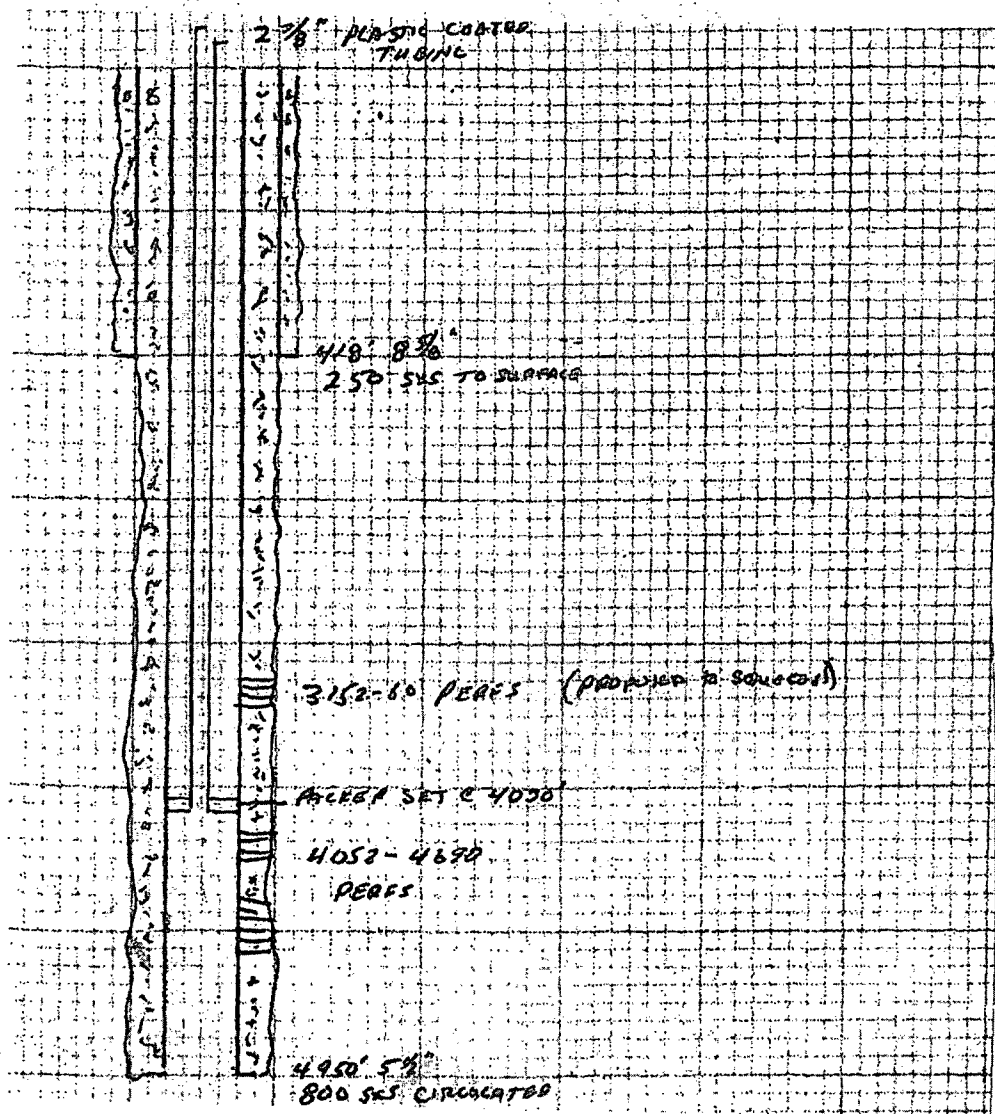


**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery Pressure Maintenance ☒ Disposal Storage  
Application qualifies for administrative approval? Yes ☒ 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 ☒ 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: \_\_\_\_\_

## INJECTION WELL DATA SHEET

OPERATOR: ENDURANCES RESOURCES LLCWELL NAME & NUMBER: BASE BALL PARK #1 30-015-24974WELL LOCATION: 1980' FSL 660' FEL I 24 22S 26E  
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGEWELLBORE SCHEMATICWELL CONSTRUCTION DATASurface CasingHole Size: 10" Casing Size: 8 5/8"Cemented with: 250 SX. or        ft<sup>3</sup>Top of Cement: SURFACE Method Determined: CIRCULATEDIntermediate CasingHole Size:        Casing Size:       Cemented with:        SX. or        ft<sup>3</sup>Top of Cement:        Method Determined:       Production CasingHole Size: 7 7/8" Casing Size: 5 1/2"Cemented with: 800 SX. or        ft<sup>3</sup>Top of Cement: SURFACE Method Determined: CIRCULATEDTotal Depth: 4950Injection Interval4052 feet to 4690 PERF

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEETTubing Size: 2 7/8" Lining Material: PLASTICType of Packer: BAKER AD1 PLASTIC COATEDPacker 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:
- WOLFCAMP 7000, MORROW 11,000

# CURRENT CONDITIONS

# ENDURANCE RESOURCES

BASE BALL PARK #1

30-015-24 974



418' 8 9/16"  
250 SXS TO SURFACE

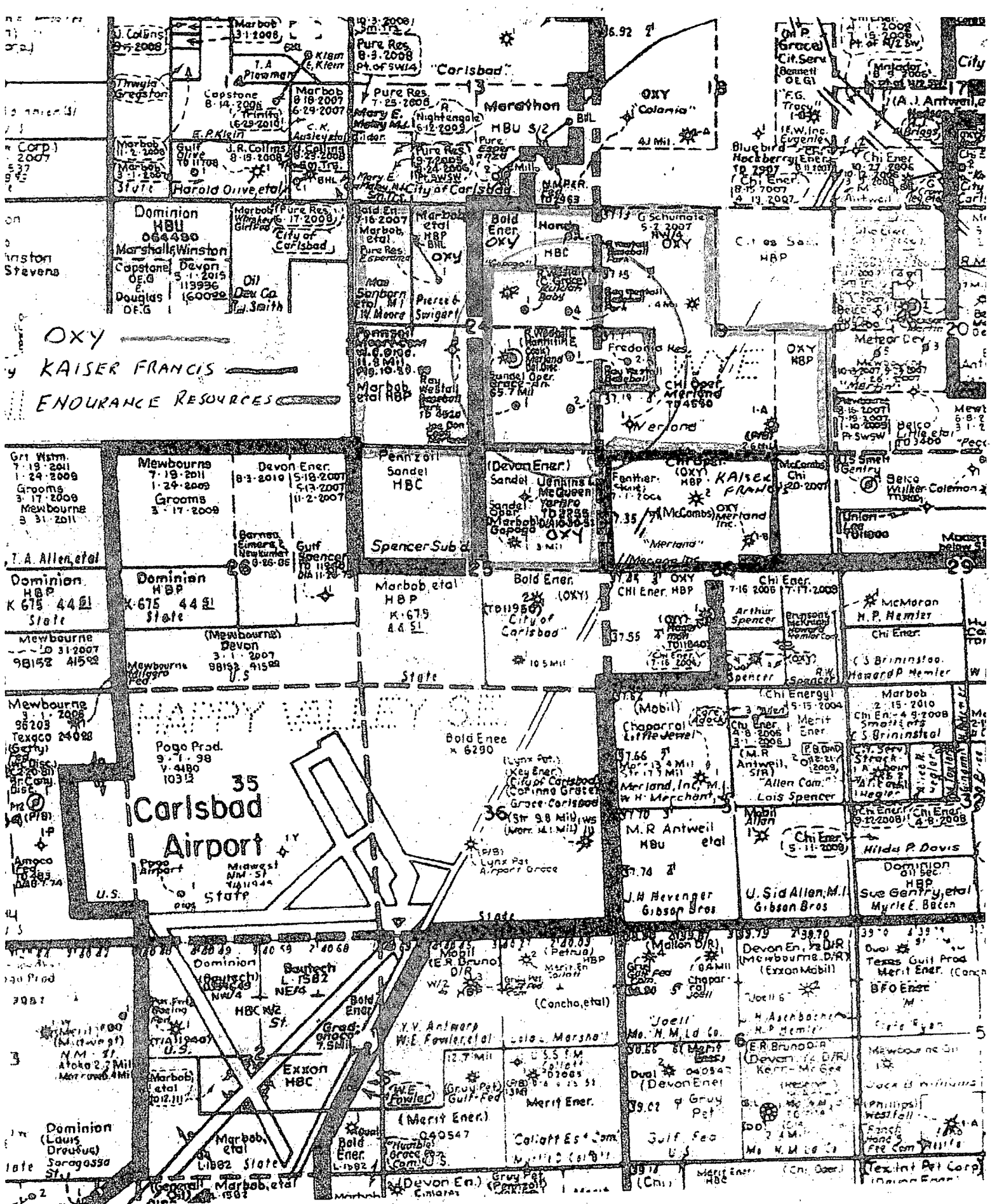
3152-60 PERFS (PROPOSED TO SQUEEZE)

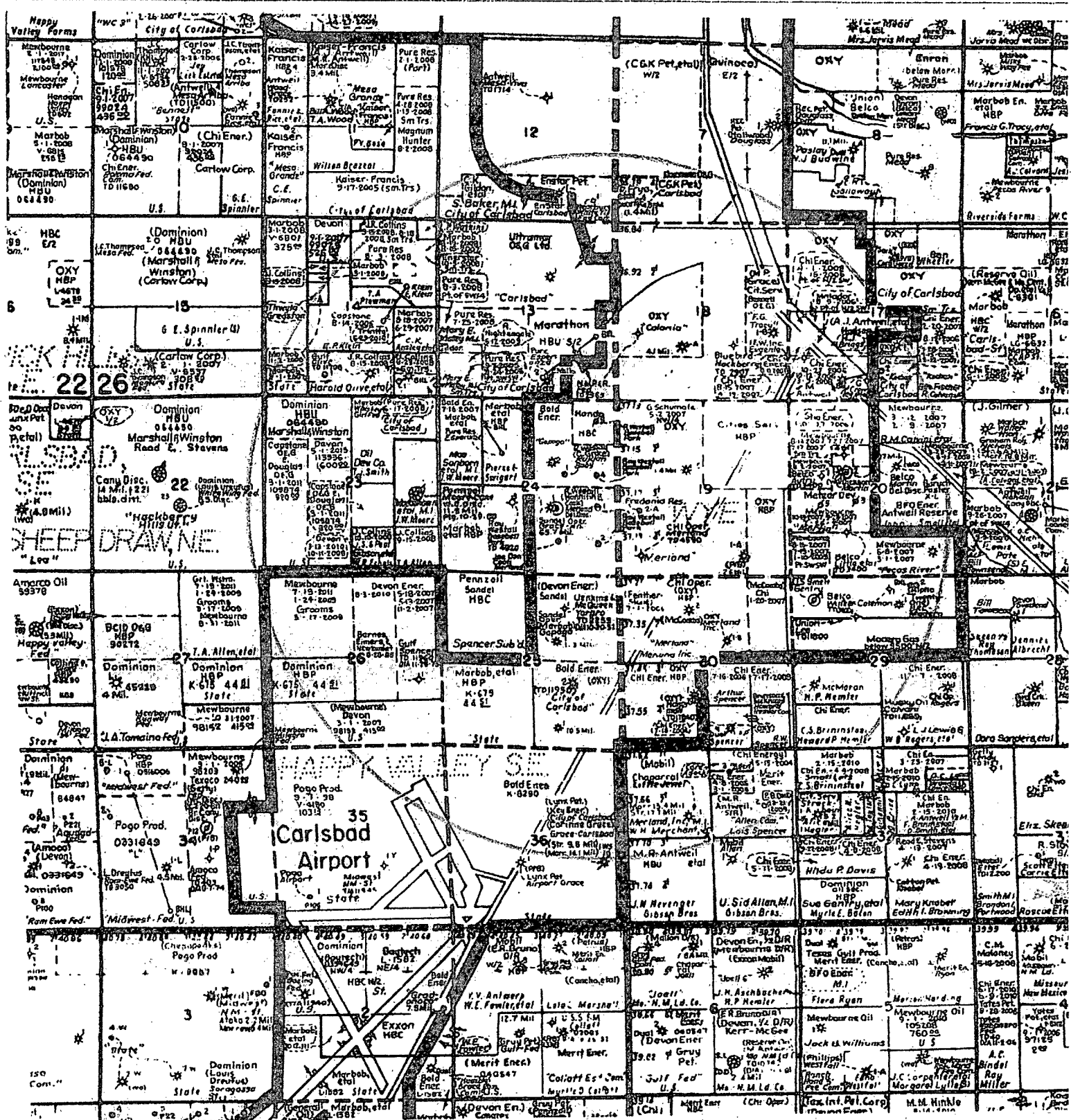
4052-4690  
PERFS

4950' 5 1/2"  
800 SXS 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.





## **ATTACHMENT VI**

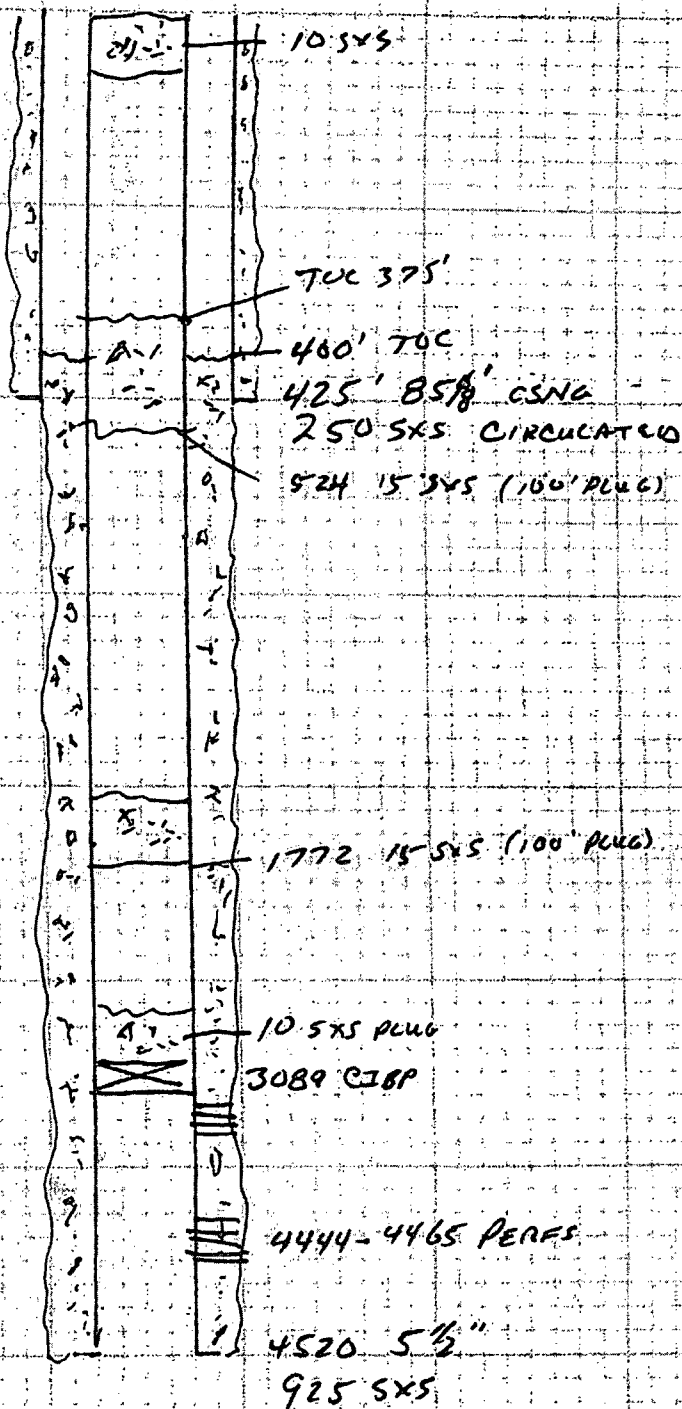
**Data on all wells of public record within the area of review. Included are schematics of the plugged wells that penetrated the proposed injection zone within the area of review.**



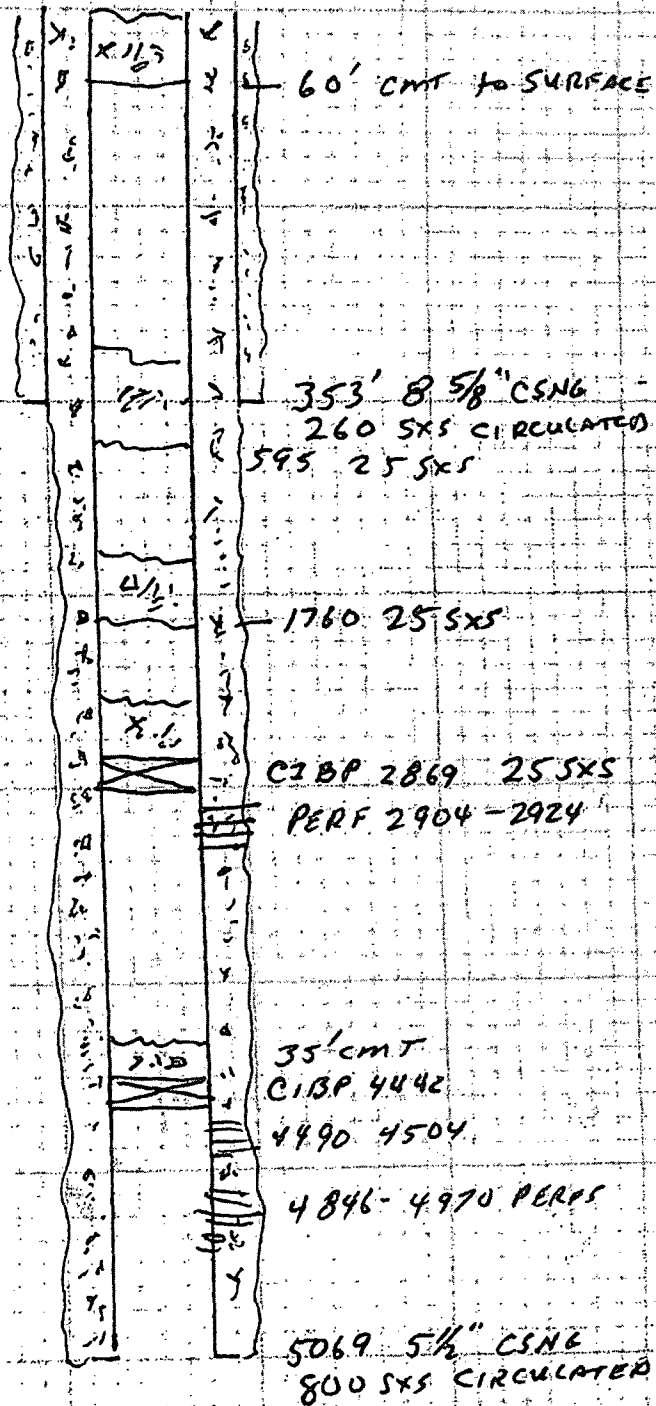
WELL NAME	API	LOCATION	SPUD DATE	SUR.CASING	INT.CASING	PROD. CASING	COMPLETION
OXY Gopogo #2	30-015-20464	G-24-T22S-R26E	6/1/1971	13 3/8" @ 319' 300 sxs Circ.	9 5/8" @ 5328' 1900 sxs Circ	7" @ 11,810' 860 sxs	11,382-11,482 S. Carlsbad Morrow
Oxy Grace Atlantic #1	30-015-20798	J-24-T22S-R26E	1/28/1973	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	

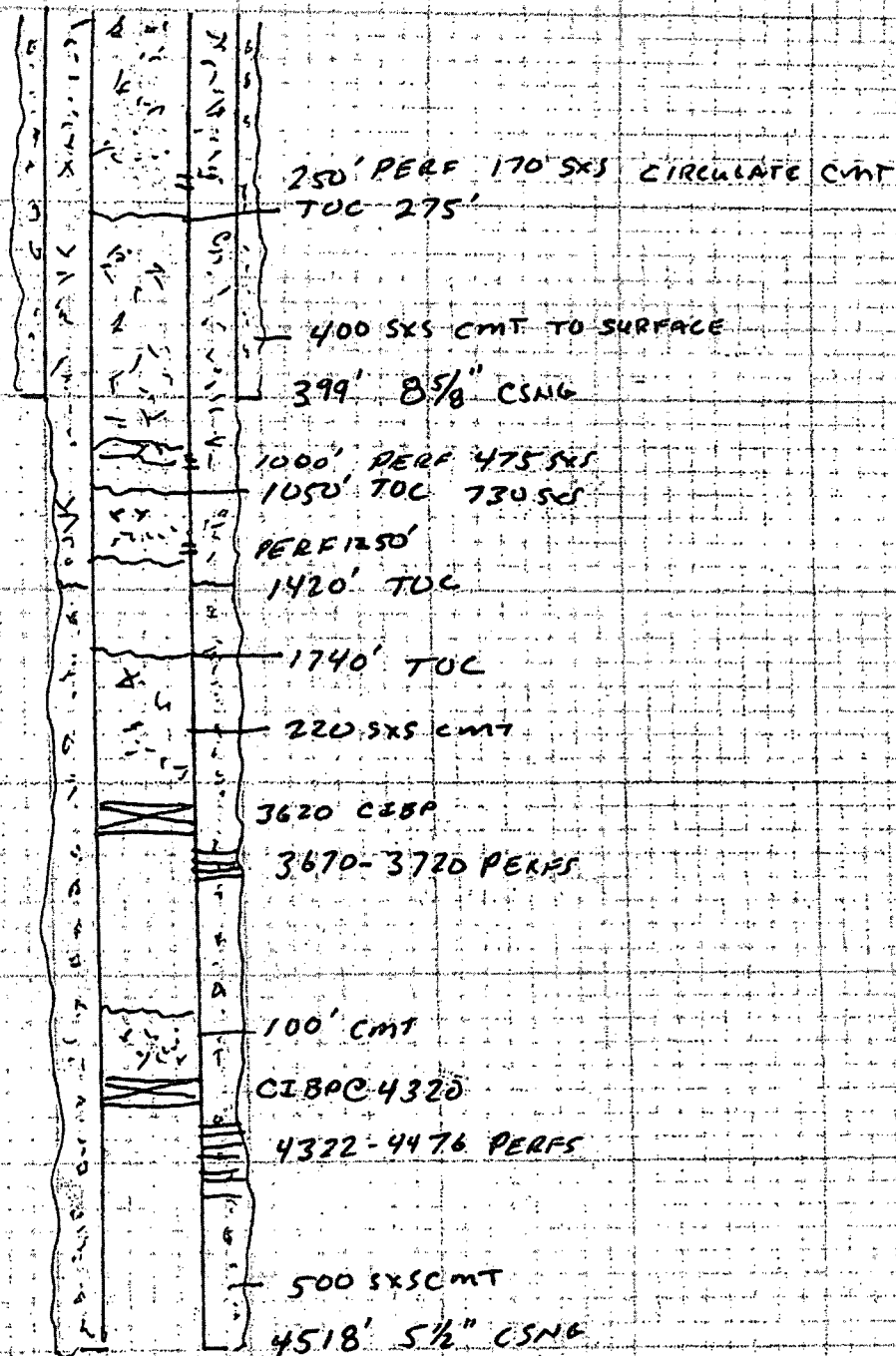
RAY WESTALL  
BATE BALL PARK #3  
30-015-25578

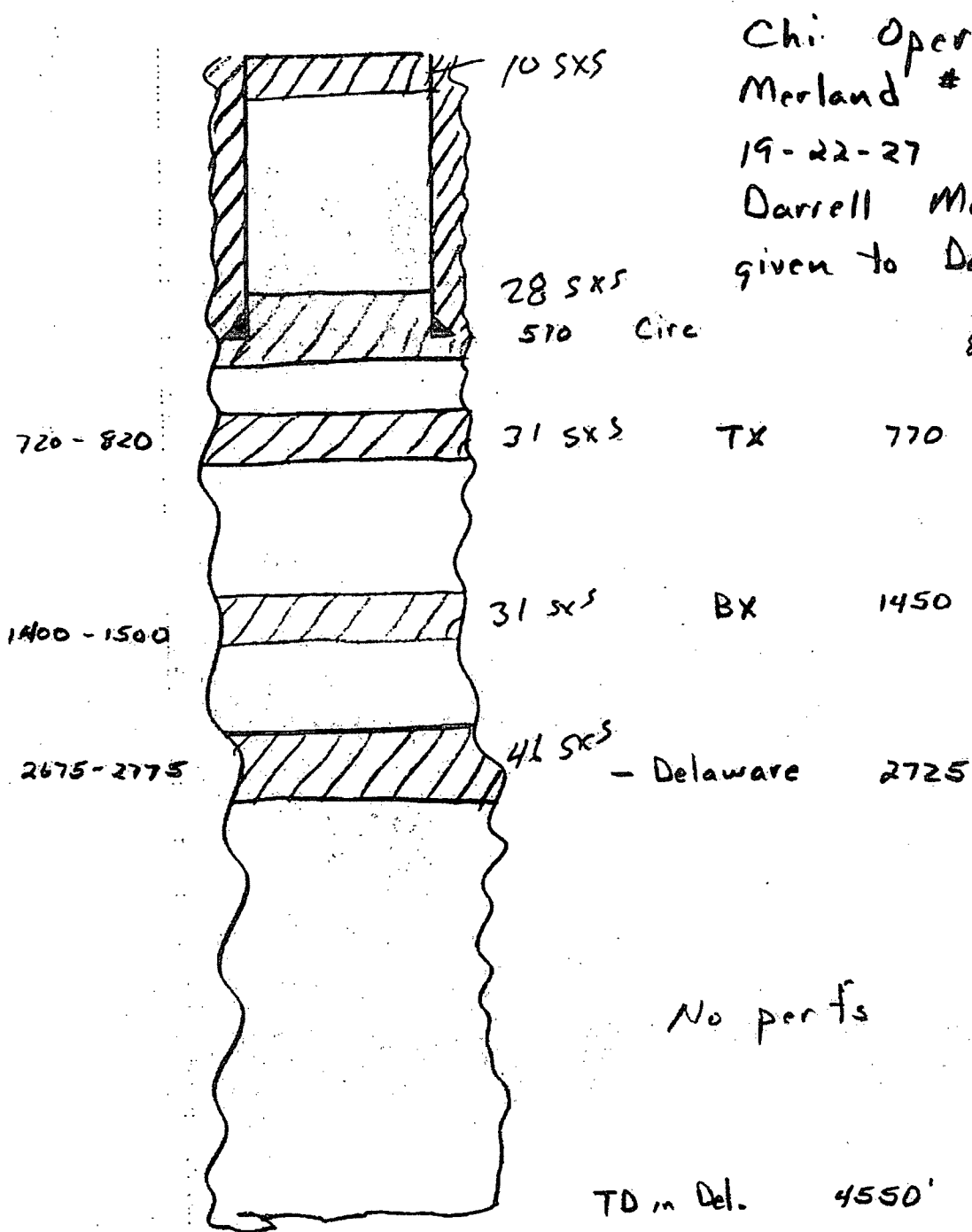


RAY WESTALL  
BASE BALL PARK #5  
30-015-25881



ENDURANCE RESOURCES  
MERLAND SWD





Chi. Oper.  
Merland #1

19-22-27

Darrell Moore

given to David Harrison

2/13/90

887-9073

## 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

(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)										(NAD83 UTM in meters)					(in feet)	
POD Number	Sub basin	Use	County	Source	q q q	Sec	Tws	Rng	X	Y	Distance	Start Date	Finish Date	Log File	Depth Well	Depth Water
C 00851	C	DOM	ED		6416 4	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	571182	3582467*	343	02/15/2006	02/27/2006	03/13/2006	170	94

**Record Count: 2**

**Basin/County Search:**

Basin: Carlsbad

County: Eddy

**UTMNAD83 Radius Search (in meters):**

Easting (X): 570858

Northing (Y): 3582581

Radius: 500

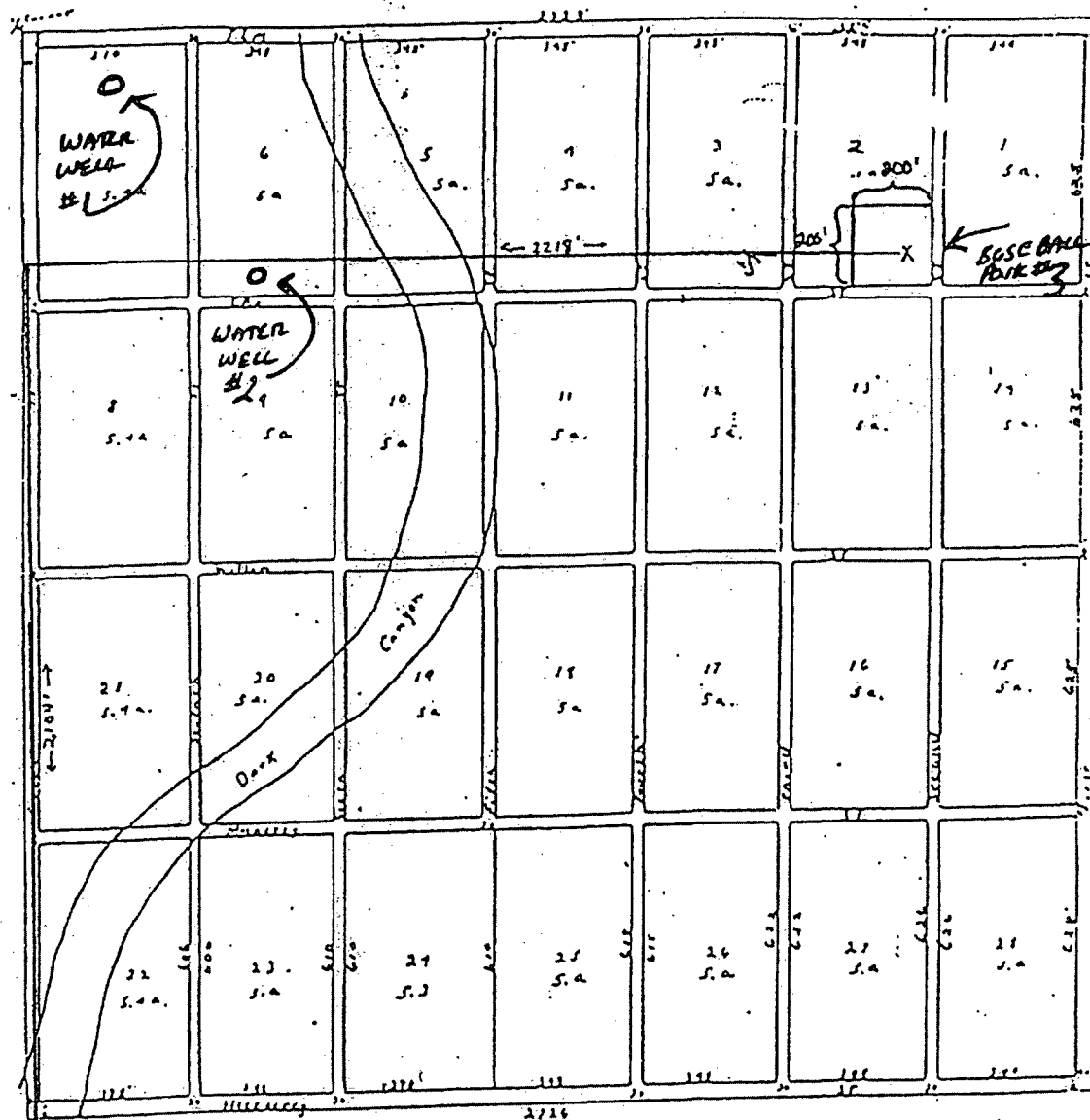
**Usage Filter:**

Use: All Usages

on was derived from PLSS - see Help

urnished 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, ability, or suitability for any particular purpose of the data.

3 PM



# WALLING HEIGHTS

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

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>	
Lease or Unit <i>INGERS NARR WELL</i>		Well		State <i>NM</i>	
Type of Water (Produced, Supply, etc.)		Depth <i>62'</i>		Formation	
Sampling Point <i>WINDMILL</i>		Water, B/D		Sampled By <i>GG</i>	

## DISSOLVED SOLIDS

CATIONS	mg/L	me/L
Sodium, Na (calc.)	<i>0</i>	<i>0</i>
Calcium, Ca	<i>1000</i>	<i>50</i>
Magnesium, Mg	<i>3042</i>	<i>250</i>
Barium, Ba		

## ANIONS

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

Total Dissolved Solids (calc.)

Iron, Fe (total)

Sulfide, as H<sub>2</sub>S

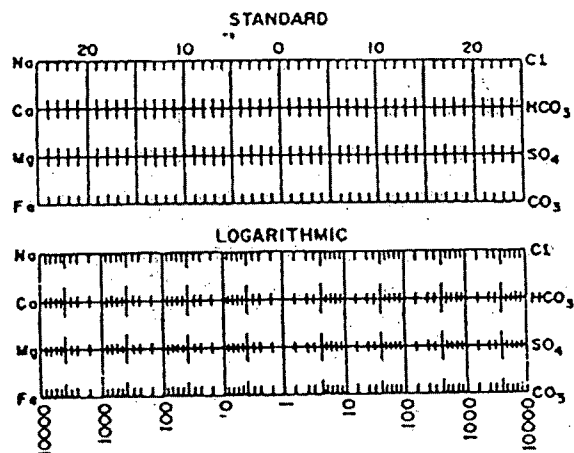
## OTHER PROPERTIES

pH

Specific Gravity, 60/60 F.

Resistivity (ohm-meters) F.

## WATER PATTERNS — me/L



REMARKS &amp; 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 <u>RAY WETAIL</u>		Sample No. <u>2</u>		Date Sampled <u>5-19-57</u>	
Field <u>DOMESTIC WATER Well</u>		Legal Description		County or Parish <u>Edo</u>	State <u>Nm</u>
Lease or Unit <u>ONE WEST OF BASCHUT PLOT 43</u>	Well	Depth <u>105'</u>	Formation <u>7</u>	Water, B/D	
Type of Water (Produced, Supply, etc.)			Sampling Point <u>WINDMILL</u>		Sampled By <u>G.G.</u>

## 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		

## OTHER PROPERTIES

pH

Specific Gravity, 60/60 F.

Resistivity (ohm-meters) F.

6 1/2

1.000

## ANIONS

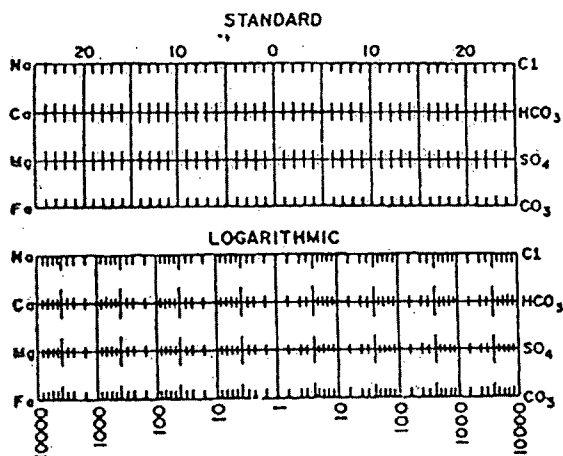
Chloride, Cl	<u>3550</u>	<u>100</u>
Sulfate, SO <sub>4</sub>	<u>200</u>	<u>4</u>
Carbonate, CO <sub>3</sub>		
Bicarbonate, HCO <sub>3</sub>	<u>79</u>	<u>1.3</u>

Total Dissolved Solids (calc.)

Iron, Fe (total)

Sulfide, as H<sub>2</sub>S

## WATER PATTERNS — me/L



REMARKS &amp; RECOMMENDATIONS:

ANALYSIS BASED ON API RECOMMENDED PROCEDURE

## **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.

## ATTACHMENT XIV

### PROOF OF NOTICE

Leasehold operators within one-half mile of the well location are: OXY and Kaiser Francis. Each of the operators were provided a copy of our application by certified mail. Proof of notice is enclosed. The surface owner is Merland Inc.

### PROOF OF PUBLICATION

Proof of publication is attached.

Copies of this application have been sent to:

Kaiser Francis Oil Co  
P.O. box 21468  
Tulsa, OK 74121-1468

OXY  
P.O. box 4294  
Houston, TX 77210

Surface Owner

Merland Inc.  
302 N. Canal  
Carlsbad, NM 88220



**CERTIFIED MAIL RECEIPT**  
(Domestic Mail Only, No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

CARLSBAD, NM 88220

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

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

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

HOUSTON, TX 77210

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

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

For delivery information visit our website at [www.usps.com](http://www.usps.com)

**OFFICIAL USE**

TULSA, OK 74121

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