

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

April 16, 1992



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

Yates Drilling Company
105 South Fourth Street
Artesia, New Mexico 88210

*RE: Injection Pressure Increase
Cactus Queen Unit
Waterflood Project
Chaves County, New Mexico*

Dear Sir:

Reference is made to your request dated April 1, 1992, to increase the surface injection pressure on three wells within the Cactus Queen Unit Waterflood Project. This request is based on step rate tests conducted on these wells March 18-20, 1992. The results of the tests have been reviewed by my staff and we feel an increase in injection pressure on these wells is justified at this time.

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

<u>WELL AND LOCATION</u>	<u>MAXIMUM INJECTION SURFACE PRESSURE</u>
Cactus Queen Unit No. 1 Unit K, Section 27, Township 12 South, 31 East, NMPM;	1610 PSIG
Cactus Queen Unit No. 4 Unit O, Section 27, Township 12 South, Range 31 East, NMPM;	1660 PSIG
Cactus Queen Unit No. 5 Unit C, Section 34, Township 12 South, Range 31 East, NMPM;	1700 PSIG
All in Chaves County, New Mexico	

Yates Drilling Company
April 16, 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 horizontal stroke extending to the right and a vertical line dropping down from the end.

William J. LeMay
Director

WJL/DC/jc

cc: Oil Conservation Division - Hobbs
File: Case No. 9810
D. Catanach
R. Brown

NO WAITING PERIOD

COMPANY: Gates Drilling Company
ADDRESS: 105 South Fourth Street
CITY, STATE, ZIP: Artesia, New Mexico 88210
ATTENTION: _____

Re: Injection Pressure Increase

Cactus Queen Unit
Waterflood Project
Chaves County, New Mexico

Dear Sir:

Reference is made to your request dated April 1, 1983, to increase the surface injection pressure on three wells within the Cactus Queen Unit Waterflood Project. This request is based on step rate tests conducted on these wells March 18-20, 1982. The results of the tests have been reviewed by my staff and we feel an increase in injection pressure on these wells is justified at this time.

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

<u>Well & Location</u>	<u>Maximum Injection Surface Pressure</u>
<u>Cactus Queen Unit No. 1</u> <u>Unit B, Section 27, T-12 South, R-31 East, N.M.P.M.</u>	<u>1610 PSI</u>
<u>Cactus Queen Unit No. 4</u> <u>Unit D, Section 27, T-12 South, R-31 East, N.M.P.M.</u>	<u>1660 PSI</u>
<u>Cactus Queen Unit No. 5</u> <u>Unit C, Section 34, T-12 South, R-31 East, N.M.P.M.</u>	<u>1700 PSI</u>
<u>All in Chaves County, New Mexico</u>	

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.

xc: T. GALLEGOS D. CATANACH FILE- Case No. 9810 OCD- Hobbs
R. Brown



CONSERVATION DIVISION

RECEIVED

32 APR 10 AM 8 55

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

HOBBS DISTRICT OFFICE

April 6, 1992

BRUCE KING
GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88240
(505) 393-6161

OIL CONSERVATION DIVISION
P.O. BOX 2088
SANTA FE, NEW MEXICO 87504-2088

RE: APPLICATION FOR PRESSURE LIMIT INCREASE FOR DISPOSAL & INJECTION WELLS

Gentlemen:

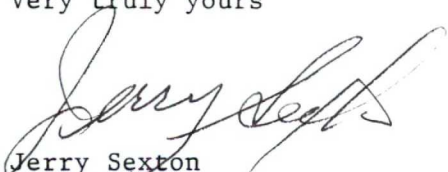
I have examined the step rate test for the:

Yates Drilling Company	Cactus Queen Unit #5-C	34-12-31
Operator	Lease & Well No.	Unit
Request on attached C-103		S-T-R

and my recommendations are as follows:

OK

Very truly yours


Jerry Sexton
Supervisor, District I

/bp

Submit 3 Copies
to Appropriate
District Office

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-103
Revised 1-1-89

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

WELL API NO.

5. Indicate Type of Lease

STATE ☐

FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name

Cactus Queen Unit

8. Well No.

5

9. Pool name or Wildcat

SE Chaves Qn Gas Area Assoc.

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT"
(FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well:

OIL
WELL ☐

GAS
WELL ☐

OTHER

Water Injection Well

2. Name of Operator

Yates Drilling Company

3. Address of Operator

105 South 4th Street, Artesia, NM 88210

4. Well Location

Unit Letter C : 330 Feet From The North Line and 2310 Feet From The West Line

Section 34

Township 12S

Range 31E

NMPM

Chaves

County

10. Elevation (Show whether DF, RKB, RT, GR, etc.)

4438' GL

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐

PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐

CHANGE PLANS ☐

PULL OR ALTER CASING ☐

OTHER: Request Increase in Allowable Injection Pressure ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐

ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐

PLUG AND ABANDONMENT ☐

CASING TEST AND CEMENT JOB ☐

OTHER: ☐

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

We recently authorized a step-rate test to be conducted on the subject well by John West Engineering Company of Hobbs, NM. This test was witnessed by Charlie Perrin of NMOCDC. The results of this test are attached. We are requesting that our maximum allowed injection pressure be raised to a level justified by the test.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE

John Rhoad

TITLE

Petroleum Engineer

DATE

4-1-92

TYPE OR PRINT NAME

TELEPHONE NO.

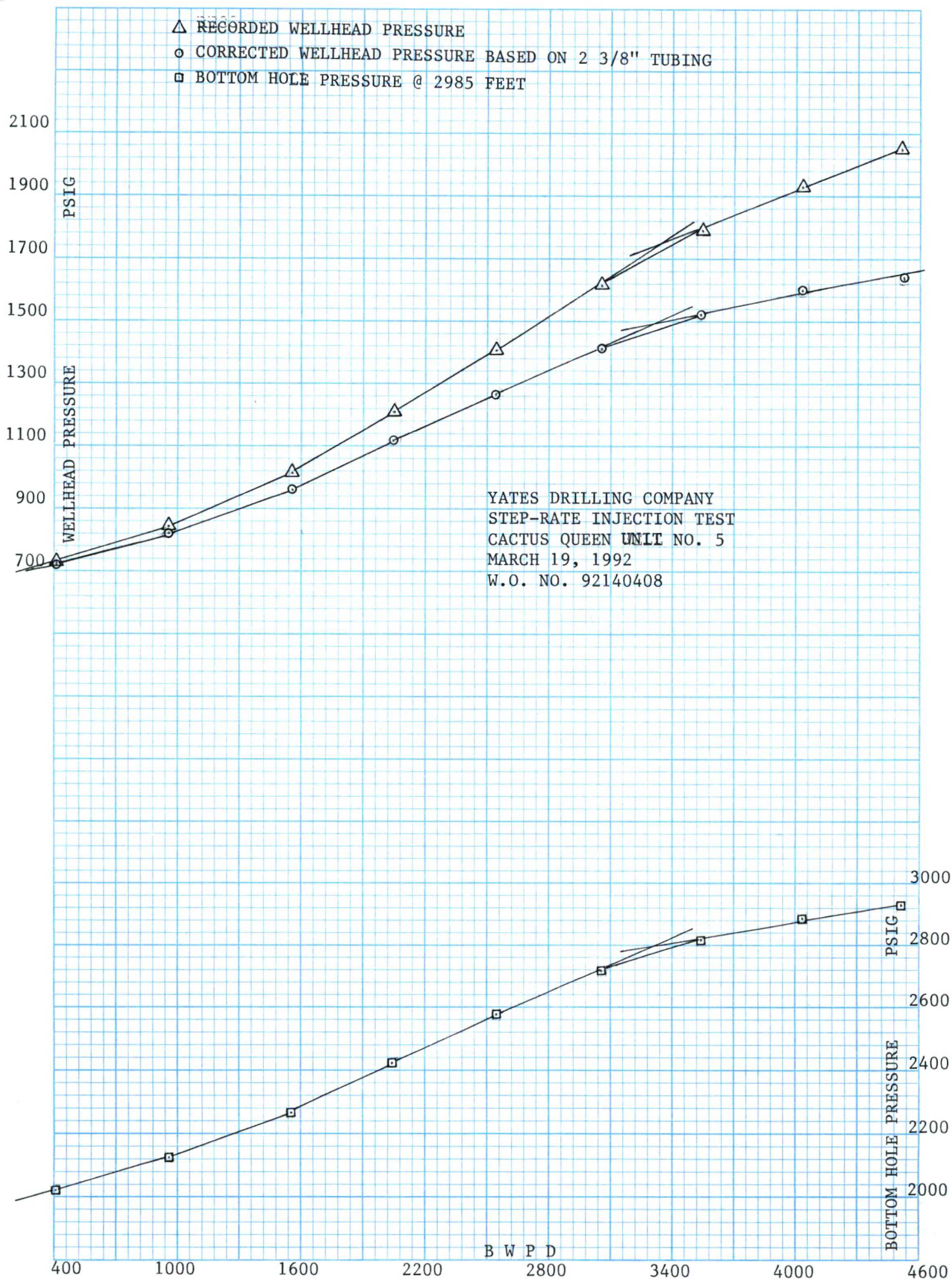
(This space for State Use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:



RECEIVED

APR 02 1992

000 00335 077108

JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: Yates Drilling Company

DATE: March 19, 1992

WELL NAME: Cactus Queen Unit No. 5
Chaves County, New Mexico

WO#: 92140408

PERFS. = 2988 - 2992

PACKER DEPTH =

BHP GAUGE DEPTH = 2985

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbis)	(3) INJECTION RATE (bbis/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
1	11:35	684.7				684.7		1979
	11:40	708.7	1.3	374.4	4.183	704.5	10.92	1998
	11:45	715.1	2.6	374.4	4.183	710.9	10.92	2011
	11:50	737.9	4.2	460.8	6.142	731.8	13.44	2028
				403.2				
2	11:55	801.0	7.6	979.2	24.769	776.2	28.56	2071
	12:00	825.0	10.9	950.4	23.438	801.6	27.72	2100
	12:05	845.2	14.2	950.4	23.438	821.8	27.72	2126
				960.0				
3	12:10	948.8	19.6	1555.2	58.290	890.5	45.36	2189
	12:15	980.3	25.0	1555.2	58.290	922.0	45.36	2229
	12:20	1018.2	30.4	1555.2	58.290	959.9	45.36	2267
				1555.2				
4	12:25	1124.5	37.5	2044.8	96.715	1027.8	59.64	2330
	12:30	1170.0	44.6	2044.8	96.715	1073.3	59.64	2377
	12:35	1213.0	51.7	2044.8	96.715	1116.3	59.64	2421
				2044.8				
5	12:40	1323.8	60.6	2563.2	146.905	1176.9	74.76	2486
	12:45	1373.8	69.4	2534.4	143.866	1229.9	73.92	2534
	12:50	1411.8	78.3	2563.2	146.905	1264.9	74.76	2576
				2553.6				
	12:55	1537.1	88.9	3052.8	202.993	1334.1	89.04	2636
6	1:00	1581.4	99.5	3052.8	202.993	1378.4	89.04	2682
	1:05	1618.1	110.1	3052.8	202.993	1415.1	89.04	2719
				3052.8				
	1:10	1740.9	122.4	3542.4	267.294	1473.6	103.32	2767
7	1:15	1766.2	134.7	3542.4	267.294	1498.9	103.32	2799
	1:20	1786.5	147.0	3542.4	267.294	1519.2	103.32	2820
				3542.4				

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
8	1:25	1909.2	161.0	4032.0	339.627	1569.6	117.60	2850
	1:30	1920.6	175.0	4032.0	339.627	1581.0	117.60	2870
	1:35	1935.8	189.0	4032.0	339.627	1596.2	117.60	2886
				4032.0				
	1:40	2043.3	204.7	4521.6	419.836	1623.5	131.88	2907
9	1:45	2049.6	220.4	4521.6	419.836	1629.8	131.88	2916
	1:50	2053.4	236.1	4521.6	419.836	1633.6	131.88	2925
				4521.6				
Fall-Off	1:51	1597.7				1597.7		2900
	1:52	1593.9				1593.9		2892
	1:53	1587.6				1587.6		2886
	1:54	1581.3				1581.3		2879
	1:55	1576.2				1576.2		2874
	2:00	1553.5				1553.5		2850
	2:05	1534.4				1534.4		2830

GOOD MORNING OFFICE

APR 02 1992

RECEIVED



OIL CONSERVATION DIVISION

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

'92 APR 10 AM 8 55 OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

April 6, 1992

BRUCE KING
GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88240
(505) 393-6161

OIL CONSERVATION DIVISION
P.O. BOX 2088
SANTA FE, NEW MEXICO 87504-2088

RE: APPLICATION FOR PRESSURE LIMIT INCREASE FOR DISPOSAL & INJECTION WELLS

Gentlemen:

I have examined the step rate test for the:

Yates Drilling Company	Cactus Queen Unit	#4-0	27-12-31
Operator	Lease & Well No.	Unit	S-T-R
(Request on attached C-103)			

and my recommendations are as follows:

OK

Very truly yours

Jerry Sexton
Supervisor, District I

/bp

Submit 3 Copies
to Appropriate
District Office

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-103
Revised 1-1-89

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

WELL API NO.

30-005-20993

5. Indicate Type of Lease

STATE ☐

FEE ☐

6. State Oil & Gas Lease No.

7. Lease Name or Unit Agreement Name

Cactus Queen Unit

8. Well No.

4

9. Pool name or Wildcat

SE Chaves On Gas Area Assoc.

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT"
(FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well:

OIL
WELL ☐

GAS
WELL ☐

OTHER

Water Injection Well

2. Name of Operator

Yates Drilling Company

3. Address of Operator

105 South 4th Street, Artesia, NM 88210

4. Well Location

Unit Letter 0 : 660 Feet From The South Line and 1980 Feet From The East Line

Section 27 Township 12S Range 31E NMPM Chaves County

10. Elevation (Show whether DF, RKB, RT, GR, etc.)

4432' GL

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐

PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐

CHANGE PLANS ☐

PULL OR ALTER CASING ☐

OTHER: Request increase in Allowable Injection Pressure ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐

ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐

PLUG AND ABANDONMENT ☐

CASING TEST AND CEMENT JOB ☐

OTHER: ☐

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

We recently authorized a step-rate test to be conducted on the subject well by John West Engineering Company of Hobbs, NM. This test was witnessed by Charlie Perrin of NMOCD. The results of this test are attached. We are requesting that our maximum allowed injection pressure be raised to a level justified by the test.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE John West TITLE Petroleum Engineer DATE 4-1-92

TYPE OR PRINT NAME

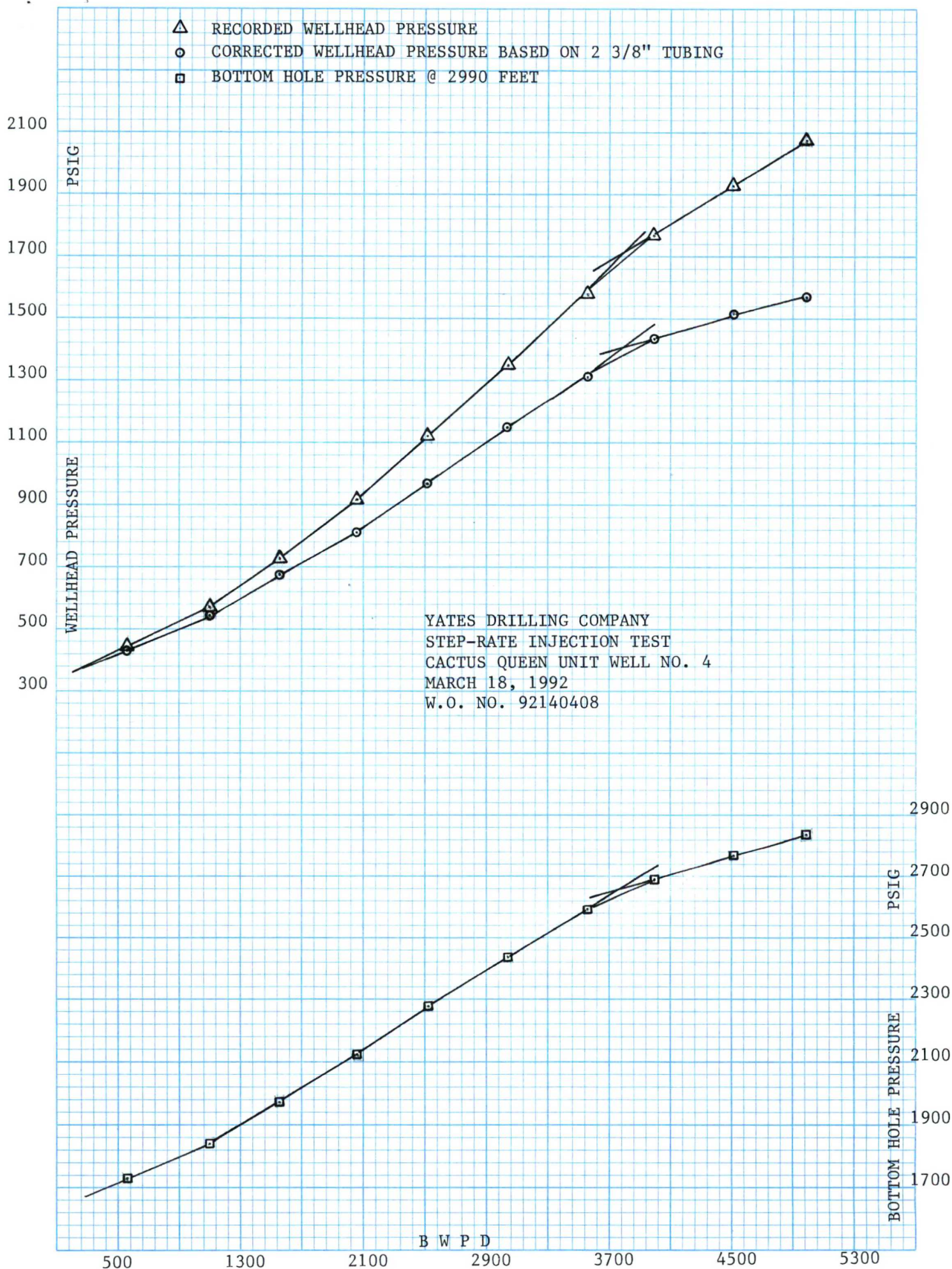
TELEPHONE NO.

(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

RECEIVED
APR 02 1992
CDD RECORDS OFFICE



RECEIVED

APR 02 1992

CCD HOBBS OFFICE

JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: Greenhill Petroleum Corporation

DATE: March 18, 1992

WELL NAME: Cactus Queen Unit Well No. 4
Chaves County, New Mexico

WO#: 92140408

MID-PERFS. = 2987 - 2993

PACKER DEPTH =

BHP GAUGE DEPTH = 2990

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
1	7:30	364.2				364.2		1657
	7:35	403.4	1.9	547.2	8.454	394.9	15.96	1688
	7:40	428.7	4.0	604.8	10.174	418.5	17.64	1713
	7:45	438.9	6.0	576.0	9.296	429.6	16.80	1733
				576.0				
2	7:50	513.5	9.8	1094.4	30.478	483.0	31.92	1779
	7:55	547.6	13.6	1094.4	30.478	517.1	31.92	1814
	8:00	571.7	17.5	1123.2	31.979	539.7	32.76	1845
				1104.0				
3	8:05	657.7	22.8	1526.4	56.403	601.3	44.52	1898
	8:10	695.6	28.2	1555.2	58.388	637.2	45.36	1939
	8:15	731.0	33.6	1555.2	58.388	672.6	45.36	1976
				1545.6				
4	8:20	832.2	40.7	2044.8	96.877	735.3	59.64	2035
	8:25	876.4	47.8	2044.8	96.877	779.5	59.64	2081
	8:30	915.6	55.0	2073.6	99.416	816.2	60.48	2121
				2054.4				
5	8:35	1026.9	63.8	2534.4	144.107	882.8	73.92	2183
	8:40	1071.2	72.5	2505.6	141.092	930.1	73.08	2234
	8:45	1115.6	81.2	2505.6	141.092	974.5	73.08	2279
				2515.2				
6	8:50	1254.9	91.8	3052.8	203.333	1051.6	89.04	2344
	8:55	1301.8	102.4	3052.8	203.333	1098.5	89.04	2394
	9:00	1346.2	113.0	3052.8	203.333	1142.9	89.04	2439
				3052.8				
7	9:05	1493.2	125.3	3542.4	267.742	1225.5	103.32	2500
	9:10	1536.4	137.6	3542.4	267.742	1268.7	103.32	2548
	9:15	1577.1	150.0	3571.2	271.783	1305.3	104.16	2587
				3552.0				

RECEIVED

APR 02 1992

CCD RECORDS OFFICE

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
8	9:20	1711.4	164.0	4032.0	340.196	1371.2	117.60	2636
	9:25	1741.8	178.0	4032.0	340.196	1401.6	117.60	2669
	9:30	1764.7	191.8	3974.4	331.260	1433.4	115.92	2695
9	9:35	1895.2	207.5	4012.8				
	9:40	1919.4	223.1	4521.6	420.539	1474.7	131.88	2731
	9:45	1929.5	238.7	4492.8	415.597	1503.8	131.04	2754
10	9:50	2058.8	256.4	4492.8	415.597	1513.9	131.04	2770
	9:55	2063.9	273.4	4502.4				
	10:00	2072.8	290.6	5097.6	524.980	1533.8	148.68	2796
Fall-Off	10:01	2072.8	290.6	4896.0	487.217	1576.7	142.80	2812
	10:02	2072.8	290.6	4953.6	497.874	1574.9	144.48	2828
	10:03	2072.8	290.6	4982.4				
	10:04	1501.8				1501.8		2801
	10:05	1482.8				1482.8		2787
	10:10	1470.2				1470.2		2773
	10:15	1458.8				1458.8		2760
	10:20	1444.9				1444.9		2744
	10:25	1403.2				1403.2		2703
	10:30	1366.5				1366.5		2667

RECEIVED

APR 02 1992

CCD PROCESS OFFICE



RECEIVED
OIL CONSERVATION DIVISION
APR 10 AM 8 55

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE
April 6, 1992

BRUCE KING
GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88240
(505) 393-6161

OIL CONSERVATION DIVISION
P.O. BOX 2088
SANTA FE, NEW MEXICO 87504-2088

RE: APPLICATION FOR PRESSURE LIMIT INCREASE FOR DISPOSAL & INJECTION WELLS

Gentlemen:

I have examined the step rate test for the:

Yates Drilling Company	Cactus Queen Unit	#1-K	27-12-31
Operator	Lease & Well No.	Unit	S-T-R
(Request on attached C-103)			

and my recommendations are as follows:

OK

Very truly yours

Jerry Sexton
Supervisor, District I

/bp

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

WELL API NO.

30-005-21037

5. Indicate Type of Lease

STATE ☒

FEE ☐

6. State Oil & Gas Lease No.

LH-1648

7. Lease Name or Unit Agreement Name

Cactus Queen Unit

8. Well No.

1

9. Pool name or Wildcat

SE Chaves Qn Gas Area Assoc.

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT"
(FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well:

OIL
WELL ☐

GAS
WELL ☐

OTHER Water Injection Well

2. Name of Operator

Yates Drilling Company

3. Address of Operator

105 South 4th Street, Artesia, NM 88210

4. Well Location

Unit Letter K : 1650 Feet From The South Line and 2310 Feet From The West Line

Section 27

Township 12S

Range 31E

NMPM

Chaves

County

10. Elevation (Show whether DF, RKB, RT, GR, etc.)

4438' GL

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐

PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐

CHANGE PLANS ☐

PULL OR ALTER CASING ☐

OTHER: Request increase in Allowable Injection Pressure ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐

ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐

PLUG AND ABANDONMENT ☐

CASING TEST AND CEMENT JOB ☐

OTHER: ☐

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SIGNATURE

John West

TITLE Petroleum Engineer

DATE 4-1-92

TYPE OR PRINT NAME

TELEPHONE NO.

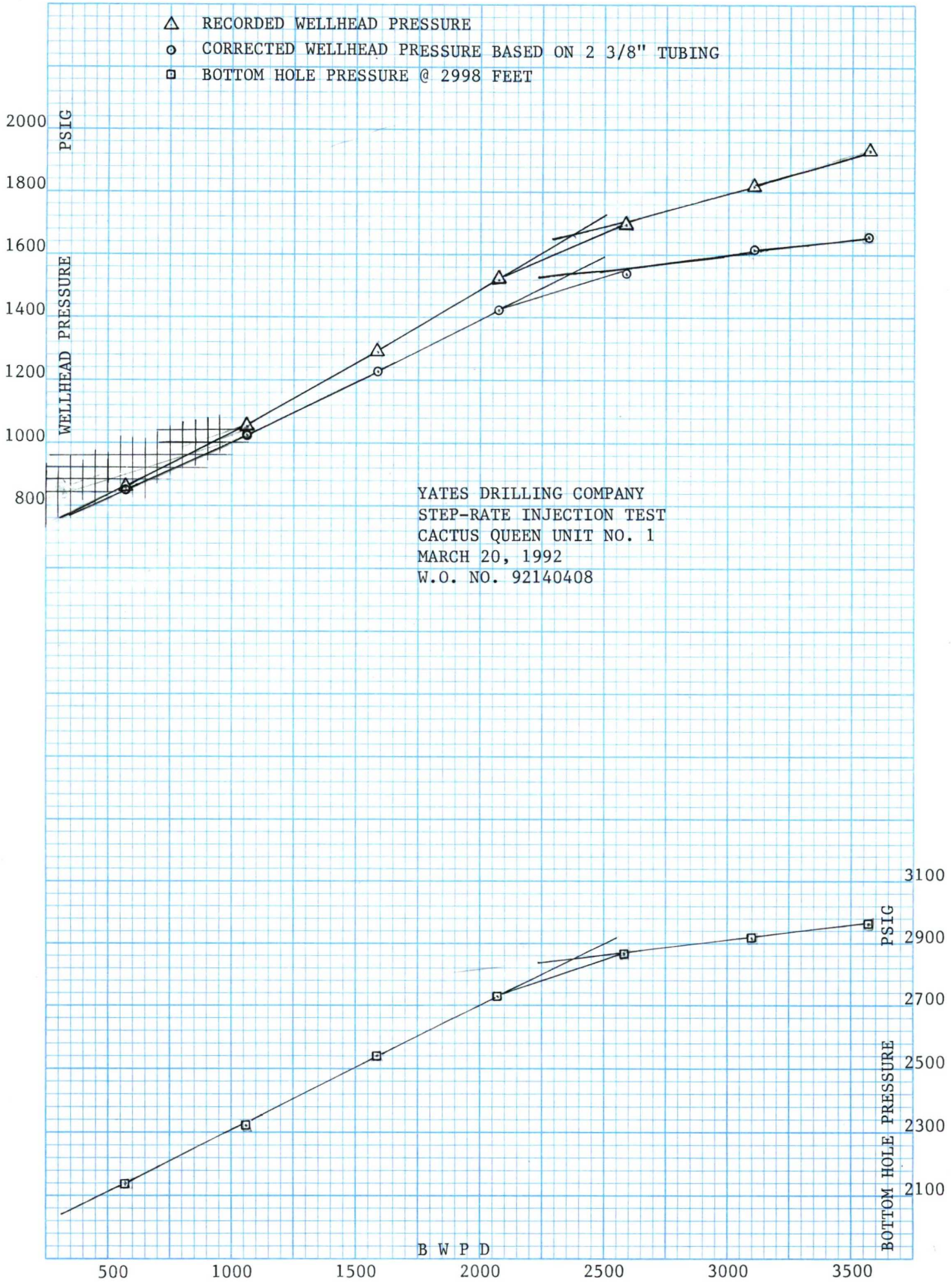
(This space for State Use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:



RECEIVED

APR 02 1992

QCD HOUSE OFFICE

JOHN WEST ENGINEERING COMPANY

Hobbs, New Mexico

STEP RATE INJECTION TEST

CLIENT: Yates Drilling Company

DATE: March 20, 1992

WELL NAME: Cactus Queen Unit 1
Chaves County, New Mexico

WO#: 92140408

PERFS = 2992 - 3000

PACKER DEPTH =

BHP GAUGE DEPTH = 2998 (MID-PERFS.)

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
1	7:35	714.7				714.7		2012
	7:40	775.5	2.1	604.8	10.201	765.3	17.64	2066
	7:45	816.1	4.0	547.2	8.477	807.6	15.96	2105
	7:50	846.6	5.9	547.2	8.477	838.1	15.96	2140
				566.4				
2	7:55	931.1	9.6	1065.6	29.089	902.0	31.08	2214
	8:00	984.5	13.3	1065.6	29.089	955.4	31.08	2273
	8:05	1051.7	16.9	1036.8	27.651	1024.0	30.24	2321
3				1056.0				
	8:10	1161.9	22.4	1584.0	60.565	1101.3	46.20	2412
	8:15	1230.3	27.9	1584.0	60.565	1169.7	46.20	2481
	8:20	1289.9	33.4	1584.0	60.565	1229.3	46.20	2540
4				1584.0				
	8:25	1406.4	40.6	2073.6	99.682	1306.7	60.48	2623
	8:30	1468.5	47.8	2073.6	99.682	1368.8	60.48	2683
	8:35	1520.4	55.0	2073.6	99.682	1420.7	60.48	2734
5				2073.6				
	8:40	1638.2	63.9	2563.2	147.545	1490.7	74.76	2802
	8:45	1676.2	72.9	2592.0	150.626	1525.6	75.60	2839
	8:50	1695.3	81.9	2592.0	150.626	1544.7	75.60	2863
6				2592.0				
	8:55	1794.1	92.7	3110.4	211.051	1583.0	90.72	2895
	9:00	1804.3	103.5	3110.4	211.051	1593.2	90.72	2908
	9:05	1812.0	114.2	3081.6	207.450	1604.6	89.88	2916
7				3100.8				
	9:10	1909.5	126.5	3542.4	268.458	1641.0	103.32	2945
	9:15	1922.2	139.0	3600.0	276.590	1645.6	105.00	2959
	9:20	1929.9	151.4	3571.2	272.510	1657.4	104.16	2967
				3571.2				

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APR 02 1992

OCD HOBBE OFFICE

STEP NO. & REMARKS	TIME	(1) SURFACE TUBING PRESS. (psig)	(2) CUMMULATIVE VOL. INJECTED (bbls)	(3) INJECTION RATE (bbls/day)	(4) FRICTION HEAD LOSS (psi)	(5) CORRECTED TUBING PRESS. (psi) (1)-(4)	(6) INJECTION RATE (gpm) (3)/34.2857	(7) MEASURED BHP (psi)
Fall-Off	9:23	1625.0				1625.0		2931
	9:24	1623.0				1623.0		2928
	9:25	1619.0				1619.0		2924
	9:30	1603.0				1603.0		2908
	9:35	1591.0				1591.0		2896

OLD HOUSE OFFICE

APR 02 1992

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