

PTP-RESN-066
December 9th, 1997

TO: John Meyers
FROM: Alberto Agurto
SUBJECT: Pressure Build Up Test
Well LO16-10 Lobitos

Please find attached the results obtained from Build Up test run in the above mentioned well in order to determine the present formation pressure and define if its production level can be improved by stimulation or not.

The main results are as follows:

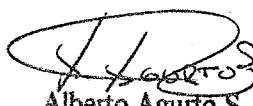
Date	: November 21 - 25th, 1997.
Perforated interval	: 6232' - 5800'.
Formation	: Pariñas.
Middle point depth	: 4195' (VD).
Shut in time	: 75.4 hrs.
Pressure at MPP	: 1086 psi. (last reading).
Extrp. Pressure P*	: 2560 psi.
Well head pressure	: 920 psi.
Fluid level	: 6017'.
Formation gradient	: 0.610 psi/ft.
Permeability	: 0.195 md.
Skin factor	: -3.06.
Monthly Production	: 25 BOPD * 151 MSCFD (Oct-97).

In the last hour that the gauge remained in the bottom hole, the pressure increased only 2 psi., then it could be considered almost stabilized. The interpretation using the Infinite Conductivity Fracture model was most adequate, the reservoir characteristics from Straight Line evaluation are similar to those obtained to the Matching method. The derivative curve behavior shows wellbore storage effect at early time which masks the linear flow regimen from fracture, after that, a straight line of slope 0.5 characterize the flow of the fracture.

This well was completed on September 1992 by shoot-fracking the Pariñas formation, it reached a IPR of 120 BOPD. Currently it produces 25 BOPD * 151 MSCFD with a cumulative production of 103 MBO and Conventional installation at 5740'.

The analysis shows a negative skin factor and that the well is apparently located in a low permeability area of the reservoir, however the extrapolated pressure P* has been estimated in 2560 psi at middle perforated point being slightly lower than the recorded on June-94 of 2760 psi (0.669 psi/ft), likewise the production between both period was only 54 MBO, which would be confirming a good formation gradient draining from large pool.

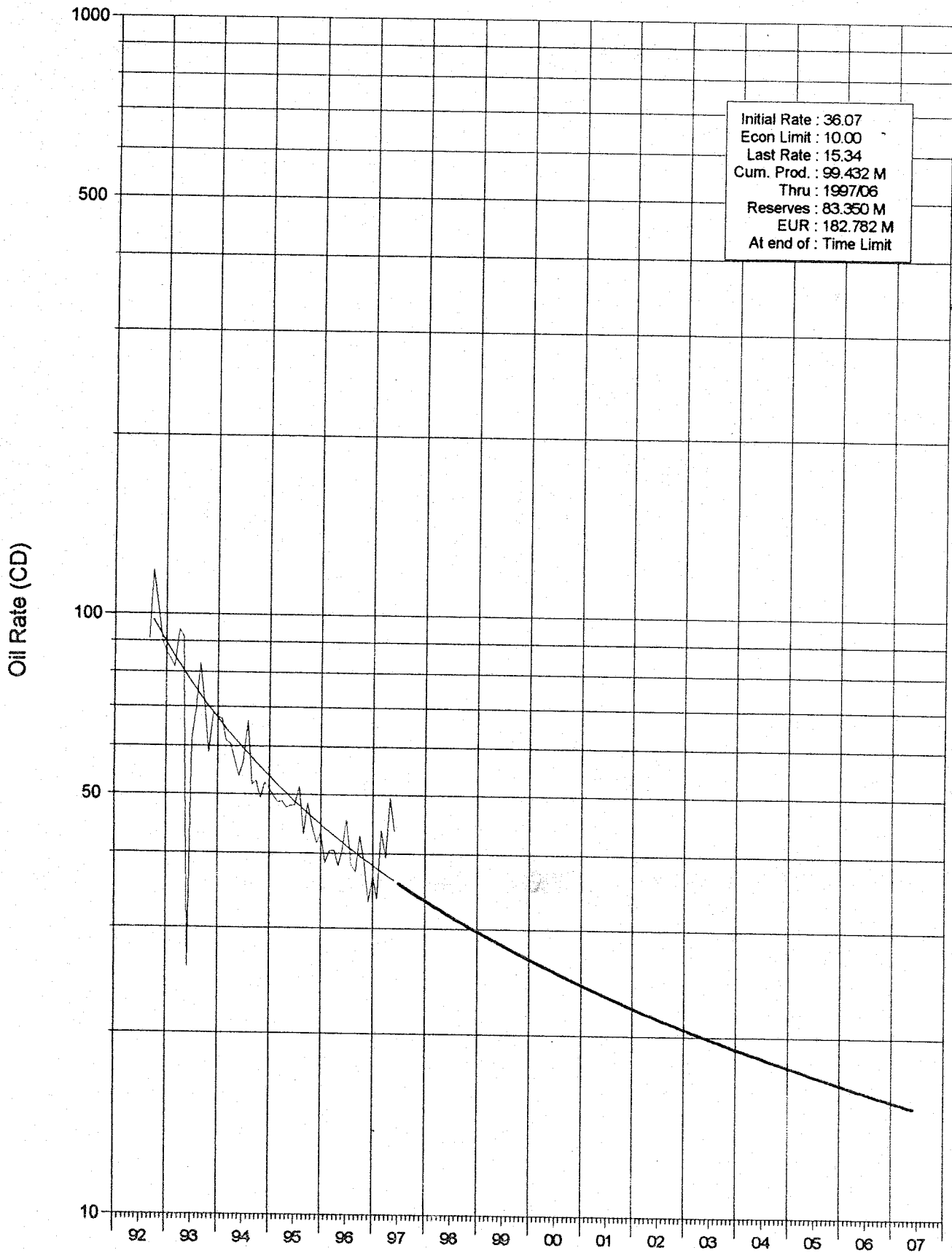
This well has enough energy, in agreement with this, a good production should be expected after stimulation job in order to increase flow capacity from Pariñas formation to the wellbore.

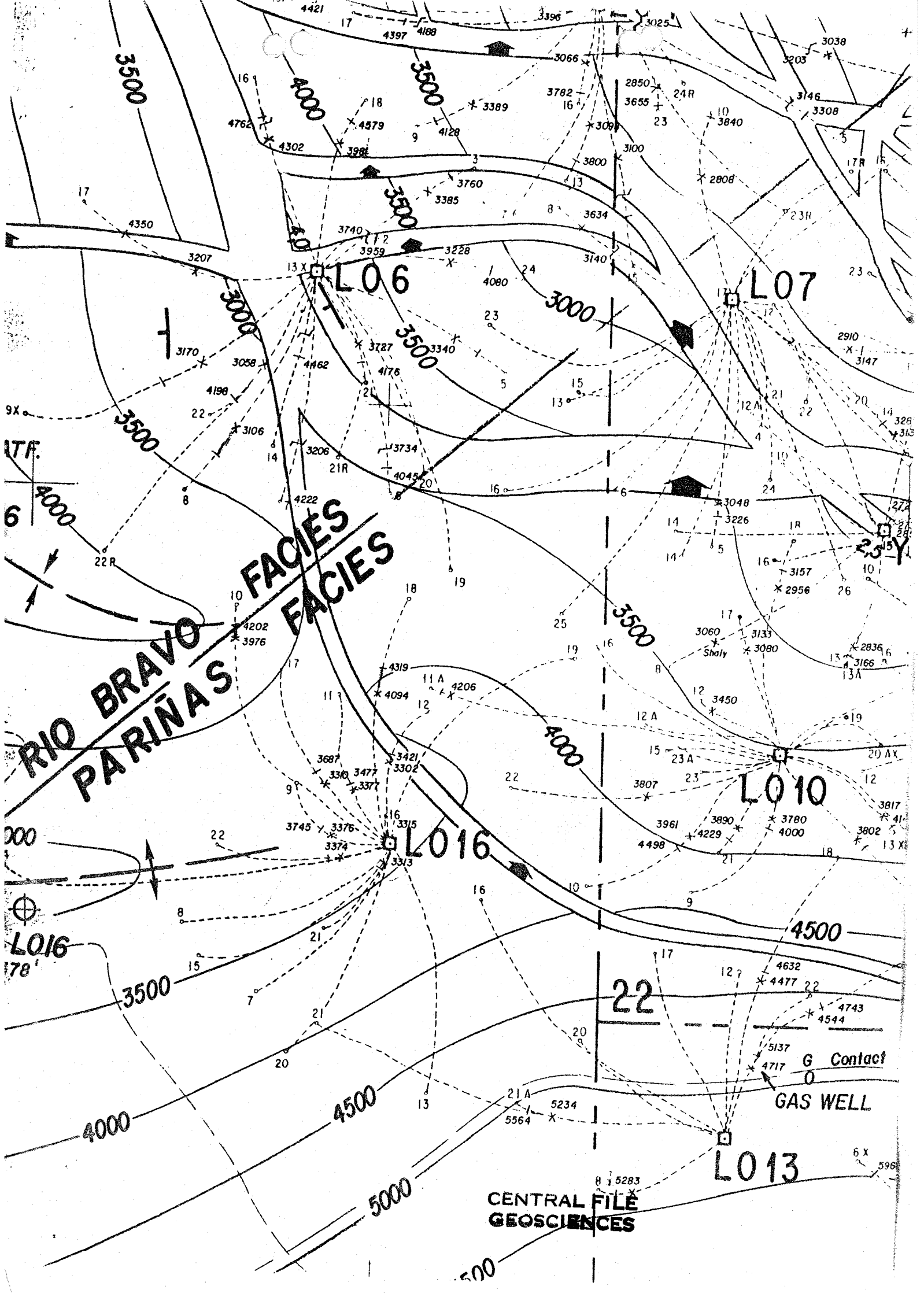

Alberto Agurto S.
Reservoir Engineer

**CENTRAL FILE
GEOSCIENCES**

c.c.: J. Mego.
R. Francia.
Well File.

LO16-10 WELL





**Main Results****LO16-10**

Company PETROTECH
Field Lobitos
Well LO16-10
Test BU
Date Nov-97
Gauge Memory
Depth 6050'(4195')

Formation interval Pariñas
Perforated interval 6232'-5800'
Tsi: 75.44 hrs. Np: 103 MBO
Tp: 1888 days.

TEST TYPE Standard**FLUID TYPE** Oil

Porosity Phi (%) 12
Well Radius rw 0.354 ft
Pay Zone h 53 ft

Volume Factor B 1.2
Total Compr. ct 2.56E-5 psi-1
Viscosity 1.1 cp

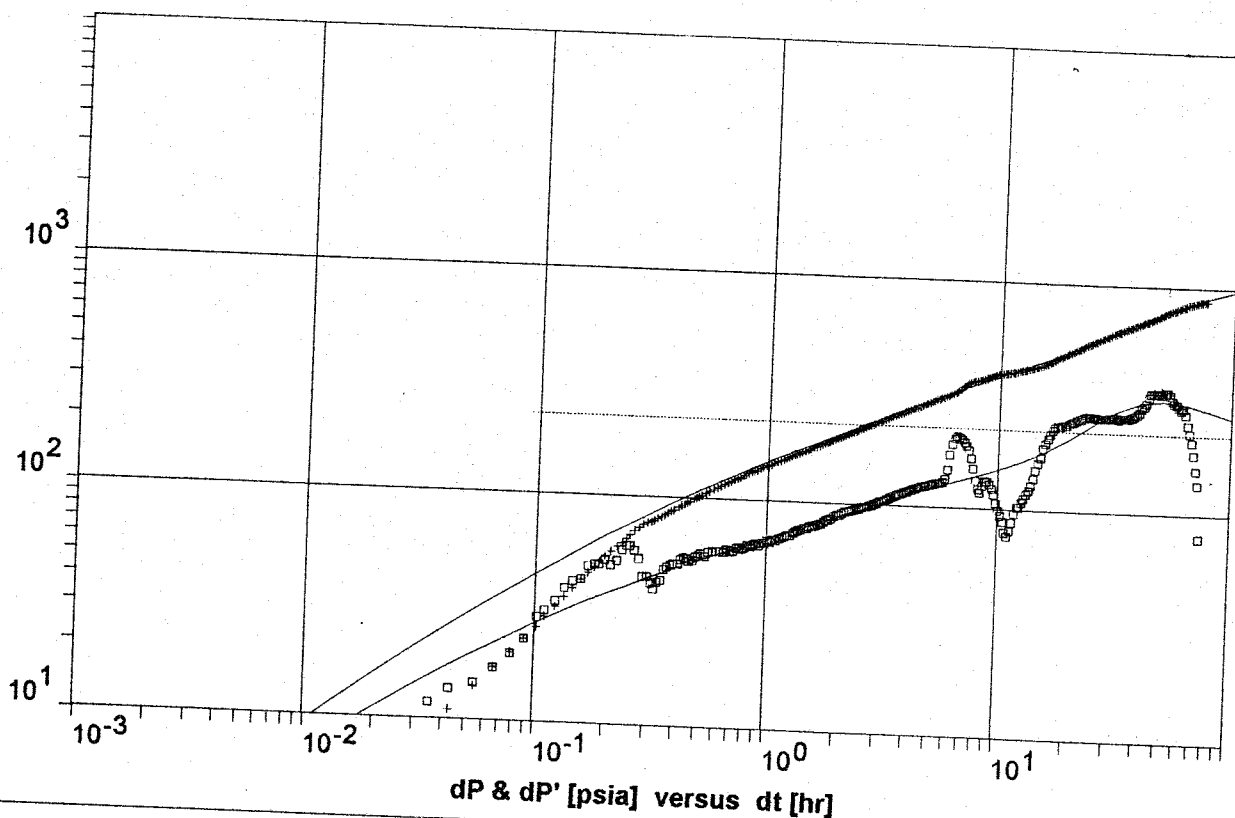
Flow Period # 2
Rate 0 STB/day
Rate Change 25 STB/day
P at dt=0 223.18 psia
Pi 2581.75 psia

Time Match 5.21 (hr)-1
Pressure Match 0.00223 (psia)-1

RESERVOIR Homogeneous
BOUNDARY Infinite
WELL Frac. infinite cond.
Storage C 0.000535 STB/psi
Ci/Cf 1.29149
Alpha 4710
Xf (½ length) 13.1 ft
Skin 0

kh 10.4 md.ft
k 0.2 md
Mobility k/mu 0.18

	Log-Log		LO16-10	
	Company	PETROTECH	Test	BU
	Field	Lobitos	Date	Nov-97
	Well	LO16-10	Gauge	Memory



Flow Period # 2
 Rate 0 STB/day
 Rate Change 25 STB/day
 P at dt=0 223.18 psia
 Smoothing 0.1
 Pi 2581.75 psia

 Time Match 5.21 (hr)⁻¹
 Pressure Match 0.00223 (psia)⁻¹

RESERVOIR Homogeneous
 BOUNDARY Infinite
 WELL Frac. infinite cond.
 Storage C 0.000535 STB/psi
 Ci/Cf 1.29149
 Alpha 4710
 Xf (½ length) 13.1 ft
 Skin 0

 kh 10.4 md.ft
 k 0.2 md
 Mobility k/μ 0.18
 Investig. R 60.7 ft

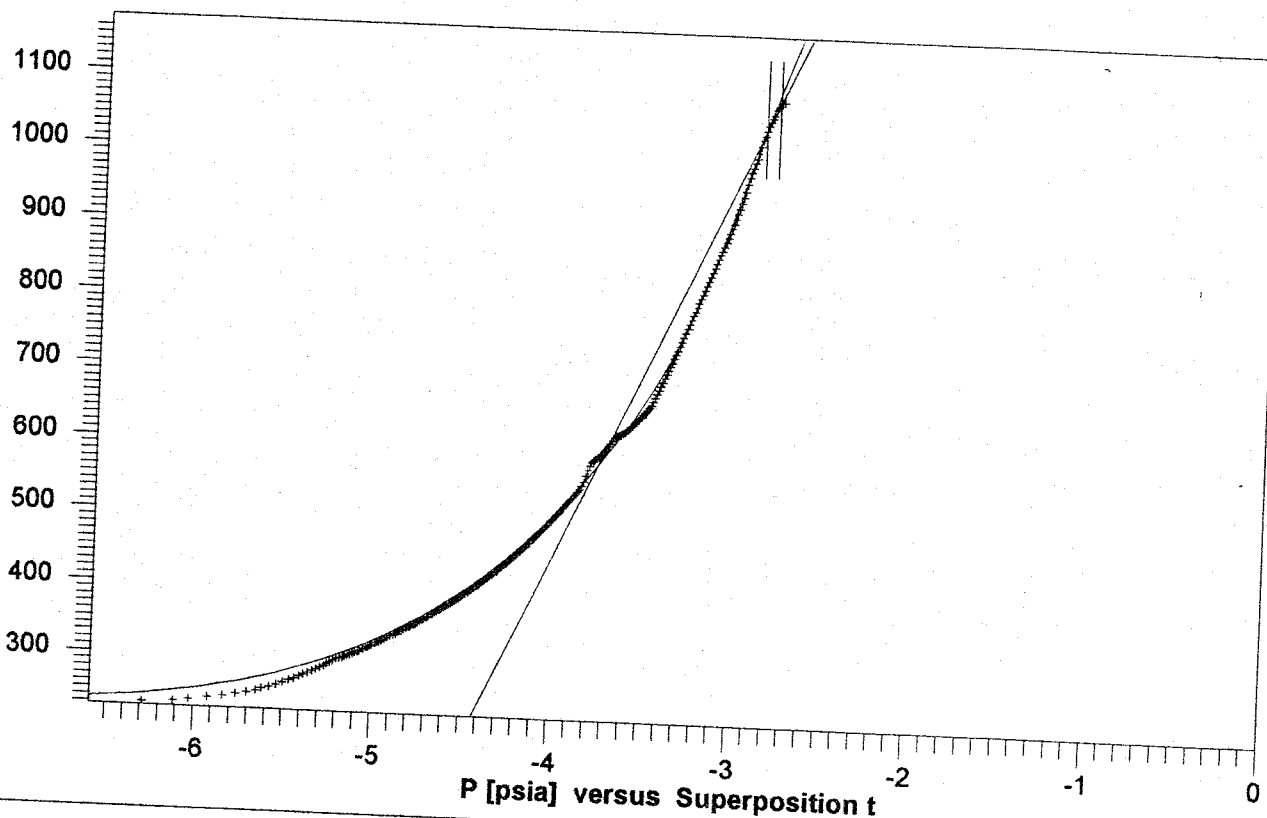


Semi-Log

LO16-10

Company PETROTECH
Field Lobitos
Well LO16-10

Test BU
Date Nov-97
Gauge Memory



Flow Period # 2
Rate 0 STB/day
Rate Change 25 STB/day
P at dt=0 223.18 psia
Pi 2581.75 psia

STRAIGHT LINE

From 61.6 hr
To 72.3 hr
Slope 527 psia
Intercept 2556.72 psia
value at dt=1hr 100.993 psia

-> p* 2556.72 psia
-> PMatch 0.00218 (psia)-1
-> k.h 10.2 md.ft
-> k 0.19 md
-> Skin -3.06

Time Match 5.21 (hr)-1
Pressure Match 0.00223 (psia)-1

RESERVOIR Homogeneous
BOUNDARY Infinite
WELL Frac. infinite cond.
Storage C 0.000535 STB/psi
Ci/Cf 1.29149
Alpha 4710
Xf (½ length) 13.1 ft
Skin 0
kh 10.4 md.ft
k 0.2 md
Mobility k/mu 0.18

COPESERPET S.A.

Compañía Peruana de Servicios Petroleros

75 hr. Pressure Build-up
&
Static Gradient

Well LO16 - 10 Lobitos Offshore

**CENTRAL FILE
GEOSCIENCES**

November, 21th-25th 1997

CPSP 169-97

Talara, November the 28th, 1997.

ENG° JOHN MEYERS
Production Engineering Manager
PETRO-TECH PERUANA S.A.

Dear Sr.

Attached you will find the report of the BUILD UP RECORD x 75 hr. & PRESSURE STATIC GRADIENT test carried out in the well LO16 - 10 (Pariñas sand) Lobitos Offshore.

The porpouse of this test is to know reservoir extrapolated pressure, permeability, skin and fluid levels.

Data used in this report was obtained using your Memory Gauge model EMS-725F - 15 with range of 5000 psi and 250 °F s/n 87013, wich is aviable for you to have a good service.

If you have any question please contact us.

Thanks for your kind attention,

Yours sincerely,



Luis Fernando Ríos Dávalos
COPESERPET S.A.

w.c.
Eng° Alberto Agurto.
Well File.

COPESERPET S.A.

TEST: 75 HR. PRESSURE BUILD UP & STATIC GRADIENT
WELL: LO16 - 10

FIELD: LOBITOS OFFSHORE
SAND: PARIÑAS (6232' - 6312')

DAILY REPORT

NOVEMBER, 21th 1997

INITIAL CONDITIONS

Current Installation: Tubing 2 7/8" with packer R4.
Well status: Producing with intermittent G/L.
Cycle: 40x4:30
Well Production = 25 STB/day.
BOP installed : yes

08:40 Rig up.
08:50 RIH cutting tools down to 5000' (Regular paraffin).
11:00 RIH 2 5/8" cup down to 5763' (Standing Valve).
14:20 Recovery standing valve @ 5763'.
15:20 Tools on surface.
16:04 Activate 1025 psia Amerada's 120 hr. clock.
16:05 Activate memory gauge.
16:22 Gauges at 6050' .

Three injection cycle record:

16:45	I C	P(sep)=30 psi
17:20	II C	P(sep)=30 psi
18:05	III C	P(sep)=30 psi
18:15	Shut in well. Start Pressure Build up test for 72 hr.	

NOVEMBER, 22th 1997

08:00	WHP=530psi, P(ann)=500psi.	
10:30	WHP=540psi, P(ann)=520psi	
12:00	WHP=560psi, P(ann)=540psi	370 psig.
14:00	WHP=590psi, P(ann)=540psi	
17:30	WHP=600psi, P(ann)=540psi	

NOVEMBER, 23th 1997

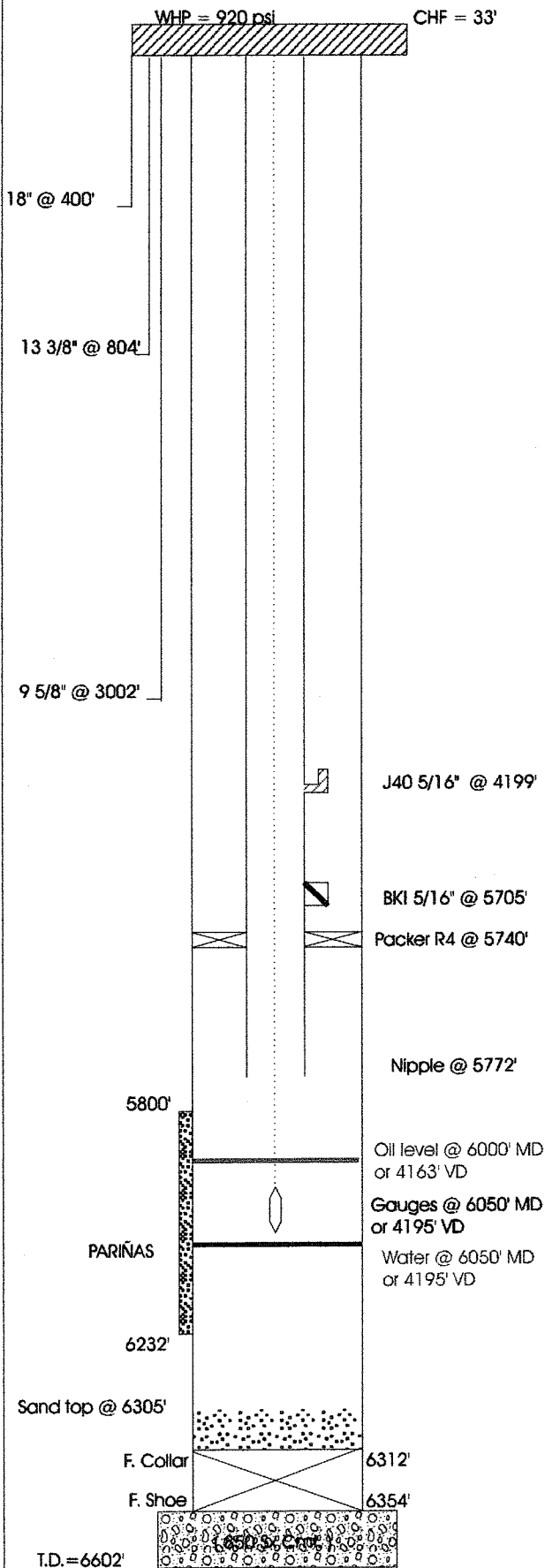
08:00 WHP=770 psi, P(ann)=760psi.
12:00 WHP=790 psi, P(ann)=785psi
18:00 WHP=820 psi, P(ann)=810psi.

NOVEMBER, 24th 1997

08:00 WHP=860psi, P(ann)=840psi.
12:00 WHP=880psi, P(ann)=860psi.
18:00 WHP=900psi, P(ann)=880psi

NOVEMBER, 25th 1997

02:00 WHP = 920psi, P(ann) = 880psi.
02:10 RIH gauges from 6050' to 6200'.
03:40 POOH gauges with 50 min. stations as follows:
6200' 6000' 0'
6100' 5800'
04:50 Gauges at surfaces.
05:35 Installed standing valve @ 5763'.
06:10 Deactivate gauges.
Oil tramp : Oil.
Leave the well with the Petrotech's responsible.
Note of the last test : leakage of gas..



Field Operator: Roberto Talledo

Results of the Pressure Build-up x 75 hr. Test

On well LO16 - 10

Date of Test	November, 21th - 25th 1997	
Formations	Pariñas (6232' - 5800')	
Depth of Gauges	6050	ft. MD
	4195	ft. VD
Well Head Pressure	920	psi
Annulus Pressure	880	psi
Bottom Hole Static Pressure	1086.06	psia
Bottom Hole Static Temperature	100.02	°F
Oil level	6000	ft. MD
	4163	ft. VD
Water level	6050	ft. MD
	4195	ft. VD
Static Gradient at Depth of Gauges	0.2632	psi/ft
Static Gradient at MPP	0.2584	psi/ft
Oiltramp	Crude oil	

Build-up Results

m	440 psi/cycle
P* (Horner Method)	2280 psia
K	0.160136 md
S	-2.44565

Commentary

When tried to use fractured well type curves, no match was found with derivatives. We suppose that the behavior of the derivative curve shows the effect of a well with infinite conductivity vertical fracture that smooths the infinite acting portion of the curve.

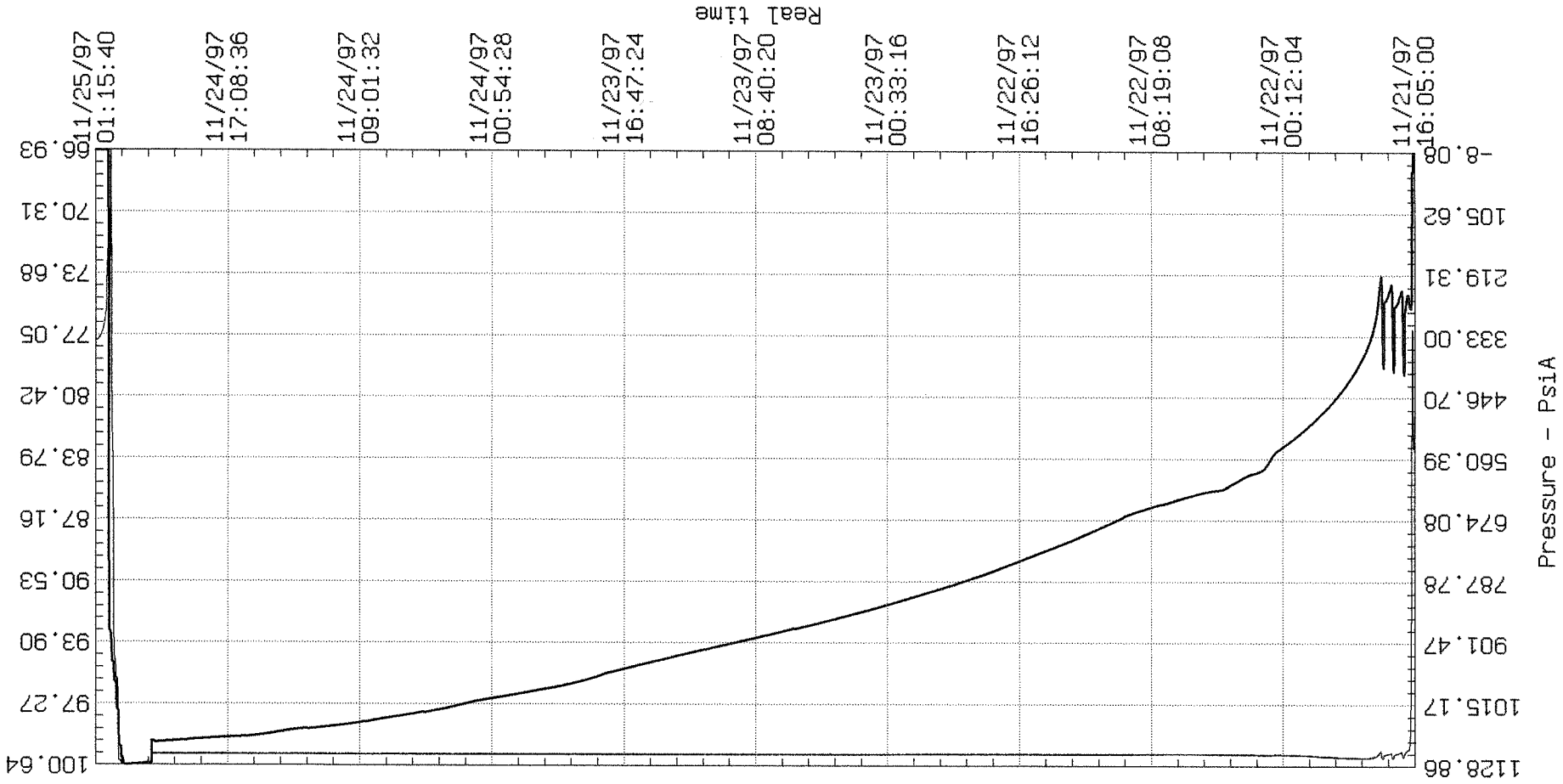
The well is stimulate.

LOGGED PRESSURE / TEMPERATURE DATA

File name: BLO1610

Test operator: LUCAS ARISTA E.
Comments :

Company : COPESERPET S.A.
Client : PETRO-TECH PERUANA S.A.
Gauge number : 87013
Well name : L016-10
Well number : L016-10
Test number : BLO1610
Field name : LOBITOS OFFSHORE



Starting date: 11/21/97
time: 16:05:00

Temperature - Deg. F

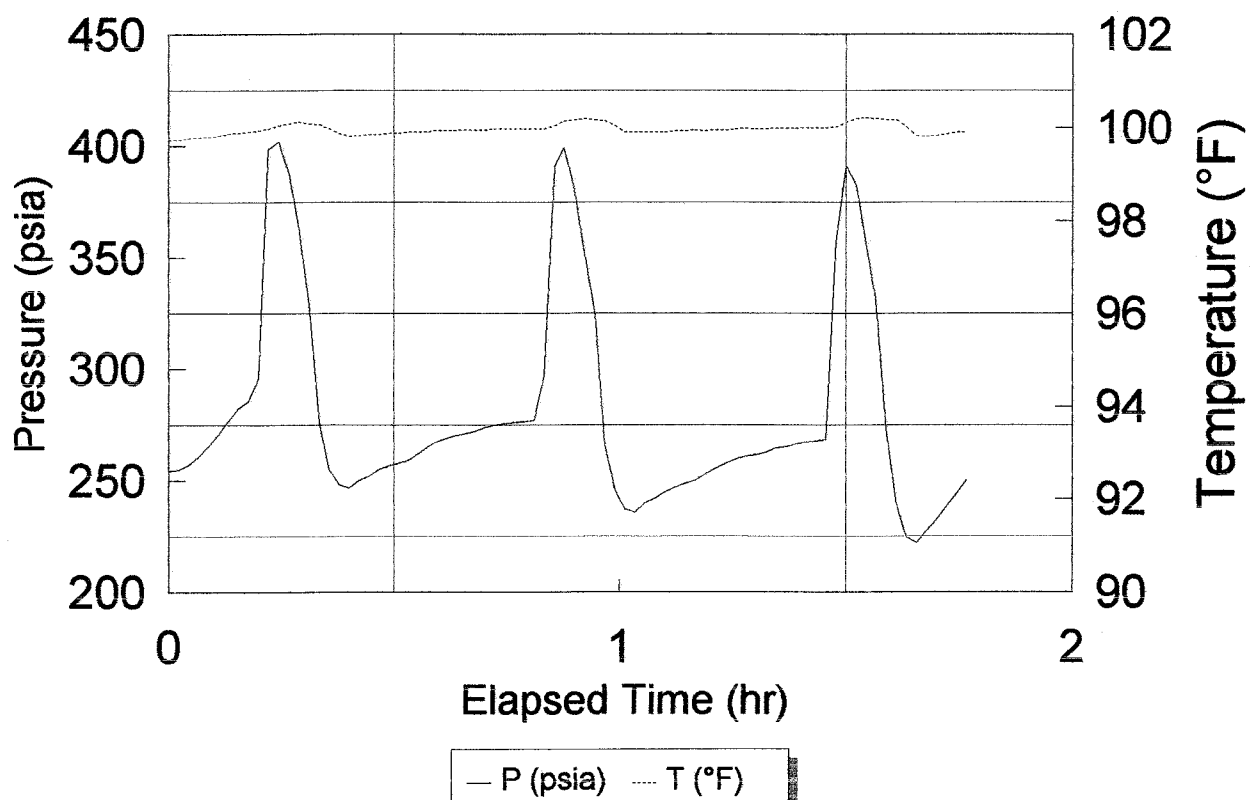
Pressure - PsiA

Three Injection Cycle Record

Date	Time	Elapsed Time (hr)	Pressure (psia)	Temperature (°F)
First injection cycle				
11/21/97	16:30:00	0.0000	254.38	99.72
11/21/97	16:31:20	0.0222	255.03	99.74
11/21/97	16:32:40	0.0444	256.88	99.76
11/21/97	16:34:00	0.0667	260.77	99.78
11/21/97	16:35:20	0.0889	265.63	99.79
11/21/97	16:36:40	0.1111	270.72	99.83
11/21/97	16:38:00	0.1333	276.57	99.86
11/21/97	16:39:20	0.1556	282.34	99.88
11/21/97	16:40:40	0.1778	285.71	99.90
11/21/97	16:42:00	0.2000	296.13	99.93
11/21/97	16:43:20	0.2222	398.64	99.97
11/21/97	16:44:40	0.2444	402.12	100.05
11/21/97	16:46:00	0.2667	387.86	100.09
11/21/97	16:47:20	0.2889	363.38	100.12
11/21/97	16:48:40	0.3111	328.94	100.09
11/21/97	16:50:00	0.3333	276.09	100.07
11/21/97	16:51:20	0.3556	254.90	99.97
11/21/97	16:52:40	0.3778	248.00	99.86
11/21/97	16:54:00	0.4000	246.66	99.81
11/21/97	16:55:20	0.4222	250.03	99.83
11/21/97	16:56:40	0.4444	252.16	99.85
11/21/97	16:58:00	0.4667	254.95	99.85
11/21/97	16:59:20	0.4889	256.57	99.88
11/21/97	17:00:40	0.5111	257.85	99.88
11/21/97	17:02:00	0.5333	259.13	99.90
11/21/97	17:03:20	0.5556	262.35	99.90
11/21/97	17:04:40	0.5778	265.59	99.91
11/21/97	17:05:20	0.5889	267.03	99.93
Second injection cycle				
11/21/97	17:06:40	0.6111	268.81	99.93
11/21/97	17:08:00	0.6333	270.14	99.93
11/21/97	17:09:20	0.6556	271.10	99.95
11/21/97	17:10:40	0.6778	272.21	99.95
11/21/97	17:12:00	0.7000	273.95	99.95
11/21/97	17:13:20	0.7222	274.85	99.97
11/21/97	17:14:40	0.7444	275.66	99.97
11/21/97	17:16:00	0.7667	276.28	99.97
11/21/97	17:17:20	0.7889	276.34	99.97
11/21/97	17:18:40	0.8111	277.19	99.97
11/21/97	17:20:00	0.8333	296.94	99.97
11/21/97	17:21:20	0.8556	390.56	100.04
11/21/97	17:22:40	0.8778	399.21	100.14
11/21/97	17:24:00	0.9000	380.38	100.17
11/21/97	17:25:20	0.9222	352.85	100.19
11/21/97	17:26:40	0.9444	324.39	100.17
11/21/97	17:28:00	0.9667	265.85	100.14
11/21/97	17:29:20	0.9889	245.90	100.04
11/21/97	17:30:40	1.0111	237.29	99.91
11/21/97	17:32:00	1.0333	235.96	99.90

11/21/97	17:33:20	1.0556	240.17	99.91
11/21/97	17:34:40	1.0778	242.00	99.91
11/21/97	17:36:00	1.1000	245.03	99.91
11/21/97	17:37:20	1.1222	247.07	99.93
11/21/97	17:38:40	1.1444	248.79	99.93
11/21/97	17:40:00	1.1667	250.12	99.95
11/21/97	17:41:20	1.1889	253.10	99.93
11/21/97	17:42:40	1.2111	255.60	99.95
Third injection cycle				
11/21/97	17:44:00	1.2333	257.91	99.95
11/21/97	17:45:20	1.2556	259.70	99.97
11/21/97	17:46:40	1.2778	261.01	99.98
11/21/97	17:48:00	1.3000	261.53	99.97
11/21/97	17:49:20	1.3222	262.61	99.97
11/21/97	17:50:40	1.3444	264.77	99.98
11/21/97	17:52:00	1.3667	265.31	99.98
11/21/97	17:53:20	1.3889	266.52	99.98
11/21/97	17:54:40	1.4111	267.21	100.00
11/21/97	17:56:00	1.4333	267.78	100.00
11/21/97	17:57:20	1.4556	268.36	100.00
11/21/97	17:58:40	1.4778	357.17	100.02
11/21/97	18:00:00	1.5000	391.24	100.11
11/21/97	18:01:20	1.5222	382.60	100.19
11/21/97	18:02:40	1.5444	356.35	100.21
11/21/97	18:04:00	1.5667	330.46	100.19
11/21/97	18:05:20	1.5889	272.91	100.17
11/21/97	18:06:40	1.6111	239.23	100.16
11/21/97	18:08:00	1.6333	224.57	100.02
11/21/97	18:09:20	1.6556	221.97	99.83
11/21/97	18:10:40	1.6778	227.12	99.81
11/21/97	18:12:00	1.7000	232.54	99.83
11/21/97	18:13:20	1.7222	238.56	99.86
11/21/97	18:14:40	1.7444	244.37	99.90
11/21/97	18:16:00	1.7667	250.24	99.91
11/21/97	18:54:20	2.4056	346.53	100.17

Three Injection Cycle Record



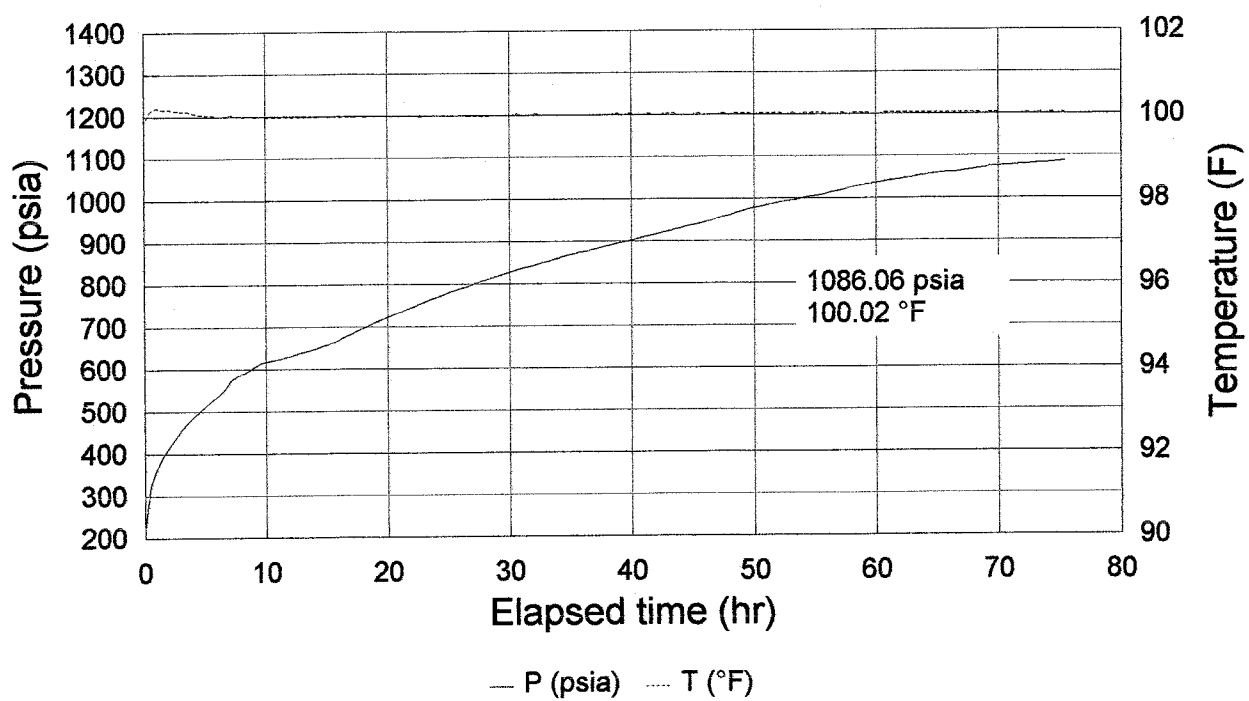
75 hr. Pressure Build-up

Date	Time	Elapsed Time (hr)	Pressure (psia)	Temperature (F)
11/21/97	18:09:20	0.0000	221.97	99.83
11/21/97	18:40:00	0.5111	324.11	100.12
11/21/97	19:10:40	1.0222	366.11	100.19
11/21/97	19:41:20	1.5333	395.10	100.17
11/21/97	20:12:00	2.0444	418.92	100.17
11/21/97	20:42:40	2.5556	439.65	100.14
11/21/97	21:13:20	3.0667	457.62	100.12
11/21/97	21:44:00	3.5778	473.93	100.12
11/21/97	22:14:40	4.0889	488.97	100.07
11/21/97	22:45:20	4.6000	502.97	100.04
11/21/97	23:16:00	5.1111	515.93	100.02
11/21/97	23:46:40	5.6222	527.98	100.02
11/22/97	00:16:40	6.1222	538.82	100.00
11/22/97	00:46:40	6.6222	551.76	100.00
11/22/97	01:16:40	7.1222	575.06	100.02
11/22/97	01:46:40	7.6222	584.63	100.00
11/22/97	02:16:40	8.1222	589.36	99.98
11/22/97	02:46:40	8.6222	597.50	100.00
11/22/97	03:16:40	9.1222	605.77	99.98
11/22/97	03:46:40	9.6222	614.62	100.00
11/22/97	04:16:40	10.1222	618.26	99.98
11/22/97	04:46:40	10.6222	620.55	99.98
11/22/97	05:16:40	11.1222	623.98	99.98
11/22/97	05:46:40	11.6222	627.99	99.98
11/22/97	06:16:40	12.1222	632.13	99.98
11/22/97	06:46:40	12.6222	636.54	99.98
11/22/97	07:16:40	13.1222	641.12	99.98
11/22/97	07:46:40	13.6222	644.51	99.98
11/22/97	08:16:40	14.1222	649.29	99.98
11/22/97	08:46:40	14.6222	654.12	100.00
11/22/97	09:16:40	15.1222	658.91	99.98
11/22/97	09:46:40	15.6222	664.38	100.00
11/22/97	10:16:40	16.1222	671.80	99.98
11/22/97	10:46:40	16.6222	678.66	99.98
11/22/97	11:16:40	17.1222	685.45	99.98
11/22/97	11:46:40	17.6222	692.42	100.00
11/22/97	12:16:40	18.1222	699.09	99.98
11/22/97	12:46:40	18.6222	705.57	100.00
11/22/97	13:16:40	19.1222	711.90	100.00
11/22/97	13:46:40	19.6222	718.02	100.00
11/22/97	14:16:40	20.1222	724.00	100.00
11/22/97	14:46:40	20.6222	729.83	100.00
11/22/97	15:16:40	21.1222	735.53	100.00
11/22/97	15:46:40	21.6222	741.19	100.00
11/22/97	16:16:40	22.1222	747.19	100.00
11/22/97	16:46:40	22.6222	753.29	99.98
11/22/97	17:16:40	23.1222	759.17	100.00
11/22/97	17:46:40	23.6222	764.86	100.00
11/22/97	18:16:40	24.1222	770.40	100.00

11/22/97	18:46:40	24.6222	775.81	100.00
11/22/97	19:16:40	25.1222	781.07	99.98
11/22/97	19:46:40	25.6222	786.23	100.00
11/22/97	20:16:40	26.1222	791.23	100.00
11/22/97	20:46:40	26.6222	796.14	99.98
11/22/97	21:16:40	27.1222	800.94	99.98
11/22/97	21:46:40	27.6222	805.50	99.98
11/22/97	22:16:40	28.1222	810.14	99.98
11/22/97	22:46:40	28.6222	814.76	100.00
11/22/97	23:16:40	29.1222	819.28	100.00
11/22/97	23:46:40	29.6222	823.71	100.00
11/23/97	00:17:20	30.1333	828.22	100.00
11/23/97	00:48:00	30.6444	832.64	100.02
11/23/97	01:18:40	31.1556	837.00	100.00
11/23/97	01:49:20	31.6667	841.28	100.00
11/23/97	02:20:00	32.1778	845.52	100.02
11/23/97	02:50:40	32.6889	849.68	100.00
11/23/97	03:21:20	33.2000	853.79	100.00
11/23/97	03:52:00	33.7111	857.85	100.00
11/23/97	04:22:40	34.2222	861.87	100.00
11/23/97	04:53:20	34.7333	865.81	100.00
11/23/97	05:24:00	35.2444	869.67	100.00
11/23/97	05:54:40	35.7556	873.50	100.00
11/23/97	06:25:20	36.2667	875.86	100.00
11/23/97	06:56:00	36.7778	879.88	100.00
11/23/97	07:26:40	37.2889	883.70	100.00
11/23/97	07:57:20	37.8000	887.20	100.00
11/23/97	08:28:00	38.3111	890.92	100.00
11/23/97	08:58:40	38.8222	894.56	100.02
11/23/97	09:29:20	39.3333	898.15	100.00
11/23/97	10:00:00	39.8444	901.42	100.02
11/23/97	10:30:40	40.3556	905.05	100.00
11/23/97	11:01:20	40.8667	908.60	100.00
11/23/97	11:32:00	41.3778	912.18	100.02
11/23/97	12:02:40	41.8889	915.51	100.00
11/23/97	12:33:20	42.4000	919.13	100.00
11/23/97	13:04:00	42.9111	922.77	100.02
11/23/97	13:34:40	43.4222	926.49	100.02
11/23/97	14:05:20	43.9333	930.36	100.00
11/23/97	14:36:00	44.4444	934.18	100.00
11/23/97	15:06:40	44.9556	937.58	100.00
11/23/97	15:37:20	45.4667	941.34	100.02
11/23/97	16:08:00	45.9778	945.18	100.00
11/23/97	16:38:40	46.4889	949.02	100.00
11/23/97	17:09:20	47.0000	952.86	100.00
11/23/97	17:40:00	47.5111	956.55	100.02
11/23/97	18:10:40	48.0222	961.30	100.00
11/23/97	18:41:20	48.5333	966.46	100.02
11/23/97	19:12:00	49.0444	970.93	100.02
11/23/97	19:42:40	49.5556	974.91	100.02
11/23/97	20:13:20	50.0667	978.61	100.00
11/23/97	20:44:00	50.5778	982.05	100.02
11/23/97	21:14:40	51.0889	985.01	100.02

11/23/97	21:45:20	51.6000	987.75	100.02
11/23/97	22:16:00	52.1111	990.44	100.02
11/23/97	22:46:40	52.6222	993.33	100.00
11/23/97	23:17:20	53.1333	996.14	100.02
11/23/97	23:48:00	53.6444	998.77	100.00
11/24/97	00:18:40	54.1556	1001.35	100.02
11/24/97	00:49:20	54.6667	1003.94	100.02
11/24/97	01:20:00	55.1778	1006.49	100.02
11/24/97	01:50:40	55.6889	1009.28	100.02
11/24/97	02:21:20	56.2000	1012.96	100.00
11/24/97	02:52:00	56.7111	1016.73	100.00
11/24/97	03:22:40	57.2222	1020.32	100.02
11/24/97	03:53:20	57.7333	1023.72	100.00
11/24/97	04:24:00	58.2444	1026.91	100.02
11/24/97	04:54:40	58.7556	1030.00	100.02
11/24/97	05:25:20	59.2667	1031.49	100.02
11/24/97	05:56:00	59.7778	1034.23	100.00
11/24/97	06:26:40	60.2889	1036.70	100.00
11/24/97	06:57:20	60.8000	1039.06	100.02
11/24/97	07:28:00	61.3111	1041.53	100.02
11/24/97	07:58:40	61.8222	1044.28	100.02
11/24/97	08:28:40	62.3222	1047.07	100.02
11/24/97	08:58:40	62.8222	1048.97	100.02
11/24/97	09:28:40	63.3222	1051.27	100.02
11/24/97	09:58:40	63.8222	1053.33	100.02
11/24/97	10:28:40	64.3222	1055.23	100.02
11/24/97	10:58:40	64.8222	1056.92	100.02
11/24/97	11:28:40	65.3222	1058.57	100.02
11/24/97	11:58:40	65.8222	1060.12	100.02
11/24/97	12:28:40	66.3222	1060.36	100.02
11/24/97	12:58:40	66.8222	1062.05	100.02
11/24/97	13:28:40	67.3222	1064.20	100.02
11/24/97	13:58:40	67.8222	1066.81	100.02
11/24/97	14:28:40	68.3222	1069.38	100.02
11/24/97	14:58:40	68.8222	1071.77	100.00
11/24/97	15:28:40	69.3222	1073.67	100.02
11/24/97	15:58:40	69.8222	1074.87	100.02
11/24/97	16:28:40	70.3222	1075.77	100.00
11/24/97	16:58:40	70.8222	1076.49	100.00
11/24/97	17:28:40	71.3222	1077.28	100.00
11/24/97	17:58:40	71.8222	1078.14	100.00
11/24/97	18:28:40	72.3222	1079.10	100.02
11/24/97	18:58:40	72.8222	1080.16	100.00
11/24/97	19:28:40	73.3222	1081.26	100.02
11/24/97	19:58:40	73.8222	1082.35	100.00
11/24/97	20:28:40	74.3222	1083.50	100.02
11/24/97	20:58:40	74.8222	1084.63	100.00
11/24/97	21:28:40	75.3222	1085.77	100.02
11/24/97	21:35:40	75.4389	1086.05	100.02
11/24/97	21:36:00	75.4444	1086.06	100.02

75 hr. Pressure Build-up



75 Hr. Pressure Build-up Well LO16-10

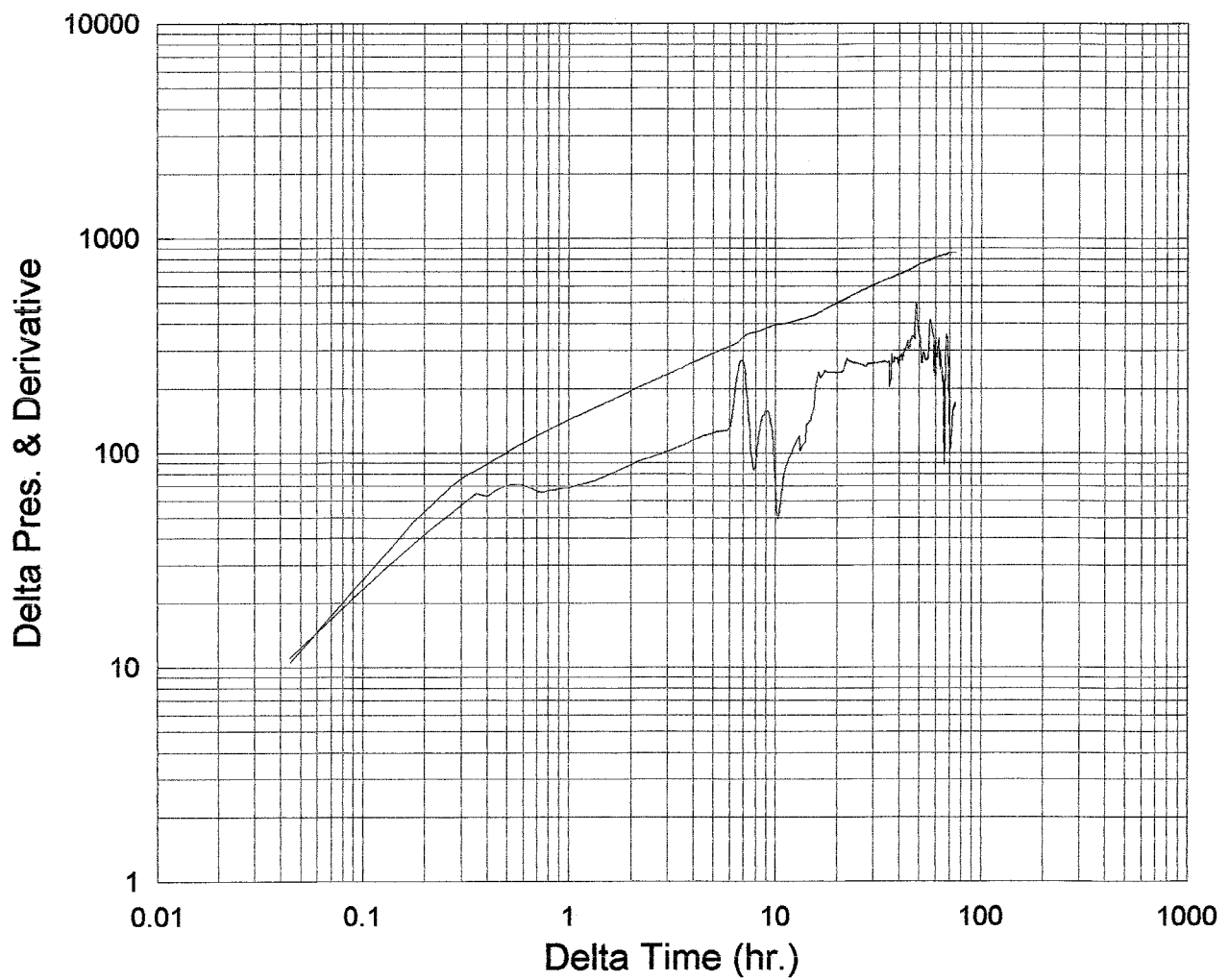


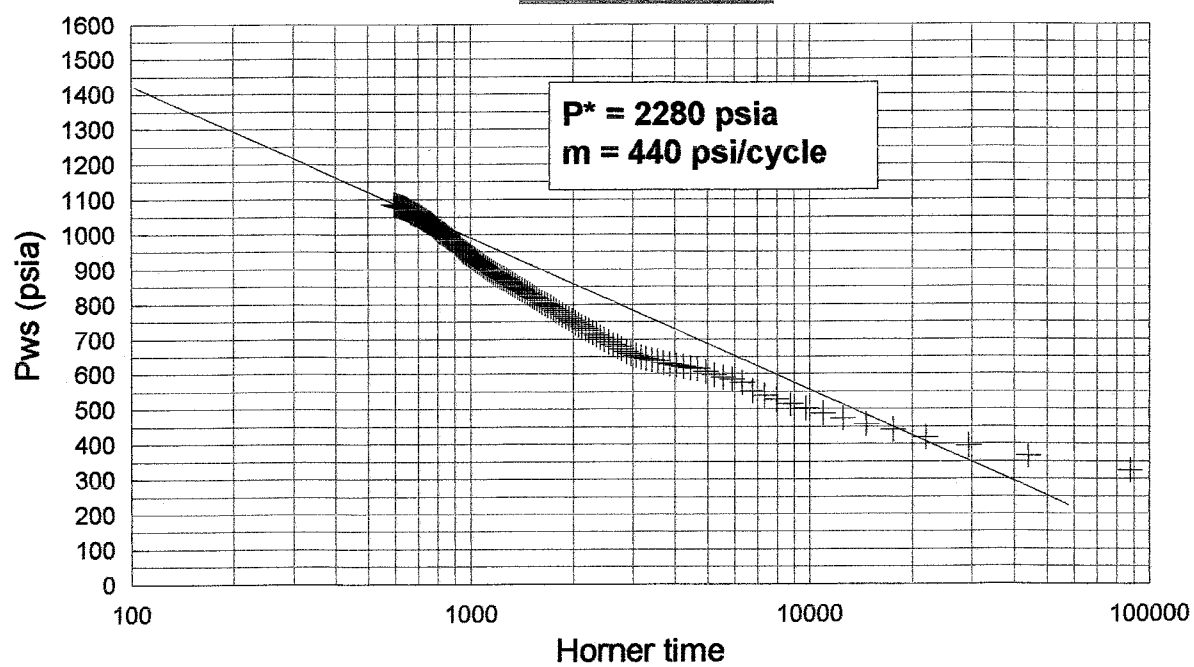
Table for Horner Method

DT	T. Horner	Pws
0.0000	-	221.97
0.5111	87715.97	324.11
1.0222	43858.49	366.11
1.5333	29239.32	395.10
2.0444	21929.74	418.92
2.5556	17543.93	439.65
3.0667	14620.11	457.62
3.5778	12531.68	473.93
4.0889	10965.34	488.97
4.6000	9747.09	502.97
5.1111	8772.48	515.93
5.6222	7975.07	527.98
6.1222	7323.83	538.82
6.6222	6770.94	551.76
7.1222	6295.67	575.06
7.6222	5882.75	584.63
8.1222	5520.67	589.36
8.6222	5200.59	597.50
9.1222	4915.59	605.77
9.6222	4660.22	614.62
10.1222	4430.07	618.26
10.6222	4221.59	620.55
11.1222	4031.85	623.98
11.6222	3858.44	627.99
12.1222	3699.33	632.13
12.6222	3552.83	636.54
13.1222	3417.50	641.12
13.6222	3292.09	644.51
14.1222	3175.57	649.29
14.6222	3067.02	654.12
15.1222	2965.64	658.91
15.6222	2870.76	664.38
16.1222	2781.76	671.80
16.6222	2698.11	678.66
17.1222	2619.35	685.45
17.6222	2545.06	692.42
18.1222	2474.87	699.09
18.6222	2408.45	705.57
19.1222	2345.50	711.90
19.6222	2285.76	718.02
20.1222	2228.98	724.00
20.6222	2174.97	729.83
21.1222	2123.50	735.53
21.6222	2074.42	741.19
22.1222	2027.56	747.19
22.6222	1982.77	753.29
23.1222	1939.91	759.17
23.6222	1898.87	764.86
24.1222	1859.54	770.40
24.6222	1821.79	775.81

25.1222	1785.56	781.07
25.6222	1750.73	786.23
26.1222	1717.24	791.23
26.6222	1685.01	796.14
27.1222	1653.96	800.94
27.6222	1624.04	805.50
28.1222	1595.18	810.14
28.6222	1567.34	814.76
29.1222	1540.44	819.28
29.6222	1514.46	823.71
30.1333	1488.79	828.22
30.6444	1463.97	832.64
31.1556	1439.97	837.00
31.6667	1416.75	841.28
32.1778	1394.26	845.52
32.6889	1372.48	849.68
33.2000	1351.36	853.79
33.7111	1330.89	857.85
34.2222	1311.03	861.87
34.7333	1291.75	865.81
35.2444	1273.03	869.67
35.7556	1254.85	873.50
36.2667	1237.18	875.86
36.7778	1220.00	879.88
37.2889	1203.29	883.70
37.8000	1187.03	887.20
38.3111	1171.21	890.92
38.8222	1155.80	894.56
39.3333	1140.80	898.15
39.8444	1126.18	901.42
40.3556	1111.92	905.05
40.8667	1098.03	908.60
41.3778	1084.48	912.18
41.8889	1071.26	915.51
42.4000	1058.36	919.13
42.9111	1045.76	922.77
43.4222	1033.47	926.49
43.9333	1021.46	930.36
44.4444	1009.72	934.18
44.9556	998.25	937.58
45.4667	987.04	941.34
45.9778	976.08	945.18
46.4889	965.36	949.02
47.0000	954.87	952.86
47.5111	944.61	956.55
48.0222	934.57	961.30
48.5333	924.74	966.46
49.0444	915.11	970.93
49.5556	905.68	974.91
50.0667	896.45	978.61
50.5778	887.40	982.05
51.0889	878.53	985.01
51.6000	869.84	987.75

52.1111	861.32	990.44
52.6222	852.96	993.33
53.1333	844.76	996.14
53.6444	836.73	998.77
54.1556	828.84	1001.35
54.6667	821.10	1003.94
55.1778	813.50	1006.49
55.6889	806.04	1009.28
56.2000	798.72	1012.96
56.7111	791.53	1016.73
57.2222	784.47	1020.32
57.7333	777.54	1023.72
58.2444	770.72	1026.91
58.7556	764.03	1030.00
59.2667	757.45	1031.49
59.7778	750.98	1034.23
60.2889	744.62	1036.70
60.8000	738.37	1039.06
61.3111	732.22	1041.53
61.8222	726.18	1044.28
62.3222	720.36	1047.07
62.8222	714.63	1048.97
63.3222	709.00	1051.27
63.8222	703.45	1053.33
64.3222	697.99	1055.23
64.8222	692.61	1056.92
65.3222	687.32	1058.57
65.8222	682.11	1060.12
66.3222	676.97	1060.36
66.8222	671.91	1062.05
67.3222	666.93	1064.20
67.8222	662.02	1066.81
68.3222	657.18	1069.38
68.8222	652.42	1071.77
69.3222	647.72	1073.67
69.8222	643.09	1074.87
70.3222	638.52	1075.77
70.8222	634.02	1076.49
71.3222	629.58	1077.28
71.8222	625.21	1078.14
72.3222	620.89	1079.10
72.8222	616.64	1080.16
73.3222	612.44	1081.26
73.8222	608.30	1082.35
74.3222	604.21	1083.50
74.8222	600.18	1084.63
75.3222	596.20	1085.77
75.4389	595.28	1086.05
75.4444	595.24	1086.06

Horner Plot



Fluid Level at Static Condition

Measured depth (ft)	Vertical depth (ft)	Pressure (psia)	Gradient (psi/ft)
0	0.00	903.08	-
5800	4037.03	1070.00	0.0413
6000	4163.10	1075.00	0.0397
6050	4195.00	1086.06	0.3467
6200	4289.29	1128.86	0.4539

Levels

	Measured (ft)	Vertical (ft)
Wet Gas Level=	-	-
Oil Level =	6000	4163
Water Level =	6050	4195

	Measured (ft)	Vertical (ft)
MPP =	6016	4173

$$\text{Pressure (MPP)} = 1086.06 - (4195 - 4173) \times 0.3467$$

$$\text{Pressure (MPP)} = 1078 \quad \text{psia}$$

Gradients

Gradient (MPP) =	0.2584	psi/ft
Gradient (Gauge) =	0.2632	psi/ft

Gas Gradient =	-	psi/ft
Wet Gas Gradient=	0.0413	psi/ft
Oil Gradient =	0.3467	psi/ft
Water Gradient =	0.4539	psi/ft

Fluid Level at Static Condition

