Logged In 9/23/03 Supper 10/7/03 LEV-DEC

TIPE SUD APP DICO327238458

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



ChevronTexaco

September 22, 2003 LENTINI FEDERAL 1 #15 CONVERSION TO INJECTION HERRADURA BEND, EAST - DELAWARE EDDY, NEW MEXICO

Mr. David Catanach

Attached are two additional copies of the C-108 sent by Chevron USA Inc and received by the OCD on August 25, 2003. If you require any further information or have any questions, please contact George Pritchard at 432-687-7206.

Thank you for proceeding with the appropriate review of this request.

Sincerely,

George F. Pritchard

Geologist

New Mexico Area

Attachment

	SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY	
	 Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	A. Signature X Agent Addressee B. Received by (Printed Name) C. Date of Delivery	
	1. Article Addressed to: State of New Mexico c/o State Land Office P.O. Box 1148 Santa Fe, NM 87504-1148	D. Is delivery address different from item 1?	·
		4. Restricted Delivery? (Extra Fee)	
	2. Article Number (Transfer from service label)	0002 8128 2000	
;	PS Form 3811, August 2001 Domestic Ret	urn Receipt 102595-02-M-1035	
		•	

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

George L. tutchen

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, New Mexico 87505

APPLICATION FOR AUTHORIZATION TO INJECT

I.	PURPOSE:	Secondary Recovery		_ Pressu	re Mainten	ance	X	Disposal		_Storage
	Application qualifies for	or administrative approval?	X	Yes		_ No				
II.		HEVRONTEXACO SMITH ROAD MIDLAI	ND, TEX	K AS 7 9	705					
	CONTACT PARTY:	George F. Pritchard					PHONE	432-68	7-7206	
III.		ete the data required on the rev onal sheets may be attached if t			orm for eac	ch well	proposed fo	or injection.	,	
IV.		an existing project? n order number authorizing the				No				
v.	drawn around each pro	ifies all wells and leases within posed injection well. This circ						n a one-half	`mile radiu	is circle
VI.	Attach a tabulation of d Such data shall include	Maps: Exhibits #1, #2 lata on all wells of public record a description of each well's tyled well illustrating all pluggin	pe, constr	uction, d	late drilled	, location	on, depth, r	ecord of cor		
VII.	Attach data on the prop	osed operation, including:								
	 Whether the system Proposed average at Sources and an approproduced water; and If injection is for dis 	nd maximum injection pressur ropriate analysis of injection fl	re; luid and co	ompatibi ve of oil	lity with the	ne receiv	n one mile	of the propo	osed well, a	attach a
*VIII	depth. Give the geologic total dissolved solids co	logic data on the injection zon ic name, and depth to bottom concentrations of 10,000 mg/l cely underlying the injection into	of all unde or less) ove	rground	sources of	drinkir	ng water (a	quifers cont	taining wat	ers with
IX.	Describe the proposed s	timulation program, if any.								
*X.	Attach appropriate logg	ing and test data on the well.	(If well lo	gs have	been filed	with the	Division,	they need n	ot be resub	omitted).
*XI.		sis of fresh water from two or l showing location of wells an				ailable	and produc	ing) within	one mile o	of any
XII.		wells must make an affirmation of open faults or any other er.								
хш.	Applicants must comple	te the "Proof of Notice" section	on on the r	everse si	de of this	form.				
XIV.	Certification: I hereby and belief.	certify that the information su	bmitted w	ith this a	pplication	is true	and correct	to the best	of my kno	wledge
	NAME: George	F. Pritchard	. /	7		TITLI	E: Geo	logist	,	
	SIGNATURE:	June F. Witch	of			I	DATE:	7/21/	03	
*	If the information require	ed under Sections VI, VIII, X,	and XI at		been previ	iously s	ubmitted, i	t need not b	e resubmit	ted.

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.

PART III [Side 1]

INJECTION WELL DATA SHEET

OPERATOR:

CHEVRONTEXACO

WELL NAME & NUMBER:

LENTINI FEDERAL 1 #15

30-015-28230

WELL LOCATION:

CIBP set @ 6160'

6365

COTD: 6273 PBTD: 6160" TO:

1000 FNL, 1125 FWL, Section 1, T23S - R28E

6045-6071' & 6077-6099'

Perfs 16188-6182

FOOTAGE LOCATION

UNIT LETTER

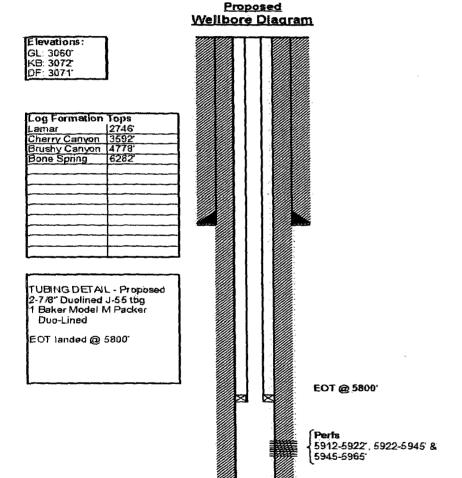
SECTION

Perforated from 5912

TOWNSHIP

RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA Surface Casing

Hole Size:	12-1/4"		Casing Size: <u>8 5/8" @ 270'</u>
Cemented with: _	200	sx.	or ft ³
Top of Cement: _	Surface		Method Determined: <u>Circulation</u>
		Intermediate	e Casing
Hole Size:			Casing Size:
Cemented with:		sx.	or ft ³
Top of Cement:			Method Determined:
		Production	Casing
Hole Size:	7-7/8"		Casing Size: 5 1/2" @ 6365'
Cemented with:	1250	sx.	<i>or</i> ft
Top of Cement:	Surface		Method Determined: <u>Circulation</u>
Total Depth:	6365'		
		Injection l	Interval

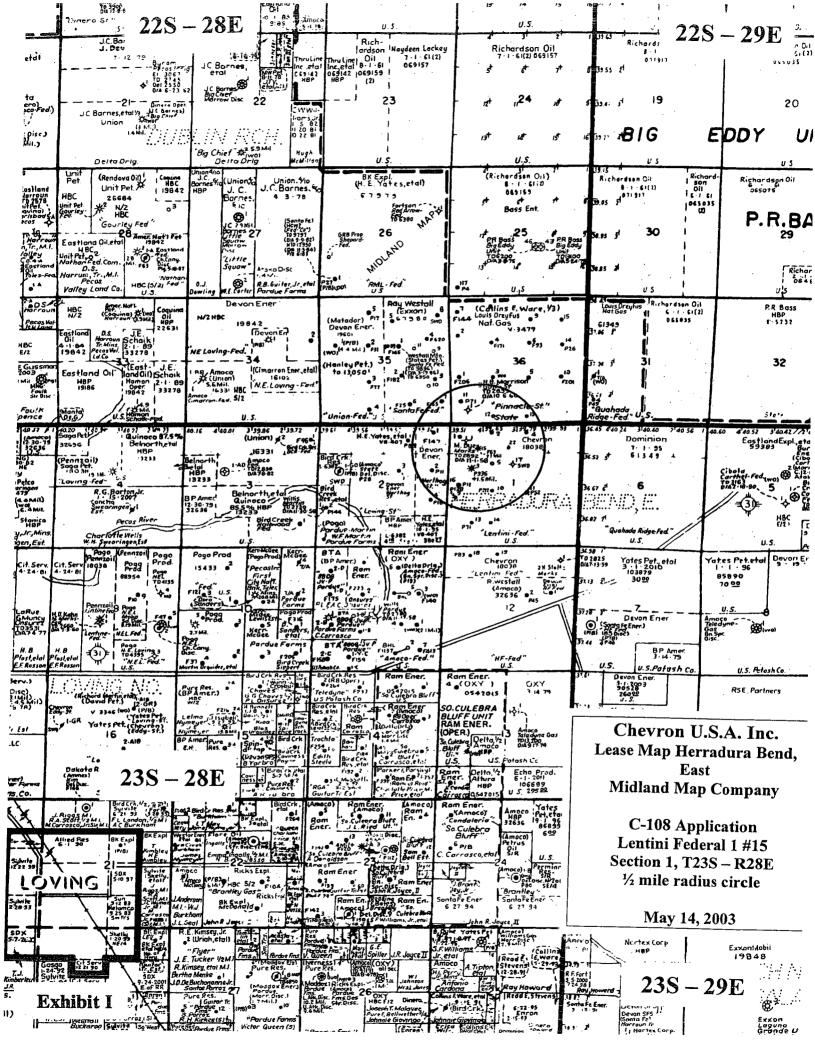
feet to

(Perforated or Open Hole; indicate which)

6099 feet

INJECTION WELL DATA SHEET

Tu	Tubing Size: 2-7/8" Lining Material: Rice Duoling	<u>1e</u>						
Гур	Γype of Packer: Baker Model M							
Pac	Packer Setting Depth:							
Oth	ther Type of Tubing/Casing Seal (if applicable):							
	Additional Data							
1.	1. Is this a new well drilled for injection? Yes X 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.	2. Name of the Injection Formation: Delaware [Brushy Canyon]							
3.	3. Name of Field or Pool (if applicable): Herradura Bend, East - Delaware							
4.	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', 6077' - 6099'; and isolated by CIBP @ 6160' perforations 6168'- 6182'.	6045' – 6071',						
5.	5. Give the name and depths of any oil or gas zones underlying or overlying the proinjection zone in this area: Within the 2 mile radius, both the Atoka [11514'- 12777'] and the Morrow [1224 produce below the Delaware injection interval and no formation above the Delaw produces.	4'- 12700']						



Project Area - Herradura Bend

	Operator	Lease Name	Well #	API#	T-R-S	Location Footages	County		Casing epth (ft) Cm	nt (sx)	Top of Cement	Spud Date	Comp Date	Recor Perfs	d of Completion Comp	A/C	Formation	Status	Total Depth
	CheyronTexaco	Løntini 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	5425-6070 6229-6247	acidz, sd frac	A	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	Lønlini Federal 1	9	3001527569	23S-28E-1	2060 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	267 6390	200 1410	surf suif	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	suff suff	7/16/1997	9/17/1997	2855-3159	acidz, sd frac	A	Bell Canyon	\$DW	3200
1	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	5956-597 6	acidz, sd frac	A	Brushy Canyon	Prod	6430
1	Murphy-Dyer	Marks	1	3001502480	23S-28E-1	660 FNL 660 FWL	Eddy	8-5/8 5-1/2	268 2892	125 100	777 777	7/29/1958	11/1/1958	2798-2812	sd frac	С	Bell Canyon	D&A	2892
١	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
1	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	5910-598 6126-617		С	Brushy Canyon	P&A	6356
1	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	5950-598	acidz, sd frac	С	Brushy Canyon	P&A	6392
	Yates Harvey Co	Loving 2 State	t	3001527287	23S-28E-2	660 FNL 1650 FEL	Eddy	8-5/8 5-1/2	417 6400	300 1750	777 777	2/2/1993	3/23/1993	5907-594	5 acidz, sd frac	A	Brushy Canyon	Prod	6400
	Westall Ray	Santa Fe Federal	7	3001527118	22S-28E-3	990 FSL 330 FEL	Eddy	8-5/8 5-1/2	421 6380	300 1450	??? ???	11/3/1992	11/29/1992	6099-622	O acidz, sd frac	A	Brushy Canyon	Prod	6380
	Dominion TX/OK Exploration	Pinnacle State	11	3001527254	22S-28E-3	1225 FSL 2000 FWL	Eddy	8-5/8 5-1/2	555 6373	425 805	surf ???	10/22/1992	2/20/1993	5966-621	4 acidz, sd frac	. A	Brushy Canyon	Prod	6400
	Dominion TX/OK Exploration	Pinnacle State	12	3001527762	22S-28E-3	330 FSL 1650 FWL	Eddy	8-5/8 5-1/2	520 6250	350 1550	surf surf	10/4/1995	9/7/1996	5216-619	8 acidz, sd frac	. A	Brushy Canyon	Prod	6250
1	Dominion TX/OK Exploration	Pinnacle State	13	3001527763	22S-28E-3	330 FSL 2310 FEL	Eddy	8-5/8 5-1/2	503 6372	320 1600	surf surf	9/18/1996	2/2/1996	6184-619	4 acidz, gel fra	. A	Brushy Canyon	Prod	6372
7	Morrison RR	Gulf-State	1	3001502479	22S-28E-3	6 660 FSL 660 FWL	Eddy	8-5/8	255	25	777	8/26/1960	10/6/1960	N/A	N/A	С	Bell Canyon	D&A	2893

FORM C-108

ITEM VII

OPERATIONAL DATA

PROPOSED	OPERATION	<u>AVE</u>	<u>MAX</u>
(1).	Daily Injection Rate	800 BWPD	1000 BWPD
(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





Company: Chevron USA inc.

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

Lentini 1 Federal #1

Number: 41

5878'- 5896'

Date Sampled:

January 6, 1997

Salesman: Dennis Autry

Date of Analysis:

Location:

January 7, 1997

ANALYSIS

mg/L

EQ. WT.

MEQ/L

VIAVE I OIO		mg/L			•	WILL GUL	
		:#=###################################	====	=====	==:		=======:
1. pH		6.79					
2. Specific Gravity 60/60 f	•	1.187				• • •	
3. Hydrogen Sulfide		-	PPM				
4. Carbon Dioxide		Not Determined					
Dissolved Oxygen		Not Determined					
6. Hydroxyl (OH-)		0	1	17.0		0.00	
7. Carbonate (CO3=)		0	1	30.0	=	0.00	
8. Bicarbonate (HCO3-)		147	1	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	1	20.1	=	817.56	
12.Magnesium (Mg++)		3,161	7	12.2			
13.Sodium (Na+)		80,709	,	23.0	=	3,509.09	
13.50dium (Na+) 14.Barium (Ba++)		Not Determined	,	23.0	_	3,303.03	
15.Total Iron (Fe)		900.00					
15. I otal from (Fe)		300.00					
16. Dissolved Solids		263,438					
17.Filterable Solids		0.00					
18.Total Solids		263,438					
19. Total Hardness As CaCo	7 3	54,048					
20. Suspended Oil	,	0.0000					
21.Volume Filtered (ml)		0.0000					
21. Volume Filtered (mil)							
22.Resistivity @ 75 F. (calcu	ılated)	0.0300 /	m.				
23.CAC03 Saturation Index							
@80 F.	0.3356						
@100 F.	0.6456	PROBABLE	MINE	RAL C	OM	POSITION	,
@120 F.	0.9056	COMPOUND I				MEQ/L = mg/L	
@120 F.	4.0050	COM COM	_ 		•	MILCOL - Mg/L	

@80 F.	0.3356
@100 F.	0.6456
@120 F.	0.9056
@140 F.	1.2656
@160 F.	1.6156
24.CASO4 Supersatu	ration Ratio

PROBABL	E MINERA	L COM	POSITIO	N	
MPOUND	EQ. WT.	X	MEQ/L	=	١
		•			

@160 F.	1.6156	Ca(HCO3)2	81.04	2.41	195
•		CaSO4	68.07	21.00	1,429
4.CASO4 Supersati	uration Ratio	CaC12	55.50	794.15	44,075
@70F	1.6899	Mg(HCO3)2	73.17	0.00	. 0
@90F	1.8535	MgSO4	60.19	0.00	0
@110F	1.6481	MgCL2	47.62	259.10	12,338
@130F	1.6096	NaHCO3	84.00	0.00	0
@150F	1.6084	NaSO4	71.03	0.00	0
Ratio Greater than	1 1 indicates Scale	NaCl	58.46	3,509.09	205,141



Company: Chevron USA Inc.

Location:

Lentini 1 Federal #1

Source:

Swab Middle Zone-UPPER H2, BRUSHY CAWYON

Attention:

January 6, 1997

Number: 42 Salesman: Dennis Autry

6021'-28' (DELAWARE)

Date Sampled: Date of Analysis:

0.0260 /cm.

84.00

71.03

58.46

0.00

0.00

4,659.66

January 7, 1997

ANALYSIS

mg/L

EQ. WT.

MEQ/L

96

0

0

2,127

15,907

8.540

272,404

=======================================	=======================================
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

23.CAC03 Saturation Index

22. Resistivity @ 75 F. (calculated)

@80 F.	-0.4170	•			
@100 F.	-0.1070	PROBABLE	E MINERAL CO	MPOSITION	
@120 F.	0.1530	COMPOUND	EQ. WT. X	MEQ/L = 1	mg/L
@140 F.	0.5130				
@160 F.	0.8630	Ca(HCO3)2	81.04	1.19	
		CaSO4	68.07	31.25	
24.CASO4 Supersatu	ration Ratio	CaC12	55.50	286.61	1
@70F	0.9915	Mg(HCO3)2	73.17	0.00	
@90F	1.1512	MgSO4	60.19	0.00	
@110F	0.9688	MgCL2	47.62	179.34	

NaHCO3

NaSO4

NaCl

0.9479

0.9473

Ratio Greater than 1 indicates Scale

@130F

@150F



Company: Chevron USA Inc.

Location:

Lentini 1 Federal #1

Source: Swab Bottom Zone - Lower Ha, Brushy CANYON Number: 43

(DELAWARE)

Attention: Date Sampled:

January 6, 1997

Salesman: Dennis Autry

Date of Analysis:

January 7, 1997

ANALYSIS		mg/L		EQ. WT.		MEQ/L	
1. pH		6.68					
2. Specific Gravity 60/60 f						,	
3. Hydrogen Sulfide	•		PPM				
4. Carbon Dioxide							
5. Dissolved Oxygen		Not Determined					
6. Hydroxyl (OH-)		0	1	17.0	=	0.00	
7. Carbonate (CO3=)		0	1	30.0	=	0.00	
8. Bicarbonate (HCO3-)		73	1	61.1	=	1.19	
9. Chloride (Cl-)		181,959	1	35.5	=	5,125.61	
10.Sulfate (SO4=)		1,175	1	48.8	=	24.08	
11.Calcium (CA++)		12,826	/	20.1	=	638.11	
12.Magnesium (Mg++)		1,216	1	12.2	=	99.67	
13.Sodium (Na+)		101,501	1	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 CaCo	D3	37,033		-			
20.Suspended Oil		0.0000					
21.Volume Filtered (ml)		0		•			
22.Resistivity @ 75 F. (calcu	ılated)	0.0260 /	m.				
23.CAC03 Saturation Index							
@80 F.	-0.1860						
@100 F.	0.1240	PROBABLE	MINE	ERAL CO	OMF	POSITION	
@120 F.	0.3840	COMPOUND E				MEQ/L =	ma/L
@140 F.	0.7440						
@160 F.	1.0940	Ca(HCO3)2	8	1.04		1.19	96

CaSO4

CaC12

MgSO4

MgCL2

NaSO4

NaCl

NaHCO3

Mg(HCO3)2

68.07

55.50

73.17

60.19

47.62

84.00

71.03

58.46

Ratio Greater than 1 indicates Scale

24. CASO4 Supersaturation Ratio

1.5087

1.8116

1.4718

1.4377

1.4367

@70F

@90F

@110F

@130F

@150F

24.08

0.00

0.00

99.67

0.00

0.00

4,413.10

612.84

1,639

0

0

0

0

34,013

4,746

257,990

FORM C-108

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: 27/8 in Misc.: Flush with 9174 gal WF110 Frac job to be done in 2 stages

Chevron U.S.A. Inc. Lentini Federal 1 #15

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 Quaterary 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"]

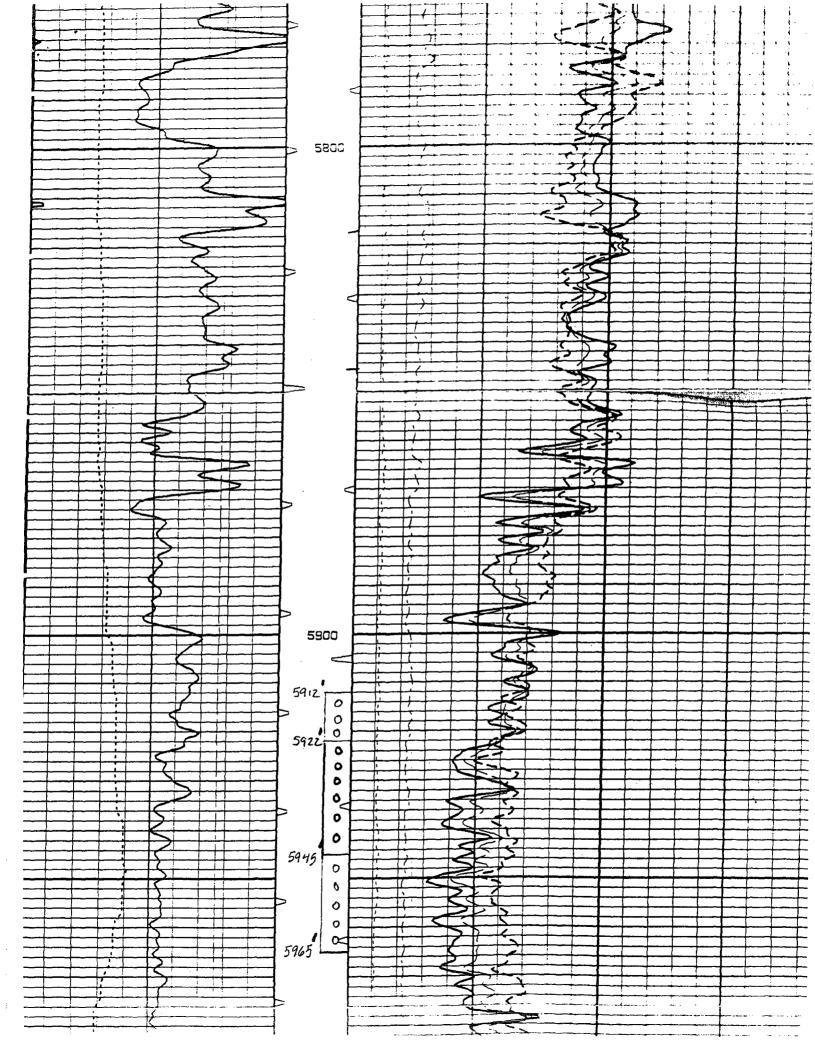
See attachments Exhibits #8, #9.

WITNESSED BY

COMPUTALOG

SPECTRAL Pe DENSITY COMPENSATED NEUTRON **GAMMA RAY**

	COMPANY CHEVRON USA PRODUCTION CO.								
	WELL LENTINI 1 FEDERAL 15								
	FIELD HERRADURA BEND EAST								
= 4									
001292624	COUNTY	COUNTY EDDY STATE N. MEXICO							
■ 88	LOCATION					отн	ER SERVICE	S:	
5	API # 3	0-015	-2823	0		DL	DLL-MSFL		
	1000' F	1000' FNL & 1125' FWL					SFT		
≣ ŏ	(N.M.P.	(N.M.P.M) , REF. QW4545							
	,	EC. 1 TWP 23S RGE 28E							
							مري بشريك بالأشراء		
PERMANENT DATU	M GROUND L	EVEL		ELEV		. ELEV	ELEV.: K.B. 3071.6		
LOG MEASURED F DRILLING MEASU	ROM KD II	<u></u> FT. (ELLY 8	.ABOVE BUSHING	PERMANL	NT DATUM	I	D.F. 3070.6 G.L. 3060.0		
DATE	01-04		7		7				
RUN NO.	,ON		 		 		 		
DEPTH-DRILLER		6350					 		
DEPTH-LOGGER		6354			 				
BTM. LOG INTER		6352		 		 			
TOP LOG INTER.	SUR	F			 		1		
CASING-DRILLER	8-5/8@	270	. @		(6	,	@		
CASING-LOGGER	27	270							
BIT SIZE	7-7	/8							
FLUID TYPE	BRI	NE							
DENS. VISC.									
PH FLUID LOSS				ML		ML	<u> </u>	ML.	
SOURCE OF SAMPL							ļ 		
RM @ MEAS.TEMP.				<u>_</u>	(ġ)	F	(3)	F	
RMF @ MEAS.TEMP			(<u>ā</u>		(9)	F	(à)	F	
RMC @ MEAS.TEMP			@	F	(9)	F	frit	F	
SOURCE: RMF/RMC			<u> </u>					<u>:</u>	
RM @ BHT	.041@1			F	(ġ)	F	tâŋ	F	
TIME SINCE CIRC					F.0			;	
MAX. REC. TEMP.				(ġ)	F@		F@		
EQUIP. LOCATION					 		i		
RECORDED BY	PAVLAK RITTERS	1						 -	
NITHESSED BY	INTITERS	DACHE	2 M			1		¥)	



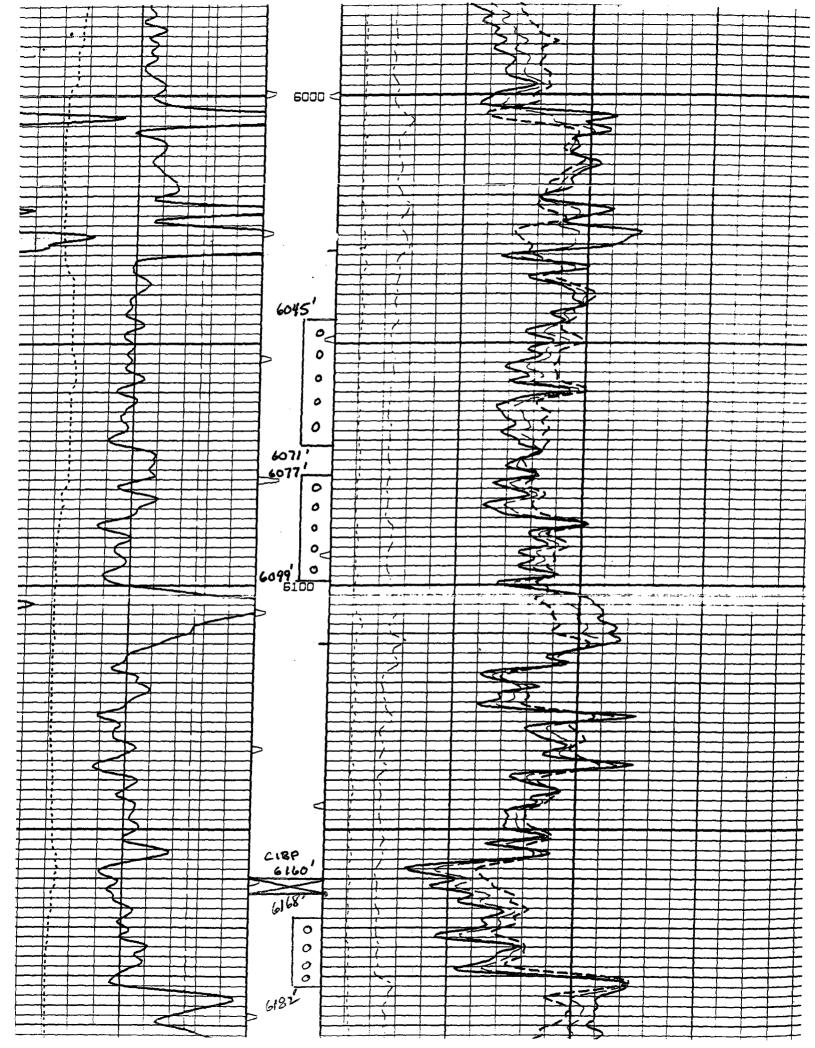


Exhibit VIII

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

ChevronTexaco

July 21, 2003

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

Attention: Leasehold Owners and Land Owners

Gentlemen:

Chevron U.S.A. Inc., as operator of the Lentini Federal 1 #15, has re-filed an application with the New Mexico Oil Conservation Division to convert the Lentini Federal 1 #15 to injection. This conversion is designed as a Herradura Bend, East - Delaware produced water disposal well and the re-filing designates the well as a water disposal project.

Attached is an OCD Form C-108 with information relative to the water injection conversion of the referenced well. This re-filing includes the following changes:

- Page 1 Application for Disposal not including Pressure Maintenance.
- Page 1 Phone number of George F. Pritchard.
- Page 2 III, B. (1) The application is for a Delaware water disposal project.
- Page 2 III, B. (3) The well will be converted to a water disposal well for field produced water.
- Page 9 Item VII, (1), (2), (3) Average and Maximum pressure and injection rates reduced.
- Page 9 Item VII, the addition of (6) describing the Operator's lease line producing wells.

A copy of the new legal notice to be posted in the Carlsbad Current Argus is included. If further information is required please contact Joe Williams at (432) 687-7193.

Sincerely.

George F. Pritchard

Geologist

New Mexico Area

Attachments

LENTINI FEDERAL 1 #15

Conversion to Injection Herradura Bend, East - Delaware Eddy County, NM

Following is the leasehold ownership of the lands within 1/2 mile of the Lentini Federal 1 #15 well:

SE/4 of Section 35, T22S-R28E, Eddy Co., NM

Operating Rights from surface to the base of the Delaware formation:

Dominion Texas Oklahoma Exploration and Production Company 50% 14000 Quail Springs Parkway, Suite 600 Oklahoma City, Oklahoma 73134

Ray Westall, et al P. O. Box 4

50%

Loco Hills, New Mexico 88255

Operating Rights below the base of the Delaware formation:

ExxonMobil Corporation

100%

P. O. Box 4697

Houston, Texas 77210.

S/2 of Section 36, T22S-R28E, Eddy Co., NM, save and except the SE/4 SE/4

Dominion Texas Oklahoma Exploration and Production Company 100% 14000 Quail Springs Parkway, Suite 600 Oklahoma City, Oklahoma 73134

SE/4 SE/4 of Section 36, T22S-R28E, Eddy Co., NM

Chevron U.S.A. Inc.

100%

All of Section 1, T23S-R28E, Eddy Co., NM

Chevron U.S.A. Inc.

100%

E/2 of Section 2, T23S-R28E, Eddy Co., NM

(NW/4 NE/4, NW/4 SE/4 and SE/4 SE/4)

Devon Energy Production Company 20 N. Broadway, Suite 1500 Oklahoma City, Oklahoma 73120 Harvey E. Yates Company P. O. Box 1933 Roswell, New Mexico 88202

*Unable to determine percentage of ownership.

(E/2 NE/4, SW/4 NE/4, NE/4 SE/4 and SW/4 SE/4)

OXY Permian Ltd. Partnership (record title owner)

100%

P. O. Box 50250

Midland, Texas 79710

The United States of America owns the surface estate to the E/2 of Section 35, T22S-R28E, and all of Section 1, T23S-R28E, Eddy Co., NM.

U.S. Bureau of Land Management Carlsbad Field Office 620 E. Greene Street Carlsbad, New Mexico 88220-6292

The State of New Mexico owns the surface estate to the S/2 of Section 36 and the E/2 of Section 2, T23S-R28E, Eddy Co., NM.

State of New Mexico c/o State Land Office P.O. Box 1148 Santa Fe, NM 87504-1148

Legal Notice

(7/21/2003)

Chevron U.S.A. Inc. has re-applied to the Oil Conservation Division of the State of New Mexico for approval to convert the Lentini Federal 1 #15 to a water injector within the Herradura Bend, East – Delaware Field for the disposal of Chevron U. S. A. Inc's produced water from the Herradura Bend, East – Delaware Field. The well is located in the following location: Section 1, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico. Chevron U. S. A. Inc's produced water from the Herradura Bend, East – Delaware Field will be injected into the Brushy Canyon – Delaware formation from 5912 to 6099 feet. Injection will be at an expected maximum rate of 1000 barrels of water per day and an expected maximum pressure of 500 pounds per square inch. Persons wanting to contact Chevron U.S.A. Inc. should direct their inquiries to Joe D. Williams, ChevronTexaco Inc., 15 Smith Road, Midland, TX 79705, phone (432)-687-7193.

Interested Parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, NM 87505, within 15 days of this notice.

Complete items 1, 2, and 3. Also complete item 1 if Restricted Delivery is dosired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. Article Addressed to: ExxonMobit Corporation P. O. Box 4697 Houston, Texas 77210 Article Number (Transfer from service label)	A. Signature X. GEF Agent Addressee B. Received by (Printed Name) JG Daly 9 Deliyerg D. Is delivery address different from item 1? Yes If YES, enter delivery address below: No 3. Service Type Efficient Express Mail Registered Return Receipt for Merchandise Insured Mail C.O.D. 4. Restricted Delivery? (Extra Fee) Yes Pes Pes	A Signalure A Signalure B. Received by (Printed Name) C. D. C.	D. is belivery address orierent iron item If VES, enter delivery address below.	Service Type Gostified Mail Express Mail Registered Return Recept for Insured Mail	1.140 0002 831.8 1.894	Domestic Return Receipt 102395-0
ENDER: COMPLETE THIS SECTION Complete items 1, 2, and 3, Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. Article Addressed to: Dominion Texas Oklahoma Exploration and Production Company Attn: Joe W. Hammond 14000 Quali Springs Parkway, Suite 600	trun Receipt 102595-02-M-1035 COMPLETE THIS SECTION ON DELIVERY A Signature Addressee B. Received by (Printed Name) C. Date of Deliyery D. Is deliyery address different from item 1? Yes If YES, enter delivery address below: No	<i>7</i> ■ ■ ■	1. Article Addressed to: U.S. Bureau of Land Management Carlsbad Field Office 620 E. Greene Street Carlsbad, New Mexico 88220-6292		2. Article Number 7003.	PS Form 3811, August 2001
Oklahorna City, Oklahorna 73134	3. Service Type Express Mail Registered Return Receipt for Merchandise C.O.D.	COMPLETE THIS SECTION ON DELIVERY A. Signature X. F. C. C. Cate B. Ricceived by (Printed Name) C. Cate	10. Is delivery address officern from the state of the st	3. Septica Type Confined Mail Express Mail Mail Mail Mail Mail Mail Mail Mail	4. Restricted Delivery? (Extra Fee) Cr Yes	sestic Return Raceipt
(Transfer from service label) PS Form 3811, August 2001 Domestic Re SENDER: COMPLETE THIS SECTION	3. Service Type Certified Mail	SENDER: COMPLETE THIS SECTION Complete items 1, 2, and 3, Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse on that we have and the pack of the mailpiece or on the front if space permits.	Antide Addressed to: Devon Energy Production Company 20 N. Broadway, Suite 1500 Oklahoma City, Oklahoma 73120		7007	(Maxter from service label) PS Form 3811, August 2001
Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. Article Addressed to: Harvey E. Yates Company P. O. Box 1933 Roswell, New Mexico 88202	B. Received by (Printed Name)	Signatura Signatura Signatura Coceived by (Phinted Name) C. Date	D. is delivery address different from item 17. These If YES, enter delivery address below. In No.	Service Type Capress Mail Capress Mail Registered Peturn Receipt for Merchandise Insured Mail C.O.D.	4. Restricted Delivery? (Extra Fee) (1 Yes	ā
(Transfer from service label)	DDD2 8318 1917 Sturn Receipt 102595-02-M-1035	SENDER: COMPLETE THIS SECTION Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits.	1. Ancie Addressed to: Ray Westall, et al P. O. Box 4	Loco Hills, New Mexico 88255	סאנג נסטר	FIS Form 3811, August 2001 Domestic Return

Exhibit 1x

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

ChevronTexaco

July 21, 2003

REQUEST TO PUBLISH LEGAL NOTICE

Carlsbad Current Argus
P.O. Box 1629
Carlsbad, NM 88221 – 1629
Sent via email: sarmstrong@currentargus.com

Attention: Classified Department

Chevron U.S.A. Production Company requests that you publish the attached notice in your newspaper, one time only, as soon as possible.

Please mail the invoice to the letterhead address, attention Wayne Johnson. Also, please attach a copy of the notice as run in your newspaper and an affidavit certifying publication of the attached notice and the date of publication.

Your prompt assistance in this matter will be greatly appreciated. Questions may be directed to George Pritchard at (432) 687-7206.

Sincerely,

George F. Pritchard

Attachment

Legal Notice

(7/21/2003)

Chevron U.S.A. Inc. has re-applied to the Oil Conservation Division of the State of New Mexico for approval to convert the Lentini Federal 1 #15 to a water injector within the Herradura Bend, East – Delaware Field for the disposal of Chevron U. S. A. Inc's produced water from the Herradura Bend, East - Delaware Field. The well is located in the following location: Section 1, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico. Chevron U. S. A. Inc's produced water from the Herradura Bend, East – Delaware Field will be injected into the Brushy Canyon – Delaware formation from 5912 to 6099 feet. Injection will be at an expected maximum rate of 1000 barrels of water per day and an expected maximum pressure of 500 pounds per square inch. Persons wanting to contact Chevron U.S.A. Inc. should direct their inquiries to Joe D. Williams, ChevronTexaco Inc., 15 Smith Road, Midland, TX 79705, phone (432)-687-7193.

Interested Parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, NM 87505, within 15 days of this notice.

Affidavit of Publication

State of New Mexico, County of Eddy, ss.	
Dawn Higgins being first duly sworn, on oath says:	,
That she is Business Ma of the Carlsbad Current-Argus, a newspa daily at the City of Carlsbad, in said co state of New Mexico and of general paid said county; that the same is a d newspaper under the laws of the State notices and advertisements may be publiprinted notice attached hereto was publicated notice attached notice attached hereto was publicated notice attached notice atta	per published unty of Eddy, circulation in uly qualified wherein legal ished; that the per and not in
August 17	, 2003
	, 2003
	, <u>2003</u>
	, 2003
,	, 2003
	, 2003
That the cost of publication is \$42.73 and that payment thereof has been made a assessed as court costs.	nd will be
Subscribed and sworn to be	fore me this
18th day of August, 2	003
Jawn & Bou	ue,
My commission expires 10/29/05 12/13 Notary Publ	/0 5

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