

BEFORE THE NEW MEXICO OIL CONSERVATION DIVISION

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2012 JAN 31 A 10: 16

APPLICATION OF ENDURANCE
RESOURCES, LLC OF A PRESSURE
MAINTENANCE PROJECT IN THE
DELAWARE FORMATION,
EDDY COUNTY, NEW MEXICO.

Case No. 14800

APPLICATION FOR LEASE PRESSURE MAINTENANCE

Endurance Resources, LLC, by and through its undersigned attorney, applies for an order approving lease pressure maintenance, and in support thereof, states:

1. Applicant seeks approval to institute a lease pressure maintenance project in its Base Ball Park Lease covering the following described lands;

Township 22 South, ~~Range 26 East~~, NMPM

Section 24: SE/4, S/2NE/4 — 225/26E

Section 19: NW/4SW/4 — 225/27E

2. Applicant intends to inject produced water into the Delaware formation through its Base Ball Park No. 1 well located 1980' FSL 660' FEL, Unit I, Section 24, Township 22 South, Range 26 East, N.M.P.M., Eddy County, New Mexico, at a depth of 4,052 feet to 4,690 feet (perforated).

4. A form C-108 for the well is attached hereto as Exhibit A.

5. The granting of this application will prevent waste and protect correlative rights.

WHEREFORE, Applicant requests that, after notice and hearing, the Division enter its order approving this application.

Respectfully submitted,

PADILLA LAW FIRM, P.A.

A handwritten signature in cursive script, appearing to read "Ernest L. Padilla", is centered on the page. The signature is written in black ink on a light-colored background.

ERNEST L. PADILLA,
Attorney for Endurance Resources, LLC
PO Box 2523
Santa Fe, New Mexico 87504
505-988-7577

NMOCD Case No. _____

Application of Endurance Resources, LLC for approval of a pressure maintenance project, Eddy County, New Mexico; Applicant seeks approval to institute a lease pressure maintenance project in its Base Ball Park Lease covering the SE/4 and S/2NE/4 of Section 24; NW/4SW/4 of Section 19; T22S, R26E, NMPM. Applicant intends to inject produced water into the Delaware formation through its Base Ball Park No. 1 well located 1980' FSL 660' FEL, Unit I, Section 24, Township 22 South, Range 26 East, N.M.P.M., Eddy County, New Mexico, at a depth of 4,052 feet to 4,690 feet (perforated).

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EXHIBIT A

EXHIBIT A

APPLICATION FOR AUTHORIZATION TO INJECT

Case 14800

- I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance X Disposal _____ Storage
Application qualifies for administrative approval? _____ Yes X No
- II. OPERATOR: ENDURANCE RESOURCES LLC
ADDRESS: P.O. BOX 1466 ARTESIA, NM 88211-1466
CONTACT PARTY: RANDALL HARRIS PHONE: 575.308-0722
- 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 X 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.
- 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.
- 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: RANDALL HARRIS TITLE: GEOLOGIST
SIGNATURE: [Signature] DATE: 10/12/2011
E-MAIL ADDRESS: rharrisnm@yahoo.com
- * 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: _____

Side 1

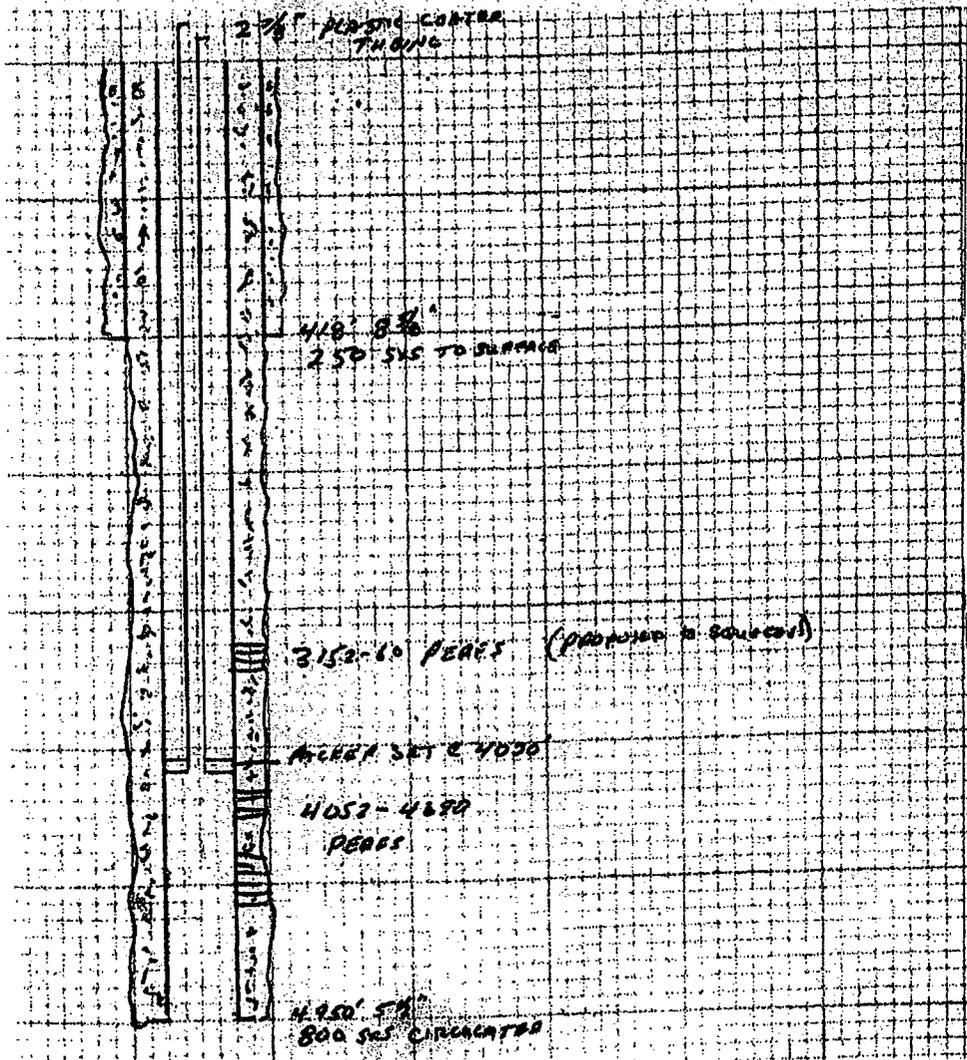
INJECTION WELL DATA SHEET

OPERATOR: ENDURANCES RESOURCES LLC

WELL NAME & NUMBER: BASE BALL PARK #1 30-015-24974

WELL LOCATION: 1980' FSL 660' FEL
FOOTAGE LOCATION I 24 22S 26E
UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 10" Casing Size: 8 5/8"
 Cemented with: 250 sx. or ft³
 Top of Cement: SURFACE Method Determined: CIRCULATED

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"
 Cemented with: 800 sx. or ft³
 Top of Cement: SURFACE Method Determined: CIRCULATED
 Total Depth: 4950

Injection Interval

4052 feet to 4690 PERF

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 2 7/8" Lining Material: PLASTIC

Type of Packer: BAKER AD1 PLASTIC COATED

Packer Setting Depth: 4030

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

Additional Data

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

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

2. Name of the Injection Formation: DELAWARE

3. Name of Field or Pool (if applicable): SOUTH CARLSBAD 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. 3152-60

PROPOSE TO CEMENT SQUEEZE WITH 50 SXS CLASS "C"

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: WOLFAMP 7000, MORROW 11,000

CURRENT CONDITIONS

ENDURANCE RESOURCES

BASE BALL PARK #1

30-015-24974



418' 8 5/16"
250 SKS TO SURFACE

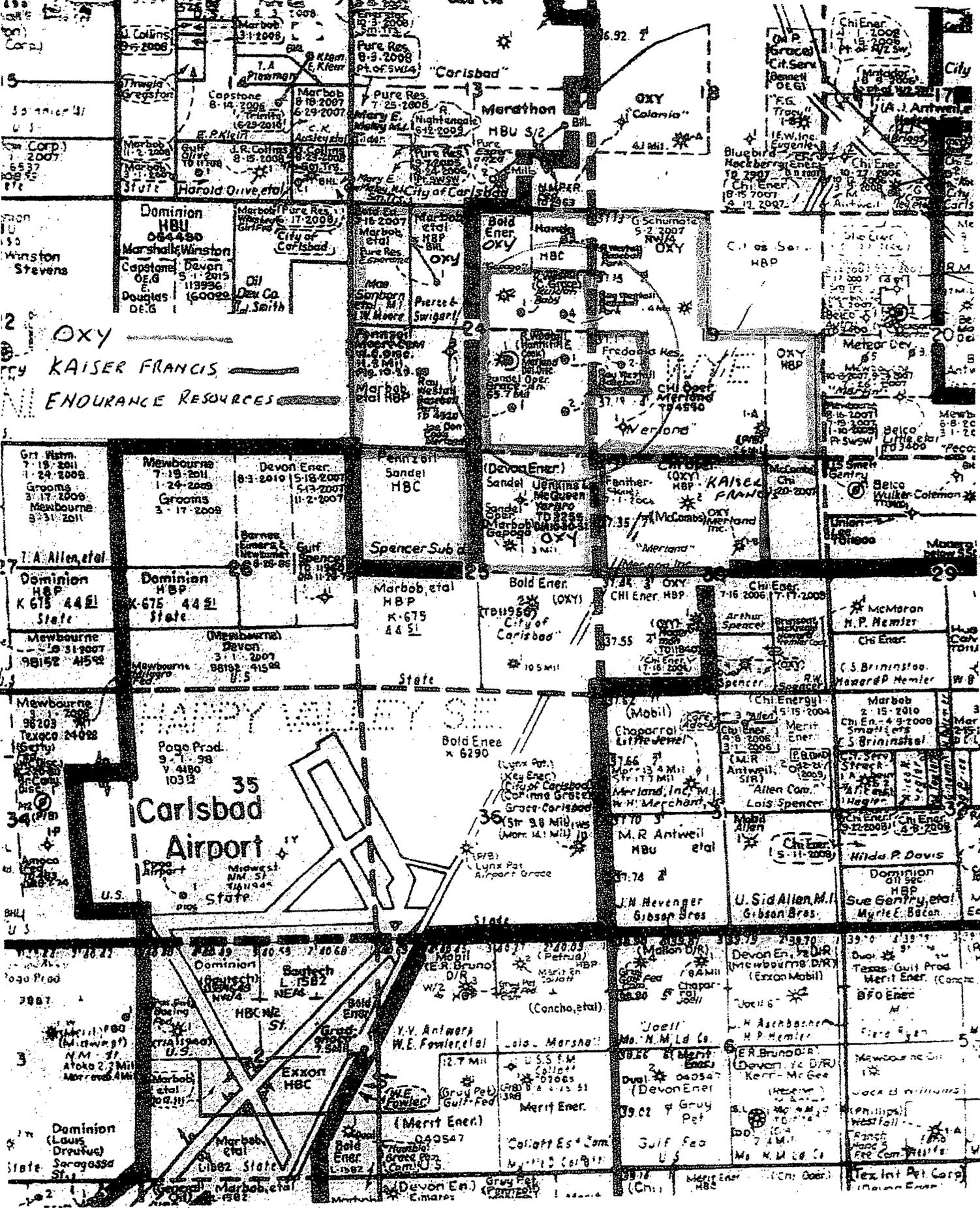
3152-60 PERFS (PROPOSED TO SQUEEZE)

4052-4690
PERFS

4950' 5 1/2"
800 SKS CIRCULATED

ATTACHMENT V

Maps that identifies all wells of public record within two miles of each proposed injection well, and the area of review one-half mile radius around each proposed injection well.



2 OXY
 KAISER FRANCIS
 ENDURANCE RESOURCES

35
 Carlsbad
 Airport

36
 Bold Ener
 x 6290

37
 (Mobil)
 Chaparral
 Littlefield

38
 M.R. Antweil
 HBU et al

39
 J.M. Hevenger
 Gibson Bros

40
 U.S. Sid Allen, M.I.
 Gibson Bros.

41
 Hilda P. Davis

42
 Sue Gentry, et al
 Myrie E. Bacon

43
 Dominion
 HBC

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 Exxon
 HBC

45
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 Gray Fed

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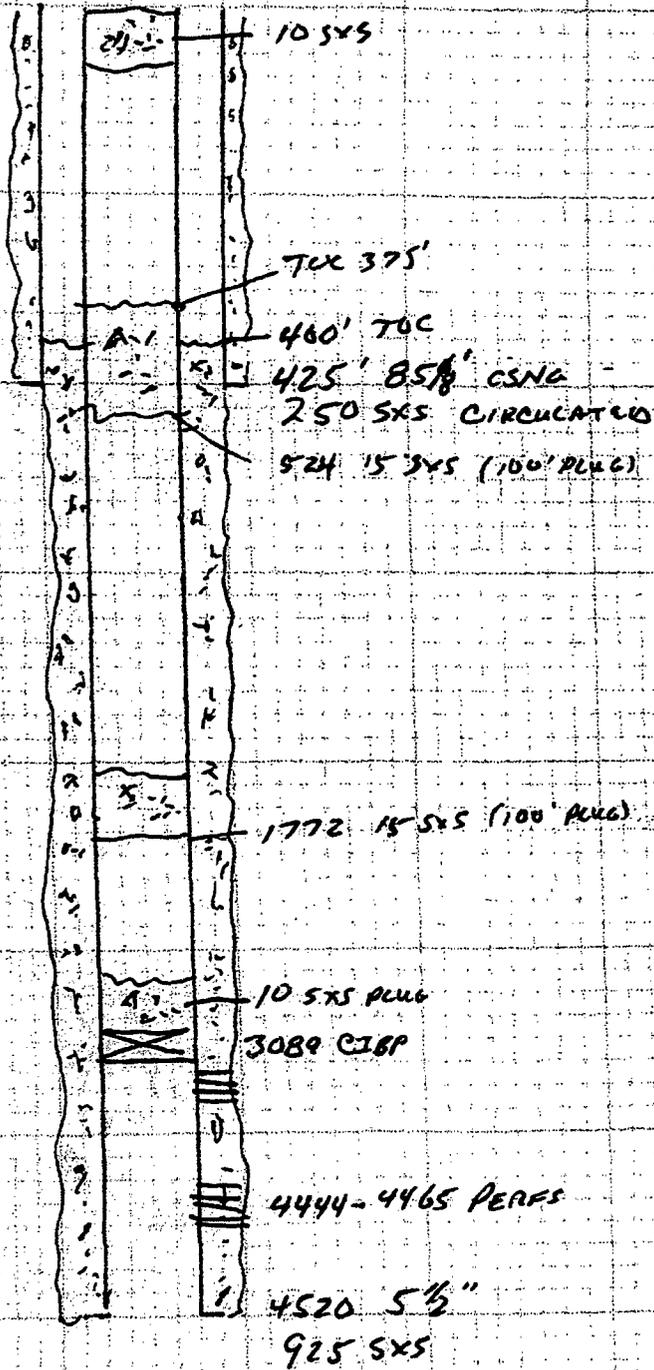
ATTACHMENT VI

Data on all wells of public record within the area of review. Included are schematics of the plugged wells that penetrated the proposed injection zone within the area of review.

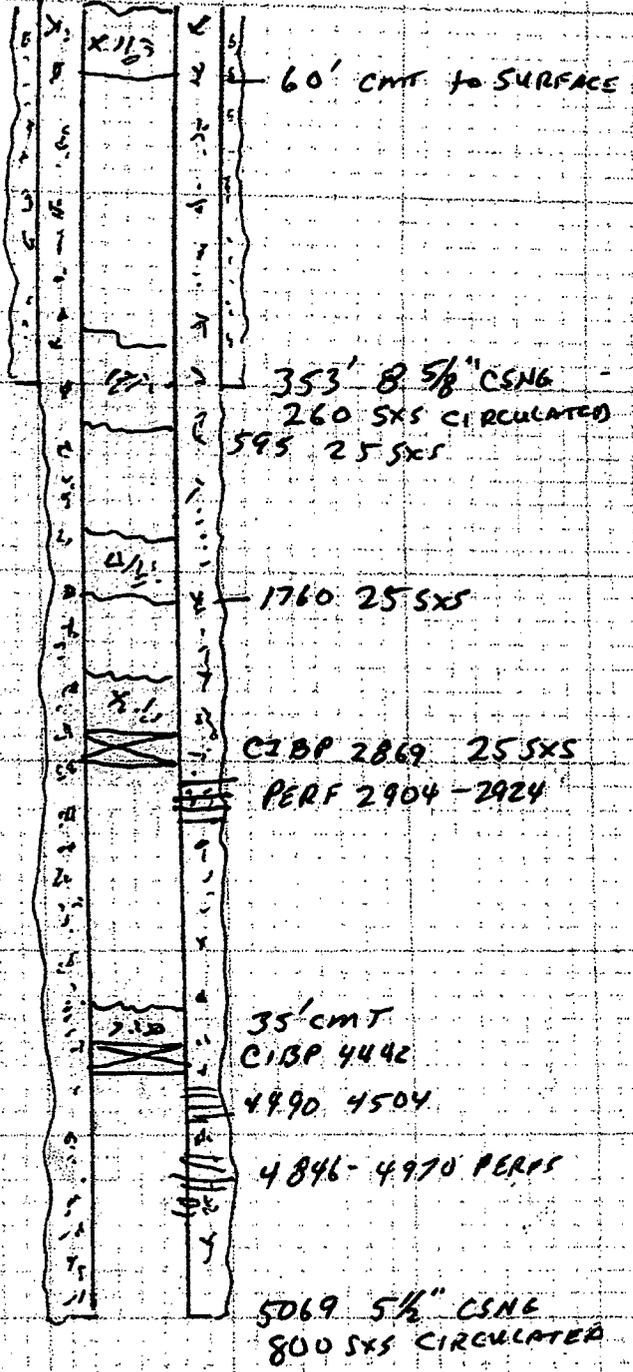
WELL NAME	API	LOCATION	SPUD DATE	SUR.CASING	INT.CASING	PROD. CASING	COMPLETION
OXY Gopogo #2	30-015-20464	G-24-T22S-R26E	6/1/1971	13 3/8" @ 319' 300 sxs Circ.	9 5/8" @ 5328' 1900 sxs Circ	7" @ 11,810' 860 sxs	11,382-11,482 S. Carlsbad Morrow
Oxy Grace Atlantic #1	30-015-20798	J-24-T22S-R26E	1/28/1973	13 3/8" @ 356' 375 sxs Circ.	9 5/8" @ 5402' 1650 sxs Circ	7" @ 11,768' 500 sxs	11,424-11,444 S. Carlsbad Morrow
Endurance Kuklah Baby #1	30-015-21568	G-24-T22S-R26E	6/18/1975	9 5/8" @ 351' 150 sxs Circ.		5 1/2" @ 4518' 325 sxs T/2400' Temp	4446-4469 S. Carlsbad Delaware
Endurance Merland #1	30-015-21036	J-24-T22S-R26E	1/24/1974	8 5/8" @ 375' 250 sxs Circ.		5 /12" @ 4518' 450 sxs T/1700' Calc.	4454-4464 S. Carlsbad Delaware
Endurance Merland #2	30-015-25355	L-19-T22S-R27E	9/16/1985	8 5/8" @ 597' 500 sxs Circ.		5 1/2" @ 5453' 900 sxs Circ	2769-2781 S. Carlsbad Delaware
Endurance Base Ball Park #2	30-015-25217	P-24-T22S-R26E	4/2/1985	8 5/8" @ 400' 250 sxs Circ.		5 1/2" @ 4600' 1850 sxs Circ.	4230-4256 S. Carlsbad Delaware
Endurance Base Ball Park #4	30-015-25584	H-24-T22S-R26E	4/25/1986	8 5/8" @ 434' 250 sxs Circ.		5 1/2" @ 4600' 650 sxs T/ 485' BL	3150-3165 S. Carlsbad Delaware

WELL NAME	API	LOCATION	SPUD DATE	SUR.CASING	INT.CASING	PROD. CASING	COMPLETION
Plugged Wells							
Endurance Merland SWD	30-015-22980	O-24-T22S-R26E	8/13/1979	8 5/8" @ 399' 400 sxs Circ.		5 1/2" @ 4518 500 sxs T/1420 Bond	
CHI Merland #1	30-015-26266	M-19-22S-27E	2/5/1990	8 5/8" @ 570' 360 sxs Circ.			
Ray Westall Base Ball Park #3	30-015-25578	K-24-T22S-R26E	4/14/1986	8 5/8" @ 425' 250 sxs Circ.		5 1/2" @ 4520' 925 sxs T/400' Temp	
Ray Westall Base Ball Park #5	30-015-25881	A-24-T22S-R26E	6/16/1988	8 5/8" @ 353' 260 sxs Circ		5 1/2" @ 5069' 800 sxs Circ	

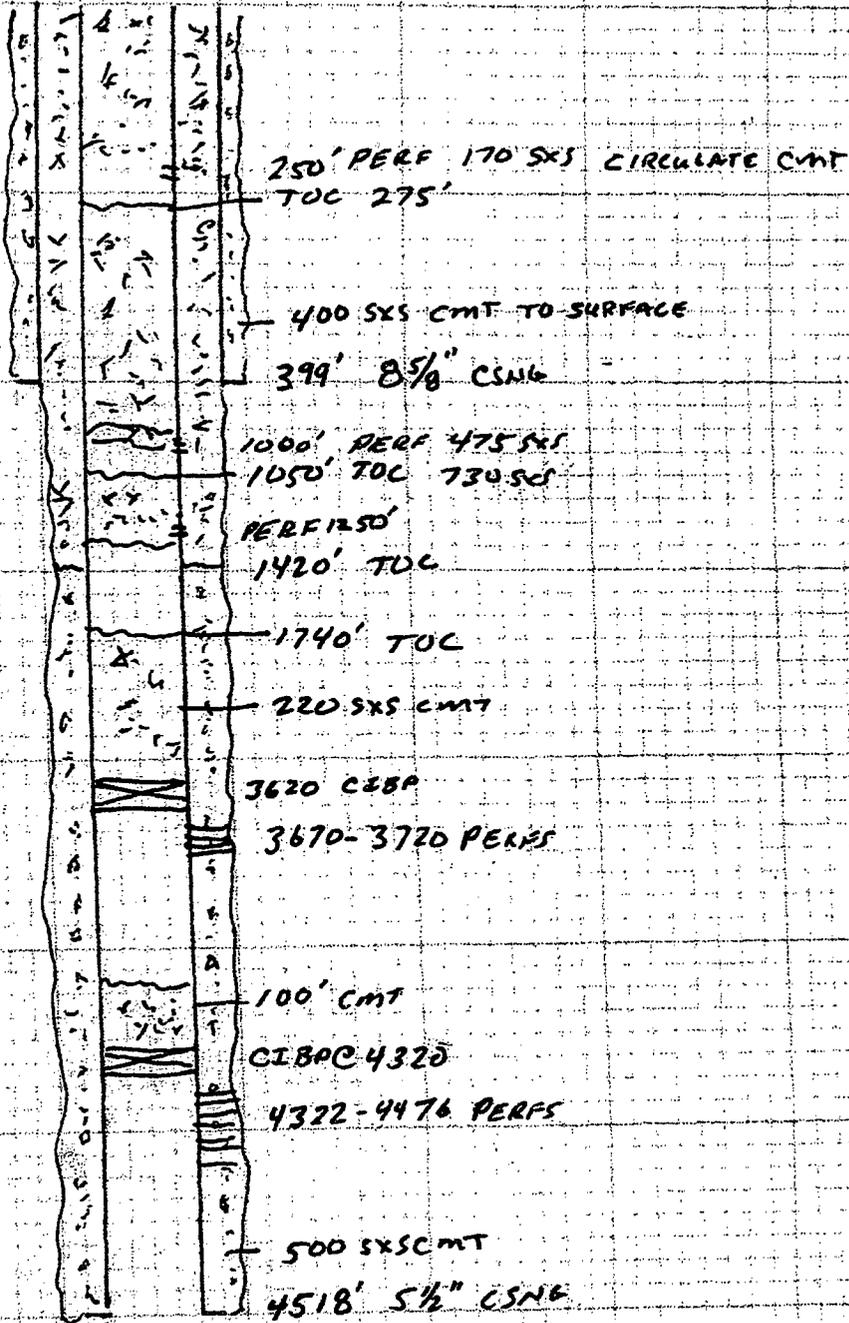
RAY WESTALL
BASE BALL PARK #3
30-015-25578

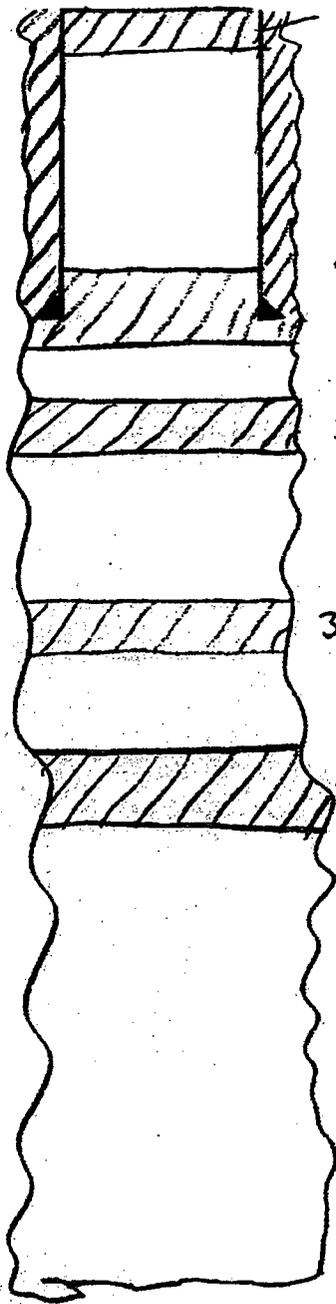


RAY WESTALL
BASE BALL PARK #5
30-015-25881



ENDURANCE RESOURCES
MERLAND SWD





10 SXS

Chi Oper.
Merland #1

19-22-27

Darrell Moore

given to David Harrison
2/13/50
887-9073

28 SXS
510 Circ

720 - 820

31 SXS

TX

770

1400 - 1500

31 SXS

BX

1450

2675 - 2775

41 SXS

- Delaware

2725

No perfs

TD in Del. 4550'

ATTACHMENT VII

Endurance Resources LLC proposed to convert this to a SWD. Cement squeeze perforations 3152-3160. Pressure test well as OCD requires.

- 1) Plan to inject approximately 250 bpd of produced water from Endurance Resources LLC own operation on lease.
- 2) System will be closed.
- 3) Average injection pressure should be approximately 500#.
- 4) Water from the offset production if from the S. Carlsbad Delaware.

ATTACHMENT VIII

The proposed injection zone is sands of the Delaware formation. In this area the Delaware is approximately 3300' thick and consists of shales and sand. In the proposed disposal well the Delaware is at 1932'.

There is possible drinking water overlying the injection in the surface sands at a depth of 0-250'. New Mexico State Engineer report attached.

No stimulation proposed.

ATTACHMENT IX

ATTACHMENT XI

There are two active water analysis attached .



New Mexico Office of the State Engineer

Wells with Well Log Information

POD Number	Sub basin	Use	County	Source	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)			(NAD83 UTM in meters)			Start Date	Finish Date	Log File Date	(in feet)				
					6416 4	Sec	Twp	Rng	X	Y				Distance	Well	Water		
C 00651	C	DOM	ED		24	22S	26E	570858	3582581*	0	04/25/1955	05/08/1955	05/23/1955	160				
C 03156	C	DOL	ED	Shallow	2	1	4	24	22S	26E	671182	3582467*	343	02/15/2006	02/27/2006	03/13/2006	170	94

Record Count: 2

Basin/County Search:

Basin: Carlsbad

County: Eddy

UTM NAD83 Radius Search (in meters):

Easting (X): 570858

Northing (Y): 3582581

Radius: 500

Usage Filter:

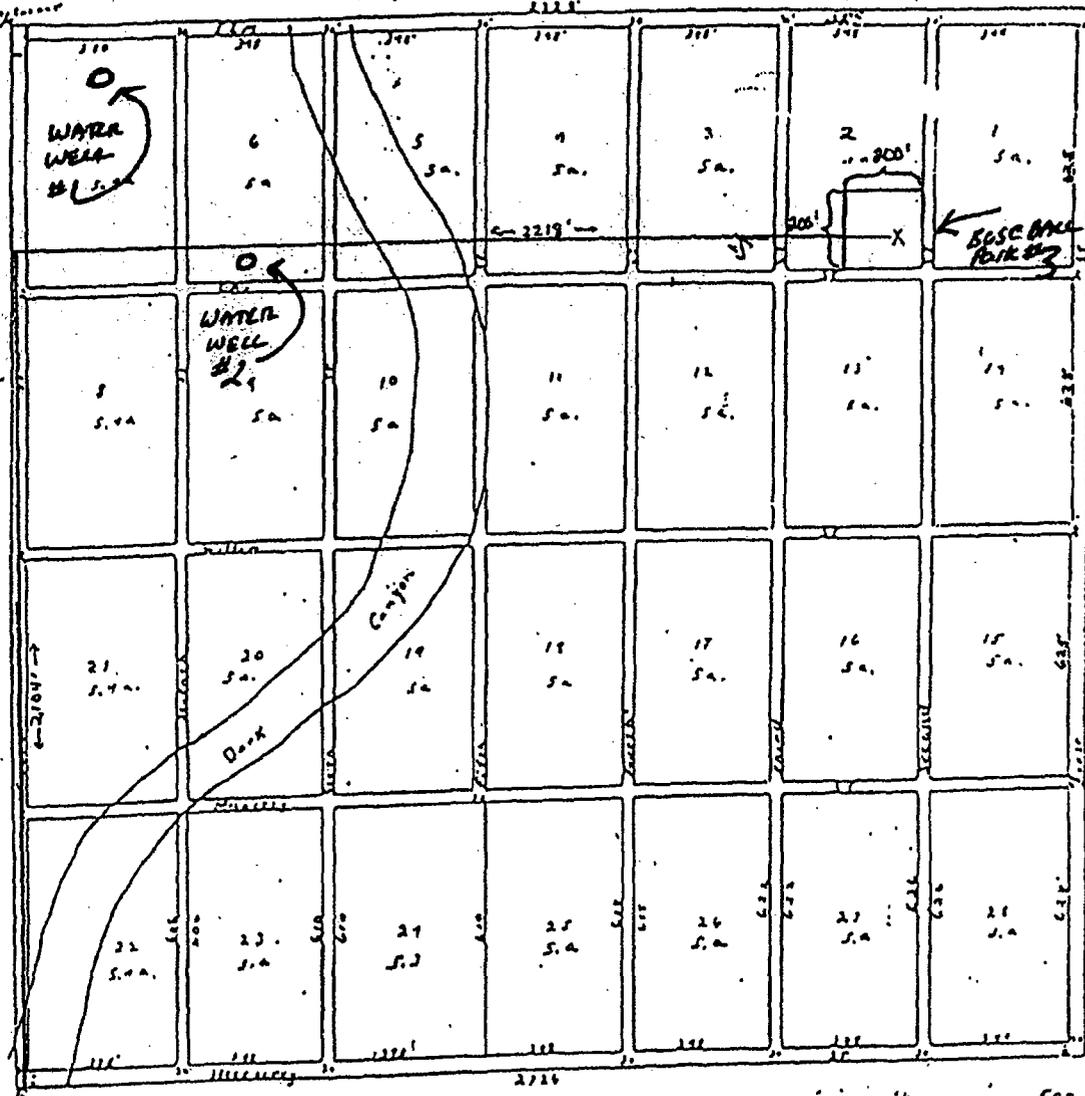
Use: All Usages

Information was derived from PLSS - see Help

Information furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, or suitability for any particular purpose of the data.

WALLING HEIGHTS

A Subdivision of the SW 1/4 of Sec. 24, T. 22 N., R. 26 E. N.M.



23	24
26	25

For Assessment purposes only



DOWELL DIVISION OF DOW CHEMICAL U.S.A.

An Operating Unit of The Dow Chemical Company

LABORATORY LOCATION

API WATER ANALYSIS REPORT FORM

DATE

LAB NO

Company <i>King West All</i>		Sample No. <i>1</i>	Date Sampled <i>5-19-57</i>	
Field <i>DOMESTIC WATER WELL</i>	Legal Description		County or Parish <i>Eddy</i>	State <i>N.M.</i>
Lease or Unit <i>J.N.S. TRAMS WATER WELL</i>	Well	Depth <i>62'</i>	Formation	Water, H/D
Type of Water (Produced, Supply, etc.)		Sampling Point <i>WINDMILL</i>		Sampled By <i>G.G.</i>

DISSOLVED SOLIDS

CATIONS	mg/L	me/L
Sodium, Na (calc.)	<i>2</i>	<i>2</i>
Calcium, Ca	<i>1000</i>	<i>50</i>
Magnesium, Mg	<i>3042</i>	<i>250</i>
Barium, Ba		

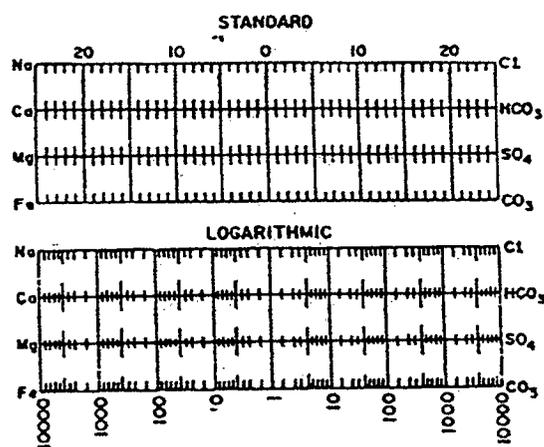
OTHER PROPERTIES

pH	<i>6 1/2</i>
Specific Gravity, 60/60 F.	<i>1.000</i>
Resistivity (ohm-meters) _____ F.	

ANIONS

Chloride, Cl	<i>3550</i>	<i>100</i>
Sulfate, SO ₄	<i>200</i>	<i>4</i>
Carbonate, CO ₃		
Bicarbonate, HCO ₃	<i>79</i>	<i>1.3</i>

WATER PATTERNS — me/L



Total Dissolved Solids (calc.) _____

Iron, Fe (total) *1*

Sulfide, as H₂S _____

REMARKS & RECOMMENDATIONS:



DOWELL DIVISION OF DOW CHEMICAL U.S.A.

An Operating Unit of The Dow Chemical Company

LABORATORY LOCATION

API WATER ANALYSIS REPORT FORM

DATE

LAB NO.

Company <i>RAY WESTALL</i>		Sample No. <i>2</i>	Date Sampled <i>5-19-57</i>	
Field <i>DOMESTIC WATER WELL</i>	Legal Description	County or Parish <i>Edge</i>	State <i>Nm</i>	
Lease or Unit <i>ONE WEST OF BASCOM LOT 4.3</i>	Well <i>WINDMILL</i>	Depth <i>105'</i>	Formation <i>1</i>	Water, H/D
Type of Water (Produced, Supply, etc.)	Sampling Point <i>WINDMILL</i>		Sampled By <i>C.G.</i>	

DISSOLVED SOLIDS

CATIONS

	mg/L	me/L
Sodium, Na (calc.)	<u>0</u>	<u>0</u>
Calcium, Ca	<u>1000</u>	<u>50</u>
Magnesium, Mg	<u>1825</u>	<u>150</u>
Barium, Ba		

ANIONS

Chloride, Cl	<u>3550</u>	<u>100</u>
Sulfate, SO ₄	<u>200</u>	<u>4</u>
Carbonate, CO ₃		
Bicarbonate, HCO ₃	<u>79</u>	<u>1.3</u>

Total Dissolved Solids (calc.)

Iron, Fe (total)

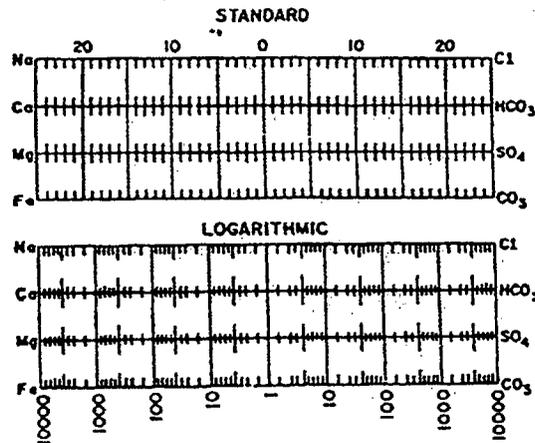
1

Sulfide, as H₂S

OTHER PROPERTIES

pH	<u>6.2</u>
Specific Gravity, 60/60 F.	<u>1.000</u>
Resistivity (ohm-meters) _____ F.	_____
_____	_____
_____	_____

WATER PATTERNS — me/L



REMARKS & RECOMMENDATIONS:

ATTACHMENT XII

I, Randall L. Harris, have examined all available geologic and engineering data and there is no evidence of open faults or any other hydrologic connection between the disposal zone and any source of drinking water.

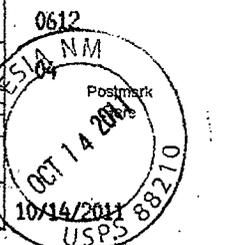
7008 3230 0002 1722 3217

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only, No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

CARLSBAD, NM 88220
OFFICIAL USE

Postage	\$ 1.68
Certified Fee	\$2.85
Return Receipt Fee (Endorsement Required)	\$2.30
Restricted Delivery Fee (Endorsement Required)	\$0.00
Total Postage & Fees	\$ 6.83



Sent To **MERLAND INC.**
 Street, Apt. No., or PO Box No. **302 N. CANAL**
 City, State, ZIP+4 **CARLSBAD, NM 88220**
 PS Form 3800, August 2006 See Reverse for Instructions

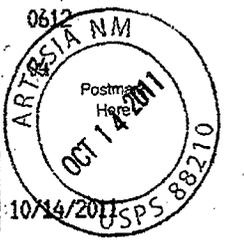
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U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only, No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

HOUSTON, TX 77210
OFFICIAL USE

Postage	\$ 1.68
Certified Fee	\$2.85
Return Receipt Fee (Endorsement Required)	\$2.30
Restricted Delivery Fee (Endorsement Required)	\$0.00
Total Postage & Fees	\$ 6.83



Sent To **OXY**
 Street, Apt. No., or PO Box No. **P.O. Box 4294**
 City, State, ZIP+4 **HOUSTON, TX 77210**
 PS Form 3800, August 2006 See Reverse for Instructions

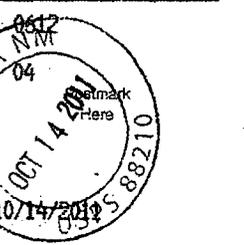
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U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only, No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com

TULSA, OK 74121
OFFICIAL USE

Postage	\$ 1.68
Certified Fee	\$2.85
Return Receipt Fee (Endorsement Required)	\$2.30
Restricted Delivery Fee (Endorsement Required)	\$0.00
Total Postage & Fees	\$ 6.83



Sent To **KAISER-FRANCIS OIL CO**
 Street, Apt. No., or PO Box No. **P.O. Box 21468**
 City, State, ZIP+4 **TULSA, OK 74121-1468**
 PS Form 3800, August 2006 See Reverse for Instructions