

ING. RESERVOIRS
Victor PERATA

STATIC AND FLOWING GRADIENT TEST

COMPANY: **PETRO-TECH PERUANA S.A.**
WELL: **LO16-9**
FIELD: **LOBITOS OFFSHORE**
DATE: **FEBRUARY 22th, 2004**

GEOSCIENCES
Central File

MAR. 17, 2004
DATE

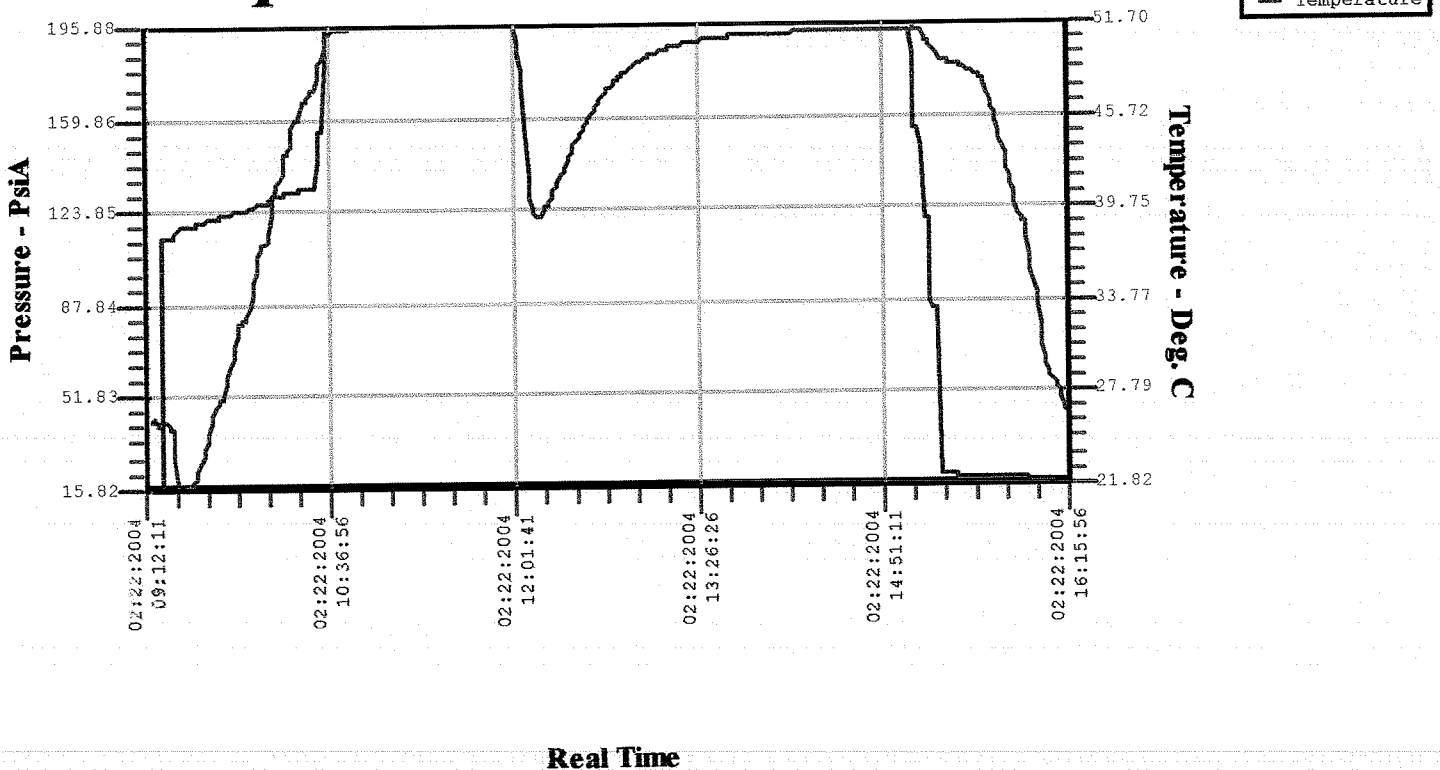
Well Test Data

Test name: SFGLO16-9

Company: FLOWPETROL S.A.
Client: PETRO-TECH PERUANA S.A.
Gauge number: 91180
Well name: LO16-9
Well number: 9
Test number: 010
Field name: LOBITOS OFFSHORE
County: TALARA
State: PIURA
Date of test: FEBRUARY, 22th, 2004
Type of test: STATIC AND FLOWING GRADIENT
Well status: PRODUCER
BHP on bottom: 195.88 PSIA (STATIC)
BHP off bottom: 193.11 PSIA(FLOWING)
Bottom gauge number: 91180
Starting tubing pressure: 100 PSIG
Starting casing pressure: 130 PSIG
Ending tubing pressure: 0 PSIG
Ending casing pressure: 0 PSIG
Depth of tool: 7300'
Surface elevation: -
Tool zero point: -
Tubing size: 2 3/8"
Bottom hole temperature: 51.69 deg F

Test operator: ENG MARCIAL CACERS BUSTINZA
Comments:

Temperature / Pressure Data



FLOWPETROL S.A. **STATIC & FLOWING GRADIENT TEST**

Field : Lobitos Offshore
 Well : LO16-9

Sand(s) : Basal Salina,
 Interval(s) : (7299' - 7228')

At Static Condition
 Press. Tubing= 100 psig
 Press. Ann.= 130 psig

At Flowing Condition
 Press. Tubing= 0 psig
 Press. Ann.= 0 psig

Well Status : Producer
 Installation : BLT
 Production (BOPD) : 17(January, 2004)
 Cumul. (STB) : 130224(January, 2004)

FIELD REPORT :

February 19th, 2004

08:00 Rig up.
 10:40 Retrieved Standing Valve at 7236'
 Detected top at 7450'
 12:40 Shut in well x 03 days
 P(tubing) = 500 psig
 P(annulus) = 500 psig

February 22th, 2004

08:00 Rig up Lubricator and production tubing
 09:12 Activate Memory Gauges FPT
 09:23 RIH Gauges with steps as follows
 POOH Gauges with steps as follows:
 0' - 1500' - 3000' - 4000' - 5000' - 6000' - 6400'
 6800' - 7000' - 7100' - 7200' - 7300'
 10:35 Gauges at 7300' for 1.5 hrs.
 WHP= 100 psig, WHP(ann)= 130 psig
 12:02 Bleed off well for 03 hrs.
 15:04 POOH Gauges with steps at follows:
 7300' - 7200' - 7100' - 7000' - 6800' - 6600'
 6400' - 6200' - 6000' - 5500' - 5000' - 4000'
 3000' - 1500' - 0'
 WHP= 0 psig, WHP(ann.)=130 psig
 Oil produced = 0 Bls.
 16:05 Gauges in Lubricator
 17:00 Installed Standing valve at 7236'
 18:00 Rig Down.

UpGS = 81 MBLS
 MGS = 35 MBLS
 LWS = 13 MBLS

Now low (9/18/04)
 5000'
 7/19/04
 9/19/03
 Basal Salina
 7228'
 7299'
 7743'
 7756'

Oil Level at 6784'
 Emulsion level at
 Oil Level at 7100'
 Water level at 7200'
 BK1 at 7204'
 Seat Niple at 7238'
 Gauge at 7300'
 EZ Plug at 7450'
 F.C : 7862'

Basal Salina
 7228'
 7299'
 8082'
 7743'
 7756'

Now low (9/18/04)
 MPP (0.222 psi/ft) → 7100' MD (6863' VD) → 128 psig.
 Oil → 7200' MD (6962' VD)
 WHP (0.428 psi/ft) → 7200' MD (6962' VD)
 MPP → 7264' MD (7026' VD) → 181 psig
 Memory → 7300' MD (7061' VD) → 196 psig

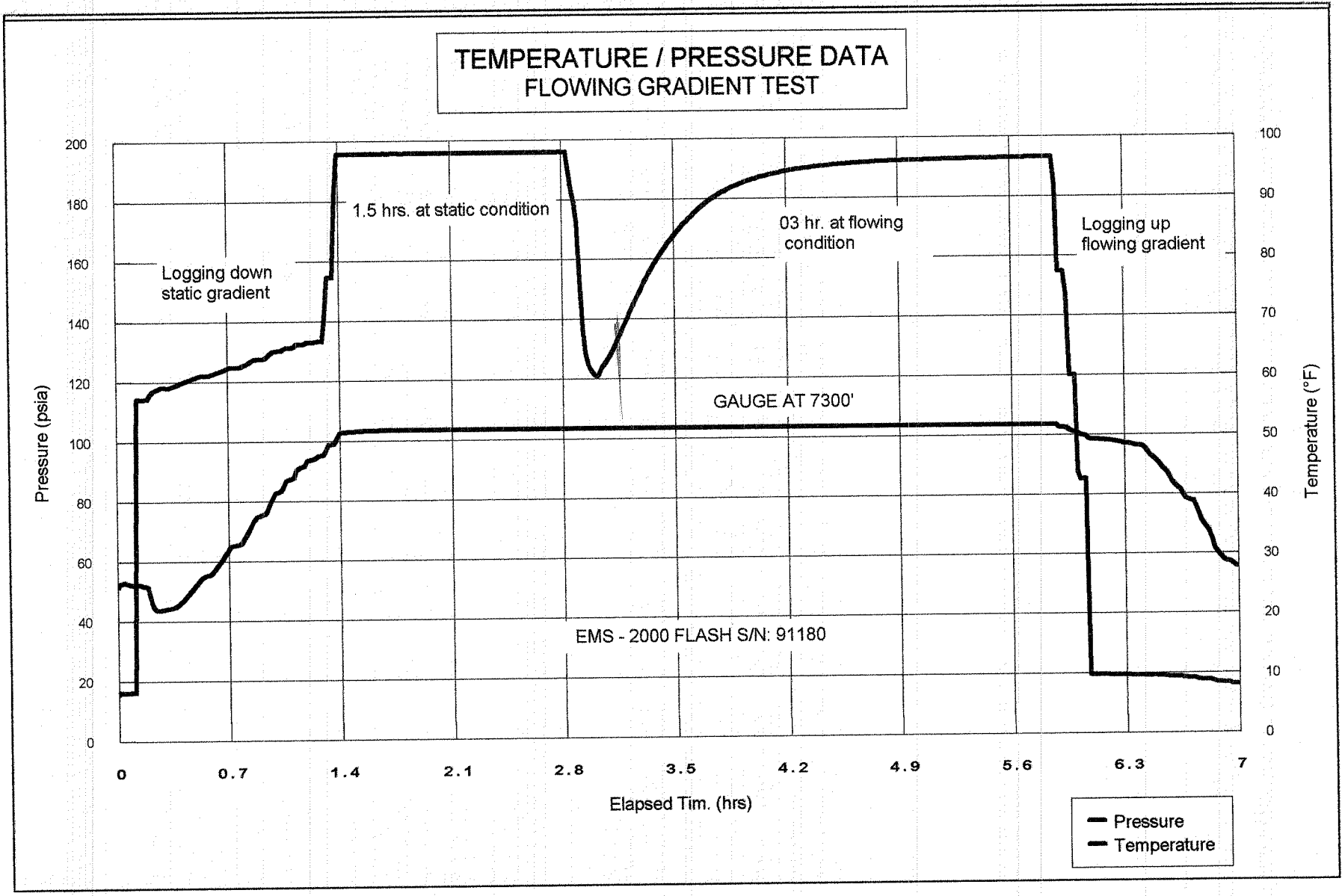
$P_{STAT} = 181 \text{ psig}$

$F_{GRAD} = 181/7026 = 0.026 \text{ psi/ft}$

Field Operator : Ramiro Ramirez

Field Supervisor : Marcial Caceres

$F_{BHP} = 130 \text{ psig}$



Summary of Results Well: LO16-9

Date of Test	February 22th-15 th, 2003	
Formation	Basal Salina	(7299' - 7228')
	Pariñas/R. Bravo	(5286' - 5032')
Depth of gauges	7,300	M.D. ft
	7,054	V.D. ft
<u>1.5 Hrs. at Static Condition</u>		
Well Head Pressure (Tubing)	100.00	psig (Manometer)
Well Head Pressure (Annulus)	130.00	psig (Manometer)
Static Pressure at 7300' MD	195.88	psia (Memory)
Static Temperature at 7300' MD	51.69	°F
Gradient at 7300' MD	0.0278	psi/ft
Oil level	7100	ft. MD
	6861	ft. VD
Water level	7200	ft. MD
	6957	ft. VD
Oil Gradient	0.2222	psi/ft
Water Gradient	0.4281	psi/ft

<u>03 Hrs. at Flowing Condition</u>		
Well Head Pressure (Tubing)	0.00	psig (Manometer)
Well Head Pressure (Annulus)	0.00	psig (Manometer)
Flowing Pressure at 7300' MD	193.11	psia (Memory)
Flowing Temperature at 7300' MD	51.70	°F
Gradient at 7300' MD	0.0274	psi/ft
Oil level	6784	ft. MD
	6556	ft. VD
Emulsion level	7200	ft. MD
	6957	ft. VD
Oil Gradient	0.3339	psi/ft
Emulsion Gradient	0.3980	psi/ft

Fluid Level at Static Condition (while POOH gauges)

Measured depth (ft)	Vertical depth (ft)	Pressure (psia)	Gradient (psi/ft)
0	0.00	114.18	
1500	1452.04	118.00	0.0026
3000	2893.91	121.96	0.0027
4000	3850.58	124.67	0.0028
5000	4808.00	127.28	0.0027
6000	5797.85	130.00	0.0027
6400	6184.38	131.06	0.0027
6800	6570.90	132.14	0.0028
7000	6764.16	132.75	0.0032
7100	6860.79	133.04	0.0030
7200	6957.42	154.51	0.2222
7300	7054.05	195.88	0.4281

Levels & Gradients

	Static levels		Gradient (psi/ft)
	Measured (ft)	Vertical (ft)	
Gas =	0	0	0.0027
Oil =	7100	6861	0.2222
Water =	7200	6957	0.4281
Gauges =	7300	7054	0.0278

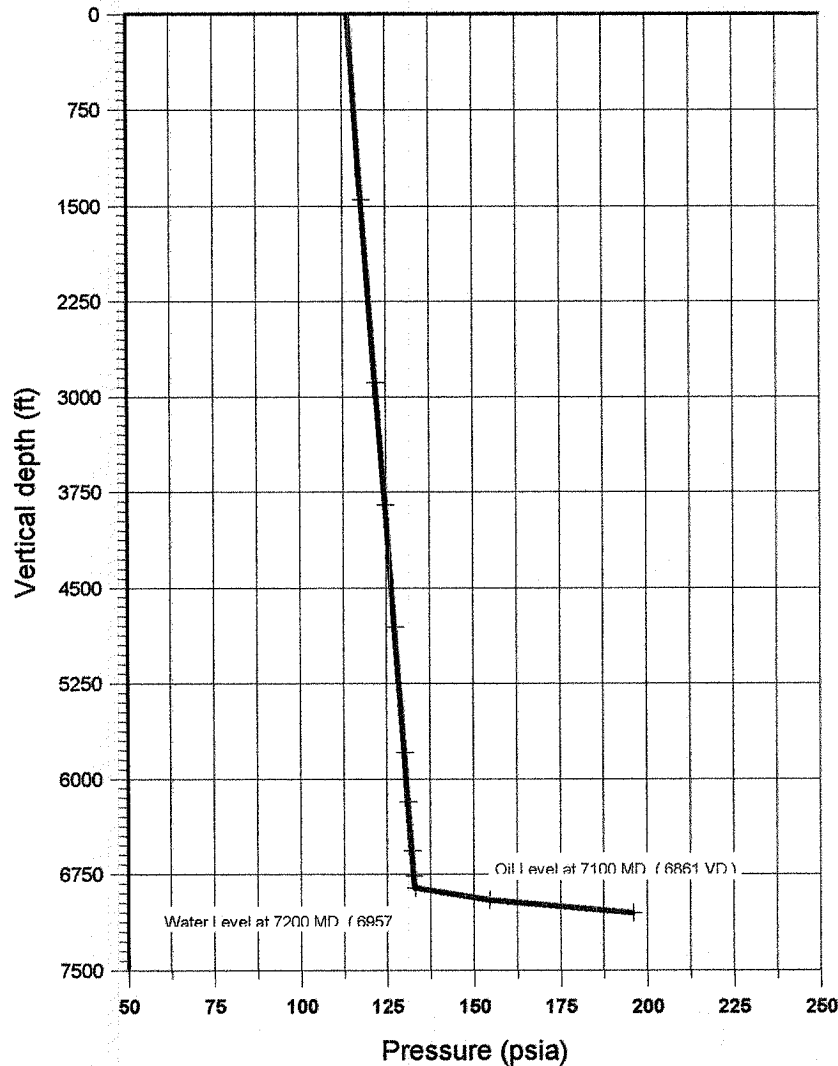
Fluid Level at Flowing Condition (while POOH gauges)

Measured depth (ft)	Vertical depth (ft)	Pressure (psia)	Gradient (psi/ft)
0	0.00	16.74	
1500	1452.04	17.65	0.0006
3000	2893.91	18.36	0.0005
4000	3850.58	18.84	0.0005
5000	4808.00	19.08	0.0003
5500	5290.48	19.22	0.0003
6000	5766.27	19.29	0.0002
6200	5951.00	19.35	0.0003
6400	6151.00	19.44	0.0004
6600	6358.05	19.54	0.0005
6800	6553.11	19.67	0.0007
7000	6751.85	85.23	0.3299
7100	6851.22	119.96	0.3495
7200	6957.42	154.65	0.3266
7300	7054.05	193.11	0.3980

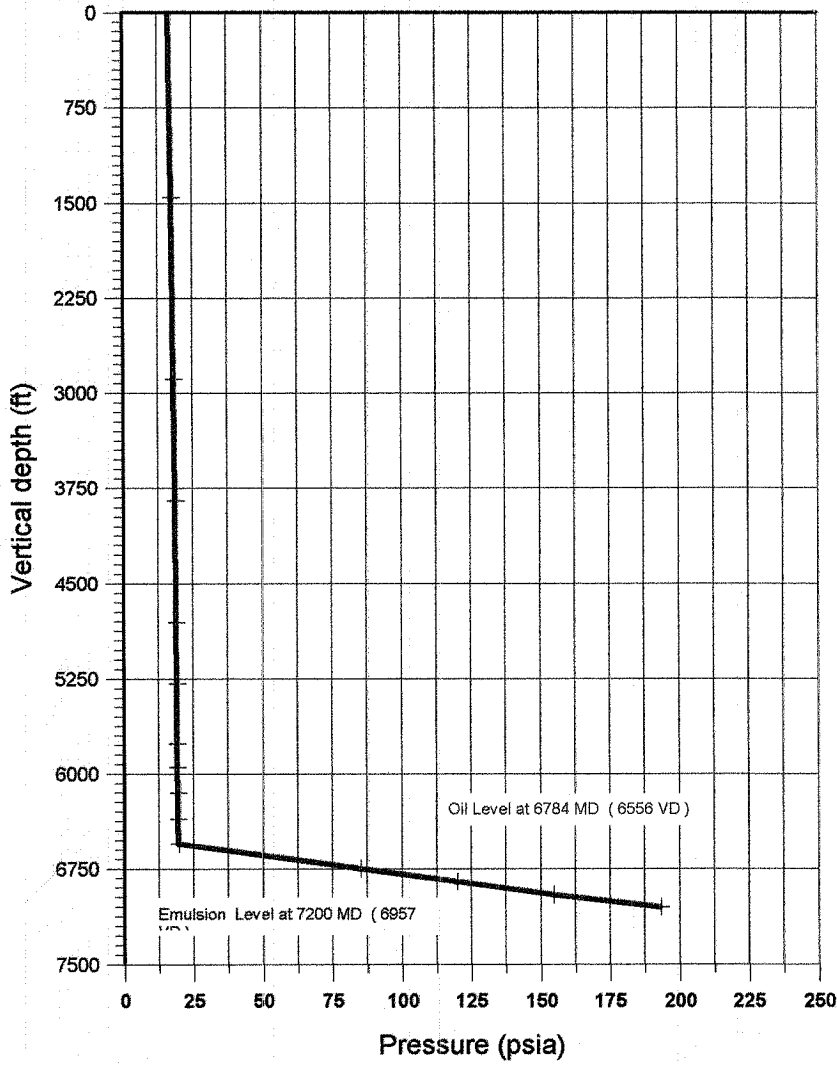
Levels & Gradients

	Flowing levels		Gradient (psi/ft)
	Measured (ft)	Vertical (ft)	
Gas =	0	0	0.0004
Oil =	6784	6556	0.3339
Emulsion =	7200	6957	0.3980
Gauges =	7300	7054	0.0274

Fluid Level at Static Condition (while POOH gauges)



Fluid Level at Flowing Condition (while POOH gauges)



Well LO16-9: Development Test

Date	Time	Elapsed Time (hrs)	Pressure (psia)	Temperature (°F)	Date	Time	Elapsed Time (hrs)	Pressure (psia)	Temperature (°F)
Activate Gauge s/n: 91180					02/22/2004	10:04:56	0.87917	127.28	37.34
02/22/2004	09:12:11	0.00000	16.12	25.84	02/22/2004	10:05:56	0.89583	127.28	37.51
02/22/2004	09:12:12	0.00028	16.18	25.85	02/22/2004	10:06:56	0.91250	127.35	37.65
02/22/2004	09:12:13	0.00056	16.03	25.85	02/22/2004	10:07:56	0.92917	127.47	37.81
02/22/2004	09:12:14	0.00083	16.21	25.84	02/22/2004	10:08:56	0.94583	128.15	38.45
02/22/2004	09:12:15	0.00111	16.15	25.83	02/22/2004	10:09:56	0.96250	128.94	39.47
02/22/2004	09:12:16	0.00139	16.14	25.84	02/22/2004	10:10:56	0.97917	129.80	40.49
02/22/2004	09:12:17	0.00167	16.16	25.84	Step at 6000'				
02/22/2004	09:12:18	0.00194	16.15	25.83	02/22/2004	10:11:56	0.98583	129.94	41.29
02/22/2004	09:12:19	0.00222	16.03	25.83	02/22/2004	10:12:56	1.01250	129.98	41.48
02/22/2004	09:12:20	0.00250	16.15	25.83	02/22/2004	10:13:56	1.02917	130.00	41.65
02/22/2004	09:12:21	0.00278	16.07	25.82	02/22/2004	10:14:56	1.04583	130.60	42.22
02/22/2004	09:12:22	0.00306	15.98	25.81	Step at 6400'				
02/22/2004	09:12:23	0.00333	15.91	25.81	02/22/2004	10:15:56	1.06250	131.01	43.33
02/22/2004	09:12:24	0.00361	16.00	25.80	02/22/2004	10:16:56	1.07917	131.06	43.54
02/22/2004	09:12:25	0.00389	16.12	25.80	02/22/2004	10:17:56	1.09583	131.09	43.68
02/22/2004	09:12:26	0.00417	15.82	25.79	02/22/2004	10:18:56	1.11250	131.39	43.90
02/22/2004	09:12:27	0.00444	16.24	25.80	Step at 6800'				
02/22/2004	09:12:28	0.00472	16.26	25.80	02/22/2004	10:19:56	1.12917	132.13	45.20
02/22/2004	09:12:29	0.00500	16.25	25.81	02/22/2004	10:20:56	1.14583	132.14	45.51
02/22/2004	09:12:30	0.00528	16.22	25.80	02/22/2004	10:21:56	1.16250	132.19	45.68
02/22/2004	09:12:31	0.00556	16.32	25.80	02/22/2004	10:22:56	1.17917	132.26	45.83
02/22/2004	09:12:32	0.00583	16.10	25.80	Step at 7000'				
02/22/2004	09:12:33	0.00611	16.18	25.86	02/22/2004	10:23:56	1.19583	132.72	46.61
02/22/2004	09:12:34	0.00639	16.27	25.94	02/22/2004	10:24:56	1.21250	132.75	46.77
02/22/2004	09:12:35	0.00667	16.12	26.04	02/22/2004	10:25:56	1.22917	132.78	46.88
02/22/2004	09:12:36	0.00694	16.20	26.04	02/22/2004	10:26:56	1.24583	132.99	47.06
02/22/2004	09:12:37	0.00722	15.93	26.03	Step at 7100'				
02/22/2004	09:12:38	0.00750	16.04	26.03	02/22/2004	10:27:56	1.26250	133.04	47.42
02/22/2004	09:12:39	0.00778	16.20	26.02	02/22/2004	10:28:56	1.27917	133.03	47.52
02/22/2004	09:12:40	0.00806	16.30	26.01	02/22/2004	10:29:56	1.29583	133.10	47.61
02/22/2004	09:12:41	0.00833	16.09	26.01	02/22/2004	10:30:56	1.31250	142.53	48.40
02/22/2004	09:12:42	0.00861	16.14	26.01	Step at 7200'				
02/22/2004	09:12:43	0.00889	16.19	26.01	02/22/2004	10:31:56	1.32917	154.55	49.35
02/22/2004	09:12:44	0.00917	16.08	26.03	02/22/2004	10:32:56	1.34583	154.51	49.47
02/22/2004	09:12:45	0.00944	16.21	26.05	02/22/2004	10:33:56	1.36250	154.48	49.55
02/22/2004	09:12:46	0.01250	16.00	26.22	02/22/2004	10:34:56	1.37917	181.50	50.23
02/22/2004	09:13:56	0.02917	16.17	26.31	Gauges at 7300' x 1.5 hrs.				
02/22/2004	09:14:56	0.04583	16.14	26.48	02/22/2004	10:35:56	1.39583	195.62	51.22
02/22/2004	09:15:56	0.06250	16.14	26.30	02/22/2004	10:36:56	1.41250	195.60	51.33
02/22/2004	09:16:56	0.07917	16.17	26.16	02/22/2004	10:37:56	1.42917	195.62	51.37
02/22/2004	09:17:56	0.09583	16.19	26.07	02/22/2004	10:38:56	1.44583	195.64	51.41
02/22/2004	09:18:56	0.11250	16.17	25.92	02/22/2004	10:39:56	1.46250	195.65	51.44
Presurized Lubricator					02/22/2004	10:40:56	1.47917	195.64	51.46
02/22/2004	09:19:56	0.12917	114.24	26.10	02/22/2004	10:41:56	1.49583	195.67	51.49
02/22/2004	09:20:56	0.14583	114.18	26.10	02/22/2004	10:42:56	1.51250	195.66	51.52
02/22/2004	09:21:56	0.16250	114.14	25.95	02/22/2004	10:43:56	1.52917	195.65	51.54
02/22/2004	09:22:56	0.17917	114.18	25.82	02/22/2004	10:44:56	1.54583	195.67	51.56
POOH gauges					02/22/2004	10:45:56	1.56250	195.65	51.58
02/22/2004	09:23:56	0.19583	114.25	25.71	02/22/2004	10:46:56	1.57917	195.71	51.59
02/22/2004	09:24:56	0.21250	115.85	23.70	02/22/2004	10:47:56	1.59583	195.67	51.61
02/22/2004	09:25:56	0.22917	116.75	22.35	02/22/2004	10:48:56	1.61250	195.69	51.62
02/22/2004	09:26:56	0.24583	117.29	21.90	02/22/2004	10:49:56	1.62917	195.66	51.63
02/22/2004	09:27:56	0.26250	117.65	21.82	02/22/2004	10:50:56	1.64583	195.65	51.64
02/22/2004	09:28:56	0.27917	118.02	21.88	02/22/2004	10:51:56	1.66250	195.67	51.64
Step at 1500'					02/22/2004	10:52:56	1.67917	195.69	51.65
02/22/2004	09:29:56	0.29583	117.99	21.98	02/22/2004	10:53:56	1.69583	195.71	51.65
02/22/2004	09:30:56	0.31250	118.00	22.03	02/22/2004	10:54:56	1.71250	195.66	51.65
02/22/2004	09:31:56	0.32917	117.96	22.08	02/22/2004	10:55:56	1.72917	195.69	51.66
02/22/2004	09:32:56	0.34583	118.23	22.15	02/22/2004	10:56:56	1.74583	195.70	51.66
02/22/2004	09:33:56	0.36250	118.56	22.35	02/22/2004	10:57:56	1.76250	195.71	51.66
02/22/2004	09:34:56	0.37917	118.92	22.63	02/22/2004	10:58:56	1.77917	195.69	51.66
02/22/2004	09:35:56	0.39583	119.28	23.03	02/22/2004	10:59:56	1.79583	195.68	51.67
02/22/2004	09:36:56	0.41250	119.61	23.48	02/22/2004	11:00:56	1.81250	195.71	51.67
02/22/2004	09:37:56	0.42917	120.00	23.96	02/22/2004	11:01:56	1.82917	195.74	51.67
02/22/2004	09:38:56	0.44583	120.28	24.48	02/22/2004	11:02:56	1.84583	195.73	51.67
02/22/2004	09:39:56	0.46250	120.63	25.05	02/22/2004	11:03:56	1.86250	195.73	51.67
02/22/2004	09:40:56	0.47917	120.93	25.57	02/22/2004	11:04:56	1.87917	195.70	51.67
02/22/2004	09:41:56	0.49583	121.24	26.11	02/22/2004	11:05:56	1.89583	195.75	51.67
02/22/2004	09:42:56	0.51250	121.55	26.61	02/22/2004	11:06:56	1.91250	195.69	51.67
02/22/2004	09:43:56	0.52917	121.84	27.14	02/22/2004	11:07:56	1.92917	195.70	51.68
Step at 3000'					02/22/2004	11:08:56	1.94583	195.70	51.68
02/22/2004	09:44:56	0.54583	121.93	27.48	02/22/2004	11:09:56	1.96250	195.71	51.68
02/22/2004	09:45:56	0.56250	121.96	27.58	02/22/2004	11:10:56	1.97917	195.70	51.68
02/22/2004	09:46:56	0.57917	121.98	27.68	02/22/2004	11:11:56	1.99583	195.76	51.68
02/22/2004	09:47:56	0.59583	122.21	27.99	02/22/2004	11:12:56	2.01250	195.75	51.68
02/22/2004	09:48:56	0.61250	122.51	28.56	02/22/2004	11:13:56	2.02917	195.76	51.68
02/22/2004	09:49:56	0.62917	122.83	29.17	02/22/2004	11:14:56	2.04583	195.72	51.68
02/22/2004	09:50:56	0.64583	123.19	29.77	02/22/2004	11:15:56	2.06250	195.73	51.68
02/22/2004	09:51:56	0.66250	123.55	30.39	02/22/2004	11:16:56	2.07917	195.74	51.68
02/22/2004	09:52:56	0.67917	123.88	31.03	02/22/2004	11:17:56	2.09583	195.72	51.68
02/22/2004	09:53:56	0.69583	124.26	31.70	02/22/2004	11:18:56	2.11250	195.78	51.68
02/22/2004	09:54:56	0.71250	124.62	32.41	02/22/2004	11:19:56	2.12917	195.73	51.68
Step at 4000'					02/22/2004	11:20:56	2.14583	195.74	51.68
02/22/2004	09:55:56	0.72917	124.67	32.61	02/22/2004	11:21:56	2.16250	195.75	51.68
02/22/2004	09:56:56	0.74583	124.66	32.68	02/22/2004	11:22:56	2.17917	195.80	51.68
02/22/2004	09:57:56	0.76250	124.70	32.76	02/22/2004	11:23:56	2.19583	195.74	51.68
02/22/2004	09:58:56	0.77917	124.84	32.89	02/22/2004	11:24:56	2.21250	195.76	51.68
02/22/2004	09:59:56	0.79583	125.24	33.57	02/22/2004	11:25:56	2.22917	195.75	51.68
02/22/2004	10:00:56	0.81250	125.61	34.34	02/22/2004	11:26:56	2.24583	195.77	51.68
02/22/2004	10:01:56	0.82917	126.09	35.10	02/22/2004	11:27:56	2.26250	195.77	51.68
02/22/2004	10:02:56	0.84583	126.62	35.95	02/22/2004	11:28:56	2.27917	195.78	51.68
02/22/2004	10:03:56	0.86250	127.18	36.87	02/22/2004	11:29:56	2.29583	195.78	51.68
Step at 5000'					02/22/2004	11:30:56	2.31250	195.74	51.68

Date	Time	Elapsed Time (hrs)	Pressure (psia)	Temperature (°F)	Date	Time	Elapsed Time (hrs)	Pressure (psia)	Temperature (°F)
02/22/2004	11:31:56	2.32917	195.74	51.69	02/22/2004	13:06:56	3.91250	184.66	51.70
02/22/2004	11:32:56	2.34583	195.79	51.68	02/22/2004	13:07:56	3.92917	185.11	51.70
02/22/2004	11:33:56	2.36250	195.76	51.68	02/22/2004	13:08:56	3.94583	185.38	51.70
02/22/2004	11:34:56	2.37917	195.80	51.69	02/22/2004	13:09:56	3.96250	185.66	51.70
02/22/2004	11:35:56	2.39583	195.80	51.69	02/22/2004	13:10:56	3.97917	186.01	51.70
02/22/2004	11:36:56	2.41250	195.78	51.69	02/22/2004	13:11:56	3.99583	186.28	51.70
02/22/2004	11:37:56	2.42917	195.77	51.69	02/22/2004	13:12:56	4.01250	186.55	51.70
02/22/2004	11:38:56	2.44583	195.76	51.69	02/22/2004	13:13:56	4.02917	186.82	51.70
02/22/2004	11:39:56	2.46250	195.79	51.69	02/22/2004	13:14:56	4.04583	187.07	51.70
02/22/2004	11:40:56	2.47917	195.81	51.69	02/22/2004	13:15:56	4.06250	187.33	51.70
02/22/2004	11:41:56	2.49583	195.81	51.69	02/22/2004	13:16:56	4.07917	187.52	51.70
02/22/2004	11:42:56	2.51250	195.80	51.69	02/22/2004	13:17:56	4.09583	187.76	51.70
02/22/2004	11:43:56	2.52917	195.77	51.69	02/22/2004	13:18:56	4.11250	187.97	51.70
02/22/2004	11:44:56	2.54583	195.78	51.69	02/22/2004	13:19:56	4.12917	188.13	51.70
02/22/2004	11:45:56	2.56250	195.81	51.69	02/22/2004	13:20:56	4.14583	188.27	51.70
02/22/2004	11:46:56	2.57917	195.83	51.69	02/22/2004	13:21:56	4.16250	188.48	51.70
02/22/2004	11:47:56	2.59583	195.82	51.69	02/22/2004	13:22:56	4.17917	188.70	51.70
02/22/2004	11:48:56	2.61250	195.81	51.69	02/22/2004	13:23:56	4.19583	188.81	51.70
02/22/2004	11:49:56	2.62917	195.81	51.69	02/22/2004	13:24:56	4.21250	188.97	51.70
02/22/2004	11:50:56	2.64583	195.82	51.69	02/22/2004	13:25:56	4.22917	189.15	51.70
02/22/2004	11:51:56	2.66250	195.81	51.69	02/22/2004	13:26:56	4.24583	189.25	51.70
02/22/2004	11:52:56	2.67917	195.83	51.69	02/22/2004	13:27:56	4.26250	189.45	51.70
02/22/2004	11:53:56	2.69583	195.85	51.69	02/22/2004	13:28:56	4.27917	189.58	51.70
02/22/2004	11:54:56	2.71250	195.80	51.69	02/22/2004	13:29:56	4.29583	189.72	51.70
02/22/2004	11:55:56	2.72917	195.81	51.69	02/22/2004	13:30:56	4.31250	189.83	51.70
02/22/2004	11:56:56	2.74583	195.82	51.69	02/22/2004	13:31:56	4.32917	189.90	51.70
02/22/2004	11:57:56	2.76250	195.81	51.69	02/22/2004	13:32:56	4.34583	190.05	51.70
02/22/2004	11:58:56	2.77917	195.88	51.69	02/22/2004	13:33:56	4.36250	190.16	51.70
02/22/2004	11:59:56	2.79583	195.85	51.69	02/22/2004	13:34:56	4.37917	190.26	51.70
02/22/2004	12:00:56	2.81250	195.83	51.69	02/22/2004	13:35:56	4.39583	190.34	51.70
02/22/2004	12:01:56	2.82917	195.86	51.69	02/22/2004	13:36:56	4.41250	190.46	51.70
Bleed off well for 03 hrs.					02/22/2004	13:37:56	4.42917	190.51	51.70
02/22/2004	12:02:56	2.84583	189.24	51.69	02/22/2004	13:38:56	4.44583	190.61	51.70
02/22/2004	12:03:56	2.86250	183.52	51.69	02/22/2004	13:39:56	4.46250	190.69	51.70
02/22/2004	12:04:56	2.87917	178.89	51.69	02/22/2004	13:40:56	4.47917	190.85	51.70
02/22/2004	12:05:56	2.89583	172.25	51.69	02/22/2004	13:41:56	4.49583	190.90	51.70
02/22/2004	12:06:56	2.91250	153.37	51.69	02/22/2004	13:42:56	4.51250	191.01	51.70
02/22/2004	12:07:56	2.92917	136.83	51.69	02/22/2004	13:43:56	4.52917	191.09	51.70
02/22/2004	12:08:56	2.94583	128.61	51.69	02/22/2004	13:44:56	4.54583	191.13	51.70
02/22/2004	12:09:56	2.96250	124.85	51.69	02/22/2004	13:45:56	4.56250	191.20	51.70
02/22/2004	12:10:56	2.97917	122.95	51.69	02/22/2004	13:46:56	4.57917	191.25	51.70
02/22/2004	12:11:56	2.99583	121.53	51.69	02/22/2004	13:47:56	4.59583	191.28	51.70
02/22/2004	12:12:56	3.01250	120.83	51.69	02/22/2004	13:48:56	4.61250	191.38	51.70
02/22/2004	12:13:56	3.02917	121.55	51.69	02/22/2004	13:49:56	4.62917	191.40	51.70
02/22/2004	12:14:56	3.04583	123.75	51.69	02/22/2004	13:50:56	4.64583	191.52	51.70
02/22/2004	12:15:56	3.06250	125.00	51.69	02/22/2004	13:51:56	4.66250	191.53	51.70
02/22/2004	12:16:56	3.07917	126.21	51.70	02/22/2004	13:52:56	4.67917	191.61	51.70
02/22/2004	12:17:56	3.09583	127.52	51.69	02/22/2004	13:53:56	4.69583	191.68	51.70
02/22/2004	12:18:56	3.11250	129.22	51.69	02/22/2004	13:54:56	4.71250	191.68	51.70
02/22/2004	12:19:56	3.12917	130.97	51.69	02/22/2004	13:55:56	4.72917	191.77	51.70
02/22/2004	12:20:56	3.14583	132.92	51.69	02/22/2004	13:56:56	4.74583	191.78	51.70
02/22/2004	12:21:56	3.16250	134.90	51.69	02/22/2004	13:57:56	4.76250	191.85	51.70
02/22/2004	12:22:56	3.17917	136.82	51.69	02/22/2004	13:58:56	4.77917	191.90	51.70
02/22/2004	12:23:56	3.19583	138.82	51.69	02/22/2004	13:59:56	4.79583	191.93	51.70
02/22/2004	12:24:56	3.21250	140.78	51.69	02/22/2004	14:00:56	4.81250	191.97	51.70
02/22/2004	12:25:56	3.22917	142.79	51.69	02/22/2004	14:01:56	4.82917	191.95	51.70
02/22/2004	12:26:56	3.24583	144.74	51.69	02/22/2004	14:02:56	4.84583	192.04	51.70
02/22/2004	12:27:56	3.26250	146.60	51.69	02/22/2004	14:03:56	4.86250	192.07	51.70
02/22/2004	12:28:56	3.27917	148.43	51.69	02/22/2004	14:04:56	4.87917	192.07	51.70
02/22/2004	12:29:56	3.29583	150.24	51.69	02/22/2004	14:05:56	4.89583	192.11	51.70
02/22/2004	12:30:56	3.31250	152.05	51.69	02/22/2004	14:06:56	4.91250	192.13	51.70
02/22/2004	12:31:56	3.32917	153.66	51.69	02/22/2004	14:07:56	4.92917	192.18	51.70
02/22/2004	12:32:56	3.34583	155.27	51.69	02/22/2004	14:08:56	4.94583	192.21	51.70
02/22/2004	12:33:56	3.36250	156.87	51.69	02/22/2004	14:09:56	4.96250	192.23	51.70
02/22/2004	12:34:56	3.37917	158.34	51.69	02/22/2004	14:10:56	4.97917	192.24	51.70
02/22/2004	12:35:56	3.39583	159.81	51.69	02/22/2004	14:11:56	4.99583	192.23	51.70
02/22/2004	12:36:56	3.41250	161.19	51.70	02/22/2004	14:12:56	5.01250	192.26	51.70
02/22/2004	12:37:56	3.42917	162.48	51.70	02/22/2004	14:13:56	5.02917	192.29	51.70
02/22/2004	12:38:56	3.44583	163.81	51.70	02/22/2004	14:14:56	5.04583	192.29	51.70
02/22/2004	12:39:56	3.46250	165.07	51.70	02/22/2004	14:15:56	5.06250	192.33	51.70
02/22/2004	12:40:56	3.47917	166.24	51.70	02/22/2004	14:16:56	5.07917	192.36	51.70
02/22/2004	12:41:56	3.49583	167.33	51.70	02/22/2004	14:17:56	5.09583	192.37	51.70
02/22/2004	12:42:56	3.51250	168.50	51.70	02/22/2004	14:18:56	5.11250	192.38	51.70
02/22/2004	12:43:56	3.52917	169.53	51.70	02/22/2004	14:19:56	5.12917	192.41	51.70
02/22/2004	12:44:56	3.54583	170.55	51.70	02/22/2004	14:20:56	5.14583	192.48	51.70
02/22/2004	12:45:56	3.56250	171.56	51.70	02/22/2004	14:21:56	5.16250	192.44	51.70
02/22/2004	12:46:56	3.57917	172.45	51.70	02/22/2004	14:22:56	5.17917	192.50	51.70
02/22/2004	12:47:56	3.59583	173.38	51.70	02/22/2004	14:23:56	5.19583	192.51	51.70
02/22/2004	12:48:56	3.61250	174.25	51.70	02/22/2004	14:24:56	5.21250	192.50	51.70
02/22/2004	12:49:56	3.62917	175.09	51.70	02/22/2004	14:25:56	5.22917	192.54	51.70
02/22/2004	12:50:56	3.64583	175.87	51.70	02/22/2004	14:26:56	5.24583	192.56	51.70
02/22/2004	12:51:56	3.66250	176.72	51.70	02/22/2004	14:27:56	5.26250	192.59	51.70
02/22/2004	12:52:56	3.67917	177.53	51.70	02/22/2004	14:28:56	5.27917	192.59	51.70
02/22/2004	12:53:56	3.69583	178.27	51.70	02/22/2004	14:29:56	5.29583	192.57	51.70
02/22/2004	12:54:56	3.71250	178.96	51.70	02/22/2004	14:30:56	5.31250	192.62	51.70
02/22/2004	12:55:56	3.72917	179.59	51.70	02/22/2004	14:31:56	5.32917	192.66	51.70
02/22/2004	12:56:56	3.74583	180.14	51.70	02/22/2004	14:32:56	5.34583	192.68	51.70
02/22/2004	12:57:56	3.76250	180.70	51.70	02/22/2004	14:33:56	5.36250	192.71	51.70
02/22/2004	12:58:56	3.77917	181.25	51.70	02/22/2004	14:34:56	5.37917	192.70	51.70
02/22/2004	12:59:56	3.79583	181.78	51.70	02/22/2004	14:35:56	5.39583	192.72	51.70
02/22/2004	13:00:56	3.81250	182.24	51.70	02/22/2004	14:36:56	5.41250	192.71	51.70
02/22/2004	13:01:56	3.82917	182.65	51.70	02/22/2004	14:37:56	5.42917	192.75	51.70
02/22/2004	13:02:56	3.84583	183.13	51.70	02/22/2004	14:38:56	5.44583	192.74	51.70
02/22/2004	13:03:56	3.86250	183.59	51.70	02/22/2004	14:39:56	5.46250	192.77	51.70
02/22/2004	13:04:56	3.87917	183.95	51.70	02/22/2004	14:40:56	5.47917	192.81	51.70
02/22/2004	13:05:56	3.89583	184.33	51.70	02/22/2004	14:41:56	5.49583	192.79	51.70

Date	Time	Elapsed Time (hrs)	Pressure (psia)	Temperature (°F)	Date	Time	Elapsed Time (hrs)	Pressure (psia)	Temperature (°F)
02/22/2004	14:42:56	5.51250	192.80	51.70					
02/22/2004	14:43:56	5.52917	192.85	51.70					
02/22/2004	14:44:56	5.54583	192.89	51.70					
02/22/2004	14:45:56	5.56250	192.88	51.70					
02/22/2004	14:46:56	5.57917	192.87	51.70					
02/22/2004	14:47:56	5.59583	192.91	51.70					
02/22/2004	14:48:56	5.61250	192.88	51.70					
02/22/2004	14:49:56	5.62917	192.94	51.70					
02/22/2004	14:50:56	5.64583	192.90	51.70					
02/22/2004	14:51:56	5.66250	192.92	51.70					
02/22/2004	14:52:56	5.67917	192.96	51.70					
02/22/2004	14:53:56	5.69583	192.97	51.70					
02/22/2004	14:54:56	5.71250	192.98	51.70					
02/22/2004	14:55:56	5.72917	193.00	51.70					
02/22/2004	14:56:56	5.74583	193.01	51.70					
02/22/2004	14:57:56	5.76250	193.01	51.70					
02/22/2004	14:58:56	5.77917	193.05	51.70					
02/22/2004	14:59:56	5.79583	193.09	51.70					
02/22/2004	15:00:56	5.81250	193.07	51.70					
02/22/2004	15:01:56	5.82917	193.07	51.70					
02/22/2004	15:02:56	5.84583	193.05	51.70					
02/22/2004	15:03:56	5.86250	193.11	51.70					
POOH Gauges									
02/22/2004	15:04:56	5.87917	183.62	51.69					
Step at 7200'									
02/22/2004	15:05:56	5.89583	154.62	51.31					
02/22/2004	15:06:56	5.91250	154.68	51.22					
02/22/2004	15:07:56	5.92917	154.65	51.17					
02/22/2004	15:08:56	5.94583	147.37	51.13					
Step at 7100'									
02/22/2004	15:09:56	5.96250	119.96	50.68					
02/22/2004	15:10:56	5.97917	120.01	50.57					
02/22/2004	15:11:56	5.99583	119.94	50.49					
02/22/2004	15:12:56	6.01250	87.85	50.30					
Step at 7000'									
02/22/2004	15:13:56	6.02917	85.21	49.99					
02/22/2004	15:14:56	6.04583	85.24	49.91					
02/22/2004	15:15:56	6.06250	85.23	49.86					
Step at 6800'									
02/22/2004	15:16:56	6.07917	19.67	49.34					
02/22/2004	15:17:56	6.09583	19.65	49.22					
02/22/2004	15:18:56	6.11250	19.68	49.21					
02/22/2004	15:19:56	6.12917	19.66	49.21					
Step at 6600'									
02/22/2004	15:20:56	6.14583	19.54	49.17					
02/22/2004	15:21:56	6.16250	19.55	49.13					
02/22/2004	15:22:56	6.17917	19.53	49.09					
02/22/2004	15:23:56	6.19583	19.54	49.06					
02/22/2004	15:24:56	6.21250	19.46	49.03					
Step at 6400'									
02/22/2004	15:25:56	6.22917	19.42	48.94					
02/22/2004	15:26:56	6.24583	19.45	48.86					
02/22/2004	15:27:56	6.26250	19.44	48.79					
02/22/2004	15:28:56	6.27917	19.41	48.72					
Step at 6200'									
02/22/2004	15:29:56	6.29583	19.35	48.58					
02/22/2004	15:30:56	6.31250	19.35	48.52					
02/22/2004	15:31:56	6.32917	19.36	48.46					
Step at 6000'									
02/22/2004	15:32:56	6.34583	19.29	48.40					
02/22/2004	15:33:56	6.36250	19.28	48.28					
02/22/2004	15:34:56	6.37917	19.29	48.20					
02/22/2004	15:35:56	6.39583	19.24	48.13					
02/22/2004	15:36:56	6.41250	19.30	48.07					
02/22/2004	15:37:56	6.42917	19.14	47.75					
02/22/2004	15:38:56	6.44583	19.17	47.06					
Step at 5500'									
02/22/2004	15:39:56	6.46250	19.22	46.52					
02/22/2004	15:40:56	6.47917	19.21	46.13					
02/22/2004	15:41:56	6.49583	19.23	45.80					
Step at 5000'									
02/22/2004	15:42:56	6.51250	19.08	45.29					
02/22/2004	15:43:56	6.52917	19.11	44.68					
02/22/2004	15:44:56	6.54583	19.14	44.27					
02/22/2004	15:45:56	6.56250	19.00	43.80					
02/22/2004	15:46:56	6.57917	18.78	43.10					
Step at 4000'									
02/22/2004	15:47:56	6.59583	18.85	42.18					
02/22/2004	15:48:56	6.61250	18.63	41.64					
02/22/2004	15:49:56	6.62917	18.84	41.22					
02/22/2004	15:50:56	6.64583	18.78	40.79					
02/22/2004	15:51:56	6.66250	18.44	40.05					
Step at 3000'									
02/22/2004	15:52:56	6.67917	18.41	39.26					
02/22/2004	15:53:56	6.69583	18.36	39.05					
02/22/2004	15:54:56	6.71250	18.36	38.91					
02/22/2004	15:55:56	6.72917	18.26	38.77					
02/22/2004	15:56:56	6.74583	18.03	37.96					
02/22/2004	15:57:56	6.76250	17.81	36.73					
02/22/2004	15:58:56	6.77917	17.70	35.64					
Step at 1500'									
02/22/2004	15:59:56	6.79583	17.67	34.85					
02/22/2004	16:00:56	6.81250	17.65	34.17					
02/22/2004	16:01:56	6.82917	17.63	33.54					
02/22/2004	16:02:56	6.84583	17.33	32.22					
02/22/2004	16:03:56	6.86250	16.96	30.76					

02/22/2004	16:04:56	6.87917	16.93	30.06
02/22/2004	16:05:56	6.89583	16.86	29.52
Step at 0'				
02/22/2004	16:06:56	6.91250	16.74	29.08
02/22/2004	16:07:56	6.92917	16.81	28.75
02/22/2004	16:08:56	6.94583	16.71	28.62
02/22/2004	16:09:56	6.96250	16.17	28.50
02/22/2004	16:10:56	6.97917	16.18	28.11
02/22/2004	16:11:56	6.99583	16.18	27.81
02/22/2004	16:12:56	7.01250	16.13	27.35
02/22/2004	16:13:56	7.02917	16.13	27.03
02/22/2004	16:14:56	7.04583	16.16	26.78
Desactivate				
02/22/2004	16:15:56	7.06250	16.05	26.53

ANEXO 3

WELL TESTING PROCEDURE

Well	LO16-9
Type	Flowing Gradient
Shut in time before test	3 DAYS

Area	Lobitos Offshore
Formation Test:	
Interval	B.S.

Stages job	Flowing gradient		Static gradient		Build Up	
	Yes	No	Yes	No	Yes	No
Cut paraffin						
Fish standing valve	X					
Sand top						
Logging down flowing gradient						
Logging up flowing gradient	X					
Recording bottom hole pressure flowing by 02 hrs						
Recording Build Up pressure by hrs						
Recording bottom hole pressure static by 03 hrs.						
Logging down static gradient	X					
Logging up static gradient	X					
Take measure well head pressure (tubing/annulus)	X					
Reset standing valve	X					

Project to be charged : Monitoring Well

Gauge depth @ 7300' feet.
Sampling rate..... (Minimum 4 point/minute)
Step reading time..... (Minimum 4 minute/step)

LUIS YAREZ A.
Operation Engineer

MARCIAL CACERES RUSTINZA
Wireline Supervisor