

PDEV0020600628



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

June 26, 1992

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

ANITA LOCKWOOD
CABINET SECRETARY

Meridian Oil, Inc.
P.O. Box 51810
Midland, Texas 79710-1810

Attention: Joe Small

RE: *Injection Pressure Increase*
Shugart "A" Well No. 4
Shugart Yates - SR-Q-G Waterflood Project
Eddy County, New Mexico

Dear Sir:

Reference is made to your request dated June 4, 1992, to increase the surface injection pressure on the Shugart "A" Well No. 4. This request is based on a step rate test conducted on the well on June 2, 1992. The results of the test have been reviewed by my staff and we feel an increase in injection pressure on the well is justified at this time.

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

WELL AND LOCATION

MAXIMUM INJECTION
SURFACE PRESSURE

Shugart "A" Well No. 4
Unit K, Section 29, T-18 South,
R-31 East, NMPM

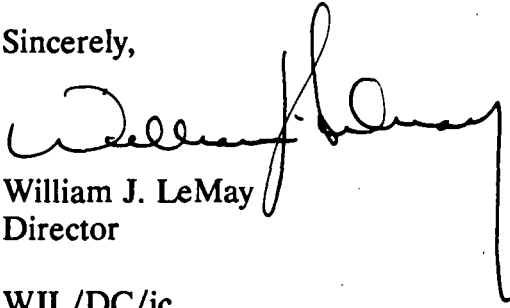
880 PSIG

Eddy County, New Mexico

Meridian Oil, Inc.
June 26, 1992
Page 2

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

Sincerely,

A handwritten signature in black ink, appearing to read 'William J. LeMay', with a long, sweeping horizontal stroke extending to the right.

William J. LeMay
Director

WJL/DC/jc

cc: Oil Conservation Division - Artesia
File: WFX - 628
Rick Brown
David Catanach

NO WAITING PERIOD

COMPANY: Meridian Oil Inc.
ADDRESS: P.O. Box 51810
CITY, STATE, ZIP: Midland, Texas 79710-1810
ATTENTION: Joe Small

Re: Injection Pressure Increase
Shogart "A" Well No. 4
Shogart Gates-S2-Q-G Waterflood Project
Eddy County, New Mexico

Dear Sir:

Reference is made to your request dated June 4, 1992, to increase the surface injection pressure on Shogart "A" Well No. 4. This request is based on a step rate test conducted on the well on June 2, 1992. The results of the test have been reviewed by my staff and we feel an increase in injection pressure on the well is justified at this time.

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

Well & Location

Maximum Injection
Surface Pressure

Shogart "A" Well No. 4
Unit B, Section 29, T-18S, R-31E, N-10W
Eddy County, New Mexico

880 PSI

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

R. Brown

XC: T. GALLEGO
D. CATANACH
FILE- WFX-608
OCD- ATENA

6/25/92

MERIDIAN OIL

OIL CONSERVATION DIVISION
RECEIVED

'92 JUN 11 AM 9 12

June 4, 1992

RECEIVED

JUN - 8 1992

O. C. D.
ARTESIA OFFICE

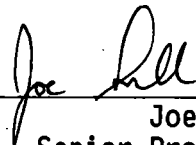
Mr. Mike Williams
Oil Conservation Division
811 South First Street
Artesia, NM 88210

Dear Mike:

Please review the results of the attached step-rate test conducted on the Shugart A No. 4 (1650' FSL & 2310' FWL, Section 29, T18S, R31E, Eddy County) on June 2 and witnessed by Johnny Robinson.

Based on the attached plots and calculations, we are requesting a maximum surface injection pressure of 880 psi. This is 50 psi below the formation parting pressure of 930 psi at an injection rate of 500 BWPD.

If you have any questions, please call me at 915/688-6830.



Joe Small
Senior Production Engineer

CatanaK,
Steprate was
witnessed with no
problems encountered.
Procedures used
were acceptable.

JR.

AC. Bob Bradshaw
Dave Myers
Jerry Sparks

JMS/cjh
2115.060392

P.O. Box 51810, Midland, Texas 79710-1810, Telephone 915-688-6800
3300 N. "A" St., Bldg. 6, 79705-5406

RECEIVED

JUN - 8 1992

O. C. D.
LEA COUNTY OFFICE

- △ RECORDED WELLHEAD PRESSURE
- CORRECTED WELLHEAD PRESSURE BASED ON 2 3/8" TUBING
- BOTTOM HOLE PRESSURE @ 2546 FEET

1200

1000

800

600

400

200

000

WELLHEAD PRESSURE
PSIG

MERIDIAN OIL, INC.
STEP RATE INJECTION TEST
SHUGART "A" NO. 4
JUNE 2, 1992
LEA COUNTY, NEW MEXICO
W.O. NO. 92140766

2400

2200

2000

1800

1600

1400

1200

BOTTOM HOLE PRESSURE
PSIG

B W P D

400

700

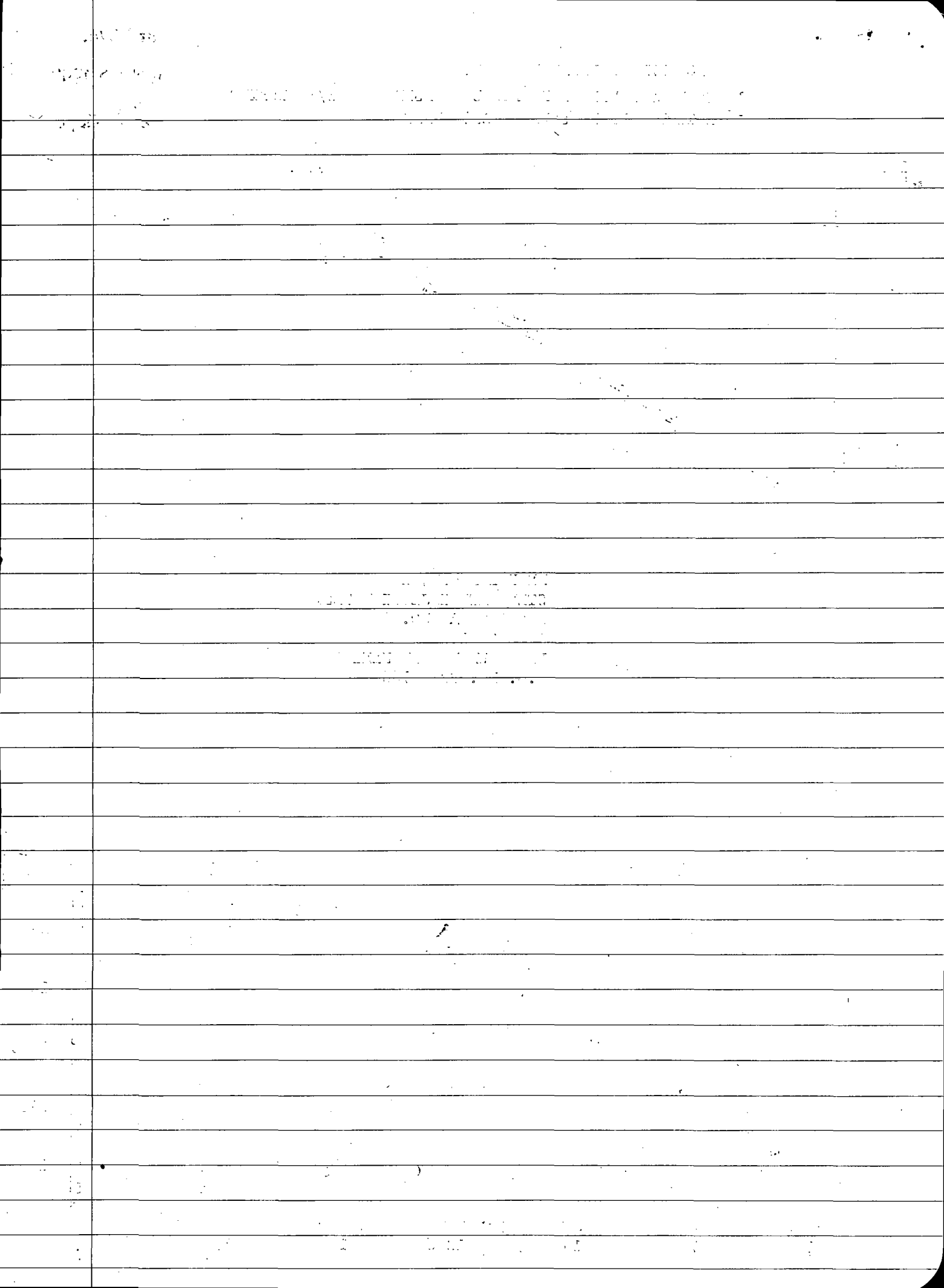
1000

1300

1600

1900

2200



JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: Meridian Oil, Inc.

DATE: June 2, 1982

WELL NAME: Shugart "A" No. 4

WO#: 82140788

Lea County, New Mexico

MID-PERF8. = 2546

PACKER DEPTH =

BHP GAUGE DEPTH =

STEP NO. & REMAINS	TIME	(1) DISPACH TUBING PRESS (psig)	(2) CUMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (ps)	(5) CORRECTED TUBING PRESS (ps) (1)-(4)	(6) INJECTION RATE (gpm) (bbls/day) (5)/1.337	(7) MEASURED BHP (ps)
1	9:40	34.0	5.3			34.0		1171
	9:45	36.6	6.7	403.2	4.092	32.5	11.76	1174
	9:50	69.4	8.3	460.8	5.238	64.2	13.44	1203
	9:55	103.6	10.0	489.6	5.860	97.7	14.28	1230
	10:00	132.7	11.7	489.6	5.860	126.8	14.28	1265
2	10:05	199.6	14.2	460.8				
	10:10	255.2	16.7	720.0	11.961	187.6	21.00	1330
	10:15	291.9	19.2	720.0	11.961	243.2	21.00	1381
	10:20	337.4	21.7	720.0	11.961	279.9	21.00	1420
				720.0		325.4	21.00	1458
3	10:25	399.3	24.8	892.8	17.807	381.5	26.04	1520
	10:30	444.9	28.0	921.6	18.885	426.0	26.88	1568
	10:35	485.3	31.2	921.6	18.885	466.4	26.88	1606
	10:40	518.2	34.4	921.6	18.885	499.3	26.88	1638
				914.4				
4	10:45	562.5	38.2	1094.4	25.952	536.5	31.92	1692
	10:50	642.1	42.1	1123.2	27.230	614.9	32.76	1732
	10:55	688.7	46.0	1123.2	27.230	641.5	32.76	1766
	11:00	697.8	49.9	1123.2	27.230	670.6	32.76	1797
				1116.0				
5	11:05	745.0	54.5	1324.8	36.956	708.0	38.64	1846
	11:10	782.4	59.2	1353.6	38.456	743.9	39.48	1882
	11:15	811.5	64.0	1382.4	39.983	771.5	40.32	1913
	11:20	839.3	68.8	1382.4	39.983	799.3	40.32	1941
				1360.8				
	11:25	908.8	74.2	1555.2	49.717	859.1	45.36	1987
	11:30	941.7	79.9	1641.6	54.947	886.8	47.88	2021
	11:35	944.2	85.7	1670.4	56.744	887.5	48.72	2031

STEP NO. & REMARKS	TIME	SURFACE TUBING PRESS. (psig)	CUMULATIVE VOL. INJECTED (bbls)	INJECTION RATE (bbls/day)	FRICTION HEAD LOSS (psi)	CORRECTED TUBING PRESS. (psig) (1) - (6)	INJECTION RATE (gpm) (2)/(34.2337)	MEASURED DIP (p.s.f.)
6	11:40	963.2	91.3	1612.8	53.177	910.0	47.04	2050
				1620.0				
	11:45	994.8	96.0	1929.6	74.100	920.7	56.28	2065
	11:50	1007.4	104.3	1814.4	66.124	941.3	52.92	2079
7	11:55	1020.1	110.7	1843.2	68.079	952.0	53.76	2093
	12:00	1037.0	117.2	1872.0	70.060	966.9	54.60	2107
				1864.8				
	12:05	1068.2	124.4	2073.6	84.653	983.5	60.48	2128
8	12:10	1094.8	131.4	2016.0	80.355	1014.4	58.80	2145
	12:15	1093.6	136.5	2044.8	82.491	1011.1	59.64	2161
	12:20	1112.6	145.5	2016.0	80.355	1032.2	58.80	2174
				2037.6				
9	12:25	1173.4	153.2	2217.6	95.849	1077.6	64.68	2199
	12:30	1177.2	161.2	2304.0	102.872	1074.3	67.20	2213
	12:35	1188.6	169.2	2304.0	102.872	1085.7	67.20	2227
	12:40	1203.2	177.1	2275.2	100.505	1102.7	66.36	2240
Fall-Off				2275.2				
	12:45	1051.0				1051.0		2195
	12:50	1022.8				1022.8		2168
	12:55	998.8				998.8		2143
	1:00	976.2				976.2		2120
	1:05	953.5				953.5		2098
	1:10	932.1				932.1		2077

MERIDIAN OIL

JMS 6/1/92

SHUGART A No. 4
SHUGART FIELD
EDDY COUNTY, NEW MEXICO

CURRENT CONDITION

