

PRUEBA DE GRADIENTE FLUYENTE

**PETRO-TECH PERUANA S.A.
LOBITOS MAR LO6-22
TALARA-PERU**

*WAS TO
check
Fluid level*

10 DE ENERO DE 1995

REPORTE PREPARADO
POR
EDDY CORDERO

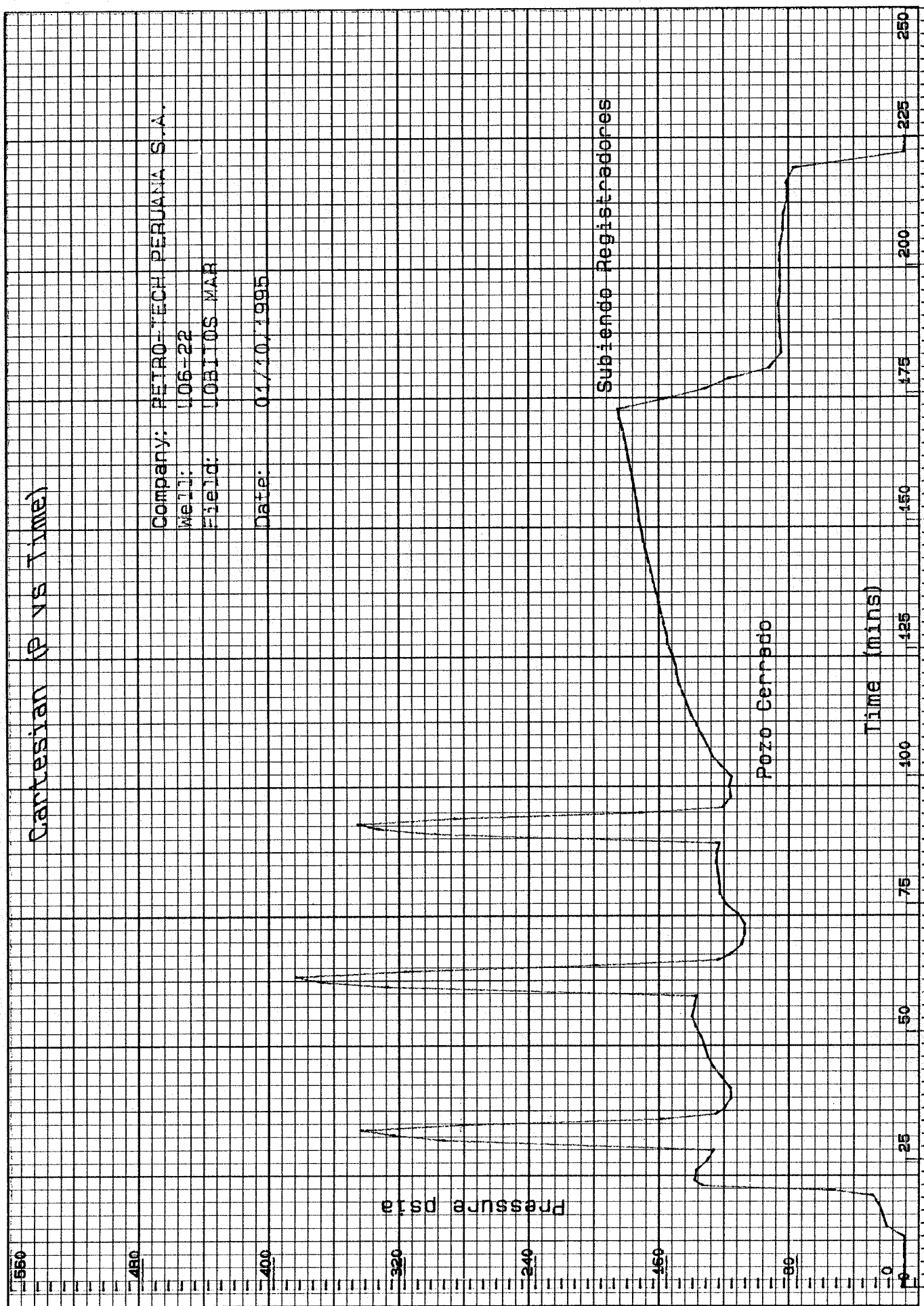
INFORMACION GENERAL

POZO : Z-2A-21-579-D-LO6 (LO6-22)	AREA : LOBITOS MAR
PRUEBA : REGISTRO DE GRADIENTE FLUYENTE	
FORMACION : RIO BRAVO	INTERVALO PRODUCTOR : 3644' - 4702'

POZO LO6-22

INSTALACION DE SUBSUELO
(BLT)
TUBING 2 3/8"
CASING 5 1/2"

FECHA	DATOS DEL POZO												
10/01/96	Instalación Actual : GAS LIFT - BLT. Estado del Pozo: Productor. Pruebas de Producción: 33 BOPD x 1429 GOR. Niple de Asiento con Std. Valve @ 4666 PM. Tope de arena: 4721' WLM.												
DESARROLLO DE LA PRUEBA													
08:15:00 08:37:52 08:49:15	Chequéo baterías del Memory Gauges. Prueba Satisfactoria. Se conectó baterías. Registradores en el Lubricador.												
08:57:00 09:05:35 10:18:00 11:30:04	Registradores en el fondo @ 4610'. Se tomaron 3 ciclos de inyección (30' x 3'). Se cerró el pozo (se procedió acortar la inyección de gas y se cerraron forros y tubos). Se inició subida de registradores a superficie, realizando paradas por 3 minutos a las siguientes profundidades: <table style="margin-left: 20px;"> <tr><td>4500</td><td>3000</td></tr> <tr><td>4300</td><td>2500</td></tr> <tr><td>4100</td><td>2000</td></tr> <tr><td>3800</td><td>1000</td></tr> <tr><td>3500</td><td>0</td></tr> </table>	4500	3000	4300	2500	4100	2000	3800	1000	3500	0		
4500	3000												
4300	2500												
4100	2000												
3800	1000												
3500	0												
12:14:34 12:17:30 12:23:00 12:30:00	Final de la Gradiente. Desfogó Lubricador. Desconectó Baterías. Pozo queda en producción.												
OBSERVACIONES :													
El standing valve se encontró a la profundidad de 4620' WLM. La tarjeta indica una profundidad de 4666 PM, habiendo una diferencia de 46'. Los datos utilizados corresponden a la bomba de tope, serial 20601													
Durante las inyecciones se registró lo siguiente: <table style="margin-left: 20px; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>CICLO</u></th> <th style="text-align: center;"><u>PRODUCCION</u></th> </tr> </thead> <tbody> <tr> <td>Primero</td> <td style="text-align: center;">30 x 3'</td> <td style="text-align: center;">0.5 bls.</td> </tr> <tr> <td>Segundo</td> <td style="text-align: center;">30 x 3'</td> <td style="text-align: center;">0.7 bls.</td> </tr> <tr> <td>Tercero</td> <td style="text-align: center;">30 x 3'</td> <td style="text-align: center;">0.6 bls.</td> </tr> </tbody> </table>			<u>CICLO</u>	<u>PRODUCCION</u>	Primero	30 x 3'	0.5 bls.	Segundo	30 x 3'	0.7 bls.	Tercero	30 x 3'	0.6 bls.
	<u>CICLO</u>	<u>PRODUCCION</u>											
Primero	30 x 3'	0.5 bls.											
Segundo	30 x 3'	0.7 bls.											
Tercero	30 x 3'	0.6 bls.											
En la prueba de Gradiente Estática se determinó la presencia de gas y crudo: <table style="margin-left: 20px;"> <tr> <td>GRADIENTE DEL GAS</td> <td>: 0.002 PSI/FT</td> </tr> <tr> <td>GRADIENTE DEL CRUDO</td> <td>: 0.260 PSI/FT @ 3517 PV (4136' WLM).</td> </tr> </table>		GRADIENTE DEL GAS	: 0.002 PSI/FT	GRADIENTE DEL CRUDO	: 0.260 PSI/FT @ 3517 PV (4136' WLM).								
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GRADIENTE DEL CRUDO	: 0.260 PSI/FT @ 3517 PV (4136' WLM).												



LWA

SPC

Company: PETRO-TECH PERUANA S.A.

Well: LO6-22

Field: LOBITOS MAR

County: Peru

State: Talara

Engineer: Eddy Cordero Manrique

Gauge Type: Electronic Gauge

Serial No.: 20601

Gauge Range: 0 - 6014

Gauge Depth: 4610 ft

Date: 01/10/1995

Well Type: Oil

Test Type: Static Gradient

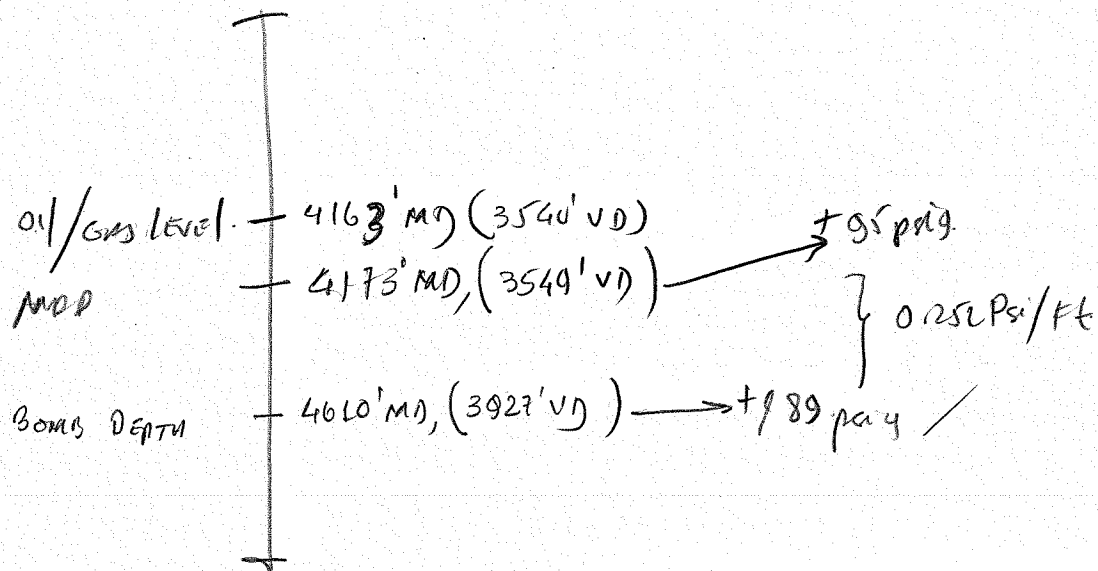
Well Status: Producer

[GRADIENT DATA]

#	MD	TVD	PRESSURE	PSI/ft
1	0	0	86.28	
2	1000	1000	88.14	0.002
3	2000	1897	90.15	0.002
4	2500	2283	90.35	0.001
5	3000	2633	90.28	0.000
6	3500	3001	90.68	0.001
7	3800	3235	90.11	0.000
8	4100	3486 ³⁵⁴⁰	89.51	0.000
9	4300	3658	121.69	0.187
10	4500	3832	161.55	0.229
11	4610	3927	189.30	0.292

(54')

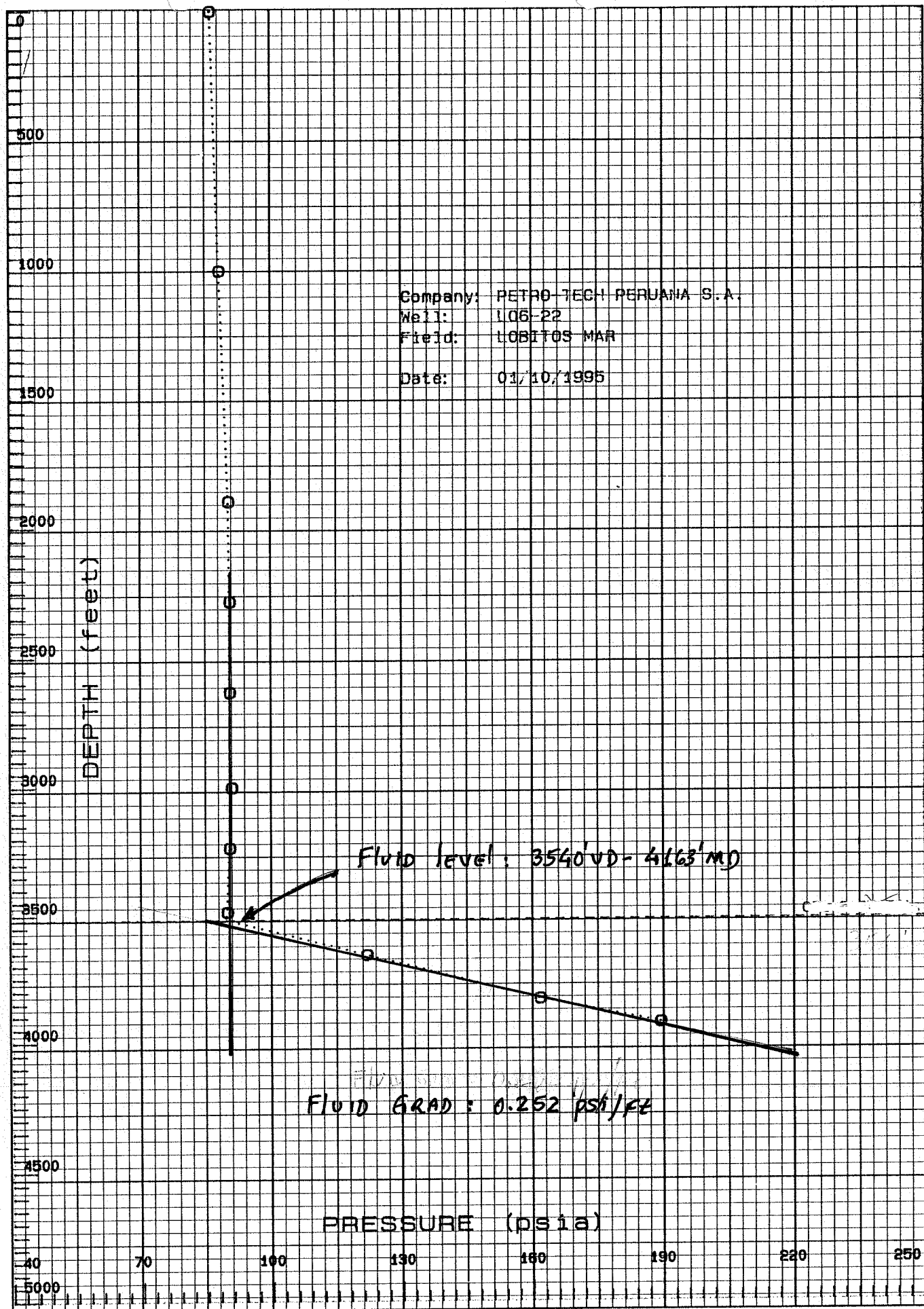
Bomba 71' minutos, fondo pozo , Presión 19 libras 10
ultimos 30 minutos



$$PG = \frac{95}{3549} = +0.0268$$

46 0780

K&E 10 X 10 TO THE INCH • 7 X 10 INCHES
KEUFFEL & ESSER CO. MADE IN U.S.A.



Company: PETRO-TECH PERUANA S.A.

Well: L06-22

[Tuesday: Jan. 10, 1995]

Field: LOBITOS MAR

Page 1

REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg.F)
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Reg.Electronicos Starburst Ultra II.

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

Conecto Baterias: 08:37:52

1	0	8:37:52	0.0000	14.50	73.10
2	0	8:38:52	0.0167	14.50	73.11
3	0	8:39:52	0.0333	14.50	73.05
4	0	8:40:52	0.0500	14.50	73.00
5	0	8:41:52	0.0667	14.50	72.98
6	0	8:42:52	0.0833	14.50	72.96
7	0	8:43:52	0.1000	14.50	72.94
8	0	8:44:52	0.1167	14.50	72.87
9	0	8:45:52	0.1333	14.50	72.88
10	0	8:46:52	0.1500	14.50	72.78
11	0	8:47:52	0.1667	14.50	72.69
12	0	8:48:52	0.1833	14.50	72.64

Presurizo Lubricador.

Bajando Registradores.

13	0	8:49:52	0.2000	25.24	72.65
14	0	8:50:52	0.2167	26.10	72.67
15	0	8:51:52	0.2333	27.33	72.43
16	0	8:52:52	0.2500	28.60	72.05
17	0	8:53:52	0.2667	29.61	72.14
18	0	8:54:52	0.2833	31.75	72.77
19	0	8:55:52	0.3000	33.75	73.80
20	0	8:56:52	0.3167	57.49	75.45
21	0	8:57:52	0.3333	137.81	77.08

Registradores en el fondo @ 4610'.

22	0	8:58:52	0.3500	142.74	78.44
23	0	8:59:52	0.3667	142.32	79.24
24	0	9: 0:52	0.3833	141.65	80.24
25	0	9: 1:52	0.4000	138.24	80.96
26	0	9: 2:52	0.4167	134.75	81.44
27	0	9: 3:52	0.4333	132.16	82.16
28	0	9: 4:52	0.4500	130.87	82.62

Primera inyeccion de gas.

29	0	9: 5:52	0.4667	130.82	82.90
30	0	9: 6:52	0.4833	295.84	83.39
31	0	9: 7:52	0.5000	326.07	83.63
32	0	9: 8:52	0.5167	346.54	84.11
33	0	9: 9:52	0.5333	284.34	84.39
34	0	9:10:52	0.5500	163.77	84.62
35	0	9:11:52	0.5667	129.76	84.81
36	0	9:12:52	0.5833	124.71	85.09
37	0	9:13:52	0.6000	121.56	85.22
38	0	9:14:52	0.6167	120.31	85.27
39	0	9:15:52	0.6333	120.06	85.37
40	0	9:16:52	0.6500	120.67	85.46
41	0	9:17:52	0.6667	122.76	85.57
42	0	9:18:52	0.6833	125.69	85.64
43	0	9:19:52	0.7000	128.16	85.70

Company: PETRO-TECH PERUANA S.A.

Well: LO6-22

Field: LOBITOS MAR

[Tuesday: Jan. 10, 1995]

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REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg. F)
44	0	9:20:52	0.7167	130.88	85.74
45	0	9:21:52	0.7333	132.94	85.52
46	0	9:22:52	0.7500	134.52	85.58
47	0	9:23:52	0.7667	135.66	85.62
48	0	9:24:52	0.7833	136.43	85.67
49	0	9:25:52	0.8000	137.34	85.70
50	0	9:26:52	0.8167	138.67	85.73
51	0	9:27:52	0.8333	140.18	85.76
52	0	9:28:52	0.8500	141.92	85.77
53	0	9:29:52	0.8667	143.92	85.79
54	0	9:30:52	0.8833	144.35	85.81
55	0	9:31:52	0.9000	143.19	85.82
56	0	9:32:52	0.9167	142.86	85.83
57	0	9:33:52	0.9333	142.52	85.83
58	0	9:34:52	0.9500	141.50	85.85
Segunda inyeccion de gas.					
59	0	9:35:52	0.9667	142.29	85.86
60	0	9:36:52	0.9833	330.13	85.87
61	0	9:37:52	1.0000	370.44	85.87
62	0	9:38:52	1.0167	386.20	85.88
63	0	9:39:52	1.0333	319.41	85.88
64	0	9:40:52	1.0500	204.15	85.88
65	0	9:41:52	1.0667	128.39	85.89
66	0	9:42:52	1.0833	121.30	86.18
67	0	9:43:52	1.1000	117.04	85.89
68	0	9:44:52	1.1167	113.89	85.89
69	0	9:45:52	1.1333	112.73	85.89
70	0	9:46:52	1.1500	112.12	85.89
71	0	9:47:52	1.1667	111.68	85.89
72	0	9:48:52	1.1833	111.91	85.88
73	0	9:49:52	1.2000	113.33	85.88
74	0	9:50:52	1.2167	116.07	85.88
75	0	9:51:52	1.2333	119.68	85.88
76	0	9:52:52	1.2500	123.36	85.88
77	0	9:53:52	1.2667	125.57	85.88
78	0	9:54:52	1.2833	127.39	85.87
79	0	9:55:52	1.3000	128.39	85.86
80	0	9:56:52	1.3167	127.80	85.86
81	0	9:57:52	1.3333	127.98	85.85
82	0	9:58:52	1.3500	128.50	85.85
83	0	9:59:52	1.3667	129.47	85.84
84	0	10: 0:52	1.3833	129.65	85.84
85	0	10: 1:52	1.4000	129.40	85.83
86	0	10: 2:52	1.4167	129.48	85.82
87	0	10: 3:52	1.4333	128.86	85.81
88	0	10: 4:52	1.4500	127.76	85.80
Tercera inyeccion de gas.					
89	0	10: 5:52	1.4667	126.92	85.78
90	0	10: 6:52	1.4833	300.74	85.77
91	0	10: 7:52	1.5000	335.36	85.77

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Well: LO6-22

Field: LOBITOS MAR

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REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg.F)
92	0	10: 8:52	1.5167	348.42	85.75
93	0	10: 9:52	1.5333	289.31	85.73
94	0	10:10:52	1.5500	176.47	85.72
95	0	10:11:52	1.5667	125.63	85.70
96	0	10:12:52	1.5833	121.32	85.68
97	0	10:13:52	1.6000	120.64	85.66
98	0	10:14:52	1.6167	121.14	85.65
99	0	10:15:52	1.6333	121.67	85.63
100	0	10:16:52	1.6500	121.15	85.61
101	0	10:17:52	1.6667	120.09	85.60
Pozo cerrado.					
102	0	10:18:52	1.6833	123.52	85.59
103	0	10:19:52	1.7000	126.37	85.58
104	0	10:20:52	1.7167	129.75	85.57
105	0	10:21:52	1.7333	132.14	85.56
106	0	10:22:52	1.7500	133.99	85.55
107	0	10:23:52	1.7667	134.76	85.55
108	0	10:24:52	1.7833	136.81	85.54
109	0	10:25:52	1.8000	138.32	85.54
110	0	10:26:52	1.8167	139.83	85.54
111	0	10:27:52	1.8333	141.42	85.54
112	0	10:28:52	1.8500	142.91	85.54
113	0	10:29:52	1.8667	144.73	85.55
114	0	10:30:52	1.8833	145.83	85.55
115	0	10:31:52	1.9000	147.21	85.56
116	0	10:32:52	1.9167	148.47	85.57
117	0	10:33:52	1.9333	149.57	85.58
118	0	10:34:52	1.9500	150.75	85.59
119	0	10:35:52	1.9667	152.13	85.59
120	0	10:36:52	1.9833	152.84	85.61
121	0	10:37:52	2.0000	153.71	85.62
122	0	10:38:52	2.0167	154.41	85.63
123	0	10:39:52	2.0333	154.53	85.65
124	0	10:40:52	2.0500	155.48	85.66
125	0	10:41:52	2.0667	156.42	85.68
126	0	10:42:52	2.0833	157.32	85.69
127	0	10:43:52	2.1000	159.31	85.71
128	0	10:44:52	2.1167	159.03	85.73
129	0	10:45:52	2.1333	159.85	85.74
130	0	10:46:52	2.1500	160.64	85.76
131	0	10:47:52	2.1667	161.43	85.77
132	0	10:48:52	2.1833	162.20	85.79
133	0	10:49:52	2.2000	162.99	85.81
134	0	10:50:52	2.2167	163.75	85.83
135	0	10:51:52	2.2333	164.52	85.85
136	0	10:52:52	2.2500	165.31	85.87
137	0	10:53:52	2.2667	166.08	85.89
138	0	10:54:52	2.2833	166.84	85.92
139	0	10:55:52	2.3000	167.61	85.94
140	0	10:56:52	2.3167	168.32	85.96

Company: PETRO-TECH PERUANA S.A.

Well: LO6-22

Field: LOBITOS MAR

[Tuesday: Jan. 10, 1995]

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REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg. F)
141	0	10:57:52	2.3333	169.06	85.99
142	0	10:58:52	2.3500	169.82	86.02
143	0	10:59:52	2.3667	170.59	86.05
144	0	11: 0:52	2.3833	171.38	86.08
145	0	11: 1:52	2.4000	172.19	86.11
146	0	11: 2:52	2.4167	173.01	86.13
147	0	11: 3:52	2.4333	173.87	86.16
148	0	11: 4:52	2.4500	174.74	86.19
149	0	11: 5:52	2.4667	174.78	86.23
150	0	11: 6:52	2.4833	175.62	86.26
151	0	11: 7:52	2.5000	176.36	86.29
152	0	11: 9:52	2.5333	176.94	86.33
153	0	11:11:52	2.5667	177.81	86.39
154	0	11:13:52	2.6000	178.89	86.48
155	0	11:15:52	2.6333	180.03	86.58
156	0	11:17:52	2.6667	181.19	86.37
157	0	11:19:52	2.7000	182.59	86.44
158	0	11:21:52	2.7333	183.82	86.47
159	0	11:23:52	2.7667	185.02	86.48
160	0	11:25:52	2.8000	186.39	86.55
161	0	11:27:52	2.8333	188.16	86.58
162	0	11:29:52	2.8667	189.30	86.64
Subiendo registradores. Parada @ 4500'.					
163	0	11:31:52	2.9000	161.55	86.70
Parada @ 4300'.					
164	0	11:33:52	2.9333	136.21	86.90
Parada @ 4100'.					
165	0	11:35:52	2.9667	121.69	87.51
166	0	11:37:52	3.0000	97.24	87.98
Parada @ 3800'.					
167	0	11:40:52	3.0500	89.51	88.67
Parada @ 3500'.					
168	0	11:43:52	3.1000	90.11	89.33
Parada @ 3000'.					
169	0	11:46:52	3.1500	90.68	89.51
170	0	11:49:52	3.2000	91.34	89.50
Parada @ 2500'.					
171	0	11:52:52	3.2500	90.28	89.21
Parada @ 2000'.					
172	0	11:55:52	3.3000	90.23	88.34
173	0	11:58:52	3.3500	90.48	87.29
Parada @ 1000'.					
174	0	12: 1:52	3.4000	90.15	85.63
175	0	12: 4:52	3.4500	88.24	83.67
Parada @ 0'.					
176	0	12: 7:52	3.5000	88.14	81.05
177	0	12:10:52	3.5500	85.49	78.56
178	0	12:13:52	3.6000	86.28	75.35

LWA

SPC

Company: PETRO-TECH PERUANA S.A.

Well: L06-22

Field: LOBITOS MAR

[Tuesday: Jan. 10, 1995]

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REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg.F)
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Desfogo Lubricador.

180	0	12:19:52	3.7000	14.50	72.54
181	0	12:22:52	3.7500	14.50	71.55

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