

LIMA
2

R. Gorman
27/6/95

27/6/95
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PRUEBA DE RESTAURACION DE PRESION Y GRADIENTE ESTATICA

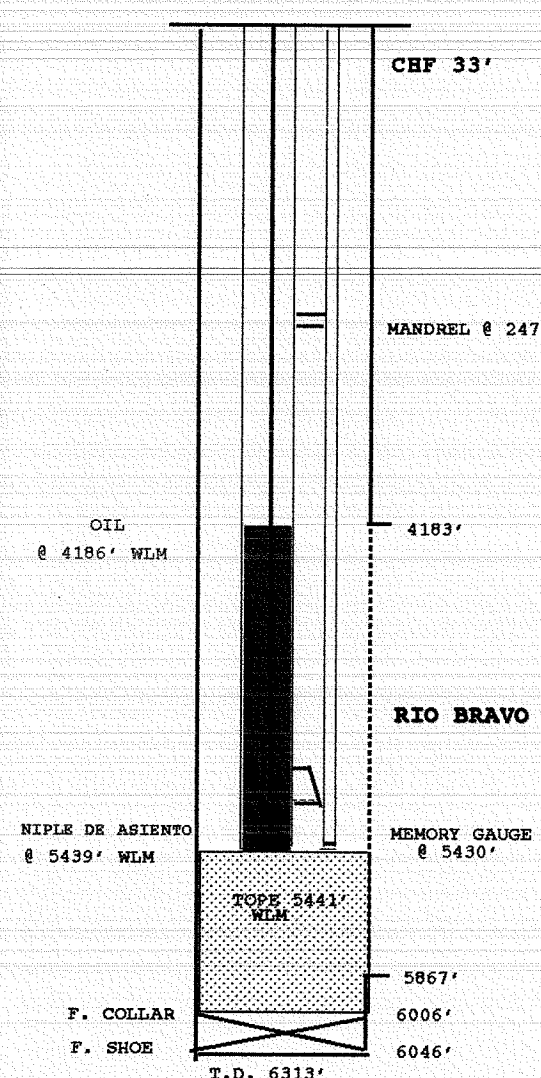
PETRO-TECH PERUANA S.A.
LOBITOS MAR LO6-8
TALARA - PERU
120 HRS. BUILD UP

DEL 14 AL 19 DE JUNIO DE 1995

REPORTE PREPARADO
POR
MIGUEL A. BRAVO DE RUEDA F.

PETRO-TECH PERUANA S.A.	
3 1995	
FIRMA:	930
RECEPCION	

INFORMACION GENERAL

POZO: L06-8 (Z2A-21-618-D-L06)		AREA : LOBITOS MAR	
PRUEBA : REGISTRO DE RESTAURACION DE PRESION (BUILD UP) x 120 Hrs.			
FORMACION : RIO BRAVO		INTERVALO PRODUCTOR : 4183'- 5867' P.M.	
POZO L06-8 INSTALACION DE SUBSUELO (BLT) TUBING 2 3/8" CASING 5 1/2" 		FECHA	DATOS DEL POZO
		14/06/95	Número Oficial del Pozo : Z2A-21-618-D-L06 Instalación Actual : Gas Lift - BLT Estado del Pozo : Productor. Pruebas de Producción : 21 BOPD Producción Acumulada : 182,770 Bls.
		HORA	Standing Valve @ 5,439 W.L.M. Tope de Arena @ 5,441 W.L.M.
		11:15:00	
		11:30:00	
		DESARROLLO DE LA PRUEBA	
		11:40:00 11:51:10 12:17:37	Chequeó baterías del Memory Gauges. Prueba satisfactoria. Se conectó baterías. Presurizó Lubricador.
		12:20:00 12:32:50 12:53:58 13:23:10 13:52:30 14:18:10	Se procedió a bajar Memory Gauge a 5,430' W.L.M. En el fondo. Se tomó 3 ciclos de inyección de gas (30' x 3"). Primera Inyección de Gas. Segunda Inyección de Gas. Tercera Inyección de Gas. Inicio del Registro Build Up.
		14/06/95 15/06/95 16/06/95 17/06/95 18/06/95 19/06/95	14:20:00 --- Presión de Cabeza : 0 psi. 08:00:00 --- Presión de Cabeza : 8 psi. 17:30:00 --- Presión de Cabeza : 10 psi. 09:00:00 --- Presión de Cabeza : 12 psi. 18:00:00 --- Presión de Cabeza : 16 psi. 14:00:00 --- Presión de Cabeza : 16 psi. 12:00:00 --- Presión de Cabeza : 10 psi. 08:00:00 --- Presión de Cabeza : 0 psi.
		19/06/95	Termino del Registro Build Up.
08:03:34	Gradiente Estática de 5,430' W.L.M. a superficie .		
09:08:10 09:15:10	Se desfoga lubricador. Se desconecta baterías M.G.		
09:30:00	Se instaló Standing Valve.		
OBSERVACIONES :			
El Standing Valve se encontró a la profundidad de 5439' W.L.M. La tarjeta indica una profundidad de 5503' PM. Los datos utilizados corresponden a la bomba de Tope, serial 20601.			
En la prueba de Gradiente Estática se determinó la presencia de crudo			
GRADIENTE DEL CRUDO : 0.320 PSI/FT @ 4186' PV (4800' WLM)			

COMENTARIOS

En el pozo LO6-8 del área Lobitos Mar, que tiene como arena productiva a la formación Rio Bravo con una producción promedio de 21 BOPD ,fue programado para una prueba Build Up por un periodo de 120 horas.

Los Registradores Electrónicos Starburst Ultra II, fueron colocados a la profundidad de 5430' WLM, debido a que el tope de arena se encontró a 2' debajo del Standing Valve. Standing Valve @ 5439' WLM, Tope Arena @ 5441' WLM.

De la data obtenida se puede observar que la presión fluyente fue de 116 psia, y la presión estática final de 184 psia, habiendo un incremento de presión de 68 psia, también podemos notar que la temperatura promedio a la profundidad de 5430' es de 94 °F.

En el gráfico que nos muestran los ciclos de inyección, podemos apreciar los tres ciclos de inyección llevados a cabo en el pozo antes de la prueba, con una presión promedio en el fondo de 375 psia en cada inyección.

En el gráfico cartesiano de Presión vs. Tiempo, se puede observar que existe un rápido incremento de presión en las primeras 4 horas, para seguir con un comportamiento normal hasta las 52 horas de iniciada la prueba donde se observa una caída de presión de 5 psi. en un lapso de tiempo de aproximadamente 14 horas, lo cual se refleja en el ploteo Semi-Log de Horner y en ploteo Log-Log de Presión vs Tiempo. No se detecto fuga en el lubricador, por lo que se recomienda realizar una prueba de instalación.

En el gráfico de Log-Log de Presión vs Tiempo se puede apreciar que la data obtenida al inicio de la prueba parece estar cerca a la línea de pendiente unitaria, lo cual indica almacenamiento en el pozo.

Para el gráfico Semi-Log de Horner se tomo en cuenta la data obtenida durante las primeras 50 horas , de donde se obtuvo una pendiente, $M = -22.364$ psi/ciclo y una presión extrapolada de 210 psia. También se computaron del análisis convencional de Horner los valores de permeabilidad y factor skin así como el radio de investigación, estos valores se muestran en la hoja de resultados para el Análisis Semi-Log de Horner.

Para la prueba de Gradiente Estática se realizaron paradas cada 300' a fin de obtener la mayor cantidad de puntos para el ploteo. Del gráfico podemos observar que se encontró nivel de aceite.

El nivel de aceite se encontró a la profundidad de 4186 PV (4800' WLM), con una gradiente promedio de 0.320 psi/ft.

DESARROLLO DE LA PRUEBA

Company: PETRO-TECH PERUANA S.A.
 Well: LO6-8
 Field: LOBITOS MAR

REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg.F)
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[Miercoles 14 de Junio de 1995]

Reg. Electronicos Starburst Ultra II.

Tope: Inst# 20601, Fondo: Inst# 20600.

Conectó Baterias: 11:51:10

Presurizo Lubricador: 12:17:37

1	0	11:51:10	0.0000	14.58	68.94
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Presurizó Lubricador.

10	0	12:18:10	0.4500	47.43	69.50
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Registradores en el Fondo @ 5430'.

15	0	12:33:10	0.7000	124.94	80.0
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Primera Inyección de Gas.

22	0	12:54:10	1.0500	121.78	90.51
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Segunda Inyección de Gas.

31	0	13:21:10	1.5000	155.12	90.48
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Tercera Inyección de Gas.

50	0	13:52:40	2.0250	138.64	89.72
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Desfogó el Pozo.

92	0	13:59:40	2.1417	116.73	84.53
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Pozo Cerrado - Inicio del Build-Up.

203	0	14:18:10	2.4500	130.75	89.90
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[Lunes, 19 de Junio de 1995]

Final del Build-Up

1869	5	7:55:10	116.0667	184.56	94.81
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Parada @ 5200'.

1879	5	8: 5:10	116.2333	121.35	94.72
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L W A

S P C

		Parada @ 5000'.		
1884	5	8:10:10 116.3167	66.23	94.56
		Parada @ 4800'.		
1888	5	8:14:10 116.3833	22.50	94.78
		Parada @ 4500'.		
1894	5	8:20:10 116.4833	22.29	93.96
		Parada @ 4200'.		
1900	5	8:26:10 116.5833	22.11	93.39
		Parada @ 3900'.		
1905	5	8:31:10 116.6667	21.73	93.13
		Parada @ 3500'.		
1910	5	8:36:10 116.7500	21.31	92.36
		Parada @ 3000'.		
1915	5	8:41:10 116.8333	20.85	91.08
		Parada @ 2000'.		
1922	5	8:48:10 116.9500	20.08	88.90
		Parada @ 1000'.		
1928	5	8:54:10 117.0500	19.86	84.70
		Parada @ 0'.		
1934	5	9: 0:10 117.1500	19.77	79.66
		Desfogó Lubricador.		
1942	5	9: 8:10 117.2833	14.50	74.81
		Desconectó Baterias.		
1949	5	9:15:10 117.4000	14.50	72.17

[Louisiana Well Analysis LTD. & S.P.C.]

LWA**SPC**

Company: PETRO-TECH PERUANA S.A.

Well: LO6-8

Field: LOBITOS MAR

06/14/1995

Perforations: 4183-5867

Gauge Depth 5430.0 feet

[INPUT PARAMETERS]
(Build-Up Analysis)

Well Type - OIL			
Reservoir Pressure	psia	P	185
Reservoir Temperature	Deg F	T	95
Final Shut-in Pressure	psia	Psi	185
Final Flowing Pressure	psia	Pwf	131
Oil Flow Rate	STB/D	Qo	21.0000
Sand Thickness	feet	hnet	476
Perforated Thickness	feet	hperf	476
Wellbore Radius	feet	rw	0.3200
Formation Porosity	%	POR	10
Extrapolated Pressure	psia	P*	210
Extrapolated Press @ 1hr	psia	Plhr	129
Semi-Log Slope	psi/cycle	M	-22.541
Shut-in Time	hrs	tsi	0.00

Uo (cp) 2.0000E+00

Bo (RB/STB) 1.1000E+00

Co (1/psi) 4.0000E-06

Ct (1/psi) 8.0000E-06

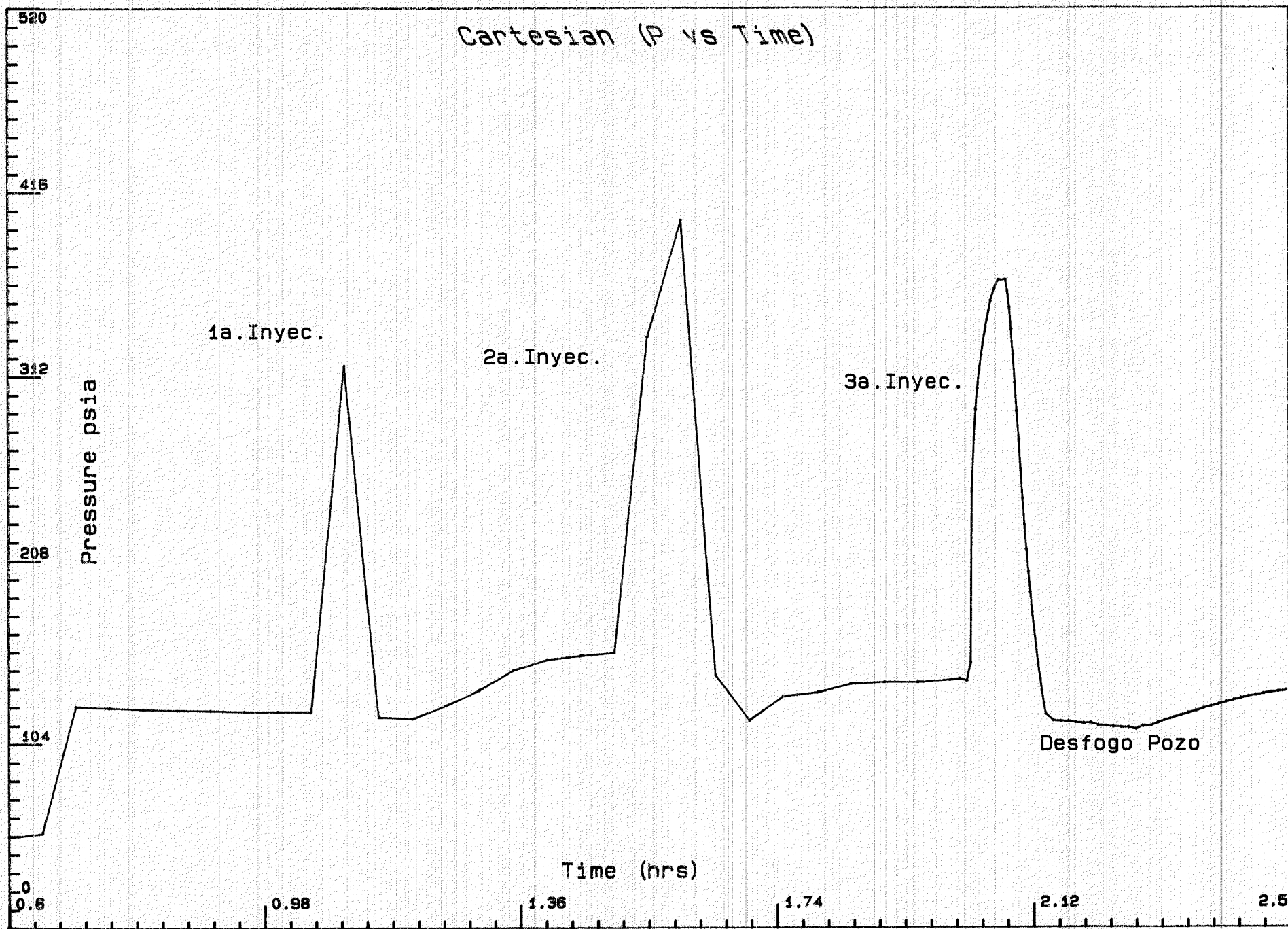
[CALCULATED RESULTS]

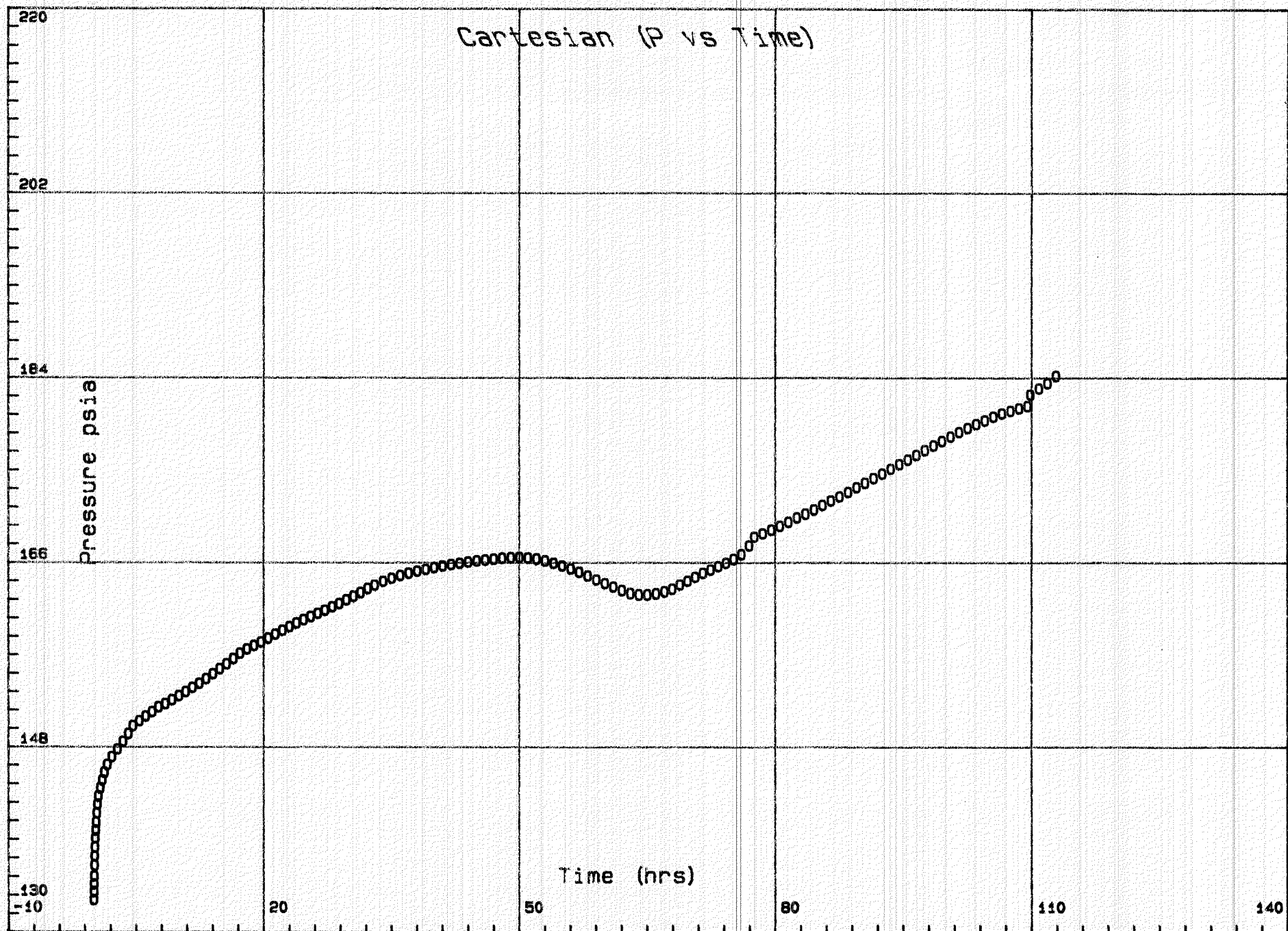
(Semi-Log) Analysis

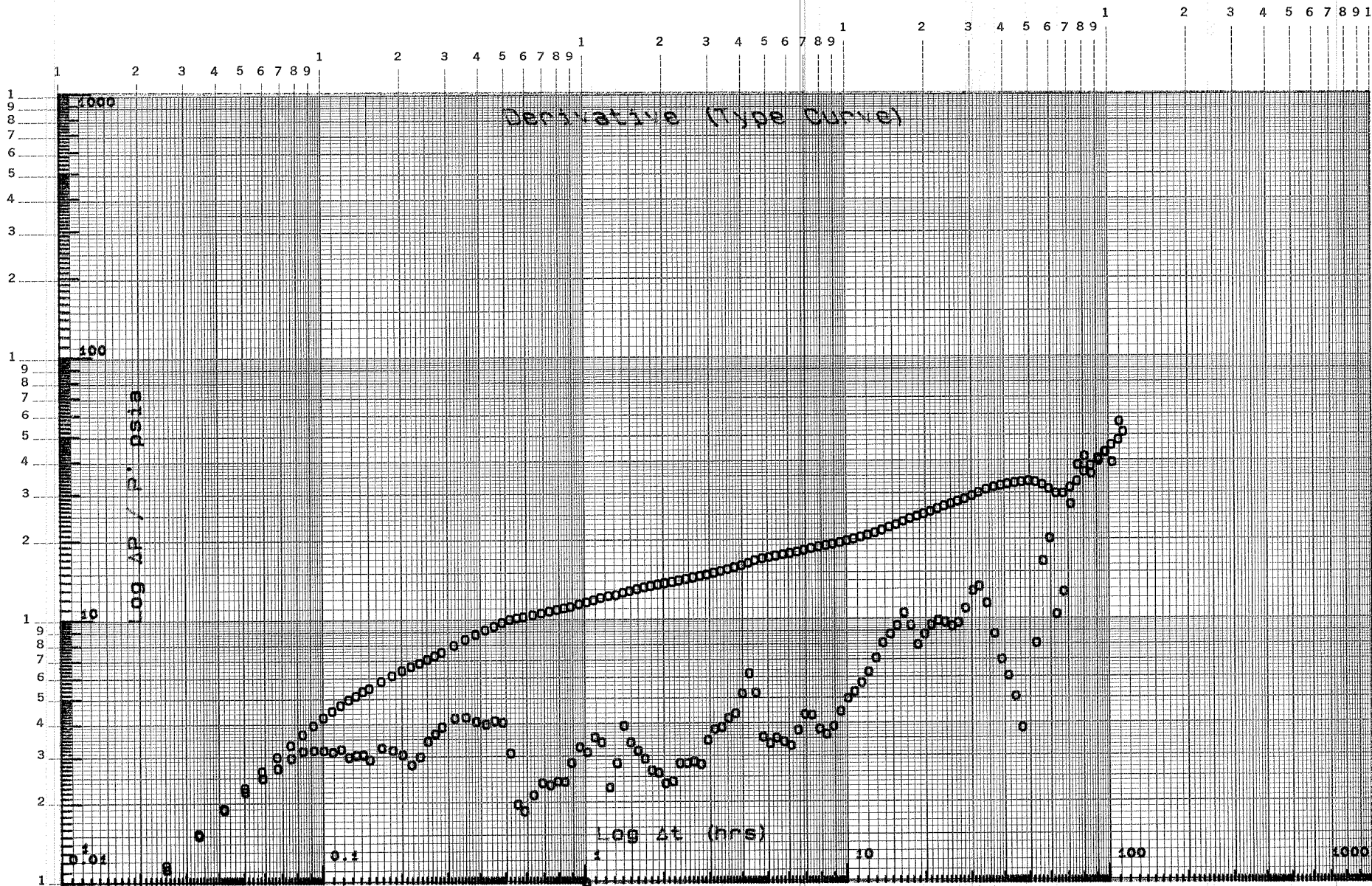
Pressure Method

Transmissibility	md-ft/cp	kh/u	166.632
Flow Capacity	md-ft	kh	333.265
Permeability	md	k	0.700
Skin Damage	total	S	-4.00
Pressure Drop due to Skin	psia	dP	+0.00
Flow Efficiency	%	FE	+100.00

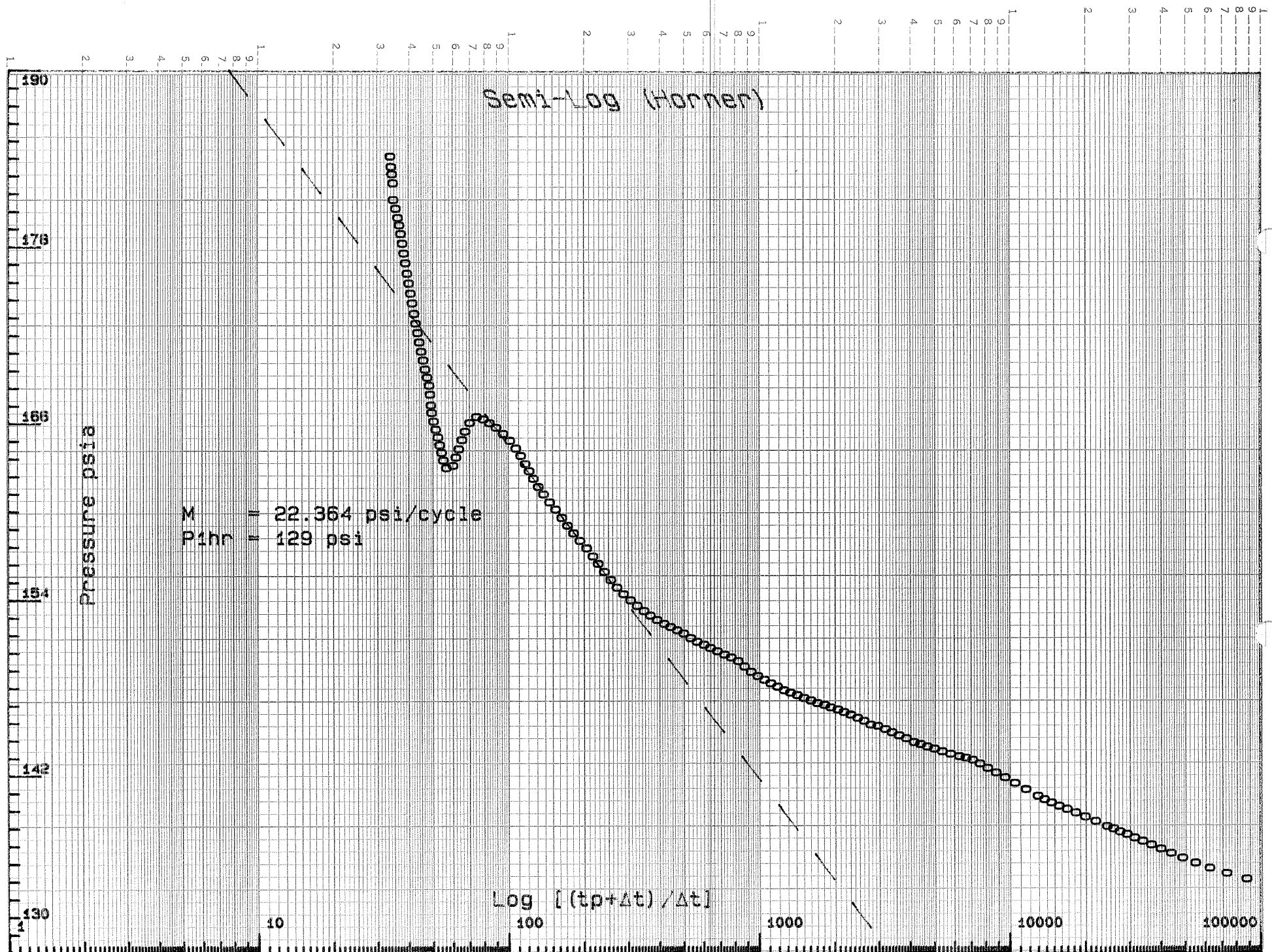
[Louisiana Well Analysis LTD. & S.P.C.]







LOG-8-PV



Company : PETRO-TECH PERUANA S.A.
 Well : LO6-8
 Field : LOBITOS MAR
 Engineer : Miguel Bravo de Rueda F.
 Gauge Type : Starburst Ultra II
 Serial No. : 20601
 Gauge Range : 0 - 6014 psia
 Gauge Depth : 5430 ft. (WLM)
 Perfs. : 4183' - 5867'

Country : PERU
 State : TALARA
 Date : 14/06/1995
 Well API : 35
 Well Type : Oil
 Test Type : Static Gradient
 Well Status : Producer

Oil Level : 4186 PV
 Water Level : NONE

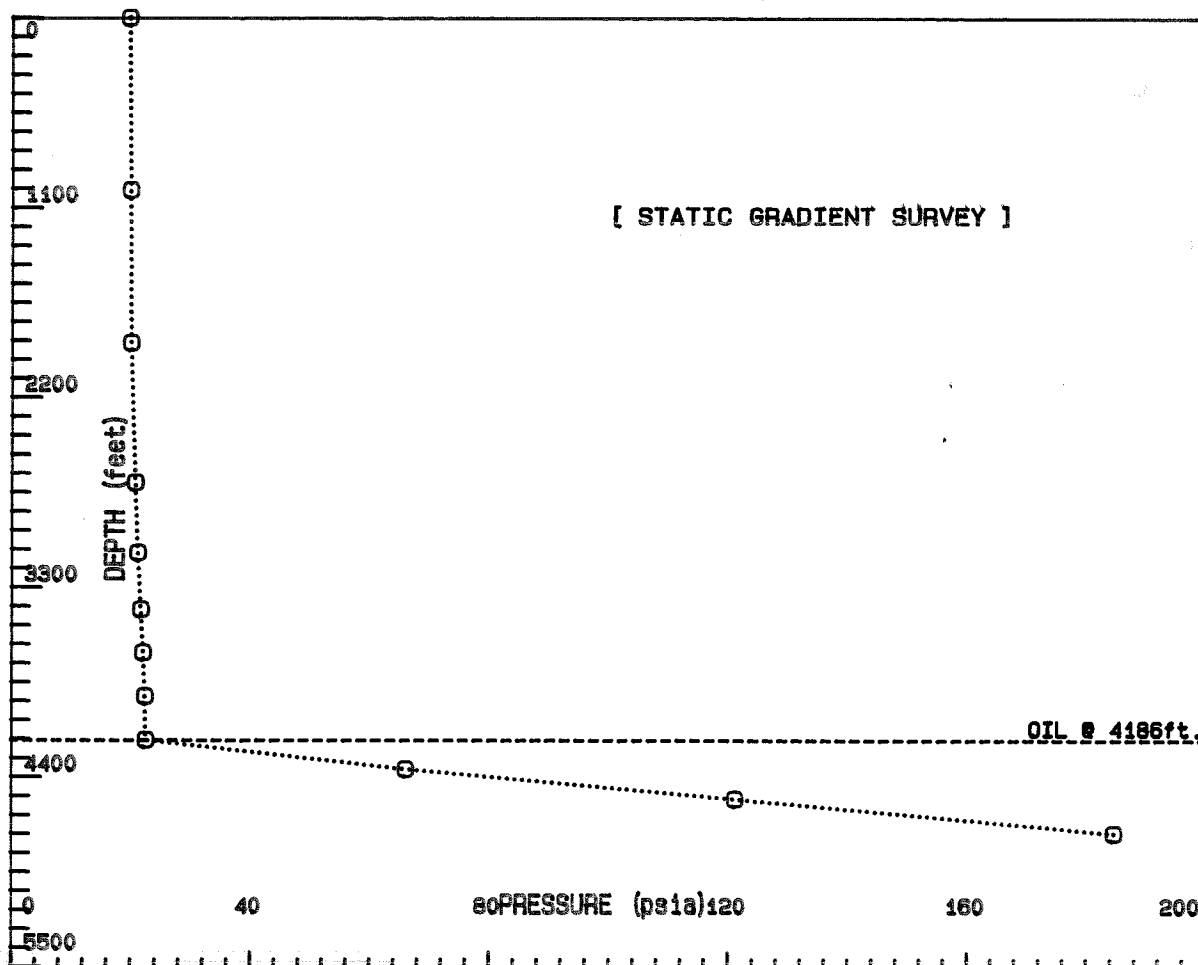
Shut - in BHP 184.62 @ 5430' WLM
 Flowing BHP 116.73 @ 5430' WLM

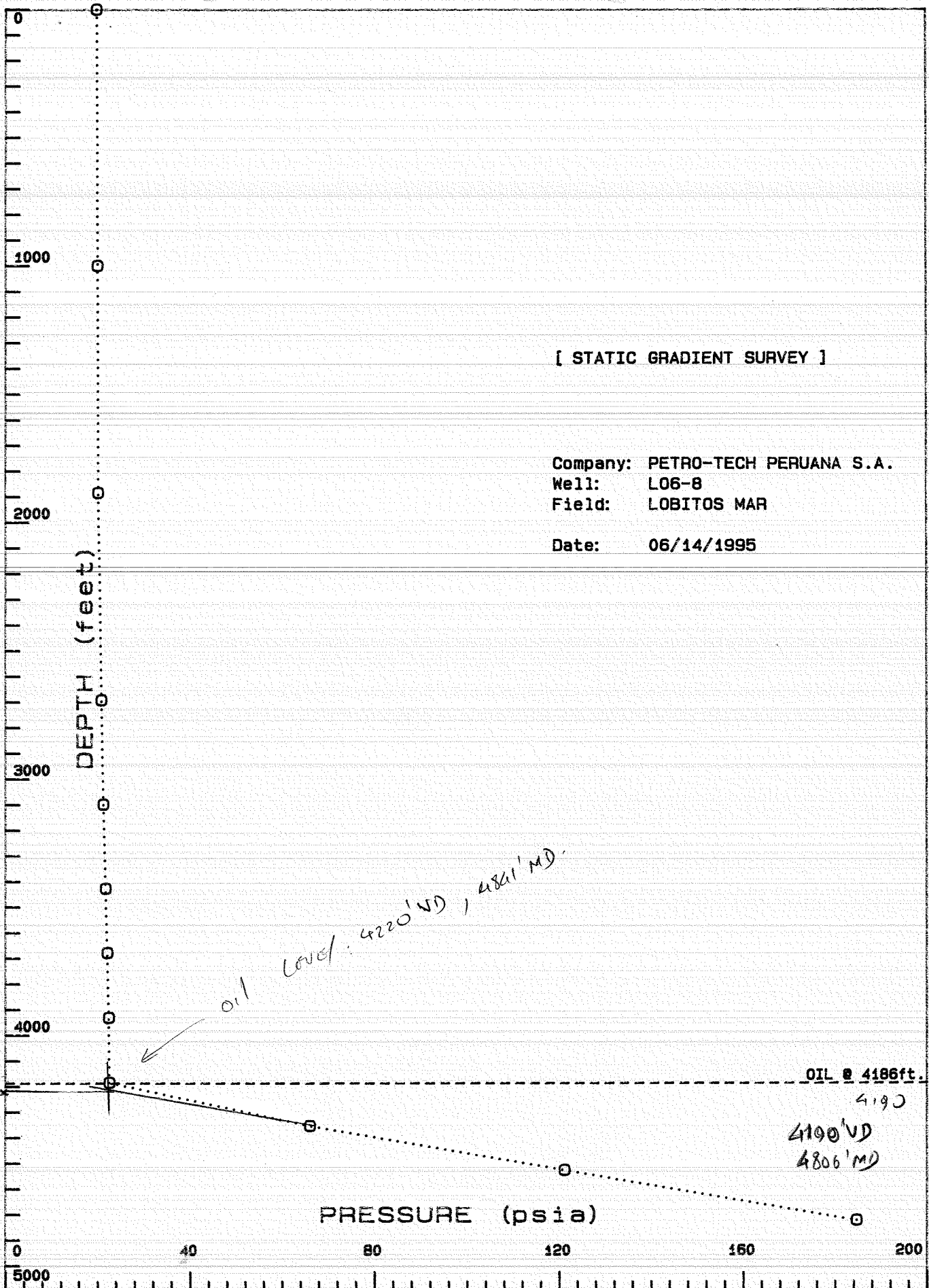
Shut-in BHT 94.81 @ 5430' WLM
 Flowing BHT 84.53 @ 5430' WLM

[GRADIENT DATA]

#	MD	TVD	PRESSURE	PSI/ft
1	0	0	19.70	
2	1000	999	19.90	0.000
3	2000	1884	20.00	0.000
4	3000	2692	20.74	0.001
5	3500	3098	21.17	0.000
6	3900	3427	21.66	0.001
7	4200	3678	22.05	0.000
8	4500	3931	22.35	0.000
9	4800	4185	22.50	0.000
10	5000	4354	66.00	0.256
11	5200	4527	121.13	0.320
12	5430	4724	184.60	0.322

Oil level - 4186' WLM - 5220' VD
 MP - 5025' - 4376' VD } 114 -
 BHT - 5430' - 4724' VD } 0.329
 2185





Company: PETRO-TECH PERUANA S.A.

Well: LO6-8

Field: LOBITOS MAR

[Wednesday: June 14, 1995]

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REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg.F)
Reg. Electronicos Starburst Ultra II.					
Tope: Inst# 20601, Fondo: Inst# 20600.					
Conecto Baterias: 11:51:10					
Presurizo Lubricador: 12:17:37					
1	0	11:51:10	0.0000	14.58	68.94
3	0	11:57:10	0.1000	14.68	68.94
5	0	12: 3:10	0.2000	14.75	69.21
7	0	12: 9:10	0.3000	14.61	69.44
Presurizo Lubricador.					
10	0	12:18:10	0.4500	47.43	69.50
12	0	12:24:10	0.5500	49.01	68.94
14	0	12:30:10	0.6500	53.36	75.26
Registradores en el Fondo @ 5430'.					
15	0	12:33:10	0.7000	124.94	80.04
16	0	12:36:10	0.7500	124.08	83.45
18	0	12:42:10	0.8500	122.73	87.49
20	0	12:48:10	0.9500	121.89	89.50
Primera Inyeccion de Gas.					
22	0	12:54:10	1.0500	121.78	90.51
24	0	13: 0:10	1.1500	118.64	85.04
26	0	13: 6:10	1.2500	125.24	87.90
28	0	13:12:10	1.3500	145.27	89.51
30	0	13:18:10	1.4500	153.45	90.22
Segunda Inyeccion de Gas.					
31	0	13:21:10	1.5000	155.12	90.48
32	0	13:24:10	1.5500	333.68	90.58
34	0	13:30:10	1.6500	142.35	84.76
36	0	13:36:10	1.7500	130.38	87.24
38	0	13:42:10	1.8500	137.26	88.67
40	0	13:48:10	1.9500	138.20	89.59
42	0	13:51:20	2.0028	139.71	89.89
Tercera Inyeccion de Gas.					
50	0	13:52:40	2.0250	138.64	89.72
55	0	13:53:30	2.0389	304.36	89.92
68	0	13:55:40	2.0750	367.87	87.83
81	0	13:57:50	2.1111	213.29	85.68
88	0	13:59: 0	2.1306	140.46	84.70
Desfogo el Pozo.					
92	0	13:59:40	2.1417	116.73	84.53
95	0	14: 0:10	2.1500	116.26	84.53
101	0	14: 1:10	2.1667	115.50	85.09
108	0	14: 2:20	2.1861	115.01	85.64
114	0	14: 3:20	2.2028	115.12	86.20
121	0	14: 4:30	2.2222	112.47	86.77
127	0	14: 5:30	2.2389	112.59	87.21
133	0	14: 6:30	2.2556	112.29	87.60
140	0	14: 7:40	2.2750	111.37	88.03
146	0	14: 8:40	2.2917	113.91	88.36
153	0	14: 9:50	2.3111	116.02	88.70
159	0	14:10:50	2.3278	117.98	88.94

Company: PETRO-TECH PERUANA S.A.

Well: LO6-8

Field: LOBITOS MAR

[Wednesday: June 14, 1995]

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REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg.F)
166	0	14:12: 0	2.3472	120.24	89.16
172	0	14:13: 0	2.3639	122.16	89.33
178	0	14:14: 0	2.3806	124.12	89.48
185	0	14:15:10	2.4000	126.14	89.63
191	0	14:16:10	2.4167	127.89	89.73
198	0	14:17:20	2.4361	129.69	89.84
Pozo Cerrado - Inicio del Build-Up.					
203	0	14:18:10	2.4500	130.75	89.90
204	0	14:18:20	2.4528	130.93	89.91
217	0	14:20:30	2.4889	133.03	90.08
230	0	14:22:40	2.5250	134.69	90.25
243	0	14:24:50	2.5611	136.29	90.39
256	0	14:27: 0	2.5972	137.58	90.49
268	0	14:29: 0	2.6306	138.41	90.57
281	0	14:31:10	2.6667	139.14	90.62
294	0	14:33:20	2.7028	139.72	90.67
307	0	14:35:30	2.7389	140.21	90.70
320	0	14:37:40	2.7750	140.69	90.73
333	0	14:39:50	2.8111	141.17	90.74
346	0	14:42: 0	2.8472	141.66	90.75
358	0	14:44: 0	2.8806	142.02	90.76
371	0	14:46:10	2.9167	142.37	90.78
384	0	14:48:20	2.9528	142.70	90.80
397	0	14:50:30	2.9889	143.00	90.83
446	0	14:58:40	3.1250	143.57	90.94
495	0	15: 6:50	3.2611	144.01	91.08
544	0	15:15: 0	3.3972	144.45	91.21
592	0	15:23: 0	3.5306	144.89	91.35
641	0	15:31:10	3.6667	145.33	91.47
690	0	15:39:20	3.8028	145.56	91.59
739	0	15:47:30	3.9389	145.93	91.67
770	0	15:55:40	4.0750	146.25	91.74
787	0	16: 4:10	4.2167	146.50	91.79
804	0	16:12:40	4.3583	146.70	91.83
820	0	16:20:40	4.4917	146.90	91.87
837	0	16:29:10	4.6333	147.04	91.91
853	0	16:37:10	4.7667	147.22	91.95
870	0	16:45:40	4.9083	147.36	91.99
884	0	16:54:10	5.0500	147.56	92.04
893	0	17: 3:10	5.2000	147.70	92.09
902	0	17:12:10	5.3500	147.85	92.14
911	0	17:21:10	5.5000	148.02	92.18
920	0	17:30:10	5.6500	148.22	92.23
929	0	17:39:10	5.8000	148.39	92.27
938	0	17:48:10	5.9500	148.59	92.30
947	0	17:57:10	6.1000	148.77	92.32
956	0	18: 6:10	6.2500	148.92	92.33
965	0	18:15:10	6.4000	149.12	92.35
974	0	18:24:10	6.5500	149.30	92.36
983	0	18:33:10	6.7000	149.53	92.36

Company: PETRO-TECH PERUANA S.A.

Well: LO6-8

Field: LOBITOS MAR

[Wednesday: June 14, 1995]

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REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg.F)
992	0	18:42:10	6.8500	149.76	92.37
1001	0	18:51:10	7.0000	150.01	92.39
1004	0	19: 0:10	7.1500	150.11	92.40
1007	0	19: 9:10	7.3000	150.21	92.41
1010	0	19:18:10	7.4500	150.31	92.42
1013	0	19:27:10	7.6000	150.41	92.44
1016	0	19:36:10	7.7500	150.51	92.45
1019	0	19:45:10	7.9000	150.59	92.47
1022	0	19:54:10	8.0500	150.68	92.49
1025	0	20: 3:10	8.2000	150.79	92.50
1028	0	20:12:10	8.3500	150.88	92.52
1031	0	20:21:10	8.5000	150.96	92.53
1034	0	20:30:10	8.6500	151.06	92.56
1037	0	20:39:10	8.8000	151.13	92.58
1040	0	20:48:10	8.9500	151.20	92.60
1043	0	20:57:10	9.1000	151.30	92.63
1046	0	21: 6:10	9.2500	151.37	92.65
1049	0	21:15:10	9.4000	151.47	92.68
1052	0	21:24:10	9.5500	151.57	92.71
1055	0	21:33:10	9.7000	151.67	92.73
1058	0	21:42:10	9.8500	151.79	92.77
1061	0	21:51:10	10.0000	151.89	92.80
1063	0	22: 3:10	10.2000	151.96	92.83
1065	0	22:15:10	10.4000	152.06	92.85
1067	0	22:27:10	10.6000	152.13	92.88
1069	0	22:39:10	10.8000	152.23	92.89
1071	0	22:51:10	11.0000	152.30	92.92
1073	0	23: 3:10	11.2000	152.40	92.94
1075	0	23:15:10	11.4000	152.50	92.96
1077	0	23:27:10	11.6000	152.60	92.98
1079	0	23:39:10	11.8000	152.67	93.00
1081	0	23:51:10	12.0000	152.77	93.02
[Thursday: June 15, 1995]					
1083	1	0: 3:10	12.2000	152.87	93.04
1085	1	0:15:10	12.4000	152.97	93.05
1087	1	0:27:10	12.6000	153.07	93.07
1089	1	0:39:10	12.8000	153.17	93.07
1091	1	0:51:10	13.0000	153.27	93.08
1093	1	1: 3:10	13.2000	153.37	93.09
1095	1	1:15:10	13.4000	153.47	93.10
1097	1	1:27:10	13.6000	153.57	93.11
1099	1	1:39:10	13.8000	153.67	93.12
1101	1	1:51:10	14.0000	153.78	93.13
1103	1	2: 3:10	14.2000	153.88	93.14
1105	1	2:15:10	14.4000	153.98	93.14
1107	1	2:27:10	14.6000	154.08	93.15
1109	1	2:39:10	14.8000	154.18	93.16
1111	1	2:51:10	15.0000	154.28	93.16
1113	1	3: 3:10	15.2000	154.41	93.17
1115	1	3:15:10	15.4000	154.51	93.18

Company: PETRO-TECH PERUANA S.A.

Well: LO6-8

Field: LOBITOS MAR

[Thursday: June 15, 1995]

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REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg.F)
1117	1	3:27:10	15.6000	154.64	93.18
1119	1	3:39:10	15.8000	154.74	93.19
1121	1	3:51:10	16.0000	154.87	93.19
1123	1	4: 3:10	16.2000	154.99	93.20
1125	1	4:15:10	16.4000	155.12	93.20
1127	1	4:27:10	16.6000	155.25	93.21
1129	1	4:39:10	16.8000	155.35	93.22
1131	1	4:51:10	17.0000	155.48	93.22
1133	1	5: 3:10	17.2000	155.61	93.23
1135	1	5:15:10	17.4000	155.73	93.24
1137	1	5:27:10	17.6000	155.83	93.25
1139	1	5:39:10	17.8000	155.96	93.25
1141	1	5:51:10	18.0000	156.09	93.25
1143	1	6: 3:10	18.2000	156.21	93.26
1145	1	6:15:10	18.4000	156.34	93.27
1147	1	6:27:10	18.6000	156.44	93.28
1149	1	6:39:10	18.8000	156.57	93.29
1151	1	6:51:10	19.0000	156.72	93.30
1153	1	7: 3:10	19.2000	156.85	93.31
1155	1	7:15:10	19.4000	156.97	93.32
1157	1	7:27:10	19.6000	157.10	93.34
1159	1	7:39:10	19.8000	157.23	93.35
1161	1	7:51:10	20.0000	157.38	93.37
1162	1	8: 1:10	20.1667	157.43	93.37
1163	1	8:11:10	20.3333	157.50	93.38
1164	1	8:21:10	20.5000	157.58	93.39
1165	1	8:31:10	20.6667	157.65	93.39
1166	1	8:41:10	20.8333	157.70	93.40
1167	1	8:51:10	21.0000	157.78	93.41
1168	1	9: 1:10	21.1667	157.85	93.42
1169	1	9:11:10	21.3333	157.93	93.42
1170	1	9:21:10	21.5000	158.01	93.42
1171	1	9:31:10	21.6667	158.08	93.43
1172	1	9:41:10	21.8333	158.16	93.43
1173	1	9:51:10	22.0000	158.23	93.44
1174	1	10: 1:10	22.1667	158.28	93.45
1175	1	10:11:10	22.3333	158.36	93.45
1176	1	10:21:10	22.5000	158.44	93.46
1177	1	10:31:10	22.6667	158.51	93.47
1178	1	10:41:10	22.8333	158.59	93.47
1179	1	10:51:10	23.0000	158.66	93.48
1180	1	11: 1:10	23.1667	158.74	93.49
1181	1	11:11:10	23.3333	158.82	93.49
1182	1	11:21:10	23.5000	158.89	93.50
1183	1	11:31:10	23.6667	158.97	93.51
1184	1	11:41:10	23.8333	159.04	93.51
1185	1	11:51:10	24.0000	159.12	93.52
1186	1	12: 1:10	24.1667	159.20	93.52
1187	1	12:11:10	24.3333	159.27	93.53
1188	1	12:21:10	24.5000	159.35	93.54

Company: PETRO-TECH PERUANA S.A.

Well: LO6-8

Field: LOBITOS MAR

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REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg.F)
1189	1	12:31:10	24.6667	159.42	93.54
1190	1	12:41:10	24.8333	159.50	93.55
1191	1	12:51:10	25.0000	159.57	93.55
1192	1	13: 1:10	25.1667	159.65	93.56
1193	1	13:11:10	25.3333	159.73	93.56
1194	1	13:21:10	25.5000	159.78	93.57
1195	1	13:31:10	25.6667	159.85	93.57
1196	1	13:41:10	25.8333	159.93	93.58
1197	1	13:51:10	26.0000	160.01	93.58
1198	1	14: 1:10	26.1667	160.08	93.59
1199	1	14:11:10	26.3333	160.13	93.60
1201	1	14:31:10	26.6667	160.28	93.60
1204	1	15: 1:10	27.1667	160.46	93.61
1207	1	15:31:10	27.6667	160.64	93.63
1210	1	16: 1:10	28.1667	160.84	93.64
1213	1	16:31:10	28.6667	161.02	93.66
1216	1	17: 1:10	29.1667	161.19	93.67
1219	1	17:31:10	29.6667	161.37	93.69
1222	1	18: 1:10	30.1667	161.57	93.70
1225	1	18:31:10	30.6667	161.75	93.72
1228	1	19: 1:10	31.1667	161.95	93.73
1231	1	19:31:10	31.6667	162.18	93.75
1234	1	20: 1:10	32.1667	162.38	93.76
1237	1	20:31:10	32.6667	162.59	93.78
1240	1	21: 1:10	33.1667	162.82	93.78
1243	1	21:31:10	33.6667	163.04	93.80
1246	1	22: 1:10	34.1667	163.25	93.81
1249	1	22:31:10	34.6667	163.47	93.83
1252	1	23: 1:10	35.1667	163.68	93.85
1255	1	23:31:10	35.6667	163.88	93.87
[Friday: June 16, 1995]					
1258	2	0: 1:10	36.1667	164.06	93.88
1261	2	0:31:10	36.6667	164.23	93.90
1264	2	1: 1:10	37.1667	164.38	93.92
1267	2	1:31:10	37.6667	164.53	93.94
1270	2	2: 1:10	38.1667	164.68	93.96
1273	2	2:31:10	38.6667	164.81	93.96
1276	2	3: 1:10	39.1667	164.91	93.98
1279	2	3:31:10	39.6667	165.03	94.00
1282	2	4: 1:10	40.1667	165.13	94.01
1285	2	4:31:10	40.6667	165.21	94.03
1288	2	5: 1:10	41.1667	165.31	94.05
1291	2	5:31:10	41.6667	165.38	94.06
1294	2	6: 1:10	42.1667	165.48	94.08
1297	2	6:31:10	42.6667	165.56	94.10
1300	2	7: 1:10	43.1667	165.63	94.11
1303	2	7:31:10	43.6667	165.70	94.13
1306	2	8: 1:10	44.1667	165.78	94.14
1309	2	8:31:10	44.6667	165.85	94.15
1312	2	9: 1:10	45.1667	165.93	94.16

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REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg.F)
1315	2	9:31:10	45.6667	165.98	94.17
1318	2	10: 1:10	46.1667	166.05	94.19
1321	2	10:31:10	46.6667	166.10	94.20
1324	2	11: 1:10	47.1667	166.15	94.21
1327	2	11:31:10	47.6667	166.20	94.22
1330	2	12: 1:10	48.1667	166.25	94.24
1333	2	12:31:10	48.6667	166.30	94.25
1336	2	13: 1:10	49.1667	166.32	94.26
1339	2	13:31:10	49.6667	166.37	94.27
1342	2	14: 1:10	50.1667	166.42	94.28
1345	2	14:31:10	50.6667	166.45	94.29
1348	2	15: 1:10	51.1667	166.50	94.29
1351	2	15:31:10	51.6667	166.52	94.30
1354	2	16: 1:10	52.1667	166.52	94.31
1357	2	16:31:10	52.6667	166.52	94.32
1360	2	17: 1:10	53.1667	166.49	94.32
1363	2	17:31:10	53.6667	166.46	94.32
1366	2	18: 1:10	54.1667	166.39	94.32
1369	2	18:31:10	54.6667	166.33	94.33
1372	2	19: 1:10	55.1667	166.23	94.34
1375	2	19:31:10	55.6667	166.13	94.34
1378	2	20: 1:10	56.1667	166.02	94.35
1381	2	20:31:10	56.6667	165.92	94.35
1384	2	21: 1:10	57.1667	165.79	94.36
1387	2	21:31:10	57.6667	165.63	94.37
1390	2	22: 1:10	58.1667	165.51	94.37
1393	2	22:31:10	58.6667	165.35	94.38
1396	2	23: 1:10	59.1667	165.17	94.38
1399	2	23:31:10	59.6667	165.02	94.39
[Saturday: June 17, 1995]					
1402	3	0: 1:10	60.1667	164.83	94.40
1405	3	0:31:10	60.6667	164.66	94.40
1408	3	1: 1:10	61.1667	164.45	94.41
1411	3	1:31:10	61.6667	164.27	94.42
1414	3	2: 1:10	62.1667	164.09	94.42
1417	3	2:31:10	62.6667	163.91	94.43
1420	3	3: 1:10	63.1667	163.75	94.44
1423	3	3:31:10	63.6667	163.57	94.44
1426	3	4: 1:10	64.1667	163.42	94.45
1429	3	4:31:10	64.6667	163.24	94.45
1432	3	5: 1:10	65.1667	163.11	94.46
1435	3	5:31:10	65.6667	162.98	94.47
1438	3	6: 1:10	66.1667	162.90	94.47
1441	3	6:31:10	66.6667	162.85	94.48
1444	3	7: 1:10	67.1667	162.85	94.48
1447	3	7:31:10	67.6667	162.87	94.49
1450	3	8: 1:10	68.1667	162.92	94.49
1453	3	8:31:10	68.6667	163.00	94.49
1456	3	9: 1:10	69.1667	163.10	94.49
1459	3	9:31:10	69.6667	163.20	94.50

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REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg.F)
1462	3	9:57:10	70.1000	163.33	94.50
1466	3	10:21:10	70.5000	163.48	94.51
1470	3	10:45:10	70.9000	163.66	94.51
1474	3	11: 9:10	71.3000	163.84	94.52
1478	3	11:33:10	71.7000	164.02	94.52
1482	3	11:57:10	72.1000	164.17	94.53
1486	3	12:21:10	72.5000	164.35	94.53
1490	3	12:45:10	72.9000	164.53	94.54
1494	3	13: 9:10	73.3000	164.68	94.54
1498	3	13:33:10	73.7000	164.86	94.55
1502	3	13:57:10	74.1000	165.04	94.55
1506	3	14:21:10	74.5000	165.19	94.56
1510	3	14:45:10	74.9000	165.32	94.56
1514	3	15: 9:10	75.3000	165.47	94.57
1518	3	15:33:10	75.7000	165.60	94.58
1522	3	15:57:10	76.1000	165.75	94.58
1526	3	16:21:10	76.5000	165.90	94.59
1530	3	16:45:10	76.9000	166.06	94.59
1534	3	17: 9:10	77.3000	166.21	94.60
1538	3	17:33:10	77.7000	166.39	94.60
1542	3	17:57:10	78.1000	166.57	94.61
1546	3	18:21:10	78.5000	166.80	94.62
1550	3	18:45:10	78.9000	167.13	94.62
1554	3	19: 9:10	79.3000	167.51	94.63
1558	3	19:33:10	79.7000	168.05	94.64
1562	3	20:21:10	80.5000	168.66	94.65
1563	3	20:51:10	81.0000	168.84	94.66
1564	3	21:21:10	81.5000	169.02	94.66
1565	3	21:51:10	82.0000	169.20	94.66
1566	3	22:21:10	82.5000	169.38	94.67
1567	3	22:51:10	83.0000	169.58	94.67
1568	3	23:21:10	83.5000	169.76	94.67
1569	3	23:51:10	84.0000	169.97	94.67
[Sunday: June 18, 1995]					
1570	4	0:21:10	84.5000	170.17	94.67
1571	4	0:51:10	85.0000	170.38	94.67
1572	4	1:21:10	85.5000	170.56	94.68
1573	4	1:51:10	86.0000	170.76	94.68
1574	4	2:21:10	86.5000	170.97	94.68
1575	4	2:51:10	87.0000	171.17	94.69
1576	4	3:21:10	87.5000	171.40	94.69
1577	4	3:51:10	88.0000	171.61	94.69
1578	4	4:21:10	88.5000	171.81	94.69
1579	4	4:51:10	89.0000	172.04	94.70
1580	4	5:21:10	89.5000	172.24	94.70
1581	4	5:51:10	90.0000	172.45	94.70
1582	4	6:21:10	90.5000	172.68	94.71
1583	4	6:51:10	91.0000	172.88	94.71
1584	4	7:21:10	91.5000	173.11	94.71
1585	4	7:51:10	92.0000	173.35	94.71

Company: PETRO-TECH PERUANA S.A.

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[Sunday: June 18, 1995]

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REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg.F)
1586	4	8:21:10	92.5000	173.55	94.72
1587	4	8:51:10	93.0000	173.78	94.72
1588	4	9:21:10	93.5000	174.01	94.72
1589	4	9:51:10	94.0000	174.24	94.72
1590	4	10:21:10	94.5000	174.45	94.73
1591	4	10:51:10	95.0000	174.68	94.73
1592	4	11:21:10	95.5000	174.91	94.73
1593	4	11:51:10	96.0000	175.14	94.73
1594	4	12:21:10	96.5000	175.37	94.74
1595	4	12:51:10	97.0000	175.60	94.74
1596	4	13:21:10	97.5000	175.80	94.74
1597	4	13:51:10	98.0000	176.03	94.74
1598	4	14:21:10	98.5000	176.26	94.75
1599	4	14:51:10	99.0000	176.49	94.75
1600	4	15:21:10	99.5000	176.72	94.75
1601	4	15:51:10	100.0000	176.96	94.75
1602	4	16:21:10	100.5000	177.19	94.75
1603	4	16:51:10	101.0000	177.42	94.76
1604	4	17:21:10	101.5000	177.62	94.76
1605	4	17:51:10	102.0000	177.85	94.76
1606	4	18:21:10	102.5000	178.08	94.76
1607	4	18:51:10	103.0000	178.29	94.76
1608	4	19:21:10	103.5000	178.52	94.77
1609	4	19:51:10	104.0000	178.72	94.77
1610	4	20:21:10	104.5000	178.93	94.77
1611	4	20:51:10	105.0000	179.13	94.77
1612	4	21:21:10	105.5000	179.34	94.77
1613	4	21:51:10	106.0000	179.52	94.77
1614	4	22:21:10	106.5000	179.70	94.78
1615	4	22:51:10	107.0000	179.87	94.78
1616	4	23:21:10	107.5000	180.05	94.78
1617	4	23:51:10	108.0000	180.23	94.78
[Monday: June 19, 1995]					
1618	5	0:21:10	108.5000	180.39	94.78
1619	5	0:51:10	109.0000	180.54	94.78
1620	5	1:21:10	109.5000	180.67	94.78
1621	5	1:51:10	110.0000	180.80	94.78
1622	5	2:21:10	110.5000	180.93	94.78
1623	5	2:51:10	111.0000	181.05	94.78
1624	5	3:21:10	111.5000	181.16	94.78
1625	5	3:51:10	112.0000	181.26	94.78
1646	5	4:12:10	112.3500	182.41	94.79
1667	5	4:33:10	112.7000	182.72	94.80
1688	5	4:54:10	113.0500	182.87	94.80
1709	5	5:15:10	113.4000	183.03	94.80
1730	5	5:36:10	113.7500	183.21	94.80
1751	5	5:57:10	114.1000	183.39	94.80
1772	5	6:18:10	114.4500	183.57	94.80
1793	5	6:39:10	114.8000	183.77	94.80
1814	5	7: 0:10	115.1500	184.03	94.80

LWA

SPC

Company: PETRO-TECH PERUANA S.A.

Well: L06-8

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REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg.F)
1835	5	7:21:10	115.5000	184.33	94.80
1856	5	7:42:10	115.8500	184.49	94.81
1860	5	7:46:10	115.9167	184.54	94.81
1862	5	7:48:10	115.9500	184.54	94.81
1863	5	7:49:10	115.9667	184.56	94.81
1865	5	7:51:10	116.0000	184.56	94.81
1866	5	7:52:10	116.0167	184.59	94.81
1868	5	7:54:10	116.0500	184.62	94.81
Final del Build-Up					
1869	5	7:55:10	116.0667	184.56	94.81
1870	5	7:56:10	116.0833	184.59	94.80
1871	5	7:57:10	116.1000	184.62	94.80
1872	5	7:58:10	116.1167	184.62	94.79
1874	5	8: 0:10	116.1500	184.60	94.77
1875	5	8: 1:10	116.1667	184.70	94.77
1877	5	8: 3:10	116.2000	184.67	94.76
1878	5	8: 4:10	116.2167	184.81	94.74
Parada @ 5200'.					
1879	5	8: 5:10	116.2333	121.35	94.72
1880	5	8: 6:10	116.2500	120.67	94.69
1881	5	8: 7:10	116.2667	121.39	94.67
1883	5	8: 9:10	116.3000	114.71	94.60
Parada @ 5000'.					
1884	5	8:10:10	116.3167	66.23	94.56
1886	5	8:12:10	116.3500	65.89	94.47
1887	5	8:13:10	116.3667	65.91	94.79
Parada @ 4800'.					
1888	5	8:14:10	116.3833	22.50	94.78
1889	5	8:15:10	116.4000	22.58	94.74
1890	5	8:16:10	116.4167	22.51	94.25
1892	5	8:18:10	116.4500	22.41	94.11
1893	5	8:19:10	116.4667	22.45	94.04
Parada @ 4500'.					
1894	5	8:20:10	116.4833	22.29	93.96
1895	5	8:21:10	116.5000	22.33	93.88
1896	5	8:22:10	116.5167	22.57	93.78
1898	5	8:24:10	116.5500	22.30	93.60
1899	5	8:25:10	116.5667	22.44	93.50
Parada @ 4200'.					
1900	5	8:26:10	116.5833	22.11	93.39
1901	5	8:27:10	116.6000	22.06	93.26
1902	5	8:28:10	116.6167	22.01	93.13
1904	5	8:30:10	116.6500	21.82	93.18
Parada @ 3900'.					
1905	5	8:31:10	116.6667	21.73	93.13
1906	5	8:32:10	116.6833	21.68	92.96
1907	5	8:33:10	116.7000	21.68	92.41
1908	5	8:34:10	116.7167	21.58	92.24
Parada @ 3500'.					
1910	5	8:36:10	116.7500	21.31	92.36

113.01 hrs

Company: PETRO-TECH PERUANA S.A.

Well: L06-8

Field: LOBITOS MAR

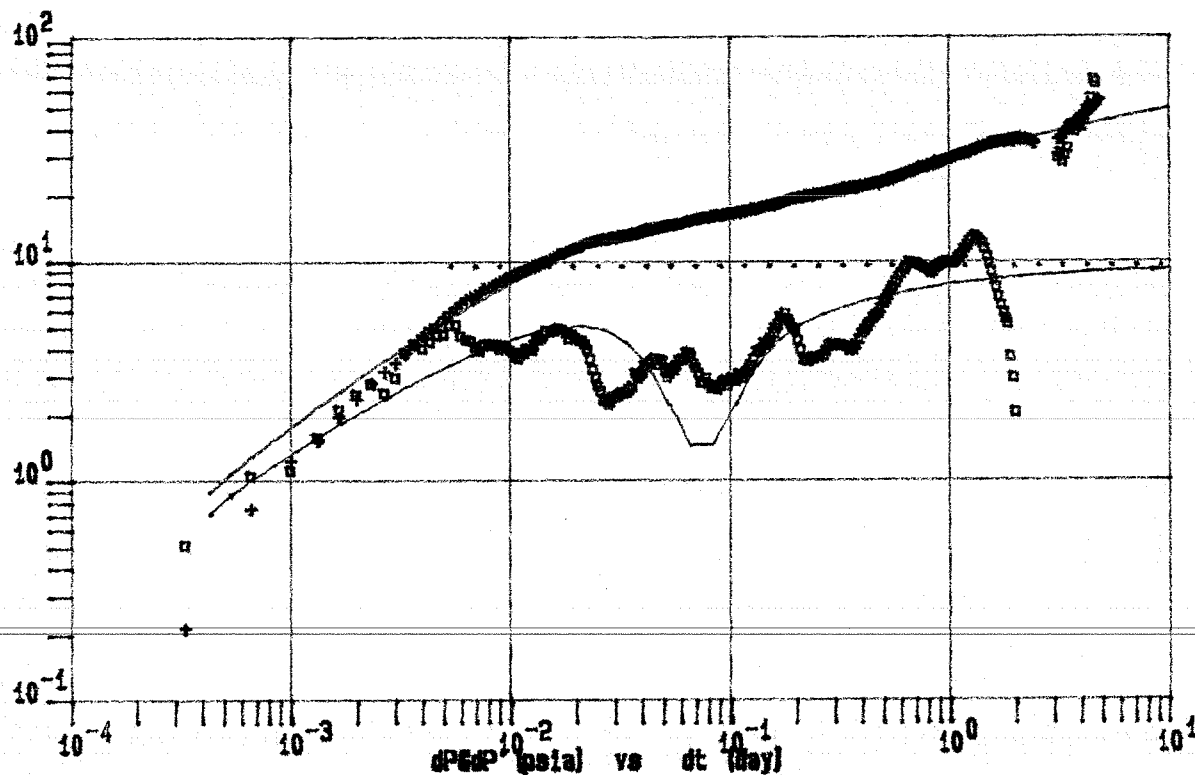
[Monday: June 19, 1995]

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REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg.F)
1911	5	8:37:10	116.7667	21.20	92.25
1913	5	8:39:10	116.8000	21.01	91.78
1914	5	8:40:10	116.8167	20.93	91.47
Parada @ 3000'.					
1915	5	8:41:10	116.8333	20.85	91.08
1916	5	8:42:10	116.8500	20.75	90.78
1917	5	8:43:10	116.8667	20.63	90.65
1919	5	8:45:10	116.9000	20.42	89.93
1920	5	8:46:10	116.9167	20.30	89.66
Parada @ 2000'.					
1922	5	8:48:10	116.9500	20.08	88.90
1923	5	8:49:10	116.9667	20.04	88.26
1925	5	8:51:10	117.0000	19.94	86.81
1926	5	8:52:10	117.0167	19.93	85.99
Parada @ 1000'.					
1928	5	8:54:10	117.0500	19.86	84.70
1929	5	8:55:10	117.0667	19.96	83.39
1931	5	8:57:10	117.1000	19.38	82.11
1932	5	8:58:10	117.1167	19.16	81.07
Parada @ 0'.					
1934	5	9: 0:10	117.1500	19.77	79.66
1935	5	9: 1:10	117.1667	19.63	78.72
1937	5	9: 3:10	117.2000	19.70	77.47
1938	5	9: 4:10	117.2167	19.90	76.61
1940	5	9: 6:10	117.2500	20.24	75.51
1941	5	9: 7:10	117.2667	20.44	75.12
Desfogo Lubricador.					
1942	5	9: 8:10	117.2833	14.50	74.81
1943	5	9: 9:10	117.3000	14.50	74.26
1944	5	9:10:10	117.3167	14.50	73.91
1946	5	9:12:10	117.3500	14.50	73.04
1947	5	9:13:10	117.3667	14.50	72.88
Desconecto Baterias.					
1949	5	9:15:10	117.4000	14.50	72.17

[Louisiana Well Analysis LTD. & S.P.C.]

PetroTech		Log-Log	LOG-B
Company	PETRO-TECH	Test	PBU
Field	LOBITOS	Date	JUNE/14-19/95
Well	LOG-B	Gauge	



Flow Period # 2
 Rate 0 STB/day
 Rate Change 21 STB/day
 P @ dt=0 130.93 psia
 PI 234.28 psia
 Smoothing 0.1

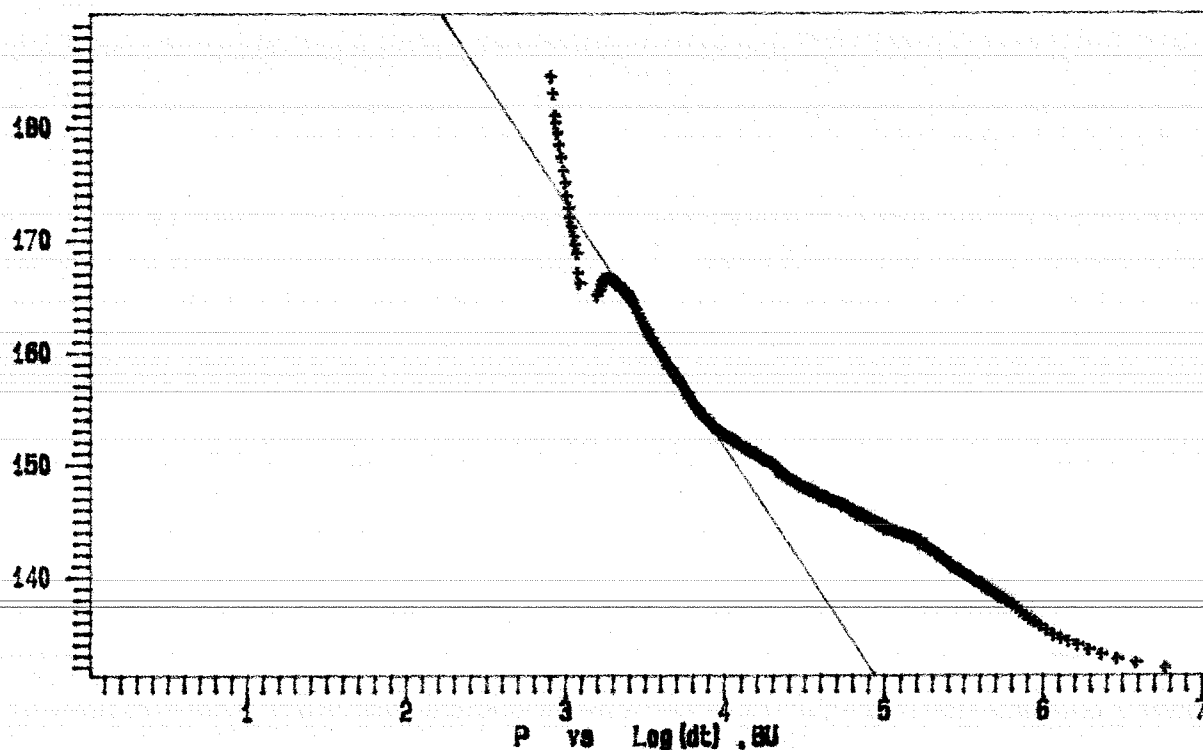
Time match 94.271 (day)⁻¹
 Pressure Match 0.05373 (psia)⁻¹

RESERVOIR Homogeneous
 WELL Changing storage
 BOUNDARY Infinite

Storage C 0.012877 STB/psi
 CD 255.28
 C factor 0.56868
 Alpha 1242.7
 Skin factor -4.0018

kh 317.2 md.ft
 K 0.97003 md
 Mobility k/mu 0.52434
 Investig. R 213.04 ft

PetroTech	Flexible	LOG-8
Company	PETRO-TECH	Test PBU
Field	LOBITOS	Date JUNE/14-19/95
Well	LOG-8	Gauge



Flow Period # 2
Rate 0 STB/day
Rate Change 21 STB/day
P @ dt=0 130.93 psia
P1 191.85 psia

Flexible line # 1
P vs Log (dt) . BU

Slope -21.543
Intercept 237.51
kh 315.42 md.ft
K 0.9646 md
Skin factor -3.8552

STATIC GRADIENT SURVEY

L06-8

WELL	:L06-8
FORMATION	:R.BRAVO
INTERVAL	:5867'-4183'
DATE	:JUNE/19/95

