

**BEFORE THE NEW MEXICO OIL CONSERVATION DIVISION**

**APPLICATION OF VISTA DISPOSAL SOLUTIONS LLC,  
FOR A SALT WATER DISPOSAL WELL,  
IN LEA COUNTY, NEW MEXICO.**

Case No. \_\_\_\_\_

**APPLICATION FOR SALT WATER DISPOSAL**

Vista Disposal Solutions LLC, by and through its undersigned attorney, applies for an order approving a salt water disposal well, and in support thereof, states:

1. Applicant seeks an order proposing a salt water disposal well its Charles Federal SWD #1, to drilled at a location 1,368' FNL and 1,885' FWL, Unit F, Section 35, Township 25 South, Range 32 East, N.M.P.M., Lea County, New Mexico.
2. Applicant proposes to set a packer at 17,455' feet below the surface of the earth and then inject into the Devonian-Silurian formation at depths between 17,475' through 18,770' open hole, as stated in the attached C-108.
3. Attached hereto as Exhibit A is the C-108.
4. The granting of this application will prevent waste and protect correlative rights.

**WHEREFORE**, Applicant requests that, after notice and hearing, the Division enter its order approving this application.

Respectfully submitted,

PADILLA LAW FIRM, P.A.

**/s/ ERNEST L. PADILLA**

ERNEST L. PADILLA,  
Attorney for Vista Disposal Solutions, LLC  
PO Box 2523  
Santa Fe, New Mexico 87504  
505-988-7577  
[padillalaw@qwestoffice.net](mailto:padillalaw@qwestoffice.net)

## APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: \_\_\_\_\_ Secondary Recovery \_\_\_\_\_ Pressure Maintenance \_\_\_\_\_X\_\_\_\_\_ Disposal  
\_\_\_\_\_  
Storage Application qualifies for administrative approval? \_\_\_\_\_X\_\_\_\_\_ Yes \_\_\_\_\_ No
- II. OPERATOR: Vista Disposal Solutions, LLC  
  
ADDRESS: 12444 NM 10th St., Building G, Suite 202-512, Yukon, OK 73099  
  
CONTACT PARTY Nate Alleman PHONE: 918-382-7581
- 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: Dan Arthur, P.E., SPEC TITLE: President/Chief Engineer  
SIGNATURE: [Signature] DATE: 8/12/2019  
E-MAIL ADDRESS: darthur@all-llc.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.

Application for Authorization to Inject  
Well Name: Charles Federal SWD #1

### III – Well Data *(The Wellbore Diagram is included as Attachment 1)*

#### A.

##### (1) General Well Information:

Operator: Vista Disposal Solutions, LLC (OGRID No. 329051)  
Lease Name & Well Number: Charles Federal SWD #1  
Location Footage Calls: 1,368 FNL & 1,885' FWL  
Legal Location: Unit Letter F, S35 T25S R32E  
Ground Elevation: 3,363'  
Proposed Injection Interval: 17,475' – 18,770'  
County: Lea

##### (2) Casing Information:

| Type           | Hole Size | Casing Size | Casing Weight | Setting Depth | Sacks of Cement | Estimated TOC | Method Determined |
|----------------|-----------|-------------|---------------|---------------|-----------------|---------------|-------------------|
| Surface        | 24"       | 20"         | 133.0 lb/ft   | 805'          | 965             | Surface       | Circulation       |
| Intermediate 1 | 14-3/4"   | 13-3/8"     | 68.0 lb/ft    | 4,800'        | 1,100           | Surface       | Circulation       |
| Intermediate 2 | 12-1/4"   | 9-5/8"      | 53.5 lb/ft    | 14,100'       | 4,680           | Surface       | Circulation       |
| Liner          | 8-1/2"    | 7-5/8"      | 39.0 lb/ft    | 17,475        | 280             | 13,900        | CBL               |

##### (3) Tubing Information:

4-1/2" (composite weight string) of fiberglass-coated tubing with setting depth of 17,455'

##### (4) Packer Information: Lok-set or equivalent packer set at 17,455'

#### B.

##### (1) Injection Formation Name: Devonian and Silurian-Fusselman formations

Pool Name: SWD; DEVONIAN - SILURIAN

Pool Code: 97869

##### (2) Injection Interval: Open-hole injection between 17,475' – 18,770'

##### (3) Drilling Purpose: New Drill for Salt Water Disposal

##### (4) Other Perforated Intervals: No other perforated intervals exist.

##### (5) Overlying Oil and Gas Zones: Below are the approximate formation tops for known oil and gas producing zones in the area.

- Delaware (4,800')
- Bone Springs (9,100')
- Wolfcamp (11,900')
- Atoka (14,250')
- Morrow (15,000')

**Underlying Oil and Gas Zones:** No underlying oil and gas zones exist.



## **V – Well and Lease Maps**

The following maps are included in **Attachment 2**:

- 2-mile Oil & Gas Well Map
- 2-mile Lease Map
- 1.5-mile Deep SWD Map (Devonian/Silurian SWDs)
- 1-mile Well Detail List
- Potash Lease Map

## **VI – AOR Well List**

There are no wells within the 1-mile AOR that penetrate the proposed injection zone.

A list of the wells within the 1-mile AOR is included in **Attachment 2**.

## **VII – Proposed Operation**

- (1) **Proposed Maximum Injection Rate:** 30,000 bpd  
**Proposed Average Injection Rate:** 15,000 bpd
- (2) A closed system will be used.
- (3) **Proposed Maximum Injection Pressure:** 3,495 psi (surface)  
**Proposed Average Injection Pressure:** approximately 1,500 – 2,000 psi (surface)
- (4) **Source Water Analysis:** It is expected that the injectate will consist of produced water from production wells completed in the Wolfcamp and Bone Springs formations. Analysis of water from these formations is included in **Attachment 3**.
- (5) **Injection Formation Water Analysis:** The proposed SWD will be injecting water into the Devonian and Silurian-Fusselman formations which is a non-productive zone known to be compatible with formation water from the Wolfcamp and Bone Springs formations. Water analyses from the Devonian-Silurian formation in the area are included in **Attachment 4**.

## **VIII – Geologic Description**

The proposed injection interval includes the Devonian and Silurian-Fusselman formations from 17,475 – 18,770 feet. These formations consist of carbonates including light colored dolomite and chert intervals interspersed with some tight limestone intervals. Several thick sections of porous dolomite capable of taking water are present within the subject formations in the area.

The freshwater formation is the Rustler at a depth of approximately 780 feet. Water well depths in the area range from approximately 160 - 220 feet below ground surface.

## **IX – Proposed Stimulation Program**

A small cleanup acid job may be used to remove mud and drill cuttings from the formation. However, no other formation stimulation is currently planned.

## **X – Logging and Test Data**

Logs will be submitted to the Division upon completion of the well.

## **XI – Fresh Groundwater Samples**

Based on a review of data from the New Mexico Office of the State Engineer, no groundwater wells are located within 1-mile of the proposed SWD location; therefore, no groundwater samples were collected in association with this application.

A water well map of the area is included in **Attachment 5**.

## **XII – No Hydrologic Connection Statement**

No faulting is present in the area that would provide a hydrologic connection between the injection interval and overlying USDWs. Additionally, the casing program has been designed to ensure there will be no hydrologic connection between the injection interval and overlying USDWs. A letter from a knowledgeable and qualified expert stating that there is a low risk of seismic activity from the proposed injection activities is included in **Attachment 6**.

## **XIII – Proof of Notice**

A Public Notice was filed with the Hobbs News-Sun newspaper and an affidavit is included in **Attachment 7**.

A copy of the application was mailed to the OCD District Office, landowner, and leasehold operators within 1-mile of the proposed SWD location. A list of the recipients, as well as delivery confirmations, are included in **Attachment 7**.



# Attachments

**Attachment 1:** Wellbore Diagram

**Attachment 2:** Area of Review Information:

- 2-mile Oil & Gas Well Map
- 2-mile Lease Map
- 1.5-mile Deep SWD Map (Devonian/Silurian SWDs)
- 1-mile Well Detail List
- Potash Lease Map

**Attachment 3:** Source Water Analyses

**Attachment 4:** Injection Formation Water Analyses

**Attachment 5:** Water Well Map and Well Data

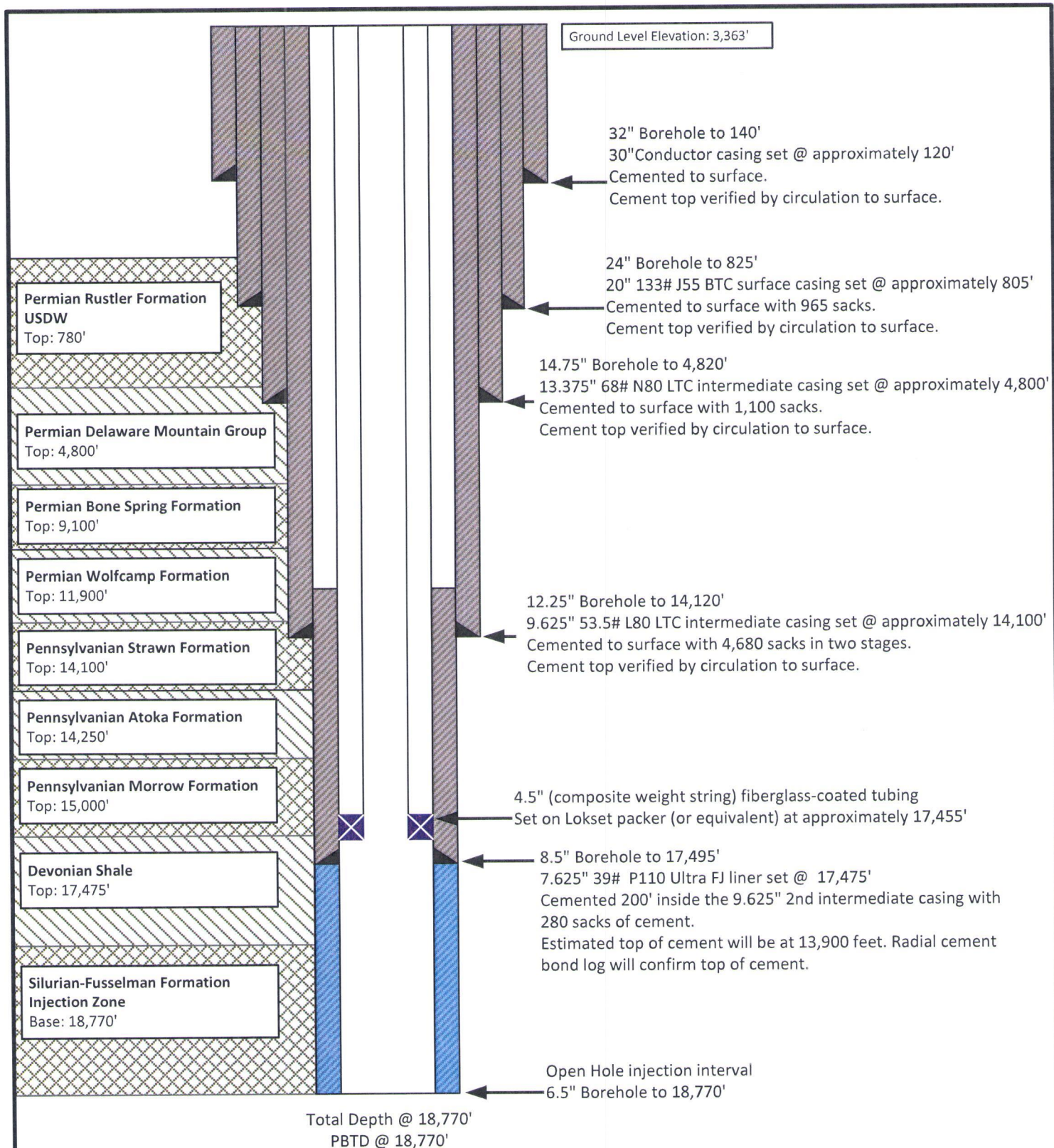
**Attachment 6:** Induced Seismicity Assessment Letter

**Attachment 7:** Public Notice Affidavit and Notice of Application Confirmations

**Attachment 1**

Wellbore Diagram





*Note: Listed depths and cement volumes are approximates based on available information. All cement calculations use yield of 1.18 cubic foot per sack and include 25% excess.*

NOT TO SCALE

Prepared by:

**ALLCONSULTING**

Drawn by: Joshua Ticknor

Project Manager:  
Dan Arthur

Date: 8/5/2019

Vista Disposal Solutions, LLC  
Charles Federal SWD #1  
Section 35, Twp 25S, Rng 32E  
1,368' FNL & 1,885' FWL  
Lea County, NM

## A-3 and AL-2 LOK-SET Retrievable Casing Packers

Product Family No. H64630 and H64628

### APPLICATION

The A-3™ LOK-SET™ packer combines advantages of a retrievable packer with the features of a permanent packer. An ability to lock down tubing forces makes the A-3 suitable for a broad range of applications, including production, injection, zone isolation, and remedial operations. The AL-2™ LOK-SET packer is similar to the A-3, and has a larger bore.

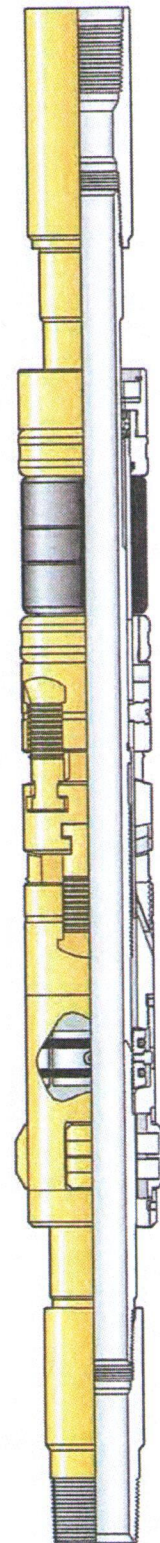
### Advantages

- Holds pressure from above and below, without relying on set-down weight, tubing tension, or hydraulic hold down
- Provides tubing anchoring with tension applied, suitable for pumping wells or injection, controlling tubing forces related to change fluid temperatures
- Opposed, non-transferring, dovetail slips prevent packer movement associated with changing differential pressures, while allowing the landing of the tubing in tension, neutral or compression
- Right-hand tubing rotation controls setting and releasing
- Packing element compression locks in by ratcheting action of lock segments, which restricts rotation to one direction

### Accessories

To provide a simple and reliable injection system for retrieving an injection string without having to unseat the packer:

L-10 or L-316 on-off sealing connectors, Product Family Nos. H68420 and H68422. Baker Hughes blanking plug can be used in the seating nipple profile of the on-off sealing connector to provide a means of plugging the lower zone while the tubing is being pulled.



A-3 LOK-SET  
Retrievable Casing Packer  
Product Family No. H64630



## SPECIFICATION GUIDES

A-3™ LOK-SET Retrievable Casing Packer, Product Family No. H64630

| Casing |       |           | Packer |        |      |                  |       |
|--------|-------|-----------|--------|--------|------|------------------|-------|
| OD     |       | Weight *  | Size   | Nom ID |      | Max Gage Ring OD |       |
| in.    | mm    | lb/ft     |        | in.    | mm   | in.              | mm    |
| 4      | 101.6 | 9.5-12.9  | 41A2   | 1.500  | 38.1 | 3.244            | 82.4  |
| 4-1/2  | 144.3 | 21.6-23.6 | 41A2   | 1.500  | 38.1 | 3.244            | 82.4  |
| 4      | 101.6 | 9.5       | 41A4   | 1.500  | 38.1 | 3.423            | 112.4 |
| 4-1/2  | 114.3 | 18.8      | 41A4   | 1.500  | 38.1 | 3.423            | 112.4 |
|        |       | 13.5-17.7 | 41B    |        |      | 3.578            | 90.9  |
|        |       | 11.6-13.5 | 43A2   | 1.978  | 50.2 | 3.786            | 96.2  |
|        |       | 9.5-10.5  | 43A4   |        |      | 3.786            | 96.2  |
| 5      | 127.0 | 15-18     | 43B    | 1.978  | 50.2 | 4.140            | 105.2 |
|        |       | 11.5-15   | 43C    |        |      | 4.265            | 108.3 |
| 5-1/2  | 139.7 | 26        | 43C    | 1.978  | 50.2 | 4.265            | 108.3 |
|        |       | 20-23     | 45A2   |        |      | 4.515            | 114.7 |
|        |       | 15.5-20   | 45A4   |        |      | 4.656            | 118.3 |
|        |       | 13-15.5   | 45B    |        |      | 4.796            | 121.8 |
| 6      | 152.4 | 26        | 45B    | 1.978  | 50.2 | 4.796            | 121.8 |
|        |       | 20-23     | 45C    |        |      | 5.078            | 129.0 |
|        |       | 15-18     | 45D    |        |      | 5.171            | 131.3 |
| 6-5/8  | 168.3 | 34        | 45E    | 1.978  | 50.2 | 5.421            | 137.7 |
|        |       | 24-32     | 45F    |        |      | 5.499            | 139.7 |
|        |       | 24        | 47A2   | 2.441  | 62.0 | 5.671            | 144.0 |
|        |       | 17-24     | 45G    | 1.978  | 50.2 | 5.796            | 147.2 |
| 7      | 177.8 | 17-20     | 47A4   | 2.441  | 62.0 | 5.827            | 148.0 |
|        |       | 38        | 47A2   | 2.441  | 62.0 | 5.671            | 144.0 |
|        |       | 32-35     | 47A4   |        |      | 5.827            | 148.0 |
|        |       | 26-29     | 47B2   |        |      | 5.983            | 152.0 |
| 7-5/8  | 193.7 | 23-26     | 47B4   |        |      | 6.093            | 154.8 |
|        |       | 17-20     | 47C2   |        |      | 6.281            | 159.5 |
|        |       | 33.7-39   | 47C4   | 2.441  | 62.0 | 6.468            | 164.3 |
|        |       | 24-29.7   | 47D2   |        |      | 6.687            | 169.9 |
| 8-5/8  | 219.1 | 20-24     | 47D4   |        |      | 6.827            | 173.4 |
|        |       | 44-49     | 49A2   | 3.500  | 88.9 | 7.327            | 186.1 |
|        |       | 32-40     | 49A4   |        |      | 7.546            | 191.7 |
|        |       | 20-28     | 49B    |        |      | 7.796            | 198.0 |
| 9-5/8  | 244.5 | 47-53.5   | 51A2   | 3.500  | 88.9 | 8.234            | 209.1 |
|        |       | 40-47     | 51A4   |        |      | 8.452            | 214.7 |
|        |       | 29.3-36   | 51B    |        |      | 8.608            | 218.6 |

AL-2™ Large Bore LOK-SET Retrievable Casing Packer Product Family No. H64628

| Casing |       |          | Packer       |        |      |                  |       |                                       |
|--------|-------|----------|--------------|--------|------|------------------|-------|---------------------------------------|
| OD     |       | Weight * | Size         | Nom ID |      | Max Gage Ring OD |       | Max Diameter of Compressed Drag Block |
| in.    | mm    | lb/ft    |              | in.    | mm   | in.              | mm    | in.                                   |
| 5-1/2  | 139.7 | 20       | 45A2 x 2-3/8 | 2.375  | 60.3 | 4.562            | 115.9 | 4.592                                 |
|        |       | 15.5-17  | 45A4 x 2-3/8 |        |      | 4.656            | 118.3 | 4.750                                 |
|        |       | 13       | 45B x 2-3/8  |        |      | 4.796            | 121.8 | 4.902                                 |
| 6      | 152.4 | 26       | 45B x 2-3/8  | 2.375  | 60.3 | 4.796            | 121.8 | 4.902                                 |

- When selecting a packer for a casing weight common to two weight ranges (same OD), choose the packer size shown for the lighter of the two weight ranges. Example: for 7-in. (177.8 mm) OD 26 lb/ft casing use packer size 47B4. Under certain circumstances the other packer size may be run, such as when running in mixed casing strings.
- Repair kits, including such items as packing elements, seal rings, etc., are available for redressing Baker Retrievable Packers. Contact your Baker Hughes representative. Use only Baker Hughes repair parts.

## **Attachment 2**

### **Area of Review Information:**

- 2-mile Oil & Gas Well Map
- 2-mile Lease Map
- 1.5-mile Deep SWD Map (Devonian/Silurian SWDs)
- 1-mile Well Detail List
- Potash Lease Map

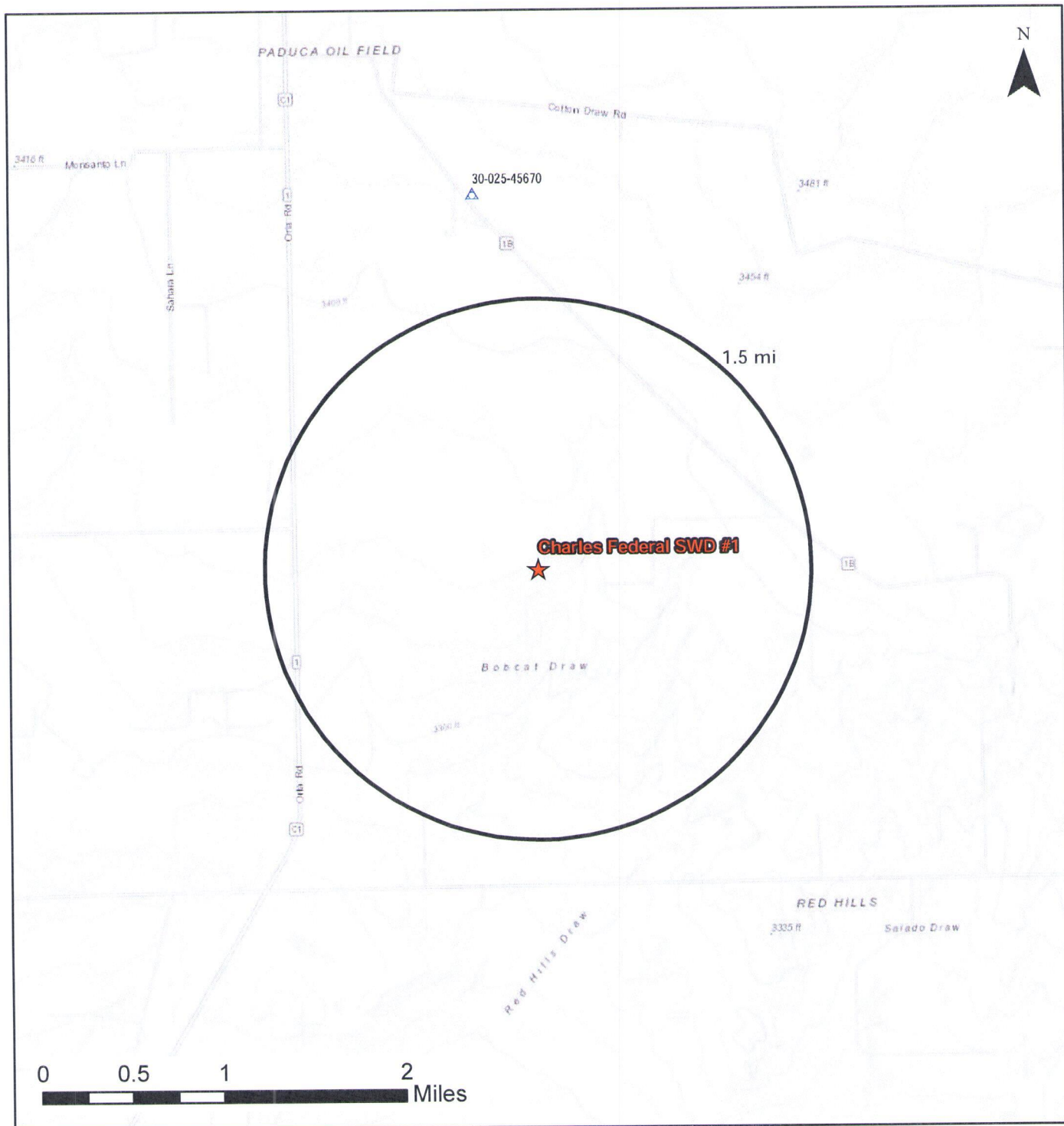












## Charles Federal SWD #1 Deep SWDs AOR

Proj Mgr:  
Dan Arthur

Jul 9, 2019

Mapped by:  
Ben Bockelmann

Prepared for:  
Vista Disposal Solutions, LLC

Prepared by:  
**ALL**CONSULTING

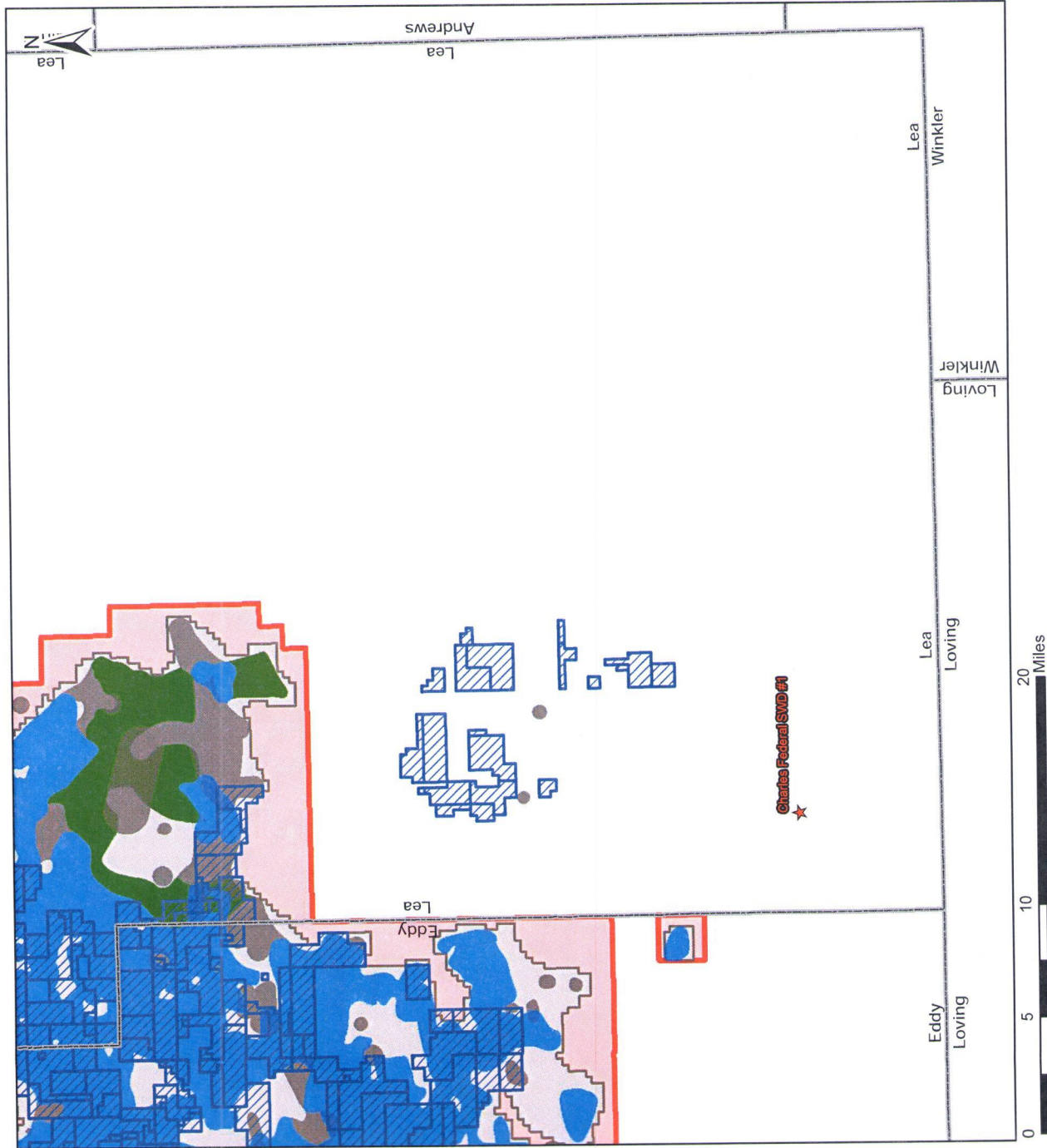
### Legend

- ★ Proposed SWD Devonian/Silurian SWDs
- △ Salt Water Injection, New (1)

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

| AOR Tabulation for Charles Federal SWD #1 (Top of Injection Interval: 17,475') |              |           |  |             |                            |                             |                      |
|--|--------------|-----------|--|-------------|----------------------------|-----------------------------|----------------------|
| Well Name  | API#         | Well Type | Operator                                   | Spud Date   | Location (Sec., Tn., Rng.) | Total Vertical Depth (feet) | Penetrate Inj. Zone? |
| QUIJOTE 2 STATE COM #713H  | 30-025-46028 | O         | EOG RESOURCES INC                          | Not Drilled | A-02-26S-32E               | Proposed (12,313)           | No                   |
| QUIJOTE 2 STATE COM #706H  | 30-025-46026 | O         | EOG RESOURCES INC                          | Not Drilled | B-02-26S-32E               | Proposed (12,138)           | No                   |
| QUIJOTE 2 STATE COM #715H  | 30-025-46029 | O         | EOG RESOURCES INC                          | Not Drilled | B-02-26S-32E               | Proposed (12,277)           | No                   |
| QUIJOTE 2 STATE COM #702H  | 30-025-46024 | O         | EOG RESOURCES INC                          | Not Drilled | A-02-26S-32E               | Proposed (12,186)           | No                   |
| QUIJOTE 2 STATE COM #711H  | 30-025-46027 | O         | EOG RESOURCES INC                          | Not Drilled | A-02-26S-32E               | Proposed (12,329)           | No                   |
| GEM 36 STATE COM #721H   | 30-025-44568 | O         | EOG RESOURCES INC                          | 3/27/2018   | M-36-25S-32E               | 12,545                      | No                   |
| QUIJOTE 2 STATE COM #704H  | 30-025-46025 | O         | EOG RESOURCES INC                          | Not Drilled | B-02-26S-32E               | Proposed (12,153)           | No                   |
| GEM 36 STATE COM #601H   | 30-025-44567 | O         | EOG RESOURCES INC                          | 3/28/2018   | M-36-25S-32E               | 12,027                      | No                   |
| HARRIER 35 FEDERAL COM #001H   | 30-025-40572 | O         | COG OPERATING LLC                          | 6/12/2012   | G-35-25S-32E               | 11,920                      | No                   |
| HARRIER FEDERAL COM #103H  | 30-025-45829 | O         | COG OPERATING LLC                          | Not Drilled | D-35-25S-32E               | Proposed (9,200)            | No                   |
| HARRIER FEDERAL COM #202H  | 30-025-45831 | O         | COG OPERATING LLC                          | Not Drilled | D-35-25S-32E               | Proposed (9,300)            | No                   |
| PRE-ONGARD WELL #001   | 30-025-08245 | Plugged   | PRE-ONGARD WELL OPERATOR (W.K. Byron)      | 5/22/1961   | A-34-25S-32E               | Plugged (4,747)             | No                   |
| PRE-ONGARD WELL #001   | 30-025-08248 | Plugged   | PRE-ONGARD WELL OPERATOR (Judah Oil, LLC.) | 12/2/1953   | M-36-25S-32E               | Plugged (4,953)             | No                   |
| Notes: No wells within the 1-mile AOR penetrate the injection interval.        |              |           |  |             |                            |                             |                      |





- Legend**
- ★ Proposed SWD
  - ▨ Potash Leases
  - Ore Type - Measured
  - Ore Type - Indicated
  - Ore Type - Inferred
  - KPLA
  - SOPA

|  |               |                                       |
|--|---------------|---------------------------------------|
| Potash Leases<br>Area of Review                  |               |                                       |
| Charles Federal SWD #1<br>Lea County, New Mexico |               |                                       |
| Proj Mgr:<br>Dan Arthur                          | July 06, 2019 | Mapped by:<br>Ben Bockelmann          |
| Prepared for:<br>Vista Disposal Solutions, LLC   |               | Prepared by:<br><b>ALJ</b> CONSULTING |

**Attachment 3**

Source Water Analyses

Wolfcamp



## Water Analysis

Date: 23-Aug-11

2708 West County Road, Hobbs NM 88240

Phone (575) 392-5556 Fax (575) 392-7307

Analyzed For

Brushy Draw 1#1

| Company | Well Name | County | State      |
|---------|-----------|--------|------------|
|         | BD        | Lea    | New Mexico |
|         |           | Eddy   | 1-265-295  |
|         |           |        | 1          |

Sample Source

Swab Sample

Sample #

Formation

Depth

|                  |       |                 |        |
|------------------|-------|-----------------|--------|
| Specific Gravity | 1.170 | SG @ 60 °F      | 1.172  |
| pH               | 6.30  | Sulfides        | Absent |
| Temperature (°F) | 70    | Reducing Agents |        |

### Cations

|                    |         |        |        |        |
|--------------------|---------|--------|--------|--------|
| Sodium (Calc)      | in Mg/L | 77,962 | in PPM | 66,520 |
| Calcium            | in Mg/L | 4,000  | in PPM | 3,413  |
| Magnesium          | in Mg/L | 1,200  | in PPM | 1,024  |
| Soluble Iron (FE2) | in Mg/L | 10.0   | in PPM | 9      |

### Anions

|                               |         |         |        |         |
|-------------------------------|---------|---------|--------|---------|
| Chlorides                     | in Mg/L | 130,000 | in PPM | 110,922 |
| Sulfates                      | in Mg/L | 250     | in PPM | 213     |
| Bicarbonates                  | in Mg/L | 127     | in PPM | 108     |
| Total Hardness (as CaCO3)     | in Mg/L | 15,000  | in PPM | 12,799  |
| Total Dissolved Solids (Calc) | in Mg/L | 213,549 | in PPM | 182,209 |
| Equivalent NaCl Concentration | in Mg/L | 182,868 | in PPM | 156,031 |

### Scaling Tendencies

\*Calcium Carbonate Index 507,520

Below 500,000 Remote / 500,000 - 1,000,000 Possible / Above 1,000,000 Probable

\*Calcium Sulfate (Gyp) Index 1,000,000

Below 500,000 Remote / 500,000 - 10,000,000 Possible / Above 10,000,000 Probable

\*This Calculation is only an approximation and is only valid before treatment of a well or several weeks after treatment.

Remarks RW=.048@70F

Report # 3188

Sec 22, T25S, R28E

North Permian Basin Region

P.O. Box 740

Sundown, TX 79372-0740

(806) 228-8121

Lab Team Leader - Shella Hernandez

(432) 495-7240

Bone Spring

## Water Analysis Report by Baker Petrolite

|                     |                          |                  |                               |
|---------------------|--------------------------|------------------|-------------------------------|
| Company:            |                          | Sales RDT:       | 33514.1                       |
| Region:             | PERMIAN BASIN            | Account Manager: | TONY HERNANDEZ (575) 910-7135 |
| Area:               | ARTESIA, NM              | Sample #:        | 534665                        |
| Lease/Platform:     | PINOCHLE 'BPN' STATE COM | Analysis ID #:   | 106795                        |
| Entity (or well #): | 2 H                      | Analysis Cost:   | \$90.00                       |
| Formation:          | UNKNOWN                  |                  |                               |
| Sample Point:       | WELLHEAD                 |                  |                               |

| Summary                    |              | Analysis of Sample 534665 @ 75 F |          |         |            |         |         |      |       |
|----------------------------|--------------|----------------------------------|----------|---------|------------|---------|---------|------|-------|
| Sampling Date:             | 03/10/11     | Anions                           |          | mg/l    | meq/l      | Cations |         | mg/l | meq/l |
| Analysis Date:             | 03/18/11     | Chloride:                        | 109618.0 | 3091.92 | Sodium:    | 70275.7 | 3056.82 |      |       |
| Analyst:                   | SANDRA GOMEZ | Bicarbonate:                     | 2135.0   | 34.99   | Magnesium: | 195.0   | 16.04   |      |       |
|                            |              | Carbonate:                       | 0.0      | 0.      | Calcium:   | 844.0   | 42.12   |      |       |
| TDS (mg/l or g/m3):        | 184911.1     | Sulfate:                         | 747.0    | 15.55   | Strontium: | 220.0   | 5.02    |      |       |
| Density (g/cm3, tonne/m3): | 1.113        | Phosphate:                       |          |         | Barium:    | 0.8     | 0.01    |      |       |
| Anion/Cation Ratio:        | 1            | Borate:                          |          |         | Iron:      | 6.5     | 0.23    |      |       |
|                            |              | Silicate:                        |          |         | Potassium: | 889.0   | 22.22   |      |       |
|                            |              |                                  |          |         | Aluminum:  |         |         |      |       |
| Carbon Dioxide:            | 0.50 PPM     | Hydrogen Sulfide:                |          | 0 PPM   | Chromium:  |         |         |      |       |
| Oxygen:                    |              | pH at time of sampling:          |          | 7       | Copper:    |         |         |      |       |
| Comments:                  |              | pH at time of analysis:          |          |         | Lead:      |         |         |      |       |
|                            |              | pH used in Calculation:          |          | 7       | Manganese: | 0.100   | 0.      |      |       |
|                            |              |                                  |          |         | Nickel:    |         |         |      |       |

| Conditions |              | Values Calculated at the Given Conditions - Amounts of Scale in lb/1000 bbl |        |  |        |                                |        |                                |        |                             |        |                       |
|------------|--------------|---|--------|--|--------|--------------------------------|--------|--------------------------------|--------|-----------------------------|--------|-----------------------|
| Temp       | Gauge Press. | Calcite<br>CaCO <sub>3</sub>  |        | Gypsum<br>CaSO <sub>4</sub> *2H <sub>2</sub> O |        | Anhydrite<br>CaSO <sub>4</sub> |        | Celestite<br>SrSO <sub>4</sub> |        | Barite<br>BaSO <sub>4</sub> |        | CO <sub>2</sub> Press |
| F          | psi          | Index   | Amount | Index  | Amount | Index                          | Amount | Index                          | Amount | Index                       | Amount | psi                   |
| 80         | 0            | 1.06  | 188.52 | -1.20  | 0.00   | -1.18                          | 0.00   | -0.11                          | 0.00   | 0.58                        | 0.29   | 1.72                  |
| 100        | 0            | 1.10  | 206.05 | -1.29  | 0.00   | -1.20                          | 0.00   | -0.15                          | 0.00   | 0.35                        | 0.29   | 2.36                  |
| 120        | 0            | 1.12  | 224.17 | -1.36  | 0.00   | -1.19                          | 0.00   | -0.17                          | 0.00   | 0.16                        | 0.00   | 3.17                  |
| 140        | 0            | 1.13  | 243.17 | -1.42  | 0.00   | -1.18                          | 0.00   | -0.18                          | 0.00   | 0.00                        | 0.00   | 4.21                  |

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO<sub>2</sub> pressure is actually the calculated CO<sub>2</sub> fugacity. It is usually nearly the same as the CO<sub>2</sub> partial pressure.



**Attachment 4**

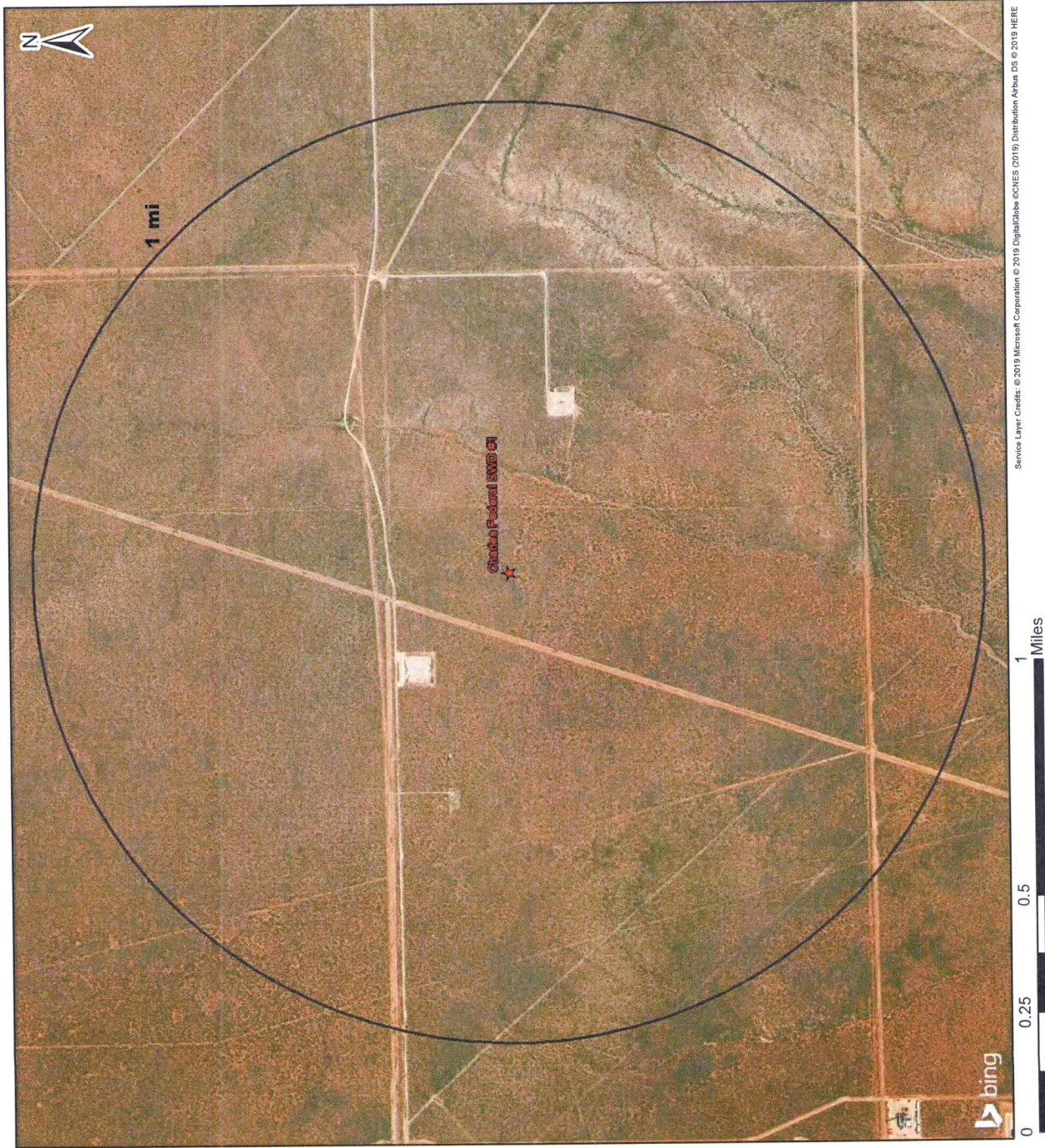
Injection Formation Water Analyses

| Injection Formation Water Analysis  |            |           |              |         |          |       |       |       |      |        |       |         |              |           |         |              |                 |             |
|---|------------|-----------|--------------|---------|----------|-------|-------|-------|------|--------|-------|---------|--------------|-----------|---------|--------------|-----------------|-------------|
| Vista Disposal Solutions, LLC - Devonian and Silurian-Fuselman Formations |            |           |              |         |          |       |       |       |      |        |       |         |              |           |         |              |                 |             |
| Wellname  | API        | Latitude  | Longitude    | Section | Township | Range | Unit  | Figws | Figw | County | State | Company | Field        | Formation | Tds_mgl | Chloride_mgl | Bicarbonate_mgl | Sulfate_mgl |
| STATE B COM #001  | 3002509716 | 32.179405 | -103.221324  | 36 24S  | 36E      | C     | 600N  | 1880W | LEA  | NM     |       |         | CUSTER       | DEVONIAN  | 176234  | 107400       | 128             | 1004        |
| FAIRWORTH FEDERAL #006  | 3002511950 | 32.077725 | -103.162468  | 4 26S   | 37E      | A     | 660N  | 990E  | LEA  | NM     |       |         | CROSBY       | DEVONIAN  | 31931   | 20450        | 302             | 591         |
| ARNOTT RAMSAY NCT-B #003  | 3002511863 | 32.092228 | -103.1784439 | 32 25S  | 37E      | A     | 660N  | 660E  | LEA  | NM     |       |         | CROSBY       | DEVONIAN  | 100382  |              | 476             |             |
| ARNOTT RAMSAY NCT-B #003  | 3002511863 | 32.092228 | -103.1784439 | 32 25S  | 37E      | A     | 660N  | 660E  | LEA  | NM     |       |         | CROSBY       | DEVONIAN  | 158761  |              |                 |             |
| COPPER #001   | 3002511818 | 32.099484 | -103.1656723 | 28 25S  | 37E      | J     | 1980S | 1981E | LEA  | NM     |       |         | CROSBY       | DEVONIAN  | 27506   | 15270        | 1089            | 1079        |
| STATE NJ A #001   | 3002511398 | 32.164749 | -103.1273346 | 2 25S   | 37E      | A     | 663N  | 660E  | LEA  | NM     |       |         | JUSTIS NORTH | DEVONIAN  | 105350  | 59300        | 660             | 4950        |
| WESTSTATES FEDERAL #004   | 3002511389 | 32.161129 | -103.1241226 | 1 25S   | 37E      | E     | 1980N | 330W  | LEA  | NM     |       |         | JUSTIS NORTH | FUSSELMAN | 80880   | 46200        | 340             | 3050        |
| WESTSTATES FEDERAL #004   | 3002511389 | 32.161129 | -103.1241226 | 1 25S   | 37E      | E     | 1980N | 330W  | LEA  | NM     |       |         | JUSTIS NORTH | FUSSELMAN | 84600   | 48600        | 840             | 3050        |
| WESTSTATES FEDERAL #004   | 3002511389 | 32.161129 | -103.1241226 | 1 25S   | 37E      | E     | 1980N | 330W  | LEA  | NM     |       |         | JUSTIS NORTH | FUSSELMAN | 72200   | 41000        | 370             | 2960        |
| WESTSTATES FEDERAL #004   | 3002511389 | 32.161129 | -103.1241226 | 1 25S   | 37E      | E     | 1980N | 330W  | LEA  | NM     |       |         | JUSTIS NORTH | FUSSELMAN | 80900   | 46200        | 340             | 3050        |
| WESTSTATES FEDERAL #004   | 3002511389 | 32.161129 | -103.1241226 | 1 25S   | 37E      | E     | 1980N | 330W  | LEA  | NM     |       |         | JUSTIS NORTH | FUSSELMAN | 77600   | 44000        | 550             | 3240        |
| WESTSTATES FEDERAL #004   | 3002511389 | 32.161129 | -103.1241226 | 1 25S   | 37E      | E     | 1980N | 330W  | LEA  | NM     |       |         | JUSTIS NORTH | FUSSELMAN | 135000  | 77000        | 650             | 5810        |
| WESTSTATES FEDERAL #004   | 3002511389 | 32.161129 | -103.1241226 | 1 25S   | 37E      | E     | 1980N | 330W  | LEA  | NM     |       |         | JUSTIS NORTH | FUSSELMAN | 114000  | 65000        | 280             | 5110        |
| WESTSTATES FEDERAL #004   | 3002511389 | 32.161129 | -103.1241226 | 1 25S   | 37E      | E     | 1980N | 330W  | LEA  | NM     |       |         | JUSTIS NORTH | FUSSELMAN | 135000  | 77000        | 530             | 5320        |
| WESTSTATES FEDERAL #004   | 3002511389 | 32.161129 | -103.1241226 | 1 25S   | 37E      | E     | 1980N | 330W  | LEA  | NM     |       |         | JUSTIS NORTH | FUSSELMAN | 91058   | 51020        | 376             | 4783        |
| WESTSTATES FEDERAL #008   | 3002511393 | 32.162121 | -103.1241226 | 1 25S   | 37E      | E     | 1620N | 330W  | LEA  | NM     |       |         | JUSTIS NORTH | FUSSELMAN | 88847   | 50450        | 363             | 2544        |
| WESTSTATES FEDERAL #008   | 3002511393 | 32.162121 | -103.1241226 | 1 25S   | 37E      | E     | 1620N | 330W  | LEA  | NM     |       |         | JUSTIS NORTH | FUSSELMAN | 129000  | 114000       | 960             | 4630        |
| STATE Y #009  | 3002511777 | 32.105882 | -103.1113434 | 25 25S  | 37E      | A     | 990N  | 990E  | LEA  | NM     |       |         | JUSTIS       | FUSSELMAN | 163430  | 96000        | 290             | 3780        |
| STATE Y #009  | 3002511777 | 32.105882 | -103.1113434 | 25 25S  | 37E      | A     | 990N  | 990E  | LEA  | NM     |       |         | JUSTIS       | FUSSELMAN | 358770  | 33870        | 360             | 3442        |
| STATE Y #009  | 3002511777 | 32.105882 | -103.1113434 | 25 25S  | 37E      | A     | 990N  | 990E  | LEA  | NM     |       |         | JUSTIS       | FUSSELMAN | 208280  | 124000       | 510             | 3400        |
| SOUTH JUSTIS UNIT #023C   | 3002511764 | 32.106728 | -103.1184616 | 25 25S  | 37E      | C     | 660N  | 2080W | LEA  | NM     |       |         | JUSTIS       | FUSSELMAN | 208280  | 124000       | 510             | 3400        |
| CARLSON A #002  | 3002511764 | 32.100384 | -103.1113434 | 25 25S  | 37E      | I     | 2310S | 990E  | LEA  | NM     |       |         | JUSTIS       | FUSSELMAN | 112900  |              | 68              | 1806        |
| CARLSON B 25 #004   | 3002511784 | 32.096756 | -103.1113434 | 25 25S  | 37E      | P     | 990S  | 990E  | LEA  | NM     |       |         | JUSTIS       | FUSSELMAN | 18430   |              |                 |             |

**Attachment 5**

Water Well Map and Well Data





# Legend

- ★ Proposed SWD
- NMOSE PODs
- Status
  - Active (0)
  - Pending (0)
  - Change Location of Well (0)
  - Capped (0)
  - Plugged (0)
  - Incomplete (0)
  - Unknown (0)

## Water Wells Area of Review

Charles Federal SWD #1  
Lea County, New Mexico

|                         |                 |                              |
|-------------------------|-----------------|------------------------------|
| Proj Mgr:<br>Dan Arthur | August 05, 2019 | Mapped by:<br>Ben Bockelmann |
|-------------------------|-----------------|------------------------------|

Prepared by:

**ALICONSULTING**



| Water Well Sampling Rationale  |             |       |                               |     |       |
|--|-------------|-------|-------------------------------|-----|-------|
| Vista Disposal Solutions, LLC - Charles Federal SWD #1                       |             |       |                               |     |       |
| SWD  | Water Wells | Owner | Available Contact Information | Use | Notes |
|  |             |       |                               |     |       |
|  |             |       |                               |     |       |
|  |             |       |                               |     |       |
| Note: No water wells are present within 1 mile of the proposed SWD location. |             |       |                               |     |       |

**Attachment 6**

Induced Seismicity Assessment Letter



August 5, 2019

Mr. Phillip Goetze, P.G.  
NM EMNRD – Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Subject: Induced Seismicity Potential Statement for the Charles Federal SWD #1

Dear Mr. Goetze,

This letter provides information regarding the seismic potential associated with injection operations associated with Vista Disposal Solutions, LLC (Vista), proposed Charles Federal SWD #1, hereinafter referred to as the “Subject Well.”

As outlined herein, based on my experience as an expert on the issue of induced seismicity, it is my opinion that the potential for the proposed injection well to cause injection-induced seismicity is expected to be minimal, at best. This conclusion is based on (1) the lack of historic seismic activity and faulting in the area, (2) the low fault slip potential (FSP) of Precambrian faults in the area, (3) the presence of confining layers, and (4) the overall vertical distance between the proposed injection zone and basement rock.

The Subject Well, is located 1,368 FNL & 1,885 FWL of Section 35, in T25-S and R32-E of Lea County, New Mexico. Historically, the Eddy and Lea Counties area has experienced very limited recorded seismic activity (per the U.S. Geological Survey [USGS] earthquake catalog database). There has been one known seismic events located within a 25-mile radius of the proposed Subject Well. The closest recorded seismic event was a M2.9 that occurred on December 4<sup>th</sup>, 1984, and was located approximately 13.2 miles northeast of the Subject Well (See Exhibit 1). The closest Class IID well injecting into the same formations (Devonian-Silurian) of the Subject Well is approximately 2.1 miles to the north (See Exhibit 1).

Vista does not own either 2D or 3D seismic reflection data in the area of the Subject Well. Fault data from USGS indicates that the closest known fault is approximately 9.7 miles northeast of the Subject Well (See Exhibit 1).

In a recent paper written by Snee and Zoback (2018) entitled “State of Stress in the Permian Basin, Texas and New Mexico: Implications for Induced Seismicity,” the authors found that large groups of mostly north-south striking Precambrian basement faults, predominantly located along the Central Basin Platform, the western Delaware Basin, and large parts of the Northwest Shelf (which includes Eddy and Lea counties, New Mexico) have low FSP at the modeled fluid-pressure

perturbation. The map in Exhibit 2 depicts the low probability risk of FSP for the Delaware Basin and Northwest Shelf areas (Snee and Zoback 2018).

Geologic analysis indicates that the proposed Devonian-Silurian injection zone is overlain by approximately 200 to 400 feet of Woodford Shale, which is the upper confining zone and will serve as a barrier for upward injection fluid migration. Additionally, the Simpson Group that lies directly below the Montoya Formation will act as a lower confining zone to prohibit fluids from migrating downward into the underlying Ellenburger Formation and Precambrian basement rock. See the stratigraphic column for the Delaware Basin included in Exhibit 3.

In the Eddy and Lea Counties area of New Mexico, the Simpson Group is comprised of a series of Middle to Upper Ordovician carbonates, several sandstones, and sandy shales that range from approximately 350 to 650 feet thick (Jones 2008). This group of rocks is capped by the limestones of the Bromide Formation, which is approximately 200 feet thick in this area (Jones 2008). The closest deep well drilled into the Precambrian basement was completed by the Skelly Oil Company in 1975. This well is located in Section 17, Range 36E, Township 25S of Lea County (API No.30-025-25046) and encountered 602 feet of Ellenburger Formation before reaching the top of the Precambrian granite at a depth of 18,920 feet. Based on the estimated thickness of the Simpson Group and Ellenburger Formation in this area, the Precambrian basement should be approximately 1,000 to 1,200 feet below the bottom of the proposed injection zones in the Subject Well.

### **Conclusion**

As an expert on the issue of induced seismicity, it is my opinion that the potential for the proposed injection well to cause injection-induced seismicity is expected to be minimal, at best. This conclusion is based on (1) the lack of historic seismic activity and faulting in the area, (2) the low FSP of Precambrian faults in the area, (3) the presence of confining layers, and (4) the overall vertical distance between the proposed injection zone and basement rock.

Sincerely,  
ALL Consulting



J. Daniel Arthur, P.E., SPEC  
President and Chief Engineer

Enclosures  
References  
Exhibits

## **References**



Ball, Mahlon M. 1995. "Permian Basin Province (044)." In *National Assessment of United States Oil and Gas Resources—Results, Methodology, and Supporting Data*. U.S. Geological Survey. <https://certmapper.cr.usgs.gov/data/noga95/prov44/text/prov44.pdf> (accessed June 18, 2018).

Green, G.N., and G.E. Jones. 1997. "The Digital Geologic Map of New Mexico in ARC/INFO Format." U.S. Geological Survey Open-File Report 97-0052. <https://mrdata.usgs.gov/geology/state/state.php?state=NM> (accessed June 14, 2018).

Jones, Rebecca H. 2008. "The Middle-Upper Ordovician Simpson Group of the Permian Basin: Deposition, Diagenesis, and Reservoir Development." [http://www.beg.utexas.edu/resprog/permianbasin/PBGSP\\_members/writ\\_synth/Simpson.pdf](http://www.beg.utexas.edu/resprog/permianbasin/PBGSP_members/writ_synth/Simpson.pdf) (accessed June 19, 2018).

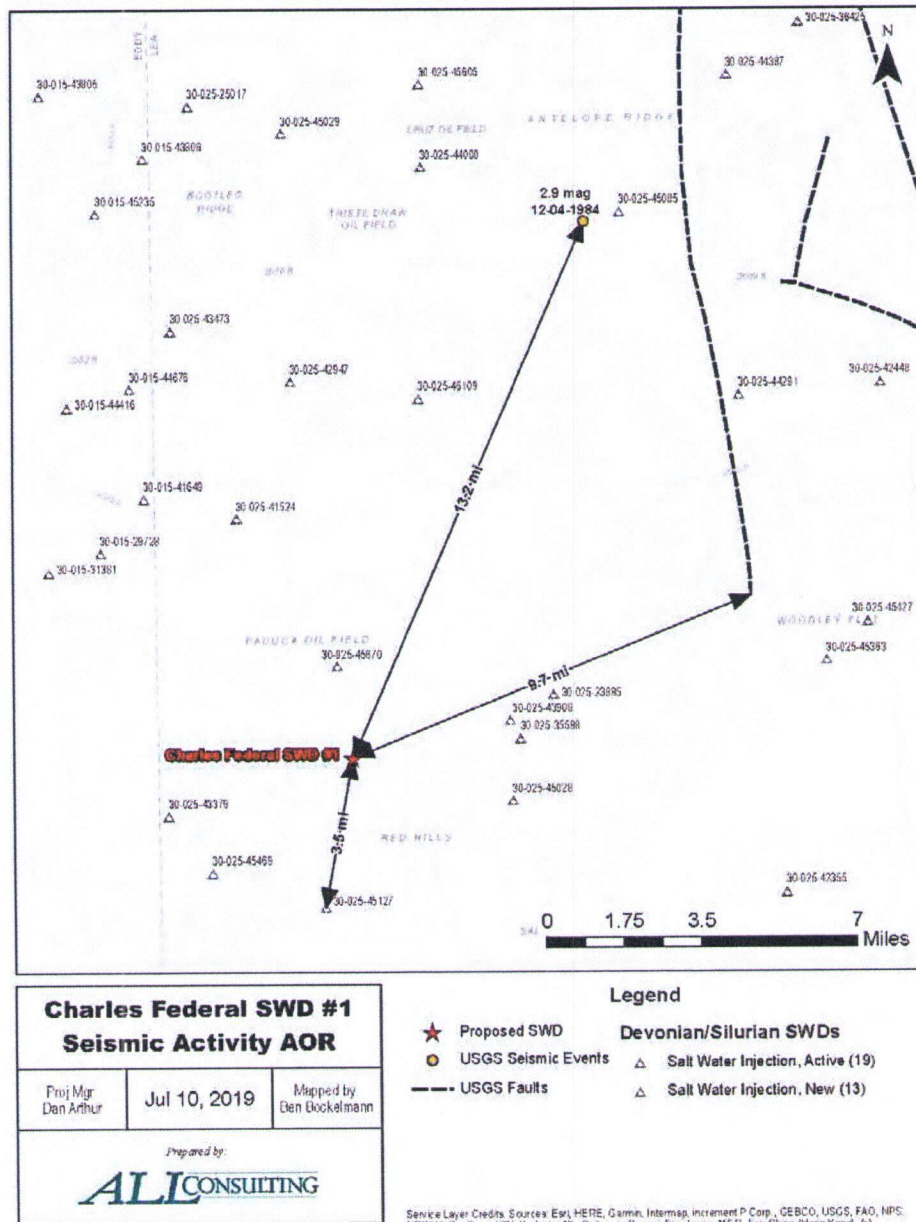
Snee, Jens-Erik Lund, and Mark D. Zoback. 2018. "State of Stress in the Permian Basin, Texas and New Mexico: Implications for Induced Seismicity." *The Leading Edge* 37, no. 2 (February 2018): 127-34.

U.S. Geological Survey (USGS). No date. Earthquakes Hazard Program: Earthquake Catalog. <https://earthquake.usgs.gov/earthquakes/search/> (accessed June 14, 2018).

Induced Seismicity Potential Statement for the Charles Federal SWD #1  
August 5, 2019

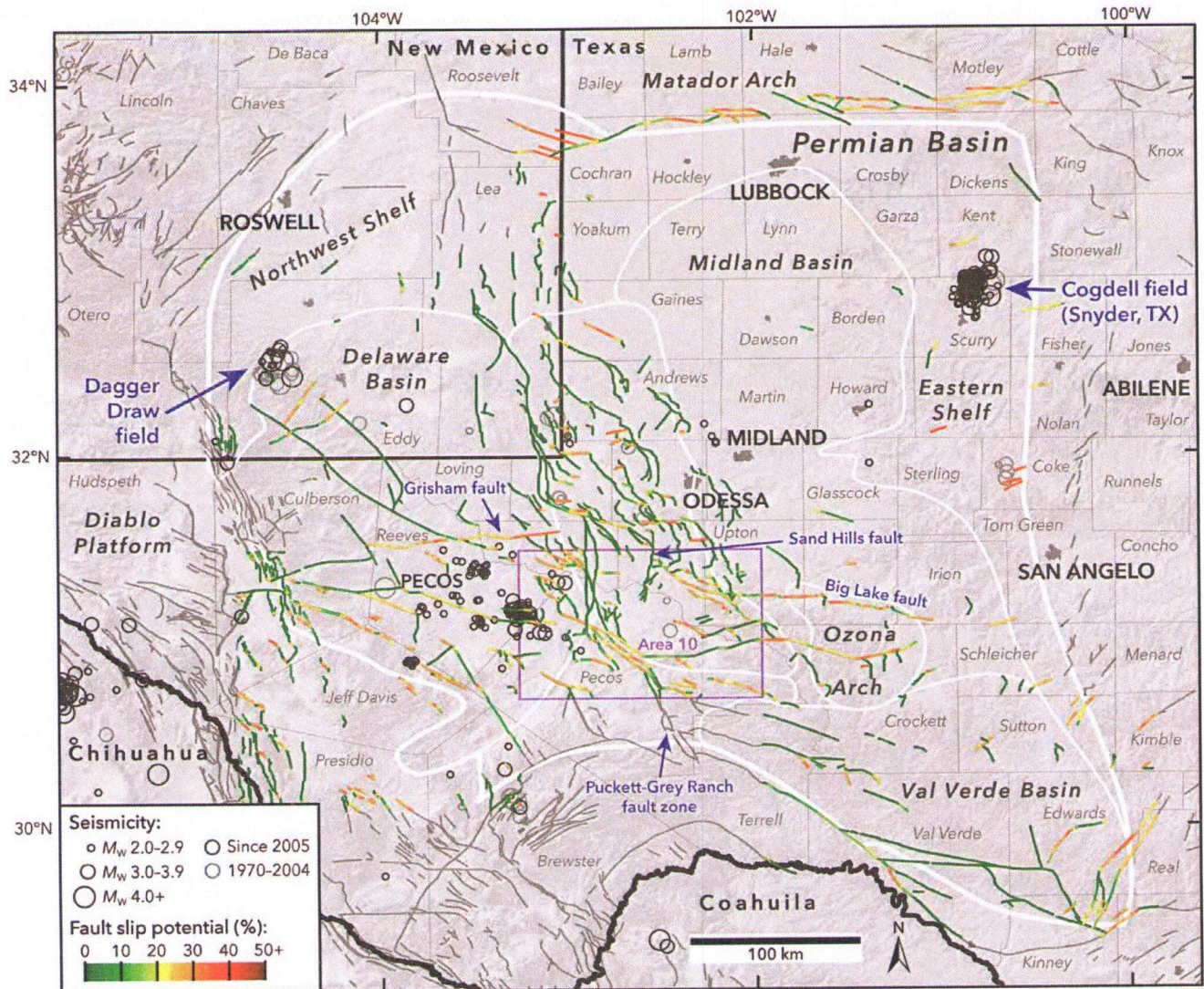
## **Exhibits**

Induced Seismicity Potential Statement for the Charles Federal SWD #1  
August 5, 2019



**Exhibit 1. Map Showing the Distances from Known and Inferred Faults, Seismic Event, and Closest Deep Injection Well**





**Exhibit 2. Results of the Snee and Zoback (2018) Probabilistic FSP Analysis Across the Permian Basin**



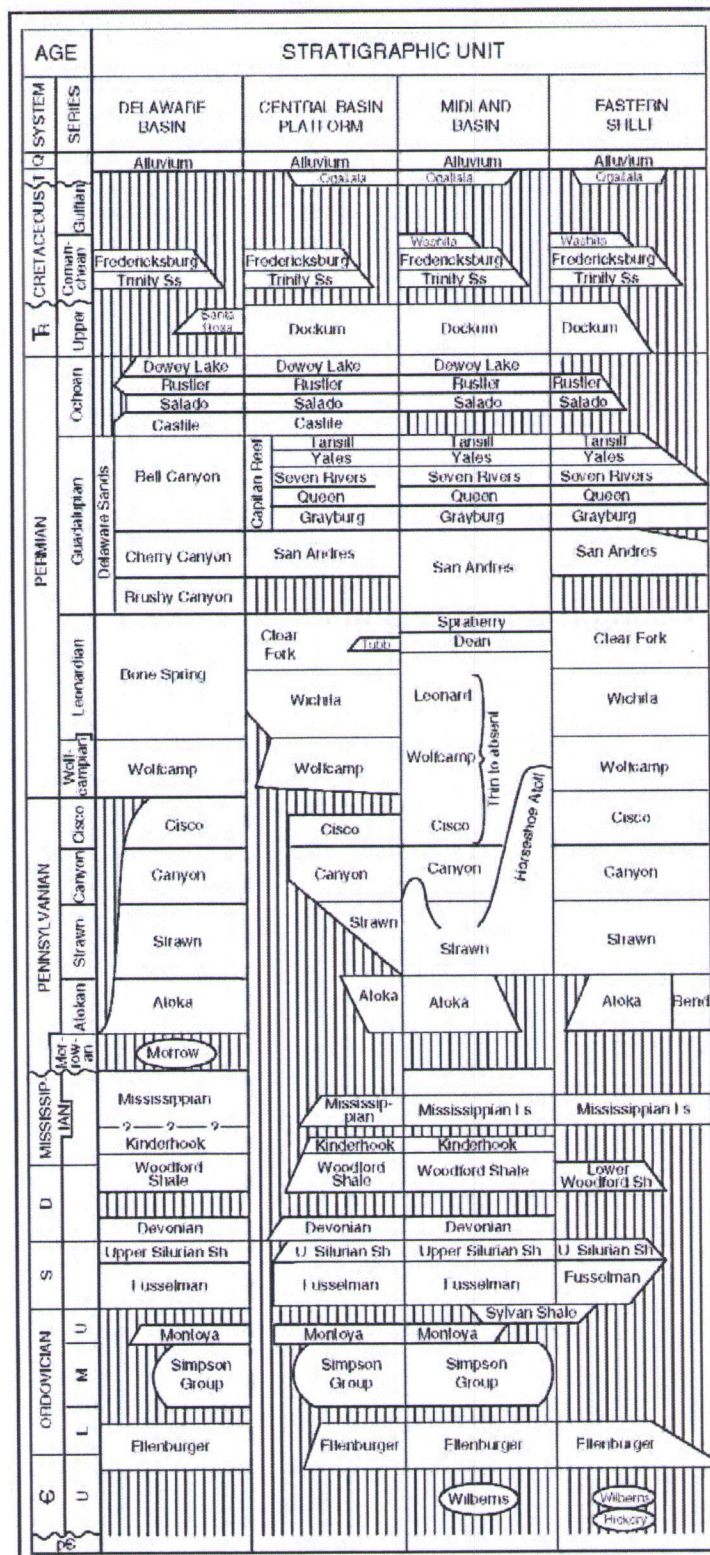


Exhibit 3. Delaware Basin Stratigraphic Chart (Ball 1995)

**Attachment 7**

Public Notice Affidavit and Notice of Application Confirmations




# Affidavit of Publication

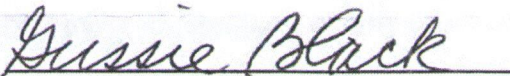
STATE OF NEW MEXICO  
COUNTY OF LEA

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).

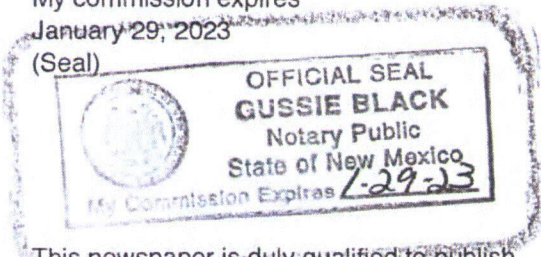
Beginning with the issue dated  
July 06, 2019  
and ending with the issue dated  
July 06, 2019.

  
Publisher

Sworn and subscribed to before me this  
6th day of July 2019.

  
Business Manager

My commission expires  
January 29, 2023  
(Seal)



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

| LEGAL  | LEGAL |
|--|-------|
| <b>LEGAL NOTICE</b><br>JULY 6, 2019  |       |
| <b>APPLICATION FOR AUTHORIZATION TO INJECT</b>   |       |
| NOTICE IS HEREBY GIVEN: That Vista Disposal Solutions, LLC, 12444 NW 10th St., Building G, Suite 202-512, Yukon, OK 73099, is requesting that the New Mexico Oil Conservation Division administratively approve the APPLICATION FOR AUTHORIZATION TO INJECT as follows:  |       |
| PURPOSE: The intended purpose of the injection well is to dispose of salt water produced from permitted oil and gas wells.   |       |
| WELL NAME AND LOCATION: Charles Federal SWD #1<br>SE 1/4 NW 1/4, Section 35, Township 25S, Range 32E<br>1,368' FNL & 1,885' FWL<br>Lea County, NM  |       |
| NAME AND DEPTH OF DISPOSAL ZONE: Devonian - Silurian (17,475' - 18,770')   |       |
| EXPECTED MAXIMUM INJECTION RATE: 30,000 Bbls/day   |       |
| EXPECTED MAXIMUM INJECTION PRESSURE: 3,495 psi (surface)   |       |
| Objections or requests for hearing must be filed with the New Mexico Oil Conservation Division within fifteen (15) days. Any objection or request for hearing should be mailed to the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505. |       |
| Additional information may be obtained by contacting Nate Alleman at 918-382-7581.<br>#34406   |       |

67115320

00230517

DANIEL ARTHUR  
ALL CONSULTING  
1718 S. CHEYENNE AVE.  
TULSA, OK 74119

| Charles Federal SWD #1 - Notice of Application Recipients   |                                   |          |       |            |  |
|---|-----------------------------------|----------|-------|------------|--|
| Entity  | Address                           | City     | State | Zip Code   |  |
| Landowner & Mineral Owner   |                                   |          |       |            |  |
| New Mexico BLM  | 620 E. Greene St.                 | Carlsbad | NM    | 88220      |  |
| OCD District  |                                   |          |       |            |  |
| NMOCD District 1  | 1625 N. French Drive              | Hobbs    | NM    | 88240      |  |
| Leasehold Operators   |                                   |          |       |            |  |
| BTA Oil Producers, LLC (BTA OIL PRODUCERS)  | 104 S. Pecos St                   | Midland  | TX    | 79701      |  |
| COG Operating, LLC (COG OPERATING LLC)  | 600 W. Illinois Ave.              | Midland  | TX    | 79701      |  |
| COG Production, LLC (COG PRODUCTION LLC)  | 600 W. Illinois Ave.              | Midland  | TX    | 79701      |  |
| Commision of Public Lands - State Land Office   | 310 Old Santa Fe Trail            | Santa Fe | NM    | 87501      |  |
| Devon Energy Operating Corporation<br>(DEVON ENERGY OPER CO LP)   | 6488 Seven Rivers Hwy.            | Artesia  | NM    | 88210      |  |
| EOG A Resources, Inc. (EOG A RESOURCES INC)   | P.O. Box 900                      | Artesia  | NM    | 88211      |  |
| EOG M Resources, Inc. (EOG M RESOURCES INC)   | P.O. Box 840                      | Artesia  | NM    | 88211      |  |
| EOG Resources, Inc. (EOG RESOURCES INC)   | 4000 N. Big Spring St., Suite 500 | Midland  | TX    | 79705      |  |
| EOG Y Resources, Inc. (EOG Y RESOURCES, INC.)   | 104 S. Fourth Street              | Artesia  | NM    | 88210      |  |
| Kaiser- Francis Oil Company (KAISER-FRANCIS OIL)  | 6733 S. Yale Ave.                 | Tulsa    | OK    | 74136      |  |
| OXY USA Inc. (OXY USA INC)  | P.O. Box 27757                    | Houston  | TX    | 77227-7757 |  |
| OXY-1 Company   | P.O. Box 27570                    | Houston  | TX    | 77227      |  |
| <b>Notes:</b> The table above shows the Entities who were identified as parties of interest requiring notification on either the 1-mile well detail list (Attachment 2) or on the 2-mile Mineral Lease Map (Attachment 2). The names listed above in parenthesis, are the abbreviated entity names used on either the 1-mile well detail list (Attachment 2) or on the 2-mile Mineral Lease Map (Attachment 2). |                                   |          |       |            |  |



ALL Consulting  
1718 S. Cheyenne Ave.  
Tulsa, OK 74119

**\$5.600**  
US POSTAGE  
FIRST-CLASS  
FROM 74119  
AUG 12 2019  
**stamps.com**



Place label at top of the center of the envelope and fold at dotted line.



9414 8118 9956 1523 0919 25

BTA Oil Producers, LLC  
104 S. Pecos St  
Midland TX 79701-5021

ALL Consulting  
1718 S. Cheyenne Ave.  
Tulsa, OK 74119

**\$5.600**  
US POSTAGE  
FIRST-CLASS  
FROM 74119  
AUG 12 2019  
**stamps.com**



Place label at top of the center of the envelope and fold at dotted line.



9414 8118 9956 1523 0919 94

COG Operating, LLC  
600 W. Illinois Ave.  
Midland TX 79701-4882

ALL Consulting  
1718 S. Cheyenne Ave.  
Tulsa, OK 74119

**\$5.600**  
US POSTAGE  
FIRST-CLASS  
FROM 74119  
AUG 12 2019  
**stamps.com**



Place label at top of the center of the envelope and fold at dotted line.



9414 8118 9956 1523 0919 32

COG Production, LLC  
600 W. Illinois Ave.  
Midland TX 79701-4882

ALL Consulting  
1718 S. Cheyenne Ave.  
Tulsa, OK 74119

**\$5.600**  
US POSTAGE  
FIRST-CLASS  
FROM 74119  
AUG 12 2019  
**stamps.com**



Place label at top of the center of the envelope and fold at dotted line.



9414 8118 9956 1523 0916 11

Devon Energy Operating Corporation  
6488 Seven Rivers Hwy.  
Artesia NM 88210-9134



**Certified Mail® Labels**↑ **Top of the page**Print postage using Stamps.com Template **SDC-3610**

ALL Consulting  
1718 S. Cheyenne Ave.  
Tulsa, OK 74119

**\$5.600**  
US POSTAGE  
FIRST-CLASS  
FROM 74119  
AUG 12 2019  
**stamps.com**



062S0008663991

Place label at top of the center of the  
envelope and fold at dotted line.

**CERTIFIED MAIL®**  
**CERTIFIED MAIL®**



9414 8118 9956 1523 0916 04

EOG A Resources, Inc.  
P.O. Box 900  
Artesia NM 88211-0900

ALL Consulting  
1718 S. Cheyenne Ave.  
Tulsa, OK 74119

**\$5.600**  
US POSTAGE  
FIRST-CLASS  
FROM 74119  
AUG 12 2019  
**stamps.com**



062S0008663991

Place label at top of the center of the  
envelope and fold at dotted line.

**CERTIFIED MAIL®**  
**CERTIFIED MAIL®**



9414 8118 9956 1523 0916 80

EOG M Resources, Inc.  
P.O. Box 840  
Artesia NM 88211-0840

ALL Consulting  
1718 S. Cheyenne Ave.  
Tulsa, OK 74119

**\$5.600**  
US POSTAGE  
FIRST-CLASS  
FROM 74119  
AUG 12 2019  
**stamps.com**



062S0008663991

Place label at top of the center of the  
envelope and fold at dotted line.

**CERTIFIED MAIL®**  
**CERTIFIED MAIL®**



9414 8118 9956 1523 0916 73

EOG Resources, Inc.  
4000 N. Big Spring St Suite 500  
Midland TX 79705-4630

ALL Consulting  
1718 S. Cheyenne Ave.  
Tulsa, OK 74119

**\$5.600**  
US POSTAGE  
FIRST-CLASS  
FROM 74119  
AUG 12 2019  
**stamps.com**



062S0008663991

Place label at top of the center of the  
envelope and fold at dotted line.

**CERTIFIED MAIL®**  
**CERTIFIED MAIL®**



9414 8118 9956 1523 0911 23

EOG Y Resources, Inc.  
104 S. Fourth Street  
Artesia NM 88210-2123



ALL Consulting  
1718 S. Cheyenne Ave.  
Tulsa, OK 74119

**\$5.600**  
US POSTAGE  
FIRST-CLASS  
FROM 74119  
AUG 12 2019  
stamps.com

062S0008663991

Place label at top of the center of the envelope and fold at dotted line.

**CERTIFIED MAIL®**  
**CERTIFIED MAIL®**



9414 8118 9956 1523 0911 47

Kaiser-Francis Oil Company  
6733 S. Yale Ave.  
Tulsa OK 74136-3330

ALL Consulting  
1718 S. Cheyenne Ave.  
Tulsa, OK 74119

**\$5.600**  
US POSTAGE  
FIRST-CLASS  
FROM 74119  
AUG 12 2019  
stamps.com

062S0008663991

Place label at top of the center of the envelope and fold at dotted line.

**CERTIFIED MAIL®**  
**CERTIFIED MAIL®**



9414 8118 9956 1523 0911 78

New Mexico BLM  
620 E Greene St.  
Carlsbad NM 88220-6292

ALL Consulting  
1718 S. Cheyenne Ave.  
Tulsa, OK 74119

**\$5.600**  
US POSTAGE  
FIRST-CLASS  
FROM 74119  
AUG 12 2019  
stamps.com

062S0008663991

Place label at top of the center of the envelope and fold at dotted line.

**CERTIFIED MAIL®**  
**CERTIFIED MAIL®**



9414 8118 9956 1523 0913 69

NMOCD District 1  
1625 N. French Drive  
Hobbs NM 88240-9273

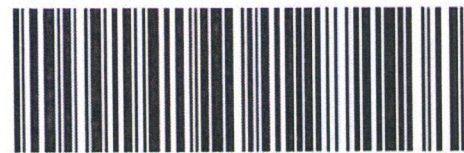
ALL Consulting  
1718 S. Cheyenne Ave.  
Tulsa, OK 74119

**\$5.600**  
US POSTAGE  
FIRST-CLASS  
FROM 74119  
AUG 12 2019  
stamps.com

062S0008663991

Place label at top of the center of the envelope and fold at dotted line.

**CERTIFIED MAIL®**  
**CERTIFIED MAIL®**



9414 8118 9956 1523 0913 90

OXY USA Inc.  
P.O. Box 27757  
Houston TX 77227-7757



**Certified Mail® Labels**

⬆ **Top of the page**

Print postage using Stamps.com Template **SDC-3610**

ALL Consulting  
1718 S. Cheyenne Ave.  
Tulsa, OK 74119

**\$5.600**  
US POSTAGE  
FIRST-CLASS  
FROM 74119  
AUG 12 2019  
stamps.com

062S0008663991

Place label at top of the center of the envelope and fold at dotted line.

**CERTIFIED MAIL®**  
**CERTIFIED MAIL®**



9414 8118 9956 1523 0910 17

ALL Consulting  
1718 S. Cheyenne Ave.  
Tulsa, OK 74119

**\$5.600**  
US POSTAGE  
FIRST-CLASS  
FROM 74119  
AUG 12 2019  
stamps.com

062S0008663991

Place label at top of the center of the envelope and fold at dotted line.

**CERTIFIED MAIL®**  
**CERTIFIED MAIL®**



9414 8118 9956 1523 0910 00

OXY-1 Company  
P.O. Box 27570  
Houston TX 77227-7570

Commission on Public Lands  
State Land Office  
310 Old Santa Fe Trail  
Santa Fe NM 87501-2708

Place label at top of the center of the envelope and fold at dotted line.

**CERTIFIED MAIL®**  
**CERTIFIED MAIL®**

Place label at top of the center of the envelope and fold at dotted line.

**CERTIFIED MAIL®**  
**CERTIFIED MAIL®**