

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

**APPLICATION OF AWR DISPOSAL, LLC
TO APPROVE SALT WATER
DISPOSAL WELL IN LEA
COUNTY, NEW MEXICO.**

CASE NO. _____

APPLICATION

AWR Disposal, LLC ("AWR"), OGRID No. 328805, through its undersigned attorneys, hereby makes this application to the Oil Conservation Division pursuant to the provisions of N.M. Stat. Ann. § 70-2-12, for an order approving drilling of a salt water disposal well in Lea County, New Mexico. In support of this application, AWR states as follows:

(1) AWR proposes to drill the Twin Sisters SWD #1 well at a surface location 2170 feet from the North line and 183 feet from the West line of Section 29, Township 23 South, Range 34 East, NMPM, Lea County, New Mexico for the purpose of operating a salt water disposal well.

(2) AWR seeks authority to inject salt water into the Devonian-Silurian formation at a depth of 14,652 -16,318'.

(3) AWR intends to use 7 inch tubing inside the surface and intermediate casings and 5 ½ inch tubing inside the liner and requests that the Division approve a maximum daily injection rate for the well of 50,000 bbls per day.

(4) AWR anticipates using an average pressure of 2,198 psi for this well, and it requests that a maximum pressure of 2,930 psi be approved for the well.

(5) A proposed C-108 for the subject well is attached hereto in Attachment A.

(6) The granting of this application will avoid the drilling of unnecessary wells, will prevent waste, and will protect correlative rights.

WHEREFORE, AWR requests that this application be set for hearing before an Examiner of the Oil Conservation Division on March 5, 2020; and that after notice and hearing, the Division enter its order approving this application.

Respectfully submitted,

MODRALL, SPERLING, ROEHL, HARRIS
& SISK, P.A.

By: Deana H. Bennett
Deana Bennett
Post Office Box 2168
500 Fourth Street NW, Suite 1000
Albuquerque, New Mexico 87103-2168
Telephone: 505.848.1800
Attorneys for Applicant

CASE NO. ____: Application of AWR Disposal, LLC for approval of salt water disposal well in Lea County, New Mexico. Applicant seeks an order approving the Twin Sister SWD #1 well at a surface location 2170 feet from the North line and 183 feet from the West line of Section 29, Township 23 South, Range 34 East, NMPM, Lea County, New Mexico for the purpose of operating a salt water disposal well. Applicant requests authorization to inject salt water into the Devonian-Silurian formation at a depth of 14,652'-16,318'. Applicant requests that the Division approve a maximum daily injection rate for the well of 50,000 bbls per day. Said location is approximately 21.2 miles northwest of Jal, New Mexico.

Revised March 23, 2017

RECEIVED:	REVIEWER:	TYPE:	APP NO:
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ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Geological & 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

Applicant: AWR DISPOSAL LLC.OGRID Number: 328805Well Name: TWIN SISTERS SWD #1API: TBDPool: SWD; DEVONIAN-SILURIANPool Code: 97869

**SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION
 INDICATED BELOW**

1) **TYPE OF APPLICATION:** Check those which apply for [A]

A. Location – Spacing Unit – Simultaneous Dedication

☐ NSL☐ NSP (PROJECT AREA)☐ NSP (PRORATION UNIT)☐ SD

B. Check one only for [I] or [II]

[I] Commingling – Storage – Measurement

☐ DHC☐ CTB☐ PLC☐ PC☐ OLS☐ OLM

[II] Injection – Disposal – Pressure Increase – Enhanced Oil Recovery

☐ WFX☐ PMX☒ SWD☐ IPI☐ EOR☐ PPR2) **NOTIFICATION REQUIRED TO:** Check those which apply.A. ☒ Offset operators or lease holdersB. ☐ Royalty, overriding royalty owners, revenue ownersC. ☒ Application requires published noticeD. ☒ Notification and/or concurrent approval by SLOE. ☒ Notification and/or concurrent approval by BLMF. ☒ Surface ownerG. ☐ For all of the above, proof of notification or publication is attached, and/or,H. ☐ No notice required**FOR OCD ONLY**☐ Notice Complete☐ Application
Content
Complete

3) **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.

CHRIS WEYAND

Print or Type Name

Signature

1/7/2020
Date512-600-1764

Phone Number

CHRIS@LONQUIST.COM

e-mail Address



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: Secondary Recovery Pressure Maintenance X Disposal Storage
Application qualifies for administrative approval? X Yes No
- II. OPERATOR: AWR DISPOSAL, LLC
ADDRESS: 3300 N. A Street, Ste 220, Midland, Texas 79705
CONTACT PARTY: Chris Weyand (Agent) PHONE: (512) 600-1764
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? Yes X No
If yes, give the Division order number authorizing the project: _____
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- *X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- *XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: Christopher B. Weyand TITLE: Consulting Engineer
SIGNATURE:  DATE: 1/7/2020
E-MAIL ADDRESS: chris@lonquist.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: _____

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

Side 2

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.

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

Side 1

OPERATOR: AWR DISPOSAL, LLCWELL NAME & NUMBER: TWIN SISTERS SWD #1WELL LOCATION: 2170' FNL & 183' FWL E UNIT LETTER 29 SECTION 23S TOWNSHIP 34E RANGEWELLBORE SCHEMATICWELL CONSTRUCTION DATA
Conductor Casing

Hole Size: 26.000" Casing Size: 26.000"

Cemented with: 71 sx. or _____ ft³

Top of Cement: Surface Method Determined: Circulation

Surface Casing

Hole Size: 24.000" Casing Size: 20.000"

Cemented with: 1,525 sx. or _____ ft³

Top of Cement: Surface Method Determined: Circulation

1st Intermediate Casing

Hole Size: 17.500" Casing Size: 13.375"

Cemented with: 4,044 sx. or _____ ft³

Top of Cement: Surface Method Determined: Circulation

2nd Intermediate Casing

Hole Size: 12.250"
Cemented with: 3,220 sx.
Top of Cement: Surface

Casing Size: 9.625"
or _____ ft³
Method Determined: Circulation

Production Liner

Hole Size: 8.500"
Cemented with: 273 sx.
Top of Cement: 11,200'
Total Depth: 16,518'

Casing Size: 7.625"
or _____ ft³
Method Determined: Logged

Injection Interval

14,652 feet to 16,518 feet
(Open Hole)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 7", 26 lb/ft, P-110, TCPC from 0' - 11,100' and 5.500", 17 lb/ft, P-110 TCPC from 11,100' - 14,602'
 Lining Material: Duoline

Type of Packer: 7-5/8" x 5-1/2" TCPC Permanent Packer with High Temp Elastomer and Full Inconel 925 trim

Packer Setting Depth: 14,602'

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

Additional Data

1. Is this a new well drilled for injection? X Yes No
 If no, for what purpose was the well originally drilled? N/A
2. Name of the Injection Formation: Devonian, Silurian, Fusselman and Montoya (Top 300')
3. Name of Field or Pool (if applicable): SWD; Devonian-Silurian
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, new drill.
5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:
Lamar: 5,135'
Delaware: 5,235'
Bone Spring: 8,566'
Wolfcamp: 11,424'
Strawn: 12,174'
Atoka: 12,361'
Morrow: 13,004'

AWR Disposal, LLC**Twin Sisters SWD No. 1****FORM C-108 Supplemental Information****III. Well Data****A. Wellbore Information**

1.

Well information	
Lease Name	Twin Sisters SWD
Well No.	1
Location	S-29 T-23S R-34E
Footage Location	2170' FNL & 183' FWL

2.

a. Wellbore Description

Casing Information				
Type	Surface	Intermediate 1	Intermediate 2	Liner
OD	20"	13.375"	9.625"	7.625"
WT	0.595"	0.558"	0.550"	0.563"
ID	19.000"	12.415"	8.535"	6.625"
Drift ID	18.810"	12.259"	8.379"	6.500"
COD	21"	14.375"	10.625"	7.625"
Weight	106.5 lb/ft	68 lb/ft	53.5 lb/ft	39 lb/ft
Grade	J-55	HCL-80	P-110	HCP-110
Hole Size	24"	17.5"	12.25"	8.5"
Depth Set	1,400'	5,150'	11,700'	11,200' – 14,652'

b. Cementing Program

Cement Information				
Casing String	Surface	Intermediate 1	Intermediate 2	Liner
Lead Cement	ExtendaCem	N/A	N/A	N/A
Lead Cement Volume	714 sx	N/A	N/A	N/A
Tail Cement	Halcem	Halcem	Halcem, Halcem, Halcem	Neocem
Tail Cement Volume	811 sx	4,050 sx	Stage 1: 1,193 sx Stage 2: 947 sx Stage 3: 1,080 sx	273 sx
Cement Excess	75%	100% OH	50%, 50%, 10%	50%
TOC	Surface	Surface	Surface	11,200'
Method	Circulate to Surface	Circulate to Surface	Circulate to Surface	Logged

3. Tubing Description

Tubing Information		
OD	7"	5.5"
WT	0.362"	0.304"
ID	6.276"	4.892"
Drift ID	7.875"	6.050"
COD	6.151"	4.653"
Weight	26 lb/ft	17 lb/ft
Grade	P-110 TCPC	P-110 TCPC
Depth Set	0' - 11,100'	11,100' -14,602'

Tubing will be lined with Duoline.

4. Packer Description

7-5/8" x 5-1/2" TCPC Permanent Packer with High Temp Elastomer and full Inconel 925 trim

B. Completion Information

1. Injection Formation: Devonian, Silurian, Fusselman, Montoya (Top 100')
2. Gross Injection Interval: 14,652' – 16,318'

Completion Type: Open Hole

3. Drilled for injection.
4. See the attached wellbore schematic.
5. Oil and Gas Bearing Zones within area of well:

Formation	Depth
Delaware	5,235'
Bone Spring	8,566'
Wolfcamp	11,424'
Strawn	12,174'
Atoka	12,361'
Morrow	13,004'

VI. Area of Review

No wells within the area of review penetrate the proposed injection zone.

VII. Proposed Operation Data

1. Proposed Daily Rate of Fluids to be Injection:

Average Volume: 40,000 BPD

Maximum Volume: 50,000 BPD

2. Closed System

3. Anticipated Injection Pressure:

Average Injection Pressure: 2,198 PSI (surface pressure)

Maximum Injection Pressure: 2,930 PSI (surface pressure)

4. The injection fluid is to be locally produced water. It is expected that the source water will predominantly be from the Bone Spring and Wolfcamp formations. Attached are produced water sample analyses taken from the closest wells that feature samples from the Artesia, Atoka, Bone Spring, Delaware, Morrow, Pennsylvanian, Strawn, and Wolfcamp formations.
5. The disposal interval is non-productive. No water samples are available from the surrounding area.

VIII. Geological Data

The Devonian formation is a dolomitic ramp carbonate that occurs below the Woodford shale and above the Fusselman formation. Strata found in the Devonian formation include two major groups, the Wristen Buildups and the Thirtyone Deepwater Chert, with the Wristen being more abundant. The Wristen Groups is composed of mixed limestone and dolomites with mudstone to grainstone and boundstone textures. Porosity in the Wristen group is a result of both primary and secondary development. Present are moldic, vugular, karstic (including collapse breccia) features that allow for higher porosities and permeabilities. The Thirtyone Formation contains two end-member reservoir facies, skeletal packstones/grainstones and spiculitic chert, with most of the porosity and permeability found in the coarsely crystalline cherty dolomite. These particular characteristics allow for this formation to be a tremendous Salt Water Disposal horizon.

A. Injection Zone: Siluro-Devonian Formation

Formation	Depth
Rustler	1,247'
Lamar	5,135'
Bell Canyon	5,235'
Cherry Canyon	6,053'
Brushy Canyon	7,365'
Bone Spring Lm	8,566'
1st Bone Spring	9,736'
1st Bone Spring SS	10,022'
2nd Bone Spring	10,397'
3rd Bone Spring	11,227'
Wolfcamp	11,424'
Strawn	12,174'
Atoka	12,361'
Morrow	13,004'
Miss LS	13,977'
Woodford	14,388'
Devonian	14,602'
Fusselman	15,665'
Montoya	16,218'

B. Underground Sources of Drinking Water

No water wells exist within a one-mile radius of the proposed well. Water wells outside a one-mile radius in the surrounding area have an average depth of 503 feet and an average water depth of 270 feet generally producing from the Carlsbad. The upper Rustler may also be another USDW and will be protected.

IX. Proposed Stimulation Program

Stimulate with up to 50,000 gallons of acid.

X. Logging and Test Data on the Well

There are no logs or test data on the well. During the process of drilling and completion resistivity, gamma ray, and density logs will be run.

XI. Chemical Analysis of Fresh Water Wells

Because there are no water wells that exist within a one-mile radius of the proposed well, chemical analysis of fresh water wells was not retrieved for the proposed well.

XII. Affirmative Statement of Examination of Geologic and Engineering Data

Based on the available engineering and geologic data we find no evidence of open faults or any other hydrologic connection between the disposal zone (in the proposed **Twin Sisters SWD #1**) and any underground sources of drinking water.

NAME: Herb Wacker

TITLE: Geologist

SIGNATURE:

Herbert Wacker
TBBG # 4517

DATE:

Nov 1, 2019

AWR DISPOSAL LLC			Twin Sisters SWD			Location - Sec 29 T23S R34E			YB 16.318			Injection String														
Geologic Tops (MD ft)			Vertical Injection - Devonian, Silurian, Fusselman			Lea County NM			3619' / 3649'			Casing														
Geologic Tops (MD ft)			Section			Problems			Bit/BHA			Mud			Logging			Cement (HOLD)								
Rustler Anhydrite - 1247			Surface Drill 24" 0' - 1400' Set and Cement 20" Casing			Loss Circulation Hole Cleaning Wellbore stability in the Red Beds Anhydrite in the Rustler			24" Tricone 9-5/8" x 8" MM 9 Jts: 8" DC 21 Jts: 5" HWDP 5" DP to surface			Spud Mud MW< 9.0			1400' of 20" 106.5# J55 BTC Centralizers - bottom 2 joints and every 3rd jt thereafter			No Logs			Lead: 714 sx 13.7 ppg EXTENDACEM, 1.694 ft3/sk (800') 75% excess Tail: 811 sx 14.8 ppg HALCEM, 1.342 ft3/sk (600') 75% excess Cement to Surface					
Surface TD - 1400			1st Intermediate Drill 3750' of 17-1/2" Hole 1400' - 5150' Set and Cement 13-3/8" Casing			Seepage Losses Possible H2S Anhydrite Salt Sections			17-1/2" PDC 9-5/8" x 8" MM 9 Jts: 8" DC 21 Jts: 5" HWDP 5" DP to surface			Brine Water <1.1ppg			5M A Section Casing Bowl 5150' of 13-3/8" 68# HCL80 BTC. Externally coated 1100' - 5100' Centralizers - bottom jt, every 3rd joint in open hole and 2 jt inside the surface casing			Mudlogger on site by 1400'			4050sx of 13.7ppg Halcem (100% XS in OH) with 5% Miccobond. Cement to surface					
Salt Section			2nd Intermediate Drill 6550' of 12-1/4" Hole 5150 - 11700' Set 9-5/8" Intermediate Casing and Cement in 3 Stages			Hard Drilling in the Brushy Canyon Seepage to Complete Loss Water Flows Some Anhydrite H2S possible Production in the Bone Spring and Wolfcamp Ballooning is possible in Cherry Canyon and Brushy if Broken Down			12-1/4" PDC 8" MM 9Jts: 8" DC 8" Drilling Jars 21 Jts: 5" HWDP 5" DP to Surface			WBM with Produced FW until Loss of circulation			10M B Section 11700' of 9-5/8" 53.5# P110 BTC Special Drift to 8.535" Externally Coat Between DV Tools DV tool at at 8600' ECP DV Tool at 5200' Centralizers - bottom jt, 100' aside of DV tool, every 3rd joint in open hole and 5 within the surface casing			Stage 3: 1080 sx 13.7 ppg HalCem™ C 10% XS 1000psi CSD after 10 hrs Cement to Surface Stage 2: 947 sx of 13.7 ppg HalCem™ C 50% XS 1000psi CSD after 10 hrs Cement to Surface Stage 1: 1193 sx 15.6 ppg HalCem™ 50% XS 1000psi CSD after 10 hrs Cement to Surface			3502' of 5-1/2" P110 17# TCP/C Duoline Internally Coated Injection Tubing					
Bone Spring - 8566			3rd Intermediate Drill 2952' of 8-1/2" Hole 11700' - 14652' Set 7-5/8" Liner and Cement in Single Stage			High Pressure (up to 15ppg) and wellbore instability (fracturing) expected in the Wolfcamp Production in the Wolfcamp Atoka and Morrow Hard Drilling in the Morrow Clastic			8-1/2" PDC 6-3/4" MM 9 Jts: 6" DC 21 Jts: 5" HWDP 5" DP to Surface			12.5 ppg OBM UBD/MPD using ADA (HOLD)			3452' of 7-5/8" 39# P110 USS Flush It Conn VersaFlex Packer Hanger Centralizers on and 1 ft above shoe it and then every 2nd jt.			MWD GR Triple combo, CBL of 9-5/8" Casing			273sx of 13.2 ppg NeoCem™ PT2 8hr TT Silica Flour 50% Excess 1000psi CSD after 10hrs			7-5/8" x 5-1/2" TCP Permanent Packer with High Temp Elastomer and full Inconel 925 trim		
3rd Int Liner Top - 11,200			Injection Interval Drill 1866' of 6-1/2" hole 14652 - 16518'			Chert is possible Loss of Circulation is expected H2S encountered on the Striker 3 well BHT estimated at 280F			6-1/2" PDC 4-3/4"MM 9 Jts: 4-3/4" DC 13-3/4" Drilling Jars 18 Jts: 4" FH HWDP 4" FH DP to Surface			Cut brine - low grav for possible flows			Openhole completion			MWD GR			Displace with 3% KCl (or heavier brine if necessary)					
Wolfcamp - 11424			2nd Int TD - 11,700			Devonian - 14,602			Fusselman - 15665			Montoya - 16,218'			TD - 16,318'											

District I
1625 N French Dr., Hobbs, NM 88240
Phone: (505) 393-6161 Fax: (505) 393-0720

District II
811 S. First St., Artesia, NM 88210
Phone: (505) 748-1283 Fax: (505) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources
Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

FORM C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number		² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name TWIN SISTERS SWD		⁶ Well Number 1
⁷ OGRID No. 328805	⁸ Operator Name LONQUIST & CO, LLC		⁹ Elevation 3565'

¹⁰Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	29	23-S	34-E	-	2170'	NORTH	183'	WEST	LEA

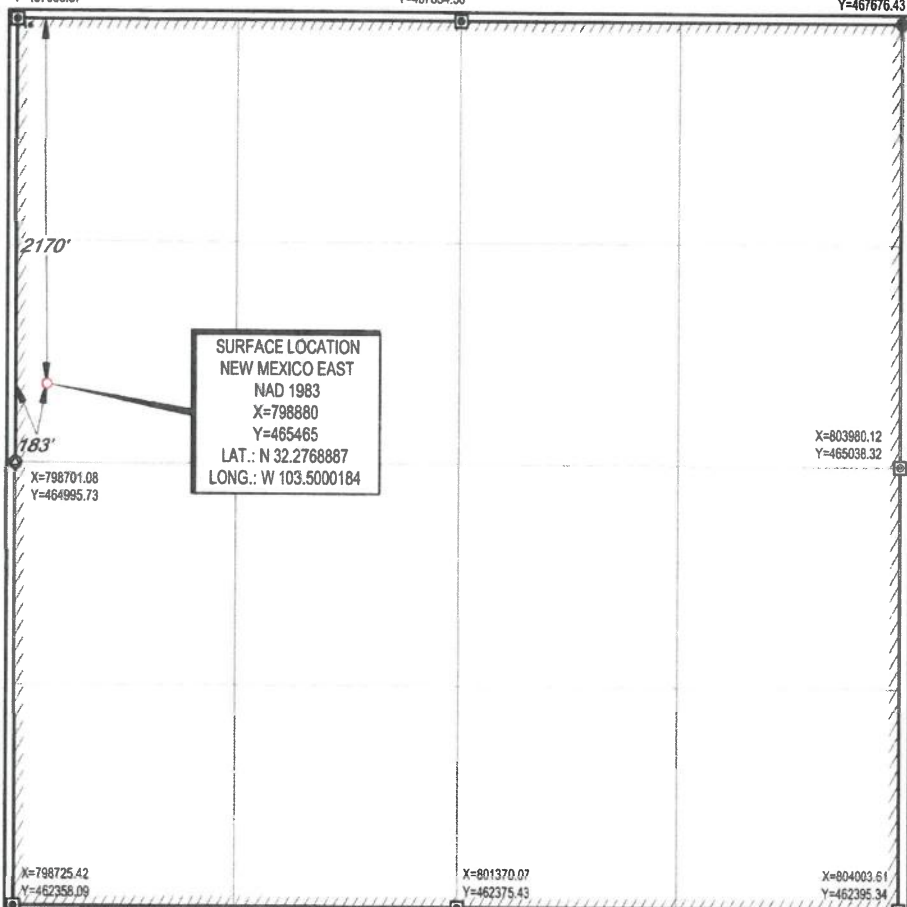
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
-	-	-	-	-	-	-	-	-	-
¹² Dedicated Acres		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			
-		-		-		-			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

X=798676.73
Y=467633.37

X=801316.73
Y=467654.36

X=803955.36
Y=467676.43

¹⁷OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Chris Wapner 1/7/2020
Signature Date

Chris Wapner
Printed Name

Chris@lonquist.com
E-mail Address

¹⁸SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true to the best of my belief.

XX/XX/XXXX

Date of Survey
Signature and Seal of Professional Surveyor

Certificate Number

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-101
Revised July 18, 2013

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address AWR DISPOSAL, LLC 3300 N. A Street, Ste 220 Midland, TX 79705		² OGRID Number 328805
		³ API Number TBD
⁴ Property Code	⁵ Property Name Twin Sisters SWD	⁶ Well No. 1

⁷ Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
E	29	23S	34E	N/A	2170'	NORTH	183'	WEST	LEA

⁸ Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
-	-	-	-	-	-	-	-	-	-

⁹ Pool Information

Pool Name	Pool Code
SWD; DEVONIAN-SILURIAN	97869

Additional Well Information

¹¹ Work Type N	¹² Well Type SWD	¹³ Cable/Rotary R	¹⁴ Lease Type Private	¹⁵ Ground Level Elevation 3,565'
¹⁶ Multiple N	¹⁷ Proposed Depth 16,318'	¹⁸ Formation Devonian-Silurian	¹⁹ Contractor TBD	²⁰ Spud Date ASAP
Depth to Ground water 270'		Distance from nearest fresh water well 1.39 miles		Distance to nearest surface water > 1 mile

☐ We will be using a closed-loop system in lieu of lined pits

²¹ Proposed Casing and Cement Program

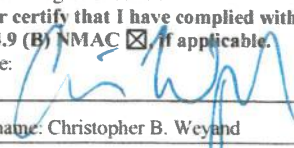
Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	24"	20"	106.5 lb/ft	1,400'	1,515	Surface
Intermediate 1	17.5"	13.375"	68 lb/ft	5,150'	4,050	Surface
Production	12.25"	9.625"	53.5 lb/ft	11,700'	3,220	Surface
Prod. Liner	8.5"	7.625"	39 lb/ft	11,200' - 14,652'	273	11,200'

Casing/Cement Program: Additional Comments

See attached schematic.

²² Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Hydraulic/Blinds, Pipe	10,000 psi	8,000 psi	TBD - Schaffer/Cameron

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief.
I further certify that I have complied with 19.15.14.9 (A) NMAC ☐ and/or 19.15.14.9 (B) NMAC ☒ if applicable.
Signature: 

Printed name: Christopher B. Weyand

Title: Consulting Engineer

E-mail Address: chris@lonquist.com

Date: 01/02/2020

Phone: (512) 600-1764

OIL CONSERVATION DIVISION

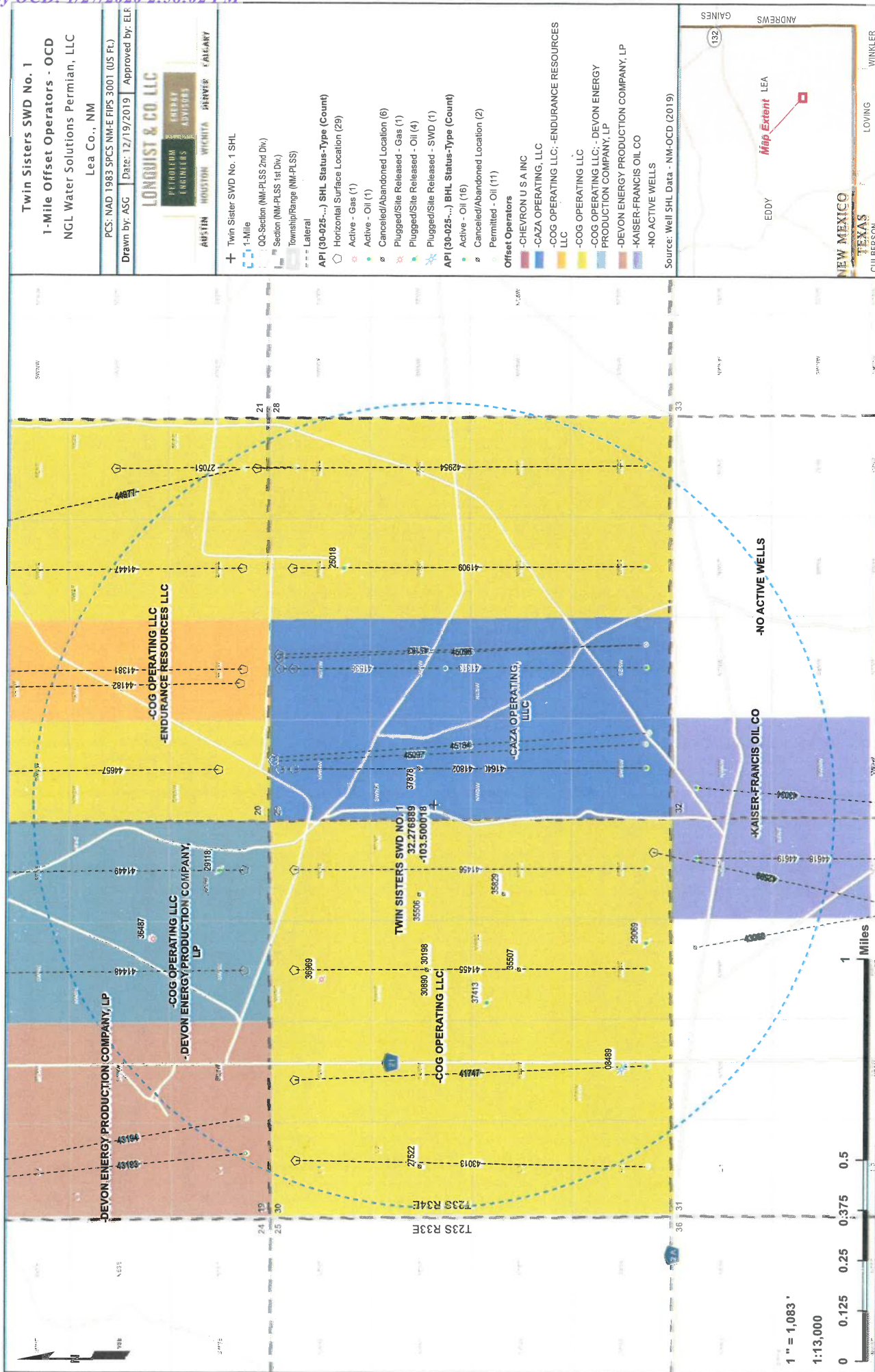
Approved By:

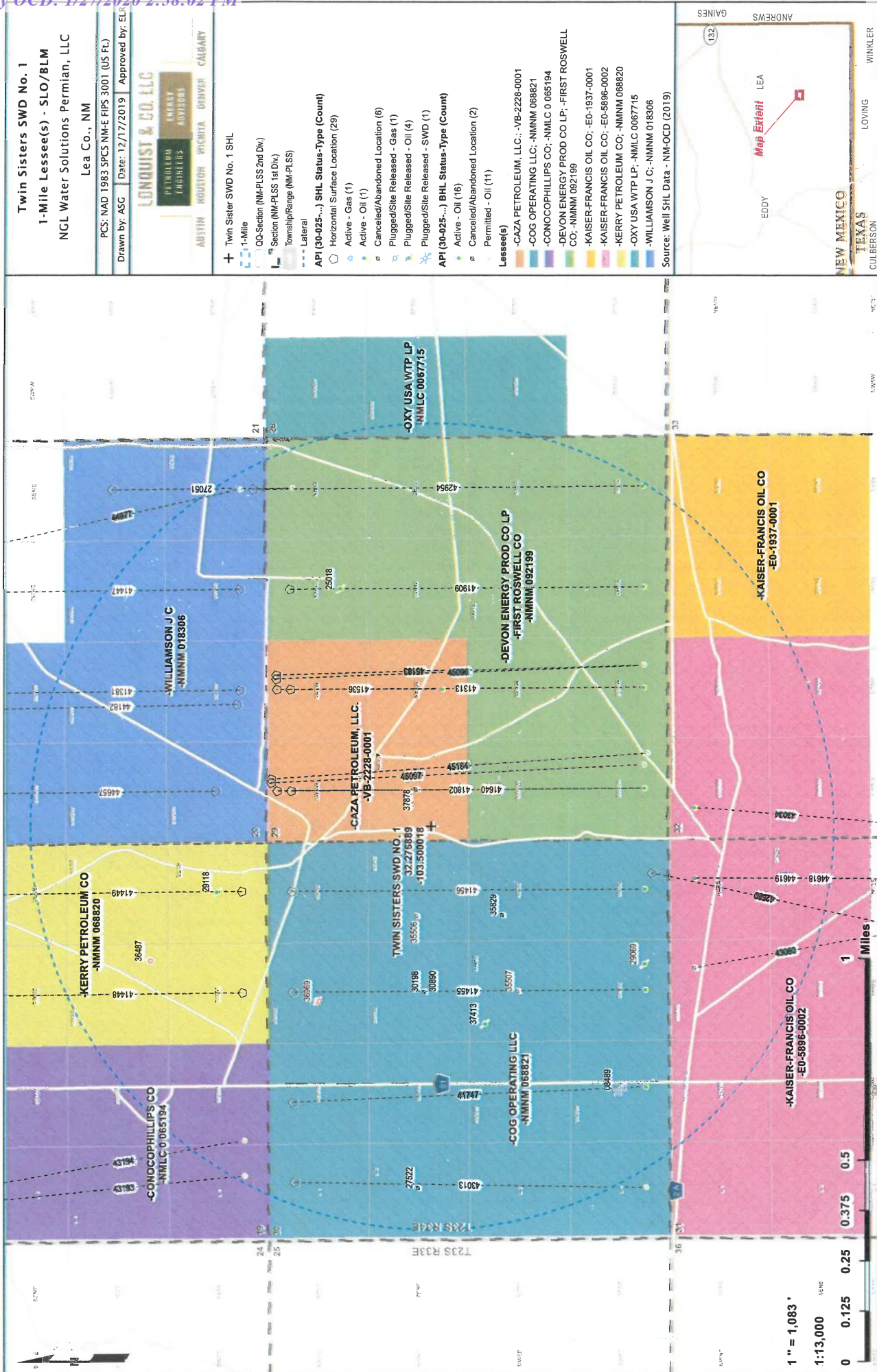
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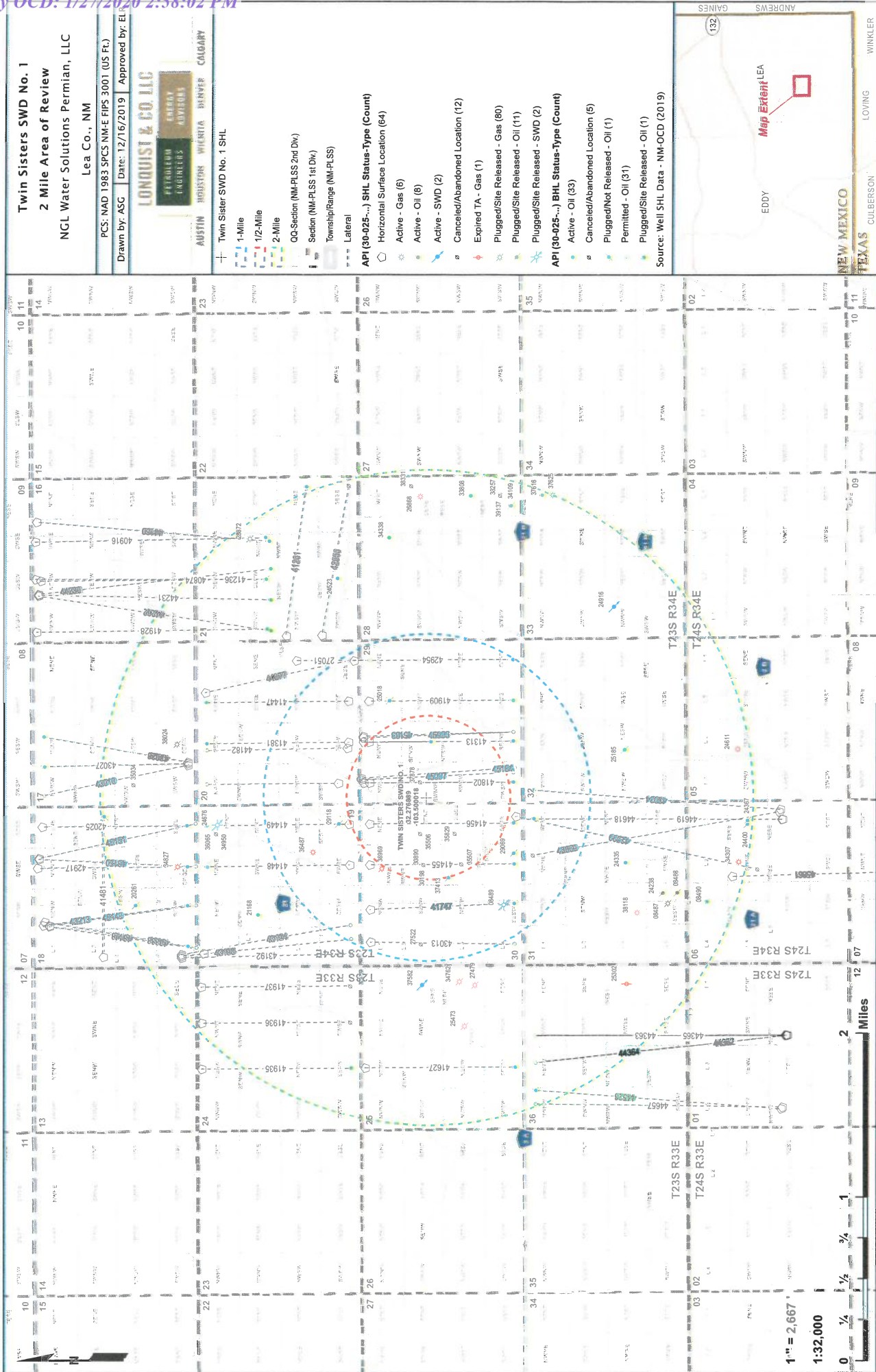
Approved Date:

Expiration Date:

Conditions of Approval Attached



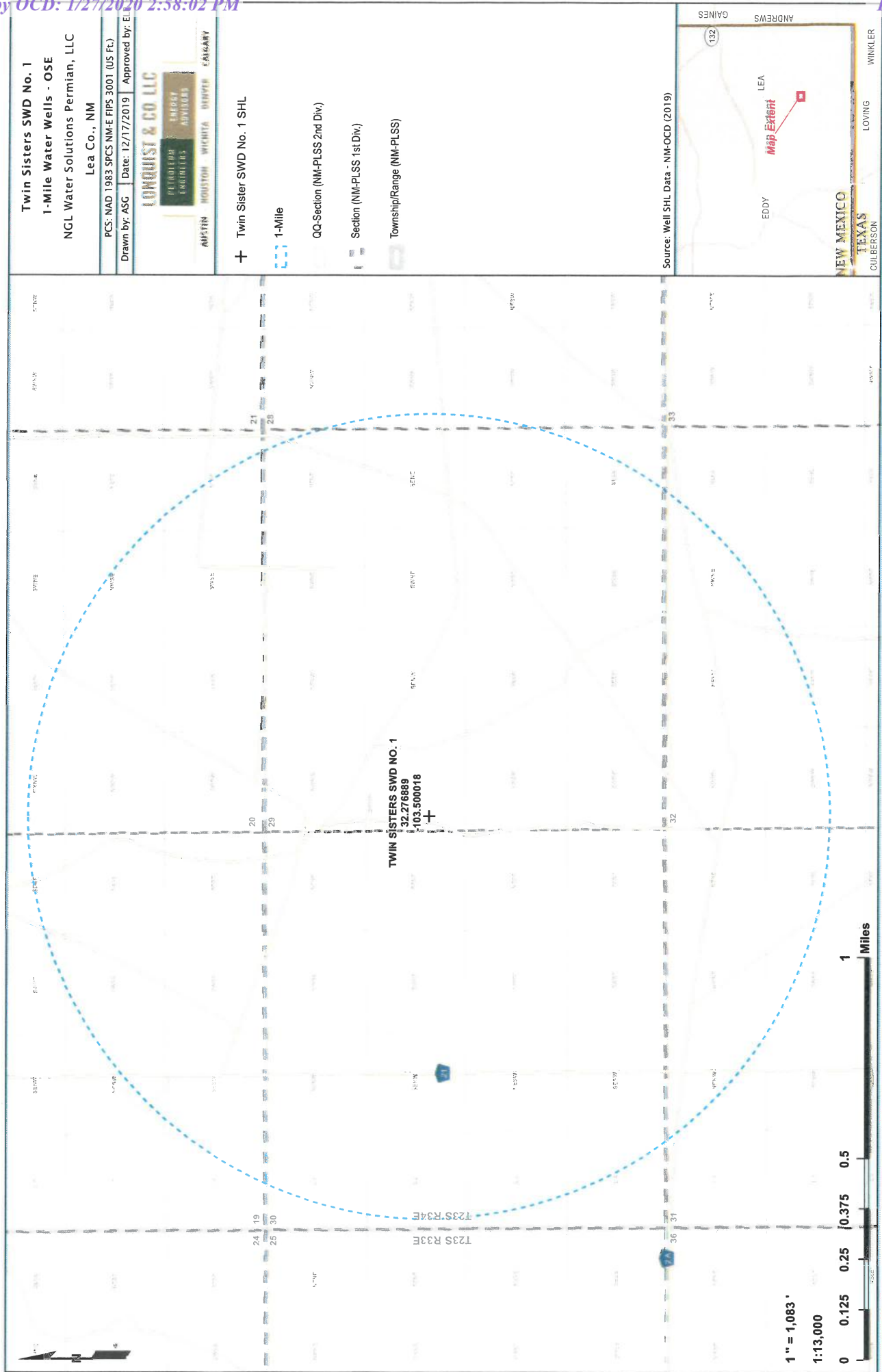




Twin Sisters SWD No. 1
1 Mile Area of Review List

API (BQ-025-...)	WELL NAME	WELL TYPE	STATUS	OPERATOR	TWO (F.T.)	LATITUDE (NAD83 DO)	LONGITUDE (NAD83 DO)	SPUD DATE	FIELD
06489	BELL LAKE UNIT #002	S	P	KASER-FRANCO OIL CO	13044	32.2721816000	-103.5112457000	12/31/1999	[65100] SWD, DELAWARE
22018	PRE-ONGARD WELL #002	O	P	PRE-ONGARD WELL OPERATOR	14318	32.2601660000	-103.4899131000	1/1/1903	[51300] BELL LAKE, BONE SPRING
27051	STRATOCASTER 20 FEDERAL #004H	O	A	COG OPERATING, LLC	10317	32.2881330000	-103.4856491000	10/27/1980	[2209] ANTELOPE RIDGE, BONE SPRING, WEST; [51300] BELL LAKE, BONE SPRING; [70370] ANTELOPE RIDGE, AYOXA, WEST (GAS)
27522	PRE-ONGARD WELL #001	O	C	PRE-ONGARD WELL OPERATOR	0	32.2774526643	-103.511331967	12/31/1999	
29669	FEDERAL #0 #002	O	P	ENDURANCE RESOURCES, LLC	11800	32.2697790000	-103.5059052000	12/26/1984	[5166] BELL LAKE, DELAWARE, NORTH; [96100] SWD, DELAWARE
29118	PRE-ONGARD WELL #001	O	P	PRE-ONGARD WELL OPERATOR	347	32.2846470000	-103.5077113000	1/1/1903	
30118	PRE-ONGARD WELL #001	O	C	PRE-ONGARD WELL OPERATOR	0	32.2771730267	-103.507014807	12/31/1999	
38820	FEDERAL 30 #001	O	C	COG OPERATING, LLC	8500	32.2771680000	-103.507014800	1/1/1903	
35506	FEDERAL 30 #003	O	C	RAY WESTALL	0	32.2774456614	-103.503796636	12/31/1999	[5166] BELL LAKE, DELAWARE, NORTH
35507	FEDERAL 30 #005	O	C	RAY WESTALL	0	32.2778197056	-103.507008470	12/31/1999	
35525	FEDERAL 30 #004	O	C	RAY WESTALL	0	32.274691381	-103.503796636	12/31/1999	
36467	PALOMA BLANCO 19 FEDERAL #002	G	A	DEVON ENERGY PRODUCTION COMPANY, LP	11704	32.2871437000	-103.5056515200	1/1/2004	[72000] BELL LAKE, MORROW, MID (GAS)
36469	PALOMA 30 FEDERAL #001	G	P	DEVON ENERGY PRODUCTION COMPANY, LP	11850	32.2810701000	-103.5037176000	12/1/2004	[72000] BELL LAKE, MORROW, MID (GAS)
37295	STRATOCASTER 20 FEDERAL #001H	G	A	COG OPERATING, LLC	10442	32.2846847000	-103.4894589000	7/15/2005	[2209] ANTELOPE RIDGE, BONE SPRING, WEST; [51300] BELL LAKE, BONE SPRING; [70370] ANTELOPE RIDGE, AYOXA, WEST (GAS)
37413	PALOMA 30 FEDERAL #002	G	A	DEVON ENERGY PRODUCTION COMPANY, LP	11870	32.2750511000	-103.5084076000	10/17/2005	[71220] BELL LAKE, AYOXA (GAS) [97965] WC-D25 G-08 52334300, WOLF CAMP
37878	PALOMA BLANCO 29 COM #001	G	C	DEVON ENERGY PRODUCTION COMPANY, LP	0	32.2774442021	-103.498432151	12/31/1999	[72000] BELL LAKE, MORROW, MID (GAS)
41381	WEST COPPERLINE 29 FEDERAL #002H	O	A	COG OPERATING, LLC	10605	32.2819780000	-103.4941788000	9/7/2014	[2209] ANTELOPE RIDGE, BONE SPRING, WEST; [51300] BELL LAKE, BONE SPRING
41381	STRATOCASTER 20 FEDERAL #002H	O	A	COG OPERATING, LLC	10325	32.2837940000	-103.4941864000	1/20/2014	
41447	STRATOCASTER 20 FEDERAL #003H	O	A	COG OPERATING, LLC	10327	32.2837940000	-103.4899139000	2/21/2014	[2209] ANTELOPE RIDGE, BONE SPRING, WEST
41448	NOCASTER 19 FEDERAL #003H	O	A	COG OPERATING, LLC	10350	32.2837900000	-103.5069620000	2/21/2014	[2209] ANTELOPE RIDGE, BONE SPRING, WEST
41449	NOCASTER 19 FEDERAL #003H	O	A	COG OPERATING, LLC	10346	32.2837900000	-103.5072737000	2/21/2014	[2209] ANTELOPE RIDGE, BONE SPRING, WEST
41455	TELECASTER 30 FEDERAL #003H	O	A	COG OPERATING, LLC	10374	32.2819780000	-103.5069620000	5/25/2013	[2209] ANTELOPE RIDGE, BONE SPRING, WEST
41556	TELECASTER 30 FEDERAL #003H	O	A	COG OPERATING, LLC	10377	32.2819780000	-103.5072737000	1/17/2013	[2209] ANTELOPE RIDGE, BONE SPRING, WEST
41556	WEST COPPERLINE 29 FEDERAL #003H	O	A	COG OPERATING, LLC	11385	32.2824745000	-103.4941788000	1/1/2014	[2209] ANTELOPE RIDGE, BONE SPRING, WEST; [51300] BELL LAKE, BONE SPRING
41560	WEST COPPERLINE 29 FEDERAL #003H	O	A	COG OPERATING, LLC	10356	32.2819780000	-103.4984512000	7/15/2014	[2209] ANTELOPE RIDGE, BONE SPRING, WEST
41747	TELECASTER 30 FEDERAL #003H	O	A	COG OPERATING, LLC	10332	32.2819780000	-103.5116577000	7/15/2014	[2209] ANTELOPE RIDGE, BONE SPRING, WEST
41802	WEST COPPERLINE 29 FEDERAL #004H	O	A	COG OPERATING, LLC	11449	32.2821707000	-103.4894512000	5/7/2014	[2209] ANTELOPE RIDGE, BONE SPRING, WEST
41909	BROADCASTER 29 FEDERAL #003H	O	A	COG OPERATING, LLC	11487	32.2819820000	-103.4899139000	7/2/2014	[2209] ANTELOPE RIDGE, BONE SPRING, WEST
42509	SOUTH BELL LAKE 28SS #01C	O	C	KASER-FRANCO OIL CO	0	32.2887080000	-103.5005050000	12/31/1999	[2209] ANTELOPE RIDGE, BONE SPRING, WEST
42509	BROADCASTER 29 FEDERAL #003H	O	A	COG OPERATING, LLC	11563	32.2819820000	-103.5105880000	12/31/1999	[2209] ANTELOPE RIDGE, BONE SPRING, WEST
43013	TELECASTER 30 FEDERAL #003H	O	A	COG OPERATING, LLC	0	32.2819820000	-103.5105880000	12/31/1999	[51500] BELL LAKE, BONE SPRING, WEST
43014	BELL LAKE UNIT SOUTH #01H	O	A	KASER-FRANCO OIL CO	10996	32.2451900000	-103.5011110000	7/7/2017	[51500] BELL LAKE, BONE SPRING, WEST
43060	SOUTH BELL LAKE UNIT 2 28SS #01C	O	C	KASER-FRANCO OIL CO	0	32.2451900000	-103.5011110000	7/7/2017	[51500] BELL LAKE, BONE SPRING, WEST
43153	PALOMA BLANCO 19 FEDERAL #003H	O	N	DEVON ENERGY PRODUCTION COMPANY, LP	0	32.2587481000	-103.5017530000	12/31/1999	[96250] OLD CHSD, BONE SPRING, SOUTH; [96250] BELL LAKE, BONE SPRING, SOUTH
43334	PALOMA BLANCO 19 FEDERAL #003H	O	N	DEVON ENERGY PRODUCTION COMPANY, LP	0	32.2587481000	-103.5105880000	12/31/1999	[96250] OLD CHSD, BONE SPRING, SOUTH; [96250] BELL LAKE, BONE SPRING, SOUTH
42182	STRATOCASTER 20 FEDERAL #003H	O	N	ENDURANCE RESOURCES, LLC	0	32.2587481000	-103.5105880000	12/31/1999	[96250] OLD CHSD, BONE SPRING, SOUTH; [96250] BELL LAKE, BONE SPRING, SOUTH
42615	BELL LAKE UNIT SOUTH #03H	O	A	KASER-FRANCO OIL CO	11566	32.2451900000	-103.5024000000	5/6/2018	[96250] OLD CHSD, BONE SPRING, SOUTH; [96250] BELL LAKE, BONE SPRING, SOUTH
44619	BELL LAKE UNIT SOUTH #03H	O	A	KASER-FRANCO OIL CO	11830	32.2451900000	-103.5024000000	7/1/2018	[96250] OLD CHSD, BONE SPRING, SOUTH; [96250] BELL LAKE, BONE SPRING, SOUTH
44977	STRATOCASTER 20 FEDERAL #003H	O	N	COG OPERATING, LLC	0	32.2587481000	-103.5105880000	12/31/1999	[96250] OLD CHSD, BONE SPRING, SOUTH; [96250] BELL LAKE, BONE SPRING, SOUTH
45056	WEST COPPERLINE 29 FEDERAL #003H	O	N	COG OPERATING, LLC	0	32.2587481000	-103.5105880000	12/31/1999	[96250] OLD CHSD, BONE SPRING, SOUTH; [96250] BELL LAKE, BONE SPRING, SOUTH
45097	WEST COPPERLINE 29 FEDERAL #003H	O	N	COG OPERATING, LLC	0	32.2587481000	-103.5105880000	12/31/1999	[96250] OLD CHSD, BONE SPRING, SOUTH; [96250] BELL LAKE, BONE SPRING, SOUTH
45183	COPPERLINE WEST 29 FEDERAL #003H	O	N	COG OPERATING, LLC	0	32.2827010000	-103.4911110000	12/31/1999	[2209] ANTELOPE RIDGE, BONE SPRING, WEST; [97965] WC-D25 G-08 52334300, WOLF CAMP
45183	COPPERLINE WEST 29 FEDERAL #003H	O	N	COG OPERATING, LLC	0	32.2827010000	-103.4911110000	12/31/1999	[2209] ANTELOPE RIDGE, BONE SPRING, WEST; [97965] WC-D25 G-08 52334300, WOLF CAMP
45184	COPPERLINE WEST 29 FEDERAL #003H	O	N	COG OPERATING, LLC	0	32.2827010000	-103.4911110000	12/31/1999	[51500] BELL LAKE, BONE SPRING, NORTH

Twin Sisters SWD No. 1 - 1 Mile Area of Review List
NM-OC (2019)



Twin Sisters SWD No. 1

Well Name	API	Section	Township	Range	Unit	County	Field	Formation	ph	tds_mgl	sodium_mgl	calcium_mgl	iron_mgl	magnesium_mgl	manganese_mgl	chloride_mgl	bicarbonate_mgl	sulfate_mgl	co2_mgl
GAUCHO UNIT #01H	300251184	22 S	33 E	34E	O	Lea		BONE SPRING 3RD SAND	7.5	15614.2		48645.3	30.2	943.9	1.46	7977.9	305	1005	470
GAUCHO UNIT #02H	300251185	22 S	33 E	34E	O	Lea		BONE SPRING 3RD SAND	6.4	10980.2		46151.1	37.2	1560		7972.0	183	700	400
GAUCHO UNIT #03H	300251186	20 S	33E	34E	A	Lea		BONE SPRING 2ND SAND	7.5	13782.7		46217.7	30.9	850.3	0.02	66084.9	320	1030	320
GAUCHO UNIT #01H	300251166	20 S	33E	34E	A	Lea		BONE SPRING 2ND SAND	7.5	13904.6		46366.8	42.0	842.8	0.02	66084.9	280.8	1030	320
GAUCHO UNIT #01H	300251166	20 S	33E	34E	D	Lea		BONE SPRING 2ND SAND	7.5	18420.1		50686.6	47.1	842.8	1.31	84284.8	280.8	1030	320
GAUCHO UNIT #01H	300251166	20 S	33E	34E	D	Lea		BONE SPRING 2ND SAND	7.5	18420.1		50686.6	47.1	842.8	1.31	84284.8	280.8	1030	320
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GAUCHO UNIT #01H	300251166	20 S	33E	34E	D	Lea		BONE SPRING 2ND SAND	7.5	18420.1		50686.6	47.1	842.8	1.31	84284.8	280.8	1030	320
GAUCHO UNIT #01H	300251166	20 S	33E	34E	D	Lea		BONE SPRING 2ND SAND	7.5	18420.1		50686.6	47.1	842.8	1.31	84284.8	280.8	1030	320
GAUCHO UNIT #01H	300251166	20 S	33E	34E	D	Lea		BONE SPRING 2ND SAND	7.5	18420.1		50686.6	47.1	842.8	1.31	84284.8	280.8	1030	320
GAUCHO UNIT #01H	300251166	20 S	33E	34E	D	Lea		BONE SPRING 2ND SAND	7.5	18420.1		50686.6	47.1	842.8	1.31	84284.8	280.8	1030	320
GAUCHO UNIT #01H	300251166	20 S	33E	34E	D	Lea		BONE SPRING 2ND SAND	7.5	18420.1		50686.6	47.1	842.8	1.31	84284.8	280.8	1030	320
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