Revised March 23, 2017

RECEIVED:	REVIEWER:	TYPE:	APP NO:
12/10/2018	MAM	SWD	pMAM18344 41850

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: OWL SWD OPERATING, LLC **OGRID Number:** 308339
Well Name: LANDFILL SWD #1 **API:** TBD
Pool: SWD; SILURIAN-DEVONIAN **Pool Code:** 97869

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

DEC 10 2018 AM10:58

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 ☐ PPR

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

2) **NOTIFICATION REQUIRED TO:** Check those which apply.
A. ☒ Offset operators or lease holders
B. ☐ Royalty, overriding royalty owners, revenue owners
C. ☒ Application requires published notice
D. ☐ Notification and/or concurrent approval by SLO
E. ☐ Notification and/or concurrent approval by BLM
F. ☒ Surface owner
G. ☒ For all of the above, proof of notification or publication is attached, and/or,
H. ☐ No notice required

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.

RAMONA HOVEY
Print or Type Name

Ramona K Hovey
Signature

DECEMBER 07, 2018
Date

512-600-1777
Phone Number

RAMONA@LONQUIST.COM
e-mail Address

LONQUIST & CO. LLC

AUSTIN
HOUSTON

PETROLEUM ENGINEERS | ENERGY ADVISORS

WICHITA
CALGARY

www.lonquist.com

DEC 10 2018 AM10:58

December 7, 2018

New Mexico Energy, Minerals, and Natural Resources Department
Oil Conservation Division District IV
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
(505) 476-3440

RE: LANDFILL SWD NO. 1 AUTHORIZATION TO INJECT

To Whom It May Concern:

Due to the proximity of an existing Saltwater Disposal well, OWL SWD Operating has moved its proposed location for the Landfill SWD No. 1. Attached for your review is a new Form C-108, Application for Authorization to Inject, and its supplemental documents prepared for the new OWL SWD Operating, LLC's Landfill SWD No. 1 location. In addition, Forms C-101 and C-102 have been included with this package. Notices have been sent to offset leaseholders and the surface owner. Please replace the original C-108 application with this current application.

Any questions should be directed towards OWL SWD Operating, LLC's agent Lonquist & Co., LLC.

Regards,

Ramona K Hovey

Ramona K. Hovey
Sr. Petroleum Engineer
Lonquist & Co., LLC
(512) 600-1777
ramona@lonquist.com

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: OWL SWD Operating, LLC
ADDRESS: 8214 Westchester Drive, Suite 850, Dallas, TX 75255
CONTACT PARTY: Preston Carr PHONE: (855) 695-7937

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: Ramona Hovey TITLE: Consulting Engineer – Agent for OWL SWD Operating, LLC

SIGNATURE: Ramona K Hovey DATE: 12/07/2018

E-MAIL ADDRESS: ramona@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.

Side 1

INJECTION WELL DATA SHEET

OPERATOR: OWL SWD Operating, LLC (OGRID 308339)

WELL NAME & NUMBER: Landfill SWD No. 1

WELL LOCATION:	1,114' FSL & 1,166 FWL	M	28	24 S	33 E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 26"

Casing Size: 20"

Cemented with: 3,645 sks

or _____ ft^3

Top of Cement: surface

Method Determined: circulation

Intermediate Casing 1

Hole Size: 17-1/2"

Casing Size: 13-5/8"

Cemented with: 3,750 sks

or _____ ft^3

Top of Cement: surface

Method Determined: circulation

Intermediate Casing 2

Hole Size: 12-1/4"

Casing Size: 9-5/8"

Cemented with: 3,205 sks

or _____ ft^3

Top of Cement: surface

Method Determined: circulation

Production Liner

Hole Size: 8-1/2"

Casing Size: 7-5/8"

Cemented with: 315 sks

or _____ ft^3

Top of Cement: 14,200'

Method Determined: Calculation

Total Depth: 19,100'

Injection Interval

17,500 feet to 19,100 feet

(Open Hole)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 5.500", 23.0 lb/ft, P-110 BTC and UFJ (or equivalent), from 0' – 17,450'
Lining Material: Duoline

Type of Packer: 7-5/8" x 5-1/2" D&L Oil Tools Permapack Packer – Single Bore

Packer Setting Depth: 17,450'

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?

   _____

2. Name of the Injection Formation: Silurian-Devonian

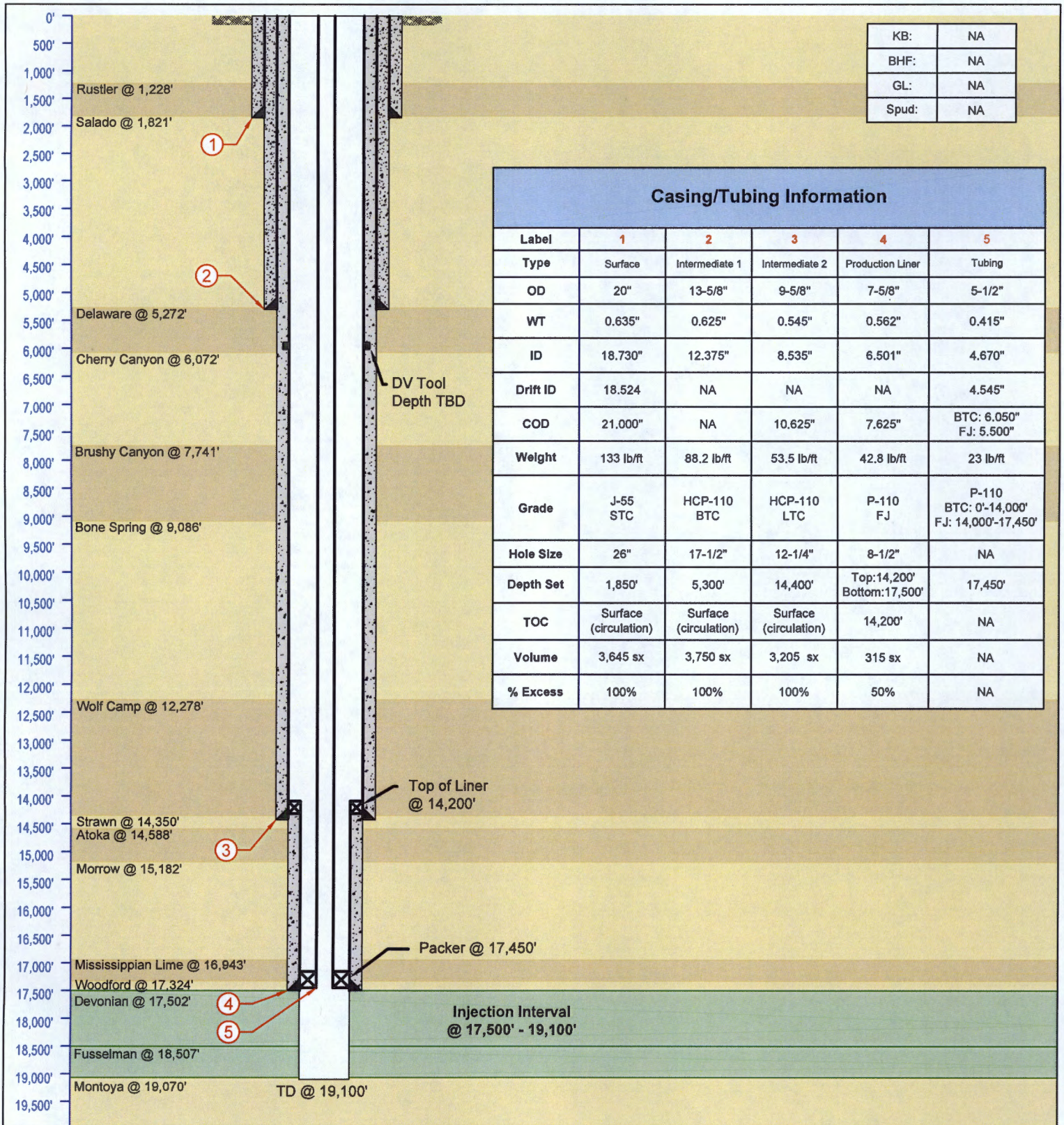
3. Name of Field or Pool (if applicable): SWD; Silurian Devonian (97869)

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:

Formation	Depth
Delaware	5,272'
Cherry Canyon	6,072'
Brushy Canyon	7,741'
Bone Spring	9,086'
Wolfcamp	12,278'
Strawn	14,350'
Atoka	14,588'
Morrow	15,182'



KB:	NA
BHF:	NA
GL:	NA
Spud:	NA

Casing/Tubing Information

Label	1	2	3	4	5
Type	Surface	Intermediate 1	Intermediate 2	Production Liner	Tubing
OD	20"	13-5/8"	9-5/8"	7-5/8"	5-1/2"
WT	0.635"	0.625"	0.545"	0.562"	0.415"
ID	18.730"	12.375"	8.535"	6.501"	4.670"
Drift ID	18.524	NA	NA	NA	4.545"
COD	21.000"	NA	10.625"	7.625"	BTC: 6.050" FJ: 5.500"
Weight	133 lb/ft	88.2 lb/ft	53.5 lb/ft	42.8 lb/ft	23 lb/ft
Grade	J-55 STC	HCP-110 BTC	HCP-110 LTC	P-110 FJ	P-110 BTC: 0'-14,000' FJ: 14,000'-17,450'
Hole Size	26"	17-1/2"	12-1/4"	8-1/2"	NA
Depth Set	1,850'	5,300'	14,400'	Top:14,200' Bottom:17,500'	17,450'
TOC	Surface (circulation)	Surface (circulation)	Surface (circulation)	14,200'	NA
Volume	3,645 sx	3,750 sx	3,205 sx	315 sx	NA
% Excess	100%	100%	100%	50%	NA

LONQUIST & CO. LLC
PETROLEUM ENGINEERS | ENERGY ADVISORS
HOUSTON | CALGARY
AUSTIN | WICHITA | DENVER

Texas License F-9147

12912 Hill Country Blvd. Ste F-200
Austin, Texas 78738
Tel: 512.732.9812
Fax: 512.732.9816

OWL SWD Operating, LLC	Landfill SWD No. 1	
Country: USA	**State/Province:** New Mexico	**County/Parish:** Lea
Section:	**Township & Range:**	**Survey:**
API No: TBD	**Field:**	**Well Type:** SWD
Well Status: New Drill	**Project No:** 1650	**Date:** 11/16/2018
Drawn: JAM	**Reviewed:**	**Approved:**
Rev No: 1	**Notes:**	

OWL SWD Operating, LLC.

Landfill SWD No. 1

FORM C-108 Supplemental Information

III. Well Data

A. Wellbore Information

1.

Well information	
Lease Name	Landfill Canyon SWD
Well No.	1
Location	Unit M S-28 T-24S R-33E
Footage Location	1,114' FSL & 1,166' FWL

2.

a. Wellbore Description

Casing Information				
Type	Surface	Intermediate 1	Intermediate 2	Production Liner
OD	20"	13-5/8"	9-5/8"	7-5/8"
WT	0.635"	0.625"	0.545"	0.562"
ID	18.730"	12.375"	8.535"	6.501"
Drift ID	18.524"			
COD	21.000"		10.625"	7.625"
Weight	133 lb/ft	88.2 lb/ft	53.5 lb/ft	42.8 lb/ft
Grade	J-55 STC	HCP-110 BTC (Or Equivalent)	HCP-110 LTC (Or Equivalent)	P-110 UFJ (Or Equivalent)
Hole Size	26"	17-1/2"	12-1/4"	8-1/2"
Depth Set	1,850'	5,300'	14,400'	14,200' – 17,500'

b. Cementing Program

Cement Information				
Casing String	Surface	Intermediate 1	Intermediate 2	Production Liner
Lead Cement	HALCEM	HALCEM	Stage 1: NeoCem Stage 2: NeoCem	VersaCem
Lead Cement Volume	2,625 sks	3,205 sks	Stage 1: 1725 sks Stage 2: 755 sks	315 sks
Tail Cement	HALCEM	HALCEM	Stage 1: NeoCem Stage 2: HalCem	
Tail Cement Volume	1,020 sks	545 sks	Stage 1: 625 sks Stage 2: 100 sks	
Cement Excess	100%	100%	100%	50%
TOC	Surface	Surface	Surface	14,200'
Method	Circulate to Surface	Circulate to Surface	Circulate to Surface	Calculation

3. Tubing Description

Tubing		
OD	5-1/2"	5-1/2"
WT	0.415"	0.415"
ID	4.670"	4.670"
Drift ID	4.545"	4.545"
COD	6.050"	6.050"
Weight	23 lb/ft	23 lb/ft
Grade	P-110 BTC (Or Equivalent	P-110 UFJ (Or Equivalent
Depth Set	14,000'	14,000'-17,450'

Tubing will be lined with Duoline.

4. Packer Description

D&L Oil Tools 7-5/8" x 5-1/2" Permapack Packer – Single Bore

B. Completion Information

1. Injection Formation: Silurian - Devonian

2. Gross Injection Interval: 17,500'– 19,100'

   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	5,272'
Cherry Canyon	6,072'
Brushy Canyon	7,741'
Bone Spring	9,086'
Wolfcamp	12,278'
Strawn	14,350'
Atoka	14,588'
Morrow	15,182'

VI. Area of Review
One well (30-025-26158) within the one-mile area of review penetrated the proposed injection zone. This will is actively producing from the Wolfcamp and was plugged back to 13,429'.

VII. Proposed Operation Data

1. Proposed Daily Rate of Fluids to be Injection:

   Average Volume: 20,000 BPD
   Maximum Volume: 30,000 BPD

2. Closed System

3. Anticipated Injection Pressure:

   Average Injection Pressure: 2,625 PSI (surface pressure)
   Maximum Injection Pressure: 3,500 PSI (surface pressure)

4. The injection fluid is to be locally produced water. Attached are produced water sample analyses taken from the closest wells that feature samples from the Bone Springs and Delaware formations.

5. The Devonian and Fusselman are not productive of oil and gas in this 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 in Southeast New Mexico are 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 successful Salt Water Disposal horizon.

A. Injection Zone: Devonian-Silurian Formation

Formation	Depth
Rustler	1,228'
Salado	1,821'
Delaware	5,272'
Cherry Canyon	6,072'
Brushy Canyon	7,741'
Bone Spring	9,086'
Wolfcamp	12,278'
Strawn	14,350'
Atoka	14,588'
Morrow	15,182'
Mississippian Lime	16,943'
Woodford	17,324'
Devonian	17,502'
Fusselman	18,507'
Montoya	19,070'

B. Underground Sources of Drinking Water

Water wells in the one-mile surrounding area for the proposed Landfill SWD #1 well are at depths of approximately 500'. The Rustler may also be another USDW and will be protected through the top of the Salado Formation at 1,820' by setting surface casing at 1,850'.

IX. Proposed Stimulation Program

No proposed stimulation program.

X. Logging and Test Data on the Well

There are no existing 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

There are five fresh water wells within one mile of the well location, per the New Mexico Office of the State Engineer. A list of all the water wells, a map of these wells and their associated Water Right Summaries are attached. Fresh water samples were obtained from two of the wells and analysis of these samples are included in this package.

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 and any underground sources of drinking water.

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
November 30, 2018
and ending with the issue dated
November 30, 2018.

Daniel Russell
Publisher

Sworn and subscribed to before me this
30th day of November 2018.

Gussie Black
Business Manager

My commission expires
January 29, 2019
(Seal)

OFFICIAL SEAL
GUSSIE BLACK
Notary Public
State of New Mexico
My Commission Expires 1-29-19

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

LEGALS

LEGAL NOTICE
NOVEMBER 30, 2018

Legal Notice

OWL SWD Operating, LLC, 8214 Westchester Dr., Suite 850, Dallas, Texas 75255, is filing Form C-108 (Application for Authorization to Inject) with the New Mexico Oil Conservation Division for administrative approval for its salt water disposal well Landfill SWD No. 1. The proposed well will be located 1,114' FSL & 1,166' FWL in Section 28, Township 24S, Range 33E in Lea County, New Mexico. Disposal water will be sourced from area production, and will be injected into the Devonian-Silurian Formation (determined by offset log analysis) through an open hole completion between a maximum applied for top of 17,500 feet to a maximum depth of 19,100 feet. The maximum surface injection pressure will not exceed 3,500 psi with a maximum rate of 30,000 BWPD. Interested parties opposing the action must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505, within 15 days. Additional information can be obtained from the applicant's agent, Lonquist & Co., LLC, at (512) 600-1774.
#33485

67112661 00221568

LONQUIST & CO., LLC
12912 HILL COUNTRY BLVD, STE F200
AUSTIN, TX 78738

Landfill SWD No. 1

2 Mile Area of Review

Oilfield Water Logistics

Lea Co., NM

PCS: NAD 1983 NM-E FIPS 3001 (US Feet)

Drawn by: SJL	Date: 11/13/2018	Approved by: ELR

LONQUIST & CO. LLC

PETROLEUM ENGINEERS | ENERGY ADVISORS

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Landfill SWD No. 1
1/2 Mile Radius
1 Mile Radius
2 Mile Radius
QQ-Section (NM PLSS-2018)
Township/Range (NM PLSS-2018)
Section (NM PLSS-2018)
Laterals

API (30-025-...) SHL Status - Type (Count)

Horizontal Surface Location (132)
Active - Oil (1)
Active - Gas (11)
Active - Salt Water Disposal (1)
Permitted - Miscellaneous (1)
Plugged (Site Released) - Oil (9)
Plugged (Site Released) - Gas (2)
Canceled Location (6)

API (30-025-...) BHL Status - Type (Count)

Active - Oil (70)
Permitted - Oil (34)
Canceled Location (28)

*Well Source: NM-OCD/DrillingInfo 2018

Landfill SWD No. 1
32.184431
-103.582

T024S R032E
T025S R032E
T024S R033E
T025S R033E

1 " = 2,583 '
1:31,000

0 ¼ ½ ¾ 1 2 Miles



Landfill SWD No. 1
1 Mile Area of Review List

API (30-025-...)	WELL NAME	WELL TYPE	STATUS	OPERATOR	TVD (FT.)	LATITUDE (NAD83 DD)	LONGITUDE (NAD83 DD)	DATE DRILLED
08374	PRE-ONGARD WELL #001	O	P	PRE-ONGARD WELL OPERATOR	5200	32.1831894	-103.5922165	1/1/1900
26158	STATE 29 J #001	O	A	EOG RESOURCES INC	17652	32.1868172	-103.5922089	12/31/9999
27147	GETTY 28 STATE #001	O	P	PIONEER NATURAL RESOURCES USA INC	16225	32.186798100	-103.57415770	11/19/1996
27293	PRE-ONGARD WELL #001	O	P	PRE-ONGARD WELL OPERATOR	15960	32.1759148	-103.5794144	1/1/1900
34814	TRISTE DRAW 34 STATE COM #003	G	A	EOG RESOURCES INC	13772	32.1795311	-103.5665970	2/1/2000
35345	JOHNSON RANCH 28 STATE COM #001	G	P	NEARBURG PRODUCING CO	14554	32.194057500	-103.57086180	4/28/2001
39609	CARAVAN BVU STATE #001	G	A	EOG Y RESOURCES, INC.	14750	32.1795616	-103.5922165	1/31/2010
40971	MCCLOY RANCH 29 24 33 ST #003C	O	C	CHEVRON U S A INC	0	32.1816483	-103.5923462	12/31/9999
40974	JACKSON UNIT #018H	O	A	TAP ROCK OPERATING, LLC	11079	32.1964378	-103.5833130	5/24/2013
41001	MCCLOY RANCH 29 24 33 ST #004C	O	C	CHEVRON U S A INC	0	32.1956177	-103.5870972	12/31/9999
41021	MCCLOY RANCH 29 24 33 ST #001C	O	C	CHEVRON U S A INC	0	32.1956329	-103.5965042	12/31/9999
41138	JACKSON UNIT #019H	O	A	TAP ROCK OPERATING, LLC	11093	32.1964340	-103.5804062	11/23/2013
41139	JACKSON UNIT #020H	O	A	TAP ROCK OPERATING, LLC	11104	32.1964264	-103.5761337	12/28/2013
41436	BETTIS 20 STATE COM #002H	O	A	TAP ROCK OPERATING, LLC	11146	32.1964455	-103.5888443	3/16/2014
41568	CARAVAN BWM STATE #003C	O	C	EOG Y RESOURCES, INC.	0	32.1810760	-103.5965118	12/31/9999
41569	CARAVAN BWM STATE #004C	O	C	EOG Y RESOURCES, INC.	0	32.1808243	-103.5924377	12/31/9999
41591	CARAVAN BWM STATE #005C	O	C	EOG Y RESOURCES, INC.	0	32.1811752	-103.5871048	12/31/9999
41602	CARAVAN BVW STATE #008H	O	A	EOG Y RESOURCES, INC.	11048	32.1812286	-103.5843582	5/12/2014
41604	CARAVAN STATE UNIT #009C	O	C	EOG Y RESOURCES, INC.	0	32.1812165	-103.5795458	12/31/9999
41610	CARAVAN BVV STATE #006H	O	A	EOG Y RESOURCES, INC.	11055	32.1812210	-103.5794144	10/17/2014
41638	CARAVAN BVX STATE #011H	O	A	EOG RESOURCES INC	11054	32.1813049	-103.5700226	11/14/2014
41641	CARAVAN BVW STATE #009H	O	A	EOG Y RESOURCES, INC.	11053	32.1812210	-103.5795135	10/18/2014
41642	CONVOY BUC STATE #002H	O	A	EOG Y RESOURCES, INC.	11051	32.1813965	-103.5756836	7/2/2014
41647	CONVOY BUC STATE #001H	O	A	EOG RESOURCES INC	11060	32.1813889	-103.5700226	11/14/2014
41655	CARAVAN BVV STATE #007H	O	A	EOG Y RESOURCES, INC.	11068	32.1812286	-103.5844574	5/13/2014
41710	JACKSON UNIT #028H	O	A	TAP ROCK OPERATING, LLC	10873	32.1964302	-103.5783997	4/8/2014
41744	CARAVAN BVX STATE #010H	O	A	EOG Y RESOURCES, INC.	11059	32.1813126	-103.5756836	7/2/2014
41761	JACKSON UNIT #031C	O	C	MURCHISON OIL & GAS INC	0	32.1964340	-103.5802612	12/31/9999
41767	JACKSON UNIT #029H	O	A	TAP ROCK OPERATING, LLC	10845	32.1964200	-103.5741130	7/21/2015
41847	JACKSON UNIT #027C	O	C	MURCHISON OIL & GAS INC	0	32.1964340	-103.5823441	12/31/9999
42085	HEARNS 27 STATE COM #501H	O	A	EOG RESOURCES INC	11095	32.1819229	-103.5668869	11/2/2014
42086	HEARNS 27 STATE COM #301H	O	A	EOG RESOURCES INC	10376	32.1819229	-103.5667953	11/21/2014
42096	BETTIS 20 STATE COM #006C	O	C	MURCHISON OIL & GAS INC	0	32.1964417	-103.5869370	12/31/9999
42652	JACKSON UNIT #030H	O	A	TAP ROCK OPERATING, LLC	10865	32.1964200	-103.5740160	8/17/2015
43549	CONVOY 28 STATE COM #501H	O	A	EOG RESOURCES INC	11097	32.1942242	-103.5728363	3/26/2017
43717	HEARNS 34 STATE COM #705H	O	A	EOG RESOURCES INC	12395	32.1675525	-103.5670220	4/25/2017
43718	HEARNS 34 STATE COM #706H	O	A	EOG RESOURCES INC	12450	32.1675527	-103.5671351	4/23/2017
44255	CONVOY 28 STATE COM #701H	O	A	EOG RESOURCES INC	12488	32.1942006	-103.5709456	12/28/2017
44256	CONVOY 28 STATE COM #702H	O	A	EOG RESOURCES INC	12487	32.1942913	-103.5709454	12/31/2017
44257	CONVOY 28 STATE COM #703H	O	A	EOG RESOURCES INC	12502	32.1943003	-103.5740100	1/7/2018
44258	CONVOY 28 STATE COM #704H	O	A	EOG RESOURCES INC	12470	32.1943910	-103.5739998	1/5/2018
44259	CONVOY 28 STATE COM #706H	O	N	EOG RESOURCES INC	0	32.1943944	-103.5762199	1/19/2018
44260	CONVOY 28 STATE COM #601H	O	A	EOG RESOURCES INC	12239	32.194388700	-103.57253550	2/22/2018
44261	CONVOY 28 STATE COM #602H	O	A	EOG RESOURCES INC	12246	32.1943889	-103.5726422	2/21/2018
44274	CONVOY 28 STATE COM #705H	O	N	EOG RESOURCES INC	0	32.1943037	-103.5762200	1/10/2018
44383	BANDIT 29 STATE COM #501H	O	A	EOG RESOURCES INC	11133	32.1947273	-103.5880364	3/15/2018

Landfill SWD No. 1
1 Mile Area of Review List

44384	BANDIT 29 STATE COM #502H	O	A	EOG RESOURCES INC	11115	32.1947292	-103.5881495	3/18/2018
44562	BANDIT 29 STATE COM #503H	O	A	EOG RESOURCES INC	11118	32.1947732	-103.5930282	4/3/2018
44563	BANDIT 29 STATE COM #504	O	N	EOG RESOURCES INC	0	32.1947748	-103.5931349	12/31/9999
44626	BANDIT 29 STATE COM #504Y	O	A	EOG RESOURCES INC	11133	32.1947717	-103.5929216	4/5/2018
44951	BANDIT 29 STATE COM #505H	O	N	EOG RESOURCES INC	0	32.1948463	-103.5990856	7/14/2018

Landfill SWD No. 1
Water Wells within 1 Mile
Oilfield Water Logistics

Lea Co., NM

PCS: NAD 1983 NM-E FIPS 3001 (US Feet)

Drawn by: SJL	Date: 11/7/2018	Approved by: ELR

LONQUIST & CO. LLC

PETROLEUM ENGINEERS | ENERGY ADVISORS

AUSTIN · HOUSTON · WICHITA · DENVER · CALGARY

C-02890
32.186771
-103.587913

1981'

Landfill SWD No. 1
32.184431
-103.582

C-02310
32.176747
-103.574036

C-02311
32.176747
-103.574036

C-02563
32.176768
-103.571893

C-02564
32.176744
-103.569772

- Landfill SWD No. 1
- Water Well (5)
- 1 Mile Radius
- Distance Call
- QQ-Section (NM PLSS-2018)
- Township/Range (NM PLSS-2018)
- Section (NM PLSS-2018)

*Water well source: NM - OSE (2018)



1 " = 1,125 '

1:13,500

0 0.125 0.25 0.375 0.5 1 Miles

Landfill SWD No. 1
Water Wells Within 1 Mile List

POD BASIN	POD #	T	R	S	WELL DEPTH	WATER DEPTH	WELL STATUS	WELL USE	OWNER NAME	CONTACT LNAME	CONTACT FNAME	LAT	LONG	EASTING	NORTHING	DATUM
C	02310	24S	33E	33	120	70	DCL	COM	NGL Water Solutions Permian, LLC	Wilkin	R. Charles	32.17674668220	-103.57403555000	634437	3560918	NAD83
C	02564	24S	33E	33	120	0	DCL	COM	NGL Water Solutions Permian, LLC	Wilkin	R. Charles	32.17674364280	-103.56977199600	634839	3560923	NAD83
C	02311	24S	33E	33	120	70	DCL	DOM	NGL Water Solutions Permian, LLC	Wilkin	R. Charles	32.17674668220	-103.57403555000	634437	3560918	NAD83
C	02563	24S	33E	33	120	0	DCL	COM	NGL Water Solutions Permian, LLC	Wilkin	R. Charles	32.17676760760	-103.57189281600	634639	3560923	NAD83
C	02890	24S	33E	29	500	0	PMT	STK	MCCLOY, MARK			32.18677065010	-103.58791253900	633114	3562012	NAD83

Source: http://nmwrrs.ose.state.nm.us

Landfill SWD No. 1

1 Mile Offset Operators

Oilfield Water Logistics

Lea Co., NM

PCS: NAD 1983 NM-E FIPS 3001 (US Feet)

Drawn by: SJL	Date: 11/13/2018	Approved by: ELR

LONQUIST & CO. LLC

PETROLEUM ENGINEERS | ENERGY ADVISORS

AUSTIN · HOUSTON · WICHITA · DENVER · CALGARY

-TAP ROCK OPERATING LLC

-EOG RESOURCES INC

-EOG Y RESOURCES INC

-EOG RESOURCES INC
-EOG Y RESOURCES INC

Landfill SWD No. 1
32.184431
-103.582

1 " = 1,125 '

1:13,500

0 0.125 0.25 0.375 0.5 1 Miles

- Landfill SWD No. 1
- 1 Mile Radius
- QQ-Section (NM PLSS-2018)
- Township/Range (NM PLSS-2018)
- Section (NM PLSS-2018)
- Surface Owner (NM SLO)
- Laterals

API (30-025-...) SHL Status - Type (Count)

- Horizontal Surface Location (44)
- Active - Oil (1)
- Active - Gas (2)
- Plugged (Site Released) - Oil (3)
- Plugged (Site Released) - Gas (1)

API (30-025-...) BHL Status - Type (Count)

- Active - Oil (30)
- Permitted - Oil (4)
- Canceled Location (10)

Operators

- -EOG RESOURCES INC
- -EOG RESOURCES INC; -EOG Y RESOURCES INC
- -EOG Y RESOURCES INC
- -TAP ROCK OPERATING LLC

*Well Source: NM-OCD/DrillingInfo 2018



Landfill SWD No. 1

1 Mile Offset Lessees

Oilfield Water Logistics

Lea Co., NM

PCS: NAD 1983 NM-E FIPS 3001 (US Feet)

Drawn by: SJL | Date: 11/13/2018 | Approved by: ELR

LONQUIST & CO. LLC

PETROLEUM ENGINEERS | ENERGY ADVISORS

AUSTIN · HOUSTON · WICHITA · DENVER · CALGARY

- Landfill SWD No. 1
- 1 Mile Radius
- QQ-Section (NM PLSS-2018)
- Township/Range (NM PLSS-2018)
- Section (NM PLSS-2018)
- Surface Owner (NM State Land Office)
- SLO O&G Leases
- Laterals

API (30-025-...) SHL Status - Type (Count)

- Horizontal Surface Location (44)
- Active - Oil (1)
- Active - Gas (2)
- Plugged (Site Released) - Oil (3)
- Plugged (Site Released) - Gas (1)

API (30-025-...) BHL Status - Type (Count)

- Active - Oil (30)
- Permitted - Oil (4)
- Canceled Location (10)

Lessees

- -EOG RESOURCES INC
- -EOG Y RESOURCES INC
- -MURCHISON BONE SPRINGS DRLG PROG 1 LLC
- -OXY USA INC
- -ROBERT E LANDRETH

*Well Source: NM-OCD/DrillingInfo 2018



1 " = 1,125 '

1:13,500

0 0.125 0.25 0.375 0.5 1 Miles

Landfill SWD No. 1
1 Mile Offset Operators and Lessees List

S/T/R	QQ UNIT LETTER(S)	OPERATOR	MINERAL LESSEE	MINERAL OWNER	SURFACE OWNER	ADDRESS 1	ADDRESS 2
20/24S/33E	O,P	TAP ROCK OPERATING LLC	-	-	-	602 PARK POINT DRIVE SUITE 200	GOLDEN, CO 80401
21/24S/33E	M,N,O,P	TAP ROCK OPERATING LLC	-	-	-	602 PARK POINT DRIVE SUITE 200	GOLDEN, CO 80401
27/24S/33E	D,E,L,M	EOG RESOURCES INC	-	-	-	PO BOX 2267	MIDLAND, TX 79702
28/24S/33E	A,H,I,P	EOG RESOURCES INC	-	-	-	PO BOX 2267	MIDLAND, TX 79702
	B,G,J,O	EOG RESOURCES INC	-	-	-	PO BOX 2267	MIDLAND, TX 79702
		EOG Y RESOURCES INC	-	-	-	104 S 4TH ST	ARTESIA, NM 88210
	C,D,E,F,K,L,M,N	EOG Y RESOURCES INC	-	-	-	104 S 4TH ST	ARTESIA, NM 88210
29/24S/33E	A,B,C,F,G,H,I,J,K,L,M,N,O,P	EOG RESOURCES INC	-	-	-	PO BOX 2267	MIDLAND, TX 79702
32/24S/33E	A,B,C,D,F,G,H	EOG RESOURCES INC	-	-	-	PO BOX 2267	MIDLAND, TX 79702
		EOG Y RESOURCES INC	-	-	-	104 S 4TH ST	ARTESIA, NM 88210
	I,J,P	-	MURCHISON BONE SPRINGS DRLG PROG 1 LLC	-	-	7250 DALLAS PARKWAY, STE 1400	PLANO, TX 75024
33/24S/33E	A,H,I	EOG RESOURCES INC	-	-	-	PO BOX 2267	MIDLAND, TX 79702
	B,G,J	EOG RESOURCES INC	-	-	-	PO BOX 2267	MIDLAND, TX 79702
	C,D,E,F,K,L,M,N	EOG Y RESOURCES INC	-	-	-	104 S 4TH ST	ARTESIA, NM 88210
		EOG Y RESOURCES INC	-	-	-	104 S 4TH ST	ARTESIA, NM 88210
34/24S/33E	D,E	EOG RESOURCES INC	-	-	-	PO BOX 2267	MIDLAND, TX 79702
Surface Location	-	-	-	-	NEW MEXICO STATE LAND OFFICE	310 OLD SANTA FE TRAIL	SANTA FE, NM 87501

Produced Water Analysis - Surrounding Areas
Landfill SWD #1

wellname	api	latitude	longitude	section	township	range	unit	ftgns	ftgew	county	state	formation	sampledate	ph	tds_mgL	resistivity ohm_cm	sodium_mgL	calcium mgL	iron_mgl	magnesium mgL	manganese mgL	chloride mgL	bicarbonate mgL	sulfate mgl	co2_mgl
THISTLE UNIT #071H	3002542425	32.282409	-103.5537014	27	23S	33E	A	200N	632E	Lea	NM	BONE SPRING 1ST SAND	9/9/2015	5.6	171476	0.037	55363.2	9140	40.4	1023	1.1	104576.4	244	560	770
BLACK MAMBA 15 STATE COM #0(	3002540173	32.3115883	-103.5666428	15	23S	33E	D	150N	660W	Lea	NM	BONE SPRING 2ND SAND	4/29/2014	6.2	178123		56623.9	9330.2	65.4	985.2	1.6	108363	183	752	350
BLACK MAMBA 15 STATE COM #0(	3002540173	32.3115883	-103.5666428	15	23S	33E	D	150N	660W	Lea	NM	BONE SPRING 2ND SAND	12/17/2014	6.75			78099	12696	75	1273	1.4	148309	122	480	130
TAIPAN 10 STATE COM #001H	3002540743	32.3115883	-103.5664825	15	23S	33E	D	150N	710W	Lea	NM	BONE SPRING 2ND SAND	4/29/2014	6.1	179067		55815.4	9602.9	89	997.5	2.3	109984	122	684	300
TAIPAN 10 STATE COM #001H	3002540743	32.3115883	-103.5664825	15	23S	33E	D	150N	710W	Lea	NM	BONE SPRING 2ND SAND	5/14/2015	6.7			57680	10931	52	1378	1.1	112000	134	492	660
TAIPAN 10 STATE COM #001H	3002540743	32.3115883	-103.5664825	15	23S	33E	D	150N	710W	Lea	NM	BONE SPRING 2ND SAND	9/9/2015	6.5	183674	0.035	59642.2	9492	48.1	1067	1.08	111974.8	61	765	230
THISTLE UNIT #043H	3002540898	32.2545166	-103.5841522	33	23S	33E	M	200S	500W	Lea	NM	BONE SPRING 2ND SAND	9/10/2014	6.6	143879		46056.9	7296.4	79.8	820.9	2.6	86700	244	0	300
THISTLE UNIT #043H	3002540898	32.2545166	-103.5841522	33	23S	33E	M	200S	500W	Lea	NM	BONE SPRING 2ND SAND	5/7/2015	6.2			48663	10816	76	1497	2	98000	134	792	462
THISTLE UNIT #043H	3002540898	32.2545166	-103.5841522	33	23S	33E	M	200S	500W	Lea	NM	BONE SPRING 2ND SAND	7/16/2015	7	155146	0.041	51155.5	7420	35.9	868.5	1.25	94478.7	183	600	900
BELL LAKE 19 STATE #001H	3002541024	32.1964722	-103.6176224	19	24S	33E	M	200S	700W	Lea	NM	BONE SPRING 2ND SAND	6/26/2014	6.5	157801		53080.6	7588.8	36.2	882.2	1.1	93442	122	903	300
BELL LAKE 19 STATE #001H	3002541024	32.1964722	-103.6176224	19	24S	33E	M	200S	700W	Lea	NM	BONE SPRING 2ND SAND	4/23/2015	6.2			47047	11772	39	1452	0.44	98637	98	680	180
BELL LAKE 19 STATE #001H	3002541024	32.1964722	-103.6176224	19	24S	33E	M	200S	700W	Lea	NM	BONE SPRING 2ND SAND	5/8/2015	6.7			47763	10366	59	1527	1.3	96000	159	638	242
BELL LAKE 19 STATE #001H	3002541024	32.1964722	-103.6176224	19	24S	33E	M	200S	700W	Lea	NM	BONE SPRING 2ND SAND	7/16/2015	6.77	134649	0.048	44572.9	6215	37.9	759.3	0.93	81681.6	244	765	200
BELL LAKE 19 STATE #001H	3002541024	32.1964722	-103.6176224	19	24S	33E	M	200S	700W	Lea	NM	BONE SPRING 2ND SAND		7			60725	8703	52	1020	0.88	113193	145	700	100
THISTLE UNIT #044H	3002541032	32.254921	-103.579361	33	23S	33E	N	350S	1980W	Lea	NM	BONE SPRING 2ND SAND	11/14/2014	5.7			55748	7983	68	924	1.4	103965	171	740	250
THISTLE UNIT #044H	3002541032	32.254921	-103.579361	33	23S	33E	N	350S	1980W	Lea	NM	BONE SPRING 2ND SAND	3/20/2015	6.2			74216	6933	14	882	0.41	129179	122	430	100
THISTLE UNIT #044H	3002541032	32.254921	-103.579361	33	23S	33E	N	350S	1980W	Lea	NM	BONE SPRING 2ND SAND	4/8/2015	6.1			77388	9133	27	1113	0.74	138954	98	640	270
THISTLE UNIT #044H	3002541032	32.254921	-103.579361	33	23S	33E	N	350S	1980W	Lea	NM	BONE SPRING 2ND SAND	5/7/2015	6.4			54541	8845	28	1236	1.1	103000	146	534	330
THISTLE UNIT #046H	3002541118	32.254921	-103.5790405	33	23S	33E	N	350S	2080W	Lea	NM	BONE SPRING 2ND SAND	9/10/2014	6.5	163164		52347.9	8192.1	46.1	890.3	1.64	99400	122	0	200
THISTLE UNIT #046H	3002541118	32.254921	-103.5790405	33	23S	33E	N	350S	2080W	Lea	NM	BONE SPRING 2ND SAND	4/8/2015	6			70262	10319	26	1543	1.1	131655	122	620	250
THISTLE UNIT #046H	3002541118	32.254921	-103.5790405	33	23S	33E	N	350S	2080W	Lea	NM	BONE SPRING 2ND SAND	5/7/2015	6.7			54205	8584	33	1249	1.2	102000	146	608	330
THISTLE UNIT #046H	3002541118	32.254921	-103.5790405	33	23S	33E	N	350S	2080W	Lea	NM	BONE SPRING 2ND SAND	7/16/2015	7	166101	0.039	55345.3	7538	8.9	884.9	1.68	101077.2	244	635	500
THISTLE UNIT #047H	3002541252	32.2546959	-103.5605698	34	23S	33E	N	280S	2511W	Lea	NM	BONE SPRING 2ND SAND	12/17/2014	6.25			77109	10168	43	1135	0.1	141623	110	580	130
THISTLE UNIT #047H	3002541252	32.2546959	-103.5605698	34	23S	33E	N	280S	2511W	Lea	NM	BONE SPRING 2ND SAND	4/8/2015	6.1			85383	8644	36	1037	0.56	150004	85	650	330
THISTLE UNIT #048H	3002541253	32.2546959	-103.5604095	34	23S	33E	N	280S	2561W	Lea	NM	BONE SPRING 2ND SAND	9/10/2014	6.5	161403		51347.4	7892.9	18.5	856.7	1.12	99100	122	0	250
THISTLE UNIT #048H	3002541253	32.2546959	-103.5604095	34	23S	33E	N	280S	2561W	Lea	NM	BONE SPRING 2ND SAND	4/9/2015	6			59257	8179	13	1002	0.07	108767	110	630	150
THISTLE UNIT #048H	3002541253	32.2546959	-103.5604095	34	23S	33E	N	280S	2561W	Lea	NM	BONE SPRING 2ND SAND	5/7/2015	6.6			56181	7137	15	1083	0.59	102000	122	626	330
THISTLE UNIT #048H	3002541253	32.2546959	-103.5604095	34	23S	33E	N	280S	2561W	Lea	NM	BONE SPRING 2ND SAND	7/16/2015	6.7	162709	0.039	53857.8	7649	29.6	877.2	1.03	98977.7	244	675	300
THISTLE UNIT #049H	3002541254	32.2546959	-103.5602493	34	23S	33E	N	280S	2611W	Lea	NM	BONE SPRING 2ND SAND	9/10/2014	6.5	161244		50959.5	7851.1	21.9	845.1	1.18	99300	122	0	200
THISTLE UNIT #049H	3002541254	32.2546959	-103.5602493	34	23S	33E	N	280S	2611W	Lea	NM	BONE SPRING 2ND SAND	2/6/2015	6.1			51720	8636	84	1117	0.95	98474	183	690	300
THISTLE UNIT #049H	3002541254	32.2546959	-103.5602493	34	23S	33E	N	280S	2611W	Lea	NM	BONE SPRING 2ND SAND	5/7/2015	6.5			53470	8231	38	1196	0.9	100000	183	695	330
THISTLE UNIT #050H	3002541302	32.2544632	-103.5537567	34	23S	33E	P	200S	660E	Lea	NM	BONE SPRING 2ND SAND	9/10/2014	6.5	158786		51053.6	8121.8	10.6	874.5	1.42	96500	122	0	150
THISTLE UNIT #050H	3002541302	32.2544632	-103.5537567	34	23S	33E	P	200S	660E	Lea	NM	BONE SPRING 2ND SAND	4/8/2015	6			83406	8769	52	1081	0.79	147503	122	540	230
THISTLE UNIT #050H	3002541302	32.2544632	-103.5537567	34	23S	33E	P	200S	660E	Lea	NM	BONE SPRING 2ND SAND	5/7/2015	6.7			60221	6449	42	772	1.4	106000	195	717	330
THISTLE UNIT #050H	3002541302	32.2544632	-103.5537567	34	23S	33E	P	200S	660E	Lea	NM	BONE SPRING 2ND SAND	7/16/2015	6.68	146169	0.044	47938.1	7126	53.7	824.4	1.43	88480	488	880	500
THISTLE UNIT #065H	3002541303	32.2542877	-103.5721207	33	23S	33E	P	124S	1058E	Lea	NM	BONE SPRING 2ND SAND	3/14/2015	6.3			80875	6665	79	871	0.65	138579	183	470	300
THISTLE UNIT #065H	3002541303	32.2542877	-103.5721207	33	23S	33E	P	124S	1058E	Lea	NM	BONE SPRING 2ND SAND	4/8/2015	5.9			87039	9224	50	1170	0.69	154348	98	700	250
THISTLE UNIT #065H	3002541303	32.2542877	-103.5721207	33	23S	33E	P	124S	1058E	Lea	NM	BONE SPRING 2ND SAND	4/9/2015	6.4			89233	8044	45	1013	0.42	154983	159	690	200
THISTLE UNIT #065H	3002541303	32.2542877	-103.5721207	33	23S	33E	P	124S	1058E	Lea	NM	BONE SPRING 2ND SAND	5/7/2015	6.5			53029	9452	70	1354	1.7	102000	122	668	330
THISTLE UNIT #065H	3002541303	32.2542877	-103.5721207	33	23S	33E	P	124S	1058E	Lea	NM	BONE SPRING 2ND SAND	7/16/2015	6.73	159590	0.04	52593.6	7634	38.6	905.6	1.28	97178.1	183	635	450
THISTLE UNIT #056H	3002541340	32.283371	-103.5587692	22	23S	33E	O	150S	2200E	Lea	NM	BONE SPRING 2ND SAND	4/9/2015	6.4			85421	9052	22	1111	0.33	151169	122	570	180
THISTLE UNIT #056H	3002541340	32.283371	-103.5587692	22	23S	33E	O	150S	2200E	Lea	NM	BONE SPRING 2ND SAND	5/6/2015	6.2			55815	9341	28	1275	0.93	106000	122	499	374
THISTLE UNIT #057H	3002541341	32.283371	-103.5586014	22	23S	33E	O	150S	2150E	Lea	NM	BONE SPRING 2ND SAND	12/17/2014	6.5			79448	10789	52	1174	1.2	146515	122	520	120
THISTLE UNIT #057H	3002541341	32.283371	-103.5586014	22	23S	33E	O	150S	2150E	Lea	NM	BONE SPRING 2ND SAND	5/6/2015	6.2			53627	10505	67	1394	1.4	105000	171	508	484
THISTLE UNIT #057H	3002541341	32.283371	-103.5586014	22	23S	33E	O	150S	2150E	Lea	NM	BONE SPRING 2ND SAND	9/9/2015	7	130631	0.049	47917.4	2149	12.9	341.3	0.3	78382.3	561	710	210
THISTLE UNIT #058H	3002541342	32.283371	-103.5584412	22	23S	33E	O	150S	2100E	Lea	NM	BONE SPRING 2ND SAND	9/10/2014	6.4	165330		52112.8	8757.2	22.5	937.2	1.43	101300	183	0	200
THISTLE UNIT #058H	3002541342	32.283371	-103.5584412	22	23S	33E	O	150S	2100E	Lea	NM	BONE SPRING 2ND SAND	12/17/2014	6.5			60347	10265	60	1130	1.3	115793	134	560	100
THISTLE UNIT #058H	3002541342	32.283371	-103.5584412	22	23S	33E	O	150S	2100E	Lea	NM	BONE SPRING 2ND SAND	9/9/2015	5.63	172312	0.037	54411.1	10120	45.1	1126	1.24	105276.3	305	425	550
THISTLE UNIT #062H	3002541466	32.2841988	-103.5589294	22	23S	33E	O	450S	2250E	Lea	NM	BONE SPRING 2ND SAND	11/14/2014	6.6			45038	7608	34	833	1.2	86371	122	680	200
THISTLE UNIT #062H	3002541466	32.2841988	-103.5589294	22	23S	33E	O	450S	2250E	Lea	NM	BONE SPRING 2ND SAND	4/9/2015	6.1			79770	8893	58	1105	0.8	142227	122	550	310
THISTLE UNIT #062H	3002541466	32.2841988	-103.5589294	22	23S	33E	O	450S	2250E	Lea	NM	BONE SPRING 2ND SAND	5/6/2015	6.5			53998	10179	69	1422	1.4	105000	232	563	484
THISTLE UNIT #062H	3002541466	32.2841988	-103.5589294	22	23S	33E	O	450S	2250E	Lea	NM	BONE SPRING 2ND SAND	9/9/2015	7.54	106745	0.06	32885.4	5523	0.8	1747	0.1	64285.5	976	1205	600
THISTLE UNIT #063H	3002541467	32.2841988	-103.5587692	22	23S	33E	O	450S	2200E	Lea	NM	BONE SPRING 2ND SAND	11/14/2014	6.2			47247	8197	19	896	0.78	90999	244	600	230
THISTLE UNIT #063H	3002541467	32.2841988	-103.5587692	22	23S	33E	O	450S	2200E	Lea	NM	BONE SPRING 2ND SAND	4/9/2015	5.9			75949	9227	44	1171	0.6	137451	122	590	280
THISTLE UNIT #063H	3002541467	32.2841988	-103.5587692	22	23S	33E	O	450S	2200E	Lea	NM	BONE SPRING 2ND SAND	5/6/2015	6.4			55684	8960	34	1264	1.1	105000	232	531	528
THISTLE UNIT #063H	3002541467	32.2841988	-103.5587692	22	23S	33E	O	450S	2200E	Lea	NM	BONE SPRING 2ND SAND	9/9/2015	5.62	164204	0.039	53030.1	8746	37.1	968.7	1.11	100077.4	193	635	670
THISTLE UNIT #064H	3002541468	32.2841988	-103.558609	22	23S	33E	O	450S	2150E	Lea	NM	BONE SPRING 2ND SAND	11/14/2014	6.1			47592	7723	16	841	0.8	90540	98	660	190
THISTLE UNIT #064H	3002541468	32.2841988	-103.558609	22	23S	33E	O	450S	2150E	Lea	NM	BONE SPRING 2ND SAND	1/8/2015	6.2			47696	7829	32	888	0.85	90068	61	540	190
THISTLE UNIT #064H	3002541468	32.2841988	-103.558609	22	23S	33E	O	450S	2150E	Lea	NM	BONE SPRING 2ND SAND	4/9/2015	6.3			76951	8551	42	1055	0.54	137246	85	570	230
THISTLE UNIT #064H	3002541468	32.2841988	-103.558609	22	23S	33E	O	450S	2150E	Lea	NM	BONE SPRING 2ND SAND	5/6/2015	6.4			58238	3662	50	740	0.9	98000	171	599	440
THISTLE UNIT #064H	3002541468	32.2841988	-103.558609	22	23S	33E	O	450S	2150E	Lea	NM	BONE SPRING 2ND SAND	9/9/2015	5.03	184017	0.035	59935.2	9356	57.2	1065	1.28	111874.8	256.2	940	810
THISTLE UNIT #061H	3002541487	32.2835197	-103.5666046	22	23S	33E	M	200S	660W	Lea	NM	BONE SPRING 2ND SAND	5/1/2014	6.7	154844		51189.4	8662.8	20.4	924.1	1.5	91763	122	0	250
THISTLE UNIT #061H	3002541487	32.2835197	-103.5666046	22	23S	33E	M	200S	660W	Lea	NM	BONE SPRING 2ND SAND	3/14/2015	6.3			84834	7818	12	927	0.12	146896	146	480	250
THISTLE UNIT #061H	3002541487	32.2835197	-103.5666046	22	23S	33E	M	200S	660W	Lea	NM	BONE SPRING 2ND SAND	4/8/2015	7.3			87007	9441	27	1109	0.45	154055	110	460	230
THISTLE UNIT #061H	3002541487	32.2835197	-103.5666046	22	23S	33E	M	200S	660W	Lea	NM	BONE SPRING 2ND SAND	5/6/2015	6.3			51734	13895	0	1692	1.4	109000	122	494	440
THISTLE UNIT #061H	3002541487	32.2835197	-103.5666046	22	23S	33E	M	200S	660W	Lea	NM	BONE SPRING 2ND SAND	9/9/2015	4.63	236468	0.027	65180.9	19100	44.5	4014	3.95	146666.9	75.2	425	640
THISTLE UNIT #055H	3002541488	32.2833824	-103.5666046	22	23S	33E	M	150S	660W	Lea	NM	BONE SPRING 2ND SAND	5/1/2014	6.4	144753		47940.9	7687.8	36.9	847.7	1.92	85978	122	0	300

Source: http://octane.nmt.edu/gotech/Water/producedwater.aspx

Produced Water Analysis - Surrounding Areas

Landfill SWD #1

THISTLE UNIT #055H	3002541488	32.2833824	-103.5666046	22	23S	33E	M	150S	660W	Lea	NM	BONE SPRING 2ND SAND	1/8/2015	6.2			52748	8257	44	911	1	98911	73	460	190
THISTLE UNIT #055H	3002541488	32.2833824	-103.5666046	22	23S	33E	M	150S	660W	Lea	NM	BONE SPRING 2ND SAND	4/8/2015	6.6			84044	9093	39	1085	0.73	149239	122	500	260
THISTLE UNIT #055H	3002541488	32.2833824	-103.5666046	22	23S	33E	M	150S	660W	Lea	NM	BONE SPRING 2ND SAND	5/6/2015	6.3			56352	9467	37	1271	1.2	107000	122	556	396
THISTLE UNIT #055H	3002541488	32.2833824	-103.5666046	22	23S	33E	M	150S	660W	Lea	NM	BONE SPRING 2ND SAND	9/9/2015	5.72	217107	0.029	62587.2	15640	25.7	3227	3.22	133869.8	256.2	635	1100
BELL LAKE 19 STATE #002H	3002541515	32.1964722	-103.609108	19	24S	33E	O	200S	1920E	Lea	NM	BONE SPRING 2ND SAND	1/8/2015	6.4			44270	6421	18	730	0.39	81981	73	580	110
BELL LAKE 19 STATE #002H	3002541515	32.1964722	-103.609108	19	24S	33E	O	200S	1920E	Lea	NM	BONE SPRING 2ND SAND	2/6/2015	6.2			47148	6419	15	854	0	86572	232	670	240
BELL LAKE 19 STATE #002H	3002541515	32.1964722	-103.609108	19	24S	33E	O	200S	1920E	Lea	NM	BONE SPRING 2ND SAND	4/23/2015	6.3			46235	9427	14	1212	0	92405	207	740	250
BELL LAKE 19 STATE #002H	3002541515	32.1964722	-103.609108	19	24S	33E	O	200S	1920E	Lea	NM	BONE SPRING 2ND SAND	5/8/2015	6.8			47629	8214	18	1182	0.47	91000	220	550	242
BELL LAKE 19 STATE #002H	3002541515	32.1964722	-103.609108	19	24S	33E	O	200S	1920E	Lea	NM	BONE SPRING 2ND SAND	7/16/2015	7.01	128413	0.05	44427.6	4207	41.9	705.9	0.78	77482.5	366	910	300
BELL LAKE 19 STATE #003H	3002541516	32.1964722	-103.6089478	19	24S	33E	O	200S	1870E	Lea	NM	BONE SPRING 2ND SAND	4/4/2015	6.7			59599	7326	11	942	0.69	108190	171	680	230
BELL LAKE 19 STATE #003H	3002541516	32.1964722	-103.6089478	19	24S	33E	O	200S	1870E	Lea	NM	BONE SPRING 2ND SAND	4/23/2015	6.3			44784	10098	21	1248	0.6	91618	146	690	200
BELL LAKE 19 STATE #003H	3002541516	32.1964722	-103.6089478	19	24S	33E	O	200S	1870E	Lea	NM	BONE SPRING 2ND SAND	5/12/2015	6.7			45768	8523	25	1237	1	89000	195	349	308
BELL LAKE 19 STATE #003H	3002541516	32.1964722	-103.6089478	19	24S	33E	O	200S	1870E	Lea	NM	BONE SPRING 2ND SAND	7/16/2015	6.67	138617	0.046	46648.4	5778	41.1	731.5	1.1	84081	244	710	300
BELL LAKE 19 STATE #004H	3002541517	32.1964722	-103.6087875	19	24S	33E	O	200S	1820E	Lea	NM	BONE SPRING 2ND SAND	1/8/2015	6.2			43120	4938	26	585	0.28	77034	134	760	140
BELL LAKE 19 STATE #004H	3002541517	32.1964722	-103.6087875	19	24S	33E	O	200S	1820E	Lea	NM	BONE SPRING 2ND SAND	2/6/2015	6.3			47537	6950	11	886	0	88389	171	650	210
BELL LAKE 19 STATE #004H	3002541517	32.1964722	-103.6087875	19	24S	33E	O	200S	1820E	Lea	NM	BONE SPRING 2ND SAND	3/23/2015	6.3			76378	6238	11	834	0	131397	159	670	200
BELL LAKE 19 STATE #004H	3002541517	32.1964722	-103.6087875	19	24S	33E	O	200S	1820E	Lea	NM	BONE SPRING 2ND SAND	4/23/2015	6.3			55502	11149	25	1361	0.26	110592	146	630	210
BELL LAKE 19 STATE #004H	3002541517	32.1964722	-103.6087875	19	24S	33E	O	200S	1820E	Lea	NM	BONE SPRING 2ND SAND	5/8/2015	6.7			41736	10300	79	1689	1.7	87000	220	658	330
BELL LAKE 19 STATE #004H	3002541517	32.1964722	-103.6087875	19	24S	33E	O	200S	1820E	Lea	NM	BONE SPRING 2ND SAND	7/16/2015	6.68	133461	0.048	44483.1	5917	30.5	718.2	0.83	80981.7	244	675	300
SEA SNAKE 35 STATE #002H	3002541599	32.2544518	-103.5472717	35	23S	33E	N	200S	1345W	Lea	NM	BONE SPRING 2ND SAND	5/14/2015	6.8			49141	6084	22	921	0.62	89000	220	269	440
SEA SNAKE 35 STATE #001H	3002541625	32.2544518	-103.5474319	35	23S	33E	M	200S	1295W	Lea	NM	BONE SPRING 2ND SAND	5/14/2015	6.9			48857	6766	26	1090	1.8	90000	183	655	440
SEA SNAKE 35 STATE #001H	3002541625	32.2544518	-103.5474319	35	23S	33E	M	200S	1295W	Lea	NM	BONE SPRING 2ND SAND	7/16/2015	7	146174	0.044	48514.2	6777	38.9	763.1	1.51	88880	207.4	635	60
THISTLE UNIT #053H	3002541794	32.2824211	-103.5753098	28	23S	33E	B	200N	2030E	Lea	NM	BONE SPRING 2ND SAND	4/9/2015	5.7			82792	8583	29	1027	0.37	146363	122	500	240
THISTLE UNIT #053H	3002541794	32.2824211	-103.5753098	28	23S	33E	B	200N	2030E	Lea	NM	BONE SPRING 2ND SAND	5/14/2015	6.9			49335	11192	46	1560	1.3	100000	195	594	264
THISTLE UNIT #059H	3002541796	32.2824211	-103.5751495	28	23S	33E	B	200N	1980E	Lea	NM	BONE SPRING 2ND SAND	4/9/2015	5.8			87646	8631	66	1030	0.56	154089	73	520	310
THISTLE UNIT #059H	3002541796	32.2824211	-103.5751495	28	23S	33E	B	200N	1980E	Lea	NM	BONE SPRING 2ND SAND	5/14/2015	6.6			59742	11512	106	1633	2.1	117000	220	363	374
THISTLE UNIT #059H	3002541796	32.2824211	-103.5751495	28	23S	33E	B	200N	1980E	Lea	NM	BONE SPRING 2ND SAND	9/9/2015	5.1	140111	0.046	47035.8	5996	30.2	763	1.97	84880.9	439.2	740	780
THISTLE UNIT #051H	3002541896	32.2824211	-103.584404	28	23S	33E	D	200N	430W	Lea	NM	BONE SPRING 2ND SAND	5/6/2015	6.6			51318	7868	29	1149	0.81	96000	183	557	418
THISTLE UNIT #051H	3002541896	32.2824211	-103.584404	28	23S	33E	D	200N	430W	Lea	NM	BONE SPRING 2ND SAND	9/9/2015	5.16	101658	0.063	34198.8	4245	13.2	578.6	0.37	61286.2	158.6	1030	170
THISTLE UNIT #052H	3002541897	32.2824745	-103.5799866	28	23S	33E	C	180N	1795W	Lea	NM	BONE SPRING 2ND SAND	4/9/2015	5.8			71047	8062	27	970	1.2	127280	146	560	230
THISTLE UNIT #052H	3002541897	32.2824745	-103.5799866	28	23S	33E	C	180N	1795W	Lea	NM	BONE SPRING 2ND SAND	5/6/2015	6.4			51627	10603	46	1359	1.9	102000	195	468	396
THISTLE UNIT #052H	3002541897	32.2824745	-103.5799866	28	23S	33E	C	180N	1795W	Lea	NM	BONE SPRING 2ND SAND	9/9/2015	6.5	161549	0.04	51767.5	8900	56.2	1004	1.25	98777.7	73.2	425	250
HORNED VIPER 20 FEDERAL COM #	3002541913	32.2835426	-103.5985184	20	23S	33E	N	200S	1350W	Lea	NM	BONE SPRING 2ND SAND	9/9/2015	7	130154	0.049	49951.8	721	11.4	140	0.1	78282.4	158.6	740	210
HORNED VIPER 20 FEDERAL COM #	3002541914	32.2835426	-103.5986786	20	23S	33E	M	200S	1300W	Lea	NM	BONE SPRING 2ND SAND	9/9/2015	6.1	272936	0.023	76649.8	21050	34.8	4456	4.19	169061.9	40	600	300
SEA SNAKE 35 STATE #003H	3002542283	32.2544466	-103.5414797	35	23S	33E	O	200S	2132E	Lea	NM	BONE SPRING 2ND SAND	7/23/2015	7	118970	0.054	39811	5202	26.1	612.4	1.05	71983.8	231.8	820	40
MARSHALL #001	3002508358	32.284832	-103.6176224	19	23S	33E	M	660S	660W	LEA	NM	DELAWARE			238931							148600	127	156	
BELL LAKE UNIT A #007	3002508367	32.252037	-103.5196075	1	24S	33E	A	660N	660E	LEA	NM	DELAWARE			87686							53920	391	749	
THISTLE UNIT #017H	3002539893	32.2543602	-103.5734558	33	23S	33E	O	150S	1470E	Lea	NM	DELAWARE-BRUSHY CANYON	11/18/2011	7	249358		68908.3	19792	108	3609	3.5	153350	61	1010	300
THISTLE UNIT #017H	3002539893	32.2543602	-103.5734558	33	23S	33E	O	150S	1470E	Lea	NM	DELAWARE-BRUSHY CANYON	9/25/2014	6	283085		71469.2	25489.1	54.1	3893.9	6.57	179335	427	0	100
THISTLE UNIT #017H	3002539893	32.2543602	-103.5734558	33	23S	33E	O	150S	1470E	Lea	NM	DELAWARE-BRUSHY CANYON	2/6/2015	6			89832	22107	15	4443	3	189304	73	200	350
THISTLE UNIT #017H	3002539893	32.2543602	-103.5734558	33	23S	33E	O	150S	1470E	Lea	NM	DELAWARE-BRUSHY CANYON	4/8/2015	5.9			82059	19233	14	3716	23	169603	61	640	200
THISTLE UNIT #018H	3002540010	32.2825584	-103.5810394	28	23S	33E	C	150N	1470W	Lea	NM	DELAWARE-BRUSHY CANYON	9/10/2014	6	254703		70206.8	20688.4	47.7	3452.1	3.83	157600	122	0	200
THISTLE UNIT #018H	3002540010	32.2825584	-103.5810394	28	23S	33E	C	150N	1470W	Lea	NM	DELAWARE-BRUSHY CANYON	2/6/2015	5.7			93485	22643	31	4570	3.2	195932	73	270	390
THISTLE UNIT #018H	3002540010	32.2825584	-103.5810394	28	23S	33E	C	150N	1470W	Lea	NM	DELAWARE-BRUSHY CANYON	4/9/2015	5.5			96068	22248	20	4460	2.9	199245	61	300	310
THISTLE UNIT #018H	3002540010	32.2825584	-103.5810394	28	23S	33E	C	150N	1470W	Lea	NM	DELAWARE-BRUSHY CANYON	5/6/2015	5.8			67920	21017	20	4509	3.6	155000	61	303	638
THISTLE UNIT #018H	3002540010	32.2825584	-103.5810394	28	23S	33E	C	150N	1470W	Lea	NM	DELAWARE-BRUSHY CANYON	9/9/2015	6.5	182009	0.035	56667.9	11090	47.3	1461	2	111474.9	61	600	260
THISTLE UNIT #020H	3002540015	32.2825584	-103.5682526	27	23S	33E	D	150N	150W	Lea	NM	DELAWARE-BRUSHY CANYON	11/18/2011	7	245475		66848	20494	40	3559	4	151089	61	990	300
THISTLE UNIT #020H	3002540015	32.2825584	-103.5682526	27	23S	33E	D	150N	150W	Lea	NM	DELAWARE-BRUSHY CANYON	4/9/2015	5.4			85224	22553	30	4475	3.9	183663	85	250	290
THISTLE UNIT #020H	3002540015	32.2825584	-103.5682526	27	23S	33E	D	150N	150W	Lea	NM	DELAWARE-BRUSHY CANYON	5/7/2015	5.9			60914	21590	26	5449	3.7	148000	61	220	660
THISTLE UNIT #020H	3002540015	32.2825584	-103.5682526	27	23S	33E	D	150N	150W	Lea	NM	DELAWARE-BRUSHY CANYON	9/9/2015	6.5	167968	0.038	53995.6	9118	40.6	1014	1.19	102676.8	73.2	425	200
THISTLE UNIT #032H	3002540016	32.2543526	-103.5691833	33	23S	33E	P	150S	150E	Lea	NM	DELAWARE-BRUSHY CANYON	9/10/2014	6	256045		68990.7	20375.4	30.7	3375.3	3.98	160600	122	0	400
THISTLE UNIT #032H	3002540016	32.2543526	-103.5691833	33	23S	33E	P	150S	150E	Lea	NM	DELAWARE-BRUSHY CANYON	4/8/2015	6.1			91267	22892	11	4435	3.2	193029	37	250	290
THISTLE UNIT #026H	3002542431	32.2965799	-103.5666151	22	23S	33E	M	100S	802W	Lea	NM	DELAWARE-BRUSHY CANYON	9/9/2015	5.04	133985	0.048	45518.8	5227	38.2	672.7	0.72	80481.9	972.2	880	240
PRONGHORN AHO FEDERAL #001	3002526496	32.335556	-103.6094284	6	23S	33E	G	1980N	1980E	LEA	NM	STRAWN	9/26/2000	5.5				20.1	0	12.2		35.5	61.1	48.8	
THISTLE UNIT #001	3002532138	32.2662888	-103.5800247	33	23S	33E	C	790N	1780W	Lea	NM		4/9/2015	6.2			95218	21739	37	4286	3.5	196997	110	260	330
THISTLE UNIT #004	3002534456	32.2557449	-103.562294	34	23S	33E	N	660S	1980W	Lea	NM		5/31/2001	5.08	21757.8		315.8	4914	284	368		12856	163	150	
THISTLE UNIT #005	3002534580	32.2630043	-103.5623016	34	23S	33E	F	1980N	1980W	Lea	NM		5/31/2001	6.99	74186		25899	1996	27	253		44527	386	269	
THISTLE UNIT #056H	3002541340	32.283371	-103.5587692	22	23S	33E	O	150S	2200E	Lea	NM		9/9/2015	5.43	135196	0.047	43673.3	7109	54.7	790.2	1.15	81881.5	500.2	765	600

Source: http://octane.nmt.edu/gotech/Water/producedwater.aspx

WATER WELL SUMMARIES

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 02310 **Subbasin:** CUB **Cross Reference:** -
Primary Purpose: COM COMMERCIAL
Primary Status: DCL DECLARATION
Total Acres: 0 **Subfile:** -
Total Diversion: 33 **Cause/Case:** -
Owner: NGL WATER SOLUTIONS PERMIAM
Contact: R CHARLES WILKIN

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	633156	COWNF	2018-09-17	CHG	PRC	C 02310	T	0	0	
	207097	COWNF	2001-01-03	CHG	PRC	C 02310	T	0	0	
	144627	DCL	1998-02-09	DCL	PRC	C 02310 AMENDMENT	T	0	33	
	240818	DCL	1993-04-20	DCL	PRC	C 02310	T	0	3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Source	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Other Location Desc
C 02310		2	3	2	33	24S	33E	634437	3560918*	

*An (*) after northing value indicates UTM location was derived from PLSS - see Help

Priority Summary

Priority	Status	Acres	Diversion	Pod Number	Source
12/31/1890	DCL	0	3	C 02310	

Place of Use

Q 256	Q 64	Q 16	Q 4	Sec	Tws	Rng	Acres	Diversion	CU	Use	Priority	Status	Other Location Desc
							0	3		DOM	12/31/1890	DCL	NO PLACE OF USE GIVEN

Source

Acres	Diversion	CU	Use	Priority	Source	Description
0	3		DOM	12/31/1890	GW	

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New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 02311 **Subbasin:** CUB **Cross Reference:** -
Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD
Primary Status: DCL DECLARATION
Total Acres: 0 **Subfile:** -
Total Diversion: 33 **Cause/Case:** -
Owner: NGL WATER SOLUTIONS PERMIAN
Contact: R CHARLES WILKIN

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	633157	COWNF	2018-09-17	CHG	PRC	C 02311	T	0	0	
	239245	DCL	2002-08-19	DCL	PRC	C 02311 - AMENDED	T	0	33	
	207098	COWNF	2001-01-03	CHG	PRC	C 02311	T	0	0	
	144629	DCL	1998-02-09	DCL	PRC	C 0231 AMENDMENT	T	0	33	
	240815	DCL	1993-04-23	DCL	PRC	C 02311	T	0	3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Source	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Other Location Desc
C 02311		2	3	2	33	24S	33E	634437	3560918*	

*An (*) after northing value indicates UTM location was derived from PLSS - see Help

Priority Summary

Priority	Status	Acres	Diversion	Pod Number	Source
12/31/1890	DCL	0	33	C 02311	

Place of Use

Q 256	Q 64	Q 16	Q 4	Sec	Tws	Rng	Acres	Diversion	CU	Use	Priority	Status	Other Location Desc
							0	3		DOM	12/31/1890	DCL	NO PLACE OF USE GIVEN

Source

Acres	Diversion	CU	Use	Priority	Source Description
0	3		DOM	12/31/1890	GW

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New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 02563 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: COM COMMERCIAL

Primary Status: DCL DECLARATION

Total Acres: 0 **Subfile:** -

Total Diversion: 33 **Cause/Case:** -

Owner: NGL WATER SOLUTIONS PERMIAN

Contact: R CHARLES WILKIN

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	633170	COWNF	2018-09-17	CHG	PRC	C 02563	T	0	0	
	207110	COWNF	2001-01-03	CHG	PRC	C 02563	T	0	0	
	144220	DCL	1998-02-09	DCL	PRC	C 02563	T	0	33	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Source	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Other Location Desc
C 02563		1	4	2	33	24S	33E	634639	3560923*	

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

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New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 02564 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: COM COMMERCIAL

Primary Status: DCL DECLARATION

Total Acres: 0 **Subfile:** -

Total Diversion: 33 **Cause/Case:** -

Owner: NGL WATER SOLUTIONS PERMIAN

Contact: R CHARLES WILKIN

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	633177	COWNF	2018-09-17	CHG	PRC	C 02564	T	0	0	
	207111	COWNF	2001-01-03	CHG	PRC	C 02564	T	0	0	
	144226	DCL	1998-02-10	DCL	PRC	C 02564	T	0	33	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Source	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Other Location Desc
C 02564		2	4	2	33	24S	33E	634839	3560923*	

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

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New Mexico Office of the State Engineer

Water Right Summary

WR File Number: C 02890 **Subbasin:** C **Cross Reference:** -

Primary Purpose: STK 72-12-1 LIVESTOCK WATERING

Primary Status: PMT PERMIT

Total Acres: **Subfile:** -

Total Diversion: 3 **Cause/Case:** -

Owner: MARK MCCLOY

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Source	Q Q Q 64 16 4	Sec	Tws	Rng	X	Y	Other Location Desc
C 02890		2 4	29	24S	33E	633114	3562012*	

*An (*) after northing value indicates UTM location was derived from PLSS - see Help

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CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

December 03, 2018

RAMONA HOVEY

Lonquist Field Services, LLC

3345 Bee Cave Road, Suite 201

Austin, TX 78746

RE: OWL SWD #1

Enclosed are the results of analyses for samples received by the laboratory on 11/21/18 15:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Lonquist Field Services, LLC 3345 Bee Cave Road, Suite 201 Austin TX, 78746	Project: OWL LANDFILL SWD #1 Project Number: 32.184431/-103.58213 Project Manager: RAMONA HOVEY Fax To: (512) 732-9816	Reported: 03-Dec-18 17:34

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
C- 02310	H803427-01	Water	21-Nov-18 14:00	21-Nov-18 15:30
C- 02311	H803427-02	Water	21-Nov-18 14:15	21-Nov-18 15:30

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Analytical Results For:

Lonquist Field Services, LLC 3345 Bee Cave Road, Suite 201 Austin TX, 78746	Project: OWL LANDFILL SWD #1 Project Number: 32.184431/-103.58213 Project Manager: RAMONA HOVEY Fax To: (512) 732-9816	Reported: 03-Dec-18 17:34

C- 02310

H803427-01 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**298**		5.00	mg/L	1	8112610	AC	26-Nov-18	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	8112610	AC	26-Nov-18	310.1	
Chloride*	**340**		4.00	mg/L	1	8112601	AC	29-Nov-18	4500-Cl-B	
Conductivity*	**2980**		1.00	uS/cm	1	8112710	AC	27-Nov-18	120.1	
pH*	**7.20**		0.100	pH Units	1	8112710	AC	27-Nov-18	150.1	
Resistivity	**3.36**			Ohms/m	1	8112710	AC	27-Nov-18	120.1	
Specific Gravity @ 60° F	**1.003**		0.000	[blank]	1	8112817	AC	28-Nov-18	SM 2710F	
Sulfate*	**982**		250	mg/L	25	8112713	AC	27-Nov-18	375.4	
TDS*	**1870**		5.00	mg/L	1	8112718	AC	28-Nov-18	160.1	
Alkalinity, Total*	**244**		4.00	mg/L	1	8112610	AC	26-Nov-18	310.1	
Sulfide, total	<0.0100		0.0100	mg/L	1	8112819	AC	28-Nov-18	376.2	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Barium*	<0.050		0.050	mg/L	1	B811241	AES	30-Nov-18	EPA200.7	
Calcium*	**3.55**		0.100	mg/L	1	B811241	AES	30-Nov-18	EPA200.7	
Iron*	**11.1**		0.050	mg/L	1	B811241	AES	30-Nov-18	EPA200.7	
Magnesium*	**0.682**		0.100	mg/L	1	B811241	AES	30-Nov-18	EPA200.7	
Potassium*	**1.00**		1.00	mg/L	1	B811241	AES	30-Nov-18	EPA200.7	
Sodium*	**617**		5.00	mg/L	5	B811241	AES	30-Nov-18	EPA200.7	

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Analytical Results For:

Lonquist Field Services, LLC 3345 Bee Cave Road, Suite 201 Austin TX, 78746	Project: OWL LANDFILL SWD #1 Project Number: 32.184431/-103.58213 Project Manager: RAMONA HOVEY Fax To: (512) 732-9816	Reported: 03-Dec-18 17:34

C- 02311

H803427-02 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**283**		5.00	mg/L	1	8112610	AC	26-Nov-18	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	8112610	AC	26-Nov-18	310.1	
Chloride*	**172**		4.00	mg/L	1	8112601	AC	29-Nov-18	4500-Cl-B	
Conductivity*	**2040**		1.00	uS/cm	1	8112710	AC	27-Nov-18	120.1	
pH*	**7.66**		0.100	pH Units	1	8112710	AC	27-Nov-18	150.1	
Resistivity	**4.90**			Ohms/m	1	8112710	AC	27-Nov-18	120.1	
Specific Gravity @ 60° F	**1.003**		0.000	[blank]	1	8112817	AC	28-Nov-18	SM 2710F	
Sulfate*	**693**		125	mg/L	12.5	8112713	AC	27-Nov-18	375.4	
TDS*	**1440**		5.00	mg/L	1	8112718	AC	28-Nov-18	160.1	
Alkalinity, Total*	**232**		4.00	mg/L	1	8112610	AC	26-Nov-18	310.1	
Sulfide, total	<0.0100		0.0100	mg/L	1	8112819	AC	28-Nov-18	376.2	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Barium*	<0.050		0.050	mg/L	1	B811241	AES	30-Nov-18	EPA200.7	
Calcium*	**155**		0.100	mg/L	1	B811241	AES	30-Nov-18	EPA200.7	
Iron*	<0.050		0.050	mg/L	1	B811241	AES	30-Nov-18	EPA200.7	
Magnesium*	**74.9**		0.100	mg/L	1	B811241	AES	30-Nov-18	EPA200.7	
Potassium*	**6.42**		1.00	mg/L	1	B811241	AES	30-Nov-18	EPA200.7	
Sodium*	**154**		1.00	mg/L	1	B811241	AES	30-Nov-18	EPA200.7	

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Analytical Results For:

Lonquist Field Services, LLC 3345 Bee Cave Road, Suite 201 Austin TX, 78746	Project: OWL LANDFILL SWD #1 Project Number: 32.184431/-103.58213 Project Manager: RAMONA HOVEY Fax To: (512) 732-9816	Reported: 03-Dec-18 17:34

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8112601 - General Prep - Wet Chem										
Blank (8112601-BLK1)				Prepared & Analyzed: 26-Nov-18						
Chloride	ND	4.00	mg/L							
LCS (8112601-BS1)				Prepared & Analyzed: 26-Nov-18						
Chloride	100	4.00	mg/L	100		100	80-120			
LCS Dup (8112601-BSD1)				Prepared & Analyzed: 26-Nov-18						
Chloride	100	4.00	mg/L	100		100	80-120	0.00	20	
Batch 8112610 - General Prep - Wet Chem										
Blank (8112610-BLK1)				Prepared & Analyzed: 26-Nov-18						
Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							
LCS (8112610-BS1)				Prepared & Analyzed: 26-Nov-18						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120			
Alkalinity, Bicarbonate	318	12.5	mg/L				80-120			
Alkalinity, Total	260	10.0	mg/L	250		104	80-120			
LCS Dup (8112610-BSD1)				Prepared & Analyzed: 26-Nov-18						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120		20	
Alkalinity, Bicarbonate	305	12.5	mg/L				80-120	4.02	20	
Alkalinity, Total	250	10.0	mg/L	250		100	80-120	3.92	20	
Batch 8112710 - General Prep - Wet Chem										
LCS (8112710-BS1)				Prepared & Analyzed: 27-Nov-18						
Conductivity	499		uS/cm	500		99.8	80-120			
pH	7.09		pH Units	7.00		101	90-110			

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Analytical Results For:

Lonquist Field Services, LLC 3345 Bee Cave Road, Suite 201 Austin TX, 78746	Project: OWL LANDFILL SWD #1 Project Number: 32.184431/-103.58213 Project Manager: RAMONA HOVEY Fax To: (512) 732-9816	Reported: 03-Dec-18 17:34

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8112710 - General Prep - Wet Chem										
Duplicate (8112710-DUP1)		**Source: H803427-01**		Prepared & Analyzed: 27-Nov-18						
pH	7.23	0.100	pH Units		7.20			0.416	20	
Conductivity	2960	1.00	uS/cm		2980			0.673	20	
Resistivity	3.38		Ohms/m		3.36			0.673	20	
Batch 8112713 - General Prep - Wet Chem										
Blank (8112713-BLK1)				Prepared & Analyzed: 27-Nov-18						
Sulfate	ND	10.0	mg/L							
LCS (8112713-BS1)				Prepared & Analyzed: 27-Nov-18						
Sulfate	23.3	10.0	mg/L	20.0		117	80-120			
LCS Dup (8112713-BSD1)				Prepared & Analyzed: 27-Nov-18						
Sulfate	19.6	10.0	mg/L	20.0		98.0	80-120	17.5	20	
Batch 8112718 - Filtration										
Blank (8112718-BLK1)				Prepared: 27-Nov-18 Analyzed: 28-Nov-18						
TDS	ND	5.00	mg/L							
LCS (8112718-BS1)				Prepared: 27-Nov-18 Analyzed: 28-Nov-18						
TDS	574		mg/L	672		85.4	80-120			
Duplicate (8112718-DUP1)		**Source: H803420-01**		Prepared: 27-Nov-18 Analyzed: 28-Nov-18						
TDS	265000	5.00	mg/L		254000			3.95	20	

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Analytical Results For:

Lonquist Field Services, LLC 3345 Bee Cave Road, Suite 201 Austin TX, 78746	Project: OWL LANDFILL SWD #1 Project Number: 32.184431/-103.58213 Project Manager: RAMONA HOVEY Fax To: (512) 732-9816	Reported: 03-Dec-18 17:34

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8112817 - General Prep - Wet Chem										
Duplicate (8112817-DUP1)		**Source: H803427-01**		Prepared & Analyzed: 28-Nov-18						
Specific Gravity @ 60° F	1.004	0.000	[blank]		1.003			0.116	20	
Batch 8112819 - General Prep - Wet Chem										
Blank (8112819-BLK1)				Prepared & Analyzed: 28-Nov-18						
Sulfide, total	ND	0.0100	mg/L							
Duplicate (8112819-DUP1)		**Source: H803427-01**		Prepared & Analyzed: 28-Nov-18						
Sulfide, total	ND	0.0100	mg/L		ND				20	

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Lonquist Field Services, LLC 3345 Bee Cave Road, Suite 201 Austin TX, 78746	Project: OWL LANDFILL SWD #1 Project Number: 32.184431/-103.58213 Project Manager: RAMONA HOVEY Fax To: (512) 732-9816	Reported: 03-Dec-18 17:34

Total Recoverable Metals by ICP (E200.7) - Quality Control

Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B811241 - Total Rec. 200.7/200.8/200.2										
Blank (B811241-BLK1)				Prepared: 29-Nov-18 Analyzed: 30-Nov-18						
Iron	ND	0.050	mg/L							
Potassium	ND	1.00	mg/L							
Barium	ND	0.050	mg/L							
Magnesium	ND	0.100	mg/L							
Calcium	ND	0.100	mg/L							
Sodium	ND	1.00	mg/L							
LCS (B811241-BS1)				Prepared: 29-Nov-18 Analyzed: 30-Nov-18						
Sodium	3.13	1.00	mg/L	3.24		96.5	85-115			
Potassium	7.85	1.00	mg/L	8.00		98.1	85-115			
Magnesium	19.2	0.100	mg/L	20.0		95.9	85-115			
Iron	3.76	0.050	mg/L	4.00		94.1	85-115			
Calcium	3.86	0.100	mg/L	4.00		96.6	85-115			
Barium	1.88	0.050	mg/L	2.00		93.9	85-115			
LCS Dup (B811241-BSD1)				Prepared: 29-Nov-18 Analyzed: 30-Nov-18						
Magnesium	18.9	0.100	mg/L	20.0		94.4	85-115	1.54	20	
Potassium	7.87	1.00	mg/L	8.00		98.3	85-115	0.199	20	
Calcium	3.79	0.100	mg/L	4.00		94.8	85-115	1.87	20	
Sodium	3.09	1.00	mg/L	3.24		95.5	85-115	1.00	20	
Barium	1.86	0.050	mg/L	2.00		92.9	85-115	1.06	20	
Iron	3.74	0.050	mg/L	4.00		93.6	85-115	0.521	20	

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Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name: Longwist		**BILL TO**	
Project Manager:		P.O. #:	
Address:		Company:	
City:	State: Zip:	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name: Owl SWD #1		State: Zip:	
Project Location: 32.184431 / -103.58213		Phone #:	
Sampler Name: R. Hernandez		Fax #:	

FOR LAB USE ONLY				MATRIX							PRESERV.			SAMPLING		ANALYSIS REQUEST												
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Scale	T. Sulfide												
H803427																												
1	C-02310	G	3	✓									11.21	2:00	✓	✓												
2	C-02311	G	3	✓									11.21	2:15	✓	✓												

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 11.21.18	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 3:30		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: Bush!
	Time:		
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 5.8°C #97		Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials) TO

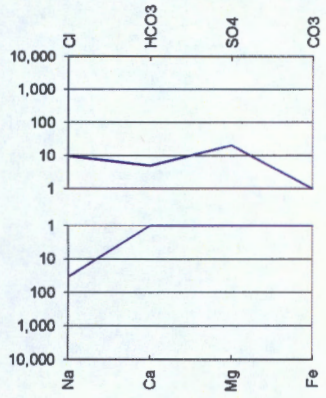
† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

CARDINAL LABORATORIES
SCALE INDEX WATER ANALYSIS REPORT

Company	: LONQUIST FIELD SERVICES, LLC	Date Sampled	: 11/21/18
Lease Name	: OWL SWD #1	Company Rep.	: CHRIS WEYAND
Well Number	: C-02310 (H803427-01)		
Location	: 32.184434 / -103.58213		

ANALYSIS					
1. pH	7.2				
2. Specific Gravity @ 60/60 F.	1.0030				
3. CaCO3 Saturation Index @ 80 F.	-1.423				
@ 140 F.	-0.723				
Dissolved Gasses					
4. Hydrogen Sulfide	0.000	PPM			
5. Carbon Dioxide	ND	PPM			
6. Dissolved Oxygen	ND	PPM			
Cations		/	Eq. Wt.	=	MEQ/L
7. Calcium (Ca++)	3.55	/	20.1	=	0.18
8. Magnesium (Mg++)	0.68	/	12.2	=	0.06
9. Sodium (Na+)	617	/	23.0	=	34.35
10. Barium (Ba++)	0.000	/	68.7	=	0.00
Anions					
11. Hydroxyl (OH-)	0	/	17.0	=	0.00
12. Carbonate (CO3=)	0	/	30.0	=	0.00
13. Bicarbonate (HCO3-)	298	/	61.1	=	4.88
14. Sulfate (SO4=)	982	/	48.8	=	20.12
15. Chloride (Cl-)	340	/	35.5	=	9.58
Other					
16. Total Iron (Fe)	11.100	/	18.2	=	0.61
17. Total Dissolved Solids	1,870				
18. Total Hardness As CaCO3	12.0				
19. Calcium Sulfate Solubility @ 90 F.	976				
20. Resistivity (Measured)	3.360	Ohm/Meters	@ 77	Degrees (F)	

Logarithmic Water Pattern



PROBABLE MINERAL COMPOSITION

COMPOUND	Eq. Wt.	X	MEQ/L	=	mg/L
Ca(HCO3)2	81.04	X	0.18	=	14
CaSO4	68.07	X	0.00	=	0
CaCl2	55.50	X	0.00	=	0
Mg(HCO3)2	73.17	X	0.06	=	4
MgSO4	60.19	X	0.00	=	0
MgCl2	47.62	X	0.00	=	0
NaHCO3	84.00	X	4.64	=	390
NaSO4	71.03	X	20.12	=	1,429
NaCl	58.46	X	9.58	=	560

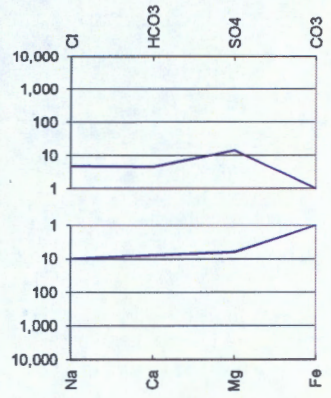
ND = Not Determined

CARDINAL LABORATORIES
SCALE INDEX WATER ANALYSIS REPORT

Company	:	LONQUIST FIELD SERVICES, LLC	Date Sampled	: 11/21/18
Lease Name	:	OWL SWD #1	Company Rep.	: CHRIS WEYAND
Well Number	:	C-02311 (H803427-02)		
Location	:	32.184434 / -103.58213		

ANALYSIS					
1. pH	7.66				
2. Specific Gravity @ 60/60 F.	1.0030				
3. CaCO3 Saturation Index @ 80 F.	+0.195	'Calcium Carbonate Scale Possible'			
@ 140 F.	+0.895	'Calcium Carbonate Scale Possible'			
Dissolved Gasses					
4. Hydrogen Sulfide	0.000	PPM			
5. Carbon Dioxide	ND	PPM			
6. Dissolved Oxygen	ND	PPM			
Cations		/	Eq. Wt.	=	MEQ/L
7. Calcium (Ca++)	155.00	/	20.1	=	7.71
8. Magnesium (Mg++)	74.90	/	12.2	=	6.14
9. Sodium (Na+)	154	/	23.0	=	9.83
10. Barium (Ba++)	0.000	/	68.7	=	0.00
Anions					
11. Hydroxyl (OH-)	0	/	17.0	=	0.00
12. Carbonate (CO3=)	0	/	30.0	=	0.00
13. Bicarbonate (HCO3-)	283	/	61.1	=	4.63
14. Sulfate (SO4=)	693	/	48.8	=	14.20
15. Chloride (Cl-)	172	/	35.5	=	4.85
Other					
16. Total Iron (Fe)	0.000	/	18.2	=	0.00
17. Total Dissolved Solids	1,440				
18. Total Hardness As CaCO3	695.0				
19. Calcium Sulfate Solubility @ 90 F.	1,306				
20. Resistivity (Measured)	4.900	Ohm/Meters	@ 77	Degrees (F)	

Logarithmic Water Pattern



PROBABLE MINERAL COMPOSITION

COMPOUND	Eq. Wt.	X	MEQ/L	=	mg/L
Ca(HCO3)2	81.04	X	4.63	=	375
CaSO4	68.07	X	3.08	=	210
CaCl2	55.50	X	0.00	=	0
Mg(HCO3)2	73.17	X	0.00	=	0
MgSO4	60.19	X	6.14	=	370
MgCl2	47.62	X	0.00	=	0
NaHCO3	84.00	X	0.00	=	0
NaSO4	71.03	X	4.98	=	354
NaCl	58.46	X	4.85	=	283

ND = Not Determined

C-102 WELL LOCATION PLAT

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazon Road, Artec, NM 87410
District IV
1220 S. St Francis Dr., 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
	97869	SWD; Silurian-Devonian

[4] Property Code	[5] Property Name	[6] Well Number
	LANDFILL SWD	#1

[7] OGRID No.	[8] Operator Name	[9] Elevation
308339	OWL SWD OPERATING	3489.90'

[10] Surface Location

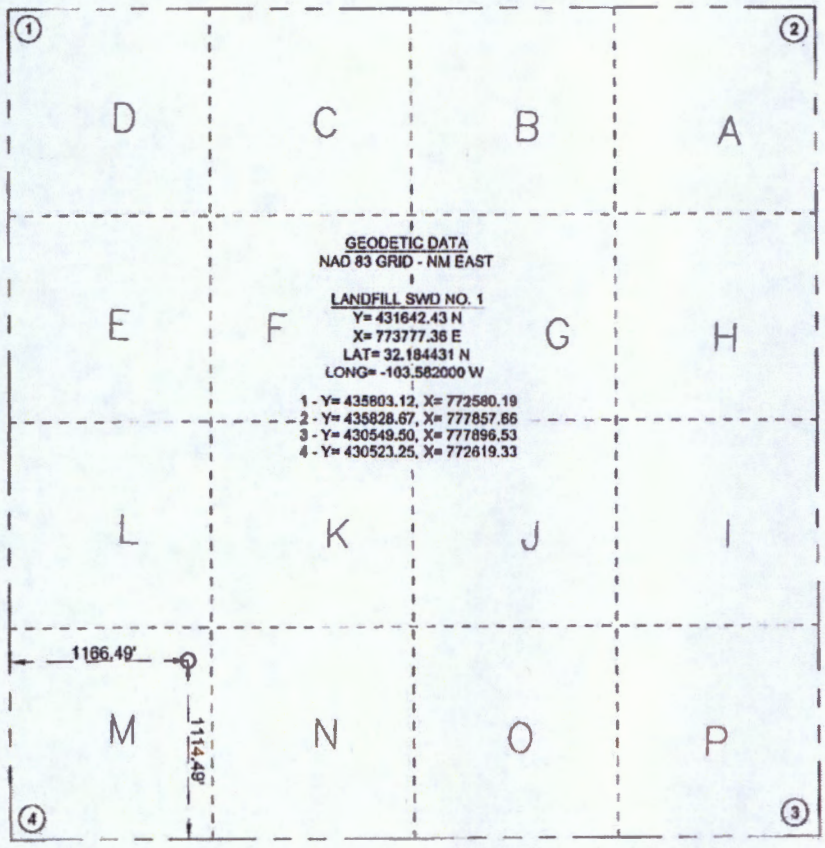
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	28	24 S	33 E		1114	SOUTH	1166	WEST	LEA

[11] Bottom Hole Location If Different From Surface

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.



[17] OPERATOR 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.

Ramona K Hovey
Signature Date

RAMONA HOVEY 12/4/18
Printed Name Date

ramona@elonquist.com
Email Address Date

[18] SURVEYOR CERTIFICATION

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

3 Dec 2018
Date of Survey Date

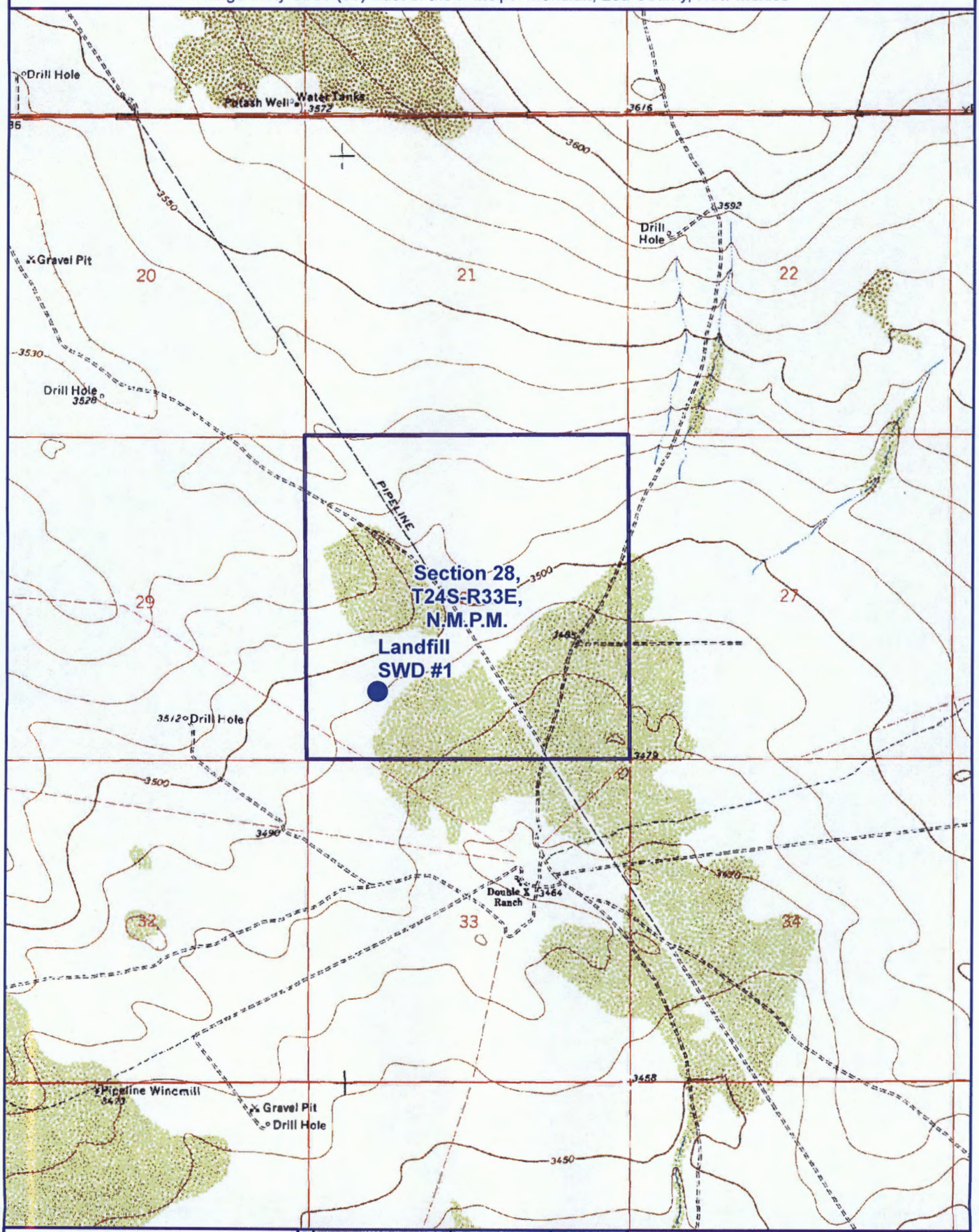
Signature and Seal of Professional Surveyor:

JEFFREY E. HUDSON
NEW MEXICO
20559
PROFESSIONAL SURVEYOR

Certificate Number
20559

LOCATION VERIFICATION MAP

Section twenty-eight (28), Township twenty-four (24) South,
Range thirty-three (33) East of the Principal Meridian, Lea County, New Mexico





0.2 0.1 0 0.2 0.4 Miles

1,000 500 0 1,000 2,000 Feet

Map Tech: VKV	1 " = 2,000 '
Date: 11/27/2018	1:24,000

Coordinate System:
NAD 1983 StatePlane New Mexico East FIPS 3001 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 541,337.5000
False Northing: 0.0000
Central Meridian: -104.3333
Scale Factor: 0.9999
Latitude Of Origin: 31.0000
Units: Foot US

N W E S

LANDFILL SWD #1

SHL Location & Penetration Point:
1114' FSL & 1166' FWL
Section 28, Township 24 South,
Range 33 East of P.M.
Lea County, New Mexico

OPERATOR:
OILFIELD WATER LOGISTICS

TRANSGLOBAL SERVICES LLC
1100 Macon Street
Fort Worth, Texas 76102

OILFIELD WATER LOGISTICS

AERIAL MAP

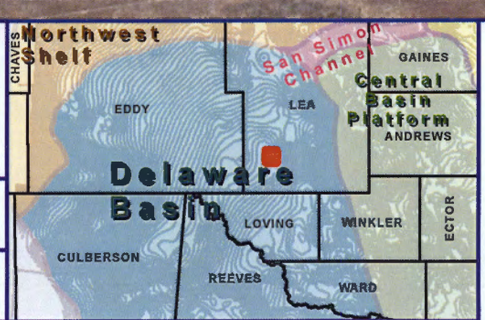
Section twenty-eight (28), Township twenty-four (24) South,
Range thirty-three (33) East of the Principal Meridian, Lea County, New Mexico



Miles
0.2 0.1 0 0.2 0.4

Feet
1,000 500 0 1,000 2,000

Map Tech: VKV	1 " = 2,000 '
Date: 11/27/2018	1:24,000



Coordinate System:
NAD 1983 StatePlane New Mexico East FIPS 3001 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 541,337.5000
False Northing: 0.0000
Central Meridian: -104.3333
Scale Factor: 0.9999
Latitude Of Origin: 31.0000
Units: Foot US

N
W E
S

TRANSGLOBAL SERVICES LLC

1100 Macon Street
Fort Worth, Texas 76102

LANDFILL SWD #1

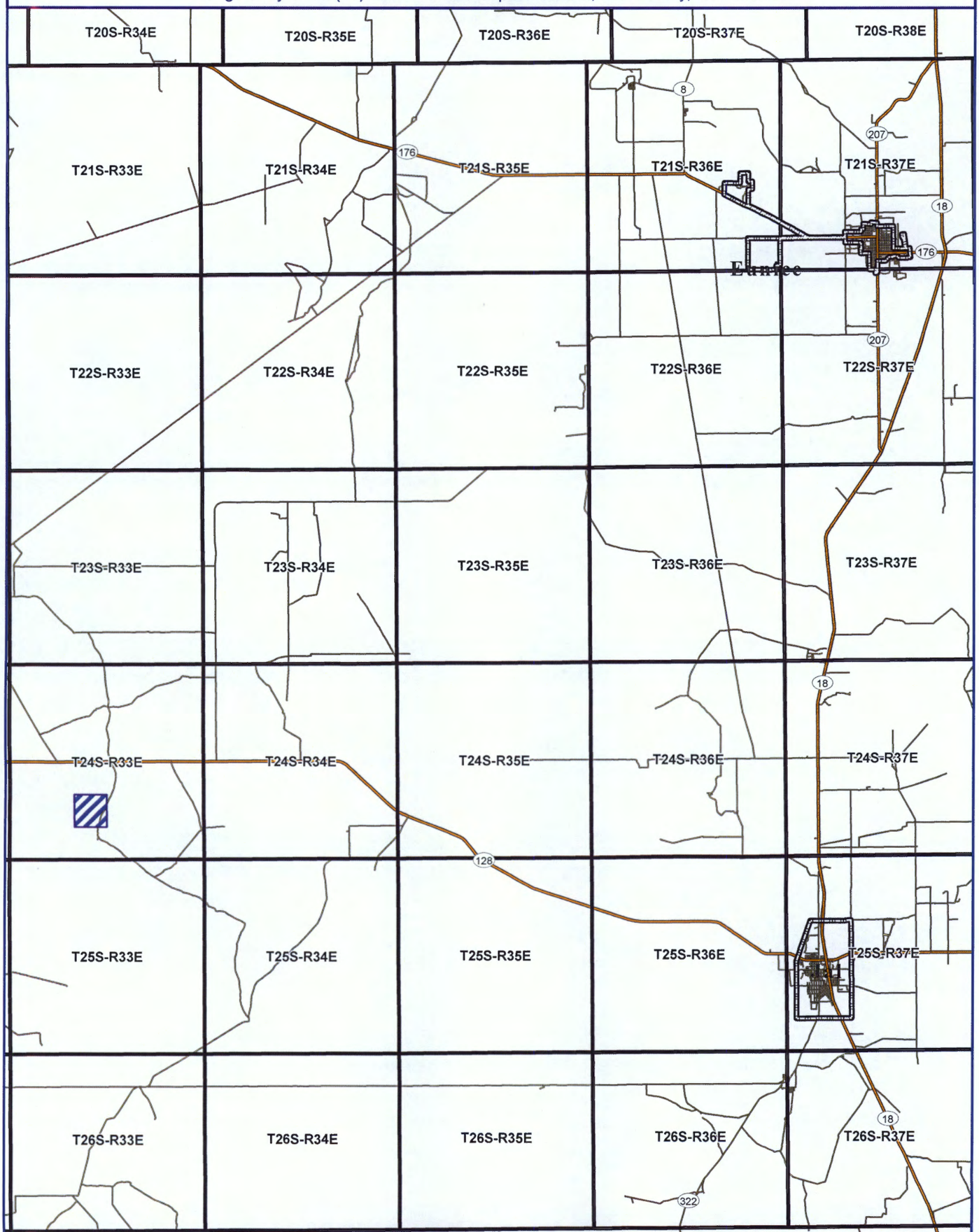
SHL Location & Penetration Point:
1114' FSL & 1166' FWL
Section 28, Township 24 South,
Range 33 East of P.M.
Lea County, New Mexico

OPERATOR:
OILFIELD WATER LOGISTICS

OILFIELD WATER LOGISTICS

VICINITY MAP

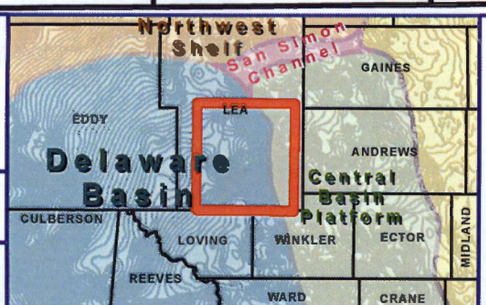
Section twenty-eight (28), Township twenty-four (24) South,
Range thirty-three (33) East of the Principal Meridian, Lea County, New Mexico



Miles
3 1.5 0 3

Feet
10,000 5,000 0 10,000 20,000

Map Tech: VKV	1 " = 20,000 '
Date: 11/27/2018	1:240,000



TRANSGLOBAL SERVICES LLC
1100 Macon Street
Fort Worth, Texas 76102

Coordinate System:
NAD 1983 StatePlane New Mexico East FIPS 3001 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 541,337.5000
False Northing: 0.0000
Central Meridian: -104.3333
Scale Factor: 0.9999
Latitude Of Origin: 31.0000
Units: Foot US

N W E S

LANDFILL SWD #1

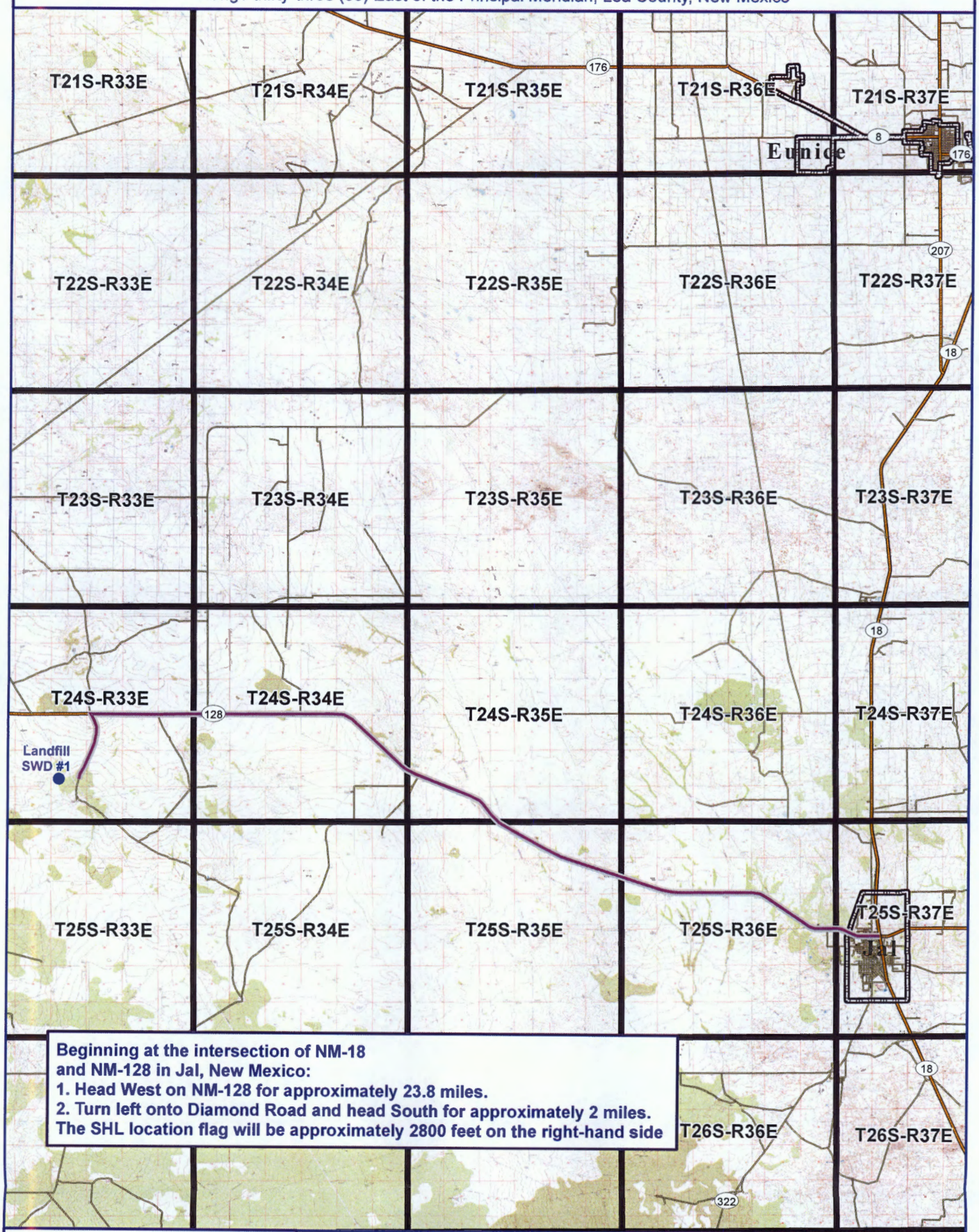
SHL Location & Penetration Point:
1114' FSL & 1166' FWL
Section 28, Township 24 South,
Range 33 East of P.M.
Lea County, New Mexico

OPERATOR:
OILFIELD WATER LOGISTICS

OILFIELD WATER LOGISTICS

ROAD ROUTE MAP

Section twenty-eight (28), Township twenty-four (24) South,
Range thirty-three (33) East of the Principal Meridian, Lea County, New Mexico

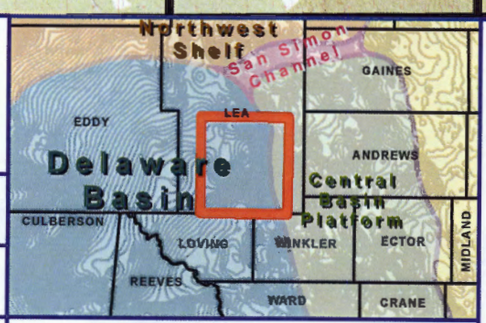


Beginning at the intersection of NM-18 and NM-128 in Jal, New Mexico:
1. Head West on NM-128 for approximately 23.8 miles.
2. Turn left onto Diamond Road and head South for approximately 2 miles.
The SHL location flag will be approximately 2800 feet on the right-hand side

Miles
3 1.5 0 3

Feet
15,000 7,500 0 15,000

Map Tech: VKV	1 " = 18,000 '
Date: 11/27/2018	1:216,000



TRANSGLOBAL SERVICES LLC
1100 Macon Street
Fort Worth, Texas 76102

Coordinate System:
NAD 1983 StatePlane New Mexico East FIPS 3001 Feet
Projection: Transverse Mercator
Datum: North American 1983
False Easting: 541,337.5000
False Northing: 0.0000
Central Meridian: -104.3333
Scale Factor: 0.9999
Latitude Of Origin: 31.0000
Units: Foot US

N W E S

LANDFILL SWD #1

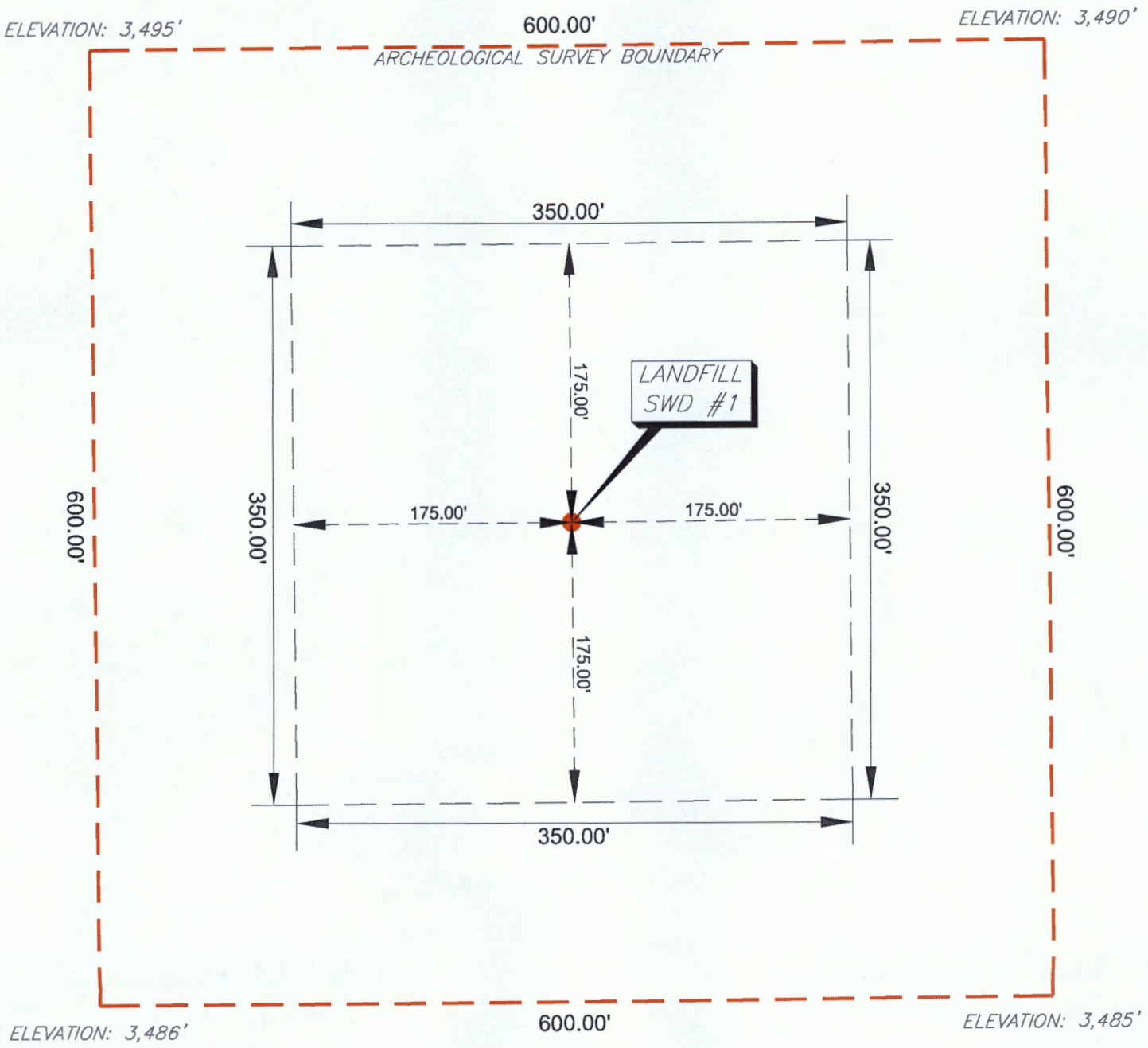
SHL Location & Penetration Point:
1114' FSL & 1166' FWL
Section 28, Township 24 South,
Range 33 East of P.M.
Lea County, New Mexico

OPERATOR:
OILFIELD WATER LOGISTICS

OILFIELD WATER LOGISTICS

LEA COUNTY, NEW MEXICO

SECTION TWENTY-EIGHT (28), TOWNSHIP TWENTY-FOUR (24) SOUTH, RANGE THIRTY-THREE (33) EAST OF THE PRINCIPAL MERIDIAN



COORDINATE TABLE				
WELL NAME	NORTHING (N.A.D. 27)	EASTING (N.A.D. 27)	NORTHING (N.A.D. 83)	EASTING (N.A.D. 83)
LANDFILL SWD #1 SURFACE LOCATION & PENETRATION POINT	*431583.97*	*732592.44*	*431642.43*	*773777.36*
ELEVATION	LATITUDE (N.A.D. 27)	LONGITUDE (N.A.D. 27)	LATITUDE (N.A.D. 83)	LONGITUDE (N.A.D. 83)
3,489.90'	*32.184306*	*-103.581523*	*32.184431*	*-103.582000*

THE LANDFILL SWD #1 IS LOCATED APPROXIMATELY
23 MILES NORTHWEST OF JAL, NEW MEXICO

100' 0' 100' 200'

SCALE: 1" = 100'

NOTES:

1.) BEARINGS & COORDINATES SHOWN HEREON ARE REFERENCED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, N.A.D. 27 & 83 DATUM (NEW MEXICO EAST ZONE) DERIVED FROM GPS OBSERVATIONS AND ARE BASED REFERENCE STATIONS - "E 148" - MALJAMAR NE (1985)

2.) LATITUDE & LONGITUDE ARE NAD 83 & 27 GEOGRAPHIC.

3.) THIS IS AN WELL PLAT AND DOES NOT REPRESENT A TRUE BOUNDARY SURVEY. THIS SURVEY IS BASED ON OWNERSHIP AND EASEMENT INFORMATION PROVIDED BY APACHE CORPORATION. SURVEYOR DID NOT ABSTRACT SUBJECT TRACT AND THERE MAY BE EASEMENTS OR OTHER ENCUMBRANCES THAT AFFECT THE SUBJECT TRACT THAT ARE NOT SHOWN HEREON.

TRANSGLOBAL SERVICES LLC
1100 Macon Street
Fort Worth, Texas 76102
(817) 529-1180 ~ Fax (817) 529-1181

OILFIELD WATER LOGISTICS

Location of

LANDFILL SWD #1

Surface Location & Penetration Point: 1114' FSL & 1166' FWL

Section 28, Township 24 South, Range 33 East of P.M.

Lea County, New Mexico

DRAWN BY: JWP	DATE: 11-27-18	DWG. NO. D:\Dropbox (Tide Resources)\Tide Resources Team Folder\Lonquist\1809042_Landfill SWD No. 1\Exhibits PAGE 1 OF 1	REV. 1
CHECKED BY: JLW	DATE: 11-27-18		
SCALE: 1" = 100'	APP.:		

C-101 APPLICATION FOR PERMIT TO DRILL

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	2. OGRID Number
OWL SWD Operating, LLC 8214 Westchester Drive, Suite 850, Dallas, TX 75255	308339
	3. API Number 30-025-

4. Property Code	5. Property Name	6. Well No.
	Landfill SWD	1

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
M	28	24S	33E		1114	South	1166	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; Silurian-Devonian	97869

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
N	SWD	R	Private	3,490'
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	19,100'	Silurian-Devonian	TBD	ASAP

Depth to Ground water	Distance from nearest fresh water well	Distance to nearest surface water
120'	1,981'	+1 mi

☐ **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	26"	20"	133.0 lb/ft	1,850'	3,645 sks	Surface
Intermediate 1	17.5"	13.625"	88.2 lb/ft	5,300'	3,750 sks	Surface
Intermediate 2	12.25"	9.625"	53.5 lb/ft	14,400'	3,205 sks	Surface
Production	8.5"	7.625"	42.8 lb/ft	17,500'	315 sks	14,200'
Tubing	N/A	5.5"	23 lb/ft	17,450'	N/A	N/A

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: Ramona K Hovey

Printed name: Ramona Hovey

Title: Consulting Engineer- Agent for OWL SWD Operating, LLC

E-mail Address: ramona@lonquist.com

Date: 12/05/2018 Phone: 512-600-1777

OIL CONSERVATION DIVISION

Approved By:

Title:

Approved Date: Expiration Date:

Conditions of Approval Attached

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 02310 **Subbasin:** CUB **Cross Reference:** -
Primary Purpose: COM COMMERCIAL
Primary Status: DCL DECLARATION
Total Acres: 0 **Subfile:** -
Total Diversion: 33 **Cause/Case:** -
Owner: NGL WATER SOLUTIONS PERMIAM
Contact: R CHARLES WILKIN

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	633156	COWNF	2018-09-17	CHG	PRC	C 02310	T	0	0	
	207097	COWNF	2001-01-03	CHG	PRC	C 02310	T	0	0	
	144627	DCL	1998-02-09	DCL	PRC	C 02310 AMENDMENT	T	0	33	
	240818	DCL	1993-04-20	DCL	PRC	C 02310	T	0	3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Source	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Other Location Desc
C 02310		2	3	2	33	24S	33E	634437	3560918*	

*An (*) after northing value indicates UTM location was derived from PLSS - see Help

Priority Summary

Priority	Status	Acres	Diversion	Pod Number	Source
12/31/1890	DCL	0	3	C 02310	

Place of Use

Q 256	Q 64	Q 16	Q 4	Sec	Tws	Rng	Acres	Diversion	CU	Use	Priority	Status	Other Location Desc
							0	3		DOM	12/31/1890	DCL	NO PLACE OF USE GIVEN

Source

Acres	Diversion	CU	Use	Priority	Source Description
0	3		DOM	12/31/1890	GW

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.

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 02311 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: DOM 72-12-1 DOMESTIC ONE HOUSEHOLD

Primary Status: DCL DECLARATION

Total Acres: 0 **Subfile:** -

Total Diversion: 33 **Cause/Case:** -

Owner: NGL WATER SOLUTIONS PERMIAN

Contact: R CHARLES WILKIN

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	633157	COWNF	2018-09-17	CHG	PRC	C 02311	T	0	0	
	239245	DCL	2002-08-19	DCL	PRC	C 02311 - AMENDED	T	0	33	
	207098	COWNF	2001-01-03	CHG	PRC	C 02311	T	0	0	
	144629	DCL	1998-02-09	DCL	PRC	C 0231 AMENDMENT	T	0	33	
	240815	DCL	1993-04-23	DCL	PRC	C 02311	T	0	3	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Source	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Other Location Desc
C 02311		2	3	2	33	24S	33E	634437	3560918*	

***An (*) after northing value indicates UTM location was derived from PLSS - see Help**

Priority Summary

Priority	Status	Acres	Diversion	Pod Number	Source
12/31/1890	DCL	0	33	C 02311	

Place of Use

Q 256	Q 64	Q 16	Q 4	Sec	Tws	Rng	Acres	Diversion	CU	Use	Priority	Status	Other Location Desc
							0	3		DOM	12/31/1890	DCL	NO PLACE OF USE GIVEN

Source

Acres	Diversion	CU	Use	Priority	Source	Description
0	3		DOM	12/31/1890	GW	

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.

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 02563 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: COM COMMERCIAL

Primary Status: DCL DECLARATION

Total Acres: 0 **Subfile:** -

Total Diversion: 33 **Cause/Case:** -

Owner: NGL WATER SOLUTIONS PERMIAN

Contact: R CHARLES WILKIN

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	633170	COWNF	2018-09-17	CHG	PRC	C 02563	T	0	0	
	207110	COWNF	2001-01-03	CHG	PRC	C 02563	T	0	0	
	144220	DCL	1998-02-09	DCL	PRC	C 02563	T	0	33	

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Source	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Other Location Desc
C 02563		1	4	2	33	24S	33E	634639	3560923*	

*An (*) after northing value indicates 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.

New Mexico Office of the State Engineer
Water Right Summary

get image list

WR File Number: C 02564 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: COM COMMERCIAL

Primary Status: DCL DECLARATION

Total Acres: 0 **Subfile:** -

Total Diversion: 33 **Cause/Case:** -

Owner: NGL WATER SOLUTIONS PERMIAN

Contact: R CHARLES WILKIN

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	633177	COWNF	2018-09-17	CHG	PRC	C 02564	T	0		0
	207111	COWNF	2001-01-03	CHG	PRC	C 02564	T	0		0
	144226	DCL	1998-02-10	DCL	PRC	C 02564	T	0		33

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Source	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Other Location Desc
C 02564		2	4	2	33	24S	33E	634839	3560923*	

*An (*) after northing value indicates 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.

New Mexico Office of the State Engineer

Water Right Summary

WR File Number: C 02890 **Subbasin:** C **Cross Reference:** -

Primary Purpose: STK 72-12-1 LIVESTOCK WATERING

Primary Status: PMT PERMIT

Total Acres: **Subfile:** -

Total Diversion: 3 **Cause/Case:** -

Owner: MARK MCCLOY

Current Points of Diversion

(NAD83 UTM in meters)

POD Number	Source	Q Q Q 64 16 4	Sec	Tws	Rng	X	Y	Other Location Desc
C 02890		2 4	29	24S	33E	633114	3562012*	

*An (*) after northing value indicates 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.

PROOF OF NOTICES

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- 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:

NEW MEXICO STATE LAND OFFICE
310 OLD SANTA FE TRAIL
SANTE FE, NM 87501

1650-LANDFILL SWD #1

9590 9402 4057 8079 2023 67

2. Article Number *(Transfer from service label)*
7017 2680 0000 7062 8404

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? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☑ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

CERTIFIED MAIL®

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7017 2680 0000 7062 8404

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Extra Services & Fees *(check box, add fee as appropriate)*
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total
$

Sent To

Street

City,

Postmark Here

NEW MEXICO STATE LAND OFFICE
310 OLD SANTA FE TRAIL
SANTE FE, NM 87501

1650-LANDFILL SWD #1

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- 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:

MURCHISON BONE SPRINGS
DRLG PROG 1 LLC
7250 DALLAS PARKWAY, STE 1400
PLANO TX 75024
1650-LANDFILL SWD #1

9590 9402 4057 8079 2023 74

2 Article Number *(Transfer from service label)*
7017 2680 0000 7062 8428

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? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☒ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
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Extra Services & Fees *(check box, add fee as appropriate)*
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- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

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MURCHISON BONE SPRINGS
DRLG PROG 1 LLC
7250 DALLAS PARKWAY, STE 1400
PLANO TX 75024
1650-LANDFILL SWD #1

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3.
- 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:

TAP ROCK OPERATING LLC
602 PARK POINT DR, STE 200
GOLDEN, CO 80401

1650-LANDFILL SWD #1

9590 9402 4057 8079 2023 81

2. Article Number *(Transfer from service label)*
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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? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☒ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
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- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

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TAP ROCK OPERATING LLC
602 PARK POINT DR, STE 200
GOLDEN, CO 80401

1650-LANDFILL SWD #1

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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1. Article Addressed to:

EOG Y RESOURCES
104 S 4TH STREET
ARTEMESIA, NM 88210

1650-LANDFILL SWD #1

9590 9402 4057 8079 2023 98

2. Article Number *(Transfer from service label)*
7017 2680 0000 7062 8435

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? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☑ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
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- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

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- ☐ Certified Mail Restricted Delivery $
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City,

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EOG Y RESOURCES
104 S 4TH STREET
ARTEMESIA, NM 88210

1650-LANDFILL SWD #1

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

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1. Article Addressed to:

EOG RESOURCES INC
PO BOX 2267
MIDLAND TX 79702

1650-LANDFILL SWD #1

9590 9402 4057 8079 2024 04

2. Article Number (Transfer from service label)
7017 2680 0000 7062 8442

PS Form 3811, July 2015 PSN 7530-02-000-9053

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? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☒ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☒ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

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- ☐ Certified Mail Restricted Delivery $
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- ☐ Adult Signature Restricted Delivery $

Postage
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Total
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Postmark Here

Sent

Street

City,

EOG RESOURCES INC
PO BOX 2267
MIDLAND TX 79702

1650-LANDFILL SWD #1

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

LONQUIST & CO. LLC

AUSTIN
HOUSTON

PETROLEUM ENGINEERS
ENERGY ADVISORS

WICHITA
CALGARY

www.lonquist.com

November 28, 2018

NEW MEXICO STATE LAND OFFICE
310 OLD SANTA FE TRAIL
SANTA FE, NM 87501

Subject: **Landfill SWD No. 1 Authorization to Inject**

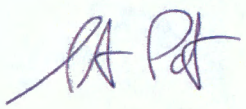
To Whom It May Concern:

Attached for your review is Form C-108, Application for Authorization to Inject, and its supplemental documents prepared for OWL SWD Operating, LLC's Landfill SWD No. 1 well. Section XIV of Form C-108 requires that the surface land owner on which the well is located and each leasehold operator within a one-half mile radius of the proposed well location be furnished with the application.

According to the New Mexico Oil Conservation Division, surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date in which this application was mailed to them.

Any questions should be directed towards OWL SWD Operating, LLC's agent, Lonquist & Co., LLC.

Regards,



Stephen L. Pattee, P.G.
Regulatory Manager
Lonquist & Co., LLC

(512) 600-1774
steve@lonquist.com

November 28, 2018

MURCHISON BONE SPRINGS DRLG PROG 1 LLC
7250 DALLAS PARKWAY, STE 1400
PLANO, TX 75024

Subject: **Landfill SWD No. 1 Authorization to Inject**

To Whom It May Concern:

Attached for your review is Form C-108, Application for Authorization to Inject, and its supplemental documents prepared for OWL SWD Operating, LLC's Landfill SWD No. 1 well. Section XIV of Form C-108 requires that the surface land owner on which the well is located and each leasehold operator within a one-half mile radius of the proposed well location be furnished with the application.

According to the New Mexico Oil Conservation Division, surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date in which this application was mailed to them.

Any questions should be directed towards OWL SWD Operating, LLC's agent, Lonquist & Co., LLC.

Regards,

Stephen L. Pattee, P.G.
Regulatory Manager
Lonquist & Co., LLC

(512) 600-1774
steve@lonquist.com

November 28, 2018

TAP ROCK OPERATING, LLC
602 PARK POINT DRIVE SUITE 200
GOLDEN, CO 80401

Subject: **Landfill SWD No. 1 Authorization to Inject**

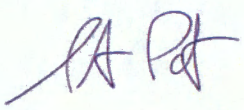
To Whom It May Concern:

Attached for your review is Form C-108, Application for Authorization to Inject, and its supplemental documents prepared for OWL SWD Operating, LLC's Landfill SWD No. 1 well. Section XIV of Form C-108 requires that the surface land owner on which the well is located and each leasehold operator within a one-half mile radius of the proposed well location be furnished with the application.

According to the New Mexico Oil Conservation Division, surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date in which this application was mailed to them.

Any questions should be directed towards OWL SWD Operating, LLC's agent, Lonquist & Co., LLC.

Regards,



Stephen L. Pattee, P.G.
Regulatory Manager
Lonquist & Co., LLC

(512) 600-1774
steve@lonquist.com

November 28, 2018

EOG Y RESOURCES
104 S 4TH ST
ARTEMESIA, NM 88210

Subject: **Landfill SWD No. 1 Authorization to Inject**

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November 28, 2018

EOG RESOURCES INC
PO BOX 2267
MIDLAND, TX 79702

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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: OWL SWD Operating, LLC
ADDRESS: 8214 Westchester Drive, Suite 850, Dallas, TX 75255
CONTACT PARTY: Preston Carr PHONE: (855) 695-7937

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: Ramona Hovey TITLE: Consulting Engineer – Agent for OWL SWD Operating, LLC

SIGNATURE: Ramona K Hovey DATE: 11/28/2018

E-MAIL ADDRESS: ramona@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.

Side 1

INJECTION WELL DATA SHEET

OPERATOR: OWL SWD Operating, LLC (OGRID 308339)

WELL NAME & NUMBER: Landfill SWD No. 1

WELL LOCATION: 1,114' FSL & 1,166 FWL (FOOTAGE LOCATION) | M (UNIT LETTER) | 28 (SECTION) | 24 S (TOWNSHIP) | 33 E (RANGE)

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 26" Casing Size: 20"

Cemented with: 3,645 sks *or* _____ ft³

Top of Cement: surface Method Determined: circulation

Intermediate Casing 1

Hole Size: 17-1/2" Casing Size: 13-5/8"

Cemented with: 3,750 sks *or* _____ ft³

Top of Cement: surface Method Determined: circulation

Intermediate Casing 2

Hole Size: 12-1/4" Casing Size: 9-5/8"

Cemented with: 3,205 sks *or* _____ ft³

Top of Cement: surface Method Determined: circulation

Production Liner

Hole Size: 8-1/2"

Casing Size: 7-5/8"

Cemented with: 315 sks

or _____ ft^3

Top of Cement: 14,200'

Method Determined: Calculation

Total Depth: 19,100'

Injection Interval

17,500 feet to 19,100 feet

(Open Hole)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 5.500", 23.0 lb/ft, P-110 BTC and UFJ (or equivalent), from 0' – 17,450'
Lining Material: Duoline

Type of Packer: 7-5/8" x 5-1/2" D&L Oil Tools Permapack Packer – Single Bore

Packer Setting Depth: 17,450'

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?

   _____

2. Name of the Injection Formation: Silurian-Devonian

3. Name of Field or Pool (if applicable): SWD; Silurian Devonian (97869)

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:

Formation	Depth
Delaware	5,272'
Cherry Canyon	6,072'
Brushy Canyon	7,741'
Bone Spring	9,086'
Wolfcamp	12,278'
Strawn	14,350'
Atoka	14,588'
Morrow	15,182'

OWL SWD Operating, LLC.

Landfill SWD No. 1

FORM C-108 Supplemental Information

III. Well Data

A. Wellbore Information

1.

Well information	
Lease Name	Landfill Canyon SWD
Well No.	1
Location	Unit M S-28 T-24S R-33E
Footage Location	1,114' FSL & 1,166' FWL

2.

a. Wellbore Description

Casing Information				
Type	Surface	Intermediate 1	Intermediate 2	Production Liner
OD	20"	13-5/8"	9-5/8"	7-5/8"
WT	0.635"	0.625"	0.545"	0.562"
ID	18.730"	12.375"	8.535"	6.501"
Drift ID	18.524"			
COD	21.000"		10.625"	7.625"
Weight	133 lb/ft	88.2 lb/ft	53.5 lb/ft	42.8 lb/ft
Grade	J-55 STC	HCP-110 BTC (Or Equivalent)	HCP-110 LTC (Or Equivalent)	P-110 UFJ (Or Equivalent)
Hole Size	26"	17-1/2"	12-1/4"	8-1/2"
Depth Set	1,850'	5,300'	14,400'	14,200' – 17,500'

b. Cementing Program

Cement Information				
Casing String	Surface	Intermediate 1	Intermediate 2	Production Liner
Lead Cement	HALCEM	HALCEM	Stage 1: NeoCem Stage 2: NeoCem	VersaCem
Lead Cement Volume	2,625 sks	3,205 sks	Stage 1: 1725 sks Stage 2: 755 sks	315 sks
Tail Cement	HALCEM	HALCEM	Stage 1: NeoCem Stage 2: HalCem	
Tail Cement Volume	1,020 sks	545 sks	Stage 1: 625 sks Stage 2: 100 sks	
Cement Excess	100%	100%	100%	50%
TOC	Surface	Surface	Surface	14,200'
Method	Circulate to Surface	Circulate to Surface	Circulate to Surface	Calculation

3. Tubing Description

Tubing		
OD	5-1/2"	5-1/2"
WT	0.415"	0.415"
ID	4.670"	4.670"
Drift ID	4.545"	4.545"
COD	6.050"	6.050"
Weight	23 lb/ft	23 lb/ft
Grade	P-110 BTC (Or Equivalent	P-110 UFJ (Or Equivalent
Depth Set	14,000'	14,000'-17,450'

Tubing will be lined with Duoline.

4. Packer Description

D&L Oil Tools 7-5/8" x 5-1/2" Permapack Packer – Single Bore

B. Completion Information

1. Injection Formation: Silurian - Devonian

2. Gross Injection Interval: 17,500'– 19,100'

   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	5,272'
Cherry Canyon	6,072'
Brushy Canyon	7,741'
Bone Spring	9,086'
Wolfcamp	12,278'
Strawn	14,350'
Atoka	14,588'
Morrow	15,182'

VI. Area of Review

None of the wells within the one-mile area of review penetrated the proposed injection zone.

VII. Proposed Operation Data

1. Proposed Daily Rate of Fluids to be Injection:

   Average Volume: 20,000 BPD
   Maximum Volume: 30,000 BPD

2. Closed System

3. Anticipated Injection Pressure:

   Average Injection Pressure: 2,625 PSI (surface pressure)
   Maximum Injection Pressure: 3,500 PSI (surface pressure)

4. The injection fluid is to be locally produced water. Attached are produced water sample analyses taken from the closest wells that feature samples from the Bone Springs and Delaware formations.

5. The Devonian and Fusselman are not productive of oil and gas in this 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 in Southeast New Mexico are 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 successful Salt Water Disposal horizon.

A. Injection Zone: Devonian-Silurian Formation

Formation	Depth
Rustler	1,228'
Salado	1,820'
Delaware	5,272'
Cherry Canyon	6,072'
Brushy Canyon	7,741'
Bone Spring	9,086'
Wolfcamp	12,278'
Strawn	14,350'
Atoka	14,588'
Morrow	15,182'
Mississippian Lime	16,943'
Woodford	17,324'
Devonian	17,502'
Fusselman	18,507'
Montoya	19,070'

B. Underground Sources of Drinking Water

Water wells in the one-mile surrounding area for the proposed Landfill SWD #1 well are at depths of approximately 500'. The Rustler may also be another USDW and will be protected through the top of the Salado Formation at 1,820' by setting surface casing at 1,850'.

IX. Proposed Stimulation Program

No proposed stimulation program.

X. Logging and Test Data on the Well

There are no existing 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

There are five fresh water wells within one mile of the well location, per the New Mexico Office of the State Engineer. A list of all the water wells, a map of these wells and their associated Water Right Summaries are attached. Fresh water samples are being obtained from two of the wells and analysis of these samples will be submitted as soon as possible.

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 and any underground sources of drinking water.