

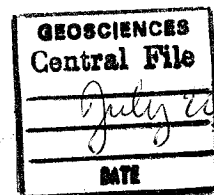
**CENTRAL FILE  
GEOSCIENCES**

## **REGISTRO DE PRESION INICIAL**

Well File

**PETRO-TECH PERUANA S.A.  
POZO LO6-23  
LOBITOS MAR  
TALARA - PERU**

**13 DE JUNIO 2001**



**REPORTE ELABORADO  
POR  
GISELA ARAUJO LUDEÑA**

COMENTARIOS

En el pozo **LO6-23** ( Area Lobitos Mar ) se realizó un Registro de Presión Inicial - Gradiente Estática para determinar la presión en el fondo, el tipo y nivel de los fluidos existentes en él. Esta prueba fue realizada luego de ejecutarse los trabajos de baleo, en la formación Basal Salina.

Se bajaron los registradores Memory Gauge con el pozo cerrado a la profundidad de 7973 PM ( 7396 PV ), punto medio del intervalo baleado, registrando la presión estática por un tiempo de 01 hora 30 minutos. La presión en la cabeza del pozo indicó 1700 psig.

Finalizado el registro BHP se tomó una Gradiente Estática, subiendo el registrador con paradas de 03 minutos según requerimiento de Ingeniería, hasta superficie.

Se obtuvieron los siguientes datos:

Presión estática @ 7973 PM ( 7396 PV ) : 3976.2 psi.  
 Temperatura estática @ 7973 PM ( 7396 PV ) : 128.5 °F.  
 Gradiente del crudo : 0.322 psi/ft @ 1000 PM ( 1000 PV ).  
 Gradiente del agua : 0.434 psi/ft @ 6000 PM ( 5640 PV ).  
 Gradiente de formación : 0.539 psi/ft @ 7973 PM ( 7396 PV ).

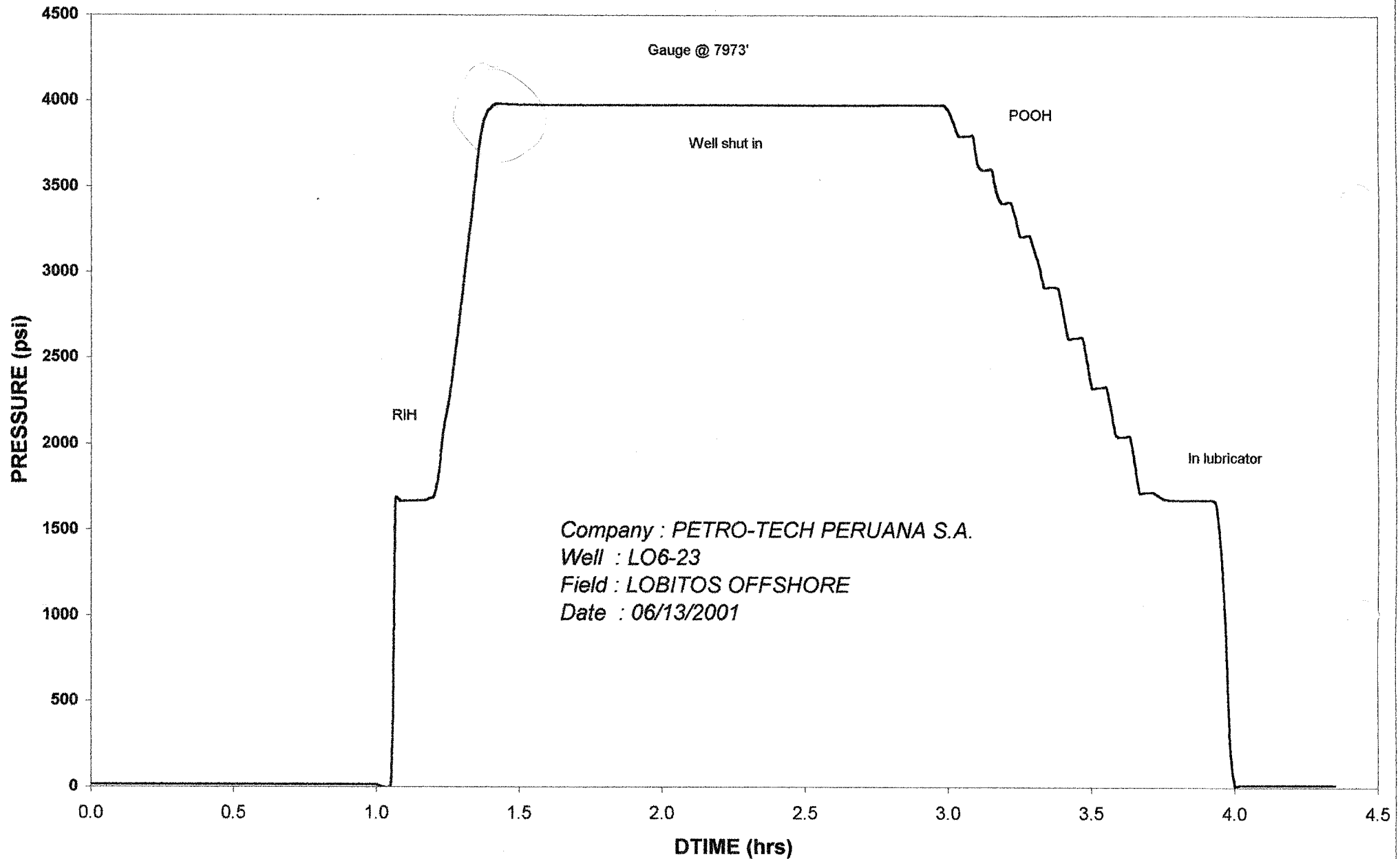
Intervalo : ( Fm. Basal Salina )

~~NOTE~~  
 INITIAL PRESSURE AFTER PRODUCED = 284 BLS CAVUD + 55 BLS AGUA + 253 MSCOF  
 MEMORY INTO BOTTOM HOLE = 1061 HRS. ( AT 7973' MD )  
 BHP = 3976 Psig.  
 WHP = 1700 Psig  
 BOMB DEPTH = 7973' MD ( 7396' VD )  
 MPP = 7973' MD ( 7396' VD )  
 Oil level = 1000' MD ( 1000' VD )  
 Water level = 6000' MD ( 5639' VD )

$$FG = \frac{3976 \text{ Psig}}{7396' \text{ VD}} = 0.538 \text{ psi/ft}$$

NOTE: DATA ON FILE D110'S  
FOR AND

# CARTESIAN (P vs DT)



## STATIC GRADIENT SURVEY

CENTRAL FILE  
GEOSCIENCES

Compañía : PETRO-TECH PERUANA S.A.

Pozo : LO6-23

Area : LOBITOS OFFSHORE

Fecha : 13/06/2001

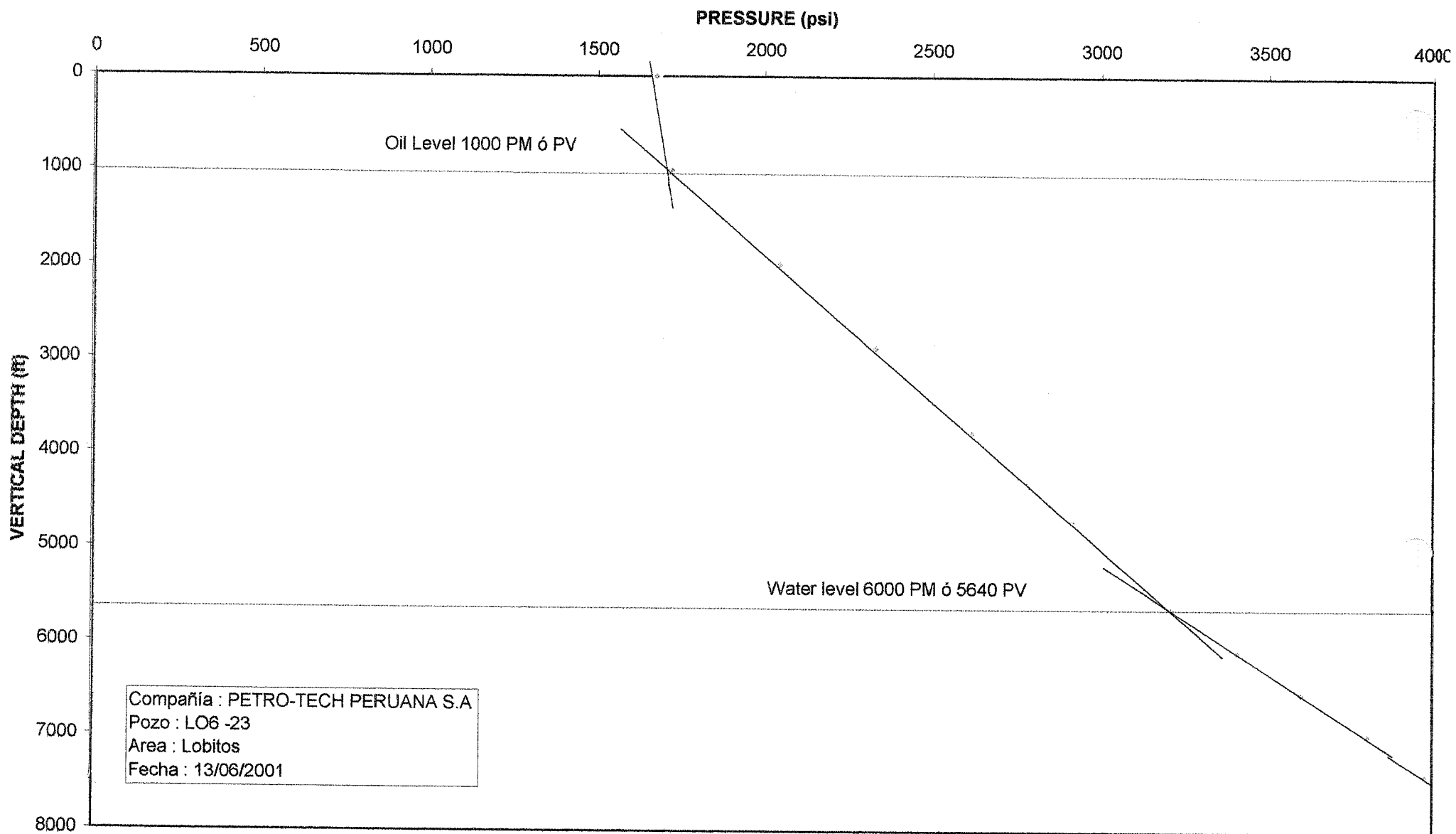
| Measured depth (ft) | Vertical depth (ft) | Pressure (psi) | Gradient (psi/ft) |
|---------------------|---------------------|----------------|-------------------|
| 0                   | 0                   | 1674.30        |                   |
| 1000                | 1000                | 1720.65        | 0.046             |
| 2000                | 1989                | 2044.50        | 0.327             |
| 3000                | 2878                | 2332.60        | 0.324             |
| 4000                | 3778                | 2620.53        | 0.320             |
| 5000                | 4714                | 2917.26        | 0.317             |
| 6000                | 5639                | 3214.04        | 0.321             |
| 6500                | 6086                | 3408.94        | 0.436             |
| 7000                | 6534                | 3600.00        | 0.426             |
| 7500                | 6981                | 3796.64        | 0.440             |
| 7973                | 7396                | 3976.27        | 0.432             |

Gradiente de formación: 0.539 psi/pie

Nivel de crudo 1000 PM ó 1000 PV

Cambio de gradiente 6000 PM ó 5640 PV

# STATIC GRADIENT SURVEY



Company: PETRO-TECH PERUANA S.A.  
 Well : LO6-23  
 Field : LOBITOS OFFSHORE  
 Date : 06/13/2001

| REAL TIME                          | DT (HRS) | BHP (PSIA) | BHT (°F) |
|------------------------------------|----------|------------|----------|
| Se conecta batería - Memory Gauge  |          |            |          |
| 12:37:53 AM                        | 0        | 14.5       | 71.93    |
| 12:43:53 AM                        | 0.1      | 14.5       | 71.88    |
| 12:49:53 AM                        | 0.2      | 14.5       | 71.75    |
| 12:55:53 AM                        | 0.3      | 14.5       | 71.63    |
| 1:01:53 AM                         | 0.4      | 14.5       | 71.70    |
| 1:07:53 AM                         | 0.5      | 14.5       | 71.92    |
| 1:13:53 AM                         | 0.6      | 14.5       | 71.91    |
| En el lubricador                   |          |            |          |
| 1:19:53 AM                         | 0.7      | 14.5       | 71.78    |
| 1:25:53 AM                         | 0.8      | 14.5       | 71.71    |
| Se empieza a abrir Válvula Master  |          |            |          |
| 1:31:53 AM                         | 0.9      | 14.5       | 71.67    |
| 1:37:53 AM                         | 1        | 14.5       | 71.64    |
| 1:43:53 AM                         | 1.1      | 1667.81    | 74.45    |
| Bajando Registradores              |          |            |          |
| 1:49:53 AM                         | 1.2      | 1696.53    | 77.09    |
| 1:55:53 AM                         | 1.3      | 2880.46    | 87.01    |
| 1:58:53 AM                         | 1.35     | 3608.16    | 95.41    |
| Llegada a 7973 pies ( Punto medio) |          |            |          |
| 1:59:53 AM                         | 1.3667   | 3824.13    | 98.39    |
| 2:00:53 AM                         | 1.3833   | 3923.71    | 101.48   |
| 2:01:53 AM                         | 1.4      | 3960.25    | 104.38   |
| 2:02:53 AM                         | 1.4167   | 3983.22    | 107.14   |
| 2:03:53 AM                         | 1.4333   | 3981.89    | 109.60   |
| 2:04:53 AM                         | 1.45     | 3980.72    | 111.83   |
| 2:05:53 AM                         | 1.4667   | 3979.61    | 113.67   |
| 2:06:53 AM                         | 1.4833   | 3978.63    | 115.46   |
| 2:07:53 AM                         | 1.5      | 3977.7     | 116.82   |
| 2:08:53 AM                         | 1.5167   | 3977.05    | 118.26   |
| 2:09:53 AM                         | 1.5333   | 3976.56    | 119.32   |
| 2:10:53 AM                         | 1.55     | 3975.85    | 120.41   |
| 2:11:53 AM                         | 1.5667   | 3975.36    | 121.41   |
| 2:12:53 AM                         | 1.5833   | 3975.05    | 122.20   |
| 2:13:53 AM                         | 1.6      | 3974.61    | 122.91   |
| 2:14:53 AM                         | 1.6167   | 3974.51    | 123.39   |
| 2:15:53 AM                         | 1.6333   | 3975.01    | 124.00   |
| 2:16:53 AM                         | 1.65     | 3974.7     | 124.70   |
| 2:17:53 AM                         | 1.6667   | 3974.52    | 125.13   |
| 2:18:53 AM                         | 1.6833   | 3974.36    | 125.49   |
| 2:19:53 AM                         | 1.7      | 3974.24    | 125.84   |
| 2:20:53 AM                         | 1.7167   | 3974.11    | 126.25   |
| 2:21:53 AM                         | 1.7333   | 3974.07    | 126.37   |
| 2:22:53 AM                         | 1.75     | 3974       | 126.61   |
| 2:23:53 AM                         | 1.7667   | 3973.95    | 126.89   |
| 2:24:53 AM                         | 1.7833   | 3973.93    | 127.09   |
| 2:25:53 AM                         | 1.8      | 3973.83    | 127.42   |
| 2:26:53 AM                         | 1.8167   | 3973.83    | 127.55   |
| 2:27:53 AM                         | 1.8333   | 3973.86    | 127.68   |
| 2:28:53 AM                         | 1.85     | 3973.84    | 127.80   |
| 2:29:53 AM                         | 1.8667   | 3973.83    | 127.90   |
| 2:30:53 AM                         | 1.8833   | 3973.82    | 127.99   |
| 2:31:53 AM                         | 1.9      | 3973.84    | 128.08   |
| 2:32:53 AM                         | 1.9167   | 3973.85    | 128.13   |
| 2:33:53 AM                         | 1.9333   | 3973.95    | 127.91   |

CENTRAL FILE  
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Company: PETRO-TECH PERUANA S.A.  
 Well : LO6-23  
 Field : LOBITOS OFFSHORE  
 Date : 06/13/2001

|            |        |         |        |
|------------|--------|---------|--------|
| 2:34:53 AM | 1.95   | 3973.97 | 127.99 |
| 2:35:53 AM | 1.9667 | 3973.97 | 128.07 |
| 2:36:53 AM | 1.9833 | 3974    | 128.13 |
| 2:37:53 AM | 2      | 3974.02 | 128.19 |
| 2:38:53 AM | 2.0167 | 3974.04 | 128.23 |
| 2:39:53 AM | 2.0333 | 3974.07 | 128.27 |
| 2:40:53 AM | 2.05   | 3974.08 | 128.31 |
| 2:41:53 AM | 2.0667 | 3974.12 | 128.33 |
| 2:42:53 AM | 2.0833 | 3974.14 | 128.36 |
| 2:43:53 AM | 2.1    | 3974.18 | 128.39 |
| 2:44:53 AM | 2.1167 | 3974.19 | 128.41 |
| 2:45:53 AM | 2.1333 | 3974.24 | 128.43 |
| 2:46:53 AM | 2.15   | 3974.28 | 128.46 |
| 2:47:53 AM | 2.1667 | 3974.3  | 128.48 |
| 2:48:53 AM | 2.1833 | 3974.34 | 128.50 |
| 2:49:53 AM | 2.2    | 3974.35 | 128.52 |
| 2:50:53 AM | 2.2167 | 3974.4  | 128.54 |
| 2:51:53 AM | 2.2333 | 3974.42 | 128.55 |
| 2:52:53 AM | 2.25   | 3974.46 | 128.57 |
| 2:53:53 AM | 2.2667 | 3974.51 | 128.58 |
| 2:54:53 AM | 2.2833 | 3974.53 | 128.60 |
| 2:55:53 AM | 2.3    | 3974.57 | 128.61 |
| 2:56:53 AM | 2.3167 | 3974.6  | 128.62 |
| 2:57:53 AM | 2.3333 | 3974.64 | 128.63 |
| 2:58:53 AM | 2.35   | 3974.69 | 128.64 |
| 2:59:53 AM | 2.3667 | 3974.71 | 128.65 |
| 3:00:53 AM | 2.3833 | 3974.76 | 128.66 |
| 3:01:53 AM | 2.4    | 3974.78 | 128.67 |
| 3:02:53 AM | 2.4167 | 3974.82 | 128.67 |
| 3:03:53 AM | 2.4333 | 3974.88 | 128.67 |
| 3:04:53 AM | 2.45   | 3974.92 | 128.68 |
| 3:05:53 AM | 2.4667 | 3974.94 | 128.69 |
| 3:06:53 AM | 2.4833 | 3974.99 | 128.69 |
| 3:07:53 AM | 2.5    | 3975.04 | 128.70 |
| 3:08:53 AM | 2.5167 | 3975.07 | 128.70 |
| 3:09:53 AM | 2.5333 | 3975.11 | 128.71 |
| 3:10:53 AM | 2.55   | 3975.16 | 128.71 |
| 3:11:53 AM | 2.5667 | 3975.19 | 128.71 |
| 3:12:53 AM | 2.5833 | 3975.23 | 128.72 |
| 3:13:53 AM | 2.6    | 3975.28 | 128.72 |
| 3:14:53 AM | 2.6167 | 3975.31 | 128.72 |
| 3:15:53 AM | 2.6333 | 3975.36 | 128.73 |
| 3:16:53 AM | 2.65   | 3975.41 | 128.73 |
| 3:17:53 AM | 2.6667 | 3975.46 | 128.73 |
| 3:18:53 AM | 2.6833 | 3975.48 | 128.73 |
| 3:19:53 AM | 2.7    | 3975.53 | 128.74 |
| 3:20:53 AM | 2.7167 | 3975.58 | 128.74 |
| 3:21:53 AM | 2.7333 | 3975.6  | 128.74 |
| 3:22:53 AM | 2.75   | 3975.65 | 128.74 |
| 3:23:53 AM | 2.7667 | 3975.7  | 128.74 |
| 3:24:53 AM | 2.7833 | 3975.76 | 128.73 |
| 3:25:53 AM | 2.8    | 3975.78 | 128.73 |
| 3:26:53 AM | 2.8167 | 3975.81 | 128.73 |
| 3:27:53 AM | 2.8333 | 3975.88 | 128.74 |
| 3:28:53 AM | 2.85   | 3975.93 | 128.74 |
| 3:29:53 AM | 2.8667 | 3975.95 | 128.74 |

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|                     |        |         |        |
|---------------------|--------|---------|--------|
| 3:30:53 AM          | 2.8833 | 3976.03 | 128.75 |
| 3:31:53 AM          | 2.9    | 3976.08 | 128.75 |
| 3:32:53 AM          | 2.9167 | 3976.13 | 128.74 |
| 3:33:53 AM          | 2.9333 | 3976.14 | 128.71 |
| 3:34:53 AM          | 2.95   | 3976.25 | 128.67 |
| 3:35:53 AM          | 2.9667 | 3976.25 | 128.62 |
| 3:36:53 AM          | 2.9833 | 3976.27 | 128.57 |
| 3:37:53 AM          | 3      | 3939.66 | 128.77 |
| 3:38:53 AM          | 3.0167 | 3871.11 | 128.82 |
| Llegada a 7500 pies |        |         |        |
| 3:39:53 AM          | 3.0333 | 3798.81 | 128.86 |
| 3:40:53 AM          | 3.05   | 3796.64 | 128.83 |
| 3:41:53 AM          | 3.0667 | 3796.45 | 128.80 |
| 3:42:53 AM          | 3.0833 | 3796.46 | 128.77 |
| 3:43:53 AM          | 3.1    | 3632.88 | 128.75 |
| Llegada a 7000 pies |        |         |        |
| 3:44:53 AM          | 3.1167 | 3601.07 | 128.56 |
| 3:45:53 AM          | 3.1333 | 3600.6  | 128.11 |
| 3:46:53 AM          | 3.15   | 3600.01 | 127.79 |
| 3:47:53 AM          | 3.1667 | 3472.85 | 127.32 |
| Llegada a 6500 pies |        |         |        |
| 3:48:53 AM          | 3.1833 | 3409.03 | 127.72 |
| 3:49:53 AM          | 3.2    | 3408.94 | 126.99 |
| 3:50:53 AM          | 3.2167 | 3408.65 | 126.37 |
| 3:51:53 AM          | 3.2333 | 3322.33 | 125.73 |
| Llegada a 6000 pies |        |         |        |
| 3:52:53 AM          | 3.25   | 3213.62 | 125.24 |
| 3:53:53 AM          | 3.2667 | 3214.04 | 124.57 |
| 3:54:53 AM          | 3.2833 | 3214.31 | 123.90 |
| 3:55:53 AM          | 3.3    | 3126.72 | 123.05 |
| Llegada a 5000 pies |        |         |        |
| 3:56:53 AM          | 3.3167 | 3039.13 | 122.62 |
| 3:57:53 AM          | 3.3333 | 2917.26 | 121.39 |
| 3:58:53 AM          | 3.35   | 2917.15 | 120.37 |
| 3:59:53 AM          | 3.3667 | 2917.35 | 119.50 |
| 4:00:53 AM          | 3.3833 | 2905.14 | 118.69 |
| Llegada a 4000 pies |        |         |        |
| 4:01:53 AM          | 3.4    | 2757.85 | 118.06 |
| 4:02:53 AM          | 3.4167 | 2620.86 | 116.98 |
| 4:03:53 AM          | 3.4333 | 2620.53 | 115.85 |
| 4:04:53 AM          | 3.45   | 2620.76 | 114.67 |
| 4:05:53 AM          | 3.4667 | 2621.07 | 113.65 |
| 4:06:53 AM          | 3.4833 | 2477.58 | 112.89 |
| Llegada a 3000 pies |        |         |        |
| 4:07:53 AM          | 3.5    | 2331.51 | 111.72 |
| 4:08:53 AM          | 3.5167 | 2332.61 | 110.38 |
| 4:09:53 AM          | 3.5333 | 2332.91 | 108.98 |
| 4:10:53 AM          | 3.55   | 2332.57 | 108.24 |
| 4:11:53 AM          | 3.5667 | 2206.2  | 107.16 |
| 4:12:53 AM          | 3.5833 | 2057.93 | 106.08 |
| Llegada a 2000 pies |        |         |        |
| 4:13:53 AM          | 3.6    | 2044.5  | 104.66 |
| 4:14:53 AM          | 3.6167 | 2044.49 | 103.57 |
| 4:15:53 AM          | 3.6333 | 2044.69 | 102.48 |
| 4:16:53 AM          | 3.65   | 1888.23 | 101.72 |
| Llegada a 1000 pies |        |         |        |

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 Well : LO6-23  
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|                             |        |         |        |
|-----------------------------|--------|---------|--------|
| 4:17:53 AM                  | 3.6667 | 1720.65 | 100.67 |
| 4:18:53 AM                  | 3.6833 | 1720.97 | 99.44  |
| 4:19:53 AM                  | 3.7    | 1721.21 | 98.15  |
| 4:20:53 AM                  | 3.7167 | 1721.37 | 97.25  |
| 4:21:53 AM                  | 3.7333 | 1701.53 | 96.13  |
| 4:22:53 AM                  | 3.75   | 1682.67 | 95.02  |
| 4:23:53 AM                  | 3.7667 | 1678.29 | 92.83  |
| Registradores en lubricador |        |         |        |
| 4:24:53 AM                  | 3.7833 | 1675.49 | 90.88  |
| 4:25:53 AM                  | 3.8    | 1674.88 | 88.84  |
| 4:26:53 AM                  | 3.8167 | 1674.2  | 87.18  |
| 4:27:53 AM                  | 3.8333 | 1674.34 | 85.67  |
| 4:28:53 AM                  | 3.85   | 1674.5  | 84.33  |
| Se cierra el pozo           |        |         |        |
| 4:29:53 AM                  | 3.8667 | 1674.48 | 83.06  |
| 4:30:53 AM                  | 3.8833 | 1674.66 | 82.02  |
| 4:31:53 AM                  | 3.9    | 1674.41 | 81.06  |
| Se desfoga lubricador       |        |         |        |
| 4:32:53 AM                  | 3.9167 | 1673.76 | 80.08  |
| 4:33:53 AM                  | 3.9333 | 1657.84 | 79.12  |
| 4:34:53 AM                  | 3.95   | 1396.98 | 78.45  |
| 4:35:53 AM                  | 3.9667 | 944.81  | 77.53  |
| 4:36:53 AM                  | 3.9833 | 240.97  | 76.23  |
| 4:37:53 AM                  | 4      | 14.5    | 74.47  |
| 4:38:53 AM                  | 4.0167 | 14.5    | 73.11  |
| 4:39:53 AM                  | 4.0333 | 14.5    | 72.05  |
| 4:40:53 AM                  | 4.05   | 14.5    | 71.30  |
| 4:41:53 AM                  | 4.0667 | 14.5    | 70.48  |
| 4:42:53 AM                  | 4.0833 | 14.5    | 69.93  |
| 4:43:53 AM                  | 4.1    | 14.5    | 69.43  |
| 4:44:53 AM                  | 4.1167 | 14.5    | 69.17  |
| 4:45:53 AM                  | 4.1333 | 14.5    | 68.90  |
| 4:46:53 AM                  | 4.15   | 14.5    | 68.60  |
| 4:47:53 AM                  | 4.1667 | 14.5    | 68.54  |
| 4:48:53 AM                  | 4.1833 | 14.5    | 68.47  |
| 4:49:53 AM                  | 4.2    | 14.5    | 68.66  |
| 4:50:53 AM                  | 4.2167 | 14.5    | 68.82  |
| 4:51:53 AM                  | 4.2333 | 14.5    | 68.92  |
| 4:52:53 AM                  | 4.25   | 14.5    | 69.03  |