

DATE IN 1/9/14	SUSPENSE	ENGINEER TKG	LOGGED IN 1/10/14	TYPE SWD	APP NO PPRG1401045758
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ABOVE THIS LINE FOR DIVISION USE ONLY

**NEW MEXICO OIL CONSERVATION DIVISION**  
- Engineering Bureau -  
1220 South St. Francis Drive, Santa Fe, NM 87505



**ADMINISTRATIVE APPLICATION CHECKLIST**

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

**Application Acronyms:**

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]  
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]  
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]  
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]  
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]  
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication  
☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement  
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery  
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify Amend SWD - 1417

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☒ Offset Operators, ~~Leaseholders~~ or Surface Owner

[C] ☒ Application is One Which Requires Published Legal Notice

[D] ☒ Notification and/or Concurrent Approval by BLM or SLO  
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

**Note:** Statement must be completed by an individual with managerial and/or supervisory capacity.

David Stewart  
Print or Type Name

[Signature]  
Signature

SR Regulatory Advisor  
Title

1/7/13  
Date

david\_stewart@ox4.com  
e-mail Address

OX4 USA Inc.  
Lost Tank 35 State SWD #1

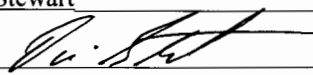
30-015-40890

Lost Tank 35  
State SWD #1

2011 JAN - 9 P 3:07  
RECEIVED OUCD

- drilling problems/  
change in completion  
- new/deeper  
injection interval

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage  
Application qualifies for administrative approval? X Yes No
- II. OPERATOR: OXY USA Inc Lost Tank 35 State SWD #1 - API No. 30-015-40890  
ADDRESS: P.O. Box 50250 Midland, TX 79710  
CONTACT PARTY: David Stewart PHONE: 432-685-5717
- 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. Attached
- 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. Attached
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected; Avg-3500BWPD – Max-4000BWPD
  2. Whether the system is open or closed; Closed
  3. Proposed average and maximum injection pressure; Avg-800psi – Max-871 psi
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, Delaware and Bone Spring from OXY operated leases, see attached.
  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.). Attached
- \*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. Attached
- IX. Describe the proposed stimulation program, if any. Attached
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted). Attached.
- \*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. None within one mile per the NMSEO. Per the field production tech, no windmills were found within one mile of this well.
- 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. Attached
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form. Attached
- 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: David Stewart TITLE: Sr. Regulatory Advisor  
SIGNATURE:  DATE: 1/7/13  
E-MAIL ADDRESS: david\_stewart@oxy.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: SWD-1417 – 5/10/13

### 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.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (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.
- (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.

### 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.

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:

- (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.**

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**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: OXY USA Inc.WELL NAME & NUMBER: Lost Tank 35 State SWD #1

WELL LOCATION:	<u>2630 FSL 2630 FWL</u>	<u>NESW(K)</u>	<u>35</u>	<u>21S</u>	<u>31E</u>
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

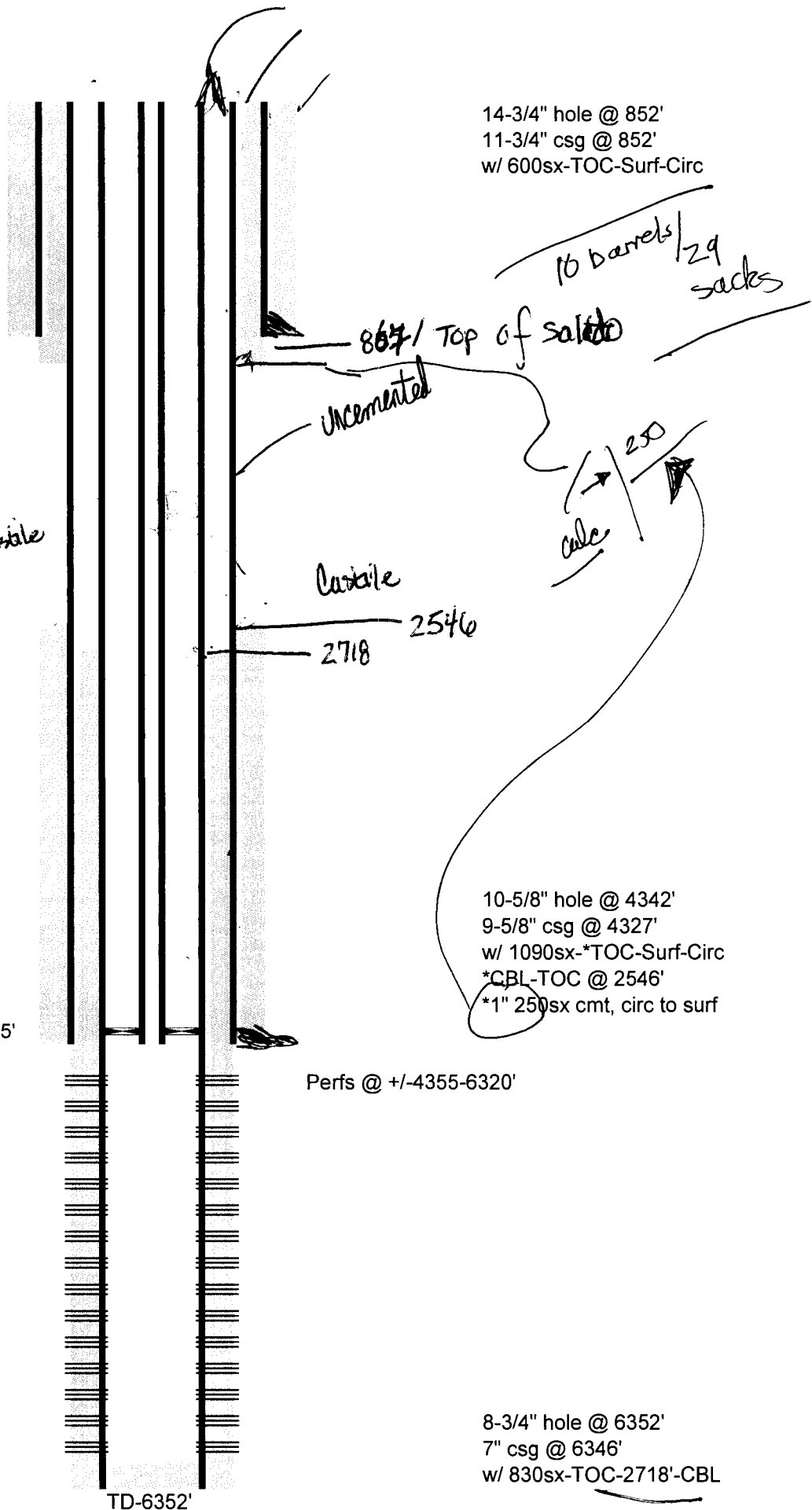
WELLBORE SCHEMATICPROPOSED WELL CONSTRUCTION DATASurface CasingHole Size: 14-3/4" Casing Size: 11-3/4" @ 852'Cemented with: 600 sx. **or** 935 ft<sup>3</sup>Top of Cement: Surface Method Determined: CircIntermediate CasingHole Size: 10-5/8" Casing Size: 9-5/8" @ 4327'Cemented with: 1090 sx. **or** 1617 ft<sup>3</sup>Top of Cement: \*Surface Method Determined: Circ\*CBL-2546' - 1" 250sx, circ to surfaceProduction CasingHole Size: 8-3/4" Casing Size: 7" @ 6346'Cemented with: 830 sx. **or** 1595 ft<sup>3</sup>Top of Cement: 2718' Method Determined: CBLTotal Depth: 6352'Injection Interval4355 feet to 6320 feet

(Perforated or Open Hole; indicate which)

OXY USA Inc.  
 Lost Tank 35 State SWD #1  
 API No. 30-015-40890

Off site Estimates	Onsite
Rustler 800	579
Top of Salt 855	~ 867
<del>BS 2995'</del>	1942' Corrode
1. Del 4240'	4290'
Bell Can 4315'	4382

3-1/2" 7.7# Duo-Line tbg w/ AS-1X pkr @ 4305'



**INJECTION WELL DATA SHEET**Tubing Size: 3-1/2" 7.7# J55 Lining Material: Composite LiningType of Packer: Nickel Plated Arrow SetPacker Setting Depth: 4305'Other Type of Tubing/Casing Seal (if applicable): N/AAdditional Data

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

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

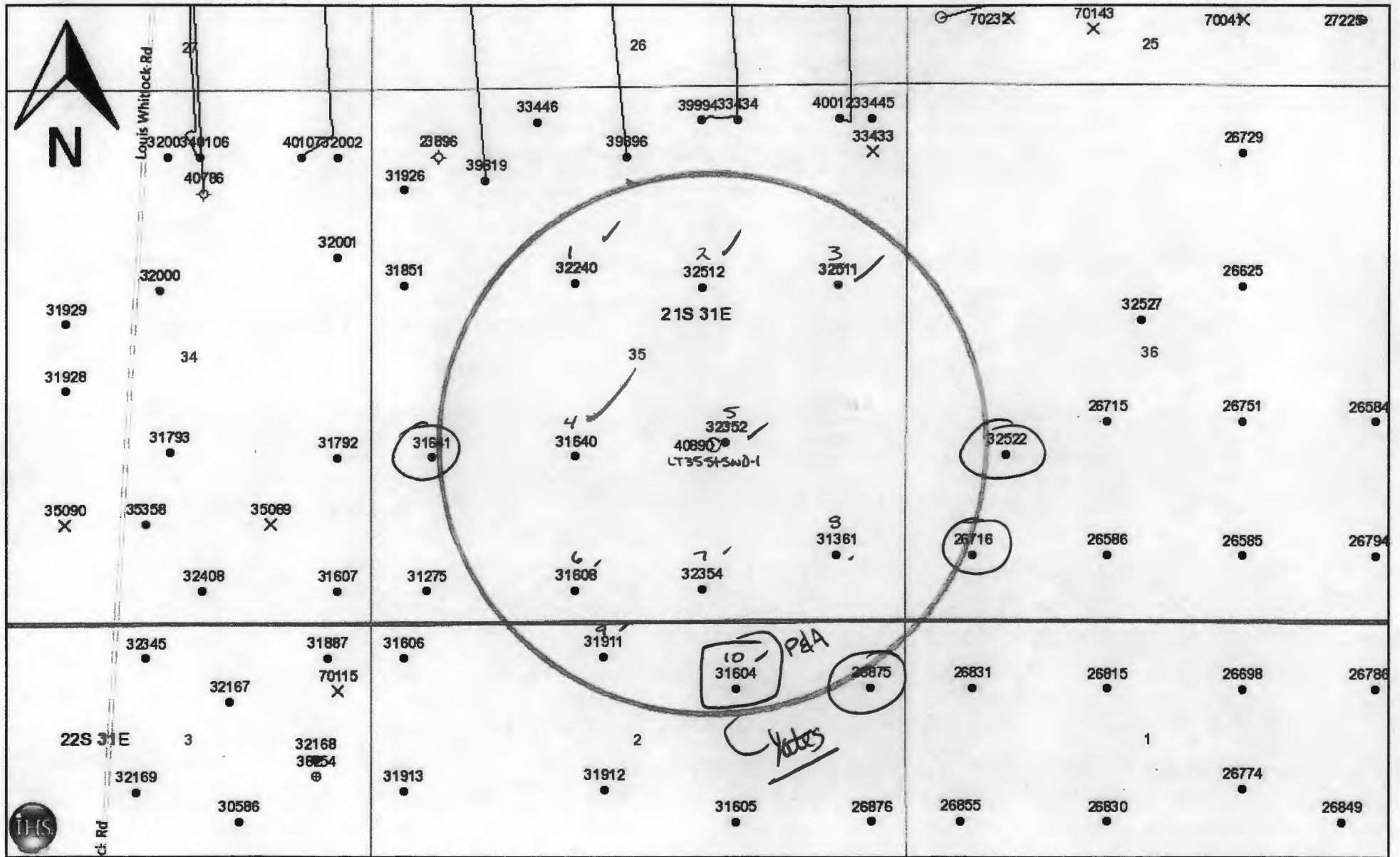
2. Name of the Injection Formation: Delaware – Bell Canyon – Cherry Canyon

3. Name of Field or Pool (if applicable): Lost Tank 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.   No

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Delaware/Bone Springs

## Lost Tank 35 State SWD #1 - 1/2 mile AOR

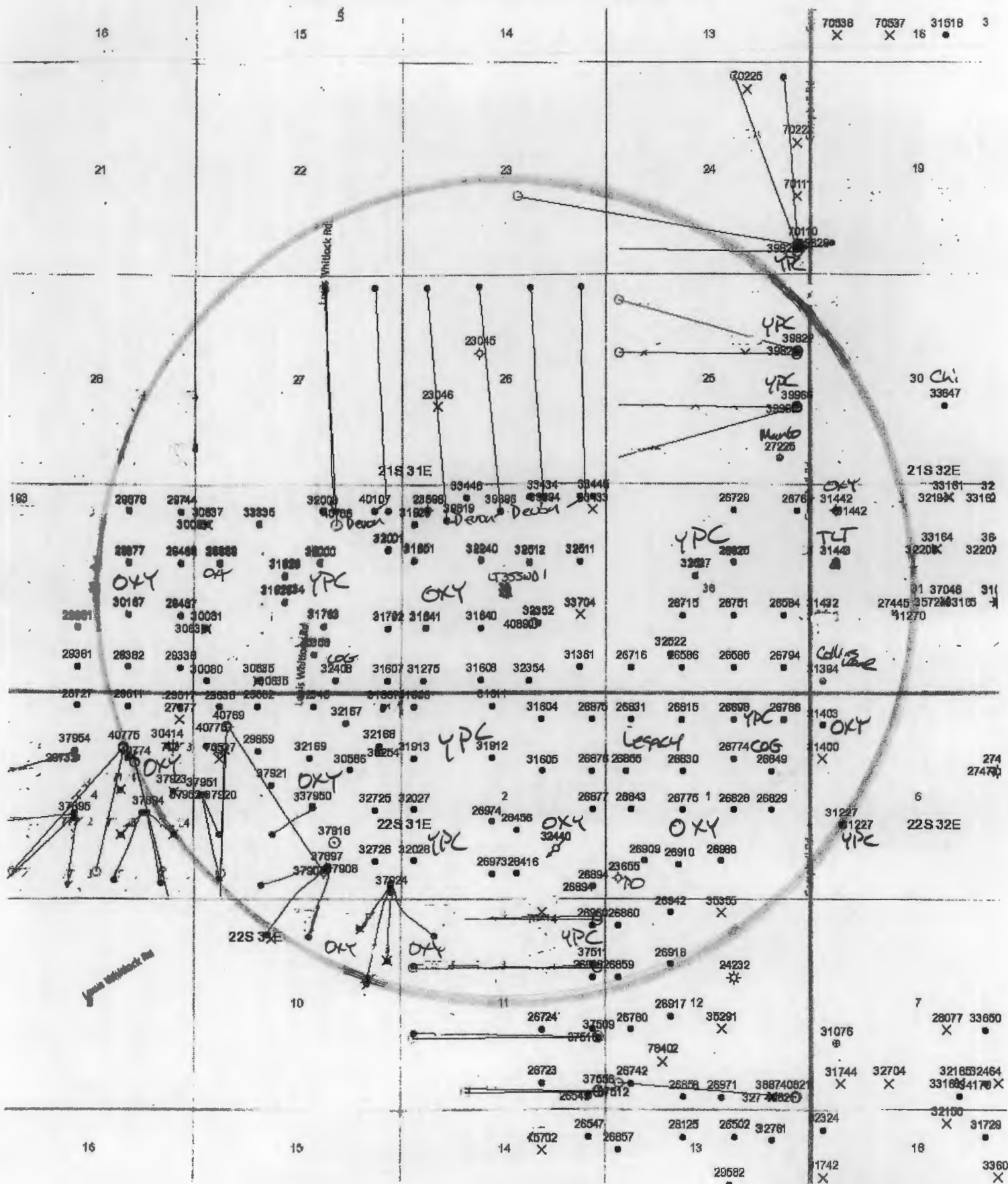


C-108 - Item VI  
Lost Tank 35 State SWD #1  
AREA OF REVIEW

[illegible]



### Lost Tank 35 State SWD #1 - 2 Mile AOR





## New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW##### in the  
POD suffix indicates  
the POD has been  
replaced & no longer  
serves a water right  
file.)

(R=POD has  
been replaced,  
O=orphaned,  
C=the file is  
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Code	Sub-basin	County	Q	Q	Q	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
C 02949 EXPL			ED	1	1	4	34	21S	31E	616140	3589231*	970		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

**Record Count:** 1

**PLSS Search:**

**Section(s):** 25, 26, 27, 34, 35, 36  
**Township:** 21S  
**Range:** 31E

\*UTM location was derived from PLSS - see Help

The data is 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, usability, or suitability for any particular purpose of the data.

12/18/13 3:33 PM

WATER COLUMN/ AVERAGE  
DEPTH TO WATER

page 1 of 1



## New Mexico Office of the State Engineer Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

No records found.

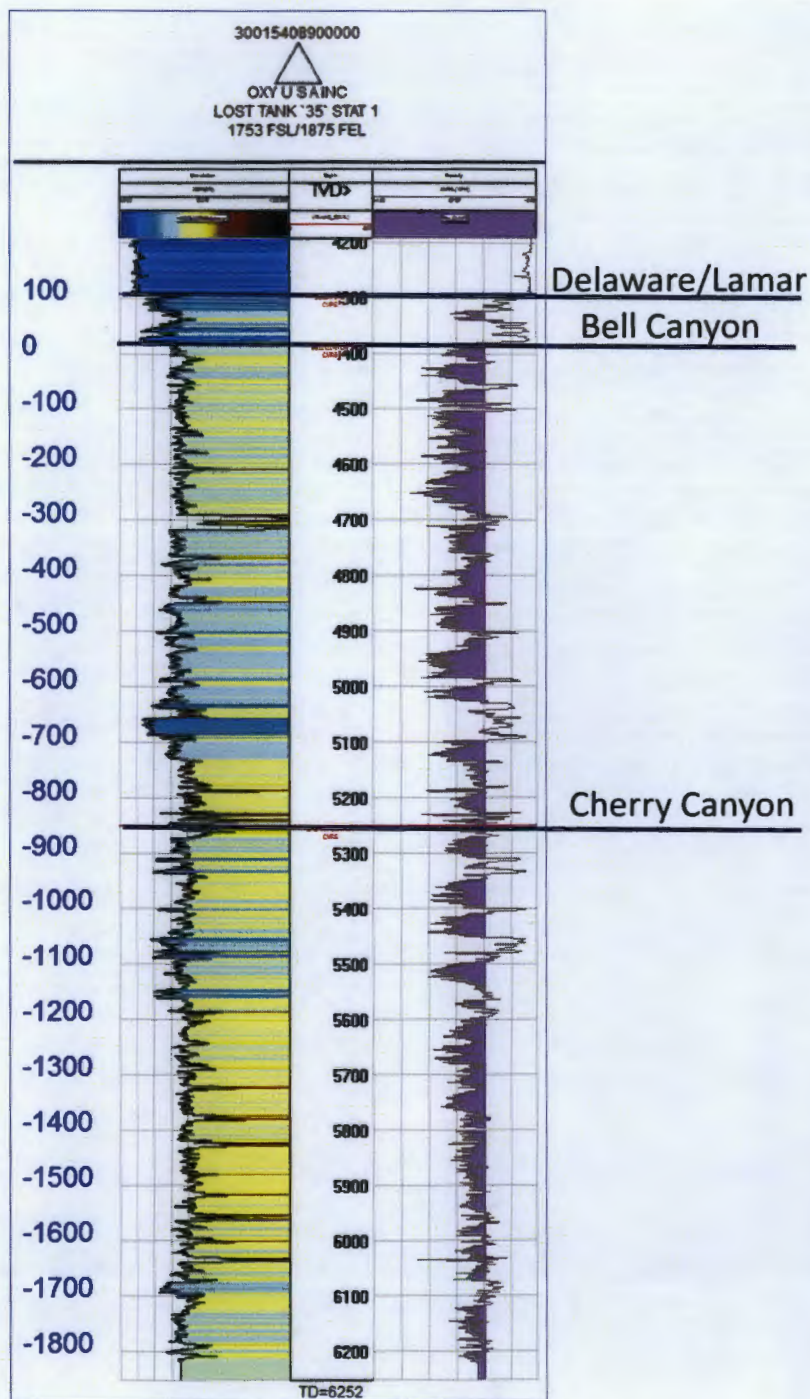
**PLSS Search:**

**Section(s):** 1, 2, 3  
**Township:** 22S  
**Range:** 31E

The data is 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, usability, or suitability for any particular purpose of the data.

12/18/13 3:34 PM

WATER COLUMN/ AVERAGE  
DEPTH TO WATER



Bell Canyon POR

10-30%

Cherry Canyon POR

14-26%

### Tops

Formation	ft (MD)
Rustler	579
Salado Top	867
Potash Top	1200
Castile	1942
Anhydrite top	3961
Delaware Top	4290
Bell Canyon	4382
Cherry Canyon	5250
Brushy Canyon	6580

### Sw

Estimate the water saturation percentage over the proposed disposal interval or otherwise say why it is not productive.

Sw (Calculated- Archie)=60%-70%

No uphole potential (no oil shows on mudlog).

No oil or gas shows in offset mudlog

Injection Interval 4370' - 6,320' MD

IX. Describe the proposed stimulation program, if any.  
Sand fracture treatment

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.

**I have examined the available geologic and engineering data for the Lost Tank 35 #1 SWD well and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.**

  
Cyd Ruidiaz-Santiago, Geologist

# MITCHELL ANALYTICAL LABORATORY

2638 Faudree  
Odessa, Texas 79765-8538  
561-5579

Company: **Nalco Company**

Well Number: Federal 12-4 - Delaware  
Lease: OXY  
Location:  
Date Run: 10/4/2012  
Lab Ref #: 12-oct-n67084

Sample Temp: 70  
Date Sampled: 10/4/2012  
Sampled by: Leo Sandmann  
Employee #:  
Analyzed by: GR

## Dissolved Gases

		Mg/L	Eq. Wt.	MEq/L
Hydrogen Sulfide	(H <sub>2</sub> S)	.00	16.00	.00
Carbon Dioxide	(CO <sub>2</sub> )	<b>NOT ANALYZED</b>		
Dissolved Oxygen	(O <sub>2</sub> )	<b>NOT ANALYZED</b>		

## Cations

Calcium	(Ca <sup>++</sup> )	27,834.48	20.10	1,384.80
Magnesium	(Mg <sup>++</sup> )	2,830.40	12.20	232.00
Sodium	(Na <sup>+</sup> )	63,394.97	23.00	2,756.30
Barium	(Ba <sup>++</sup> )	<b>NOT ANALYZED</b>		
Manganese	(Mn <sup>+</sup> )	6.33	27.50	.23

## Anions

Hydroxyl	(OH <sup>-</sup> )	.00	17.00	.00
Carbonate	(CO <sub>3</sub> <sup>=</sup> )	.00	30.00	.00
BiCarbonate	(HCO <sub>3</sub> <sup>-</sup> )	12.22	61.10	.20
Sulfate	(SO <sub>4</sub> <sup>=</sup> )	<u>128.00</u>	48.80	2.62
Chloride	(Cl <sup>-</sup> )	155,170.50	35.50	4,371.00
Total Iron	(Fe)	9.11	18.60	.49
Total Dissolved Solids		<u>249,386.01</u>		
Total Hardness as CaCO <sub>3</sub>		81,190.84		
Conductivity MICROMHOS/CM		236,000		

pH 6.050 Specific Gravity 60/60 F. 1.173

CaSO<sub>4</sub> Solubility @ 80 F. 6.08MEq/L, CaSO<sub>4</sub> scale is unlikely

## CaCO<sub>3</sub> Scale Index

70.0	1.274	100.0	2.194	130.0	2.194
80.0	1.524	110.0	2.194	140.0	2.194
90.0	2.194	120.0	2.194	150.0	2.194

Nalco Company

# MITCHELL ANALYTICAL LABORATORY

2638 Faudree  
Odessa, Texas 79765-8538  
561-5579

Company: **Nalco Company**

Well Number: Cypress 28-1 – Bone Spring  
Lease: OXY  
Location:  
Date Run: 5/3/2011  
Lab Ref #: 11-may-n59280

Sample Temp: 70  
Date Sampled: 4/29/2011  
Sampled by: Casey Summers  
Employee #:  
Analyzed by: GR

## *Dissolved Gases*

		Mg/L	Eq. Wt.	MEq/L
Hydrogen Sulfide	(H <sub>2</sub> S)	.00	16.00	.00
Carbon Dioxide	(CO <sub>2</sub> )	<b>NOT ANALYZED</b>		
Dissolved Oxygen	(O <sub>2</sub> )	<b>NOT ANALYZED</b>		

## *Cations*

Calcium	(Ca++)	1,390.92 ✓	20.10	69.20
Magnesium	(Mg++)	697.84	12.20	57.20
Sodium	(Na+)	62,308.23 ✓	23.00	2,709.05
Barium	(Ba++)	<b>NOT ANALYZED</b>		
Manganese	(Mn+)	1.66	27.50	.06

## *Anions*

Hydroxyl	(OH-)	.00	17.00	.00
Carbonate	(CO <sub>3</sub> =)	.00	30.00	.00
BiCarbonate	(HCO <sub>3</sub> -)	391.04	61.10	6.40
Sulfate	(SO <sub>4</sub> =)	450.00	48.80	9.22
Chloride	(Cl-)	100,110.00	35.50	2,820.00

Total Iron	(Fe)	2	18.60	.11
Total Dissolved Solids		165,351.69		
Total Hardness as CaCO <sub>3</sub>		6,338.44		
Conductivity MICROMHOS/CM		216,200		

pH	6.480	Specific Gravity 60/60 F.	1.115
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CaSO<sub>4</sub> Solubility @ 80 F. 84.91MEq/L, CaSO<sub>4</sub> scale is unlikely

## *CaCO<sub>3</sub> Scale Index*

70.0	-.152	100.0	.188	130.0	.778
80.0	-.052	110.0	.488	140.0	.778
90.0	.188	120.0	.488	150.0	1.128

*Nalco Company*

**Endura Products C**

P.O. Box 3394, Midland,  
Phone (432) 684-4233 Fax

**WATER ANAL**

Date 10/10/2006 Endura Rep Norman Smil  
Sampling Point/Date Wellhead 10/4/2006  
Company Pogo Producing Co.  
Formation *Op. Delaware* Lease COYOTE 21

FORM C-108  
ITEM VII(5)

ANALYSIS -- Injection Zone  
Produced Water

POGO PRODUCING COMPANY  
Cedar Canyon "21" Federal No. 3  
Section 21, T-24S, R-29E  
Eddy County, New Mexico

State New Mexico  
County Eddy  
Well #1

**DISSOLVED SOLIDS****CATIONS**

	mg/l	me/l
Sodium, Na+ (Calo.)	45,011	1,957
Total Hardness as Ca++	12,992	0
Calcium Ca++	10,856	543
Magnesium, Mg+	1,302	109
Barium, Ba++	0	0
Iron (Total) Fe+++*	0	0

**ANIONS**

	mg/l	me/l
Chlorides, Cl-	92,500	2,606
Sulfate, SO4-	100	2
Carbonate, CO3-	0	0
Bicarbonates, HCO3-	73	1
Sulfide, S-*	0	0
Total Dissolved Solid	149,842	

**OTHER PROPERTIES**

pH*	6.490
Specific Gravity, 60/60 F.	1.109
Turbidity	35

**SCALING INDICES**

TEMP. F	CA CO3	CASO4*2H2O	CA SO4	BA SO4
80	-0.0677	-1.0097	-1.2523	-29.2957
120	0.2990	-1.0209	-1.0831	-29.4961
160	0.8653	-1.0396	-0.9292	-29.7255

**PERFORATIONS**

## **Notice Of Amended Application For Fluid Disposal**

### **Applicant:**

OXY USA Inc.  
P.O. Box 50250  
Midland, TX 79710  
ATTN: David Stewart  
432-685-5717

### **Purpose – Well:**

Disposal of Produced Water Into A Zone Non-Productive of Oil & Gas  
Lost Tank 35 State SWD #1 – SWD 1417  
2630 FSL 2630 FWL NESW(K) Sec 35 T21S R31E  
Eddy County, NM

### **Formation:**

Delaware – Bell/Cherry Canyon  
4355-6320'  
Maximum Injection Rate – 4000 BWPD  
Maximum Injection Pressure – 870 psi

**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 of this application.**

***This notice was submitted to the newspaper 1/7/13 for publication and the notice and affidavit of publication will be sent after it has been received.***



**C-108 Service List - Amended Application  
OXY USA Inc  
Lost Tank 35 State SWD #1 - SWD-1417  
API No. 30-015-40890**

New Mexico Oil Conservation Division  
811 S. First St.  
Artesia, NM 88210

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

United States Dept of Interior  
Bureau of Land Management  
620 E. Greene Street  
Carlsbad, NM 88220

**Surface Owner**

State Land Office  
P.O. Box 1148  
Santa Fe, NM 87504

**Offset Operators within 1/2 mile**

Yates Petroleum Corp.  
105 S. 4th St.  
Artesia, NM 88210

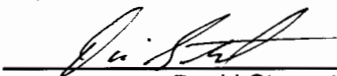
OXY USA Inc.  
P.O. Box 50250  
Midland, TX 79710

**Potash Lessee(s) within 1 mile**

Intrepid Potash  
707 17th St., Ste. 4200  
Denver, CO 80202

Western Ag-Minerals Co.  
P.O. Box 71  
Carlsbad, NM 88221

Copies of this application were mailed to the following individuals, companies and organizations on or before 11/7/13.



David Stewart  
OXY USA Inc.

State of New Mexico  
Energy, Minerals and Natural Resources Department

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**Susana Martinez**  
Governor

**David Martin**  
Cabinet Secretary-Designate

**Brett F. Woods, Ph.D.**  
Deputy Cabinet Secretary

**Jami Bailey, Division Director**  
Oil Conservation Division



Administrative Order SWD-1417  
May 10, 2013

**ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION**

Pursuant to the provisions of 19.15.26.8B NMAC, OXY USA, Incorporated, seeks an administrative order to utilize its proposed Lost Tank 35 State SWD No. 1 located 2630 feet from the South line and 2630 feet from the West line, Unit letter K of Section 35, Township 21 South, Range 31 East, NMPM, Eddy County, New Mexico, for produced water disposal purposes.

**THE DIVISION DIRECTOR FINDS THAT:**

The application has been duly filed under the provisions of 19.15.26.8B NMAC and satisfactory information has been provided that affected parties as defined in said rule have been notified and no objections have been received within the prescribed waiting period. The applicant has presented satisfactory evidence that all requirements prescribed in 19.15.26.8 NMAC have been met and the operator is in compliance with 19.15.5.9 NMAC.

**IT IS THEREFORE ORDERED THAT:**

The applicant, OXY USA, Inc. (ORID 16696), is hereby authorized to utilize its proposed Lost Tank 35 State SWD Well No. 1 (**API 30-015-40890**) located **2630 feet from the South line and 2630 feet from the West line, Unit letter K** of Section 35, Township 21 South, Range 31 East, NMPM, Eddy County, for disposal of produced water into the upper Delaware-Bell Canyon formation through perforations from approximately 4355 feet to 4965 feet. Injection will occur through internally coated tubing and a packer set within 100 feet of the permitted interval.

**IT IS FURTHER ORDERED THAT:**

The operator shall take all steps necessary to ensure that the disposed water enters only the approved disposal interval and is not permitted to escape to other formations or onto the surface.

After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer setting depth to assure casing integrity.

The well shall pass an initial mechanical integrity test ("MIT") prior to initially commencing disposal and prior to resuming disposal each time the disposal packer is unseated. All MIT testing procedures and schedules shall follow the requirements in Division Rule 19.15.26.11A. NMAC. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths in this well.

The wellhead injection pressure on the well shall be limited to **no more than 871 psi**. In addition, the disposal well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well.

The Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the disposed fluid from the target formation. Such proper showing shall be demonstrated by sufficient evidence including but not limited to an acceptable Step-Rate-Test.

The operator shall notify the supervisor of the Division's district II office of the date and time of the installation of disposal equipment and of any MIT test so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of disposal to the Division's district office. The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Division Rules 19.15.26.13 and 19.15.7.24 NMAC.

Without limitation on the duties of the operator as provided in Division Rules 19.15.29 and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the Division's district II office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

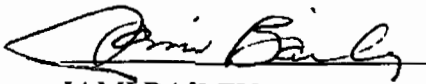
The injection authority granted under this order is not transferable except upon division approval. The division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

The division may revoke this injection permit after notice and hearing if the operator is in violation of 19.15.5.9 NMAC.

The disposal authority granted herein shall terminate two years after the effective date of this order if the operator has not commenced injection operations into the subject well. One year after the last date of reported disposal into this well, the Division shall consider the well abandoned, and the authority to dispose will terminate *ipso facto*. The Division, upon written request mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the disposal authority granted herein.



JAMI BAILEY

Director

JB/prg

cc: Oil Conservation Division – Artesia District Office  
New Mexico State Land Office - Oil, Gas, and Minerals Division  
Bureau of Land Management – Carlsbad Field Office

## 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. Article Addressed to:

NMOC  
1220 South St. Francis Dr.  
Santa Fe, NM  
87505

2. Article Number

(Transfer from service label)

7011 3500 0002 4988 4028

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

## COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

## 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. Article Addressed to:

NMOC  
311 S. First St.  
Antesia, NM 89210

2. Article Number

(Transfer from service label)

7011 3500 0002 4988 4011

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

## COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

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- 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. Article Addressed to:

BLM  
620 E. Greene St.  
Carrizosa, NM 88220

2. Article Number

(Transfer from service label)

7011 3500 0002 4988 4035

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

## COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

## 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. Article Addressed to:

State Land Office  
P.O. Box 1143  
Santa Fe, NM  
87504

2. Article Number

(Transfer from service label)

7011 3500 0002 4988 4042

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

## COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

## 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. Article Addressed to:

Yates Petroleum Corp.  
105 S. 4th St.  
Arlene, NM 88210

2. Article Number

(Transfer from service label)

7011 3500 0002 4988 4059

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

## COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

## SENDER: COMPLETE THIS SECTION

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- 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. Article Addressed to:

Intrepid Botash  
707 17th St., Ste. 4200  
Denver, CO 80202

2. Article Number

(Transfer from service label)

7011 3500 0002 4988 4066

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

## COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

## 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. Article Addressed to:

Western As Minerals Co.  
P.O. Box 71  
Carrizosa, NM 88221

2. Article Number

(Transfer from service label)

7011 3500 0002 4988 4073

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

## COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

Office  
District I - (575) 393-6161  
1625 N. French Dr., Hobbs, NM 88240  
District II - (575) 748-1283  
811 S. First St., Artesia, NM 88210  
District III - (505) 334-6178  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV - (505) 476-3460  
1220 S. St. Francis Dr., Santa Fe, NM  
87505

Energy, Minerals and Natural Resources

Revised August 1, 2011

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.  
Santa Fe, NM 87505

WELL API NO. 30-015-40890
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. VG-3604-0002
7. Lease Name or Unit Agreement Name Lost Tank 35 State SWD
8. Well Number 1
9. OGRID Number 16696
10. Pool name or Wildcat Lost Tank Delaware

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

1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <u>SWD</u>
2. Name of Operator OXY USA Inc.
3. Address of Operator P.O. Box 50250 Midland, TX 79710
4. Well Location Unit Letter <u>K</u> : <u>2630</u> feet from the <u>South</u> line and <u>2630</u> feet from the <u>West</u> line Section <u>35</u> Township <u>21S</u> Range <u>31E</u> NMPM County <u>Eddy</u>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) <u>3521.6'</u>

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐  
DOWNHOLE COMMINGLE ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☒ P AND A ☐  
CASING/CEMENT JOB ☒

OTHER: ☐

OTHER: ☐

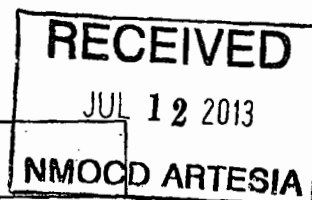
13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Spud 14-3/4" 6/28/13, drill to 852' 6/29/13. RIH & set 11-3/4" 42# H-40 STC csg @ 852', cmt w/ 330sx (102bbl) PPC w/ additives 13.5ppg 1.73 yield followed by 270sx (65bbl) w/ additives 14.8ppg 1.35yield, circ 308sx (95bbl) cmt to surf. WOC. Test BOP's @ 250# low 1550# high. 6/30/13 Test csg to 1380# for 30min, tested good. RH & tag cmt @ 795'.

Spud Date:

6/28/13

Rig Release Date:



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

SIGNATURE David Stewart TITLE Regulatory Advisor DATE 7/10/13

Type or print name David Stewart E-mail address: david\_stewart@oxy.com PHONE: 432-685-5717

For State Use Only

APPROVED BY: RR Dade TITLE District Supervisor DATE July 16, 2013

Conditions of Approval (if any):

20

District I - (575) 393-6161

1625 N. French Dr., Hobbs, NM 88240

District II - (575) 748-1283

811 S. First St., Artesia, NM 88210

District III - (505) 334-6178

1000 Rio Brazos Rd., Aztec, NM 87410

District IV - (505) 476-3460

1220 S. St. Francis Dr., Santa Fe, NM 87505

Energy, Minerals and Natural Resources

RECEIVED

OIL CONSERVATION DIVISION

DEC 02 2013

Santa Fe, NM 87505

WOOD ARTESIA

WELL API NO.

30- 015- 40890

5. Indicate Type of Lease

STATE ☒ FEE ☐

6. State Oil &amp; Gas Lease No.

V6-3604-0002

7. Lease Name or Unit Agreement Name

Lost Tank 35 State SWD

8. Well Number

1

9. OGRID Number

16696

10. Pool name or Wildcat

## SUNDRY NOTICES AND REPORTS ON WELLS

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

1. Type of Well: Oil Well ☐ Gas Well ☐ Other SWD

2. Name of Operator

OXY USA Inc.

3. Address of Operator

P.O. Box 50250 Midland, TX 79710

4. Well Location

Unit Letter K : 2630 feet from the South line and 2630 feet from the West lineSection 35 Township 21S Range 31E NMPM County Eddy

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

3521.6' GR

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

## NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐TEMPORARILY ABANDON ☐ CHANGE PLANS ☐PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐DOWNHOLE COMMINGLE ☐CLOSED-LOOP SYSTEM ☐OTHER: ☐

## SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐COMMENCE DRILLING OPNS. ☐ P AND A ☐CASING/CEMENT JOB ☒OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

11/3/12, MIRU Rig, Install WH & BOP, Close blind rams and test csg to 1382# for 30min, passed. RIH & tag CIBP @ 390' & 800', drill & mill out to 848', RIH w/ magnet & junk basket clean out wellbore. 11/13/12, RIH w/ 10-5/8" BHA & drill out cmt & drill to 4342', 11/14/13. RIH w/ 9-5/8" 40#, J55 LTC csg & set @ 4327'. H2S alarms went off during the running of csg, continued to circ hole). Cmt w/ 330sx (111bbl) Light PPC w/ additives 12.9ppg 1.89 yield followed by 510sx (118bbl) PPC w/ additives 14.8ppg 1.30 yield, circ 30sx (10bbl) cmt to surface, WOC. RIH w/ CBL, EIR down 11-3/4" X 9-5/8", sqz 250sx (56bbl) CL C cmt, circ to surface. WOC, pressure 320#, bled off pressure, no flow, SI, check for pressure buildup, no pressure build up after 30min. 11/20/13, RIH & tag cmt @ 4209', test csg to 2765# for 30 min, passed. Drill new formation to 4351', perform FIT test to 10.5ppg brine, EMW=420#.

11/20/13. Drill 8-3/4" hole to 6352', 11/22/13. RIH w/ 7" 26# L80 LTC csg & set @ 6346', cmt w/ 510sx (165bbl) Light PPC w/ additives 12.8ppg 1.82 yield followed by 430sx (119bbl) PPC w/ additives 14.8ppg, 1.55 yield, lost circulation during displacement, no cmt to surface, Calc TOC 3730', notified NMOCD, left message. Set slips, ND BOP & accumulator, at 0800 hrs the crew noticed that the annulus pressure gauge was installed on wrong valve, put on correct valve, opened with no pressure. RD, cut csg, install WH, test to 3790# for 10 min. Rel rig @ 1700hrs 11/24/13, pressure on annulus had increased to 500#. Checked again @ 1200hrs 11/25/13, pressure remained @ 500#.

Spud Date:

11/3/12 (6/20/13)

Rig Release Date:

11/25/13

RECEIVED

DEC 02 2013

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

SIGNATURE

TITLE

Sr. Regulatory Advisor

DATE

11/26/13

Type or print name

David Stewart

E-mail address:

david\_stewart@oxy.com

PHONE:

432-685-5717

For State Use Only

APPROVED BY:

TITLE

Dist. H. Supervisor

DATE

12/4/2013

Conditions of Approval (if any):



Submit 1 Copy To Appropriate District Office  
District I - (575) 393-6161  
1625 N. French Dr., Hobbs, NM 88240  
District II - (575) 748-1283  
811 S. First St., Artesia, NM 88210  
District III - (505) 334-6178  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV - (505) 476-3460  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
Revised July 18, 2013

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

WELL API NO. 30-015-40890
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. UG-3604-0002
7. Lease Name or Unit Agreement Name Lost Tank 35 State SWD
8. Well Number 1
9. OGRID Number 16696
10. Pool name or Wildcat SWD Delaware

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

1. Type of Well: Oil Well ☐ Gas Well ☐ Other SWD

2. Name of Operator  
OXY USA Inc.

3. Address of Operator  
P.O. Box 50250 Midland, TX 79710

4. Well Location  
Unit Letter K : 2630 feet from the South line and 2630 feet from the West line  
Section 35 Township 21S Range 31E NMPM County Eddy

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
3521.6'

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐  
DOWNHOLE COMMINGLE ☐  
CLOSED-LOOP SYSTEM ☐  
OTHER: Completion ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ P AND A ☐  
CASING/CEMENT JOB ☐  
OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

See Attached

Spud Date:

Rig Release Date:

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

SIGNATURE David Stewart TITLE Sr. Regulatory Advisor DATE 1/7/13

Type or print name David Stewart E-mail address: david\_stewart@oxy.com PHONE: 432-685-5717

For State Use Only

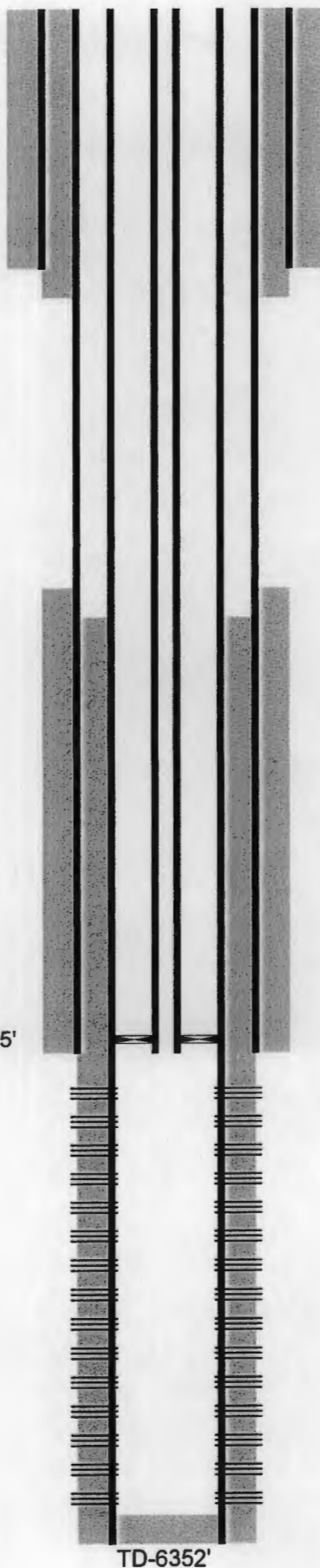
APPROVED BY: \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
Conditions of Approval (if any): \_\_\_\_\_

## **RECOMMENDED PROCEDURE:**

Clean location, set and test anchors. Install frac valve.

- Check location for hazardous conditions.
- MIRU WLU. NU 7" frac stack.
- RU Pump truck and test casing and wellhead to maximum of 5000psi only.
- RU WL. PU & RIH w/ WL guns and perforate first stage (5510–6151'), break down perfs w/ 15% NEFE HCl. POOH.
- RD WLU.
- Rig up frac and WLU. Set maximum Pressure to 5000psi. Frac Stage #1.  
***NOTE: Ensure both the 7" x 9 5/8" and 9 5/8" x 11 3/4" annulus are monitored during the frac job to ensure no unexpected pressure is seen. If pressure is seen notify the completion engineer immediately.***
- PU guns and 7" CBP (caged ball type), RIH and set plug at 5480'. Perf stage 2 (4965–5436'), POOH, check guns, and LD WL.
- Frac Stage #2.
- PU guns and 7" FTCBP, RIH and set plug at 4950'. Perf stage 3 (4650–4886'), POOH, check guns, and LD WL.
- Frac Stage #3
- PU guns and 7" FTCBP, RIH and set plug at 4600'. Perf stage 4 (4400–4561'), POOH, check guns, and LD WL. RD and release WLU.
- Frac Stage #4
- RU DDP, Reverse Unit and Air Unit with N2 membrane. PU workstring and collars w/ 5.875" – 6.125" mill. Drill out CBP's at 4600', 4950' and 5480' for clean out. Ensure enough air/ foam is used to maintain circulation and hole cleaning.
- Continue cleaning to the PBTD @ 6259'. POOH w/ work string and lay down.
- RU WLU. PU perf guns and re-perforate 4 zones, Ensure to check guns after each perforation run. RD WL.
- Flow back well through frac stack directly to frac tanks at low rates and do not surge the formation. Flow well until it dies, or fluid returns are clean. Dispose of waste water at a commercial waste facility.
- RU WLU. PU AS-1X packer, profile nipple, bottom half of on/off tool, pump off plug and set packer at 4370' (~30' above top perf).
- ND frac stack. NU wellhead.
- PU and RIH with 3.5" 7.7# J-55 Duo-line tubing and top half of on/off tool. Circulate packer fluid. Land out on/off tool and tubing.
- Test the back side of the tubing to confirm packer, on/ off tool and tubing integrity.  
***NOTE: Ensure MIT is witnessed as per requirement of SWD wells.***
- Pressure up on tubing to pump open the isolation plug.
- Hand well over to surface ops and put onto SWD operations ASAP.  
***NOTE: The 7" x 9 5/8" and 9 5/8" x 11 3/4" annulus' are to be monitored for the life of the well and production engineer notified immediately of any pressure deviations.***

OXY USA Inc.  
Lost Tank 35 State SWD #1  
API No. 30-015-40890



14-3/4" hole @ 852'  
11-3/4" csg @ 852'  
w/ 600sx-TOC-Surf-Circ

10-5/8" hole @ 4342'  
9-5/8" csg @ 4327'  
w/ 1090sx-\*TOC-Surf-Circ  
\*CBL-TOC @ 2546'  
\*1" 250sx cmt, circ to surf

3-1/2" 7.7# Duo-Line tbg w/ AS-1X pkr @ 4305'

Perfs @ +/-4355-6320'

8-3/4" hole @ 6352'  
7" csg @ 6346'  
w/ 830sx-TOC-2718'-CBL

TD-6352'

<p>1. Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>Article Addressed to:</p> <p>NMOC 1200 South St. Francis Dr. Santa Fe, NM 87505</p>	<p>A. Signature X <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Signature]</i></p> <p>C. Date of Delivery JAN 9 2004</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p> <p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>1. Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>Article Addressed to:</p> <p>Deson Energy Prod. Co. 20 N. Broadway Oklahoma City, OK. 73102</p>	<p>A. Signature X <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Signature]</i></p> <p>C. Date of Delivery JAN 9 2004</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p> <p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>1. Article Number (Transfer from service label) 7011 3500 0002 4988 4028</p> <p>PS Form 3811, February 2004 Domestic Return Receipt 102998-02-00-1040</p>		<p>1. Article Number (Transfer from service label) 7011 3500 0002 4988 2000</p> <p>PS Form 3811, February 2004 Domestic Return Receipt 102998-02-00-1040</p>	
<p>1. Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>Article Addressed to:</p> <p>NMOC 311 S. First St. Artesia, NM 88210</p>	<p>A. Signature X <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Signature]</i></p> <p>C. Date of Delivery JAN 9 2004</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p> <p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>1. Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>Article Addressed to:</p> <p>Intrapid Bolash 707 17th St., Ste. 4200 Denver, CO 80202</p>	<p>A. Signature X <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Signature]</i></p> <p>C. Date of Delivery JAN 9 2004</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p> <p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>1. Article Number (Transfer from service label) 7011 3500 0002 4988 4011</p> <p>PS Form 3811, February 2004 Domestic Return Receipt 102998-02-00-1040</p>		<p>1. Article Number (Transfer from service label) 7011 3500 0002 4988 4066</p> <p>PS Form 3811, February 2004 Domestic Return Receipt 102998-02-00-1040</p>	
<p>1. Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>Article Addressed to:</p> <p>State Land Office P.O. Box 1143 Santa Fe, NM 87508</p>	<p>A. Signature X <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Signature]</i></p> <p>C. Date of Delivery JAN 10 2004</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p> <p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>1. Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>Article Addressed to:</p> <p>Western Ar. Minerals Co. P.O. Box 71 Caulsbad, NM 88221</p>	<p>A. Signature X <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Signature]</i></p> <p>C. Date of Delivery JAN 10 2004</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p> <p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>1. Article Number (Transfer from service label) 7011 3500 0002 4988 4042</p> <p>PS Form 3811, February 2004 Domestic Return Receipt 102998-02-00-1040</p>		<p>1. Article Number (Transfer from service label) 7011 3500 0002 4988 4073</p> <p>PS Form 3811, February 2004 Domestic Return Receipt 102998-02-00-1040</p>	
<p>1. Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>Article Addressed to:</p> <p>BLM 670 E. Greene St. Caulsbad, NM 88220</p>	<p>A. Signature X <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Signature]</i></p> <p>C. Date of Delivery JAN 10 2004</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p> <p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>1. Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</p> <p>2. Print your name and address on the reverse so that we can return the card to you.</p> <p>3. Attach this card to the back of the mailpiece, or on the front if space permits.</p> <p>Article Addressed to:</p> <p>Yates Petroleum Corp. 105 S. 4th St. Artesia, NM 88210</p>	<p>A. Signature X <i>[Signature]</i></p> <p>B. Received by (Printed Name) <i>[Signature]</i></p> <p>C. Date of Delivery JAN 10 2004</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, enter delivery address below:</p> <p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>1. Article Number (Transfer from service label) 7011 3500 0002 4988 4035</p> <p>PS Form 3811, February 2004 Domestic Return Receipt 102998-02-00-1040</p>		<p>1. Article Number (Transfer from service label) 7011 3500 0002 4988 4054</p> <p>PS Form 3811, February 2004 Domestic Return Receipt 102998-02-00-1040</p>	

OKY USA INC.  
Lost Tank 38X5WD#1  
Amended SWD Application

**Affidavit of Publication**

State of New Mexico,  
County of Eddy, ss.

Kathy McCarroll, being first duly sworn,  
on oath says:

That she is the Classified Supervisor of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

January 9 2014

That the cost of publication is \$51.42 and that payment thereof has been made and will be assessed as court costs.

Kathy McCarroll

Subscribed and sworn to before me this

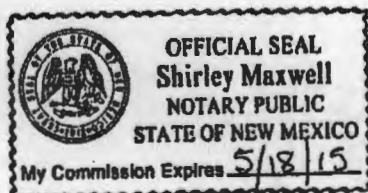
15th day of January, 2014

Shirley Maxwell

My commission Expires

May 18, 2015

Notary Public



January 9, 2014

Notice Of Amended Application For Fluid Disposal

Applicant:  
OXY USA Inc.  
P.O. Box 50250  
Midland, TX 79710  
ATTN: David Stewart  
432-685-5717

Purpose - Well:  
Disposal of Produced Water into A Zone Non-Productive of Oil & Gas  
Lost Tank 35 State SWD  
#1 - SWD 1417  
2630 FSL 2630 FWL  
NESW(K) Sec 35 T21S  
R31E  
Eddy County, NM

Formation:  
Delaware - Bell/Cherry Canyon  
4355-6320'  
Maximum Injection Rate - 4000 BWPD  
Maximum Injection Pressure - 870 psi

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 of this application.

**C-108 Review Checklist:**Received 01/09/14 Add. Request [cmt prog] Reply Date: 03/13/14 Suspended: 04/07/14 [Ver 13]PERMIT TYPE: WFX / PMX / SWD Number: 1417-A Permit Date: 04/07/14 Legacy Permits/Orders: SWD -1417Well No. 1 Well Name(s): Lost Tank 35 State SWD Approved perms - 4355 to 4965API: 30-0 15-40890 Spud Date: 06/29/2013 New or Old: New (UIC Class II Primacy 03/07/1982)Footages 2630 FSL / 2630 FWL Lot — or Unit K Sec 35 Tsp 21S Rge 31E County EddyGeneral Location: NE of WIPP - 2 miles W of Eddy/Lea Pool: SWD - Delaware / Bell & Cherry Pool No.: 96802BLM 100K Map: 5a1 Operator: OXY USA, IAC OGRID: 16696 Contact: - David Stewart & - Mike FlinnCOMPLIANCE RULE 5.9: Total Wells: 1840 Inactive: 11 Fincl Assur: Yes Compl. Order: No IS 5.9 OK? Yes Date: 04/07/14WELL FILE REVIEWED ☒ Current Status: New well - issues with cmt of AOH wells (30-015-31604) in 2013WELL DIAGRAMS: NEW: Proposed ☒ or RE-ENTER: Before Conv. ☐ After Conv. ☐ Logs in Imaging: [Add. VDL for 9 5/8 in & 6 1/2 in for track pipe]Planned Rehab Work to Well: Reviewed 30-015-31604 P4A  
wash prevents cont. cmt on 9 5/8 in; added new depth - to be perforated

Well Construction Details:	Sizes (in) Borehole / Pipe	Setting Depths (ft)	Cement St or Cf	Cement Top and Determination Method
Planned <input type="checkbox"/> or Existing <input checked="" type="checkbox"/> Surface	<u>4 3/4 / 1 3/4</u>	<u>0 to 832</u>	<u>600</u>	<u>Cir to surface</u>
Planned <input type="checkbox"/> or Existing <input checked="" type="checkbox"/> Interm Prod	<u>10 5/8 / 9 5/8</u>	<u>0 to 4327</u>	<u>1090</u>	<u>CBL - 2546 - (1)</u>
Planned <input type="checkbox"/> or Existing <input checked="" type="checkbox"/> Interm Prod	<u>8 3/4 / 7</u>	<u>0 to 6346</u>	<u>830</u>	<u>CBL - 2718 (2)</u> <u>cont to surface</u>
Planned <input type="checkbox"/> or Existing <input type="checkbox"/> Prod/Liner	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Planned <input type="checkbox"/> or Existing <input type="checkbox"/> Liner	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Planned <input checked="" type="checkbox"/> or Existing <input type="checkbox"/> OH / PERF	<u>7 casing</u>	<u>4355 - 6320</u>	<u>Inj Length 1965</u>	

Injection Stratigraphic Units:	Depths (ft)	Injection or Confining Units	Tops
Adjacent Unit: Litho. Struc. Por.		<u>Castile</u>	<u>1942</u>
Confining Unit: Litho. Struc. Por.	<u>± 64/65</u>	<u>Lomas / Del.</u>	<u>4290</u>
Proposed Inj Interval TOP:	<u>4335</u>	<u>Bell Canyon 2nd</u>	<u>4382</u>
Proposed Inj Interval BOTTOM:	<u>6320</u>	<u>Cherry Canyon 3rd</u>	<u>5250</u>
Confining Unit: Litho. Struc. Por.	<u>+ 260</u>	<u>Brushy Canyon 1st</u>	<u>6580</u>
Adjacent Unit: Litho. Struc. Por.		<u>Bone Spring</u>	<u>—</u>

Completion/Operation Details:			
Drilled TD	<u>6352</u>	PBTD	<u>6346</u>
NEW TD	<u>—</u>	NEW PBTD	<u>—</u>
NEW Open Hole	<input type="checkbox"/>	NEW Perfs	<input checked="" type="checkbox"/>
Tubing Size	<u>3 1/2</u> in.	Inter Coated?	<u>Yes</u>
Proposed Packer Depth	<u>4305</u> ft		
Min. Packer Depth	<u>4255</u> (100-ft limit)		
Proposed Max. Surface Press	<u>870</u> psi		
Admin. Inj. Press.	<u>871</u> (0.2 psi per ft)		

**AOR: Hydrologic and Geologic Information**POTASH: R-111-P ☒ Noticed? Yes BLM Sec Ord ☒ WIPP ☒ Noticed? NA SALT SALADO T: 855 B: 3975 CLIFF HOUSE NAFRESH WATER: Aquifer Minor bedrock / alluvial - Roster Max Depth 5597' HYDRO AFFIRM STATEMENT By Qualified Person ☒NMOSE Basin: Carlisle CAPITAN REEF: thru ☐ adj ☐ NAG ☐ No. Wells within 1-Mile Radius? No FW Analysis NADisposal Fluid: Formation Source(s) Bone Spring & Delaware Analysis? Yes On Lease ☐ Operator Only ☒ or Commercial ☐Disposal Int: Inject Rate (Avg/Max BWPD): 3500/4000 Protectable Waters? No Source: Water Sample System: Closed ☒ or Open ☐HC Potential: Producing Interval? No Formerly Producing? No Method: Logs DST/P&A/Other enclosed 2-Mile Radius Pool Map ☐AOR Wells: 1/2-M Radius Map? Yes Well List? Yes Total No. Wells Penetrating Interval: 10 Horizontals? 0Penetrating Wells: No. Active Wells 9 Num Repairs? 0 on which well(s)? — Diagrams? NoPenetrating Wells: No. P&A Wells 1 Num Repairs? 0 on which well(s)? — Diagrams? NoNOTICE: Newspaper Date 01/09/2014 Mineral Owner SLW Surface Owner SLW N. Date 01/10/14RULE 26.7(A): Identified Tracts? Yes Affected Persons: Yates / Devon / Potash - Intrepid / Western Ag / BLM N. Date 01/10/14Permit Conditions: Issues cmt between 8 5/8-in and 5 1/2-in casings - requested plan to match R-111-PAdd Permit Cond: Injection survey & cmt program as submitted

Submit 3 Copies To Appropriate District Office  
District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Ave., Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
May 27, 2004

OIL CONSERVATION DIVISION  
1220 South St. Francis  
Santa Fe, NM 87505

WELL API NO. 30-015-31604
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. V-2705
7. Lease Name or Unit Agreement Name Graham AKB State
8. Well Number 3
9. OGRID Number 025575
10. Pool name or Wildcat Lost Tank; Delaware

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)	
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other P&A <input type="checkbox"/>	
2. Name of Operator Yates Petroleum Corporation	
3. Address of Operator 105 S. 4 <sup>th</sup> Street, Artesia, NM 88210	
4. Well Location Unit Letter B : 660 feet from the North line and 1650 feet from the East line Section 2 Township 22S Range 31E NMPM Eddy County	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3536' GR	
Pit or Below-grade Tank Application <input type="checkbox"/> or Closure <input type="checkbox"/>	
Pit type _____ Depth to Groundwater _____ Distance from nearest fresh water well _____ Distance from nearest surface water _____	
Pit Liner Thickness: _____ mil Below-Grade Tank: Volume _____ bbls; Construction Material _____	

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

NOTICE OF INTENTION TO:	SUBSEQUENT REPORT OF:
PERFORM REMEDIAL WORK <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>
OTHER: <input type="checkbox"/>	P & A <input checked="" type="checkbox"/>
	CASING/CEMENT JOB <input type="checkbox"/>
	OTHER: <input type="checkbox"/>

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

12/26/06 - RIH with gauge ring, would not go past 5600'. Pumped fresh water. NOTE: NMOCD approved to spot 50 sx cement. RIH with tubing to 6760'. Broke circulation with plugging mud. Spotted 50 sx cement and WOC.

12/27/06 - Tagged at 5920'. Perforated at 4364'. Pumped 35 sx cement and WOC. Tagged at 4214'. Perforated at 4200'.

12/28/06 - Pumped 35 sx cement and WOC. Tagged at 4000'. Pumped 108 sx cement at 3984'. Spotted 108 sx cement at 2893'. Pumped 108 sx cement at 1800'.

1/1/07 - Tagged at 802'. Circulated 20 sx cement 163' to surface. Cut off wellhead. Installed dry hole marker. **WELL IS PLUGGED AND ABANDONED. FINAL REPORT.**

Plugging of the well bore.  
Liability under bond is retained  
until surface restoration,  
environmental remediation and  
final inspection is completed.

① 6760 - 5920 cmt plug / IC  
② Perf 4364 / [TOC 4214] - annulus & IC  
③ Perf 4200 / [TOC 4000] - annulus & IC  
④ 108 (CS) + 108 (CS) + 108 (CP) [TOC 802]  
⑤ 163' to 0' 205K

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Tina Huerta TITLE Regulatory Compliance Supervisor DATE January 4, 2007

Type or print name Tina Huerta E-mail address: tinah@ypcnm.com Telephone No. 505-748-1471

For State Use Only  
APPROVED BY: Gerry Guye TITLE Deputy Field Inspector DATE JAN 12 2007  
Conditions of Approval (if any) District II - Artesia



## Goetze, Phillip, EMNRD

---

**From:** David\_Stewart@oxy.com  
**Sent:** Thursday, March 13, 2014 4:15 PM  
**To:** Goetze, Phillip, EMNRD  
**Cc:** Jones, William V.; McMillan, Michael, EMNRD  
**Subject:** RE: Additional Information for Amending SWD-1417

Phillip, appreciate the update and I am going to forward this to the drilling and completion group and let them explain.

Thanks,  
David Stewart  
Sr. Regulatory Advisor  
OXY Permian  
Wk-432-685-5717  
Cell-432-634-5688  
Fax-432-685-5742  
[david\\_stewart@oxy.com](mailto:david_stewart@oxy.com)

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**From:** Goetze, Phillip, EMNRD [<mailto:Phillip.Goetze@state.nm.us>]  
**Sent:** Thursday, March 13, 2014 5:08 PM  
**To:** Stewart, David  
**Cc:** Jones, William V.; McMillan, Michael, EMNRD  
**Subject:** Additional Information for Amending SWD-1417

RE: Application to amend SWD-1417; 30-015-40890; Lost Tank 35 State SWD #1  
2630 FSL/2630 FWL; Unit K/S35-T21S-R31E

David:

I am reviewing the application to amend the SWD well. There are two questions regarding the current well construction:

1. The top of the 9 5/8-inch casing shows cement in place. Does the CBL which was used to determine the TOC at 2546' also cover the shallower cement seal? And if so, is the log available?
2. This well is within the jurisdiction of Division Order R-111-P. The 5-inch production casing has a TOC of 2718'. With the top of salt at ~855' and top of cement for the 9 5/8 casing at 2546', there is over 1600' of casing through the salt interval with no cement and no potential for secondary protection from the cement for the 5-inch casing. Why wasn't the cement for the 5-inch not circulated to surface?

Please contact me with any questions regarding these two items. PRG

Phillip R. Goetze, P.G.  
Engineering and Geological Services Bureau, Oil Conservation Division  
1220 South St. Francis Drive, Santa Fe, NM 87505  
O: 505.476.3466 F: 505.476.3462  
[phillip.goetze@state.nm.us](mailto:phillip.goetze@state.nm.us)



Submit 1 Copy To Appropriate District Office

District I - (575) 393-6161  
1625 N. French Dr., Hobbs, NM 88240  
District II - (575) 748-1283  
811 S. First St., Artesia, NM 88210  
District III - (505) 334-6178  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV - (505) 476-3460  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
Revised August 1, 2011

RECEIVED  
JUL 18 2013  
NMOCD ARTESIA

CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

WELL API NO. 30-015-40890
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. VG-3604-0002
7. Lease Name or Unit Agreement Name Lost Tank 35 State SWD
8. Well Number 1
9. OGRID Number 16696
10. Pool name or Wildcat SWD Delaware
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3521.6'

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

1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <u>SWD</u>
2. Name of Operator OXY USA Inc.
3. Address of Operator P.O. Box 50250 Midland, TX 79710
4. Well Location Unit Letter <u>K</u> : <u>2630</u> feet from the <u>south</u> line and <u>2630</u> feet from the <u>west</u> line Section <u>35</u> Township <u>21S</u> Range <u>31E</u> NMPM County <u>Eddy</u>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3521.6'

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐  
DOWNHOLE COMMINGLE ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ P AND A ☐  
CASING/CEMENT JOB ☐

OTHER: ☐

OTHER: Drill Intermediate Hole Water Flow TA ☒

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

7/1/2013 - DRILL 10-5/8" INTERMEDIATE HOLE  
7/2/2013 - CONTINUE DRILLING 10-5/8" INTERMEDIATE HOLE  
7/3/2013 - DRILL FROM 2678' TO 3004' - SLIDING AS NEEDED, CIRCULATE OUT H2S INFLUX AND SHUT IN ON WELL  
7/4/2013 - BUILD 12.5 PPG MUD, CIRCULATE OUT H2S KICK AND DISPLACE 10 PPG BRINE WITH 12.5 PPG POLYMER MUD, BUILD ADDITIONAL VOLUME, CIRCULATE 12.5 PPG MUD TO SURFACE  
7/5/2013 - CIRCULATE 12.5 PPG MUD IN WELL, SHUT DOWN, WAIT ON 13.5 PPG MUD, BUILD VOLUME AT 12.8 PPG - CIRCULATE WELL WITH 12.8 PPG MUD  
7/6/2013 - CIRCULATE AROUND 12.8 PPG MUD IN ATTEMPT TO KILL WELL - PERFORM FLOW CHECKS TO DETERMINE IF DRILLING WELL IS FEASIBLE  
7/7/2013 - CIRCULATE AROUND 12.9 PPG, HOLDING BACK PRESSURE TO CIRCULATE OUT INFLUX, PREPARE 14.5 PPG MUD CAF  
7/8/2013 - SPOT 14.5 PPG MUD CAP ON WELL FROM 3004' - 1054', PERFORM FLOW CHECK, WELL IS DEAD, TOOH TO CASING SHOE, MONITOR WELL WHILE WAITING ON HALLIBURTON, TIH TO 1052',  
7/9/2013 - PUMP 200sx C/C CMT W/ 2% CaCl2 + .5% Halad-9 PLUG, 14.8PPG, WOC. RIH & TAG CEMENT AT 829', TOOH. RIH & SET CIBP @ 790'.  
7/10/2013 - TEST CIBP TO 515# FOR 30 MIN HELD GOOD, TOOH; NIPPLE DOWN BOP; INSTALL AND TEST WELL HEAD; JET AND CLEAN PITS, RIG DOWN AND RELEASE RIG @ 18:00 HRS.

DETAIL INFORMATION WILL BE PROVIDED ON REQUEST. CURRENTLY WORKING ON GO FORWARD PLAN, SUNDRY WILL BE FILED FOR NMOCD APPROVAL PRIOR TO ANY WORK BEING DONE.

Spud Date:

6/28/13

Rig Release Date:

7/10/13

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

SIGNATURE

David Stewart

TITLE

Regulatory Advisor

DATE

7/16/13

Type or print name

David Stewart

E-mail address: david.stewart@oxy.com

PHONE: 432-685-5717

For State Use Only

APPROVED BY:

David Stewart

TITLE

Dist. Supervisor

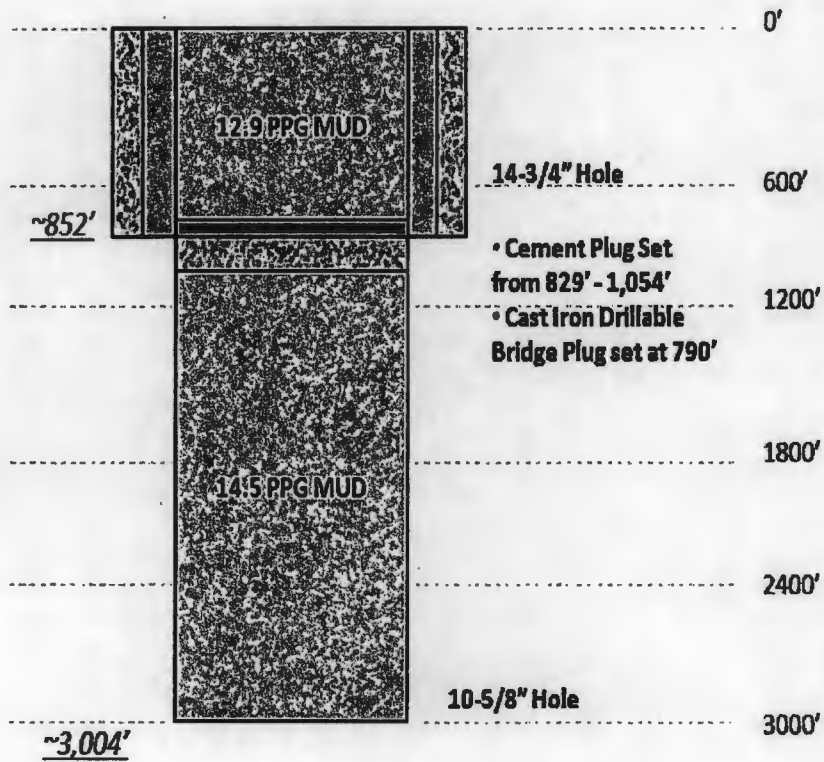
DATE

July 18, 2013

Conditions of Approval (if any):

## Lost Tank 35 St SWD 1 - Forward Plan SUNDRY INFO

### Current Well Status:



## **SUMMARY OF CHANGES:**

**Option 1** – Flex 3 using same wellbore (3 string if able to contain flow with casing drilling)

- Expand location for a Flex 3 w/ enough space for at least 5 additional frac tanks.
- Drill out CIBP and cement. If no losses/gains with the kill mud weight in the hole, casing drill 10 5/8" hole to ~4340' (100' into Lamar) and cement 9 5/8" 40# J55 UFJ casing. Drill 8 3/4" hole to TD of ~6320' and set 7" 26# L80 LTC casing.

**Option 2** – Flex 3 using same wellbore (4 string if unable to contain flow with casing drilling)

- Expand location for a Flex 3 w/ enough space for at least 5 additional frac tanks.
- Drill out CIBP and cement. Casing drill 10 5/8" hole to ~3200' and cement 9 5/8" 40# J55 UFJ casing to isolate flow, in the scenario where losses are experienced with the 14 ppg mud, or if H2S levels raise above the HES limits. Drill 8 3/4" hole to ~ 4340' (100' into Lamar) and set 7 5/8" 26.4# J55 UFJ casing. Drill 6 3/4" hole to TD of ~6320' and set 5 1/2" 17# L80 BTC casing.

**Option 1 and 2:**

- H2S and water flow mitigated with:
  - Kill mud weight.
  - Use rotating control device to divert gas away from the rig floor.
  - Cascade system on location, Indian Fire & Safety on location until casing point, additional H2S monitors installed in frac tanks, fans on rig floor.

## Goetze, Phillip, EMNRD

---

**From:** Michael\_Fisher@oxy.com  
**Sent:** Wednesday, March 19, 2014 9:37 AM  
**To:** Goetze, Phillip, EMNRD  
**Subject:** LT 35 SWD 9-5/8" CBL  
**Attachments:** losttank#35\_RCBL\_9 58.PDF

rgds

**Mike Fisher**  
**Completions Engineering Advisor**  
**New Mexico & Texas Delaware**  
**OXY Permian Resources**  
5 Greenway Plaza Suite 110, Houston, TX 77046  
Room: 25.049  
Office: (713) 552-8585  
Cell: (832) 540-5753



30-015-40890  
CBL for 9 5/8 inch casing

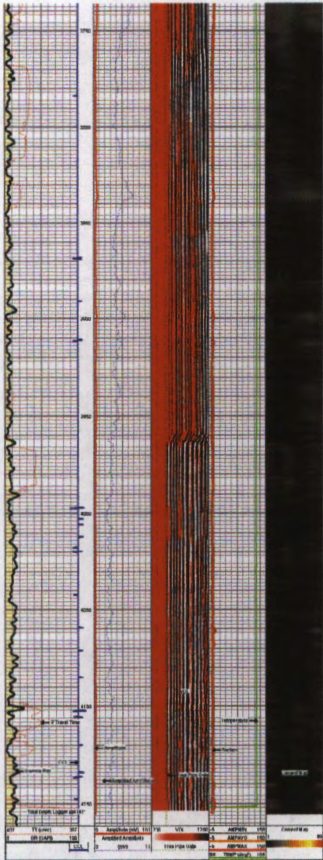
-164' significant channeling  
-230' total wash

-2546' oxy

} channeling + washout

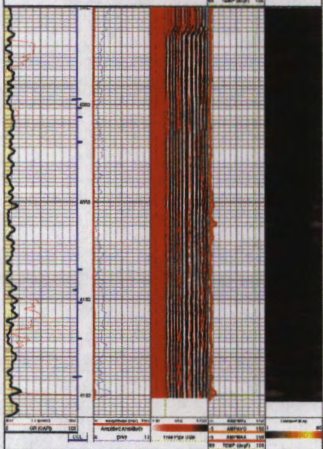
-3022' ↓ No channeling/good cmt



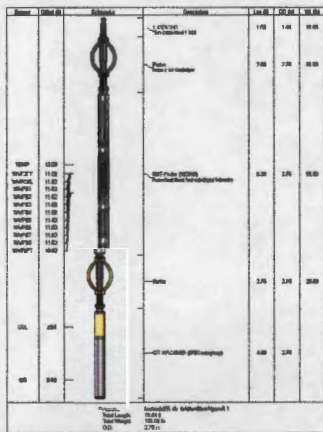


### Repeat Pass

Geological log plot showing depth (0 to 1000 feet) versus various parameters including resistivity, gamma ray, and neutron porosity. The plot shows a thick red section at the top, likely representing a specific geological formation.



Log Values for Interpretation									
Depth	Resistivity	Gamma Ray	Neutron Porosity	True Resistivity	True Gamma Ray	True Neutron Porosity	True Density	True Sonic	True Vp
0	1000	100	0.00	1000	100	0.00	1.00	1000	1000
100	1000	100	0.00	1000	100	0.00	1.00	1000	1000
200	1000	100	0.00	1000	100	0.00	1.00	1000	1000
300	1000	100	0.00	1000	100	0.00	1.00	1000	1000
400	1000	100	0.00	1000	100	0.00	1.00	1000	1000
500	1000	100	0.00	1000	100	0.00	1.00	1000	1000
600	1000	100	0.00	1000	100	0.00	1.00	1000	1000
700	1000	100	0.00	1000	100	0.00	1.00	1000	1000
800	1000	100	0.00	1000	100	0.00	1.00	1000	1000
900	1000	100	0.00	1000	100	0.00	1.00	1000	1000
1000	1000	100	0.00	1000	100	0.00	1.00	1000	1000



Log Values for Interpretation									
Depth	Resistivity	Gamma Ray	Neutron Porosity	True Resistivity	True Gamma Ray	True Neutron Porosity	True Density	True Sonic	True Vp
0	1000	100	0.00	1000	100	0.00	1.00	1000	1000
100	1000	100	0.00	1000	100	0.00	1.00	1000	1000
200	1000	100	0.00	1000	100	0.00	1.00	1000	1000
300	1000	100	0.00	1000	100	0.00	1.00	1000	1000
400	1000	100	0.00	1000	100	0.00	1.00	1000	1000
500	1000	100	0.00	1000	100	0.00	1.00	1000	1000
600	1000	100	0.00	1000	100	0.00	1.00	1000	1000
700	1000	100	0.00	1000	100	0.00	1.00	1000	1000
800	1000	100	0.00	1000	100	0.00	1.00	1000	1000
900	1000	100	0.00	1000	100	0.00	1.00	1000	1000
1000	1000	100	0.00	1000	100	0.00	1.00	1000	1000

Log Values for Interpretation									
Depth	Resistivity	Gamma Ray	Neutron Porosity	True Resistivity	True Gamma Ray	True Neutron Porosity	True Density	True Sonic	True Vp
0	1000	100	0.00	1000	100	0.00	1.00	1000	1000
100	1000	100	0.00	1000	100	0.00	1.00	1000	1000
200	1000	100	0.00	1000	100	0.00	1.00	1000	1000
300	1000	100	0.00	1000	100	0.00	1.00	1000	1000
400	1000	100	0.00	1000	100	0.00	1.00	1000	1000
500	1000	100	0.00	1000	100	0.00	1.00	1000	1000
600	1000	100	0.00	1000	100	0.00	1.00	1000	1000
700	1000	100	0.00	1000	100	0.00	1.00	1000	1000
800	1000	100	0.00	1000	100	0.00	1.00	1000	1000
900	1000	100	0.00	1000	100	0.00	1.00	1000	1000
1000	1000	100	0.00	1000	100	0.00	1.00	1000	1000

Log Values for Interpretation									
Depth	Resistivity	Gamma Ray	Neutron Porosity	True Resistivity	True Gamma Ray	True Neutron Porosity	True Density	True Sonic	True Vp
0	1000	100	0.00	1000	100	0.00	1.00	1000	1000
100	1000	100	0.00	1000	100	0.00	1.00	1000	1000
200	1000	100	0.00	1000	100	0.00	1.00	1000	1000
300	1000	100	0.00	1000	100	0.00	1.00	1000	1000
400	1000	100	0.00	1000	100	0.00	1.00	1000	1000
500	1000	100	0.00	1000	100	0.00	1.00	1000	1000
600	1000	100	0.00	1000	100	0.00	1.00	1000	1000
700	1000	100	0.00	1000	100	0.00	1.00	1000	1000
800	1000	100	0.00	1000	100	0.00	1.00	1000	1000
900	1000	100	0.00	1000	100	0.00	1.00	1000	1000
1000	1000	100	0.00	1000	100	0.00	1.00	1000	1000

## Goetze, Phillip, EMNRD

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**From:** Goetze, Phillip, EMNRD  
**Sent:** Wednesday, March 26, 2014 3:13 PM  
**To:** 'Michael\_Fisher@oxy.com'  
**Cc:** Dade, Randy, EMNRD; David\_Stewart@oxy.com  
**Subject:** RE: Lost Tank 35 State SWD #1

Mike:

This is very complete – thank you for providing such a quick response. I take a closer look tomorrow morning, but it looks like it is all I need to move forward. I will touch base with Randy and should have this resolved by the end of the week. PRG

Phillip R. Goetze, P.G.  
Engineering and Geological Services Bureau, Oil Conservation Division  
1220 South St. Francis Drive, Santa Fe, NM 87505  
O: 505.476.3466 F: 505.476.3462  
[phillip.goetze@state.nm.us](mailto:phillip.goetze@state.nm.us)

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**From:** Michael\_Fisher@oxy.com [[mailto:Michael\\_Fisher@oxy.com](mailto:Michael_Fisher@oxy.com)]  
**Sent:** Wednesday, March 26, 2014 3:07 PM  
**To:** Goetze, Phillip, EMNRD  
**Cc:** Dade, Randy, EMNRD; [David\\_Stewart@oxy.com](mailto:David_Stewart@oxy.com)  
**Subject:** RE: Lost Tank 35 State SWD #1

Philip

Attached is the revised completion program for the well that includes the remedial cement work as discussed. The proposed post completed wellbore diagram can be seen on page 9 as requested.

If you are in agreement with the attached procedure then we will resubmit through the appropriate channel once the amended SWD permit is approved.

If you are not, please advise what you would like us to do differently.

rgds

**Mike Fisher**  
**Completions Engineering Advisor**  
**OXY Permain Resources**  
Office: (713) 552-8585  
Cell: (832) 540-5753

---

**From:** Goetze, Phillip, EMNRD [<mailto:Phillip.Goetze@state.nm.us>]  
**Sent:** Wednesday, March 26, 2014 11:30 AM  
**To:** Fisher, Michael W  
**Cc:** Dade, Randy, EMNRD; Stewart, David  
**Subject:** RE: Lost Tank 35 State SWD #1

Mike:

It is a fact that the District will not approve a sundry that proposes perforation for a SWD well that does not authority to inject, so I would hold the sundry till the SWD was close to issuance. Therefore, what I would like from OXY is an amended well completion diagram showing the proposed cementing program that was discussed and a summary that includes specifics (what you would include in a sundry). This information will be included in the C-108 application and will permit the application to be submitted for the Director's signature (with the new cementing program as a condition of approval). I'm including Randy in the e-mails so that he will also be able to see your submittal and he express any concerns prior to approval of the amended permit. PRG

Phillip R. Goetze, P.G.

Engineering and Geological Services Bureau, Oil Conservation Division

1220 South St. Francis Drive, Santa Fe, NM 87505

O: 505.476.3466 F: 505.476.3462

[phillip.goetze@state.nm.us](mailto:phillip.goetze@state.nm.us)

---

**From:** [Michael Fisher@oxy.com](mailto:Michael_Fisher@oxy.com) [[mailto:Michael\\_Fisher@oxy.com](mailto:Michael_Fisher@oxy.com)]

**Sent:** Wednesday, March 26, 2014 5:59 AM

**To:** Goetze, Phillip, EMNRD

**Cc:** [David Stewart@oxy.com](mailto:David_Stewart@oxy.com)

**Subject:** Lost Tank 35 State SWD #1

Phillip

The completion program for the well has been updated to include a casing squeeze (following the stimulation treatment) to attempt to circulate cement back to surface behind the primary 7" casing as requested during our teleconference on 3/19/2014.

My main question is:

- The District Office originally denied the completion sundry as the perforated interval was outside the permitted SWD permit (currently awaiting approval to an amended SWD permit, which was filed at the same time as the completion sundry). Im concerned that if I resubmit the completion sundry if will again be rejected due to the permit issue. Should we wait until the amended SWD permit is approved? Or would you like me to submit the revised completion immediately?

Feedback on the above matter would be greatly appreciated.

rgds

**Mike Fisher**

**Completions Engineering Advisor**

**New Mexico & Texas Delaware Basin**

**OXY Permian Resources**

5 Greenway Plaza Suite 110, Houston, TX 77046

Room: 25.049

Office: (713) 552-8585

Cell: (832) 540-5753





Lost Tank 35 State SWD #1 Completion  
Mike Fisher  
Revision Date: March 26<sup>th</sup>, 2014

**OXY USA INC**  
**Lost Tank 35 State SWD #01**  
**API#: 30-015-40890**  
**Location: T21S R31E Sec. 35. 2630' FSL & 2630' FWL**  
**Latitude: 32.4326326925762, Longitude: -103.74613825826**  
**Eddy County, New Mexico**

**PROJECT ENGR:** Mike Fisher  
**OFFICE PHONE:** (832) 540-5753  
**CELL PHONE:** (713) 552-8585

**ALT. ENGR:** Jeff Garoon  
**OFFICE PHONE:** (713) 552-8596  
**CELL PHONE:** (281) 630-3127

**Project:**

Stimulate and complete the vertical salt water disposal well in 4 stages within the Bell Canyon and Lower Cherry Canyon formations followed by remedial cementing operations of the primary 7" casing.

**Finance Project:**

Project #: 1168887  
Task #: 0103

**History:**

Spud Date: 10/28/2013  
TD Date: 10/27/2013  
Rig Release Date: 11/24/2013  
Completion Date: TBA

**Well Information:**

<b>API #</b>	30-015-40890
<b>Estimated Completion Cost:</b>	
<b>Anticipated Inj. Rate:</b>	~3500 bbls/d
<b>Elevation:</b>	KB: 3559 ft ASL; KB: <b>25 ft</b> ; Ground Elevation: 3534 ft ASL
<b>Max hole angle:</b>	Vertical
<b>TD:</b>	6,352' MDKB
<b>PBTD:</b>	6,259' MDKB (top of float collar)
<b>Casing Record:</b>	<ul style="list-style-type: none"><li>• 11-3/4" 42# H-40 STC csg to 852' w/ cmt to surface.</li><li>• 9-5/8" 32# J-55 Ultra-FJ csg to 4340' w/ cmt to surface.</li><li>• 7" 26# L-80 LTC csg to 6,345' w/ TOC estimated @ ~3730'</li></ul> <b>Max Surface Treating Pressure = 5000 psi (WH rating)</b>
<b>DV Tool Locations:</b>	No DV Tool
<b>Marker Joint</b>	No Marker Joint
<b>Tubing Record:</b>	No tubing in well.
<b>Completion Fluid:</b>	8.7 ppg cut brine

**Prior to Job:**

- Clear location.
- MI & set anchors.
- MI & spot working tanks. Set up to be determined by WST/ WOCS.
- Please see “List of Vendors & Equipment to be Considered for Vertical Fracs” to help assist with checklist of equipment.

**Proposed Operations (See below for procedure):**

- Clean-out to PBTD w/ PU **(Complete)**;
- Data Acquisition/ Logs **(Complete)**:
  - a. Make run with W/L GR-CBL-VDL-CCL-Neutron Porosity log from 6,200 (or as deep as possible) to surface w/ 1000 psi on casing;
- Pressure Test Casing;
- WL prep Stage 1;
- Frac well via plug and perf method using the attached schedule;
- Perform remedial cementing operations;
- Clean out well to PBTD with DDPU and reverse rig;
- Blow down well to flow back tanks;
- Run tubing;
- Hand well over to operations for SWD duties.

**Misc. Well Information:**

All depths are measured depths. Correlate perforation depths to KB.

### **Proposed Perforations:**

<b>Stage 1</b>		<b>Pump Rate:</b>		<b>60 BPM</b>				<b>500000 lbs</b>	
<b>Sand</b>	SN Top	SN Btm	Gross Pay	<b>Top Perf</b>	<b>Btm Perf</b>	Density	# of Holes	Phasing	Hole Size
<b>Cherry Canyon</b>	5495	5530	35	5,510	5,511	6	6	60	
	5595	5680	85	5,670	5,671	6	6	60	
	5700	5770	70	5,740	5,741	6	6	60	
	5780	5900	120	5,805	5,806	6	6	60	
				5,875	5,876	6	6	60	
	6100	6200	100	6,150	6,151	6	6	60	
			410				36		
<b>Stage 2</b>		<b>Pump Rate:</b>		<b>60 BPM</b>				<b>500000 lbs</b>	
<b>Sand</b>	SN Top	SN Btm	Gross Pay	<b>Top Perf</b>	<b>Btm Perf</b>	Density	Shots	Phasing	Hole Size
<b>Bell Canyon</b>	4935	4985	50	4,965	4,966	6	6	60	0.43
	5000	5020	20	5,010	5,011	6	6	60	0.43
	5095	5130	35	5,120	5,121	6	6	60	0.43
	5350	5400	50	5,375	5,376	6	6	60	0.43
	5410	5450	40	5,435	5,436	6	6	60	0.43
Total			195				30		
<b>Stage 3</b>		<b>Pump Rate:</b>		<b>60 BPM</b>				<b>300000 lbs</b>	
<b>Sand</b>	SN Top	SN Btm	Gross Pay	<b>Top Perf</b>	<b>Btm Perf</b>	Density	# of Holes	Phasing	Hole Size
<b>Bell Canyon</b>	4620	4670	50	4650	4651	6	6	60	0.43
	4710	4760	50	4740	4741	6	6	60	0.43
	4790	4840	50	4827	4828	6	6	60	0.43
	4855	4900	45	4885	4886	6	6	60	0.43
Total			195				24		
<b>Stage 4</b>		<b>Pump Rate:</b>		<b>60 BPM</b>				<b>300000 lbs</b>	
<b>Sand</b>	SN Top	SN Btm	Gross Pay	<b>Top Perf</b>	<b>Btm Perf</b>	Density	Shots	Phasing	Hole Size
<b>Bell Canyon</b>	4380	4410	30	4,400	4,401	6	6	60	0.43
	4420	4450	30	4,434	4,435	6	6	60	0.43
	4470	4490	20	4,479	4,480	6	6	60	0.43
	4510	4535	25	4,529	4,530	6	6	60	0.43
	4550	4600	50	4,560	4,561	6	6	60	0.43
Total			155				30		

### **Perforation Guns**

The guns are 4" with premium charges, 0.43" EHD w/ 6 JSPF on 60 degree phasing. W/L Service Company will provide the appropriate setting tool to run the fully composite flow-thru frac plugs (caged ball type).

### **Perforations Reference**

Perforations to be referenced to the GR-CNL-CCL-CBL log run during the well preparation phase. Correlate depths to KB from table on page #1.

Lost Tank 35 State SWD #1 Completion

Mike Fisher

Revision Date: March 26<sup>th</sup>, 2014

**Frac Plugs**

Fully composite flow-thru frac plugs (caged ball type). Plug company will provide tool hand during the job to ensure plugs are set up and run correctly with 3<sup>rd</sup> party setting tool.

**Frac Water Volume Required**

**~20,000 bbls (includes 10% excess).**

**Frac Sand Required**

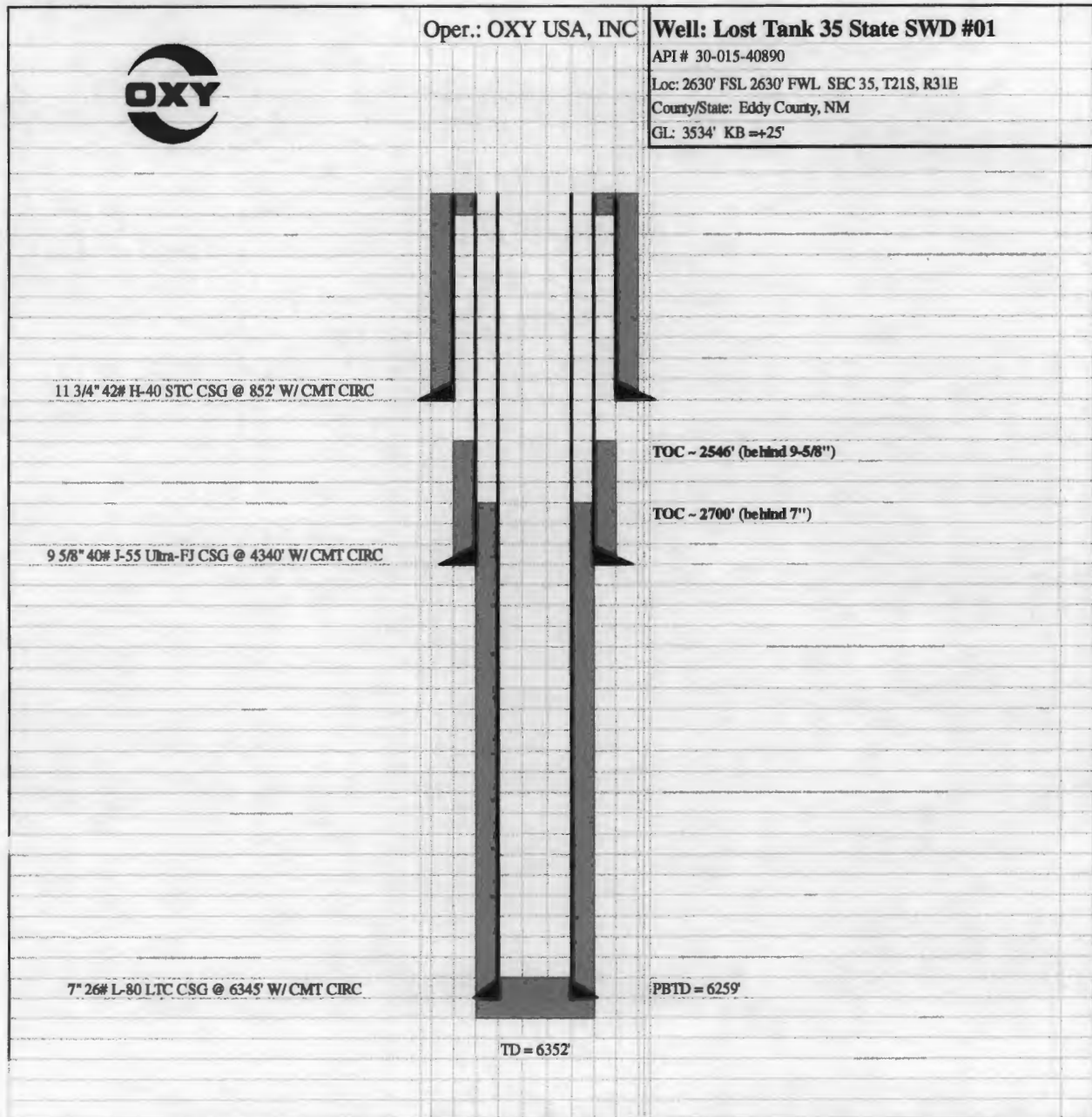
**~1,600,000# of 16/30 brown sand.**

Lost Tank 35 State SWD #1 Completion

Mike Fisher

Revision Date: March 26<sup>th</sup>, 2014

**Wellbore Diagram (Pre-Completion):**



**RECOMMENDED PROCEDURE:**

**WARNING:** A POISONOUS GAS - HYDROGEN SULFIDE (H<sub>2</sub>S) - A HIGHLY TOXIC COLORLESS GAS THAT IS HEAVIER THAN AIR MAY BE PRESENT AT THIS LOCATION AND/OR PRESENT IN THE GAS AND LIQUIDS INJECTED OR PRODUCED FROM THIS WELL. PLANS MUST BE REVIEWED DEALING WITH H<sub>2</sub>S SAFETY PRIOR TO WORKING ON THIS WELL. CHECK WITH FOREMAN CONCERNING LOCAL CONDITIONS.

**Well Preparation and Run Logs:**

Clean location, set and test anchors. Install frac valve.

1. Check location for hazardous conditions.
2. MIRU WLU. NU 7" frac stack.
3. RU Pump truck and test casing and wellhead to maximum of **5000psi** only. (Wellhead rated to **5000psi** only).

**7.0" 26# L-80 LTC CSG @ 6345' W/ TOC @ 2720'.**

**ID = 6.276" - DID = 6.151" - BURST = 7240 PSI - COLLAPSE = 5410 PSI**

4. RU WL. PU & RIH w/ WL guns to perf first frac stage per above schedule.

**NOTE: If operation requires changing depth of caged ball plugs or perforating schedule, take into account the nearest collar depth based upon the GR-CCL-CBL acquired post drilling.**

5. Perforate first stage (**5510' – 6151'**) per attached procedure. Arm guns & break down perms w/ 15% NEFE HCl. POOH and check guns.
6. RD WLU.

**Frac:**

7. Rig up frac and WLU. Set maximum Pressure to **5000psi**. Frac Stage # 1 as per attached vendor procedure.

**NOTE: Ensure both the 7" x 9 5/8" and 9 5/8" x 11 3/4" annulus are monitored during the frac job to ensure no unexpected pressure is seen. If pressure is seen notify the completion engineer immediately.**

8. PU guns and 7.0" CBP (caged ball type), RIH and set plug at **5480'**. Perf stage 2 (**4965' – 5436'**) per the above perf schedule. POOH, check guns, and LD WL.
9. Frac Stage # 2 as per attached vendor procedure.
10. PU guns and 7.0" FTCBP, RIH and set plug at **4950'**. Perf stage 3 (**4650' – 4886'**) per the above perf schedule. POOH, check guns, and LD WL.
11. Frac Stage # 3 as per attached vendor procedure.
12. PU guns and 7.0" FTCBP, RIH and set plug at **4600'**. Perf stage 4 (**4400' – 4561'**) per the above perf schedule. POOH, check guns, and LD WL. RD and release WLU.
13. Frac Stage # 4 as per attached vendor procedure.
14. RD and release frac crew.

### **Remedial Cement Work**

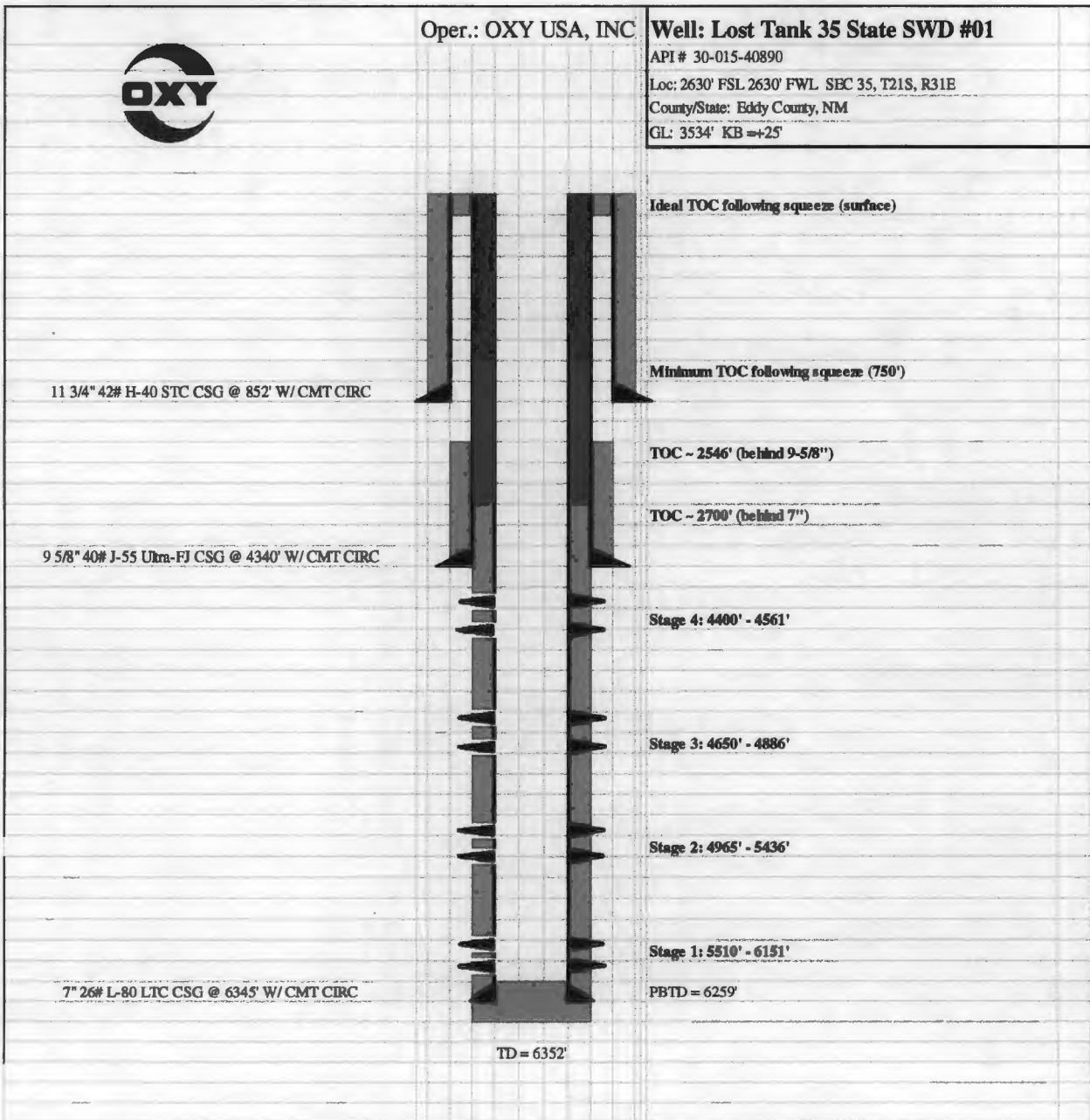
15. MIRU DDPU and NU BOP;
16. Attempt to latch on and release slips on the 7" production casing;  
**NOTE: The slips must be free with a degree of movement in tension on the 7" to successfully determine free pipe.**
17. MIRU WL and RIH w/ Free point tool;  
**Log from 3200' (~500' below CBL identified TOC) to surface.**
18. LD Freepoint tool, and reset the casing in the slips;
19. PU 7" RBP, RIH and set 100' below the freepoint;
20. Pressure test casing to 1500psi to confirm RBP is holding;
21. Dump 5sx (~5cu/ft) of sand to cap RBP;  
**Should correspond to ~23ft of sand on top of RBP.**
22. PU 6.0" drift and RIH and tag sand and confirm depth then POOH;
23. PU WL guns (4 shots @ 4spf, 90deg phasing, 0.42" EHD);
24. RIH and perforate 30' above the identified freepoint;
25. POOH and LD WL guns;
26. Open the 7" x 9-5/8" casing annulus valve and pump into the 7" casing @ 2bpm, establish a circulation rate and circulate 2 x bottoms up (~150bbls);
27. PU and RIH w/ cement retainer on 2-7/8" WS and set at 50' above the perforated interval. Pressure test backside to 2000psi to ensure retainer is good;

28. Pump 1000 ft of tubing volume (~5bbls) to ensure circulation is still present;
29. Mix and pump 83bbls (includes 10% excess) 13ppg cmt slurry until maximum squeeze pressure or maximum squeeze volume @ 3-4bbl/min;  
**NOTE: DO NOT EXCEED 2500psi.**
30. Once sufficient displacement fluid is pumped to fully displace the cement there should be ~8bbls cmt to surface assuming returns are not lost during the job;
31. Sting out of cmt retainer and circulate 2 x WS volume to clean the tubing using treated water;
32. RDMO cmt company and wait for 24hrs.
33. RU WL, PU CBL and log from PBTD (cmt retainer) to surface.
34. Identify new TOC if returns were lost during the job.
35. If TOC is 750' or higher continue with the well cleanout procedure below.
36. If TOC is deeper than 750' then an additional cmt squeeze will be required, and the above process should be repeated.



Lost Tank 35 State SWD #1 Completion  
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**Wellbore Diagram (Post Cement Squeeze):**



### **Wellbore Clean-out**

37. RU DDP, Reverse Unit and Air Unit with N2 membrane. PU workstring and collars w/ 5.875" – 6.125" mill. Drill out cmt retainer at ~ **2600'** followed by CBP's at **4600'**, **4950'** and **5480'** per attached Best Practices procedure for cleaning. Be sure all recommendations in the Best Practices Procedure are implemented. Ensure enough air/foam is used to maintain circulation and hole cleaning.
38. Continue cleaning to the PBTD @ **6259'**. POOH w/ work string and lay down.
39. RU WLU. PU perf guns and re-perforate 4 zones as per procedure. Ensure to check guns after each perforation run. RD WL.
40. Flow back well through frac stack directly to frac tanks at low rates and do not surge the formation. Flow well until it dies, or fluid returns are 'clean'. Dispose of waste water at a commercial waste facility.

### **NOTE: DO NOT SEND FLOWBACK WATER TO AN OXY SWD WELL**

41. RU WLU. PU AS-1X packer, profile nipple, bottom half of on/off tool, pump off plug and set packer at **4370'** (~30' above top perf).
42. ND frac stack. NU wellhead.
43. PU and RIH with 3.5" 7.7# J-55 Duo-line tubing and top half of on/off tool. Circulate packer fluid. Land out on/off tool and tubing.
44. Test the back side of the tubing to confirm packer, on/ off tool and tubing integrity.

### **NOTE: Ensure MIT is witnessed as per requirement of SWD wells.**

45. Pressure up on tubing to pump open the isolation plug.
46. Hand well over to surface ops and put onto SWD operations ASAP.

### **NOTE: The 7" x 9 5/8" and 9 5/8" x 11 3/4" annulus' are to be monitored for the life of the well and production engineer notified immediately of any pressure deviations.**

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**Lost Tank 35 State SWD #1 Driving Directions:**

**FROM JAL NM, TAKE HWY 128 WEST TO COUNTY RD 798 AND TURN NORTH, GO 17.5 MILES TO LOCATION ACCESS RD AND TURN WEST, GO 1 MILE AND TURN NORTH INTO LOCATION.**

**Latitude: 32.4326326925762, Longitude: -103.74613825826**