

pKRVO132540853

1P1

N/R

**PHILLIPS PETROLEUM COMPANY**4001 PENBROOK
ODESSA, TEXAS 79762EXPLORATION AND PRODUCTION
Southwest Region

November 12, 2001

166
IPI-~~166~~

New Mexico Energy, Minerals, and
Natural Resources Department
Oil Conservation Division
Attn: Mr. David Catanach
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Surface Pressure Increase
Administrative Order No. WFX-775
Phillips Leamex Waterflood Project
Maljamar Grayburg-San Andres Pool
Lea County, New Mexico

OIL CONSERVATION DIV.
01 NOV 19 PM 3:06

Dear Mr. Catanack,

Phillips Petroleum Company respectfully requests administrative approval to amend Order No. WFX-775 for an increase in the maximum allowable surface injection pressure for the following wells:

		<u>From</u>	<u>To</u>
Leamex #58	API #30-025-35570	836 psi	2140 psi
Leamex #59	API #30-025-35571	836 psi	2140 psi
Leamex #60	API #30-025-35572	836 psi	2140 psi
Leamex #61	API #30-025-35573	836 psi	2140 psi
Leamex #62	API #30-025-35574	836 psi	2140 psi
Leamex #63	API #30-025-35575	836 psi	2140 psi

The above pressure increases are necessary to effectively and efficiently maintain the waterflood operation and recover the hydrocarbons from this area of the Maljamar Waterflood Project.

An injection step-rate test was conducted, as requested, on the #61 well on November 6, 2001. This test indicates that the formation fracture pressure is greater than the requested maximum allowable pressures. Copies of the tabulations of surface pressures and test charts for the well are attached. Also enclosed is the step-rate test data for Well No. 7 dated 03/09/01, which was previously submitted. I am including copies of previous requests/approvals for pressure increases in the field that exemplify that this request is within the same range as approved pressures for other wells in the field.

As the tests indicate, the mechanical integrity of these injection wells and the surrounding wells is sufficient to withstand the requested surface pressures.

Your prompt consideration and approval of this request is appreciated. Please direct any question to me at 915/368-1488 or Celeste Dale at 915/368-1667.

Sincerely,

Celeste A. Dale for: L. M. Sanders

L. M. Sanders

Supervisor, Regulation/Proration

Cc:

OCD-Hobbs

SLO

Encl.:

12/17/85 Appvl.

12/31/84 Appvl.

05/03/01 Form C-108

Order No. WFX-775

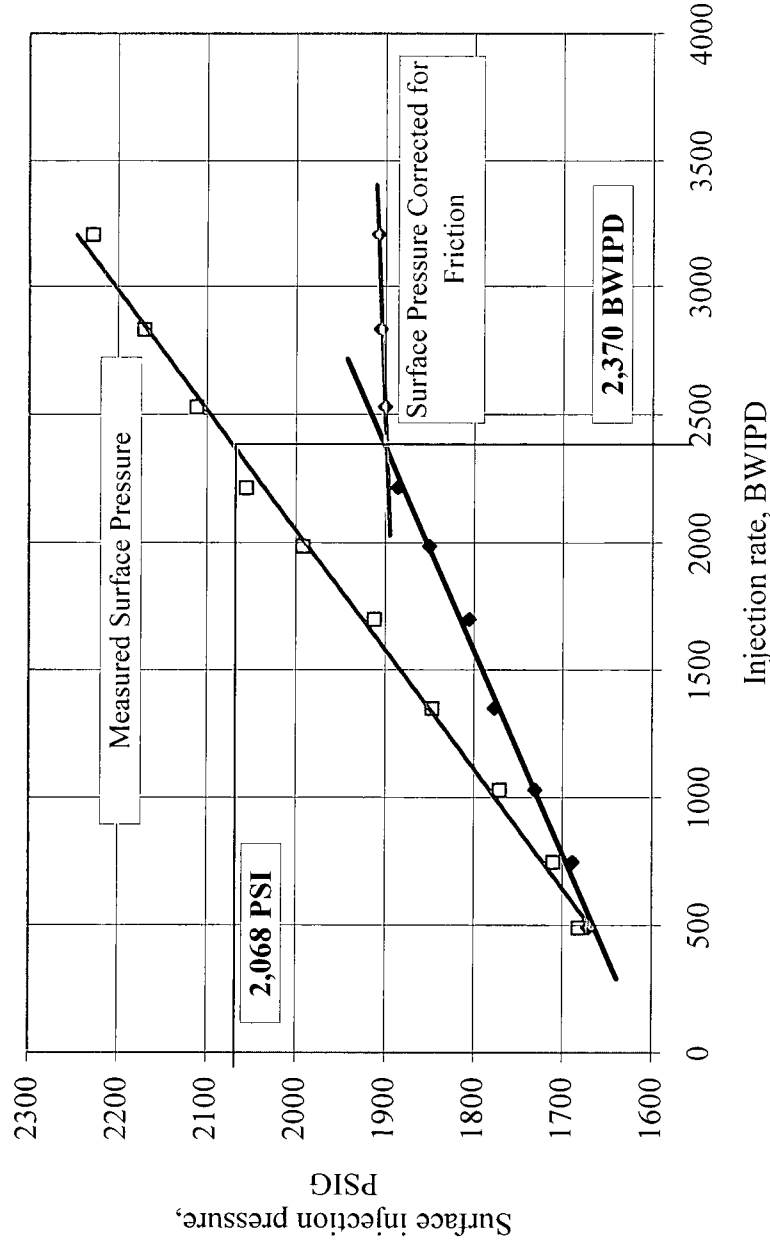
Leamex #61W Zones 3-6, 4,332 - 4,528'

Test was performed on 11/06/01

Injection Rate BWIPD	Surface Pressure PSIG	Surface Pressure PSIG*
0	25	25
491	1683	1672
748	1711	1689
1028	1772	1732
1347	1848	1778
1699	1913	1806
1987	1993	1851
2217	2057	1887
2529	2112	1901
2833	2171	1906
3206	2229	1909

*Pressures corrected for friction.

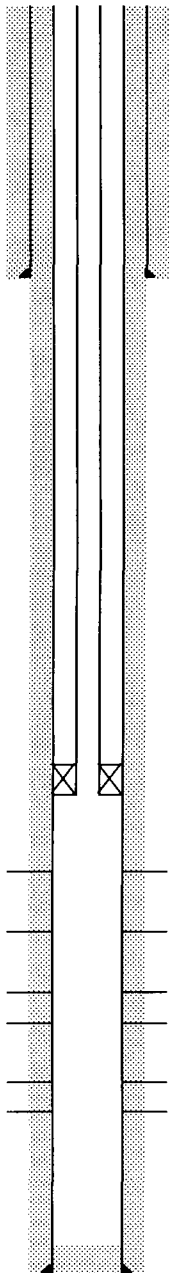
STEP RATE TEST
 Leamex #61W



Injection Rate =	2370	BWIPD
Injection Pressure (including friction) =	2068	PSIG

Phillips Petroleum Company - Southwest Region

October 26, 2001



GL 4112'
DF 4125'
RKB 4126'

8 5/8" Casing (12 1/4" hole)
set @ 1500', 770 sx cmt.
Circ. 113 sx.
34 jts - 24#, J-55, ST&C

Packer at 4293'

Grayburg Perforations
4332' - 4346' w/ 4 SPF (56 holes) Z3
4378' - 4386' w/ 4 SPF (32 holes) Z4
4440' - 4445' w/ 4 SPF (20 holes) Z5
4476' - 4480' w/ 4 SPF (16 holes) Z5
4503' - 4511' w/ 4 SPF (32 holes) Z6
4523' - 4528' w/ 4 SPF (20 holes) Z6

5 1/2" Casing (7 7/8" hole)
set @ 4742', 1000 sx cmt.
Circ. 109 sx.
99 jts - 15.5#, J-55, LT&C

PBTD: 4691'
TD: 4750'

Lease & Well No.: **Leamex #61W**

Well Category: One Status : Water Injection Well
Area: New Mexico
Subarea: Caprock
Field : Maljamar Grayburg/San Andres
API Number: 30-025-35573
Legal Description: 660' FNL, 1940' FWL, Sec 25, T-17-S, R-33-E
Lea County, New Mexico
Spudded: 07/22/2001
Completed:

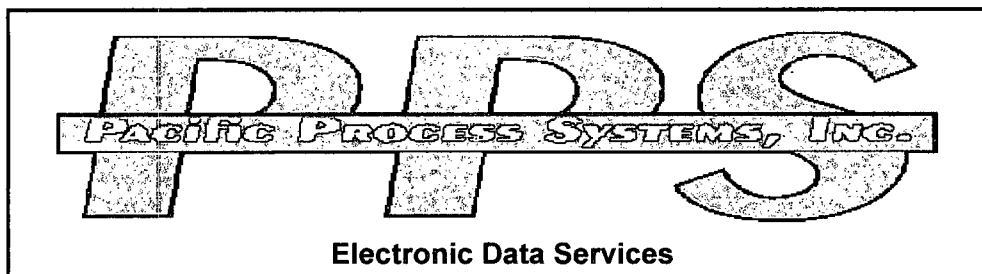
Well History:

10/01 Perf'd Grayburg 4332-46', 4378-86', 4440-45', 4476-80', 4503-11', 4523-28' w/ 2 spf (176 holes). Acdzd 4476-80' w/ 400 gal heated 15% NEFE HCl. Acdzd 4440-45' w/ 500 gal heated 15% NEFE HCl. Acdzd 4332-86' overall w/ 2200 gal heated 15% NEFE HCl. Acdzd 4503-28' overall w/ 1300 gal heated 15% NEFE HCl. Set G-6 Injection packer w/ 1.78" F nipple & on-off tool at 4293' on 2 3/8" tubing IPC w/ TK-70.

Formation Tops:

Queen	3807'	Grayburg Z5	4424'
Grayburg Z1	4196'	Grayburg Z6	4496'
Grayburg Z2	4232'	Grayburg Z7	4564'
Grayburg Z3	4329'	San Andres	4600'
Grayburg Z4	4370'		

File name: o:\everyone\wellfile\caprock\leamex\Leamex #61W.xls



Hobbs, NM

(505) 392-8813

Step Rate Injection Test Report

for

Phillips Petroleum Co.

Leamex #61 W

Sec24-T17S-R33E

11/06/01

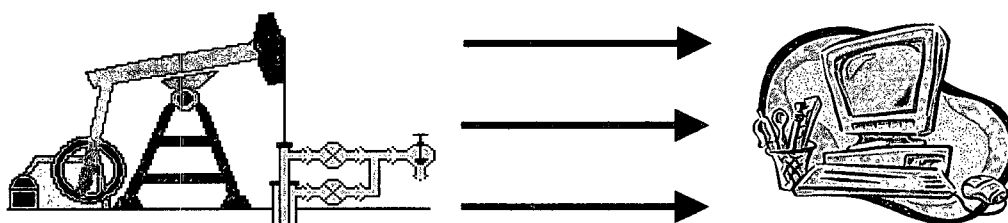


TABLE OF CONTENTS

SECTION I	CONTENTS
SECTION II	SEQUENCE OF EVENTS
SECTION III	DATA REPORT
SECTION IV	CHART



COMPANY : Phillips Petroleum Co.
WELL: Leamex #61 W
COMPANY REP: Jack Lowder
PERFORATIONS: N/A

SERVICE DATES : 11/06/01
TEST TYPE : Step Rate
PPS TECHNICIANS : Ginanni / Brown
BHP GAUGE DEPTH: N/A

DATE	TIME	REMARKS
11/06/01	8:20	Started pumping @ 450 BPD
11/06/01	8:25	
11/06/01	8:30	
11/06/01	8:35	
11/06/01	8:40	
11/06/01	8:45	
11/06/01	8:50	Increased to 750 BPD
11/06/01	8:55	
11/06/01	9:00	
11/06/01	9:05	
11/06/01	9:10	
11/06/01	9:15	
11/06/01	9:20	Increased to 1050 BPD
11/06/01	9:25	
11/06/01	9:30	
11/06/01	9:35	
11/06/01	9:40	
11/06/01	9:45	
11/06/01	9:50	Increased to 1350 BPD
11/06/01	9:55	
11/06/01	10:00	
11/06/01	10:05	
11/06/01	10:10	
11/06/01	10:15	
11/06/01	10:20	Increased to 1650 BPD
11/06/01	10:25	
11/06/01	10:30	
11/06/01	10:35	
11/06/01	10:40	
11/06/01	10:45	



COMPANY: Phillips Petroleum Co.
 WELL: Leamex #61 W
 COMPANY REP: Jack Lowder
 PERFORATIONS: N/A

SERVICE DATES: 11/06/01
 TEST TYPE: Step Rate
 PPS TECHNICIANS: Ginanni / Brown
 BHP GAUGE DEPTH: N/A

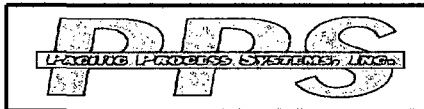
DATE	TIME	REMARKS
11/06/01	10:50	Increased to 1950 BPD
11/06/01	10:55	
11/06/01	11:00	
11/06/01	11:05	
11/06/01	11:10	
11/06/01	11:15	
11/06/01	11:20	Increased to 2250 BPD
11/06/01	11:25	
11/06/01	11:30	
11/06/01	11:35	
11/06/01	11:40	
11/06/01	11:45	
11/06/01	11:50	Increased to 2550 BPD
11/06/01	11:55	
11/06/01	12:00	
11/06/01	12:05	
11/06/01	12:10	
11/06/01	12:15	
		Increased to 2850 BPD
11/06/01	12:25	
11/06/01	12:30	
11/06/01	12:35	
11/06/01	12:40	
11/06/01	12:45	
11/06/01	12:50	Increased to 3150 BPD
11/06/01	12:55	
11/06/01	13:00	
11/06/01	13:05	
11/06/01	13:10	
11/06/01	13:15	



COMPANY : Phillips Petroleum Co.
WELL: Leamex #61 W
COMPANY REP: Jack Lowder
PERFORATIONS: N/A

SERVICE DATES : 11/06/01
TEST TYPE : Step Rate
PPS TECHNICIANS : Ginanni / Brown
BHP GAUGE DEPTH: N/A

DATE	TIME	REMARKS
11/06/01	13:20	Ceased pumping, started falloff
11/06/01	13:21	
11/06/01	13:22	
11/06/01	13:23	
11/06/01	13:24	
11/06/01	13:25	
11/06/01	13:30	
11/06/01	13:35	End of test.



COMPANY : Phillips Petroleum Co.

WELL: Leamex #61 W

COMPANY REP: Jack Lowder

PERFORATIONS: N/A

SERVICE DATES : 11/06/01

TEST TYPE : Step Rate

PPS TECHNICIANS : Ginanni / Brown

BHP GAUGE DEPTH: N/A

STEP NO.	TIME	SURFACE TUBING PRESS. (psig)	CUMULATIVE VOL INJECTED (bbls)	INJECTION RATE (bbls/day)	INJECTION RATE (gpm) (3)/34.2887	MEASURED BHP (psi)
	8:20	1682.8				
	8:25	1674.1	1.7	493.3	14.39	
	8:30	1696.2	3.4	489.6	14.28	
	8:35	1670.2	5.1	487.7	14.22	
	8:40	1684.3	6.8	489.8	14.29	
	8:45	1669.7	8.5	492.2	14.36	
1	8:50	1742.6	11.1	739.0	21.55	
	8:55	1734.3	13.8	769.9	22.46	
	9:00	1703.7	16.4	763.6	22.27	
	9:05	1728.8	19.0	749.3	21.85	
	9:10	1687.4	21.6	742.1	21.64	
	9:15	1750.1	24.2	751.1	21.91	
2	9:20	1727.9	27.7	1018.5	29.71	
	9:25	1717.5	31.4	1064.8	31.06	
	9:30	1746.0	35.1	1048.2	30.57	
	9:35	1743.1	38.6	1017.0	29.66	
	9:40	1811.1	42.3	1060.8	30.94	
	9:45	1802.9	45.8	1026.9	29.95	
3	9:50	1778.5	50.4	1305.2	38.07	
	9:55	1778.6	55.0	1339.0	39.05	
	10:00	1861.1	59.7	1344.7	39.22	
	10:05	1806.6	64.3	1339.4	39.07	
	10:10	1805.1	69.0	1344.7	39.22	
	10:15	1899.3	73.7	1346.6	39.28	
4	10:20	1864.8	79.3	1622.9	47.34	
	10:25	1859.1	85.2	1679.0	48.97	
	10:30	1929.3	91.0	1682.1	49.06	
	10:35	1902.5	96.9	1695.1	49.44	
	10:40	1875.2	102.8	1691.4	49.33	
	10:45	1914.8	108.6	1695.5	49.45	



COMPANY : Phillips Petroleum Co.

WELL: Leamex #61 W

COMPANY REP: Jack Lowder

PERFORATIONS: N/A

SERVICE DATES : 11/06/01

TEST TYPE : Step Rate

PPS TECHNICIANS : Ginanni / Brown

BHP GAUGE DEPTH: N/A

STEP NO.	TIME	SURFACE TUBING PRESS. (psig)	CUMULATIVE VOL INJECTED (bbls)	INJECTION RATE (bbls/day)	INJECTION RATE (gpm) (3)/34.2857	MEASURED BHP (psi)
5	10:50	1950.5	115.4	1957.7	57.10	
	10:55	2004.5	122.3	1977.5	57.68	
	11:00	2002.5	129.2	1986.2	57.93	
	11:05	1954.3	136.1	1981.9	57.81	
	11:10	1966.5	143.0	1986.0	57.93	
	11:15	1999.6	149.9	1985.7	57.92	
6	11:20	2014.7	157.4	2178.5	63.54	
	11:25	2061.2	165.1	2203.7	64.27	
	11:30	2016.8	172.8	2214.0	64.57	
	11:35	2084.1	180.4	2208.2	64.41	
	11:40	2023.1	188.1	2215.8	64.63	
	11:45	2100.1	195.8	2210.4	64.47	
7	11:50	2107.5	204.4	2480.7	72.35	
	11:55	2138.1	213.2	2531.8	73.84	
	12:00	2081.2	222.0	2532.8	73.87	
	12:05	2095.8	230.8	2528.6	73.75	
	12:10	2154.2	239.6	2529.3	73.77	
	12:15	2096.0	248.4	2533.6	73.90	
8	12:20	2181.8	257.5	2637.8	76.94	
	12:25	2179.3	267.0	2731.0	79.65	
	12:30	2183.8	276.8	2827.8	82.48	
	12:35	2164.2	286.7	2829.3	82.52	
	12:40	2159.2	296.5	2832.5	82.62	
	12:45	2170.7	306.3	2832.4	82.61	
9	12:50	2213.3	316.4	2898.7	84.54	
	12:55	2233.9	327.5	3191.6	93.09	
	13:00	2230.0	338.6	3209.3	93.61	
	13:05	2228.0	349.8	3210.7	93.65	
	13:10	2236.4	360.9	3212.7	93.70	
	13:15	2228.0	372.1	3206.3	93.52	



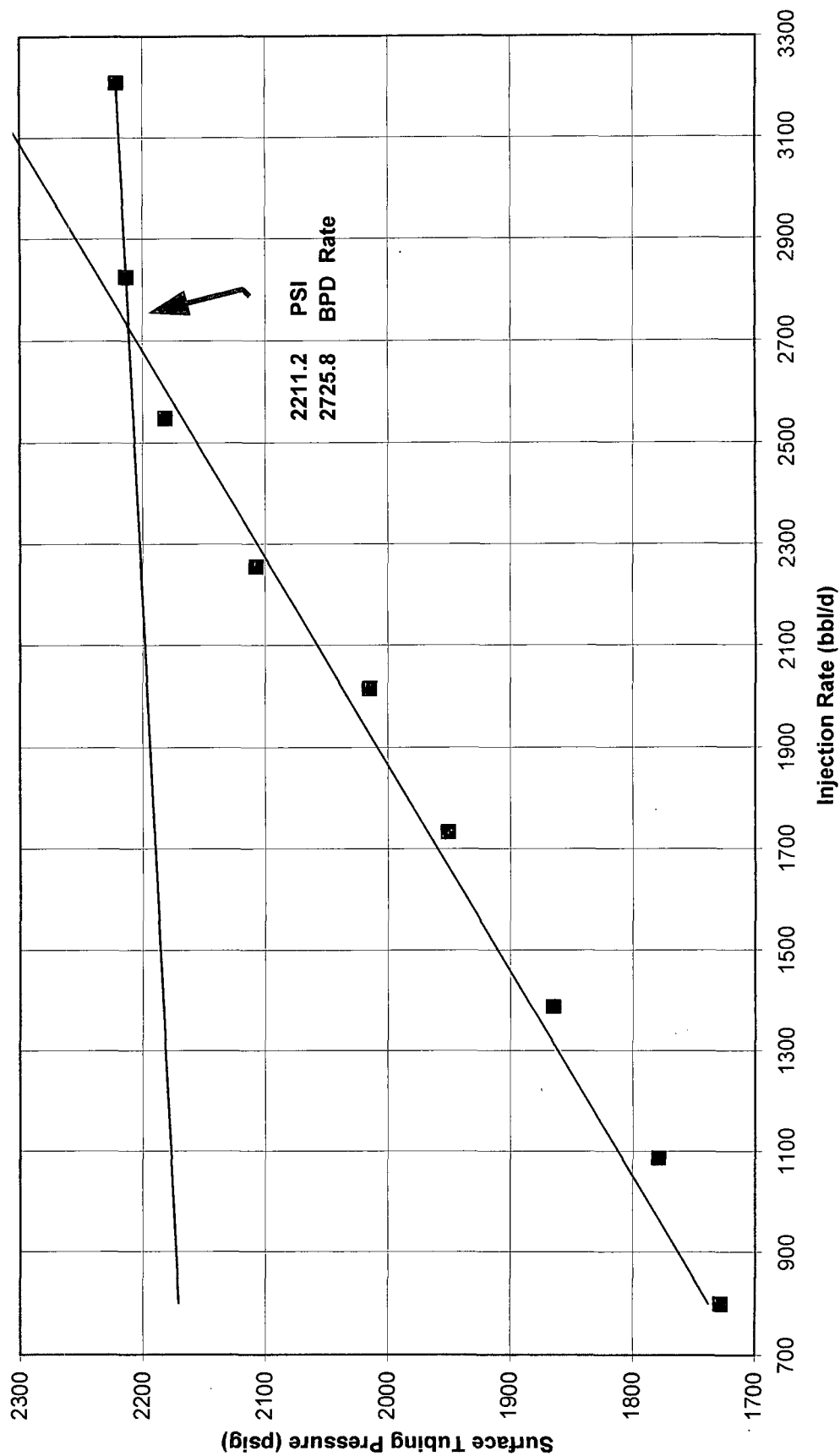
COMPANY : Phillips Petroleum Co.
 WELL: Leamex #61 W
 COMPANY REP: Jack Lowder
 PERFORATIONS: N/A

SERVICE DATES : 11/06/01
 TEST TYPE : Step Rate
 PPS TECHNICIANS : Ginanni / Brown
 BHP GAUGE DEPTH: N/A

STEP NO.	TIME	SURFACE TUBING PRESS. (psig)	CUMULATIVE VOL INJECTED (bbls)	INJECTION RATE (bbls/day)	INJECTION RATE (gpm) (3)/34.2857	MEASURED BHP (psi)
Falloff	13:20	2221.3	383.2	3217.0	93.83	
	13:21	1943.7				
	13:22	1911.0				
	13:23	1902.0				
	13:24	1894.4				
	13:25	1887.3				
	13:30	1857.0				
	13:35	1832.9				

Pacific Process Systems, Inc.

Step Rate Injection Test



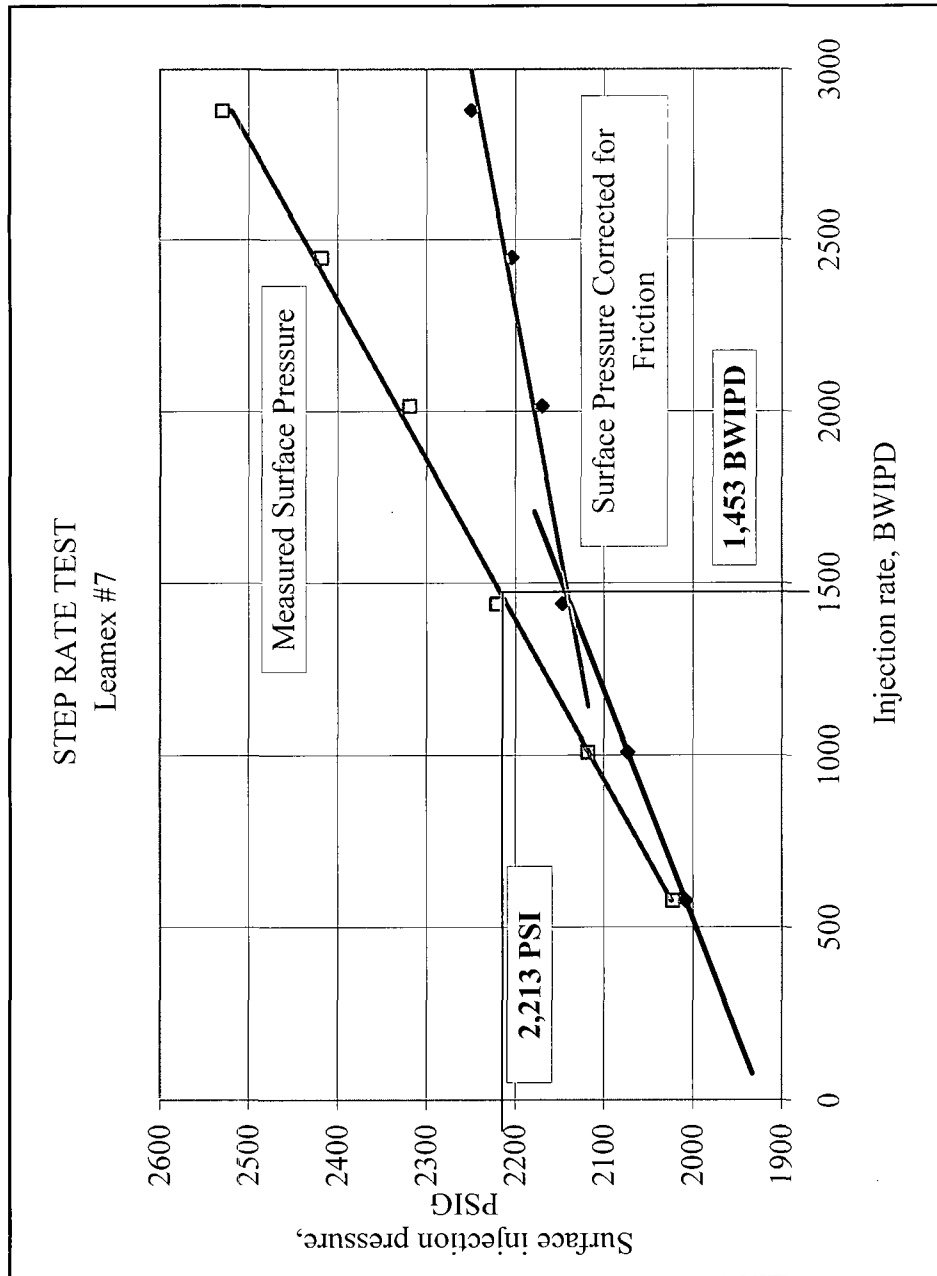
Phillips Petroleum Company
 Leamex Well No. 7
 Section 24, T-17-S, R-33-E

Leamex #7 Zones 3-7, 4,375 - 4,606'

Test was performed on 03/09/01

Injection Rate BWIPD	Surface Pressure PSIG	Surface Pressure PSIG*
0.0		
288	1889	1881
576	2023	2008
1008	2118	2073
1440	2221	2147
2016	2319	2170
2448	2418	2204
2880	2530	2250

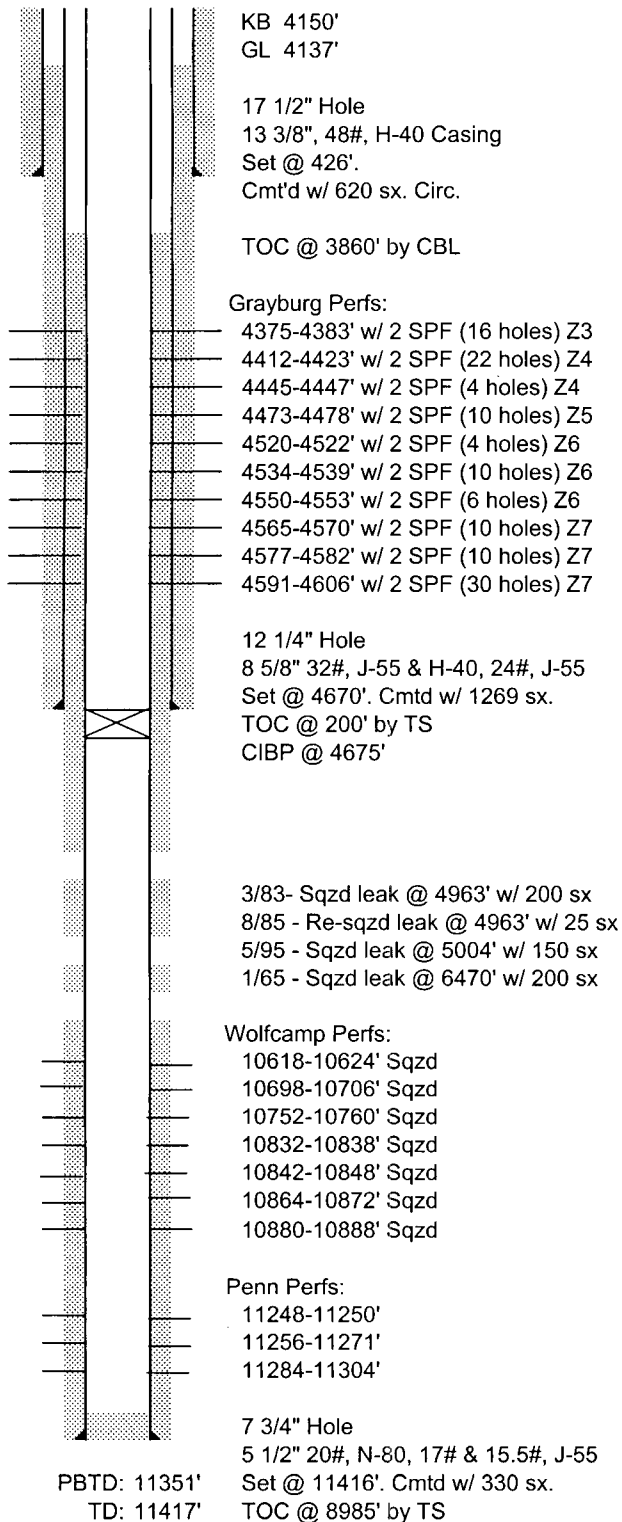
*Pressures corrected for friction.



Injection Rate = 1453 BWIPD
Injection Pressure (including friction) = 2213 PSIG

Phillips Petroleum Company - Southwest Region

October 8, 2001



Lease & Well No.: **Leamex #7**

Well Category: One Status : TA'd
Area: New Mexico
Subarea: Buckeye Field : Maljamar Grayburg/San Andres
API Number 30-025-01516
Legal Description: 1980' FNL, 1976' FWL, Sec 23, T-17-S, R-33-E
Lea County, New Mexico
Spudded: 12/11/1958
Completed: 02/26/1959

Well History:

02/59 Perf'd Penn 11284-11304' w/ 4 spf (80 holes). Acidized 11284-304' w/ 500 gal 15% mud acid. Max P 4000#.

01/65 Sqzd csg leak @ 6470' w/ 200 sx cmt.

03/72 Perf'd Wolfcamp 10618-24', 10698-706', 10752-60', 10832-38', 10842-48', 10864-72', 10880-88' w/ 2 spf (100 holes).

04/72 Acidized Wolfcamp 10618-10888' overall w/ 3000 gal 28% HCl. Max P 1000#, ISDP 900#, AIR 2 bpm.

12/74 Csg collapsed @ 6214-6237'. Fished tbg. Swedged csg.

03/75 Cut over Baker pkr & pushed to bottom. Set pkr @ 11320'.

01/83 Perf'd Penn 11248-50', 11256-71' w/ 2 spf (34 holes). Acid w/ 2500 gal 15% NEFE HCl. Max P 4400#, ISDP 0, AIR 5 bpm.

03/83 Found csg leak @ 4963'. Sqzd w/ 200 sx cmt.

08/85 Csg leak @ 4963'. Spotted 25 sx & sqzd 17 sx in 3 stages. Bled off 50# in 10 minutes, returned to pumping.

12/91 Tagged PBTD @ 10520', milled on junk & fished junk. Cleaned out to 11341'.

01/92 Acidized 11248-11304' w/ 3000 gal 80/20 mix 15% HCl & toluene. Found slight csg leak @ 4963'.

05/92 Sqzd Wolfcamp perfs w/ 300 sx cmt. Cleaned out and placed Penn on pump.

05/95 Csg leak @ 5004-5035' sqzd w/ 150 sx cmt. RO 40 sx. Acidized 11248-11304' w/ 4000 gal pad acid in 2 stages. Max P 2300#, ISDP 1100#, AIR 5 bpm.

01/01 Set CIBP @ 4675'. Ran Cement Bond Log. Top of cmt @ 3860'.

03/01 Perf'd Grayburg 4375-83', 4412-23', 4445-47', 4473-78', 4520-22', 4534-39', 4550-53', 4565-70', 4577-82', 4591-4606' w/ 2 spf (122 holes). Performed step rate tests.

Formation Tops:

Queen	3795'	Grayburg Zone 5	4454'
Grayburg Zone 1	4217'	Grayburg Zone 6	4518'
Grayburg Zone 2	4276'	Grayburg Zone 7	4564'
Grayburg Zone 3	4360'	San Andres	4614'
Grayburg Zone 4	4408'		



TONEY ANAYA
GOVERNOR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION Received

50 YEARS



1935 - 1985

JAN 02 1986

P.B.R. Regulatory Section

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

December 17, 1985

Phillips Petroleum Company
4001 Penbrook
Odessa, Texas 79762

Attention: L. M. Sanders
Supervisor, Regulation & Proration

RE: Injection Pressure Increase
N. E. Maljamar Waterflood
Project Lea County, NM

Dear Sir:

Reference is made to your request of November 12, 1985 to increase the surface injection pressure on three wells located in the Northeast Maljamar Waterflood Project. This request was based on individual step rate tests conducted on each of these wells on August 1 and 2, 1985. From the data it appears that the formation fracture pressure is significantly higher than the currently approved pressure.

You are therefore authorized to increase your surface injection pressure on the following wells:

<u>Well & Location</u>	<u>Maximum Surface Injection Pressure</u>
Leamex Well No. 19 Unit D, Section 24, T17S, R33E Lea County, New Mexico	2485 PSIG
Phillips State E No. 30 Unit L, Section 13, T17S, R33E Lea County, New Mexico	2508 PSIG
Phillips State E No. 33 Unit N, Section 14, T17S, R33E Lea County, New Mexico	2443 PSIG

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the Grayburg San Andres zone or it is endangering any fresh water aquifers.

Sincerely,

A handwritten signature in dark ink, appearing to read "R. L. Stamets", with a long horizontal flourish extending to the right.

R. L. Stamets
Division Director

cc: OCD - Hobbs
D. Catanach

RLS/DC/bok



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

December 31, 1984

Phillips Oil Company
4001 Penbrook
Odessa, Texas 79762

Attention: T. Harold McLemore, Regulation
and Proration Supervisor

RE: WFX-502
Surface Injection Pressure Increase
Phillips E. State No. 19

Dear Mr. McLemore:

Your request for administrative approval to increase the maximum surface injection pressure for the subject well has been reviewed by this office. The step-rate test data you submitted show a definite surface formation fracture pressure of 2800 psig. Using a 50 psig safety margin, a maximum surface injection pressure of 2750 psig is granted. Also, a pressure test of the casing should be done the next time this well is down for remedial work. Please consult our district office for pressure test guidelines. If you have any questions call me at (505) 827-5807.

Sincerely,

Gilbert P. Quintana

Gilbert P. Quintana
UIC Director

cc: R. L. Stamets, OCD Director
Hobbs District, Jerry Section, Supervisor
WFX-502 Well File

Received

JAN 07 1985

P.B.R. Regulatory Section

Copy to ed c. p. l. e.
cc: Mark Schneidke,
AA Hekstun
S. H. Oden
1-7-85