inc.

DRILLING MUD REPORT NO. 6 DATE July 3 19 97 DEPTH 900' - TO PRESENT ACTIVITY SPUD DATE 26-6-97 L.L. Linn

OPERATOR LARRY BRISLEY CONTRACTOR REPORT FOR REPORT FOR I. A. A. STATE / PROVINCE VIRGINIA

Table with columns: DRILLING ASSEMBLY, CASING, MUD VOLUME (BBL), CIRCULATION DATA. Includes rows for BIT SIZE, DRILL PIPE SIZE, PUMP SIZE, etc.

MUD PROPERTIES and MUD PROPERTY SPECIFICATIONS. Includes sections for SAMPLE FROM, WEIGHT, VISCOSITY, FILTRATE, and various viscosity and strength tests.

EQUIPMENT and PRODUCT INVENTORY. Includes tables for equipment hours (Centrifuge, Degasser, Desander) and product inventory (Barite, PolyMAC, Canite, Spawite).

MAGCOBAR ENGINEER TONY KAWAUMI HOME ADDRESS ADDRESS MOBILE UNIT WAREHOUSE LOCATION PHONE (703) 356-7470

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Summary table with columns: Products, UNITS, UNIT COST, COST, Csg Seat Frac Press, HYDRAULICS. Includes data for Barite, PolyMAC, Canite, Spawite and hydraulic parameters.

5" Drill Pipe Ann Vel: 37 Flow: Linn Ann: 22



P. O. BOX 6504
HOUSTON, TEXAS 77265



DRILLING MUD REPORT NO. 7
 DATE July 4 19 87 DEPTH 900' - 7.0
 SPUD DATE 26-6-87 PRESENT ACTIVITY POOH TO RUN Csg

MAGCOBAR GROUP
Dresser Industries, Inc.

OPERATOR LARRY ERIKSON CONTRACTOR Diamond M RIG NO. EP24
 REPORT FOR A. MURTAUGH / P. GARDNER REPORT FOR J. BRADLEY SECT., TOWNSHIP, RANGE
 WELL NAME AND NO. Patricia #1 FIELD OR BLOCK NO. Vic #11 CTY., PAR. OR OFFSHORE AREA STATE / PROVINCE VICTORIA

DRILLING ASSEMBLY		CASING		MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE <u>12.5"</u>	TYPE <u>C335</u>	JET SIZE <u>11-14-16</u>	SURFACE SET @ <u>2.15</u> FT.	HOLE TOTAL CIRCULATING VOL. <u>140</u>	PITS <u>140</u>	PUMP SIZE <u>17 x 12</u>	ANNULAR VEL. (FT/MIN) DP <u>140</u> DC <u>180</u>		
DRILL PIPE SIZE <u>5.5"</u>	TYPE <u>1950</u>	LENGTH <u>116.24</u> FT.	INTERMEDIATE SET @ <u>6.11</u> FT.	TOTAL CIRCULATING VOL. <u>54.9</u>		PUMP MAKE, MODEL <u>OBWELL A170-11</u>	ASSUMED EFF. <u>90</u> %	CIRCULATION PRESSURE (PSI) <u>2200</u>	
DRILL PIPE SIZE <u>5"</u>	TYPE <u>1950</u>	LENGTH <u>112.97</u> FT.	INTERMEDIATE SET @	IN STORAGE	WEIGHT <u>12.11</u>	BBL/STK	STK/MIN	BOTTOMS UP (MIN) <u>55</u>	
DRILL COLLAR SIZE <u>9"</u>	TYPE	LENGTH <u>148.55</u> FT.	PRODUCTION OR LINER SET @	MUD TYPE <u>SILICATE GEL</u>	BBL/MIN <u>13.22</u>	BBL/MIN	BBL/MIN	TOTAL CIRC. TIME (MIN) <u>82</u>	

MUD PROPERTIES		MUD PROPERTY SPECIFICATIONS	
SAMPLE FROM	<input type="checkbox"/> F.L. <input type="checkbox"/> PIT	WEIGHT	VISCOSITY
TIME SAMPLE TAKEN	<u>1330</u> <u>0100</u>	<u>10.5</u> <u>12.4</u>	<u>42-48</u> <u>15-18</u>
DEPTH (ft)	<u>7.0 - 900'</u> <u>900'</u>	PRODUCTS	TREATMENT
WEIGHT (ppg)	<u>10.5</u> <u>12.4</u>	<u>PT # 1 - GRAY</u>	<u>SETTLED OUT CLAY, ETC</u>
FUNNEL VISCOSITY (sec./qt.) API @	<u>47</u> <u>42</u>	<u>PT # 2 - GRAY</u>	
PLASTIC VISCOSITY cP @	<u>18</u> <u>15</u>	<u>PT # 3 - BLACK</u>	<u>NO. 1 42 - ACTUAL</u>
YIELD POINT (lb/100ft ²)	<u>13</u> <u>13</u>	<u>PT # 4 - 2450</u>	<u>NO. 2 57</u>
GEL STRENGTH (lb/100ft ²) 10 sec./10 min.	<u>7/17</u> <u>5/11</u>	<u>PT # 5 - 2000</u>	<u>NO. 3 53</u>
FILTRATE API (cm ³ /30 min.)	<u>72</u> <u>78</u>	REMARKS: <u>- LOW GEL</u> <u>- RIG RUN WITH TRIP + CONDUCT HOLE CLEAN</u> <u>- OBTAINED MORE WITH LOW YIELD POINT AND</u> <u>AND LET HIGH YIELD POINT RETURN TO</u> <u>AND RETURN TO</u> <u>- POOH TO RUN 9 1/2" CASING</u>	
API HTHP FILTRATE (cm ³ /30 min.) @	<u>2/31</u> <u>2/31</u>		
CAKE THICKNESS (32nd in. API/HTHP)	<u>12.0</u> <u>11.5</u>		
SOLIDS CONTENT (% BY Vol.)	<u>12.0</u> <u>11.5</u>		
LIQUID CONTENT (% BY Vol.) OIL/WATER	<u>—/88.0</u> <u>—/88.5</u>		
SAND CONTENT (% BY Vol.)	<u>TRAC</u> <u>TRAC</u>		
METHYLENE BLUE CAPACITY	<u>200</u> <u>175-200</u>		
PH	<u>9.5</u> <u>9.0</u>		
ALKALINITY MUD (Pm)	<u>0.4</u> <u>0.35</u>		
ALKALINITY FILTRATE (P, I ₁)	<u>0.25/0.45</u> <u>0.2/0.45</u>		
ALTERNATE ALKALINITY FILTRATE (P, I ₂)	<u>—/—</u> <u>—/—</u>		
CHLORIDE (mg/L)	<u>13,500</u> <u>13,500</u>		
TOTAL HARDNESS AS CALCIUM (mg/L)	<u>200</u> <u>180</u>		

PRODUCT INVENTORY	EQUIPMENT			
	HOURS	HOURS	HOURS	HOURS
STARTING INVENTORY	Centrifuge	Desilter	H. S. Cent.	
RECEIVED	Degasser	Shaker	Super Cyclone	
USED LAST 24 HR.	Desander	Other		
CLOSING INVENTORY	DAILY COST		CUMULATIVE COST	
COST LAST 24 HR.	<u>\$ 535.50</u>		<u>\$ 33,202.20</u>	

MAGCOBAR ENGINEER Tony KUMAR HOME ADDRESS Adelaide PHONE (08) 356-7470
 MOBILE UNIT THAN! WAREHOUSE LOCATION PHONE

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Products	UNITS	UNIT COST	COST	Csg Seat Frac Press	HYDRAULICS
<u>SPECIAL</u>	<u>1</u>	<u>25.50</u>	<u>25.50</u>	ECD @ Csg Seat	DRILL Collars in Hole
<u>PARTS</u>	<u>60</u>	<u>8.50</u>	<u>510.00</u>	ECD @ Bottom	Ann. Vel.
			<u>535.50</u>	SOLIDS DISTRIBUTION ANALYSIS	
				#/bbl Barite	Flow Re
				#/bbl Bentonite	Ann. Press Loss
				#/bbl Drill Solids	DRILL Pipe in Hole
				Bbl. Water last 24 hrs.	Ann. Vel.
				TIME DISTRIBUTION	
				Drilling	Flow Re
				Circulating	Ann. Press Loss
				TRIP	DRILL Pipe in Csg
				Rig Service	Ann. Vel.
				Survey	Flow
					Ann. Press Loss

WELL TESTING

APPENDIX III

WELL TESTING REPORTS

CLIENT : LASMO ENERGY
WELL : PATRICIA #1
REPORT : 080781150787
DATE : 8-15th JULY, 1987.

FLOPETROL

DIVISION : ANZ
BASE : BEF
REPORT N°: 080737150787

Well Testing Report

Client : LASMO ENERGY
Field : - Well : PATRICIA #1
Zone : 1 - 3 Date : 3-15 JULY 1987

INDEX

- 1. TEST PROCEDURE _
- 2. MAIN RESULTS _
- 3. OPERATING AND MEASURING CONDITIONS _
- 4. SURFACE EQUIPMENT DATA _
- 5. WELL COMPLETION DATA _
- 6. SEQUENCE OF EVENTS _
- 7. WELL TESTING DATA _

DOP 101

Flopetrol chief operator
Name : P. G. WILLIAMSClient representative
Name : P. DOLAN

- TEST PROCEDURE -TEST OBJECTIVES FOR PATRICIA #1

- A. To determine nature of gas & fluids in 3 potential zones.
- B. To determine well deliverability & reservoir properties..
- C. To obtain representative gas samples for compositional & P.V.T. analysis.

PROCEDURE FOR DST #1

The D.S.T. string was run as per programme.

The well was perforated at the interval 744^m - 747^m in an underbalanced diesel environment with 3-3/8" T.C.P. guns @ 18 S.P.M.

Well was opened on 1/2" adjustable choke for 5 mins before being shut in at P.C.T. & choke manifold for 40 mins.

First flow period of four hours commenced on 1" adjustable choke for 1 hour clean up before being switched to a 1" fixed choke. A separator gas sample was taken during this period.

The well was then shut-in for a downhole build-up (P.C.T. closed).

The well was then opened for a second 4 hour flow period on a 3/8" choke. Two separator gas samples were taken during this flow period before shutting well in at the P.C.T. for 4 hours.

The third flow period commenced on a 1/2" choke with 2 separator gas samples being taken before a 4 hour shut in period commenced.

The fourth and final flow period of 4 hours commenced on a 5/8" fixed choke. The well was then shut-in at the choke manifold for 15 mins before killing of the well began.

PROCEDURE FOR DST #2

The DST string was run as per DST #1 with the exception of the short reversing tool having been removed.

The well was perforated at the interval 719.04^m - 728^m using 3-3/8" T.C.P. guns @ 36 S.P.M.

Well was opened on a 1/2" adjustable choke for 5 min pre-flow period before being shut-in at the P.C.T. for 35 min.

First flow period of 4 hours began on 1" choke before being shut-in at the PCT for 4 1/2 hours. One separator gas sample was taken during this period.

- TEST PROCEDURE -

Second flow period began on a 5/8" choke for 4 hours before being snut-in at the P.C.T. Two separator gas samples were taken during this period.

The third and final flow period commenced through 1 1/4" choke for two hours before beaning back to a 1" choke. The well was shut-in after 3 hours total flow at the choke manifold. After 15 mins well killing procedure commenced.

During this DST, it should be noted that down hole choking occurred due to the O.D. of the must tool string and the I.D. of the drill collars.

PROCEDURE FOR DST #3

DST string was run as in DST #2. The well was perforated at the interval 703.06^m - 738.00^m Using 5" TCP guns @ 12 S.P.F.

Well was opened on a 1/2" adjustable choke and beaned up to 1" before being shut in at the PCT after 7 minutes.

First 4 hour flow period commenced on 1 1/4" fixed & adjustable chokes (effectively "wide open" at surface). Well was shut in for build-up at P.C.T.

Second flow period commenced on 3/8" choke before being snut in at P.C.T. 3 hours later. Two separator gas samples were taken during this period.

Third flow period commenced on 1/2" choke before being shut in 3 hours later. Two separator gas samples were taken during this period.

Fourth flow period commenced on 5/8" choke before being shut in 3 hours later.

Fifth and final flow period of 2 hours duration commenced on choke manifold by-pass. Well was shut in and killing procedure began.

During this DST it was noted that downhole choking due to the I.D. of the DST string was evident.

PROCEDURE FOR DST #3A

DST string consisted only of halliburton RTTS packer and 5" drill pipe. This was to attempt to overcome previous downhole restrictions and flow the well at maximum rate possible. Perforations were the same for DST #3.

First flow period commenced on 3/8" adjustable choke and was beaned up to 1 1/4" before being opened with 1 1/4" fixed choke to give an effective "wide open" flow at surface.

Well was shut-in at choke manifold after two hours flow and a two hour build up commenced.

- TEST PROCEDURE -

Final flow period of 4 hours commenced on 1½" fixed and adjustable choke before shutting well in at the choke manifold for a final 4 hour build-up. All data was recorded at surface using a CRG gauge.

Well killing procedures commenced and all well testing equipment was rigged down.

FLOPETROL

Client : LASMO ENERGYSection : 2Base : BEF

Field : _____

Page : 6Well : PATRICIA #1Report N° : 1

MAIN RESULTS

DRILL STEM TEST NO. 1

Tested interval : _____ Perforations : 744.00M - 747.00M

OPERATION	DURATION	BOTTOM HOLE PRESSURE	WELL HEAD PRESSURE	OIL PROD. RATE	GAS PROD. RATE	G. O. R
Units	MINS	PSIA	PSIG		MMSCF/D	
CLEAN UP CHOKE 1"	233	169	75		2.593	
BUILD UP 3/8"	230	1039	-		1.810	
BUILD UP 1/2"	237	635	570		2.023	
BUILD UP 5/8"	236	1039	-		2.050	
BUILD UP	242	423	365			
BUILD UP	238	1039	-			
BUILD UP	251	251	191			
BUILD UP	30	1039	1017			

Depth of bottom hole measurements : 733.52M Reference : RKBTemperature : 40.2°C at : 733.52M depthSeparator gas gravity (air : 1) at choke size : 0.574 ON 5/8" CHOKE.STO gravity at choke size : N/ABSW : NIL Water cut : NIL

REMARKS AND OTHER OPERATIONS

1. Data given is last for each period.
2. Five gas separator samples were taken during this D.S.T.
3. H₂S of 55PPM was detected.

- MAIN RESULTS -

DRILL STEM TEST NO. 2

 Tested interval : _____ Perforations : 719.04M - 728.00M

OPERATION	DURATION	BOTTOM HOLE PRESSURE	WELL HEAD PRESSURE	OIL PROD. RATE	GAS PROD. RATE	G. O. R
Units	MINS	PSIA	PSIG		MMSCF/D	
CLEAN UP CHOKE 1"	235	671	435		8.30	
BUILD UP 5/8"	223	1089	-		5.15	
BUILD UP 1"	242	1089	-		6.123	
BUILD UP	8	1075	1000			

 Depth of bottom hole measurements : 707.64M Reference : RKB

 Temperature : 42°C at : 707.64M depth

 Separator gas gravity (air : 1) at choke size : 0.574 ON 1" CHOKE

STO gravity at choke size : _____

 BSW : _____ Water cut : NIL

REMARKS AND OTHER OPERATIONS

1. Data given is the last for each period.
2. Evidence of down hole choking due to must tool string O.D. and drill collar I.D.
3. Three gas separator samples were taken.

- MAIN RESULTS -

DRILL STEM TEST NO. 3

 Tested interval : _____ Perforations : 703.06M - 738.00M

OPERATION	DURATION	BOTTOM HOLE PRESSURE	WELL HEAD PRESSURE	OIL PROD. RATE	GAS PROD. RATE	G. O. R
Units	MINS	PSIA	PSIG		MMSCF/D	
CLEAN UP CHOKE 1½" + 1½"	153	906	217		12.31	
BUILD UP 1½" + 1½"	3	1040	310			
BUILD UP 1½" + 1½"	83	890	230		13.24	
BUILD UP 3/8"	233	1083	-			
BUILD UP 3/8"	180	1049	971		3.200	
BUILD UP ½"	180	1086	-			
BUILD UP ½"	181	1013	906		5.89	
BUILD UP 5/8"	178	1085	-			
BUILD UP 5/8"	188	980	826		8.354	
BUILD UP	107	1080	-			

 Depth of bottom hole measurements : 691.83 Reference : RKB

 Temperature : 43° C at : 691.83M depth

 Separator gas gravity (air : 1) at choke size : 0.574 ON 5/8" CHOKE.

 STO gravity at choke size : N/A

 BSW : SILT Water cut : NIL

REMARKS AND OTHER OPERATIONS

1. Data given is the last for each period.
2. Down hole choking was still evident. This was caused by small I.D. of test string.
3. Four gas separator samples were taken.

MAIN RESULTS DRILL STEM TEST NO. 3A

Tested interval : _____ Perforations : 703.06M - 738.00M

OPERATION	DURATION	BOTTOM HOLE PRESSURE	WELL HEAD PRESSURE	OIL PROD. RATE	GAS PROD. RATE	G.O.R
Units	MINS	PSIA	PSIG		MMSCF/D	
CLEAN UP CHOKE 1½" + 1½"	126	765	374		22.83	
BUILD UP 1½" + 1½"	108	1078	1004			
BUILD UP 1½" + 1½"	240	774	419		24.11	
BUILD UP	254	1076	1004			

Depth of bottom hole measurements : 703.53M-710M Reference : RKBTemperature : 42°C at : 710M depthSeparator gas gravity (air : 1) at choke size : 0.574 ON 1½" + 1½" CHOKESTO gravity at choke size : N/ABSW : SILT Water cut : NIL

REMARKS AND OTHER OPERATIONS

1. Data given is the last for each period.
2. BSW reading given after silt was found in bottom of separator upon completion of testing.

- OPERATING AND MEASURING CONDITIONS -

A - TYPE OF GAUGE -

BOTTOM HOLE :

Pressure : SSDP
Temperature : SSDP

WELL HEAD :

Pressure : D.W.T.
Temperature : HG THERMOMETER

SEPARATOR :

Pressure : BARTON 0-1,500 PSI STATIC
Temperature : BARTON 0-200°F 0-200 H₂O DIFFERENTIAL

B - PRODUCTION RATE CONDITIONS AND SOURCES -

OIL PRODUCTION RATE

- Tank Floco
- Meter Rotron
- Dump _____
- _____

Reference conditions :
 Separator
 Atmospheric
pressure 60°FShrinkage measurement :
 With tank
 With shrinkage
tester

GAS PRODUCTION RATE

- Orifice meter
- _____

Standard conditions :
14.73 PSIA
60°F

WATER PRODUCTION RATE

- Tank
- Meter
- _____

C - WELL DATA -

WELL STATE DURING SURVEY :

Well producing through : tubing / drill pipe / casing

Main casing size 9-5/8" set at _____ Total well depth _____

Tubing size _____ set at _____ Packer _____ set at _____

Perforations :

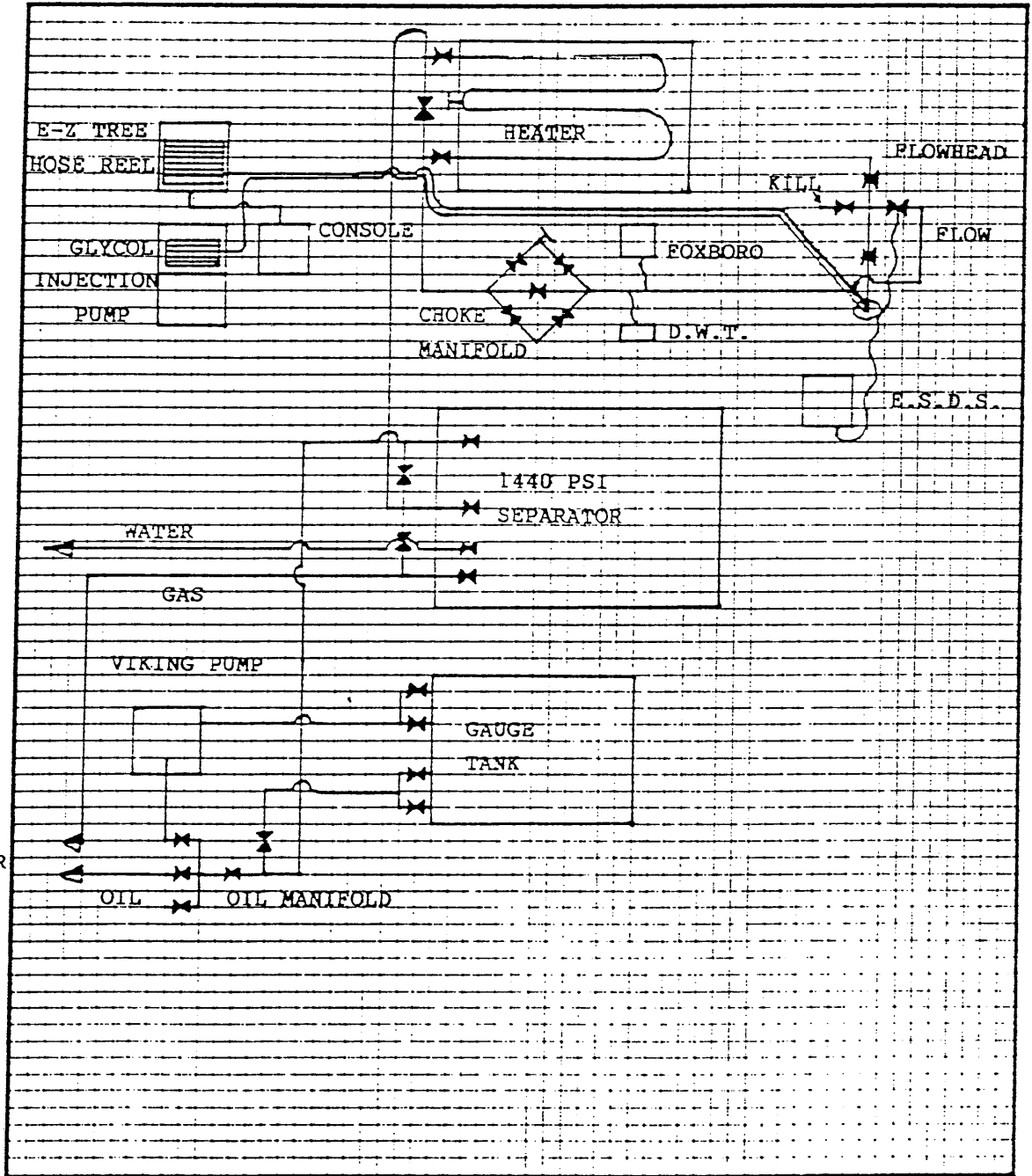
- Zone 1 From 744M to 747M From _____ to _____
- Zone 2 From 719.04M to 723M From _____ to _____
- Zone 3 +3a From 703.06M to 738M

WELL STATE BEFORE TEST :

- Well closed since DRILLING
- Well flowing since _____ Producing zone _____
- Choke size _____

J : DOP 104

- SURFACE EQUIPMENT LAYOUT -

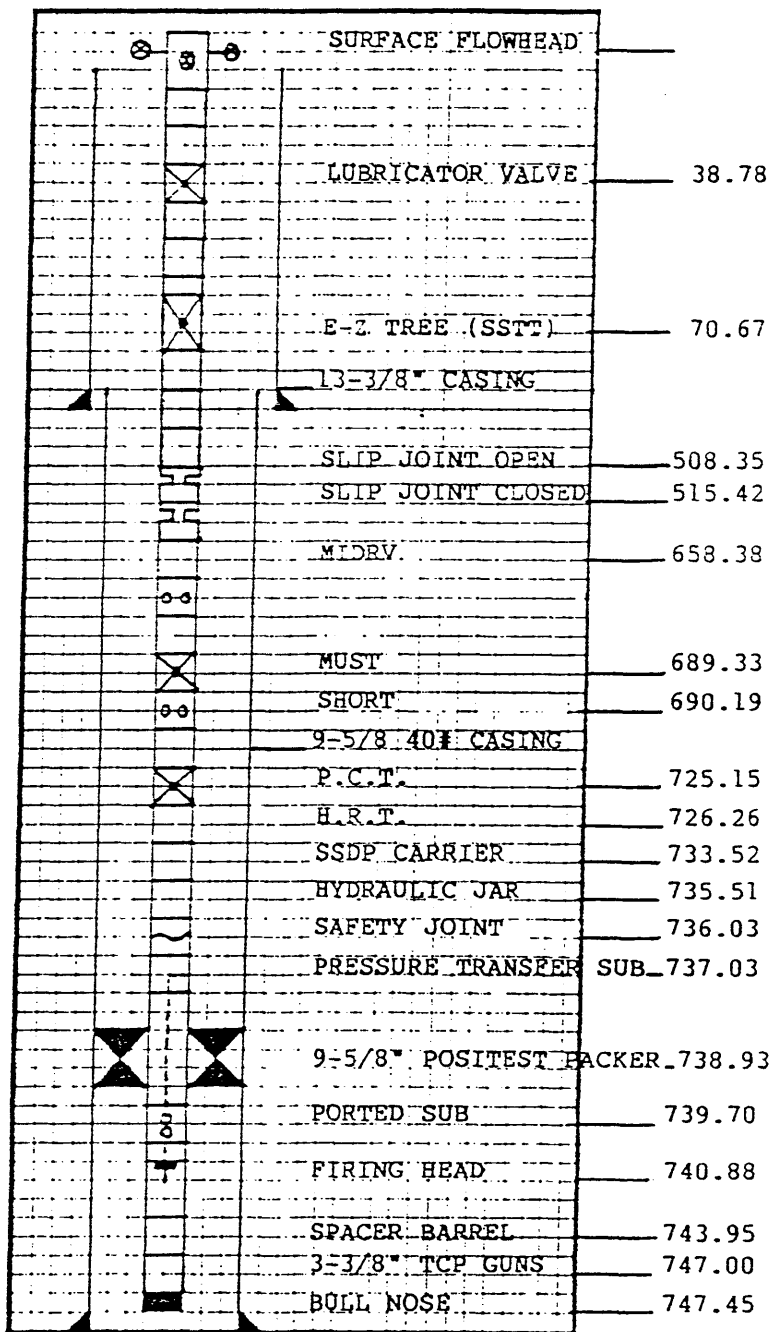


REMARKS :

NOT TO SCALE.

_ WELL COMPLETION DATA _

DRILL STEM TEST NO. 1

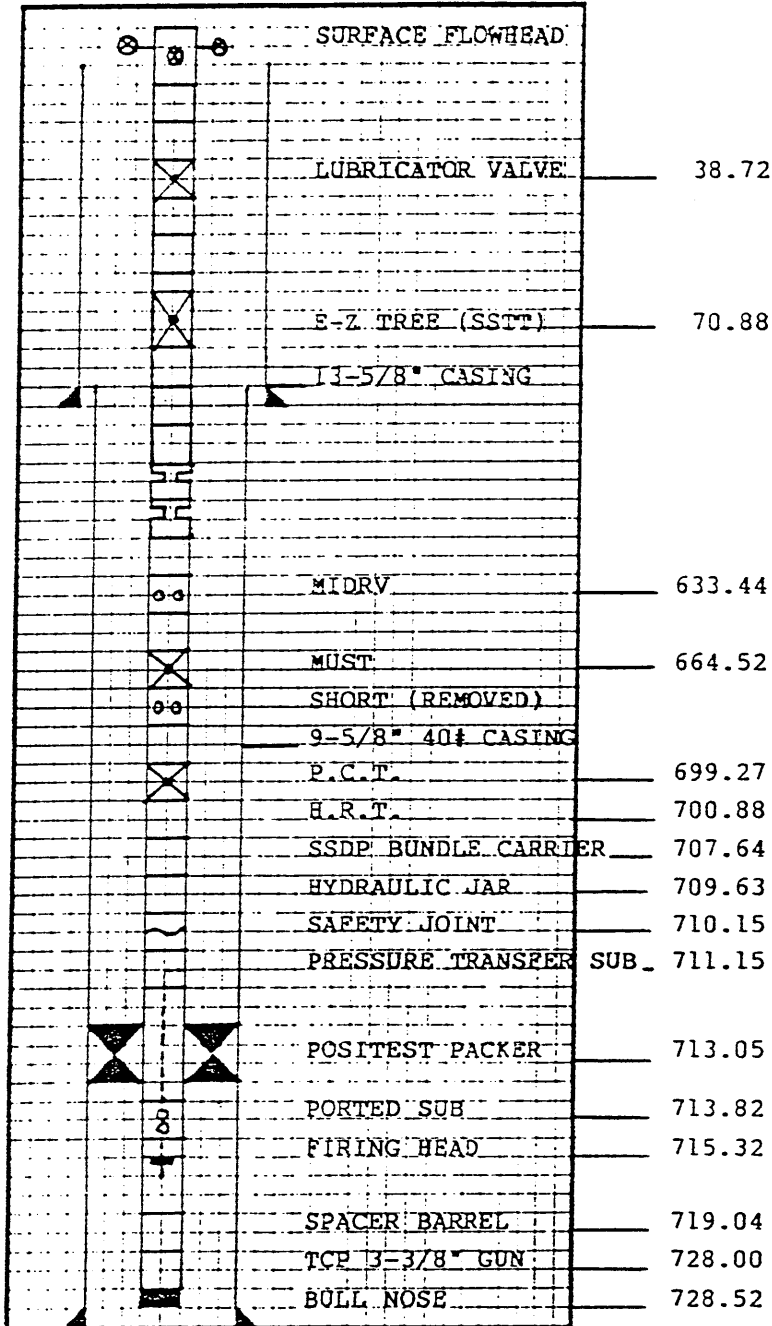


REMARKS :

PERFORATIONS : 744.00 MTRS - 747.00 MTRS

_ WELL COMPLETION DATA _

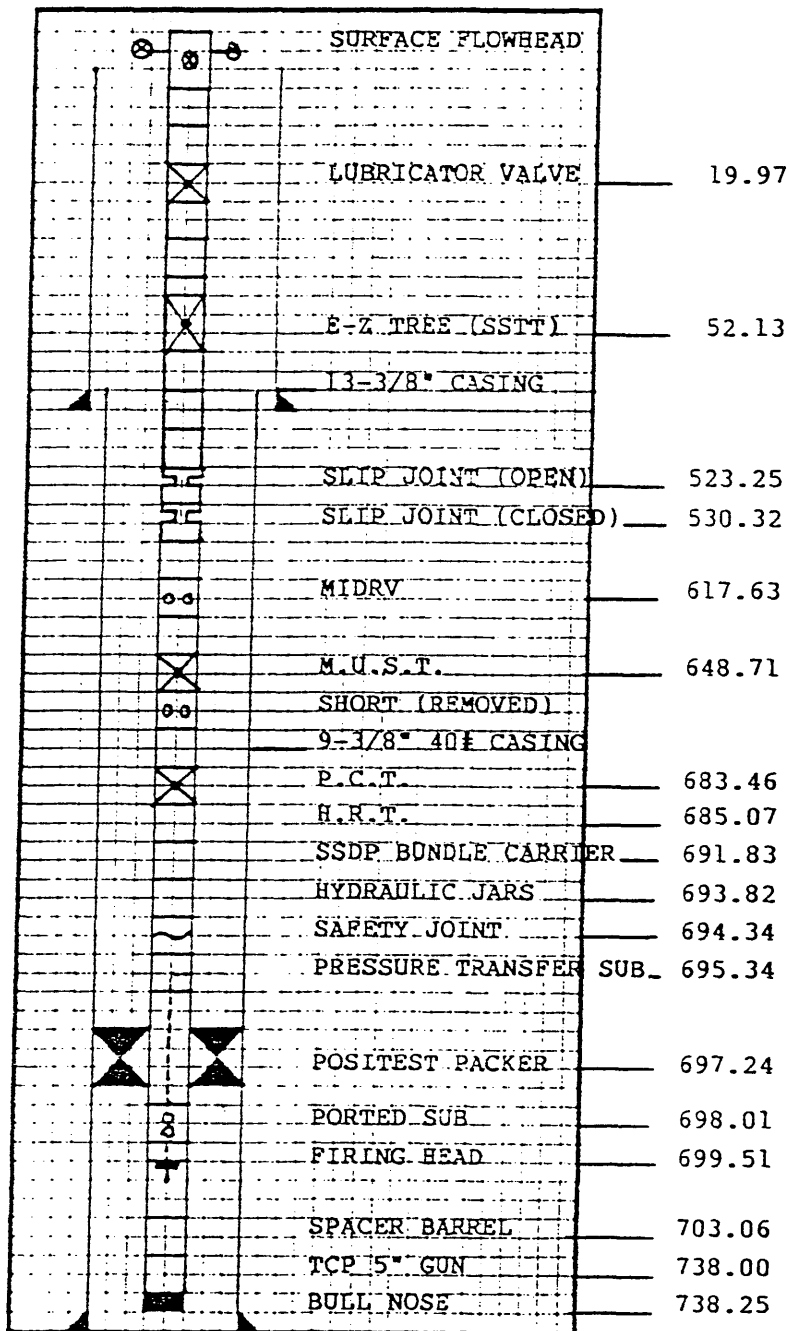
DRILL STEM TEST NO. 2



REMARKS :

PERFORATIONS 719.04 MTRS -728.00MTRS

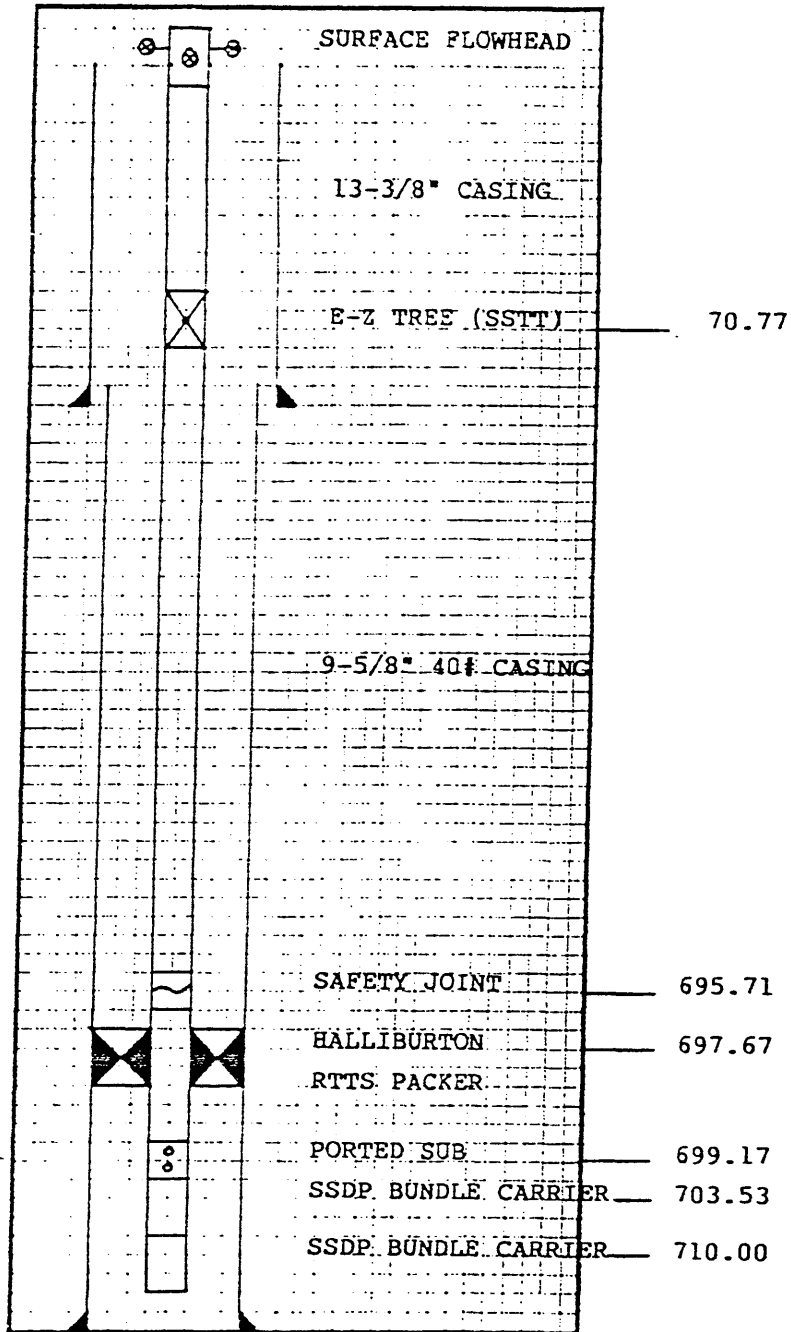
_ WELL COMPLETION DATA _ DRILL STEM TEST NO. 3



REMARKS :

PERFORATIONS 703.06 MTPS - 738.00 MTPS

- WELL COMPLETION DATA - DRILL STEM TEST NO. 3A



REMARKS :

PERFORATIONS 703.06 METERS - 738.00 METERS

FLOPETROL

Client : LASMO ENERGY

Section : **6**

Base : BEF

Field :
Well : PATRICIA #1Page : 16
Report N° : 1

- SEQUENCE OF EVENTS -

DATE	TIME	OPERATION
		8TH JULY 1987
	1930	START TO RIH WITH D.S.T. STRING.
		9TH JULY 1987
	0400	RIH E-1 TREE
	0652	RIH WITH MUST ACTUATOR TO DRIFT TIGHT SPOT IN DRILL COLLARS.
	0710	PCH MUST ACTUATOR.
	0720	RIH GAMMA RAY, CCL FOR CORRELATION LOG.
	1130	OPEN PCT AGAINST SHUT CHOKE MANIFOLD. BUBBLE HOSE OPEN.
	1137	FIRE T.C.P. GUNS
	1140	OPEN WELL ON 1/4" ADJUSTABLE CHOKE TO BURNER HEAD.
	1142	WATER CUSHION TO SURFACE
	1145	SHUT IN WELL AT CHOKE MANIFOLD
	1146	SHUT P.C.T.
	1220	OPEN P.C.T.
	1221	OPEN WELL ON 1" ADJUSTABLE CHOKE TO GAS FLARE.
	1224	GAS TO SURFACE
	1250	PASS FLOW THROUGH SEPARATOR
	1319	LIFT 3" ORIFICE PLACE
	1323	DIVERT FLOW TO 1" FIXED CHOKE
	1324	DROP 3" ORIFICE PLATE
	1604	START 1ST PVT GAS SAMPLE @ SEPARATOR
	1620	FINISH TAKING PVT GAS SAMPLE #1.
	1621	BYPASS SEPARATOR TO GAS FLARE
	1624	CLOSE PCT TOOL.
	1655	CLOSE LUBRICATOR VALVE
	1700	START FIXING UP SCHLUMBERGER TO RUN TEST

J. DOP 107

FLOPETROL

Section : **6**

_ SEQUENCE OF EVENTS _ (Continuation)

Page : 17
Report N° : 1

DATE	TIME	OPERATION
9.7.37	1945	BREAK WEAK POINT - TOOLS DROP TO LUBRICATOR VALVE
	1946	START FISHING.
10.7.37	0200	FISH ON SURFACE
	0214	OPEN P.C.T. TOOL WELL OPEN TO LUBRICATOR VALVE
	0215	OPEN LUBRICATOR VALVE (WELL OPEN THROUGH BY PASS ON CHOKE MANIFOLD TO GAS FLARE)
	0220	SWITCH TO 3/8" ADJ CHOKE
	0237	SWITCH TO 3/8" FIXED CHOKE
	0239	DIVERT FLOW THROUGH SEPARATOR
	0505	START TAKING PVT GAS SAMPLE #2
	0523	FINISH TAKING PVT GAS SAMPLE #2
	0531	START TAKING PVT GAS SAMPLE #3
	0548	FINISH TAKING PVT GAS SAMPLE #3
	0616	BY PASS SEPARATOR TO GAS FLARE
	0617	CLOSE P.C.T. TOOL
	0618	SHUT IN CHOKE MANIFOLD
	1013	OPEN PCT TOOL (WELL OPEN TO CHOKE MANIFOLD)
	1014	OPEN WELL ON 1/2" ADJ CHOKE TO GAS FLARE
	1022	SWITCH TO 1/2" FIXED CHOKE
	1031	DIVERT FLOW THROUGH SEPARATOR
	1305	TAKE GAS SAMPLES AT SEPARATOR #4
	1325	COMPLETE SURFACE GAS SAMPLE NO. 54263
	1335	TAKE GAS SAMPLE AT SEPARATOR #5
	1400	COMPLETE GAS SAMPLE NO. 54284
	1412	BY-PASS SEPARATOR PRIOR TO SHUT-IN
	1416	SHUT WELL IN AT CHOKE MANIFOLD AND PCT
	1814	OPEN PCT - INCREASE IN SIWHP
	1815	OPEN WELL TO GAS FLARE THROUGH 5/8" FIXED CHOKE
	1824	DIVERT FLOW THROUGH SEPARATOR
	1833	DROP 1.25" ORIFICE PLATE INTO DANIEL

DOP 108

FLOPETROL

Section : **6**

_ SEQUENCE OF EVENTS _ (Continuation)

Page : 18
Report N° : 1

DATE	TIME	OPERATION
10.7.87	2214	LIFT 2.25" ORIFICE PLATE
	2214	BY-PASS SEPARATOR TO GAS FLARE
	2215	SHUT IN WELL AT CHOKE MANIFOLD
	2230	BLEED DOWN TUBING. COMMENCE KILLING OF WELL AND
		PULLING OF STRING. POG DST #1 TEST STRING
		***** END DST # 1 *****
11.7.87		
		***** DST # 2 *****
		PERFORATIONS : 719.04M - 723M
		CUSHION : WATER
		PACKER SET @ 713M
		RIN DST # 2 TEST STRING
		SET PACKER
	1811	OPEN PCT & PERFORATE WELL
	1813	OPEN WELL ON ½" ADJUSTABLE CHOKE
	1815	OPEN BY PASS ON CHOKE MANIFOLD
	1818	SHUT IN WELL @ PCT
	1851	OPEN PCT
	1852	OPEN CHOKE MANIFOLD TO GAS FLARE ON 1" ADJUST CHOKE
	1857	DIVERT FLOW THROUGH 1.0" FIXED CHOKE
	1915	DIVERT FLOW THROUGH SEPARATOR
	1923	DROP 2.75" O/PLATE
	1935	DROP 3.00" O/PLATE
	2005	DROP 3.50" O/PLATE
	2225	START 1ST PVT GAS SAMPLE @ SEPARATOR # 54275
	2240	FINISH 1ST PVT GAS SAMPLE @ SEPARATOR # 54275
	2250	BY PASS SEPARATOR
	2252	SHUT IN WELL @ PCT
	2310	CLOSE LUBRICATOR VALVE
	2315	RUN UP SURFACE LUBRICATOR TO F1H MUST ACTUATOR & CRG GAUGE.

DOP 108

FLOPETROL

Section : **6**

SEQUENCE OF EVENTS (Continuation)

Page : 19
Report N° : -

DATE	TIME	OPERATION
12.7.87	0335	OPEN P.C.T.
	0342	OPEN CHOKE MANIFOLD TO GAS FLARE ON 5/8" FIXED CHOKE
	0356	DIVERT FLOW THROUGH SEPARATOR
	0358	DROP 3.25" O/PLATE
	0630	START 1ST GAS SEPARATOR SAMPLE # 54308
	0648	FINISH GAS SAMPLE
	0652	START 2ND GAS SEPARATOR SAMPLE # 54290
	0716	FINISH 2ND GAS SEPARATOR SAMPLE
	1735	BY-PASS SEPARATOR
	1737	SHUT IN WELL AT PCT
	1738	CLOSE CHOKE MANIFOLD
	0755	BEGIN TO CYCLE MUST ACTUATOR
	0850	WIRE PARTS AT WEAK POINT WHILST CYCLING MUST ACTUATOR
	0957	HALLIBURTON PRESSURE UP ABOVE LUB VALVE
	1958	OPEN LUBRICATOR VALVE
		3RD FLOW PERIOD
	1138	OPEN PCT WHP 380 - 910
	1142	OPEN CHOKE MANIFOLD TO GAS FLARE ON 1 1/4" ADJUSTABLE CHOKE
	1144	DIVERT FLOW THROUGH 1 1/4" FIXED CHOKE
	1149	DIVERT FLOW THROUGH SEPARATOR
	1152	DROP 3.50" ORIFICE PLATE INTO DANIEL
	1316	DIVERT FLOW THROUGH 1" ADJ. CHOKE
	1320	DIVERT FLOW THROUGH 1" FIXED CHOKE
	1431	SHUT IN WELL @ CHOKE MANIFOLD
	1439	SHUT IN WING VALVE @ FLOWHEAD
	1441	BLEED PRESS IN FLOWLINE TO ZERO
	1445	BULL HEAD WELL
	1600	POOR DST # 2

DOP 108

FLOPETROL

Section : **6**

_ SEQUENCE OF EVENTS _ (Continuation)

Page : 29
Report N° : 1

DATE	TIME	OPERATION
		***** DST # 3 *****
		CUSHION : WATER
		PERFORATIONS : TCP GUNS @ 703.06M - 738M
		PACKER SET @ 697.24M
	2230	RIN DST # 3
13.7.37	0700	RIG UP FLOWHEAD
	0730	SET PACKER. FLUSH FLOW LINES
	0732	PRESSURE TEST FLOW LINE
	0742	OPEN PCT
	0746	OPEN CHOKE MANIFOLD ON ¼ ADJUSTABLE & BEAN UP TO 1"
	0749	SHUT IN WELL AT CHOKE MANIFOLD. OPEN WELL AT CHOKE MANIFOLD.
	0750	CLOSE PCT. SHUT IN CHOKE MANIFOLD.
	0751	OPEN CHOKE MANIFOLD. BLEED THP TO 300 PSI
	0753	SHUT IN CHOKE MANIFOLD. THP INCREASES - 1000 PSI
	0755	OPEN CHOKE MANIFOLD. THP BLEEDS TO 140 PSI
	0802	OPEN PCT.
	0803	CLOSE PCT. BLEED THP TO 0 PSI
	0804	CLOSE CHOKE MANIFOLD
	0834	OPEN CHOKE MANIFOLD TO GAS FLARE ON 1¼" ADJUSTABLE CHOKE.
	0839	OPEN 1¼" FIXED CHOKE IN CONJUNCTION WITH ADJUSTABLE CHOKE.
	0854	DIVERT FLOW THROUGH SEPARATOR.
	0902	DROP 4.00" ORIFICE PLATE INTO DANIEL.
	1101	LIFT 4.00" ORIFICE PLATE
	1105	BEAN BACK TO ZERO ON ADJUSTABLE CHOKE
	1106	OPEN ADJUSTABLE CHOKE TO 1¼".
	1107	CLOSE FIXED CHOKE. SHUT IN WELL AT CHOKE MANIFOLD.
	1108	BY-PASS SEPARATOR
	1110	OPEN WELL ON 1¼" ADJUSTABLE CHOKE

J. DOP 108

FLOPETROL

Section : **6**

SEQUENCE OF EVENTS (Continuation)

Page : 21
Report N° : 1

DATE	TIME	OPERATION
	1113	OPEN FIXED CHOKE 1 1/4" IN CONJUNCTION WITH ADJUSTABLE CHOKE.
	1119	DIVERT FLOW THROUGH SEPARATOR.
	1232	BY-PASS SEPARATOR TO GAS FLARE.
	1233	CLOSE PCT & CHOKE MANIFOLD
	1628	OPEN PCT & FLOW THROUGH 24/64" FIXED CHOKE FOR 2ND FLOW.
	1645	DIVERT FLOW THROUGH SEPARATOR.
	1700	HYDRATION OCCURING ON LINE BETWEEN C/M & SEPARATOR : -
	1830	START 1ST SEPARATOR GAS PVT SAMPLE # 54281
	1845	FINISH 1ST SEPARATOR GAS PVT SAMPLE NO. 54281
	1900	START 2ND SEPARATOR GAS PVT SAMPLE # 54257
	1915	FINISH 2ND SEPARATOR GAS PVT SAMPLE # 54257
	1921	BY PASS SEPARATOR
	1928	SHUT IN WELL @ PCT
	1932	SHUT IN @ CHOKE MANIFOLD
	2228	OPEN PCT & C/M THROUGH 32/64" FIXED CHOKE.
	2249	DIVERT FLOW THROUGH SEPARATOR.
14.7.87	0040	START 11TH SEPARATOR GAS PVT SAMPLE # 54303
	0055	FINISH 11TH SEPARATOR GAS PVT SAMPLE # 54303
	0057	START 12TH SEPARATOR GAS PVT SAMPLE # 54303
	0115	FINISH 12TH SEPARATOR GAS PVT SAMPLE # 54303
	0125	BY PASS SEPARATOR
	0129	SHUT IN WELL @ PCT & C/M
	0427	OPEN PCT
	0428	OPEN C/MANIFOLD THROUGH 5/8" FIXED CHOKE
	0435	DIVERT FLOW INTO SEPARATOR
	0440	DROP 3.00" O/PLATE
	0726	LIFT 3.00" O/PLATE
	0729	BY-PASS SEPARATOR
	0730	SHUT IN WELL AT PCT AND C/MANIFOLD

DOP 108

FLOPETROL

Section : **6**Page : 22
Report N°: 1

_ SEQUENCE OF EVENTS _ (Continuation)

DATE	TIME	OPERATION
	0917	OPEN PCT.
	0918	OPEN WELL THROUGH BY PASS OF CHOKE MANIFOLD.
	1100	SHUT IN WELL @ CHOKE MANIFOLD
	1109	SHUT IN FLOW LINE VALVE OF FLOWHEAD.
	1110	COMMENCE BULL HEAD'NG.
	1400	POOH DST #3
15.7.87		***** DST #3A *****
		CUSHION : DIESEL
		PACKER SET @ 697.67M
		PERFORATIONS . 703.06M - 738M
	1100	PICK UP DST #3A TOOLS
	0330	DISPLACE MUD WITH DIESEL DOWN TUBING
	0424	SET PACKER
	0645	OPEN WELL TO BURNER ON 3/8 ADJ. CHOKE
	0651	BEAN UP TO 1/2"
	6700	BEAN UP TO 5/8"
	0704	BEAN UP TO 3/4"
	0709	BEAN UP TO 1"
	0716	DIVERT FLOW THROUGH 1 1/4" FIXED CHOKE.
	0730	OPEN 1 1/4" ADJUSTABLE IN CONJUNCTION WITH 1 1/4" FIXED CHOKE.
	0739	S.I. WELL AT CHOKE MANIFOLD.
	0753	OPEN WELL AT C/MANIFOLD BY-PASS, 1 1/4" ADJUSTABLE & FIXED CHOKES.
	0801	DIVERT FLOW THROUGH SEPARATOR.
	0803	"DROP" 4.50" ORIFICE PLATE.
	0816	LIFT 4.50" ORIFICE PLATE.
	0819	DROP 4.25" ORIFICE PLATE.
	0946	BY-PASS SEPARATOR.
	0947	SHUT WELL IN AT CHOKE MANIFOLD.

DOP 108

FLOPETROL

WELL TESTING DATA SHEET (Continuation)

Page : 26
Report N° : 1

Section : 7

DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR			
Time	Cumul MINS	BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS		H ₂ S PPM	CO ₂ %	Unit	
		Temp °C	Pressure PSIA	Tg temp °C	Tg. press. PSIG	Cg. press.	Temp. °F	Press. PSIA	Rate	Gravity	BSW	Rate	Gravity Air=1				
1207.87																	
205					805												
210					816												
215		43	1085		825												
220	0				810												
221	1																
									OPEN WELL ON 1" ADJUSTABLE CHOKE TO GAS FLARE.								
223	2				450												
224	3				550				GAS TO SURFACE								
225	4				350												
1227	6				210												
1230	9	42.9	314		110									40	18		
1235	14				99												
1240	19			19	90												
1245	24	40.6	225	18	72												
1250	29								DIVERT FLOW THROUGH SEPARATOR								
1300	39	37.8	204	18	70												
1315	54	35.8	181	18	70												
1319	58								LIFT 3" ORIFICE PLATE								

LOPETROL

WELL TESTING DATA SHEET(Continuation)

Page : 29
Report N': 1

Section : 7

DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR			
Date	Time	BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS		GOR	H ₂ S PPM	CO ₂ %	Unit
		Temp °C	Pressure PSIA	Tq temp °C	Tq press PSIG	Cq press.	Temp. °F	Press. PSIA	Rate	Gravity	BSW	Rate MMSCF/D	Gravity Air = 1				
0245	25	38.4	646	14	582												
0246	26			14	584												
0247	27				584									50	1.0		
0248	28				585												
0249	29				587												
0250	30				589												
0251	31				589												
0252	32				589												
0254	34		INSERT	2.0"	ORIFICE	PLATE											
0255	35				589												
0300	40	38.1	657		589												
0315	55	38	655	14	589		48	85				1.906	0.572				
0330	70	38	656	15	589		48	85				1.906	0.572				
0345	85	38.1	656	15	589		46	85				1.910	0.572				
0400	100	38	655	15	589		45	85				1.912	0.572				
0415	115	38	655	15	589		44	85				1.914	0.572				
0430	130	38	657	15	580		44	85				1.866	0.572				

FLOPETROL

WELL TESTING DATA SHEET (Continuation)

Page : 31
Report No: 1

Section : 7

DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR	
Time HRS	Cumul MINS	BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS		H ₂ S PPM	CO ₂ %
		Temp °C	Pressure PSIA	Tg. temp °C	Tg. press PSIG	Cg. press.	Temp. °F	Press. PSIA	Rate	Gravity	BSW %	Rate MMSCF/D	Gravity Air = 1		
1014															
1015	1	41	671		465										
1016	2			15	360										
1017	3			15	305										
1018	4			15	280										
1019	5			15	280										
1020	6			15	277										
1022	8			SWITCH FLOW TO ½" FIXED CHOKE											
1023	9			15	315										
1025	11			15	370										
1030	16	39.9	471	15.5	405										
1031	17			DIVERT FLOW THROUGH SEPARATOR ON ½" FIXED CHOKE (3RD FLOW)											
1045	31	38.6	436	16	370		60	75		0	2.051	0.574		50.00	1.0
1100	46	37.7	432	16	309		54	75		0	2.012	0.574			
1115	61	36.9	429	16	367		53	75		0	2.014	0.574		50.00	1.0
1130	76	36.4	430	17	368		53	75		0	2.014	0.574			
1145	91	36.1	430	17	368		53	75		0	2.014	0.574		50.00	1.0
1200	106	35.7	430	17	368		53	75		0	2.014				

FLOPETROL

WELL TESTING DATA SHEET(Continuation)

Page : 33
Report N: 1

Section : 7

DATE - TIME	PRESSURE AND TEMPERATURE MEASUREMENTS								PROD. RATES AND FLUID PROPERTIES					GOR	H ₂ S PPM	CO ₂ %	Units
	Bottom Hole	WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS							
HR:MM:SS	Temp C	Pressure PSIA	Tg temp C	Tg press PSIG	Cg press	Temp. F	Press. PSIA	Rate	Gravity	BSW	Rate MMSCF/D	Gravity Air=1					
822																	
823	9				185												
824	10			DIVERST FLOW THROUGH SEPARATOR													
825	11			15	185												
830	16	38.8	261	15	185												
833	19			DROP 2.25" ORIFICE PLATE													
837	23			15	198												
845	31	36.9	260	15	198	60	80				2.047	0.575					
890	56	35.4	255	15	191	60	80				2.047	0.575	45.0	1.0			
911	71	34.4	255	16	191	59	80				2.049	0.575					
930	86	33.7	254	16	191	59	80				2.049	0.575	50.0	1.0			
945	101	33.2	252	17	191	59	80				2.049	0.575					
1015	131	32.4	252	17	191	59	80				2.049	0.575					
1045	161	31.9	252	17	191	59	80				2.049	0.575	55.0	1.0			
1115	191	31.6	252	17	191	59	80				2.050	0.574					
1145	221	31.4	251	17	191	59	80				2.050	0.574	60.0	1.0			
1215	251	31.2	251	17	191	59	80				2.050	0.574					

FLOPETROL

WELL TESTING DATA SHEET(Continuation)

Page : 34
Report N: 1

Section : 7

DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR	
Date	Cumul	BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS			
		Temp	Pressure	Tg temp	Tg press	Cg press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity		
HRS	MINS	°C	PSIA	°C	PSIG		°F	PSIA				MMSCF/D	Air = 1		
10.7.87															
2215	251														
2215	0								SHUT IN WELL AT CHORE MAN FOLD						
2216	1	31	366		300										
2217	2				460										
2218	3				595										
2219	4				710										
2220	5	31	892		835										
2221	6				960										
2222	7				990										
2223	8				1005										
2224	9				1015										
2225	10				1016										
2226	11				1016										
2230	15	32	1089		1017										
2300	30				START TO KILL WELL END OF 1ST #1										

FLOPETROL

WELL TESTING DATA SHEET(Continuation)

Page : 35
Report N: 1

Section : 7

DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR		
Time	Cumul MINS	BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS				
		Temp °C	Pressure PSIA	Tg temp °C	Tg press PSIG	Cg press	Temp. °F	Press. PSIA	Rate	Gravity	BSW	Rate MMSCF/D	Gravity Air=1			
1811	0															
1813	2															
1814	1				480											
1815	2				490											
1816	1	41	977		300											
1817	2				225											
1818	3															
1851	33				400											
1852	1															
1854	2				180											
1855	3	42	396		150											
1856	4			15	147											
1857	5			15	170											
1859	2				185											

***** DST #2 *****

RTH DST # TEST STRING

SET PACKER

OPEN PCT & PERFORATE WELL

OPEN WELL ON 1/2" ADJUSTABLE CHOKE

OPEN BY PASS ON MANIFOLD

SHUT IN WELL @ PCT

OPEN PCT

OPEN CHOKE MANIFOLD TO GAS FARE @ 1.00" ADJUSTABLE CHOKE

DIVERT FLOW THROUGH 1.00" FIXED CHOKE

FLOPETROL

WELL TESTING DATA SHEET(Continuation)

Page : 36
Report N° : 1

Section : 7

DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR	H ₂ S	CO ₂
DATE	TIME	BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS		GOR	PPM	%
		Temp	Pressure	Tg temp	Tg press	Cg press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity			
	HHSS	°C	PSIA	°C	PSIG		°F	PSIA				MMSCF/D	Air=1			
1859																
1900	3	42	409	15	190											
1905	8			16	205										0	0.5
1910	13			17	207											
1915	18	41	402	17	215											
							DIVERP FLOW		THROUGH SEPARATOR							
1920	23			18	225											
1925	28			19	225											
1928	31			19	230											
1930	33	40	415	19	230		58	90				5.45	0.573			
1945	48			20	290											
2000	63	39	593	21	345		60	105				7.71	0.573			
2015	78	38	623	21	360		60	115				8.49	0.573		0	1.0
2030	93	37	656	21	350		60	115				8.34	0.573			
2045	108	37	642	20	345		61	115				8.28	0.573			
2100	123	37	630	20	405		61	115				7.96	0.573			
2115	138	37	647	21	419		59	110				8.06	0.573			
2130	153	37	665	21	429		59	110				8.11	0.573		0	1.5
2145	168	38	674	21	435		59	115				8.40	0.573			

FLOPETROL

WELL TESTING DATA SHEET (Continuation)

Page : 38
Report N° : 1

Section : 7

DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR	H ₂ S	CO ₂
12.7.87		BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS			PPM	%
Time	Cumul	Temp	Pressure	Tg temp	Tg. press.	Cg. press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity			
HRS	MINS	°C	PSIA	°C	PSIG		°F	PSIA				MMSCF/D	Air=1			
0344																
0345	10	41	993	15	750											
0346	11			16	750											
0348	13			16	735											
0350	15			16	660											
0353	18			16	610											
0356	21			16	580				DIVERTE FLOW THROUGH SEPARATOR							
0358	23								DROP 3.25" ORIFICE PLATE							
0400	25	41	922	17	595											
0415	40	41	903	18.5	595		48	90			0	5.27	0.574		0	0.5
0430	55	41	900	19	595		48	90				5.23	0.574			
0445	70	41	897	20	585		48	90				5.23	0.574			
0500	85	41	897	20	590		49	90				5.22	0.574			
0515	100	41	897	20	590		50	90				5.26	0.574			
0530	115	41	897	20	590		50	90				5.26	0.574			
0545	130	41	895	20	590		50	90				5.26	0.574			
0600	145	41	893	20	590		50	90				5.26	0.574			
0615	160	41	892	20	590		51	95				5.40	0.574			

FLOPETROL

WELL TESTING DATA SHEET (Continuation)

Page : 39
Report N^o: 1

Section : 7

DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR	
Line	Cumul	BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS		H ₂ S PPM	CO ₂ %
		Temp	Pressure	Tg temp	Tg. press	Cg. press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity		
HRS	MINS	°C	PSIA	°C	PSIG		°F	PSIA				MMSCF/D	Air = 1		
06 30	175	41	892	20	585		52	95				5.40	0.574		
06 30	175			START #7 SEPARATOR			GAS SAMPLE NO. 54308								
06 45	190	41	889	20.5	587		52	95				5.35			
06 48	193			FINISH #7 SEPARATOR			GAS SAMPLE NO. 54308								
06 52	197			BEGIN #8 SEPARATOR			GAS SAMPLE NO. 54290								
07 00	205	41	898	21	587		52	95				5.30	0.574		
07 15	220	41	900	20	575		52	95				5.20	0.574		
07 16	221			FINISH #8 SEPARATOR			GAS SAMPLE NO. 54290								
07 30	235	41	894	20	575		52	95				5.15	0.574		
07 35	240			BY-PASS SEPARATOR											
07 36	241			SHUT IN WELL AT PCT											
07 55				BEGIN TO CYCLE MUST (CYCLED 78 TIMES)											
08 50				BREAK WEAK POINT AT 1900 lbs P. O.O.H. CABLE											
09 02				CLOSE LUBRICATOR VALVE											
09 03				BLEED OFF PRESSURE ABOVE LUBRICATOR VALVE											
09 04				RIG DOWN LUBRICATOR											
09 06				OPEN KILL LINE VALVE											

FLOPETROL

WELL TESTING DATA SHEET(Continuation)

Page : 40
Report N° : 1

Section 7

DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR		H ₂ S PPM		CO ₂ %	
DATE	TIME	BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS		GOR	GOR	H ₂ S PPM	CO ₂ %		
		Cumul	Temp	Pressure	Tg temp	Tg press.	Cg press.	Temp.	Press.	Rate	Gravity	BSW	Rate					Gravity	
HR	MINS	°C	PSIA	°C	PSIG		°F	PSIA				MMSCF/D	Air=1						
0956																			
0957																			
0958																			
1138	242																		
1142	0																		
1144	2																		
1145	3	42	872	17	210														
1146	4			17	180														
1147	5			17.5	175														
1148	6			17.5	175														
1149	7			17.5	170														
1150	8			17.5	170														
1152	10																		
1155	13																		
1200	18	41	799	18	173		57	85				6.572	0.574			0	0.5		
1215	33	41	798	19	170		60	85				6.601	0.574						
1230	48	41	809	20	165		61	80				6.303	0.574						
1245	63	41	820	20	164		63	80				6.243	0.574						

DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS						PROD. RATES AND FLUID PROPERTIES					GOR	
13.7.87		BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS		
Time	Cumul	Temp.	Pressure	Tg temp	Tg press	Cg press.	Temp.	Press.	Rate	Gravity	BSW	Rate	Gravity	
HRS	MINS	°C	PSIA	°C	PSIG								Air = 1	
0748														
0749	7													
0750	8													
0751	9													
0753	11													
0755	13													
0802	20													
0803	21 0													
0804	1													
0834	31 0													
0836	2													
0837	3													
0838	4	45	852			900								
0839	5					300								
0840	6					220								
0841	7					225								
0842	8					225								
0843	9					229								

FLOPETROL _WELL TESTING DATA SHEET_(Continuation)

FLOPETROL

WELL TESTING DATA SHEET(Continuation)

Page : 45
Report N° : 1

Section : 7

DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR	
Time HRS	Cumul MINS	BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS		H ₂ S PPM	CO ₂ %
		Temp C	Pressure PSIA	Tq temp C	Tq press PSIG	Cg. press.	Temp. F	Press. PSIA	Rate	Gravity	BSW	Rate MMSCF/D	Gravity Air=1		
13.7.87															
1101															
1105	151														
1106	152														
1107	153 0														
1108															
1110	3 0														
1112	2			18	310										
1113	3														
1114	4			18	225										
1115	5	42	907	18	210										
1118	8			18	219										
1119	9														
1121	11			18	215										
1125	15			18	215										
1130	20	42	914	18	215		63	155				11.84	0.574	0	1.5
1145	35	42	909	18	217		64	160				12.02	0.574		
1200	50	42	902	19	222		64	160				12.21	0.574		
1230	80	42	892	19	230		65	175				13.24	0.574		

FLOPETROL -WELL TESTING DATA SHEET_(Continuation) Page : 46 Section : 7
 Report N: 1

DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR	H ₂ S PPM	CO ₂ T	Unit
Line	Cumul	BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS					
HRS	MINS	Temp C	Pressure PSIA	Tg temp C	Tg press PSIG	Cg press	Temp F	Press PSIA	Rate	Gravity	BSW	Rate MMSCF/D	Gravity Air=1				
13.7.87																	
1230	83																
1233	0			SHUT IN WELL @ PCT FOR 1ST BUILD-UP													
1628	235			OPEN PCT & FLOW THROUGH 1/8" FOR 2ND FLOW													
1630	2	43	1054	14	800												
1631	3			15	955										0	1.5	
1632	4			17	970												
1633	5			17	980												
1634	6			18	978												
1635	7			18	978												
1636	8			18	978												
1637	9			18	978												
1638	10			18	978												
1639	11			18	978												
1640	12	43	1054	18	978												
1645	17			18	978		DIVERT FLOW THROUGH SEPARATOR										
1700	32	43	1052	18	978		49	200				3.132	0.576				
1730	62	43	1050	19	975		48	200				3.135	0.576				HYDRATION OCCURRING ON LINE BETWEEN C/M & SEPARATOR
1800	92	43	1049	19	975		40	200				3.163	0.576				

FLOPETROL

WELL TESTING DATA SHEET(Continuation)

Page : 55
Report N°: 1

Section : 7

DATE - TIME		PRESSURE AND TEMPERATURE MEASUREMENTS							PROD. RATES AND FLUID PROPERTIES					GOR			
Date	Time	BOTTOM HOLE		WELL HEAD			SEPARATOR		OIL OR CONDENSATE			GAS		GOR	H ₂ S PPM	CO ₂ %	Unit
		Temp °C	Pressure PSIA	Tg temp °C	Tg. press. PSIG	Cg. press.	Temp. °F	Press. PSIA	Rate	Gravity	BSW	Rate MMSCF/D	Gravity Air=1				
11/7/87	1130																
	1145	108			1004				OPEN WELL TO GAS FLARE ON 1 1/2" FIXED AND ADJUSTABLE CHOKE								
	1147	2		22	431												
	1148	3		22	414			DIVERT FLOW THROUGH SEPARATOR									
	1149	4		22	421			DROP 4.25" ORIFICE PLATE									
	1154	9		22	418												
	1200	15	42	799	23	420	68	305				23.94	0.574		0	1.0	
	1215	30	42	785	24	418	70	310				24.35	0.574				
	1230	45	42	782	25	416	72	310				24.29	0.574				
	1245	60	42	780	25	416	73	310				24.27	0.574				
	1300	75	42	780	25	413	74	305				24.04	0.574				
	1315	90	42	780	25	413	75	305				24.01	0.574				
	1330	105	42	781	25	414	75	305				24.01	0.574				
	1345	120	42	781	25	414	76	305				24.11	0.574				
	1400	135	42	781	25	414	76	305				24.11	0.574				
	1415	150	42	779	25	415	76	305				24.11	0.574				
	1430	165	42	780	25	415	76	305				24.11	0.574				
	1445	180	42	777	25	415	76	305				24.11	0.574				

FLOPETROL

DIVISION : ANZ
BASE : BEF
REPORT N° : 080787150787

Well Testing Report Annexes —

Client : LASMO ENERGY

Field : Well : PATRICIA #1

Zone : Date : 8-15 JULY 1987

INDEX of ANNEXES

- 1 - BOTTOM HOLE PRESSURE AND TEMPERATURE MEASUREMENT -
 - 1.1 - B.H. gauge calibration .
 - 1.2 - B.H. pressure calculation .
 - 1.3 - B.H. temperature calculation .

- 2 - LIQUID PRODUCTION RATE MEASUREMENT -
 - 2.1 - Measurements with tank .
 - 2.2 - Measurements with meter .

- 3 - GAS PRODUCTION RATE MEASUREMENT -

- 4 - SAMPLING SHEETS -
 - 4.1 - Bottom hole sampling .
 - 4.2 - Surface sampling .

- 5 - CHARTS AND MISCELLANEOUS -

GAS PRODUCTION RATE MEASUREMENT by orifice meter

Reference is made to the rules and coefficients given in AGA gas measurement Committee Report No.3 for orifice metering.

a) EQUATIONS

$$Q = C \sqrt{hw \times Pf}$$

Q : Production rate at reference conditions.
C : Orifice flow coefficient.
hw : Differential pressure in inches of water.
Pf : Flowing pressure in psia.

$$C = F_u \times F_b \times F_g \times Y \times F_{tf} \times F_{pv}$$

F_u : Unit conversion factor in desired reference conditions.
F_b : Basic orifice factor (Q in Cu.ft / hour)
F_g : Specific gravity factor.
Y : Expansion factor
F_{tf} : Flowing temperature factor.
F_{pv} : Supercompressibility factor (estimated).

Remarks

F_m : Manometer factor is equal one since only bellows type meters are used.
F_r : Reynolds factor is considered to be one.

TABLE OF F _u FACTOR				
UNITS	REFERENCE CONDITIONS			
	60°F 14.73 psia	0°C 760mmHg*	15°C 760mmHg *	15°C 750mmHg *
Cu.ft / hour	1	0.9483	1.0004	1.0137
Cu.ft / day	24	22.760	24.009	24.329
m ³ / hour	0.02832	0.02685	0.02833	0.02870
m ³ / day	0.6796	0.6445	0.6799	0.6889

* Mercury at 32°F

b) METER DATA

Meter type : DANIEL Flange taps - Pf taken down/up stream
 Flow recorder type : BARTON ID of meter tube : 5.761"

c) SPECIFIC GRAVITY SOURCE

Sampling point : TOP OF GAS OUTLET Gravitometer type : PANAREX

d) SUPERCOMPRESSIBILITY FACTOR F_{pv}

All coefficients are taken from AGA NX 19 manual for natural gas free of air, CO₂ and H₂S. More accurate values could only be determined by laboratory measurement.

FLOPETROL

Client : LASMO ENERGY

- GAS PRODUCT. RATE MEASUREMENT -

Section : ANNEX **3**

Base : BEF

Field :
Well : PATRICIA #1

Page : 61
Report N : 1

DATE - TIME		Flowing	P _f	h _w	$\sqrt{h_w \times P_f}$	Orifice	Gas	F _b	F _g	Y	F _{tf}	F _{pv}	C	Gas production	Cumulative
Time	Interval	Temp	absolute	"of wat.		diameter	gravity							rate : Q	Production
HRS	MINS	F	psia			Inches	(air=1)							MM SCF/DAY	MSCFT
1220				OPEN	P.C.T.										
1221				OPEN	WELL TO GAS	FLARE ON 1" AD.		USTABLE	CHOKE						
1250				DIVERT	FLOW THROUGH	SEPARATOR									
1340	15	58	45	43	43.99	3.00	.574	1907.8	1.3199	1.0058	1.0019	1.0034	61105	2.685	27.97
1355	15	58	45	43	43.99	3.00	.574	1907.8	1.3199	1.0058	1.0019	1.0034	61105	2.685	55.94
1415	20	58	45	40	42.43	3.0	.574	1907.8	1.3199	1.0054	1.0019	1.0034	61080	2.588	82.90
1430	15	58	45	40	42.43	3.00	.574	1907.8	1.3199	1.0054	1.0019	1.0034	61080	2.588	109.86
1445	15	58	45	40	42.43	3.00	.574	1907.8	1.3199	1.0054	1.0019	1.0034	61080	2.588	136.82
1500	15	58	45	40	42.43	3.0	.572	1907.8	1.3222	1.0054	1.0019	1.0033	61186	2.593	163.83
1515	15	58	45	40	42.43	3.00	.572	1907.8	1.3222	1.0054	1.0019	1.0033	61186	2.593	190.84
1530	15	58	45	40	42.43	3.00	.572	1907.8	1.3222	1.0054	1.0019	1.0033	61186	2.593	217.85
1545	15	58	45	40	42.43	3.00	.572	1907.8	1.3222	1.0054	1.0019	1.0033	61186	2.593	244.86
1600	15	58	45	40	42.43	3.00	.572	1907.8	1.3222	1.0054	1.0019	1.0033	61186	2.593	271.87
1615	15	58	45	40	42.43	3.00	.572	1907.8	1.3222	1.0054	1.0019	1.0033	61186	2.593	298.88

Fu = 24

Recorder ranges : P_f = 0 - 1500 PSIG

TESTED INTERVAL :
PERFORATIONS :

h_w = 0-200" H₂O Temp. = 0 - 200 °F

DST #1

744m - 747m

FLOPETROL

GAS PRODUC. RATE MEASUREMENT-(Continuation)

Page : 63
Report N° : 1

Section: ANNEX **3**

DATE - TIME		Flowing	P _f	h _w	$\sqrt{h_w \times P_f}$	Orifice diameter	Gas gravity	F _b	F _g	Y	F _{if}	F _{pv}	C	Gas production rate : Q	Cumulative Production
Time	Interval	Temp.	absolute	"of wat.		Inches	(air = 1)							MM SCF/DAY	MSCFT
10.7.87	MINS	°F	psia												
															549.92
1031		DIVERT FLOW THROUGH SEPARATOR ON FIXED CHOKE (3RD FLOW)													
1045	14	60	75	82	78.42	2.000	0.574	816.13	1.3199	1.0072	1.0000	1.0055	26184.1	2.051	571.19
1100	15	54	75	78	76.49	2.000	0.574	816.13	1.3199	1.0069	1.0058	1.0058	26332.8	2.012	592.04
1115	15	53	75	78	76.49	2.000	0.574	816.13	1.3199	1.0069	1.0068	1.0058	26359.4	2.014	612.92
1130	15	53	75	78	76.49	2.000	0.574	816.13	1.3199	1.0069	1.0068	1.0058	26359.4	2.014	633.80
1145	15	53	75	78	76.49	2.000	0.574	816.13	1.3199	1.0069	1.0068	1.0058	26359.4	2.104	654.68
1200	15	53	75	78	76.49	2.000	0.574	816.13	1.3199	1.0069	1.0068	1.0058	26359.4	2.014	675.55
1215	15	54	75	79	76.97	2.000	0.575	816.13	1.3188	1.0069	1.0058	1.0058	26312.6	2.025	696.53
1230	15	54	75	79	76.97	2.000	0.575	816.13	1.3188	1.0069	1.0058	1.0058	26312.6	2.025	717.51
1245	15	54	75	79	76.97	2.000	0.575	816.13	1.3188	1.0069	1.0058	1.0058	26312.6	2.025	738.49
1300	15	54	75	79	76.97	2.000	0.575	816.13	1.3188	1.0069	1.0058	1.0058	26312.6	2.025	759.47
1315	15	54	75	79	76.97	2.000	0.575	816.13	1.3188	1.0069	1.0058	1.0058	26312.6	2.025	780.45
1330	15	54	75	79	76.97	2.000	0.575	816.13	1.3188	1.0069	1.0058	1.0058	26312.6	2.025	801.43
1345	15	54	75	79	76.97	2.000	0.575	816.13	1.3188	1.0069	1.0058	1.0058	26312.6	2.025	822.41
1400	15	55	75	79	76.97	2.000	0.575	816.13	1.3188	1.0069	1.0048	1.0057	26286.1	2.023	843.37
1412		BY-PASS SEPARATOR													
1416		SHUT IN WELL AT P.C.T. AND CHOKE MANIFOLD													

FLOPETROL

Client : LASMO ENERGY

Field : _____

Well : PATRICIA #1

Base : BEF

- GAS PRODUCT. RATE MEASUREMENT -

Section : **ANNEX 3**

Page : 65
Report N : 1

DATE - TIME		Flowing	P _f	h _w	$\sqrt{h_w \times P_f}$	Orifice	Gas	F _b	F _g	Y	F _{tf}	F _{pv}	C	Gas production	Cumulative
Time	Interval	Temp.	absolute	"of wat.		diameter	gravity							rate : Q	Production
	MTNS	°F	psia			Inches	(air = 1)							MMSCF/DAY	MSCF
		11TH JULY 1987 - D.S.T. #2													
1852		OPEN C/M TO GAS FLARE													
1857		DIVERT FLOW THROUGH 1.0" FIXED CHOKE													
1915		DIVERT FLOW THROUGH SEPARATOR													
1923		BEGIN FLOW MEASUREMENTS													
1930	15	58	90	127	106.91	2.75	0.573	1582.1	1.3211	1.0088	1.0019	1.0067	51040.6	5.45	53.04
2000	30	60	105	150	125.50	3.00	0.573	1907.8	1.3211	1.0086	1.000	1.0078	61483.8	7.71	59.5
2015	15	60	115	84	98.29	3.50	0.573	2695.1	1.3211	1.0039	1.000	1.0085	86516.7	8.49	247.3
2030	15	60	115	81	96.51	3.50	0.573	2695.1	1.3211	1.0038	1.000	1.0085	86504.5	8.34	333.5
2045	15	61	115	80	95.92	3.50	0.573	2695.1	1.3211	1.0038	0.9990	1.0085	86412.7	8.28	419.1
2100	15	61	115	74	92.25	3.50	0.573	2695.1	1.3211	1.0035	0.9990	1.0085	86388.3	7.96	501.4
2115	15	59	110	79	93.22	3.50	0.573	2695.1	1.3211	1.0039	1.0010	1.0082	86566.5	8.06	584.8
2130	15	59	110	80	93.81	3.50	0.573	2695.1	1.3211	1.0039	1.0010	1.0082	86570.8	8.11	668.7
2145	15	59	115	82	97.11	3.50	0.573	2695.1	1.3211	1.0038	1.0010	1.0086	86596.5	8.40	755.6
2200	15	58	115	83	97.70	3.50	0.573	2695.1	1.3211	1.0039	1.0019	1.0086	86688.8	8.46	843.1

Fu = 24

Recorder ranges : P_f = 0 - 1500 PSIG

h_w = 0 - 200" H₂O Temp. = 0 - 200°F

TESTED INTERVAL : DST #2

PERFORATIONS : 719.04m - 728m

FLOPETROL**GAS PRODUC. RATE MEASUREMENT--(Continuation)**Page : 66
Report N° : 1Section : ANNEX **3**

DATE - TIME		Flowing	P _f	h _w	$\sqrt{h_w \times P_f}$	Orifice	Gas	F _b	F _g	Y	F _{tf}	F _{pv}	C	Gas production	Cumulative
Time	Interval	Temp.	absolute	"of wat.		diameter	gravity							rate : Q	Production
1.7.87	MINS	°F	psia			Inches	(air = 1)							MMSCF/DAY	MSCF/D
2215	15	58	115	80	95.92	3.50	0.573	2695.1	1.3211	1.0038	1.0019	1.0086	86676.6	8.30	929.0
2230	15	59	115	80	95.92	3.50	0.573	2695.1	1.3211	1.0038	1.0010	1.0086	86588.3	8.30	1015.0
2245	15	59	115	80	95.92	3.50	0.573	2695.1	1.3211	1.0038	1.0010	1.0086	86588.3	8.30	1101.0
2250		BY PASS SEPARATOR													
2252		SHUT WELL IN @ PCT													
		12TH JULY 1987													
0335		OPEN PCT													
0342		OPEN WELL TO GAS FLARE THROUGH 5/8" FIXED CHOKE													
0356		DIVERT FLOW THROUGH SEPARATOR													
0415	19	48	90	57	71.62	3.25	0.574	2276.5	1.3199	1.0036	1.0117	1.0072	73753.6	5.27	69.53
0430	15	48	90	56	70.99	3.25	0.574	2276.5	1.3199	1.0036	1.0117	1.0072	73748.9	5.23	124.01
0045	15	48	90	56	70.99	3.25	0.574	2276.5	1.3199	1.0036	1.0017	1.0072	73748.9	5.23	178.49
0500	15	49	90	56	70.99	3.25	0.574	2276.5	1.3199	1.0036	1.0107	1.0071	73673.1	5.22	232.86
0515	15	50	90	57	71.62	3.25	0.574	2276.5	1.3199	1.0036	1.0098	1.0071	73602.2	5.26	287.65
0530	15	50	90	57	71.62	3.25	0.574	2276.5	1.3199	1.0036	1.0098	1.0071	73602.2	5.26	342.44
0545	15	50	90	57	71.62	3.25	0.574	2276.5	1.3199	1.0036	1.0098	1.0071	73602.2	5.26	397.23
0600	15	50	90	57	71.62	3.25	0.574	2276.5	1.3199	1.0036	1.0098	1.0071	73602.2	5.26	452.03

FLOPETROL

GAS PRODUC. RATE MEASUREMENT--(Continuation)

Page : 67
Report N°: 1

Section: ANNEX 3

DATE - TIME		Flowing	P _f	h _w	$\sqrt{h_w \times P_f}$	Orifice	Gas	F _b	F _g	Y	F _{lf}	F _{pv}	C	Gas production	Cumulative
Time	Interval	Temp	absolute	of wat.		diameter	gravity							rate : Q	Production
Hrs	MIN	oF	psia			Inches	(air = 1)							MMSCF/DAY	MSCF/D
2.7.87															
0615	15	51	95	57	73.59	3.25	0.574	2276.5	1.3199	1.0034	1.0088	1.0075	73541.7	5.40	508.28
0630	15	52	95	57	73.59	3.25	0.574	2276.5	1.3199	1.0034	1.0078	1.0074	73466.4	5.40	564.53
0645	15	52	95	56	72.94	3.25	0.574	2276.5	1.3199	1.0034	1.0078	1.0074	73462.0	5.35	620.26
0700	15	52	95	55	72.28	3.25	0.574	2276.5	1.3199	1.0033	1.0078	1.0074	73457.5	5.30	675.47
0715	15	52	95	53	70.96	3.25	0.574	2276.5	1.3199	1.0032	1.0078	1.0074	73448.6	5.20	729.64
0730	15	52	95	52	70.29	3.25	0.574	2276.5	1.3199	1.0031	1.0078	1.0074	73444.2	5.15	783.28
0735		BY-PASS SEPARATOR													
0736		SHUT IN WELL AT PCT													
1138		OPEN PCT													
1142		OPEN CHOKE MANIFOLD TO GAS FLARE. BEAN UP TO 1½" ON ADJUSTABLE CHOKE													
1144		DIVERT FLOW THROUGH 1½" FIXED CHOKE													
1149		DIVERT FLOW THROUGH SEPARATOR													
1200	11	57	85	68	76.03	3.50	0.574	2695.1	1.3199	1.0043	1.0029	1.0064	86543.6	6.572	49.94
1215	15	60	85	69	76.58	3.50	0.574	2695.1	1.3199	1.0044	1.0000	1.0063	86288.9	6.601	118.34
1230	15	61	80	67	73.21	3.50	0.574	2695.1	1.3199	1.0045	0.9990	1.0059	86182.9	6.303	183.68
1245	15	63	80	66	72.66	3.50	0.574	2695.1	1.3199	1.0045	0.9971	1.0058	86005.9	6.243	248.40
1300	15	63	80	65	72.11	3.50	0.574	2695.1	1.3199	1.0044	0.9971	1.0058	86000.0	6.195	312.63

FLOPETROL	Client : <u>LASMO ENERGY</u>	- GAS PRODUCT. RATE MEASUREMENT -	Section : ANNEX 3
Base : <u>BEF</u>	Field : _____ Well : <u>PATRICIA #1</u>		Page : <u>69</u> Report N : <u>1</u>

DATE - TIME		Flowing	Pf	hw	$\sqrt{h_w \times P_f}$	Orifice	Gas	Fb	Fg	Y	Ftf	Fpv	C	Gas production	Cumulative
Time	Interval	Temp.	absolute	"of wat.		diameter	gravity							rate : Q	Production
HRS	MIN	°F	psia			Inches	(air=1)							MMSCF/D	MSCFT
1 TH JULY 1987 - D.S.T. #3 & #3A															
0834	-	OPEN	P.C.T.												
0836		OPEN	WELL TO GAS FLARE ON 1½" ADJUSTABLE CHOKE												
0839		OPEN	CHOKE MANIFOLD ON 1½" FIXED & ADJUSTABLE CHOKE												
0854		DIRECT	FLOW THROUGH SEPARATOR												
0902		DROP	4.00" ORIFICE PLATE												
0915	21	62	155	67	101.91	4.00	0.574	3718.2	1.3199	1.0019	0.9981	1.0114	119129.8	12.13	174.93
0930	15	62	160	68	104.31	4.00	0.574	3718.2	1.3199	1.0019	0.9981	1.0118	119170.0	12.42	302.85
0945	15	63	155	67	101.91	4.00	0.574	3718.2	1.3199	1.0019	0.9971	1.0113	119007.3	12.12	427.75
1000	15	63	160	65	101.98	4.0	0.574	3718.2	1.3199	1.0018	0.9971	1.0117	119037.2	12.13	552.75
1030	30	63	160	65	101.98	4.00	0.574	3718.2	1.3199	1.0018	0.9971	1.0117	119037.2	12.13	802.75
1100	30	63	160	67	103.54	4.00	0.574	3718.2	1.3199	1.0019	0.9971	1.0117	119043.8	12.31	1056.50
1130	30	63	155	64	99.60	4.00	0.574	3718.2	1.3199	1.0018	0.9971	1.0113	118997.0	11.84	1300.66
1145	15	64	160	64	101.19	4.00	0.574	3718.2	1.3199	1.0018	0.9962	1.0116	118911.5	12.02	1424.51
1200	15	64	160	66	102.76	4.00	0.574	3718.2	1.3199	1.0018	0.9962	1.0016	118918.1	12.21	1550.34

Fu = <u>24</u>	Recorder ranges : Pf = <u>0 - 1500</u> hw = <u>0 - 200" H₂O</u> Temp. = <u>0 - 200° F</u>	TESTED INTERVAL : <u>DST #3 & #3A</u> PERFORATIONS : <u>703.06m - 738m</u>
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FLOPETROL

GAS PRODUC. RATE MEASUREMENT-(Continuation)

Page : 70
Report N° : 1

Section : ANNEX 3

DATE - TIME		Flowing Temp. °F	P _f absolute psia	h _w of wat.	$\sqrt{h_w \times P_f}$	Orifice diameter Inches	Gas gravity (air = 1)	F _b	F _g	Y	F _{if}	F _{pv}	C	Gas production rate : Q MMSCF/D	Cumulative Production MSCF/T
Time HRS	Interval MIN														
13.7.87															
1230	30	65	175	71	111.47	4.00	0.574	3718.2	1.3199	1.0018	0.9952	1.0127	118921.9	13.24	1826.14
1232		BY-PASS SEPARATOR TO GAS FLARE													
1233		CLOSE PCT & CHOKE MANIFOLD													
1628		OPEN PCT & FLOW THROUGH 24/64" FIXED CHOKE													
1645		DIVERT FLOW THROUGH SEPARATOR													
1651		"DROP" 2.25" ORIFICE PLATE													
1700	9	49	200	43	92.74	2.25	0.576	1039.5	1.3176	1.0014	1.0107	1.0162	33809.7	3.132	19.28
1730	30	48	200	43	92.74	2.25	0.576	1039.5	1.3176	1.0014	1.0117	1.0162	33809.7	3.135	83.61
1800	30	40	200	43	92.74	2.25	0.576	1039.5	1.3176	1.0014	1.0198	1.0172	34146.3	3.163	148.46
1830	30	40	200	44	93.81	2.25	0.576	1039.5	1.3176	1.0014	1.0198	1.0172	34147.4	3.200	214.10
1900	30	40	200	44	93.81	2.25	0.576	1039.5	1.3176	1.0014	1.0198	1.0172	34147.4	3.200	279.70
1920	20	40	200	44	93.81	2.25	0.576	1039.5	1.3176	1.0014	1.0198	1.0172	34147.4	3.200	345.3
1921		BY-PASS SEPARATOR													
1928		SHUT IN WELL @ PCT													
1932		SHUT IN @ CHOKE MANIFOLD													
2228		OPEN PCT & C/M THROUGH 32/64" FIXED CHOKE													
2249		DIVERT FLOW THROUGH SEPARATOR													

FLOPETROL

GAS PRODUC. RATE MEASUREMENT--(Continuation)

Page : 71
Report N° : 1

Section : ANNEX 3

DATE - TIME		Flowing	P _f	h _w	$\sqrt{h_w \times P_f}$	Orifice	Gas	F _b	F _g	Y	F _{tf}	F _{pv}	C	Gas production	Cumulative
Time	Interval	Temp.	absolute	"of wat.		diameter	gravity							rate : Q	Production
RS	MIN	°F	psia			Inches	(air = 1)							MMSCF/DAY	MSCF
3.7.87															
2300	11	51	195	103	141.72	2.50	0.575	1293.8	1.3188	1.0034	1.0088	1.0155	42092.0	5.96	44.87
2330	30	50	195	102	141.03	2.50	0.575	1293.8	1.3188	1.0033	1.0098	1.0156	42136.1	5.94	166.80
2400	30	49	195	100	139.64	2.50	0.575	1293.8	1.3188	1.0033	1.0107	1.0157	42179.1	5.89	287.60
14TH JULY 1987															
0030	30	48	195	100	139.64	2.50	0.575	1293.8	1.3188	1.0033	1.0117	1.0159	42224.9	5.89	408.5
0100	30	48	195	100	139.64	2.50	0.575	1293.8	1.3188	1.0033	1.0177	1.0159	42224.9	5.89	529.4
0120	20'	48	195	100	139.64	2.5	0.575	1293.8	1.3188	1.0033	1.0117	1.0159	42224.9	5.89	650.3
0122		BY-PASS SEPARATOR													
0129		SHUT IN WELL @ PCT & C/M													
0427		OPEN PCT													
0428		OPEN C/MANIFOLD THROUGH 5/8" FIXED CHOKE													
0435		DIVERT FLOW THROUGH SEPARATOR													
0440		DROP 3.00" ORIFICE PLATE													
0445	10	50	205	88	134.31	3.00	0.574	1907.8	1.3199	1.0026	1.0098	1.0164	62185.9	8.343	57.9
0500	15	45	205	88	134.31	3.00	0.574	1907.8	1.3199	1.0026	1.0147	1.0170	62527.1	8.388	145.3
0530	30	48	210	87	135.17	3.00	0.574	1907.8	1.3199	1.0025	1.0117	1.0171	62341.5	8.417	320.7
0600	30	52	210	87	135.17	3.00	0.574	1907.8	1.3199	1.0025	1.0078	1.0166	62070.3	8.380	495.3

FLOPETROL

GAS PRODUC. RATE MEASUREMENT-(Continuation)

Page : 72
Report N° : 1

Section: ANNEX **3**

DATE - TIME		Flowing	P _f	h _w	$\sqrt{h_w \times P_f}$	Orifice diameter	Gas gravity	F _b	F _g	Y	F _{tf}	F _{pv}	C	Gas production rate Q	Cumulative Production
Time HRS	Interval MIN	Temp OF	absolute psia	"of wat.		Inches	(air = 1)							MMSCF/D	MSCF/D
4.7.87															
0630	30	52	210	87	135.17	3.00	0.574	1907.8	1.3199	1.0025	1.0078	1.0166	62070.3	8.380	669.9
0700	30	54	210	87	135.17	3.00	0.574	1907.8	1.3199	1.0025	1.0058	1.0164	61936.1	8.362	844.1
0725	25	55	210	87	135.17	3.00	0.574	1907.8	1.3199	1.0025	1.0048	1.0163	61869.4	8.354	989.1
0729		BY-PASS SEPARATOR													
0730		CLOSE PCT AND CHOKE MANIFOLD													
0917		OPEN PCT													
0918		OPEN WELL THROUGH BY-PASS ON CHOKE MANIFOLD													
1100		SHUT IN WELL AT CHOKE MANIFOLD													
1109		SHUT IN FLOWLINE VALVE ON FLOWHEAD													
1110		BULLHEAD FORMATION													
1400		POOL DST #3													
		15TH JULY 1987 D.S.T. #3A													
0645		OPEN WELL TO BURNER HEAD - BEAN UP TO 1½" ADJUSTABLE CHOKE													
0716		DIVERT FLOW THROUGH 1½" FIXED CHOKE													
0730		DIVERT FLOW THROUGH 1½" FIXED & ADJUSTABLE CHOKE													
0732		DIVERT FLOW THROUGH 1½" FIXED & ADJUSTABLE CHOKES AND BY-PASS VALVE													
0739		S.I. WELL AT CHOKE MANIFOLD													

FLOPETROL**GAS PRODUC. RATE MEASUREMENT--(Continuation)**Page
Report N^o: 73Section: ANNEX **3**

DATE - TIME		Flowing	P _f	h _w	$\sqrt{h_w \times P_f}$	Orifice	Gas	F _b	F _g	Y	F _{tf}	F _{pv}	C	Gas production	Cumulative
Time	Interval	Temp	absolute	of wat.		diameter	gravity							rate : Q	Production
HRS	MIN	of	psia			Inches	(air = 1)								
15.7.87															
0753			OPEN WELL	THROUGH 1½" FIXED & ADJUSTABLE CHOKES & BY-PASS VALVE											
0801			DIVERT FLOW THROUGH SEPARATOR												
0830	29	70	270	90	155.88	4.25	0.574	4354.8	1.3199	1.0013	0.9905	1.0191	139425.4	21.71	436.82
0845	15	71	280	90	158.75	4.25	0.574	4354.8	1.3199	1.0012	0.9896	1.0197	139368.5	22.10	667.02
0900	15	72	285	90	160.16	4.25	0.574	4354.8	1.3199	1.0012	0.9887	1.0199	139265.6	22.28	899.10
0915	15	72	285	91	161.04	4.25	0.574	4354.8	1.3199	1.0012	0.9887	1.0199	139267.4	22.41	1132.54
0930	15	73	285	92	161.93	4.25	0.574	4354.8	1.3199	1.0012	0.9877	1.0198	139121.0	22.51	1367.02
0945	15	73	290	93	164.23	4.25	0.574	4354.8	1.3199	1.0012	0.9877	1.0201	139168.0	22.83	1604.83
0946			BY-PASS SEPARATOR												
0947			SHUT IN WELL AT CHOKE MANIFOLD												
1145			OPEN WELL TO GAS FLARE ON ½" FIXED & ADJUSTABLE CHOKE												
1148			DIVERT FLOW THROUGH SEPARATOR												
1149			DROP 4.25" ORIFICE PLATE												
1200	12	68	305	96	171.11	4.25	0.574	4354.8	1.3199	1.0012	0.9924	1.0219	140064.4	23.94	199.50
1215	15	70	310	98	174.30	4.25	0.574	4354.8	1.3199	1.0012	0.9905	1.0220	139810.9	24.35	453.15
1230	15	72	310	98	174.30	4.25	0.574	4354.8	1.3199	1.0012	0.9887	1.0217	139508.7	24.29	706.17
1245	15	73	310	98	174.30	4.25	0.574	4354.8	1.3199	1.0012	0.9887	1.0215	139358.4	24.27	958.98

FLOPETROL

GAS PRODUC. RATE MEASUREMENT-(Continuation)

Page : 74
Report N° : 1

Section : ANNEX 3

DATE - TIME		Flowing	P _f	h _w	$\sqrt{h_w \times P_f}$	Orifice	Gas	F _b	F _g	Y	F _{lf}	F _{pv}	C	Gas production	Cumulative
Time	Interval	Temp.	absolute	"of wat.		diameter	gravity							rate : Q	Production
HRS	MIN	°F	psia			Inches	(air = 1)							MMSCF/D	MSCF/D
5.7.87															
1300	15	74	305	98	172.89	4.25	0.574	4354.8	1.3199	1.0012	0.9868	1.0210	139163.6	24.04	1209.40
1315	15	75	305	98	172.89	4.25	0.574	4354.8	1.3199	1.0012	0.9859	1.0209	139014.9	24.01	1459.50
1330	15	75	305	98	172.89	4.25	0.574	4354.8	1.3199	1.0012	0.9859	1.0209	139014.9	24.01	1709.60
1345	15	76	305	99	173.77	4.25	0.574	4354.8	1.3199	1.0012	0.9850	1.0208	138868.4	24.11	1960.75
1400	15	76	305	99	173.77	4.25	0.574	4354.8	1.3199	1.0012	0.9850	1.0208	138868.5	24.11	2211.90
1415	15	76	305	99	173.77	4.25	0.574	4354.8	1.3199	1.0012	0.9850	1.0208	138868.5	24.11	2463.05
1430	15	76	305	99	173.77	4.25	0.574	4354.8	1.3199	1.0012	0.9850	1.0208	138868.5	24.11	2714.20
1445	15	76	305	99	173.77	4.25	0.574	4354.8	1.3199	1.0012	0.9850	1.0208	138868.5	24.11	2965.35
1500	15	76	305	99	173.77	4.25	0.574	4354.8	1.3199	1.0012	0.9850	1.0208	138868.5	24.11	3216.50
1515	15	76	305	99	173.77	4.25	0.574	4354.8	1.3199	1.0012	0.9850	1.0208	138868.5	24.11	3467.65
1530	15	76	305	99	173.77	4.25	0.574	4354.8	1.3199	1.0012	0.9850	1.0208	138868.5	24.11	3718.80
1545	15	76	305	99	173.77	4.25	0.574	4354.8	1.3199	1.0012	0.9850	1.0208	138868.5	24.11	3969.95
1546		BY-PASS SEPARATOR AND SHUT IN WELL AT CHOKE MANIFOLD													

FLOPETROL

Client : LASMO ENERGYSection: ANNEX 4EBase : BEFField : PATRICIAPage : 75Well : # 1Report N° : 1

- SURFACE SAMPLING -

Date of sampling : 10.7.87 Service order : _____ Sampling No : # 1
Sample nature : GAS Sampling point : GAS OUTLET SEPARATOR

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : DST #1 Perforations : 744m - 747m Sampling interval : _____
Depth origin : RKB Tubing Dia. : 3 1/2" Casing Dia. : _____
Surface elevation : _____ Shoe : _____ Shoe : _____

<u>Bottom hole static conditions</u>	Initial pressure : _____ at depth : _____ date : _____
	Latest pressure measured : _____ at depth : _____ date : _____
	Temperature : _____ at depth : _____ date : _____

B - MEASUREMENT AND SAMPLING CONDITIONS -

Time at which sample was taken : 0505 Time elapsed since stabilisation : _____

<u>Bottom hole dynamic conditions</u>	Choke size : <u>3/8"</u> since : _____ Well head pressure : <u>570</u> Well head temp. : <u>15°C</u>
	Bottom hole pressure : <u>635 PSIA</u> at depth : <u>733.52m</u> date : <u>10.7.87</u>
	Bottom hole temp. : <u>37.9°C</u> at depth : <u>733.52m</u> date : <u>10.7.87</u>

Flow measurement of sampled gas - Gravity (air = 1) : 0.572 Factor $F_{pv} = \frac{1}{VZ}$: 1.0065
Values used for calculations :

<u>Separator</u>	Pressure : <u>65</u> PSIG	Rates - Gas : <u>1.810mm</u> SCFD	GOR : <u>N/A</u>
	Temp. : <u>44</u> °F	Oil (separator cond.) : <u>N/A</u> BOPD	<input checked="" type="checkbox"/> (separator cond.)

<u>Stock tank</u>	Atmosphere : <u>N/A</u> mmHg. <u>N/A</u> °F	Oil at 60 °F : <u>N/A</u> BOPD
	Tank temperature : <u>N/A</u> °F	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

BSW : 0 % WLR : 0 %Transferring fluid : VACUUM Transfer duration : 18 MINSFinal conditions of the shipping bottle : _____
Pressure : 65 PSIG Temp. : 44 °F

C - IDENTIFICATION OF THE SAMPLE -

Shipping bottle No. : 54255 sent on : _____ by : _____ Shipping order No. : _____
Addressee : _____

Coupled with	LIQUID	GAS
<u>Bottom hole samples No.</u>	_____	_____
<u>Surface samples No.</u>	_____	<u>5423"</u>

Measurement conditions,

 Tank . Meter . Dump .
 Corrected with shrinkage tester . Corrected with tank .

D - REMARKS -

Visa Chief Operator

DOP 127

FLOPETROL

Client : LASMO ENERGYSection: ANNEX 42Base : BEFField : PATRICIAPage : 76Well : #1Report N°: 1

- SURFACE SAMPLING -

Date of sampling : 10.7.87 Service order : _____ Sampling No : # 2
 Sample nature : GAS Sampling point : GAS OUTLET SEPARATOR

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : DS#1 Perforations : 744m - 747m Sampling interval : _____
 Depth origin : RKB Tubing Dia. : 3 1/2" Casing Dia. : _____
 Surface elevation : _____ Shoe : _____ Shoe : _____

<u>Bottom hole static conditions</u>	Initial pressure : _____ at depth : _____ date : _____
	Latest pressure measured : _____ at depth : _____ date : _____
	Temperature : _____ at depth : _____ date : _____

B - MEASUREMENT AND SAMPLING CONDITIONS -

Time at which sample was taken : 0531 Time elapsed since stabilisation : _____

<u>Bottom hole dynamic conditions</u>	Choke size : <u>3/8"</u> since : _____ Well head pressure : <u>570</u> Well head temp. : <u>15°C</u>
	Bottom hole pressure : <u>635 PSIA</u> at depth : <u>733.52m</u> date : <u>10.7.87</u>
	Bottom hole temp. : <u>37.3°C</u> at depth : <u>733.52m</u> date : <u>10.7.87</u>

Flow measurement of sampled gas - Gravity (air. 1) : 0.572 Factor $F_{pv} = \frac{1}{\sqrt{Z}}$: 1.0065
 Values used for calculations :

<u>Separator</u>	Pressure : <u>65</u> PSIG	Rates - Gas : <u>1.810mm</u> SCFD	GOR : <u>N/A</u>
	Temp. : <u>44</u> °F	Oil (separator cond.) : <u>N/A</u> BOPD	<input checked="" type="checkbox"/> (separator cond.)

<u>Stock tank</u>	Atmosphere : <u>N/A</u> mmHg - <u>N/A</u> °F	Oil at 60 °F : <u>N/A</u> BOPD
	Tank temperature : <u>N/A</u> °F	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

BSW : 0 % WLR : 0 %Transferring fluid : VACUUM Transfer duration : 17 MINS

Final conditions of the shipping bottle : _____
 Pressure : 65 PSIG Temp : 44 °F

C - IDENTIFICATION OF THE SAMPLE -

Shipping bottle No. : 54237 sent on : _____ by : _____ Shipping order No. : _____
Addressee : _____

<u>Coupled with</u>	<u>LIQUID</u>	<u>GAS</u>
<u>Bottom hole samples No</u>	_____	_____
<u>Surface samples No</u>	_____	_____

Measurement conditions

- Tank . - Meter . - Dump .
 - Corrected with shrinkage tester . - Corrected with tank .

D - REMARKS -

Visa Chief Operator

FLOPETROL

Client : LASMO ENERGYSection: ANNEX 42Base : BEFField : PATRICIAPage : 77Well : #1Report N° : 1

- SURFACE SAMPLING -

Date of sampling : 10.7.87 Service order : _____ Sampling No : # 3
Sample nature : GAS Sampling point : GAS OUTLET SEPARATOR

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : DST #1 Perforations : 744m - 747m Sampling interval : _____
Depth origin : RKB Tubing Dia. : 3 1/2" Casing Dia. : _____
Surface elevation : _____ Shoe : _____ Shoe : _____

<u>Bottom hole static conditions</u>	Initial pressure : _____ at depth : _____ date : _____
	Latest pressure measured : _____ at depth : _____ date : _____
	Temperature : _____ at depth : _____ date : _____

B - MEASUREMENT AND SAMPLING CONDITIONS -

Time at which sample was taken : 1305 Time elapsed since stabilisation : _____

<u>Bottom hole dynamic conditions</u>	Choke size : <u>1/2"</u> since : <u>1022</u> Well head pressure : <u>368</u> PSIG Well head temp. : <u>18</u> °C
	Bottom hole pressure : <u>429</u> PSIA at depth : <u>733.52m</u> date : <u>10.7.87</u>
	Bottom hole temp. : <u>35.0</u> °C at depth : <u>733.52m</u> date : <u>10.7.87</u>

Flow measurement of sampled gas - Gravity (air: 1) : 0.575 Factor $F_{pv} = \frac{1}{\sqrt{Z}}$: 1.0058
Values used for calculations :

<u>Separator</u>	Pressure : <u>60</u> PSIG	Rates - Gas : <u>2.025mm</u> SCFD	GOR : <u>N/A</u> (separator cond.)
	Temp. : <u>54</u> °F	Oil (separator cond.) : _____ BOPD	

<u>Stock tank</u>	Atmosphere : <u>N/A</u> mmHg. <u>N/A</u> °F	Oil at 60 °F : <u>N/A</u> BOPD
	Tank temperature : <u>N/A</u> °F	

BSW : 0 % WLR : 0 %Transferring fluid : VACUUM Transfer duration : 20 MINSFinal conditions of the shipping bottle :
Pressure : 60 PSIG Temp : 54 °F

C - IDENTIFICATION OF THE SAMPLE -

Shipping bottle No. : 54263 sent on : _____ by : _____ Shipping order No. : _____
Addressee : _____

Coupled with	LIQUID	GAS
<u>Bottom hole samples No.</u>	_____	_____
<u>Surface samples No.</u>	_____	_____

Measurement conditions

 Tank . Meter . Dump .
 Corrected with shrinkage tester . Corrected with tank .

D - REMARKS -

Visa Chief Operator

FLOPETROL

Client : LASMO ENERGYSection: ANNEX 42Base : BEFField : PATRICIAPage : 78Well : #1Report N°: 1

- SURFACE SAMPLING -

Date of sampling : 10.7.87 Service order : _____ Sampling No : # 4
Sample nature : GAS Sampling point : GAS OUTLET SEPARATOR

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : DS7 #1 Perforations : 744m - 747m Sampling interval : _____
Depth origin : RK3 Tubing Dia. : 3 1/2" Casing Dia. : _____
Surface elevation : _____ Shoe : _____ Shoe : _____

Bottom hole static conditions	Initial pressure : _____ at depth : _____ date : _____
	Latest pressure measured : _____ at depth : _____ date : _____
	Temperature : _____ at depth : _____ date : _____

B - MEASUREMENT AND SAMPLING CONDITIONS -

Time at which sample was taken : 1335 Time elapsed since stabilisation : _____

Bottom hole dynamic conditions	Choke size : <u>1/2"</u> since : <u>1022</u> Well head pressure : <u>368 PSIG</u> Well head temp. : <u>18°C</u>
	Bottom hole pressure : <u>430.5 PSIA</u> at depth : <u>733.52m</u> date : <u>10.7.87</u>
	Bottom hole temp. : <u>34.9°C</u> at depth : <u>733.52m</u> date : <u>10.7.87</u>

Flow measurement of sampled gas - Gravity (air: 1) : 0.575 Factor $F_{pv} = \frac{1}{\sqrt{Z}}$: 1.0058
Values used for calculations :

Separator	Pressure : <u>75</u> PSIG	Rates - Gas : <u>2.025mm</u> SCFD	GOR : <u>N/A</u> (separator cond.)
	Temp. : <u>54</u> °F	Oil (separator cond.) : <u>N/A</u> BOPD	

Stock tank	Atmosphere : <u>N/A</u> mmHg - <u>N/A</u> °F	Oil at 60 °F : <u>N/A</u> BOPD
	Tank temperature : <u>N/A</u> °F	

BSW : 0 % WLR : 0 %Transferring fluid : VACUUM Transfer duration : 25 MINSFinal conditions of the shipping bottle : _____
Pressure : 75 PSIG Temp : 55 °F

C - IDENTIFICATION OF THE SAMPLE -

Shipping bottle No. : 54284 sent on : _____ by : _____ Shipping order No. : _____
Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No	_____	_____
Surface samples No	_____	<u>54263</u>

Measurement conditions

 Tank . Meter . Dump .
 Corrected with shrinkage tester. Corrected with tank .

D - REMARKS -

Visa Chief Operator

FLOPETROL

Client : LASMO ENERGYSection: ANNEX 4EBase : BEEField : PATRICIAPage : 79Well : #1Report N° : 1

- SURFACE SAMPLING -

Date of sampling : 12.7.87 Service order : _____ Sampling No : # 5
Sample nature : GAS Sampling point : SEPARATOR GAS OUTLET

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : DST #2 Perforations : 719m - 728m Sampling interval : _____Depth origin : RKB Tubing Dia. : 3 1/2" VAM Casing Dia. : _____
Surface elevation : _____ Shoe : _____ Shoe : _____

Bottom hole static conditions	Initial pressure : _____ at depth : _____ date : _____
	Latest pressure measured : _____ at depth : _____ date : _____
	Temperature : _____ at depth : _____ date : _____

B - MEASUREMENT AND SAMPLING CONDITIONS -

Time at which sample was taken : 0630 Time elapsed since stabilisation : 2 1/2 HOURS

Bottom hole dynamic conditions	Choke size : <u>5/8</u> since : <u>0342</u> Well head pressure : <u>585 PSIG</u> Well head temp. : <u>20 °C</u>
	Bottom hole pressure : <u>393 PSIA</u> at depth : <u>707.64m</u> date : <u>12.7.87</u>
	Bottom hole temp. : <u>41.7 °C</u> at depth : <u>707.64m</u> date : <u>12.7.87</u>

Flow measurement of sampled gas - Gravity (air: 1) : 0.574 Factor $F_{pv} = \frac{1}{\sqrt{Z}}$: 1.0074
Values used for calculations :

Separator	Pressure : <u>80</u> PSIG	Rates - Gas : <u>5.40mm</u> SCFD	GOR : <u>N/A</u> (separator cond.)
	Temp. : <u>52</u> °F	Oil (separator cond.) : <u>N/A</u> BOPD	

Stock tank	Atmosphere : <u>N/A</u> mmHg. <u>N/A</u> °F	Oil at 60 °F : <u>N/A</u> BOPD
	Tank temperature : <u>N/A</u> °F	

BSW : 0 % WLR : 0 %Transferring fluid : VACUUM Transfer duration : 18 MINSFinal conditions of the shipping bottle : 54308
Pressure : 80 PSIG Temp : 52 °F

C - IDENTIFICATION OF THE SAMPLE -

Shipping bottle No. : 54308 sent on : _____ by : _____ Shipping order No. : _____
Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No	_____	_____
Surface samples No	_____	<u>54290</u>

Measurement conditions

 Tank . Meter . Dump .
 Corrected with shrinkage tester . Corrected with tank .

D - REMARKS -

Visa Chief Operator

FLOPETROL

Client : LASMO ENERGYSection: ANNEX 42Base : BEEField : PATRICIAPage : 80Well : # 1Report N°: 1

- SURFACE SAMPLING -

Date of sampling : 12.7.87 Service order : _____ Sampling No. : #6
Sample nature : GAS Sampling point : Separator Gas Outlet

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : DST #2 Perforations : 719m - 728m Sampling interval : _____Depth origin : RKB Tubing Dia. : 3 1/2" VAM Casing Dia. : _____
Surface elevation : _____ Shoe : _____ Shoe : _____

Bottom hole static conditions	Initial pressure	: _____	at depth:	_____	date:	_____
	Latest pressure measured	: _____	at depth:	_____	date:	_____
	Temperature	: _____	at depth:	_____	date:	_____

B - MEASUREMENT AND SAMPLING CONDITIONS -

Time at which sample was taken : 0652 Time elapsed since stabilisation : 3 HOURS

Bottom hole dynamic conditions	Choke size : <u>5/8</u> since : <u>0342</u> Well head pressure : <u>587PSIG</u> Well head temp. : <u>32.5</u>
	Bottom hole pressure : <u>890.5PSIA</u> at depth : <u>707.64m</u> date : _____
	Bottom hole temp. : <u>41.6°C</u> at depth : <u>707.64m</u> date : _____

Flow measurement of sampled gas - Gravity (air. 1) : 0.574 Factor $F_{pv} = \frac{1}{\sqrt{Z}}$: 1.0074
Values used for calculations :

Separator	Pressure : <u>80</u> PSIG	Rates - Gas : <u>5.40mm</u> SCFD	GOR : <u>N/A</u> (separator cond. : _____)
	Temp. : <u>52</u> °F	Oil (separator cond.) : <u>N/A</u> BOPD	

Stock tank	Atmosphere : <u>N/A</u> mmHg. <u>N/A</u> °F	Oil at 60 °F : <u>N/A</u> BOPD
	Tank temperature : <u>N/A</u> °F	

BSW : 0 % WLR : 0 %Transferring fluid : VACUUM Transfer duration : 24 MINSFinal conditions of the shipping bottle : 54290
Pressure : 80 PSIG Temp. : 52°F

C - IDENTIFICATION OF THE SAMPLE -

Shipping bottle No. : 54290 sent on : _____ by : _____ Shipping order No. : _____
Addressee : _____

Coupled with	LIQUID	GAS
Bottom hole samples No.	_____	_____
Surface samples No.	_____	<u>54308</u>

Measurement conditions.

 Tank . Meter . Dump .
 Corrected with shrinkage tester. Corrected with tank .

D - REMARKS -

Visa Chief Operator

FLOPETROL

Client : LASMOSection: ANNEX 42Base : BEFField : PATRICIAPage : 81Well : # 1Report N° : 1

- SURFACE SAMPLING -

Date of sampling : 13.7.87 Service order : _____ Sampling No : #7
Sample nature : GAS Sampling point : SEPARATOR GAS OUTLET

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : DST #3 Perforations : 703m - 738m Sampling interval : _____Depth origin : RKB Tubing Dia. : 3 1/2" Casing Dia. : 9-5/8"
Surface elevation : _____ Shoe : _____ Shoe : _____

<u>Bottom hole static conditions</u>	Initial pressure : _____ at depth : _____ date : _____
	Latest pressure measured : _____ at depth : _____ date : _____
	Temperature : _____ at depth : _____ date : _____

B - MEASUREMENT AND SAMPLING CONDITIONS -

Time at which sample was taken : 1830 Time elapsed since stabilisation : 120 MINS

<u>Bottom hole dynamic conditions</u>	Choke size : <u>2 1/4"</u> since : <u>1628</u> Well head pressure : <u>972 PSIG</u> Well head temp. : <u>19°C</u>
	Bottom hole pressure : <u>1049 PSIA</u> at depth : <u>691.83m</u> date : <u>13.7.87</u>
	Bottom hole temp. : <u>43.5°C</u> at depth : <u>691.33m</u> date : <u>13.7.87</u>

Flow measurement of sampled gas - Gravity (air: 1) : 0.576 Factor $F_{pv} = \frac{1}{\sqrt{Z}}$: 1.0172
Values used for calculations :

<u>Separator</u>	Pressure : <u>185</u> PSIG	Rates - Gas : <u>3.20mm</u> SCFD	GOR : <u>N/A</u> (separator cond.)
	Temp. : <u>40</u> °F	Oil (separator cond.) : <u>N/A</u> BOPD	

<u>Stock tank</u>	Atmosphere : _____ mmHg. _____ °F	Oil at 60 °F : _____ BOPD
	Tank temperature : _____ °F	

BSW : _____ % WLR : _____ %

Transferring fluid : VACUUM Transfer duration : 15 MINSFinal conditions of the shipping bottle :
Pressure : 185 PSIG Temp. : 40 °F

C - IDENTIFICATION OF THE SAMPLE -

Shipping bottle No. : 54281 sent on : _____ by : _____ Shipping order No. : _____
Addressee : _____

Coupled with	LIQUID	GAS
<u>Bottom hole samples No</u>	_____	_____
<u>Surface samples No</u>	_____	_____

Measurement conditions

 Tank . Meter . Dump .
 Corrected with shrinkage tester . Corrected with tank .

D - REMARKS -

Visa Chief Operator

FLOPETROL

Client : LASMO ENERGYSection: ANNEX 42Base : BEFField : PATRICIAPage : 82Well : # 1Report N° : 1

- SURFACE SAMPLING -

Date of sampling : 13.7.87 Service order : _____ Sampling No. : # 8
Sample nature : GAS Sampling point : SEPARATOR GAS OUTLET

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : DS #3 Perforations : 703m - 738m Sampling interval : _____
Depth origin : RK3 Tubing Dia. : 3 1/2" Casing Dia. : 9-5/8"
Surface elevation : _____ Shoe : _____ Shoe : _____

Bottom hole static conditions	Initial pressure : _____ at depth : _____ date : _____
	Latest pressure measured : _____ at depth : _____ date : _____
	Temperature : _____ at depth : _____ date : _____

B - MEASUREMENT AND SAMPLING CONDITIONS -

Time at which sample was taken : 1900 Time elapsed since stabilisation : 150 MINS

Bottom hole dynamic conditions	Choke size : <u>24/64"</u> since : <u>1628</u> Well head pressure : <u>972 PSIG</u> Well head temp. : <u>19°C</u>
	Bottom hole pressure : <u>1048.5 PSIA</u> at depth : <u>691.33m</u> date : <u>13.7.87</u>
	Bottom hole temp. : <u>43.6°C</u> at depth : <u>691.33m</u> date : <u>13.7.87</u>

Flow measurement of sampled gas - Gravity (air: 1) : 0.576 Factor $F_{pv} = \frac{1}{\sqrt{Z}}$: 1.0172
Values used for calculations :

Separator	Pressure : <u>185 PSIG</u>	Rates - Gas : <u>3.20mm</u> SCFD	GOR : <u>N/A</u>
	Temp. : <u>40 °F</u>	Oil (separator cond.) : _____ BOPD	<input type="checkbox"/> (separator cond.)

Stock tank	Atmosphere : _____ mmHg. _____ °F	Oil at 60 °F : _____ BOPD
	Tank temperature : _____ °F	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

BSW : _____ % WLR : _____ %

Transferring fluid : VACUUM Transfer duration : 15 MINSFinal conditions of the shipping bottle :
Pressure : 185 PSIG Temp : 40 °F

C - IDENTIFICATION OF THE SAMPLE -

Shipping bottle No. : 54257 sent on : _____ by : _____ Shipping order No. : _____
Addressee : _____

Coupled with

Bottom hole samples No

Surface samples No

LIQUID

GAS

Measurement conditions

 Tank . Meter . Dump . - Corrected with shrinkage tester. - Corrected with tank .

D - REMARKS -

Visa Chief Operator

FLOPETROL

Client : LASMOSection: ANNEX 42Base : BEFField : PATRICIAPage : 83Well : #1Report N°: 1

- SURFACE SAMPLING -

Date of sampling : 14.7.87 Service order : _____ Sampling No : # 9
Sample nature : GAS Sampling point : SEPARATOR GAS OUTLET

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : DST #3 Perforations : 703m - 738m Sampling interval : _____
Depth origin : RKB Tubing Dia. : 3 1/2" Casing Dia. : 9-5/8"
Surface elevation : _____ Shoe : _____ Shoe : _____

<u>Bottom hole static conditions</u>	Initial pressure : _____ at depth : _____ date : _____
	Latest pressure measured : _____ at depth : _____ date : _____
	Temperature : _____ at depth : _____ date : _____

B - MEASUREMENT AND SAMPLING CONDITIONS -

Time at which sample was taken : 0040 Time elapsed since stabilisation : 83 MINS

<u>Bottom hole dynamic conditions</u>	Choke size : <u>32/64</u> since : <u>2228</u> Well head pressure : <u>906 PSI</u> Well head temp. : <u>24°C</u>
	Bottom hole pressure : <u>1014 PSIA</u> at depth : <u>691.83m</u> date : <u>14.7.87</u>
	Bottom hole temp. : <u>43.7°C</u> at depth : <u>691.83m</u> date : <u>14.7.87</u>

Flow measurement of sampled gas - Gravity (air. 1) : 0.575 Factor $F_{pv} = \frac{1}{\sqrt{Z}}$: 1.0159
Values used for calculations :

<u>Separator</u>	Pressure : <u>180 PSIG</u>	Rates - Gas : <u>5.89mm</u> SCFD	GOR : _____
	Temp. : <u>48 °F</u>	Oil (separator cond.) : _____ BOPD	<input type="checkbox"/> B (separator cond.) <input type="checkbox"/> C

<u>Stock tank</u>	Atmosphere : _____ mmHg. _____ °F	Oil at 60 °F : _____ BOPD
	Tank temperature : _____ °F	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> a <input type="checkbox"/> b

BSW : _____ % WLR : _____ %

Transferring fluid : VACUUM Transfer duration : 15 MINSFinal conditions of the shipping bottle : _____
Pressure : 180 psig Temp : 48 F

C - IDENTIFICATION OF THE SAMPLE -

Shipping bottle No. : 54303 sent on : _____ by : _____ Shipping order No. : _____
Addressee : _____

<u>Coupled with</u>	<u>LIQUID</u>	<u>GAS</u>
<u>Bottom hole samples No</u>	_____	_____
<u>Surface samples No</u>	_____	_____

Measurement conditions

 A - Tank . B - Meter . C - Dump .
 a - Corrected with shrinkage tester . b - Corrected with tank .

D - REMARKS -

Visa Chief Operator

FLOPETROL

Client : LASMO ENERGYSection : ANNEX 4EBase : BEEField : PATRICIAPage : 84Well : #.1Report N° : 1

- SURFACE SAMPLING -

Date of sampling : 14.7.87 Service order : _____ Sampling No. : # 10
Sample nature : GAS Sampling point : SEPARATOR SAMPLING PT

A - RESERVOIR AND WELL CHARACTERISTICS -

Producing zone : DST #3 Perforations : 703m - 738m Sampling interval : _____
Depth origin : RKB Tubing Dia. : 3 1/2" Casing Dia. : 9-5/8"
Surface elevation : _____ Shoe : _____ Shoe : _____

<u>Bottom hole static conditions</u>	Initial pressure : _____ at depth : _____ date : _____
	Latest pressure measured : _____ at depth : _____ date : _____
	Temperature : _____ at depth : _____ date : _____

B - MEASUREMENT AND SAMPLING CONDITIONS -

Time at which sample was taken : 0057 Time elapsed since stabilisation : 100 MINS

<u>Bottom hole dynamic conditions</u>	Choke size : <u>32/64"</u> since : <u>2228</u> Well head pressure : <u>906 psig</u> Well head temp. : <u>24°C</u>
	Bottom hole pressure : <u>1013.7 PSIA</u> at depth : <u>691.83m</u> date : <u>14.7.87</u>
	Bottom hole temp. : <u>43.8°C</u> at depth : <u>691.83m</u> date : <u>14.7.87</u>

Flow measurement of sampled gas - Gravity (air 1) : 0.575 Factor Fpv = $\frac{1}{\sqrt{Z}}$: 1.0159
Values used for calculations :

<u>Separator</u>	Pressure : <u>180 PSIG</u>	Rates - Gas : <u>5.89mm</u> SCFD	GOR : _____ (separator cond.)
	Temp. : <u>48 °F</u>	Oil (separator cond.) : _____ BOPD	

<u>Stock tank</u>	Atmosphere : _____ mmHg. _____ °F	Oil at 60 °F : _____ BOPD
	Tank temperature : _____ °F	

BSW : _____ % WLR : _____ %

Transferring fluid : VACUUM Transfer duration : 18 MINS

<u>Final conditions of the shipping bottle :</u>
Pressure : <u>180 PSIG</u> Temp. : <u>48 °F</u>

C - IDENTIFICATION OF THE SAMPLE -

Shipping bottle No. : 54275 sent on : _____ by : _____ Shipping order No. : _____
Addressec : _____

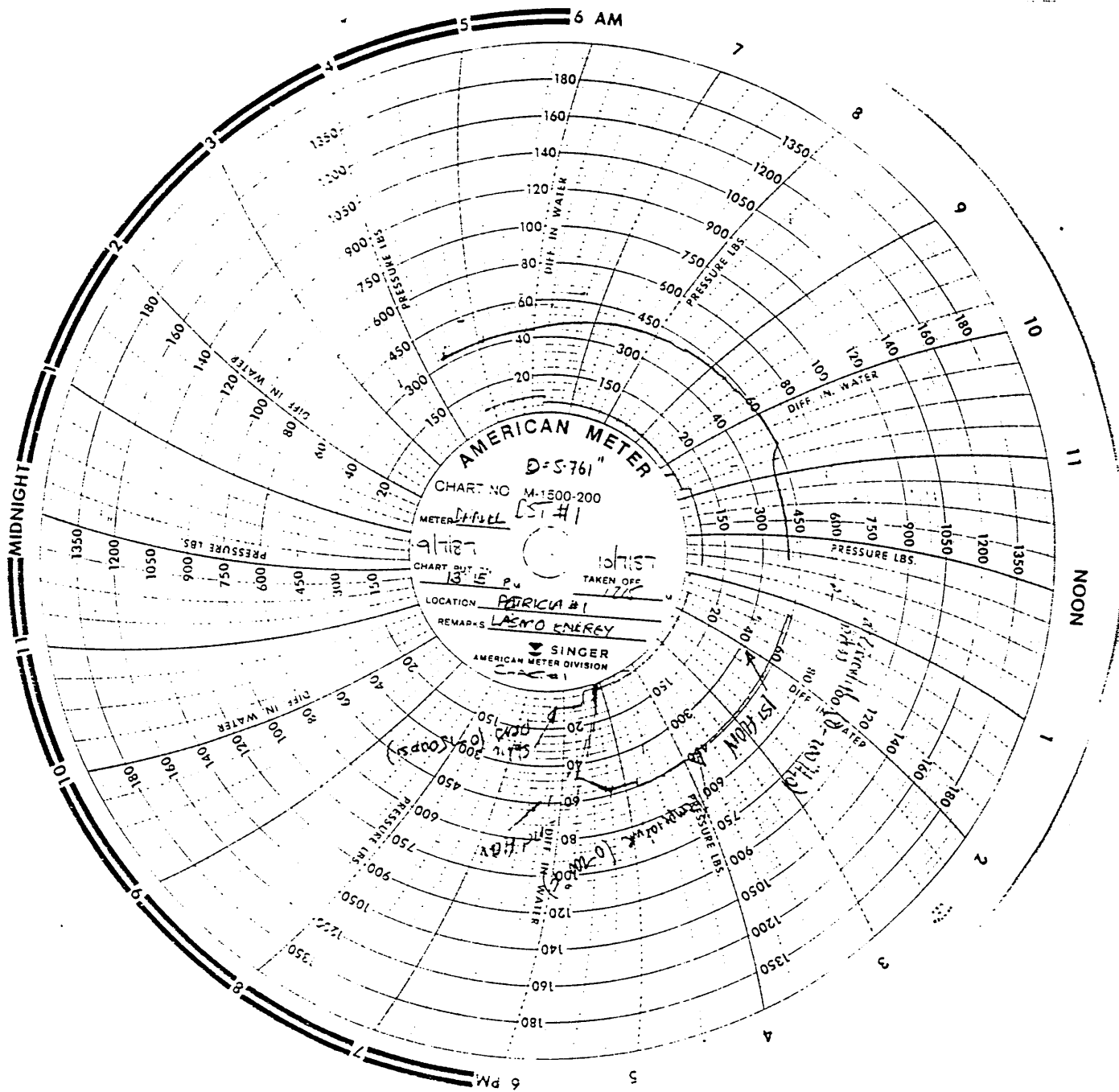
Coupled with	LIQUID	GAS
<u>Bottom hole samples No</u>	_____	_____
<u>Surface samples No</u>	_____	_____

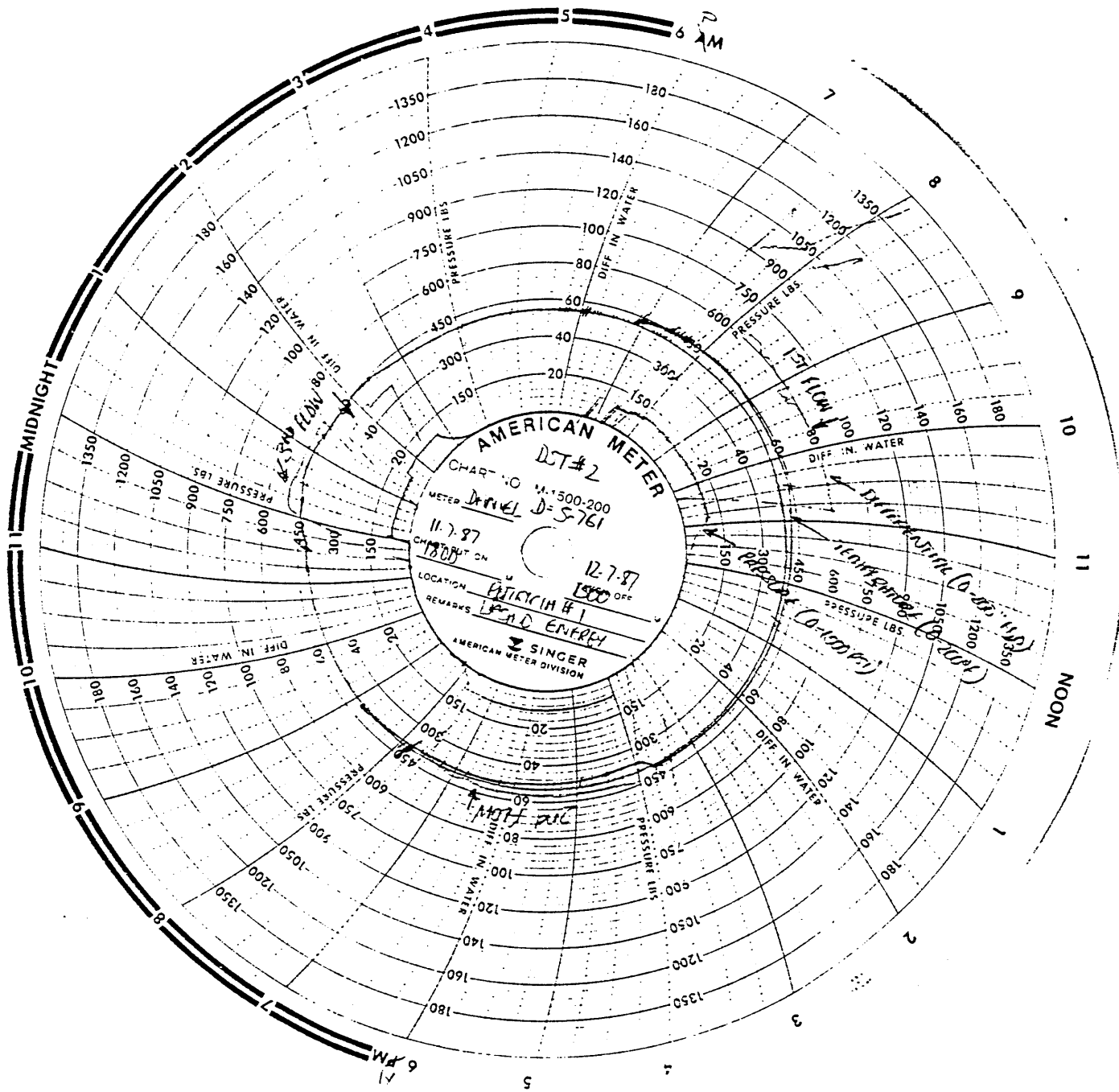
Measurement conditions

Tank . Meter . Dump .
 Corrected with shrinkage tester . Corrected with tank .

D - REMARKS -

Visa Chief Operator





MIDNIGHT

NOON

6 AM

6 AM

AMERICAN METER
 CHART NO. DT#2
 METER MODEL M. 1500-200
 D=5761
 11-7-87
 1800
 LOCATION LORD ENERGY
 REMARKS
 SINGER
 AMERICAN METER DIVISION

DIFF. IN WATER
 PRESSURE LBS.

DIFF. IN WATER
 PRESSURE LBS.

DIFF. IN WATER
 PRESSURE LBS.

DIFF. IN WATER
 PRESSURE LBS.

DIFF. IN WATER
 PRESSURE LBS.

DIFF. IN WATER
 PRESSURE LBS.

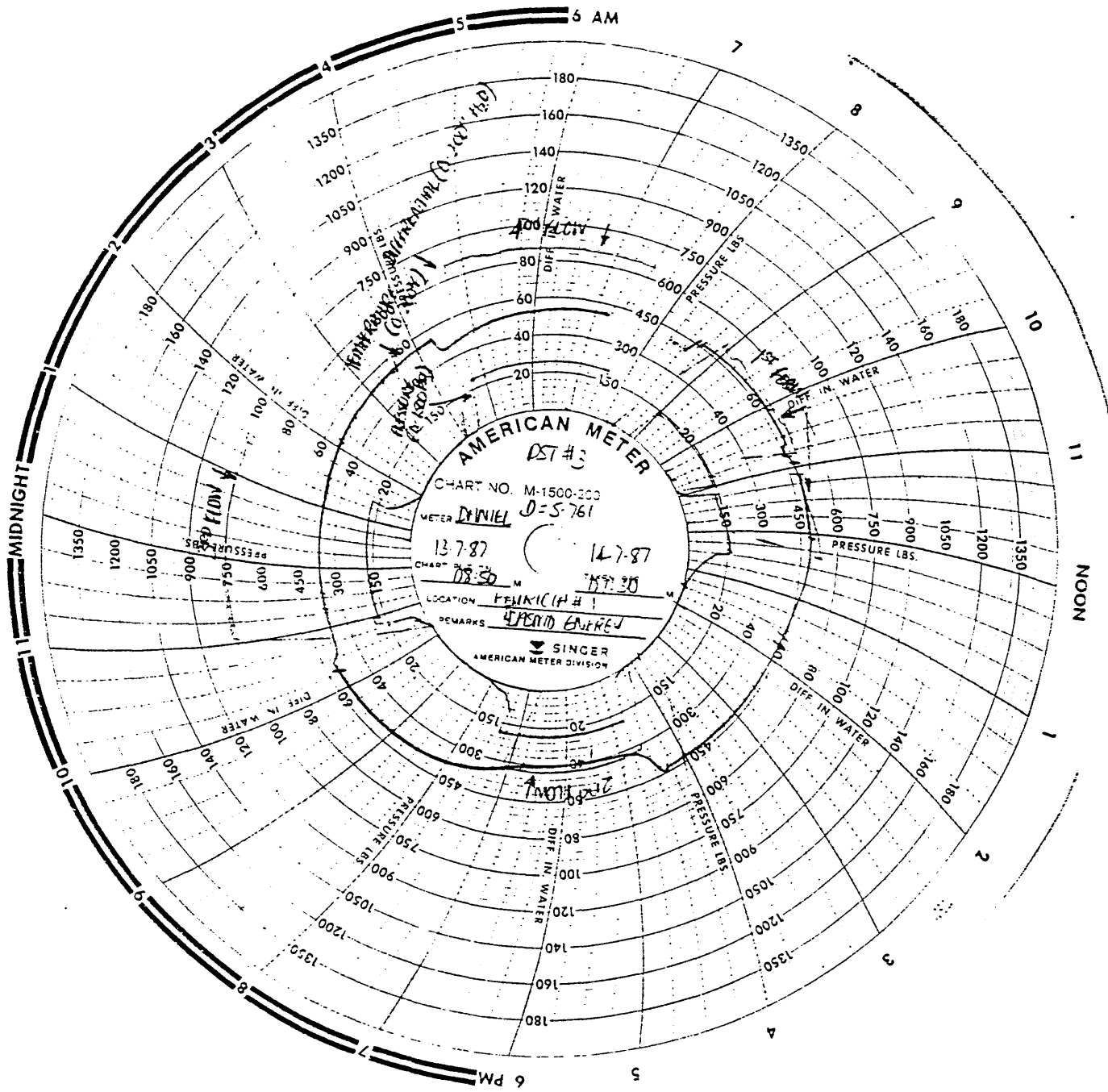
DIFF. IN WATER
 PRESSURE LBS.

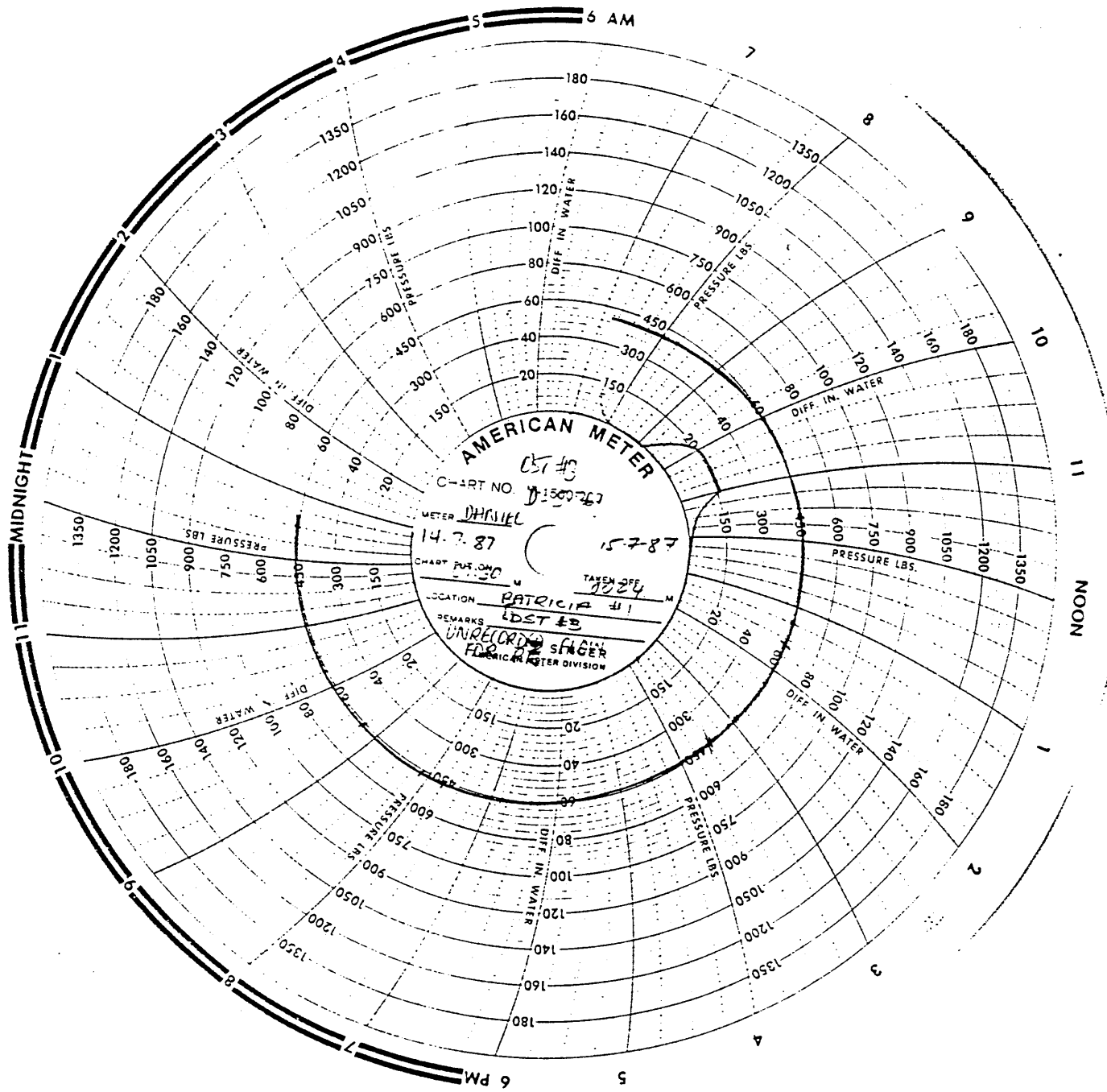
DIFF. IN WATER
 PRESSURE LBS.

DIFF. IN WATER
 PRESSURE LBS.

DIFF. IN WATER
 PRESSURE LBS.

DIFF. IN WATER
 PRESSURE LBS.





AMERICAN METER

CHART NO. 156023

METER DANIEL

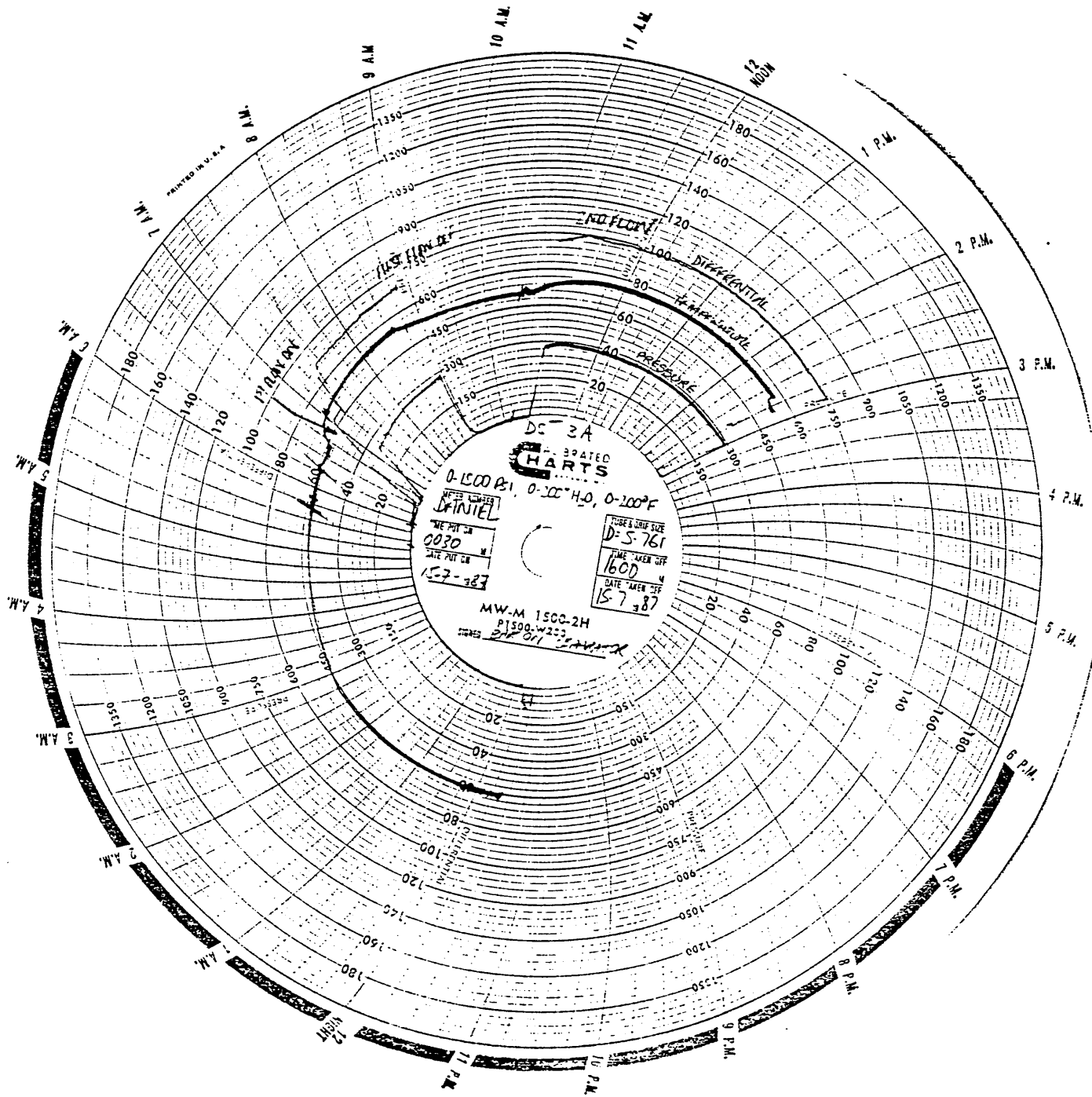
14.7.87

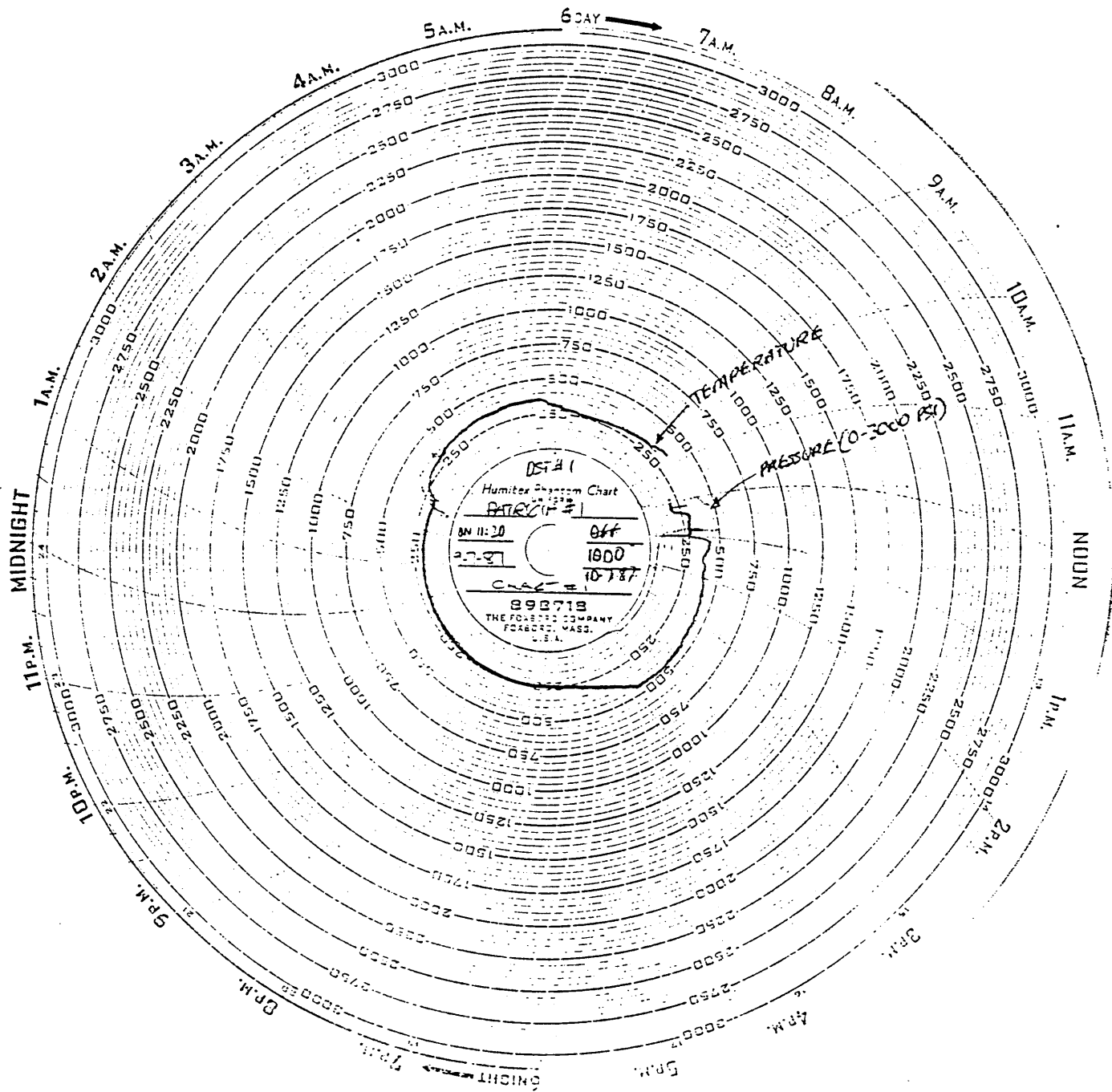
LOCATION PATRICIA #1

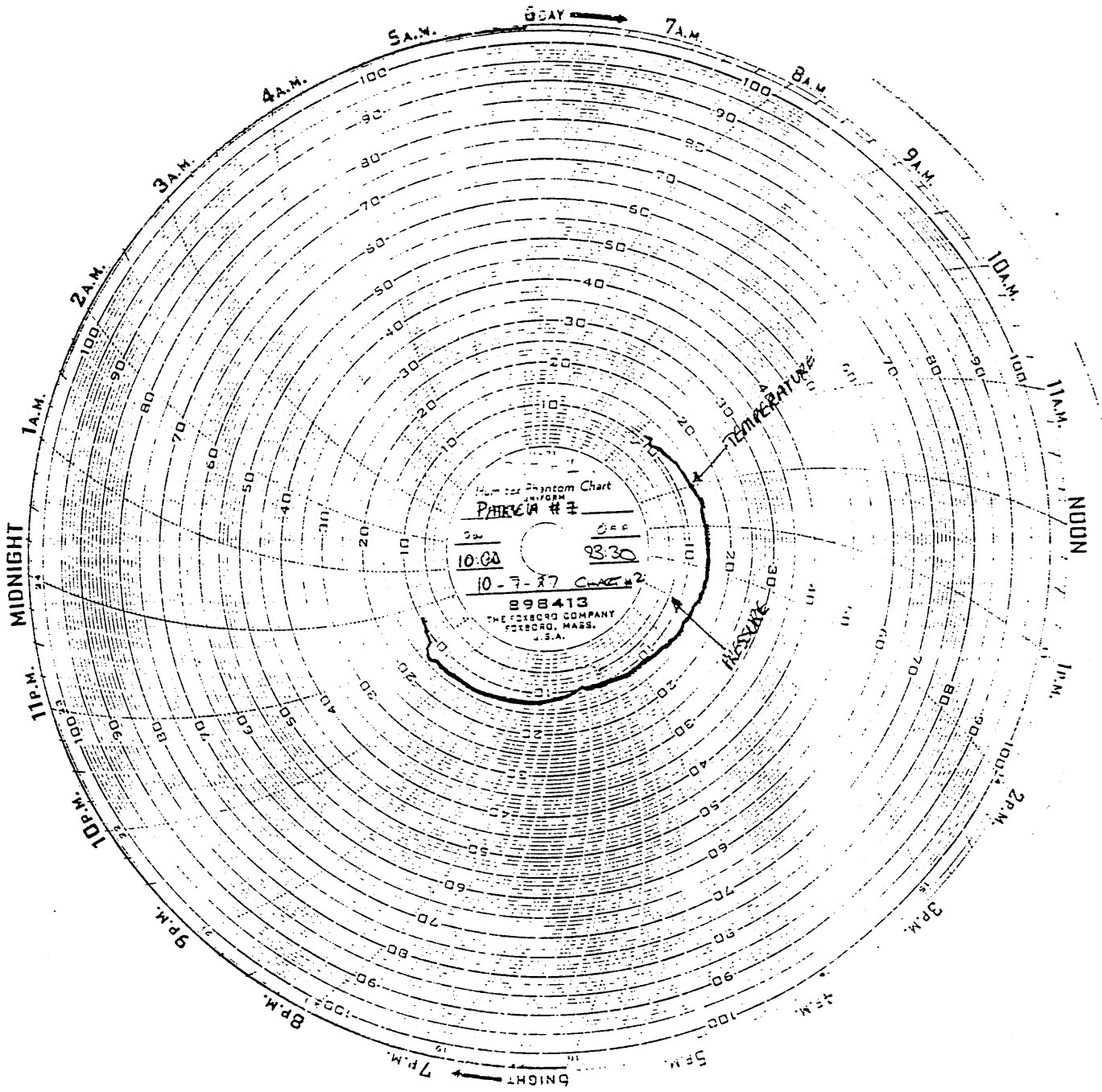
REMARKS UNRECORDED SINGER FOR THE SINGER AMERICAN WATER DIVISION

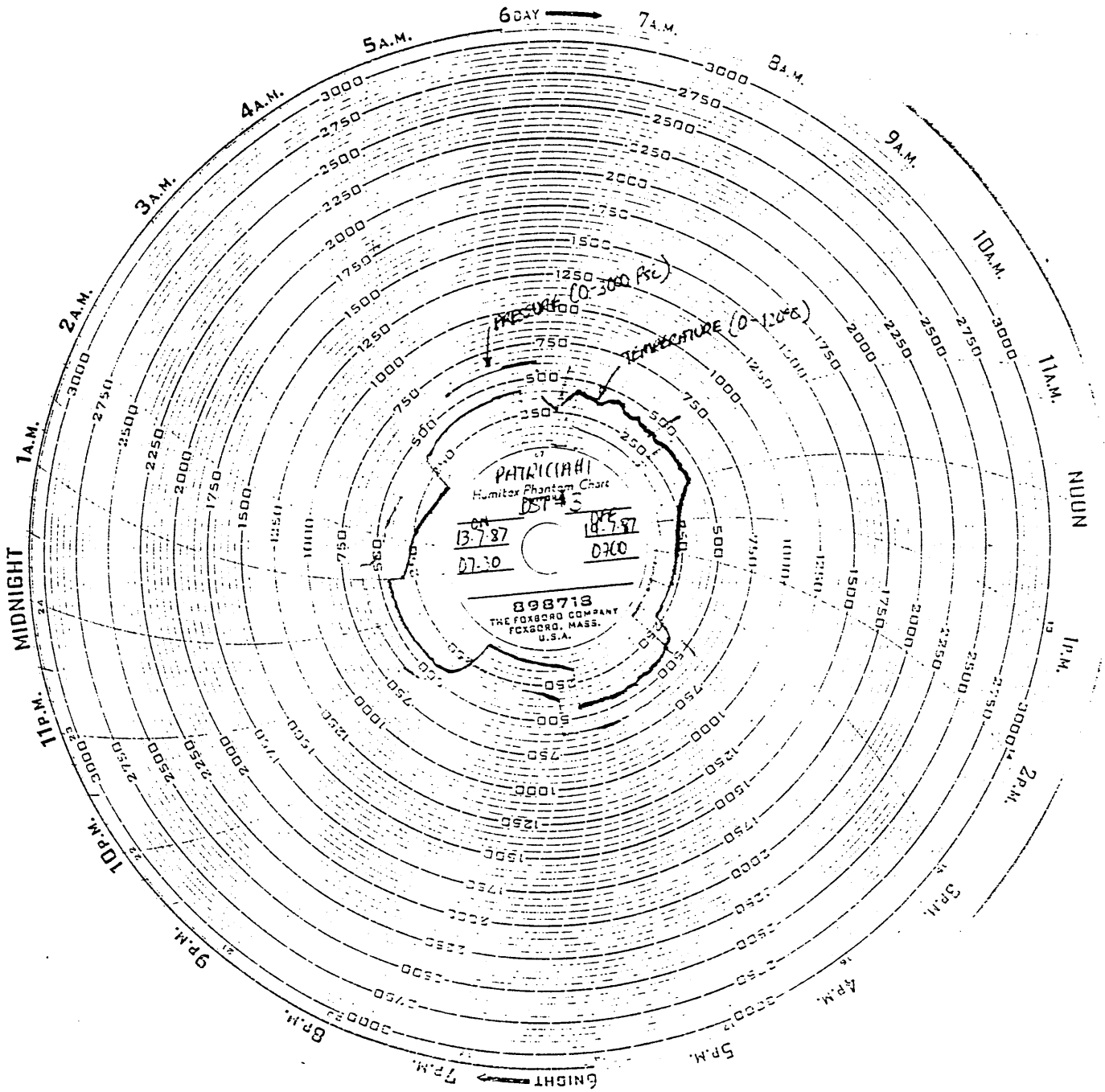
TAKEN 10:24

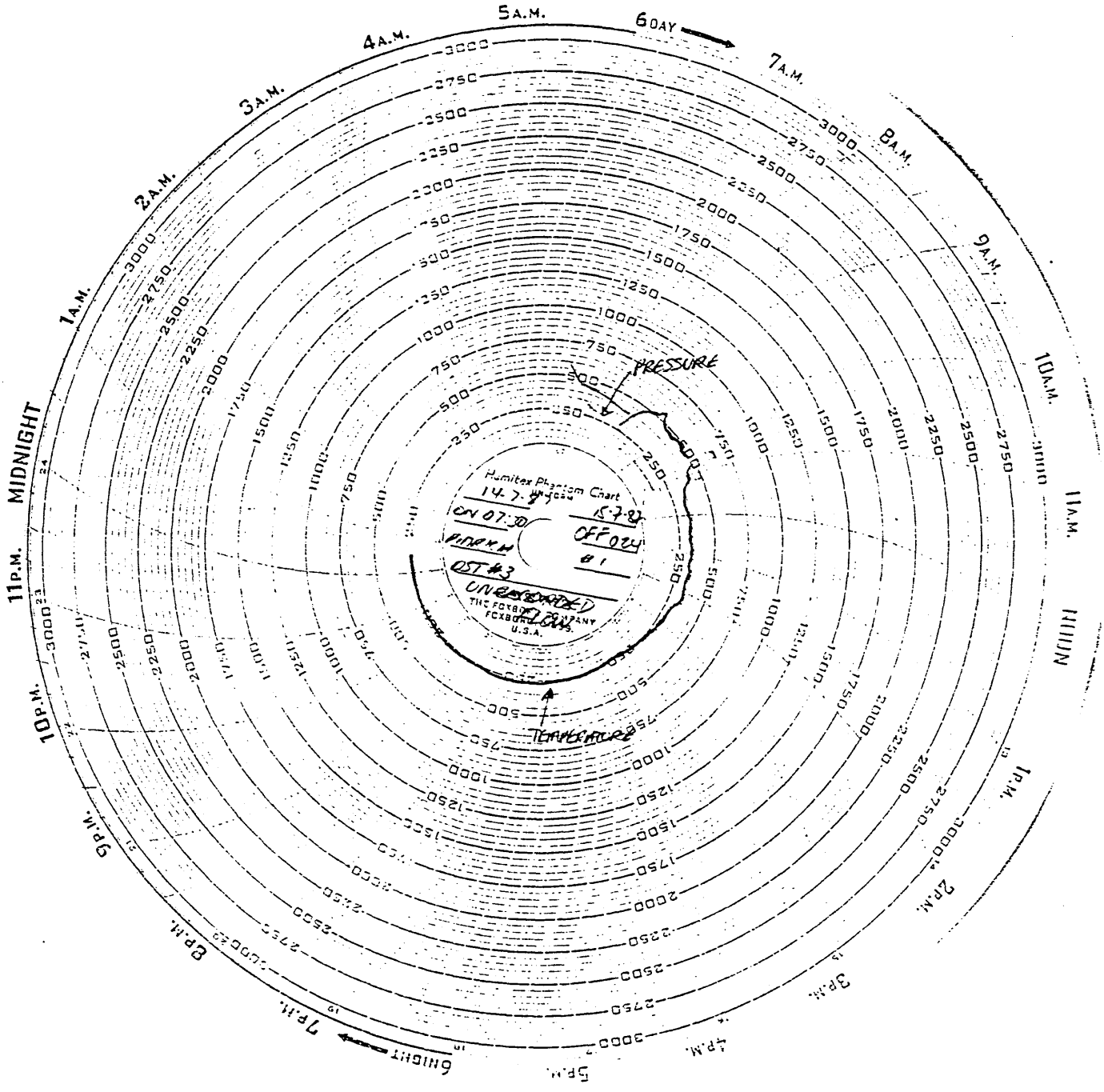
15787

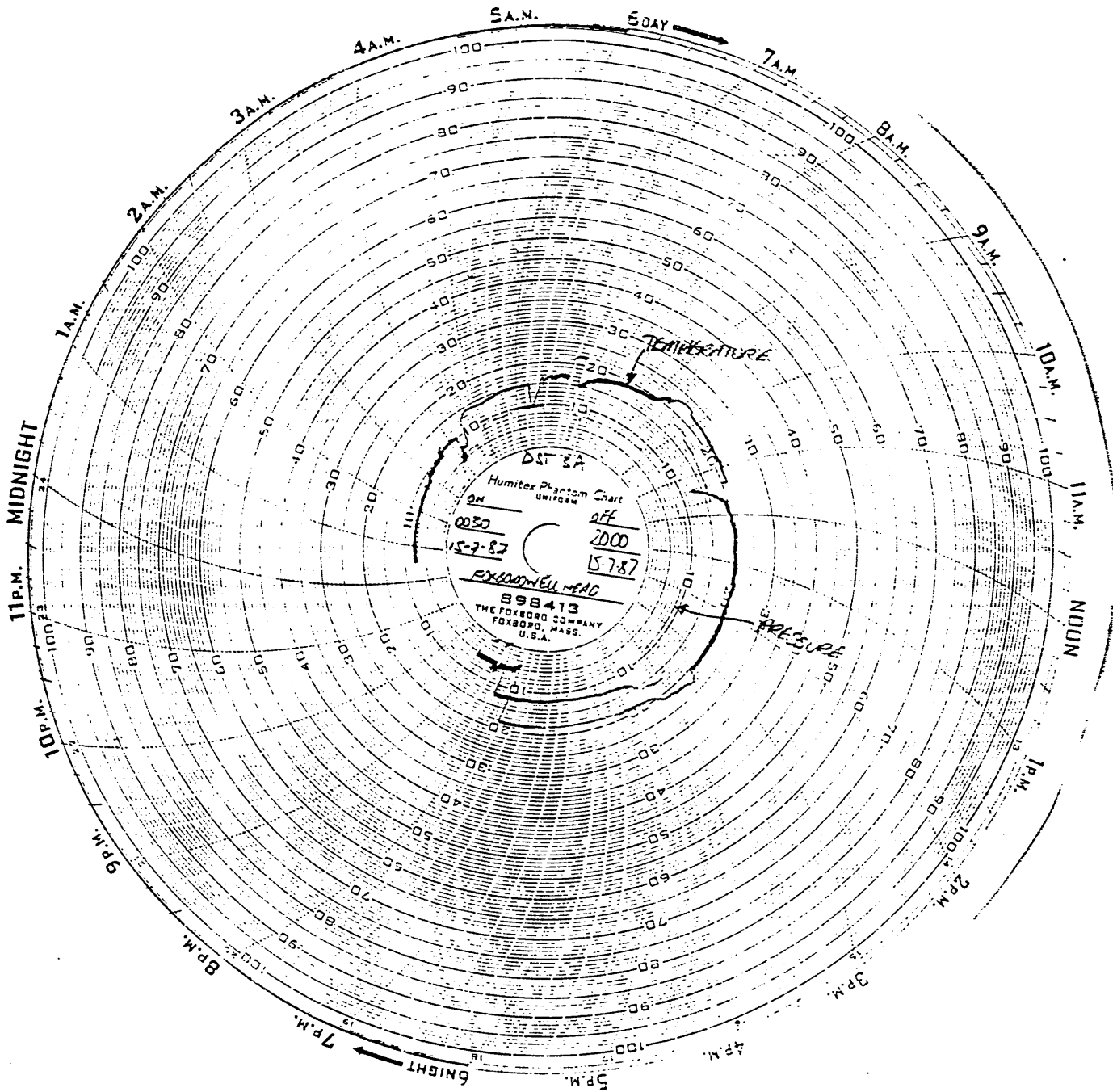












SUMMARY OF RESULTSINTRODUCTION:-

The Sandec was set up using the highest sensitivity using a single probe in the flow line upstream of the choke manifold.

DST# 1

A cumulative scale was used on the first test as the rate could not be detected.

DST # 2, 3, & 3A

The rate scale was used this being 4 cycle logarithmic from 3 counts/sec at zero to 3000 counts/sec at 100.

CONCLUSIONS:

Although little data was obtained from the probe it was discovered that a large amount of extremely fine silt was deposited in the Separator. Also the probe was worn away during DST's 3 + 3A. It was felt that the "sand" produced was too fine to impact hard enough on the probe to be recorded.

THEORY OF OPERATION

Sand grains hitting a metal rod induce mechanical vibrations which propagate to a piezo-electric transducer. Each impact gives rise to a damped sinusoidal signal.

As the dimension of the metal rod is small with respect to the flowline section, not all the sand grains hit it. Furthermore, two sand grains hitting the rod at the same time will give rise to only one signal. Therefore, Sandec operation is a sampling operation, which has to be calibrated if quantitative results are requested.

The amplitude of the signals is a function of the kinetic energy of sand grains which means that the same grain will induce different signals for different velocities. This explains why it will be necessary to make the sensitivity of the detector adjustable, to cover a large range of flowrates.

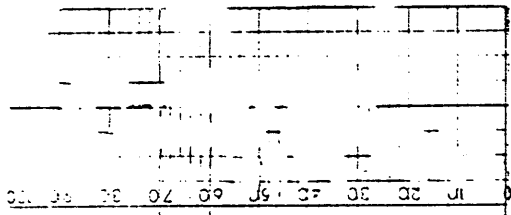
A preamplifier is located in the probe. It first amplifies the transducer signal by a factor of 100, then it compares it to an adjustable threshold. When this threshold is exceeded, a "standard" pulse is generated. Its duration is such that only one pulse can be generated in the presence of a damped pulse train. This pulse travels along a cable, making it possible to place reading equipment at a great distance from probe. Threshold voltage is derived from supply voltage of the amplifier, so that adjustment of the sensitivity is achieved by variation of the DC supply voltage sent to probe by the reading equipment.

Each probe is associated with a Signal Processor, whose functions are :

- provide DC supply to the probe, through an approved safety barrier, making the system intrinsically safe. This DC voltage is adjustable from front panel, to achieve sensitivity setting,
- amplify and filter distorted standard pulses coming from probe,
- generate one clean standard pulse for each sand impact. Those pulses are counted, and the count transformed into analog voltage representing cumulative amount of sand. They are also averaged to deliver a voltage proportional to the amount of sand per unit time (Sand rate). They are also available for counting by an external counter.
- provide an alarm signal when sand rate reaches a dangerous level, by comparing averaged voltage with an adjustable DC reference.

SEQUENCE OF EVENTS

09-JUL-87
 11:30:00 OPEN PCT AGAINST CLOSED CHOKE BUBBLE HOSE OPEN
 11:32:30 FIRE TCF GUNS
 11:41:30 OPEN WELL ON 1/4" ADJ. CHOKE
 11:46:30 SHUT IN WELL AT PCT
 11:47:00 SHUT CHOKE MANIFOLD
 12:23:00 OPEN PCT
 12:24:00 OPEN WELL ON 1" ADJ. CHOKE
 16:24:30 SHUT WELL IN AT PCT
 10-JUL-87
 02:14:00 OPEN PCT
 02:15:00 OPEN LUBRICATOR VALVE
 02:15:00 OPEN WELL AT CHOKE MANIFOLD THROUGH BYPASS
 02:22:00 BEAM DOWN TO 3/8" ADJ. CHOKE
 02:40:00 SWITCH TO 3/8" FIXED CHOKE
 06:18:30 SHUT WELL IN AT PCT
 10:14:00 OPEN PCT
 10:15:00 OPEN WELL ON 1/2" ADJ. CHOKE
 10:23:00 SWITCH TO 1/2" FIXED CHOKE
 14:17:00 SHUT IN WELL AT PCT
 18:14:00 OPEN PCT
 18:15:00 OPEN WELL ON 5/8" FIXED CHOKE
 22:16:00 SHUT IN WELL AT CHOKE MANIFOLD

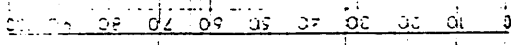


START 12:48

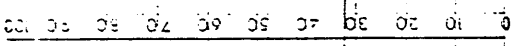
09-JUL-87

DST # 1 - FLOW 1" HOE

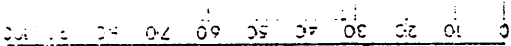
TRACE SHOWS AN INCREASE IN CUMULATIVE DEBRIS PRODUCTION.



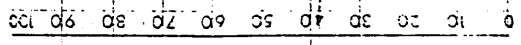
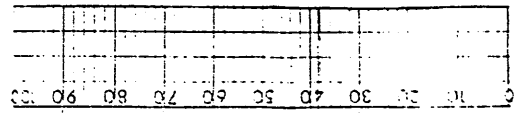
THE SCALE 12CH → 1K



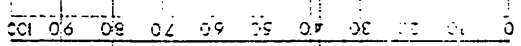
13:48



14:48

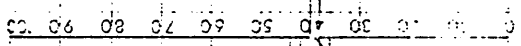


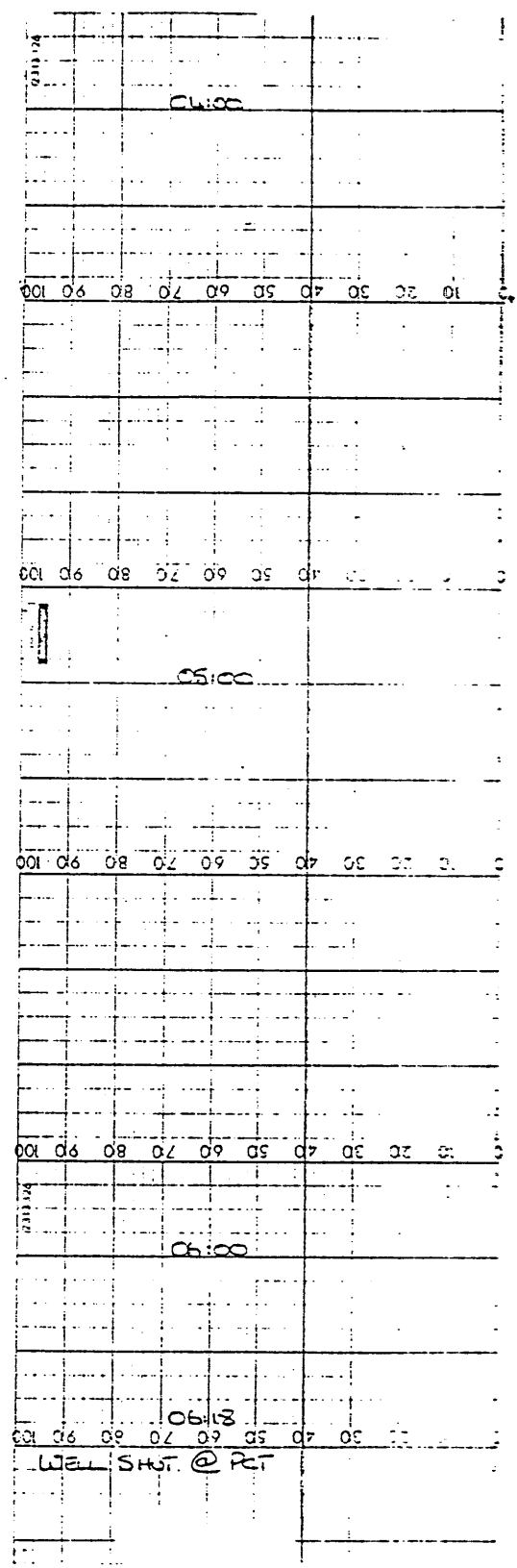
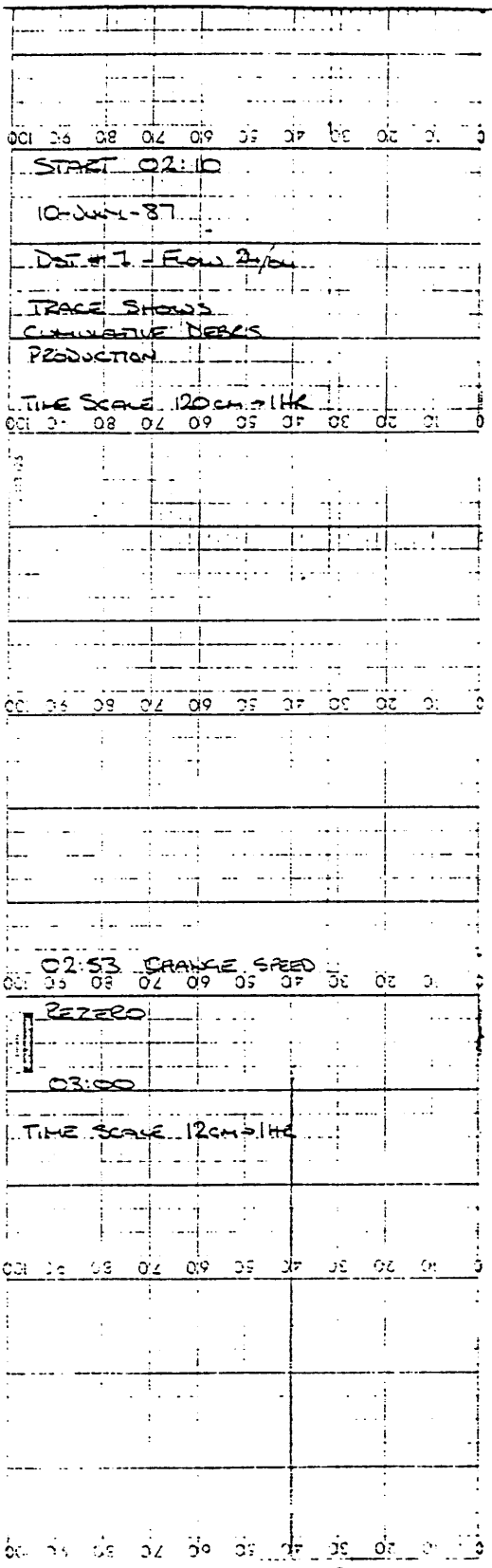
15:48

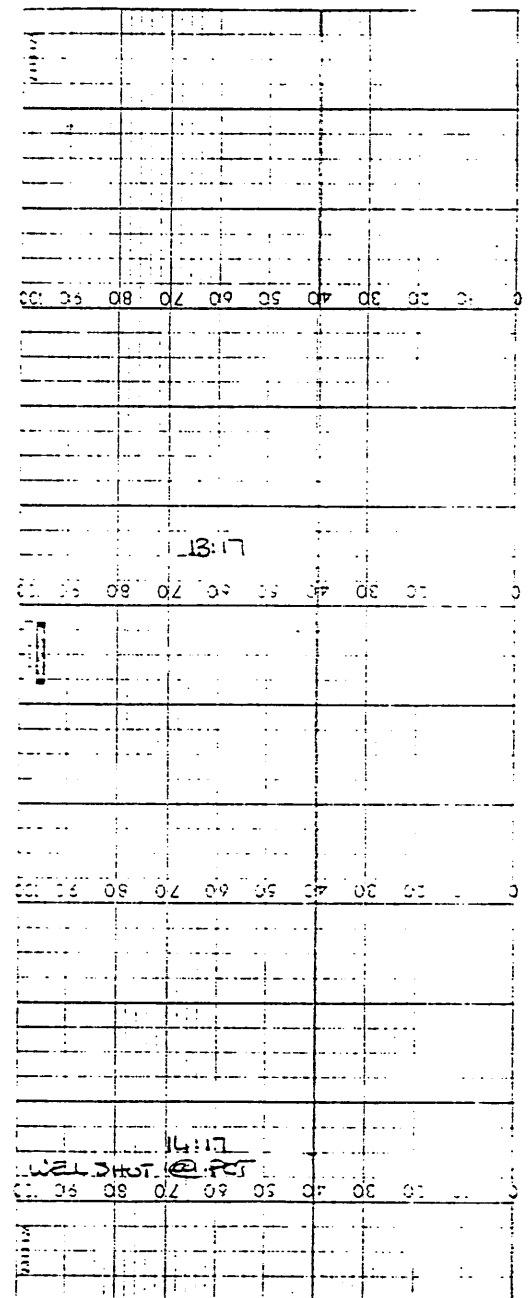
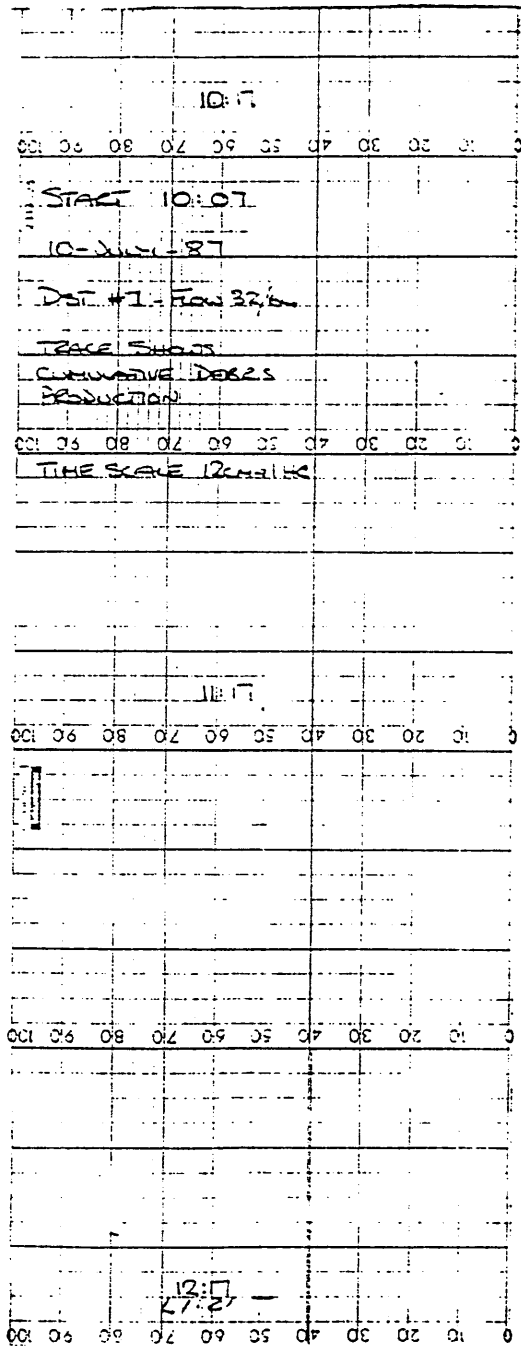


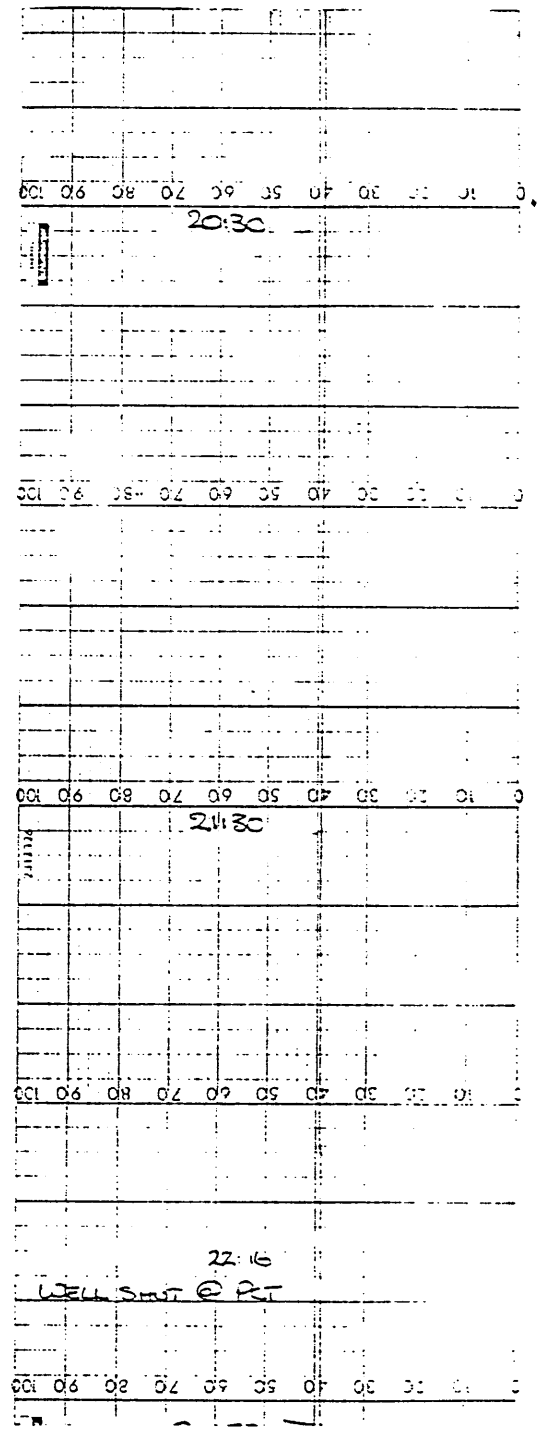
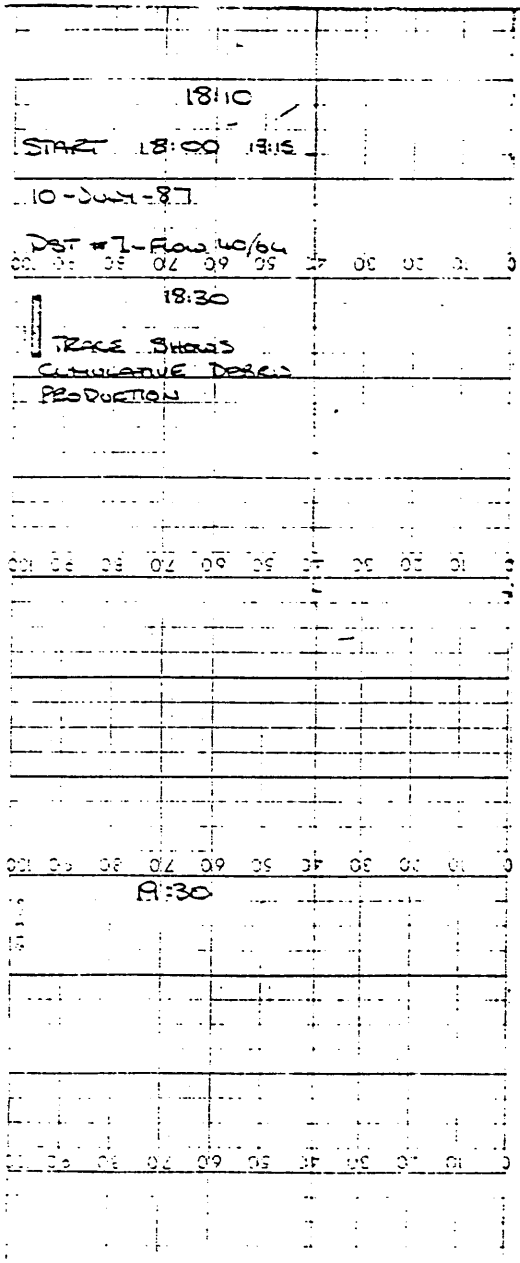
16:24

WELL SHUT @ RT











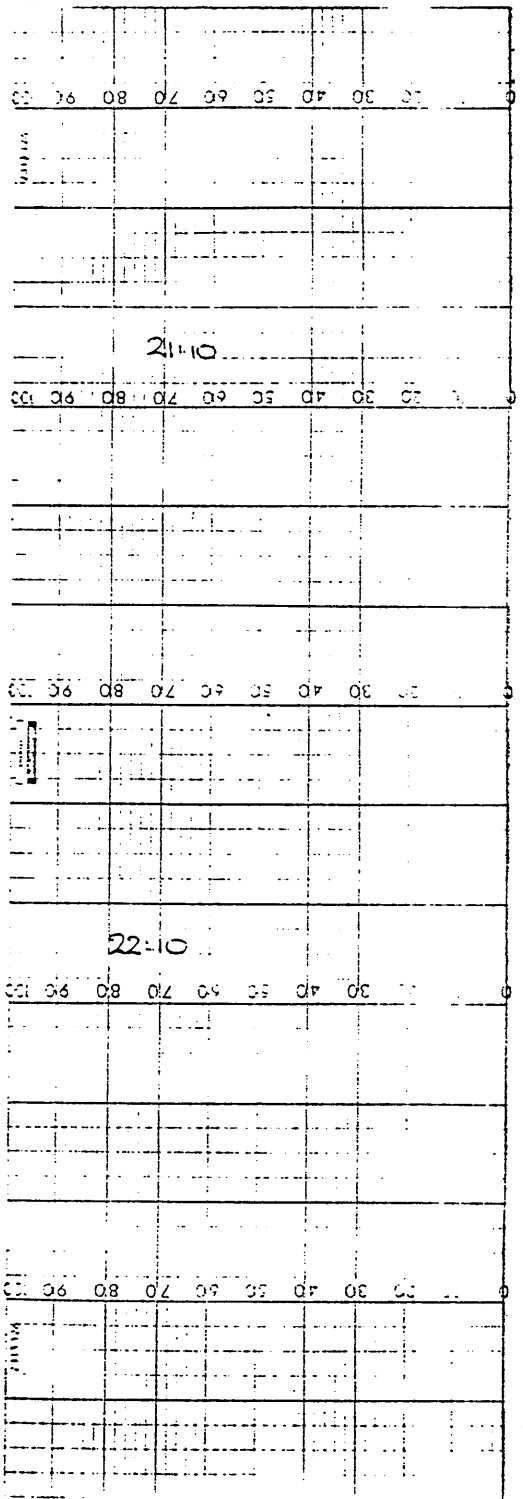
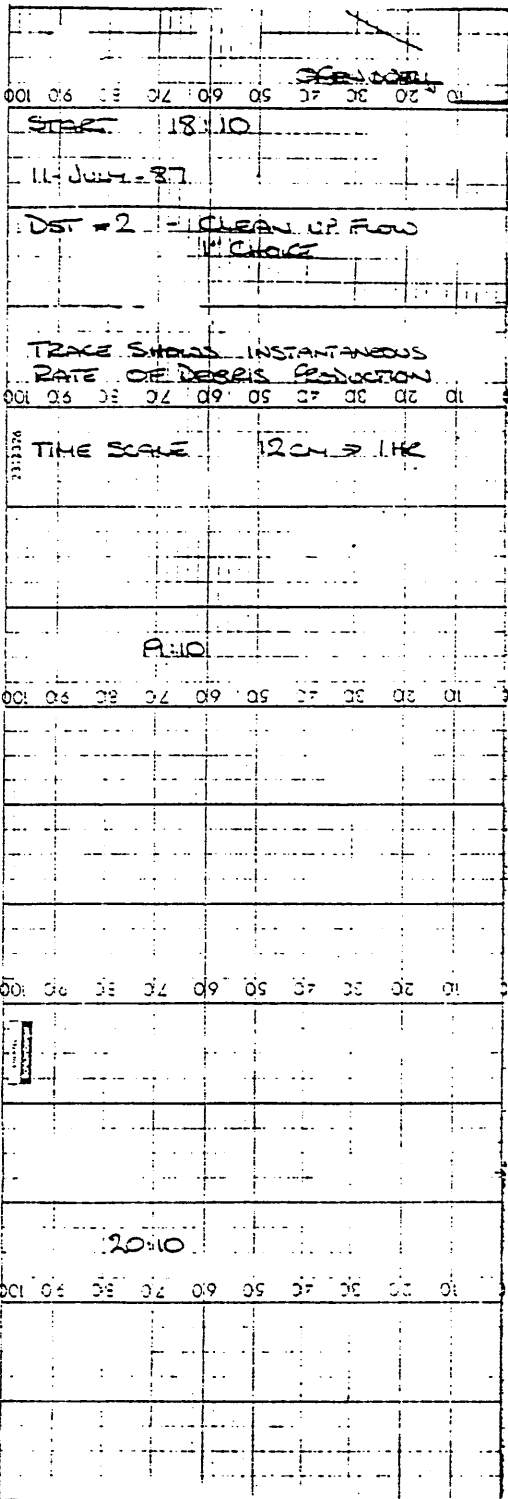
SEQUENCE OF EVENTS

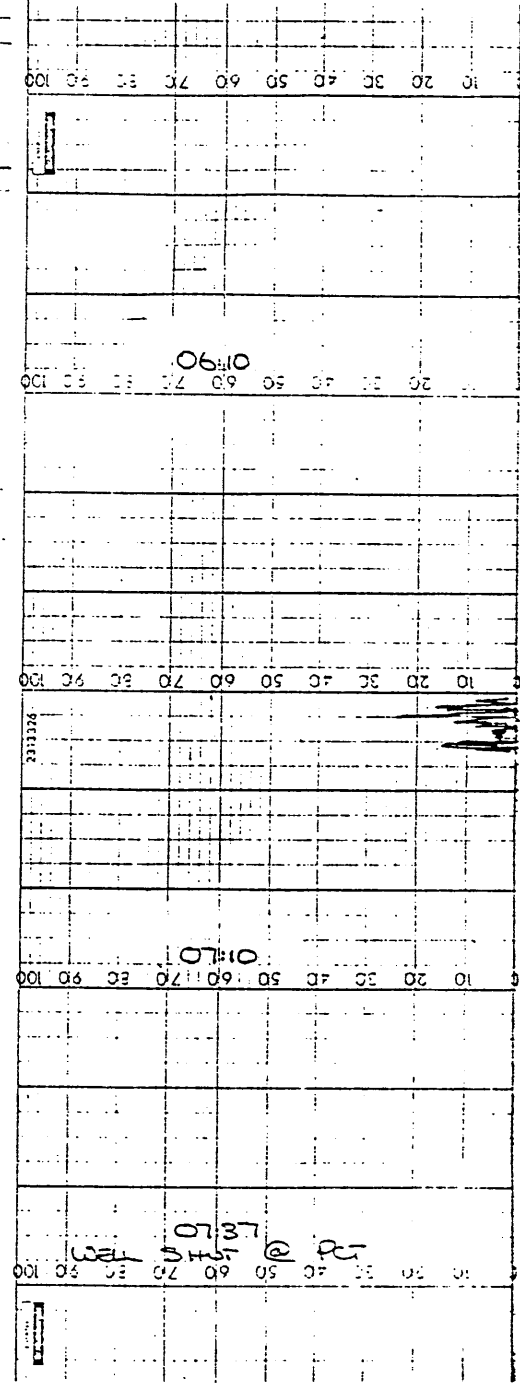
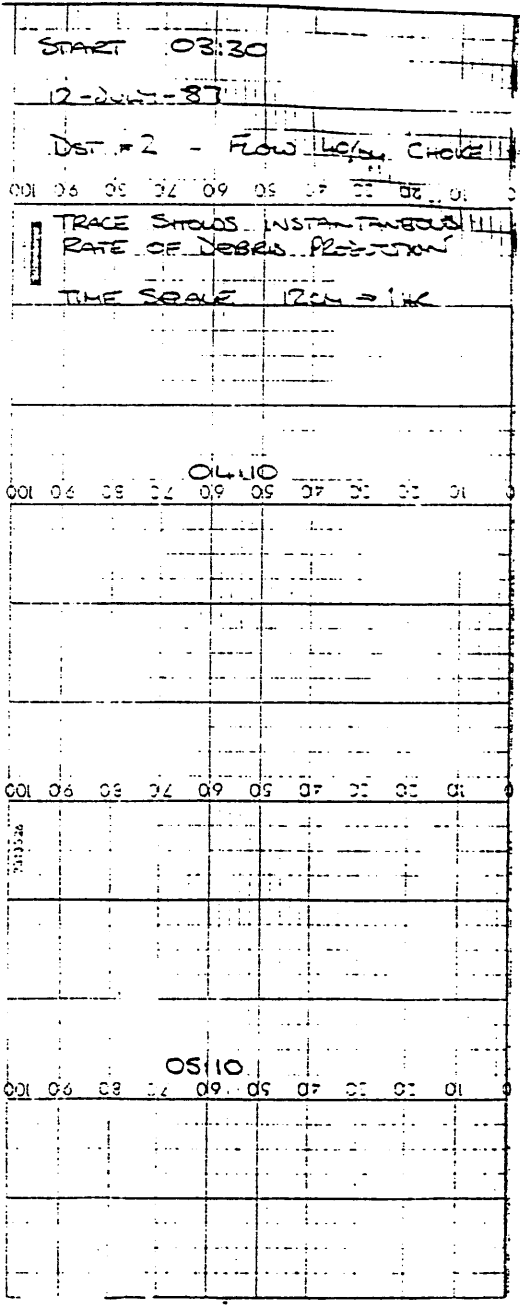
11-JUL-87

18:10:00 OPEN PCT
 18:11:00 FIRE TCP GUNS
 18:15:00 OPEN WELL ON 1/2" ADJ. CHOKE
 18:17:00 OPEN BYPASS ON CHOKE MANIFOLD
 18:20:00 SHUT IN WELL AT PCT
 18:51:30 OPEN PCT
 18:52:00 OPEN WELL ON 1" ADJ. CHOKE
 18:57:00 SWITCH TO 1" FIXED CHOKE
 22:54:00 SHUT IN WELL AT PCT

12-JUL-87

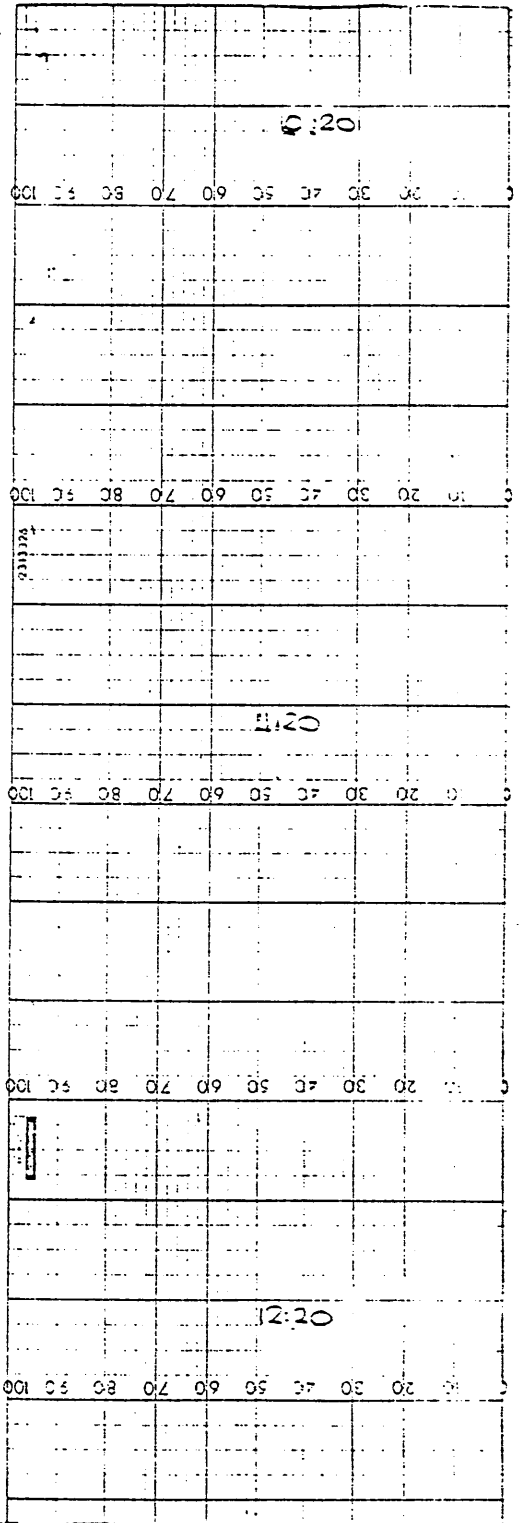
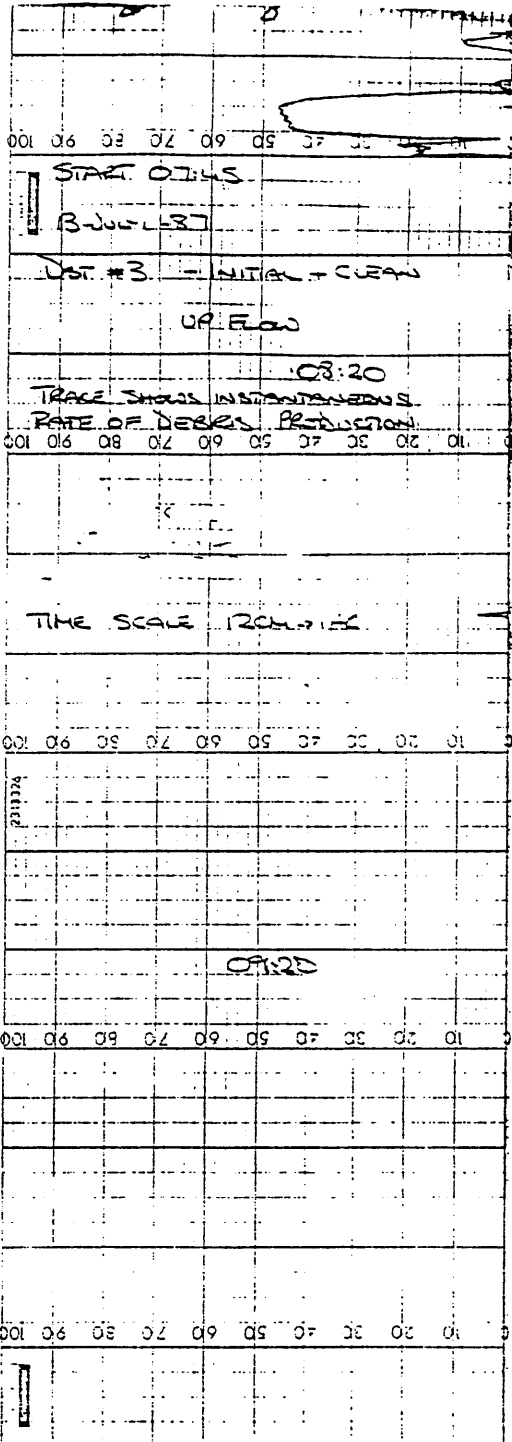
03:36:00 OPEN PCT
 03:43:00 OPEN WELL ON 5/8" FIXED CHOKE
 07:37:30 SHUT IN WELL AT PCT
 11:39:00 OPEN PCT
 11:43:00 OPEN WELL ON 1 1/4" ADJ. CHOKE
 11:45:00 SWITCH TO 1 1/4" FIXED CHOKE
 13:16:00 BEAN DOWN TO 1" ADJ. CHOKE
 13:20:00 SWITCH TO 1" FIXED CHOKE
 14:31:30 SHUT IN WELL AT CHOKE MANIFOLD
 14:48:00 BEGIN TO KILL WELL

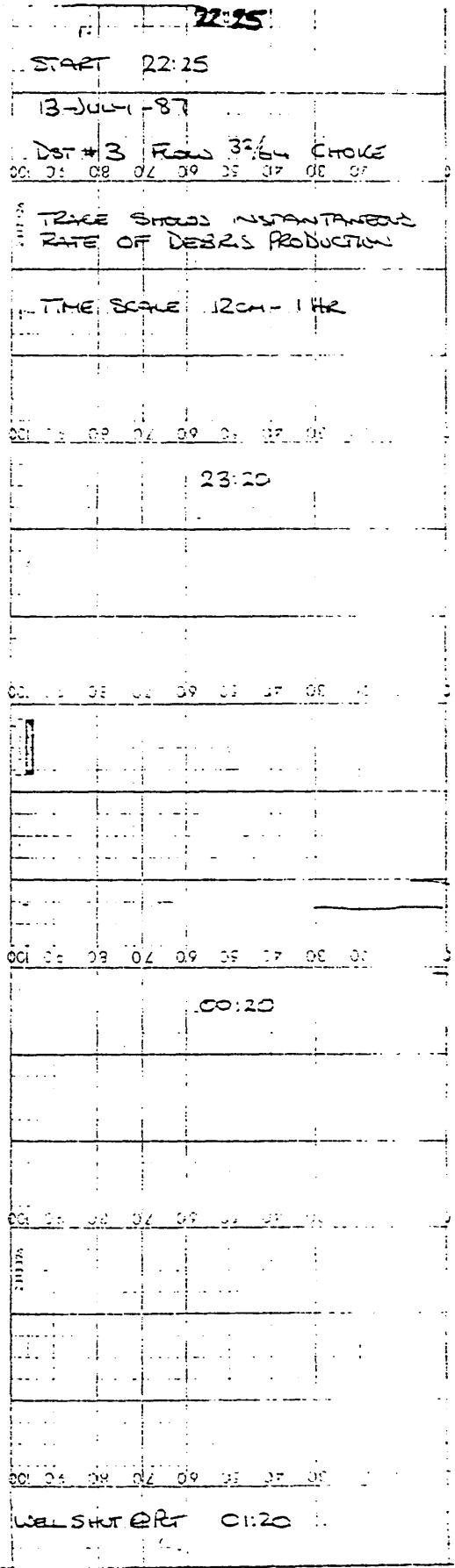
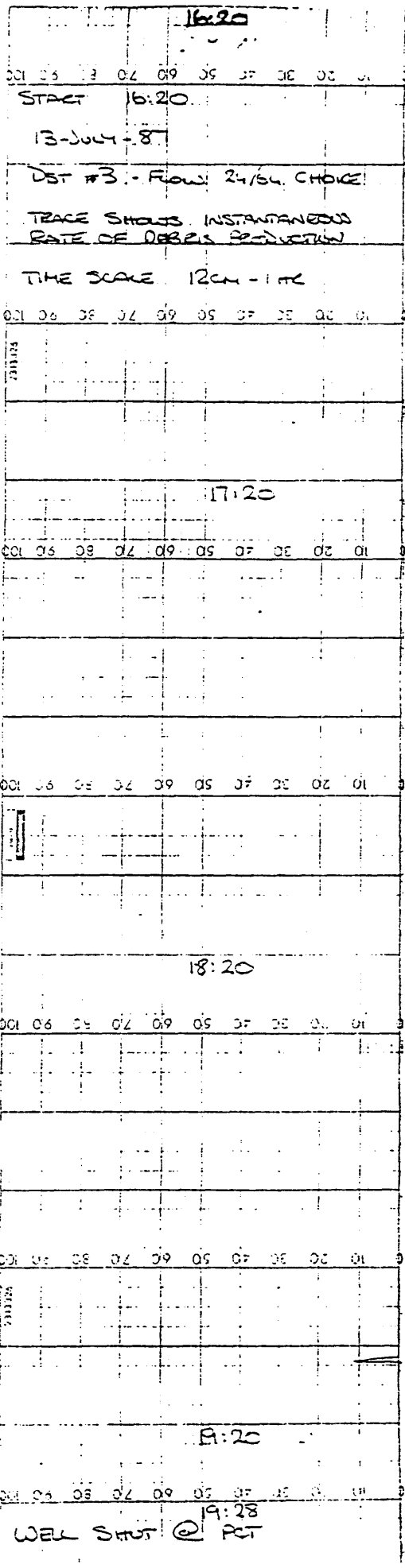


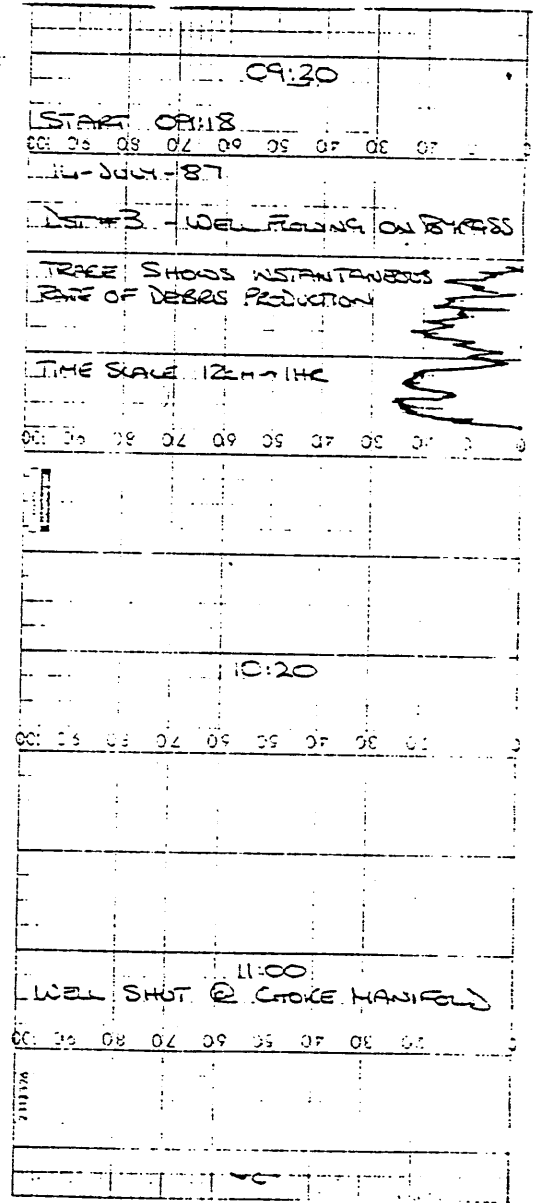
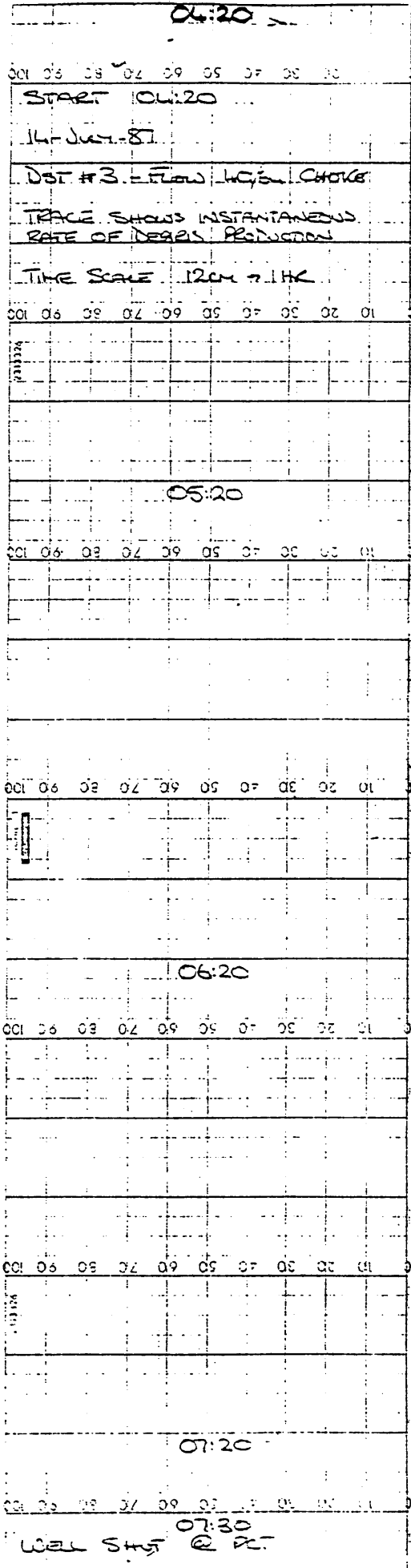


SEQUENCE OF EVENTS

13-JUL-87
 07:40:00 OPEN PCT
 07:46:00 OPEN WELL ON 1/2" ADJ. CHOKE BEAN UP TO 1" ADJ. CHOKE
 07:49:20 CLOSE CHOKE MANIFOLD
 07:49:30 OPEN CHOKE MANIFOLD
 07:50:00 SHUT PCT CLOSE CHOKE MANIFOLD
 07:51:00 OPEN CHOKE MANIFOLD TO BLEED T.H.P. ABOVE PCT
 07:53:00 CLOSE CHOKE MANIFOLD T.H.P. INCREASES TO 1000 psig
 07:55:00 OPEN CHOKE MANIFOLD BLEED T.H.P. TO 140 psig
 08:02:00 OPEN PCT
 08:03:00 CLOSE PCT T.H.P. BLEEDS TO 0 psig
 08:04:00 CLOSE CHOKE MANIFOLD
 08:34:00 OPEN PCT . OPEN WELL ON 1 1/4" ADJ. CHOKE
 08:36:00 BEAN UP TO 1 1/4" ADJ. + 1 1/4" FIXED CHOKE (1 3/4")
 11:05:00 BEAN DOWN TO 1 1/4" FIXED CHOKE
 11:06:00 BEAN UP TO 1 1/4" + 1 1/4" CHOKE
 11:07:00 SHUT IN WELL AT CHOKE MANIFOLD
 11:10:00 OPEN WELL ON 1 1/4" ADJ. CHOKE
 11:13:00 BEAN UP TO 1 1/4" + 1 1/4" CHOKE
 12:33:00 SHUT IN WELL AT PCT . CLOSE CHOKE MANIFOLD
 16:28:00 OPEN PCT . OPEN WELL ON 24/64" FIXED CHOKE
 19:28:00 SHUT IN WELL AT PCT . CLOSE CHOKE MANIFOLD
 22:28:00 OPEN PCT . OPEN WELL ON 32/64" FIXED CHOKE
 14-JUL-87
 01:28:00 SHUT IN WELL AT PCT . CLOSE CHOKE MANIFOLD
 04:27:00 OPEN PCT . OPEN WELL ON 40/64" FIXED CHOKE
 07:30:00 SHUT IN WELL AT PCT . CLOSE CHOKE MANIFOLD
 09:17:00 OPEN PCT
 09:18:00 OPEN WELL THROUGH CHOKE MANIFOLD BYPASS
 11:00:00 SHUT IN WELL AT CHOKE
 11:21:00 BEGIN TO KILL WELL







SEQUENCE OF EVENTS

15-JUL-87

06:45:00 OPEN WELL ON 34-64" ADJ. CHOKE
06:51:00 BEAN UP TO 32-64" ADJ. CHOKE
07:00:00 BEAN UP TO 40-64" ADJ. CHOKE
07:04:00 BEAN UP TO 48-64" ADJ. CHOKE
07:09:00 BEAN UP TO 1" ADJ. CHOKE
07:16:00 SWITCH TO 1 1/4" FIXED CHOKE
07:30:00 BEAN UP TO 1 1/4" + 1 1/4" CHOKE
07:32:00 BEAN UP CHOKE TO INCLUDE BYPASS (CHOKE WIDE OPEN)
07:39:00 SHUT IN WELL AT CHOKE MANIFOLD (ELBOW UNION REPLACED)
07:53:00 OPEN WELL ON WIDE OPEN CHOKE MANIFOLD
09:46:30 SHUT IN WELL AT CHOKE MANIFOLD
11:45:00 OPEN WELL ON 1 1/4" + 1 1/4" CHOKE
15:46:10 SHUT IN WELL AT CHOKE MANIFOLD
20:01:00 BEGIN TO KILL WELL

06:45

10 20 30 40 50 60 70 80 90 100

START 06:45

15-JULY-87

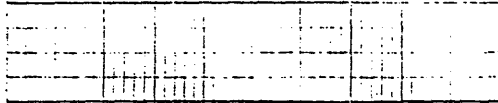
DS #3A - EST. FLOW

TRACE SHOWS INSTANTANEOUS RATE OF DEGR. PRODUCTION

TIME SCALE 12min = 1hr

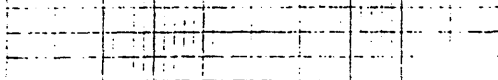
10 20 30 40 50 60 70 80 90 100

vertical



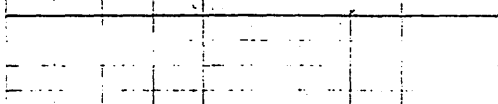
07:45

10 20 30 40 50 60 70 80 90 100



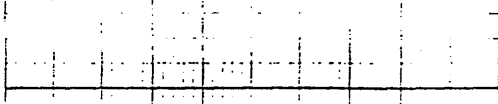
10 20 30 40 50 60 70 80 90 100

vertical



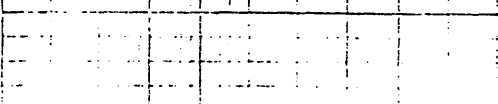
08:45

10 20 30 40 50 60 70 80 90 100



10 20 30 40 50 60 70 80 90 100

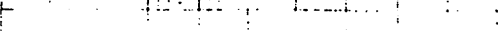
vertical

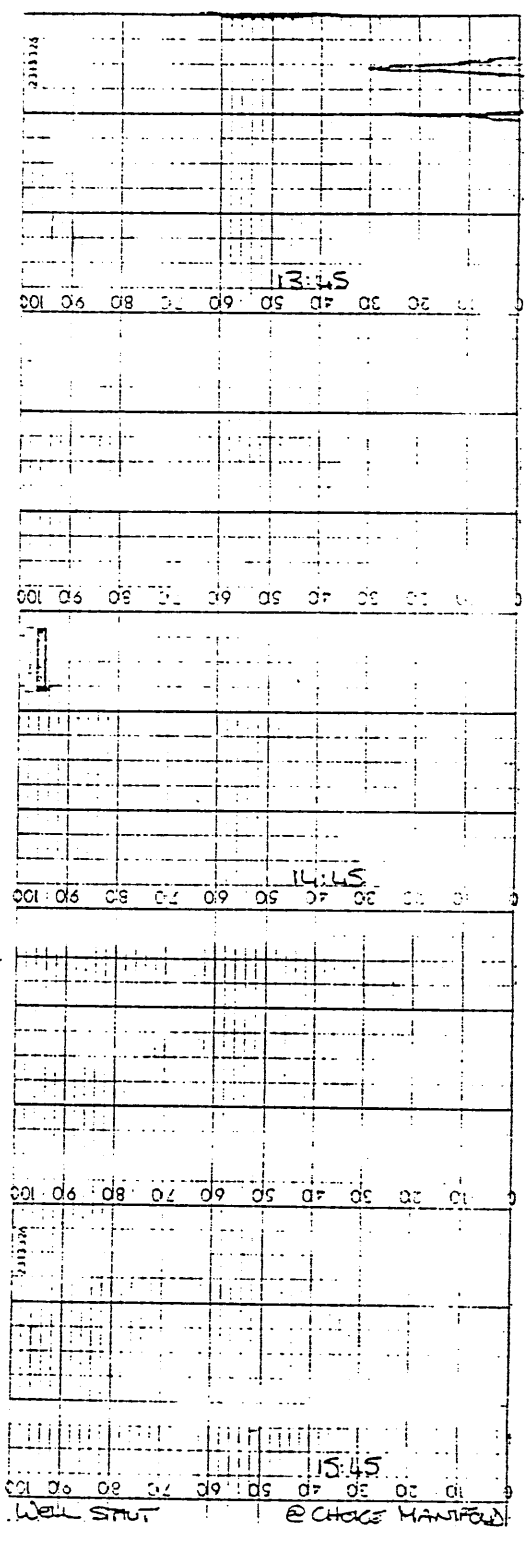
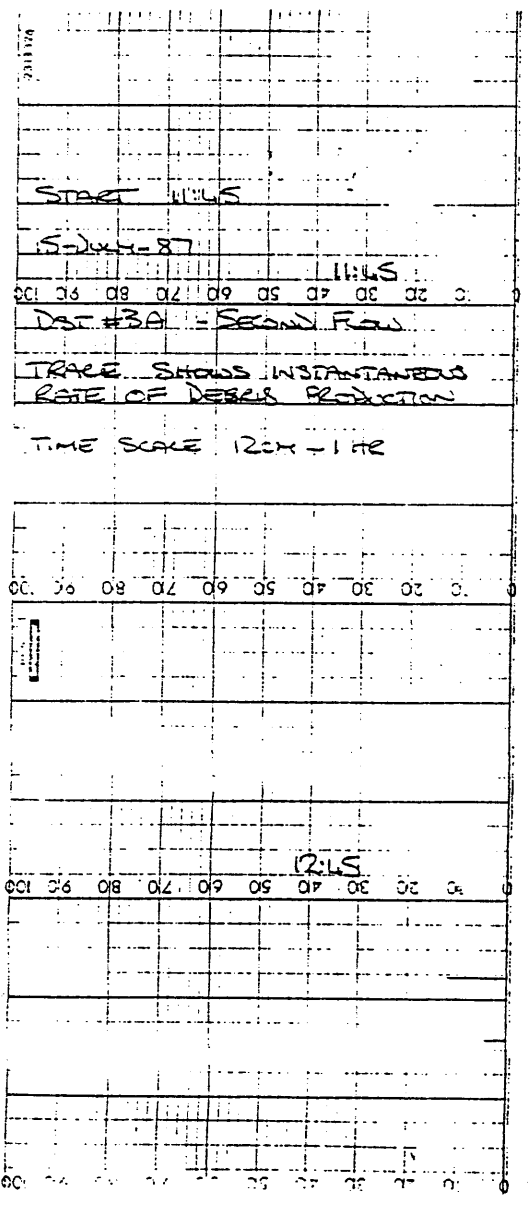


09:45

10 20 30 40 50 60 70 80 90 100

WEL SHUT @ CRACK MANIFOLD





FLOPETROL JOHNSTON

Schlumberger

DOWN HOLE PRESSURE & TEMPERATURE SURVEY

DIGITAL RESULTS

company : LASMO ENERGY AUSTRALIA LTD
field/well/zone : PATRICIA # 1 / DST # 1
country : AUSTRALIA
test date : 28 / 11-JUL-87
report nbr. : ELS 080787110787
region/distr/base : SEA / ANZ / VEF

Co representative : P. DOLAN
FJS representative : G. WILLIAMS

GENERAL INFORMATION

1.1 service/client ref.: DOWN HOLE PRESSURE & TEMPERATURE SURVEY
 1.2 company : LASMO ENERGY AUSTRALIA LTD
 1.3 field/well/zone : PATRICIA # 1 / DST # 1
 1.4 country : AUSTRALIA
 1.5 state : VICTORIA
 1.7 test type : DST

OPERATION DATA

2.1 test date : 88 / 11-JUL-87
 2.2 report nbr. : ELS 080787110787
 2.3 region/distr/base : SEA / ANZ / VEF
 2.4 Co representative : P. DOLAN
 2.5 FJS representative : G. WILLIAMS
 2.6 unit system : OIL FIELD

WELL DATA

3.1 state before test : NEWLY DRILLED
 3.2 well type : APPRAISAL
 3.3 fluid type : GAS
 3.13 perf. shot density : 6 SHOTS PER FOOT
 3.14 perf. gun type : 3 3/8" TUBING CONVEYED
 3.15 perf. conditions : UNDER BALANCED
 3.16 perf. interval(s) : 744 - 747 mts.
 3.18 static W.H.P. : 191 psiG ON 5/8" FIXED CHOKE

FORMATION DATA

4.7 B.H.P & B.H.T : 251.6 psiA & 31.2 degC ON 5/8" FIXED CHOKE
 4.9 gas gravity : 0.574 S.G. ON 5/8" FIXED CHOKE

DEPTH INFORMATION

6.1 depth unit : METRES
 6.2 depth reference : RKB
 6.8 gauge M.P. set at : 731.52

DOWNHOLE EQUIPMENT

7.2 gauge : SSDP # 83111
 7.3 recorder : SSDP # 83102

SEQUENCE OF EVENTS

09-JUL-87
 11:30:00 OPEN PCT AGAINST CLOSED CHOKE BUBBLE HOSE OPEN
 11:32:30 FIRE TCP GUNS
 11:41:30 OPEN WELL ON 1/4" ADJ. CHOKE
 11:46:30 SHUT IN WELL AT PCT
 11:47:00 SHUT CHOKE MANIFOLD
 12:23:00 OPEN PCT
 12:24:00 OPEN WELL ON 1" ADJ. CHOKE
 16:24:30 SHUT WELL IN AT PCT
 10-JUL-87
 02:14:00 OPEN PCT
 02:15:00 OPEN LUBRICATOR VALVE
 02:15:00 OPEN WELL AT CHOKE MANIFOLD THROUGH BYPASS
 02:22:00 BEAN DOWN TO 3/8" ADJ. CHOKE
 02:40:00 SWITCH TO 3/8" FIXED CHOKE
 06:18:30 SHUT WELL IN AT PCT
 10:14:00 OPEN PCT
 10:15:00 OPEN WELL ON 1/2" ADJ. CHOKE
 10:23:00 SWITCH TO 1/2" FIXED CHOKE
 14:17:00 SHUT IN WELL AT PCT
 18:14:00 OPEN PCT
 18:15:00 OPEN WELL ON 5/8" FIXED CHOKE
 22:16:00 SHUT IN WELL AT CHOKE MANIFOLD

Schlumberger

SUMMARY OF RESULTS

PERFORATION INTERVAL: 744 - 747 mts.

FLOW PERIOD NUMBER AND TYPE	DURATION MINS.	FINAL BOTTOM HOLE PRESSURE PSIA	FINAL WELL HEAD PRESSURE PSIG	AVERAGE OIL FLOW RATE BOPD	AVERAGE GAS FLOW RATE MMSCF/D	AVERAGE GAS-OIL RATIO MMSCF/BBL
1 DRAWDOWN	13	1080	740	0	-	-
2 BUILD UP	37	1090	810	0	0	-
3 DRAWDOWN	240	169	75	0	2.59	-
4 BUILD UP	591	1089	0	0	0	-
5 DRAWDOWN	244	635	570	0	1.81	-
6 BUILD UP	236	1089	0	0	0	-
7 DRAWDOWN	243	423	365	0	2.03	-
8 BUILD UP	242	1089	0	0	0	-
9 DRAWDOWN	251	251	191	0	2.05	-
10 BUILD UP	25	1089	1017	0	0	-

INITIAL BOTTOM HOLE PRESSURE: 1101 psia
 MAXIMUM BOTTOM HOLE TEMPERATURE: 43 degC
 TYPE AND DEPTH OF BOTTOM HOLE GAUGE: SSDP @ 731.52 mts.
 DID THE WELL FLOW SIGNIFICANT QUANTITIES OF WATER: NO
 OIL SPECIFIC GRAVITY: N/A
 GAS SPECIFIC GRAVITY: 0.574
 GAS H2S CONTENT: 70 ppm. (PEAK VALUE AVERAGE OF 55 ppm.)
 GAS CO2 CONTENT: 1.0 %

WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)

HISTORY PLOT OF DST # 1

PLOT 1 OF 2

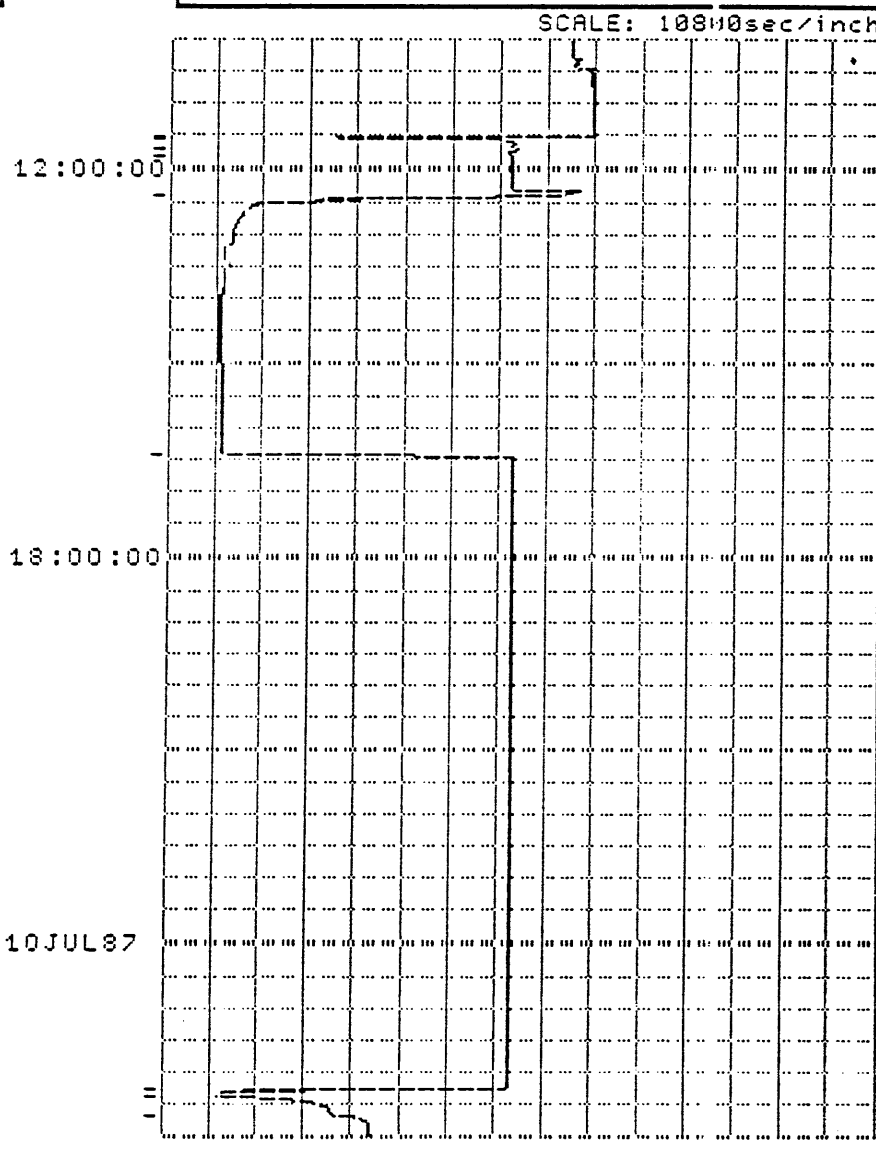
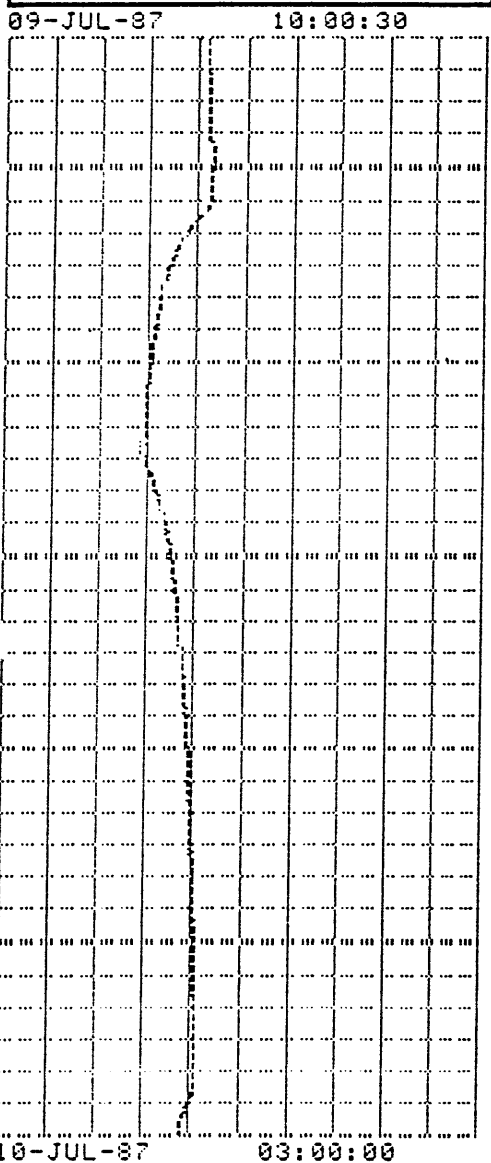
VERSUS TIME PLOT

SDT1 (degC)	
0	100

41.761	

SDP1 (psia)	
0	2250

1275.5	



WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
FLOW PERIOD 03 DRAWDOWN & BUILD UP 04
CLEAN UP FLOW AND BUILD UP

VERSUS TIME PLOT

SDT1 (degC)	
0	100

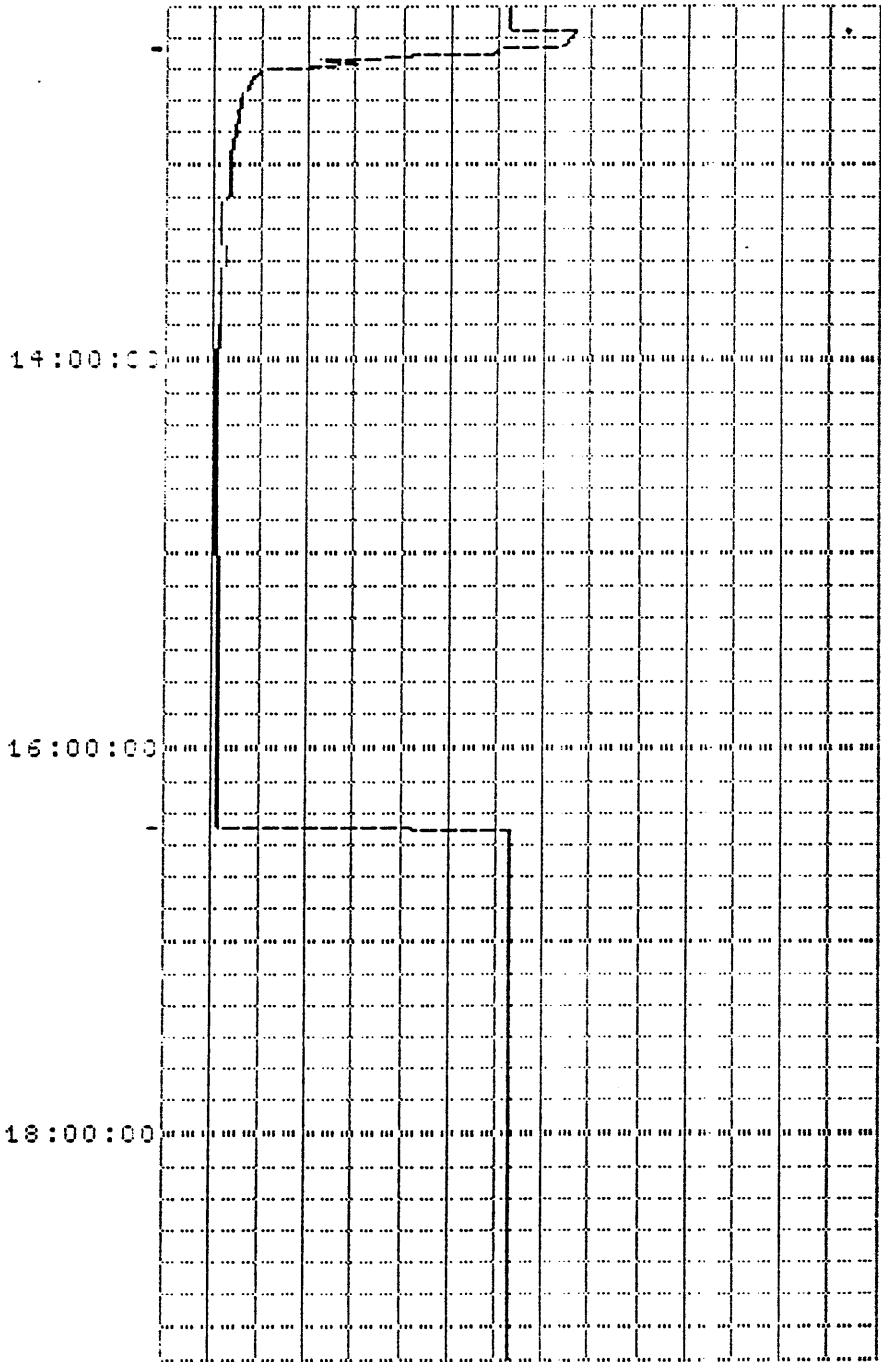
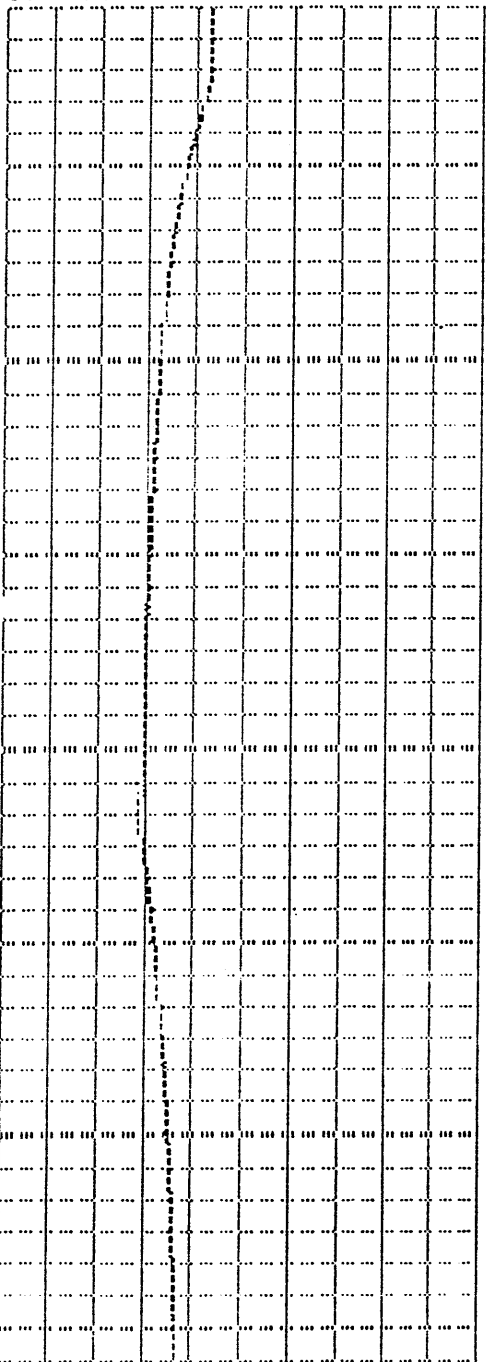
42.866	

SDP1 (psia)	
0	2250

1086.2	

09-JUL-87 12:10:30

SCALE: 3600sec/inch



09-JUL-87 19:10:00



WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
HISTORY PLOT OF DST # 1
PLOT 2 OF 2

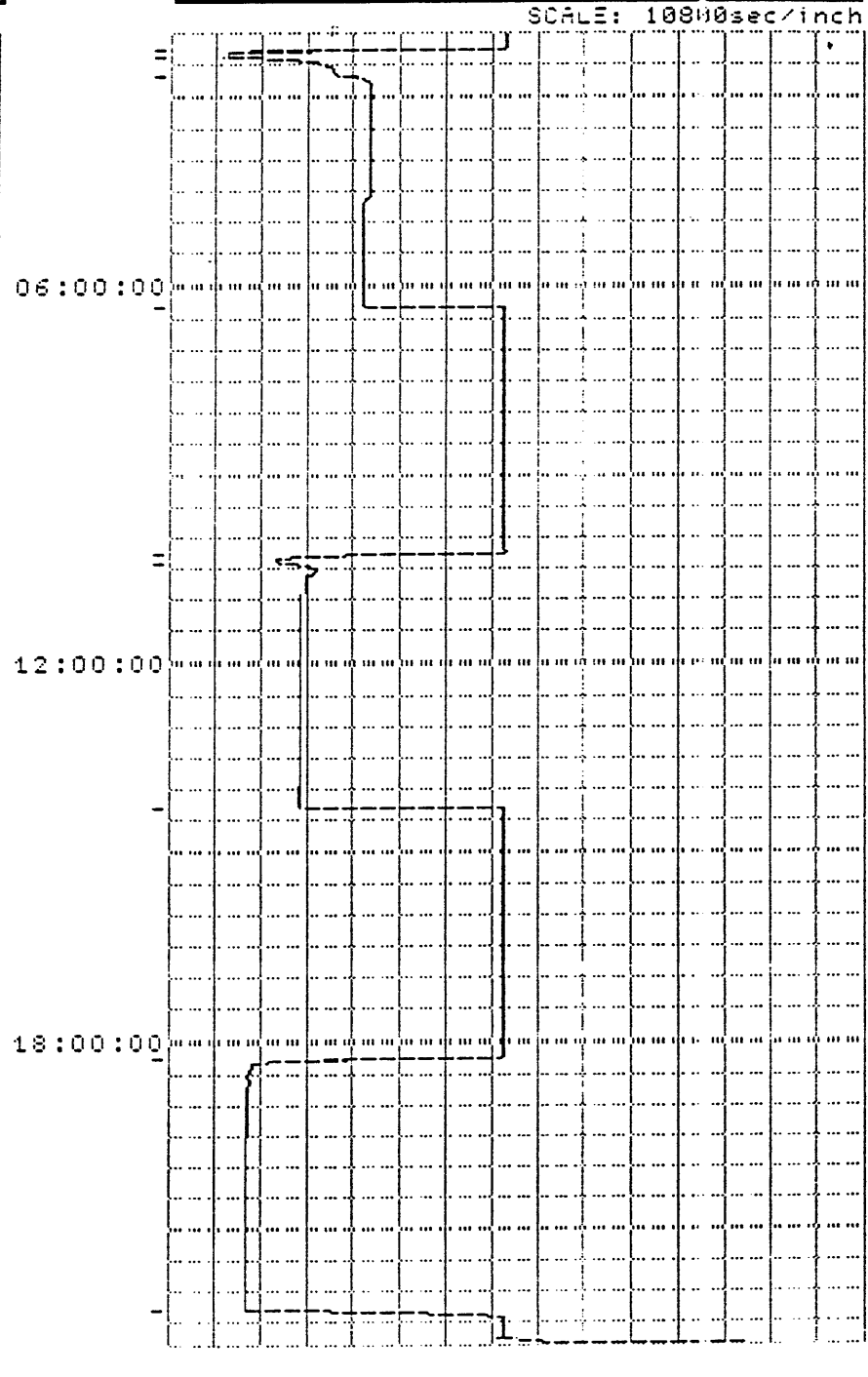
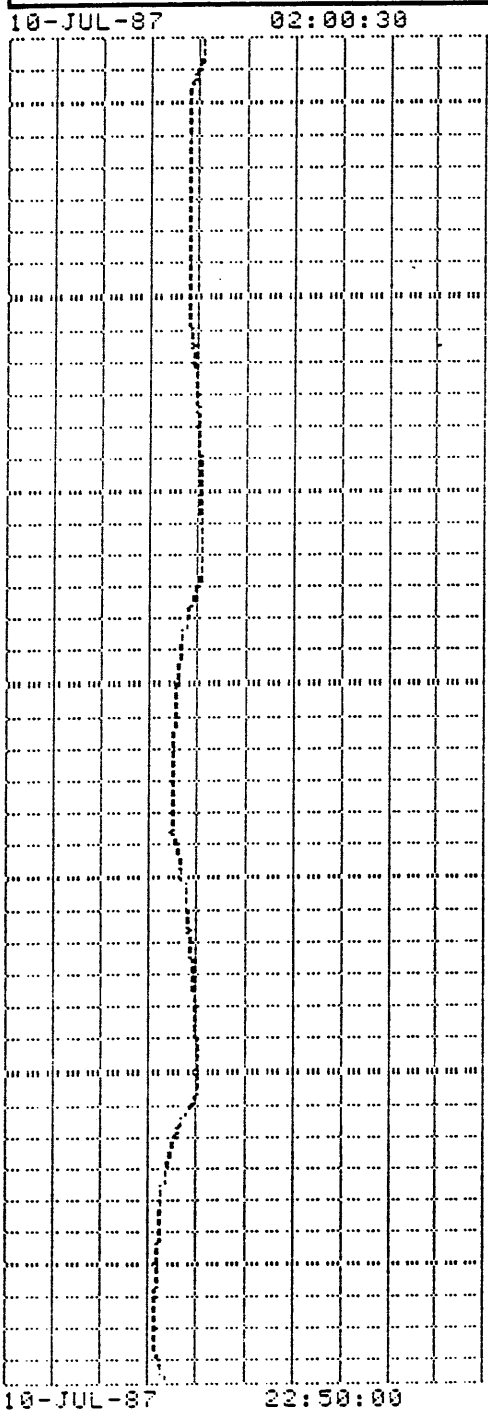
VERSUS TIME PLOT

SDT1 (degC)	
0	100

41.166	

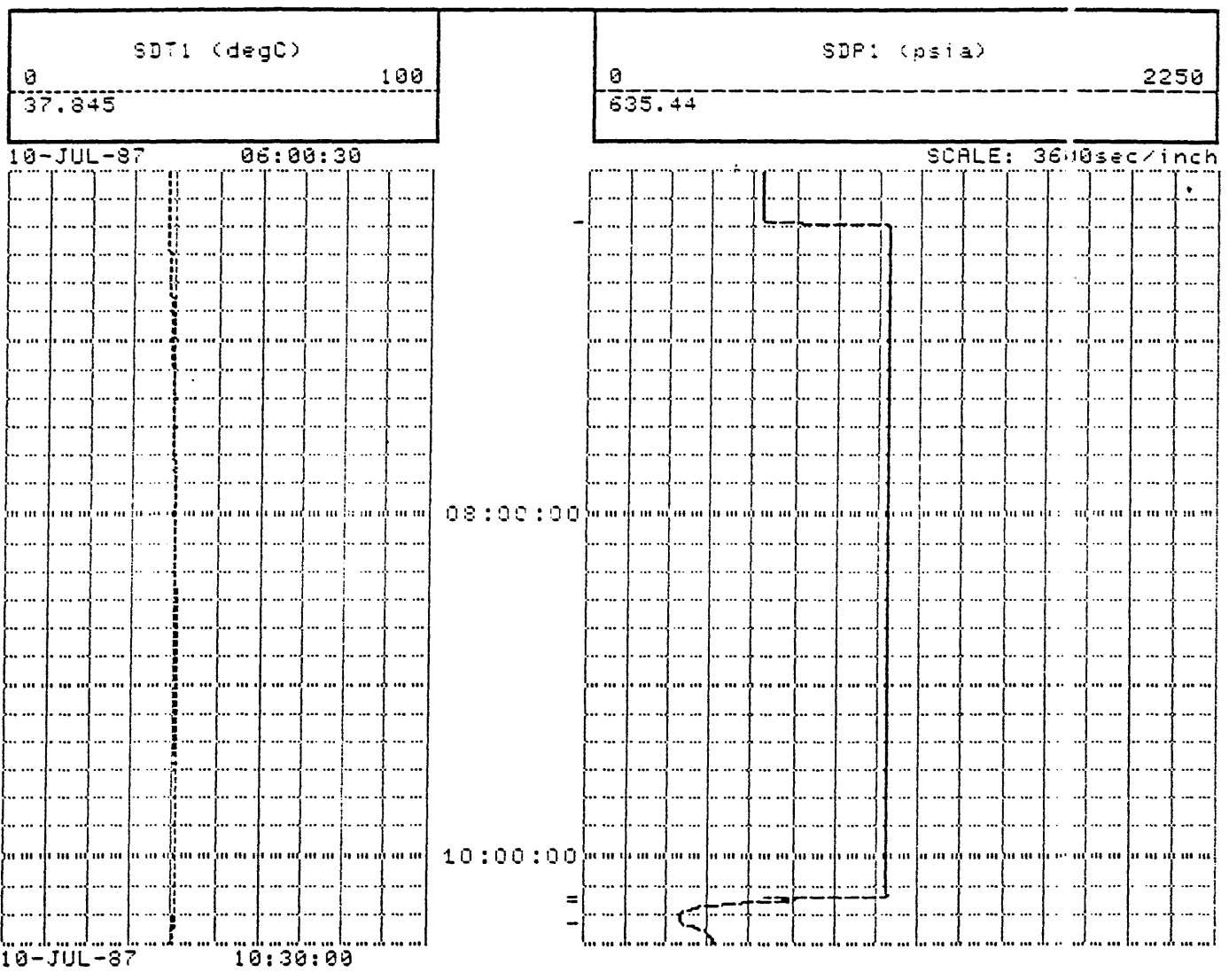
SDP1 (psia)	
3	2250

1890.5	



WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
FLOW PERIOD 06 BUILD UP
FIRST BUILD UP

VERSUS TIME PLOT



WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
FLOW PERIOD 08 BUILD UP
SECOND BUILD UP

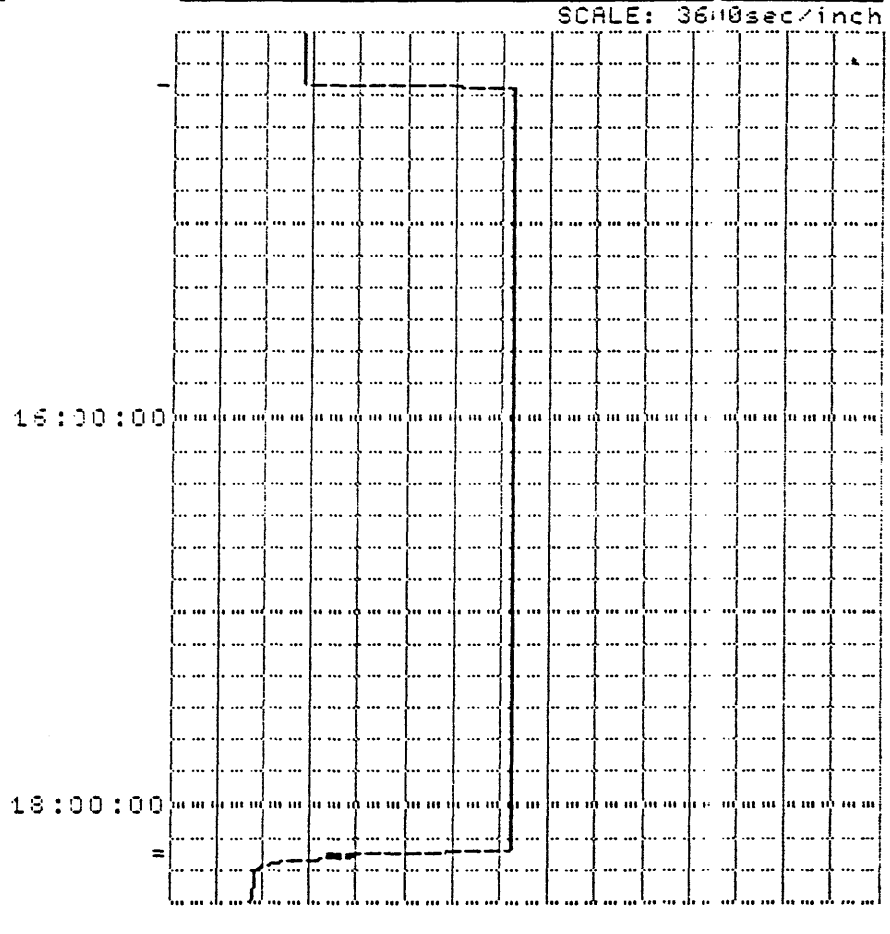
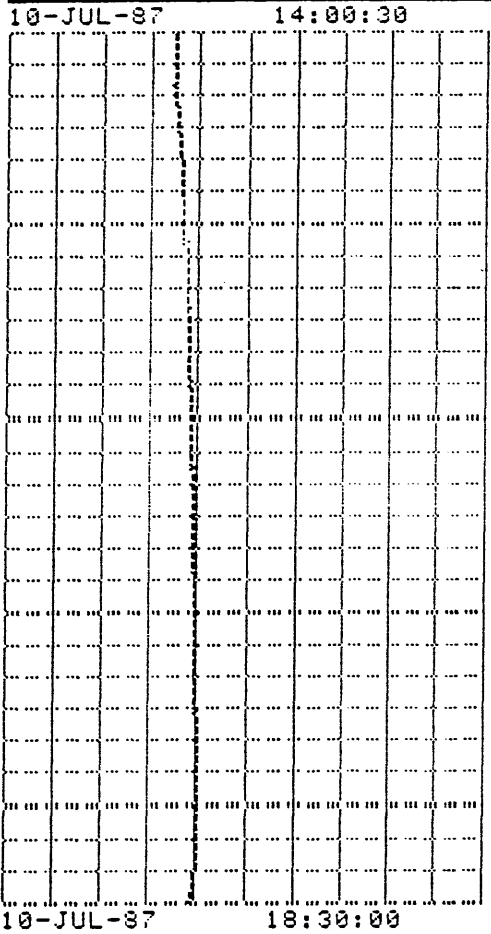
VERSUS TIME PLOT

SDT1 (degC)	
0	100

34.691	

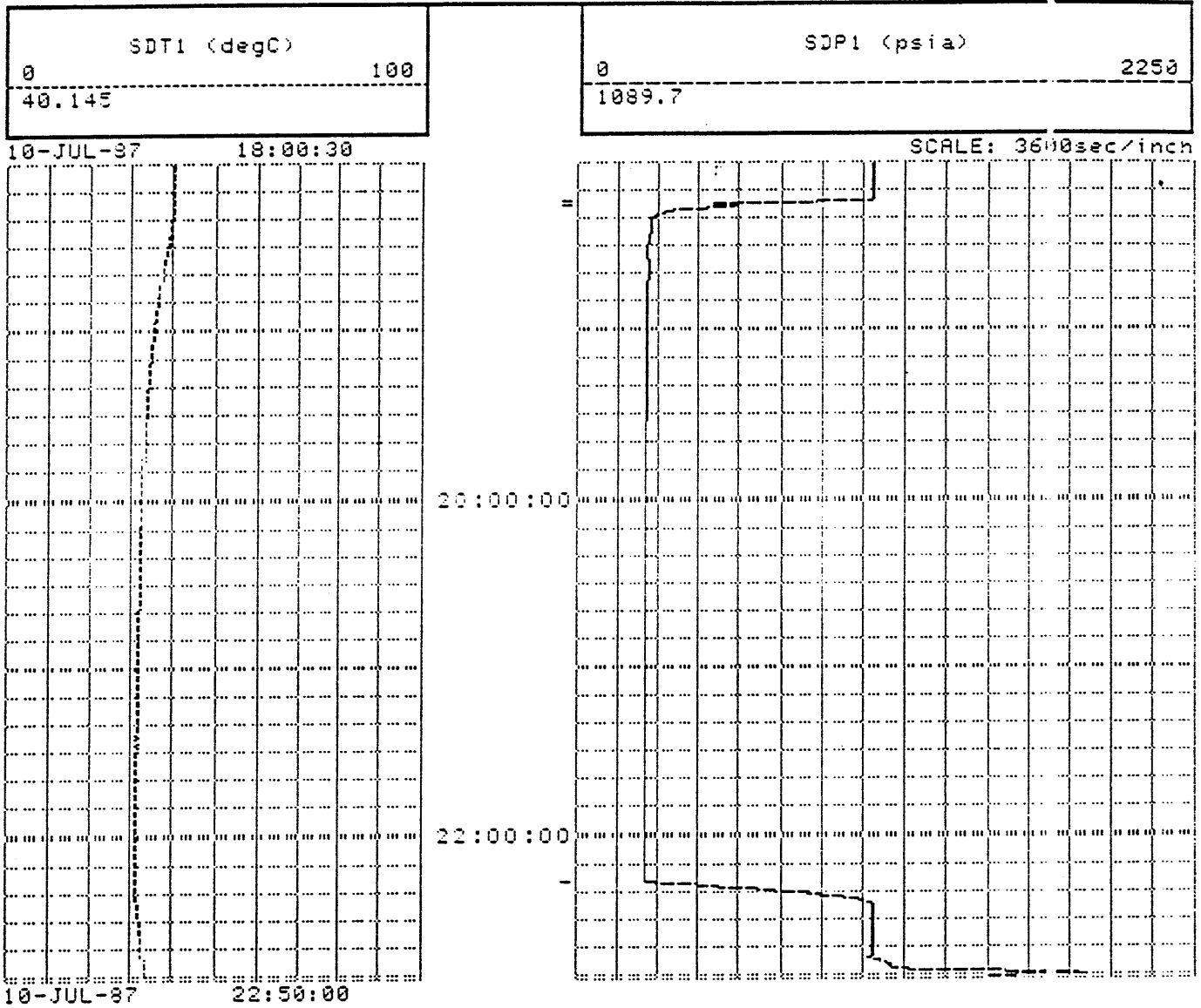
SDP1 (psia)	
0	2250

422.98	



WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
FLOW PERIOD 09 DRAWDOWN & 10 BUILD UP
FINAL FLOW PERIOD AND BUILD UP

VERSUS TIME PLOT



WELL TEST SDP BOTTOM HOLE RESULTS
 FLOW PERIOD 01, DRAWDOWN, 1/4" ADJUSTABLE CHOKE
 INITIAL FLOW PERIOD

09-JUL-87

11:30:00

OPEN PCT AGAINST CLOSED CHOKE BUBBLE HOSE OPEN

SDT1	SDP1
degC	psia

11:30:00	42.3	531.43
11:31:00	42.3	532.41
11:32:00	42.2	532.88
11:32:30	FIRE TCP GUNS	
11:33:00	42.3	1054.24
11:34:00	42.4	1087.15
11:35:00	42.4	1089.69
11:36:00	42.6	1089.61
11:37:00	42.8	1091.36
11:38:00	42.9	1089.45
11:39:00	43.0	1091.29
11:40:00	43.0	1096.01
11:41:00	43.0	1101.16
11:41:30	OPEN WELL ON 1/4" ADJ. CHOKE	
11:42:00	43.0	1087.71
11:43:00	43.1	1088.49
11:44:00	43.1	1081.04
11:45:00	43.1	1088.73
11:46:00	43.1	1088.19

WELL TEST SDP BOTTOM HOLE RESULTS
 FLOW PERIOD 02, BUILD UP AFTER FLOW PERIOD 01
 INITIAL BUILD UP

09-JUL-87

11:46:30

SHUT IN WELL AT PCT

11:47:00

SHUT CHOKE MANIFOLD

T0=09-JUL-87 11:46:00 P0=1088.19 FT=0.2667

SDT1	SDP1	T-T0	L(T-T0)	P-P0	L(P-P0)	L(HORN)
degC	psia	hr		SDP1	SDP1	

11:47:00	43.1	1085.19	0.0167	-1.7782	5.00	0.6985	1.2305
11:48:00	43.1	1085.00	0.0333	-1.4771	5.01	0.7641	0.9543
11:49:00	43.1	1085.20	0.0500	-1.3010	6.01	0.7780	0.8017
11:50:00	43.0	1088.14	0.0667	-1.1761	7.95	0.9004	0.6990
11:51:00	43.1	1088.23	0.0833	-1.0792	8.04	0.9850	0.6233
11:52:00	43.0	1088.15	0.1000	-1.0000	7.96	0.9011	0.5643
11:53:00	43.0	1088.00	0.1167	-0.9331	7.81	0.8921	0.5167
11:54:00	43.0	1087.86	0.1333	-0.8751	7.67	0.8849	0.4772
11:55:00	43.0	1087.72	0.1500	-0.8239	7.53	0.8770	0.4437
11:56:00	43.0	1087.60	0.1667	-0.7782	7.41	0.8699	0.4150
11:57:00	43.0	1087.47	0.1833	-0.7368	7.28	0.8620	0.3900
11:58:00	43.0	1087.36	0.2000	-0.6990	7.17	0.8551	0.3680
11:59:00	43.0	1087.24	0.2167	-0.6642	7.05	0.8481	0.3485
12:00:00	42.9	1087.14	0.2333	-0.6320	6.95	0.8411	0.3310
12:01:00	43.0	1087.02	0.2500	-0.6021	6.83	0.8343	0.3153
12:02:00	42.9	1086.94	0.2667	-0.5740	6.75	0.8290	0.3011
12:03:00	43.0	1086.81	0.2833	-0.5477	6.62	0.8201	0.2881
12:04:00	43.0	1086.72	0.3000	-0.5229	6.53	0.8140	0.2762
12:05:00	43.0	1086.61	0.3167	-0.4994	6.42	0.8079	0.2652

09-JUL-87
TR=09-JUL-87 11:46:00 P0=1000.19 FT=0.2567

	SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
12:06:00	42.9	1086.52	0.3333	-0.4771	6.33	0.9015	0.2553
12:07:00	42.9	1086.43	0.3500	-0.4559	6.24	0.7951	0.2460
12:08:00	43.0	1086.35	0.3667	-0.4357	6.15	0.7894	0.2374
12:09:00	42.9	1086.28	0.3833	-0.4164	6.09	0.7843	0.2294
12:10:00	42.9	1086.20	0.4000	-0.3979	6.01	0.7788	0.2219
12:11:00	42.9	1086.09	0.4167	-0.3802	5.90	0.7709	0.2149
12:12:00	42.9	1086.03	0.4333	-0.3632	5.84	0.7664	0.2083
12:13:00	42.9	1085.95	0.4500	-0.3468	5.76	0.7606	0.2021
12:14:00	42.9	1085.88	0.4667	-0.3310	5.69	0.7548	0.1963
12:15:00	43.0	1085.79	0.4833	-0.3158	5.60	0.7485	0.1908
12:16:00	42.9	1085.74	0.5000	-0.3010	5.55	0.7441	0.1857
12:17:00	43.0	1085.67	0.5167	-0.2868	5.48	0.7389	0.1808
12:18:00	42.9	1300.82	0.5333	-0.2730	220.63	2.3437	0.1761
12:19:00	42.9	1289.11	0.5500	-0.2596	208.92	2.3200	0.1717
12:20:00	42.9	1282.97	0.5667	-0.2467	202.78	2.3070	0.1675
12:21:00	42.9	1274.04	0.5833	-0.2341	193.85	2.2875	0.1635
12:22:00	42.8	1266.49	0.6000	-0.2218	186.30	2.2702	0.1597
12:23:00	OPEN PCT						
12:23:00	42.8	1052.96	0.6167	-0.2099	-27.23	1.4351	0.1561

WELL TEST SDP BOTTOM HOLE RESULTS
FLOW PERIOD 03 DRAWDOWN, 1" ADJUSTABLE CHOKE
CLEAN UP FLOW PERIOD

09-JUL-87
12:24:00
OPEN WELL ON 1" ADJ. CHOKE

	SDT1 degC	SDP1 psia
12:24:00	42.9	1043.19
12:25:00	42.9	901.08
12:26:00	43.0	688.90
12:27:00	43.0	491.78
12:28:00	43.0	602.51
12:29:00	43.0	459.75
12:30:00	42.9	314.56
12:35:00	42.4	259.55
12:40:00	41.6	233.74
12:45:00	40.6	225.51
12:50:00	39.5	216.56
12:55:00	38.6	207.23
13:00:00	37.8	204.19
13:05:00	37.1	202.61
13:10:00	36.4	188.91
13:15:00	35.8	181.62
13:20:00	35.2	180.79
13:25:00	34.8	184.19
13:30:00	34.3	184.19
13:35:00	34.0	182.77
13:40:00	33.7	182.14
13:45:00	33.3	181.65
13:50:00	33.0	174.22
13:55:00	32.7	168.22

09-JUL-87

SDT1 degC	SDP1 psia
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14:00:00	32.5	167.84
14:05:00	32.3	167.64
14:10:00	32.0	167.60
14:15:00	31.9	167.57
14:20:00	31.7	167.49
14:25:00	31.5	167.46
14:30:00	31.4	167.28
14:35:00	31.1	167.16
14:40:00	31.0	167.05
14:45:00	30.8	167.06
14:50:00	30.8	167.08
14:55:00	30.6	167.34
15:00:00	30.4	167.67
15:05:00	30.3	168.74
15:10:00	30.1	168.63
15:15:00	29.9	169.02
15:20:00	29.8	168.80
15:25:00	29.8	168.72
15:30:00	29.7	168.64
15:35:00	29.6	168.58
15:40:00	29.6	168.27
15:45:00	29.4	168.34
15:50:00	29.3	168.96
15:55:00	29.2	168.66
16:00:00	29.1	168.36
16:05:00	29.1	168.54
16:10:00	29.0	168.80
16:15:00	28.9	168.79
16:20:00	28.8	168.74
16:20:30	28.8	168.72
16:21:00	28.8	168.69
16:21:30	28.8	168.68
16:22:00	28.8	168.66
16:22:30	28.8	168.74
16:23:00	28.8	168.81
16:23:30	28.7	168.85
16:24:00	28.8	169.70

WELL TEST SDP BOTTOM HOLE RESULTS

FLOW PERIOD 04, BUILD UP AFTER FLOW PERIOD 03

BUILD UP AFTER CLEAN UP FLOW

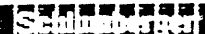
09-JUL-87

16:24:30 SHUT WELL IN AT PCT

T0=09-JUL-87 16:24:00 P0=169.7 FT=4.0083

SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
--------------	--------------	------------	---------	--------------	-----------------	---------

16:24:30	28.8	777.45	0.0083	-2.0792	607.75	2.7837	2.6830
16:25:00	28.8	1085.15	0.0167	-1.7782	915.45	2.9610	2.3829
16:25:30	28.8	1091.01	0.0250	-1.6821	921.31	2.9644	2.2877
16:26:00	28.9	1091.56	0.0333	-1.4771	921.86	2.9647	2.0837
16:26:30	29.0	1091.81	0.0417	-1.3802	922.11	2.9648	1.9877
16:27:00	29.0	1091.84	0.0500	-1.3010	922.14	2.9648	1.9094



09-JUL-87

T0=09-JUL-87 16:24:00

P0=169.7 FT=4.0000

	SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0 SDP	L(HORN)
16:27:30	29.0	1091.83	0.0583	-1.2341	922.13	2.9640	1.8433
16:28:00	29.1	1091.80	0.0667	-1.1761	922.10	2.9640	1.7862
16:28:30	29.1	1091.75	0.0750	-1.1249	922.05	2.9640	1.7359
16:29:00	29.1	1091.71	0.0833	-1.0792	922.01	2.9640	1.6911
16:29:30	29.2	1091.65	0.0917	-1.0378	921.95	2.9640	1.6506
16:30:00	29.3	1091.62	0.1000	-1.0000	921.92	2.9640	1.6137
16:30:30	29.3	1091.59	0.1083	-0.9652	921.89	2.9640	1.5798
16:31:00	29.4	1091.56	0.1167	-0.9331	921.86	2.9640	1.5485
16:31:30	29.5	1091.50	0.1250	-0.9031	921.80	2.9640	1.5194
16:32:00	29.5	1091.50	0.1333	-0.8751	921.80	2.9640	1.4922
16:32:30	29.5	1091.48	0.1417	-0.8487	921.78	2.9640	1.4668
16:33:00	29.7	1091.44	0.1500	-0.8239	921.74	2.9640	1.4428
16:33:30	29.7	1091.44	0.1583	-0.8004	921.74	2.9640	1.4202
16:34:00	29.7	1091.41	0.1667	-0.7782	921.71	2.9640	1.3988
16:34:30	29.8	1091.38	0.1750	-0.7570	921.68	2.9640	1.3785
16:35:00	29.8	1091.38	0.1833	-0.7368	921.68	2.9640	1.3591
16:40:00	30.3	1091.35	0.2667	-0.5740	921.65	2.9640	1.2050
16:45:00	30.7	1091.32	0.3500	-0.4559	921.62	2.9640	1.0952
16:50:00	31.1	1091.24	0.4333	-0.3632	921.54	2.9640	1.0107
16:55:00	31.5	1091.22	0.5167	-0.2868	921.52	2.9640	0.9424
17:00:00	31.9	1091.18	0.6000	-0.2218	921.48	2.9640	0.8854
17:05:00	32.2	1091.14	0.6833	-0.1654	921.44	2.9640	0.8367
17:10:00	32.6	1091.12	0.7667	-0.1154	921.42	2.9640	0.7944
17:15:00	32.9	1091.10	0.8500	-0.0706	921.40	2.9640	0.7571
17:20:00	33.2	1091.10	0.9333	-0.0300	921.40	2.9640	0.7238
17:25:00	33.5	1091.07	1.0167	0.0072	921.37	2.9640	0.6940
17:30:00	33.8	1091.08	1.1000	0.0414	921.38	2.9640	0.6669
17:35:00	34.0	1091.05	1.1833	0.0731	921.35	2.9640	0.6422
17:40:00	34.3	1091.04	1.2667	0.1027	921.34	2.9640	0.6196
17:45:00	34.4	1091.05	1.3500	0.1303	921.35	2.9640	0.5987
17:50:00	34.7	1091.03	1.4333	0.1563	921.33	2.9640	0.5794
17:55:00	34.9	1091.06	1.5167	0.1809	921.36	2.9640	0.5614
18:00:00	35.0	1091.04	1.6000	0.2041	921.34	2.9640	0.5447
18:15:00	35.5	1091.05	1.8500	0.2672	921.35	2.9640	0.5006
18:30:00	36.0	1091.08	2.1000	0.3222	921.38	2.9640	0.4637
18:45:00	36.4	1091.06	2.3500	0.3711	921.36	2.9640	0.4323
19:00:00	36.7	1091.04	2.6000	0.4150	921.34	2.9640	0.4051
19:15:00	37.1	1091.03	2.8500	0.4548	921.33	2.9640	0.3814
19:30:00	37.4	1091.02	3.1000	0.4914	921.32	2.9640	0.3604
19:45:00	37.6	1091.04	3.3500	0.5250	921.34	2.9640	0.3417
20:00:00	37.9	1090.90	3.6000	0.5563	921.20	2.9640	0.3250
20:15:00	38.1	1090.88	3.8500	0.5855	921.18	2.9640	0.3099
20:30:00	38.4	1090.85	4.1000	0.6128	921.15	2.9640	0.2961
20:45:00	38.6	1090.82	4.3500	0.6385	921.12	2.9640	0.2836
21:00:00	38.8	1090.79	4.6000	0.6628	921.09	2.9640	0.2722
21:15:00	39.0	1090.79	4.8500	0.6857	921.09	2.9640	0.2616
21:30:00	39.2	1090.76	5.1000	0.7076	921.06	2.9640	0.2519
21:45:00	39.4	1090.74	5.3500	0.7284	921.04	2.9640	0.2428
22:00:00	39.5	1090.74	5.6000	0.7482	921.04	2.9640	0.2345
22:15:00	39.6	1090.71	5.8500	0.7672	921.01	2.9640	0.2266
22:30:00	39.8	1090.69	6.1000	0.7853	920.99	2.9640	0.2193
22:45:00	40.0	1090.67	6.3500	0.8028	920.97	2.9640	0.2125
23:00:00	40.0	1090.68	6.6000	0.8195	920.98	2.9640	0.2061
23:15:00	40.1	1090.65	6.8500	0.8357	920.95	2.9640	0.2001

09-JUL-97
 T0=09-JUL-97 16:24:00 P0=169.7 FT=4.0083

SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
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23:30:00	40.3	1090.64	7.1000	0.8513	920.94	2.9642	0.1944
23:45:00	40.4	1090.62	7.3500	0.8663	920.92	2.9642	0.1890
10-JUL-97							
00:00:00	40.5	1090.61	7.6000	0.8808	920.91	2.9642	0.1840
00:15:00	40.6	1090.59	7.8500	0.8949	920.89	2.9642	0.1792
00:30:00	40.7	1090.58	8.1000	0.9085	920.88	2.9642	0.1746
00:45:00	40.7	1090.56	8.3500	0.9217	920.86	2.9642	0.1703
01:00:00	40.9	1090.53	8.6000	0.9345	920.83	2.9642	0.1662
01:15:00	41.0	1090.53	8.8500	0.9469	920.83	2.9642	0.1622
01:30:00	41.0	1090.51	9.1000	0.9590	920.81	2.9642	0.1585
01:45:00	41.1	1090.54	9.3500	0.9708	920.84	2.9642	0.1549
02:00:00	41.2	1090.50	9.6000	0.9823	920.80	2.9642	0.1515

WELL TEST SDP BOTTOM HOLE RESULTS
 FLOW PERIOD 05, DRAWDOWN, 3/8" FIXED
 BUILD UP AFTER CLEAN UP FLOW

10-JUL-97
 02:14:00

OPEN PCT

SDT1 degC	SDP1 psia
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02:14:00	41.3	801.58
02:15:00	OPEN LUBRICATOR VALVE	
02:15:00	OPEN WELL AT CHOKE MANIFOLD THROUGH BYPASS	
02:15:00	41.2	368.36
02:16:00	41.2	312.08
02:17:00	41.1	193.84
02:18:00	41.1	187.62
02:19:00	40.9	186.67
02:20:00	40.8	185.03
02:21:00	40.7	182.27
02:22:00	BEAN DOWN TO 3/8" ADJ. CHOKE	
02:22:00	40.7	260.70
02:23:00	40.6	339.82
02:24:00	40.4	395.54
02:25:00	40.3	434.16
02:26:00	40.2	461.24
02:27:00	40.1	480.18
02:28:00	40.0	493.34
02:29:00	39.8	502.73
02:30:00	39.7	509.70
02:31:00	39.6	519.15
02:32:00	39.5	524.78
02:33:00	39.4	527.54
02:34:00	39.2	528.92
02:35:00	39.1	529.96
02:36:00	39.0	530.80
02:37:00	38.9	531.47
02:38:00	38.9	538.22
02:39:00	38.7	571.67
02:40:00	SWITCH TO 3/8" FIXED CHOKE	
02:40:00	38.7	595.99

10-JUL-87

SDT1 degC	SDP1 psia
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02:45:00	38.4	646.79
02:50:00	38.2	656.06
02:55:00	38.1	657.62
03:00:00	38.1	657.81
03:05:00	38.1	657.33
03:10:00	38.0	656.18
03:15:00	38.0	655.38
03:20:00	38.1	655.02
03:25:00	38.0	655.06
03:30:00	38.0	656.32
03:35:00	38.0	657.42
03:40:00	38.0	657.42
03:45:00	38.1	656.70
03:50:00	38.0	656.23
03:55:00	38.0	656.12
04:00:00	38.0	655.83
04:05:00	38.0	655.78
04:10:00	38.0	656.03
04:15:00	38.0	655.72
04:20:00	38.0	656.23
04:25:00	38.0	656.79
04:30:00	38.0	657.04
04:35:00	38.0	647.32
04:40:00	38.0	636.52
04:45:00	38.0	634.59
04:50:00	37.9	634.40
04:55:00	37.9	634.54
05:00:00	37.9	634.69
05:05:00	37.9	634.89
05:10:00	37.9	634.97
05:15:00	37.8	634.98
05:20:00	37.9	635.03
05:25:00	37.8	635.04
05:30:00	37.8	635.01
05:35:00	37.8	634.98
05:40:00	37.8	635.11
05:45:00	37.8	635.32
05:50:00	37.8	635.55
05:55:00	37.8	635.61
06:00:00	37.8	635.46
06:05:00	37.8	635.43
06:10:00	37.8	635.40
06:10:30	37.8	635.40
06:11:00	37.8	635.40
06:11:30	37.8	635.40
06:12:00	37.8	635.41
06:12:30	37.8	635.41
06:13:00	37.8	635.44
06:13:30	37.9	635.45
06:14:00	37.8	635.46
06:14:30	37.8	635.47
06:15:00	37.8	635.47
06:15:30	37.8	635.40
06:16:00	37.8	635.38
06:16:30	37.8	635.35

10-JUL-87

SDT1 degC	SDP1 psia
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06:17:00 37.8 635.31
 06:17:30 37.8 635.27
 06:18:00 37.8 635.27

WELL TEST SDP BOTTOM HOLE RESULTS
 FLOW PERIOD 06, BUILD UP AFTER FLOW PERIOD 05
 BUILD UP AFTER CLEAN UP FLOW

10-JUL-87

06:18:30 SHUT WELL IN AT PCT
 T0=10-JUL-87 06:18:00 P0=635.27 FT=4.0667

SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(CORN)
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06:18:30	37.8	761.96	0.0333	-2.0792	126.69	2.1027	2.5393
06:19:00	37.8	1079.80	0.0357	-1.7782	443.53	2.6469	2.3892
06:19:30	37.8	1089.84	0.0353	-1.6021	453.77	2.6560	2.2140
06:20:00	37.9	1089.61	0.0333	-1.4771	454.34	2.6574	2.0899
06:20:30	37.9	1089.79	0.0417	-1.3802	454.52	2.6570	1.9939
06:21:00	37.9	1089.81	0.0500	-1.3010	454.54	2.6576	1.9156
06:21:30	38.0	1089.82	0.0533	-1.2341	454.55	2.6576	1.8495
06:22:00	38.0	1089.80	0.0557	-1.1761	454.53	2.6576	1.7924
06:22:30	38.0	1089.77	0.0750	-1.1249	454.50	2.6575	1.7421
06:23:00	38.1	1089.76	0.0933	-1.0792	454.49	2.6575	1.6972
06:23:30	38.0	1089.76	0.0917	-1.0378	454.49	2.6575	1.6567
06:24:00	38.1	1089.73	0.1000	-1.0000	454.46	2.6575	1.6198
06:24:30	38.2	1089.71	0.1083	-0.9652	454.44	2.6575	1.5859
06:25:00	38.2	1089.71	0.1157	-0.9331	454.44	2.6575	1.5546
06:30:00	38.4	1089.69	0.2000	-0.6990	454.42	2.6575	1.3291
06:35:00	38.5	1089.71	0.2933	-0.5477	454.44	2.6575	1.1862
06:40:00	38.7	1089.73	0.3557	-0.4357	454.46	2.6575	1.0825
06:45:00	38.9	1089.73	0.4500	-0.3468	454.46	2.6575	1.0016
06:50:00	38.9	1089.74	0.5333	-0.2730	454.47	2.6575	0.9358
06:55:00	39.0	1089.73	0.6167	-0.2099	454.46	2.6575	0.8805
07:00:00	39.1	1089.77	0.7000	-0.1549	454.50	2.6575	0.8331
07:05:00	39.2	1089.78	0.7833	-0.1061	454.51	2.6575	0.7918
07:10:00	39.4	1089.79	0.8657	-0.0621	454.52	2.6576	0.7553
07:15:00	39.4	1089.76	0.9500	-0.0223	454.49	2.6575	0.7227
07:20:00	39.5	1089.79	1.0333	0.0142	454.52	2.6575	0.6933
07:25:00	39.6	1089.77	1.1167	0.0479	454.50	2.6575	0.6667
07:30:00	39.6	1089.77	1.2000	0.0792	454.50	2.6575	0.6424
07:35:00	39.7	1089.78	1.2833	0.1083	454.51	2.6575	0.6200
07:40:00	39.8	1089.79	1.3667	0.1357	454.52	2.6576	0.5994
07:45:00	39.9	1089.80	1.4500	0.1614	454.53	2.6576	0.5803
07:50:00	40.0	1089.76	1.5333	0.1856	454.49	2.6575	0.5626
07:55:00	40.0	1089.79	1.6167	0.2086	454.52	2.6576	0.5460
08:00:00	40.1	1089.80	1.7000	0.2304	454.53	2.6576	0.5305
08:05:00	40.1	1089.79	1.7833	0.2512	454.52	2.6576	0.5159
08:10:00	40.1	1089.79	1.8667	0.2711	454.52	2.6576	0.5022
08:15:00	40.2	1089.80	1.9500	0.2900	454.53	2.6576	0.4893
08:20:00	40.3	1089.81	2.0333	0.3082	454.54	2.6576	0.4771
08:25:00	40.4	1089.79	2.1167	0.3257	454.52	2.6576	0.4656
08:30:00	40.4	1089.80	2.2000	0.3424	454.53	2.6576	0.4546
08:35:00	40.4	1089.80	2.2833	0.3586	454.53	2.6576	0.4442

SDP DATA

DATA FROM SSDP # 83111

FILE 01

10-JUL-87

T0=10-JUL-87 06:19:00

PO=635.27 FT=4.0667

	SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
08:40:00	40.6	1039.81	2.3667	0.3741	454.54	2.6570	0.4343
08:45:00	40.5	1039.80	2.4500	0.3892	454.53	2.6570	0.4249
08:50:00	40.6	1039.81	2.5333	0.4037	454.54	2.6570	0.4159
08:55:00	40.7	1039.78	2.6167	0.4177	454.51	2.6570	0.4072
09:00:00	40.7	1039.79	2.7000	0.4314	454.52	2.6570	0.3990
09:05:00	40.7	1039.81	2.7833	0.4446	454.54	2.6570	0.3911
09:10:00	40.8	1039.79	2.8667	0.4574	454.52	2.6570	0.3836
09:15:00	40.8	1039.80	2.9500	0.4698	454.53	2.6570	0.3763
09:20:00	40.8	1039.80	3.0333	0.4819	454.53	2.6570	0.3693
09:25:00	40.8	1039.82	3.1167	0.4937	454.55	2.6570	0.3626
09:30:00	40.9	1039.81	3.2000	0.5051	454.54	2.6570	0.3562
09:35:00	40.9	1039.81	3.2833	0.5163	454.54	2.6570	0.3500
09:40:00	41.0	1039.82	3.3667	0.5272	454.55	2.6570	0.3440
09:45:00	41.0	1039.81	3.4500	0.5378	454.54	2.6570	0.3382
09:50:00	41.0	1039.81	3.5333	0.5482	454.54	2.6570	0.3326
09:55:00	41.1	1039.82	3.6167	0.5583	454.55	2.6570	0.3272
10:00:00	41.2	1039.81	3.7000	0.5682	454.54	2.6570	0.3220
10:05:00	41.2	1039.81	3.7833	0.5779	454.54	2.6570	0.3170
10:10:00	41.2	1039.81	3.8667	0.5873	454.54	2.6570	0.3121
10:11:00	41.3	1039.80	3.8833	0.5892	454.53	2.6570	0.3112
10:12:00	41.2	1039.81	3.9000	0.5911	454.54	2.6570	0.3102
10:13:00	41.2	1039.86	3.9167	0.5929	454.55	2.6570	0.3093

WELL TEST SDP BOTTOM HOLE RESULTS
 FLOW PERIOD 07, DRAWDOWN, 1/2" FIXED CHOKE
 BUILD UP AFTER CLEAN UP FLOW

10-JUL-87

10:14:00

OPEN PCT

SDT1 degC	SDP1 psia
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10:14:00	41.2	799.16
10:15:00	OPEN WELL ON 1/2" ADJ. CHOKE	
10:15:00	41.1	671.81
10:16:00	41.1	599.81
10:17:00	41.0	425.48
10:18:00	40.9	381.66
10:19:00	40.9	359.13
10:20:00	40.7	354.29
10:21:00	40.7	352.74
10:22:00	40.7	351.93
10:23:00	SWITCH TO 1/2" FIXED CHOKE	
10:23:00	40.6	357.28
10:24:00	40.5	357.26
10:25:00	40.3	424.55
10:26:00	40.2	442.79
10:27:00	40.1	454.55
10:28:00	40.1	452.40
10:29:00	40.0	457.51
10:30:00	39.9	471.38
10:35:00	39.5	454.31
10:40:00	39.0	433.36

10-JUL-87

SDT1	SDP1
degC	psia

10:45:00	38.6	435.68
10:50:00	38.3	434.65
10:55:00	37.9	433.15
11:00:00	37.7	432.00
11:05:00	37.4	430.37
11:10:00	37.2	429.85
11:15:00	36.9	429.24
11:20:00	36.7	430.08
11:25:00	36.6	430.28
11:30:00	36.4	430.57
11:35:00	36.2	429.84
11:40:00	36.1	429.92
11:45:00	36.1	430.12
11:50:00	36.0	430.59
11:55:00	35.8	430.64
12:00:00	35.7	430.86
12:05:00	35.6	430.86
12:10:00	35.5	430.75
12:15:00	35.5	430.58
12:20:00	35.5	430.40
12:25:00	35.4	430.42
12:30:00	35.3	430.03
12:35:00	35.3	429.62
12:40:00	35.3	429.53
12:45:00	35.2	429.45
12:50:00	35.2	429.50
12:55:00	35.0	429.21
13:00:00	35.0	429.24
13:05:00	35.0	429.38
13:10:00	35.0	429.44
13:15:00	34.9	429.09
13:20:00	34.9	423.91
13:25:00	34.9	426.77
13:30:00	34.9	429.41
13:35:00	34.9	430.50
13:40:00	34.9	430.44
13:45:00	34.8	429.97
13:50:00	34.8	429.63
13:55:00	34.8	429.65
14:00:00	34.7	423.14
14:05:00	34.8	422.43
14:10:00	34.7	423.06
14:15:00	34.7	423.31
14:15:30	34.7	423.23
14:16:00	34.7	423.21
14:16:30	34.7	426.08

WELL TEST SDP BOTTOM HOLE RESULTS
 FLOW PERIOD 08, BUILD UP AFTER FLOW PERIOD 07
 BUILD UP AFTER CLEAN UP FLOW

10-JUL-87

14:17:00 SHUT IN WELL AT PCT

T0=10-JUL-87 14:16:30 P0=423.03 FT=4.05

	SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(CORN)
14:17:00	34.6	912.53	0.0083	-2.0792	439.45	2.5891	2.6875
14:17:30	34.7	1086.11	0.0167	-1.7782	553.03	2.8217	2.3874
14:18:00	34.8	1089.06	0.0250	-1.5021	555.98	2.9234	2.2122
14:18:30	34.8	1089.51	0.0333	-1.4771	556.43	2.9234	2.0881
14:19:00	34.8	1089.68	0.0417	-1.3802	556.60	2.8234	1.9921
14:19:30	34.8	1089.72	0.0500	-1.3010	556.64	2.8234	1.9138
14:20:00	34.9	1089.74	0.0583	-1.2341	556.66	2.8234	1.8477
14:20:30	34.9	1089.72	0.0667	-1.1761	556.64	2.8234	1.7906
14:21:00	34.9	1089.73	0.0750	-1.1249	556.65	2.8234	1.7404
14:21:30	34.9	1089.72	0.0833	-1.0792	556.64	2.8234	1.6955
14:22:00	35.0	1089.71	0.0917	-1.0378	556.63	2.8234	1.6558
14:22:30	35.0	1089.69	0.1000	-1.0000	556.61	2.8234	1.6188
14:23:00	35.1	1089.67	0.1083	-0.9652	556.59	2.8234	1.5842
14:23:30	35.1	1089.65	0.1167	-0.9331	556.57	2.8234	1.5528
14:24:00	35.2	1089.63	0.1250	-0.9031	556.55	2.8234	1.5237
14:24:30	35.2	1089.63	0.1333	-0.8751	556.55	2.8234	1.4965
14:25:00	35.3	1089.62	0.1417	-0.8487	556.54	2.8234	1.4711
14:30:00	35.6	1089.58	0.2250	-0.6478	556.50	2.8234	1.2788
14:35:00	35.9	1089.55	0.3083	-0.5110	556.47	2.8234	1.1503
14:40:00	36.2	1089.55	0.3917	-0.4071	556.47	2.8234	1.0546
14:45:00	36.4	1089.56	0.4750	-0.3233	556.48	2.8234	0.9789
14:50:00	36.7	1089.53	0.5583	-0.2531	556.45	2.8234	0.9167
14:55:00	36.8	1089.55	0.6417	-0.1927	556.47	2.8234	0.8648
15:00:00	37.0	1089.53	0.7250	-0.1397	556.45	2.8234	0.8186
15:05:00	37.2	1089.53	0.8083	-0.0924	556.45	2.8234	0.7789
15:10:00	37.3	1089.53	0.8917	-0.0498	556.45	2.8234	0.7437
15:15:00	37.5	1089.53	0.9750	-0.0110	556.45	2.8234	0.7121
15:20:00	37.6	1089.52	1.0583	0.0246	556.44	2.8234	0.6837
15:25:00	37.8	1089.52	1.1417	0.0575	556.44	2.8234	0.6578
15:30:00	37.9	1089.53	1.2250	0.0881	556.45	2.8234	0.6341
15:35:00	37.9	1089.55	1.3083	0.1167	556.47	2.8234	0.6123
15:40:00	38.2	1089.53	1.3917	0.1435	556.45	2.8234	0.5922
15:45:00	38.3	1089.53	1.4750	0.1688	556.45	2.8234	0.5735
15:50:00	38.3	1089.55	1.5583	0.1927	556.47	2.8234	0.5562
15:55:00	38.5	1089.54	1.6417	0.2153	556.46	2.8234	0.5408
16:00:00	38.5	1089.56	1.7250	0.2368	556.48	2.8234	0.5248
16:05:00	38.7	1089.56	1.8083	0.2573	556.48	2.8234	0.5105
16:10:00	38.8	1089.55	1.8917	0.2768	556.47	2.8234	0.4971
16:15:00	38.8	1089.58	1.9750	0.2956	556.50	2.8234	0.4844
16:20:00	39.0	1089.57	2.0583	0.3135	556.49	2.8234	0.4724
16:25:00	39.0	1089.57	2.1417	0.3308	556.49	2.8234	0.4611
16:30:00	39.0	1089.57	2.2250	0.3473	556.49	2.8234	0.4503
16:35:00	39.1	1089.58	2.3083	0.3633	556.50	2.8234	0.4408
16:40:00	39.2	1089.59	2.3917	0.3787	556.51	2.8234	0.4303
16:45:00	39.3	1089.60	2.4750	0.3936	556.52	2.8234	0.4210
16:50:00	39.4	1089.58	2.5583	0.4080	556.50	2.8234	0.4121
16:55:00	39.5	1089.59	2.6417	0.4219	556.51	2.8234	0.4037
17:00:00	39.5	1089.60	2.7250	0.4354	556.52	2.8234	0.3955
17:05:00	39.5	1089.61	2.8083	0.4484	556.53	2.8234	0.3878
17:10:00	39.6	1089.60	2.8917	0.4611	556.52	2.8234	0.3803

10-JUL-87

T0=10-JUL-87 14:16:30

P0=423.08 FT=4.05

	SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
17:15:00	39.6	1089.62	2.9750	0.4735	666.54	2.8230	0.3732
17:20:00	39.7	1089.63	3.0583	0.4855	666.55	2.8230	0.3663
17:25:00	39.7	1089.64	3.1417	0.4972	666.56	2.8230	0.3597
17:30:00	39.9	1089.63	3.2250	0.5085	666.55	2.8230	0.3533
17:35:00	39.9	1089.64	3.3083	0.5196	666.56	2.8230	0.3472
17:40:00	40.0	1089.64	3.3917	0.5304	666.56	2.8230	0.3413
17:45:00	40.0	1089.65	3.4750	0.5410	666.57	2.8230	0.3355
17:50:00	40.1	1089.66	3.5583	0.5512	666.58	2.8230	0.3300
17:55:00	40.1	1089.67	3.6417	0.5613	666.59	2.8230	0.3247
18:00:00	40.1	1089.67	3.7250	0.5711	666.59	2.8230	0.3195
18:05:00	40.2	1089.68	3.8083	0.5807	666.60	2.8230	0.3145
18:10:00	40.2	1089.68	3.8917	0.5901	666.60	2.8230	0.3093
18:10:30	40.2	1089.68	3.9000	0.5911	666.60	2.8230	0.3093
18:11:00	40.2	1089.68	3.9083	0.5920	666.60	2.8230	0.3088
18:11:30	40.2	1089.68	3.9167	0.5929	666.60	2.8230	0.3084
18:12:00	40.2	1089.68	3.9250	0.5938	666.60	2.8230	0.3079
18:12:30	40.2	1089.68	3.9333	0.5948	666.60	2.8230	0.3074
18:13:00	40.2	1089.69	3.9417	0.5957	666.61	2.8230	0.3070
18:13:30	40.2	1089.69	3.9500	0.5966	666.61	2.8230	0.3065

WELL TEST SDP BOTTOM HOLE RESULTS
 FLOW PERIOD 09, DRAWDOWN, 5/8" FIXED CHOKE
 BUILD UP AFTER CLEAN UP FLOW

10-JUL-87

18:14:00

OPEN PCT

	SDT1 degC	SDP1 psia
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18:14:00	40.2	880.86
18:14:30	40.3	496.38
18:15:00	OPEN WELL ON 5/8" FIXED CHOKE	
18:15:00	40.1	563.74
18:15:30	40.2	588.39
18:16:00	40.1	480.57
18:16:30	40.1	407.74
18:17:00	40.1	360.13
18:17:30	40.1	328.96
18:18:00	40.0	309.19
18:18:30	40.0	296.02
18:19:00	39.9	287.29
18:19:30	40.0	281.37
18:20:00	39.9	277.09
18:25:00	39.5	273.83
18:30:00	38.8	261.53
18:35:00	38.1	261.75
18:40:00	37.5	263.89
18:45:00	36.9	260.40
18:50:00	36.3	259.62
18:55:00	35.8	257.58
19:00:00	35.4	255.19
19:05:00	35.0	254.25
19:10:00	34.7	254.94



10-JUL-87

SDT1	SDP1
degC	psia

19:15:00	34.4	255.25
19:20:00	34.1	254.74
19:25:00	33.9	254.52
19:30:00	33.7	254.29
19:35:00	33.5	253.23
19:40:00	33.2	252.15
19:45:00	33.2	252.04
19:50:00	32.9	251.84
19:55:00	32.8	251.69
20:00:00	32.7	252.02
20:05:00	32.6	251.95
20:10:00	32.5	252.11
20:15:00	32.4	252.15
20:20:00	32.2	252.49
20:25:00	32.2	252.62
20:30:00	32.1	252.55
20:35:00	32.0	252.37
20:40:00	32.0	252.51
20:45:00	31.9	252.29
20:50:00	31.9	252.33
20:55:00	31.8	252.75
21:00:00	31.7	252.57
21:05:00	31.7	252.48
21:10:00	31.6	252.23
21:15:00	31.6	252.23
21:20:00	31.6	252.44
21:25:00	31.4	251.98
21:30:00	31.4	252.42
21:35:00	31.4	252.65
21:40:00	31.4	252.26
21:45:00	31.4	251.99
21:50:00	31.4	251.65
21:55:00	31.3	252.44
22:00:00	31.3	252.65
22:05:00	31.3	252.99
22:10:00	31.2	252.20
22:10:30	31.2	252.26
22:11:00	31.2	252.20
22:11:30	31.3	252.10
22:12:00	31.3	252.02
22:12:30	31.2	251.98
22:13:00	31.2	251.95
22:13:30	31.2	251.65
22:14:00	31.2	251.71
22:14:30	31.2	251.69
22:15:00	31.2	251.62
22:15:30	31.2	251.55

WELL TEST SDP BOTTOM HOLE RESULTS
FLOW PERIOD 10, BUILD UP AFTER FLOW PERIOD 09
FINAL BUILD UP SHUT IN AT SURFACE

10-JUL-87
22:16:00 SHUT IN WELL AT CHOKE MANIFOLD
TO=10-JUL-87 22:15:30 P0=251.56 FT=4.0168

	SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L (HORN)
22:16:00	31.2	285.39	0.0000	-2.0792	33.83	1.5294	2.5840
22:16:30	31.2	366.73	0.0167	-1.7792	115.17	2.0614	2.3838
22:17:00	31.2	446.13	0.0335	-1.6821	194.57	2.2891	2.2086
22:17:30	31.2	522.53	0.0503	-1.4771	270.97	2.4327	2.0846
22:18:00	31.2	595.41	0.0671	-1.3802	343.85	2.5364	1.9886
22:18:30	31.3	664.41	0.0838	-1.3012	412.85	2.6150	1.9103
22:19:00	31.2	728.99	0.0993	-1.2341	477.43	2.6789	1.8442
22:19:30	31.3	788.78	0.0667	-1.1751	537.22	2.7302	1.7871
22:20:00	31.3	843.46	0.0750	-1.1249	591.90	2.7723	1.7369
22:20:30	31.3	892.70	0.0833	-1.0792	641.14	2.8070	1.6920
22:21:00	31.4	936.35	0.0917	-1.0375	684.79	2.8356	1.6515
22:21:30	31.4	974.42	0.1000	-1.0000	722.86	2.8591	1.6146
22:22:00	31.4	1005.90	0.1083	-0.9652	755.24	2.8781	1.5807
22:22:30	31.4	1033.49	0.1167	-0.9331	781.93	2.8931	1.5494
22:23:00	31.5	1054.39	0.1250	-0.9031	802.83	2.9046	1.5203
22:23:30	31.5	1069.82	0.1333	-0.8751	818.28	2.9127	1.4931
22:24:00	31.6	1080.82	0.1417	-0.8487	828.46	2.9180	1.4677
22:24:30	31.6	1085.68	0.1500	-0.8239	834.12	2.9213	1.4437
22:25:00	31.7	1087.95	0.1583	-0.8004	836.39	2.9224	1.4211
22:25:30	31.7	1088.67	0.1667	-0.7782	837.11	2.9229	1.3997
22:26:00	31.8	1088.96	0.1750	-0.7573	837.40	2.9227	1.3794
22:26:30	31.8	1089.13	0.1833	-0.7368	837.57	2.9230	1.3600
22:27:00	31.9	1089.23	0.1917	-0.7175	837.67	2.9231	1.3416
22:27:30	31.9	1089.26	0.2000	-0.6993	837.70	2.9231	1.3240
22:28:00	32.0	1089.31	0.2083	-0.6812	837.75	2.9231	1.3071
22:28:30	32.0	1089.40	0.2167	-0.6642	837.84	2.9231	1.2909
22:29:00	32.0	1089.43	0.2250	-0.6479	837.87	2.9231	1.2754
22:29:30	32.1	1089.45	0.2333	-0.6323	837.89	2.9231	1.2604
22:30:00	32.1	1089.45	0.2417	-0.6163	837.89	2.9231	1.2460
22:35:00	32.6	1089.47	0.3250	-0.4881	837.91	2.9231	1.1258
22:40:00	32.9	1089.51	0.4083	-0.3890	837.95	2.9231	1.0349

FLOPETROL JOHNSTON

Schlumberger

DOWN HOLE PRESSURE & TEMPERATURE SURVEY

company : LASMO ENERGY AUSTRALIA LTD
field/well/zone : PATRICIA # 1 / DST # 2
country : AUSTRALIA
test date : 10 / 12-JUL-87
report nbr. : ELS 100787120787
region/distr/base : SEA / ANZ / YEF

Co representative : P. DOLAN
FJS representative : G. WILLIAM:

Seal

DATA FROM SSDP # 83111

ELS 02

GENERAL INFORMATION

1.1 service/client ref.: DOWN HOLE PRESSURE & TEMPERATURE SURVEY
 1.2 company : LASMO ENERGY AUSTRALIA LTD
 1.3 field/well/zone : PATRICIA # 1 / DST # 2
 1.4 country : AUSTRALIA
 1.5 state : VICTORIA
 1.7 test type : DST

OPERATION DATA

2.1 test date : 10 / 12-JUL-87
 2.2 report nbr. : ELS 100787120787
 2.3 region/distr/base : SEA / ANZ / VEF
 2.4 Co representative : P. DOLAN
 2.5 FJS representative : G. WILLIAMS
 2.6 unit system : OIL FIELD

WELL DATA

3.1 state before test : CLOSED SINCE DST # 1
 3.2 well type : APPRAISAL
 3.3 fluid type : GAS
 3.13 perf. shot density : 12 SHOTS PER FOOT
 3.14 perf. gun type : 5" TUBING CONVEYED
 3.15 perf. conditions : UNDERBALANCED
 3.16 perf. interval(s) : 719.04 - 728 mts.
 3.18 static W.H.P. : 435 psig ON 1" FIXED CHOKE

FORMATION DATA

4.7 B.H.P & B.H.T : 571.6 psia & 38.1 degC ON 1" FIXED CHOKE
 4.9 gas gravity : .573 S.G.

DEPTH INFORMATION

5.1 depth unit : METRES
 5.2 depth reference : RKB
 6.8 gauge M.P. set at : 705.64 mts.

DOWNHOLE EQUIPMENT

7.2 gauge : SSDP # 83111
 7.3 recorder : SSDP # 83102

SEQUENCE OF EVENTS

11-JUL-87
 18:10:00 OPEN PCT
 18:11:00 FIRE TCP GUNS
 18:15:00 OPEN WELL ON 1/2" ADJ. CHOKE
 18:17:00 OPEN BYPASS ON CHOKE MANIFOLD
 18:20:00 SHUT IN WELL AT PCT
 18:51:30 OPEN PCT
 18:52:00 OPEN WELL ON 1" ADJ. CHOKE
 18:57:00 SWITCH TO 1" FIXED CHOKE
 22:54:00 SHUT IN WELL AT PCT
 12-JUL-87
 03:36:00 OPEN PCT
 03:43:00 OPEN WELL ON 5/8" FIXED CHOKE
 07:37:30 SHUT IN WELL AT PCT
 11:39:00 OPEN PCT
 11:43:00 OPEN WELL ON 1 1/4" ADJ. CHOKE
 11:45:00 SWITCH TO 1 1/4" FIXED CHOKE
 13:16:00 BEAN DOWN TO 1" ADJ. CHOKE
 13:20:00 SWITCH TO 1" FIXED CHOKE
 14:31:30 SHUT IN WELL AT CHOKE MANIFOLD
 14:48:00 BEGIN TO KILL WELL

83111

SUMMARY OF RESULTS

PERFORATION INTERVAL: 719.04 - 728 mts.

FLOW PERIOD NUMBER AND TYPE	DURATION	FINAL BOTTOM HOLE PRESSURE	FINAL WELL HEAD PRESSURE	AVERAGE OIL FLOW RATE	AVERAGE GAS FLOW RATE	AVERAGE GAS-OIL RATIO
	MINS	PSIA	PSIG	BOPD	MMSCFD	MMSCF/39L
1 DRAWDOWN	5	421	225	0	-	-
2 BUILD UP	31	1079	400	0	0	-
3 DRAWDOWN	242	671	435	0	8.30	-
4 BUILD UP	291	1089	-	0	0	-
5 DRAWDOWN	241	895	575	0	5.20	-
6 BUILD UP	242	1089	380	0	0	-
7 DRAWDOWN	97	811	164	0	6.20	-
8 DRAWDOWN	75	833	282	0	6.12	-
9 BUILD UP	17	1075	1000	0	0	-

INITIAL BOTTOM HOLE PRESSURE: 1068.61 psia
 MAXIMUM BOTTOM HOLE TEMPERATURE: 41.2 degC
 TYPE AND DEPTH OF BOTTOM HOLE GAUGE: SSDP
 DID THE WELL FLOW SIGNIFICANT QUANTITIES OF WATER: NO
 OIL SPECIFIC GRAVITY: N/A
 GAS SPECIFIC GRAVITY: .575
 GAS H2S CONTENT: 0 ppm
 GAS CO2 CONTENT: 1.5 %

WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
HISTORY PLOT OF DST # 2

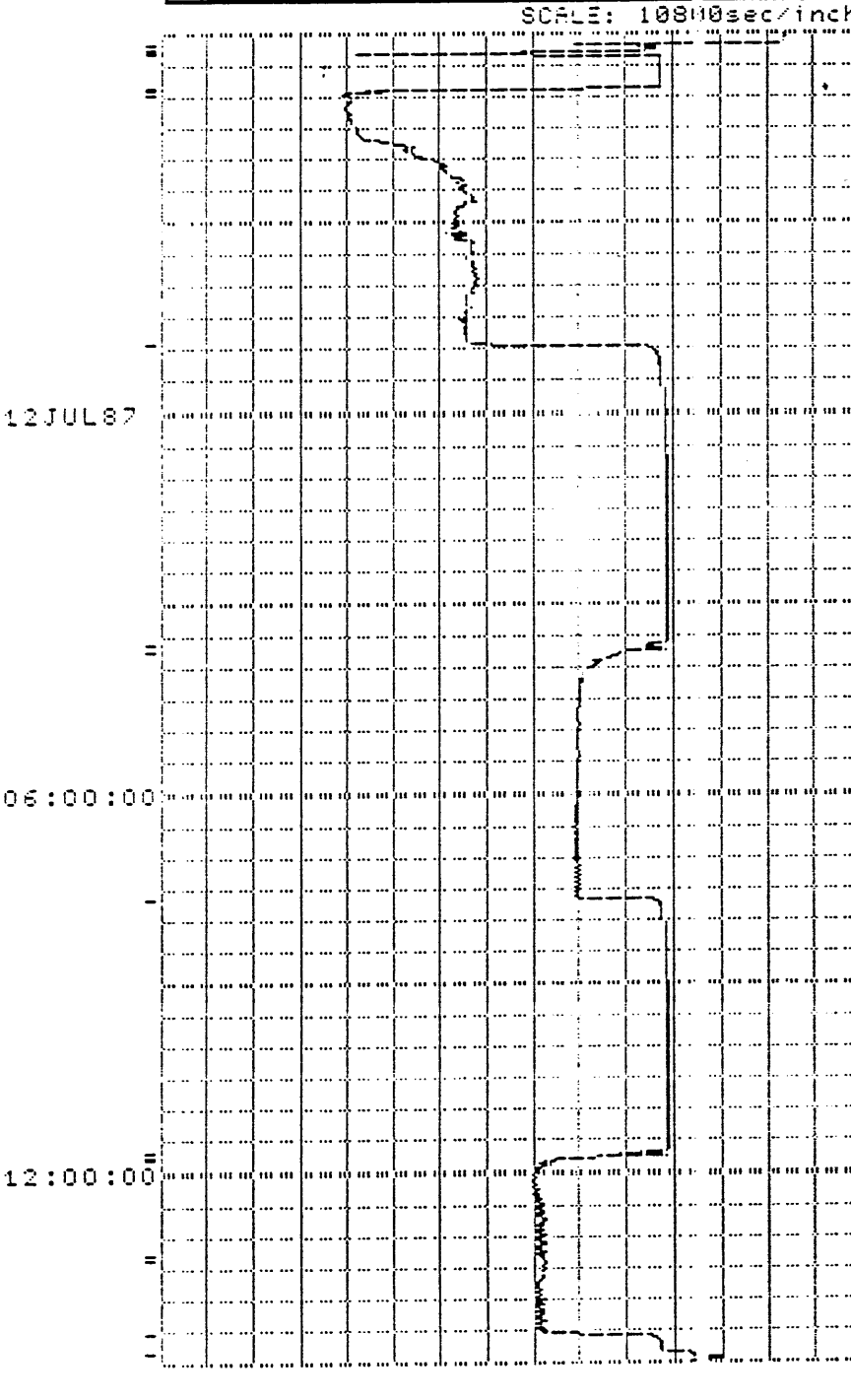
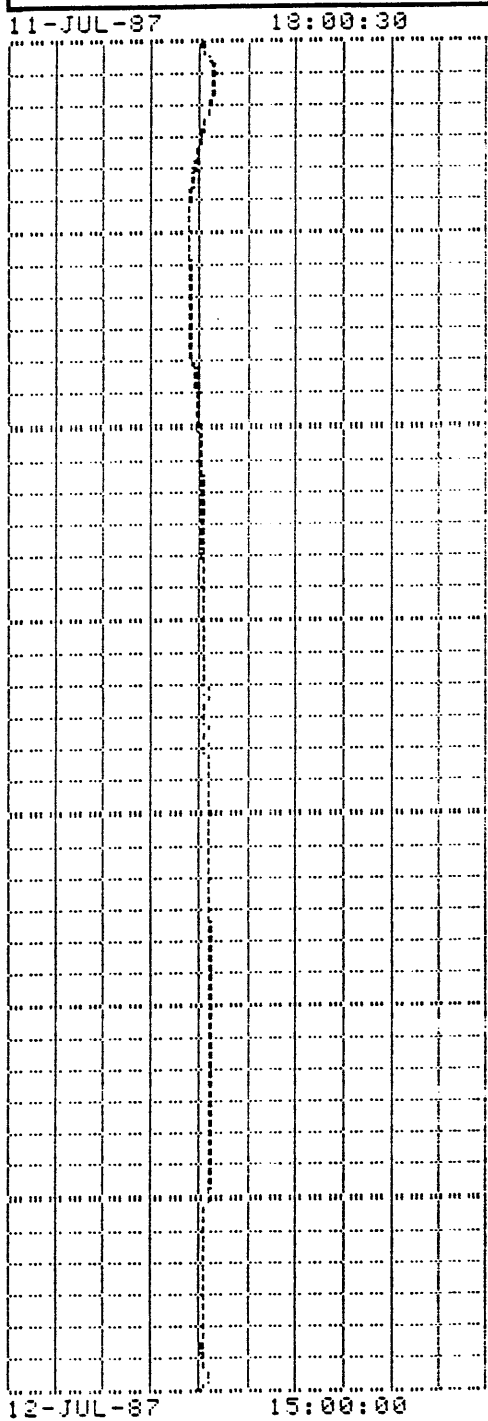
VERSUS TIME PLOT

SDT1 (degC)	
0	100

40.74	

SDP1 (psia)	
3	1500

1338.5	



WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
INITIAL & CLEAN UP FLOW PERIODS

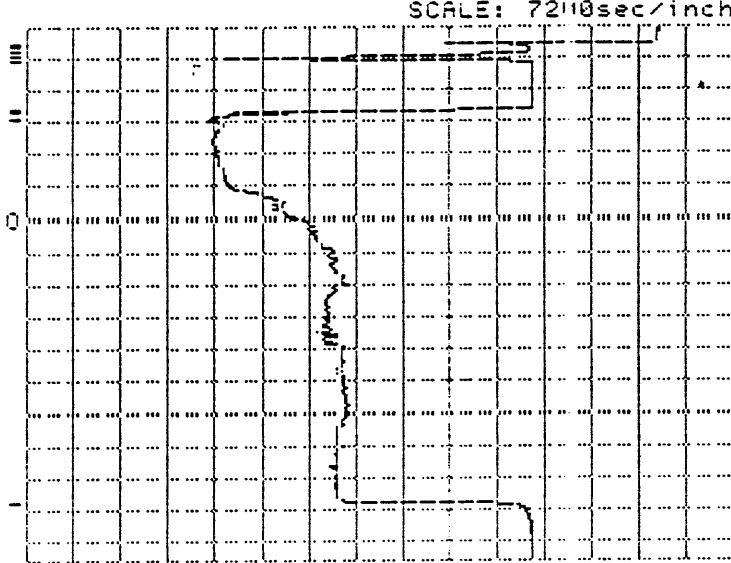
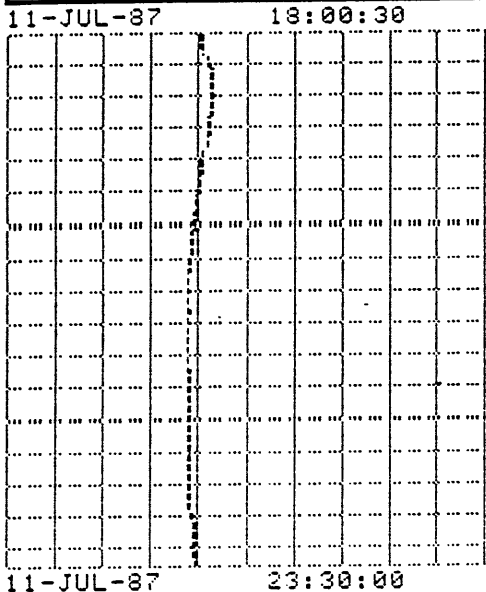
VERSUS TIME PLOT

SDT1 (degC)	
0	100

40.74	

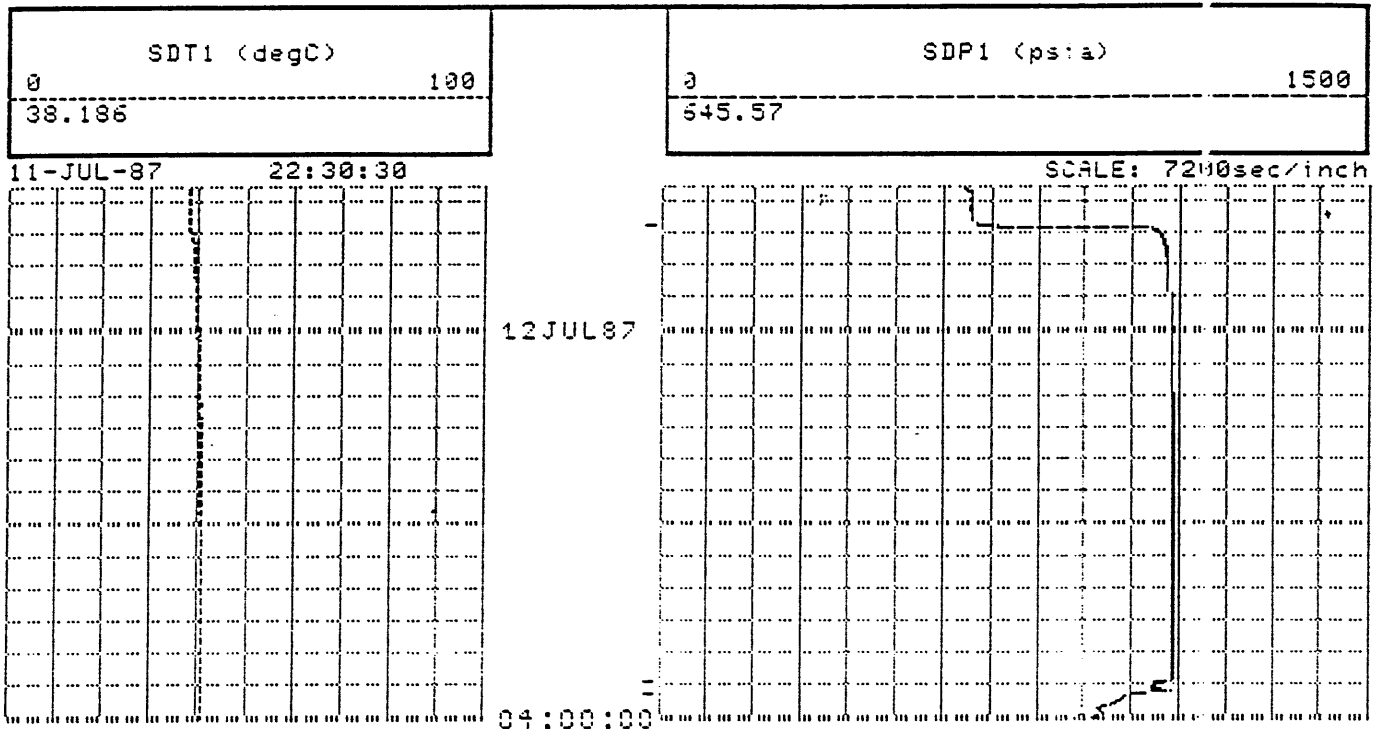
SDP1 (psia)	
0	1500

1338.5	



WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
FLOW PERIOD 04 BUILD UP
CLEAN UP BUILD UP

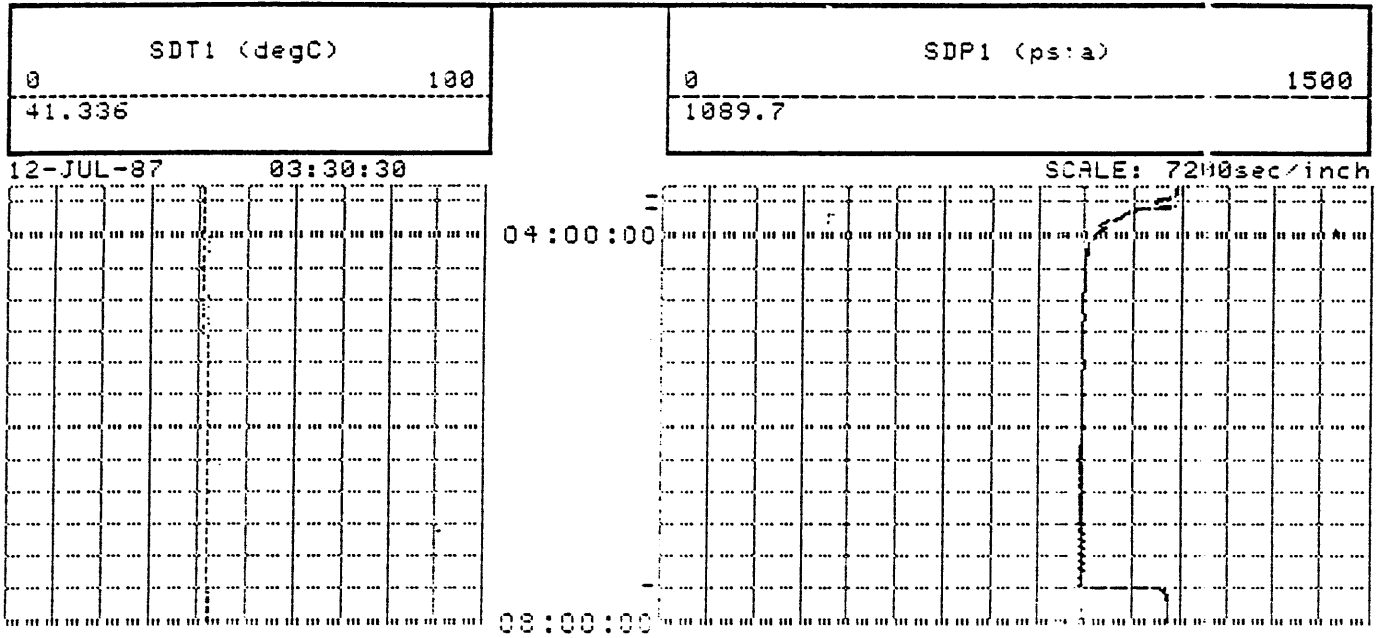
VERSUS TIME PLOT





WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
FLOW PERIOD 05 DRAWDOWN

VERSUS TIME PLOT





WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
FLOW PERIOD 06 BUILD UP

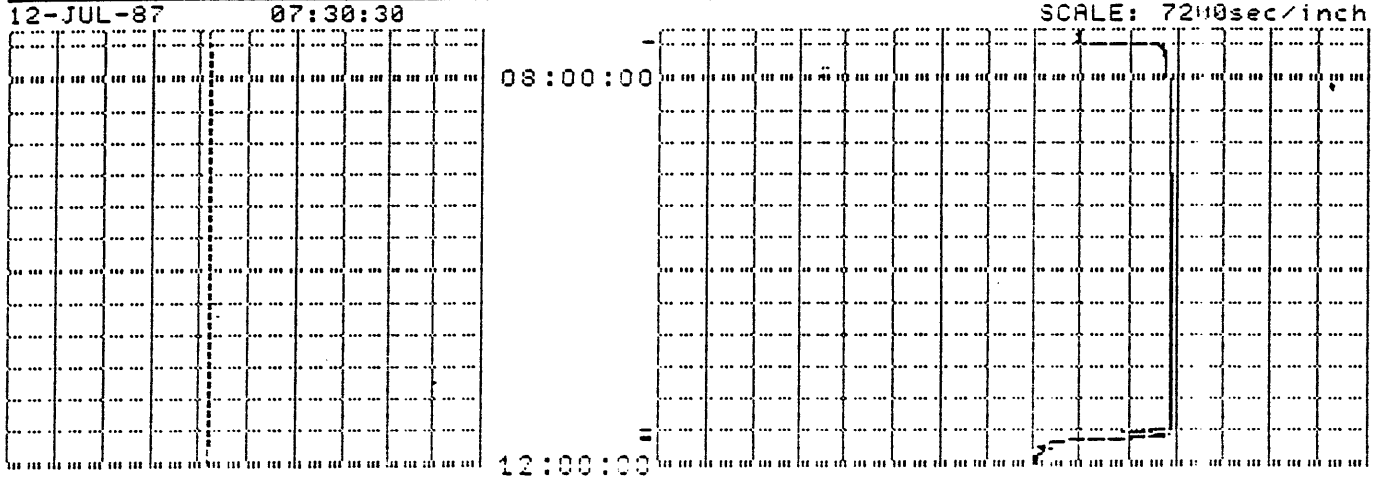
VERSUS TIME PLOT

SDT1 (degC)	
0	100

41.676	

SDP1 (psia)	
0	1500

894.08	





WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
FLOW PERIOD 07 DRAWDOWN
FINAL FLOW PERIOD

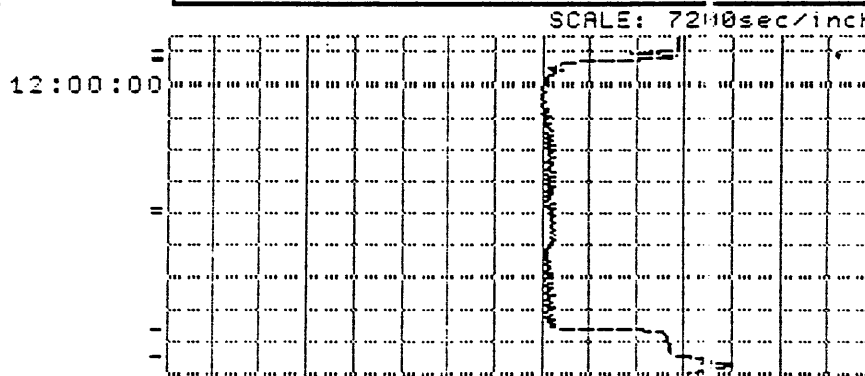
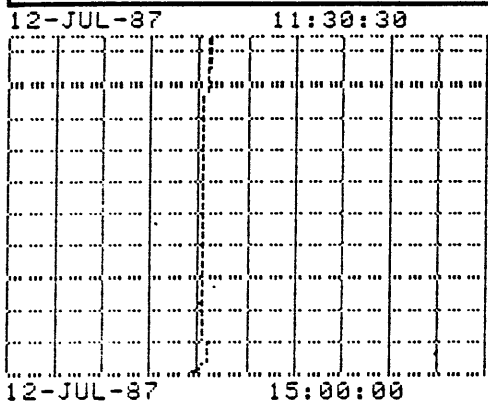
VERSUS TIME PLOT

SDT1 (degC)	
0	100

42.355	

SDP1 (psia)	
0	1500

1089	



WELL TEST SDP BOTTOM HOLE RESULTS
 FLOW PERIOD 01, DRAWDOWN, 1/2" ADJUSTABLE CHOKE
 INITIAL FLOW PERIOD

11-JUL-87

SDT1 degC	SDP: psia
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18:00:00	40.7	1338.84
18:01:00	40.7	1338.89
18:02:00	40.7	1337.40
18:03:00	40.8	1336.72
18:04:00	40.7	1336.08
18:05:00	40.8	1335.43
18:06:00	40.8	1334.83
18:07:00	40.7	1334.25
18:08:00	40.7	1333.70
18:09:00	40.7	1333.16
18:10:00	OPEN PCT	
18:10:00	40.8	963.25
18:11:00	FIRE TCP GUNS	
18:11:00	40.9	1033.87
18:12:00	41.0	1062.85
18:13:00	41.2	1068.61
18:14:00	41.3	1065.42
18:15:00	OPEN WELL ON : 2" ADJ. CHOKE	
18:15:00	41.5	1066.25
18:16:00	41.7	977.62
18:17:00	OPEN BYPASS ON CHOKE MANIFOLD	
18:17:00	41.8	892.48
18:18:00	41.9	680.00
18:19:00	42.2	421.98

WELL TEST SDP BOTTOM HOLE RESULTS
 FLOW PERIOD 02, BUILD UP AFTER FLOW PERIOD 01
 INITIAL BUILD UP

11-JUL-87

18:20:00 SHUT IN WELL AT PCT
 T0=11-JUL-87 18:19:00 P0=421.98 FT=8.33E-2

SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
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18:20:00	42.3	796.99	0.0167	-1.7782	375.01	2.5740	0.7780
18:25:00	42.8	1078.39	0.1000	-1.0000	656.41	2.8170	0.2632
18:30:00	43.0	1078.95	0.1833	-0.7368	656.97	2.8170	0.1627
18:35:00	42.9	1079.20	0.2667	-0.5740	657.22	2.8170	0.1181
18:40:00	42.8	1079.26	0.3500	-0.4559	657.28	2.8170	0.0927
18:41:00	42.7	1079.27	0.3667	-0.4357	657.29	2.8170	0.0889
18:42:00	42.8	1079.29	0.3833	-0.4164	657.31	2.8170	0.0854
18:43:00	42.8	1079.29	0.4000	-0.3979	657.31	2.8170	0.0822
18:44:00	42.7	1079.30	0.4167	-0.3802	657.32	2.8170	0.0792
18:45:00	42.7	1079.33	0.4333	-0.3632	657.35	2.8170	0.0764
18:46:00	42.6	1079.36	0.4500	-0.3468	657.39	2.8170	0.0738
18:47:00	42.7	1079.34	0.4667	-0.3310	657.36	2.8170	0.0713
18:48:00	42.6	1079.30	0.4833	-0.3158	657.32	2.8170	0.0691
18:49:00	42.5	1079.34	0.5000	-0.3010	657.36	2.8170	0.0669
18:50:00	42.5	1079.32	0.5167	-0.2868	657.34	2.8170	0.0649
18:51:00	42.6	1079.35	0.5333	-0.2730	657.37	2.8170	0.0630



WELL TEST SDP BOTTOM HOLE RESULTS
FLOW PERIOD .03, DRAWDOWN, 1" FIXED CHOKE
CLEAN UP FLOW

11-JUL-87
18:51:30
18:52:00

OPEN PCT
OPEN WELL ON 1" ADJ. CHOKE

SDT1	SDP1
degC	psia

18:52:00	42.5	442.07
18:53:00	42.4	558.45
18:54:00	42.4	481.77
18:55:00	42.4	395.50
18:56:00	42.3	394.50
18:57:00	SWITCH TO 1" FIXED CHOKE	
18:57:00	42.4	393.94
18:58:00	42.3	392.20
18:59:00	42.3	404.03
19:00:00	42.1	409.34
19:01:00	42.2	417.01
19:02:00	42.0	414.15
19:03:00	42.0	411.41
19:04:00	41.9	409.55
19:05:00	41.8	409.33
19:06:00	41.8	403.29
19:07:00	41.7	401.30
19:08:00	41.7	398.85
19:09:00	41.6	395.90
19:10:00	41.5	397.29
19:11:00	41.5	395.79
19:12:00	41.4	397.45
19:13:00	41.3	395.39
19:14:00	41.3	395.69
19:15:00	41.2	402.98
19:16:00	41.1	403.67
19:17:00	41.0	403.76
19:18:00	41.0	402.82
19:19:00	40.9	404.94
19:20:00	40.8	407.13
19:21:00	40.7	406.64
19:22:00	40.7	411.42
19:23:00	40.7	412.00
19:24:00	40.6	411.55
19:25:00	40.6	411.61
19:26:00	40.5	411.40
19:27:00	40.4	415.16
19:28:00	40.3	417.80
19:29:00	40.3	414.44
19:30:00	40.3	415.53
19:32:00	40.2	420.33
19:34:00	40.1	421.77
19:36:00	40.0	425.23
19:38:00	40.0	425.89
19:40:00	39.8	443.12
19:42:00	39.7	482.01
19:44:00	39.7	498.57
19:46:00	39.6	523.50
19:48:00	39.5	542.91
19:50:00	39.5	534.75



11-JUL-87

SDT1 degC	SDP1 psia
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19:52:00	39.3	529.14
19:54:00	39.3	543.81
19:56:00	39.1	553.65
19:58:00	39.0	559.74
20:00:00	39.0	593.51
20:02:00	38.9	598.37
20:04:00	38.9	597.97
20:06:00	38.8	611.22
20:08:00	38.8	606.05
20:10:00	38.7	619.97
20:12:00	38.7	619.23
20:14:00	38.7	622.50
20:16:00	38.5	625.85
20:18:00	38.4	645.52
20:20:00	38.2	647.11
20:22:00	38.0	641.24
20:24:00	38.0	635.53
20:26:00	37.9	645.17
20:28:00	37.8	647.60
20:30:00	37.8	655.03
20:35:00	37.7	671.23
20:40:00	37.7	657.20
20:45:00	37.8	642.83
20:50:00	37.8	636.56
20:55:00	37.8	633.19
21:00:00	37.7	630.47
21:05:00	37.6	639.96
21:10:00	37.7	662.15
21:15:00	37.7	647.57
21:20:00	37.7	667.09
21:25:00	37.8	667.35
21:30:00	37.8	665.19
21:35:00	37.9	666.08
21:40:00	38.0	672.14
21:45:00	38.0	674.20
21:50:00	38.1	677.87
21:55:00	38.2	676.09
22:00:00	38.2	678.80
22:05:00	38.2	679.39
22:10:00	38.2	662.24
22:15:00	38.2	661.14
22:20:00	38.1	662.81
22:25:00	38.1	661.63
22:30:00	38.1	659.26
22:35:00	38.1	660.72
22:40:00	38.1	658.93
22:45:00	38.1	657.59
22:50:00	38.1	661.72
22:50:30	38.1	662.09
22:51:00	38.1	662.36
22:51:30	38.1	663.07
22:52:00	38.1	665.21
22:52:30	38.1	665.76
22:53:00	38.1	669.28
22:53:30	38.1	671.58

Scale 0.001

DATA FROM SSDP # 33111

CLS 02

WELL TEST SDP BOTTOM HOLE RESULTS
FLOW PERIOD 04, BUILD UP AFTER FLOW PERIOD 03
CLEAN UP BUILD UP

11-JUL-97
22:54:00 SHUT IN WELL AT PCT
T0=11-JUL-97 22:53:30 P0=671.58 FT=4.0333

	SDT1 degC	SDP1 psia	T-T0 hr	LT-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
22:54:00	38.1	706.85	0.0083	-2.0792	35.27	1.5474	2.6857
22:54:30	38.1	1002.60	0.0167	-1.7782	331.02	2.5191	2.3856
22:55:00	38.1	1032.20	0.0250	-1.5021	350.62	2.5570	2.2104
22:55:30	38.2	1042.03	0.0333	-1.4771	370.45	2.5587	2.0864
22:56:00	38.2	1047.61	0.0417	-1.3802	375.03	2.5752	1.9903
22:56:30	38.3	1051.35	0.0500	-1.3010	379.77	2.5790	1.9120
22:57:00	38.3	1054.13	0.0583	-1.2341	382.55	2.5827	1.8460
22:57:30	38.4	1056.24	0.0667	-1.1761	384.66	2.5858	1.7889
22:58:00	38.4	1057.96	0.0750	-1.1249	386.38	2.5870	1.7386
22:58:30	38.4	1059.36	0.0833	-1.0792	387.78	2.5880	1.6937
22:59:00	38.5	1060.49	0.0917	-1.0378	388.91	2.5890	1.6532
22:59:30	38.5	1061.49	0.1000	-1.0000	389.91	2.5910	1.6163
23:00:00	38.6	1062.45	0.1083	-0.9652	390.87	2.5920	1.5824
23:00:30	38.6	1063.37	0.1167	-0.9331	391.79	2.5930	1.5511
23:01:00	38.7	1064.22	0.1250	-0.9031	392.64	2.5940	1.5220
23:01:30	38.7	1065.02	0.1333	-0.8751	393.44	2.5949	1.4948
23:02:00	38.8	1065.75	0.1417	-0.8487	394.17	2.5957	1.4694
23:02:30	38.8	1066.42	0.1500	-0.8239	394.84	2.5964	1.4454
23:03:00	38.8	1067.13	0.1583	-0.8004	395.55	2.5972	1.4228
23:03:30	38.9	1067.72	0.1667	-0.7782	396.14	2.5978	1.4014
23:04:00	38.9	1068.30	0.1750	-0.7570	396.72	2.5985	1.3811
23:04:30	38.9	1068.84	0.1833	-0.7368	397.26	2.5991	1.3617
23:05:00	38.9	1069.33	0.1917	-0.7175	397.75	2.5996	1.3433
23:05:30	38.9	1069.80	0.2000	-0.6990	398.22	2.6001	1.3256
23:06:00	39.0	1070.26	0.2083	-0.6812	398.68	2.6006	1.3089
23:06:30	39.0	1070.69	0.2167	-0.6642	399.11	2.6011	1.2926
23:07:00	39.0	1071.09	0.2250	-0.6478	399.51	2.6016	1.2771
23:07:30	39.0	1071.47	0.2333	-0.6320	399.89	2.6020	1.2621
23:08:00	39.0	1071.84	0.2417	-0.6168	400.26	2.6024	1.2477
23:08:30	39.0	1072.18	0.2500	-0.6021	400.60	2.6027	1.2338
23:09:00	39.0	1072.51	0.2583	-0.5878	400.93	2.6030	1.2204
23:09:30	39.0	1072.81	0.2667	-0.5740	401.23	2.6033	1.2075
23:10:00	39.0	1073.12	0.2750	-0.5607	401.54	2.6037	1.1950
23:10:30	39.0	1073.41	0.2833	-0.5477	401.83	2.6040	1.1829
23:11:00	39.0	1073.70	0.2917	-0.5351	402.12	2.6044	1.1711
23:11:30	39.0	1073.96	0.3000	-0.5229	402.38	2.6046	1.1597
23:12:00	39.1	1074.22	0.3083	-0.5110	402.64	2.6049	1.1486
23:12:30	39.1	1074.46	0.3167	-0.4994	402.88	2.6051	1.1379
23:13:00	39.1	1074.71	0.3250	-0.4881	403.13	2.6054	1.1274
23:13:30	39.1	1074.94	0.3333	-0.4771	403.36	2.6057	1.1173
23:14:00	39.1	1075.15	0.3417	-0.4664	403.57	2.6059	1.1074
23:14:30	39.1	1075.39	0.3500	-0.4559	403.80	2.6061	1.0977
23:15:00	39.1	1075.58	0.3583	-0.4457	404.00	2.6064	1.0883
23:15:30	39.2	1075.78	0.3667	-0.4357	404.20	2.6067	1.0792
23:16:00	39.1	1075.97	0.3750	-0.4260	404.39	2.6069	1.0702
23:16:30	39.1	1076.15	0.3833	-0.4164	404.57	2.6071	1.0615
23:17:00	39.1	1076.34	0.3917	-0.4071	404.76	2.6073	1.0530
23:17:30	39.1	1076.52	0.4000	-0.3979	404.94	2.6074	1.0447
23:18:00	39.2	1076.70	0.4083	-0.3890	405.12	2.6076	1.0365
23:18:30	39.2	1076.85	0.4167	-0.3802	405.27	2.6077	1.0285

11-JUL-97
 T0=11-JUL-87 22:53:30 P0=671.58 FT=4.0333

	SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
23:19:00	39.2	1077.02	0.4250	-0.3716	405.44	2.5079	1.0208
23:19:30	39.2	1077.19	0.4330	-0.3632	405.61	2.5081	1.0132
23:20:00	39.2	1077.33	0.4417	-0.3549	405.75	2.5083	1.0057
23:20:30	39.2	1077.48	0.4500	-0.3468	405.90	2.5084	0.9984
23:21:00	39.2	1077.62	0.4583	-0.3388	406.04	2.5086	0.9912
23:21:30	39.2	1077.74	0.4667	-0.3310	406.16	2.5087	0.9842
23:22:00	39.3	1077.89	0.4750	-0.3233	406.31	2.5089	0.9773
23:22:30	39.3	1078.03	0.4833	-0.3158	406.45	2.5090	0.9706
23:23:00	39.3	1078.16	0.4917	-0.3083	406.58	2.5091	0.9639
23:23:30	39.3	1078.27	0.5000	-0.3010	406.69	2.5093	0.9574
23:24:00	39.3	1078.42	0.5083	-0.2939	406.84	2.5094	0.9511
23:24:30	39.3	1078.53	0.5167	-0.2868	406.95	2.5095	0.9448
23:25:00	39.3	1078.66	0.5250	-0.2798	407.08	2.5097	0.9386
23:25:30	39.3	1078.78	0.5333	-0.2730	407.20	2.5098	0.9326
23:26:00	39.3	1078.89	0.5417	-0.2663	407.31	2.5099	0.9267
23:26:30	39.3	1078.99	0.5500	-0.2596	407.41	2.5100	0.9208
23:27:00	39.3	1079.10	0.5583	-0.2531	407.52	2.5101	0.9151
23:27:30	39.4	1079.20	0.5667	-0.2467	407.62	2.5103	0.9094
23:28:00	39.4	1079.31	0.5750	-0.2403	407.73	2.5104	0.9039
23:28:30	39.4	1079.42	0.5833	-0.2341	407.84	2.5105	0.8984
23:29:00	39.4	1079.52	0.5917	-0.2279	407.94	2.5106	0.8930
23:29:30	39.4	1079.63	0.6000	-0.2218	408.05	2.5107	0.8877
23:30:00	39.4	1079.72	0.6083	-0.2159	408.14	2.5108	0.8825
23:31:00	39.4	1079.91	0.6250	-0.2041	408.33	2.5110	0.8723
23:32:00	39.4	1080.09	0.6417	-0.1927	408.51	2.5113	0.8625
23:33:00	39.5	1080.25	0.6583	-0.1816	408.67	2.5114	0.8529
23:34:00	39.5	1080.44	0.6750	-0.1707	408.86	2.5116	0.8436
23:35:00	39.5	1080.59	0.6917	-0.1601	409.01	2.5117	0.8345
23:36:00	39.5	1080.75	0.7083	-0.1498	409.17	2.5119	0.8257
23:37:00	39.5	1080.90	0.7250	-0.1397	409.32	2.5121	0.8171
23:38:00	39.5	1081.05	0.7417	-0.1298	409.47	2.5123	0.8088
23:39:00	39.5	1081.20	0.7583	-0.1201	409.62	2.5124	0.8006
23:40:00	39.5	1081.35	0.7750	-0.1107	409.77	2.5125	0.7927
23:41:00	39.5	1081.49	0.7917	-0.1015	409.91	2.5127	0.7850
23:42:00	39.6	1081.62	0.8083	-0.0924	410.04	2.5128	0.7774
23:43:00	39.5	1081.75	0.8250	-0.0835	410.17	2.5130	0.7700
23:44:00	39.6	1081.88	0.8417	-0.0749	410.30	2.5131	0.7628
23:45:00	39.6	1082.00	0.8583	-0.0663	410.42	2.5133	0.7558
23:46:00	39.6	1082.13	0.8750	-0.0580	410.55	2.5134	0.7489
23:47:00	39.6	1082.23	0.8917	-0.0498	410.65	2.5135	0.7422
23:48:00	39.7	1082.35	0.9083	-0.0418	410.77	2.5136	0.7356
23:49:00	39.6	1082.48	0.9250	-0.0339	410.90	2.5137	0.7292
23:50:00	39.7	1082.58	0.9417	-0.0261	411.00	2.5138	0.7229
23:51:00	39.7	1082.69	0.9583	-0.0185	411.11	2.5140	0.7167
23:52:00	39.7	1082.78	0.9750	-0.0110	411.20	2.5141	0.7107
23:53:00	39.7	1082.87	0.9917	-0.0036	411.29	2.5142	0.7048
23:54:00	39.8	1082.99	1.0083	0.0036	411.41	2.5143	0.6990
23:55:00	39.8	1083.05	1.0250	0.0107	411.47	2.5143	0.6933
23:56:00	39.7	1083.18	1.0417	0.0177	411.60	2.5145	0.6877
23:57:00	39.8	1083.26	1.0583	0.0246	411.68	2.5146	0.6822
23:58:00	39.8	1083.36	1.0750	0.0314	411.78	2.5147	0.6769
23:59:00	39.8	1083.46	1.0917	0.0381	411.88	2.5148	0.6716

12-JUL-87

T0=11-JUL-87 22:53:30

P0=671.58 FT=4.3333

	SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
00:00:00	39.8	1083.54	1.1333	0.0447	411.96	2.6149	0.6564
00:05:00	39.9	1083.95	1.1817	0.0762	412.37	2.6153	0.6419
00:10:00	40.0	1084.33	1.2750	0.1055	412.75	2.6157	0.6194
00:15:00	40.0	1084.66	1.3533	0.1330	413.08	2.6160	0.5987
00:20:00	40.1	1084.96	1.4417	0.1589	413.38	2.6163	0.5795
00:25:00	40.1	1085.26	1.5250	0.1833	413.68	2.6167	0.5617
00:30:00	40.1	1085.52	1.6033	0.2064	413.94	2.6169	0.5450
00:35:00	40.2	1085.81	1.6917	0.2293	414.23	2.6173	0.5295
00:40:00	40.3	1086.02	1.7750	0.2492	414.44	2.6175	0.5149
00:45:00	40.3	1086.23	1.8533	0.2691	414.65	2.6177	0.5011
00:50:00	40.3	1086.45	1.9417	0.2882	414.87	2.6179	0.4882
00:55:00	40.4	1086.64	2.0250	0.3064	415.06	2.6181	0.4759
01:00:00	40.4	1086.83	2.1033	0.3239	415.25	2.6183	0.4643
01:05:00	40.5	1087.00	2.1917	0.3408	415.42	2.6185	0.4534
01:10:00	40.6	1087.17	2.2750	0.3570	415.59	2.6187	0.4429
01:15:00	40.7	1087.31	2.3533	0.3726	415.73	2.6188	0.4330
01:20:00	40.7	1087.48	2.4417	0.3877	415.90	2.6190	0.4236
01:25:00	40.7	1087.59	2.5250	0.4023	416.01	2.6191	0.4145
01:30:00	40.7	1087.74	2.6033	0.4164	416.16	2.6193	0.4059
01:35:00	40.7	1087.86	2.6917	0.4300	416.29	2.6194	0.3977
01:40:00	40.7	1087.98	2.7750	0.4433	416.40	2.6195	0.3898
01:45:00	40.8	1088.10	2.8533	0.4561	416.52	2.6196	0.3822
01:50:00	40.9	1088.20	2.9417	0.4686	416.62	2.6197	0.3749
01:55:00	40.9	1088.34	3.0250	0.4807	416.76	2.6199	0.3680
02:00:00	40.9	1088.43	3.1033	0.4925	416.85	2.6200	0.3613
02:05:00	40.9	1088.52	3.1917	0.5040	416.94	2.6201	0.3548
02:10:00	41.0	1088.62	3.2750	0.5152	417.04	2.6202	0.3486
02:15:00	40.9	1088.72	3.3533	0.5261	417.14	2.6203	0.3426
02:20:00	40.9	1088.80	3.4417	0.5368	417.22	2.6204	0.3368
02:25:00	41.0	1088.89	3.5250	0.5472	417.31	2.6205	0.3313
02:30:00	41.1	1088.97	3.6033	0.5573	417.39	2.6205	0.3259
02:35:00	41.1	1089.05	3.6917	0.5672	417.47	2.6206	0.3207
02:40:00	41.1	1089.11	3.7750	0.5769	417.53	2.6207	0.3156
02:45:00	41.2	1089.18	3.8533	0.5864	417.60	2.6208	0.3108
02:50:00	41.1	1089.25	3.9417	0.5957	417.67	2.6208	0.3060
02:55:00	41.2	1089.33	4.0250	0.6048	417.75	2.6209	0.3015
03:00:00	41.3	1089.40	4.1033	0.6137	417.82	2.6210	0.2970
03:05:00	41.2	1089.47	4.1917	0.6224	417.89	2.6211	0.2927
03:10:00	41.2	1089.53	4.2750	0.6309	417.95	2.6211	0.2886
03:15:00	41.3	1089.57	4.3533	0.6393	417.99	2.6212	0.2845
03:20:00	41.3	1089.65	4.4417	0.6475	418.07	2.6212	0.2806
03:25:00	41.3	1089.61	4.5250	0.6556	418.03	2.6212	0.2768
03:30:00	41.3	1089.66	4.6033	0.6635	418.08	2.6213	0.2731
03:31:00	41.3	1089.67	4.6250	0.6651	418.09	2.6213	0.2723
03:32:00	41.3	1089.68	4.6417	0.6667	418.10	2.6213	0.2716
03:33:00	41.3	1089.69	4.6533	0.6682	418.11	2.6213	0.2709
03:34:00	41.3	1089.71	4.6750	0.6698	418.13	2.6213	0.2702
03:35:00	41.3	1089.71	4.6917	0.6713	418.13	2.6213	0.2694

WELL TEST SDP BOTTOM HOLE RESULTS
 FLOW PERIOD 05, DRAWDOWN, 5/8" FIXED CHOKE
 SECOND FLOW PERIOD

12-JUL-87
 03:36:00

OPEN PCT

SDT1	SDP1
degC	psia

03:36:00	41.3	1076.52
03:37:00	41.3	1060.82
03:38:00	41.3	1055.72
03:39:00	41.3	1046.79
03:40:00	41.3	1045.28
03:41:00	41.2	1061.96
03:42:00	41.2	1082.96
03:43:00	OPEN WELL ON 5/8" FIXED CHOKE	
03:43:00	41.2	1022.58
03:44:00	41.3	1003.94
03:45:00	41.3	993.49
03:46:00	41.3	988.59
03:47:00	41.3	983.69
03:48:00	41.3	976.47
03:49:00	41.3	972.98
03:50:00	41.3	965.16
03:51:00	41.3	949.11
03:52:00	41.3	939.58
03:53:00	41.3	934.53
03:54:00	41.3	932.75
03:55:00	41.3	943.33
03:56:00	41.3	937.54
03:57:00	41.3	932.21
03:58:00	41.3	929.01
03:59:00	41.3	924.45
04:00:00	41.3	922.52
04:02:00	41.3	917.80
04:04:00	41.4	913.24
04:06:00	41.4	912.32
04:08:00	41.3	911.50
04:10:00	41.3	904.64
04:12:00	41.4	904.66
04:14:00	41.3	903.10
04:16:00	41.3	902.38
04:18:00	41.3	901.83
04:20:00	41.3	900.51
04:22:00	41.3	900.88
04:24:00	41.3	900.83
04:26:00	41.3	900.98
04:28:00	41.3	900.84
04:30:00	41.3	900.12
04:35:00	41.3	899.68
04:40:00	41.3	897.53
04:45:00	41.4	897.14
04:50:00	41.4	899.09
04:55:00	41.4	897.92
05:00:00	41.3	897.94
05:05:00	41.4	897.92
05:10:00	41.4	897.21
05:15:00	41.4	897.55
05:20:00	41.5	900.48

12-JUL-87

SDT1 degC	SDP1 psia
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05:25:00	41.4	898.24
05:30:00	41.5	897.38
05:35:00	41.5	896.93
05:40:00	41.6	895.17
05:45:00	41.6	895.25
05:50:00	41.6	895.42
05:55:00	41.5	894.66
06:00:00	41.6	893.84
06:05:00	41.6	893.64
06:10:00	41.6	893.39
06:15:00	41.6	892.72
06:20:00	41.6	892.53
06:25:00	41.6	888.74
06:30:00	41.7	892.88
06:35:00	41.6	895.51
06:40:00	41.6	893.75
06:45:00	41.7	899.00
06:50:00	41.6	890.49
06:55:00	41.6	890.17
07:00:00	41.7	898.47
07:05:00	41.6	889.69
07:10:00	41.6	896.74
07:15:00	41.6	900.22
07:20:00	41.7	899.74
07:25:00	41.7	897.33
07:30:00	41.8	894.84
07:35:00	41.7	895.24
07:35:30	41.7	894.37
07:36:00	41.7	893.48
07:36:30	41.8	892.95
07:37:00	41.7	895.46

WELL TEST SDP BOTTOM HOLE RESULTS
 FLOW PERIOD 06, BUILD UP AFTER FLOW PERIOD 05
 SECOND BUILD UP

12-JUL-87

07:37:30 SHUT IN WELL AT PCT
 T0=12-JUL-87 07:37:00 P0=895.46 FT=4.025

SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
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07:37:30	41.7	902.23	0.0003	-2.0792	6.77	0.8303	2.6848
07:38:00	41.7	1029.79	0.0167	-1.7782	134.33	2.1282	2.3847
07:38:30	41.8	1054.33	0.0250	-1.6021	158.87	2.2010	2.2095
07:39:00	41.8	1059.64	0.0333	-1.4771	164.18	2.2153	2.0855
07:39:30	41.8	1052.63	0.0417	-1.3802	167.17	2.2232	1.9894
07:40:00	41.8	1054.80	0.0500	-1.3010	169.34	2.2283	1.9112
07:40:30	41.8	1056.62	0.0583	-1.2341	171.16	2.2334	1.8451
07:41:00	41.8	1058.01	0.0667	-1.1761	172.55	2.2367	1.7880
07:41:30	41.9	1059.15	0.0750	-1.1249	173.69	2.2391	1.7377
7:42:00	42.0	1070.13	0.0833	-1.0792	174.67	2.2422	1.6928
07:42:30	41.9	1070.98	0.0917	-1.0378	175.52	2.2444	1.6523
07:43:00	41.9	1071.72	0.1000	-1.0000	176.26	2.2461	1.6154

12-JUL-87

T0=12-JUL-87 07:37:00

P0=895.46 FT=4.025

	SDT1	SDP1	T-T0	L(T-T0)	P-P0	L(P-P0)	L(HORN)
	degC	psia	hr		SDP1	SDP1	
07:43:30	42.0	1072.39	0.1083	-0.9652	176.93	2.2478	1.5815
07:44:00	42.0	1072.99	0.1167	-0.9331	177.53	2.2498	1.5502
07:44:30	42.1	1073.53	0.1250	-0.9031	178.07	2.2506	1.5211
07:45:00	42.0	1074.01	0.1333	-0.8751	178.55	2.2518	1.4940
07:45:30	42.1	1074.45	0.1417	-0.8487	178.99	2.2528	1.4685
07:46:00	42.1	1074.87	0.1500	-0.8239	179.41	2.2538	1.4446
07:46:30	42.1	1075.25	0.1583	-0.8004	179.79	2.2548	1.4220
07:47:00	42.1	1075.64	0.1667	-0.7782	180.18	2.2557	1.4005
07:47:30	42.1	1075.97	0.1750	-0.7570	180.51	2.2565	1.3802
07:48:00	42.1	1076.29	0.1833	-0.7368	180.82	2.2572	1.3609
07:48:30	42.1	1076.59	0.1917	-0.7175	181.13	2.2580	1.3424
07:49:00	42.1	1076.86	0.2000	-0.6990	181.40	2.2587	1.3248
07:49:30	42.1	1077.13	0.2083	-0.6812	181.67	2.2594	1.3079
07:50:00	42.1	1077.36	0.2167	-0.6642	181.90	2.2598	1.2917
07:50:30	42.1	1077.60	0.2250	-0.6478	182.14	2.2604	1.2762
07:51:00	42.2	1077.83	0.2333	-0.6320	182.37	2.2609	1.2613
07:51:30	42.1	1078.06	0.2417	-0.6168	182.62	2.2615	1.2469
07:52:00	42.2	1078.26	0.2500	-0.6021	182.80	2.2620	1.2330
07:52:30	42.1	1078.45	0.2583	-0.5878	183.00	2.2625	1.2196
07:53:00	42.1	1078.63	0.2667	-0.5740	183.17	2.2629	1.2067
07:53:30	42.1	1078.81	0.2750	-0.5607	183.35	2.2634	1.1941
07:54:00	42.2	1078.98	0.2833	-0.5477	183.52	2.2637	1.1820
07:54:30	42.1	1079.15	0.2917	-0.5351	183.69	2.2641	1.1703
07:55:00	42.1	1079.31	0.3000	-0.5229	183.85	2.2645	1.1589
07:55:30	42.2	1079.45	0.3083	-0.5110	183.99	2.2648	1.1478
07:56:00	42.1	1079.60	0.3167	-0.4994	184.14	2.2651	1.1371
07:56:30	42.1	1079.75	0.3250	-0.4881	184.29	2.2654	1.1266
07:57:00	42.1	1079.87	0.3333	-0.4771	184.41	2.2658	1.1164
07:57:30	42.2	1080.01	0.3417	-0.4664	184.55	2.2661	1.1065
07:58:00	42.1	1080.12	0.3500	-0.4559	184.66	2.2664	1.0969
07:58:30	42.2	1080.24	0.3583	-0.4457	184.78	2.2666	1.0875
07:59:00	42.1	1080.37	0.3667	-0.4357	184.91	2.2669	1.0784
07:59:30	42.1	1080.49	0.3750	-0.4260	185.03	2.2672	1.0694
08:00:00	42.1	1080.58	0.3833	-0.4164	185.12	2.2675	1.0607
08:01:00	42.1	1080.81	0.4000	-0.3979	185.35	2.2680	1.0439
08:02:00	42.1	1080.99	0.4167	-0.3802	185.53	2.2684	1.0278
08:03:00	42.1	1081.21	0.4333	-0.3632	185.75	2.2689	1.0124
08:04:00	42.2	1081.37	0.4500	-0.3468	185.91	2.2693	0.9976
08:05:00	42.1	1081.53	0.4667	-0.3310	186.07	2.2697	0.9834
08:06:00	42.1	1081.70	0.4833	-0.3158	186.24	2.2701	0.9698
08:07:00	42.1	1081.85	0.5000	-0.3010	186.39	2.2704	0.9566
08:08:00	42.1	1082.01	0.5167	-0.2868	186.55	2.2708	0.9440
08:09:00	42.1	1082.15	0.5333	-0.2730	186.69	2.2711	0.9318
08:10:00	42.1	1082.30	0.5500	-0.2596	186.84	2.2715	0.9200
08:11:00	42.0	1082.44	0.5667	-0.2467	186.98	2.2718	0.9086
08:12:00	42.1	1082.55	0.5833	-0.2341	187.09	2.2720	0.8976
08:13:00	42.0	1082.67	0.6000	-0.2218	187.21	2.2723	0.8870
08:14:00	42.1	1082.79	0.6167	-0.2099	187.33	2.2725	0.8766
08:15:00	42.0	1082.90	0.6333	-0.1984	187.44	2.2727	0.8666
08:16:00	42.0	1083.01	0.6500	-0.1871	187.55	2.2730	0.8569
08:17:00	42.1	1083.11	0.6667	-0.1761	187.65	2.2732	0.8474
08:18:00	42.0	1083.23	0.6833	-0.1654	187.77	2.2734	0.8382
08:19:00	42.1	1083.31	0.7000	-0.1549	187.85	2.2736	0.8293
08:20:00	42.1	1083.41	0.7167	-0.1447	187.95	2.2740	0.8206

12-JUL-87
 T0=12-JUL-87 07:37:00 P0=895.46 FT=4.025

	SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
08:21:00	42.0	1083.52	0.7333	-0.1347	188.06	2.2740	0.8122
08:22:00	42.1	1083.52	0.7500	-0.1249	188.16	2.2740	0.8039
08:23:00	42.1	1083.70	0.7667	-0.1154	188.24	2.2740	0.7959
08:24:00	42.1	1083.79	0.7833	-0.1061	188.33	2.2740	0.7880
08:25:00	42.0	1083.87	0.8000	-0.0969	188.41	2.2750	0.7804
08:26:00	42.1	1083.96	0.8167	-0.0880	188.50	2.2750	0.7730
08:27:00	42.1	1084.02	0.8333	-0.0792	188.56	2.2750	0.7657
08:28:00	42.1	1084.11	0.8500	-0.0706	188.65	2.2750	0.7586
08:29:00	42.1	1084.17	0.8667	-0.0621	188.71	2.2750	0.7516
08:30:00	42.0	1084.25	0.8833	-0.0539	188.80	2.2760	0.7448
08:35:00	42.0	1084.51	0.9667	-0.0147	189.15	2.2760	0.7130
08:40:00	42.1	1084.93	1.0500	0.0212	189.47	2.2770	0.6842
08:45:00	42.1	1085.19	1.1333	0.0544	189.73	2.2780	0.6582
08:50:00	42.1	1085.46	1.2167	0.0852	190.00	2.2780	0.6343
08:55:00	42.1	1085.71	1.3000	0.1139	190.25	2.2790	0.6124
09:00:00	42.1	1085.92	1.3833	0.1409	190.46	2.2790	0.5921
09:05:00	42.2	1086.12	1.4667	0.1663	190.66	2.2800	0.5734
09:10:00	42.2	1086.32	1.5500	0.1903	190.86	2.2800	0.5559
09:15:00	42.1	1086.49	1.6333	0.2131	191.03	2.2810	0.5396
09:20:00	42.1	1086.68	1.7167	0.2347	191.22	2.2810	0.5244
09:25:00	42.2	1086.82	1.8000	0.2553	191.36	2.2810	0.5100
09:30:00	42.2	1086.96	1.8833	0.2749	191.50	2.2820	0.4965
09:35:00	42.1	1087.11	1.9667	0.2937	191.65	2.2820	0.4838
09:40:00	42.2	1087.22	2.0500	0.3119	191.76	2.2820	0.4718
09:45:00	42.2	1087.36	2.1333	0.3291	191.90	2.2830	0.4604
09:50:00	42.2	1087.48	2.2167	0.3457	192.02	2.2830	0.4496
09:55:00	42.2	1087.59	2.3000	0.3617	192.13	2.2830	0.4393
10:00:00	42.2	1087.68	2.3833	0.3772	192.22	2.2830	0.4296
10:05:00	42.2	1087.79	2.4667	0.3921	192.33	2.2840	0.4202
10:10:00	42.2	1087.88	2.5500	0.4065	192.42	2.2840	0.4114
10:15:00	42.2	1087.96	2.6333	0.4205	192.50	2.2840	0.4029
10:20:00	42.3	1088.06	2.7167	0.4340	192.60	2.2840	0.3947
10:25:00	42.2	1088.14	2.8000	0.4472	192.68	2.2840	0.3869
10:30:00	42.3	1088.22	2.8833	0.4599	192.76	2.2850	0.3795
10:35:00	42.3	1088.31	2.9667	0.4723	192.85	2.2850	0.3723
10:40:00	42.3	1088.37	3.0500	0.4843	192.91	2.2850	0.3654
10:45:00	42.3	1088.43	3.1333	0.4960	192.97	2.2850	0.3588
10:50:00	42.3	1088.51	3.2167	0.5074	193.05	2.2850	0.3524
10:55:00	42.3	1088.57	3.3000	0.5185	193.11	2.2850	0.3463
11:00:00	42.3	1088.63	3.3833	0.5293	193.17	2.2850	0.3404
11:05:00	42.3	1088.69	3.4667	0.5399	193.23	2.2860	0.3347
11:10:00	42.3	1088.77	3.5500	0.5502	193.31	2.2860	0.3292
11:15:00	42.3	1088.81	3.6333	0.5603	193.35	2.2860	0.3238
11:20:00	42.4	1088.89	3.7167	0.5702	193.43	2.2860	0.3187
11:25:00	42.3	1088.94	3.8000	0.5798	193.48	2.2860	0.3137
11:30:00	42.4	1088.99	3.8833	0.5892	193.53	2.2860	0.3089
11:31:00	42.4	1088.99	3.9000	0.5911	193.53	2.2860	0.3079
11:32:00	42.4	1089.02	3.9167	0.5929	193.56	2.2860	0.3070
11:33:00	42.4	1089.04	3.9333	0.5949	193.58	2.2860	0.3061
11:34:00	42.4	1089.02	3.9500	0.5965	193.56	2.2860	0.3051
11:35:00	42.4	1089.04	3.9667	0.5984	193.58	2.2860	0.3042
11:36:00	42.4	1089.07	3.9833	0.6002	193.61	2.2860	0.3033
11:37:00	42.4	1089.07	4.0000	0.6021	193.61	2.2860	0.3024
11:38:00	42.4	1089.07	4.0167	0.6039	193.61	2.2860	0.3015

WELL TEST SDP BOTTOM HOLE RESULTS
FLOW PERIOD 07, DRAWDOWN, 1 1/4" FIXED CHOKE
FINAL FLOW PERIOD

12-JUL-87
11:39:00

OPEN PCT

SDT1	SDP1
degC	psia

11:39:00	42.4	1034.62
11:40:00	42.3	1014.62
11:41:00	42.3	1072.25
11:42:00	42.3	1083.79
11:43:00	OPEN WELL ON 1 1/4" ADJ. CHOKE	
11:43:00	42.3	1078.13
11:44:00	42.3	939.41
11:45:00	SWITCH TO 1 1/4" FIXED CHOKE	
11:45:00	42.3	872.78
11:46:00	42.1	846.96
11:47:00	42.0	834.62
11:48:00	42.0	826.48
11:49:00	41.9	817.57
11:50:00	41.9	831.49
11:51:00	41.8	835.32
11:52:00	41.8	826.21
11:53:00	41.8	816.97
11:54:00	41.8	811.99
11:55:00	41.7	806.81
11:56:00	41.7	805.68
11:57:00	41.6	805.10
11:58:00	41.6	802.82
11:59:00	41.6	801.40
12:00:00	41.5	799.89
12:05:00	41.4	799.21
12:10:00	41.2	796.77
12:15:00	41.2	798.16
12:20:00	41.1	812.44
12:25:00	41.0	811.95
12:30:00	41.0	809.15
12:35:00	41.0	815.74
12:40:00	40.9	807.40
12:45:00	41.0	820.52
12:50:00	41.0	817.58
12:55:00	41.0	811.58
13:00:00	41.0	821.02
13:05:00	40.9	811.92
13:10:00	40.9	820.27
13:15:00	41.0	811.92

WELL TEST SDP BOTTOM HOLE RESULTS
 FLOW PERIOD 08, DRAWDOWN, 1" FIXED CHOKE
 FINAL FLOW PERIOD

12-JUL-87
 13:16:00 BEAN DOWN TO 1" ADJ. CHOKE
 13:20:00 SWITCH TO 1" FIXED CHOKE

SDT1	SDP1
degC	psia

13:20:00	41.0	811.49
13:25:00	41.0	816.83
13:30:00	41.0	823.82
13:35:00	41.0	819.57
13:40:00	41.1	814.53
13:45:00	41.0	806.67
13:50:00	41.0	812.30
13:55:00	41.0	812.90
14:00:00	40.9	812.63
14:05:00	40.9	810.14
14:10:00	40.9	806.75
14:15:00	40.8	820.07
14:20:00	40.9	814.90
14:25:00	40.9	809.79
14:30:00	40.9	822.70
14:30:30	40.8	819.85
14:31:00	40.8	833.46

WELL TEST SDP BOTTOM HOLE RESULTS
 FLOW PERIOD 09, BUILD UP AFTER FLOW PERIOD 08
 FINAL BUILD UP (SURFACE SHUT IN)

12-JUL-87
 14:31:30 SHUT IN WELL AT CHOKE MANIFOLD
 T0=12-JUL-87 14:31:30 P0=833.46 FT=2.8667

SDT1	SDP1	T-T0	L(T-T0)	P-P0	L(P-P0)	L(HORN)
degC	psia	hr		SDP1	SDP1	

14:31:30	40.9	899.50	0.0083	-2.0792	66.04	1.8190	2.5378
14:32:00	40.9	970.20	0.0167	-1.7782	136.74	2.1350	2.2381
14:32:30	40.9	1016.40	0.0250	-1.6021	182.94	2.2620	2.0632
14:33:00	41.0	1039.25	0.0333	-1.4771	205.79	2.3130	1.9395
14:33:30	41.0	1049.80	0.0417	-1.3802	216.34	2.3350	1.8439
14:34:00	41.0	1055.19	0.0500	-1.3010	221.73	2.3450	1.7659
14:34:30	41.1	1058.44	0.0583	-1.2341	224.98	2.3520	1.7002
14:35:00	41.2	1060.64	0.0667	-1.1761	227.18	2.3560	1.6435
14:35:30	41.2	1062.22	0.0750	-1.1249	228.76	2.3590	1.5935
14:36:00	41.2	1063.59	0.0833	-1.0792	230.13	2.3620	1.5490
14:36:30	41.3	1064.76	0.0917	-1.0378	231.30	2.3640	1.5088
14:37:00	41.3	1065.78	0.1000	-1.0000	232.32	2.3660	1.4723
14:37:30	41.3	1066.76	0.1083	-0.9652	233.30	2.3670	1.4387
14:38:00	41.3	1067.61	0.1167	-0.9331	234.15	2.3690	1.4078
14:38:30	41.3	1068.38	0.1250	-0.9031	234.92	2.3700	1.3790
14:39:00	41.3	1069.06	0.1333	-0.8751	235.60	2.3720	1.3522
14:39:30	41.3	1069.70	0.1417	-0.8487	236.24	2.3730	1.3271
14:40:00	41.4	1070.20	0.1500	-0.8239	236.74	2.3740	1.3034
14:40:30	41.4	1070.80	0.1583	-0.8004	237.34	2.3750	1.2812
14:41:00	41.4	1071.32	0.1667	-0.7782	237.86	2.3760	1.2601
14:41:30	41.5	1071.81	0.1750	-0.7570	238.35	2.3770	1.2401

12-JUL-87

T0=12-JUL-87 14:31:00

P0=833.46 FT=2.8667

	SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
14:42:00	41.5	1072.24	0.1833	-0.7368	238.78	2.3780	1.2211
14:42:30	41.5	1072.62	0.1917	-0.7175	239.16	2.3787	1.2029
14:43:00	41.5	1072.97	0.2000	-0.6990	239.51	2.3793	1.1856
14:43:30	41.5	1073.37	0.2083	-0.6812	239.91	2.3801	1.1691
14:44:00	41.5	1073.71	0.2167	-0.6642	240.25	2.3807	1.1532
14:44:30	41.6	1074.03	0.2250	-0.6478	240.57	2.3812	1.1380
14:45:00	41.6	1074.33	0.2333	-0.6320	240.87	2.3818	1.1234
14:45:30	41.5	1074.63	0.2417	-0.6168	241.17	2.3823	1.1093
14:46:00	41.5	1074.92	0.2500	-0.6021	241.46	2.3829	1.0958
14:46:30	41.6	1075.19	0.2583	-0.5878	241.73	2.3834	1.0827
14:47:00	41.6	1075.33	0.2667	-0.5740	241.87	2.3838	1.0700
14:47:30	41.6	1075.66	0.2750	-0.5607	242.20	2.3844	1.0578
14:48:00	BEGIN TO KILL WELL						
14:48:00	41.7	1085.18	0.2833	-0.5477	251.72	2.4007	1.0460

FLOPETROL JOHNSTON

Schlumberger

DOWN HOLE PRESSURE & TEMPERATURE SURVEY

company : LASMO ENERGY AUSTRALIA LTD
field/well/zone : PATRICIA # 1 DST # 3
country : AUSTRALIA
test date : 13 / 14-JUL-87
report nbr. : ELS 130787140787
region/distr/base : SEA / ANZ / BEF

Co representative : P. DOLAN
FJS representative : G. WILLIAMS

GENERAL INFORMATION

.1 service/client ref.: DOWN HOLE PRESSURE & TEMPERATURE SURVEY
 .2 company : LASMO ENERGY AUSTRALIA LTD
 .3 field/well/zone : PATRICIA # 1 DST # 3
 .4 country : AUSTRALIA
 .5 state : VICTORIA
 7 test type : DST

OPERATION DATA

1 test date : 13 / 14-JUL-37
 2 report nbr. : ELS 130787140787
 3 region/distr/base : SEA / ANZ / BEF
 4 Co representative : P. DOLAN
 5 FJS representative : G. WILLIAMS
 6 unit system : OIL FIELD

WELL DATA

1 state before test : SHUT SINCE DST # 2
 2 well type : APPRAISAL
 3 fluid type : GAS
 3 perf. shot density : 12 SHOTS PER FOOT
 4 perf. gun type : 5" TUBING CONVEYED
 5 perf. conditions : UNDERBALANCED
 6 perf. interval(s) : 703 - 738 mts.
 8 static W.H.P. : 925 psiG ON 40/64" CHOKE

FORMATION DATA

B.H.P & B.H.T : 979 psiA & 43.7 degC ON 40/64" CHOKE
 gas gravity : 0.574 ON 40/64" CHOKE

DEPTH INFORMATION

depth unit : METRES
 depth reference : RKB
 gauge M.P. set at : 689.83

DOWNHOLE EQUIPMENT

gauge : SSDP # 83115 (SDP) & # 83111 (SDP1)
 recorder : SSDP # 84162 (SDP) & # 83102 (SDP1)

SEQUENCE OF EVENTS

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13-JUL-87
07:40:00 OPEN PCT
07:46:00 OPEN WELL ON 1/2" ADJ. CHOKE BEAN UP TO 1" ADJ. CHOKE
07:49:20 CLOSE CHOKE MANIFOLD
07:49:30 OPEN CHOKE MANIFOLD
07:50:00 SHUT PCT CLOSE CHOKE MANIFOLD
07:51:00 OPEN CHOKE MANIFOLD TO BLEED T.H.P. ABOVE PCT
07:53:00 CLOSE CHOKE MANIFOLD T.H.P. INCREASES TO 1000 psig
07:55:00 OPEN CHOKE MANIFOLD BLEED T.H.P. TO 140 psig
08:02:00 OPEN PCT
08:03:00 CLOSE PCT T.H.P. BLEEDS TO 0 psig
08:04:00 CLOSE CHOKE MANIFOLD
08:34:00 OPEN PCT . OPEN WELL ON 1 1/4" ADJ. CHOKE
08:36:00 BEAN UP TO 1 1/4" ADJ. + 1 1/4" FIXED CHOKE ( 1 3/4" )
11:05:00 BEAN DOWN TO 1 1/4" FIXED CHOKE
11:06:00 BEAN UP TO 1 1/4" + 1 1/4" CHOKE
11:07:00 SHUT IN WELL AT CHOKE MANIFOLD
11:10:00 OPEN WELL ON 1 1/4" ADJ. CHOKE
11:13:00 BEAN UP TO 1 1/4" + 1 1/4" CHOKE
12:33:00 SHUT IN WELL AT PCT . CLOSE CHOKE MANIFOLD
16:28:00 OPEN PCT . OPEN WELL ON 24/64" FIXED CHOKE
19:28:00 SHUT IN WELL AT PCT . CLOSE CHOKE MANIFOLD
22:28:00 OPEN PCT . OPEN WELL ON 32/64" FIXED CHOKE
14-JUL-87
01:28:00 SHUT IN WELL AT PCT . CLOSE CHOKE MANIFOLD
04:27:00 OPEN PCT . OPEN WELL ON 40/64" FIXED CHOKE
07:30:00 SHUT IN WELL AT PCT . CLOSE CHOKE MANIFOLD
09:17:00 OPEN PCT
09:18:00 OPEN WELL THROUGH CHOKE MANIFOLD BYPASS
11:00:00 SHUT IN WELL AT CHOKE
11:21:00 BEGIN TO KILL WELL
    
```

SUMMARY OF RESULTS

PERFORATION INTERVAL: 703 - 738 mts.

FLOW PERIOD NUMBER AND TYPE	DURATION MINS	FINAL BOTTOM HOLE PRESSURE PSIA	FINAL WELL HEAD PRESSURE PSIG	AVERAGE OIL FLOW RATE BOPD	AVERAGE GAS FLOW RATE MMSCFD	AVERAGE GAS-OIL RATIO MMSCF/BBL
1 DRAWDOWN	21	849				
2 BUILD UP	31	1088				
3 DRAWDOWN	181	906	217	0	12.31	-
4 BUILD UP	3	1040	310	0	0	-
5 DRAWDOWN	122	890	230	0	13.24	-
6 BUILD UP	235	1083	230	0	0	-
7 DRAWDOWN	180	1049	971	0	3.20	-
8 BUILD UP	180	1086	-	0	0	-
9 DRAWDOWN	181	1013	906	0	5.89	-
10 BUILD UP	179	1085	-	0	0	-
11 DRAWDOWN	182	980	826	0	8.35	-
12 BUILD UP	107	1080	-	0	0	-
13 DRAWDOWN	102	909	222	-	-	-
14 BUILD UP	21	1085	987	0	0	-

INITIAL BOTTOM HOLE PRESSURE: 1085 psia
 MAXIMUM BOTTOM HOLE TEMPERATURE: 48 degC
 TYPE AND DEPTH OF BOTTOM HOLE GAUGE: SSDP @ 639.83 mts.
 DID THE WELL FLOW SIGNIFICANT QUANTITIES OF WATER: NO
 OIL SPECIFIC GRAVITY: N/A
 GAS SPECIFIC GRAVITY: .574 S.G.
 GAS H2S CONTENT: 0 ppm.
 GAS CO2 CONTENT: 1.5 %

WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
 HISTORY PLOT OF DST # 3
 PLOT 1 OF 2

VERSUS TIME PLOT

SDT1 (degC)	
0	100

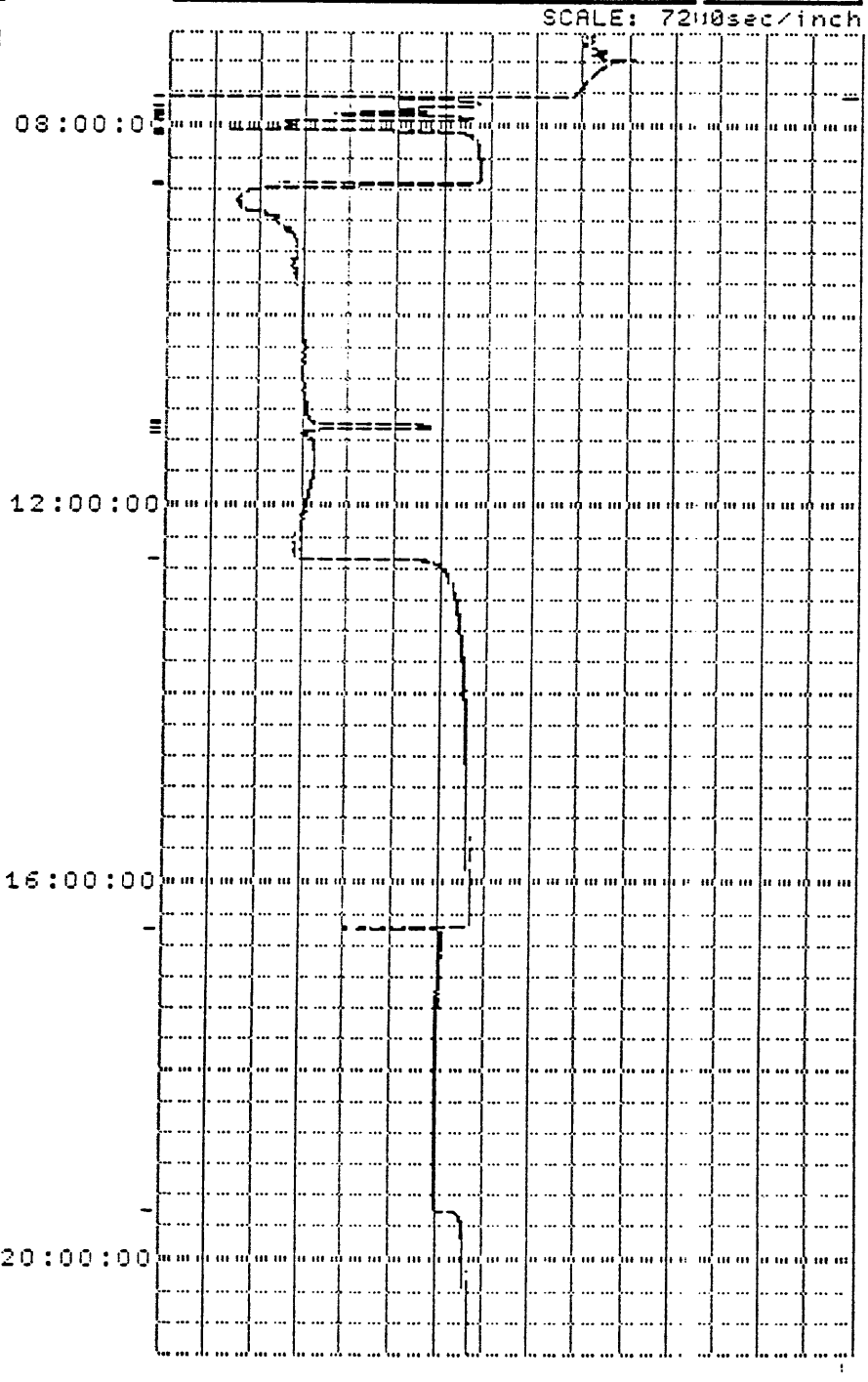
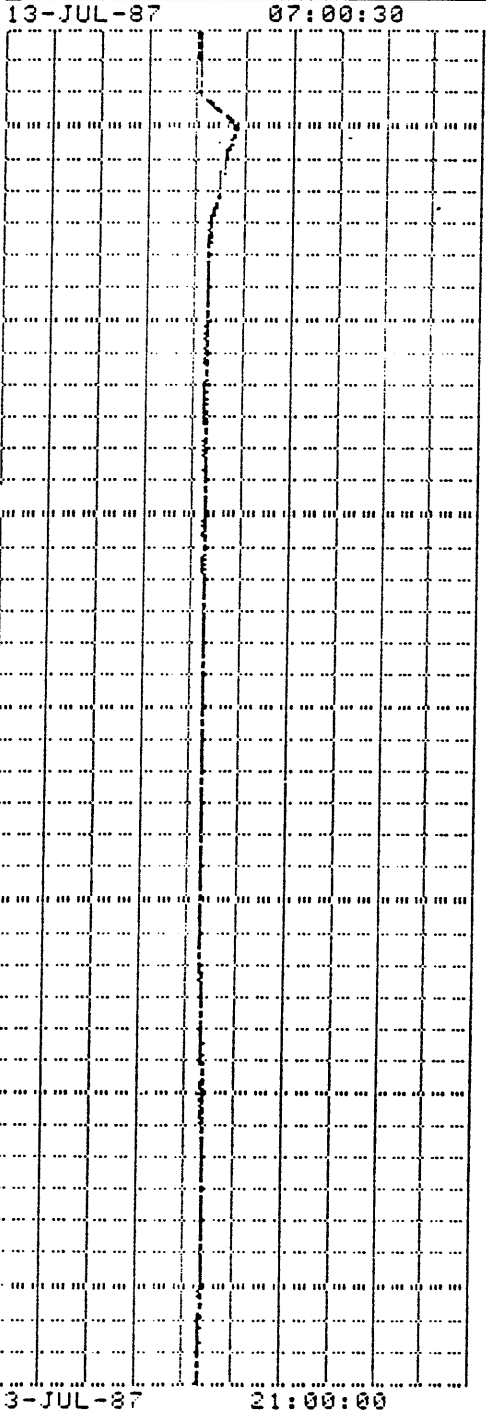
40.825	
SDT (degC)	
0	100

40.843	

SDP1 (psia)	
750	1500

1209.3	
SDP (psia)	
750	1500

1208	



WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
HISTORY PLOT OF DST # 3
PLOT 2 OF 2

VERSUS TIME PLOT

SDT1 (degC)	
0	100

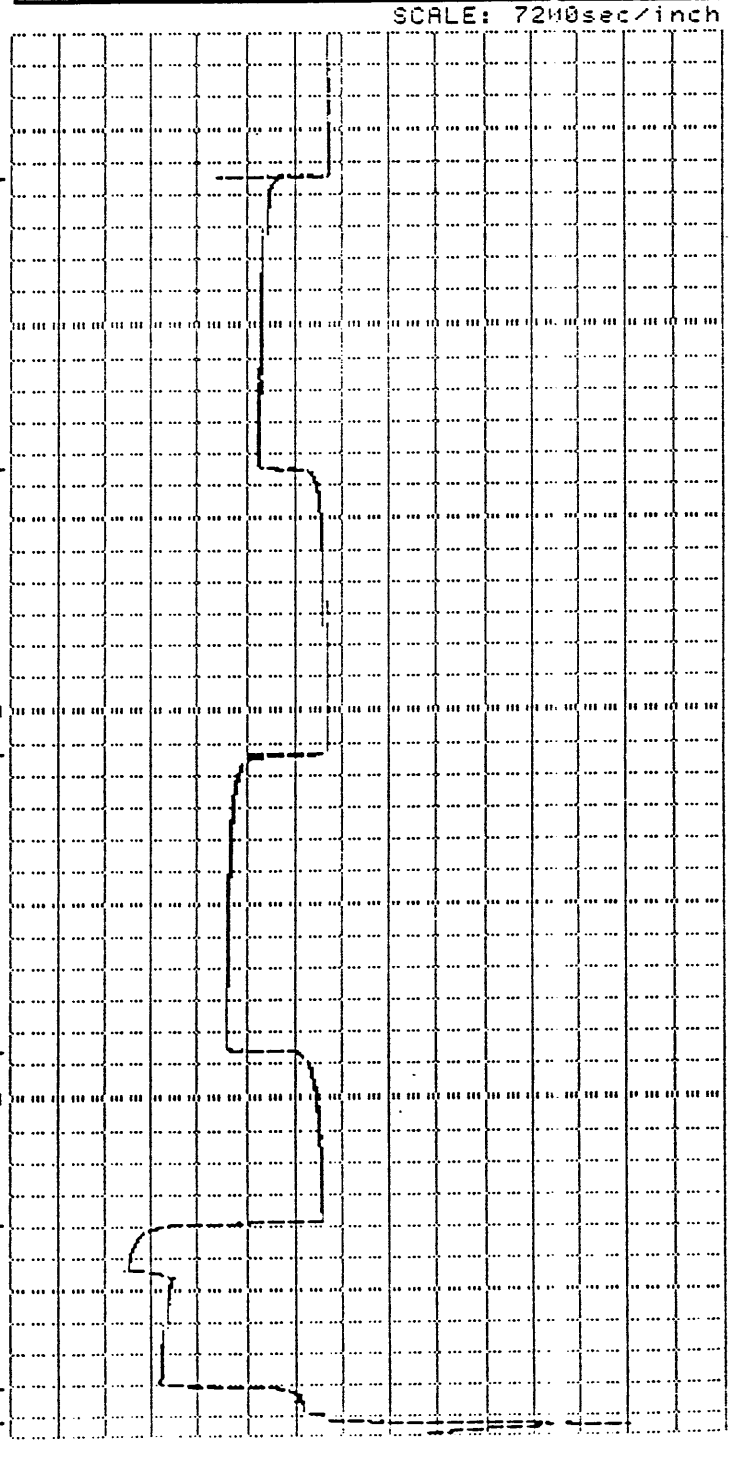
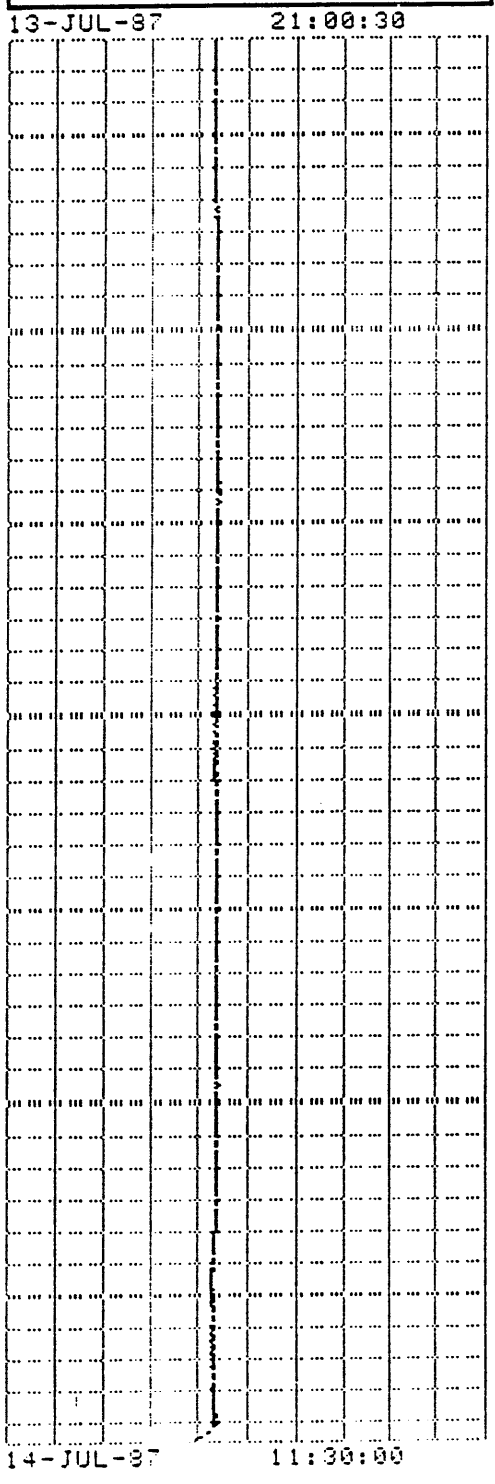
43.291	
SDT (degC)	
0	100

43.337	

SDP1 (psia)	
750	1500

1084.2	
SDP (psia)	
750	1500

1083.5	



WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
INITIAL FLOW, BUILD UP & CLEAN UP FLOW

VERSUS TIME PLOT

SDT1 (degC)	
0	100

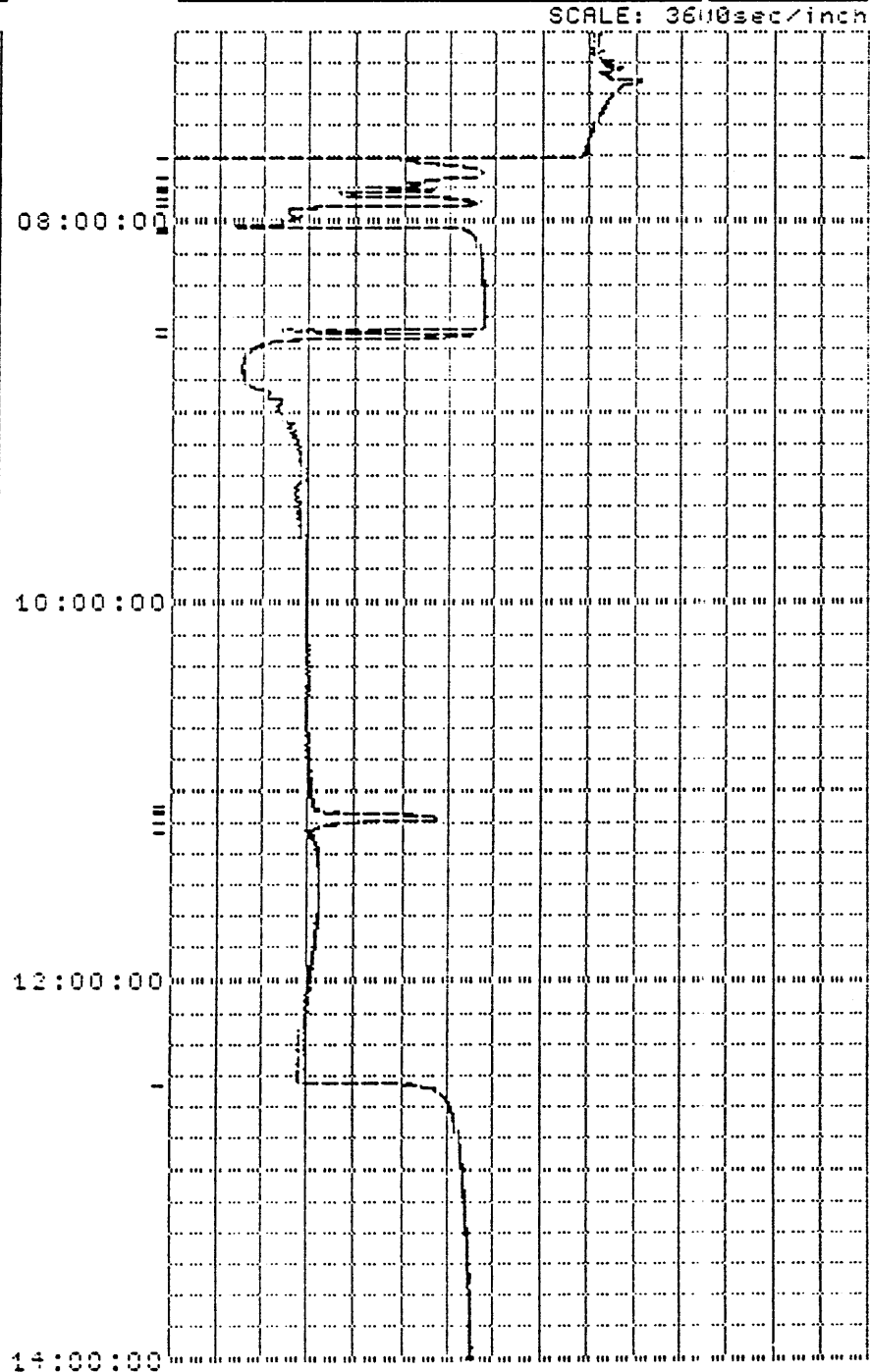
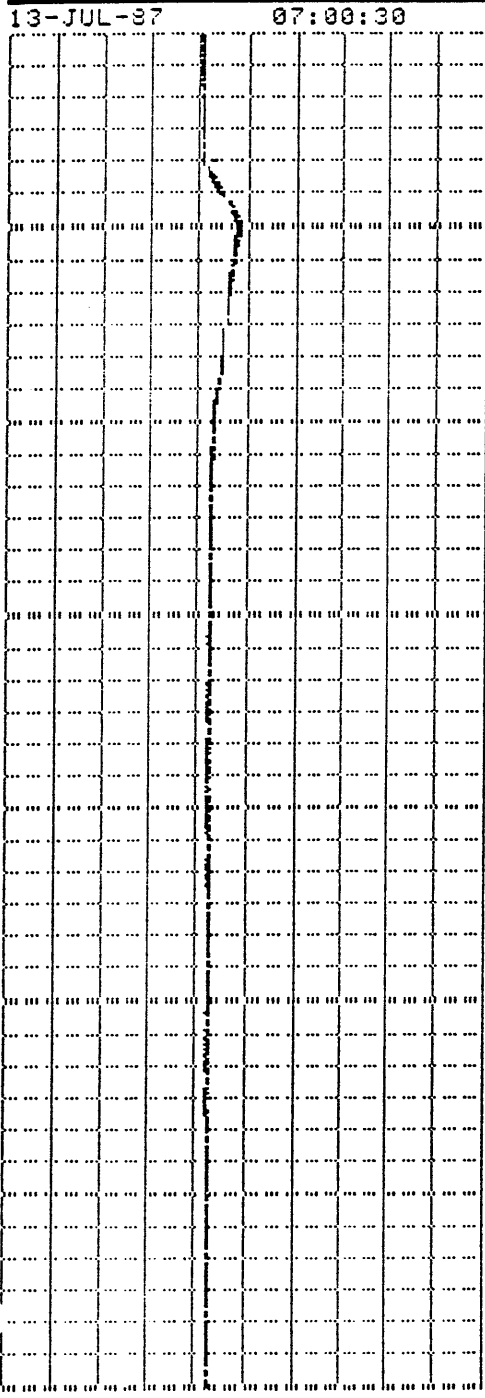
40.825	
SDT (degC)	
0	100

40.843	

SDP1 (psia)	
750	1500

1209.3	
SDP (psia)	
750	1500

1208	



14:00:00

WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
 CLEAN UP FLOW BUILD UP

VERSUS TIME PLOT

SDT1 (degC)	
0	100

42.525	

SDP1 (psia)	
750	1500

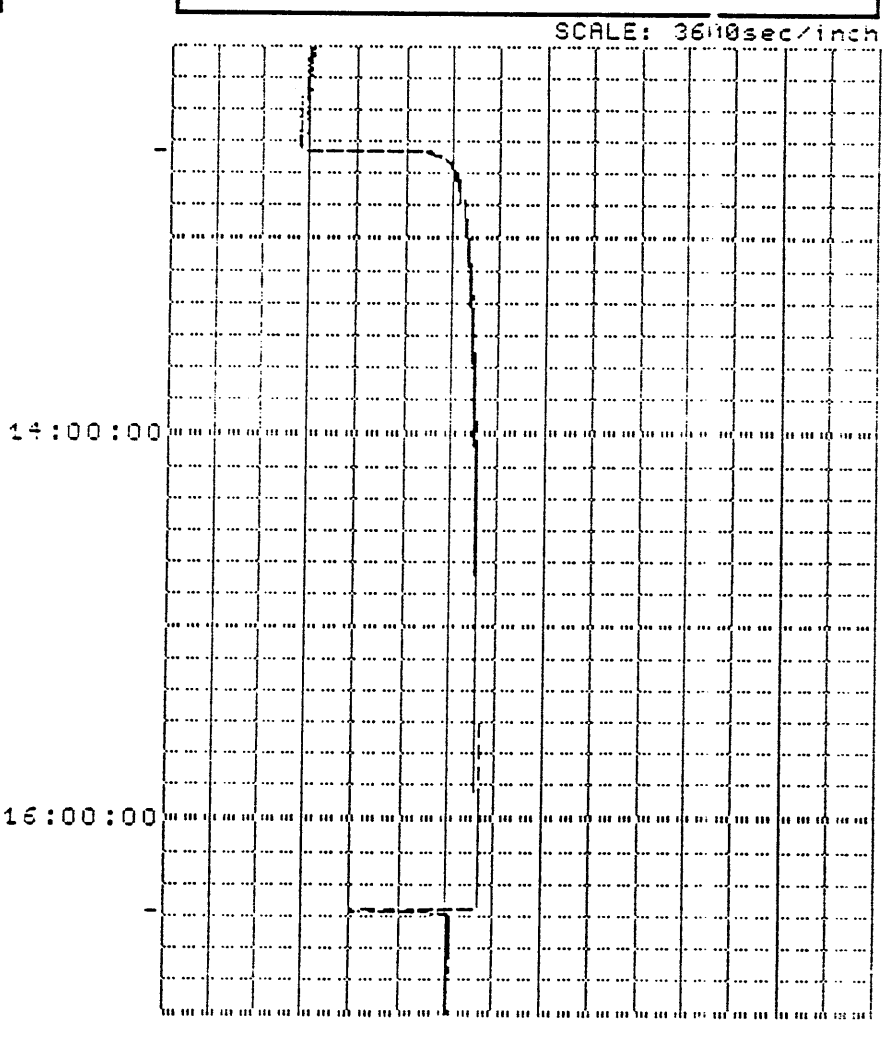
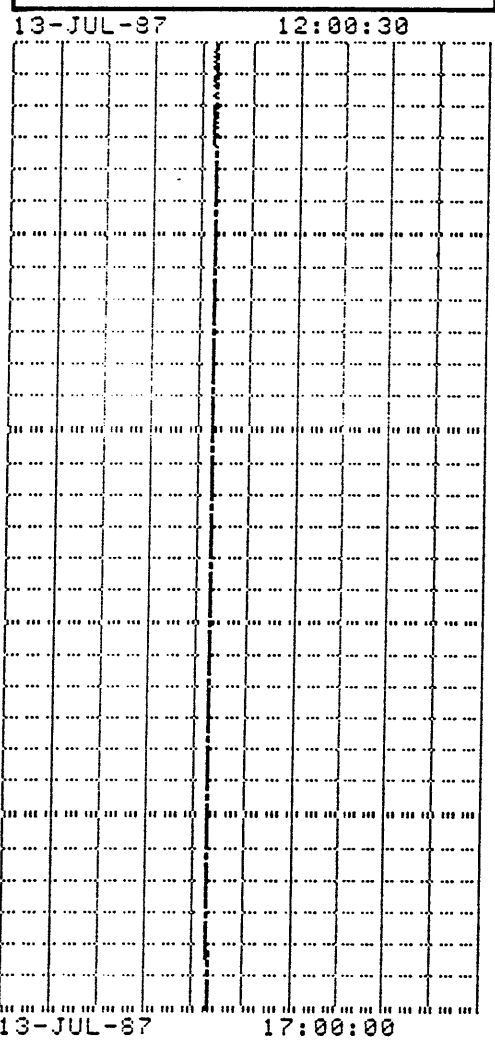
904.44	

SDT (degC)	
0	100

42.478	

SDP (psia)	
750	1500

904.45	



WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
 3rd FLOW AND BUILD UP & 4th FLOW PERIOD

VERSUS TIME PLOT

SDT1 (degC)	
0	100

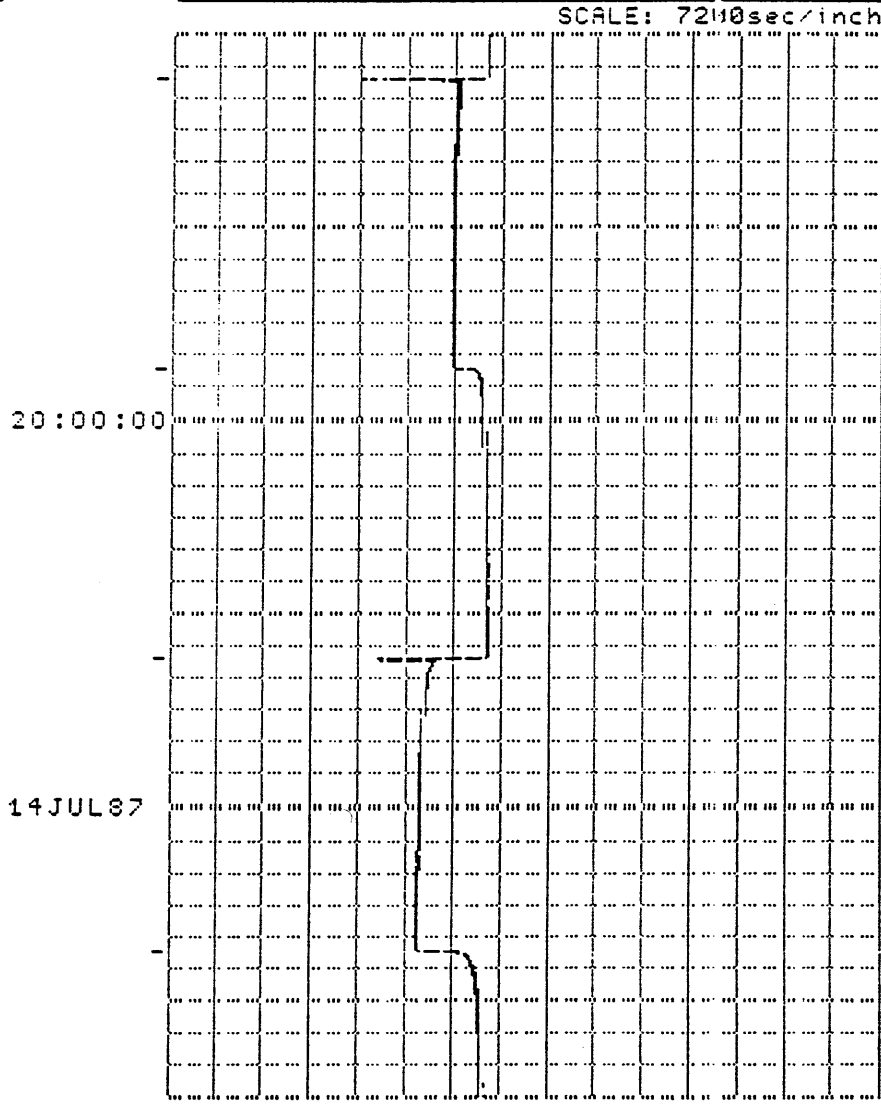
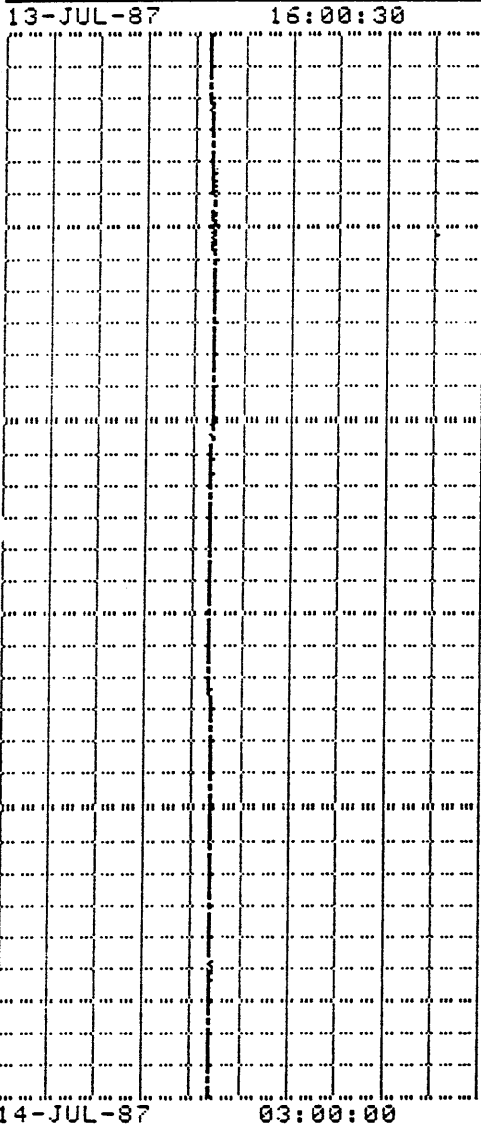
42.866	
SDT (degC)	
0	100

42.821	

SDP1 (psia)	
750	1500

1082.9	
SDP (psia)	
750	1500

1082.3	



WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
4th BUILD UP & FINAL METERED FLOW AND BUILD UP

VERSUS TIME PLOT

SDT1 (degC)	
0	100

43.801	

SDT (degC)	
0	100

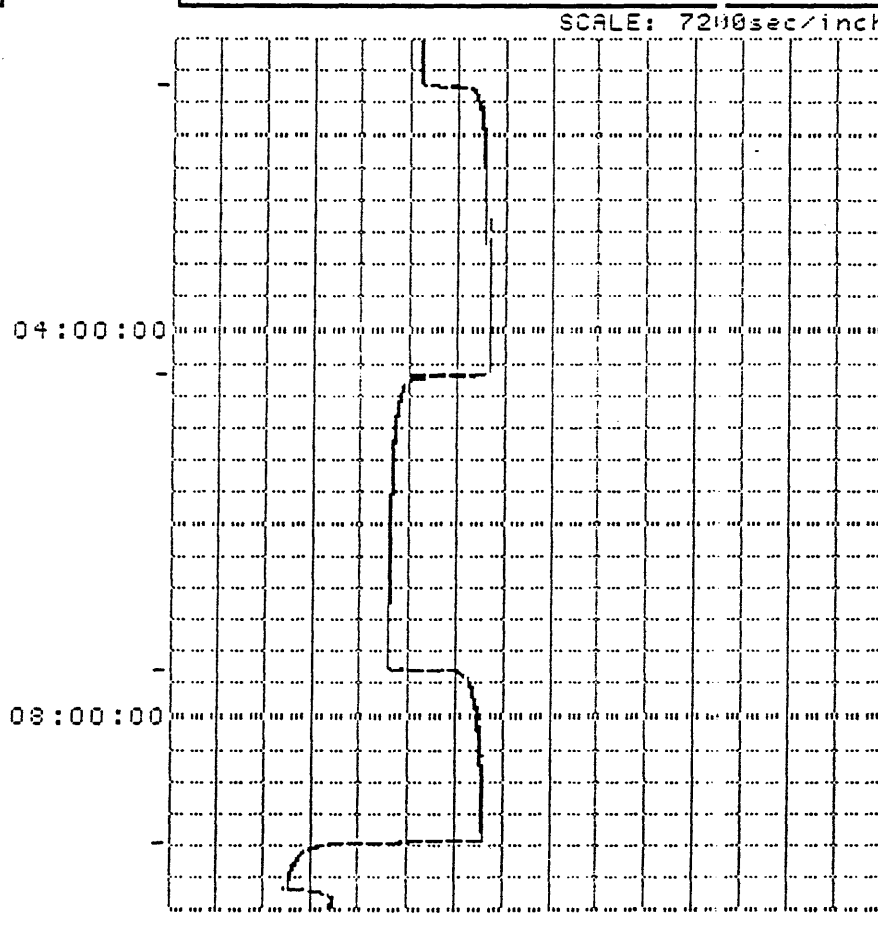
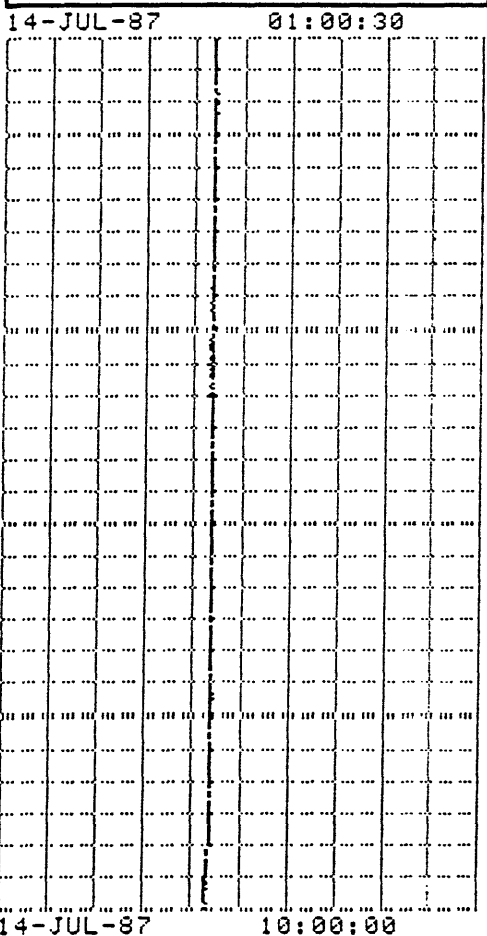
43.852	

SDP1 (psia)	
750	1500

1013.9	

SDP (psia)	
750	1500

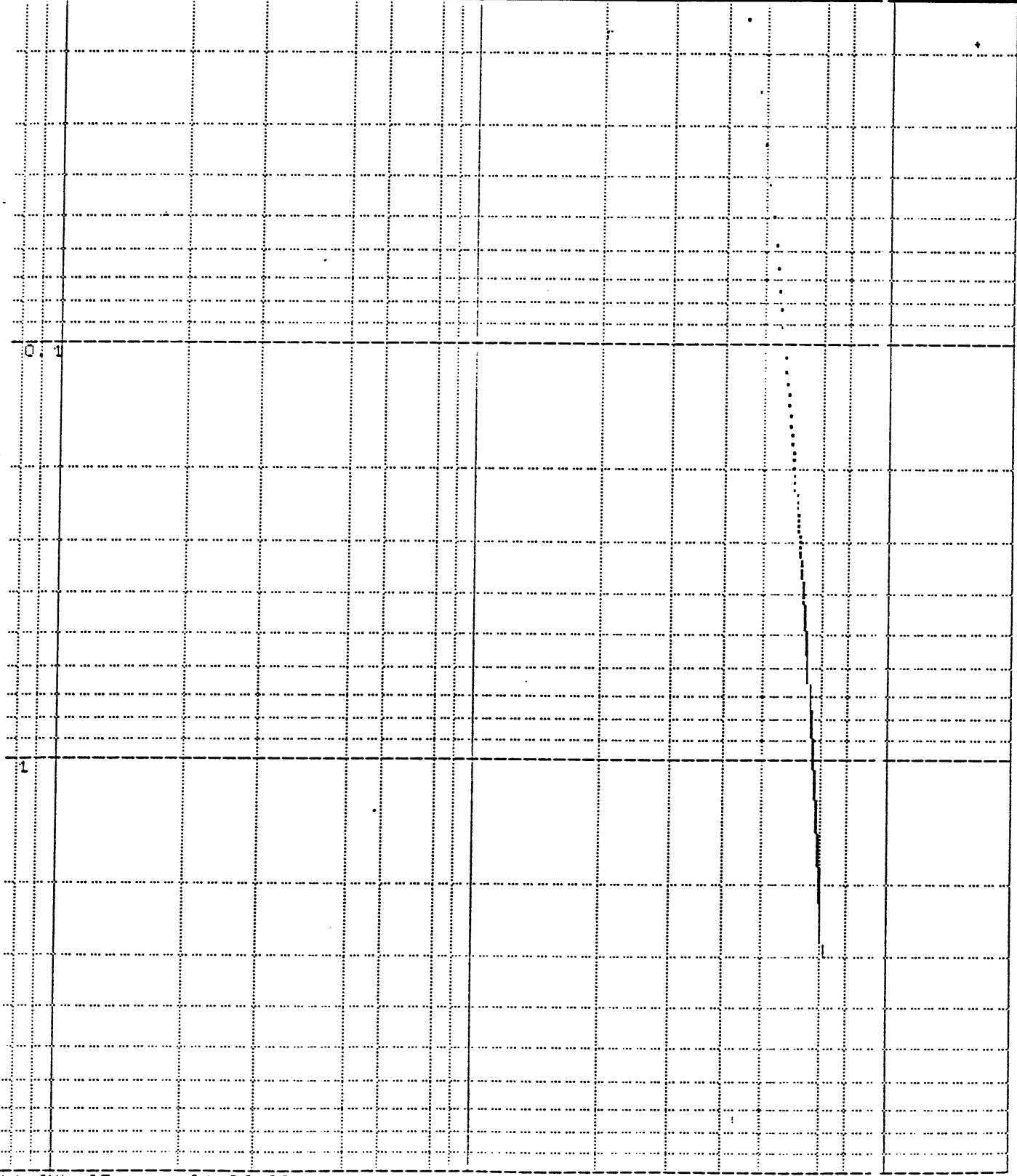
1013.5	



WELL TEST SDP BOTTOM HOLE RESULTS (log log plot)
 FLOW PERIOD 10 BUILD UP

LOG-LOG PLOT T0=14-JUL-87 01:28:00 P0=1013.15

0.75299	P-P0 (SDP1)	100	200
.....	10		
44.844			



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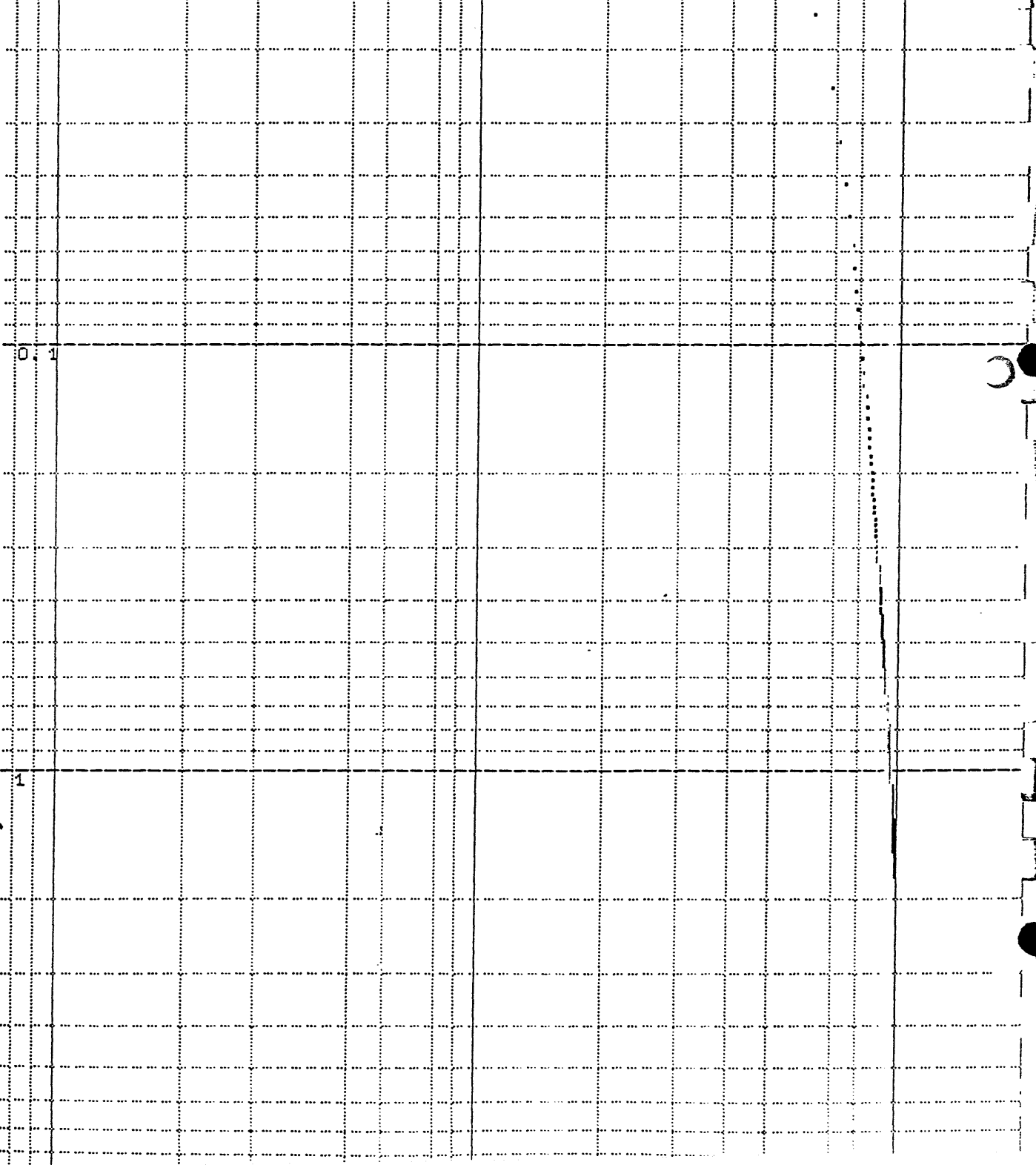
LASMO ENERGY AUSTRALIA LTD PATRICIA # 1 DST # 3
DATA FROM SSDP # 83115(SDP) & # 83111(SDP1)

SDP DATA
MLS 03

WELL TEST SDP BOTTOM HOLE RESULTS (log log plot)
FLOW PERIOD 12 BUILD UP

LOG-LOG PLOT T0=14-JUL-87 07:29:00 P0=979.68

P-P0 (SDP1)
0.75299 10 100 200
.....
62.399



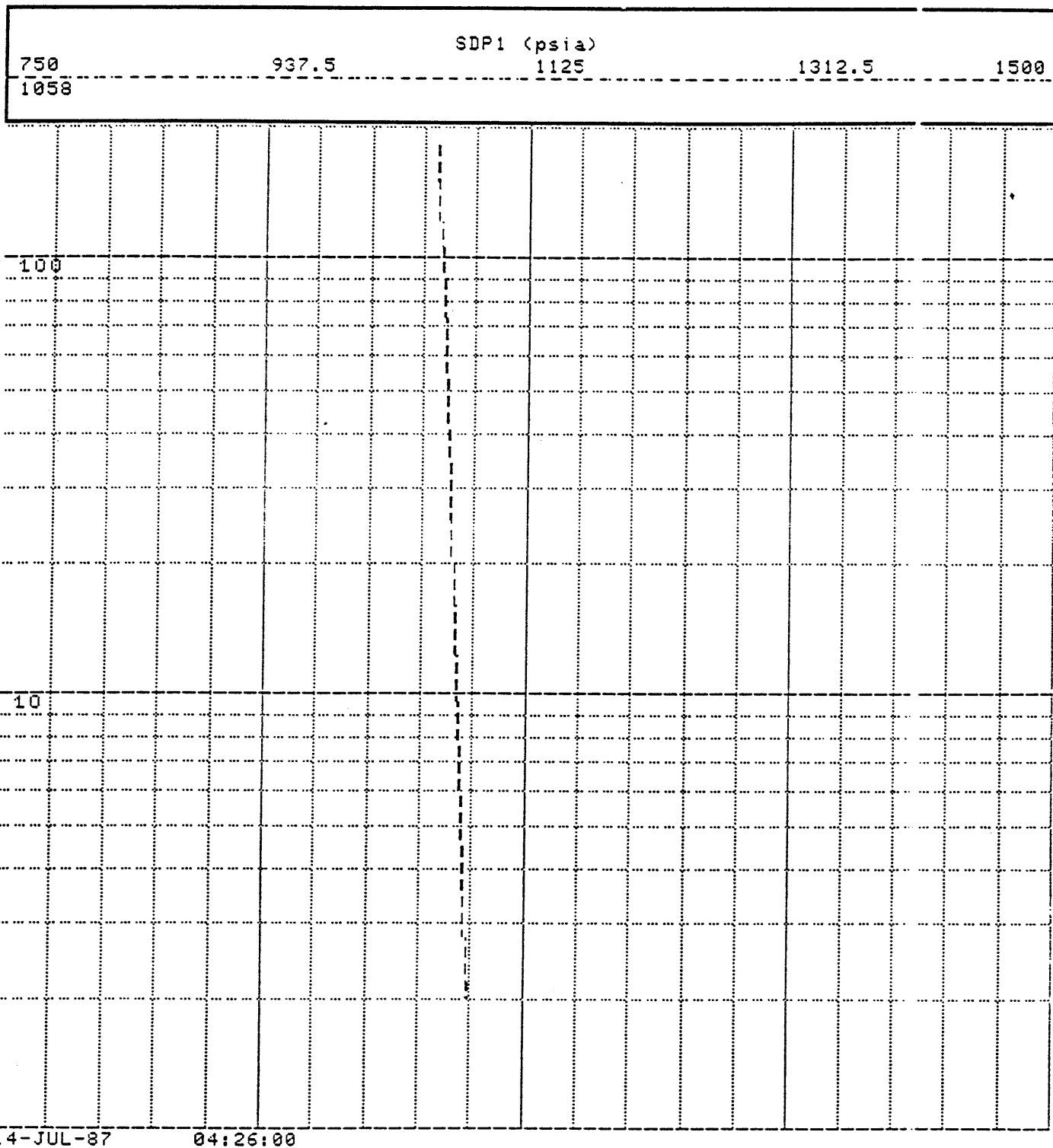


WELL TEST SDP BOTTOM HOLE RESULTS (HORNER plot)
FLOW PERIOD 10 BUILD UP

HORNER PLOT

T0=14-JUL-87 01:28:00

FT=3



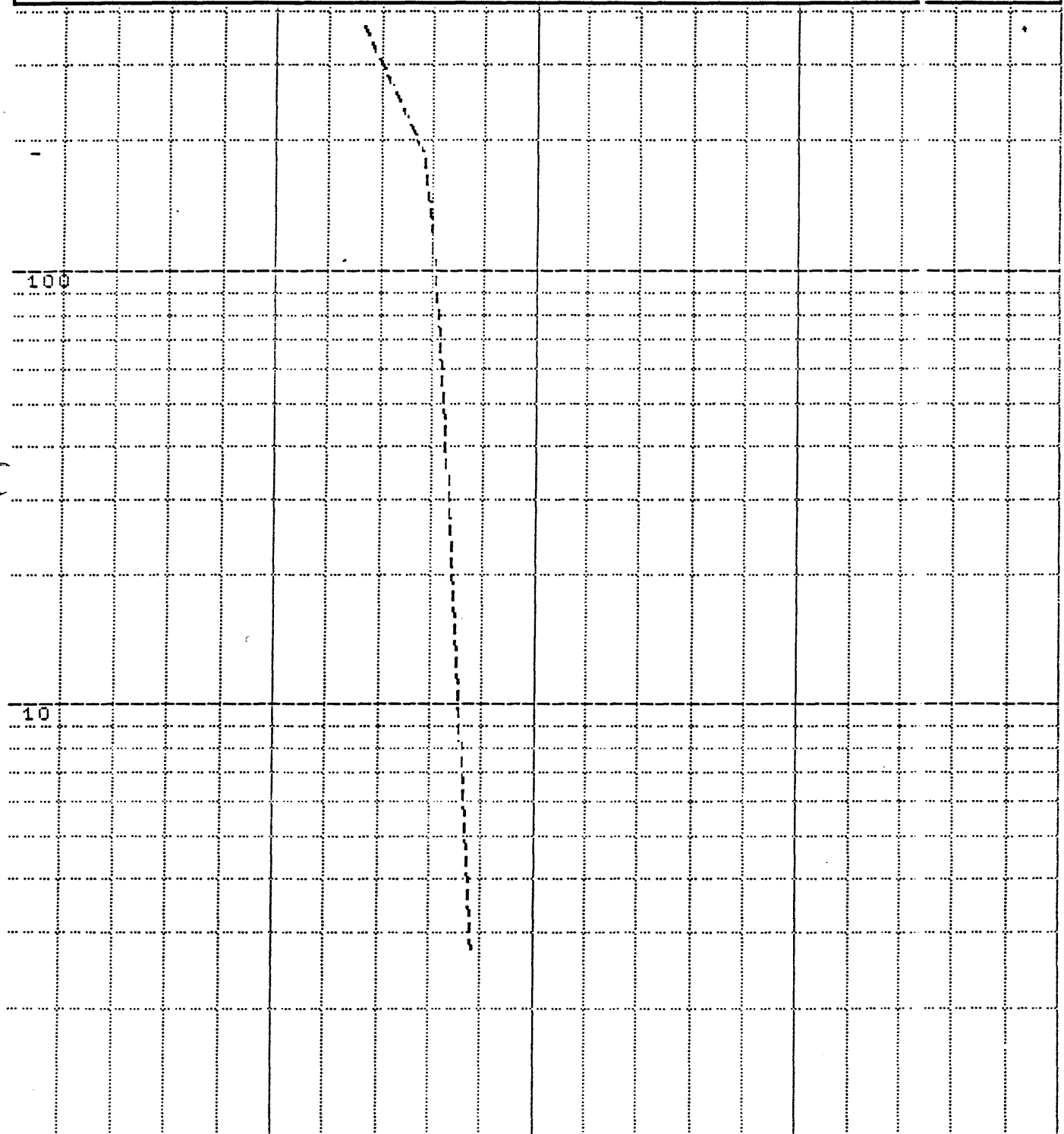
WELL TEST SDP BOTTOM HOLE RESULTS (HORNER plot)
FLOW PERIOD 12 BUILD UP
FINAL BUILD UP

HORNER PLOT

T0=14-JUL-87 07:29:00

FT=3.05

			SDP1 (psia)						
750		937.5	1125		1312.5			1500	
998.08									



14-JUL-87

09:16:00

WELL TEST SDP BOTTOM HOLE RESULTS
 FLOW PERIOD 01 , DRAWDOWN, 1" ADJUSTABLE CHOKE
 INITIAL FLOW

13-JUL-87

07:40:00

OPEN PCT

SDT1	SDP1	SDT	SDP
degC	psia	degC	psia

07:40:00	41.2	884.95	41.2	732.49
07:41:00	41.3	1014.18	41.3	1011.16
07:42:00	41.5	1044.43	41.7	1033.26
07:43:00	41.8	1076.64	42.0	1073.00
07:44:00	42.1	1083.53	42.6	1091.47
07:45:00	42.4	1085.55	43.0	1093.48
07:46:00	OPEN WELL ON 1/2" ADJ. CHOKE BEAN UP TO 1" ADJ. CHOKE			
07:46:00	42.8	1051.67	43.4	1057.52
07:47:00	43.0	1023.66	43.8	1024.71
07:48:00	43.5	1002.13	44.0	1006.49
07:49:00	44.0	963.19	44.5	952.17
07:49:20	CLOSE CHOKE MANIFOLD			
07:49:30	OPEN CHOKE MANIFOLD			
07:50:00	SHUT PCT CLOSE CHOKE MANIFOLD			
07:50:00	44.4	1029.44	45.0	1032.45
07:51:00	OPEN CHOKE MANIFOLD TO BLEED T.H.P. ABOVE PCT			
07:51:00	44.8	940.87	45.5	932.41
07:52:00	45.3	1011.27	46.0	959.88
07:53:00	CLOSE CHOKE MANIFOLD T.H.P. INCREASES TO 1000 psiG			
07:53:00	45.8	1070.10	46.4	1052.02
07:54:00	46.3	1081.58	46.9	1075.78
07:55:00	OPEN CHOKE MANIFOLD BLEED T.H.P. TO 140 psiG			
07:55:00	46.8	970.38	47.3	937.24
07:56:00	47.1	879.02	47.6	876.02
07:57:00	47.4	881.38	48.0	876.39
07:58:00	47.5	886.37	48.1	881.68
07:59:00	47.7	884.36	48.3	883.24
08:00:00	47.7	875.77	48.3	871.90
08:01:00	47.7	849.60	48.3	873.69
08:02:00	OPEN PCT			
08:02:00	47.7	1045.21	48.3	995.78

FLOW PERIOD 02 , BUILD UP AFTER FLOW PERIOD 01
 INITIAL BUILD UP

13-JUL-87

08:03:00

CLOSE PCT T.H.P. BLEEDS TO 0 psiG

T0=13-JUL-87 08:02:00 P0=849.6 FT=0.35

SDT1	SDP1	T-T0	L(T-T0)	P-P0	L(P-P0)	L(HORN)
degC	psia	hr		SDP1	SDP1	

08:03:00	47.6	1070.92	0.0167	-1.7782	221.32	2.3450	1.3424
08:04:00	CLOSE CHOKE MANIFOLD						
08:04:00	47.6	1075.99	0.0333	-1.4771	226.39	2.3549	1.0607
08:05:00	47.5	1078.67	0.0500	-1.3010	229.07	2.3600	0.9031
08:06:00	47.5	1080.45	0.0667	-1.1761	230.85	2.3634	0.7959
08:07:00	47.4	1081.76	0.0833	-1.0792	232.16	2.3650	0.7160
08:08:00	47.3	1082.76	0.1000	-1.0000	233.16	2.3677	0.6532
08:09:00	47.1	1083.60	0.1167	-0.9331	234.00	2.3692	0.6021
08:10:00	47.0	1084.28	0.1333	-0.8751	234.68	2.3707	0.5593

13-JUL-87
 T0=13-JUL-87 08:02:00 P0=849.6 FT=0.35

	SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
08:11:00	46.9	1084.83	0.1500	-0.8239	235.23	2.3715	0.5229
08:12:00	46.9	1085.31	0.1667	-0.7782	235.71	2.3724	0.4914
08:13:00	46.7	1085.73	0.1833	-0.7368	236.13	2.3732	0.4638
08:14:00	46.6	1086.08	0.2000	-0.6990	236.48	2.3738	0.4393
08:15:00	46.4	1086.39	0.2167	-0.6642	236.79	2.3744	0.4175
08:16:00	46.3	1086.65	0.2333	-0.6320	237.05	2.3748	0.3979
08:17:00	46.3	1086.89	0.2500	-0.6021	237.29	2.3753	0.3802
08:18:00	46.2	1087.09	0.2667	-0.5740	237.49	2.3756	0.3641
08:19:00	46.2	1087.28	0.2833	-0.5477	237.68	2.3760	0.3493
08:20:00	46.1	1087.42	0.3000	-0.5229	237.82	2.3762	0.3358
08:21:00	46.0	1087.57	0.3167	-0.4994	237.97	2.3765	0.3233
08:22:00	45.9	1087.70	0.3333	-0.4771	238.10	2.3768	0.3118
08:23:00	45.8	1087.83	0.3500	-0.4559	238.23	2.3770	0.3010
08:24:00	45.8	1087.92	0.3667	-0.4357	238.32	2.3772	0.2910
08:25:00	45.8	1088.02	0.3833	-0.4164	238.42	2.3773	0.2817
08:26:00	45.7	1088.13	0.4000	-0.3979	238.53	2.3775	0.2730
08:27:00	45.6	1088.21	0.4167	-0.3802	238.61	2.3777	0.2648
08:28:00	45.5	1088.27	0.4333	-0.3632	238.67	2.3778	0.2571
08:29:00	45.5	1088.35	0.4500	-0.3468	238.75	2.3779	0.2499
08:30:00	45.3	1088.42	0.4667	-0.3310	238.82	2.3781	0.2430
08:31:00	45.3	1088.48	0.4833	-0.3158	238.88	2.3782	0.2366
08:32:00	45.2	1088.55	0.5000	-0.3010	238.95	2.3783	0.2304
08:33:00	45.2	1088.59	0.5167	-0.2868	238.99	2.3784	0.2246

FLOW PERIOD 03 , DRAWDOWN, 1 1/4" + 1 1/4" FIXED + ADJUSTABLE CHOKE
 CLEAN UP FLOW

13-JUL-87
 08:34:00

OPEN PCT . OPEN WELL ON 1 1/4" ADJ. CHOKE

	SDT1 degC	SDP1 psia	SDT degC	SDP psia
08:34:00	45.2	869.08	45.4	981.18
08:35:00	45.2	1054.71	45.3	1038.37
08:36:00	BEAN UP TO 1 1/4" ADJ. + 1 1/4" FIXED CHOKE (1 3/4")			
08:36:00	45.2	1021.85	45.3	1046.62
08:37:00	45.2	879.32	45.3	891.16
08:38:00	45.2	852.25	45.4	853.56
08:39:00	45.1	838.94	45.2	840.28
08:40:00	45.1	835.93	45.2	836.57
08:41:00	45.0	832.52	45.2	833.25
08:42:00	44.9	830.34	45.1	830.99
08:43:00	44.7	828.22	45.0	829.34
08:44:00	44.7	827.51	44.8	828.06
08:45:00	44.5	826.14	44.7	827.13
08:46:00	44.4	825.58	44.5	826.43
08:47:00	44.2	826.45	44.4	827.50
08:48:00	44.1	826.21	44.4	827.23
08:49:00	44.0	827.64	44.1	828.41
08:50:00	43.9	829.34	44.0	830.41
08:51:00	43.8	830.43	43.9	831.54
08:52:00	43.6	838.74	43.9	837.34
08:53:00	43.5	853.69	43.8	854.46

13-JUL-87

SDT1 degC	SDP1 psia	SDT degC	SDP psia
--------------	--------------	-------------	-------------

08:54:00	43.5	855.05	43.5	856.29
08:55:00	43.4	853.10	43.5	854.24
08:56:00	43.3	870.23	43.4	870.81
08:57:00	43.2	863.31	43.4	870.26
08:58:00	43.2	865.31	43.3	866.51
08:59:00	43.2	865.91	43.3	867.63
09:00:00	43.1	867.81	43.3	868.71
09:05:00	43.0	883.53	43.1	882.37
09:10:00	42.9	888.35	43.0	887.59
09:15:00	42.8	891.69	42.9	891.60
09:20:00	42.8	894.19	42.9	894.41
09:25:00	42.8	885.78	42.8	886.35
09:30:00	42.7	888.34	42.8	887.64
09:35:00	42.7	891.79	42.7	892.74
09:40:00	42.6	894.35	42.6	894.46
09:45:00	42.5	895.77	42.6	896.13
09:50:00	42.5	897.25	42.6	897.66
09:55:00	42.5	898.51	42.6	898.26
10:00:00	42.6	897.65	42.5	897.55
10:05:00	42.5	898.79	42.6	898.85
10:10:00	42.5	898.88	42.6	899.13
10:15:00	42.5	899.57	42.6	899.80
10:20:00	42.4	900.21	42.5	900.25
10:25:00	42.4	899.92	42.5	900.14
10:30:00	42.4	899.20	42.5	899.61
10:35:00	42.4	898.94	42.5	898.61
10:40:00	42.4	899.12	42.5	899.24
10:45:00	42.4	900.51	42.5	900.94
10:50:00	42.4	901.36	42.5	901.26
10:55:00	42.4	902.22	42.4	902.05
11:00:00	42.4	904.20	42.5	904.08
11:05:00	BEAN DOWN TO 1 1/4" FIXED CHOKE			
11:05:00	42.4	905.32	42.5	906.07

FLOW PERIOD 05 , DRAWDOWN, 1 1/4" + 1 1/4" FIXED + ADJUSTABLE CHOKE

13-JUL-87

11:13:00 BEAN UP TO 1 1/4" + 1 1/4" CHOKE

SDT1 degC	SDP1 psia	SDT degC	SDP psia
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11:15:00	42.5	907.03	42.6	907.19
11:20:00	42.5	911.16	42.5	911.03
11:25:00	42.5	913.03	42.6	912.77
11:30:00	42.5	914.35	42.5	914.56
11:35:00	42.5	913.85	42.6	913.72
11:40:00	42.6	911.51	42.6	911.65
11:45:00	42.6	909.31	42.6	909.47
11:50:00	42.5	908.31	42.6	908.36
11:55:00	42.5	905.34	42.6	905.61
12:00:00	42.5	902.54	42.6	902.22
12:05:00	42.5	901.63	42.6	901.21
12:10:00	42.5	898.11	42.5	898.82
12:15:00	42.4	895.40	42.5	896.26

13-JUL-87

SDT1 degC	SDP1 psia	SDT degC	SDP psia
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12:20:00	42.4	892.99	42.5	892.68
12:25:00	42.4	893.49	42.5	893.50
12:30:00	42.4	892.50	42.5	892.69
12:30:30	42.4	891.43	42.5	891.89
12:31:00	42.4	890.73	42.4	890.95
12:31:30	42.4	890.08	42.4	890.53
12:32:00	42.4	892.76	42.4	892.28
12:32:30	42.4	1010.59	42.5	999.35

FLOW PERIOD 06, BUILD UP AFTER FLOW PERIOD 05

13-JUL-87

12:33:00 SHUT IN WELL AT PCT . CLOSE CHOKE MANIFOLD

T0=13-JUL-87 12:32:00 P0=892.76 FT=1.3833

SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
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12:33:00	42.4	1024.79	0.0167	-1.7782	132.03	2.1207	1.9243
12:33:30	42.4	1031.33	0.0250	-1.6021	138.57	2.1417	1.7508
12:34:00	42.4	1035.54	0.0333	-1.4771	142.78	2.1547	1.6284
12:34:30	42.4	1038.67	0.0417	-1.3802	145.91	2.1641	1.5348
12:35:00	42.4	1041.16	0.0500	-1.3010	148.40	2.1714	1.4574
12:35:30	42.4	1043.21	0.0583	-1.2341	150.45	2.1774	1.3929
12:36:00	42.5	1044.98	0.0667	-1.1761	152.22	2.1825	1.3374
12:36:30	42.5	1046.50	0.0750	-1.1249	153.74	2.1868	1.2888
12:37:00	42.5	1047.85	0.0833	-1.0792	155.09	2.1906	1.2455
12:37:30	42.6	1049.05	0.0917	-1.0378	156.29	2.1939	1.2066
12:38:00	42.5	1050.15	0.1000	-1.0000	157.39	2.1970	1.1712
12:38:30	42.6	1051.14	0.1083	-0.9652	158.38	2.1997	1.1389
12:39:00	42.5	1052.04	0.1167	-0.9331	159.28	2.2022	1.1091
12:39:30	42.6	1052.89	0.1250	-0.9031	160.13	2.2045	1.0816
12:40:00	42.7	1053.65	0.1333	-0.8751	160.89	2.2065	1.0559
12:40:30	42.6	1054.38	0.1417	-0.8487	161.62	2.2085	1.0320
12:41:00	42.7	1055.07	0.1500	-0.8239	162.31	2.2103	1.0095
12:41:30	42.7	1055.70	0.1583	-0.8004	162.94	2.2120	0.9884
12:42:00	42.7	1056.31	0.1667	-0.7782	163.55	2.2137	0.9685
12:42:30	42.6	1056.88	0.1750	-0.7570	164.12	2.2152	0.9496
12:43:00	42.7	1057.42	0.1833	-0.7368	164.66	2.2165	0.9317
12:43:30	42.7	1057.94	0.1917	-0.7175	165.18	2.2180	0.9147
12:44:00	42.6	1058.42	0.2000	-0.6990	165.66	2.2192	0.8985
12:44:30	42.7	1058.88	0.2083	-0.6812	166.12	2.2204	0.8831
12:45:00	42.8	1059.30	0.2167	-0.6642	166.54	2.2215	0.8683
12:45:30	42.7	1059.74	0.2250	-0.6478	166.98	2.2227	0.8542
12:46:00	42.7	1060.13	0.2333	-0.6320	167.37	2.2237	0.8406
12:46:30	42.7	1060.52	0.2417	-0.6168	167.76	2.2247	0.8276
12:47:00	42.8	1060.88	0.2500	-0.6021	168.12	2.2255	0.8151
12:47:30	42.7	1061.24	0.2583	-0.5878	168.48	2.2265	0.8031
12:48:00	42.7	1061.58	0.2667	-0.5740	168.82	2.2274	0.7915
12:48:30	42.7	1061.92	0.2750	-0.5607	169.16	2.2283	0.7803
12:49:00	42.7	1062.22	0.2833	-0.5477	169.46	2.2291	0.7695
12:49:30	42.8	1062.52	0.2917	-0.5351	169.76	2.2298	0.7591
12:50:00	42.7	1062.84	0.3000	-0.5229	170.08	2.2305	0.7490
12:50:30	42.7	1063.10	0.3083	-0.5110	170.34	2.2313	0.7393
12:51:00	42.8	1063.37	0.3167	-0.4994	170.61	2.2320	0.7298

15-JUL-87

SDT2 degC	SDP2 psia	SDT degC	SDP psia
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08:30:00		41.3	731.40	
08:01:00		41.2	731.50	
08:02:00		41.0	735.41	
08:03:00		41.0	734.99	
08:04:00		41.0	732.21	
08:05:00		40.9	731.09	
08:06:00		40.8	731.55	
08:07:00		40.8	731.89	
08:08:00		40.8	732.64	
08:09:00		40.8	733.19	
08:10:00		40.7	733.93	
08:11:00		40.7	734.49	
08:12:00		40.7	734.62	
08:13:00		40.7	735.05	
08:14:00		40.7	735.81	
08:15:00		40.6	736.90	
08:16:00		40.6	736.83	
08:17:00		40.7	736.67	
08:18:00		40.6	739.11	
08:19:00		40.6	740.06	
08:20:00		40.6	740.36	
08:21:00		40.6	740.62	
08:22:00		40.6	741.85	
08:23:00		40.6	742.40	
08:24:00		40.6	742.37	
08:25:00		40.7	742.59	
08:26:00		40.7	743.20	
08:27:00		40.7	743.63	
08:28:00		40.7	743.58	
08:29:00		40.7	744.61	
08:30:00		40.7	745.30	
08:31:00		40.7	745.89	
08:32:00		40.8	746.67	
08:33:00		40.7	747.12	
08:34:00		40.8	747.62	
08:35:00		40.8	748.13	
08:36:00		40.7	748.31	
08:37:00		40.8	749.06	
08:38:00		40.8	749.75	
08:39:00		40.8	750.49	
08:40:00		40.8	750.92	
08:41:00		40.8	751.61	
08:42:00		40.8	751.74	
08:43:00		40.8	751.66	
08:44:00		40.8	751.74	
08:45:00		40.8	751.77	
08:46:00		40.8	752.17	
08:47:00		40.8	752.88	
08:48:00		40.8	752.67	
08:49:00		40.8	752.52	
08:50:00		40.8	752.44	
08:51:00		40.9	752.84	
08:52:00		40.9	752.33	
08:53:00	41.2	756.30	40.8	752.04
08:54:00	41.2	756.23	40.8	751.99

15-JUL-87

SDT2 degC	SDP2 psia	SDT degC	SDP psia
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08:55:00	41.2	756.35	40.9	752.10
08:56:00	41.2	756.24	40.9	751.98
08:57:00	41.3	756.37	40.9	752.12
08:58:00	41.3	756.05	40.9	751.74
08:59:00	41.2	755.93	40.8	751.66
09:00:00	41.2	755.87	40.8	751.61
09:05:00	41.3	756.29	40.9	752.06
09:10:00	41.3	756.65	40.9	752.39
09:15:00	41.3	756.37	40.9	752.18
09:20:00	41.3	757.70	40.9	753.63
09:25:00	41.3	758.25	40.9	754.14
09:30:00	41.3	758.49	41.0	754.28
09:35:00	41.4	758.51	40.9	754.40
09:40:00	41.4	765.63	40.9	761.44
09:45:00	41.4	765.72	41.0	761.56
09:45:10	41.4	765.81	41.0	761.67
09:45:20	41.4	765.85	41.0	761.69
09:45:30	41.4	765.80	41.0	761.50
09:45:40	41.4	765.75	41.0	761.51
09:45:50	41.4	765.70	41.1	761.53
09:46:00	41.4	765.65	41.1	761.45
09:46:10	41.4	765.60	41.0	761.42

FLOW PERIOD 04, BUILD UP AFTER FLOW PERIOD 03

15-JUL-87

09:46:30 SHUT IN WELL AT CHOKE MANIFOLD

09:46:00 P0=765.7 FT=1.9

SDT2 degC	SDP2 psia	T-T0 hr	L(T-T0)	P-P0 SDP2	L(P-P0) SDP2	L(HORN)
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09:46:30	41.4	795.28	0.0083	-2.0792	29.58	1.4710	2.3598
09:46:40	41.3	867.92	0.0111	-1.9542	102.22	2.0095	2.2355
09:46:50	41.4	915.27	0.0139	-1.8573	149.57	2.1740	2.1392
09:47:00	41.3	942.44	0.0167	-1.7782	176.74	2.2473	2.0687
09:47:10	41.4	958.92	0.0194	-1.7112	193.22	2.2860	1.9944
09:47:20	41.4	969.85	0.0222	-1.6532	204.16	2.3100	1.9370
09:47:30	41.4	977.85	0.0250	-1.6021	212.16	2.3267	1.8865
09:47:40	41.4	983.89	0.0278	-1.5563	218.18	2.3380	1.8414
09:47:50	41.4	988.80	0.0306	-1.5149	223.10	2.3485	1.8006
09:48:00	41.4	992.90	0.0333	-1.4771	227.20	2.3564	1.7634
09:48:10	41.4	996.41	0.0361	-1.4424	230.71	2.3631	1.7293
09:48:20	41.4	999.37	0.0389	-1.4102	233.67	2.3686	1.6977
09:48:30	41.4	1001.95	0.0417	-1.3802	236.25	2.3734	1.6684
09:48:40	41.4	1004.30	0.0444	-1.3522	238.60	2.3777	1.6410
09:48:50	41.4	1006.36	0.0472	-1.3259	240.66	2.3814	1.6153
09:49:00	41.4	1008.29	0.0500	-1.3010	242.59	2.3849	1.5911
09:49:10	41.4	1010.00	0.0528	-1.2775	244.30	2.3879	1.5682
09:49:20	41.4	1011.58	0.0556	-1.2553	245.88	2.3907	1.5465
09:49:30	41.4	1013.00	0.0583	-1.2341	247.38	2.3934	1.5260
09:49:40	41.5	1014.41	0.0611	-1.2139	248.71	2.3957	1.5064
09:49:50	41.5	1015.67	0.0639	-1.1946	249.97	2.3979	1.4877
09:50:00	41.5	1016.81	0.0667	-1.1761	251.11	2.3999	1.4698
09:50:30	41.6	1020.00	0.0750	-1.1249	254.30	2.4054	1.4205

15-JUL-87

T0=15-JUL-87 09:46:00

P0=765.7 FT=1.9

	SDT2 degC	SDP2 psia	T-T0 hr	L(T-T0)	P-P0 SDP2	L(P-P0) SDP2	L(HORN)
09:51:00	41.5	1022.72	0.0833	-1.0792	257.02	2.4100	1.3766
09:51:30	41.5	1025.03	0.0917	-1.0378	259.38	2.4137	1.3370
09:52:00	41.7	1027.15	0.1000	-1.0000	261.45	2.4174	1.3010
09:52:30	41.7	1029.99	0.1083	-0.9652	263.29	2.4204	1.2681
09:53:00	41.7	1030.61	0.1167	-0.9331	264.91	2.4231	1.2377
09:53:30	41.8	1032.22	0.1250	-0.9031	266.52	2.4257	1.2095
09:54:00	41.8	1033.57	0.1333	-0.8751	267.87	2.4279	1.1833
09:54:30	41.8	1034.92	0.1417	-0.8487	269.22	2.4301	1.1587
09:55:00	41.9	1036.10	0.1500	-0.8239	270.40	2.4320	1.1357
09:55:30	41.9	1037.25	0.1583	-0.8004	271.55	2.4339	1.1139
09:56:00	41.9	1038.31	0.1667	-0.7782	272.61	2.4355	1.0934
09:56:30	41.9	1039.33	0.1750	-0.7570	273.63	2.4372	1.0740
09:57:00	41.9	1040.29	0.1833	-0.7368	274.59	2.4387	1.0555
09:57:30	42.0	1041.21	0.1917	-0.7175	275.51	2.4401	1.0379
09:58:00	42.0	1042.06	0.2000	-0.6990	276.36	2.4415	1.0212
09:58:30	42.1	1042.94	0.2083	-0.6812	277.14	2.4427	1.0052
09:59:00	42.1	1043.61	0.2167	-0.6642	277.91	2.4439	0.9899
09:59:30	42.2	1044.33	0.2250	-0.6478	278.69	2.4451	0.9752
10:00:00	42.3	1045.14	0.2333	-0.6320	279.44	2.4463	0.9611
10:01:00	42.3	1045.46	0.2500	-0.6021	280.76	2.4483	0.9345
10:02:00	42.3	1047.73	0.2567	-0.5740	282.09	2.4504	0.9098
10:03:00	42.4	1048.92	0.2833	-0.5477	283.22	2.4521	0.8868
10:04:00	42.4	1050.05	0.3000	-0.5229	284.35	2.4539	0.8653
10:05:00	42.4	1051.05	0.3167	-0.4994	285.36	2.4554	0.8451
10:06:00	42.5	1052.06	0.3333	-0.4771	286.36	2.4569	0.8261
10:07:00	42.5	1052.96	0.3500	-0.4559	287.26	2.4583	0.8081
10:08:00	42.5	1053.83	0.3667	-0.4357	288.13	2.4596	0.7911
10:09:00	42.5	1054.63	0.3833	-0.4164	288.93	2.4608	0.7750
10:10:00	42.6	1055.43	0.4000	-0.3979	289.70	2.4619	0.7597
10:11:00	42.6	1056.11	0.4167	-0.3802	290.41	2.4630	0.7451
10:12:00	42.6	1056.76	0.4333	-0.3632	291.06	2.4640	0.7312
10:13:00	42.6	1057.42	0.4500	-0.3468	291.72	2.4650	0.7179
10:14:00	42.6	1058.07	0.4667	-0.3310	292.37	2.4659	0.7051
10:15:00	42.6	1058.73	0.4833	-0.3158	293.00	2.4669	0.6929
10:16:00	42.6	1059.23	0.5000	-0.3010	293.53	2.4677	0.6812
10:17:00	42.6	1059.76	0.5167	-0.2868	294.06	2.4684	0.6700
10:18:00	42.6	1060.30	0.5333	-0.2730	294.60	2.4692	0.6592
10:19:00	42.7	1060.83	0.5500	-0.2596	295.13	2.4700	0.6488
10:20:00	42.7	1061.33	0.5667	-0.2467	295.60	2.4707	0.6388
10:21:00	42.7	1061.75	0.5833	-0.2341	296.06	2.4714	0.6291
10:22:00	42.7	1062.23	0.6000	-0.2218	296.53	2.4721	0.6198
10:23:00	42.7	1062.69	0.6167	-0.2099	296.99	2.4727	0.6108
10:24:00	42.7	1063.11	0.6333	-0.1984	297.41	2.4734	0.6021
10:25:00	42.7	1063.51	0.6500	-0.1871	297.81	2.4739	0.5936
10:26:00	42.7	1063.93	0.6667	-0.1761	298.20	2.4745	0.5855
10:27:00	42.7	1064.33	0.6833	-0.1654	298.60	2.4751	0.5775
10:28:00	42.7	1064.67	0.7000	-0.1549	298.97	2.4756	0.5699
10:29:00	42.7	1064.99	0.7167	-0.1447	299.29	2.4761	0.5624
10:30:00	42.7	1065.31	0.7333	-0.1347	299.61	2.4766	0.5552
10:31:00	42.7	1065.64	0.7500	-0.1249	299.94	2.4770	0.5482
10:32:00	42.7	1065.96	0.7667	-0.1154	300.26	2.4775	0.5414
10:33:00	42.7	1066.29	0.7833	-0.1061	300.59	2.4780	0.5347
10:34:00	42.7	1066.61	0.8000	-0.0969	300.91	2.4784	0.5283
10:35:00	42.7	1066.94	0.8167	-0.0880	301.24	2.4789	0.5220

15-JUL-87

T0=15-JUL-87 09:46:00

P0=765.7 FT=1.9

	SDT2 degC	SDP2 psia	T-T0 hr	L(T-T0)	P-P0 SDP2	L(P-P0) SDP2	L(HORN)
10:36:00	42.7	1067.26	0.8333	-0.0792	301.56	2.4794	0.5159
10:37:00	42.7	1067.53	0.8500	-0.0706	301.83	2.4790	0.5099
10:38:00	42.7	1067.79	0.8667	-0.0621	302.09	2.4801	0.5041
10:39:00	42.7	1068.05	0.8833	-0.0539	302.35	2.4805	0.4984
10:40:00	42.7	1068.31	0.9000	-0.0458	302.61	2.4809	0.4929
10:41:00	42.7	1068.57	0.9167	-0.0378	302.87	2.4813	0.4875
10:42:00	42.7	1068.84	0.9333	-0.0300	303.14	2.4816	0.4823
10:43:00	42.7	1069.10	0.9500	-0.0223	303.40	2.4820	0.4771
10:44:00	42.7	1069.36	0.9667	-0.0147	303.66	2.4824	0.4721
10:45:00	42.7	1069.60	0.9833	-0.0073	303.90	2.4827	0.4672
10:46:00	42.8	1069.82	1.0000	0.0000	304.12	2.4830	0.4624
10:47:00	42.8	1070.03	1.0167	0.0072	304.33	2.4833	0.4577
10:48:00	42.8	1070.24	1.0333	0.0142	304.54	2.4836	0.4531
10:49:00	42.8	1070.46	1.0500	0.0212	304.76	2.4840	0.4486
10:50:00	42.8	1070.67	1.0667	0.0280	304.97	2.4843	0.4442
10:51:00	42.8	1070.88	1.0833	0.0348	305.18	2.4846	0.4399
10:52:00	42.8	1071.09	1.1000	0.0414	305.39	2.4849	0.4357
10:53:00	42.8	1071.31	1.1167	0.0479	305.61	2.4852	0.4316
10:54:00	42.8	1071.53	1.1333	0.0544	305.80	2.4854	0.4276
10:55:00	42.8	1071.69	1.1500	0.0607	305.99	2.4857	0.4236
10:56:00	42.8	1071.89	1.1667	0.0669	306.19	2.4860	0.4197
10:57:00	42.8	1072.08	1.1833	0.0731	306.38	2.4863	0.4159
10:58:00	42.8	1072.27	1.2000	0.0792	306.57	2.4865	0.4122
10:59:00	42.8	1072.46	1.2167	0.0852	306.76	2.4868	0.4085
11:00:00	42.8	1072.65	1.2333	0.0911	306.95	2.4871	0.4049
11:05:00	42.8	1073.48	1.3167	0.1195	307.78	2.4882	0.3879
11:10:00	42.7	1074.25	1.4000	0.1461	308.55	2.4893	0.3724
11:15:00	42.7	1075.06	1.4833	0.1712	309.36	2.4905	0.3581
11:20:00	42.7	1075.64	1.5667	0.1950	309.94	2.4913	0.3449
11:25:00	42.7	1076.21	1.6500	0.2175	310.51	2.4921	0.3327
11:30:00	42.7	1076.78	1.7333	0.2389	311.08	2.4929	0.3214
11:35:00	42.7	1077.28	1.8167	0.2593	311.58	2.4936	0.3109
11:40:00	42.7	1077.75	1.9000	0.2788	312.05	2.4942	0.3010
11:41:00	42.7	1077.83	1.9167	0.2825	312.13	2.4943	0.2991
11:42:00	42.7	1077.92	1.9333	0.2863	312.22	2.4945	0.2973
11:43:00	42.7	1078.00	1.9500	0.2900	312.30	2.4946	0.2954
11:44:00	42.7	1078.09	1.9667	0.2937	312.39	2.4947	0.2936

FLOW PERIOD 05, DRAWDOWN, 1 1/4" + 1 1/4" CHOKE
FINAL FLOW

15-JUL-87

11:45:00

OPEN WELL ON 1 1/4" + 1 1/4" CHOKE

	SDT2 degC	SDP2 psia	SDT degC	SDP psia
11:45:00	42.7	897.10	42.1	985.11
11:46:00	42.7	841.50	42.0	838.27
11:47:00	42.7	836.98	42.0	833.30
11:48:00	42.6	832.33	42.0	828.60
11:49:00	42.6	836.95	42.0	833.41
11:50:00	42.6	831.15	41.9	827.51
11:51:00	42.6	825.49	41.8	821.79

15-JUL-87

SDT2 degC	SDP2 psia	SDT degC	SDP psia
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11:52:00	42.5	821.33	41.8	817.47
11:53:00	42.4	817.38	41.8	813.42
11:54:00	42.5	814.90	41.7	811.01
11:55:00	42.4	812.10	41.7	808.16
11:56:00	42.3	806.89	41.7	804.82
11:57:00	42.3	806.68	41.6	802.47
11:58:00	42.3	805.28	41.6	801.15
11:59:00	42.2	802.88	41.6	798.72
12:00:00	42.2	801.03	41.5	796.91
12:01:00	42.2	799.18	41.4	794.84
12:02:00	42.2	797.28	41.5	793.02
12:03:00	42.2	795.01	41.4	791.79
12:04:00	42.1	794.15	41.4	789.93
12:05:00	42.1	792.93	41.4	788.60
12:06:00	42.1	792.07	41.4	787.77
12:07:00	42.0	791.34	41.4	786.95
12:08:00	42.0	790.73	41.4	786.37
12:09:00	42.1	790.29	41.4	785.99
12:10:00	42.0	789.78	41.4	785.33
12:11:00	42.0	789.26	41.4	784.80
12:12:00	42.0	789.00	41.4	784.66
12:13:00	41.9	788.79	41.4	784.31
12:14:00	41.9	788.07	41.4	783.76
12:15:00	41.9	787.86	41.4	783.55
12:16:00	41.9	787.36	41.4	783.04
12:17:00	41.9	786.90	41.3	782.61
12:18:00	41.8	786.48	41.3	782.11
12:19:00	41.8	786.61	41.3	782.30
12:20:00	41.8	786.42	41.3	782.11
12:21:00	41.8	786.50	41.3	782.19
12:22:00	41.8	786.22	41.3	781.87
12:23:00	41.8	785.98	41.3	781.58
12:24:00	41.8	785.96	41.2	781.76
12:25:00	41.8	785.75	41.3	781.47
12:26:00	41.8	784.83	41.3	780.46
12:27:00	41.8	784.57	41.3	780.23
12:28:00	41.8	784.57	41.3	780.30
12:29:00	41.8	784.43	41.3	780.07
12:30:00	41.8	784.30	41.3	780.04
12:31:00	41.8	784.30	41.3	780.03
12:32:00	41.8	784.31	41.3	779.91
12:33:00	41.8	784.31	41.2	780.06
12:34:00	41.8	784.31	41.3	780.03
12:35:00	41.8	784.33	41.3	780.01
12:36:00	41.8	784.10	41.3	779.87
12:37:00	41.8	783.94	41.3	779.64
12:38:00	41.8	784.75	41.2	780.57
12:39:00	41.8	784.82	41.2	780.65
12:40:00	41.8	784.66	41.2	780.44
12:41:00	41.8	784.32	41.3	779.90
12:42:00	41.8	783.97	41.3	779.66
12:43:00	41.8	783.79	41.2	779.56
12:44:00	41.8	783.42	41.2	779.05
12:45:00	41.8	782.94	41.3	778.54
12:46:00	41.8	782.90	41.3	778.63

15-JUL-87

SDT2 degC	SDP2 psia	SDT degC	SDP psia
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12:47:00	41.8	792.77	41.3	778.52
12:48:00	41.8	792.79	41.3	778.55
12:49:00	41.8	792.90	41.3	778.65
12:50:00	41.8	793.00	41.3	778.78
12:51:00	41.8	793.14	41.3	778.97
12:52:00	41.8	793.29	41.3	779.13
12:53:00	41.8	793.30	41.3	779.22
12:54:00	41.8	793.02	41.3	778.66
12:55:00	41.8	793.04	41.3	778.92
12:56:00	41.8	792.95	41.3	778.78
12:57:00	41.8	792.57	41.3	778.29
12:58:00	41.8	792.51	41.2	778.33
12:59:00	41.8	792.22	41.3	778.01
13:00:00	41.8	792.26	41.3	778.10
13:05:00	41.8	792.20	41.3	778.04
13:10:00	41.8	792.22	41.3	778.05
13:15:00	41.8	792.14	41.3	778.07
13:20:00	41.8	792.35	41.3	778.25
13:25:00	41.8	792.38	41.4	778.29
13:30:00	41.8	793.43	41.4	779.36
13:35:00	41.8	793.38	41.3	779.39
13:40:00	41.9	793.22	41.3	779.18
13:45:00	41.9	793.26	41.3	779.35
13:50:00	41.8	793.69	41.4	779.78
13:55:00	41.9	793.40	41.4	779.25
14:00:00	41.9	792.98	41.4	779.00
14:05:00	41.9	792.89	41.3	778.90
14:10:00	41.9	792.41	41.4	778.40
14:15:00	41.9	791.95	41.4	777.89
14:20:00	41.9	791.41	41.3	777.32
14:25:00	41.9	791.93	41.4	778.02
14:30:00	41.9	792.07	41.4	778.07
14:35:00	41.9	790.90	41.4	776.56
14:40:00	41.9	779.29	41.4	775.21
14:45:00	41.9	779.37	41.4	775.39
14:50:00	41.9	779.90	41.4	774.88
14:55:00	42.0	779.33	41.4	775.37
15:00:00	41.9	779.39	41.4	775.50
15:05:00	41.9	779.94	41.4	774.93
15:10:00	42.0	779.89	41.4	775.00
15:15:00	42.0	779.80	41.4	775.97
15:20:00	42.0	779.90	41.4	775.92
15:25:00	42.0	779.32	41.4	774.04
15:30:00	42.0	777.56	41.4	773.64
15:35:00	41.9	776.59	41.4	772.39
15:40:00	42.0	774.51	41.4	770.24
15:45:00	42.0	774.56	41.4	770.67
15:45:10	42.0	774.56	41.4	770.64
15:45:20	42.0	774.57	41.4	770.61
15:45:30	41.9	774.57	41.4	770.63
15:45:40	41.9	774.58	41.4	770.66
15:45:50	42.0	774.58	41.4	770.69
15:46:00	41.9	774.59	41.4	770.71

FLOW PERIOD 06, BUILD UP AFTER FLOW PERIOD 05
FINAL BUILD UP

15-JUL-87

15:46:10 SHUT IN WELL AT CHOKE MANIFOLD

T0=15-JUL-87 15:46:00 P0=774.59 FT=4.016

	SDT2 degC	SDP2 psia	T-T0 hr	L(T-T0)	P-P0 SDP2	L(P-P0) SDP2	L(HORN)
15:46:10	42.0	779.34	0.0028	-2.5553	4.75	0.6771	3.1604
15:46:20	42.0	842.11	0.0056	-2.2553	67.52	1.8294	2.8597
15:46:30	42.0	892.01	0.0083	-2.0792	117.42	2.0698	2.6839
15:46:40	42.0	919.99	0.0111	-1.9542	144.40	2.1595	2.5592
15:46:50	42.0	935.14	0.0139	-1.8573	160.55	2.2056	2.4626
15:47:00	42.0	946.00	0.0167	-1.7792	171.41	2.2340	2.3837
15:47:10	42.0	954.24	0.0194	-1.7112	179.65	2.2544	2.3171
15:47:20	41.9	959.62	0.0222	-1.6532	186.03	2.2696	2.2594
15:47:30	41.9	965.78	0.0250	-1.6021	191.19	2.2815	2.2085
15:47:40	42.0	969.95	0.0278	-1.5563	195.36	2.2900	2.1631
15:47:50	42.0	973.52	0.0306	-1.5149	198.93	2.2987	2.1220
15:48:00	42.0	975.63	0.0333	-1.4771	202.04	2.3054	2.0845
15:48:10	41.9	979.38	0.0361	-1.4424	204.79	2.3113	2.0500
15:48:20	42.0	981.72	0.0389	-1.4102	207.13	2.3163	2.0182
15:48:30	42.0	983.93	0.0417	-1.3802	209.34	2.3203	1.9885
15:48:40	42.0	985.93	0.0444	-1.3522	211.34	2.3250	1.9608
15:48:50	42.0	987.73	0.0472	-1.3259	213.14	2.3287	1.9347
15:49:00	42.0	989.43	0.0500	-1.3010	214.84	2.3321	1.9102
15:49:10	42.0	990.97	0.0528	-1.2775	216.38	2.3352	1.8870
15:49:20	42.0	992.41	0.0556	-1.2553	217.82	2.3381	1.8650
15:49:30	42.0	993.78	0.0583	-1.2341	219.19	2.3403	1.8441
15:49:40	42.0	995.02	0.0611	-1.2139	220.43	2.3433	1.8242
15:49:50	42.0	996.19	0.0639	-1.1946	221.60	2.3456	1.8052
15:50:00	42.0	997.27	0.0667	-1.1761	222.68	2.3477	1.7870
15:50:10	42.1	999.35	0.0694	-1.1584	223.76	2.3493	1.7696
15:50:20	42.1	999.40	0.0722	-1.1413	224.81	2.3513	1.7529
15:50:30	42.1	1000.33	0.0750	-1.1249	225.74	2.3536	1.7368
15:50:40	42.1	1001.26	0.0778	-1.1091	226.67	2.3554	1.7213
15:50:50	42.1	1002.18	0.0806	-1.0939	227.59	2.3572	1.7063
15:51:00	42.1	1003.12	0.0833	-1.0792	228.53	2.3589	1.6919
15:51:10	42.1	1004.00	0.0861	-1.0649	229.41	2.3605	1.6779
15:51:20	42.1	1004.78	0.0889	-1.0512	230.19	2.3621	1.6645
15:51:30	42.1	1005.57	0.0917	-1.0378	230.98	2.3636	1.6514
15:51:40	42.1	1006.33	0.0944	-1.0248	231.74	2.3650	1.6387
15:51:50	42.1	1007.01	0.0972	-1.0122	232.42	2.3663	1.6264
15:52:00	42.1	1007.59	0.1000	-1.0000	233.10	2.3675	1.6145
15:52:10	42.1	1008.37	0.1028	-0.9881	233.78	2.3683	1.6029
15:52:20	42.1	1008.98	0.1056	-0.9765	234.39	2.3693	1.5916
15:52:30	42.1	1009.59	0.1083	-0.9652	235.00	2.3711	1.5806
15:52:40	42.2	1010.20	0.1111	-0.9542	235.61	2.3722	1.5699
15:52:50	42.2	1010.74	0.1139	-0.9435	236.15	2.3732	1.5595
15:53:00	42.2	1011.27	0.1167	-0.9331	236.68	2.3742	1.5493
15:53:10	42.2	1011.80	0.1194	-0.9228	237.21	2.3751	1.5394
15:53:20	42.2	1012.32	0.1222	-0.9128	237.73	2.3761	1.5297
15:53:30	42.2	1012.85	0.1250	-0.9031	238.25	2.3771	1.5202
15:53:40	42.2	1013.38	0.1278	-0.8935	238.79	2.3780	1.5109
15:53:50	42.2	1013.87	0.1306	-0.8842	239.29	2.3789	1.5019
15:54:00	42.2	1014.32	0.1333	-0.8751	239.73	2.3797	1.4930
15:54:10	42.2	1014.77	0.1361	-0.8661	240.18	2.3805	1.4844
15:54:20	42.3	1015.22	0.1389	-0.8573	240.63	2.3813	1.4759
15:54:30	42.3	1015.65	0.1417	-0.8487	241.07	2.3821	1.4676

15-JUL-87

T0=15-JUL-87 15:46:00

F0=774.59 FT=4.015

	SDT2 degC	SDP2 psia	T-T0 hr	L(T-T0)	P-P0 SDP2	L(P-P0) SDP2	L(HORN)
15:54:40	42.3	1015.11	0.1444	-0.8403	241.52	2.3834	1.4594
15:54:50	42.3	1015.56	0.1472	-0.8320	241.97	2.3839	1.4515
15:55:00	42.3	1015.95	0.1500	-0.8239	242.36	2.3845	1.4436
15:55:30	42.4	1018.13	0.1583	-0.8004	243.54	2.3865	1.4210
15:56:00	42.4	1019.28	0.1667	-0.7782	244.69	2.3885	1.3996
15:56:30	42.5	1020.32	0.1750	-0.7570	245.73	2.3905	1.3793
15:57:00	42.5	1021.36	0.1833	-0.7368	246.77	2.3923	1.3599
15:57:30	42.5	1022.30	0.1917	-0.7175	247.71	2.3939	1.3415
15:58:00	42.5	1023.24	0.2000	-0.6990	248.65	2.3955	1.3239
15:58:30	42.5	1024.37	0.2083	-0.6812	249.48	2.3970	1.3070
15:59:00	42.6	1024.38	0.2167	-0.6642	250.29	2.3985	1.2908
15:59:30	42.6	1025.70	0.2250	-0.6479	251.11	2.3999	1.2753
16:00:00	42.6	1025.52	0.2333	-0.6320	251.93	2.4013	1.2603
16:00:30	42.7	1027.27	0.2417	-0.6168	252.68	2.4025	1.2460
16:01:00	42.7	1027.97	0.2500	-0.6021	253.38	2.4038	1.2321
16:01:30	42.7	1028.68	0.2583	-0.5878	254.09	2.4050	1.2187
16:02:00	42.7	1029.39	0.2667	-0.5740	254.80	2.4062	1.2057
16:02:30	42.7	1030.35	0.2750	-0.5607	255.46	2.4073	1.1932
16:03:00	42.7	1030.56	0.2833	-0.5477	256.07	2.4084	1.1811
16:03:30	42.8	1031.25	0.2917	-0.5351	256.67	2.4094	1.1694
16:04:00	42.8	1031.36	0.3000	-0.5229	257.27	2.4104	1.1580
16:04:30	42.8	1032.46	0.3083	-0.5110	257.87	2.4114	1.1469
16:05:00	42.8	1033.30	0.3167	-0.4994	258.41	2.4123	1.1362
16:05:30	42.8	1033.54	0.3250	-0.4881	258.95	2.4132	1.1257
16:06:00	42.8	1034.08	0.3333	-0.4771	259.49	2.4141	1.1155
16:06:30	42.8	1034.62	0.3417	-0.4664	260.03	2.4150	1.1057
16:07:00	42.8	1035.10	0.3500	-0.4559	260.51	2.4158	1.0960
16:07:30	42.9	1035.58	0.3583	-0.4457	260.99	2.4166	1.0866
16:08:00	42.9	1036.35	0.3667	-0.4357	261.46	2.4174	1.0775
16:08:30	42.9	1036.53	0.3750	-0.4260	261.94	2.4182	1.0685
16:09:00	42.9	1036.97	0.3833	-0.4164	262.38	2.4189	1.0598
16:09:30	42.9	1037.38	0.3917	-0.4071	262.79	2.4196	1.0513
16:10:00	42.9	1037.90	0.4000	-0.3979	263.21	2.4203	1.0430
16:10:30	42.9	1038.22	0.4083	-0.3890	263.63	2.4210	1.0348
16:11:00	42.9	1038.64	0.4167	-0.3802	264.05	2.4217	1.0269
16:11:30	43.0	1039.06	0.4250	-0.3716	264.47	2.4224	1.0191
16:12:00	43.0	1039.48	0.4333	-0.3632	264.89	2.4231	1.0115
16:12:30	43.0	1039.90	0.4417	-0.3549	265.30	2.4237	1.0040
16:13:00	43.0	1040.31	0.4500	-0.3468	265.72	2.4244	0.9967
16:13:30	43.0	1040.65	0.4583	-0.3388	266.06	2.4250	0.9895
16:14:00	43.0	1041.30	0.4667	-0.3310	266.41	2.4255	0.9825
16:14:30	43.0	1041.34	0.4750	-0.3233	266.75	2.4261	0.9756
16:15:00	43.0	1041.69	0.4833	-0.3158	267.10	2.4267	0.9689
16:15:30	43.0	1042.03	0.4917	-0.3082	267.44	2.4272	0.9623
16:16:00	43.0	1042.37	0.5000	-0.3010	267.78	2.4278	0.9558
16:16:30	43.0	1042.72	0.5083	-0.2939	268.13	2.4283	0.9494
16:17:00	43.0	1043.06	0.5167	-0.2868	268.47	2.4289	0.9431
16:17:30	43.0	1043.38	0.5250	-0.2798	268.79	2.4294	0.9370
16:18:00	43.0	1043.67	0.5333	-0.2730	269.08	2.4299	0.9309
16:18:30	43.0	1043.95	0.5417	-0.2663	269.36	2.4303	0.9250
16:19:00	43.0	1044.24	0.5500	-0.2596	269.65	2.4308	0.9192
16:19:30	43.0	1044.53	0.5583	-0.2531	269.94	2.4313	0.9134
16:20:00	43.0	1044.32	0.5667	-0.2467	270.23	2.4317	0.9079
16:20:30	43.0	1045.11	0.5750	-0.2403	270.52	2.4321	0.9022



15-JUL-87

T0=15-JUL-87 15:46:00

P0=774.59 FT=4.016

	SDT2 degC	SDP2 psia	T-T0 hr	L(T-T0)	P-P0 SDP2	L(P-P0) SDP2	L(HORN)
16:21:00	43.0	1045.40	0.5833	-0.2341	270.81	2.4327	0.8968
16:21:30	43.0	1045.59	0.5917	-0.2279	271.10	2.4331	0.8914
16:22:00	43.0	1045.94	0.6000	-0.2218	271.35	2.4335	0.8861
16:22:30	43.0	1046.19	0.6083	-0.2159	271.60	2.4339	0.8809
16:23:00	43.0	1046.44	0.6167	-0.2099	271.85	2.4343	0.8758
16:23:30	43.0	1046.69	0.6250	-0.2041	272.10	2.4347	0.8707
16:24:00	43.0	1046.93	0.6333	-0.1984	272.34	2.4351	0.8658
16:24:30	43.0	1047.18	0.6417	-0.1927	272.59	2.4355	0.8609
16:25:00	43.0	1047.43	0.6500	-0.1871	272.84	2.4359	0.8560
16:25:30	43.0	1047.68	0.6583	-0.1816	273.09	2.4363	0.8513
16:26:00	43.0	1047.92	0.6667	-0.1761	273.33	2.4367	0.8466
16:26:30	43.0	1048.13	0.6750	-0.1707	273.54	2.4370	0.8420
16:27:00	43.0	1048.35	0.6833	-0.1654	273.76	2.4374	0.8374
16:27:30	43.0	1048.57	0.6917	-0.1601	273.98	2.4377	0.8329
16:28:00	43.0	1048.78	0.7000	-0.1549	274.19	2.4381	0.8285
16:28:30	43.0	1049.00	0.7083	-0.1498	274.41	2.4384	0.8241
16:29:00	43.0	1049.22	0.7167	-0.1447	274.63	2.4387	0.8198
16:29:30	43.0	1049.43	0.7250	-0.1397	274.84	2.4391	0.8155
16:30:00	43.0	1049.55	0.7333	-0.1347	275.05	2.4394	0.8113
16:30:30	43.0	1049.85	0.7417	-0.1298	275.26	2.4397	0.8072
16:31:00	43.0	1050.34	0.7500	-0.1249	275.47	2.4401	0.8031
16:31:30	43.0	1050.24	0.7583	-0.1201	275.65	2.4404	0.7991
16:32:00	43.0	1050.44	0.7667	-0.1154	275.85	2.4407	0.7951
16:32:30	43.0	1050.63	0.7750	-0.1107	276.04	2.4410	0.7911
16:33:00	43.0	1050.83	0.7833	-0.1061	276.24	2.4413	0.7872
16:33:30	43.0	1051.02	0.7917	-0.1015	276.43	2.4416	0.7834
16:34:00	43.0	1051.22	0.8000	-0.0969	276.63	2.4419	0.7796
16:34:30	43.0	1051.40	0.8083	-0.0924	276.81	2.4422	0.7758
16:35:00	43.0	1051.57	0.8167	-0.0880	276.98	2.4425	0.7721
16:35:30	43.0	1051.74	0.8250	-0.0835	277.15	2.4427	0.7685
16:36:00	43.0	1051.90	0.8333	-0.0792	277.31	2.4430	0.7649
16:36:30	43.0	1052.07	0.8417	-0.0749	277.48	2.4432	0.7613
16:37:00	43.0	1052.24	0.8500	-0.0706	277.65	2.4435	0.7578
16:37:30	43.0	1052.40	0.8583	-0.0663	277.81	2.4438	0.7543
16:38:00	43.0	1052.57	0.8667	-0.0621	277.98	2.4440	0.7508
16:38:30	43.0	1052.74	0.8750	-0.0580	278.15	2.4443	0.7474
16:39:00	43.0	1052.90	0.8833	-0.0539	278.31	2.4445	0.7440
16:39:30	43.0	1053.07	0.8917	-0.0498	278.48	2.4448	0.7407
16:40:00	43.0	1053.24	0.9000	-0.0458	278.65	2.4451	0.7374
16:40:30	43.0	1053.40	0.9083	-0.0418	278.81	2.4453	0.7341
16:41:00	43.0	1053.57	0.9167	-0.0378	278.98	2.4456	0.7309
16:41:30	43.0	1053.74	0.9250	-0.0339	279.15	2.4458	0.7277
16:42:00	43.0	1053.90	0.9333	-0.0300	279.31	2.4461	0.7245
16:42:30	43.0	1054.07	0.9417	-0.0261	279.48	2.4464	0.7214
16:43:00	43.0	1054.23	0.9500	-0.0223	279.64	2.4466	0.7183
16:43:30	43.0	1054.37	0.9583	-0.0185	279.78	2.4468	0.7152
16:44:00	43.0	1054.51	0.9667	-0.0147	279.92	2.4470	0.7122
16:44:30	43.0	1054.65	0.9750	-0.0110	280.06	2.4472	0.7092
16:45:00	43.0	1054.79	0.9833	-0.0073	280.20	2.4475	0.7062
16:45:30	43.0	1054.93	0.9917	-0.0036	280.34	2.4477	0.7033
16:46:00	43.0	1055.07	1.0000	0.0000	280.48	2.4479	0.7004
16:46:30	43.0	1055.21	1.0083	0.0036	280.62	2.4481	0.6975
16:47:00	42.9	1055.35	1.0167	0.0072	280.76	2.4483	0.6946
16:47:30	42.9	1055.49	1.0250	0.0107	280.90	2.4485	0.6918

Schulzberger

DATA FROM SDP # 83115 (SDP) & # 95309 (SDP2)

15-JUL-87

T0=15-JUL-87 15:46:00

P0=774.59 FT=4.016

	SDT2 degC	SDP2 psia	T-T0 hr	L(T-T0)	P-P0 SDP2	L(P-P0) SDP2	L(HORN)
16:48:00	42.9	1055.63	1.0333	0.0142	281.04	2.4488	0.6890
16:48:30	42.9	1055.77	1.0417	0.0177	281.18	2.4494	0.6862
16:49:00	42.9	1055.91	1.0500	0.0212	281.32	2.4498	0.6835
16:49:30	42.9	1056.05	1.0583	0.0245	281.46	2.4494	0.6808
16:50:00	42.9	1056.20	1.0667	0.0280	281.61	2.4496	0.6781
16:50:30	42.9	1056.34	1.0750	0.0314	281.75	2.4499	0.6754
16:51:00	42.9	1056.48	1.0833	0.0348	281.89	2.4501	0.6728
16:51:30	42.9	1056.61	1.0917	0.0381	282.02	2.4503	0.6701
16:52:00	42.9	1056.73	1.1000	0.0414	282.14	2.4505	0.6675
16:52:30	42.9	1056.84	1.1083	0.0447	282.25	2.4506	0.6650
16:53:00	42.9	1056.96	1.1167	0.0479	282.37	2.4508	0.6624
16:53:30	42.9	1057.08	1.1250	0.0512	282.49	2.4510	0.6599
16:54:00	42.9	1057.19	1.1333	0.0544	282.60	2.4512	0.6574
16:54:30	42.9	1057.31	1.1417	0.0575	282.72	2.4514	0.6549
16:55:00	42.9	1057.43	1.1500	0.0607	282.84	2.4515	0.6525
16:55:30	42.9	1057.54	1.1583	0.0639	282.95	2.4517	0.6500
16:56:00	42.9	1057.66	1.1667	0.0669	283.07	2.4519	0.6476
16:56:30	42.9	1057.78	1.1750	0.0700	283.19	2.4521	0.6452
16:57:00	42.9	1057.89	1.1833	0.0731	283.30	2.4523	0.6428
16:57:30	42.9	1058.01	1.1917	0.0762	283.42	2.4524	0.6405
16:58:00	42.9	1058.13	1.2000	0.0792	283.54	2.4526	0.6382
16:58:30	42.9	1058.24	1.2083	0.0822	283.65	2.4528	0.6358
16:59:00	42.9	1058.36	1.2167	0.0852	283.77	2.4530	0.6336
16:59:30	42.9	1058.48	1.2250	0.0881	283.89	2.4531	0.6313
17:00:00	42.9	1058.59	1.2333	0.0911	284.00	2.4533	0.6290
17:05:00	42.9	1059.62	1.3167	0.1195	285.03	2.4549	0.6075
17:10:00	42.9	1060.60	1.4000	0.1461	286.01	2.4564	0.5876
17:15:00	43.0	1061.49	1.4833	0.1712	286.90	2.4577	0.5691
17:20:00	43.0	1062.29	1.5667	0.1950	287.70	2.4589	0.5519
17:25:00	42.9	1063.03	1.6500	0.2175	288.44	2.4601	0.5358
17:30:00	42.9	1063.77	1.7333	0.2389	289.18	2.4613	0.5207
17:35:00	42.9	1064.48	1.8167	0.2593	289.89	2.4622	0.5066
17:40:00	42.9	1065.08	1.9000	0.2788	290.49	2.4631	0.4933
17:45:00	42.9	1065.68	1.9833	0.2974	291.09	2.4640	0.4807
17:50:00	42.9	1066.28	2.0667	0.3153	291.69	2.4649	0.4688
17:55:00	42.9	1066.82	2.1500	0.3324	292.23	2.4657	0.4576
18:00:00	42.9	1067.33	2.2333	0.3490	292.74	2.4665	0.4469
18:05:00	42.8	1067.84	2.3167	0.3649	293.25	2.4672	0.4367
18:10:00	42.8	1068.33	2.4000	0.3802	293.74	2.4680	0.4271
18:15:00	42.9	1068.76	2.4833	0.3950	294.17	2.4688	0.4178
18:20:00	42.9	1069.20	2.5667	0.4094	294.61	2.4692	0.4090
18:25:00	42.9	1069.63	2.6500	0.4232	295.04	2.4699	0.4006
18:30:00	42.9	1070.04	2.7333	0.4367	295.45	2.4705	0.3926
18:35:00	42.9	1070.45	2.8167	0.4497	295.86	2.4711	0.3849
18:40:00	42.8	1070.86	2.9000	0.4624	296.27	2.4717	0.3775
18:45:00	42.8	1071.22	2.9833	0.4747	296.63	2.4722	0.3704
18:50:00	42.8	1071.55	3.0667	0.4867	296.96	2.4727	0.3635
18:55:00	42.8	1071.89	3.1500	0.4983	297.30	2.4732	0.3570
19:00:00	42.8	1072.22	3.2333	0.5097	297.63	2.4737	0.3506
19:05:00	42.9	1072.50	3.3167	0.5207	297.91	2.4741	0.3446
19:10:00	42.9	1072.79	3.4000	0.5315	298.20	2.4745	0.3387
19:15:00	42.9	1073.08	3.4833	0.5420	298.49	2.4749	0.3330
19:20:00	42.9	1073.34	3.5667	0.5523	298.75	2.4753	0.3276
19:25:00	42.9	1073.60	3.6500	0.5623	299.01	2.4757	0.3223

15-JUL-87

T0=15-JUL-87 15:46:00

P0=774.59 FT=4.016

SDT2 degC	SDP2 psia	T-T0 hr	L(T-T0)	P-P0 SDP2	L(P-P0) SDP2	L(HORN)
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19:30:00	43.0	1073.85	3.7333	0.5721	299.26	2.4761	0.3172
19:35:00	43.0	1074.10	3.8167	0.5817	299.51	2.4764	0.3122
19:40:00	43.0	1074.34	3.9000	0.5911	299.75	2.4768	0.3074
19:45:00	43.0	1074.58	3.9833	0.6002	299.99	2.4771	0.3028
19:50:00	43.0	1074.82	4.0667	0.6092	300.23	2.4775	0.2983
19:55:00	43.0	1075.06	4.1500	0.6180	300.47	2.4778	0.2940
20:00:00	43.0	1075.31	4.2333	0.6267	300.72	2.4782	0.2897
20:01:00	BEGIN TO KILL WELL						
20:05:00	43.0	1075.47	4.3167	0.6351	300.88	2.4784	0.2856
20:10:00	42.9	1075.65	4.4000	0.6435	301.06	2.4787	0.2817
20:15:00	43.0	1075.92	4.4833	0.6516	301.33	2.4790	0.2778
20:20:00	42.9	1076.18	4.5667	0.6596	301.59	2.4794	0.2740

13-JUL-87

T0=13-JUL-87 12:32:00

P0=892.76 FT=1.3833

	SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
12:51:30	42.8	1063.65	0.3250	-0.4881	170.89	2.2327	0.7207
12:52:00	42.7	1063.91	0.3333	-0.4771	171.15	2.2334	0.7118
12:52:30	42.8	1064.17	0.3417	-0.4664	171.41	2.2340	0.7032
12:53:00	42.7	1064.40	0.3500	-0.4559	171.64	2.2346	0.6948
12:53:30	42.8	1064.64	0.3583	-0.4457	171.88	2.2352	0.6867
12:54:00	42.8	1064.89	0.3667	-0.4357	172.13	2.2359	0.6788
12:54:30	42.7	1065.11	0.3750	-0.4260	172.35	2.2364	0.6711
12:55:00	42.8	1065.33	0.3833	-0.4164	172.57	2.2370	0.6636
12:55:30	42.8	1065.53	0.3917	-0.4071	172.77	2.2375	0.6563
12:56:00	42.8	1065.75	0.4000	-0.3979	172.99	2.2380	0.6492
12:56:30	42.8	1065.95	0.4083	-0.3890	173.19	2.2385	0.6422
12:57:00	42.7	1066.17	0.4167	-0.3802	173.41	2.2391	0.6355
12:57:30	42.8	1066.35	0.4250	-0.3716	173.59	2.2395	0.6289
12:58:00	42.8	1066.55	0.4333	-0.3632	173.79	2.2400	0.6224
12:58:30	42.8	1066.73	0.4417	-0.3549	173.97	2.2405	0.6162
12:59:00	42.8	1066.90	0.4500	-0.3468	174.14	2.2409	0.6100
12:59:30	42.8	1067.09	0.4583	-0.3388	174.32	2.2414	0.6040
13:00:00	42.8	1067.24	0.4667	-0.3310	174.48	2.2417	0.5982
13:01:00	42.8	1067.58	0.4833	-0.3158	174.82	2.2426	0.5868
13:02:00	42.7	1067.89	0.5000	-0.3010	175.13	2.2434	0.5759
13:03:00	42.8	1068.18	0.5167	-0.2868	175.42	2.2441	0.5655
13:04:00	42.8	1068.47	0.5333	-0.2730	175.71	2.2448	0.5555
13:05:00	42.8	1068.74	0.5500	-0.2596	175.98	2.2455	0.5459
13:06:00	42.8	1069.02	0.5667	-0.2467	176.25	2.2462	0.5367
13:07:00	42.8	1069.30	0.5833	-0.2341	176.54	2.2469	0.5278
13:08:00	42.8	1069.56	0.6000	-0.2218	176.80	2.2475	0.5192
13:09:00	42.8	1069.80	0.6167	-0.2099	177.04	2.2481	0.5110
13:10:00	42.8	1070.05	0.6333	-0.1984	177.29	2.2487	0.5030
13:11:00	42.8	1070.29	0.6500	-0.1871	177.53	2.2493	0.4953
13:12:00	42.8	1070.52	0.6667	-0.1761	177.76	2.2498	0.4878
13:13:00	42.8	1070.76	0.6833	-0.1654	178.00	2.2504	0.4806
13:14:00	42.8	1070.97	0.7000	-0.1549	178.21	2.2509	0.4737
13:15:00	42.8	1071.19	0.7167	-0.1447	178.43	2.2515	0.4669
13:16:00	42.8	1071.40	0.7333	-0.1347	178.64	2.2520	0.4603
13:17:00	42.7	1071.61	0.7500	-0.1249	178.85	2.2525	0.4540
13:18:00	42.7	1071.80	0.7667	-0.1154	179.04	2.2530	0.4478
13:19:00	42.8	1071.98	0.7833	-0.1061	179.22	2.2534	0.4418
13:20:00	42.8	1072.18	0.8000	-0.0969	179.42	2.2539	0.4360
13:21:00	42.8	1072.38	0.8167	-0.0880	179.62	2.2544	0.4304
13:22:00	42.8	1072.54	0.8333	-0.0792	179.78	2.2547	0.4249
13:23:00	42.8	1072.74	0.8500	-0.0706	179.98	2.2552	0.4195
13:24:00	42.8	1072.89	0.8667	-0.0621	180.13	2.2556	0.4143
13:25:00	42.8	1073.06	0.8833	-0.0539	180.30	2.2560	0.4093
13:26:00	42.8	1073.21	0.9000	-0.0458	180.45	2.2564	0.4043
13:27:00	42.8	1073.38	0.9167	-0.0378	180.62	2.2568	0.3995
13:28:00	42.8	1073.53	0.9333	-0.0300	180.77	2.2571	0.3948
13:29:00	42.8	1073.69	0.9500	-0.0223	180.93	2.2575	0.3902
13:30:00	42.8	1073.83	0.9667	-0.0147	181.07	2.2578	0.3858
13:35:00	42.8	1074.53	1.0500	0.0212	181.77	2.2595	0.3650
13:40:00	42.8	1075.18	1.1333	0.0544	182.42	2.2611	0.3465
13:45:00	42.8	1075.73	1.2167	0.0852	182.97	2.2624	0.3298
13:50:00	42.8	1076.28	1.3000	0.1139	183.52	2.2637	0.3147
13:55:00	42.8	1076.77	1.3833	0.1409	184.01	2.2649	0.3010
14:00:00	42.8	1077.22	1.4667	0.1663	184.46	2.2654	0.2885

13-JUL-87

T0=13-JUL-87 12:32:00

P0=892.75 FT=1.3833

	SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
14:05:00	42.8	1077.65	1.5500	0.1903	184.89	2.2664	0.2770
14:10:00	42.8	1078.02	1.6333	0.2131	185.26	2.2673	0.2664
14:15:00	42.8	1078.40	1.7167	0.2347	185.64	2.2682	0.2567
14:20:00	42.8	1078.76	1.8000	0.2553	186.00	2.2695	0.2476
14:25:00	42.9	1079.07	1.8833	0.2749	186.31	2.2702	0.2392
14:30:00	42.9	1079.38	1.9667	0.2937	186.62	2.2710	0.2313
14:35:00	42.9	1079.66	2.0500	0.3118	186.90	2.2716	0.2240
14:40:00	42.8	1079.92	2.1333	0.3291	187.16	2.2722	0.2171
14:45:00	42.9	1080.18	2.2167	0.3457	187.42	2.2728	0.2106
14:50:00	42.8	1080.46	2.3000	0.3617	187.70	2.2735	0.2045
14:55:00	42.9	1080.67	2.3833	0.3772	187.91	2.2739	0.1988
15:00:00	42.8	1080.89	2.4667	0.3921	188.13	2.2745	0.1933
15:05:00	42.9	1081.10	2.5500	0.4065	188.34	2.2749	0.1882
15:10:00	42.9	1081.30	2.6333	0.4205	188.54	2.2754	0.1834
15:15:00	42.9	1081.48	2.7167	0.4340	188.72	2.2758	0.1787
15:20:00	42.9	1081.68	2.8000	0.4472	188.92	2.2763	0.1744
15:25:00	42.9	1081.87	2.8833	0.4599	189.11	2.2767	0.1702
15:30:00	42.9	1082.04	2.9667	0.4723	189.29	2.2771	0.1662
15:35:00	42.9	1082.21	3.0500	0.4843	189.45	2.2775	0.1624
15:40:00	42.9	1082.36	3.1333	0.4960	189.60	2.2779	0.1588
15:45:00	42.9	1082.51	3.2167	0.5074	189.75	2.2782	0.1553
15:50:00	42.9	1082.65	3.3000	0.5185	189.89	2.2785	0.1520
15:55:00	42.9	1082.82	3.3833	0.5293	190.06	2.2789	0.1489
16:00:00	42.9	1082.93	3.4667	0.5399	190.17	2.2791	0.1458
16:05:00	42.9	1083.05	3.5500	0.5502	190.29	2.2794	0.1429
16:10:00	42.9	1083.19	3.6333	0.5603	190.43	2.2797	0.1401
16:15:00	42.9	1083.33	3.7167	0.5702	190.57	2.2800	0.1374
16:20:00	42.9	1083.43	3.8000	0.5798	190.67	2.2803	0.1348
16:21:00	42.9	1083.45	3.8167	0.5817	190.69	2.2803	0.1343
16:22:00	42.9	1083.48	3.8333	0.5836	190.72	2.2804	0.1338
16:23:00	42.9	1083.50	3.8500	0.5855	190.74	2.2804	0.1333
16:24:00	42.9	1083.51	3.8667	0.5873	190.75	2.2805	0.1328
16:25:00	42.9	1083.54	3.8833	0.5892	190.78	2.2805	0.1323
16:26:00	42.9	1083.57	3.9000	0.5911	190.81	2.2805	0.1318
16:27:00	42.9	1083.59	3.9167	0.5929	190.83	2.2805	0.1314

FLOW PERIOD 07, DRAWDOWN, 24/64" FIXED CHOKE

13-JUL-87

16:28:00

OPEN PCT . OPEN WELL ON 24/64" FIXED CHOKE

	SDT1 degC	SDP1 psia	SDT degC	SDP psia
16:28:00	42.9	996.17	42.8	974.03
16:29:00	42.8	1051.64	42.8	1049.80
16:30:00	42.8	1054.59	42.8	1053.94
16:31:00	42.8	1055.00	42.8	1054.44
16:32:00	42.8	1055.02	42.8	1054.45
16:33:00	42.8	1055.14	42.8	1054.45
16:34:00	42.9	1055.36	42.9	1054.76
16:35:00	42.8	1055.29	42.9	1054.58
16:36:00	42.8	1055.14	42.9	1054.50
16:37:00	42.8	1054.92	42.9	1054.23

13-JUL-87

SDT1	SDP1	SDT	SDP
degC	psia	degC	psia

16:38:00	42.9	1054.78	42.9	1054.15
16:39:00	42.9	1054.58	42.9	1053.93
16:40:00	42.9	1054.47	42.9	1053.76
16:45:00	43.0	1053.81	43.1	1053.08
16:50:00	43.0	1052.99	43.2	1052.34
16:55:00	43.0	1052.51	43.2	1051.81
17:00:00	43.1	1052.06	43.2	1051.38
17:05:00	43.2	1051.70	43.3	1051.02
17:10:00	43.3	1051.14	43.3	1050.49
17:15:00	43.2	1051.00	43.3	1050.35
17:20:00	43.3	1050.79	43.4	1050.16
17:25:00	43.3	1050.59	43.4	1049.95
17:30:00	43.4	1050.45	43.4	1049.80
17:35:00	43.4	1050.28	43.5	1049.64
17:40:00	43.4	1050.11	43.5	1049.50
17:45:00	43.4	1049.94	43.5	1049.32
17:50:00	43.5	1049.83	43.5	1049.23
17:55:00	43.5	1049.72	43.5	1049.10
18:00:00	43.5	1049.64	43.6	1049.03
18:05:00	43.5	1049.57	43.6	1048.95
18:10:00	43.5	1049.52	43.6	1048.91
18:15:00	43.5	1049.42	43.6	1048.83
18:20:00	43.5	1049.35	43.6	1048.76
18:25:00	43.5	1049.32	43.7	1048.68
18:30:00	43.6	1049.22	43.7	1048.63
18:35:00	43.5	1049.19	43.6	1048.57
18:40:00	43.5	1049.13	43.7	1048.52
18:45:00	43.6	1049.07	43.7	1048.47
18:50:00	43.5	1049.06	43.7	1048.42
18:55:00	43.6	1049.00	43.7	1048.39
19:00:00	43.6	1048.94	43.8	1048.34
19:05:00	43.6	1048.93	43.7	1048.31
19:10:00	43.6	1048.90	43.7	1048.28
19:15:00	43.6	1048.85	43.8	1048.25
19:20:00	43.7	1048.83	43.8	1048.22
19:25:00	43.7	1048.88	43.7	1048.26
19:25:30	43.7	1048.88	43.8	1048.28
19:26:00	43.7	1048.86	43.8	1048.26
19:26:30	43.6	1048.85	43.7	1048.26
19:27:00	43.7	1048.85	43.7	1048.23
19:27:30	43.7	1048.82	43.8	1048.23

FLOW PERIOD 09, BUILD UP AFTER FLOW PERIOD 07

13-JUL-87
 19:28:00 SHUT IN WELL AT PCT . CLOSE CHOKE MANIFOLD
 T0=13-JUL-87 19:27:00 P0=1048.82 FT=3

	SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
19:28:00	43.6	1065.94	0.0167	-1.7782	17.12	1.2336	2.2577
19:28:30	43.7	1070.58	0.0250	-1.6021	21.76	1.3376	2.0828
19:29:00	43.7	1072.28	0.0333	-1.4771	23.46	1.3704	1.9590
19:29:30	43.7	1073.33	0.0417	-1.3802	24.51	1.3893	1.8633
19:30:00	43.7	1074.08	0.0500	-1.3010	25.26	1.4024	1.7853
19:30:30	43.6	1074.70	0.0583	-1.2341	25.88	1.4129	1.7196
19:31:00	43.7	1075.18	0.0667	-1.1761	26.36	1.4210	1.6628
19:31:30	43.8	1075.58	0.0750	-1.1249	26.76	1.4275	1.6129
19:32:00	43.7	1075.95	0.0833	-1.0792	27.13	1.4335	1.5682
19:32:30	43.7	1076.27	0.0917	-1.0378	27.45	1.4386	1.5288
19:33:00	43.7	1076.57	0.1000	-1.0000	27.75	1.4432	1.4914
19:33:30	43.7	1076.83	0.1083	-0.9652	28.01	1.4473	1.4578
19:34:00	43.7	1077.07	0.1167	-0.9331	28.25	1.4511	1.4267
19:34:30	43.7	1077.27	0.1250	-0.9031	28.45	1.4541	1.3979
19:35:00	43.7	1077.49	0.1333	-0.8751	28.67	1.4574	1.3711
19:35:30	43.7	1077.69	0.1417	-0.8487	28.87	1.4604	1.3459
19:36:00	43.7	1077.84	0.1500	-0.8239	29.02	1.4627	1.3222
19:36:30	43.7	1078.04	0.1583	-0.8004	29.22	1.4652	1.2999
19:37:00	43.7	1078.18	0.1667	-0.7782	29.36	1.4672	1.2799
19:37:30	43.7	1078.35	0.1750	-0.7570	29.53	1.4702	1.2587
19:38:00	43.7	1078.47	0.1833	-0.7368	29.65	1.4720	1.2396
19:38:30	43.7	1078.61	0.1917	-0.7175	29.79	1.4741	1.2215
19:39:00	43.7	1078.75	0.2000	-0.6990	29.93	1.4761	1.2041
19:39:30	43.7	1078.87	0.2083	-0.6812	30.05	1.4773	1.1875
19:40:00	43.7	1078.99	0.2167	-0.6642	30.17	1.4796	1.1716
19:45:00	43.7	1079.95	0.3000	-0.5229	31.13	1.4931	1.0414
19:50:00	43.6	1080.61	0.3833	-0.4164	31.79	1.5023	0.9458
19:55:00	43.5	1081.15	0.4667	-0.3310	32.33	1.5096	0.8709
20:00:00	43.5	1081.58	0.5500	-0.2596	32.76	1.5154	0.8099
20:05:00	43.5	1081.96	0.6333	-0.1984	33.14	1.5203	0.7587
20:10:00	43.5	1082.26	0.7167	-0.1447	33.44	1.5243	0.7148
20:15:00	43.5	1082.54	0.8000	-0.0969	33.72	1.5279	0.6767
20:20:00	43.4	1082.79	0.8833	-0.0539	33.97	1.5311	0.6431
20:25:00	43.4	1083.02	0.9667	-0.0147	34.20	1.5340	0.6131
20:30:00	43.4	1083.22	1.0500	0.0212	34.40	1.5366	0.5863
20:35:00	43.4	1083.42	1.1333	0.0544	34.60	1.5391	0.5619
20:40:00	43.4	1083.57	1.2167	0.0852	34.75	1.5410	0.5398
20:45:00	43.3	1083.73	1.3000	0.1139	34.91	1.5430	0.5195
20:50:00	43.4	1083.88	1.3833	0.1409	35.06	1.5443	0.5009
20:55:00	43.4	1084.02	1.4667	0.1663	35.20	1.5465	0.4837
21:00:00	43.3	1084.13	1.5500	0.1903	35.31	1.5479	0.4677
21:05:00	43.3	1084.27	1.6333	0.2131	35.45	1.5496	0.4528
21:10:00	43.3	1084.38	1.7167	0.2347	35.56	1.5509	0.4389
21:15:00	43.3	1084.50	1.8000	0.2553	35.68	1.5524	0.4260
21:20:00	43.4	1084.59	1.8833	0.2749	35.77	1.5535	0.4138
21:25:00	43.3	1084.71	1.9667	0.2937	35.89	1.5550	0.4023
21:30:00	43.3	1084.79	2.0500	0.3118	35.97	1.5560	0.3915
21:35:00	43.3	1084.87	2.1333	0.3291	36.05	1.5569	0.3813
21:40:00	43.3	1084.96	2.2167	0.3457	36.14	1.5580	0.3717
21:45:00	43.3	1085.07	2.3000	0.3617	36.25	1.5593	0.3625
21:50:00	43.3	1085.14	2.3833	0.3772	36.32	1.5602	0.3539
21:55:00	43.3	1085.22	2.4667	0.3921	36.40	1.5611	0.3455

13-JUL-87

T0=13-JUL-87 19:27:00

P0=1048.82 FT=3

SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
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22:00:00	43.2	1085.30	2.5500	0.4065	36.48	1.5621	0.3378
22:05:00	43.3	1085.30	2.6333	0.4205	36.54	1.5620	0.3303
22:10:00	43.3	1085.44	2.7167	0.4340	36.62	1.5637	0.3231
22:15:00	43.3	1085.50	2.8000	0.4472	36.68	1.5644	0.3153
22:20:00	43.2	1085.50	2.8833	0.4599	36.76	1.5654	0.3097
22:25:00	43.2	1085.60	2.9667	0.4723	36.84	1.5663	0.3025
22:26:00	43.3	1085.60	2.9833	0.4747	36.83	1.5662	0.3022
22:27:00	43.3	1085.60	3.0000	0.4771	36.83	1.5662	0.3010

FLOW PERIOD 09 , DRAWDOWN, 32/64" FIXED CHOKE

13-JUL-87

22:28:00

OPEN PCT . OPEN WELL ON 32/64" FIXED CHOKE

SDT1 degC	SDP1 psia	SDT degC	SDP psia
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22:28:00	43.3	990.51	43.2	972.28
22:29:00	43.2	1029.82	43.3	1028.27
22:30:00	43.2	1030.65	43.2	1030.37
22:31:00	43.2	1029.45	43.3	1029.22
22:32:00	43.2	1028.35	43.3	1028.06
22:33:00	43.2	1027.41	43.3	1027.05
22:34:00	43.2	1026.49	43.3	1026.12
22:35:00	43.3	1025.67	43.3	1025.27
22:36:00	43.2	1024.94	43.3	1024.49
22:37:00	43.2	1024.29	43.3	1023.83
22:38:00	43.3	1023.70	43.3	1023.22
22:39:00	43.3	1023.23	43.3	1022.70
22:40:00	43.3	1022.89	43.3	1022.32
22:41:00	43.4	1024.16	43.4	1023.43
22:42:00	43.4	1023.82	43.4	1023.27
22:43:00	43.3	1023.34	43.4	1022.79
22:44:00	43.5	1023.06	43.5	1022.46
22:45:00	43.4	1022.90	43.5	1022.27
22:50:00	43.5	1021.08	43.5	1020.55
22:55:00	43.5	1021.23	43.6	1020.56
23:00:00	43.5	1019.83	43.7	1019.35
23:05:00	43.6	1019.31	43.7	1018.84
23:10:00	43.6	1018.52	43.7	1018.10
23:15:00	43.6	1017.95	43.7	1017.56
23:20:00	43.7	1017.41	43.8	1016.99
23:25:00	43.7	1017.49	43.8	1017.06
23:30:00	43.7	1017.04	43.8	1016.62
23:35:00	43.7	1016.77	43.8	1016.35
23:40:00	43.7	1016.46	43.8	1016.05
23:45:00	43.7	1016.28	43.7	1015.87
23:50:00	43.7	1016.08	43.8	1015.66
23:55:00	43.8	1015.84	43.9	1015.44
14-JUL-87				
00:00:00	43.8	1015.32	43.8	1014.94
00:05:00	43.8	1015.12	43.9	1014.73
00:10:00	43.7	1014.99	43.9	1014.59
00:15:00	43.7	1014.88	43.8	1014.51

14-JUL-87

SDT1 degC	SDP1 psia	SDT degC	SDP psia
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00:20:00	43.7	1014.95	43.9	1014.55
00:25:00	43.7	1014.77	43.9	1014.38
00:30:00	43.7	1014.62	43.9	1014.22
00:35:00	43.8	1014.72	43.8	1014.35
00:40:00	43.7	1014.37	43.9	1013.99
00:45:00	43.8	1014.23	43.9	1013.85
00:50:00	43.8	1014.07	43.9	1013.70
00:55:00	43.8	1013.98	43.9	1013.61
01:00:00	43.8	1013.86	43.9	1013.48
01:05:00	43.8	1013.80	43.9	1013.42
01:10:00	43.8	1013.69	43.9	1013.32
01:15:00	43.8	1013.60	43.9	1013.22
01:20:00	43.8	1013.51	43.9	1013.13
01:25:00	43.8	1013.41	43.9	1013.05
01:25:30	43.9	1013.39	43.9	1013.01
01:26:00	43.8	1013.41	43.9	1013.01
01:26:30	43.8	1013.38	43.9	1013.00
01:27:00	43.9	1013.35	43.9	1012.98
01:27:30	43.9	1013.19	43.9	1012.97

FLOW PERIOD 10, BUILD UP AFTER FLOW PERIOD 09

14-JUL-87

T0=14-JUL-87 01:28:00 P0=1013.15 FT=3

SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
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01:28:30	43.8	1047.77	0.0083	-2.0792	34.62	1.5390	2.5575
01:29:00	43.8	1057.99	0.0167	-1.7782	44.84	1.6517	2.2577
01:29:30	43.8	1061.26	0.0250	-1.6021	48.11	1.6823	2.0828
01:30:00	43.8	1063.25	0.0333	-1.4771	50.10	1.6990	1.9590
01:30:30	43.9	1064.59	0.0417	-1.3802	51.44	1.7113	1.8633
01:31:00	43.9	1065.67	0.0500	-1.3010	52.52	1.7203	1.7853
01:31:30	43.8	1066.55	0.0583	-1.2341	53.40	1.7275	1.7196
01:32:00	43.9	1067.22	0.0667	-1.1761	54.07	1.7330	1.6628
01:32:30	43.9	1067.88	0.0750	-1.1249	54.73	1.7382	1.6128
01:33:00	43.9	1068.46	0.0833	-1.0792	55.31	1.7423	1.5682
01:33:30	43.9	1069.00	0.0917	-1.0378	55.85	1.7470	1.5280
01:34:00	43.9	1069.48	0.1000	-1.0000	56.33	1.7507	1.4914
01:34:30	43.9	1069.94	0.1083	-0.9652	56.79	1.7543	1.4578
01:35:00	44.0	1070.33	0.1167	-0.9331	57.18	1.7573	1.4267
01:35:30	44.0	1070.72	0.1250	-0.9031	57.57	1.7602	1.3979
01:36:00	43.9	1071.06	0.1333	-0.8751	57.91	1.7627	1.3711
01:36:30	44.0	1071.39	0.1417	-0.8487	58.24	1.7652	1.3459
01:37:00	44.0	1071.70	0.1500	-0.8239	58.55	1.7675	1.3222
01:37:30	44.0	1071.99	0.1583	-0.8004	58.84	1.7697	1.2999
01:38:00	44.0	1072.27	0.1667	-0.7782	59.12	1.7717	1.2788
01:38:30	44.0	1072.53	0.1750	-0.7570	59.38	1.7735	1.2587
01:39:00	43.9	1072.76	0.1833	-0.7368	59.61	1.7753	1.2396
01:39:30	44.0	1073.02	0.1917	-0.7175	59.87	1.7772	1.2215
01:40:00	43.9	1073.24	0.2000	-0.6990	60.09	1.7789	1.2041
01:40:30	44.0	1073.45	0.2083	-0.6812	60.30	1.7803	1.1875
01:41:00	44.0	1073.66	0.2167	-0.6642	60.51	1.7819	1.1716
01:41:30	43.9	1073.87	0.2250	-0.6478	60.72	1.7833	1.1563

14-JUL-87

T0=14-JUL-87 01:28:00

P0=1013.15 FT=3

	SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
01:42:00	44.0	1074.03	0.2333	-0.6320	60.88	1.7845	1.1417
01:42:30	43.9	1074.22	0.2417	-0.6168	61.07	1.7853	1.1276
01:43:00	44.0	1074.40	0.2500	-0.6021	61.25	1.7871	1.1139
01:43:30	44.0	1074.57	0.2583	-0.5878	61.42	1.7883	1.1008
01:44:00	44.0	1074.72	0.2667	-0.5740	61.57	1.7894	1.0881
01:44:30	44.0	1074.89	0.2750	-0.5607	61.74	1.7906	1.0759
01:45:00	43.9	1075.04	0.2833	-0.5477	61.89	1.7916	1.0640
01:45:30	44.0	1075.19	0.2917	-0.5351	62.04	1.7926	1.0525
01:46:00	43.9	1075.33	0.3000	-0.5229	62.18	1.7936	1.0414
01:46:30	43.9	1075.47	0.3083	-0.5110	62.32	1.7946	1.0306
01:47:00	43.9	1075.60	0.3167	-0.4994	62.45	1.7956	1.0201
01:47:30	43.9	1075.74	0.3250	-0.4881	62.59	1.7965	1.0099
01:48:00	43.9	1075.85	0.3333	-0.4771	62.70	1.7973	1.0000
01:48:30	43.9	1075.97	0.3417	-0.4664	62.82	1.7981	0.9904
01:49:00	44.0	1076.09	0.3500	-0.4559	62.94	1.7989	0.9810
01:49:30	43.9	1076.20	0.3583	-0.4457	63.05	1.7997	0.9718
01:50:00	43.9	1076.31	0.3667	-0.4357	63.16	1.8005	0.9629
01:50:30	43.9	1076.43	0.3750	-0.4260	63.28	1.8013	0.9542
01:51:00	43.9	1076.53	0.3833	-0.4164	63.38	1.8019	0.9458
01:51:30	43.9	1076.63	0.3917	-0.4071	63.48	1.8027	0.9375
01:52:00	43.8	1076.75	0.4000	-0.3979	63.60	1.8034	0.9294
01:52:30	43.8	1076.84	0.4083	-0.3890	63.69	1.8041	0.9215
01:53:00	43.9	1076.94	0.4167	-0.3802	63.79	1.8048	0.9138
01:53:30	43.8	1077.04	0.4250	-0.3716	63.89	1.8054	0.9063
01:54:00	43.9	1077.11	0.4333	-0.3632	63.96	1.8059	0.8989
01:54:30	43.9	1077.20	0.4417	-0.3549	64.05	1.8065	0.8917
01:55:00	43.9	1077.29	0.4500	-0.3468	64.14	1.8072	0.8846
01:55:30	43.8	1077.39	0.4583	-0.3388	64.24	1.8078	0.8777
01:56:00	43.8	1077.47	0.4667	-0.3310	64.32	1.8083	0.8709
01:56:30	43.8	1077.54	0.4750	-0.3233	64.39	1.8088	0.8643
01:57:00	43.8	1077.64	0.4833	-0.3158	64.49	1.8095	0.8577
01:57:30	43.8	1077.70	0.4917	-0.3083	64.55	1.8099	0.8514
01:58:00	43.8	1077.77	0.5000	-0.3010	64.62	1.8104	0.8451
01:58:30	43.8	1077.87	0.5083	-0.2939	64.72	1.8110	0.8390
01:59:00	43.8	1077.94	0.5167	-0.2868	64.79	1.8115	0.8329
01:59:30	43.8	1078.02	0.5250	-0.2798	64.87	1.8120	0.8270
02:00:00	43.8	1078.07	0.5333	-0.2730	64.92	1.8124	0.8212
02:01:00	43.9	1078.20	0.5500	-0.2596	65.05	1.8133	0.8099
02:02:00	43.8	1078.34	0.5667	-0.2467	65.19	1.8142	0.7989
02:03:00	43.8	1078.48	0.5833	-0.2341	65.33	1.8151	0.7884
02:04:00	43.8	1078.60	0.6000	-0.2218	65.45	1.8159	0.7782
02:05:00	43.8	1078.73	0.6167	-0.2099	65.58	1.8168	0.7683
02:06:00	43.8	1078.83	0.6333	-0.1984	65.68	1.8175	0.7587
02:07:00	43.8	1078.96	0.6500	-0.1871	65.81	1.8183	0.7494
02:08:00	43.8	1079.08	0.6667	-0.1761	65.93	1.8191	0.7404
02:09:00	43.7	1079.18	0.6833	-0.1654	66.03	1.8197	0.7316
02:10:00	43.7	1079.28	0.7000	-0.1549	66.13	1.8204	0.7231
02:11:00	43.8	1079.39	0.7167	-0.1447	66.24	1.8211	0.7148
02:12:00	43.7	1079.50	0.7333	-0.1347	66.35	1.8218	0.7068
02:13:00	43.7	1079.59	0.7500	-0.1249	66.44	1.8224	0.6990
02:14:00	43.7	1079.68	0.7667	-0.1154	66.53	1.8230	0.6914
02:15:00	43.7	1079.78	0.7833	-0.1061	66.63	1.8236	0.6839
02:16:00	43.7	1079.87	0.8000	-0.0969	66.72	1.8241	0.6767
02:17:00	43.7	1079.95	0.8167	-0.0880	66.80	1.8247	0.6696



14-JUL-87

T0=14-JUL-87 01:28:00

P0=1013.15 FT=3

	SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
02:18:00	43.7	1080.04	0.9333	-0.0792	66.89	1.8254	0.6628
02:19:00	43.7	1080.11	0.9500	-0.0706	66.96	1.8254	0.6560
02:20:00	43.7	1080.19	0.9557	-0.0621	67.04	1.8263	0.6495
02:21:00	43.7	1080.27	0.9933	-0.0539	67.12	1.8263	0.6431
02:22:00	43.7	1080.33	0.9900	-0.0458	67.18	1.8272	0.6368
02:23:00	43.7	1080.42	0.9167	-0.0378	67.27	1.8273	0.6307
02:24:00	43.7	1080.51	0.9333	-0.0300	67.36	1.8284	0.6247
02:25:00	43.7	1080.57	0.9500	-0.0223	67.42	1.8288	0.6189
02:26:00	43.6	1080.63	0.9557	-0.0147	67.48	1.8291	0.6131
02:27:00	43.7	1080.71	0.9933	-0.0073	67.56	1.8297	0.6075
02:28:00	43.7	1080.79	1.0000	0.0000	67.64	1.8302	0.6021
02:29:00	43.7	1080.85	1.0167	0.0072	67.70	1.8306	0.5967
02:30:00	43.7	1080.90	1.0333	0.0142	67.75	1.8309	0.5914
02:31:00	43.6	1080.96	1.0500	0.0212	67.81	1.8313	0.5863
02:32:00	43.6	1081.04	1.0567	0.0280	67.89	1.8318	0.5812
02:33:00	43.6	1081.10	1.0833	0.0348	67.95	1.8322	0.5763
02:34:00	43.6	1081.16	1.1000	0.0414	68.01	1.8326	0.5714
02:35:00	43.6	1081.22	1.1167	0.0479	68.07	1.8330	0.5666
02:36:00	43.6	1081.29	1.1333	0.0544	68.14	1.8334	0.5619
02:37:00	43.6	1081.33	1.1500	0.0607	68.18	1.8337	0.5574
02:38:00	43.6	1081.39	1.1567	0.0669	68.24	1.8341	0.5528
02:39:00	43.6	1081.44	1.1833	0.0731	68.29	1.8344	0.5484
02:40:00	43.6	1081.50	1.2000	0.0792	68.35	1.8347	0.5441
02:45:00	43.7	1081.74	1.2933	0.1083	68.59	1.8363	0.5234
02:50:00	43.6	1081.99	1.3667	0.1357	68.84	1.8379	0.5045
02:55:00	43.5	1082.21	1.4500	0.1614	69.06	1.8392	0.4870
03:00:00	43.6	1082.41	1.5333	0.1856	69.26	1.8405	0.4708
03:05:00	43.6	1082.61	1.6167	0.2086	69.46	1.8417	0.4557
03:10:00	43.5	1082.80	1.7000	0.2304	69.65	1.8429	0.4416
03:15:00	43.5	1082.95	1.7833	0.2512	69.80	1.8439	0.4285
03:20:00	43.5	1083.13	1.8667	0.2711	69.98	1.8450	0.4162
03:25:00	43.5	1083.26	1.9500	0.2900	70.11	1.8458	0.4046
03:30:00	43.5	1083.41	2.0333	0.3082	70.26	1.8467	0.3936
03:35:00	43.5	1083.55	2.1167	0.3257	70.40	1.8476	0.3833
03:40:00	43.5	1083.69	2.2000	0.3424	70.54	1.8484	0.3736
03:45:00	43.5	1083.79	2.2833	0.3586	70.64	1.8491	0.3643
03:50:00	43.5	1083.92	2.3667	0.3741	70.77	1.8498	0.3556
03:55:00	43.5	1084.03	2.4500	0.3892	70.88	1.8505	0.3472
04:00:00	43.5	1084.15	2.5333	0.4037	71.00	1.8512	0.3393
04:05:00	43.5	1084.26	2.6167	0.4177	71.11	1.8519	0.3317
04:10:00	43.5	1084.33	2.7000	0.4314	71.18	1.8524	0.3245
04:15:00	43.5	1084.44	2.7833	0.4446	71.29	1.8530	0.3176
04:20:00	43.5	1084.53	2.8667	0.4574	71.38	1.8536	0.3110
04:25:00	43.5	1084.62	2.9500	0.4698	71.47	1.8541	0.3047
04:26:00	43.5	1084.63	2.9667	0.4723	71.48	1.8542	0.3035

FLOW PERIOD 11, DRAWDOWN, 40/64" FIXED CHOKE

14-JUL-87

04:27:00

OPEN PCT . OPEN WELL ON 40/64" FIXED CHOKE

SDT1	SDP1	SDT	SDP
degC	psia	degC	psia

04:27:00	43.5	1029.05	43.5	999.04
04:28:00	43.5	1030.46	43.5	1041.86
04:29:00	43.5	1008.66	43.5	1009.77
04:30:00	43.5	1003.93	43.5	1004.21
04:31:00	43.5	1001.63	43.4	1001.67
04:32:00	43.4	999.02	43.5	999.44
04:33:00	43.4	997.20	43.5	997.13
04:34:00	43.5	995.92	43.4	995.80
04:35:00	43.5	994.87	43.5	994.68
04:36:00	43.5	994.84	43.4	994.26
04:37:00	43.5	994.64	43.5	994.40
04:38:00	43.5	993.77	43.5	993.54
04:39:00	43.5	993.15	43.5	992.86
04:40:00	43.5	992.58	43.5	992.25
04:41:00	43.5	992.09	43.5	991.77
04:42:00	43.5	991.68	43.6	991.34
04:43:00	43.5	991.26	43.6	990.92
04:44:00	43.5	990.80	43.6	990.47
04:45:00	43.5	990.37	43.6	990.02
04:46:00	43.5	989.98	43.6	989.64
04:47:00	43.6	989.69	43.6	989.33
04:48:00	43.5	989.35	43.7	989.00
04:49:00	43.5	989.09	43.6	988.76
04:50:00	43.6	988.86	43.7	988.53
04:51:00	43.6	988.63	43.6	988.29
04:52:00	43.5	988.42	43.6	988.07
04:53:00	43.6	988.20	43.6	987.87
04:54:00	43.6	987.98	43.7	987.67
04:55:00	43.6	987.83	43.6	987.51
04:56:00	43.6	987.67	43.7	987.35
04:57:00	43.6	987.49	43.7	987.20
04:58:00	43.6	987.32	43.7	987.02
04:59:00	43.5	987.17	43.7	986.86
05:00:00	43.6	986.98	43.6	986.69
05:05:00	43.6	986.23	43.7	985.97
05:10:00	43.6	985.65	43.7	985.37
05:15:00	43.6	985.11	43.8	984.87
05:20:00	43.7	984.63	43.7	984.41
05:25:00	43.6	984.25	43.7	984.04
05:30:00	43.6	983.88	43.8	983.66
05:35:00	43.6	983.56	43.8	983.33
05:40:00	43.6	983.25	43.7	983.03
05:45:00	43.7	982.98	43.7	982.76
05:50:00	43.7	982.68	43.7	982.47
05:55:00	43.6	982.42	43.7	982.20
06:00:00	43.6	982.21	43.7	981.95
06:05:00	43.6	981.98	43.7	981.76
06:10:00	43.7	981.77	43.7	981.54
06:15:00	43.7	981.60	43.7	981.39
06:20:00	43.7	981.45	43.8	981.20
6:25:00	43.7	981.27	43.8	981.04
06:30:00	43.7	981.10	43.7	980.85
06:35:00	43.7	980.96	43.7	980.72



14-JUL-87

SDT1 degC	SDP1 psia	SDT degC	SDP psia
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06:40:00	43.7	980.80	43.8	980.61
06:45:00	43.7	980.68	43.7	980.46
06:50:00	43.6	980.55	43.7	980.32
06:55:00	43.6	980.43	43.8	980.21
07:00:00	43.7	980.30	43.7	980.08
07:05:00	43.6	980.21	43.8	979.98
07:10:00	43.7	980.10	43.7	979.87
07:15:00	43.7	980.02	43.8	979.79
07:20:00	43.7	979.93	43.8	979.71
07:25:00	43.7	979.82	43.7	979.61
07:25:30	43.6	979.81	43.7	979.58
07:26:00	43.7	979.81	43.8	979.56
07:26:30	43.7	979.79	43.8	979.56
07:27:00	43.7	979.78	43.8	979.53
07:27:30	43.7	979.78	43.7	979.55
07:28:00	43.7	979.76	43.8	979.53
07:28:30	43.7	979.75	43.8	979.53
07:29:00	43.7	979.68	43.7	979.48

FLOW PERIOD 12, BUILD UP AFTER FLOW PERIOD 11
FINAL BUILD UP

14-JUL-87

T0=14-JUL-87 07:29:00 P0=979.68 FT=3.0333

SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
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07:29:30	43.7	999.08	0.0083	-2.0792	18.40	1.2640	2.5623
07:30:00	SHUT IN WELL AT PCT . CLOSE CHOKE MANIFOLD						
07:30:00	43.6	1042.08	0.0167	-1.7782	62.40	1.7952	2.2624
07:30:30	43.7	1049.28	0.0250	-1.6021	68.60	1.8360	2.0875
07:31:00	43.7	1051.61	0.0333	-1.4771	71.93	1.8569	1.9638
07:31:30	43.7	1053.87	0.0417	-1.3802	74.19	1.8703	1.8681
07:32:00	43.8	1055.58	0.0500	-1.3010	75.90	1.8803	1.7900
07:32:30	43.8	1056.97	0.0583	-1.2341	77.29	1.8881	1.7243
07:33:00	43.8	1058.12	0.0667	-1.1761	78.44	1.8945	1.6674
07:33:30	43.8	1059.11	0.0750	-1.1249	79.43	1.9000	1.6175
07:34:00	43.8	1059.99	0.0833	-1.0792	80.31	1.9040	1.5729
07:34:30	43.8	1060.76	0.0917	-1.0378	81.08	1.9080	1.5326
07:35:00	43.9	1061.44	0.1000	-1.0000	81.76	1.9120	1.4960
07:35:30	43.8	1062.09	0.1083	-0.9652	82.41	1.9160	1.4624
07:36:00	43.8	1062.66	0.1167	-0.9331	82.98	1.9190	1.4314
07:36:30	43.8	1063.20	0.1250	-0.9031	83.52	1.9210	1.4025
07:37:00	43.9	1063.70	0.1333	-0.8751	84.02	1.9240	1.3757
07:37:30	43.9	1064.15	0.1417	-0.8487	84.47	1.9260	1.3505
07:38:00	43.9	1064.58	0.1500	-0.8239	84.90	1.9280	1.3268
07:38:30	43.9	1064.99	0.1583	-0.8004	85.31	1.9310	1.3044
07:39:00	43.9	1065.38	0.1667	-0.7782	85.70	1.9330	1.2833
07:39:30	43.9	1065.73	0.1750	-0.7570	86.05	1.9340	1.2632
07:40:00	43.9	1066.05	0.1833	-0.7368	86.37	1.9360	1.2442
07:40:30	43.9	1066.37	0.1917	-0.7175	86.69	1.9380	1.2260
07:41:00	43.9	1066.70	0.2000	-0.6990	87.02	1.9390	1.2086
07:41:30	43.9	1066.99	0.2083	-0.6812	87.31	1.9410	1.1920
07:42:00	43.9	1067.27	0.2167	-0.6642	87.59	1.9420	1.1761

14-JUL-87

T0=14-JUL-87 07:29:00

P0=979.63 FT=3.0333

	SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
07:42:30	43.9	1067.56	3.2250	-0.5478	87.88	1.9437	1.1608
07:43:00	44.0	1067.80	3.2333	-0.5320	88.12	1.9451	1.1461
07:43:30	44.0	1068.06	3.2417	-0.5168	88.38	1.9464	1.1320
07:44:00	43.9	1068.31	3.2500	-0.5021	88.63	1.9476	1.1184
07:44:30	44.0	1068.54	3.2583	-0.5878	88.86	1.9487	1.1052
07:45:00	43.9	1068.76	3.2667	-0.5740	89.08	1.9498	1.0925
07:45:30	44.0	1068.97	3.2750	-0.5607	89.29	1.9508	1.0803
07:46:00	44.0	1069.18	3.2833	-0.5477	89.50	1.9518	1.0684
07:46:30	43.9	1069.38	3.2917	-0.5351	89.70	1.9528	1.0569
07:47:00	44.0	1069.59	3.3000	-0.5229	89.91	1.9538	1.0458
07:47:30	43.9	1069.78	3.3083	-0.5110	90.10	1.9547	1.0349
07:48:00	43.9	1069.97	3.3167	-0.4994	90.29	1.9556	1.0244
07:48:30	43.9	1070.17	3.3250	-0.4881	90.49	1.9565	1.0142
07:49:00	43.9	1070.34	3.3333	-0.4771	90.66	1.9574	1.0043
07:49:30	43.9	1070.52	3.3417	-0.4664	90.84	1.9583	0.9947
07:50:00	43.9	1070.69	3.3500	-0.4559	91.01	1.9591	0.9853
07:50:30	43.9	1070.84	3.3583	-0.4457	91.16	1.9598	0.9761
07:51:00	43.9	1071.00	3.3667	-0.4357	91.32	1.9605	0.9672
07:51:30	43.9	1071.15	3.3750	-0.4260	91.47	1.9613	0.9585
07:52:00	43.9	1071.29	3.3833	-0.4164	91.61	1.9619	0.9500
07:52:30	43.9	1071.46	3.3917	-0.4071	91.78	1.9627	0.9417
07:53:00	43.9	1071.60	3.4000	-0.3979	91.92	1.9634	0.9337
07:53:30	43.9	1071.73	3.4083	-0.3890	92.05	1.9640	0.9257
07:54:00	43.9	1071.86	3.4167	-0.3802	92.18	1.9646	0.9180
07:54:30	43.9	1072.00	3.4250	-0.3716	92.32	1.9653	0.9105
07:55:00	43.8	1072.14	3.4333	-0.3632	92.46	1.9659	0.9031
07:55:30	43.9	1072.26	3.4417	-0.3549	92.58	1.9665	0.8959
07:56:00	43.9	1072.38	3.4500	-0.3468	92.70	1.9671	0.8888
07:56:30	43.9	1072.50	3.4583	-0.3388	92.82	1.9677	0.8818
07:57:00	43.8	1072.63	3.4667	-0.3310	92.95	1.9683	0.8751
07:57:30	43.8	1072.75	3.4750	-0.3233	93.07	1.9688	0.8684
07:58:00	43.9	1072.86	3.4833	-0.3158	93.18	1.9693	0.8619
07:58:30	43.9	1072.96	3.4917	-0.3083	93.28	1.9698	0.8555
07:59:00	43.9	1073.07	3.5000	-0.3010	93.39	1.9703	0.8492
07:59:30	43.8	1073.20	3.5083	-0.2939	93.52	1.9709	0.8431
08:00:00	43.8	1073.31	3.5167	-0.2868	93.63	1.9714	0.8370
08:05:00	43.8	1074.27	3.6000	-0.2218	94.59	1.9759	0.7822
08:10:00	43.8	1075.07	3.6833	-0.1654	95.39	1.9795	0.7355
08:15:00	43.8	1075.78	3.7667	-0.1154	96.10	1.9827	0.6952
08:20:00	43.7	1076.38	3.8500	-0.0706	96.70	1.9854	0.6598
08:25:00	43.7	1076.92	3.9333	-0.0300	97.24	1.9878	0.6284
08:30:00	43.7	1077.43	4.0167	0.0072	97.75	1.9901	0.6003
08:35:00	43.7	1077.86	4.1000	0.0414	98.18	1.9920	0.5749
08:40:00	43.6	1078.24	4.1833	0.0731	98.56	1.9937	0.5519
08:45:00	43.7	1078.61	4.2667	0.1027	98.93	1.9953	0.5308
08:50:00	43.7	1078.96	4.3500	0.1303	99.28	1.9969	0.5115
08:55:00	43.7	1079.27	4.4333	0.1563	99.59	1.9982	0.4936
09:00:00	43.6	1079.57	4.5167	0.1809	99.89	1.9995	0.4771
09:05:00	43.6	1079.84	4.6000	0.2041	100.16	2.0007	0.4618
09:10:00	43.6	1080.10	4.6833	0.2262	100.42	2.0018	0.4475
09:11:00	43.6	1080.15	4.7000	0.2304	100.47	2.0020	0.4447
09:12:00	43.6	1080.20	4.7167	0.2347	100.52	2.0023	0.4420
9:13:00	43.7	1080.25	4.7333	0.2389	100.57	2.0025	0.4393
09:14:00	43.6	1080.29	4.7500	0.2430	100.61	2.0026	0.4367



14-JUL-87

T0=14-JUL-87 07:29:00

P0=979.58 FT=3.0333

SDT1	SDP1	T-T0	L(T-T0)	P-P0	L(P-P0)	L(HORN)
degC	psia	hr		SDP1	SDP1	

09:15:00	43.7	1080.34	1.7667	0.2472	100.66	2.0027	0.4341
09:16:00	43.6	1080.40	1.7833	0.2512	100.72	2.0031	0.4315

FLOW PERIOD 13, DRAWDOWN, BYPASS OPEN ON CHOKE
NO FLOW RATES TAKEN DURING THIS FLOW

14-JUL-87

09:17:00

OPEN PCT

SDT1	SDP1	SDT	SDP
degC	psia	degC	psia

09:17:00	43.6	950.15	43.6	981.86
09:18:00	OPEN WELL THROUGH CHOKE MANIFOLD BYPASS			
09:18:00	43.5	917.93	43.6	919.54
09:19:00	43.5	910.87	43.5	912.30
09:20:00	43.5	903.89	43.5	905.39
09:21:00	43.4	897.88	43.4	899.18
09:22:00	43.4	894.85	43.3	895.72
09:23:00	43.3	892.42	43.3	893.12
09:24:00	43.3	890.57	43.4	891.24
09:25:00	43.3	889.12	43.3	889.69
09:26:00	43.3	887.46	43.3	888.07
09:27:00	43.2	886.15	43.2	886.67
09:28:00	43.2	885.04	43.2	885.57
09:29:00	43.2	884.09	43.2	884.49
09:30:00	43.1	883.01	43.3	883.58
09:31:00	43.2	881.86	43.1	882.39
09:32:00	43.1	880.99	43.1	881.52
09:33:00	43.1	880.26	43.1	880.69
09:34:00	43.1	879.41	43.1	879.92
09:35:00	43.0	878.73	43.1	879.25
09:36:00	43.0	878.13	43.1	878.62
09:37:00	43.0	877.59	43.0	878.06
09:38:00	43.0	877.23	43.0	877.64
09:39:00	43.0	876.66	43.0	877.15
09:40:00	43.0	876.28	43.0	876.63
09:41:00	43.0	875.74	42.9	876.23
09:42:00	43.0	875.31	42.9	875.77
09:43:00	43.0	874.95	43.0	875.35
09:44:00	43.0	874.41	43.0	874.82
09:45:00	42.9	873.88	42.9	874.28
09:46:00	42.9	875.74	42.9	871.58
09:47:00	42.9	894.42	42.9	893.64
09:48:00	43.0	905.59	42.9	904.17
09:49:00	42.9	911.29	42.8	910.70
09:50:00	42.9	916.37	42.9	915.72
09:51:00	42.9	920.36	42.9	920.13
09:52:00	42.9	922.31	42.9	922.07
09:53:00	42.9	922.43	42.9	922.65
09:54:00	42.9	922.14	42.8	922.24
09:55:00	43.0	921.69	42.9	921.77
09:56:00	43.0	920.49	43.0	920.90
09:57:00	42.9	920.51	42.9	920.87

14-JUL-87

SDT1 degC	SDP1 psia	SDT degC	SDP psia
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09:58:00	43.0	919.45	43.0	919.64
09:59:00	43.0	919.51	43.0	919.83
10:00:00	43.0	919.20	43.0	919.36
10:05:00	43.0	918.40	43.0	918.47
10:10:00	43.0	917.08	43.0	917.10
10:15:00	43.0	916.16	43.0	916.14
10:20:00	43.0	915.45	43.1	915.40
10:25:00	43.0	914.96	43.0	915.00
10:30:00	43.0	913.97	43.0	914.05
10:35:00	43.0	912.69	43.1	912.83
10:40:00	43.0	912.37	43.1	912.47
10:45:00	43.0	911.14	43.1	911.28
10:50:00	43.0	911.17	43.0	911.44
10:55:00	43.0	909.92	43.0	910.06

FLOW PERIOD 14, BUILD UP AFTER FLOW PERIOD 13
SURFACE SHUT IN

14-JUL-87

11:00:00

SHUT IN WELL AT CHOKE

T0=14-JUL-87 10:59:00 P0=909.92 FT=1.7167

SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
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11:00:00	43.0	1025.79	0.0167	-1.7782	115.87	2.0640	2.0170
11:00:30	43.0	1031.72	0.0250	-1.6021	121.80	2.0857	1.8430
11:01:00	43.0	1035.62	0.0333	-1.4771	125.70	2.0993	1.7202
11:01:30	43.0	1038.83	0.0417	-1.3802	128.91	2.1103	1.6253
11:02:00	43.0	1041.50	0.0500	-1.3010	131.58	2.1192	1.5482
11:02:30	43.1	1043.54	0.0583	-1.2341	133.62	2.1259	1.4833
11:03:00	43.2	1045.21	0.0667	-1.1761	135.29	2.1313	1.4273
11:03:30	43.1	1046.69	0.0750	-1.1249	136.77	2.1360	1.3782
11:04:00	43.2	1047.96	0.0833	-1.0792	138.04	2.1400	1.3345
11:04:30	43.2	1049.11	0.0917	-1.0378	139.19	2.1436	1.2951
11:05:00	43.2	1050.17	0.1000	-1.0000	140.25	2.1469	1.2593
11:05:30	43.3	1051.10	0.1083	-0.9652	141.18	2.1498	1.2265
11:06:00	43.2	1051.98	0.1167	-0.9331	142.06	2.1525	1.1953
11:06:30	43.3	1052.77	0.1250	-0.9031	142.85	2.1549	1.1663
11:07:00	43.3	1053.52	0.1333	-0.8751	143.60	2.1572	1.1422
11:07:30	43.3	1054.23	0.1417	-0.8487	144.31	2.1593	1.1179
11:08:00	43.3	1054.88	0.1500	-0.8239	144.96	2.1612	1.0950
11:08:30	43.3	1055.43	0.1583	-0.8004	145.51	2.1629	1.0734
11:09:00	43.4	1055.88	0.1667	-0.7782	146.06	2.1643	1.0531
11:09:30	43.4	1056.25	0.1750	-0.7570	146.53	2.1655	1.0338
11:10:00	43.4	1056.65	0.1833	-0.7368	146.93	2.1665	1.0155
11:10:30	43.4	1057.28	0.1917	-0.7175	147.36	2.1674	0.9981
11:11:00	43.4	1057.82	0.2000	-0.6990	147.70	2.1680	0.9815
11:11:30	43.4	1058.30	0.2083	-0.6812	148.08	2.1684	0.9657
11:12:00	43.4	1058.77	0.2167	-0.6642	148.45	2.1688	0.9505
11:12:30	43.4	1059.19	0.2250	-0.6478	148.85	2.1690	0.9358
11:13:00	43.4	1059.60	0.2333	-0.6320	149.27	2.1690	0.9211
11:13:30	43.5	1059.98	0.2417	-0.6168	149.68	2.1688	0.9067
11:14:00	43.4	1060.37	0.2500	-0.6021	150.06	2.1684	0.8923
11:14:30	43.5	1060.72	0.2583	-0.5878	150.45	2.1678	0.8784

14-JUL-87

T0=14-JUL-87 10:59:00

P0=909.92 FT=1.7167

SDT1 degC	SDP1 psia	T-T0 hr	L(T-T0)	P-P0 SDP1	L(P-P0) SDP1	L(HORN)
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11:15:00	43.4	1061.06	0.2567	-0.5740	151.14	2.1794	0.8714
11:15:30	43.5	1061.39	0.2750	-0.5607	151.47	2.1803	0.8599
11:16:00	43.5	1061.58	0.2833	-0.5477	151.76	2.1812	0.8487
11:16:30	43.5	1064.17	0.2917	-0.5351	154.25	2.1882	0.8380
11:17:00	43.5	1071.90	0.3000	-0.5229	161.88	2.2092	0.8275
11:17:30	43.5	1077.36	0.3083	-0.5110	167.44	2.2239	0.8174
11:18:00	43.5	1079.32	0.3167	-0.4994	169.40	2.2289	0.8076
11:18:30	43.5	1080.50	0.3250	-0.4881	170.68	2.2322	0.7981
11:19:00	43.5	1081.26	0.3333	-0.4771	171.34	2.2339	0.7889
11:19:30	43.5	1082.08	0.3417	-0.4664	172.16	2.2359	0.7799
11:20:00	43.5	1082.94	0.3500	-0.4559	173.02	2.2381	0.7712
11:20:30	43.5	1083.53	0.3583	-0.4457	173.71	2.2393	0.7627
11:21:00	BEGIN TO KILL WELL						
11:21:00	43.4	1085.35	0.3667	-0.4357	175.93	2.2453	0.7545

FLOPETROL JOHNSTON

Schlumberger

DOWNHOLE PRESSURE & TEMPERATURE SURVEY

company : LASMO ENERGY AUSTRALIA LTD
field/well/zone : PATRICIA # 1 DST # 3A
country : AUSTRALIA
test date : 15-JUL-87
report nbr. : ELS 150787
region/distr/base : SEA / ANZ / BEF

Co representative : P. DOLAN
FJS representative : G. WILLIAM:



GENERAL INFORMATION

1.1 service/client ref.: DOWNHOLE PRESSURE & TEMPERATURE SURVEY
 1.2 company : LASMO ENERGY AUSTRALIA LTD
 1.3 field/well/zone : PATRICIA # 1 DST # 3A
 1.4 country : AUSTRALIA
 1.5 state : VICTORIA
 1.7 test type : DST

OPERATION DATA

2.1 test date : 15-JUL-87
 2.2 report nbr. : ELS 150787
 2.3 region/distr/base : SEA / ANZ / BEF
 2.4 Co representative : P. DOLAN
 2.5 FJS representative : G. WILLIAMS
 2.6 unit system : OIL FIELD

WELL DATA

3.1 state before test : CLOSED SINCE DST # 3
 3.2 well type : APPRAISAL
 3.3 fluid type : GAS
 3.13 perf. shot density : AS PER DST # 3
 3.14 perf. gun type : AS PER DST # 3
 3.15 perf. conditions : AS PER DST # 3
 3.16 perf. interval(s) : AS PER DST # 3
 3.18 static W.H.P. : 419 psig ON 1 1/4" +1 1/4" CHOKE

FORMATION DATA

4.7 B.H.P & B.H.T : 774 psia & 42.0 degC
 4.9 gas gravity : 0.574 S.G.

DEPTH INFORMATION

6.1 depth unit : METRES
 6.2 depth reference : RKB
 6.8 gauge M.P. set at : SDP @ 703.06 mts. SDP2 @ 710.0 mts.

DOWNHOLE EQUIPMENT

7.2 gauge : SSDP # 83115 & # 85309
 7.3 recorder : SSDP # 84162 & # 85309

SEQUENCE OF EVENTS

15-JUL-87

06:45:00 OPEN WELL ON 24/64" ADJ. CHOKE
 06:51:00 BEAN UP TO 32/64" ADJ. CHOKE
 07:00:00 BEAN UP TO 40/64" ADJ. CHOKE
 07:04:00 BEAN UP TO 48/64" ADJ. CHOKE
 07:09:00 BEAN UP TO 1" ADJ. CHOKE
 07:16:00 SWITCH TO 1 1/4" FIXED CHOKE
 07:30:00 BEAN UP TO 1 1/4" + 1 1/4" CHOKE
 07:32:00 BEAN UP CHOKE TO INCLUDE BYPASS (CHOKE WIDE OPEN)
 07:39:00 SHUT IN WELL AT CHOKE MANIFOLD (ELBOW UNION REPLACED)
 07:53:00 OPEN WELL ON WIDE OPEN CHOKE MANIFOLD
 09:46:30 SHUT IN WELL AT CHOKE MANIFOLD
 11:45:00 OPEN WELL ON 1 1/4" + 1 1/4" CHOKE
 15:46:10 SHUT IN WELL AT CHOKE MANIFOLD
 20:01:00 BEGIN TO KILL WELL

SUMMARY OF RESULTS

PERFORATION INTERVAL: 703 - 738 mts.

FLOW PERIOD NUMBER AND TYPE	DURATION MINS	FINAL BOTTOM HOLE PRESSURE PSIA	FINAL WELL HEAD PRESSURE PSIG	AVERAGE OIL FLOW RATE BOPD	AVERAGE GAS FLOW RATE MMSCFD	AVERAGE GAS-OIL RATIO MMSCF/3BL
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1 DRAWDOWN	54	723	350	0	0	-
2 BUILD UP	13	1065	350	0	0	-
3 DRAWDOWN	114	765	374	0	22.83	-
4 BUILD UP	108	1078	1004	0	0	-
5 DRAWDOWN	240	774	419	0	24.11	-
6 BUILD UP	273	1076	1004	0	0	-

INITIAL BOTTOM HOLE PRESSURE: 1068 psia
 MAXIMUM BOTTOM HOLE TEMPERATURE: 42.2 degC
 TYPE AND DEPTH OF BOTTOM HOLE GAUGE: SSDP @ SDP 703.53 & SDP2 710 mts.
 DID THE WELL FLOW SIGNIFICANT QUANTITIES OF WATER: NO
 OIL SPECIFIC GRAVITY: N/A
 GAS SPECIFIC GRAVITY: 0.574 S.G.
 GAS H2S CONTENT: 0 ppm.
 GAS CO2 CONTENT: 1.5 %



WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
HISTORY PLOT OF DST # 3A

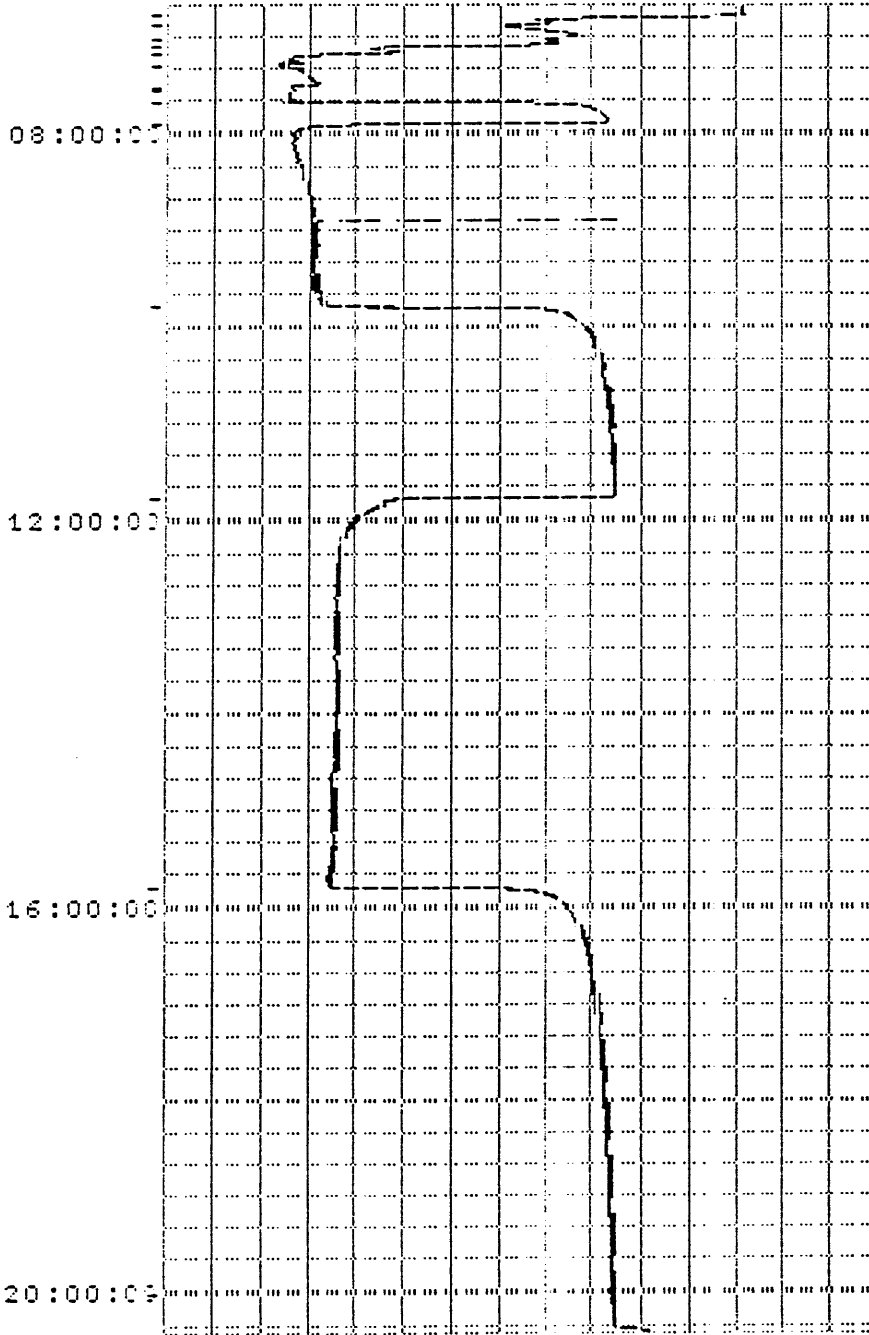
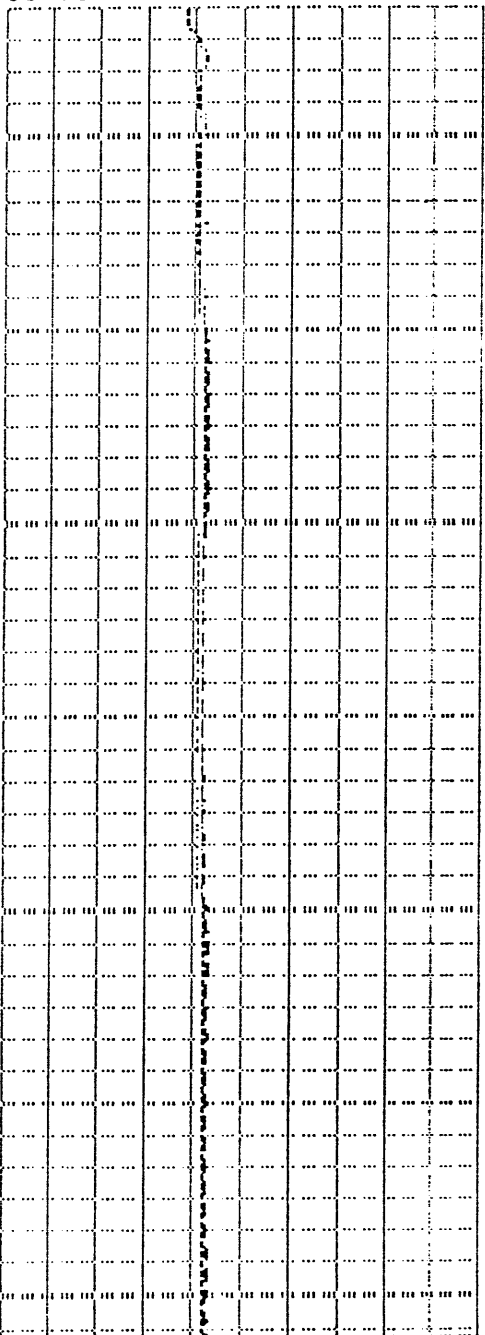
VERSUS TIME PLOT

SDT2 (degC)	
0	100
SDT (degC)	
0	100
37.827	

SDP2 (psia)	
600	1350
SDP (psia)	
600	1350
1205.2	

15-JUL-87 06:40:10

SCALE: 7200sec/inch



15-JUL-87 20:25:00

WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
CLEAN UP & FIRST FLOW PERIOD AND BUILD UP
SURFACE SHUT IN'S

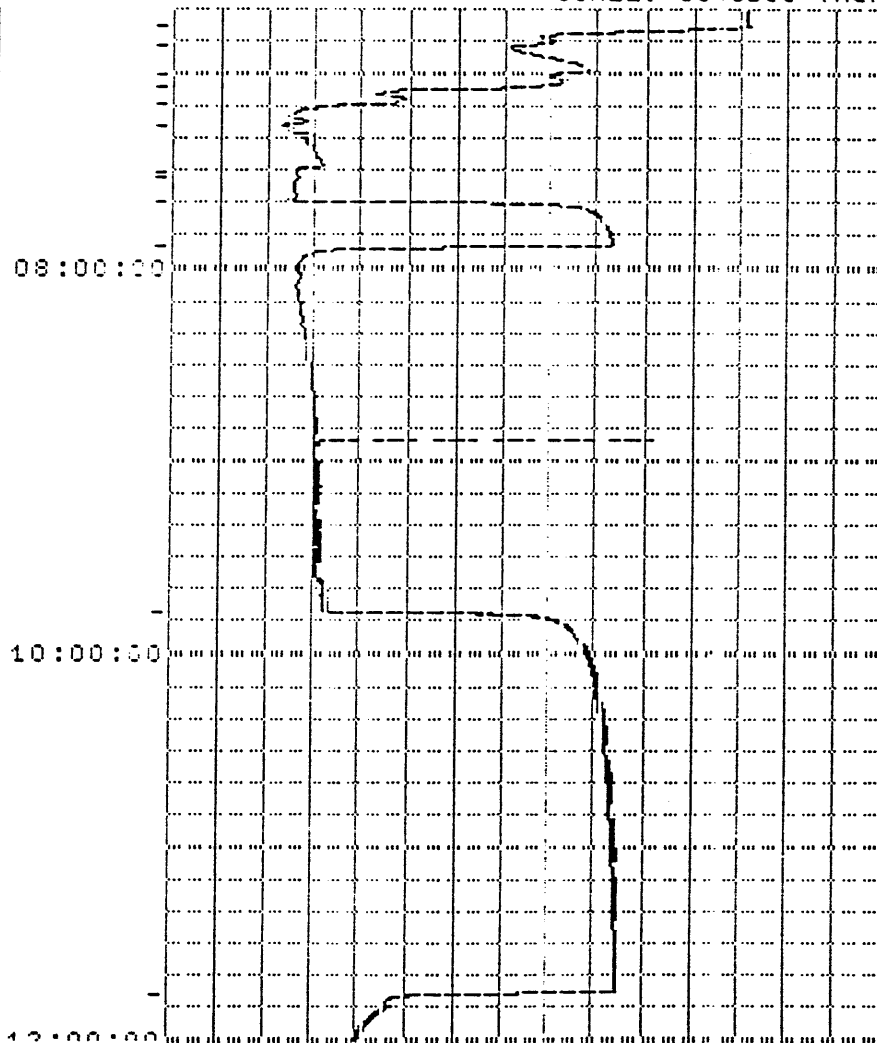
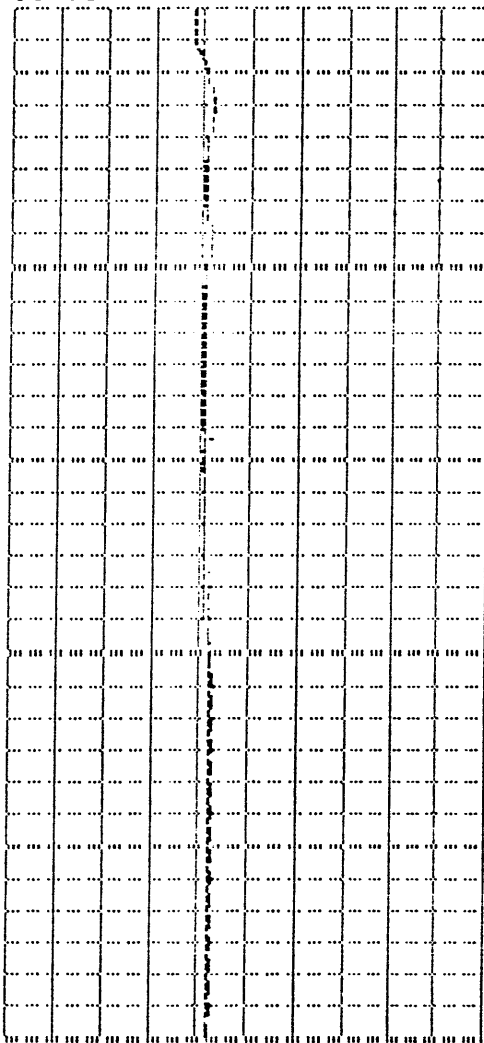
VERSUS TIME PLOT

SDT2 (degC)	
0	100
SDT (degC)	
0	100
37.827	

SDP2 (psia)	
600	1350
SDP (psia)	
600	1350
1205.2	

15-JUL-87 06:40:10

SCALE: 3600sec/inch



WELL TEST SDP BOTTOM HOLE RESULTS (linear plot)
FLOW PERIOD 5 & 6, DRAWDOWN AND BUILD UP
FINAL FLOW AND BUILD UP

VERSUS TIME PLOT

SDT2 (degC)	
0	100

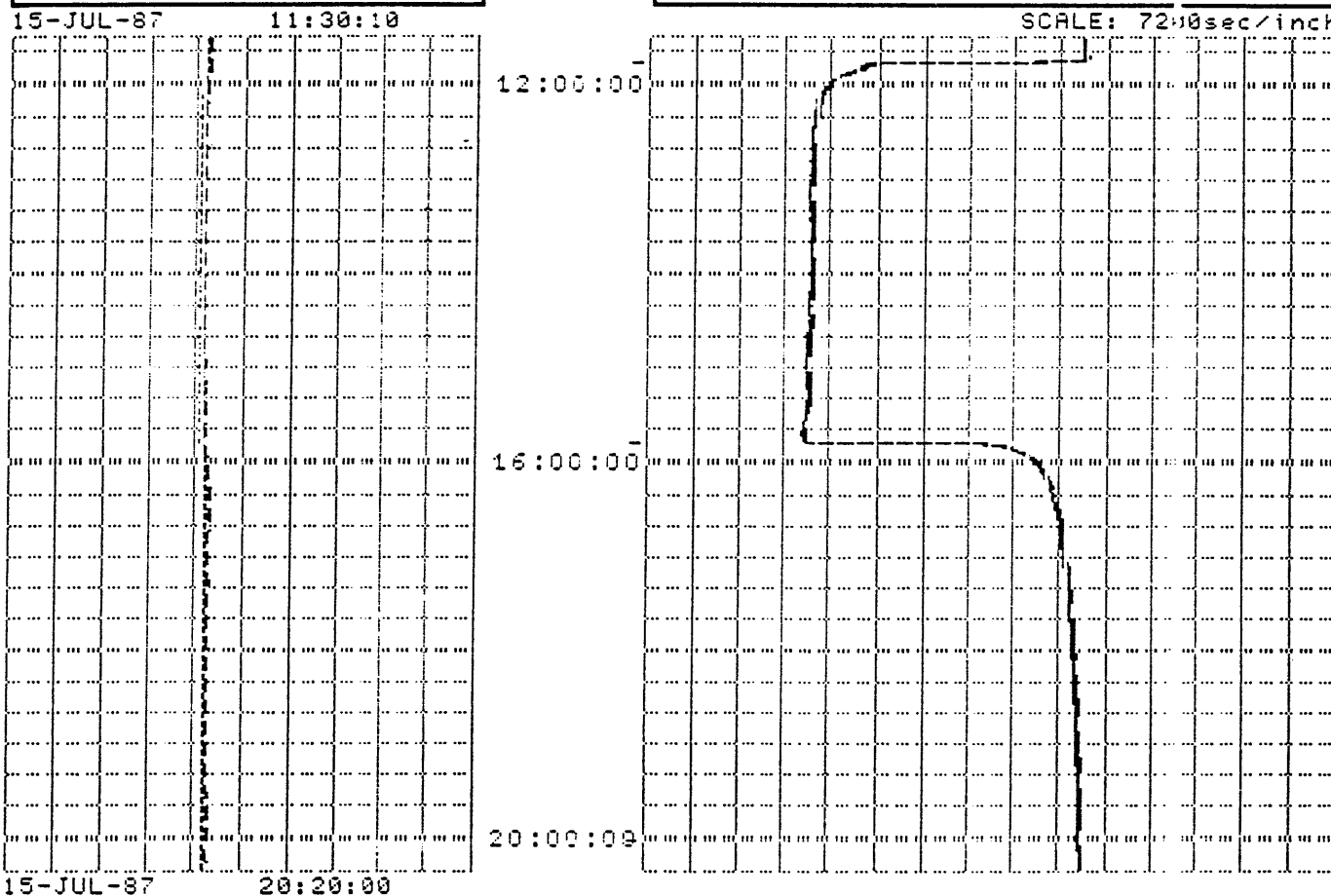
42.661	
SDT (degC)	
0	100

42.134	

SDP2 (psia)	
600	1350

1076.2	
SDP (psia)	
600	1350

1073.2	



WELL TEST SDP BOTTOM HOLE RESULTS (log log plot)

FLOW PERIOD 04, BUILD UP AFTER FLOW PERIOD 03

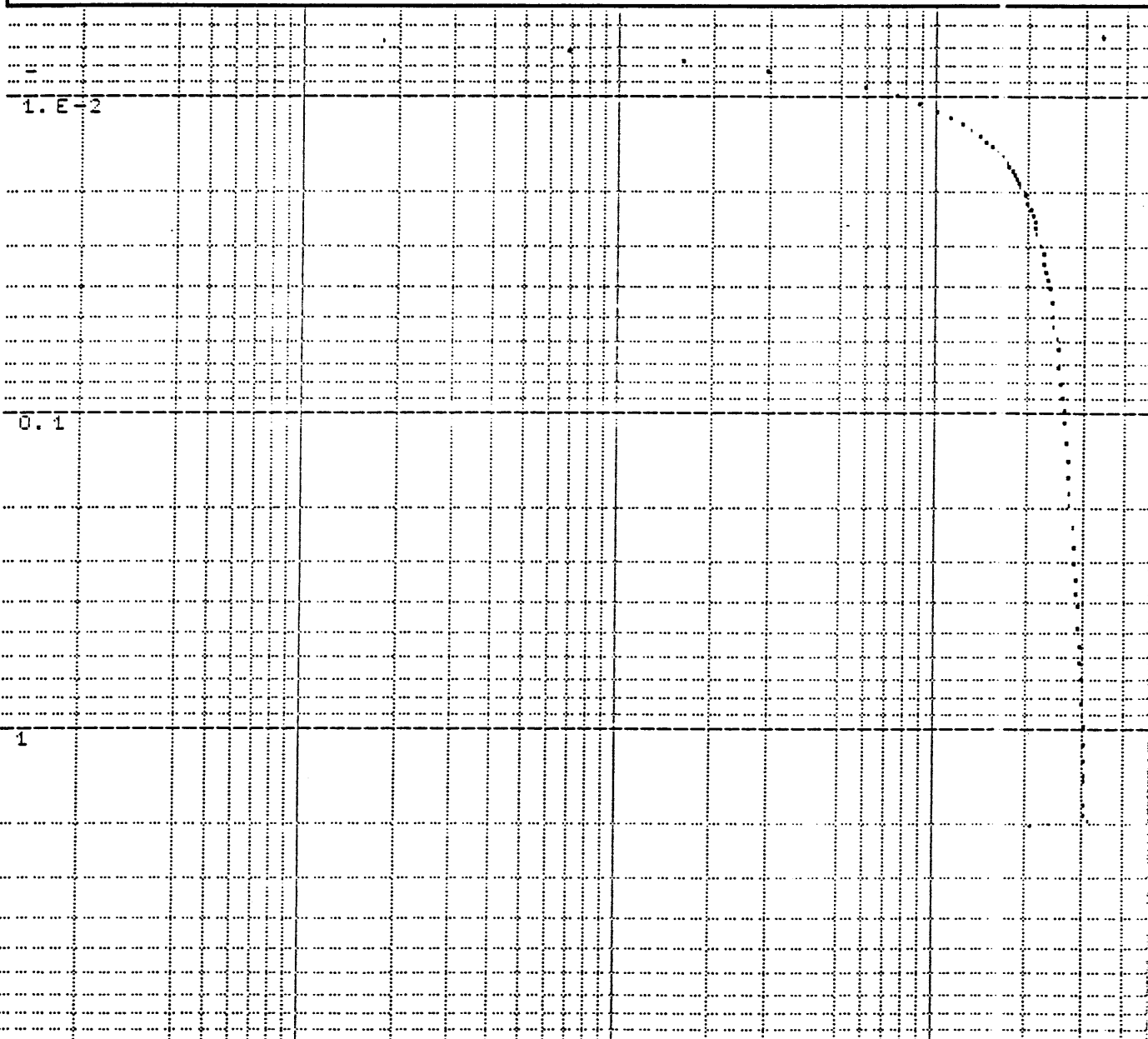
CLEAN UP BUILD UP

LOG-LOG PLOT

T0=15-JUL-87 09:46:00

P0=765.7

P-P0 (SDP2)				
0.11551	1	10	100	500
.....				
7.1716E-2				

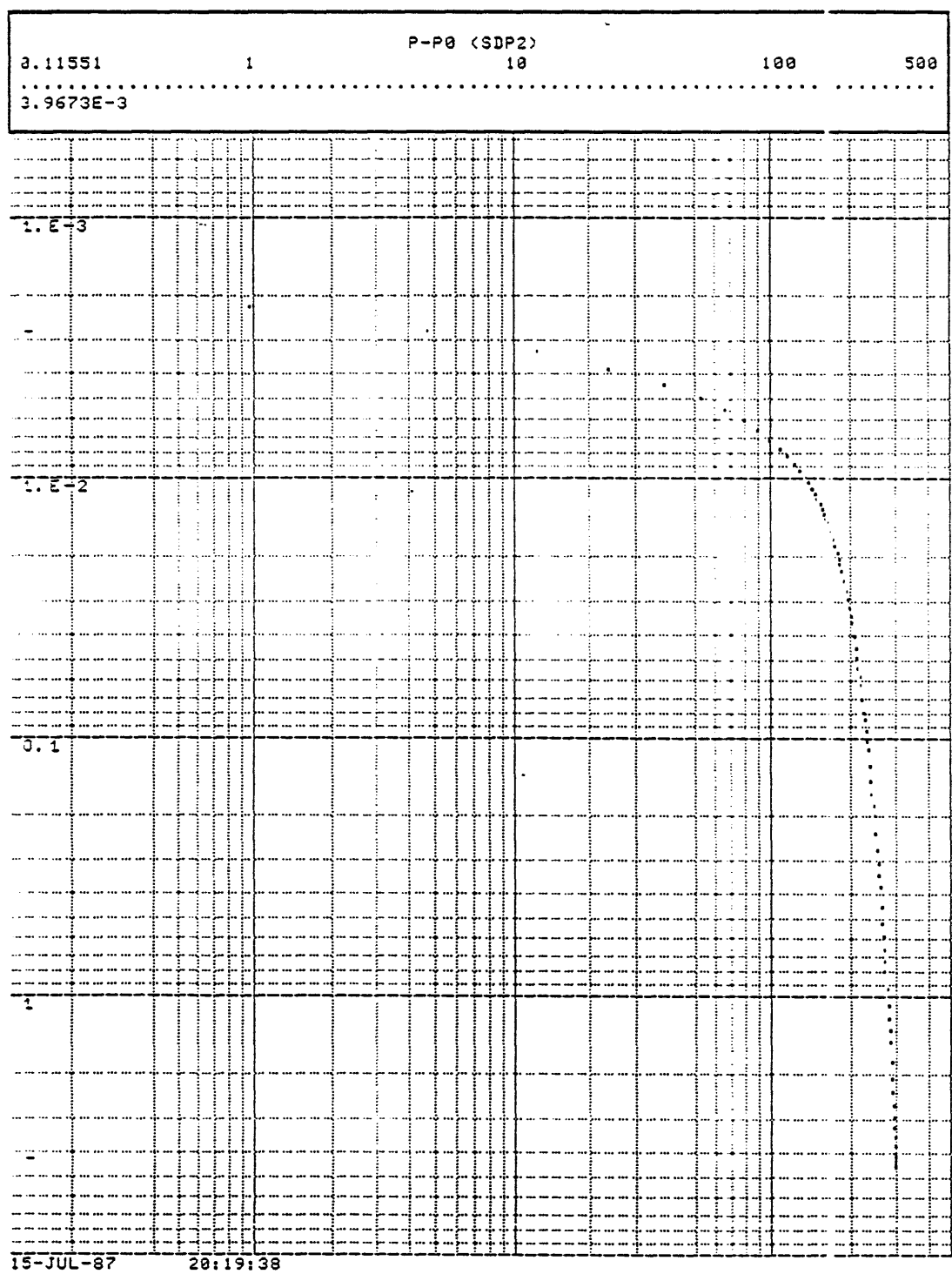


15-JUL-87

11:44:40

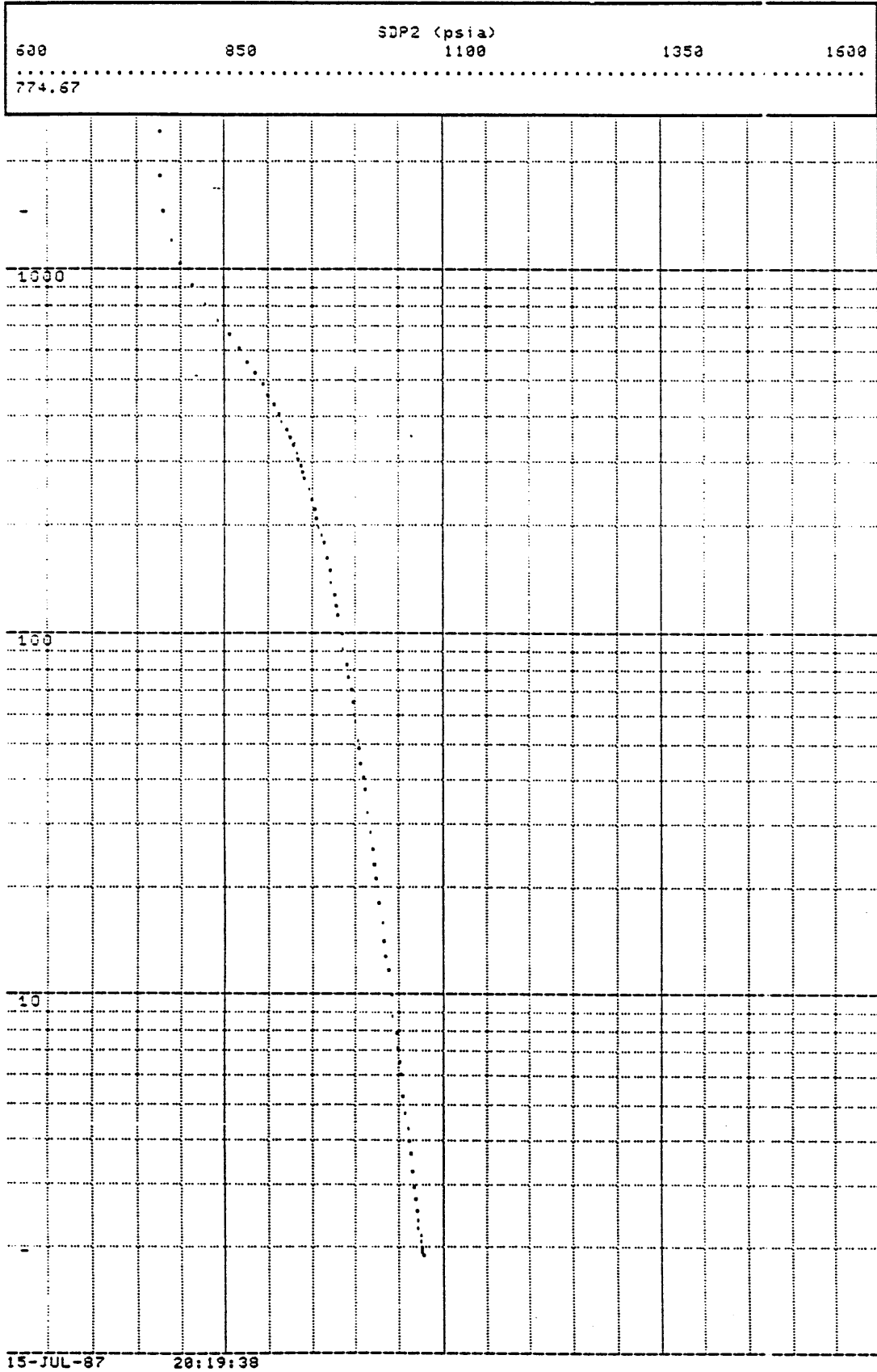
WELL TEST SDP BITTOM HOLE RESULTS (log log plot)
 FLOW PERIOD 26, BUILD UP AFTER FLOW PERIOD 25
 FINAL BUILD UP

LOG-LOG PLOT T0=15-JUL-87 15:46:00 P0=774.59



WELL TEST SDP BOTTOM HOLE RESULTS (HORNER plot)
 FLOW PERIOD 06 BUILD UP
 FINAL BUILD UP

HORNER PLOT T0=15-JUL-87 15:46:00 FT=4



WELL TEST SDP BOTTOM HOLE RESULTS
 FLOW PERIOD 01, DRAWDOWN
 CLEAN UP FLOW

15-JUL-87

SDT2	SDP2	SDT	SDP
degC	psia	degC	psia

06:40:00		37.9	1205.13
06:41:00		37.8	1205.73
06:42:00		37.9	1206.47
06:43:00		37.9	1207.22
06:44:00		38.0	1207.88
06:45:00	OPEN WELL ON 24/64" ADJ. CHOKE		
06:45:00		37.9	1203.74
06:46:00		37.9	1127.74
06:47:00		38.0	1041.36
06:48:00		37.9	987.72
06:49:00		38.0	996.84
06:50:00		38.0	1003.91
06:51:00	BEAN UP TO 32/64" ADJ. CHOKE		
06:51:00		38.2	961.72
06:52:00		38.5	956.51
06:53:00		38.8	970.92
06:54:00		39.1	986.07
06:55:00		39.5	1002.62
06:56:00		39.8	1018.28
06:57:00		40.1	1030.02
06:58:00		40.3	1035.56
06:59:00		40.5	1029.85
07:00:00	BEAN UP TO 40/64" ADJ. CHOKE		
07:00:00		40.7	996.79
07:01:00		40.8	1005.46
07:02:00		41.0	1014.38
07:03:00		41.3	1000.17
07:04:00	BEAN UP TO 48/64" ADJ. CHOKE		
07:04:00		41.4	947.38
07:05:00		41.5	830.45
07:06:00		41.7	818.42
07:07:00		41.9	841.05
07:08:00		42.0	838.91
07:09:00	BEAN UP TO 1" ADJ. CHOKE		
07:09:00		42.0	803.55
07:10:00		42.1	752.94
07:11:00		42.1	733.44
07:12:00		42.1	725.84
07:13:00		42.0	722.70
07:14:00		41.9	736.24
07:15:00		41.9	725.45
07:16:00	SWITCH TO 1 1/4" FIXED CHOKE		
07:16:00		41.7	719.49
07:17:00		41.6	724.97
07:18:00		41.4	737.84
07:19:00		41.4	743.18
07:20:00		41.3	739.72
07:21:00		41.1	740.38
07:22:00		41.0	744.81
07:23:00		41.0	745.90
07:24:00		40.9	749.47
07:25:00		40.8	751.29

15-JUL-87

SDT2 degC	SDP2 psia	SDT degC	SDP psia
--------------	--------------	-------------	-------------

07:26:00 40.8 752.62
 07:27:00 40.8 756.02
 07:28:00 40.8 757.85
 07:29:00 40.8 733.49
 07:30:00 BEAN UP TO 1 1/4" + 1 1/4" CHOKE
 07:30:00 40.8 731.14
 07:31:00 40.8 729.12
 07:32:00 BEAN UP CHOKE TO INCLUDE BYPASS (CHOKE WIDE OPEN)
 07:32:00 40.8 731.46
 07:33:00 40.8 728.14
 07:34:00 40.8 726.39
 07:35:00 40.8 727.02
 07:36:00 40.7 727.53
 07:37:00 40.8 729.15
 07:38:00 40.8 729.53

FLOW PERIOD 02, BUILD UP AFTER FLOW PERIOD 01

15-JUL-87

07:39:00 SHUT IN WELL AT CHOKE MANIFOLD (ELBOW UNION REPLACED)
 T0=15-JUL-87 07:38:00 P0=723.84 FT=0.9

SDT degC	SDP psia	T-T0 hr	L(T-T0)	P-P0 SDP	L(P-P0) SDP	L(HORN)
-------------	-------------	------------	---------	-------------	----------------	---------

07:39:00 40.7 754.03 0.0167 -1.7782 30.19 1.4799 1.7404
 07:40:00 40.8 1000.00 0.0333 -1.4771 276.16 2.4412 1.4472
 07:41:00 40.8 1031.85 0.0500 -1.3010 308.01 2.4886 1.2788
 07:42:00 40.9 1042.31 0.0667 -1.1761 318.47 2.5031 1.1614
 07:43:00 41.1 1048.13 0.0833 -1.0792 324.29 2.5109 1.0719
 07:44:00 41.2 1052.05 0.1000 -1.0000 328.21 2.5161 1.0000
 07:45:00 41.4 1055.08 0.1167 -0.9331 331.24 2.5201 0.9402
 07:46:00 41.4 1057.60 0.1333 -0.8751 333.76 2.5234 0.8893
 07:47:00 41.4 1059.71 0.1500 -0.8239 335.87 2.5262 0.8451
 07:48:00 41.6 1061.54 0.1667 -0.7782 337.70 2.5285 0.8062
 07:49:00 41.7 1063.13 0.1833 -0.7368 339.29 2.5306 0.7715
 07:50:00 41.7 1064.54 0.2000 -0.6990 340.70 2.5324 0.7404
 07:51:00 41.8 1065.78 0.2167 -0.6642 341.94 2.5339 0.7121
 07:52:00 41.9 1066.93 0.2333 -0.6320 343.09 2.5354 0.6864

FLOW PERIOD 03, DRAWDOWN WIDE OPEN CHOKE MANIFOLD

15-JUL-87

07:53:00 OPEN WELL ON WIDE OPEN CHOKE MANIFOLD

SDT2 degC	SDP2 psia	SDT degC	SDP psia
--------------	--------------	-------------	-------------

07:53:00 41.8 887.27
 07:54:00 41.7 765.55
 07:55:00 41.7 747.95
 07:56:00 41.5 738.11
 07:57:00 41.4 737.48
 07:58:00 41.4 734.58
 07:59:00 41.3 732.49

CUTTINGS
DESCRIPTIONS

APPENDIX IV

CUTTINGS DESCRIPTIONS

APPENDIX IV
CUTTINGS DESCRIPTIONS

Sample collection commenced at the base of the 20" casing shoe at 215 metres R.T. This section summarises the detailed cuttings descriptions on the Wellsite Lithology Log (Enclosure II).

215-360 metres

CALCARENITE, light olive grey to olive grey, very fine to granular, dominantly fine to medium-grained, poorly sorted, 5-20% micrite, 0-5% clay minerals, abundant bryozoans, forams, coral and skeletal fragments, traces of pyrite, glauconite, quartz grains and dolomite, soft to friable, nil to fair porosity.

360-480 metres

CALCISILTITE, grey to dark olive grey, occasional well sorted, very fine to fine-grained fossil fragments, 10-30% micrite, 10-30% clay minerals, both increasing with depth, matrix supported, firm to hard, nil porosity.

480-655 metres

CALCISILTITE, as above, interbedded with 10-50% CLAYSTONE, calcareous, dark grey, 10-20% micrite, 0-10% calcite silt, 0-trace pyrite and glauconite, firm to hard.

655-690 metres

CLAYSTONE, calcareous, grey, 10-30% micrite, 0-10% calcite silt, trace - 40% glauconite, increasing with depth, abundant fossil fragments, trace pyrite, firm with trace "IRONSTONE", yellow-brown, abundant sideritic cement, appears as discrete nodules and composites.

690-703 metres

CLAYSTONE, calcareous, as above, with 10-60% SILTSTONE, brown grey, silt to fine-grained, 50% iron nodules, 10% glauconite, non-calcareous, 0-10% kaolinitic matrix, hard nil to trace porosity.

703-743.8 metres (Driller)

(704-744.8 metres, logger)

Refer to Appendix V for core descriptions.

745-800 metres

SANDSTONE, clear to light grey, fine to very coarse-grained, dominantly medium to coarse, subangular to subrounded, poorly to moderately well sorted, 0-15% kaolinite matrix, 0-trace pyrite, very good to excellent visual porosity.

800-845 metres

SANDSTONE as above, with 10-50% SANDSTONE, silicified, dark blue grey, very fine to coarse, dominantly fine to medium-grained, angular to moderately well sorted, trace - 30% kaolinite, 10% lithic fragments, hard, nil porosity, and trace COAL fragments above 805 metres.

845-900 metres (TD)

SANDSTONE, silicified, as above, with 10-40% SHALE, brown-grey to olive-black, carbonaceous, subfissile, hard and between 845 and 850 metres, 10% COAL.

CORE
DESCRIPTIONS

APPENDIX V

CONVENTIONAL CORE DESCRIPTIONS

GRAIN SIZE	POROSITY	CORING RATE METERS PER HR. 20 10 35 15 5	DEPTH (metres) R.T.	LITHOLOGY STRUCTURES TEXTURES SEDIMENTARY & STRUCTURAL DIPS	OIL SHOWS POOR FAIR GOOD 	LITHOLOGICAL DESCRIPTION	HYDROCARBON INDICATIONS
RANGE Median	RANGE Median						
SILT- FINE (FINE)	TR- FAIR		703	S. M. Mi U. CO		TOP CORE #1 = 703 m R.T. SANDSTONE, OLIVE BLACK, VERY WELL SORTED, SA TO ROUNDED, 10-20% CLAY MATRIX, TRACE-5% MICA, 0-TRACE GLAUCONITE, FRIABLE, NO BEDDING, INTENSE BURROWING THROUGHOUT. QTZ GRAINS OFTEN STAINED BROWN.	NIL THROUGHOUT
			703.4	MISSING CORE			
			704	SLEEVE EMPTY			
			704.4				
			705	S. M. CO. U.		REMOVED FOR S.C.A.L. SANDSTONE CLAYEY 30% CLAY MATRIX 0-5% GLAUCONITE MINOR CLAY LAMINATION INTENSE BURROWING	
	NIL- TRACE		706	CO. U.		TIGHT BAND SIDERITE CEMENTATION. 20-30% CLAY	
	TRACE POOR NIL		707	S. M. U. CO		5-10% GLAUCONITE.	

REFER TO WELLSITE LITHOLOGY LOG HEADER FOR SYMBOLS.

AUTHOR M. BATTRICK
DATE 02.07 → 04.09.87
DRAWN

SCALE 1:20

PLAN No

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CORE No.: 1
PAGE 1 OF 5

WELLSITE CORE
DESCRIPTION SHEET

GRAIN SIZE	POROSITY	CORING RATE	DEPTH (metres)	LITHOLOGY STRUCTURES TEXTURES SEDIMENTARY & STRUCTURAL DIPS	OIL SHOWS POOR FAIR GOOD	LITHOLOGICAL DESCRIPTION	HYDROCARBON INDICATIONS	
RANGE Median	RANGE Median							
SILT-FINE (FINE)	NIL-POOR	25 20 10 5	707		---	SANDSTONE, AS ABOVE		
	NIL				---	TIGHT BAND SIDERITIC		
	NIL-POOR		708		---	10-15% CLAYCONITE		
	NIL				---	TIGHT BAND SIDERITIC		
	TRACE-FAIR		709		---	5-10% CLAYCONITE		
					---	REMOVED AND SEALED 31/8/87 FOR FUTURE ANALYSIS		

					---	TIGHT BAND SIDERITIC		
				710		---	REMOVED FOR SCAL.	
						---	15-20% CLAY MATRIX 5% CLAYCONITE.	
			711		---			

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PAGE 2 OF: 5

WELLSITE CORE DESCRIPTION SHEET

GRAIN SIZE	POROSITY	CORING RATE	DEPTH (metres)	LITHOLOGY STRUCTURES TEXTURES SEDIMENTARY & STRUCTURAL DIPS	OIL SHOWS POOR FAIR GOOD	LITHOLOGICAL DESCRIPTION	HYDROCARBON INDICATIONS
RANGE Median	RANGE Median						
SILT-FINE (FINE)	TRACE-POOR	20 10-5 35 15 5	711			SANDSTONE, AS ABOVE 10-15% CLAY MATRIX. INTENSE BURROWING	
	NIL		712				
	NIL		713			TIGHT BAND SIDERITIC 30% CLAY MATRIX 20% LITHIC FRAGMENTS OFTEN OLIVE GREEN IN COLOUR. TIGHT BAND SIDERITIC	
	NIL		714			PATCHY CEMENTATION POSSIBLE SHELL FRAGMENTS REPLACED BY SIDERITE? TIGHT BAND SIDERITIC	
	TRACE		715			PATCHY SIDERITE CEMENTATION INTENSE BURROWING	

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WELLSITE CORE
DESCRIPTION SHEET

GRAIN SIZE	POROSITY	CORING RATE	DEPTH (metres)	LITHOLOGY STRUCTURES TEXTURES SEDIMENTARY & STRUCTURAL DIPS	OIL SHOWS POOR FAIR GOOD	LITHOLOGICAL DESCRIPTION	HYDROCARBON INDICATIONS
RANGE Median	RANGE Median						
SILT-FINE (FINE)	NIL	20 10 25 15 15	715	[Diagram: Tight sideritic band with intense burrowing]	---	TIGHT BAND 20-30% LITHICS. SIDERITIC INTENSE BURROWING FRIABLE	
	TRACE POOR						
	NIL		716	[Diagram: Tight sideritic band with 10-15% clay matrix]	---	TIGHT BAND SIDERITIC 10-15% CLAY MATRIX	
	TR- POOR						
	NIL		717	[Diagram: Tight sandstone with clay concretion or lithic]	---	TIGHT SANDSTONE AS ABOVE, CLAY CONCRETION OR LITHIC INTENSE BURROWING	
	TR- POOR						
	NIL		718	[Diagram: Tight sideritic band with 5-10% lithics]	---	TIGHT BAND SIDERITIC 5-10% LITHICS	
	NIL						
	NIL		719	[Diagram: Tight sideritic band with 10-15% clay matrix and 10% lithics]	---	TIGHT BAND SIDERITIC 10-15% CLAY MATRIX 10% LITHICS 10-15% CLAY CONCRETION	
	NIL						

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WELL: PATRICIA No.1
CORE No.: 1
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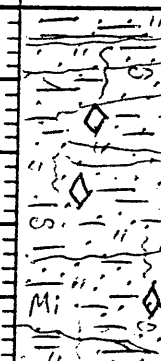
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DESCRIPTION SHEET**

GRAIN SIZE	POROSITY	CORING RATE	DEPTH (metres)	LITHOLOGY STRUCTURES TEXTURES SEDIMENTARY & STRUCTURAL DIPS	OIL SHOWS POOR FAIR GOOD	LITHOLOGICAL DESCRIPTION	HYDROCARBON INDICATIONS
RANGE Median	RANGE Median						
		3-20 15-5					
SILT-FINE (FINE)	TRACE-POOR NIL		719	MT. S.		SANDSTONE, AS ABOVE VERY CLAUCONITIC 15-20%	
	NIL			TIGHT BAND			
	NIL		720				
	NIL			TIGHT BAND			
	NIL		721			15-20% CLAUCONITE	
	NIL			TIGHT BAND			
	NIL		721.7				
			722				
			723			END CORE NO. 1	

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WELL: PATRICIA No. 1
CORE No.: 1
PAGE 5 OF: 5

WELLSITE CORE DESCRIPTION SHEET

GRAIN SIZE	POROSITY	CORING RATE	DEPTH (metres)	LITHOLOGY STRUCTURES TEXTURES SEDIMENTARY & STRUCTURAL DIPS	OIL SHOWS	LITHOLOGICAL DESCRIPTION	HYDROCARBON INDICATIONS
RANGE Median	RANGE Median	METERS PER HR 25 20 10 5	R.T.		POOR FAIR GOOD 		
			719				NIL THROUGHOUT
			720				
			721			SANDSTONE NOT CLAYEY ABOVE 721.7m & LITH BREAK.	
						TOP CORE NO. 2	
SLT-FINE (FINE)	NIL-POOR		722			REMOVED FOR S.C.A.L.	
						SANDSTONE, CLAYEY, DARK OLIVE GREY TO OLIVE BLACK, SILT TO FINE, SA-RND, WELL SORTED, 30% CLAY MATRIX, TR-5% GLAUCONITE, TRACE MICA, LITHICS, FRIABLE. TRACE SIDERITE. INTENSELY BURROWED THROUGHOUT.	MINOR IRREGULAR SUB-HORIZONTAL LAMINATIONS OF MORE CLAYEY LITHOLOGY
			723			PYRITE NODULES @ 722.3m, 722.5m, 722.8m	

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CORE No.: 2
PAGE 1 OF: 6

WELLSITE CORE DESCRIPTION SHEET

GRAIN SIZE	POROSITY	CORING RATE	DEPTH (metres)	LITHOLOGY STRUCTURES TEXTURES SEDIMENTARY & STRUCTURAL DIPS	OIL SHOWS POOR FAIR GOOD 	LITHOLOGICAL DESCRIPTION	HYDROCARBON INDICATIONS	
RANGE Median	RANGE Median							
SLT-FINE (FINE)		20 10 25 15 5	723			SANDSTONE, AS ABOVE INTENSELY BURROWED SCARCE LAMINATIONS		
	TRACE-POOR							
	NIL					SANDSTONE, AS ABOVE WITH TIGHT SIDERITE CEMENT		
	TRACE-FAIR		724			SANDSTONE, AS ABOVE, 5% LITHICS. SOME LAMINATIONS POOR RECOVERY 724-725M		
				725			SANDSTONE, NON CLAYEY, < 20% CLAY, AS ABOVE. INTENSE BURROWING	
	NIL						TIGHT SIDERITE CEMENT BAND	
	TRACE-POOR		726			SANDSTONE, AS ABOVE 15% GLAUCONITE		
			727			INTENSE BURROWING		

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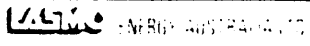
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WELL: PATRICIA No.1
CORE No.: 2
PAGE 2 OF: 6

WELLSITE CORE DESCRIPTION SHEET

GRAIN SIZE	POROSITY	CORING RATE	DEPTH (metres)	LITHOLOGY STRUCTURES TEXTURES SEDIMENTARY & STRUCTURAL DIPS	OIL SHOWS POOR FAIR GOOD 	LITHOLOGICAL DESCRIPTION	HYDROCARBON INDICATIONS
RANGE Median	RANGE Median						
SLT-FINE (FINE)	NIL-TRACE	20 10 25 15 5	727			SANDSTONE, AS ABOVE 5-10% GLAUCONITE, 15-20% CLAY, FIRM. INTENSE BURROWING	
	NIL		728			TIGHT BAND SIDERITE CEMENTATION	
	NIL					INTENSE BURROWING	
	TRACE-POOR		729			INTENSE BURROWING	
	NIL		730			TIGHT BAND SIDERITE CEMENTATION. 5-10% CLAY FRIABLE INTENSE BURROWING	
	TRACE-FAIR					REMOVED FOR SCAL.	
			731				

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WELL: PATRICIA No.1
CORE No.: 2
PAGE 3 OF: 6

WELLSITE CORE DESCRIPTION SHEET

GRAIN SIZE	POROSITY	CORING RATE	DEPTH (metres)	LITHOLOGY STRUCTURES TEXTURES SEDIMENTARY & STRUCTURAL DIPS	OIL SHOWS POOR FAIR GOOD	LITHOLOGICAL DESCRIPTION	HYDROCARBON INDICATIONS
RANGE Median	RANGE Median						
		25 20 10 5					
SILT - FINE (FINE)	TRACE POOR		731			REMOVED FOR SCAL.	
						SANDSTONE, AS ABOVE, 10-15% CLAY, FRIABLE	
			NIL			TIGHT SIDERITE CEMENTATION	
	TRACE - POOR		732			INTENSE BURROWING	
	TRACE TO POOR		733			INTENSE BURROWING	
						PALE GREEN QUARTZ PEBBLE 6mm 4mm WELL ROUNDED	
	NIL		734			TIGHT BAND SIDERITE	
						REMOVED FOR SCAL.	
	NIL					TIGHT	
	TRACE - POOR						
	TRACE - FAIR		735			10% CLAY	

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WELL: PATRICIA No.1
 CORE No.: 2
 PAGE 4 OF: 6

WELLSITE CORE DESCRIPTION SHEET

GRAIN SIZE	POROSITY	BACK-UP SCALE X10		DEPTH (metres)	LITHOLOGY STRUCTURES TEXTURES SEDIMENTARY & STRUCTURAL DIPS	OIL SHOWS POOR FAIR GOOD	LITHOLOGICAL DESCRIPTION	HYDROCARBON INDICATIONS
		CORING RATE METERS PER HR						
RANGE Median	RANGE Median	25	20	R.T.				
SILT-FINE	NIL-TRACE			740			TOP CORE #3 SANDSTONE, CLAYEY AS FOR CORE #2, TR-5% MICA GLAUCONITE, SA-SR QTZ GRAINS, FINE TO COBBLE SIZE NODULAR AND DISSEMINATED. PYRITE THRU-OUT. INTENSELY BIOTURBATED	NIL THROUGHOUT
				741			SANDSTONE, BECOMING POORLY SORTED, SLT TO COBBLE, DOMINANTLY VF-FINE, 2% GLAUCONITE, NODULAR SOFT, PYRITE. INTENSELY BIOTURBATED.	
SLT-V. COARSE (SLT-FINE)	NIL-TRACE			742			SANDSTONE AS ABOVE 10-20% VERY COARSE GRAINS MOTTLY APPEARANCE. PYRITIZED CONGLOMERATE	
				743			SANDSTONE, UNCONSOLIDATED LIGHT GREY, SR-R, WELL SORTED, 10% KAOLIN, WITH OCCASIONAL CARBONACEOUS LAMINATIONS, SILTSTONE WITH CARBONACEOUS LAMINATIONS, MICACEOUS. 2 BURROWS IDENTIFIED. QUARTZ PEBBLES UP TO 10CM IN LENGTH ALL WELL ROUNDED.	
VF-M (FINE)	GOOD			744			NO RECOVERY TO 758m.	

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PLAN No
1/15

WELL: PATRICIA No.1
CORE No.: 3
PAGE 1 OF: 1

**WELLSITE CORE
DESCRIPTION SHEET**

SIDEWALL CORES

APPENDIX VI

SIDEWALL CORE DESCRIPTIONS

WELL: PATRICIA NO. 1

SHOT: 30

MISFIRED: 0

LOST: 1

BROKEN: 0

EMPTY: 0

RECOVERED: 29 = 97%

Page 1 of 5

DEPTH (mRT)	RECOVERY cm or F	LITHOLOGY	COLOUR	SAND %	SIZE RANGE (DOM)	ROUNDING	SORTING	SILT %	CLAY %	CEMENT % & TYPE	ACCESSORIES % & TYPE	HARDNESS	POROSITY	SHOWS	
286	5.7 cm or F:	Calcsiltite	lt gry lt ol gry	-	SLT	-	well	ICAL 70 SLT 70	ICAL 10 CL 20	-	TR forams TR glauc	firm	-	-	
		Bullet: C Comments: Matrix supported with occasional arenaceous forams													
		Ring : L													
305	5.5 cm or F:	Calcsiltite Clayey	ol gry	-	CL- SLT	-	well	ICAL 10 SLT 10	ICAL 40 CL 30	-	forams Bryozoans TR Spg Spic	firm	-	-	
		Bullet: C Comment: Matrix supported													
		Ring : L													
323	5.0 cm or F:	Calcsiltite Clayey	ol gry	-	CL- SLT	-	well	ICAL 30 CL 30	ICAL 40 CL 30	-	as above 5% TR glauc	firm	-	-	
		Bullet: C Comment: Matrix supported													
		Ring : L													
344	5.4 cm or F:	Calcsiltite Clayey	ol gry	-	CL- SLT	-	well	ICAL 30 CL 30	ICAL 40 CL 30	-	abundant fossils as above	firm	-	-	
		Bullet: C Comments: Matrix supported													
		Ring : L One half more fossiliferous than other													
365	3.8 cm or F:	Calcsiltite Clayey	lt gry	-	SLT	-	well	ICAL 50 CL 30	ICAL 20 CL 30	-	occasional fossil frags	soft	-	-	
		Bullet: C Comment: Matrix supported													
		Ring : L													
385	5.2 cm or F:	Calcsiltite Clayey	ol gry	-	CL- SLT	-	well	ICAL 30 CL 30	ICAL 40 CL 30	-	abundant fossil frags	firm	-	-	
		Bullet: C Comment: Matrix supported													
		Ring : L													
405	4.0 cm or F:	Calcsiltite	lt gry lt ol gry	-	SLT	-	well	ICAL 60 CL 10	ICAL 30 CL 10	-	occasional fossil frags	soft- firm	-	-	
		Bullet: C Comment: Matrix supported													
		Ring : L													

I: Intact F: Fragmented Bullet Type; H: Hard Formation Bullet, C: Combo Bullet. Rings; L: Large, S: Small, O: No Ring

WELL: PATRICIA NO. 1 SHOT: 30 MISFIRED: 0 LOST: 1 BROKEN: 0 EMPTY: 0 RECOVERED: 29 = 97%

DEPTH (mRT)	RECOVERY cm or F:	LITHOLOGY	COLOUR	SAND %	SIZE RANGE (DOM)	ROUNDING	SORTING	SILT %	CLAY %	CEMENT % & TYPE	ACCESSORIES % & TYPE	HARDNESS	POROSITY	SHOWS	
425	4.6 cm or F:	Calcllutite	ol gry	-	CL	-	well	ICAL 20	CL 20	IMIC 60I	-	occasional fossil frags	firm	-	-
		Bullet: C Comments: Matrix supported													
		Ring : L													
445	4.8 cm or F:	Calcllutite Clayey	ol gry	-	CL	-	well	ICAL 10	CL 40	IMIC 50I	-	occasional fossil frags	firm	-	-
		Bullet: C Comment: Matrix supported													
		Ring : L													
463	5.6 cm or F:	Calcllutite Clayey	dk ol gry	-	-	-	-	ICAL 10	CL 30	IMIC 50I	-	TR bry TR foram	firm- hard	-	-
		Bullet: C Comment: Matrix supported													
		Ring : L													
484	5.5 cm or F:	Marl	dk gry	-	-	-	-	ICAL TR	IMIC 60I CL 40	-	TR fossil frags	firm- hard	-	-	
		Bullet: C Comments: Matrix supported													
		Ring : L													
497	5.4 cm or F:	Marl	dk gry	-	-	-	-	ICAL 10	IMIC 50I CL 40	-	TR fossil frags	firm- hard	-	-	
		Bullet: C Comment: Matrix supported													
		Ring : L													
514	3.7 cm or F:	Calcllutite	gry	-	CL- SLT	-	-	ICAL 20	IMIC 40I CL 20	-	TR fossil frags	firm	-	-	
		Bullet: C Comment: Matrix supported													
		Ring : L													
531	4.5 cm or F:	Marl	dk ol gry	-	-	-	-	ICAL	IMIC 60I CL 40	-	TR fossil frags	soft- firm	-	-	
		Bullet: C Comment: Matrix supported													
		Ring : L													

I: Intact F: Fragmented Bullet Type; H: Hard Formation Bullet, C: Combo Bullet. Rings; L: Large, S: Small, O: No Ring
Ref: 2087K-13/0020K

WELL: PATRICIA NO.		SHOT: 30	MISFIRED: 0	LOST:	BROKEN: 0	EMPTY: 0	RECOVERED: 29 = 97%						
DEPTH (mRT)	RECOVERY cm or F:	LITHOLOGY	COLOUR	SAND % (DOM)	SIZE RANGE	ROUNDING	SORTING	SILT %	CLAY %	CEMENT % & TYPE	ACCESSORIES % & TYPE	HARDNESS	POROSITY SHOWS
548	4.7 cm or F:	Calcareous Claystone	ol gry	-	-	-	-	ICAL 10	CL 60	-	IMIC 30 abundant	fossil frags firm	- -
Bullet: C		Comments: Matrix supported											
Ring : L													
563	5.2 cm or F:	Calcareous Claystone	ol gry	-	-	-	-	TR 10	CL 70	-	IMIC 30 rare TR	fossil frags firm-	- -
Bullet: C		Comment: Thin interbed of calcillutite/calcisiltite											
Ring : L													
573	5.2 cm or F:	Calcisiltite Clayey	ol gry	-	-	-	-	ICAL 40	CL 30	-	IMIC 30 TR fossil	frags firm-	- -
Bullet: C		Comment: Matrix supported											
Ring : L													
583	0 cm or F:	No recovery											
Bullet: C		Comments: Bullet lost after 1500lbs overpull broke wires											
Ring : L													
589	2.0 cm or F:	Calcillutite	lt ol gry	-	-	-	-	ICAL 10	CL 10	-	IMIC 90 barren	soft	- -
Bullet: C													
Ring : L													
595	5.5 cm or F:	Marl	ol gry	-	-	-	-	ICAL 20	CL 40	-	IMIC 40 abundant	fossil frags firm	- -
Bullet: C													
Ring : L													
600	4.2 cm or F:	Marl	ol gry	-	-	-	-	ICAL 10	CL 40	-	IMIC 50 TR fossils	5% glauc firm	- -
Bullet: C		Comment: Matrix supported											
Ring : L													

I: Intact F: Fragmented Bullet Type; H: Hard Formation Bullet, C: Combo Bullet. Rings; L: Large, S: Small, O: No Ring
Ref: 2087K-14/0020K

WELL: PATRICIA NO. 1

SHOT: 30

MISFIRED: 0

LOST: 1

BROKEN: 0

EMPTY: 0

RECOVERED: 29 = 97%

DEPTH (mRT)	RECOVERY cm or F:	LITHOLOGY	COLOUR	SAND %	SIZE RANGE (DOM)	ROUNDING	SORTING	SILT %	CLAY %	CEMENT % & TYPE	ACCESSORIES % & TYPE	HARDNESS	POROSITY	SHOWS
606	3.8 cm	Calcisiltite	lt ol gry	-	-	-	-	ICAL 50	CL 20	-	rare fossils	hard	-	-
	or F:													
	Bullet: C	Comments: Matrix supported												
	Ring : L													
612	5.0 cm	Clayey	lt ol gry	-	-	-	-	ICAL 30	CL 30	-	fossil frags	firm	-	-
	or F:													
	Bullet: C													
	Ring : L													
617	2.5 cm	Calcisiltite	ol gry	ICAL 10	-	-	-	ICAL 60	CL 10	-	TR fossil frags	firm-hard	-	-
	or F:													
	Bullet: C	Comment: Matrix supported												
	Ring : L													
622	5.0 cm	Claystone	ol gry	-	-	-	-	ICAL 10	CL 70	-	fossil frags	firm	-	-
	or F:													
	Bullet: C	Comments: Matrix supported												
	Ring : L													
628	4.6 cm	Marl	lt ol gry	-	-	-	-	ICAL 10	CL 40	-	abundant fossil frags	firm	-	-
	or F:													
	Bullet: C	Comments: Matrix supported												
	Ring : L													
632	4.3 cm	Calcilutite	ol gry	-	-	-	-	ICAL 20	CL 20	-	occasional fossil frags	firm-hard	-	-
	or F:													
	Bullet: C	Comments: Matrix supported												
	Ring : L													
636	5.3 cm	Marl	ol gry	-	-	-	-	ICAL 10	CL 50	-	abundant fossil frags	firm	-	-
	or F:													
	Bullet: C	Comment: Matrix supported												
	Ring : L													

I: Intact F: Fragmented Bullet Type; H: Hard Formation Bullet, C: Combo Bullet. Rings; L: Large, S: Small, O: No Ring
 Ref: 2087K-15/0020K

WELL: PATRICIA NO. 1

SHOT: 30

MISFIRED: 0

LOST: 1

BROKEN: 0

EMPTY: 0

RECOVERED: 29 = 97%

DEPTH (mRT)	RECOVERY cm or F:	LITHOLOGY	COLOUR	SAND %	SIZE RANGE (DOM)	ROUNDING	SORTING	SILT %	CLAY %	CEMENT % & TYPE	ACCESSORIES % & TYPE	HARDNESS	POROSITY	SHOWS
640	4.4 cm or F:	Calcareous Claystone	drk ol gry	-	-	-	-	TR	120 MICI 180 CL	-	occasional fossil frags	firm	-	-
	Bullet: C	Matrix supported												
	Ring : L													
644	4.9 cm or F:	Calcareous Claystone	dk ol gry	-	-	-	-	TR	120 MICI 180 CL	-	abundant fossil frags	firm	-	-
	Bullet: C	As above												
	Ring : L													
	cm													
	or F:													
	Bullet:													
	Ring :													
	cm													
	or F:													
	Bullet:													
	Ring :													
	cm													
	or F:													
	Bullet:													
	Ring :													
	cm													
	or F:													
	Bullet:													
	Ring :													

I: Intact F: Fragmented Bullet Type; H: Hard Formation Bullet, C: Combo Bullet. Rings; L: Large, S: Small, O: No Ring

WELL: PATRICIA NO. 1

SHOT: 30

MISFIRED: 0

LOST: 1

BROKEN: 0

EMPTY: 3

RECOVERED: 26 = 87%

DEPTH (mRT)	RECOVERY cm or F:	LITHOLOGY	COLOUR	SAND %	SIZE RANGE (DOM)	ROUNDING	SORTING	SILT %	CLAY %	CEMENT % & TYPE	ACCESSORIES % & TYPE	HARDNESS	POROSITY	SHOWS	
656	0 cm or F:	No Recovery													
		Bullet: C	Bullet Empty												
		Ring : L													
665	5 cm or F:	Calcilutite Clayey	ol gry	-	-	-	-	-	180 MICI 120 CL	-	-	firm	-	-	
		Bullet: C													
		Ring : L													
672	4.5 cm or F:	Marl	ol gry	-	-	-	-	-	160 MICI 140 CL	-	TR Glauc TR Forams	soft	-	-	
		Bullet: C													
		Ring : L													
678	27 cm or F:	Claystone Calcareous	lt gry	-	-	-	-	-	180 CL 120 MICI	-	-	lvery soft	-	-	
		Bullet: C	Very poor recovery												
		Ring : L													
683	4.7 cm or F:	Glauconitic Claystone	ol gry green		VF-M (F)	SR	WELL		140 CL 120 MICI	-	110 forams 130 Glauc	soft-firm	-	-	
		Bullet: C	W/Occ. Brn Gry Claystone Clasts												
		Ring : L													
687	0 cm or F:	No Recovery													
		Bullet: C	Bullet Empty												
		Ring : L													
692	5 cm or F:	Calcareous Claystone	dk ol gry	-	-	-	-		170 CL TR QTZ 120 MICI	-	10% Glauc TR Fossils	soft	-	-	
		Bullet: C													
		Ring : L													

I: Intact F: Fragmented Bullet Type; H: Hard Formation Bullet, C: Combo Bullet. Rings; L: Large, S: Small, O: No Ring

WELL: PATRICIA NO. 1

SHOT: 30

MISFIRED: 0

LOST: 1

BROKEN: 0

EMPTY: 3

RECOVERED: 26 = 87%

Page 2 of 5

DEPTH (mRT)	RECOVERY cm or F:	LITHOLOGY	COLOUR	SAND %	SIZE (DOM)	ROUNDING	SORTING	SILT %	CLAY %	CEMENT % & TYPE	ACCESSORIES % & TYPE	HARDNESS	POROSITY	SHOWS
697	0 cm or F:	No Recovery												
	Bullet: C	Bullet Empty												
	Ring : L													
699.5	5 cm or F:	Clayey Siltstone	dk ol gry		SLT VF		very SR	well	145 QTZ	140 CL	-	possible glauc	soft	- -
	Bullet: C	Non Calc												
	Ring : L													
700.3	4.5 cm or F:	Silty Clayey Sandstone	dk brn gry		SLT (VF)		very SR	well	130 QTZ	130 CL	-	possible glauc	firm	- -
	Bullet: C	Possible ferruginous cement?												
	Ring : L													
701.5	4.8 cm or F:	Clayey Sandstone	olive black				very SR	well	TR	130 CL	-	possible glauc	soft	- -
	Bullet: C													
	Ring : L													
702.5	4.4 cm or F:	Clayey Sandstone	olive black				very SR	well	TR	130 CL	-	possible glauc	soft	- -
	Bullet: C													
	Ring : L													
703.5	4 cm or F:	Clayey Silt Sandstone	olive black				very SR	well		30 130 CL	-	possible glauc	soft	- -
	Bullet: C													
	Ring : L													
743	4 cm or F:	Sandstone	olive black				very SR	well	TR	120 CL	-	TR glauc TR Py	soft	- -
	Bullet: C	Patchy disseminated pyrite												
	Ring : L													

I: Intact F: Fragmented Bullet Type; H: Hard Formation Bullet, C: Combo Bullet. Rings; L: Large, S: Small, O: No Ring

WELL: PATRICIA NO. |

SHOT: 30

MISFIRED: 0

LOST: |

BROKEN: 0

EMPTY: 3

RECOVERED: 26 = 87%

DEPTH (mRT)	RECOVERY cm or F:	LITHOLOGY	COLOUR	SAND %	SIZE RANGE (DOM)	ROUNDING	SORTING	SILT %	CLAY %	CEMENT % & TYPE	ACCESSORIES % & TYPE	HARDNESS	POROSITY SHOWS
745	4.5 cm or F:	Sandstone	ol gry	90	80 - fine cobble (m-c)	A-SR	poor	-	10-20 QL	TR silification	-	soft	poor- fair -
	Bullet: C												
	Ring : L												
746.5	4.2 cm or F:	Sandstone	ol gry	90	80 - fine cobble (m-c)	A-SR	poor	-	10-20 QL	TR silification	-	soft	poor- fair -
	Bullet: C												
	Ring : L												
749.5	4.5 cm or F:	Sandstone	ol gry	90	80 - med- cobble (c-vc)	A-SR	poor	-	10-20 QL	TR silification	-	soft	poor- fair -
	Bullet: C												
	Ring : L												
751	4.5 cm or F:	Clayey Sandstone	lt gry - gry	75	VF-C (M)	SA-SR	well	-	125 QL	TR silic	-	soft- firm	TR- poor -
	Bullet: C												
	Ring : L												
752.5	5.3 cm or F:	Sandstone	lt ol gry	80	M-VC (C)	SA-SR	well	-	120 QL	-	-	soft	poor -
	Bullet: C												
	Ring : L												
756.5	4 cm or F:	Sandstone	lt ol gry	80	M-VC (C)	SA-SR	well	-	20	-	-	soft	poor- fair -
	Bullet: C												
	Ring : L												
759.5	0 cm or F:	No recovery											
	Bullet: C	Bullet lost due to overpull											
	Ring : L												

Ref: 2087K-9/0020K
 I: Intact F: Fragmented Bullet Type; H: Hard Formation Bullet, C: Combo Bullet. Rings; L: Large, S: Small, O: No Ring

WELL: PATRICIA NO. 1

SHOT: 30

MISFIRED: 0

LOST: 1

BROKEN: 0

EMPTY: 3

RECOVERED: 26 = 87%

DEPTH (mRT)	RECOVERY cm or F:	LITHOLOGY	COLOUR	SAND %	SIZE RANGE (DOM)	ROUNDING	SORTING	SILT %	CLAY %	CEMENT % & TYPE	ACCESSORIES % & TYPE	HARDNESS	POROSITY	SHOWS
761	3 cm	Conglomerate Sandstone	lt ol gryl	80	pebble	well	poor	-	20	-	-	soft	TR	-
	or F:											soft	TR	-
	Bullet: C Bedding Plane with two separate lithologies Ring : L													
769	4.5 cm	Sandstone	lt ol gryl	80	1Mcobble	SR-R	poor	-	20	-	TR coal clasts	soft	TR	-
	or F:	Cl. Sandstone	lt ol gryl	70	F-M	SA-SR	well	-	30	-	-	soft	NIL	-
	Bullet: C Ring : L													
781	4.0 cm	Clayey Sandstone	lt ol gry	70	F-VC	SA-SR	very poor	-	30	-	-	soft	NIL	-
	or F:													
	Bullet: C Ring : L													
786.5	2.5 cm	Clayey Sandstone	lt ol gry	70	F-C	SA-SR	mod	-	30	-	-	soft	NIL	-
	or F:													
	Bullet: C Ring : L													
803	5 cm	Claystone	dk gry	-	-	-	-	TR	100	-	-	soft	NIL	-
	or F:													
	Bullet: C Ring : L													
821	5 cm	Claystone	dk gry	-	-	-	-	TR	95	-	5% carb material	firm	-	-
	or F:													
	Bullet: C Ring : L													
862	4 cm	Claystone	dk gry	-	-	-	-	TR	100	-	-	firm	-	-
	or F:													
	Bullet: C Bullet lost due to overpull Ring : L													

I: Intact F: Fragmented Bullet Type; H: Hard Formation Bullet, C: Combo Bullet. Rings; L: Large, S: Small, O: No Ring
Ref: 2087K-10/0020K

WELL: PATRICIA NO. 1

SHOT: 30

MISFIRED: 0

LOST: 1

BROKEN: 0

EMPTY: 3

RECOVERED: 26 = 87%

DEPTH (mRT)	RECOVERY cm or F:	LITHOLOGY	COLOUR	SAND %	SIZE RANGE (DOM)	ROUNDING	SORTING	SILT %	CLAY %	CEMENT % & TYPE	ACCESSORIES % & TYPE	HARDNESS	POROSITY	SHOWS
876.5	4.5 cm or F:	Claystone	gry - drk gry	-	-	-	-	TR	100	-	-	firm	-	-
	Bullet: C													
	Ring : L													
880	5 cm or F:	Claystone	dk gry	-	-	-	-	TR	100	-	-	firm- hard	-	-
	Bullet: C													
	Ring : L													
	cm													
	or F:													
	Bullet:													
	Ring :													
	cm													
	or F:													
	Bullet:													
	Ring :													
	cm													
	or F:													
	Bullet:													
	Ring :													

I: Intact F: Fragmented Bullet Type; H: Hard Formation Bullet, C: Combo Bullet. Rings; L: Large, S: Small, O: No Ring

● CORE ANALYSIS

APPENDIX VII

ROUTINE CORE ANALYSIS

Litton

Core Lab

ROUTINE CORE ANALYSIS

LASMO ENERGY AUSTRALIA LTD.

PATRICIA #1

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom and for whose exclusive and confidential use this report is made. The interpretations or opinions expressed represent the best judgement of Core Laboratories, Inc. (all errors and omissions excepted) but Core Laboratories, Inc. and its officers and employees assume no responsibility and make no warranty or representations as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

Litton

Core Lab

Core Laboratories Australia Pty. Ltd.
447-449 Belmont Avenue,
Kewdale,
Western Australia 6105
(09) 353 3944

6th August 1987

Lasmo Energy Australia Ltd
15th Floor, CML Building
300 Queen Street
BRISBANE Q. 4000

Attention: Mr. D. Lowry

Reference : Routine Core Analysis
Well : Patricia #1
File : QLD-CA-251

Dear Sir,

Presented here are the results of analyses performed on cores #1,2 & 3 from Patricia #1. This report contains final data, a correlation coregraph and a description of analysis procedures.

Core from Patricia #1 arrived at our Brisbane laboratory on the 3rd July 1987.

Analysis proceeded as requested. Firstly the core was laid out in its fibre glass tubes and the end caps taken off to inspect the cores and their depths. Because of the friable, unconsolidated nature of most of the core, the core was not removed from the tubes. Instead windows were cut at 30cm intervals into the fibre glass tubes. Samples for helium injection porosity, grain density and horizontal permeability were taken in either one of two ways.

- 1) If the core was consolidated enough a one-inch plug was drilled and trimmed using tap water as the lubricant.
- 2) If the core was unconsolidated, the sample was taken with a one-inch punch, then sealed in lead tubing with screens at each end of the plug. The plug was then placed in a triaxial holder at a confining pressure of 1000 psi to mould the lead around the samples.

The plugs were then dried in an oven at 80°C for 8-12 hours prior to helium injection porosity, grain density and horizontal permeability determinations.

Core Laboratories Australia Pty. Ltd.

Copies of the data were delivered to your office on the 4th and 6th July 1987. Five sections were sent to our laboratory in Perth for SCAL on the 23rd July 1987.

Should you have any queries concerning this report, please contact me in Brisbane on (07) 260-1722.

I thank you for the opportunity to provide our routine core analysis services and trust that we may be of service in the future.

Yours faithfully,
CORE LABORATORIES AUSTRALIA PTY.LTD.

A handwritten signature in cursive script, appearing to read 'J. Brown', is written in dark ink.

James Brown
Laboratory Supervisor,
Brisbane, Australia

ROUTINE CORE ANALYSIS PROCEDURES

The data contained in the report has been derived by the following methods:

1. Helium Injection Porosity - measured by a Helium Porosimeter to determine grain volume and, consequently, pore volume. The Porosimeter is based on the Boyles Law equation of gas expansion and uses helium because of its small molecular composition and inert properties.
2. Permeability - measured by a gas permeameter to determine fluid "transmissibility". The permeameter is based on Darcy's equation for compressible fluids (gas) assuming laminar flow with air being the gas used (API RP.40).

COMPANY: LASMO ENERGY FORMATION: FILE: QLD-CA-251
 WELL: PATRICIA #1 CORE TYPE: DATE REPORT:
 FIELD: BASIN: ANALYSTS: JB:
 COUNTRY: AUSTRALIA STATE: DRILLING FLUID:

SAMPLE NO.	DEPTH METRES	AIR PERM-MD		HE INJ Ø %	GRAIN DENSITY
		HOR	VERT		

Core #1

1	703.3	72		35.1	2.66 *
2	703.6	110		35.7	2.65 *
3	703.9	No Sample			
4	704.2	No Sample			
5	704.5	166		35.1	2.65
6	704.8	No Sample			
7	705.1	254		36.7	2.65
8	705.4	16		32.4	2.68 *
9	705.7	137		37.7	2.64
10	706.0	No Sample			
11	706.3	676		39.1	2.66
12	706.6	99		31.8	2.66 *
13	706.9	350		37.6	2.65
14	707.2	107		38.7	2.68 *
15	707.5	45		27.6	2.79
16	707.8	645		38.9	2.64
17	708.1	213		37.6	2.71 *
18	708.4	687		34.9	2.66
19	708.7	530		35.7	2.67 *
20	709.0	No Sample			
21	709.3	458		37.3	2.67 *
22	709.6	234		41.6	2.70 *
23	710.2	530		38.5	2.65
24	710.5	313		38.8	2.66 *
25	710.8	243		38.3	2.72 *
26	711.1	424		39.1	2.63

Note: * Denotes sample mounted in lead sleeving.

COMPANY: LASMO ENERGY FORMATION: FILE: QLD-CA-251
 WELL: PATRICIA #1 CORE TYPE: DATE REPORT:
 FIELD: BASIN: ANALYSTS: JB:
 COUNTRY: AUSTRALIA STATE: DRILLING FLUID:

SAMPLE NO.	DEPTH METRES	AIR PERM-MD		HE INJ Ø %	GRAIN DENSITY
		HOR	VERT		
27	711.4	149		34.9	2.64 *
28	711.7	117		36.1	2.66 *
29	712.0	No Sample			
30	712.3	624		41.0	2.64
31	712.6	238		36.9	2.67 *
32	712.9	5.3		19.1	3.01
33	713.2	12.1		19.4	3.03
34	713.5	250		38.5	2.71 *
35	713.8	271		38.1	2.69 *
36	714.1	0.8		16.0	3.07
37	714.4	87		34.6	2.74 *
38	714.7	107		34.1	2.74 *
39	715.0	No Sample			
40	715.3	96		32.0	2.89
41	715.6	199		35.6	2.85 *
42	715.9	7.0		19.6	3.1
43	716.2	10.0		23.7	3.1
44	716.5	215		35.1	2.78 *
45	716.8	98		28.1	3.05
46	717.1	37		22.4	2.91
47	717.4	330		36.6	2.69 *
48	717.7	Sample Fractured		43.8	2.69
49	718.0	No Sample			
50	718.3	235		38.3	2.71 *
51	718.6	4.4		21.0	3.00
52	718.9	201		38.5	2.73 *

Note: * Denotes sample mounted in lead sleeving.

COMPANY: LASMO ENERGY FORMATION: FILE: QLD-CA-251
WELL: PATRICIA #1 CORE TYPE: DATE REPORT:
FIELD: BASIN: ANALYSTS: JB:
COUNTRY: AUSTRALIA STATE: DRILLING FLUID:

SAMPLE NO.	DEPTH METRES	AIR PERM-MD		HE INJ Ø %	GRAIN DENSITY
		HOR	VERT		
53	719.2	239		43.3	2.67
54	719.5	350		42.6	2.70
55	719.8	319		41.6	2.66
56	720.1	530		40.3	2.71
57	720.4	6.5		22.6	3.05
58	720.7	418		39.0	2.77
59	721.0	No Sample			
60	721.3	20		34.4	3.4

Core #2

61	722.3	9.9		31.9	2.66 *
62	722.6	4.8		31.5	2.68 *
63	722.9	6.5		32.7	2.67 *
64	723.2	12		31.7	2.68 *
65	723.5	25		30.1	2.76 *
66	723.8	24		31.2	2.67 *
67	724.1	21		32.3	2.69 *
68	724.4	28		34.7	2.67 *
69	724.7	No Sample			
70	725.0	No Sample			
71	725.3	48		35.8	2.69 *
72	725.6	1.6		19.1	2.96
73	725.9	39		35.5	2.71 *
74	726.2	40		36.7	2.73 *
75	726.5	51		33.9	2.67
76	726.8	72		35.2	2.78 *
77	727.1	46		36.1	2.74 *

Note: * Denotes sample mounted in lead sleeving.

COMPANY: LASMO ENERGY FORMATION: FILE: QLD-CA-251
 WELL: PATRICIA #1 CORE TYPE: DATE REPORT:
 FIELD: BASIN: ANALYSTS: JB:
 COUNTRY: AUSTRALIA STATE: DRILLING FLUID:

SAMPLE NO.	DEPTH METRES	AIR PERM-MD		HE INJ Ø %	GRAIN DENSITY
		HOR	VERT		
78	727.4	46		36.9	2.70 *
79	727.7	51		34.7	2.81 *
80	728.0	No Sample			
81	728.3	216		37.4	2.74 *
82	728.6	81		31.4	2.65 *
83	728.9	55		35.4	2.65 *
84	729.2	69		35.3	2.63 *
85	729.5	95		35.1	2.66 *
86	729.8	221		36.4	2.67 *
87	730.1	20		19.5	2.90
88	730.4	142		32.5	2.66 *
89	730.7	No Sample			
90	731.0	No Sample			
91	731.3	162		35.4	2.61 *
92	731.6	3.9		18.5	2.93
93	731.9	168		35.1	2.62 *
94	732.2	125		31.5	2.59 *
95	732.5	Sample Fractured		34.7	2.58
96	732.8	117		34.4	2.65 *
97	733.1	181		34.9	2.62 *
98	733.4	279		38.1	2.65 *
99	733.7	214		33.8	2.68 *
100	734.0	No Sample			
101	734.3	37		24.6	2.92
102	734.6	386		35.0	2.66 *
103	734.9	222		35.0	2.65 *

Note: * Denotes sample mounted in lead sleeving.

COMPANY: LASMO ENERGY FORMATION: FILE: QLD-CA-251
 WELL: PATRICIA #1 CORE TYPE: DATE REPORT:
 FIELD: BASIN: ANALYSTS: JB:
 COUNTRY: AUSTRALIA STATE: DRILLING FLUID:

SAMPLE NO.	DEPTH METRES	AIR PERM-MD		HE INJ Ø %	GRAIN DENSITY
		HOR	VERT		
104	735.2	160		38.0	2.72 *
105	735.5	46		32.5	2.78
106	735.8	43		34.1	2.68 *
107	736.1	75		34.8	2.65 *
108	736.4	84		33.8	2.68 *
109	736.7	68		31.1	2.56 *
110	737.0	No Sample			
111	737.3	Sample Fractured		32.3	2.61
112	737.6	1.7		12.9	2.96
113	737.9	41		34.9	2.70 *
114	738.2	46		36.4	2.66 *
115	738.5	43		33.2	2.71 *
116	738.8	0.02		15.4	3.14
117	739.1	0.2		22.4	3.14
118	739.4	0.6		20.5	3.05
119	739.7	3.3		26.7	2.87
120	740.0	No Sample			

Core #3

121	740.3	36		33.3	2.66 *
122	740.6	37		26.5	2.79 *
123	740.9	31		28.5	2.84 *
124	741.2	21		31.0	2.83 *
125	741.5	0.02		8.0	4.42
126	741.8	No Sample			
127	742.1	112		32.7	2.72 *
128	742.4	48		30.8	2.76 *
129	742.7	11		32.7	2.62 *

Note: * Denotes sample mounted in lead sleeving.

PE603582

This is an enclosure indicator page.
The enclosure PE603582 is enclosed within the
container PE906232 at this location in this
document.

The enclosure PE603582 has the following characteristics:

- ITEM_BARCODE = PE603582
- CONTAINER_BARCODE = PE906232
 - NAME = Correlation Coregraph, 1 of 3
 - BASIN = GIPPSLAND
 - PERMIT = VIC/P11
 - TYPE = WELL
 - SUBTYPE = WELL_LOG
- DESCRIPTION = Correlation Coregraph for Patricia-1, 1
of 3 (703.0-721.7m)
- REMARKS =
- DATE_CREATED = 3/09/87
- DATE_RECEIVED = 18/01/88
- W_NO = W963
- WELL_NAME = PATRICIA-1
- CONTRACTOR = CORE LABORATORIES AUSTRALIA LTD
- CLIENT_OP_CO = LASMO ENERGY AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603583

This is an enclosure indicator page.
The enclosure PE603583 is enclosed within the
container PE906232 at this location in this
document.

The enclosure PE603583 has the following characteristics:

- ITEM_BARCODE = PE603583
- CONTAINER_BARCODE = PE906232
 - NAME = Correlation Coregraph, 2 of 3
 - BASIN = GIPPSLAND
 - PERMIT = VIC/P11
 - TYPE = WELL
 - SUBTYPE = WELL_LOG
- DESCRIPTION = Correlation Coregraph for Patricia-1, 2
of 3 (721.7-740.0m)
- REMARKS =
- DATE_CREATED = 8/09/87
- DATE_RECEIVED = 18/01/88
- W_NO = W963
- WELL_NAME = PATRICIA-1
- CONTRACTOR = CORE LABORATORIES AUSTRALIA LTD
- CLIENT_OP_CO = LASMO ENERGY AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PE603584

This is an enclosure indicator page.
The enclosure PE603584 is enclosed within the
container PE906232 at this location in this
document.

The enclosure PE603584 has the following characteristics:

- ITEM_BARCODE = PE603584
- CONTAINER_BARCODE = PE906232
 - NAME = Correlation Coregraph, 3 of 3
 - BASIN = GIPPSLAND
 - PERMIT = VIC/P11
 - TYPE = WELL
 - SUBTYPE = WELL_LOG
- DESCRIPTION = Correlation Coregraph for Patricia-1, 3
of 3 (703.0-740.0m)
- REMARKS =
- DATE_CREATED =
- DATE_RECEIVED = 18/01/88
 - W_NO = W963
 - WELL_NAME = PATRICIA-1
- CONTRACTOR = CORE LABORATORIES AUSTRALIA LTD
- CLIENT_OP_CO = LASMO ENERGY AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

MICROPALAEONTOLOGY
SPECIES

APPENDIX VIII

MICROPALAEONTOLOGICAL SPECIES CHART

PE906238

This is an enclosure indicator page.
The enclosure PE906238 is enclosed within the
container PE906232 at this location in this
document.

The enclosure PE906238 has the following characteristics:

ITEM_BARCODE = PE906238
CONTAINER_BARCODE = PE906232
NAME = Micropalaeontological Chart
BASIN = GIPPSLAND
PERMIT = VIC/P11
TYPE = WELL
SUBTYPE = DIAGRAM
DESCRIPTION = Micropalaeontological Species Chart for
Patricia-1. Copy of PE900463
REMARKS =
DATE_CREATED = 30/09/87
DATE_RECEIVED = 18/01/88
W_NO = W963
WELL_NAME = PATRICIA-1
CONTRACTOR = REXILIUS STRATIGRAPHIC SERVICES
CLIENT_OP_CO = LASMO ENERGY AUSTRALIA LIMITED

(Inserted by DNRE - Vic Govt Mines Dept)

PALYNOLOGICAL
SPECIES

APPENDIX IX

PALYNOLOGICAL SPECIES LISTS

COMPANY: LASMO ENERGY AUSTRALIA LTD.

Sheet 1 of 5

WELL: PATRICIA No.1

BASIN: GIPPSLAND

Sample type	S	S	S	S	C	C	C	C	C	S	S	S			
Depth (m)	880	821	786.5	769	743.5	739.8	722	720	705	692	683	672			
Palynomorph															
CRYPTOGAM MICROSPORES:															
<i>Contignisporites glebulentus</i>	+														
<i>Dictyophyllidites pectinataeformis</i>	+	+													
<i>Perotrilites laceratus</i>	+														
<i>Dictyophyllidites crenatus</i>	+														
<i>Cicatricosisporites australiensis</i>	+	+													
<i>Crybelosporites striatus</i>	+	+													
<i>Interlobites intraverrucatus</i>	+														
<i>Biretisporites cf. potoniae</i>	+														
<i>Retitriletes austroclavatidites</i>	+	+													
<i>Retitriletes eminulus</i>	+									+					
<i>Retitriletes clavatooides</i>	+														
<i>Cyathidites australis/minor</i>	+	+			+	+	+	+	+	+	+	+			
<i>Baculatisporites comaumensis</i>	+	+							+	+					
<i>Ceratosporites equalis</i>	+														
<i>Gleicheniidites circinidites</i>	+	+				+		+	+	+					
<i>Stereisporites antiquasporites</i>	+	+				+	+	+		+					
<i>Velosporites triquetrus</i>	+														
<i>Stereisporites pocockii</i>	+	+													
<i>Leptolepidites major</i>	+														
<i>Triporoletes reticulatus</i>	+	+													
<i>Triporoletes involuocratus</i>	+	+													
<i>Aequitriradites verrucosus</i>	+	+													
<i>Foveosporites moretonensis</i>	+	+													
<i>Stoverisporites microverrucatus</i>	+														
<i>Laevigatosporites ovatus</i>	+				+			+	+			+			
<i>Aequitriradites spinulosus</i>		+													
<i>Triporoletes radiatus</i>		+													
<i>Cyathidites punctatus</i>		+													
<i>Coptospora paradoxa</i>		+													
<i>Foraminisporis asymmetricus</i>		+													
<i>Foraminisporis dailyi</i>		+													
<i>Antulsporites varigranulatus</i>		+													
<i>Kuylisporites waterbolkkii</i>					+			+							
<i>Rugulatisporites mallatus</i>					+		+	+							

Sample type: S = Sidewall core; C = Conventional core;
D = Cuttings.

COMPANY: LASMO ENERGY AUSTRALIA LTD.

Sheet 2 of 5

WELL: PATRICIA No.1

BASIN: GIPPSLAND

Sample type	S	S	S	S	C	C	C	C	C	S	S	S				
Depth (m)																
Palynomorph	880	821	786.5	769	743.5	739.8	722	720	705	692	683	672				
<i>Laevigatosporites major</i>					+	+	+									
<i>Peromonolites vellosus</i>					+	+										
<i>Clavifera triplex</i>						+										
<i>Stereisporites (Tripunctisporis) sp.</i>						+			+							
<i>Verrucosporites kopukiensis</i>						+	+									
<i>Verrucatosporites speciosus</i>						+	+	+								
<i>Polypodiaceosporites tumulatus</i>							+									
<i>Ischyosporites gremius</i>							+	+		+	+					
<i>Peromonolites densus</i>									+							
<i>Microfoveolatosporis sp.</i>									+							
<i>Foveotriletes balteus</i>									+							
<i>Foveotriletes palaequetrus</i>											+					
<i>Foveosporites lacunosus</i>												+				
CRYPTOGAM MEGASPORES:																
<i>Balmeisporites holodictyus</i>		+														
<i>Arcellites reticulatus</i>		+														
<i>Minerisporites marginatus</i>		+														
GYMNOSPERMOUS POLLEN:																
<i>Classopollis chateaunovii</i>	+	+														
<i>Alisporites grandis</i>	+	+														
<i>Alisporites similis</i>	+	+														
<i>Araucariacites australis</i>	+	+				+	+		+	+	+	+				
<i>Cycadopites nitidus</i>	+	+														
<i>Trichotomosulcites subgranulatus</i>	+	+						+	+	+						
<i>Microcachryidites antarcticus</i>	+	+				+		+	+	+						
<i>Vitreisporites pallidus</i>		+														
<i>Podocarpidites ellipticus</i>		+			+	+	+	+	+	+	+	+				
<i>Lygistepollenites balmei</i>					+											
<i>Phyllocladidites mawsonii</i>						+	+	+		+		+				
<i>Lygistepollenites florinii</i>						+	+		+	+	+					
<i>Dilwynites granulatus</i>						+	+	+	+							
<i>Dacrycarpites australensis</i>							+									
ANGIOSPERMOUS POLLEN:																
<i>Clavatipollenites hughesii</i>	+	+														
<i>Phimipollenites pannosus</i>	+	+														

Sample type: S = Sidewall core; C = Conventional core;
D = Cuttings.

COMPANY: LASMO ENERGY AUSTRALIA LTD.

Sheet 3 of 5

WELL: PATRICIA No.1

BASIN: GIPPSLAND

Sample type	S	S	S	S	C	C	C	C	C	S	S	S			
Depth (m)	880	821	786.5	769	743.5	739.8	722	720	705	692	683	672			
Palynomorph															
<i>Rousea georgensis</i>		+													
<i>Proteacidites beddoesii</i>					+										
<i>Proteacidites asperopolus</i>					+	+									
<i>Proteacidites pachyplus</i>					+	+	+	+	+						
<i>Proteacidites subscabratus</i>					+		+	+	+						
<i>Proteacidites kopiensis</i>					+	+	+								
<i>Propylipollis latrobensis</i>					+										
<i>Propylipollis tripartitus</i>					+	+									
<i>Propylipollis annularis</i>					+	+	+	+	+	+					
<i>Spinozonocolpites prominatus</i>					+	+									
<i>Triporopollenites ambiguus</i>					+		+	+	+						
<i>Schizocolpus marlinensis</i>					+										
<i>Anacolosidites acutululus</i>					+										
<i>Malvacipollis diversus</i>					+										
<i>Margocolporites</i> sp.					+		+								
<i>Gambierina edwardsii</i>					+										
<i>Gambierina rufoata</i>					+										
<i>Haloragacidites harrisii</i>					+	+	+	+	+	+	+	+			
<i>Triporopollenites sectilis</i>					+										
<i>Tricolporites scabratus</i>					+	+	+								
<i>Cupanieidites orthoteichus</i>					+	+	+	+	+						
<i>Banksieaeidites elongatus</i>					+										
<i>Rhoipites microreticulatus</i>					+			+							
<i>Tricolporites prolata</i>					+			+				+			
<i>Sapotaceoidapollenites rotundus</i>					+										
<i>Tricolpites confessus</i>					+										
<i>Nothofagidites emarcidus</i>					+	+	+	+	+	+	+	+			
<i>Nothofagidites flemingii</i>					+	+	+	+	+		+				
<i>Nothofagidites brachyspinulosus</i>					+	+			+	+	+				
<i>Nothofagidites heterus</i>					+	+	+	+	+	+		+			
<i>Gothanipollis bassensis</i>						+			+						
<i>Tricolpites reticulatus</i>						+									
<i>Nothofagidites asperus</i>						+	+	+	+	+	+	+			
<i>Nothofagidites goniatus</i>						+			+						
<i>Anacolosidites luteoides</i>						+									

Sample type: S = Sidewall core; C = Conventional core;
D = Cuttings.

COMPANY: LASMO ENERGY AUSTRALIA LTD.

Sheet 4 of 5

WELL: PATRICIA No.1

BASIN: GIPPSLAND

Sample type	S	S	S	S	C	C	C	C	C	S	S	S				
Depth (m)	880	821	786.5	769	743.5	739.8	722	720	705	692	683	672				
Palynomorph																
<i>Tricolpites simatus</i>						+		+								
<i>Ericipites crassiexinus</i>						+	+	+								
<i>Santalumidites cainozoicus</i>						+	+	+								
<i>Ilexpollenites anguloclavatus</i>						+	+			+						
<i>Myrtaceidites eugenioides</i>						+	+	+								
<i>Nothofagidites incrassatus</i>						+	+	+	+	+			+			
<i>Nothofagidites deminutus</i>						+	+	+	+	+						
<i>Nothofagidites vansteenisii</i>						+		+		+						
<i>Periporollenites demarcatus</i>						+	+	+	+	+						
<i>Banksiaeaidites arcuatus</i>						+										
<i>Proteacidites tuberculiformis</i>						+										
<i>Graminiidites sp.</i>						?							+			
<i>Proteacidites reflexus</i>						+										
<i>Proteacidites recavus</i>								+								
<i>Triorites psilatus</i>								+	+							
<i>Sparganiaceapollenites sp.</i>								+	+							
<i>Malvacipollis subtilis</i>								+	+							
<i>Helcoporites astrus</i>								+								
<i>Propylipollis crassipora</i>								+		+						
<i>Propylipollis reticulosabratus</i>								+		+	+					
<i>Liliacidites lanceolatus</i>								+								
<i>Nothofagidites falcatus</i>										+	+	+		+		
<i>Tricolpites thomasi</i>										+						
<i>Concolpites leptos</i>										+						
<i>Proteacidites granoratus</i>										+						
<i>Proteacidites incurvatus</i>										+	+					
<i>Proteacidites crassus</i>										+						
<i>Proteacidites adenanthoides</i>										+	+					
<i>Tricolporites leuros</i>										+						
<i>Beaupreaidites elegansiformis</i>										+						
<i>Myrtaceidites parvus</i>											+	+	+			
<i>Proteacidites rectomarginus</i>											+					
<i>Proteacidites tuberculatus</i>											+					
<i>Periporopollenites vesicus</i>												+				
<i>Acaciaepollenites myriosporites</i>													+			

Sample type: S = Sidewall core; C = Conventional core;
D = Cuttings.

WELL: PATRICIA No.1

BASIN: GIPPSLAND

Sample type	S	S	S	S	C	C	C	C	C	S	S	S				
Depth (m)																
Palynomorph	880	821	786.5	769	743.5	739.8	722	720	705	692	683	672				
FUNGAL MICROFOSSILS:																
Spore, fruiting bodies and hyphae	+	+			+	+	+	+	+	+						
ALGAL MICROFOSSILS:																
Sigmopollis cf. carbonis	+	+														
Sigmopollis sp.	+															
Schizosporis reticulatus		+														
Schizophacus spriggii		+			+											
Schizophacus rugulatus		+														
Botryococcus sp.						+										
Spiniferites ramosus						+				+		+				
Deflandrea heterophylcta						+	+		+							
Eisenackia crassitabulata						+		+								
Spinidinium essoi						+										
Operculodinium sp.						+	+			+						
Oligosphaeridium sp.						+		+			+					
Paralecaniella indentata						+	+		+							
Impagidinium dispersitum							+	+								
Impagidinium victorianum								+								
Pallambages sp.								+								
Horologinella sp.								+								
Hemiplacaphora semilunifera									+							
Schematophora speciosa									+							
Deflandrea phosphoritica										+						
Lentina extensa										+						
Lecaniella sp.										+						
Areosphaeridium capricornum										+						
Systemophora ancryea										+						
Systemaphora placacantha											+	+				
Lingulodinium machaerophorum											+	+	+			
Spiniferites bulloidea											+	+	+			
Spiniferites cingulata												+				
Operculodinium centrocarpum												+	+			
Hystrichokolpoma stellatum													+			

Sample type: S = Sidewall core; C = Conventional core;
D = Cuttings.

GAS ANALYSES

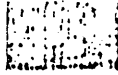
APPENDIX X

GAS ANALYSES



cc Swelton
DL

GAS AND FUEL EXPLORATION N.L.



A subsidiary of the Gas and Fuel Corporation of Victoria

Registered Office: 171 Flinders St., Melbourne, 3000.
Address all mail to Box 18410, G.P.O., Melbourne, 3001.
Cable Address: 'Galcor'. Telephone: 652 4222. Telex: AA31422.

When replying please quote

FACSIMILE COMMUNICATION FORM.

DATE : 18th August, 1987
TO : LASMO ENERGY
FAX. NO. : (07) 279 9587
ATTENTION : MR. S. KEHNHAN
FROM : GAS AND FUEL EXPLORATION N.L.
FAX. NO. : (03) 652 5245
SUBJECT : RE: VTC/P11.
NUMBER OF PAGES : 9

MESSAGE AS FOLLOWS:

THE FOLLOWING ANALYSES OF PATRICIA - 1 GAS SAMPLES HAVE BEEN RECEIVED FROM OUR LABORATORY.

REGARDS,

RAY PEARSON,
GAS AND FUEL EXPLORATION N.L.

GAS AND FUEL CORPORATION OF VICTORIA
SCIENTIFIC SERVICES DEPARTMENT

1136 NEPEAN HIGHWAY, DICHETT, VICTORIA 3190, AUSTRALIA

LABORATORY
REPORT

BY: I. Strudwick

DATE: 3/8/87

REPORT
No: 87/450/C

SUBJECT: NATURAL GAS ANALYSIS: PATRICIA - 1

REQUESTOR: DR. G. R. PEARSON, EXPLORATION MANAGER, G&F. II/O.

CYLINDER IDENTIFICATION 54257

ANALYSIS OF GAS SAMPLE AS FOUND

<u>Component</u>	<u>Mole Percent Concentration</u>	
Methane	92.5	+ 0.2
Ethane	0.28	+ 0.02
Propane	0.005	+ 0.001
Iso-Butane	0.003	+ 0.001
Neo-Pentane	0.003	+ 0.001
Hexanes +	0.005	+ 0.002
Helium	0.000	+ 0.005
Oxygen plus Argon	0.04	+ 0.02
Nitrogen	0.82	+ 0.05
Carbon Dioxide	1.32	+ 0.02

Calculated Characteristics for the gas at M.S.C. *

Gross Heating Value	36.97	+ 0.7	MJ/m ³
Wobbe Index	48.89	+ 0.2	MJ/m ³
Relative Density	0.572	+ 0.002	

* 15° C., 101.325 kPa., Dry.

KEYWORDS:

NATURAL GAS, ANALYSIS, HEATING VALUE, RELATIVE DENSITY, WOBBE INDEX

NATURAL GAS ANALYSIS: PATRICIA - J.

REQUESTOR: DR. G. R. PEARSON, EXPLORATION MANAGER, C&F. II/O.

CYLINDER IDENTIFICATION: 54257

ANALYSIS OF GAS SAMPLE ON AN AIR FREE BASIS

<u>Component</u>	<u>Mole Percent</u>	<u>Concentration</u>
Methane	97.7	± 0.2
Ethane	0.28	± 0.02
Propane	0.005	± 0.001
Isobutane	0.003	± 0.001
Nor-Pentane	0.003	± 0.001
Hexanes +	0.005	± 0.002
Helium	0.000	± 0.005
Nitrogen	0.68	± 0.02
Carbon Dioxide	1.32	± 0.02

Calculated Characteristics for the gas at M.S.C. *

Gross Heating Value	37.04	± 0.2
Wobbe Index	49.01	± 0.2
Relative Density	0.571	± 0.002

* 15°C., 101.325 kPa., Dry.

NATURAL GAS ANALYSIS: PATRICIA - 1

REQUESTOR: DR. G. R. PEARSON, EXPLORATION MANAGER, G&F. H/O.

CYLINDER IDENTIFICATION : 54255

ANALYSIS OF GAS SAMPLE ON AN AIR FREE BASIS

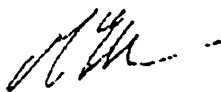
<u>Component</u>	<u>Mole Percent Concentration</u>
Methane	97.8 ± 0.2
Ethane	0.12 ± 0.02
Propane	0.004 ± 0.001
Iso-Butane	0.000 ± 0.001
Neo-Pentane	0.004 ± 0.001
Hexanes +	0.006 ± 0.002
Helium	0.021 ± 0.005
Nitrogen	1.17 ± 0.02
Carbon Dioxide	0.92 ± 0.02

Air free analyses are based on the assumption that all the oxygen plus argon is of an air origin.

Calculated Characteristics for the gas at M.S.C. *

Gross Heating Value	36.95 ± 0.2 MJ/m ³
Wobbe Index	49.01 ± 0.2 MJ/m ³
Relative Density	0.568 ± 0.002

* 15°C., 101.325 kPa., Dry.



GAS AND FUEL CORPORATION OF VICTORIA
SCIENTIFIC SERVICES DEPARTMENT

1136 NEPTUN HIGHWAY, HIGHETT, VICTORIA 3190, AUSTRALIA

LABORATORY
REPORT

BY: L. Strudwick

DATE: 3/8/87

REPORT
No: 87/151/C

SUBJECT: NATURAL GAS ANALYSIS: PATRICIA - 1

REQUESTOR: DR. G. R. PEARSON, EXPLORATION MANAGER, G&F. II/O.

CYLINDER IDENTIFICATION 54237

ANALYSIS OF GAS SAMPLE AS FOUND

<u>Component</u>	<u>Mole Percent</u>	<u>Concentration</u>
Methane	96.1	± 0.2
Ethane	0.12	± 0.02
Propane	0.004	± 0.001
Isobutane	0.000	± 0.001
Nor-Pentane	0.004	± 0.001
Hexanes +	0.006	± 0.002
Helium	0.015	± 0.005
Oxygen plus Argon	0.29	± 0.02
Nitrogen	2.47	± 0.05
Carbon Dioxide	0.96	± 0.02

Calculated Characteristics for the gas at M.S.C. *

Gross Heating Value	36.34	± 0.2	MJ/m ³
Wobbe Index	47.89	± 0.2	MJ/m ³
Relative Density	0.576	± 0.002	

* 15° C., 101.325 kPa., Dry.

KEYWORDS: NATURAL GAS, ANALYSIS, HEATING VALUE, RELATIVE DENSITY, WOBBE INDEX

NATURAL GAS ANALYSIS: PATRICIA - L

REQUESTOR: DR. G. R. PEARSON, EXPLORATION MANAGER, G&P. II/O.

CYLINDER IDENTIFICATION: 54237

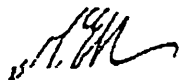
ANALYSIS OF GAS SAMPLE ON AN AIR FREE BASIS

<u>Component</u>	<u>Mole Percent Concentration</u>
Methane	97.4 ± 0.2
Ethane	0.12 ± 0.02
Propane	0.004 ± 0.001
Isobutane	0.000 ± 0.001
Neo-Pentane	0.004 ± 0.001
Hexanes -	0.006 ± 0.002
Helium	0.015 ± 0.005
Nitrogen	1.44 ± 0.02
Carbon Dioxide	0.96 ± 0.02

Calculated Characteristics for the gas at M.S.C. *

Gross Heating Value	36.84 ± 0.2
Wobbe Index	48.79 ± 0.2
Relative Density	0.570 ± 0.002

* 15°C., 101.325 kPa., Dry.



GAS AND FUEL CORPORATION OF VICTORIA
SCIENTIFIC SERVICES DEPARTMENT

1136 NEPEAN HIGHWAY, HIGHETT, VICTORIA 3190, AUSTRALIA

LABORATORY
REPORT

BY: F. Strudwick DATE: 3/8/87 REPORT No: 87/452/C

SUBJECT: NATURAL GAS ANALYSIS: PATRICIA - 1

REQUESTOR: DR. G. R. PEARSON, EXPLORATION MANAGER, G&F. H/O.

CYLINDER IDENTIFICATION 54281

ANALYSIS OF GAS SAMPLE AS FOUND

<u>Component</u>	<u>Mole Percent Concentration</u>
Methane	97.2 ± 0.2
Ethane	0.28 ± 0.02
Propane	0.005 ± 0.001
iso-Butane	0.003 ± 0.001
Neo-Pentane	0.003 ± 0.001
Hexanes +	0.005 ± 0.002
Helium	0.000 ± 0.005
Oxygen plus Argon	0.11 ± 0.02
Nitrogen	1.05 ± 0.05
Carbon Dioxide	1.32 ± 0.02

Calculated Characteristics for the gas at M.S.C. *

Gross Heating Value	36.86 ± 0.2	MJ/m ³
Wobbe Index	48.68 ± 0.2	MJ/m ³
Relative Density	0.573 ± 0.002	

* 15° C., 101.325 kPa., Dry.

KEYWORDS: NATURAL GAS, ANALYSIS, HEATING VALUE, RELATIVE DENSITY, WOBBE INDEX

NATURAL GAS ANALYSIS: PATRICIA - 1

REQUESTOR: DR. G. R. PEARSON, EXPLORATION MANAGER, G&F. II/O.

CYLINDER IDENTIFICATION: 54281

ANALYSIS OF GAS SAMPLE ON AN AIR FREE BASIS

<u>Component</u>	<u>Mole Percent Concentration</u>
Methane	97.7 ± 0.2
Ethane	0.28 ± 0.02
Propane	0.005 ± 0.001
Iso-Butane	0.003 ± 0.001
Neo-Pentane	0.003 ± 0.001
Hexanes *	0.005 ± 0.002
Helium	0.000 ± 0.005
Nitrogen	0.66 ± 0.02
Carbon Dioxide	1.32 ± 0.02

Calculated Characteristics for the gas at M.S.C. *

Gross Heating Value	36.86 ± 0.2
Wobbe Index	48.60 ± 0.2
Relative Density	0.573 ± 0.002

* 15°C., 101.325 kPa., Dry.

AM