Initial Application Part I

This application is placed in file for record. It MAY or MAY NOT have been reviewed to be determined Administratively Complete

OCT 02 2018 AM10:33

LONQUIST & CO. LLC

AUSTIN
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www.lonquist.com

September 28, 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:

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. 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. Proof of notice will be sent to the OCD upon receipt.

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

Regards,

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

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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: 09/28/2018

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: 764' FSL & 2,569' FWL (FOOTAGE LOCATION) | N (UNIT LETTER) | 23 (SECTION) | 24 S (TOWNSHIP) | 33 E (RANGE)

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 26"

Casing Size: 20"

Cemented with: 3,315 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: 2,410 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: 3,010 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: 270 sks

or _____ ft^3

Top of Cement: 13,700'

Method Determined: Calculation

Total Depth: 18,075'

Injection Interval

16,500 feet to 18,075 feet

(Open Hole)

INJECTION WELL DATA SHEET

Tubing Size: 5.500", 20.0 lb/ft, P-110 BTC and UFJ (or equivalent), from 0' – 16,450'
Lining Material: Duoline

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

Packer Setting Depth: 16,450'

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

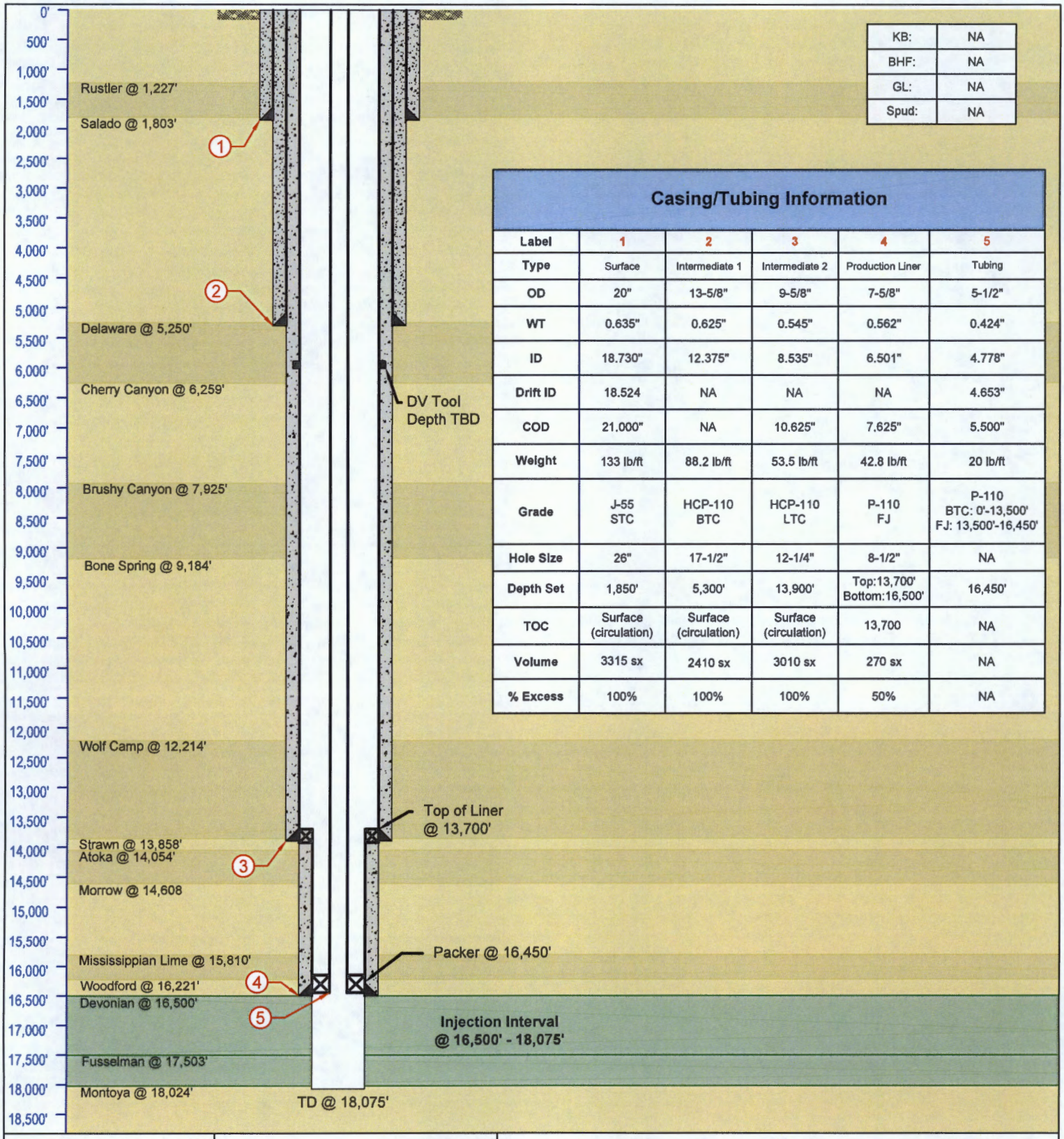
3. Name of Field or Pool (if applicable): SWD; Silurian Devonian (97869)

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	5,250'
Cherry Canyon	6,259'
Brushy Canyon	7,925'
Bone Spring	9,184'
Wolfcamp	12,214'
Strawn	13,858'
Atoka	14,054'
Morrow	14,608'
Devonian	16,500'
Fusselman	17,503'



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"	0.424"
ID	18.730"	12.375"	8.535"	6.501"	4.778"
Drift ID	18.524	NA	NA	NA	4.653"
COD	21.000"	NA	10.625"	7.625"	5.500"
Weight	133 lb/ft	88.2 lb/ft	53.5 lb/ft	42.8 lb/ft	20 lb/ft
Grade	J-55 STC	HCP-110 BTC	HCP-110 LTC	P-110 FJ	P-110 BTC: 0'-13,500' FJ: 13,500'-16,450'
Hole Size	26"	17-1/2"	12-1/4"	8-1/2"	NA
Depth Set	1,850'	5,300'	13,900'	Top:13,700' Bottom:16,500'	16,450'
TOC	Surface (circulation)	Surface (circulation)	Surface (circulation)	13,700	NA
Volume	3315 sx	2410 sx	3010 sx	270 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: 23	**Township & Range:** 24S, 33E	**Survey:**
API No: TBD	**Field:**	**Well Type:** SWD
Well Status: New Drill	**Project No:** 1650	**Date:** 09/23/2018
Drawn: JAM	**Reviewed:**	**Approved:**
Rev No: 0	**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 N S-23 T-24S R-33E
Footage Location	764' FSL & 2,569' 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'	13,900'	13,700' – 16,500'

b. Cementing Program

Cement Information				
Casing String	Surface	Intermediate 1	Intermediate 2	Production Liner
Lead Cement	ECONOCEM	NeoCem	Stage 1: NeoCem Stage 2: NeoCem	VersaCem
Lead Cement Volume	2,310 sks	1,915 sks	Stage 1: 1540 sks Stage 2: 655 sks	270 sks
Tail Cement	HALCEM	HALCEM	Stage 1: VersaCem Stage 2: HalCem	
Tail Cement Volume	1,005 sks	495 sks	Stage 1: 545 sks Stage 2: 270 sks	
Cement Excess	100%	100%	100%	50%
TOC	Surface	Surface	Surface	13,700'
Method	Circulate to Surface	Circulate to Surface	Circulate to Surface	Calculation

3. Tubing Description

Tubing		
OD	5-1/2"	5-1/2"
WT	0.424"	0.424"
ID	4.778"	4.778"
Drift ID	4.653"	4.653"
COD	6.050"	5.500"
Weight	20 lb/ft	20 lb/ft
Grade	P-110 BTC (Or Equivalent	P-110 UFJ (Or Equivalent
Depth Set	13,500'	13,500'-16,450'

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: 16,500'– 18,075'

   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	5,250'
Cherry Canyon	6,259'
Brushy Canyon	7,925'
Bone Spring	9,184'
Wolfcamp	12,214'
Strawn	13,858'
Atoka	14,054'
Morrow	14,608'
Devonian	16,500'
Fusselman	17,503'

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: 2,475 PSI (surface pressure)
   Maximum Injection Pressure: 3,300 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 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 near Jal 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	1,227'
Salado	1,803'
Delaware	5,250'
Cherry Canyon	6,259'
Brushy Canyon	7,925'
Bone Spring	9,184'
Wolfcamp	12,214'
Strawn	13,858'
Atoka	14,054'
Morrow	14,608'
Mississippian Lime	15,810'
Woodford	16,221'
Devonian	16,500'
Fusselman	17,503'
Montoya	18,024'

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 1,803' 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 15 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.

This legal notice will appear in the Hobbs News-Sun on Tuesday, October 2, 2017, and run in the paper for one day. The affidavit of publication will be forwarded to the New Mexico Oil Conservation Division upon receipt.

Legal Notice

OWL SWD Operating, LLC, 8214 Westchester Dr., Suite 850, Dallas, Texas 75255, is filling 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 764' FSL & 2,569' FWL in Section 23, 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 16,500 feet to a maximum depth of 18,075 feet. The maximum surface injection pressure will not exceed 3,300 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.

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: 8/31/2018	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 (149)
- Active - Oil (1)
- Active - Gas (12)
- Active - Salt Water Disposal (2)
- Active - Injection (1)
- Canceled Location (6)
- Plugged (Site Released) - Oil (6)
- Plugged (Site Released) - Gas (5)

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

- Active - Oil (102)
- Active - Gas (1)
- Canceled Location (21)
- Permitted - Oil (24)
- Permitted - Gas (1)

Landfill SWD No. 1
32.197949
-103.543338

T024S R033E
T024S R034E
T025S R033E
T025S R034E

1 " = 3,250 '

1:39,000

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
27223	JACKSON UNIT #001	G	A	TAP ROCK OPERATING, LLC	15860	32.2049370	-103.5580444	1/29/1981
29135	MADERA RIDGE 27 STATE COM #001	G	A	EOG RESOURCES INC	15694	32.1940460	-103.5580444	2/28/1985
29423	JACKSON UNIT #002	G	A	EOG RESOURCES INC	13710	32.1985817	-103.5580444	10/9/1985
34512	TRISTE DRAW 26 FEDERAL #001	G	P	EOG RESOURCES INC	13868	32.1867790	-103.5463028	11/8/1998
34972	TRISTE DRAW 26 FEDERAL #002	G	P	EOG RESOURCES INC	13850	32.1867752	-103.5397339	3/27/2000
39560	FALCON 25 FEDERAL #001	O	A	EOG RESOURCES INC	9444	32.1949272	-103.5274124	11/30/2009
41026	TYRELL FEE #001H	O	A	COG OPERATING LLC	10951	32.2243729	-103.5367126	4/24/2013
41093	JACKSON UNIT #024H	O	A	TAP ROCK OPERATING, LLC	11102	32.1964111	-103.5595093	6/1/2013
41230	JACKSON UNIT #025H	O	A	TAP ROCK OPERATING, LLC	11121	32.1964073	-103.5562668	5/15/2014
41418	FALCON 25 FEDERAL #002H	O	A	EOG RESOURCES INC	9730	32.1820107	-103.5311584	2/18/2014
41419	HAWK 25 FEDERAL #002H	O	A	EOG RESOURCES INC	9453	32.1820107	-103.5312576	1/30/2014
41494	HAWK 25 FEDERAL #001H	O	A	EOG RESOURCES INC	9453	32.1820107	-103.5313568	1/8/2014
41766	JACKSON UNIT #041C	O	C	MURCHISON OIL & GAS INC	0	32.1966858	-103.5564117	12/31/9999
41769	JACKSON UNIT #042C	O	C	MURCHISON OIL & GAS INC	0	32.1964073	-103.5525284	12/31/9999
42196	HEARNS 27 STATE SWD #001C	S	C	EOG RESOURCES INC	0	32.1878065	-103.5529397	12/31/9999
42386	FRAZIER 34 STATE COM #501H	O	A	EOG RESOURCES INC	11164	32.1806464	-103.5543529	2/17/2015
42387	FRAZIER 34 STATE COM #502H	O	A	EOG RESOURCES INC	10894	32.1806465	-103.5544504	2/16/2015
42388	FRAZIER 34 STATE COM #503H	O	A	EOG RESOURCES INC	11151	32.1806484	-103.5584937	2/25/2015
42389	FRAZIER 34 STATE COM #401H	O	A	EOG RESOURCES INC	10509	32.1806485	-103.5585911	3/15/2015
42404	HAWK 35 FEDERAL #701H	O	A	EOG RESOURCES INC	12431	32.1799723	-103.5495439	12/18/2017
42405	HAWK 35 FEDERAL #702H	O	A	EOG RESOURCES INC	12474	32.1799566	-103.5494133	12/20/2017
42406	HAWK 35 FEDERAL #003H	O	A	EOG RESOURCES INC	9428	32.1799545	-103.5453408	6/5/2017
42407	HAWK 35 FEDERAL #004H	O	A	EOG RESOURCES INC	9420	32.1799544540	-103.545243380	6/8/2017
42408	HAWK 35 FEDERAL #005H	O	A	EOG RESOURCES INC	9430	32.1799529020	-103.542317540	5/18/2017
42409	HAWK 35 FEDERAL #006H	O	A	EOG RESOURCES INC	9434	32.1799528520	-103.542220120	5/21/2017
42410	HAWK 35 FEDERAL #007H	O	A	EOG RESOURCES INC	9440	32.1799523	-103.5410737	3/23/2015
42411	HAWK 35 FEDERAL #008H	O	A	EOG RESOURCES INC	9457	32.1799522	-103.5409763	4/7/2015
42412	HAWK 35 FEDERAL #009H	O	A	EOG RESOURCES INC	9424	32.1799612	-103.5369177	3/20/2015
42413	HAWK 35 FEDERAL #010H	O	A	EOG RESOURCES INC	9434	32.1799620	-103.5368202	4/4/2015
42789	TYRELL FEE #002H	O	A	COG OPERATING LLC	9359	32.2243380	-103.5378044	11/4/2015
42920	BOOMSLANG 14 23 FEDERAL #001H	O	A	DEVON ENERGY PRODUCTION COMPANY, LP	9517	32.2243153	-103.5410047	7/28/2017
42933	BOOMSLANG 14 23 FEDERAL #004H	O	A	DEVON ENERGY PRODUCTION COMPANY, LP	11274	32.2243151	-103.5408432	7/5/2017
43011	BLUE KRAIT 23 14 FEDERAL #001H	O	A	DEVON ENERGY PRODUCTION COMPANY, LP	9370	32.1963998	-103.5494448	7/8/2017
43012	BLUE KRAIT 23 14 FEDERAL #005H	O	A	DEVON ENERGY PRODUCTION COMPANY, LP	9398	32.1963998	-103.5493478	7/12/2017
43032	BOOMSLANG 14 23 FEDERAL #009H	O	A	DEVON ENERGY PRODUCTION COMPANY, LP	10658	32.2243126	-103.5431322	8/13/2017
43051	BLUE KRAIT 23 FEDERAL #010H	O	N	DEVON ENERGY PRODUCTION COMPANY, LP	0	32.1963998	-103.5495095	12/31/9999
43236	BLUE KRAIT 23 14 FEDERAL #002H	O	A	DEVON ENERGY PRODUCTION COMPANY, LP	11851	32.1963990	-103.5452432	6/18/2017
43237	BLUE KRAIT 23 FEDERAL #003H	O	A	DEVON ENERGY PRODUCTION COMPANY, LP	9399	32.1963982	-103.5368612	7/1/2017
43238	BLUE KRAIT 23 FEDERAL #004H	O	A	DEVON ENERGY PRODUCTION COMPANY, LP	11130	32.1963981	-103.5366228	6/21/2017
43239	BLUE KRAIT 23 FEDERAL #006H	O	A	DEVON ENERGY PRODUCTION COMPANY, LP	9408	32.1963980	-103.5367198	6/26/2017
43308	BOOMSLANG 14 23 FEDERAL #002H	O	A	DEVON ENERGY PRODUCTION COMPANY, LP	9485	32.2242469	-103.5469697	8/18/2017
43309	BOOMSLANG 14 23 FEDERAL #003H	O	A	DEVON ENERGY PRODUCTION COMPANY, LP	11451	32.2243125	-103.5509042	8/7/2017
43858	HEARNS 34 STATE COM #708H	O	N	EOG RESOURCES INC	0	32.1675976	-103.5595077	5/27/2018
43859	HEARNS 34 STATE COM #709H	O	N	EOG RESOURCES INC	0	32.1675974	-103.5593946	6/3/2018
43860	HEARNS 34 STATE COM #710H	O	N	EOG RESOURCES INC	0	32.1676614	-103.5557612	5/27/2018
43861	HEARNS 34 STATE COM #711H	O	N	EOG RESOURCES INC	0	32.1676612	-103.5556481	5/30/2018

Landfill SWD No. 1
1 Mile Area of Review List

43862	HEARNS 34 STATE COM #712H	O	N	EOG RESOURCES INC	0	32.1676583	-103.5534829	5/31/2018
43863	HEARNS 34 STATE COM #713H	O	N	EOG RESOURCES INC	0	32.1676581	-103.5533698	6/2/2018
43926	HEARNS 34 STATE COM #504H	O	A	EOG RESOURCES INC	11138	32.1675973	-103.5592815	8/23/2017
44442	STRONG 14 24 33 AR #214H	G	N	MATADOR PRODUCTION COMPANY	0	32.2233735	-103.5346180	7/31/2018

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: 8/31/2018	Approved by: ELR

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

Landfill SWD No. 1
32.197949
-103.543338

C-03662-POD1
32.208055
-103.542725

C-03580-POD2
32.203484
-103.534511

C-03601-POD1
32.203528
-103.5345

C-03601-POD2
32.200416
-103.5375

C-03601-POD3
32.198805
-103.534389

C-03601-POD5
32.198111
-103.536028

C-03601-POD6
32.198167
-103.537667

C-03601-POD7
32.196639
-103.5365

C-03600-POD1
32.195389
-103.543639

C-03602-POD1
32.195361
-103.527472

C-03600-POD3
32.189167
-103.538334

C-03600-POD4
32.188889
-103.550722

C-03600-POD5
32.186277
-103.537611

C-03600-POD6
32.186389
-103.542639

C-03600-POD7
32.185945
-103.549611

1 " = 1,125 '

1:13,500

0 0.125 0.25 0.375 0.5 1 Miles

+ Landfill SWD No. 1

• Water Well (15) [NM-OSE]

1 Mile Radius

QQ-Section (NM PLSS-2018)

Township/Range (NM PLSS-2018)

Section (NM PLSS-2018)



Landfill SWD No. 1
Water Wells Within 1 Mile List

POD BASIN	POD #	T	R	S	WELL DEPTH	WATER DEPTH	WELL USE	POD STATUS	USE	OWNER LAST NAME	OWNER FIRST NAME	LAT	LONG	EASTING	NORTHING	DATUM
C	03580	POD2	24S	33E	0	0		PEN	EXP	INTERCONTINENTAL POTASH CORP		32.20348375290	-103.53451148000	638123.2	3563932.2	NAD83
C	03600	POD4	24S	33E	0	0	BOREHOLE	ACT	GEO	INTERCONTINENTAL POTASH CORP		32.18888910380	-103.55072217900	636617.0	3562293.5	NAD83
C	03600	POD5	24S	33E	0	0	BOREHOLE	ACT	GEO	INTERCONTINENTAL POTASH CORP		32.18627742430	-103.53761085800	637857.0	3562020.7	NAD83
C	03600	POD7	24S	33E	0	0	BOREHOLE	ACT	GEO	INTERCONTINENTAL POTASH CORP		32.18594476510	-103.54961055600	636726.2	3561968.5	NAD83
C	03601	POD2	24S	33E	0	0	BOREHOLE	ACT	GEO	INTERCONTINENTAL POTASH CORP		32.20041630220	-103.53750032100	637846.1	3563588.3	NAD83
C	03601	POD3	24S	33E	0	0	BOREHOLE	ACT	GEO	INTERCONTINENTAL POTASH CORP		32.19880533950	-103.53438917400	638141.8	3563413.7	NAD83
C	03601	POD5	24S	33E	0	0	BOREHOLE	ACT	GEO	INTERCONTINENTAL POTASH CORP		32.19811082080	-103.53602763500	637988.4	3563334.6	NAD83
C	03601	POD6	24S	33E	0	0	BOREHOLE	ACT	GEO	INTERCONTINENTAL POTASH CORP		32.19816677340	-103.53766679600	637833.8	3563338.7	NAD83
C	03602	POD1	24S	33E	0	0		PEN	GEO	INTERCONTINENTAL POTASH CORP		32.19536131520	-103.52747171800	638799.1	3563040.8	NAD83
C	03662	POD1	24S	33E	550	110	DOMESTIC/STOCK	ACT	DOL	MCCLOY (M&M RANCH)	MARK	32.20805545250	-103.54272527600	637342.1	3564428.5	NAD83
C	03600	POD1	24S	33E	0	0	BOREHOLE	ACT	GEO	INTERCONTINENTAL POTASH CORP		32.19538891330	-103.54363902500	637275.0	3563023.1	NAD83
C	03600	POD3	24S	33E	0	0	BOREHOLE	ACT	GEO	INTERCONTINENTAL POTASH CORP		32.18916685450	-103.53833368300	637784.5	3562340.1	NAD83
C	03600	POD6	24S	33E	0	0	BOREHOLE	ACT	GEO	INTERCONTINENTAL POTASH CORP		32.18638869060	-103.54263893200	637382.8	3562026.6	NAD83
C	03601	POD1	24S	33E	0	0	BOREHOLE	ACT	GEO	INTERCONTINENTAL POTASH CORP		32.20352782090	-103.53450016400	638124.2	3563937.1	NAD83
C	03601	POD7	24S	33E	0	0	BOREHOLE	ACT	GEO	INTERCONTINENTAL POTASH CORP		32.19663877170	-103.53649993800	637946.1	3563170.8	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: 9/4/2018	Approved by: ELR

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

-COG OPERATING LLC
-MATADOR PRODUCTION COMPANY

-DEVON ENERGY PRODUCTION COMPANY, LP

-TAP ROCK OPERATING, LLC

-EOG RESOURCES INC
-TAP ROCK OPERATING, LLC

-EOG RESOURCES INC

Landfill SWD No. 1
32.197949
-103.543338

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 Property Boundary (OWL MADERA LANDFILL LLC)
- Laterals

API (30-025-...) SHL Status - Type (Count)
- Horizontal Surface Location (149)
- Active - Oil (1)
- Active - Gas (12)
- Active - Salt Water Disposal (2)
- Active - Injection (1)
- Canceled Location (6)
- Plugged (Site Released) - Oil (6)
- Plugged (Site Released) - Gas (5)

API (30-025-...) BHL Status - Type (Count)
- Active - Oil (102)
- Active - Gas (1)
- Canceled Location (21)
- Permitted - Oil (24)
- Permitted - Gas (1)

Operators
- -COG OPERATING LLC; -MATADOR PRODUCTION COMPANY
- -DEVON ENERGY PRODUCTION COMPANY, LP
- -EOG RESOURCES INC
- -EOG RESOURCES INC; -TAP ROCK OPERATING, LLC
- -TAP ROCK OPERATING, LLC



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: 9/4/2018 | Approved by: ELR

LONQUIST & CO. LLC

PETROLEUM ENGINEERS | ENERGY ADVISORS

AUSTIN · HOUSTON · WICHITA · DENVER · CALGARY

-CHAPARRAL ENERGY, LLC AND MURCHISON OIL & GAS

-DEVON ENERGY PROD CO LP

-EOG RESOURCES INC

Landfill SWD No. 1
32.197949
-103.543338

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 Property Boundary (OWL MADERA LANDFILL LLC)
- NM - BLM
- NM - SLO
- Laterals

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

- Horizontal Surface Location (149)
- Active - Oil (1)
- Active - Gas (12)
- Active - Salt Water Disposal (2)
- Active - Injection (1)
- Canceled Location (6)
- Plugged (Site Released) - Oil (6)
- Plugged (Site Released) - Gas (5)

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

- Active - Oil (102)
- Active - Gas (1)
- Canceled Location (21)
- Permitted - Oil (24)
- Permitted - Gas (1)

Lessees

- -CHAPARRAL ENERGY, LLC AND MURCHISON OIL & GAS
- -DEVON ENERGY PROD CO LP
- -EOG RESOURCES INC



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
15/24S/33E	P	TAP ROCK OPERATING, LLC	-	-	-	602 PARK POINT DRIVE SUITE 200	GOLDEN, CO 80401
14/24S/33E	M,N,O	DEVON ENERGY PRODUCTION COMPANY, LP	-	-	-	20 N BROADWAY	OKLAHOMA CITY, OK 73102
	P	COG OPERATING LLC	-	-	-	550 W TEXAS	MIDLAND, TX 79701
		MATADOR PRODUCTION COMPANY	-	-	-	ONE LINCOLN CENTRE 5400 LBJ FREEWAY, STE 1500	DALLAS, TX 75240
13/24S/33E	M	COG OPERATING LLC	-	-	-	550 W TEXAS	MIDLAND, TX 79701
		MATADOR PRODUCTION COMPANY	-	-	-	ONE LINCOLN CENTRE 5400 LBJ FREEWAY, STE 1500	DALLAS, TX 75240
24/24S/33E	C,D,E,F,K,L,M,N	-	DEVON ENERGY PROD CO LP	-	-	333 W SHERIDAN AVE	OKLAHOMA CITY, OK 73102
23/24S/33E	Entire Section	DEVON ENERGY PRODUCTION COMPANY, LP	-	-	-	20 N BROADWAY	OKLAHOMA CITY, OK 73102
22/24S/33E	A,B,G,H,I,J,K,N,P	EOG RESOURCES INC	-	-	-	PO BOX 2267	MIDLAND, TX 79702
	O	TAP ROCK OPERATING, LLC	-	-	-	602 PARK POINT DRIVE SUITE 200	GOLDEN, CO 80401
		EOG RESOURCES INC	-	-	-	PO BOX 2267	MIDLAND, TX 79702
27/24S/33E	A,B,C,G,H,I,J	EOG RESOURCES INC	-	-	-	PO BOX 2267	MIDLAND, TX 79702
26/24S/33E	Entire Section	EOG RESOURCES INC	-	-	-	PO BOX 2267	MIDLAND, TX 79702
25/24S/33E	C,D,E,F,L,K,M,N	EOG RESOURCES INC	-	-	-	PO BOX 2267	MIDLAND, TX 79702
Surface Location	-	-	-	-	OWL MADERA LANDFILL LLC	8214 WESTCHESTER DR STE 850	DALLAS, TX 75225

Landfill SWD #1 Notice List		
Lea County, NM		
OWL SWD Operating, LLC		
TRACT ID	**REGULATORY**	**MAILING ADDRESS**
N/A	Oil Conservation Division District IV	1220 South St. Francis Drive Santa Fe, NM 87505
	SURFACE OWNER	**MAILING ADDRESS**
	OWL MADERA LANDFILL LLC	8214 WESTCHESTER DR, STE 850 DALLAS, TX 75225
	MINERAL LESSEE	**MAILING ADDRESS**
	DEVON ENERGY PROD CO LP	333 W SHERIDAN AVE OKLAHOMA CITY, OK 73102
	OFFSET OPERATORS	**MAILING ADDRESS**
	TAP ROCK OPERATING, LLC	602 PARK POINT DRIVE SUITE 200 GOLDEN, CO 80401
	DEVON ENERGY PRODUCTION COMPANY, LP	20 N BROADWAY OKLAHOMA CITY, OK 73102
	COG OPERATING LLC	550 W TEXAS MIDLAND, TX 79701
	MATADOR PRODUCTION COMPANY	ONE LINCOLN CENTRE 5400 LBJ FREEWAY STE 1500 DALLAS, TX 75240
	EOG RESOURCES INC	PO BOX 2267 MIDLAND, TX 79702
	OTHER PARTIES	**MAILING ADDRESS**

Notices will be sent on 9/28/2018 for the Landfill SWD #1 application by mailing them a copy of the Form C-108. An affidavit of notice submittals and proofs of certified mail will be submitted to the OCD under separate cover.

Sincerely,

Ramona K. Hovey
Sr. Petroleum Engineer / Lonquist & Co., LLC
For OWL SWD Operating, LLC

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 03580 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: EXP EXPLORATION

Primary Status:

Total Acres: **Subfile:** -

Total Diversion: 0 **Cause/Case:** -

Owner: INTERCONTINENTAL POTASH CORP

Contact: TOM COPE

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	515225	EXPL	2012-10-17	PMT	APR	C 03580 (2 BOREHOLES-MIN EXPL)	T	0	0	

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 03580 POD1		3	2		23	24S	34E	647336	3564313	ICP-011
C 03580 POD2		3	1		24	24S	33E	638123	3563932	ICP-097

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 03600 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: GEO GEOTHERMAL BOREHOLES

Primary Status:

Total Acres: **Subfile:** -

Total Diversion: 0 **Cause/Case:** -

Owner: INTERCONTINENTAL POTASH CORP

Contact: TOM COPE

Documents on File

Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images 518382	EXPL	2012-12-10	PMT	LOG	C 03600	T	0	0	

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 03600 POD1	Shallow	2	2	1	26	24S	33E	637275	3563023	BH-16
C 03600 POD2	Shallow	4	4	1	25	24S	33E	638824	3562329	BH-17
C 03600 POD3	Shallow	3	4	2	26	24S	33E	637784	3562340	BH-19
C 03600 POD4	Shallow	3	3	1	26	24S	33E	636617	3562293	BH-20
C 03600 POD5	Shallow	3	2	4	26	24S	33E	637857	3562020	BH-21
C 03600 POD6	Shallow	3	1	4	26	24S	33E	637383	3562026	BH-22
C 03600 POD7	Shallow	3	1	3	26	24S	33E	636726	3561968	BH-23

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 03601 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: GEO GEOTHERMAL BOREHOLES

Primary Status:

Total Acres: **Subfile:** -

Total Diversion: 0 **Cause/Case:** -

Owner: INTERCONTINENTAL POTASH CORP

Contact: TOM COPE

Documents on File

Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images 518393	EXPL	2012-12-10	PMT	LOG	C 03601	T	0	0	

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 03601 POD1	Shallow	4	4	2	23	24S	33E	638124	3563937	BH-8
C 03601 POD2	Shallow	3	2	4	23	24S	33E	637846	3563583	BH-9
C 03601 POD3	Shallow	1	3	3	24	24S	33E	638142	3563413	BH-10
C 03601 POD4	Shallow	3	3	3	24	24S	33E	638162	3561375	BH-11
C 03601 POD5	Shallow	2	4	4	23	24S	33E	637988	3563334	BH-12
C 03601 POD6	Shallow	1	4	4	23	24S	33E	637834	3563338	BH-13
C 03601 POD7	Shallow	4	4	4	23	24S	33E	637946	3563170	BH-14

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 03602 **Subbasin:** CUB **Cross Reference:** -

Primary Purpose: GEO GEOTHERMAL BOREHOLES

Primary Status:

Total Acres: **Subfile:** -

Total Diversion: 0 **Cause/Case:** -

Owner: INTERCONTINENTAL POTASH CORP

Contact: TOM COPE

Documents on File

Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images 518397	EXPL	2012-12-10	PMT	LOG	C 03602	T	0	0	

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 03602 POD1		2	2	1	25	24S	33E	638799	3563040	BH-15
C 03602 POD2	Shallow	4	4	1	25	24S	33E	638824	3562329	BH-18

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 03662 **Subbasin:** C **Cross Reference:** -

Primary Purpose: DOL 72-12-1 DOMESTIC AND LIVESTOCK WATERING

Primary Status: PMT PERMIT

Total Acres: **Subfile:** -

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

Agent: MARK MCCLOY (M&M RANCH)

Contact: M STAPLETON, LLC

Agent: GREGORY ROCKHOUSE RANCH INC

Contact: M STAPLETON, LLC

Documents on File

	Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images	534516	72121	2013-09-24	PMT	LOG	C 03662	T			3
get images	532103	EXPL	2013-08-13	PMT	APR	C-3662 EXPL	T		0	0

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 03662 POD1	Shallow	3	1	2	23	24S	33E	637342	3564428	HWY 128 @ 30MM-1/4 MILE SO

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.

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	3525.28'

[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
N	23	24 S	33 E		764	SOUTH	2569	WEST	LEA

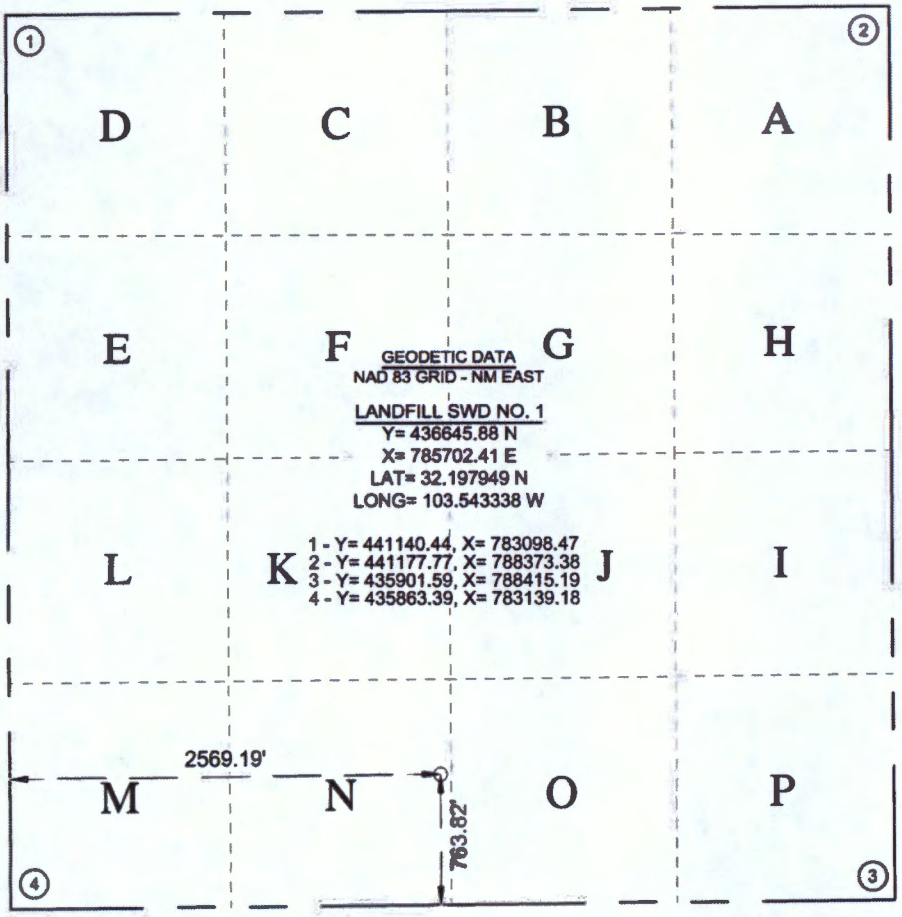
[11] Bottom Hole Location If Different From Surface

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.

[16]



[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 9/20/18
Signature Date

RAMONA K. HOVEY
Printed Name Date

ramona@longuist.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.

Sept 15, 2018
Date of Survey Date

Signature and Seal of Professional Surveyor:

JEFFREY E. HUDSON
NEW MEXICO
20559
PROFESSIONAL SURVEYOR

Certificate Number 20559

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
N	23	24S	33E		764	South	2,569	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	96101

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
N	SWD	R	Private	3,525'
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	18,075'	Silurian-Devonian	TBD	ASAP

Depth to Ground water	Distance from nearest fresh water well	Distance to nearest surface water
550'	950'	+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'	3,315 sks	Surface
Intermediate 1	17.5"	13.625"	88.2 lb/ft	5,300'	2,410 sks	Surface
Intermediate 2	12.25"	9.625"	53.5 lb/ft	13,900'	3,010 sks	Surface
Production	8.5"	7.625"	42.8 lb/ft	16,500'	270 sks	13,700'
Tubing	N/A	5.5"	20 lb/ft	16,450'	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: 09/28/2018 Phone: 512-600-1777

OIL CONSERVATION DIVISION

Approved By:

Title:

Approved Date: Expiration Date:

Conditions of Approval Attached

McMillan, Michael, EMNRD

From: McMillan, Michael, EMNRD
Sent: Tuesday, October 2, 2018 3:09 PM
To: Ramona Hovey
Cc: Goetze, Phillip, EMNRD
Subject: OWL SWD Operating, LLC Landfill SWD Well No. 1

Ramona:
The OCD received your application for the Landfill SWD Well No. 1 on October 2, 2018.
Your application has been suspended, because your application did not have an affidavit of publication.
When the OCD receives the affidavit of publication, then the 15-day clock will start

Mike

Michael McMillan
1220 South St. Francis
Santa Fe, New Mexico
505-476-3448
Michael.mcmillan@state.nm.us

McMillan, Michael, EMNRD

From: Ramona Hovey <ramona@lonquist.com>
Sent: Monday, October 8, 2018 2:21 PM
To: McMillan, Michael, EMNRD
Cc: Goetze, Phillip, EMNRD; Steve Pattee
Subject: [EXT] RE: OWL SWD Operating, LLC Landfill SWD Well No. 1
Attachments: AffofPublication_LandfillNo1.pdf

Please find the attached affidavit of publication for Landfill SWD No. 1.

Regards,

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

Ramona Hovey · Sr. Petroleum Engineer · Lonquist & Co., LLC · 12912 Hill Country Blvd., Suite F-200 · Bee Cave, Texas, USA 78738
Direct: 512-600-1777 · Cell: 512-585-0654 · Fax: 512-732-9816 · ramona@lonquist.com · www.lonquist.com

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From: McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>
Sent: Tuesday, October 2, 2018 4:09 PM
To: Ramona Hovey <ramona@lonquist.com>
Cc: Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>
Subject: OWL SWD Operating, LLC Landfill SWD Well No. 1

Ramona:
The OCD received your application for the Landfill SWD Well No. 1 on October 2, 2018.
Your application has been suspended, because your application did not have an affidavit of publication.
When the OCD receives the affidavit of publication, then the 15-day clock will start

Mike

Michael McMillan
1220 South St. Francis
Santa Fe, New Mexico
505-476-3448
Michael.mcmillan@state.nm.us

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
October 02, 2018
and ending with the issue dated
October 02, 2018.

Publisher

Sworn and subscribed to before me this
2nd day of October 2018.

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
October 2, 2018

OWL SWD Operating, LLC, 8214 Westchester Dr., Suite 850, Dallas, Texas 75255, is filling 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 764' FSL & 2,569' FWL in Section 23, 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 16,500 feet to a maximum depth of 18,075 feet. The maximum surface injection pressure will not exceed 3,300 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.
#33289

67112661 00218886

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

OCT 17 2018 AM10:30

October 15, 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; PROOF OF NOTICE

To Whom It May Concern:

Attached for your review, as part of the Form C-108, Application for Authorization to Inject for OWL SWD Operating, LLC's Landfill SWD No. 1, are the proofs of notice of the identified affected parties having received notice as attached. In the interest of minimizing printing, one full version of the notice is included plus the cover letters for each party, the sent receipts and the proof of delivery.

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

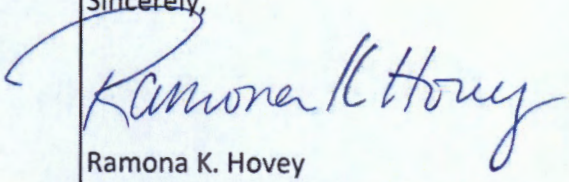
Regards,

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

Landfill SWD #1 Notice List		
Lea County, NM		
OWL SWD Operating, LLC		
TRACT ID	**REGULATORY**	**MAILING ADDRESS**
	SURFACE OWNER	**MAILING ADDRESS**
	OWL MADERA LANDFILL LLC	8214 WESTCHESTER DR, STE 850 DALLAS, TX 75225
	MINERAL LESSEE	**MAILING ADDRESS**
	DEVON ENERGY PROD CO LP	333 W SHERIDAN AVE OKLAHOMA CITY, OK 73102
	OFFSET OPERATORS	**MAILING ADDRESS**
	TAP ROCK OPERATING, LLC	602 PARK POINT DRIVE SUITE 200 GOLDEN, CO 80401
	DEVON ENERGY PRODUCTION COMPANY, LP	20 N BROADWAY OKLAHOMA CITY, OK 73102
	COG OPERATING LLC	550 W TEXAS MIDLAND, TX 79701
	MATADOR PRODUCTION COMPANY	ONE LINCOLN CENTRE 5400 LBJ FREEWAY STE 1500 DALLAS, TX 75240
	EOG RESOURCES INC	PO BOX 2267 MIDLAND, TX 79702
	OTHER PARTIES	**MAILING ADDRESS**
	BUREAU OF LAND MANAGEMENT	620 E GREENE ST CARLSBAD, NM 88220

Notices were sent on 10/3/2018 for the Landfill SWD #1 application by mailing them a copy of the Form C-108. This affidavit of notice submittals and proofs of certified mail are submitted to the OCD as proof that affected parties received notices by 10/10/18

Sincerely,



Ramona K. Hovey
Sr. Petroleum Engineer / Lonquist & Co., LLC
For OWL SWD Operating, LLC

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

CERTIFIED MAIL®

7016 0600 0000 2971 0854

7016 0600 0000 2971 0854

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

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

OFFICIAL USE OWL New Mex Eddy

Certified Mail Fee
$

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
$

Postmark Here

1650 Landfill SWD #1

Owl Madera Landfill, LLC
8214 Westchester Dr., Suite 850
Dallas, Texas 75225

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:

Owl Madera Landfill, LLC
8214 Westchester Dr., Suite 850
Dallas, Texas 75225

9590 9402 3342 7227 8051 82

2. Article Number (Transfer from service label)
7016 0600 0000 2971 0854

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

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

OWL - New Leaf
1650 Landfill SWD #1

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ [illegible]ail
- ☐ [illegible]ail Restricted Delivery
- [illegible]0)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

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

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7016 0600 0000 2971 0861

U.S. Postal Service

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- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage

Postmark Here

1650 Landfill Sub #1

Bureau of Land Management
620 E Greene Street
Carlsbad, New Mexico 88220

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:

Bureau of Land Management
620 E Greene Street
Carlsbad, New Mexico 88220

9590 9402 3342 7227 8051 75

2. Article Number *(Transfer from service label)*
7016 0600 0000 2971 0861

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

OWL - New Leaf
1650 Landfill Sub #1

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ ail Restricted Delivery
- ☐ Priority Mail Express®
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- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

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

---

Reser

Report Name: _____

Report for: _____

Date of cover letter (today's da

Target date to be shipped: ___

Address to be shipped: ____

Report contents:

Cover Letter

Area of Interest Map

Reserve Definitions: SP

Section 1: Tab Title: SUN

Reserve Classification

Reserve Summary Gra

Grand Total report

Graph

Section 2: Tab Title: ON

Final one-line report



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

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- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total
$

Sent To

Street

City,

New Lea Eddy

Postmark Here

1650 Landfill SWD #1

COG Operating LLC
550 West Texas
Midland, Texas 79701

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

SENDER: COMPLETE THIS SECTION

- Complete
- 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:

COG Operating LLC
550 West Texas
Midland, Texas 79701

9590 9402 2691 6351 5525 24

2. Article Number (Transfer from service label)
7016 0600 0000 2971 0885

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

X ☐ 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

OWL
1650 Landfill SWD #1

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
- Mail Restricted Delivery 00)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

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

CERTIFIED MAIL®

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7016 0600 0000 2971 0892

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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
Devon Energy Prod., Co., LP

Street and Apt. No., or PO Box No.
333 W Sheridan Avenue

City, State, ZIP+4®
Oklahoma City, OK 73102

OWL
New Lea Eddy

Postmark Here

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:

Devon Energy Prod., Co., LP
333 W Sheridan Avenue
Oklahoma City, OK 73102

9590 9402 2691 6351 5539 41

2. Article Number (Transfer from service label)
7016 0600 0000 2971 0892

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

OWL
1650 Landfill SWD #1

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- Mail
- 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

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

Postage
$

To
$

Sent
Street
City

Devon Energy Production Co., LP
20 N Broadway
Oklahoma City, OK 73102

Postmark Here

OWL
New Lea Eddy
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:

Devon Energy Production Co., LP
20 N Broadway
Oklahoma City, OK 73102

9590 9402 2980 7094 9731 41

2. Article Number (Transfer from service label)
7016 0600 0000 2971 0908

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

OWL
1650 - Landfill SWD #1

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ ail Restricted Delivery
- ☐ 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

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Certified Mail Fee
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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 Postage and Fees
$

Sent To
EOG Resources, Inc.
P. O. Box 2267
Midland, Texas 79702

Street and Apt. No., or PO Box No.

City, State, ZIP+4®

New Mexico Eddy
Postmark Here
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:

EOG Resources, Inc.
P. O. Box 2267
Midland, Texas 79702

9590 9402 2691 6351 5539 34

2. Article Number (Transfer from service label)
7016 0600 0000 2971 0878

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

OWL
1650 Landfill SWD #1

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Mail
- Mail Restricted Delivery 00)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

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- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total
$

Sent
Stree
City,

OWL
Eddy

Postmark Here

1650
Landfill SWD #1

Matador Production Company
One Lincoln Centre 5400
LBJ Freeway, Suite 1500
Dallas, Texas 75240

PS Form 3800, April 2015 PSN 7530-02-000-0047 See Reverse for Instructions

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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:

Matador Production Company
One Lincoln Centre 5400
LBJ Freeway, Suite 1500
Dallas, Texas 75240

9590 9402 2691 6351 5525 31

2. Article Number (Transfer from service label)
7016 0600 0000 2971 0915

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

OWL
1650 Landfill SWD #1

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
- ☐ 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



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- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

To
Tap Rock Operating, LLC
602 Park Point Drive, Suite 200
Golden, Colorado 80401

Se

Sti

Cit

New Mex Eddy

Postmark Here

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 Drive, Suite 200
Golden, Colorado 80401

9590 9402 2691 6351 5525 48

2. Article Number (Transfer from service label)
7016 0600 0000 2971 0922

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

OWL
1650 Landfill SWD #1

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ 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

ALERT: USPS SERVICES ARE DISRUPTED IN SOME FLORIDA PANHANDLE AREAS IMPACTED BY HURRICANE MICHAEL. READ MORE › (HTTP://ABOUT.USPS.COM/NEWS/SERVICE-ALERTS/WELCOME.HTM)

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FAQs > (https://www.usps.com/faqs/uspstracking-faqs.htm)

Track Another Package +

Remove ×

Tracking Number: 70160600000029710892

Expected Delivery on

THURSDAY
4 OCTOBER 2018

See Product Information

Delivered
October 4, 2018 at 8:04 am
Delivered
OKLAHOMA CITY, OK 73102

Get Updates

See More

Remove ×

Tracking Number: 70160600000029710922

Your item was delivered to an individual at the address at 1:23 pm on October 5, 2018 in GOLDEN, CO 80401.

Delivered
October 5, 2018 at 1:23 pm
Delivered, Left with Individual
GOLDEN, CO 80401

Get Updates

See More

Feedback

Remove ×

Tracking Number: 70160600000029710908

Expected Delivery on

THURSDAY
4 OCTOBER 2018

See Product Information

Delivered
October 4, 2018 at 8:04 am
Delivered
OKLAHOMA CITY, OK 73102

Get Updates

See More

Remove ×

Tracking Number: 70160600000029710885

Your item was delivered to an individual at the address at 1:22 pm on October 4, 2018 in MIDLAND, TX 79701.

Delivered
October 4, 2018 at 1:22 pm
Delivered, Left with Individual
MIDLAND, TX 79701

Get Updates

See More

Tracking Number: 70160600000029710915 Remove ×

Your item was delivered to the front desk or reception area at 4:18 pm on October 9, 2018 in DALLAS, TX 75240.

Delivered

October 9, 2018 at 4:18 pm
Delivered, Front Desk/Reception
DALLAS, TX 75240

Get Updates

See More

Tracking Number: 70160600000029710878 Remove ×

Your item was picked up at a postal facility at 7:33 am on October 5, 2018 in MIDLAND, TX 79702.

Delivered

October 5, 2018 at 7:33 am
Delivered, Individual Picked Up at Postal Facility
MIDLAND, TX 79702

Get Updates

See More

Feedback

Tracking Number: 70160600000029710861 Remove ×

Expected Delivery on

WEDNESDAY
10 OCTOBER 2018

See Product Information

Delivered

October 10, 2018 at 12:27 pm
Delivered, Left with Individual
CARLSBAD, NM 88220

Get Updates

See More

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FAQs (https://www.usps.com/faqs/uspstracking-faqs.htm)

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&appURL=https%3A%2F%2Ftools.usps.com%2

Feedback

September 27, 2018

BUREAU OF LAND MANAGEMENT
620 E GREENE ST
CARLSBAD, NM 88220

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

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: 09/28/2018

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

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: 764' FSL & 2,569' FWL (FOOTAGE LOCATION) | N (UNIT LETTER) | 23 (SECTION) | 24 S (TOWNSHIP) | 33 E (RANGE)

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 26" Casing Size: 20"

Cemented with: 3,315 sks *or* _____ f

Top of Cement: surface Method Determined: circulation

Intermediate Casing 1

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

Cemented with: 2,410 sks *or* _____ f

Top of Cement: surface Method Determined: circulation

Intermediate Casing 2

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

Cemented with: 3,010 sks *or* _____ f

Top of Cement: surface Method Determined: circulation

Production Liner

Hole Size: 8-1/2"

Casing Size: 7-5/8"

Cemented with: 270 sks

or _____

Top of Cement: 13,700'

Method Determined: Calculation

Total Depth: 18,075'

Injection Interval

16,500 feet to 18,075 feet

(Open Hole)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 5.500", 20.0 lb/ft, P-110 BTC and UFJ (or equivalent), from 0' – 16,450'
Lining Material: Duoline

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

Packer Setting Depth: 16,450'

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

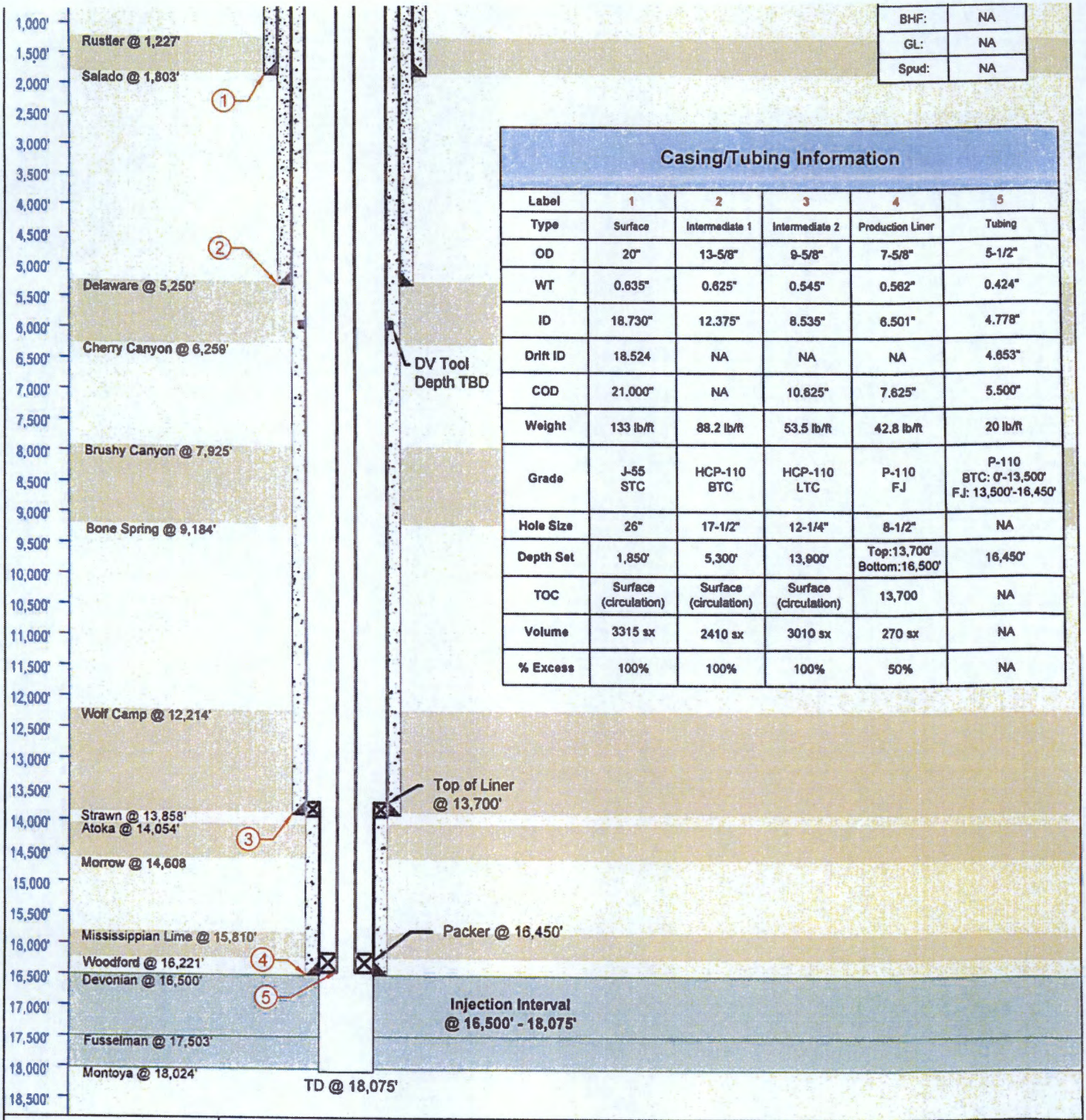
3. Name of Field or Pool (if applicable): SWD; Silurian Devonian (97869)

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	5,250'
Cherry Canyon	6,259'
Brushy Canyon	7,925'
Bone Spring	9,184'
Wolfcamp	12,214'
Strawn	13,858'
Atoka	14,054'
Morrow	14,608'
Devonian	16,500'
Fusselman	17,503'



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"	0.424"
ID	18.730"	12.375"	8.535"	6.501"	4.778"
Drift ID	18.524	NA	NA	NA	4.653"
COD	21.000"	NA	10.625"	7.625"	5.500"
Weight	133 lb/ft	88.2 lb/ft	53.5 lb/ft	42.8 lb/ft	20 lb/ft
Grade	J-55 STC	HCP-110 BTC	HCP-110 LTC	P-110 FJ	P-110 BTC: 0'-13,500' FJ: 13,500'-16,450'
Hole Size	26"	17-1/2"	12-1/4"	8-1/2"	NA
Depth Set	1,850'	5,300'	13,900'	Top:13,700' Bottom:16,500'	16,450'
TOC	Surface (circulation)	Surface (circulation)	Surface (circulation)	13,700	NA
Volume	3315 sx	2410 sx	3010 sx	270 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: 23	Township & Range: 24S, 33E	Survey:
API No: TBD	Field:	Well Type: SWD
Well Status: New Drill	Project No: 1650	Date: 09/23/2018
Drawn: JAM	Reviewed:	Approved:
Rev No: 0	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 N S-23 T-24S R-33E
Footage Location	764' FSL & 2,569' 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'	13,900'	13,700' – 16,500'

b. Cementing Program

Cement Information				
Casing String	Surface	Intermediate 1	Intermediate 2	Production Liner
Lead Cement	ECONOCEM	NeoCem	Stage 1: NeoCem Stage 2: NeoCem	VersaCem
Lead Cement Volume	2,310 sks	1,915 sks	Stage 1: 1540 sks Stage 2: 655 sks	270 sks
Tail Cement	HALCEM	HALCEM	Stage 1: VersaCem Stage 2: HalCem	
Tail Cement Volume	1,005 sks	495 sks	Stage 1: 545 sks Stage 2: 270 sks	
Cement Excess	100%	100%	100%	50%
TOC	Surface	Surface	Surface	13,700'
Method	Circulate to Surface	Circulate to Surface	Circulate to Surface	Calculation

3. Tubing Description

Tubing		
OD	5-1/2"	5-1/2"
WT	0.424"	0.424"
ID	4.778"	4.778"
Drift ID	4.653"	4.653"
COD	6.050"	5.500"
Weight	20 lb/ft	20 lb/ft
Grade	P-110 BTC (Or Equivalent	P-110 UFJ (Or Equivalent
Depth Set	13,500'	13,500'-16,450'

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: 16,500'– 18,075'

   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	5,250'
Cherry Canyon	6,259'
Brushy Canyon	7,925'
Bone Spring	9,184'
Wolfcamp	12,214'
Strawn	13,858'
Atoka	14,054'
Morrow	14,608'
Devonian	16,500'
Fusselman	17,503'

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: 2,475 PSI (surface pressure)
   Maximum Injection Pressure: 3,300 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 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 near Jal 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	1,227'
Salado	1,803'
Delaware	5,250'
Cherry Canyon	6,259'
Brushy Canyon	7,925'
Bone Spring	9,184'
Wolfcamp	12,214'
Strawn	13,858'
Atoka	14,054'
Morrow	14,608'
Mississippian Lime	15,810'
Woodford	16,221'
Devonian	16,500'
Fusselman	17,503'
Montoya	18,024'

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 1,803' 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 15 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.

September 27, 2018

COG OPERATING LLC
550 W TEXAS
MIDLAND, TX 79701

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

September 27, 2018

DEVON ENERGY PROD CO LP
333 W SHERIDAN AVE
OKLAHOMA CITY, OK 73102

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

To Whom It May Concern:

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Regards,

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

(512) 600-1774
steve@lonquist.com

September 27, 2018

DEVON ENERGY PRODUCTION COMPANY, LP
20 N BROADWAY
OKLAHOMA CITY, OK 73102

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

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Regards,

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

(512) 600-1774
steve@lonquist.com

September 27, 2018

EOG RESOURCES INC
PO BOX 2267
MIDLAND, TX 79702

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

To Whom It May Concern:

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Regards,

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

(512) 600-1774
steve@lonquist.com

September 27, 2018

MATADOR PRODUCTION COMPANY
ONE LINCOLN CENTRE 5400 LBJ FREEWAY
STE 1500
DALLAS, TX 75240

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

To Whom It May Concern:

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Regards,

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

(512) 600-1774
steve@lonquist.com

September 27, 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:

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Regards,

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

(512) 600-1774
steve@lonquist.com

September 27, 2018

OWL MADERA LANDFILL LLC
8214 WESTCHESTER DR, STE 850
DALLAS, TX 75225

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.

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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

McMillan, Michael, EMNRD

From: Glass, Carol <Carol.Glass@dvn.com>
Sent: Friday, October 19, 2018 8:39 AM
To: Goetze, Phillip, EMNRD
Cc: McMillan, Michael, EMNRD; Brooks, David K, EMNRD; Seth McMillan; Preston Carr; steve@lonquist.com
Subject: [EXT] OWL SWD Operating LLC Application for Landfill SWD No. 1 Section 23-T24S-R33E, Lea County, New Mexico
Attachments: OWL LANDFILL 1 SWD SEC 23 24S 33E.pdf

Mr. Goetze,

Attached for your review is a letter regarding the **Application for Authorization to Inject-- Landfill SWD No. 1 filed by Lonquist & Co. LLC on behalf of OWL SWD Operating, LLC.**

The original will be mailed to you via FedEx.

Thank you,

Carol Glass
Landman
Devon Energy Corporation
333 W. Sheridan Avenue
Oklahoma City, OK 73102
Direct Line: 405.552.6160
Carol.Glass@dvn.com

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devon

Devon Energy Corporation
333 West Sheridan Ave.
Oklahoma City, OK 73102-8260

405 235 3611 Phone
www.devonenergy.com

October 19, 2018

(VIA FedEx and Email)

New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505
Attn: Phillip Goetze

RE: Application for Landfill SWD No. 1 Authorization to Inject
764' FSL and 2,569' FWL Section 23-T24S-R33E
Lea County, New Mexico
Applicant: Lonquist & Co. LLC on behalf of OWL SWD Operating, LLC

Dear Mr. Goetze:

Pursuant to Division Rule 19.15.26.8, please be advised that Devon Energy Production Company, L.P. objects to the referenced application.

Certain personnel at Devon have discussed surface and subsurface issues with the applicant and we are waiting to receive additional information from the applicant in order to complete our review. In the meantime, Devon hereby objects to the referenced application and asks that consideration be stayed so to allow the parties additional time to exchange information and negotiate a mutually acceptable resolution.

Thank you for your attention to this matter.

Carol Glass

Cc: OWL SWD Operating, LLC
8214 Westchester Drive, Suite 850
Dallas, TX 75255
Attn: Preston Carr (via email pcarr@oilfieldwaterlogistics.com)

Lonquist & Co. LLC
3345 Bee Cave Road, Suite 201
Austin, TX 78746
Attn: Stephen L. Pattee (via email steve@lonquist.com)

Phillip Goetze, NMOCD (via email Phillip.Goetze@state.nm.us)
Michael McMillan, NMOCD (via email Michael.Mcmillan@state.nm.us)
David K. Brooks, NMOCD (via email DavidK.Brooks@state.nm.us)
Seth C. McMillan (via email smcmillan@montand.com)