

30-015-28230

Chevron U.S.A. Inc.
George F. Pritchard
Geologist
15 Smith Road
Midland, Texas 79705



ChevronTexaco

August 21, 2003
LENTINI FEDERAL 1 #15
CONVERSION TO INJECTION
HERRADURA BEND, EAST - DELAWARE
EDDY, NEW MEXICO

Gentlemen:

Chevron U.S.A. Inc., as operator of the Lentini Federal 1 #15, submits this renewed request with the New Mexico Oil Conservation Division to convert the Lentini Federal 1 #15 to water injection for field disposal. This conversion is designed as a Herradura Bend, East - Delaware produced water disposal well within a closed system.

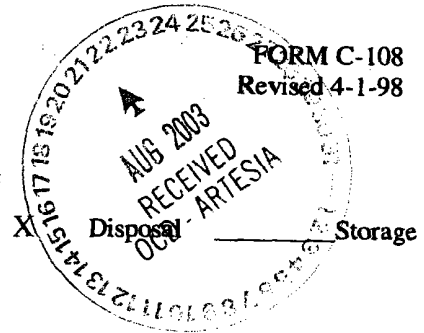
Attached are the original and one copy of the OCD Form C-108 with information relative to the water injection conversion of the referenced well. If further information is required please contact George Pritchard at 432-687-7206 or Joe Williams at 432-687-7193.

Sincerely,

George F. Pritchard
Geologist
New Mexico Area

Attachments

Cc: State of New Mexico
c/o District 2 Office
1301 W. Grand Avenue
Artesia, NM 88210



APPLICATION FOR AUTHORIZATION TO INJECT

I. **PURPOSE:** _____ Secondary Recovery _____ Pressure Maintenance
Application qualifies for administrative approval? ☒ Yes _____ No

II. **OPERATOR:** CHEVRONTEXACO
ADDRESS: 15 SMITH ROAD MIDLAND, TEXAS 79705

CONTACT PARTY: George F. Pritchard

PHONE: 432-687-7206

III. **WELL DATA:** Complete the data required on the reverse side of this form for each well proposed for injection.
Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? _____ Yes ☒ No
If yes, give the Division order number authorizing the project: _____

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

See Attached Maps: Exhibits #1, #2

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail. See Attached Chart: Exhibit #3

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. **Certification:** I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: George F. Pritchard

TITLE: Geologist

SIGNATURE: _____

DATE: 7/21/03

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
Lentini Federal 1 #15 well located in the Herradura Bend, East - Delaware field. The project is Delaware water disposal project injecting into the Delaware [Brushy Canyon] sands.
- (2) The injection interval and whether it is perforated or open-hole.
The Lentini Federal 1 #15 well is perforated through pipe over the intervals 5912' - 5965'; 6045' - 6071', 6077' - 6099'.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
Well was originally drilled and completed in January 1995 as a Delaware [Brushy Canyon] producer. A work over in May 2003 opened additional pay. This producer will be converted to a water injection well for field water disposal.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
The lower Brushy Canyon was originally perforated and produced from 6168' - 6182'. A cast iron bridge plug was set at 6160' in May 2003 work over to isolate these lower perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.
Within the 2 mile radius, both the Atoka [11514' - 12777'] and the Morrow [12244' - 12700'] produce below the Delaware injection interval and no formation above the Delaware currently produces.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location. See attached Exhibit #8.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

See attached Exhibit #9

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

INJECTION WELL DATA SHEET

OPERATOR: CHEVRONTEXACO

WELL NAME & NUMBER: LENTINI FEDERAL 1 #15

WELL LOCATION: 1000 FNL, 1125 FWL, Section 1, T2S - R28E

FOOTAGE LOCATION

UNIT LETTER

SECTION

TOWNSHIP

RANGE

WELLBORE SCHEMATICProposed
Wellbore DiagramElevations:GL: 3080'
KB: 3072'
DF: 3071'Log Formation Tops

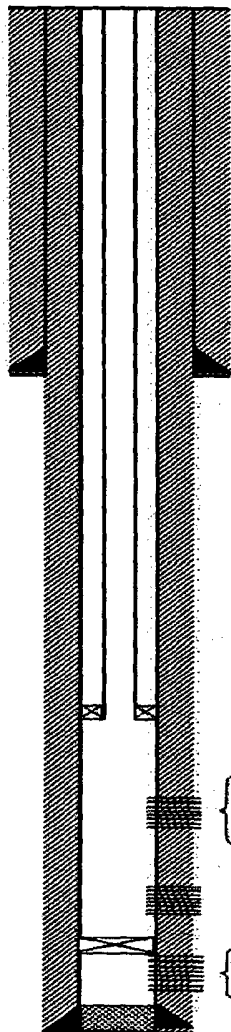
Lamar	2746'
Cherry Canyon	3592'
Brushy Canyon	4778'
Bone Spring	6282'

TUBING DETAIL - Proposed
2-7/8" Duolined J-55 tbg
1 Baker Model M Packer
Duo-Lined

EOT landed @ 5800'

CIBP set @ 6160'

COTD: 6273'
PBTD: 6160'
TD: 6365'



EOT @ 5800'

{Perfs
5912-5922, 5922-5945 &
5945-5965}

{Perfs
6045-6071' & 6077-6099'

{Perfs
6188-6182}

WELL CONSTRUCTION DATASurface Casing

Hole Size: 12-1/4"

Casing Size: 8 5/8" @ 270'

Cemented with: 200 sx. or ft³

Top of Cement: Surface Method Determined: Circulation

Intermediate Casing

Hole Size: Casing Size:

Cemented with: sx. or ft³

Top of Cement: Method Determined:

Production Casing

Hole Size: 7-7/8" Casing Size: 5 1/2" @ 6365'

Cemented with: 1250 sx. or ft³

Top of Cement: Surface Method Determined: Circulation

Total Depth: 6365'

Injection Interval

Perforated from 5912 feet to 6099 feet

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEETTubing Size: 2-7/8" Lining Material: Rice DuolineType of Packer: Baker Model MPacker Setting Depth: 5800'

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

1. Is this a new well drilled for injection? _____ Yes ☒ No

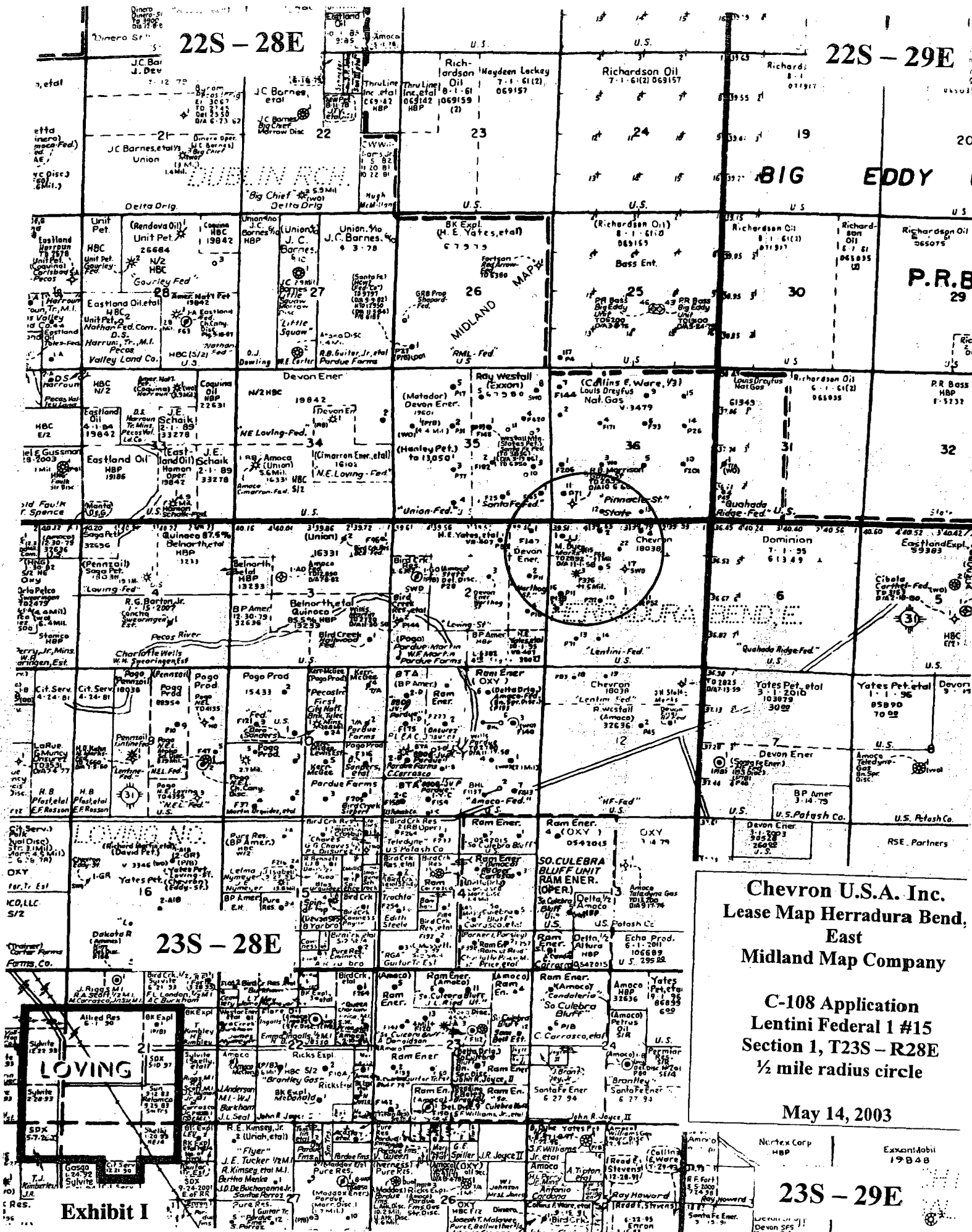
If no, for what purpose was the well originally drilled?

Drilled and completed 3/15/1995 as a producing Delaware [Brushy Canyon] well. Currently producing 10 BO, 40MCF 4/03.

2. Name of the Injection Formation: Delaware [Brushy Canyon]
3. Name of Field or Pool (if applicable): Herradura Bend, East - Delaware
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used.
All current perforations are Delaware. Open perforations include: 5912' - 5965', 6045' - 6071', 6077' - 6099'; and isolated by CIBP @ 6160' perforations 6168' - 6182'.
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:
Within the 2 mile radius, both the Atoka [11514' - 12777'] and the Morrow [12244' - 12700'] produce below the Delaware injection interval and no formation above the Delaware currently produces.

22S - 28E

22S - 29E



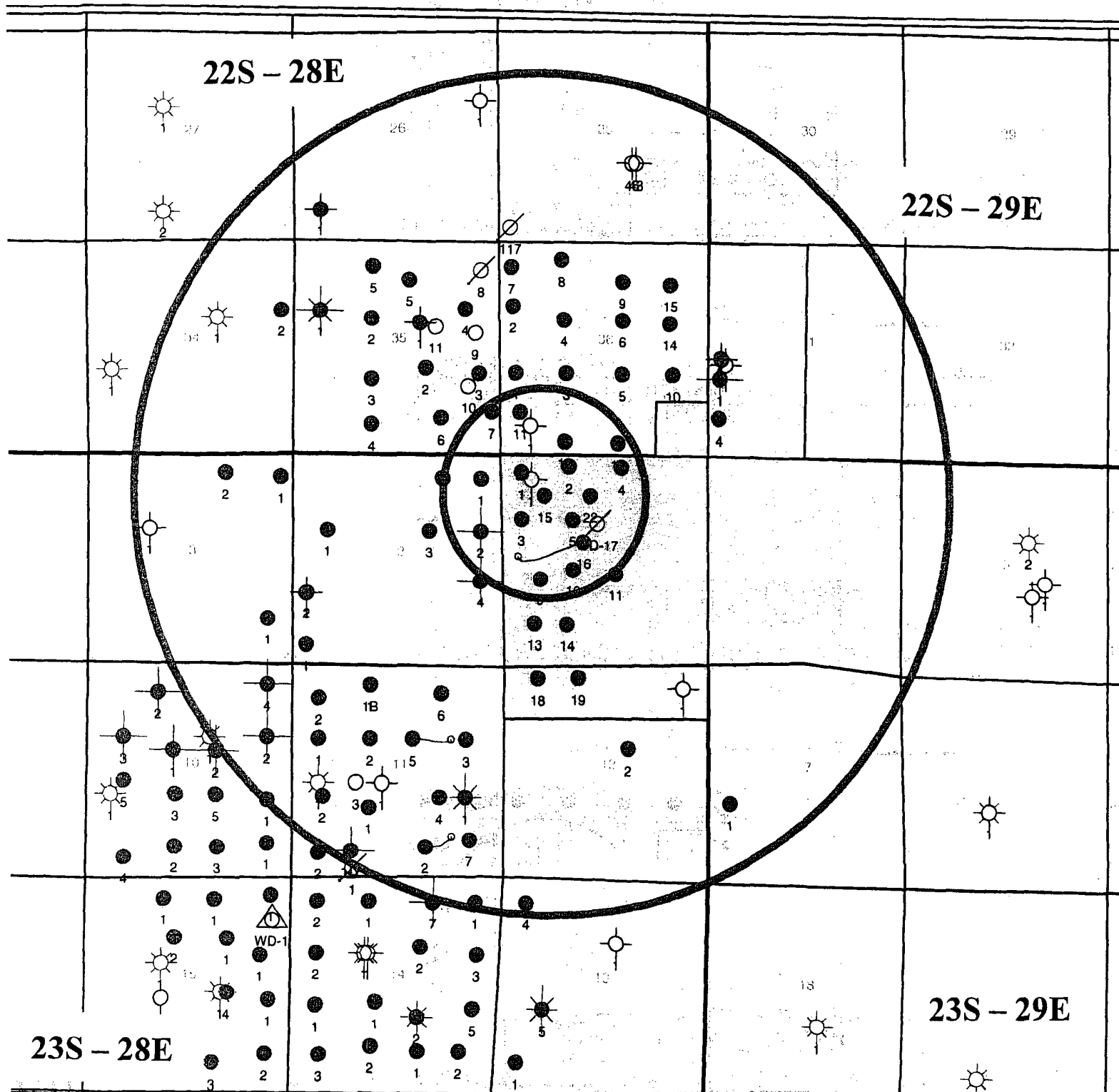
Chevron U.S.A. Inc.
Lease Map Herradura Bend,
East
Midland Map Company

C-108 Application
Lentini Federal 1 #15
Section 1, T23S - R28E
1/2 mile radius circle

May 14, 2003

23S - 29E

Exhibit I



ChevronTexaco

OCD FORM C-108

HERRADURA BEND, EAST - DELAWARE

LENTINI WATERFLOOD PROJECT

LENTINI FEDERAL 1 #15 INJECTOR

0 3,447

FEET

POSTED WELL DATA

Well Number

- WELL SYMBOLS**
- Location Only
 - Oil Well
 - ☼ Gas Well
 - ⊙ Dry Hole
 - ⊕ Injection Well
 - △ Service Well
 - ⊖ Temporarily Abandoned
 - ⊗ Abandoned Oil Well
 - ⊗ Abandoned GAS Well

REMARKS
1/2 mile circle and 2 mile circle around proposed Lentini Federal 1 #15 water injector conversion.

Lentini Fedral 1 #15 C-108 Application

Project Area - Herradura Bend

Operator	Lease Name	Well #	API #	T-R-S	Location Footages	County	Casing			Top of Cement	Spud Date	Comp Date	Record of Completion			Formation	Status	Total Depth
							Size (in)	Depth (ft)	Cmnt (sx)				Perfs	Comp	A / C			
ChevronTexaco	Lentini Federal 1	1	3001527533	23S-28E-1	500 FNL 400 FWL	Eddy	8-5/8 5-1/2	514 6400	575 1300	surf surf	7/20/1993	9/17/1993	5878-6128	acidz, sd frac	A	Brushy Canyon	Prod	6400
ChevronTexaco	Lentini Federal 1	2	3001527534	23S-28E-1	330 FNL 1650 FWL	Eddy	8-5/8 5-1/2	517 6400	600 1350	surf surf	8/3/1993	10/21/1993	5220-6194	acidz, sd frac	A	Brushy Canyon	Prod	6400
ChevronTexaco	Lentini Federal 1	3	3001527535	23S-28E-1	1650 FNL 400 FWL	Eddy	8-5/8 5-1/2	320 6385	200 900	surf surf	2/8/1994	3/2/1994	5570-6164	acidz, sd frac	A	Brushy Canyon	Prod	6385
ChevronTexaco	Lentini Federal 1	4	3001527594	23S-28E-1	330 FNL 2310 FEL	Eddy	8-5/8 5-1/2	380 6450	350 2100	surf surf	10/1/1993	11/3/1993	5425-8070 6229-6247	acidz, sd frac	A C	Brushy Canyon Brushy Canyon	Prod	6450
ChevronTexaco	Lentini Federal 1	5	3001527565	23S-28E-1	1650 FNL 1725 FWL	Eddy	8-5/8 5-1/2	417 6395	375 1700	surf surf	10/14/1993	11/29/1993	5645-6174	acidz, sd frac	A	Brushy Canyon	Prod	6400
ChevronTexaco	Lentini Federal 1	9	3001527569	23S-28E-1	2080 FSL 900 FWL	Eddy	8-5/8 5-1/2	290 6340	200 1325	surf surf	6/8/1994	7/13/1994	5897-6138	acidz, sd frac	A	Brushy Canyon	Prod	6340
ChevronTexaco	Lentini Federal 1	10	3001527570	23S-28E-1	2310 FSL 1750 FWL	Eddy	8-5/8 5-1/2	255 6350	200 1600	surf surf	5/26/1994	7/7/1994	5863-6240	acidz, sd frac	A	Brushy Canyon	Prod	6350
ChevronTexaco	Lentini Federal 1	11	3001527571	23S-28E-1	2310 FSL 2160 FEL	Eddy	8-5/8 5-1/2	287 6390	200 1410	surf surf	4/23/1995	4/23/1995	5230-6264	acidz, sd frac	A	Brushy Canyon	Prod	6390
ChevronTexaco	Lentini Federal 1	15	3001528230	23S-28E-1	1000 FNL 1125 FWL	Eddy	8-5/8 5-1/2	270 6365	200 1250	surf surf	12/20/1994	3/15/1995	5912-6182	acidz, sd frac	A	Brushy Canyon	Prod	6365
ChevronTexaco	Lentini Federal 1	16	3001529614	23S-28E-1	2575 FNL 435 FWL	Eddy	8-5/8 5-1/2	300 5972	225 1317	surf surf	7/23/1997	5/14/1998	5972-7470	acidz, sd frac	A-OH	Brushy Canyon	Prod	7470
ChevronTexaco	Lentini Federal 1	WD-17	3001529735	23S-28E-1	2314 FSL 2160 FEL	Eddy	8-5/8 5-1/2	312 3159	200 995	surf surf	7/16/1997	9/17/1997	2855-3159	acidz, sd frac	A	Bell Canyon	SDW	3200
ChevronTexaco	Lentini Federal 1	22	3001528475	23S-28E-1	990 FNL 2310 FWL	Eddy	8-5/8 5-1/2	289 6429	450 1340	surf surf	5/16/1995	5/16/1995	5956-5976	acidz, sd frac	A	Brushy Canyon	Prod	6430
Murphy-Dyer	Marks	1	3001502480	23S-28E-1	660 FNL 660 FWL	Eddy	8-5/8 5-1/2	268 2892	125 100	??? ???	7/29/1958	11/1/1958	2798-2812	sd frac	C	Bell Canyon	D&A	2892
Devon Energy	Warthog 2 State	1	3001527169	23S-28E-2	660 FNL 660 FEL	Eddy	8-5/8 5-1/2	410 6390	250 1780	surf surf	11/23/1992	12/19/1992	5930-5980	acidz, sd frac	A	Brushy Canyon	Prod	6390
Devon Energy	Warthog 2 State	2	3001527180	23S-28E-2	1980 FNL 660 FEL	Eddy	8-5/8 5-1/2	400 6356	250 1850	surf surf	12/14/1992	3/3/1993	5910-5980 6128-6172	acidz, sd frac plugged	C	Brushy Canyon	P&A	6356
Devon Energy	Warthog 2 State	4	3001527182	23S-28E-2	1980 FSL 660 FEL	Eddy	8-5/8 5-1/2	400 6392	500 1650	surf surf	1/11/1993	4/6/1993	5950-5980	acidz, sd frac	C	Brushy Canyon	P&A	6392
Yates Harvey Co	Loving 2 State	1	3001527287	23S-28E-2	660 FNL 1650 FEL	Eddy	8-5/8 5-1/2	417 6400	300 1750	??? ???	2/2/1993	3/23/1993	5907-5945	acidz, sd frac	A	Brushy Canyon	Prod	6400
Westall Ray	Santa Fe Federal	7	3001527118	22S-28E-35	990 FSL 330 FEL	Eddy	8-5/8 5-1/2	421 6380	300 1450	??? ???	11/3/1992	11/29/1992	6099-6220	acidz, sd frac	A	Brushy Canyon	Prod	6380
Dominion TX/OK Exploration	Pinnacle State	11	3001527254	22S-28E-36	1225 FSL 2000 FWL	Eddy	8-5/8 5-1/2	555 6373	425 805	surf ???	10/22/1992	2/20/1993	5966-6214	acidz, sd frac	A	Brushy Canyon	Prod	6400
Dominion TX/OK Exploration	Pinnacle State	12	3001527762	22S-28E-36	330 FSL 1650 FWL	Eddy	8-5/8 5-1/2	520 6250	350 1550	surf surf	10/4/1995	9/7/1996	5216-6198	acidz, sd frac	A	Brushy Canyon	Prod	6250
Dominion TX/OK Exploration	Pinnacle State	13	3001527763	22S-28E-36	330 FSL 2310 FEL	Eddy	8-5/8 5-1/2	503 6372	320 1600	surf surf	9/18/1996	2/2/1996	6184-6194	acidz, gel frac	A	Brushy Canyon	Prod	6372
Morrison RR	Gulf-State	1	3001502479	22S-28E-36	660 FSL 660 FWL	Eddy	8-5/8	255	25	???	8/26/1960	10/6/1960	N/A	N/A	C	Bell Canyon	D&A	2893

ITEM VII

OPERATIONAL DATA

PROPOSED OPERATION	<u>AVE</u>	<u>MAX</u>
(1). Daily Injection Rate	800 BWPB	1000 BWPB
(2). Daily Injection Volume	800 BW	1000 BW
(3). Wellhead Injection Pressure	400 psi	500 psi

Injection system will be a closed system.

- (4). Source of injection water : Lower Delaware zones (Brushy Canyon / Cherry Canyon) from Chevron U.S.A. Inc. Herradura Bend, East – Delaware wells.

Analysis of waters attached : Exhibits #4, #5, #6: Fluid compatibility testing is not necessary since the injection and receiving fluids are both in the Delaware formation.

- (5). Analysis of injection zone water attached.
The injection interval is productive in this field and the injected fluids are from the injection zone.
- (6) ChevronTexaco as operator will make every reasonable effort to continue full production from the Delaware formation for the Lentini Federal 1 #1, Lentini Federal 1 #2 and the Lentini Federal 1 #4 wells for so long as ChevronTexaco injects water into the Delaware formation in the Lentini Federal 1 #15 well.

Exhibit IV



REEF
CHEMICAL

Company: Chevron USA Inc.

Source: Swab Top Zone - H1, BRUSHY CANYON (DELAWARE)

Number: 41

Salesman: Dennis Autry

Location:

Attention:

Date Sampled:

Date of Analysis:

Lentini 1 Federal #1

January 6, 1997

January 7, 1997

ANALYSIS

mg/L

EQ. WT.

MEQ/L

1. pH	6.79			
2. Specific Gravity 60/60 f.	1.187			
3. Hydrogen Sulfide	0 PPM			
4. Carbon Dioxide	Not Determined			
5. Dissolved Oxygen	Not Determined			
6. Hydroxyl (OH-)	0	/	17.0	= 0.00
7. Carbonate (CO3=)	0	/	30.0	= 0.00
8. Bicarbonate (HCO3-)	147	/	61.1	= 2.41
9. Chloride (Cl-)	161,963	/	35.5	= 4,562.34
10. Sulfate (SO4=)	1,025	/	48.8	= 21.00
11. Calcium (CA++)	16,433	/	20.1	= 817.56
12. Magnesium (Mg++)	3,161	/	12.2	= 259.10
13. Sodium (Na+)	80,709	/	23.0	= 3,509.09
14. Barium (Ba++)	Not Determined			
15. Total Iron (Fe)	900.00			
16. Dissolved Solids	263,438			
17. Filterable Solids	0.00			
18. Total Solids	263,438			
19. Total Hardness As CaCO3	54,048			
20. Suspended Oil	0.0000			
21. Volume Filtered (ml)	0			
22. Resistivity @ 75 F. (calculated)	0.0300 /cm.			

23. CAC03 Saturation Index

@80 F.	0.3356
@100 F.	0.6456
@120 F.	0.9056
@140 F.	1.2656
@160 F.	1.6156

24. CASO4 Supersaturation Ratio

@70F	1.6899
@90F	1.8535
@110F	1.6481
@130F	1.6096
@150F	1.6084

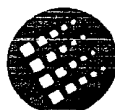
Ratio Greater than 1 indicates Scale

PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X	MEQ/L = mg/L
Ca(HCO3)2	81.04	2.41	195
CaSO4	68.07	21.00	1,429
CaCl2	55.50	794.15	44,075
Mg(HCO3)2	73.17	0.00	0
MgSO4	60.19	0.00	0
MgCL2	47.62	259.10	12,338
NaHCO3	84.00	0.00	0
NaSO4	71.03	0.00	0
NaCl	58.46	3,509.09	205,141

RAY SHAFFNER
Chemist

Exhibit V



REEF
CHEMICAL

Company: Chevron USA Inc.

Source: Swab Middle Zone-UPPER H2, BRUSHY CANYON

Number: 42

Salesman: Dennis Autry

6021'-28' (DELAWARE)

Location:

Attention:

Date Sampled:

Date of Analysis:

Lentini 1 Federal #1

.....

January 6, 1997

January 7, 1997

ANALYSIS

mg/L

EQ. WT.

MEQ/L

1. pH	6.75			
2. Specific Gravity 60/60 f.	1.187			
3. Hydrogen Sulfide	0 PPM			
4. Carbon Dioxide	Not Determined			
5. Dissolved Oxygen	Not Determined			
6. Hydroxyl (OH-)	0 /	17.0	=	0.00
7. Carbonate (CO3=)	0 /	30.0	=	0.00
8. Bicarbonate (HCO3-)	73 /	61.1	=	1.19
9. Chloride (Cl-)	181,959 /	35.5	=	5,125.61
10. Sulfate (SO4=)	1,525 /	48.8	=	31.25
11. Calcium (CA++)	6,413 /	20.1	=	319.05
12. Magnesium (Mg++)	2,188 /	12.2	=	179.34
13. Sodium (Na+)	107,172 /	23.0	=	4,659.66
14. Barium (Ba++)	Not Determined			
15. Total Iron (Fe)	525.00			
16. Dissolved Solids	299,330			
17. Filterable Solids	0.00			
18. Total Solids	299,330			
19. Total Hardness As CaCO3	25,022			
20. Suspended Oil	0.0000			
21. Volume Filtered (ml)	0			
22. Resistivity @ 75 F. (calculated)	0.0260 /cm.			

23. CAC03 Saturation Index

@80 F.	-0.4170
@100 F.	-0.1070
@120 F.	0.1530
@140 F.	0.5130
@160 F.	0.8630

24. CASO4 Supersaturation Ratio

@70F	0.9915
@90F	1.1512
@110F	0.9688
@130F	0.9479
@150F	0.9473

Ratio Greater than 1 indicates Scale

PROBABLE MINERAL COMPOSITION

COMPOUND EQ. WT. X MEQ/L = mg/L

Ca(HCO3)2	81.04	1.19	96
CaSO4	68.07	31.25	2,127
CaCl2	55.50	286.61	15,907
Mg(HCO3)2	73.17	0.00	0
MgSO4	60.19	0.00	0
MgCL2	47.62	179.34	8,540
NaHCO3	84.00	0.00	0
NaSO4	71.03	0.00	0
NaCl	58.46	4,659.66	272,404

RAY SHAFFNER
Chemist

Exhibit VI



REEF
CHEMICAL

Company: Chevron USA Inc.
Source: Swab Bottom Zone - LOWER H2, BRUSHY CANYON
Number: 43
Salesman: Dennis Autry
6117'-26' (DELAWARE)

Location: Lentini 1 Federal #1
Attention: *****
Date Sampled: January 6, 1997
Date of Analysis: January 7, 1997

ANALYSIS	mg/L	EQ. WT.	MEQ/L
1. pH	6.68		
2. Specific Gravity 60/60 f.	1.187		
3. Hydrogen Sulfide	0 PPM		
4. Carbon Dioxide	Not Determined		
5. Dissolved Oxygen	Not Determined		
6. Hydroxyl (OH-)	0 /	17.0 =	0.00
7. Carbonate (CO3=)	0 /	30.0 =	0.00
8. Bicarbonate (HCO3-)	73 /	61.1 =	1.19
9. Chloride (Cl-)	181,959 /	35.5 =	5,125.61
10. Sulfate (SO4=)	1,175 /	48.8 =	24.08
11. Calcium (CA++)	12,826 /	20.1 =	638.11
12. Magnesium (Mg++)	1,216 /	12.2 =	99.67
13. Sodium (Na+)	101,501 /	23.0 =	4,413.10
14. Barium (Ba++)	Not Determined		
15. Total Iron (Fe)	400.00		
16. Dissolved Solids	298,750		
17. Filterable Solids	0.00		
18. Total Solids	298,750		
19. Total Hardness As CaCO3	37,033		
20. Suspended Oil	0.0000		
21. Volume Filtered (ml)	0		
22. Resistivity @ 75 F. (calculated)	0.0260 /cm.		
23. CAC03 Saturation Index			
@80 F.	-0.1860		
@100 F.	0.1240		
@120 F.	0.3840		
@140 F.	0.7440		
@160 F.	1.0940		
24. CASO4 Supersaturation Ratio			
@70F	1.5087		
@90F	1.8116		
@110F	1.4718		
@130F	1.4377		
@150F	1.4367		
Ratio Greater than 1 indicates Scale			

PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT.	X	MEQ/L = mg/L
Ca(HCO3)2	81.04	1.19	96
CaSO4	68.07	24.08	1,639
CaCl2	55.50	612.84	34,013
Mg(HCO3)2	73.17	0.00	0
MgSO4	60.19	0.00	0
MgCL2	47.62	99.67	4,746
NaHCO3	84.00	0.00	0
NaSO4	71.03	0.00	0
NaCl	58.46	4,413.10	257,990

RAY SHAFFNER
Chemist

ITEM VIII

GEOLOGICAL DATA

INJECTION ZONE

Lithological description : sandstone, gray, fine to very fine grained, poorly consolidated, friable, poor calcareous cement.

Geologic name : Delaware (Brushy Canyon member)

Zone thickness : 104 feet ; Depth : 5912-6099 feet

FRESH WATER SOURCES

Geologic name : Quaternary Alluvium

Depth to bottom of zone : less than 250 feet

There are no known aquifers that underlie the Bell Canyon formation at the top of the Delaware.

ITEM IX

STIMULATION PROGRAM

ACIDIZE :

Volume : 16000 gal Type acid : 7 ½% NEFE HCL

Rate : 6-10 BPM ; Misc. : 8000 lbs rock salt

Flush with 2% KCL water ; Acid job to be done in 2 stages

FRACTURE :

Fluid volume : 34000 gal ; Type : YF130ST

Prop type : 16/30 Brady Sand ; Volume : 100000 lbs

Rate : 30 BPM ; Conductor : 2 7/8 in

Misc. : Flush with 9174 gal WF110

Frac job to be done in 2 stages

ITEM X

LOGGING PROGRAM

Logging program : Logs were filed with the Oil Conservation Division with initial completion filing. A neutron/density log copy of the perforated intervals in the Lentini Federal 1 #15 is attached. Exhibit #7.

ITEM XI

FRESH WATER ANALYSIS

Fresh water well within 1 mile radius : Yes X No
Chemical analysis from well(s) located : It was documented in Chevron USA Inc's C108 administrative order SWD-659 that as of 2/21/1997 Craig Helper, State Engineers Office, Roswell, New Mexico confirmed that no fresh water wells are filed on record within one mile of the proposed disposal well location. ChevronTexaco's lease operator for this area agrees and to the best of his knowledge and belief, there are no fresh water wells existing within one mile of the proposed disposal well location.

ITEM XII

HYDROLOGY

Various geologic data including well logs, structure maps and modern seismic data reveal no evidence that there might exist an hydrologic connection between the intended injection zone (Brushy Canyon, Delaware) and the shallow surface aquifer, the Quaternary Alluvium, above 250 feet. The Castille formation composed of evaporates immediately overlies the Bell Canyon [upper most Delaware] and provides a seal between the Delaware and any shallow aquifer.

ITEM XIII ["Proof of Notice"]

See attachments Exhibits #8, #9.



API Multi-Well Banner

Report Description

This report is run for a group of Well's APIs in Barcode format for purposes of scanning. It is generated only through the pop-up 'API for Multiple Banner' form. The Barcode format is Code 39.



API Number: 3001501306



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop

Cabinet Secretary

Lori Wrotenbery

Director

Oil Conservation Division

22 August 2003

Kersey and Company
P.O. Box 1248
Fredericksburg, Texas 78624

Form C-103 Report of Plugging for your ASU "A" # 1 M-2-17-28 API 30-015-01306
Cannot be approved until an NMOCD representative has made an inspection of the location and found it to
be cleared to comply with OCD rules and regulations. Please check each item in the space provided to
indicate that the work has been accomplished and the location is ready for final inspection.

- ☐ 1. All pits have been filled and leveled.
- ☐ 2. Rat hole and cellar have been filled and leveled.
- ☐ 3. A steel marker 4" in diameter and approximately 4' above mean ground level has been set in
concrete to mark the exact location of the plugged well. (Marker must have operator name, lease name,
well number and location including quarter/quarter section or unit letter, section, township, range and API
well ID number permanently welded, stamped or otherwise engraved into the metal marker.)
- ☐ 4. The location has been leveled as nearly as possible to original top ground contour and has been
cleared of all junk and equipment.
- ☐ 5. The dead men and tie downs have been cut and removed.
- ☐ 6. If a one well lease or last remaining well on lease, the battery and burn pit locations have been
leveled and cleared of all junk & equipment.
- ☐ 7. All environmental concerns have been addressed as per OCD guidelines.

The above are minimum requirements and no plugging bond will be cancelled until all locations for
plugged and abandoned wells have been inspected and Form C-103 approved.

When all of the work outlined above has been done, please notify this office by completing, signing and
returning this letter to us so that our representative will not have to make more than one trip to the location.

I certify that the above work has been done and the above-mentioned lease is ready for OCD inspection and
approval.

Name

Title

Van Barton
Field Rep. II