

BW – 38

**PERMIT
APPLICATIONS,
RENEWALS,
& MODS**

(3)

2018

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, September 26, 2018 8:46 AM
To: alexandra.sandoval@state.nm.us; Wunder, Matthew, DGF; Shije, Suzette, IAD; ddapr@nmda.nmsu.edu; adunn@slo.state.nm.us; James_Amos@blm.gov; psisneros@nmag.gov; r@rthicksconsult.com; sric.chris@earthlink.net; nmparks@state.nm.us; Blaine, Tom, OSE; marieg@nmoga.org; Fetner, William, NMENV; lazarus@glorietageo.com; perry@glorietageo.com; Allison.Majure@state.nm.us; cjoyner@fs.fed.us; Kieling, John, NMENV; bsg@garbhall.com; Hunter, Michelle, NMENV; claudette.horn@pnm.com; ekendrick@montand.com; pam@ipanm.org; Brown, Maxey G, EMNRD; Bayliss, Randolph, EMNRD; Bratcher, Mike, EMNRD; Perrin, Charlie, EMNRD; Jones, William V, EMNRD; Kelly, Jonathan, EMNRD; Powell, Brandon, EMNRD; Jones, William V, EMNRD; Wojahn, Beth, EMNRD; Sanchez, Daniel J., EMNRD; Goetze, Phillip, EMNRD; Griswold, Jim, EMNRD; Trujillo, Harold, EMNRD
Cc: Tulk, Laura, EMNRD; DeVargas, Lorraine, EMNRD; Darr Angell; danny@pwllc.net; Marvin
Subject: Llano Disposal, LLC State '27' Brine Supply Well No. 1 (BW-38) (API# 30-025-20592) in Lea County Application Administratively Complete Public Notice

Ladies and Gentlemen:

Please find below the New Mexico Oil Conservation Division (OCD) Public Notice for the above subject Water Quality Control Commission Underground Injection Control (UIC) Class III Brine Well Discharge Permit application and associated documents. The OCD newspaper notices will post in the Hobbs Sun News and Albuquerque Journal this coming Sunday, September 30, 2018.

Discharge Permit (BW-38) Llano Disposal, LLC (9/25/2018):

The Underground Injection Control (UIC) Class III Brine Well “State ‘27’ Brine Supply Well No. 1” is located at UL: L, Section 27, Township 16 South, Range 33 East, Latitude: N 32.89096 Longitude: W -103.65762, NMPM, Lea County. The brine well is located approximately 17.8 miles west of the City of Lovington on Hwy. 82, then south 0.62 mile on Rooney Rd, then east 0.3 miles on lease road to well location. The proposed “Hummingbird” brine station location is: NW/4 SW/4. UL 'L', Section 28, T16S, R33E.

[Administrative Completeness \(9/25/2018\)](#)

[Description \(9/25/2018\)](#)

[Application \(7/16/2018\)](#)

[Discharge Permit \(9/25/2018\)](#)

[Public Notice \(9/30/2018\)](#)

The OCD Website for public notices is at <http://www.emnrd.state.nm.us/OCD/env-draftpublicetc.html> (see “Draft Permits and Public Notices” section).

Please contact me if you have questions. Thank you.

Mr. Carl J. Chavez, CHMM (#13099)
New Mexico Oil Conservation Division
Energy Minerals and Natural Resources Department
1220 South St Francis Drive
Santa Fe, New Mexico 87505

Ph. (505) 476-3490

E-mail: CarlJ.Chavez@state.nm.us

“Why not prevent pollution, minimize waste to reduce operating costs, reuse or recycle, and move forward with the rest of the Nation?” (To see how, go to: <http://www.emnrd.state.nm.us/OCD> and see “Publications”)

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Ken McQueen
Cabinet Secretary

Matthias Sayer
Deputy Cabinet Secretary

Heather Riley, Division Director
Oil Conservation Division



SEPTEMBER 25, 2018

CERTIFIED MAIL
RETURN RECEIPT NO: 5995 4087

Mr. Darr Angell
Llano Disposal, LCC
P.O. Box 190
Lovington, NM 88260

Re: Discharge Permit (BW-038) Llano Disposal, LCC, UIC Class III Brine Well "State '27' Brine Supply Well No. 1" (API No. 30-025-20592) UL: L Section 27 Township 16 South, Range 33 East, 1980 FSL, 660 FWL, Lat. 32.89078°, Long. -103.65747°, NMPM, Lea County, New Mexico

Dear Mr. Angell,

The New Mexico Oil Conservation Division (OCD) is in receipt of Llano Disposal, LCC (Llano) application dated July 16, 2018, regarding the conversion of the State '27' Well No. 1 originally plugged in 1997 and located at the above referenced well location.

Llano opted to conduct various logging of the original oil well on May 22, 2018, i.e., Radial Cement Bond Log (RCBL), Centralized Neutron Log (CNL), Caliper Log, etc. before determining with OCD on June 21, 2018 to proceed with the application process. After review of the logs and application, the OCD has determined Llano's application is "*administratively complete*" per New Mexico Water Quality Control Commission regulations (20.6.2.3108 NMAC).

Llano obligations to provide public notice should commence and be demonstrated to the OCD in a timely manner. The OCD will also provide notice to various governmental groups. Depending upon the level of public interest, a hearing may be scheduled on this matter. Regardless, the OCD will continue review of the application and may request additional information.

If you have any questions, please do not hesitate to contact me by phone at (505) 476-3490, U.S. Mail at the address below, or e-mail at carlj.chavez@state.nm.us. On behalf of the OCD, I wish to thank you and your staff for your continued cooperation in this process.

Sincerely,

Carl J. Chavez
Environmental Engineer

xc: OCD Hobbs District Office

Description (9/25/2018):

A new Underground Injection Control (UIC) Class III Solution Mining Injection Well (BW-038) or “State ‘27’ Well No. 1” (API# 30-025-20592) located at U.L.: L, Sec. 27, Township 16 South, Range 33 East, 1,980 FSL, 660 FWL, Latitude N 32.89096° Longitude W -103.65762°, NMPM, Lea County, has been proposed on an existing oil well (TD 13,804 ft.). The well is to be re-drilled to a total depth of 1,800 ft. below ground level (bgl) into the Salado Salt Formation to produce high density “Brine Fluids” used in the drilling of oil and gas wells in New Mexico. The water table is at about 155 ft. bgl.

An assemblage of existing cemented casing strings and plugs are set as follows: 1) 13-3/8 inch conductor casing is set at 414 ft. bgl; and 2) 9-5/8 inch casing and shoe is set at 4,578 ft. bgl. with a well TD of 13,804 ft. bgl., and a series of cement plugs. Two main CIBPs are set as follows: 1) 1,800ft. bgl.; and 2) 2,596ft. bgl. The Permittee proposes to: 1) drill to a TD of 1,800 ft. bgl. and set 8-5/8 in. CIBP capped with 10 ft. of cement; 2) whipstock and cut a 10 ft. hole or window from a depth of 1,780 – 1,790 ft. bgl. Set 2-7/8 inch FG tailpipe angled out of window to a depth of 2,300 ft. into the Salado Salt Fm. A 9-5/8 in. Baker Dual Port Packer will be set at about 1,760 ft. bgl. Brine production will occur through a 3-1/2 in. production tubing from the window between depths of 1,780 – 1,790 ft. bgl. within the well casing.

Fresh groundwater will be injected into the tubing-casing annulus through the packer and FG tailpipe at an average injection rate of 1,500 bbl./day (~ 44 gpm) at 200 psig and maximum injection rate of 1,900 bbl/day (58 gpm) below a permitted maximum surface injection pressure (MSIP) of 355 psig. Brine fluids will be produced through the window cut in the casing and 3-1/2 inch production tubing to surface. The construction and design of this brine well utilizes a “reverse-flow” scheme where freshwater is injected and resides within the well annulus (corrosion inhibitor), and production of brine is through tubing to surface. Fresh water zones are protected by steel and cement to surface. Based on the brine well construction, the morphology of the salt cavern is anticipated to be within acceptable standards.

BW – 38

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APPLICATIONS,
RENEWALS,
& MODS**

(1 of 2)

2018



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AND TRUST COMPANY

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CASHIER'S CHECK

1021269

88-1087
1113

7

NOTICE TO CUSTOMERS
THE PURCHASE OF AN INDEMNITY BOND MAY BE REQUIRED
BEFORE ANY CASHIER'S CHECK OF THIS BANK WILL BE
REPLACED OR REFUNDED IN THE EVENT IT IS LOST,
MISPLACED OR STOLEN.

DATE July 16, 2018

REMITTER LLANO DISPOSAL LLC

\$***100.00**

PAY ONE HUNDRED AND 00/100

TO THE ORDER OF WATER QUALITY MANAGEMENT FUND

NON NEGOTIABLE

PURPOSE

CUSTOMER COPY

THIS CHECK IS VOID WITHOUT A COLORED BACKGROUND AND A TRUE WATERMARK ON THE BACK



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DATE July 16, 2018

REMITTER LLANO DISPOSAL LLC

\$***100.00**

PAY ONE HUNDRED AND 00/100

TO THE ORDER OF WATER QUALITY MANAGEMENT FUND

[Handwritten Signature]

PURPOSE BW-38 Application Filing Fee

AUTHORIZED SIGNATURE(S)

HAP 5010-M (7.5.16)

SIGNATURE HAS A COLORED BACKGROUND • BORDER CONTAINS MICROPRINTING

REVIEWED

By CChavez at 8:14 am, Jul 20, 2018

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of Check No. 1021269 dated 07/16/2018

or cash received on 07/18/2018 in the amount of \$ 100.00

from Happy State Bank - Meno Disposal LLC

for BW-38

Submitted by: Carl Chavez Date: 07/18/2018

Submitted to ASD by: Lorraine DeVargas Date: 07/19/2018

Received in ASD by: _____ Date: _____

Filing Fee * New Facility: _____ Renewal: _____

Modification _____ Other _____

Organization Code 521.07 Applicable FY 119

To be deposited in the Water Quality Management Fund.

Full Payment _____ or Annual Increment _____

Holcomb Consultants
6900 Spring Cherry Lane
Amarillo, Texas 79124

July 16, 2018

Carl Chavez – Environmental Engineer
New Mexico Oil Conservation Division
1220 South St. Francis
Santa Fe, New Mexico 87505

Re: BW-38 Filing Fee Check

Dear Mr. Chavez:

Attached is Llano Disposal, LLC's cashier's check number 1021269 in the amount of \$100 made payable to the "Water Quality Management Fund" as filing fee for the discharge permit application for the State 27 #1 Brine Well.

If you have any questions, please contact me at 806-471-5628 or email danny@pwllc.net.
Thank you for your consideration of this application.

Sincerely,



Danny J Holcomb
Holcomb Consultants
Agent for Llano Disposal, LLC

Attachment

Holcomb Consultants
6900 Spring Cherry Lane
Amarillo, Texas 79124

July 16, 2018

Jim Griswold – Environmental Bureau Chief
Carl Chavez – Environmental Engineer
New Mexico Oil Conservation Division
1220 South St. Francis
Santa Fe, New Mexico 87505

Re: NOTICE OF INTENT TO DISCHARGE
WQCC 20.6.2.1201 NMAC

Dear Mr. Griswold and Chavez:

Holcomb Consultants, as agent for Llano Disposal, LLC, is formally notifying the New Mexico Oil Conservation Division of Llano's intent to permit a Class III brine well located in Lea County, New Mexico. Pursuant to the Water Quality Control Commission Regulations (WQCC) 20.6.2.1201.B and C. NMAC, the following information is provided:

- 1) The name of the person making the discharge:
Llano Disposal, LLC, Mr. Darr Angell, owner
- 2) The address of the person making the discharge:
P. O. Box 190 (783 Highway 483)
Lovington, New Mexico 88260
- 3) The location of the discharge:
Brine Well Location: NW/4 SW/4, UL 'L', Section 27, T16S, R33E
Proposed Brine Station Location: NW/4 SW/4, UL 'L', Section 28, T16S, R33E
- 4) An estimate of the concentration of water contaminants in the discharge:
Injection Water: fresh water from nearby fresh water well with approximately 400 mg/l TDS
Produced Brine Water: approximately 320,000 mg/l TDS
- 5) The quantity of the discharge:
Estimated Instantaneous Flow Rate: 1 – 3 barrels per minute
Estimated Monthly Total: 0 – 58,000 barrels per month

Holcomb Consultants
6900 Spring Cherry Lane
Amarillo, Texas 79124

Pursuant to 20.6.2.3114 NMAC Llano's cashier's check number 1021269 in the amount of \$100 made payable to the "Water Quality Management Fund" as filing fee for the discharge permit application was mailed to your office on July 16, 2018.

Attached are the discharge permit application along with pertinent attachments, a proposed C-101 and a proposed C-103 completion procedure. If OCD requires additional information concerning this notice of intent or discharge permit application, please contact me at 806-471-5628 or email danny@pwllc.net. Thank you for your consideration of this application.

Sincerely,

A handwritten signature in blue ink that reads "DJ Holcomb". The signature is written in a cursive style with a blue highlight behind it.

Danny J Holcomb
Holcomb Consultants
Agent for Llano Disposal, LLC

Attachments



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CASHIER'S CHECK

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MISPLACED OR STOLEN.

DATE July 16, 2018

REMITTER LLANO DISPOSAL LLC

PAY ONE HUNDRED AND 00/100

TO THE ORDER OF WATER QUALITY MANAGEMENT FUND

PURPOSE

\$***100.00**

NON NEGOTIABLE

CUSTOMER COPY

THIS CHECK IS VOID WITHOUT A COLORED BACKGROUND AND A TRUE WATERMARK ON THE BACK



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CASHIER'S CHECK

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DATE July 16, 2018

REMITTER LLANO DISPOSAL LLC

PAY ONE HUNDRED AND 00/100

TO THE ORDER OF WATER QUALITY MANAGEMENT FUND

PURPOSE *BW-3B Application Filing Fee*

\$***100.00**

AUTHORIZED SIGNATURE(S)

HAP 5010-N (R 8/15)

SIGNATURE HAS A COLORED BACKGROUND • BORDER CONTAINS MICROPRINTING

*— Copy —
Original check mailed to OCD-Santa Fe 7/16/18.*

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Revised August 1, 2011
Submit Original
Plus 1 Copy
to Santa Fe
1 Copy to Appropriate
District Office

DISCHARGE PLAN APPLICATION FOR BRINE EXTRACTION FACILITIES

(Refer to the OCD Guidelines for assistance in completing the application)

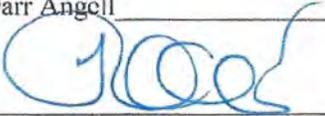
New Renewal

- I. Facility Name: Hummingbird Brine Station - State '27' BSW #1
- II. Operator: Llano Disposal, LLC
Address: P. O. Box 190 (783 Highway 483), Lovington, NM 88260
Contact Person: Marvin Burrows Phone: 575-631-8067
- III. Location: NW /4 SW /4 Section 27 Township 16S Range 33E
Submit large scale topographic map showing exact location.
- IV. Attach the name and address of the landowner of the facility site. See section IV of attached discharge plan.
- V. Attach a description of the types and quantities of fluids at the facility. See section V of attached discharge plan.
- VI. Attach a description of all fluid transfer and storage and fluid and solid disposal facilities. See section VI of attached discharge plan.
- VII. Attach a description of underground facilities (i.e. brine extraction well). See section VII of attached discharge plan.
- VIII. Attach a contingency plan for reporting and clean-up of spills or releases. See section VIII of attached discharge plan.
- IX. Attach geological/hydrological evidence demonstrating that brine extraction operations will not adversely impact fresh water. See section IX of attached discharge plan.
- X. Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders. See section X of attached discharge plan.
- XI. CERTIFICATION:

I hereby certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Name: Darr Angell

Title: Owner

Signature: 

Date: 7-5-18

E-mail

Address: darrangell@gmail.com

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

I. Name of Facility

Provide complete name. Indicate whether this is a new or renewal application.

Answer – This is a new application for a new facility. The proposed brine well name is State '27' BSW #1 and the proposed surface facility name is Hummingbird Brine Station.

II. Name of Operator or Legally Responsible Party and Local Representative

Include address and telephone number.

The operator/legally responsible party name is Llano Disposal, LLC, P. O. Box 190 (783 Highway 483), Lovington, NM 88260. The operator's OGRID number is 370661. Llano Disposal, LLC is the owner of all the surface lands that the proposed brine well and brine station will be situated upon. Llano Disposal's office is located at 783 Highway 483, Lovington, NM 88260. The local representative is Mr. Marvin Burrows at 575-631-8067.

III. Location of Facility

Give a legal description of the location (i.e. 1/4. 1/4, Section, Township, Range) and county. Use state coordinates or latitude/longitude on unsurveyed land. Submit a large scale topographic map, facility site plan, or detailed aerial photograph for use in conjunction with the written material. It should depict the location of the injection well, storage tanks, process equipment, relevant objects, facility property boundaries, and other site information required in Sections V through IX below.

Answer – The proposed brine well was originally drilled and abandoned in 1964. It is named the State '27' #1 (API # 30-025-20592) located at 1980 FSL X 660 FWL, Unit Letter 'L', Section 27, T16S, R33E, Lea County, New Mexico. The brine well is located at latitude 32.8909645°, longitude -103.6576157° (NAD83). The proposed brine well and brine station are located approximately 18.5 miles west of Lovington, New Mexico. The well is currently in P&A-site released status. Llano proposes to recomplete the well from a P&A well to a brine service well in the Salado (Salt) Formation between 1780' – 2400'. The proposed brine station would be located in UL 'L', Section 28, T16S, R33E, Lea County, New Mexico at latitude 32.890740°, longitude -103.676520° (NAD83). The proposed fresh water supply well will be located approximately 75 feet southeast of the proposed brine well. The fresh water supply well will be located in UL 'L', Section 27, T16S, R33E, Lea County, New Mexico at latitude 32.890782°, longitude -103.657470° (NAD83). See maps, facility site plan and aerial photographs in Attachments "A" – "G".

IV. Landowners

Attach the name and address of the landowner(s) of record of the facility site.

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

Answer – The landowner of record for the proposed brine well, fresh water supply well and brine station location is the applicant, Mr. Darr Angell. Mr. Angell is the principal owner of Llano Disposal, LLC, P. O. Box 190 (783 Highway 483), Lovington, NM 88260.

V. Type and Quantities of Fluids Stored or Used at the Facility

List all fluids stored or used at the facility (e.g. High TDS salt water, fresh water, chemicals, etc.). Include source, average daily volume produced, estimated volume stored, location, and type of containers.

Answer – At the proposed fresh water supply well, there will be a submersible pump which lifts fresh water from the well, transports it approximately 75 feet through a buried 3" SDR-11 polyethylene pipeline to the brine well. At the brine well, the fresh water is injected down the 9-5/8" casing annulus with brine circulated out the 3-1/2" internally plastic coated tubing. The brine is then transported approximately 5928 feet through a buried 3" SDR-11 polyethylene pipeline from the brine well to the brine station. At the brine station, there will be one 500 bbl fiberglass catch/flush tank, and three 1000 bbl fiberglass tanks for brine storage. Both of the pipelines will be buried a minimum of 36" deep (below frost line).

Anticipated daily average volumes produced will be 1500 BWPD of brine water and 1550 BWPD of fresh water. Anticipated volumes stored will be 2500 bbls of brine water. No chemicals will be stored at the brine well location or brine station.

VI. Transfer, Storage and Disposal of Fluids and Solids

A. Provide sufficient information to determine what water contaminants may be discharged to the surface and subsurface within the facility. Information desired includes whether tanks, piping, and pipelines are pressurized, above ground or buried. Provide fluid flow schematics with sufficient detail to show individual units (pumps, tanks, pipelines, etc.).

1. Tankage and Chemical Storage Areas – Storage tanks for fluids other than fresh water must be bermed to contain a volume one-third more than the largest tank. If tanks are interconnected, the berm must be designed to contain a volume one-third more than the total volume of the interconnected tanks. Chemical and drum storage areas must be paved, curbed and drained such that spills or leaks from drums are contained on the pads or in lined sumps.

Answer – At the proposed brine station, there will be three interconnected 1000 bbl fiberglass brine water storage tanks and one 500 bbl fiberglass catch/flush tank. All four tanks will be located within a common secondary containment berm. Each tank will have an isolation valve and will remain unpressured. The secondary containment consists of an earthen berm with a 20 mil string reinforced LLDPE liner capable of holding a minimum of 4800 bbls. There will be a 30' X 40' concrete loading pad with a 20" X 20" X 35' concrete sump that is situated into the surface of

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

the concrete loading pad. Any fluids entering the sump will be pumped to the 500 bbl catch/flush tank inside the lined secondary containment. On the proposed well location, there will be no tanks, pumps or chemicals. See schematics of the brine well and brine station in Attachment "L". There will be a buried 3" SDR-11 polyethylene fresh water pipeline between a water supply well and the brine well location. There will also be a buried 3" SDR-11 polyethylene pipeline between the brine well and the brine station. Both pipelines will remain unpressured while the pump is not running. See section E below for detailed pipeline specifications.

2. Surface impoundments - Date built, use, type and volume of materials stored, area, volume, depth, slope of containments, sub-grade description, liner type and thickness, compatibility of liner and stored materials, installation methods, leak detection methods, freeboard, run-off/run-on protection.

Answer – There are no existing surface impoundments at this facility. If permit application is approved, a new secondary containment around storage tanks discussed in section VI.A.1 above will be built. A berm using caliche hauled in from an offsite pit will be used. This berm area will then be lined with a 20 mil LLDPE liner with UV protection. Storm water run-on/run-off is expected to be minimal due to the nature of the surrounding terrain. The western edge of the brine station is bordered by Hummingbird Road, a county maintained north-south road with barrow ditches on both sides

3. Leach fields - Type and volume of effluents, leach field area and design layout. If non-sewage or mixed flow from any process units or internal drains is, or has been, sent to the leach fields, include dates of use and disposition of septic tank sludges.

Answer – Not applicable, no leach fields are planned.

4. Solids disposal - Describe types, volumes, frequency, and location of on-site solids dried disposal. Typical solids include sands, sludges, filters, containers, cans and drums.

Answer – Routine domestic household type trash or other similar non-domestic waste pursuant to 19.15.35.8 NMAC will be stored in common trash dumpsters that are supplied and picked up routinely by the local waste management trucking company. This waste will be disposed of at a New Mexico Environmental Department permitted solid waste disposal facility.

B. For each of the transfer/storage/disposal methods listed above:

1. Describe the existing and proposed measures to prevent or retard seepage such that ground water at any place of present or future use will meet the WQCC Standards of Section 3-103, and not contain any toxic pollutant as defined in Section 1-101.UU.

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

Answer – All storage tanks at the proposed brine station will be protected by a secondary containment area lined with a 20 mil LLDPE liner. This liner is a smooth, high quality, linear low density polyethylene (LLDPE) geomembrane with excellent chemical resistance, outstanding stress crack resistance, low permeability and excellent UV radiation resistance. This secondary containment area will be capable of holding a minimum of one-third more than the combination of interconnected tanks within. The 30 foot by 40 foot concrete loading pad will be curbed on the edges and sloped to a grating covered 20” wide by 35’ long by 20” deep sump which is constructed in a single pour with the concrete loading pad. This sump will catch any spills/leaks occurring on the loading pad. The sump level will be automated and excess fluids will be pumped through above-ground piping to a 500 bbl fiberglass catch/flush tank located within the secondary containment area. All process piping at the brine station will be installed above-ground.

2. Provide the location and design of site(s) and method(s) to be available for sampling, and for measurement or calculation of flow.

Answer - Samples can be taken either at each individual tank valve, on the load lines or at the wellhead manifold. Fresh water measurement will occur at the fresh water well. Brine water measurement will occur at the brine wellhead. Electronic accumulating flow meters with an accuracy of $\pm 1\%$ will be utilized.

3. Describe the monitoring system existing or proposed in the plan to detect leakage or failure of any discharge system. If ground water monitoring exists or is proposed, provide information on the number, location, design, and installation of monitoring wells.

Answer –The brine station will be controlled by a SCADA system to monitor and manage pressures, flows and upset conditions. Automated alarms and shutdowns are included in this system including communication to responding personnel during unattended operations.

Upon permit approval, a ground water quality monitoring program will be initiated on three fresh water wells near the proposed brine well/brine station. These proposed monitor wells are located west, southwest and southeast of the brine well. These water wells were selected due to their proximity to the facilities. See Attachment “C” for location of the three proposed ground water monitor wells. Water samples from these three wells would be tested quarterly for general chemistry parameters, BTEX and TPH. This would establish the ground water quality over time.

C. Off-Site Disposal

If wastewaters, sludges, solids etc. are pumped or shipped off-site, indicate general composition (e.g. waste oils), method of shipment (e.g. pipeline, trucked), and final

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

disposition (e.g. recycling plant, OCD-permitted or domestic landfill, Class II disposal well). Include name, address, and location of receiving facility. If receiving facility is a sanitary or modified domestic landfill show operator approval for disposal of the shipped wastes.

Answer - Routine domestic household type trash or other similar non-domestic waste pursuant to 19.15.35.8 NMAC will be stored in common trash dumpsters that are supplied and picked up routinely by the local waste management trucking company. This waste will be disposed of at a New Mexico Environmental Department permitted solid waste disposal facility. Liquid waste generated onsite, primarily from the sump catch/flush tank, will be transported by third party trucking companies to an approved Class II SWD well permitted by the NMOCD. Any contaminated soil waste will be transported by third party trucking companies to an approved NMOCD surface waste management facility (i.e. Sundance, et al).

D. Proposed Modifications

1. If protection of ground water cannot be demonstrated pursuant to Section B.1. above, describe what modification (including closure) is proposed to meet the requirements of the Regulations. Describe in detail the proposed changes. Provide the information requested in A. and B. above for the proposed modified facility and a proposed time schedule for construction and completion. (Note: OCD has developed specific guidelines for lined surface impoundments that are available on request.)

Answer – This facility will be built after approval of this discharge plan and brine well application. No existing facility now exists that would require current modifications.

2. For ponds, pits, leach fields, etc. where protection of ground water cannot be demonstrated, describe the proposed closure of such units so that existing fluids are removed, and emplacement of additional fluids and run-off/run-on of precipitation are prevented. Provide a proposed time schedule for closure.

Answer - This would be a newly built facility with no ponds, pits, or leach fields in the design.

E. Underground Piping

If the facility contains underground piping, the age and specification (i.e., wall thickness, fabrication material, etc.) of said piping should be submitted. Upon evaluation of such information, mechanical integrity testing of piping may be necessary as a condition for discharge plan approval. If such testing (e.g. hydrostatic tests) has already been conducted, details of the program should be submitted.

Answer – This plan would include approximately 5928 feet of new 3” SDR-11 HDPE pipeline for transportation of brine water to be installed underground between the brine well and the brine station. This SDR-11 HDPE pipe has a 160 psi rating, 0.318”

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

minimum wall thickness, 2.825" ID and 3.500" OD. It ships in 500' or 1000' coils and is seamless pipe that would be thermally fused at the ends. This pipeline would be buried at a minimum of 36" to top of pipe (below frost line depth). This newly installed pipeline will be hydrostatically pressure tested per the NMOCD's HST Guidelines. Testing frequency would include an initial test at 100% of manufacturer's MAOP during installation and subsequent tests on an annual basis or sooner if leakage is ever suspected. An NMOCD representative can be notified to witness all tests.

This plan also includes approximately 75 feet of new 3" SDR-11 HDPE pipeline for transportation of fresh water to be installed a minimum of 36" underground between the fresh water supply well and the brine well. No fluids other than fresh water are planned to be used in this pipeline.

These two HDPE pipelines would be designed to minimize the use of 90 degree fittings by making turns via long radius sweeps where possible.

F. Inspection, Maintenance and Reporting

1. Describe proposed routine inspection procedures for surface impoundments and other transfer, storage, or disposal units including leak detection systems. Include frequency of inspection, how records are to be maintained and OCD notification in the event of leaks.

Answer – Routine inspections of surface equipment and automation systems would occur daily by an onsite facility supervisor. Inspection logs would be documented and maintained onsite for subsequent review.

2. If ground water monitoring is used to detect leakage or failure of the surface impoundments, leach fields, or other approved transfer/storage/disposal systems provide:

a. The frequency of sampling, and constituents to be analyzed.

Answer – Per WQCC and NMOCD requirements, the brine water would be tested for general chemistry parameters, BTEX and TPH on a quarterly basis. Three nearby ground water wells would be tested for the same parameters on a quarterly basis. This would establish the baseline of ground water conditions over time. These wells were selected due to their proximity to the facilities. See Attachment "C" for location of the three proposed ground water wells.

b. The proposed periodic reporting of the results of the monitoring and sampling.

Answer – We propose that the periodic reporting of both the brine water quality and ground water quality occur annually in the January 31 annual report.

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

c. The proposed actions and procedures (including OCD notification) to be undertaken by the discharger in the event of detecting leaks or failure of the discharge system.

Answer – The NMOCD would be notified via Form C-141 upon discovery of a leak detection or failure of the discharge system. The brine well would be shut in pending evaluation and correction of the failure or leak.

3. Discuss general procedures for containment of precipitation and runoff such that water in contact with process areas does not leave the facility, or is released only after testing for hazardous constituents. Include information on curbing, drainage, disposition, notification, etc.

Answer – All precipitation that occurs inside the tankage “process area” would be contained by the secondary containment around the tanks. Any rain water collected in this containment area will be vacuumed up and either recycled within the facility or disposed of in an NMOCD approved manner. Heavy rain on the concrete loading pad will be collected into the sump by curbing and pump transferred to the 500 bbl catch/flush tank. Any water collected in this catch/flush tank will be hauled to a Class II SWD well approved by the NMOCD. The well location at the brine well will be contoured so that standing water is not allowed to pond near or around the wellhead. See Attachment “G” for USGS drainage map of the impacted area. It indicates the general topography in this area gently slopes northwest to southeast.

4. Describe methods used to detect leaks and ensure integrity of above and below ground tanks, and piping. Discuss frequency of inspection and procedures to be undertaken if significant leaks are detected.

Answer – Routine visual inspections of surface equipment and automation systems would occur daily by an onsite facility supervisor. Inspection logs will be documented and maintained onsite to insure any necessary repairs are completed and for subsequent review. The buried 5928 foot SDR-11 polyethylene brine pipeline will initially be hydrostatically pressure tested upon installation to insure mechanical integrity. It will be hydrostatically retested annually as long as no leakage is suspected. If leakage is ever suspected, the pipeline would be removed from service and tested. All pipeline tests will be logged into the inspection logs onsite. Storage tanks will be visually inspected internally when emptied for maintenance. Tanks will be visually inspected externally during daily routine inspections.

5. Submit a general closure plan describing what actions are to be taken when the facility discontinues operations. These actions must include:

a. Removal of all fluids, contaminants and equipment.

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

Answer – When the facility permanently discontinues operations, all stored fluids in equipment will be removed and either sold, reused or disposed. All ground contaminants will be recovered and disposed of per State, Federal and local regulations in effect at the time of closure. All surface equipment and infrastructure will be properly removed from the site. Underground pipelines will be flushed with fresh water, capped on both ends and abandoned in place.

b. Grading of facility to as close to the original contour as is practical.

Answer – After all surface equipment and concrete is removed, the brine station surface area and the brine well location will be re-contoured to original contour and reseeded with native grasses.

c. Proper disposal of fluids, sludges and solids pursuant to rules and regulations in effect at the time of closure.

Answer – All disposal of fluids, sludges and solids will be performed per State, Federal and local regulations in effect at the time of closure.

See section X.B for additional closure plan details.

VII. Brine Extraction Well(s)

In situ brine extraction wells must meet the requirements of Part 5 of the Water Quality Control Commission Regulations in addition to other applicable requirements of WQCC and Oil Conservation Division Rules and Regulations.

A. Drilling, Deepening, or Plug Back Operations

Before drilling, deepening, or plug back operations, the operator of the well must file the following plans, specifications, and pertinent documents with the Oil Conservation Division 90 days prior to start-up of the planned operation.

1. Form C-101 "Application for Permit to Drill, Deepen, or Plug Back" (OCD Rule 1101).

Answer – Form C-101, C-102 and C-103 (re-entry) for the State '27' #1 (API #30-025-20592) were submitted to the NMOCD District 1 Office on April 18, 2018. The re-entry C-103 was approved April 26, 2018. Forms C-101 and C-102 will be approved after a Discharge Permit is approved (BW-38). Copies of these forms are included at the end of Attachment "I" for documentation.

2. A "Notice of Intent to Discharge" in accordance with WQCC regulation 1-201 (New facilities only).

Answer – Llano Disposal, LLC submitted a formal "Notice of Intent to Discharge" attached to this discharge permit application. When the application is determined

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

by the NMOCD to be administratively complete, the review process begins to determine whether a final discharge permit is approved by the NMOCD.

3. A map showing the number, name, and location of all producing oil and gas wells, injection wells, abandoned holes, surface bodies of water, watercourses, springs, mines, quarries, water wells, and other pertinent surface features within one mile from the wellbore(s).

Answer – See Attachment “D” for a map of the oil/gas wells and fresh water wells within the 0.5 mile and 1 mile areas of review. The area elevation is relatively flat with a slight slope from northwest to southeast. There are no identifiable surface bodies of water (other than dry playa lakes), watercourses, springs, mines or quarries within the area of review.

4. Maps and cross-sections indicating the general vertical and lateral limits of all ground water having 10,000 mg/l or less TDS within one mile of the site. Show the position of such ground water within this area relative to the injection formation. Indicate the direction of water movement, where known, for each zone of ground water.

Answer – The Ogallala aquifer is the main source of water in the Lea County Underground Water Basin. The Tertiary-age Ogallala Formation consists of interbedded layers of fine- to medium-grained sand and gravel, overlain by an upper caliche layer. The total thickness of the Ogallala ranges from zero to about 350 ft thick. The thickness of the formation varies (Nye, 1930) as a result of irregularities, formed by erosional channels, in the surface of the underlying Triassic-age Dockum Group sediments (red beds). The channels generally trend to the southeast (Shoemaker, 2009). The ground water in this formation is confined where the underlying red beds are relatively impermeable. This underlying layer prevents further vertical movement within the aquifer. According to OSE records in the subject section and contiguous 8 sections, water depths range approximately 140 – 190 feet below ground level. With the base of the reported red beds being at 1480’ in the proposed brine well, the nearest “theoretical” ground water would be a minimum vertical distance of 300’ above the proposed injection zone. However, with a primary water bearing depth of 140 – 190 feet, ground water would be a minimum vertical distance of 1590’ above the proposed injection zone. Based on drilling records in this area, there are no additional overlying ground water zones evident in this area.

5. List all abandoned wells/shafts or other conduits in the area of review which penetrate the injection zone. Identify those which may provide a pathway for migration of contaminant through being improperly sealed, completed or abandoned. Detail what corrective action will be taken prior to start-up of operations to prevent any movement of contaminants into ground water of less than/equal to 10,000 mg/l TDS through such conduits due to the proposed

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

injection activity (e.g. plugging open holes). Include completion and plugging records.

If information becomes available after operations have begun, which indicates the presence of a conduit that will require plugging then the injection pressure will be limited to avoid movement of contaminants through such a conduit into protected ground water.

Answer – See Attachment “D” for a map of all oil and gas wells that penetrate the injection zone (1790’ – 2400’ MD) located within the 0.5 mile area of review. There is one plugged and abandoned offset well in the area of review. It is identified below:

API Well Number	Well Status	Location	TD	Plugs Near Salt
30-025-27324	P&A	I-28-16S-33E	13,848’	@ 1450’, 4430’

This plugged offset well has cement plugs above and below the salt formation which are designed to eliminate any pathway for migration. It is located 1330 feet west of the subject well. Plugging records and a current wellbore diagram for this offset well within the 0.5 mile area of review are provided in Attachment “H”.

6. Maps and cross-sections detailing the geology and geologic structure of the local area.

Answer – See a map of North-South and West-East cross-section lines and cross-sections detailing the area geology in Attachment “N”.

7. A proposed formation testing program to obtain an analysis or description of fluids in the receiving formation.

Answer – Llano Disposal proposes to obtain brine well fluid samples at the wellhead manifold quarterly. These samples will be laboratory tested for general chemistry parameters, BTEX and THP. Test results would be reported to the NMOCD during the January 31 annual report.

8. Schematic drawings of the surface and subsurface construction details.

Answer – See Attachment “L” for surface facility and subsurface (ie. buried pipelines) schematics.

9. The proposed drilling, evaluation, and testing programs. Include logging procedures, coring program, and deviation checks.

Answer – Since the subject well has already been drilled and is currently in plugged status, this information exists in NMOCD files. See Attachment “I” for

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

current and proposed wellbore diagrams and copies of the NMOCD well reports. Llano Disposal will report all future well completion information via Forms C-103 and C-105 and provide copies of any new logs run.

10. The proposed stimulation, injection, and operation procedures (Note WQCC 5-206 limitations).

Answer – No initial stimulation is proposed. Fresh water will be injected down the tubing/casing annulus and circulate brine water up the tubing.

11. A plan for plugging and abandonment of the well that meets the requirements of WQCC regulations section 5-209. A plugging bond pursuant to OCD Rule 101 is required prior to commencement of any new well drilling operations.

Answer – The plugging plan includes swabbing approximately one foot of water out of the cavern, removing the tubing string and packer, then setting a cast iron bridge plug at 10 feet above the 9-5/8" casing window and filling the casing with a Class C high strength salt resistant cement. The wellhead will be cut off and a dry hole marker installed. Llano Disposal, LLC has previously provided a \$108,000 irrevocable letter of credit accepted and approved by the NMOCD to cover bonding for well plugging, surface restoration and surface subsidence monitoring for 5 years beyond closure date as discussed further in Financial Assurance Plan section X.C below.

B. Workover Operations

Before performing remedial work, altering or pulling casing, plugging or abandonment, or any other workover, approval of OCD must be obtained. Approval should be requested on OCD Form C-103 "Sundry Notices and Reports on Wells" (OCD Rule 1103-A).

Answer – Llano will file Notice of Intent C-103s prior to future workover operations.

C. Additional Information Required with Discharge Plan

In addition to all of the information required above in Part VII.A. (Drilling, Deepening, or Plug Back Operations), include the following with your discharge plan application.

1. Provide evaluation, completion and well workover information. Include all logs, test results, completion reports and workover descriptions.

Answer – Please see Attachment "I" for the drilling, completion and testing reports to-date by the previous operator(s). Attachment "I" also contains current and proposed wellbore diagrams for this well. Llano provided copies of initial logs to the OCD via email on May 23, 2018 and followed up with a June 7, 2018 tele-conference with OCD personnel. Llano Disposal will file C-103 NOI's prior to

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

and Subsequent Notice C-103s following any downhole work. Llano will also file form C-105 reports after completion operations have been performed.

2. Provide the proposed maximum and average injection pressures and injection volume. If one well is to be used for injection and extraction, fresh water must be injected down the annulus and brine must be recovered up the tubing. Reverse flow will be allowed for up to once a month for 24 hours for clean out. If an alternative operating method is desired then a written request must be submitted to the OCD which describes the proposed operating procedures and how the mechanical integrity of the casing will be guaranteed.

Answer – Llano proposes to inject fresh water down the tubing-casing annulus and circulate brine water up the tubing. Below are our proposed injection pressures and volumes which are well below the fracture gradient of 0.75 psi/ft:

Maximum injection pressure – 475 psi
Average injection pressure – 250 psi
Maximum injection volume – 1900 BWPD
Average injection volume – 1550 BWPD

3. Submit a proposed mechanical integrity testing program. OCD requires a casing pressure test isolating the casing from the formation using either a bridge plug or packer prior to start of operation, and repeated at least once every five years or during well work over. In addition, OCD requires an open-hole pressure test to 500 PSI for 4 hours on an annual basis.

Answer – Llano proposes to test the casing to 300 psi for 30 minutes using a packer or bridge plug during completion operations. Additionally, Llano proposes to pull production tubing and run a packer or bridge plug to test the casing to 300 psi for 30 minutes at intervals of five years or less. NMOCD personnel will be notified in advance for witnessing. Concerning the open-hole pressure test, Llano believes 500 psi surface pressure is too much pressure to put on the well/cavern. We propose to perform this annual test at 300 psi surface pressure for 4 hours. This would minimize the intensity of sudden pressure surges and releases which may cause damage to the formation.

4. Provide an analysis of the injection fluid and brine. Include location and design of site(s) and method(s) of sampling. Analysis will be for concentrations of Total Dissolved Solids, Sodium, Calcium, Potassium, Magnesium, Bromide, Carbonate/Bicarbonate, Chloride and Sulfate.

Answer – When the brine well is in operation, fresh water and brine samples can be taken from sample ports at the wellhead or at the brine station load line. Brine samples can also be taken from these same locations. Recently Llano sampled two existing fresh water wells proposed to be ground water monitor wells. These

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

tests represent the current aquifer quality in the area. These test results are included in Attachment "J".

5. Compare volumes of fresh water injected to volume of brine to detect underground losses and specify method by which volumes are determined. After approval, submittal of a quarterly report listing, by month, the volume of fluids injected and produced will be required.

Answer – Llano proposes to measure both fresh water injected and brine water produced by installing individual electronic flow meters with totalizers on the brine well manifold. The totalizer volumes will be recorded monthly and provide the records for evaluating underground losses. If the volumes exceed a 10% tolerance, the NMOCD would be notified and the discrepancy would be investigated.

6. For renewal application for facilities in operation in excess of 15 years, provide information on the size and extent of the solution cavern and geologic / engineering data demonstrating that continued brine extraction will not cause surface subsidence of catastrophic collapse.

Answer – Llano would address this section during future renewal application processes as operational experience with the formation in this well is gathered.

VIII. Spill/Leak Prevention and Reporting Procedures (Contingency Plans)

It is necessary to include in the discharge plan submittal a contingency plan that anticipates where any leaks or spills might occur. It must describe how the discharger proposes to guard against such accidents and detect them when they have occurred. The contingency plan also must describe the steps proposed to contain and remove the spilled substance or mitigate the damage caused by the discharge such that ground water is protected, or movement into surface waters is prevented. The discharger will be required to notify the OCD Director in the event of significant leaks and spills. This commitment and proposed notification threshold levels must be included in the contingency plan.

A. Prevention

Describe how spills and leaks will be prevented at the facility. Include specifically how spillage/leakage will be prevented during truck loading and at major transfer points within the facility. Discuss general "housekeeping" procedures for areas not directly associated with the above major processes.

Answer – See the Emergency Contingency and Response Plan in Attachment "K" for proposed actions to spill/leak prevention and general housekeeping actions.

B. Containment and Cleanup

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

Describe procedures for containment and cleanup of major and minor spills at the facility. Include information as to whether areas are curbed, paved, and drained to sumps; final disposition of spill materials; etc.

Answer – Spills will be contained by secondary containments around the brine station tanks. Spills at the loading pad will be contained in the concrete sump then pumped to a catch/flush tank located inside the lined secondary containment. The concrete loading pad will be curbed to direct flow of spills to the sump. The liquid spills recovered in the catch/flush tank will be trucked to a Class II disposal well permitted by the NMOCD.

C. Notification

Propose a schedule for OCD notification of spills. The OCD requires the discharger to notify the director within 48 hours of the detection or suspected detection of a spill, and provide subsequent reports as required.

Answer – See Attachment “K” for the NMOCD notification plan listed within the proposed facility contingency plan.

IX. Site Characteristics

A. The following hydrologic/geologic information is required to be submitted with all discharge plan applications. Some information already may be included in this application or may be on file with OCD and can be provided to the applicant on request.

1. Provide the name, description, and location of any bodies of water, streams (indicate perennial or intermittent), or other watercourses (arroyos, canals, drains, etc.); and ground water discharge sites (seeps, springs, marshes, swamps) within one mile of the outside perimeter of the facility. For water wells, locate wells within one mile and specify use of water (e.g. public supply, domestic, stock, etc.).

Answer – The Mescalero Ridge is located approximately 4.4 miles southwest of the proposed brine well. Due to the relatively flat nature of the terrain on the caprock within the 1 mile area of review, there are no bodies of water (other than dry playa lake beds), streams, arroyos, canals, drains, seeps, springs, marshes or swamps evident. Five fresh water wells have been identified on the ground and via the OSE data base within the 1 mile area of review. Four of these wells are utilized for cattle/commercial water production and one is used for domestic household supply. See Attachments “C” and “D” for location of these water wells and playa lake beds.

2. Provide the depth to and total dissolved solids (TDS) concentration (in mg/l) of the ground water most likely to be affected by any discharge (planned or

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

unplanned). Include the source of the information and how it was determined. Provide a recent water quality analysis of the ground water, if available, including name of analyzing laboratory and sample date.

Answer – New water samples were obtained from two water wells within the area. See Attachment “J” for test results. The sample titled “Sample A” is from a ranch house water well located 0.48 miles southwest of the subject brine well. This well is utilized for domestic household supply. The sample titled “Sample B” is from a water well located 1.08 miles west of the subject brine well. This well is utilized for commercial fresh water sales and cattle production. Both of these water wells are located on property owned by the applicant. OSE data base indicates the average depth to water in the area of review is 140 – 190 feet.

3. Provide the following information and attach or reference source information as available (e.g. driller's logs):

a. Soil type(s) (sand, clay, loam, caliche);

Answer – Soil types are alluvium sand, shale, red beds and anhydrite per C-105 Formation data on wells within the 0.5 mile area of review.

b. Name of aquifer(s);

Answer – Ogallala and Quaternary Alluvium formations.

c. Composition of aquifer material (e.g. alluvium, sandstone, basalt, etc.); and

Answer – Ogallala Formation consists of interbedded layers of fine to medium grained sand and gravel, overlain by an upper caliche layer. Alluvium Formation consists of calcareous, unconsolidated sand, clay, silt and gravel.

d. Depth to rock at base of alluvium (if available).

Answer - The aquifer is generally located at a depth of 140 – 190 feet in this area. There is an underlying impermeable red bed layer that prevents further vertical movement within the aquifer. Red beds are evident immediately below the aquifer and extend for a depth of about 1480' across the area of review.

4. Provide information on:

a. The flooding potential at the discharge site with respect to major precipitation and/or run-off events; and

Answer – The area of review is not listed as a Flood Plain by FEMA. Average annual rainfall for this site is 10”-14” per year. There is a very slight slope

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

northwest to southeast across the area of review. The area could be occasionally inundated with locally heavy rainfall, but it is very unlikely that storm water runoff events from other areas would impact the proposed site.

Hummingbird Road (Lea County Road L-122) runs north/south on the western edge of the brine station. This county maintained road has barrow ditches on both side which controls runoff events coming from the west and northwest. See FEMA flood map in Attachment "O".

b. Flood protection measures (berms, channels, etc.), if applicable.

Answer – The brine station will have a 3 foot tall bermed/lined secondary containment around tanks. Any storm water run-on would be diverted around the tank area by this containment berm. Any rainfall within the process area would be contained with the secondary containment. The brine well location will be graded so that rain water will not pond around the well head.

B. Additional Information

Provide any additional information necessary to demonstrate that approval of the discharge plan will not result in concentrations in excess of the standards of WQCC Section 3-103 or the presence of any toxic pollutant (Section 1-101.UU.) at any place of withdrawal of water for present or reasonably foreseeable future use.

Depending on the method and location of discharge, detailed technical information on site hydrologic and geologic conditions may be required to be submitted for discharge plan evaluation. Check with OCD before providing this information. However, if required it could include but not be limited to:

1. Stratigraphic information including formation and member names, thickness, lithologies, lateral extent, etc.

Answer – The location of the proposed brine well is located in the geologic region known as Northwest Shelf of the Permian Basin. The brine well target formation is the Salado formation of the lower Ochoan Epoch. This Epoch is part of the upper Permian Age and extends across the Northwest Shelf, Delaware Basin and Central Basin Platform. It thins and finally pinches out on the eastern shelf. Layers in this series are predominately evaporates which contain strings of dolomite, shale, siltstone and sandstone. The thickness of the salt section averages 1050' – 1350' in this area. The Triassic rock overlying the lower Permian formations is the Dockum group and is divisible into the Santa Rosa sandstone and Chinle formations. The Tertiary rocks are represented by the Ogallala and Alluvium formations and ranges in thickness from 0' to 350' within this general area. It is primarily made up of calcareous, unconsolidated sand, clay, silt and gravel. These two formations are the primary ground water source within this area. See Attachment "M" for area geology and general stratigraphy.

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

2. Generalized maps and cross-sections;

Answer – See a map and cross-section in Attachments “M” and “N”.

3. Potentiometric maps for aquifers potentially affected;

Answer – No potentiometric maps were found for this water basin in Lea County.

4. Porosity, hydraulic conductivity, storativity and other hydrologic parameters of the aquifer;

Answer – No pumping tests, slug tests or constant-head tests were performed. However, values for these parameters were calculated using standard variables for an unconfined aquifer with medium sand as the aquifer material. Results are:

Porosity – 29-49%

Hydraulic Conductivity – 305 gal/day/ft²

Storativity – 0.2

Specific Yield – 32%

Specific Retention – 3%

5. Specific information on the water quality of the receiving aquifer.

Answer – The receiving formation is the Salado Formation (salt) which is not an aquifer. The Salado Formation is generally a solid formation with no in-situ water evident. There are no well records indicating that the Salado formation contained any water when this well was originally drilled.

6. Information on expected alteration of contaminants due to sorption, recipitation or chemical reaction in the unsaturated zone, and expected reactions and/or dilution in the aquifer.

Answer – The surface in the area of review is grassland utilized for cattle production. Other than animal waste, there are no contaminants or man-made agricultural chemicals utilized on this surface. The proposed brine well operation will include minimal man-made chemicals. Brine storage tanks will also have secondary containment protection. Infiltration of contaminants through the unsaturated or vadose zone to the aquifer is not expected during the proposed brine well operation. Additionally, no alteration of contaminants due to sorption, recipitation or chemical reaction in the unsaturated zone is expected. Finally, no reactions and/or dilution in the overlying aquifer are expected from brine operations.

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

X. Other Compliance Information

Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders. Examples include previous Division orders or letters authorizing operation of the facility or any surface impoundments at the location.

Answer – New form C-103 for the subject well was submitted to the NMOCD District 1 Office on April 18, 2018 and it was approved by the NMOCD on April 26, 2018. Forms C-101 and C-102 were also submitted to the NMOCD Santa Fe and Hobbs Offices on April 18, 2018, but will be approved after the discharge permit (BW-38) is approved. Copies of these forms are included in Attachment “I” for discharge plan documentation.

A. Surface Subsidence Monitoring

To monitor potential changes in surface conditions at the proposed brine well, Llano proposes to establish three surface subsidence monuments suitable for three dimensional surface monitoring as well as establishing an X, Y, and Z position on the proposed brine well. The monuments will be Berntsen’s 9/16” stainless steel floating sleeved rod monuments (see Attachment “P”) which are well suited for monitoring positional changes in the ground surface. The monuments are designed so that frost heave and swelling and shrinking soil conditions have no effect on the stainless steel rod on which measurements will be made. A location point on the wellhead will also be established so that the well itself will be used as a fourth subsidence monument. Rod monuments will be installed in a triangular configuration around the brine well wellhead at a maximum distance of 150 feet from the well.

1. Monument Installation Procedure

A 12” diameter hole will be augered to a depth of about 3-1/2 feet. The stainless steel rod will be manually driven into the ground, a section at a time, to a depth of 8 feet. The top of the rod would be about 6” below ground level. A finned floating sleeve (filled with NO-TOX grease) is placed over the rod and the datum point added on the rod end. A 6” diameter x 42” long PVC pipe conduit with access cover glued to top end is then placed over the finned sleeve. The inside of the PVC conduit is then filled with fine sand to a level about 3” below the top of the rod. The outside of the PVC conduit will be filled with sand to about 1 foot below ground level, then concrete will be placed from 1 foot depth to ground level.

2. Annual Subsidence Surveys

The survey contractor will use modern survey equipment to establish X, Y, Z positions on the surface subsidence monuments on an annual basis. Survey grade GPS equipment will be utilized to establish the horizontal position of each subsidence monument relative to the New Mexico Coordinate System North American Datum 1983 (2007). Using Static and Fast Static observations the expected horizontal accuracy of the GPS equipment as established by the manufacturer for the subsidence monuments is ± 0.01 ft. A digital level will be utilized to establish the vertical position of the surface subsidence monuments

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

relative to the North American Vertical Datum of 1988 (NAVD88). Using differential leveling techniques the expected vertical accuracy of the equipment as established by the manufacturer for the subsidence monuments is ± 0.01 ft.

The initial survey will be conducted prior to first injection into the proposed brine well. This survey will establish horizontal and vertical coordinate baseline values on the three monuments and the well. Additional surveys will be performed annually in order to compare coordinate values checking for movement in the monuments and well. After cease of operations of the proposed brine well, annual surface subsidence surveys will be conducted for a minimum of five additional years. Reports of these surveys will be submitted to the NMOCD in the annual (January 31) operating report.

B. Closure Plan

Upon cease of operations and after regulatory approval, Llano will plug and abandon the brine well, remove all surface equipment, restore the surface to original contour and reseed it with native grasses. In addition, Llano will continue surface subsidence monument surveys for a minimum of 5 years after well plugging.

1. Well Plug and Abandonment

The brine well will be plugged and abandoned per WQCC regulations section 5-209 and NMOCD rules in place at that time. As discussed in Section VII.A.11 above, the plugging plan includes swabbing approximately one foot of water out of the cavern, removing the tubing string, setting a cast iron bridge plug at 10 feet above the 9-5/8" casing window and filling the casing with a Class C high strength salt resistant cement. The wellhead will be cut off and a dry hole marker installed. Over time, large portions of the resulting salt cavern will re-solidify.

2. Surface Restoration

All surface equipment at the brine well location and brine station will be emptied, decommissioned and removed either through recycle, scrapping, sale or used by the owner elsewhere. The disturbed surface at the well location and brine station will be reclaimed and re-contoured to near original condition. The disturbed area will be reseeded with a BLM grass seed mixture to establish 70% minimum regrowth coverage.

3. Surface Subsidence Monitoring

The annual surface subsidence monitoring program discussed in section X.A.2 above will be continued for a minimum of 5 years following plugging and abandonment of the brine well.

C. Financial Assurance Plan

Llano has provided financial assurance for the State '27' #1 Brine Well and Hummingbird Brine Station via an irrevocable letter of credit in the amount of

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

\$108,000 covering well plugging and abandonment, surface restoration and surface subsidence monitoring for 5 years after ceasing operations as detailed below.

1. Well Plugging - \$41,475

Based on recently obtained bids and experience in plugging wells, Llano proposes a well plugging bond amount of \$41,475. See cost breakdown below.

\$17,400	Well plugging contractor labor/equipment including cement
\$8,925	Equipment rental (workstring, flowback tanks, BOPE, porta-john, etc)
\$4,725	Transportation of equipment
\$3,150	Supervision
\$2,730	Purchase/transportation of brine and fresh water
\$2,100	Disposal of tank fluids
\$1,260	Excavate/cutoff wellhead and anchors; weld on flat plate and PxA marker
\$1,185	Miscellaneous

2. Surface Restoration - \$47,625

Based on recently obtained surface restoration cost quotes, these costs total \$47,625 as detailed below:

\$8,400	Equipment/Labor – washout tanks for disposal, haul fluids and solids to disposal
\$2,200	Backhoe/Labor - 2 days to crush fiberglass tanks and PVC components at brine station
\$2,520	35 Yd Roll-off Dumpsters - delivery, rental and hauling to landfill
\$551	Lea County Landfill Charges – 3 ea 35 yd dumpsters = 105 cy x 300 lbs = 15.75 tons @ \$35/ton
\$1,700	Onsite Supervision
\$20,059	Equipment/Labor – pull all fencing, remove all concrete, disassemble all metal components, re-contour land to original grade, rebuild barbed wire fence to original ranch configuration, remove underground piping, electrical conduit, wiring, high line poles, wiring and signage
\$2,300	Trucking/Disposal – of concrete to Lea County Landfill @ \$35/ton
\$3,700	Trucking – haul metal components to Hobbs Iron & Metal for recycle
\$4,725	Decommission buried polyethylene brine pipeline - costs include fresh water, trucking and pumping to wash pipeline clean and disposal of brine and wash water, then leave pipeline in place for ranching, fresh water sales use
\$1,470	Reseeding BLM mix grass on estimated 2 acres at well location and brine station

3. Surface Subsidence Monitoring - \$18,900

Based on recently obtained surface subsidence survey cost quotes, these costs total \$18,900 for 5 years of follow-on subsidence monument monitoring. Cost estimate is \$1260 per year per monument surveyed. Annual cost to survey three monuments is \$3780 per year or \$18,900 for 5 years.

D. Notification Plan

Pursuant to 20.6.2.3108 NMAC, Llano Disposal proposes the following public notice plan to be implemented within 30 days upon the department's determination that the discharge permit application is deemed administratively complete.

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

1. Public Notice Onsite Signage (minimum 2' x 3' size) Pursuant to 20.6.2.3108.B.1 NMAC

Llano will install one (1) sign meeting the above requirements in both English and Spanish to be located on private land adjacent to the northern edge of the proposed brine station on Hummingbird Road approximately 0.2 mile south of Hwy 82 in Section 28, T16S, R33E. This posting site is located approximately 200 feet north of the proposed brine station location. This notice will be posted for a minimum of 30 days. The proposed text on this sign is included in Attachment "Q".

2. Public Notice Offsite Pursuant to 20.6.2.3108.B.1 NMAC

Llano will post a notice of the discharge application in English and Spanish on a public bulletin board in the Lea County Courthouse which is approximately 18.8 miles from the proposed brine station. This notice will be posted for a minimum of 30 days. The proposed text of this notice is included in Attachment "R".

3. Notice to Adjoining Property Owners Pursuant to 20.6.2.3108.B.2 NMAC

Llano will provide written notice of the discharge application in English by certified mail, return receipt requested, to owners of record of all properties adjacent to the property owned by the discharger. According to Lea County property records, there is only one adjacent property owner and no additional property owners within 1/3 mile of the property line of applicant. The proposed text of these notices, attachments and a listing of the owners are included in Attachment "S".

4. Notice to the Property Owner of the Discharge Site Pursuant to 20.6.2.3108.B.3 NMAC

Notice to the landowner is not required since the applicant, Llano Disposal, LLC, is the owner of this land. Although the surface ownership is private land, the mineral ownership is State of New Mexico owned. Llano will provide written notice in English by certified mail, return receipt requested, to the New Mexico State Land Office, the mineral owner of the discharge site. According to SLO records as of June 29, 2018, the State owned minerals in UL 'L', Section 27, T16S, R33E are leased to Cimarex Energy Company. Llano will provide written notice in English by certified mail, return receipt requested, to Cimarex, the mineral lessee. Text of the notice letters is included in Attachment "S".

State 27 #1 Brine Well and Hummingbird Brine Station Discharge Plan

5. Public Notice Newspaper Display Ad (minimum 3" x 4") Pursuant to 20.6.2.3108.B.4 NMAC

Llano will publish one (1) newspaper advertisement meeting the above requirements in both English and Spanish in the "Lovington Leader", a newspaper of general circulation nearest the location of the proposed discharge. The proposed text of these newspaper advertisement notices is included in Attachment "T".

6. Proof of Notice Pursuant to 20.6.2.3108.D NMAC

Within 15 days of completion of public notice requirements listed above, Llano will submit to the department proof of notice, including an affidavit of mailings and the list of property owners, proof of publication in the newspaper, and an affidavit of public posting onsite the discharge location and offsite in the Lea County Courthouse.

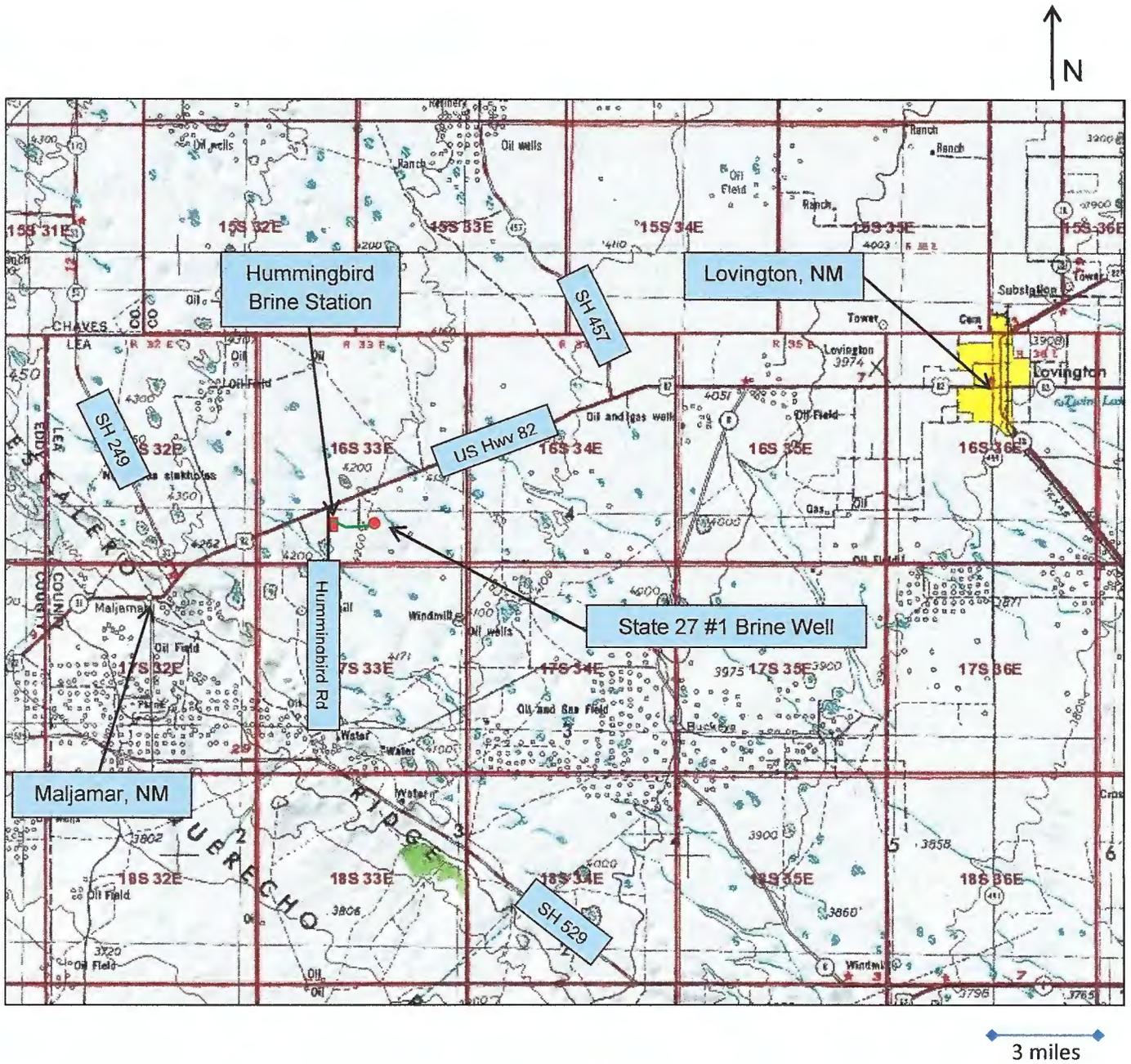
Llano Disposal, LLC
State '27' BSW #1
Discharge Plan

Attachment Index

Attachment	Description
A	Overview Map of General Area – USGS Topo Map of Area (Small Scale)
B	USGS Topo Map of Area (Large Scale)
C	Maps of Fresh Water Wells Within 1 Mile AOR and Ground Water Monitor Wells (2 pgs)
D	0.5 Mile and 1 Mile Areas of Review for Oil & Gas Wells
E	Brine Well Location Site Plan
F	Brine Station Site Plan
G	USGS Drainage Map of Project Area
H	Plugging Records for Offset Well Within the 0.5 Mile Area of Review (2 pgs)
I	NMOCD Drilling, Comp, P&A Records for State '27' #1 (17 pgs)
J	Water Analysis Test Results on Area Fresh Water Wells (3 pgs)
K	Emergency Contingency and Response Plan (2 pgs)
L	Schematics for Brine Station and Brine Well Location (3 pgs)
M	Area Geology Map and General Lithology (2 pgs)
N	Cross-sections of Geologic Structure at State '27' #1 (3 pgs)
O	FEMA Flood Plain Map of Project Area
P	Subsidence Monument Design and Installation Procedure
Q	Public Notice for Onsite Sign Posting (4 pgs)
R	Public Notice for Offsite Posting at Lea County Courthouse (5 pgs)
S	Public Notice Letters to Adjoining Property Owners, SLO, Mineral Lessee (4 pgs)
T	Public Notice in Lovington Leader Newspaper (4 pgs)

State 27 BSW #1
API # 30-025-20592
Discharge Plan Attachments

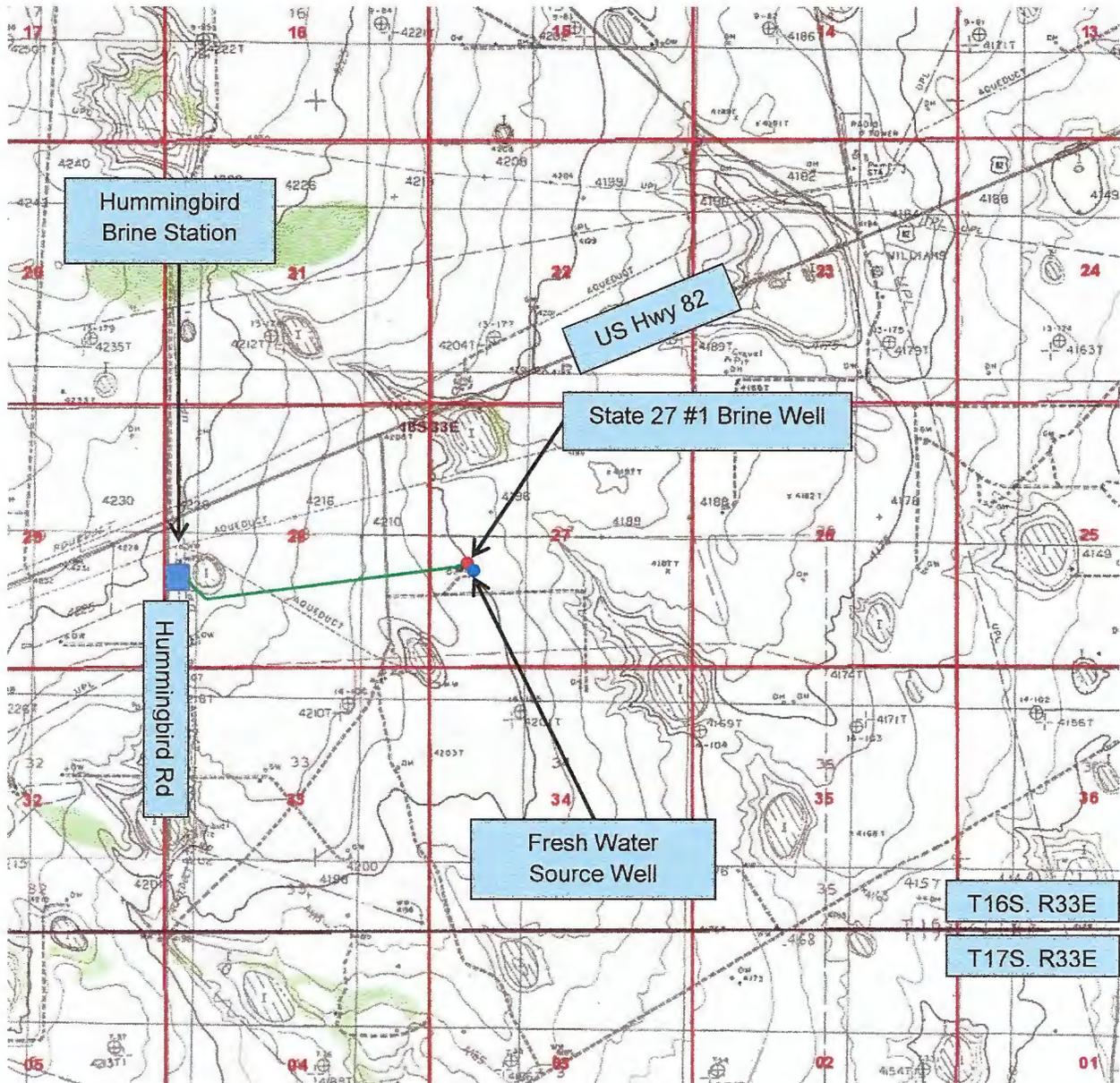
Attachment A – Small Scale Topo Map



Lea County, New Mexico

State 27 BSW #1
API # 30-025-20592
Discharge Plan Attachments

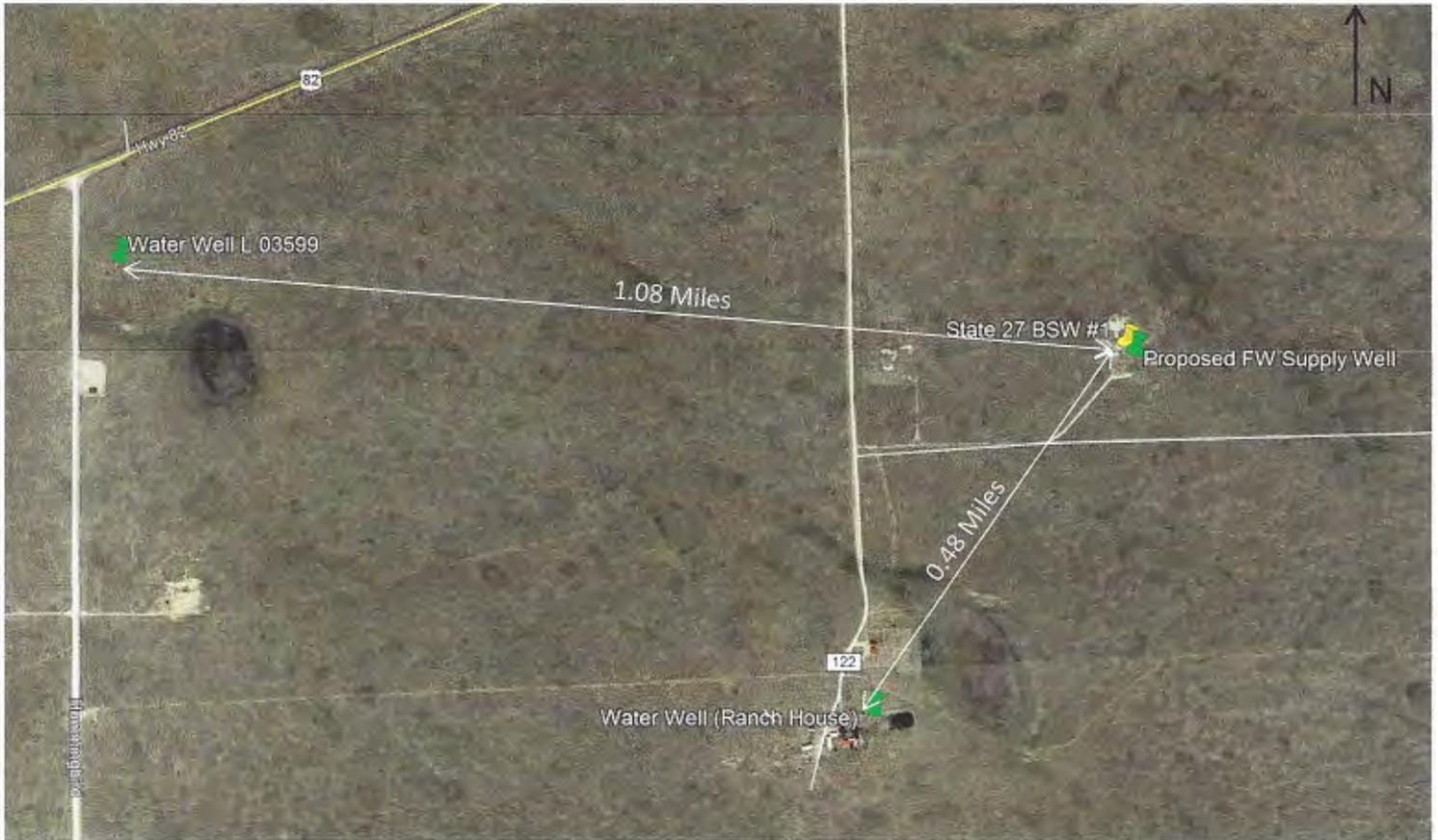
Attachment B – Large Scale Topo Map



Lea County, New Mexico

State 27 BSW #1
API # 30-025-20592
Discharge Plan Attachments

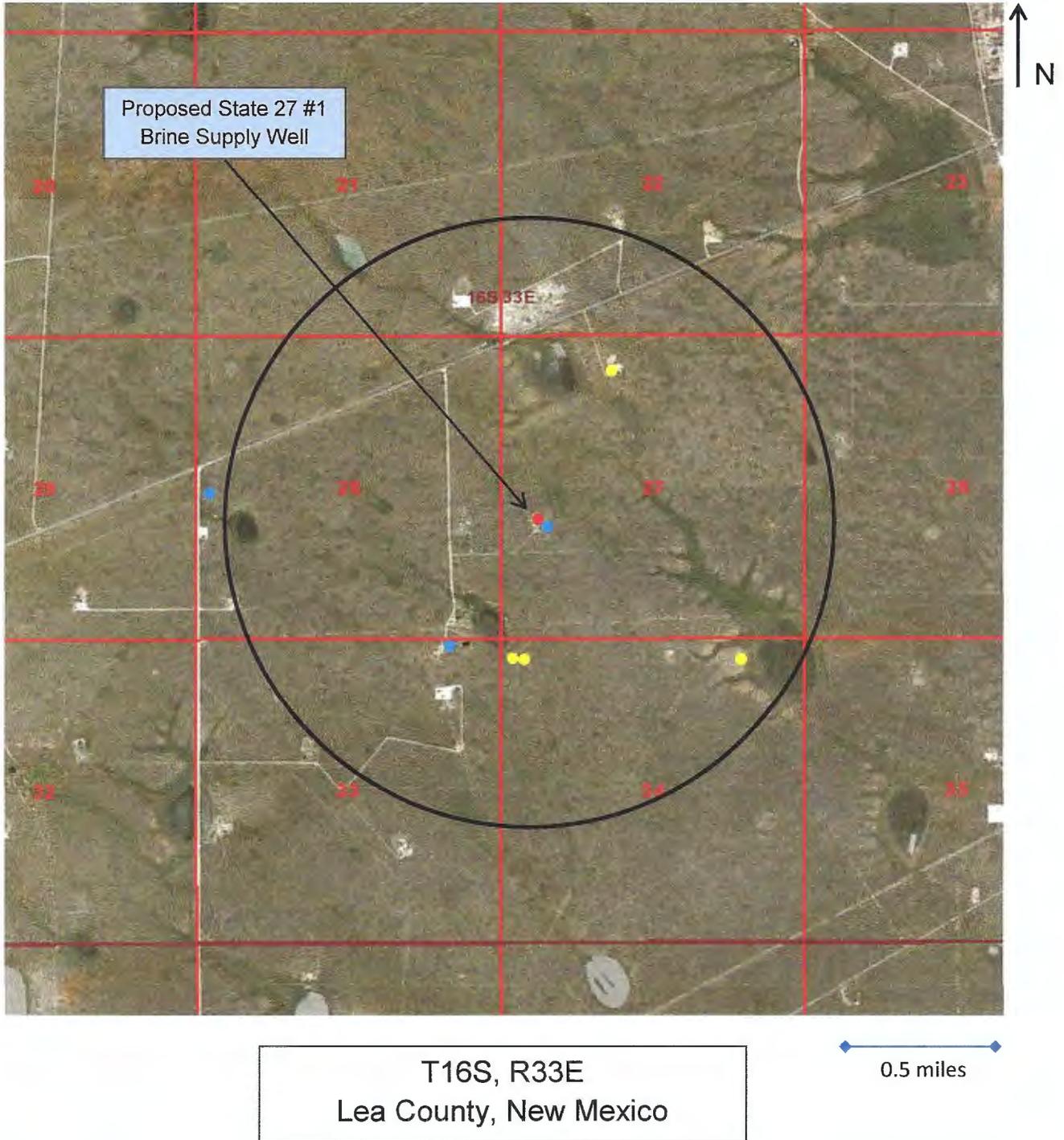
Attachment C – Aerial Photo with Ground Water Monitoring Wells



T16S, R33E
Lea County, New Mexico

State 27 BSW #1
API # 30-025-20592
Discharge Plan Attachments

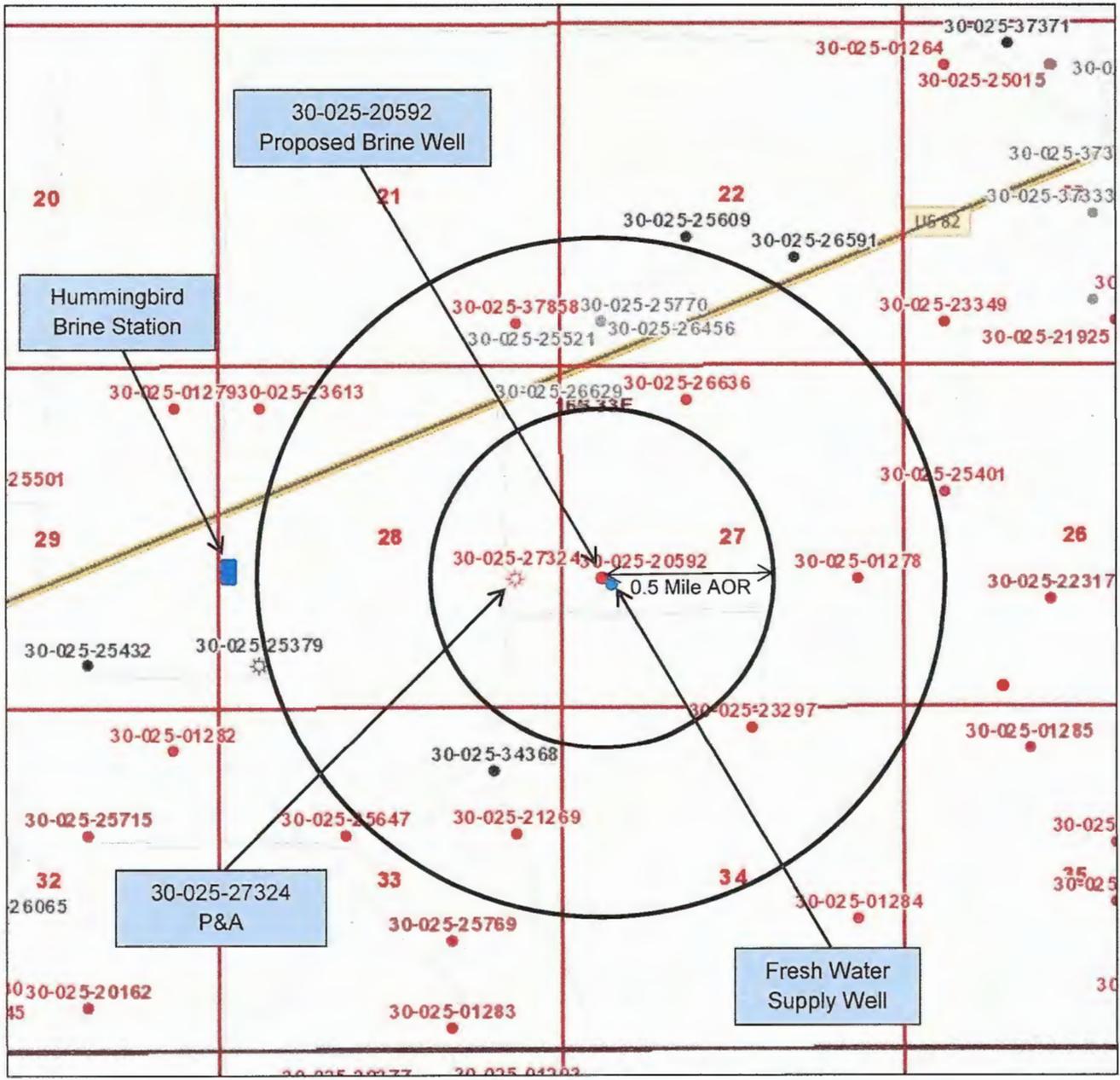
Attachment C – 1 Mile Area of Review for Fresh Water Wells



- Fresh Water Wells
- Proposed Ground Water Monitor Wells
- Proposed State 27 BSW #1

State 27 BSW #1
API # 30-025-20592
Discharge Plan Attachments

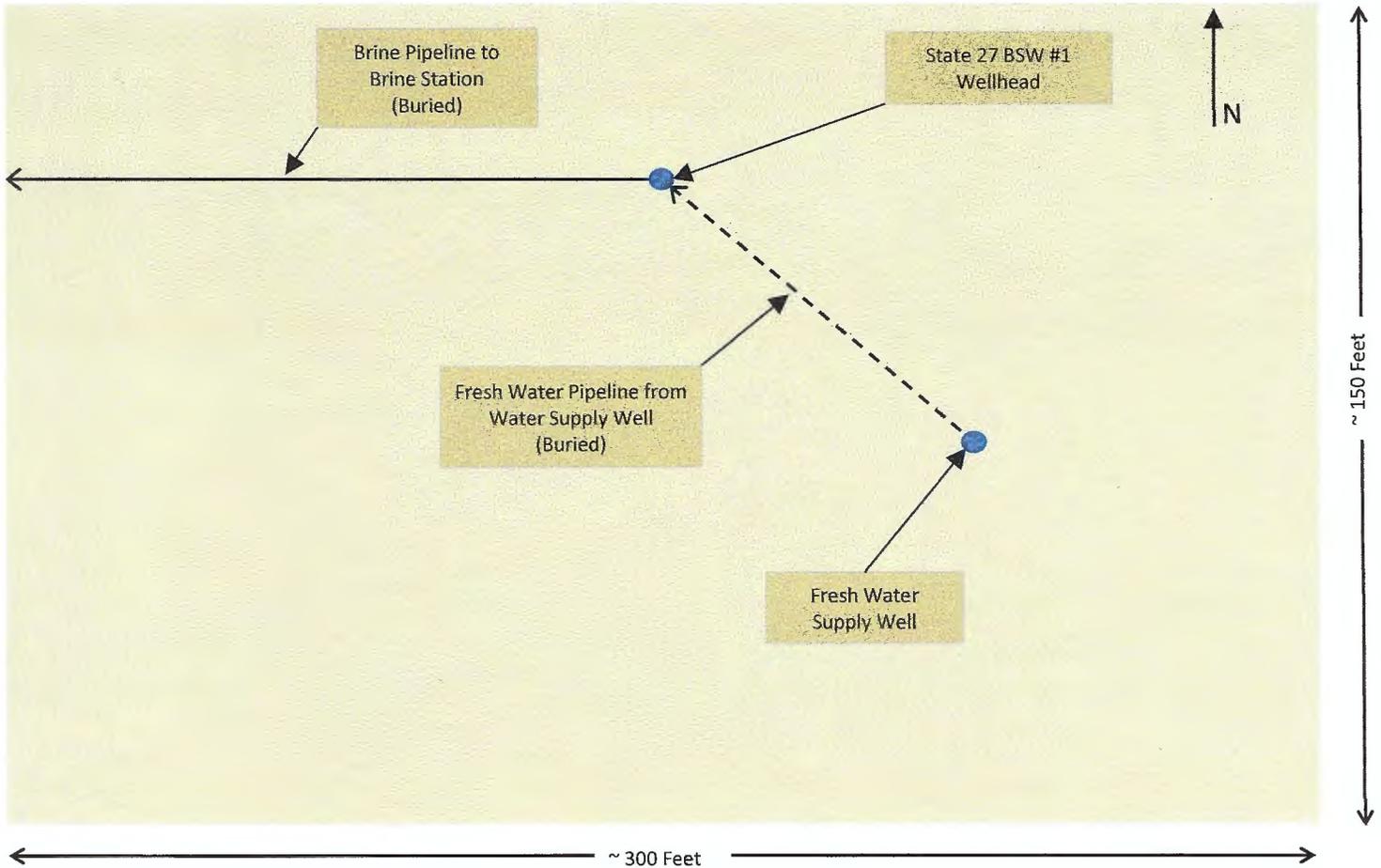
Attachment D – 0.5 and 1 Mile AORs with Oil/Gas Wells



T16S, R33E
Lea County, New Mexico

State 27 BSW #1
API # 30-025-20592
Discharge Plan Attachments

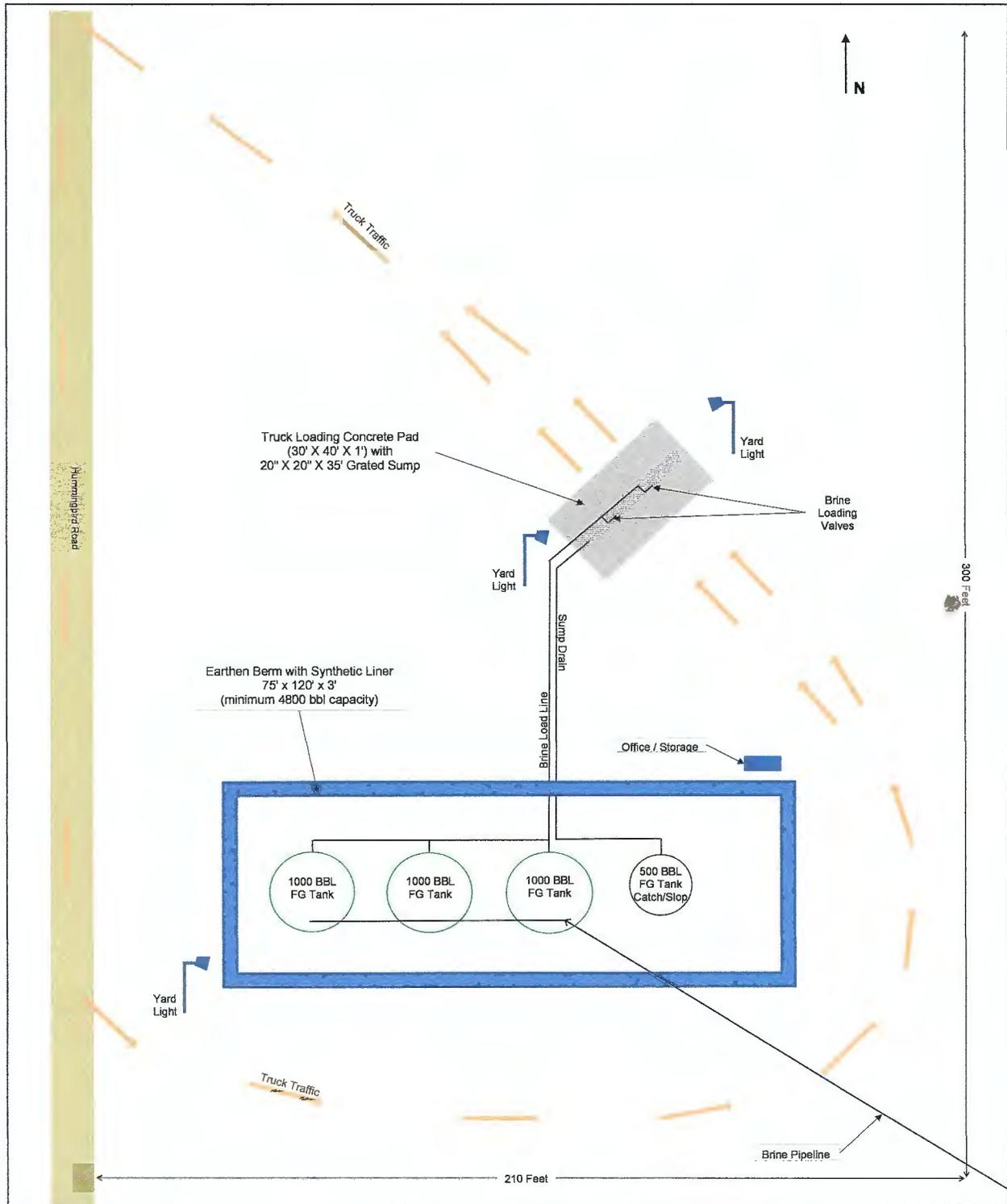
Attachment E – Well Location Site Plan (UL L, Section 27, T16S, R33E)



Surface Owner – Angell #2 Family LP
P. O. Box 190, Lovington, NM 88260
Drawing Not to Scale

State 27 BSW #1
API # 30-025-20592
Discharge Plan Attachments

Attachment F – Hummingbird Brine Station Site Plan (UL L, Section 28, T16S, R33E)



Surface Owner – Angell #2 Family LP
P. O. Box 190, Lovington, NM 88260
Drawing Not to Scale

Submit 3 Copies
to Appropriate
District Office

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-103
Revised 1-1-89

OFFSET WELL 30-025-27324

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

WELL APP NO. 30-025-27324
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. 6666

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

1. Type of Well:
OIL WELL GAS WELL OTHER

2. Name of Operator
Hexagon Oil & Gas Inc.

3. Address of Operator
F10 Houston St. Fort Worth tx. 76102

7. Lease Name or Unit Agreement Name
~~Hexagon~~
Hexagon nm 28 state.

8. Well No. 1

9. Pool name or Wildcat
Kempco-Lower Wolfcamp

4. Well Location
Unit Letter 7 : 1960 Feet From The South Line and 660 Feet From The East Line
Section 28 Township 16S Range 33E NMPM Lea County

10. Elevation (Show whether DF, RKB, RT, GR, etc.)
4207.4 GR

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

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

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

4-03-1991 Spot 20 sxs cement @ 11,380'-11,100
 4-03-1991 Spot 25 sxs cement @ 10,660-10,340 tagged
 4-04-1991 Spot 20 sxs @ 8000'-7800'
 4-08-1991 Spot 35 sxs @ 5050'-4900' tagged
 4-09-1991 Spot 45 sxs @ 4549'-4430' tagged
 4-09-1991 Spot 45 sxs @ 1450'-1250'
 4-10-1991 Spot 60 sxs @ 385'-285' perforated @ 285'
 4-10-1991 Spot 45 sxs @ 115'-59'
 4-10-1991 Spot 10 sxs @ surface

Install dry hole marker
 Hole circulated with 10# mud
 Pulled 5000' of 4 1/2" casing
 Pulled 65' of 0.578 casing

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

SIGNATURE John G. Burke TITLE VICE PRESIDENT DATE 4/24/91
 TYPE OR PRINT NAME JOHN G. BURKE TELEPHONE NO. 817/870-126

(This space for State Use)

APPROVED BY Tony W. Hill TITLE OIL CONSERVATION DIVISION DATE 1991
 CONDITIONS OF APPROVAL IF ANY:

CURRENT WELLBORE DIAGRAM - OFFSET WELL

P&A Well

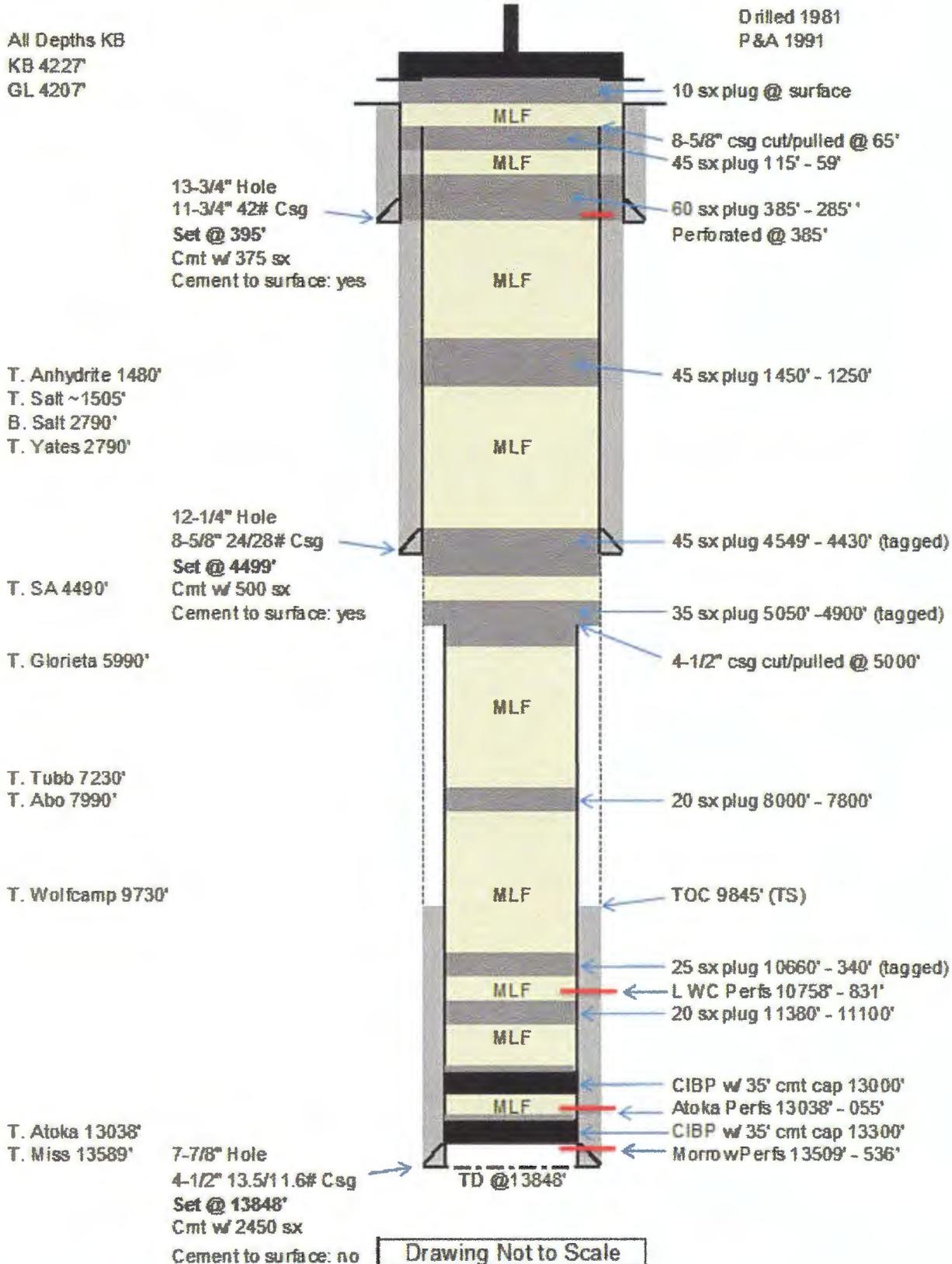
Hexagon Oil and Gas Inc

Hexagon NM 28 State #1

API # 30-025-27324

OFFSET WELL 30-025-27324

1980' FSL x 660' FEL, UL T, Sec 28, T16S, R33E, Lea County, NM



CURRENT WELLBORE (after cmt plug drillout)

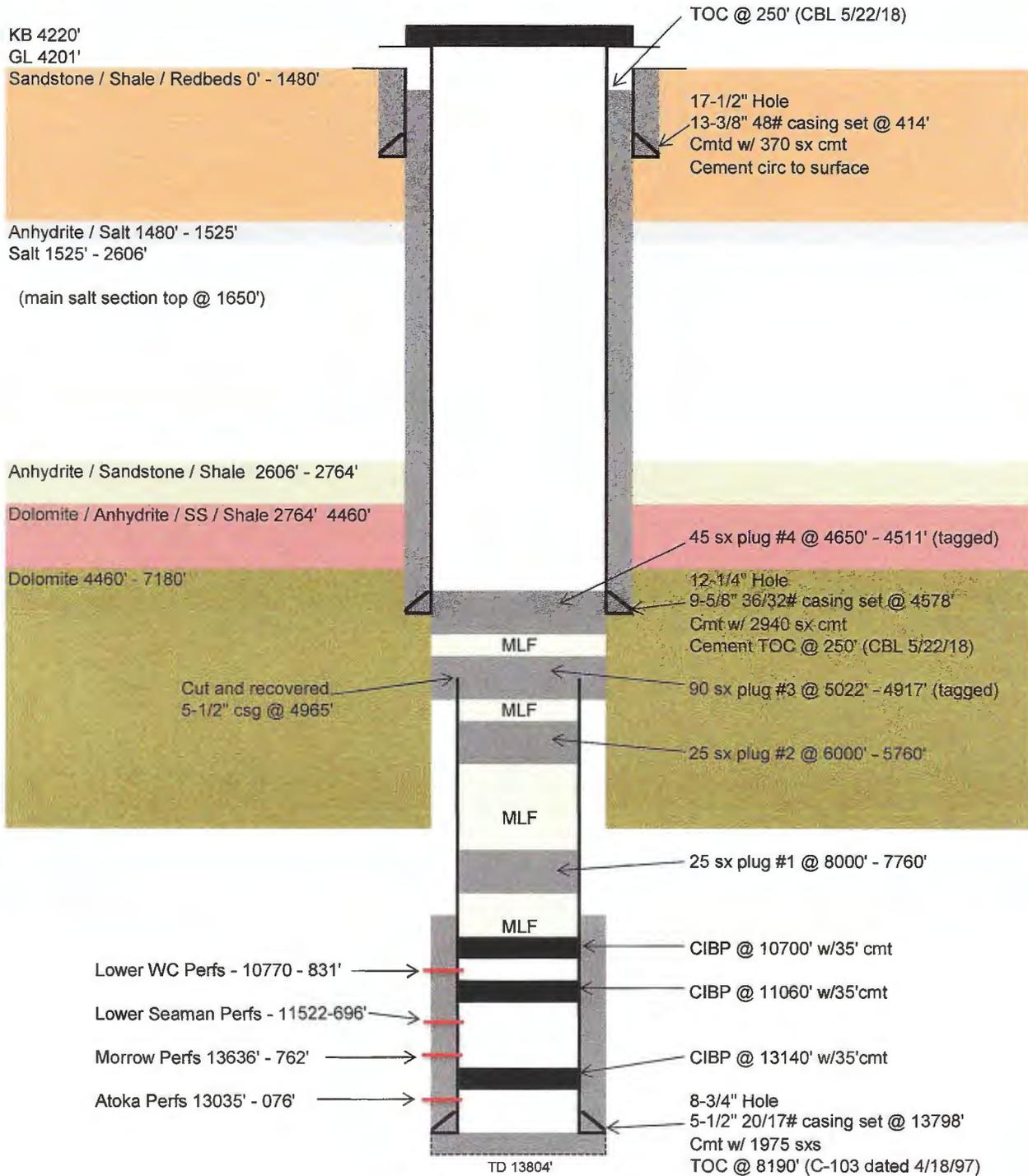
P&A Well

Llano Disposal, LLC

State 27 #1 P&A

API # 30-025-20592

1980' FSL x 660' FWL, UL 'L', Sec 27, T16S, R33E, Lea County, NM



Drawing Not to Scale

Attachment I
Drawing Not to Scale

Note: This wellbore diagram represents information obtained from OCD files and new logs (5/22/18).

PROPOSED WELLBORE

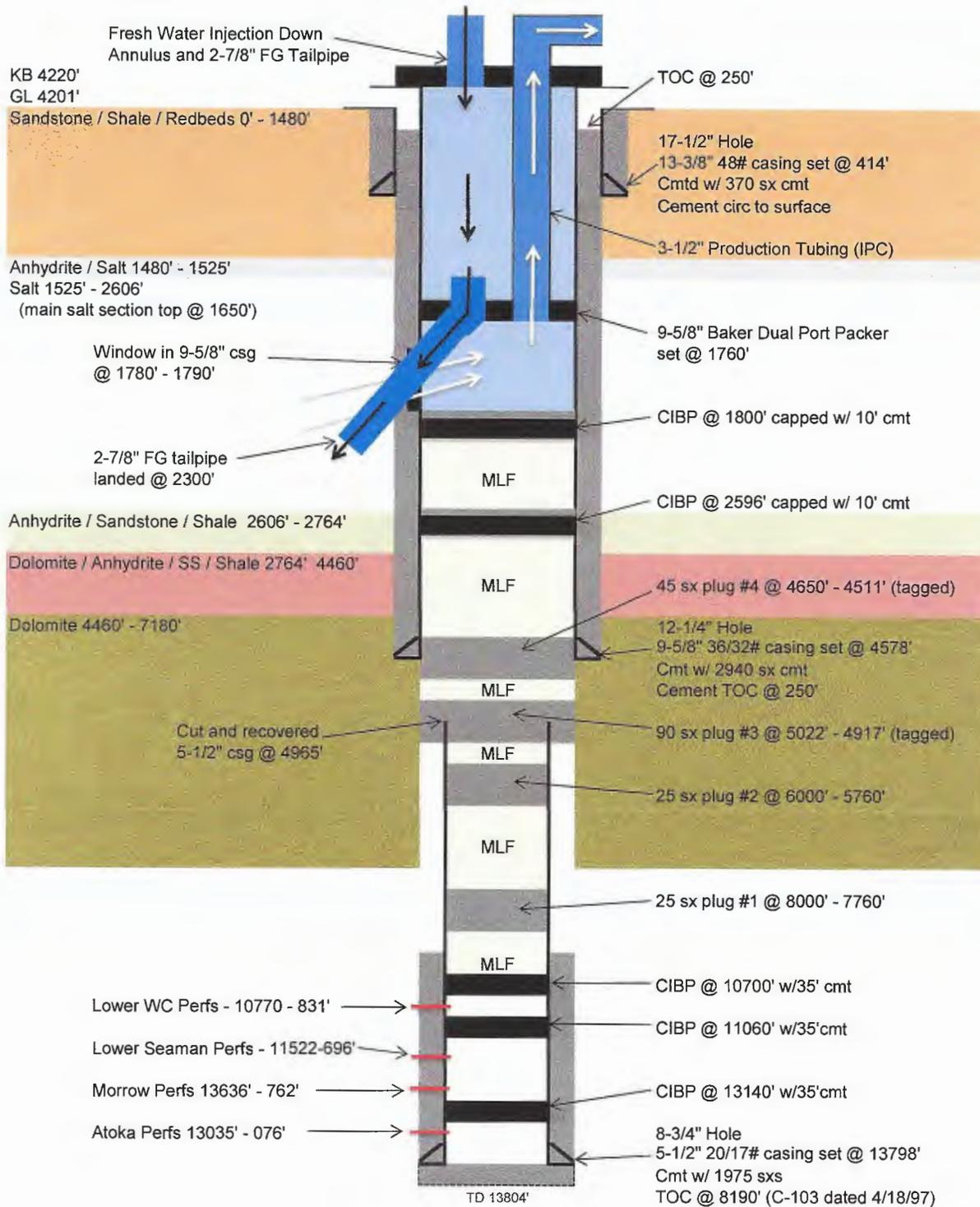
Configured for Brine Service Well

Llano Disposal, LLC

State 27 #1 P&A

API # 30-025-20592

1980' FSL x 660' FWL, UL 'L', Sec 27, T16S, R33E, Lea County, NM



Drawing Not to Scale

Note: This wellbore diagram represents information obtained from OCD files and new logs (5/22/18).

Attachment I
Drawing Not to Scale

NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

NUMBER OF COPIES RECEIVED	
DISTRIBUTION	
DATE	
FILE	
U.S.S.	
LAND OFFICE	
TRANSPORTER	OIL
	643
PRODUCTION OFFICE	
OPERATOR	

NOTICE OF INTENTION TO DRILL

Notice must be given to the District Office of the Oil Conservation Commission and approval obtained before drilling or recompletion begins. If changes in the proposed plan are considered advisable, a copy of this notice showing such changes will be returned to the sender. Submit this notice in QUINTUPLICATE. One copy will be returned following approval. See additional instructions in Rules and Regulations of the Commission. If State Land submit 6 Copies Attach Form O-128 in triplicate to first 3 copies of form O-101

Roswell, New Mexico

June 24, 1964

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Gentlemen:

You are hereby notified that it is our intention to commence the Drilling of a well to be known as

The Atlantic Refining Company

State "AZ"

Well No. 1

The well is

located 1980 feet from the South line and 660 feet from the West line of Section 27, T. 16-S, R. 33-E, NMPM.

(GIVE LOCATION FROM SECTION LINE)

Wildcat Pool, Lee County

If State Land the Oil and Gas Lease is No. CG-5718

If patented land the owner is

Address

We propose to drill well with drilling equipment as follows:

Rotary tools from O - T.D.

The status of plugging bond is Bond No. 8, Casualty Company of America is in effect.

Drilling Contractor To be reported.

We intend to complete this well in the Kennits or Saman Zones

formation at an approximate depth of 11,600 feet.

CASING PROGRAM

We propose to use the following strings of Casing and to cement them as indicated:

Size of Hole	Size of Casing	Weight per Foot	New or Second Hand	Depth	Blocks Cement
17-1/2	13-3/8	48		350	Circulate
12-1/4	9-5/8	32.3 & 36		4550	Circulate
8-3/4	5-1/2	15.5, 17 & 20		11600	300 ex ✓

If changes in the above plans become advisable we will notify you immediately.

ADDITIONAL INFORMATION (If recompletion give full details of proposed plan of work.)

Approved _____, 19____
Except as follows:

Sincerely yours,

The Atlantic Refining Company
(Company or Operator)

By A. D. Kloxin

Position Dist. Drilling & Production Supt.
Send Communications regarding well to

Name A. D. Kloxin

Address P.O. Box 1078, Roswell, New Mexico

OIL CONSERVATION COMMISSION

By _____

NUMBER OF COPIES RECEIVED	
BY	
DATE	

NEW MEXICO OIL CONSERVATION COMMISSION

FORM C-12B
Revised 5/1/57

WELL LOCATION AND ACREAGE DEDICATION PLAT

30-025-20592

ROBERTSON COUNTY, N. M. O. C. C.

JUN 25 2 53 PM '64

SECTION A

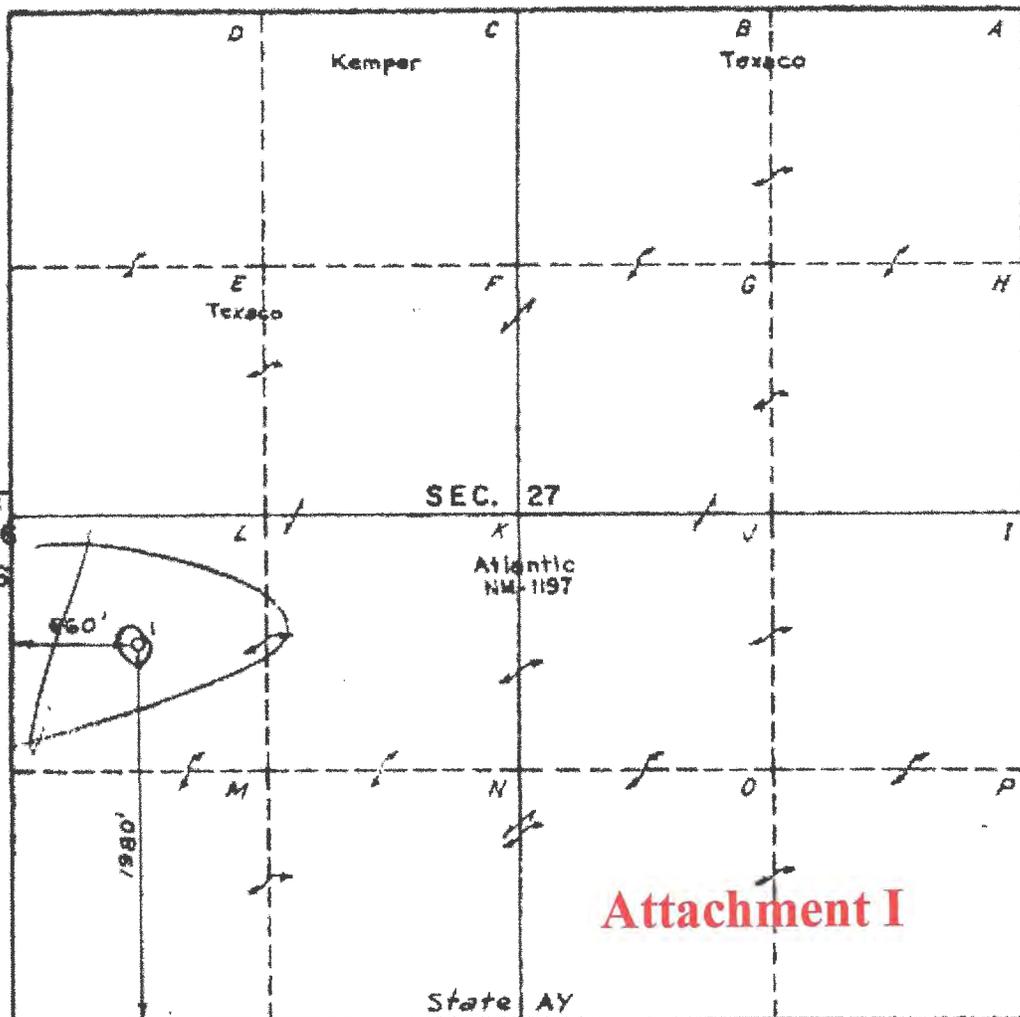
Operator The Atlantic Refining Company		Lease State AY		Well No. 1
Unit Letter L	Section 27	Township 16 South	Range 33 East	County Robertson
Actual Footage Location of Well: 1900 feet from the South line and 660 feet from the West line				
Ground Level Elev.	Producing Formation <i>Permian</i>	Pool <i>Permian</i>	Dedicated Acreage: 40 Acres	

1. Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES NO "Owner" means the person who has the right to drill into and to produce from any pool and to appropriate the production either for himself or for himself and another. (65-3-29 (a) NMSA 1955 Comp.)
2. If the answer to question one is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? YES NO If answer is "yes," Type of Consolidation _____
3. If the answer to question two is "no," list all the owners and their respective interests below:

Owner	Land Description

R 33E

SECTION B



CERTIFICATION

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

A. D. Kloxin
Name
A. D. Kloxin
Position
Dist. Drlg. & Prod. Supt.
Company
The Atlantic Refining Co.
Date
6-24-64

I hereby certify that the well location shown on the plat in SECTION B 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 knowledge and belief.

Robertson
Surveyor
The Atlantic Refining Company

Date Surveyed: 6-23-64

0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

FA10-1283

NUMBER OF COPIES RECEIVED		DISTRIBUTION		NEW MEXICO OIL CONSERVATION COMMISSION				FORM C-103 (Rev 3-55)
SALES				MISCELLANEOUS REPORTS ON WELLS E. O. O. (Submit to appropriate District Office as per Commission Rule 116)				
FILE								
LAND OFFICE								
TRANSPORTER	OIL							
PRODUCTION OFFICE	GAS							
OPERATOR								
Name of Company The Atlantic Refining Company				Address P. O. Box 1978, Roswell, New Mexico				
Lease State "AT"		Well No. 1	Unit Letter L	Section 27	Township 16-8	Range 33-E		
Date Work Performed 6/28 - 6/30/64	Pool Wildcat		County Lea					
THIS IS A REPORT OF: (Check appropriate block)								
<input checked="" type="checkbox"/> Beginning Drilling Operations		<input checked="" type="checkbox"/> Casing Test and Cement Job			<input type="checkbox"/> Other (Explain):			
<input type="checkbox"/> Plugging		<input type="checkbox"/> Remedial Work						
Detailed account of work done, nature and quantity of materials used, and results obtained.								
<p>Rigged up Rotary Rig (Noble Drilling Co.). Spudded well at 3:30 P.M. 6/28/64. Drilled 17-1/2" hole to 420'. Ran 13 jts 13-3/8" OD SR 48# R-40 casing, guide shoe and float collar = 397.87'. Set at 413.97'. Cemented w/370 sx Incor neat cement. Plug down at 7:00 A.M. 6/29/64. Cement circulated. WOC 21 hrs. Tested 13-3/8" casing w/900# for 30 minutes. Held OK and job complete at 4:00 A.M. 6/30/64.</p>								
Witnessed by T. E. Sheets		Position Drilling Engineer		Company The Atlantic Refining Company				
FILL IN BELOW FOR REMEDIAL WORK REPORTS ONLY								
ORIGINAL WELL DATA								
DF Elev.	TD	PBTD		Producing Interval		Completion Date		
Tubing Diameter		Tubing Depth		Oil String Diameter		Oil String Depth		
Perforated Interval(s)								
Open Hole Interval				Producing Formation(s)				
RESULTS OF WORKOVER								
Test	Date of Test	Oil Production BPD	Gas Production MCFPD	Water Production BPD	GOR Cubic feet/Bbl	Gas Well Potential MCFPD		
Before Workover								
After Workover								
OIL CONSERVATION COMMISSION				I hereby certify that the information given above is true and complete to the best of my knowledge.				
Approved by				Name <i>A. D. Kloxin</i> A. D. Kloxin				
Title				Position District Drilling & Production Supt.				
Date				Company The Atlantic Refining Company				

<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td colspan="2">NUMBER OF COPIES RECEIVED</td></tr> <tr><td colspan="2">DISTRIBUTION</td></tr> <tr><td>STATE</td><td></td></tr> <tr><td>FILE</td><td></td></tr> <tr><td>LOG</td><td></td></tr> <tr><td>LAND OFFICE</td><td></td></tr> <tr><td>TRANSPORTER</td><td></td></tr> <tr><td>OPERATOR</td><td></td></tr> </table>	NUMBER OF COPIES RECEIVED		DISTRIBUTION		STATE		FILE		LOG		LAND OFFICE		TRANSPORTER		OPERATOR		<p>NEW MEXICO OIL CONSERVATION COMMISSION</p> <p>MISCELLANEOUS REPORTS ON WELLS</p> <p><i>HURBB OF NEEDS C.</i></p> <p>(Submit to appropriate District Office on <i>July 22 10 07 AM '64</i>)</p>	<p>FORM C-103 (Rev 3-55)</p>
NUMBER OF COPIES RECEIVED																		
DISTRIBUTION																		
STATE																		
FILE																		
LOG																		
LAND OFFICE																		
TRANSPORTER																		
OPERATOR																		

Name of Company The Atlantic Refining Company		Address Nowell			
Lease State "AT"	Well No. 1	Unit Letter L	Section 27	Township 168	Range 33E
Date Work Performed 7/12/64-7/14/64	Pool Wildcat			County Lee	

THIS IS A REPORT OF: (Check appropriate block)

Beginning Drilling Operations
 Casing Test and Cement Job
 Other (Explain):
 Plugging
 Remedial Work

Detailed account of work done, nature and quantity of materials used, and results obtained.

Drilled 12 1/4" hole to 4581' (RKB). Ran 144 jts. 9-5/8" ODSR 32.3# & 36# combination casing, float shoe and float collar = 4562.43'. Set at 4577.70'. B.J. Service cemented w/2690 sz 1:1 mix Incer-Dianix + 8% gal & 2% CaCl. Tailed in w/250 sz Incer neat. Plug down at 6:15 A.M. 7/13/64. Cement circulated. Installed BOP's. Tested 9-5/8 to 900# for 30 min. Held OK and job complete @ 12:30 P.M. 7/14/64 after 30 1/2 hrs. W.O.C. Drilled float joint and shoe and resumed drilling - 8-3/4" hole.

Witnessed by O. D. Bretches	Position Dist. Drlg. Supv.	Company The Atlantic Refining Company
---------------------------------------	--------------------------------------	---

FILL IN BELOW FOR REMEDIAL WORK REPORTS ONLY

ORIGINAL WELL DATA

D F Elev.	T D	P BTD	Producing Interval	Completion Date
Tubing Diameter	Tubing Depth	Oil String Diameter	Oil String Depth	
Perforated Interval(s)				
Open Hole Interval		Producing Formation(s)		

RESULTS OF WORKOVER

Test	Date of Test	Oil Production BPD	Gas Production MCFPD	Water Production BPD	GOR Cubic feet/Bbl	Gas Well Potential MCFPD
Before Workover						
After Workover						

<p>OIL CONSERVATION COMMISSION</p>	<p>I hereby certify that the information given above is true and complete to the best of my knowledge.</p>
Approved by <i>[Signature]</i>	Name <i>O. D. Bretches</i>
Title	Position District Drilling Supervisor
Date	Company The Atlantic Refining Company

NUMBER	COPIES RECEIVED
DATE	DISTRIBUTION
FILE	
U.S.A.S.	
LAND OFFICE	
TRANSFER	OIL
PRODUCTION OFFICE	SALES
OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

MISCELLANEOUS NOTICES

SEP 1 3 40 PM '64

strict Office, Oil Conservation Commission, before the work specified is to begin. A copy will be furnished to the Bureau of Land Management or given the approval, with any modifications considered advisable, or the rejection by the Commission or agent, of the plan submitted. The plan as approved should be followed, and work should not begin until approval is obtained. See additional instructions in the Rules and Regulations of the Commission.

Indicate Nature of Notice by Checking Below

NOTICE OF INTENTION TO CHANGE PLANS		NOTICE OF INTENTION TO TEMPORARILY ABANDON WELL		NOTICE OF INTENTION TO DRILL DEEPER	
NOTICE OF INTENTION TO PLUG WELL	X	NOTICE OF INTENTION TO PLUG BACK		NOTICE OF INTENTION TO SET LINER	
NOTICE OF INTENTION TO SQUEEZE		NOTICE OF INTENTION TO ACIDIZE		NOTICE OF INTENTION TO SHOOT (Micro)	
NOTICE OF INTENTION TO GUN PERFORATE		NOTICE OF INTENTION (OTHER)		NOTICE OF INTENTION (OTHER)	

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Roswell, New Mexico

August 25, 1964

(Place)

(Date)

Gentlemen:

Following is a Notice of Intention to do certain work as described below at the

The Atlantic Refining Company

State "AY"

Well No. 1

in L

(Company or Operator)

(Unit)

NW 1/4 SW 1/4 of Sec. 27, T. 16-S, R. 33-E, NMPM, Wilcox Pool

Lee County.

FULL DETAILS OF PROPOSED PLAN OF WORK
(FOLLOW INSTRUCTIONS IN THE RULES AND REGULATIONS)

This well was drilled to 11647' T.D. without encountering commercial quantities of oil and gas. We propose to plug and abandon by setting the following cement plugs:

- 40 sx from 11470-11582
- 45 sx from 10755-10881
- 40 sx from 9673-9785
- 25 sx from 7930-8000
- 25 sx from 5900-5970
- 25 sx from 4543-4613
- 10 sx In top of surface pipe.

9.3#/gal. gal mud will be left between all plugs. 9-5/8" & 13-3/8" casing string will remain intact.

Verbal permission for above obtained from Mr. J.D. Ramey on 8/25/64.

Approved _____, 19____
Except as follows:

Approved _____
OIL CONSERVATION COMMISSION

By _____
Title _____

The Atlantic Refining Company

Company or Operator

By A. D. Kloxin
Position Dist. Drilling & Production Supt.

Send Communications regarding well to:

Name A. D. Kloxin
Address P.O. Box 1978, Roswell, New Mexico

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

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TRANSMISSION	
PRODUCTION OFFICE	
RECORDS	

WELL RECORD

30-025-20592

15	14				
		35			
				84	

Mail to District Office, Oil Conservation Commission, to which Form C-101 was sent not later than twenty days after completion of well. Follow instructions in Rules and Regulations of the Commission. Submit in QUENTUPPLICATE If State Level submit 6 Copies

The Atlantic Refining Company State "AYT"
 (Contract or Company) (County)

Well No. 1 in NW 1/4 of SW 1/4, of Sec. 27, T. 16-S., R. 33-E., NMPM.

Undesignated Pool, Lea County.

Well is 1960 feet from South line and 660 feet from West line of Section 27. If State Land the Oil and Gas Lease No. is CG-5718

Drilling Commenced June 28, 1964 Drilling was Completed August 27, 1964

Name of Drilling Contractor: Noble Drilling Corporation

Address: P. O. Drawer 550, Midland, Texas

Elevation above sea level at Top of Ground Level 4201 The information given is to be kept confidential until 19.....

OIL SANDS OR ZONES

No. 1, from None to No. 4, from to
 No. 2, from to No. 5, from to
 No. 3, from to No. 6, from to

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from None to feet
 No. 2, from to feet
 No. 3, from to feet
 No. 4, from to feet

CASING RECORD

SIZE	WEIGHT PER FOOT	NEW OR USED	AMOUNT	KIND OF EDGE	CUT AND PULLED FROM	PREPARATIONS	PURPOSE
13-3/8	48	New	307.87	Guide	Intact		Surface
9-5/8	33.30 & 36	New	4562.43	Flare	Intact		Intermediate

MUDDING AND CEMENTING RECORD

SIZE OF HOLES	SIZE OF CASING	WEIGHT SET	NO. BAGS OF CEMENT	METHOD USED	MUD GRAVITY	AMOUNT OF MUD USED
17-1/2	13-3/8	413.97	370	Pump & Plug		
12-1/4	9-5/8	4577.70	3940	Pump & Plug		

RECORD OF PRODUCTION AND SIMULATION

(Record the Process used, No. of Qts. or Gals. used, interval treated or shot.)

.....

Result of Production Simulation.....

Depth Cleaned Out.....

RECORD OF DRILL-STEM AND SPECIAL TESTS

30-025-20592

If drill-stem or other special tests or deviation surveys were made, submit report on separate sheet and attach hereto

TOOLS USED

Rotary tools were used from 0 feet to 11647 feet, and from feet to feet
 Cable tools were used from feet to feet, and from feet to feet

PRODUCTION

Put to Producing P & A 19...
 OIL WELL: The production during the first 24 hours was barrels of liquid of which was oil; % was emulsion; % water; and % was sediment. API Gravity...
 GAS WELL: The production during the first 24 hours was M.C.F. plus barrels of liquid Hydrocarbon. Shut in Pressure lbs.
 Length of Time Shut in...

PLEASE INDICATE BELOW FORMATION TOPS (IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE):

Southeastern New Mexico		Northwestern New Mexico	
T. Anby	1480	T. Devonian	T. Ojo Alamo
T. Salt	1700	T. Silurian	T. Kirtland-Fruitland
B. Salt	2600	T. Montoya	T. Farmington
T. Yates	2795	T. Simpson	T. Pictured Cliffs
T. J River		T. McKee	T. Menard
T. Quern		T. Ellenburger	T. Point Lookout
T. Grayburg		T. Gr. Wash	T. Manito
T. San Andres	4460	T. Granite	T. Dakota
T. Glorieta	5932	T. Wolfcamp	T. Morrison
T. Driekamp		T. Kennits Line (Penn)	T. Penn
T. Tubla	7215	T. Saganza (Penn)	T.
T. Abo	7966	T.	T.
T. Penn		T.	T.
T. Miss		T.	T.

FORMATION RECORD

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
0	1480	1480	Clay, Red Beds sand				
1480	1700	220	Anhydrite				
1700	2600	900	Salt				
2600	4460	1860	Anhydrite, Red Shale, Sand, & Dolo				
4460	5932	1472	Dolomite				
5932	7215	1283	Dolomite, Sand				
7215	7963	748	Siltstone, Dolomite				
7963	9725	762	Dolo, Anhy, Shale				
9725	11647	1922	Limestone, Chert & Gray Shale				

ATTACH SEPARATE SHEET IF ADDITIONAL SPACE IS NEEDED

I hereby swear or affirm that the information given herewith is a complete and correct record of the well and all work done on it so far as can be determined from available records.

September 11, 1964

Company or Operator The Atlantic Refining Company

Address P. O. Box 1978, Roswell, New Mexico

Name *A. L. ...*

Position or Title District Drilling Supervisor

Attachment I

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LAND OFFICE		
OPERATOR		

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-101
Revised 1-4-65

5A. Indicate Type of Lease
STATE FEE

5. State Oil & Gas Lease No.
L 3392, L 4089, LG 3819

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work DRILL <input type="checkbox"/> DEEPEN <input checked="" type="checkbox"/> PLUG BACK <input type="checkbox"/>		7. Unit Agreement Name	
b. Type of Well OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		8. Firm or Lease Name State 27	
2. Name of Operator W. A. Moncrief, Jr.		9. Well No. 1-83	
3. Address of Operator Moncrief Building, Ninth at Commerce, Ft. Worth, Texas 76102		10. Field and Pool, or Wildcat Wildcat	
4. Location of Well UNIT LETTER L LOCATED 1980' FEET FROM THE South LINE AND 660 FEET FROM THE West LINE OF SEC. 27 TWP. 16S REG. 33E NMPM		12. County Lea	
19. Proposed Depth 13,600		19A. Formation Morrow	20. Rotary or C.T. Rotary
21. Elevations (Show whether DF, RT, etc.) 4201 ground	21A. Kind & Status Plug. Bond 10,000 Blanket *	21B. Drilling Contractor Moranco	22. Approx. Date Work will start 4-5-77

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
	13-3/8"		415'	370	
	9-5/8"		4577'	2940	
	4 1/2" or 5 1/2"	AS		NECESSARY	

Operator plans to deepen the Atlantic Refining Company State "AY" #1 from its present total depth of 11,654' to a new total depth of 13,600' to test the lower Seaman lime, Canyon lime, Atoka sands and Morrow sands. Operator plans to deepen with Sea mud - drispac from 11,654-13,600'. Blow out preventers will be double preventers with blind rams and pipe rams plus Hydril - 5000# W. P. Manifold.

* Federal Insurance Company

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

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

Signed Dewey E. Tharnton SUPERVISOR, DISTRICT 7 Date 3-31-77

(This space for State Use)

APPROVED BY [Signature] TITLE SUPERVISOR, DISTRICT 7 DATE 3/31/77

CONDITIONS OF APPROVAL, IF ANY:

30-025-20592

Form C-103
Supersedes Old
C-102 and C-103
Effective 1-1-63

NEW MEXICO OIL CONSERVATION COMMISSION

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LAND OFFICE		
OPERATOR		

5a. Indicate Type of Lease
State Fee

5. State Oil & Gas Lease No.
L 3392

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

1. OIL WELL GAS WELL OTHER

2. Name of Operator
W. A. MONCRIEF, JR.

3. Address of Operator
Moncrief Building, Ninth at Commerce, Fort Worth, Texas 76102

4. Location of Well
UNIT LETTER L 1980 FEET FROM THE South LINE AND 660 FEET FROM
THE West LINE, SECTION 27 TOWNSHIP 16S RANGE 33E NMPM.

15. Elevation (Show whether DF, RT, GR, etc.)
4201 GD 4220 KB

7. Unit Agreement Name

8. Farm or Lease Name
State 27

9. Well No.
1

10. Field and Pool, or Wildcat
UNDESIGNATED

12. County
Lea

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input checked="" type="checkbox"/>	OTHER <input type="checkbox"/>

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Operator ran 13,797.69' of 20# and 17# 5½" casing and set at 13,797.69'. Cemented w/500 sax Trinity Lite Water w/5/10 of 1% CFR-2 + 1275 sax Trinity Lite Water + 200 sax Class "H" w/ 6/10 of 1% Allied 22 Halad + 5/10 of 1% CFR-2 + 5# KCL per sack. Tested to 2000 PSI for 15 minutes. Held ok.
30 min min

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

SIGNED Newey E. Sheraton TITLE Exploration Manager DATE 6-1-77

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY: Insp.

Attachment I

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LAND OFFICE	
OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION
WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1. Indicate Type of Lease
State Free

2. State Oil & Gas Lease No.
L 3392

10. TYPE OF WELL
OIL WELL GAS WELL DRY OTHER _____

11. TYPE OF COMPLETION
NEW WELL WORK OVER DEEPEN PLUG BACK DIFF. RESVR. OTHER _____

7. Unit Agreement Name

8. Farm or Lease Name
State "27"

3. Name of Operator
W. A. Moncrief, Jr.

4. Address of Operator
Moncrief Building, Ninth at Commerce, Fort Worth, Texas 76102

9. Well No.
1

10. Field and Pool, or Wildcat
Wildcat

4. Location of Well
UNIT LETTER L LOCATED 1980 FEET FROM THE South LINE AND 660 FEET FROM THE West LINE OF SEC. 27 TWP. 16S RGE. 33E NEPM

11. County
Lea

14. Date Entered
old hole 4-11-77

15. Date T.D. Reached
5-13-77

17. Date Compl. (Ready to Prod.)
5-31-77

18. Elevations (DF, RKB, RT, GK, etc.)
4201 GD 4220 KB

19. Elev. Casinghead
4201

20. Total Depth
13,804'

21. Plug back T.D.
13,769'

22. If Multiple Compl., How Many
None

23. Intervals Drilled By Rotary Tools
0-13,804

24. Producing Intervals, of this completion - Top, Bottom, Name
11,566-74, 11,604-06, 11,610-12 & 11,620-22 Upper Seaman
11,678-86 and 11,690-96 Lower Seaman

25. Was Directional Survey Made
No

26. Type Electric and Other Logs Run
Schlumberger Compensated Neutron-Formation Density log and Dual Lateralog & Micro SFL

27. Was Well Cored
No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	48# H-40	415'	17 1/2"	370	None
9-5/8"	32# & 36#	4577'	12 1/2"	2940	"
5 1/2"	20# & 17#	13,797.69'	8-3/4"	200 sax Class H + 1775 Lite -	"
					Water

29. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

30. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2-3/8"	11,308'	11,303'

31. Perforation Record (Interval, size and number)

Interval	Size	Number
11,522-24, 11,528-32	.38"	12
11,566-74, 11,604-06, 11,610-12 & 11,620-22	.38"	28
11,678-86, 11,690-96	.38"	28

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
11,522-11,696	A/3000 gal 15% NEA. Reacidize w/10,000 gal 20% in 4 stages w/ Benzoic Acid Flakes & ball sealers

33. PRODUCTION

Date First Production
5-31-77

Production Method (Flowing, gas lift, pumping - Size and type pump)
Flowing

Well Status (Prod. or Shut-in)
Shut in

Date of Test	Hours Tested	Choke Size	Prodn. for Test Period	Oil - bbl.	Gas - MCF	Water - Bbl.	Gas-Oil Ratio
5-31-77	3 hrs	24/64"		60	120	Trace	2000-1

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API (Corr.)
405#	Packer		480	960	Trace	42.2°

34. Disposition of Gas (Sold, used for fuel, vented, etc.)
Vented. Gas contract pending.

Test Witnessed By
R. D. Yeates

35. List of Attachments

36. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief.

SIGNED Devery E. Thornton TITLE Exploration Manager DATE 6-1-77

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Commission not later than _____ days after the completion of any newly-drilled or deepened well. It shall be accompanied by _____ a copy of all electrical and radioactivity logs from _____ the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depth shall also be reported. For multiple completions, Items 30 through 34 shall be reported for each zone. This form is to be filed in quadruplicate except on state land, where six copies are required. See Rule 1105.

30-025-20592

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico

Northwestern New Mexico

T. Anhy _____ <u>1480</u>	T. Canyon _____ <u>12,023</u>	T. Ojo Alamo _____	T. Penn. "D" _____
T. Salt _____ <u>1593</u>	T. Strawn _____ <u>12,336</u>	T. Kirtland-Fruitland _____	T. Penn. "C" _____
B. Salt _____ <u>2606</u>	T. Atoka _____ <u>12,470</u>	T. Fictured Cliffs _____	T. Penn. "D" _____
T. Yules _____ <u>2764</u>	T. Chester _____ <u>13,767</u>	T. Cliff House _____	T. Leadville _____
T. 7 Rivers _____	T. Devonian _____	T. Menefee _____	T. Madison _____
T. Queen _____ <u>3714</u>	T. Silurian _____	T. Point Lookout _____	T. Elbert _____
T. Grayburg _____ <u>4120</u>	T. Montoya _____	T. Mancos _____	T. McCracken _____
T. San Andres _____ <u>4460</u>	T. Simpson _____	T. Gallup _____	T. Ignacio Qtzite _____
T. Glorieta _____ <u>5936</u>	T. McKee _____	Base Greenhorn _____	T. Granite _____
T. Paddock _____	T. Ellenburger _____	T. Dakota _____	T. _____
T. Hinebry _____	T. Gr. Wash _____	T. Morrison _____	T. _____
T. Tubb _____ <u>7180</u>	T. Granite _____	T. Todillo _____	T. _____
T. Drinkard _____ <u>7305</u>	T. Delaware Sand _____	T. Entrada _____	T. _____
T. Abo _____ <u>7856</u>	T. Bone Springs _____	T. Wingate _____	T. _____
T. Wolfcamp _____ <u>9720</u>	T. Bursum Marker <u>10,510</u>	T. Chinle _____	T. _____
T. Kemnitz <u>10,770</u>	T. Atoka Sand <u>13,068</u>	T. Permian _____	T. _____
T. Cisco _____ <u>11,486</u>	T. Morrow Sand <u>13,640</u>	T. Penn. "A" _____	T. _____

OIL OR GAS SANDS OR ZONES

No. 1, from <u>10,383</u> to <u>10,389</u> (Wolfcamp)	No. 4, from _____ to _____
No. 2, from <u>10,771</u> to <u>10,848</u> (Kemnitz)	No. 5, from _____ to _____
No. 3, from <u>13,640</u> to <u>13,864</u> (Morrow)	No. 6, from _____ to _____

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from <u>None</u> to _____ feet
No. 2, from _____ to _____ feet
No. 3, from _____ to _____ feet
No. 4, from _____ to _____ feet

FORMATION RECORD (Attach additional sheets if necessary)

From	To	Thickness in Feet	Formation	From	To	Thickness in Feet	Formation
Surface	1480	1480	Surface rock & redbeds	12,336	12,470	134	Lime & shale
1480	1593	113	Anhydrite & redbeds	12,470	12,497	27	Sand & sandy lime
1593	2606	1013	Salt	12,497	13,068	571	Lime, shale & chert
2606	2764	158	Anhydrite, salt & redbeds	13,068	13,102	34	Sand
2764	4120	1356	Sand, anhydrite & shale	13,102	13,160	58	Shale, sand & limey sand
4120	4460	340	Dolomite, anhydrite & sand	13,160	13,640	480	Lime, shale & chert
4460	7180	2720	Dolomite	13,640	13,767	127	Sand & shale
7180	7305	125	Sand	13,767	13,804	37	Chester Lime
7305	7956	651	Dolomite				
7956	8004	48	Shale & dolomite				
8004	9720	1716	Dolomite & same shale				
9720	11,702	1982	Lime, Shale & chert				
11,702	12,023	321	Shale & some lime				
12,023	12,072	49	Lime w/shale stringers				
12,072	12,336	264	Shale w/lime stringers				

Attachment I

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brator Rd., Aztec, NM 87410

WELL API NO.
30-025-20592

1. Indicate Type of Lease
STATE FEE

6. State Oil & Gas Lease No.
L-3392

7. Lease Name or Unit Agreement Name

STATE 27

8. Well No.

9. Pool name or Wildcat

KEMNITZ LOWER WOLFCAMP

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. Type of Well:
OG. WELL GAS WELL OTHER

2. Name of Operator
W. A. MONCRIEF, JR.

3. Address of Operator
MONCRIEF BUILDING, NINTH & COMMERCE, FT. WORTH, TEXAS 76102

4. Well Location
Unit Letter L ; 1980 Feet From The SOUTH Line and 660 Feet From The WEST Line
Section 27 Township 16S Range 33E NMPM LEA County

10. Elevation (Show whether DF, RKB, RT, GR, etc)
4201 GR

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input checked="" type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>		CASING TEST AND CEMENT JOB <input type="checkbox"/>	
OTHER: _____ <input type="checkbox"/>		OTHER: _____ <input type="checkbox"/>	

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

- 7-09-97 SET CIBP @ 10,700' spot 35' cement on top
- 7-11-97 SPOT 25 sxs @ 8000'-7760'
- 7-14-97 SPOT 25 sxs @ 6000'-5760'
- 7-15-97 SPOT 45 sxs @ 5022' no tag **PULLED 4965' of 5 1/4 casing**
- 7-16-97 SPOT 45 sxs @ 5022'-4917' tagged
- 7-16-97 SPOT 45 sxs @ 4650'4505' tagged
- 7-17-97 SPOT 45 sxs @ 1600'-1465'
- 7-17-97 SPOT 50 sxs @ 465'-315'
- 7-17-97 SPOT 10 sxs @ 30'- surface

INSTALL DRY HOLE MARKER
CIR. HOLE WITH 10# MUD

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

SIGNATURE Karen M. McGovern TITLE AGENT DATE 8/5/97 (817)

TYPE OR PRINT NAME KAREN MCGOVERN TELEPHONE NO. 336-7232

(This space for State Use)

APPROVED BY Johnny Robinson TITLE DATE

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) 748-0720

District III
1000 Rio Grande 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

Form C-101
Revised July 18, 2013

Energy Minerals and Natural Resources

Oil Conservation Division

AMENDED REPORT

1220 South St. Francis Dr.

Santa Fe, NM 87505

30-025-20592

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

¹ Operator Name and Address Llano Disposal, LLC PO Box 190 Lovington, NM 88260		² OGRID Number 370661
		³ API Number 30-025-20592
⁴ Property Code	⁵ Property Name State '27'	⁶ Well No. 001

⁷ Surface Location

UL - Lot L	Section 27	Township 16S	Range 33E	Lot Idn	Feet from 1980	N/S Line S	Feet From 660	E/W Line W	County 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 BSW; Salado	Pool Code 96173
---------------------------------	---------------------------

Additional Well Information

¹¹ Work Type E	¹² Well Type M	¹³ Cable/Rotary R	¹⁴ Lease Type S	¹⁵ Ground Level Elevation 4201
¹⁶ Multiple N	¹⁷ Proposed Depth 4505' (PBSD)	¹⁸ Formation Salado	¹⁹ Contractor Unknown	²⁰ Spud Date Unknown
Depth to Ground water 60' - 190'		Distance from nearest fresh water well ~2542 feet		Distance to nearest surface water Greater than 1 mile

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

²¹ Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	17-1/2"	13-3/8"	48	414	370	Surface - In Place
Intermed	12-1/4"	9-5/8"	36/32	4578	2940	Surface - In Place
Production	8-3/4"	5-1/2"	20/17	4965 - 13798	700	8190' - In Place

Casing/Cement Program: Additional Comments

Enclosures: Current and Proposed Wellbore Diagrams

²² Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double/Pipe/Blinds	3000	3000	Cameron/Schaffer

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: *DJ Holcomb*

Printed name: **Danny J. Holcomb**

Title: **Agent for Llano Disposal, LLC**

E-mail Address: **danny@pwllc.net**

Date: **4/18/2018**

Phone: **806-471-5628**

OIL CONSERVATION DIVISION

Approved By:

Title:

Approved Date:

Expiration Date:

Conditions of Approval Attached

Attachment I

District I
1823 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 Arriba Road, Artesia, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

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

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

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-20592		² Pool Code 96173		³ Pool Name BSW; Salado	
⁴ Property Code		⁵ Property Name State 27			⁶ Well Number 001
⁷ OGRID No. 370661		⁸ Operator Name Llano Disposal, LLC			⁹ Elevation 4201'

¹⁰ Surface Location

U.I. or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	27	16S	33E		1980	S	660	W	Lea

¹¹ Bottom Hole Location If Different From Surface

U.I. 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.
			(Pending WQCC Discharge Permit BW-38 approval)

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. 32.8909645.-103.6576157 NAD83 per OCD online well file

	<p>¹⁶ OPERATOR CERTIFICATION</p> <p>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 undivided mineral interest in the land including the proposed bottom hole location or has a right to drill the 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 agreement.</p> <p><small>SEE THE ASSOCIATED MATERIAL FOR THIS DIVISION WELL REGISTRATION CONTROL BY THE DIVISION</small></p> <p><u>D. Holcomb</u> 4/18/2018 Signature Date</p> <p><u>Danny J. Holcomb - Agent for Llano Disposal</u> Printed Name</p> <p><u>danny@owlls.net</u> E-mail Address</p>
	<p>¹⁷ SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>See Original Survey dated June 23, 1964 attached</p> <p>Date of Survey _____ Signature and Seal of Professional Surveyor: _____</p> <p>See Original Survey dated June 23, 1964 attached</p> <p>Certificate Number _____</p>

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

State of New Mexico
 Energy, Minerals and Natural Resources

30-025-20592

Form C-103
 Revised July 18, 2013

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

HOBBSCOCD
 APR 20 2018
 RECEIVED

WELL API NO. 30-025-20592	
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>	State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name State 27	
8. Well Number 1	
9. OGRID Number 370661	
10. Pool name or Wildcat BSW; Salado	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 4201' GL	

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

1. Type of Well: Oil Well Gas Well Other - PxA Well Re-entry

2. Name of Operator
Llano Disposal, LLC

3. Address of Operator
P.O. Box 190, Lovington, NM 88260

4. Well Location
 Unit Letter L : 1980 feet from the South line and 660 feet from the West line
 Section 27 Township 16S Range 33E NMPM Lea County

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

<p>NOTICE OF INTENTION TO:</p> <p>PERFORM REMEDIAL WORK <input checked="" type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/></p> <p>TEMPORARILY ABANDON <input type="checkbox"/> CHANGE PLANS <input type="checkbox"/></p> <p>PULL OR ALTER CASING <input type="checkbox"/> MULTIPLE COMPL <input type="checkbox"/></p> <p>DOWNHOLE COMMINGLE <input type="checkbox"/></p> <p>CLOSED-LOOP SYSTEM <input checked="" type="checkbox"/></p> <p>OTHER: Re-entry to run CBL, CNL and caliper log <input checked="" type="checkbox"/></p>	<p>SUBSEQUENT REPORT OF:</p> <p>REMEDIAL WORK <input type="checkbox"/> ALTERING CASING <input type="checkbox"/></p> <p>COMMENCE DRILLING OPNS <input type="checkbox"/> P AND A <input type="checkbox"/></p> <p>CASING/CEMENT JOB <input type="checkbox"/></p> <p>OTHER: <input type="checkbox"/></p>
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13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

In accordance with discussions with OCD Environmental Bureau, OCD District I and SLO, Llano Disposal LLC proposes to re-entry this P&A well to inspect casing for possible conversion to a brine supply well pending WQCC Discharge Permit BW-38 approval:

- 1) Back drag/level location, set anchors, dig out around existing PxA marker, MI welder, cut off PxA marker, reveal good 13-3/8" and 9-5/8" casing, install new casing (if necessary) and well head at ground level.
- 2) MIRU pulling unit, NU BOP, unload and tally 2-7/8" workstring, set 2 frac tanks and fill one with FW. MIRU reverse unit, swivel and stripping head, RIH with 8-3/4" skirted MT bit, bit sub, four 4-3/4" DCs and 2-7/8" workstring, drill cement plug #7 (surface to 30'), plug # 6 (465' - 198') and plug #5 (1600' - 1465') utilizing closed loop system.
- 3) Tag plug #5 at 4505', circulate hole clean, close BOP, test casing to 300#, POOH & LD 2-7/8" workstring, DCs, bit sub and bit.
- 4) MIRU WL, run CBL, CNL and casing caliper log from base of salt at approximately 2606' to surface, RDMO WL.
- 5) ND BOP, install B-1 adaptor, secure and close in well, RDMO pulling unit, reverse unit and tanks.
- 6) Submit CBL, CNL and caliper log to OCD Environmental Bureau (SF) and OCD District I (Hobbs) to determine if well is suitable for brine well service. Suspend further well work until additional permitting is approved.

Spud Date: Rig Release Date:

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

SIGNATURE D. Holcomb TITLE Agent for Llano Disposal, LLC DATE 4/18/2018

Type or print name Danny J. Holcomb E-mail address: danny@pwllc.net PHONE: 806-471-5628

For State Use Only

APPROVED BY: [Signature] TITLE Petroleum Engineer DATE 04/26/18
 Conditions of Approval (if any):

DISCHARGE PERMIT APPROVAL CONDITIONS

All discharge permits are subject to Water Quality Control Commission regulations.

1. GENERAL PROVISIONS:

1.A. PERMITTEE AND PERMITTED FACILITY : The Director of the Oil Conservation Division (OCD) of the Energy, Minerals and Natural Resources Department issues a Discharge Permit BW-38 to Llano Disposal, LCC (Permittee) to operate a Underground Injection Control (UIC) Class III Well for the solution mining of salt (State '27' Brine Supply Well No. 1 API # 30-025-20592) is located 1,980 FSL, and 660 FWL, Unit Letter L (NW/4 SW/4) of Section 27, Township 16S Range 33E, Lat. N 32.89096°, Long. W -103.65762°, NMPM, Lea County, New Mexico. This brine well is located approximately 17.8 miles west of the City of Lovington on Hwy. 82, then south 0.62 mile on Rooney Rd, then east 0.3 miles on lease road to well location. The proposed "Hummingbird" brine station location is: NW/4 SW/4. UL 'L', Section 28, T16S, R33E. A new fresh water supply well shall be drilled 75 ft. southeast (Lat. 32.890782°, Long. -103.657470°) of the brine well. Fresh water will be transported via a buried polyethylene pipeline northwest to the brine well. The brine station shall consist of one 500 bbl. fiberglass catch/flush tank, and three 1000 bbl. fiberglass tanks with OCD approved containments for brine storage. Pipelines shall be buried a minimum of 3 ft. deep (below frost line).

The Permittee is permitted to inject water into the subsurface salt layers and produce brine for use in the oil and gas industry. Ground water that may be affected by a spill, leak, or accidental discharge of brine occurs at a depth of approximately 155 ft. below ground surface and has a total dissolved solids (TDS) concentration of approximately 400 mg/L.

1.B. SCOPE OF PERMIT: OCD has been granted the authority by statute and by delegation from the Water Quality Control Commission (WQCC) to administer the Water Quality Act (Chapter 74, Article 6 NMSA 1978) as it applies to Class III wells associated with the oil and gas industry (See Section 74-6-4, 74-6-5 NMSA 1978).

The Water Quality Act and the rules promulgated pursuant to the Act protect ground water and surface water of the State of New Mexico by providing that, unless otherwise allowed by 20.6.2 NMAC, no person shall cause or allow effluent or leachate to discharge so that it may move directly or indirectly into ground water unless such discharge is pursuant to an approved discharge plan (See 20.6.2.3104 NMAC, 20.6.2.3106 NMAC, and 20.6.2.5000 through 20.6.2.5299 NMAC).

This Discharge Permit for a Class III Brine Well is issued pursuant to the Water Quality Act and WQCC rules, 20.6.2 NMAC. This Discharge Permit does not authorize any treatment of, or on-site disposal of, any materials, product, by-product, or oil-field waste.

Pursuant to 20.6.2.5004A NMAC, the following underground injection activities are prohibited:

1. The injection of fluids into a motor vehicle waste disposal well is prohibited.
2. The injection of fluids into a large capacity cesspool is prohibited.
3. The injection of any hazardous or radioactive waste into a well is prohibited except as provided by 20.6.2.5004A(3) NMAC.
4. Class IV wells are prohibited, except for wells re-injecting treated ground water into the same formation from which it was drawn as part of a removal or remedial action.
5. Barrier wells, drainage wells, recharge wells, return flow wells, and motor vehicle waste disposal wells are prohibited.

This Discharge Permit does not convey any property rights of any sort nor any exclusive privilege, and does not authorize any injury to persons or property, any invasion of other private rights, or any infringement of state, federal, or local laws, rules or regulations.

The Permittee shall operate in accordance with the terms and conditions specified in this Discharge Permit to comply with the Water Quality Act and the rules issued pursuant to that Act, so that neither a hazard to public health nor undue risk to property will result (see 20.6.2.3109C NMAC); so that no discharge will cause or may cause any stream

standard to be violated (see 20.6.2.3109H(2) NMAC); so that no discharge of any water contaminant will result in a hazard to public health, (see 20.6.2.3109H(3) NMAC); so that the numerical standards specified of 20.6.2.3103 NMAC are not exceeded; and, so that the technical criteria and performance standards (see 20.6.2.5000 through 20.6.2.5299 NMAC) for Class III wells are met. Pursuant to 20.6.2.5003B NMAC, the Permittee shall comply with 20.6.2.1 through 20.6.2.5299 NMAC.

The Permittee shall not allow or cause water pollution, discharge, or release of any water contaminant that exceeds the Water Quality Control Commission (WQCC) standards specified at 20.6.2.3101 NMAC and 20.6.2.3103 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams). Pursuant to 20.6.2.5101A NMAC, the Permittee shall not inject non-hazardous fluids into ground water having 10,000 mg/l or less total dissolved solids (TDS).

The issuance of this permit does not relieve the Permittee from the responsibility of complying with the provisions of the Water Quality Act, any applicable regulations or water quality standards of the WQCC, or any applicable federal laws, regulations or standards (See Section 74-6-5 NMSA 1978).

1.C. DISCHARGE PERMIT: This Discharge Permit is a new permit application. Future replacement of a prior permit does not relieve the Permittee of its responsibility to comply with the terms of that prior permit while that permit was in effect.

1.D. DEFINITIONS: Terms not specifically defined in this Discharge Permit shall have the same meanings as those in the Water Quality Act or the rules adopted pursuant to the Act, as the context requires.

1.E. FILING FEES AND PERMIT FEES: Pursuant to 20.6.2.3114 NMAC, every facility that submits a Discharge Permit application for initial approval or renewal shall pay the permit fees specified in Table 1 and the filing fee specified in Table 2 of 20.6.2.3114 NMAC. OCD has already received the required \$100.00 filing fee. The Permittee is now required to submit the \$1,700.00 permit fee for a Class III well. Please remit payment made payable to the "Water Quality Management Fund" in care of OCD at 1220 South St. Francis Drive in Santa Fe, New Mexico 87505.

1.F. EFFECTIVE DATE, EXPIRATION, RENEWAL CONDITIONS, AND PENALTIES FOR OPERATING WITHOUT A DISCHARGE PERMIT: This Discharge Permit becomes effective immediately from the date that the Permittee receives this discharge permit or until the permit is terminated or expires. This Discharge Permit will expire on **September 25, 2023**. The Permittee shall submit an application for renewal no later than 120 days before that expiration date, pursuant to 20.6.2.5101F NMAC. If a Permittee submits a renewal application at least 120 days before the Discharge Permit expires and is in compliance with the approved Discharge Permit, then the existing Discharge Permit will not expire until OCD has approved or disapproved the renewal application. A discharge permit continued under this provision remains fully effective and enforceable. Operating with an expired Discharge Permit may subject the Permittee to civil and/or criminal penalties (See Section 74-6-10.1 NMSA 1978 and Section 74-6-10.2 NMSA 1978).

1.G. MODIFICATIONS AND TERMINATIONS: The Permittee shall notify the OCD Director and OCD's Environmental Bureau of any Facility expansion or process modification (See 20.6.2.3107C NMAC). The OCD Director may require the Permittee to submit a Discharge Permit modification application pursuant to 20.6.2.3109E NMAC and may modify or terminate a Discharge Permit pursuant to Sections 74-6-5(M) through (N) NMSA 1978.

1. If data submitted pursuant to any monitoring requirements specified in this Discharge Permit or other information available to the OCD Director indicate that 20.6.2 NMAC is being or may be violated, then the OCD Director may require modification or, if it is determined by the OCD Director that the modification may not be adequate, may terminate this Discharge Permit for a Class III well that was approved pursuant to the requirements of 20.6.2.5000 through 20.6.2.5299 NMAC for the following causes:
 - a. Noncompliance by Permittee with any condition of this Discharge Permit; or,
 - b. The Permittee's failure in the discharge permit application or during the discharge permit review process to disclose fully all relevant facts, or Permittee's misrepresentation of any relevant facts at any time; or,

- c. A determination that the permitted activity may cause a hazard to public health or undue risk to property and can only be regulated to acceptable levels by discharge permit modification or termination (See Section 75-6-6 NMSA 1978; 20.6.2.5101I NMAC; and, 20.6.2.3109E NMAC).
2. This Discharge Permit may also be modified or terminated for any of the following causes:
 - a. Violation of any provisions of the Water Quality Act or any applicable regulations, standard of performance or water quality standards;
 - b. Violation of any applicable state or federal effluent regulations or limitations; or
 - c. Change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge (See Section 75-6-5M NMSA 1978).

1.H. TRANSFER OF CLASS III WELL DISCHARGE PERMIT:

1. The transfer provisions of 20.6.2.3111 NMAC do not apply to a discharge permit for a Class III well.
2. Pursuant to 20.6.2.5101H NMAC, the Permittee may request to transfer its Class III well discharge permit if:
 - a. The OCD Director receives written notice 30 days prior to the transfer date; and
 - b. The OCD Director does not object prior to the proposed transfer date. OCD may require modifications to the discharge permit as a condition of transfer, and may require demonstration of adequate financial responsibility.
3. The written notice required in accordance with Permit Condition 1.H.2.a shall:
 - a. Have been signed by the Permittee and the succeeding Permittee, and shall include an acknowledgement that the succeeding Permittee shall be responsible for compliance with the Class III well discharge permit upon taking possession of the facility; and
 - b. Set a specific date for transfer of the discharge permit responsibility, coverage and liability; and
 - c. Include information relating to the succeeding Permittee's financial responsibility required by 20.6.2.5210B(17) NMAC.

1.I. COMPLIANCE AND ENFORCEMENT: If the Permittee violates or is violating a condition of this Discharge Permit, OCD may issue a compliance order that requires compliance immediately or within a specified time period, or assess a civil penalty, or both (See Section 74-6-10 NMSA 1978). The compliance order may also include a suspension or termination of this Discharge Permit. OCD may also commence a civil action in district court for appropriate relief, including injunctive relief (See Section 74-6-10(A)(2) NMSA 1978). The Permittee may be subject to criminal penalties for discharging a water contaminant without a discharge permit or in violation of a condition of a discharge permit; making any false material statement, representation, certification or omission of material fact in a renewal application, record, report, plan or other document filed, submitted or required to be maintained under the Water Quality Act; falsifying, tampering with or rendering inaccurate any monitoring device, method or record required to be maintained under the Water Quality Act; or failing to monitor, sample or report as required by a Discharge Permit issued pursuant to a state or federal law or regulation (See Section 74-6-10.2 NMSA 1978).

2. GENERAL FACILITY OPERATIONS:

2.A. SEMI-ANNUAL MONITORING REQUIREMENTS FOR CLASS III WELLS: The Permittee may use either or both fresh water or water from otherwise non-potable sources. Pursuant to 20.6.2.5207C, the Permittee shall provide analysis of the injected fluids and brine at least semi-annually to yield data representative of their characteristics. The Permittee shall analyze both the injected fluids and brine for the following characteristics: pH; density, concentration of total dissolved solids (TDS); chloride concentration; and sodium concentration (for brine only).

1. **Monitor Well:** In advance of start-up of brine well operations, the Permittee shall install a downgradient monitor well within 50 feet southeast of the brine well into the water table aquifer and collect a background groundwater sample for general chemistry and WQCC 20.6.2.3103 NMAC groundwater constituents.

Groundwater quality data shall comply with EPA Quality Assurance/Quality Control (QA/QC) and Data Quality Objectives (DQOs) and be **submitted to OCD for approval before start-up** of brine production. The monitor well construction shall comply with EPA Standards and be required to be sampled and monitored **semi-annually** thereafter for the following characteristics:

- pH (Method 9040);
- Eh;
- Specific conductance;
- Specific gravity;
- Temperature; and
- General ground water quality parameters (general chemistry/cations and anions, including: fluoride, calcium, potassium, magnesium, sodium bicarbonate, carbonate, chloride, sulfate, total dissolved solids, cation/anion balance, pH, and bromide using the methods specified in 40 CFR 136.3).

The environmental data results shall be reported in the Annual Report (Section 2.J).

2.B. SOLUTION CAVERN MONITORING PROGRAM:

1. **Surface Subsidence Monitoring Plan:** The Permittee shall submit a Surface Subsidence Monitoring Plan to OCD within 180 days of the effective date of this permit. The Surface Subsidence Monitoring Plan shall specify that the Permittee will install at least three survey monuments and shall include a proposal to monitor the elevation of the monuments and top of well casing at least semi-annually.

The Permittee shall survey each survey monument and top of well casing at least semiannually to monitor for possible surface subsidence and shall tie each survey to the nearest USGS geodetic benchmark. The Permittee shall employ a licensed professional surveyor to conduct the subsidence monitoring program with proper instrument accuracy assessment at the conclusion of each survey. The Permittee shall submit the results of all subsidence surveys with summary of results and any recommendations to OCD within 15 days of survey completion. If the monitored surface subsidence survey at any measuring point deviates 0.10 ft. or more compared to its baseline elevation, then the Permittee shall notify OCD within 30 days of survey completion for further instructions. If survey results continue to demonstrate subsidence over time, and the Permittee cannot demonstrate the integrity of the cavern and well to the satisfaction of OCD, then it shall cease all brine production and submit a corrective action plan to mitigate the subsidence.

The Permittee shall include the above information in the Annual Report (Section 2.J).

2. **Solution Cavern Characterization Program:** The Permittee shall submit a Solution Cavern Characterization Plan to characterize the size and shape of the solution cavern using geophysical methods within 180 days of the effective date of this permit. The Permittee shall characterize the size and shape of the solution cavern using a geophysical methods approved by OCD at least once before the expiration date of the permit. The Permittee shall demonstrate that at least 90% of the calculated volume of salt removed based upon injection and production volumes has been accounted for by the approved geophysical method(s) for such testing to be considered truly representative.
 - a. The Permittee shall provide an estimate of the size and shape of the solution cavern at least annually in the Annual Report (Section 2.J), based on fluid injection and brine production data.
 - b. The Permittee shall compare the ratio of the volume of injected fluids to the volume of produced brine monthly. If the average ratio of injected fluid to produced brine varies is less than 90% or greater than 110%, the Permittee shall report this to OCD and cease injection and production operations of its Class III well within 24 hours. The Permittee shall begin an investigation to determine the cause of this abnormal ratio within 72 hours. The Permittee shall submit to OCD a report of its investigation within 15 days of cessation of injection and production operations of its Class III well for further instructions.

3. **Annual Certification:** The Permittee shall certify annually in the Annual Report (Section 2.J) that continued salt solution mining will not cause cavern collapse, surface subsidence, property damage, or otherwise threaten public health and the environment, based on geologic and engineering data.

If the solution cavern is determined by either OCD or the Permittee to be potentially unstable by either direct or indirect means, then the Permittee shall cease all fluid injection and brine production within 24 hours. If the Permittee ceases operations because it or OCD has determined that the solution cavern is unstable, then it shall submit a plan to stabilize the solution cavern within 30 days. OCD may require the Permittee to implement additional subsidence monitoring and to conduct additional corrective action.

2.C. CONTINGENCY PLANS: The Permittee shall implement its proposed contingency plan(s) included in its Permit Application to cope with failure of a system(s) in the Discharge Permit.

2.D. CLOSURE: The Permittee shall submit as a condition of C-103 Sundry approval, and for OCD approval, a facility closure plan with third-party cost estimate for its well pursuant to 20.6.2.5209 NMAC and as specified in Permit Conditions 2.I and 5.B to address: well plug and abandonment, land surface restoration; environmental groundwater monitoring (if applicable); pipeline abandonment; and five years of surface subsidence monitoring.

1. **Pre-Closure Notification:** Pursuant to 20.6.2.5005A NMAC, the Permittee shall submit a pre-closure notification to OCD's Environmental Bureau at least 30 days prior to the date that it proposes to close or to discontinue operation of its Class III well. Pursuant to 20.6.2.5005B NMAC, OCD's Environmental Bureau must approve all proposed well closure activities before Permittee may implement its proposed closure plan.

2. **Required Information:** The Permittee shall provide OCD's Environmental Bureau with the following information:

- Name of facility;
- Address of facility;
- Name of Permittee (and owner or operator, if appropriate);
- Address of Permittee (and owner or operator, if appropriate);
- Contact person;
- Phone number;
- Number and type of well(s);
- Year of well construction;
- Well construction details;
- Type of discharge;
- Average flow (gallons per day);
- Proposed well closure activities (e.g., sample fluids/sediment, appropriate disposal of remaining fluids/sediments, remove well and any contaminated soil, clean out well, install permanent plug, conversion to other type of well, ground water and vadose zone investigation, other);
- Proposed date of well closure;
- Proposed method and date of surface restoration;
- Proposed method and date of pipeline abandonment;
- Name of preparer; and
- Date.

2.E. PLUGGING AND ABANDONMENT PLAN: Pursuant to 20.6.2.5209A NMAC, when the Permittee proposes to plug and abandon its Class III well, it shall submit to OCD a plugging and abandonment plan that meets the requirements of 20.6.2.3109C NMAC, 20.6.2.5101C NMAC, and 20.6.2.5005 NMAC for protection of ground water. If requested by OCD, Permittee shall submit for approval prior to closure, a revised or updated plugging and abandonment plan. The obligation to implement the plugging and abandonment plan as well as the requirements of the plan survives the termination or expiration of this Discharge Permit. The Permittee shall comply with 20.6.2.5209 NMAC.

2.F RECORD KEEPING: The Permittee shall maintain records of all inspections, surveys, investigations, etc., required by this Discharge Permit at its Facility office for a minimum of five years and shall make those records available for inspection at the request of an OCD Representative.

2.G. RELEASE REPORTING: The Permittee shall comply with the following permit conditions, pursuant to 20.6.2.1203 NMAC, if it determines that a release of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, has occurred. The Permittee shall report unauthorized releases of water contaminants in accordance with any additional commitments made in its approved Contingency Plan. If the Permittee determines that any constituent exceeds the standards specified at 20.6.2.3103 NMAC, then it shall report a release to OCD's Environmental Bureau.

1. **Oral Notification:** As soon as possible after learning of such a discharge, but in no event more than twenty-four (24) hours thereafter, the Permittee shall notify OCD's Environmental Bureau. The Permittee shall provide the following:
 - The name, address, and telephone number of the person or persons in charge of the facility, as well as of the owner and/or operator of the facility;
 - The name and location of the facility;
 - The date, time, location, and duration of the discharge;
 - The source and cause of discharge;
 - A description of the discharge, including its chemical composition;
 - The estimated volume of the discharge; and,
 - Any corrective or abatement actions taken to mitigate immediate damage from the discharge.
2. **Written Notification:** Within one week after the Permittee has discovered a discharge, the Permittee shall send written notification (may use form C-141 with attachments) to OCD's Environmental Bureau verifying the prior oral notification as to each of the foregoing items and providing any appropriate additions or corrections to the information contained in the prior oral notification.

The Permittee shall provide subsequent corrective actions and written reports as required by OCD's Environmental Bureau.

2.H. OTHER REQUIREMENTS:

1. **Inspection and Entry:** Pursuant to Section 74-6-9 NMSA 1978 and 20.6.2.3107A NMAC, the Permittee shall allow any authorized representative of the OCD Director, to:
 - Upon the presentation of proper credentials, enter the premises at reasonable times;
 - Inspect and copy records required by this Discharge Permit;
 - Inspect any treatment works, monitoring, and analytical equipment;
 - Sample any injection fluid or produced brine;
 - Conduct various types environmental media sampling, and
 - Use the Permittee's monitoring systems and wells in order to collect groundwater samples.
2. **Advance Notice:** The Permittee shall provide OCD's Environmental Bureau and Hobbs District Office with at least five (5) working days advance notice of any environmental sampling to be performed pursuant to this Discharge Permit, or any well plugging, abandonment or decommissioning of any equipment associated with its Class III well.
3. **Environmental Monitoring:** The Permittee shall ensure that any environmental sampling and analytical laboratory data collected meets the standards specified in 20.6.2.3107B NMAC or EPA QA/QC Standards. The Permittee shall ensure that all environmental samples are analyzed by an accredited "National Environmental Laboratory Accreditation Conference" (NELAC) Laboratory. The Permittee shall submit environmental sampling data summary tables, all raw analytical data, and laboratory QA/QC.

- a. A monitor well shall be installed hydrogeologically downgradient from the Brine Well and sampled in accordance with Section 2.A.1.

2.I. BONDING OR FINANCIAL ASSURANCE: Pursuant to 20.6.2.5210B(17) NMAC, the Permittee shall maintain financial assurance, at a minimum, in the amount that Permittee shall estimate and the Director shall approve, in accordance with Permit Conditions 2.D and 5.B, to cover potential costs associated with plugging and abandonment of the Class III well, surface restoration, environmental ground water monitoring (if applicable), pipeline abandonment, along with five years of surface subsidence monitoring thereafter. OCD may require additional financial assurance to ensure adequate funding is available to plug and abandon the well and/or for any required environmental related corrective actions. The Permittee's cost estimate shall be based on third person estimates.

Acceptable financial assurance mechanisms include: (1) a surety bond; (2) a trust fund with a New Mexico bank in the name of the State of New Mexico, with the State as Beneficiary; (3) a non-renewable letter of credit made out to the State of New Mexico; (4) liability insurance specifically covering the contingencies listed in this paragraph; or (5) a performance bond, generally in conjunction with another type of financial assurance. If an adequate bond is posted by the Permittee to a federal or another state agency, and this bond covers all of the measures specified above, the OCD Director shall consider this bond as satisfying the bonding requirements of Sections 20.6.2.5000 through 20.6.2.5299 NMAC wholly or in part, depending upon the extent to which such bond is adequate to ensure that the Permittee will fully perform the measures required hereinabove.

2.J. ANNUAL REPORT: The Permittee shall submit its annual report pursuant to 20.6.2.3107 NMAC to OCD's Environmental Bureau by June 1st of the following year. The annual report shall include the following:

- Cover sheet marked as "Annual Class III Well Report, Name of Permittee, Discharge Permit Number, API number of well(s), date of report, and person submitting report;
- Summary of Class III well operations for the year including a description and reason for any remedial or major work on the well with a copy of form C-103;
- Monthly fluid injection and brine production volume, including the cumulative total carried over each year;
- Semi-annual monitor well analytical data results;
- Injection pressure data;
- Pipeline hydrostatic test results;
- Pipeline visual leak inspection monitoring results at joints;
- A copy of the quarterly chemical analyses shall be included with data summary and all QA/QC information;
- Copy of any mechanical integrity test chart, including the type of test, i.e., duration, gauge pressure, etc.;
- Brief explanation describing deviations from the normal operations;
- Results of any leaks and spill corrective action reports;
- An Area of Review (AOR) update summary;
- A summary with interpretation of MITs, surface subsidence surveys, estimated cavern size and shape, cavern volume and geometry measurements with conclusion(s) and recommendation(s);
- A summary of the ratio of the monthly volume of injected fluids to the volume of produced brine;
- A summary of all major Facility activities or events, which occurred during the year with any conclusions and recommendations;
- Annual Surface Subsidence Monitoring Plan data results in accordance with Permit Condition 2.B.1;
- Annual Solution Cavern Characterization data results in accordance with Permit Condition 2.B.2; and
- The Permittee shall file its Annual Report in an electronic format with a hard copy submittal to OCD's Environmental Bureau.

3. CLASS III WELL OPERATIONS:

3. Owner/Operator Commitments. Once a permit is issued, the owner/operator must ensure all operations are consistent with the terms and conditions of the permit and in conformance with all pertinent rules and regulations under both the Water Quality Act. The owner/operator shall abide by all commitments submitted in its discharge permit application including any attachments and/or amendments along with these approval conditions. Applications which reference previously approved plans on file with the OCD shall be incorporated into this permit and the owner/operator shall abide by all commitments of such plans.

3.A. OPERATING REQUIREMENTS: The Permittee shall comply with the operating requirements specified in 20.6.2.5206A NMAC and 20.6.2.5206A NMAC to ensure that:

1. **Brine Production Method:** During the brine well design, cavern development process, and daily brine production, a reverse flow configuration consisting of fresh water injection shall occur through the annulus and 2-7/8 fiberglass (FG) pipe angled through the window at 1,780 ft. bgl to a depth of about 2,300 ft. in the Salado Salt Fm. Brine production is through the window and 3-1/2 in. fiberglass pipe at 1,760 ft. bgl to surface. The window is set at the proper depth between the 9-5/8 in. dual port packer at 1,760 ft. bgl and 9-5/8 in. CIBP at 1,800 ft. bgl. within the 9-5/8 in. casing string, which is backed by cement to surface. The angled FG injection tube at depth allows for proper salt cavern development to prevent cavern ceiling collapse. Injection and production flow may temporarily be reversed as required periodically to clean the tubing and annulus.
2. **Injection Out of Zone:** Injection between the outermost casing and the well bore is prohibited in a zone other than the authorized injection zone. If the Permittee determines that its Class III well is discharging or suspects that it is discharging fluids into a zone or zones other than the permitted injection zone specified in Permit Condition 3.B.1., then the Permittee shall within 24 hours notify OCD's Environmental Bureau and Hobbs District Office of the circumstances and action(s) taken. The Permittee shall cease operations until proper repairs are made and it has received approval from OCD to re-start injection operations.
3. **Pipeline:** Initial hydrostatic testing of brine pipeline is required for any pressure loss, leakage, etc. at joints. The hydrostatic test report with "as-built" pipeline transect and associated construction information shall be submitted to OCD for approval before pipeline activation. Mandatory Hydrostatic Testing of the pipeline is required after leakage and/or before the expiration date of the Permit. Daily pipeline inspection and monitoring is required at a minimum for the first week and each time the pipeline is brought back into service after shut-down, service work, etc. The pipeline shall be inspected within 8-hours of pipeline pressure loss, upset, etc. Weekly inspection and monitoring at a minimum is required thereafter. Inspection record keeping is required and shall include the date and time of each inspection, inspectors name and contact information, weather conditions with inspection summary, any conclusion on pipeline condition with any recommendations. Spills or release locations shall include GPS Coordinates and be handled in accordance with Permit Condition 2.G Release Reporting herein.

3.B. INJECTION OPERATIONS:

1. **Well Injection Pressure Limit:** The Permittee shall ensure that the maximum wellhead or surface injection pressure on its Class III well shall not exceed the fracture pressure of the injection salt formation and will not cause new fractures or propagate any existing fractures of cause damage to the system and underground source of drinking water.
2. **Pressure Limiting Device:** The Permittee shall equip and operate its Class III well or system with a pressure limiting device which shall, at all times, limit surface injection pressure to the maximum allowable pressure for its Class III well. The Permittee shall monitor the pressure-limiting device daily and shall report all pressure exceedances within 24 hours of detecting an exceedance to OCD's Environmental Bureau.

The Permittee shall take all steps necessary to ensure that the injected fluids enter only the proposed injection interval and is not permitted to escape to other formations, fresh water zones, or onto the ground surface. The Permittee shall report to OCD's Environmental Bureau within 24 hours of discovery any indication that new fractures or existing fractures have been propagated, or that damage to the well, the injection zone, or formation has occurred.

3.C. CONTINUOUS MONITORING DEVICES: The Permittee shall use continuous monitoring devices to provide a record of injection pressure, flow rate, flow volume, and pressure on the annulus between the tubing and the long string of casing.

3.D. MECHANICAL INTEGRITY FOR CLASS III WELLS:

1. Pursuant to 20.6.2.5204 NMAC, the Permittee shall demonstrate mechanical integrity for its Class III well at least once every five years or more frequently as the OCD Director may require for good cause during the life of the well. The Permittee shall demonstrate mechanical integrity for its Class III well every time it performs a well workover, including when it pulls the tubing. A Class III well has mechanical integrity if there is no detectable leak in the casing or tubing which OCD considers to be significant at maximum operating temperature and pressure; and no detectable conduit for fluid movement out of the injection zone through the well bore or vertical channels adjacent to the well bore which the OCD Director considers to be significant. The Permittee shall conduct a casing Mechanical Integrity Test (MIT) from the surface to the approved injection depth to assess casing integrity. The MIT shall consist of a 30-minute test at a minimum pressure of 500 psig measured at the surface when tubing is removed and a plug is installed within 20 ft. of the casing shoe depth. Alternatively, the MIT may consist of a casing/cavern 4-hr. test at a minimum pressure of 300 psig measured at the surface when the cavern and casing are full and tubing remains in the well. More work is required in the "casing/cavern" test in the event of failure to determine the actual cause.

The Permittee shall notify OCD's Environmental Bureau and Hobbs District Office at least 5 days prior to conducting any MIT to allow OCD Hobbs the opportunity to witness the MIT.

2. The following criteria will determine if the Class III well has passed the MIT:
 - a. Passes MIT if zero bleed-off during the test;
 - b. Passes casing MIT if final test pressure is within +/- 10% of starting pressure, if approved by OCD (Note: Passes +/- 1% of starting pressure for casing/cavern test due to the massive volume of fluid required in the cavern and casing during this test);
 - c. When the MIT is not witnessed by OCD and fails, the Permittee shall notify OCD within 24 hours of the failure of the MIT.
 - d. All chart recorder information, charts containing appropriate information, calibration sheets, etc. shall be provided to OCD within 5 working days of completing an MIT.
3. Pursuant to 20.6.2.5204C NMAC, the OCD Director may consider the use by the Permittee of equivalent alternative test methods to determine mechanical integrity. The Permittee shall submit information on the proposed test and all technical data supporting its use. The OCD Director may approve the Permittee's request if it will reliably demonstrate the mechanical integrity of the well for which its use is proposed.
4. Pursuant to 20.6.2.5204D NMAC, when conducting and evaluating the MIT(s), the Permittee shall apply methods and standards generally accepted in the oil and gas industry. When the Permittee reports the results of all MIT(s) to the OCD Director, it shall include a description of the test(s), the method(s) used, and the test results.

3.E. WELL WORKOVER OPERATIONS: Pursuant to 20.6.2.5205A(5) NMAC, the Permittee shall provide notice to and shall obtain approval from OCD's District Office in Hobbs and the Environmental Bureau in Santa Fe prior to commencement of any remedial work or any other workover operations to allow OCD the opportunity to witness the operation. The Permittee shall request approval using form C-103 (Sundry Notices and Reports on Wells) with copies sent to OCD's Environmental Bureau and Hobbs District Office. Properly completed Forms C-103 and/or C-105 must be filed with OCD upon completion of workover activities and copies included in that year's Annual Report.

3.F. FLUIDS INJECTION AND BRINE PRODUCTION VOLUMES AND PRESSURES: The Permittee shall continuously monitor the volumes of water injected and brine production. The Permittee shall submit monthly reports of its injection and production volumes on or before the 10th day of the following month. The Permittee shall suspend injection if the monthly injection volume is less than 110% or greater than 120% of associated brine production. If such an event occurs, the Permittee shall notify OCD within 24 hours.

3.G. AREA OF REVIEW (AOR): The Permittee shall report within 72 hours of discovery any new wells, conduits, or any other device that penetrates or may penetrate the injection zone within a 1-mile radius from its Class III

well. OCD shall be notified within 24 hours of having knowledge of any wells lacking cement within the cavern interval within a ½-mile radius from the Class III well.

4. **CLASS V WELLS:** Pursuant to 20.6.2.5002B NMAC, leach fields and other waste fluids disposal systems that inject non-hazardous fluid into or above an underground source of drinking water are UIC Class V injection wells. This Discharge Permit does not authorize the use of a Class V injection well for the disposal of industrial waste. Pursuant to 20.6.2.5005 NMAC, the Permittee shall close any Class V industrial waste injection well that injects non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes (e.g., septic systems, leach fields, dry wells, etc.) within 90 calendar days of the issuance of this Discharge Permit. The Permittee shall document the closure of any Class V wells used for the disposal of non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes other than contaminated ground water in its Annual Report. Other Class V wells, including wells used only for the injection of domestic wastes, shall be permitted by the New Mexico Environment Department.

5. SCHEDULE OF COMPLIANCE:

5.A. **PRE-INJECTION SUBMITTALS:** No injection is permitted under this Permit until the OCD Director has approved the following submittals:

1. **BONDING OR FINANCIAL ASSURANCE:** The Permittee shall submit financial assurance in the amount approved by the OCD Director under Permit Condition 2.I.
2. **SURFACE SUBSIDENCE MONITORING PLAN:** The Permittee shall submit the Surface Subsidence Monitoring Plan required in accordance with Permit Condition 2.B.1 within 180 days of permit issuance for OCD approval.
3. **SOLUTION CAVERN CHARACTERIZATION PLAN:** The Permittee shall submit the Solution Cavern Characterization Plan required in accordance with Permit Condition 2.B.2 within 180 days of permit issuance for OCD approval.
4. **MONITOR WELL:** The Permittee shall install a downgradient monitor well within 50 feet southeast of the brine well into the water table aquifer, collect a background groundwater sample and submit the sample results in accordance with Permit Condition 2.A.1.

5.B. PERMIT SUBMITTALS:

1. **ANNUAL REPORT:** The Permittee shall submit its annual report to OCD by June 1st of each year.
2. **MIT:** The Permittee shall demonstrate mechanical integrity for its Class III well at least once every five years or more frequently as the OCD Director may require for good cause during the life of the well. The Permittee shall demonstrate mechanical integrity for its Class III well every time it performs a well workover, including when it pulls the tubing.
3. **INJECTION VOLUMES:** The Permittee shall submit monthly reports of its injection and production volumes on or before the 10th day of the following month.

NOTICE OF PUBLICATION

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

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations (20.6.2.3108 NMAC), the following discharge permit application has been submitted to the Director of the New Mexico Oil Conservation Division (“OCD”), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(BW-38) Llano Disposal, LCC., Darr Angell, Owner, P.O. Box 190, Lovington, NM 88260, has submitted an application for a new Underground Injection Control (UIC) Class III Brine Well Discharge Permit for the “State ‘27’ Brine Supply Well No. 1” (API# 30-025-20592), located 1,980 FSL and 660 FWL, UL: L in Section 27, Township 16 South, Range 33 East (Lat. N 32.89096°, Long.: W -103.65762°), NMPM, Lea County, New Mexico. The injection well is plugged oil well (TD 13,804 ft. bgl) located approximately 17.8 miles west of the City of Lovington on Hwy. 82, then south 0.62 mile on Rooney Rd, then east 0.3 miles on lease road to well location. The well was a plugged oil well and will be re-drilled to a total depth of 1,800 ft. below ground level (bgl). The proposed “Hummingbird” brine station location is: NW/4 SW/4. UL 'L', Section 28, T16S, R33E.

The fluid flow process is termed “reverse flow” based on the well construction. Fresh groundwater will be injected into the Salado Salt Formation (Salado) through the casing annulus (prevents well corrosion), dual port packer, and 2-7/8 in. Fiberglass (FG) tailpipe at an average injection rate of 1,500 bbl./day (~ 44 gpm) at approximately 200 psig and maximum injection rate of 1,900 bbl./day (~58 gpm). Injection shall be below a permitted maximum surface injection pressure (MSIP) of 355 psig.

Brine fluids from the Salado entering the well casing will be produced through the window at 1,780 ft. bgl cut in the well casing and through the 3- 1/2 in. production tubing within the 9 - 5/8 in. well casing to surface. The window is positioned between the 9-5/8 in. dual port packer set at 1,760 ft. bgl and 9-5/8 in. cast iron bridge plug (CIBP) set at 1,800 ft. bgl. The top of the window is at least 275 ft. into the Salado below the Anhydrite-Salado contact.

The 2-7/8 in. FG tailpipe extends downward at an angle through the window to a depth of 2,300 ft. bgl into the Salado to allow for proper salt cavern development and maximum stability over time. Fresh water is supplied by a new water supply well proposed to be drilled 75 ft. southeast (Lat. 32.890782°, Long. -103.657470°) of the brine well. Fresh water and brine will be transported via separate buried (3 ft.) polyethylene pipelines between the brine well, water well and brine station.

The well TD is 13, 804 ft. bgl with a 9- 5/8 in. well casing and shoe extending to 4,578 ft. bgl. There are a series of plugs down to well TD with CIBPs set at 1,800 ft. bgl and 2,596 ft. bgl within the 9 - 5/8 in. casing. Produced Salado brine fluid is expected to be at a concentration of about 320,000 ppm Total Dissolved Solids- TDS. Groundwater most likely to be affected by a spill, leak or accidental discharge is at a depth of approximately 155 ft. bgl with a TDS concentration of approximately 400 ppm. The discharge permit addresses well construction, operation, monitoring, ground subsidence, associated surface facilities, financial assurance, and provides a contingency plan in the event of accidental discharges.

The OCD has determined the application is administratively complete and has prepared a draft permit. The OCD will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to receive future notices. Persons interested in obtaining further information, submitting comments or requesting to be on a facility-specific mailing list may contact the Environmental Bureau Chief of the OCD at the address given above. The permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday, or at the OCD web site <http://www.emnrd.state.nm.us/oed/>. Persons interested in obtaining a copy of the application and draft permit may contact the OCD at the address given above. Prior to ruling on any proposed permit, the Director shall allow a period of at least thirty (30) days after the date of publication of this notice, during which interested persons may submit comments or request that OCD hold a public hearing. Requests for a hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no hearing is held, the Director will approve the proposed permit based on information available, including all comments received. If a public hearing is held, the director will approve or disapprove the proposed permit based on information in the permit application and information submitted at the hearing.

Para obtener más información sobre esta solicitud en español, sirvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energia, Minerals y Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Conservación Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Laura Tulk, 575-748-1283).

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 30th day of September 2018.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

S E A L

Heather Riley, Director

Analytical Results For:

LLANO DISPOSAL, LLC 125 W. ST. ANNE HOBBS NM, 88240	Project: CAPROCK BSW Project Number: NONE GIVEN Project Manager: MARVIN BURROWS Fax To: NONE	Reported: 16-Jul-18 09:40
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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SAMPLE A	H801855-01	Water	09-Jul-18 14:45	09-Jul-18 15:30
SAMPLE B	H801855-02	Water	09-Jul-18 14:45	09-Jul-18 15:30

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Attachment J

Analytical Results For:

 LLANO DISPOSAL, LLC
 125 W. ST. ANNE
 HOBBS NM, 88240

 Project: CAPROCK BSW
 Project Number: NONE GIVEN
 Project Manager: MARVIN BURROWS
 Fax To: NONE

 Reported:
 16-Jul-18 09:40

SAMPLE A
H801855-01 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories
Inorganic Compounds

Alkalinity, Bicarbonate	190		5.00	mg/L	1	8062505	AC	10-Jul-18	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	8062505	AC	10-Jul-18	310.1	
Chloride ^a	36.0		4.00	mg/L	1	8070501	AC	10-Jul-18	4500-C1-B	
Conductivity ^a	480		1.00	uS/cm	1	8071001	AC	10-Jul-18	120.1	
pH ^a	7.73		0.100	pH Units	1	8071001	AC	10-Jul-18	150.1	
Sulfate ^a	34.3		10.0	mg/L	1	8071002	AC	10-Jul-18	375.4	
TDS ^a	324		5.00	mg/L	1	8070311	AC	11-Jul-18	160.1	
Alkalinity, Total ^a	156		4.00	mg/L	1	8062505	AC	10-Jul-18	310.1	

Green Analytical Laboratories
Total Recoverable Metals by ICP (E200.7)

Calcium ^a	70.9		1.00	mg/L	10	B807085	JDA	12-Jul-18	EPA200.7	
Magnesium ^a	8.93		1.00	mg/L	10	B807085	JDA	12-Jul-18	EPA200.7	
Potassium ^a	2.86	0.677	10.0	mg/L	10	B807085	JDA	12-Jul-18	EPA200.7	J
Sodium ^a	15.2		10.0	mg/L	10	B807085	JDA	12-Jul-18	EPA200.7	

Sample A – Fresh water well at ranch house in
 A-33-16S-33E (0.48 miles SW of State 27 #1)

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Attachment J

Page 2 of 3

Analytical Results For:

 LLANO DISPOSAL, LLC
 125 W. ST. ANNE
 HOBBS NM, 88240

 Project: CAPROCK BSW
 Project Number: NONE GIVEN
 Project Manager: MARVIN BURROWS
 Fax To: NONE

 Reported:
 16-Jul-18 09:40

SAMPLE B

H801855-02 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories
Inorganic Compounds

Alkalinity, Bicarbonate	181		5.00	mg/L	1	8062505	AC	10-Jul-18	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	8062505	AC	10-Jul-18	310.1	
Chloride*	48.0		4.00	mg/L	1	8070501	AC	10-Jul-18	4500-CL-B	
Conductivity*	468		1.00	uS/cm	1	8071001	AC	10-Jul-18	120.1	
pH*	7.86		0.100	pH Units	1	8071001	AC	10-Jul-18	150.1	
Sulfate*	34.0		10.0	mg/L	1	8071002	AC	10-Jul-18	375.4	
TDS*	310		5.00	mg/L	1	8070311	AC	11-Jul-18	160.1	
Alkalinity, Total*	148		4.00	mg/L	1	8062505	AC	10-Jul-18	310.1	

Green Analytical Laboratories
Total Recoverable Metals by ICP (E200.7)

Calcium*	47.0		1.00	mg/L	10	B807085	JDA	12-Jul-18	EPA200.7	
Magnesium*	9.14		1.00	mg/L	10	B807085	JDA	12-Jul-18	EPA200.7	
Potassium*	2.49	0.677	10.0	mg/L	10	B807085	JDA	12-Jul-18	EPA200.7	J
Sodium*	38.4		10.0	mg/L	10	B807085	JDA	12-Jul-18	EPA200.7	

Sample B – Fresh water well at proposed Brine Station
 in L-28-16S-33E (1.08 miles W of State 27 #1)

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Celey D. Keene, Lab Director/Quality Manager

Attachment J

Page 3 of 3

Llano Disposal, LLC
State 27 #1 and Hummingbird Brine Station Operations
Emergency Contingency and Response Plan

Location of Facilities:

Both the State '27' Brine Well #1 and the Hummingbird Brine Station are located approximately 4.4 miles northeast of Maljamar, New Mexico via US 82 then south on Hummingbird county road. See attached map.

Facility	Latitude	Longitude	UL, S, T, N
State '27' BSW #1	32.890782°	-103.657470°	L-27-16S-33E
Hummingbird Brine Station	32.890740°	-103.676520°	L-28-16S-33E

Emergency Response Agencies	Emergency	Direct Number
Maljamar Volunteer Fire Dept	911	575-676-4100
Lovington Fire and EMS	911	575-396-2359
Lea County Sheriff's Dept	911	575-396-3611
New Mexico State Police	911	575-392-5588

Llano Responder	Cell Phone	Home Phone
Marvin Burrows – Fac Mgr	575-631-8067	
Darr Angell - Owner	575-704-2777	575-396-4418

Reporting Agencies	Phone
NMOCD – Santa Fe	505-476-3440
NMOCD – Hobbs (Emergency Cell)	575-370-3186
National Response Center	800-424-8802
EPA Region 6 Emergency Response	214-665-6428
Chemtrec	800-424-9300

Materials Stored or Transferred Onsite	Location of Anticipated Leaks/Spills
Fresh and brine water (Non-hazardous)	Brine station inside secondary containment, concrete loading pad, pipelines, and at brine well
Contaminated Soil (Non-hazardous)	Sealed drums at brine station
Trash (Non-hazardous)	Trash bins at brine station

Leak/Spill Prevention Actions

Brine water storage tanks have a synthetic liner secondary containment and level controls
Concrete loading pad has curbs and an automated concrete sump
Buried brine polyethylene pipeline will be pressure tested annually to insure mechanical integrity

Containment and Clean up Actions

1) Incidental drips, leaks and spills will be picked up routinely and placed back into the system or in waste containers by the facility operator.
2) Releases of more than 5 bbls of brine water or 1 bbl of waste outside secondary containment will be handled per the Emergency Procedures/Notification listed below.

Emergency Procedures and Notification

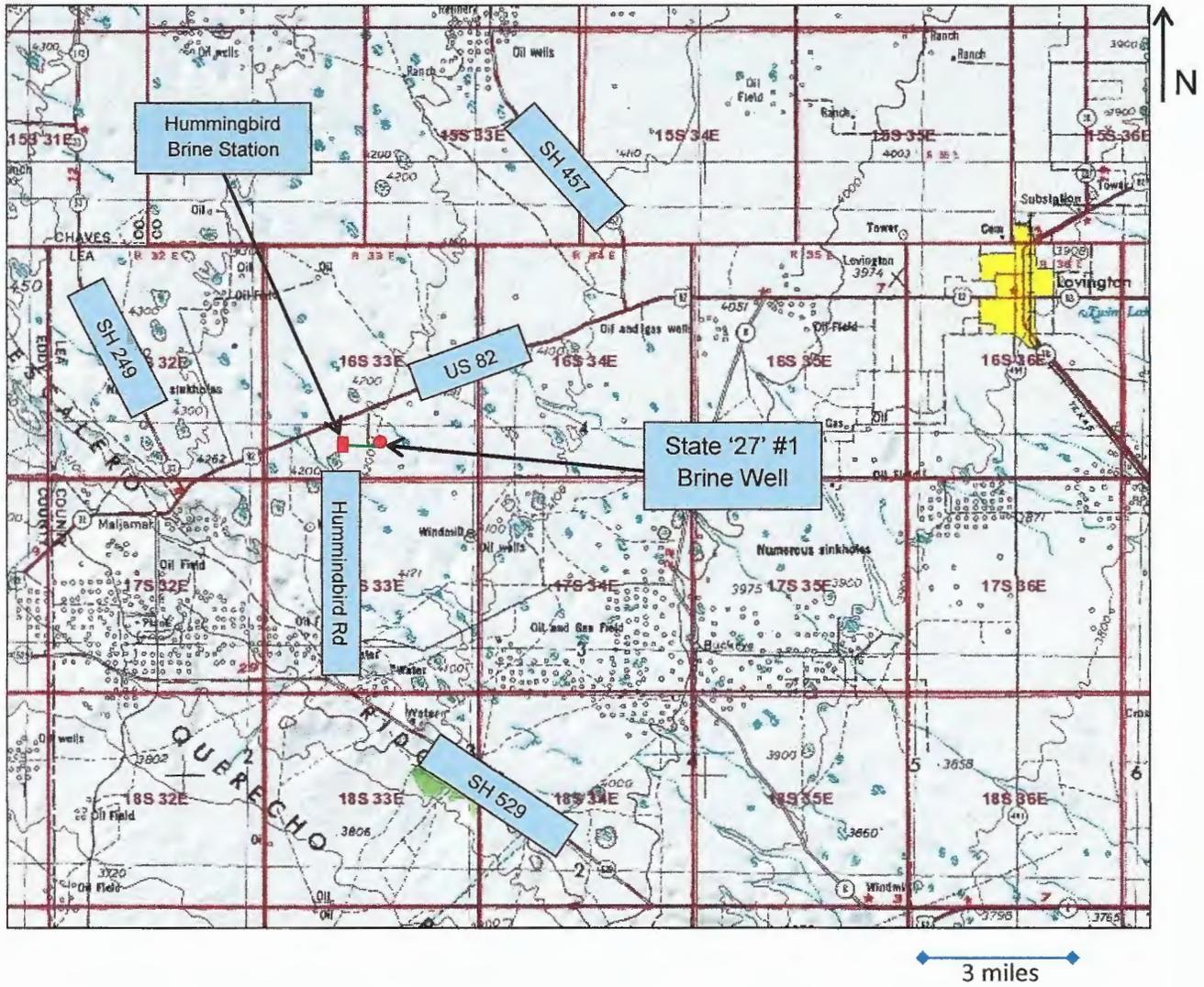
1) Assess the situation (if it is safe to do so) and notify Llano Supervisor for assistance and additional personnel, if needed. Stop the leak/spill as directed by the Llano Supervisor (if it is safe to do so).
2) Notify one of the Emergency Response Agencies noted above if there is a life threatening situation.
3) Provide assistance to Emergency Responders and/or Llano Supervisor.
4) Barricade any spill area to protect the public, if necessary and if it is safe to do so.
5) Llano Supervisor will direct all available resources to stop, contain and mitigate the emergency situation.
6) Llano Supervisor will notify NMOCD District Office by phone and form C-141 for brine spills <25 bbls.
7) Llano Supervisor will verbally notify NMOCD Director (Santa Fe) for brine spill >25 bbls.

Attachment K

Posted Date - _____

Llano Disposal, LLC
State 27 #1 and Hummingbird Brine Station Operations
Emergency Contingency and Response Plan

Emergency Response Map

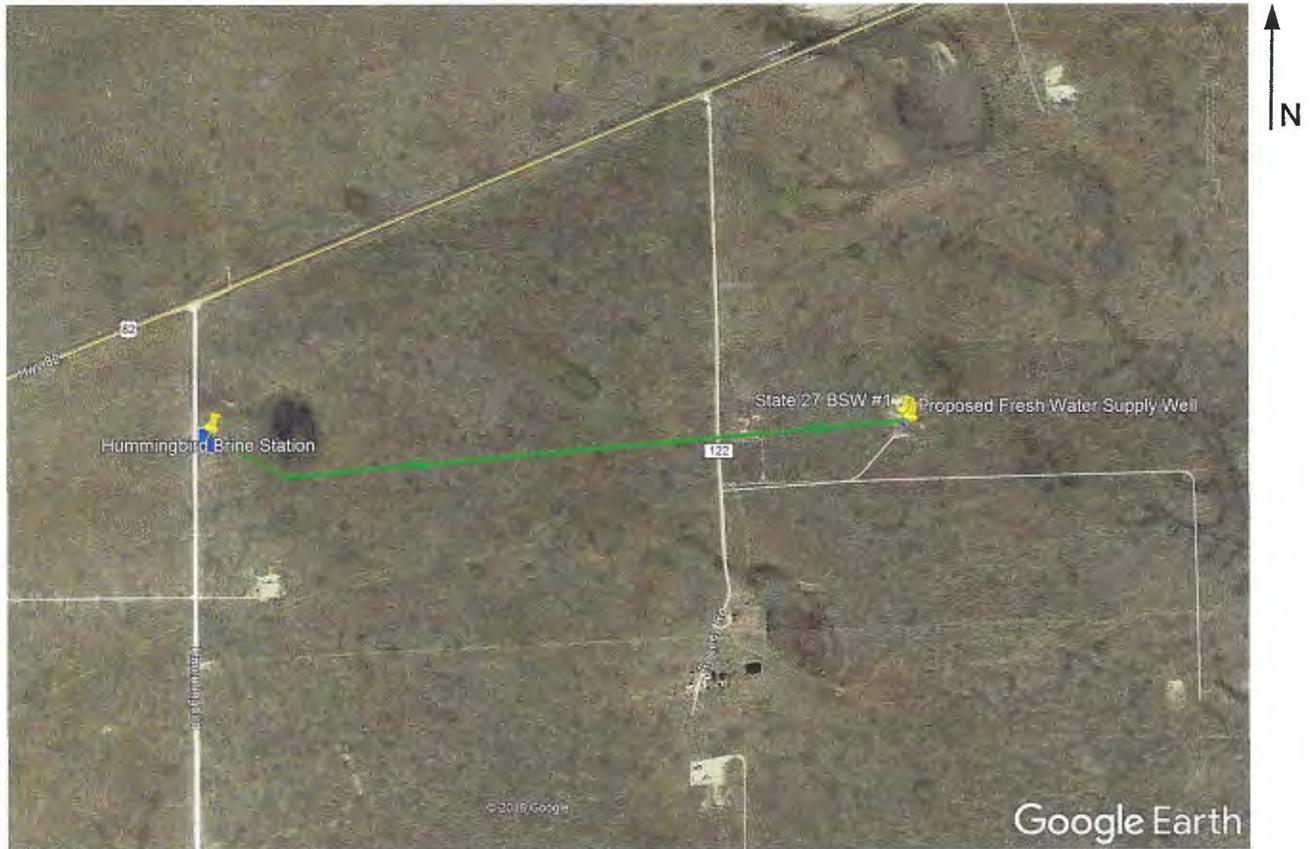


Attachment K

Posted Date - _____

Llano Disposal, LLC
Proposed State '27' BSW #1 and Hummingbird Brine Station
UL 'L', Section 27, T16S, R33E and UL 'L', Section 28, T16S, R33E
Lea County, New Mexico

Attachment L – Schematics

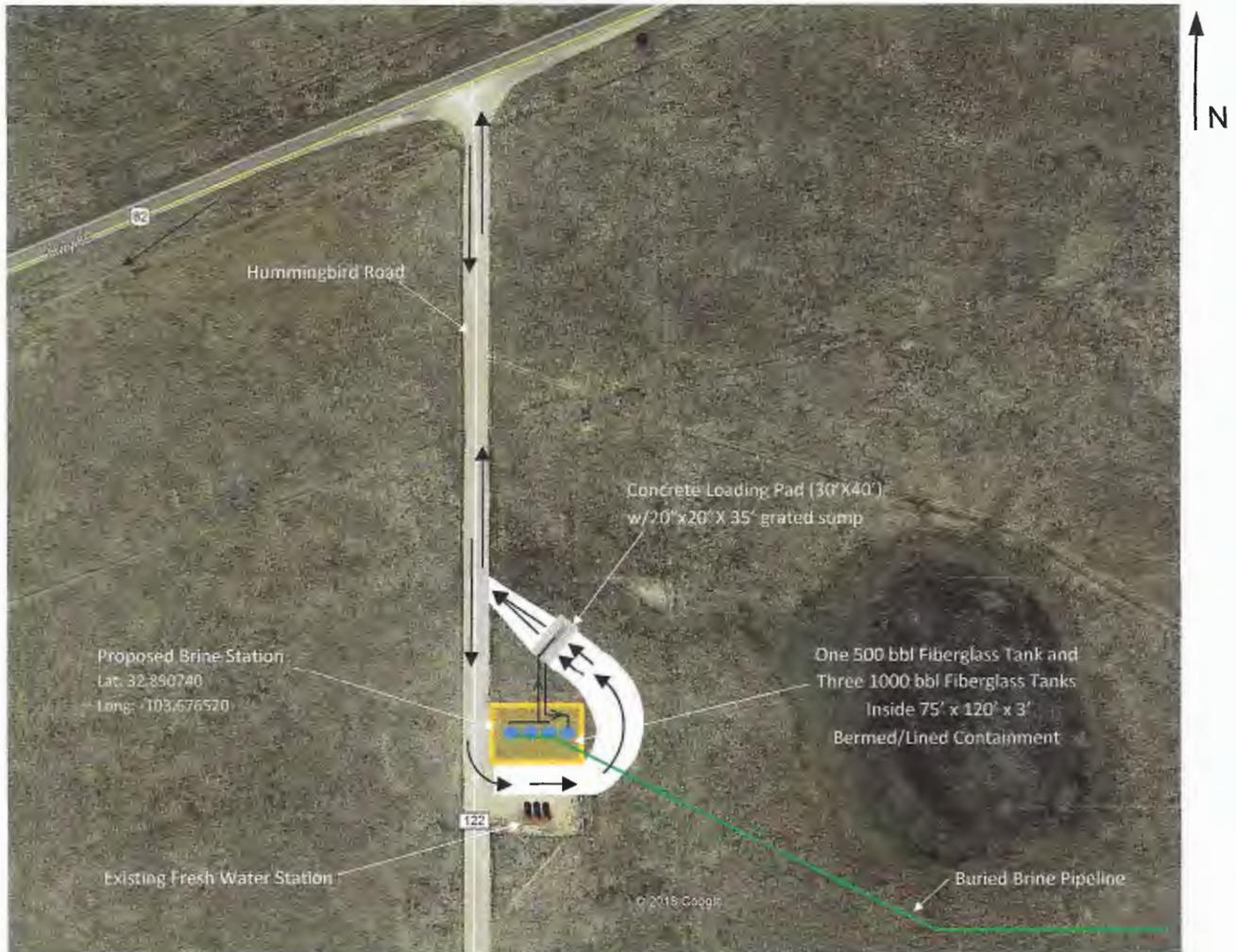


Sections 27 and 28, T16S, R33E
Lea County, New Mexico

Llano Disposal, LLC
Proposed State '27' BSW #1 and Hummingbird Brine Station
UL 'L', Section 27, T16S, R33E and UL 'L', Section 28, T16S, R33E
Lea County, New Mexico

Attachment L – Schematics

Proposed Hummingbird Brine Station

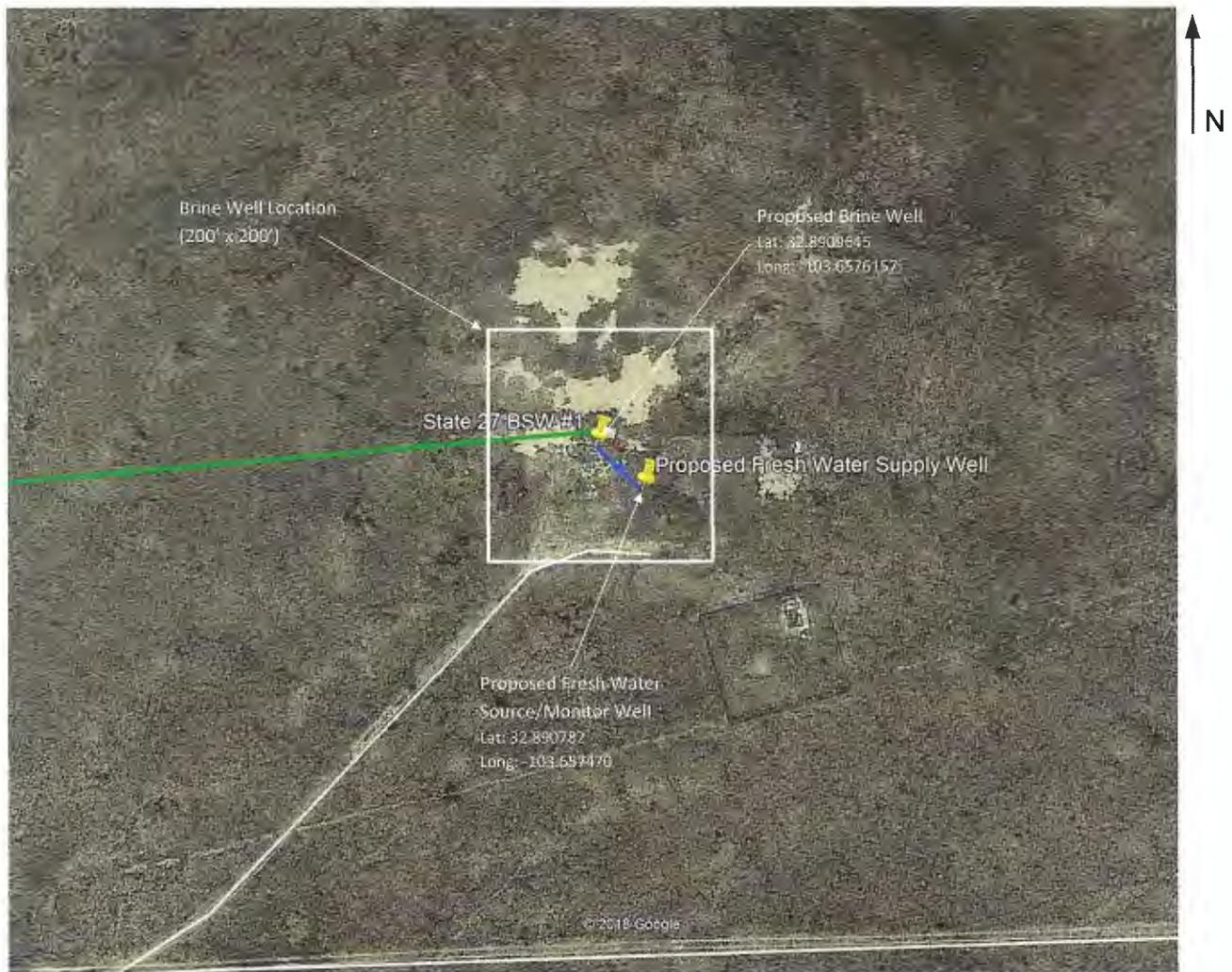


Section 28, T16S, R33E
Lea County, New Mexico

Llano Disposal, LLC
Proposed State '27' BSW #1 and Hummingbird Brine Station
UL 'L', Section 27, T16S, R33E and UL 'L', Section 28, T16S, R33E
Lea County, New Mexico

Attachment L – Schematics

Proposed State 27 BSW #1 Wellsite

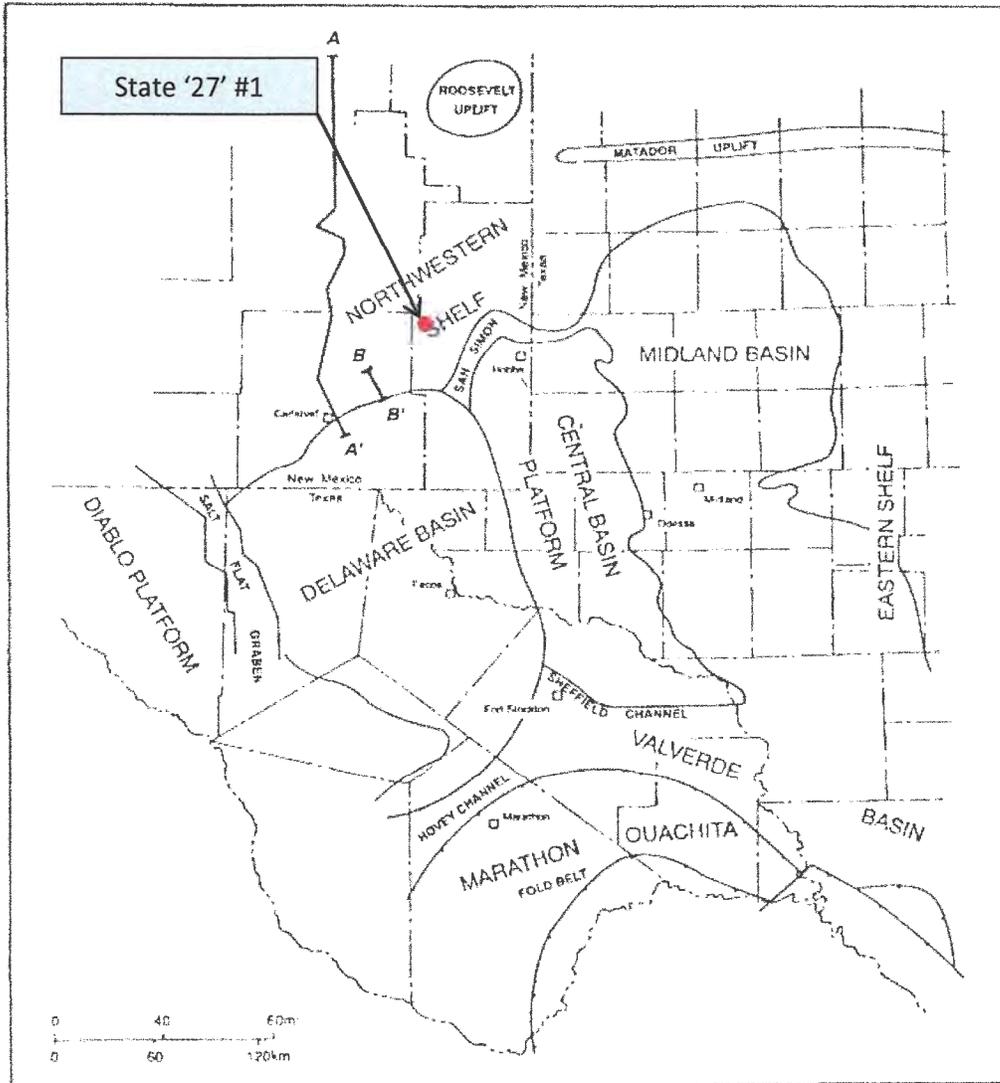


Section 27, T16S, R33E
Lea County, New Mexico

State '27' #1
API # 30-025-20592
Discharge Plan Attachments

Attachment M – Area Geology

BROADHEAD and SPEER



State '27' #1
API # 30-025-20592
Discharge Plan Attachments

Attachment M – General Stratigraphy

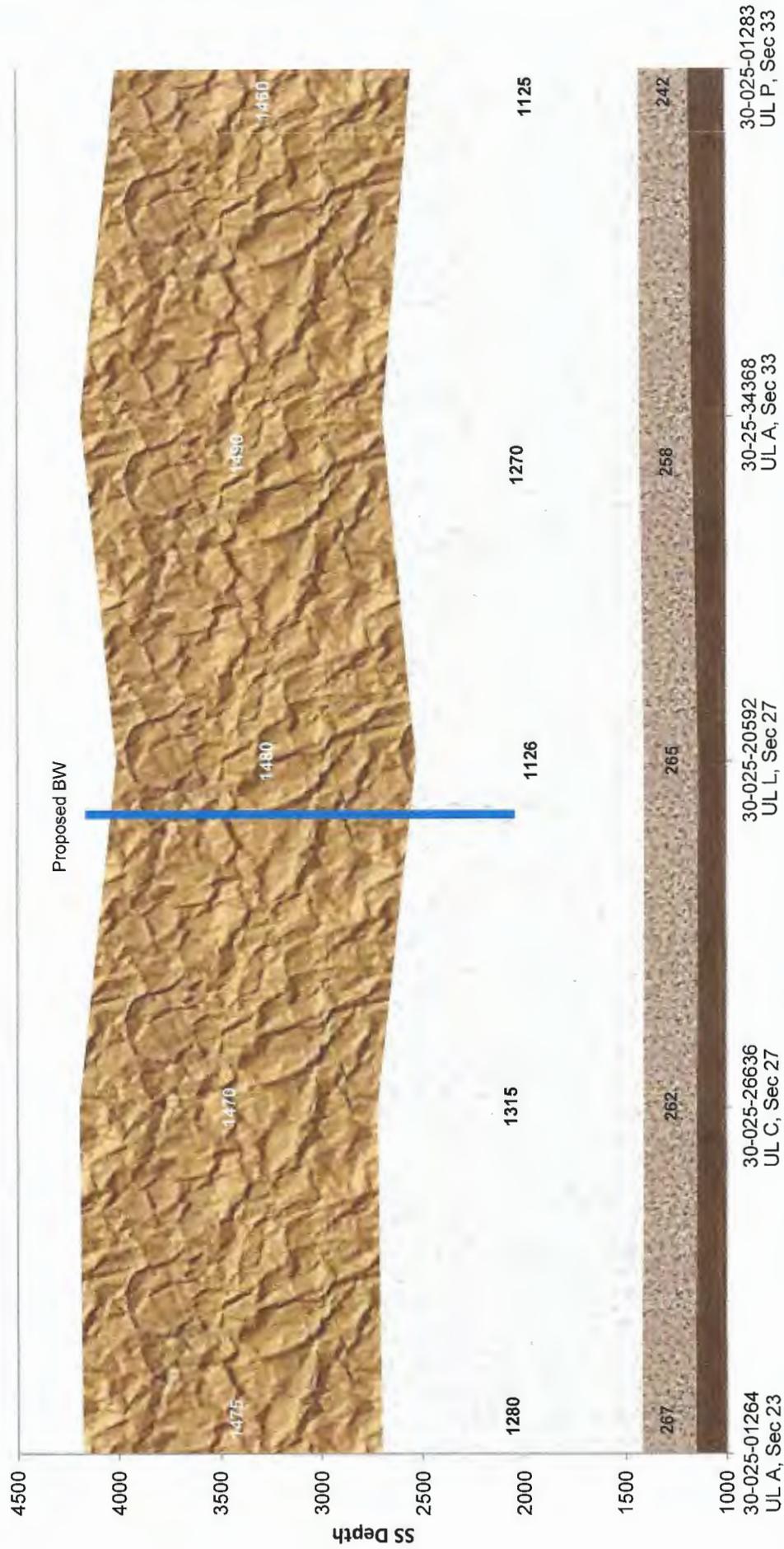
Stratigraphy of the Northwest Shelf of the Permian Basin

PERIOD	EPOCH	FORMATION	GENERAL LITHOLOGY	APPROXIMATE THICKNESS (ft)	
Permian	Ochoan	Dewey Lake	Redbeds/Anhydrite	200-400	
		Rustler	Halite	100	
		Salado	Halite/Anhydrite	1000	
	Guadalupian		Tansil	Anhydrite/Dolomite	200
			Yates	Anhydrite/Dolomite Anhydrite	200
			Seven Rivers	Dolomite/Anhydrite	500
			Queen	Sandy Dolomite/ Anhydrite/Sandstone	200-500
			Grayburg	Dolomite/Anhydrite/ Shale/Sandstone	300
			San Andres	Dolomite/Anhydrite	1500
		Leonardian		Glorieta	Sandy Dolomite
	Yeso		Paddock	Dolomite/Anhydrite/ Sandstone	1500
			Blinebry		
			Tubb		
Drinkard					
	Abo	Dolomite/Anhydrite/ Shale	1000		
	Wolfcampian	Wolfcamp	Limestone/Dolomite	0-1500	
Pennsylvanian	Virgilian	Cisco	Limestone/Sandstone	0-1250	
	Missourian	Canyon	Limestone/Shale		
	Des Moinesian	Strawn	Limestone/Sandstone	0-750	
	Atokan	Bend	Limestone/Sandstone	0-1250	
	Morrowan	Morrow	/Shale		
Mississippian		---	Limestone/Shale	0-800	
Devonian		---	Dolomite/Chert	0-1200	
Silurian		Fusselman			
Ordovician	Upper	Montoya	Dolomite/Chert	0-400	
	Middle	Simpson	Limestone/Sandstone /Shale	0-200	
	Lower	Ellenburger	Dolomite	0-400	
Cambrian		---	Sandstone	---	

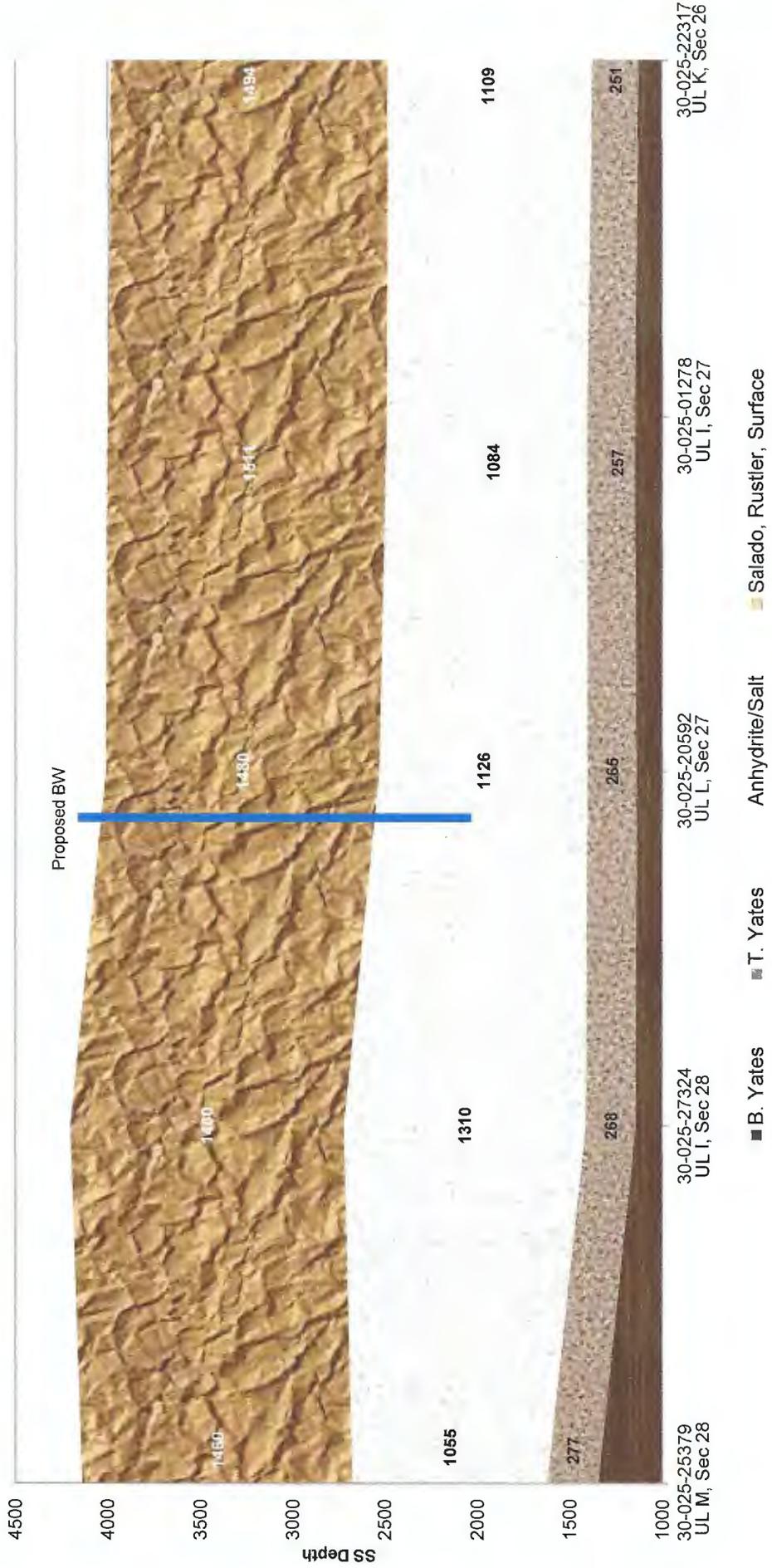
Stratigraphy of the Northwest Shelf of the Permian Basin. General lithology and approximate stratigraphic thickness for each formation are indicated. Modified from Pranter (1999) by Cabrera-Garzon, Rauf, 2001, Ph.D., Thesis (2001)
Redrawn by Nassir Alnajj, 2001

Source: Pranter (1999).

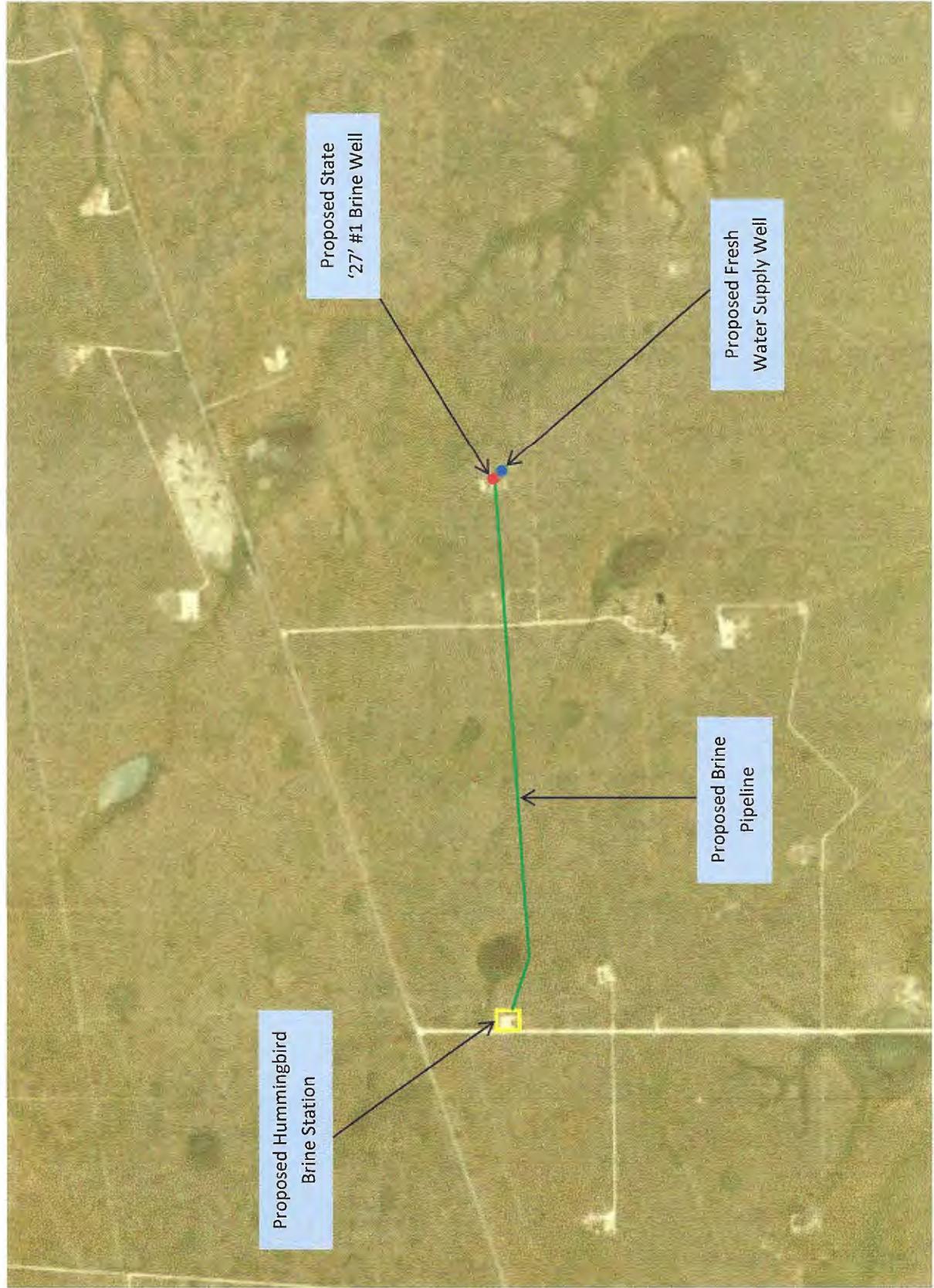
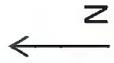
State '27' #1
North to South Cross Section
Attachment N



State '27' #1
West to East Cross Section
Attachment N



State '27' #1
API # 30-025-20592
Discharge Plan Attachments



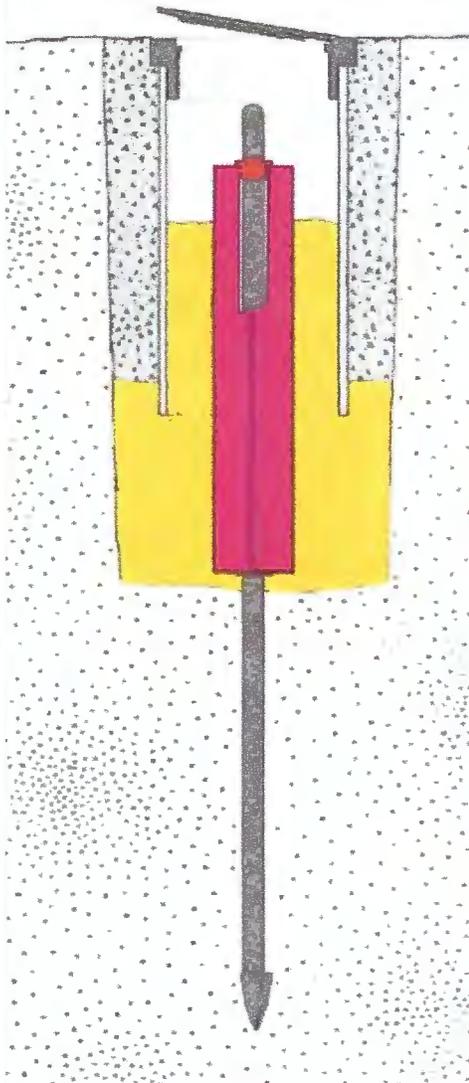
Attachment O – USGS Drainage Map of Project Area

Sectional Rod Monuments

Berntsen
Survey Markers

Monument Design

SLEEVED ROD MONUMENT WITH FLOATING SLEEVE



Monument Installation Procedure



A 12 inch (300 mm) hole is augered to a depth of about 3 1/2 feet (1050 mm).



The rod monument is driven into the ground, a section at a time, to refusal*. The top of the last rod should be about 6 inches (150 mm) below the surface. *See page 15



The finned sleeve (filled with grease) is placed over the rod and the datum point added (or filed onto the rod end).



A 6 inch (150 mm) diameter PVC pipe 3 feet (915 mm) long, with access cover glued on, is placed over the finned sleeve (pipe should not touch the fins), Back-fill (INSIDE the PVC Pipe) with sand.



The hole and pipe are carefully back-filled with sand. The top 12 inches (300 mm) of the hole (OUTSIDE of the PVC Pipe) are back-filled with concrete.



The finished mark - a well protected first-order benchmark.

State '27' #1
API # 30-025-20592
Discharge Plan Attachments – Attachment Q

Public Notice

Legal notification for 2' X 3' (min) signage per Water Quality Control Commission Regulations 20.6.2.3108.B.1 NMAC

Llano Disposal, LLC, 783 highway 483, Lovington, NM 88260, Mr. Darr Angell has filed an application with the New Mexico Oil Conservation Division (OCD) to install and operate a Class III brine well and brine station.

The new brine station will be located approximately 200 feet southeast of this sign. A detailed description and map of the proposed facilities are hereby attached below.

Brine wells are wells completed into salt formations for the purpose of solution mining the salt to create brine water. Fresh water is pumped into deep salt zones thereby producing concentrated salt water called “brine water”. This brine water is used in the oilfield primarily for drilling and completion operations. It is anticipated that brine water will be produced at a rate of less than 1900 barrels per day with a total dissolved concentration of 320,000 mg/l (primarily NaCl). Groundwater in this area is present at depths of approximately 140 – 190 feet. The concentration of total dissolved solids in this groundwater is generally about 400 mg/l. The permit requires that the brine well and associated operations must be constructed and operated in a matter that will not adversely affect groundwater quality.

The New Mexico Oil Conservation Division (OCD) will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to receive future notices. Interested persons may contact:

Environmental Bureau Chief
Oil Conservation Division (OCD)
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505
Telephone: 505-476-3440

State '27' #1
 API # 30-025-20592
 Discharge Plan Attachments – Attachment Q

Laminated Attachments (8-1/2" x 11" ea) Posted to Bottom of Sign

Page 1 of Detailed Notification	Page 2 of Detailed Notification	Map of Area of Review
<p>Llano Disposal, L.L.C. (Mr. Darr Angell), 783 Highway 483, Lovington, NM 88260 has submitted an application to the New Mexico Oil Conservation Division (NMOCD) for installation and operation of a Class III brine well to be located in Unit Letter L of Section 27, Township 16 South, Range 33 East (Lat. 32.8909645°, Long. -103.6576157°), Lea County, New Mexico. The proposed brine injection well is located approximately 17.8 miles west of Lovington, New Mexico on US Highway 82, then south 0.82 miles on Rooney Rd, then east 0.3 miles on lease road to well location.</p> <p>The application proposes to produce fresh water from a proposed water source well to be drilled in Unit Letter L of Section 27, Township 16 South, Range 33 East (Lat. 32.890782°, Long. -103.657476°), Lea County, New Mexico. From time to time when brine is needed, the fresh water would be transported via a buried polyethylene pipeline approximately 75 feet northwest to the brine well. The fresh water would be pumped down the well's casing to an approximate depth of 1780 feet to 2300 feet below ground level at a rate of approximately 40 - 120 GPM and a normal operating pressure of 200 to 250 psig. The maximum allowable surface injection pressure would be 356 psig. Dissolution brine water (NaCl) would then be produced up the well tubing to surface.</p> <p>The produced brine water would be metered then transported via a second buried polyethylene pipeline approximately 528 feet west to three 1000 barrel fiberglass storage tanks at the proposed Hummingbird Brine Station located in Unit Letter L of Section 26, Township 16 South, Range 33 East (Lat. 32.890740°, Long. -103.676520°), Lea County, New Mexico. This brine station is located approximately 18.7 miles west of Lovington, New Mexico or 0.2 miles south of the intersection of US Hwy 82, and County Road L-122 (Hummingbird Rd). The brine water would be transferred/sold by delivery into water trucks on a concrete loading pad with containment curbing and a sump to prevent spills. There would be a synthetic liner and secondary containment underneath the brine storage tanks. All of this infrastructure is located on private land owned by the applicant.</p> <p>Brine water is used in the oil and gas industry to supply concentrated salt water (i.e. brine water) with a total dissolved concentration of approximately 320,000 mg/l and a density that is 20% higher than fresh water. Typical brine water is 10 pounds per gallon (ppg) with the increased weight due to dissolved NaCl. Heavy brine water is essential in preventing blow-outs in high pressure gas wells and prevents loss of circulation when drilling through salt zones typically found in southeastern New Mexico.</p> <p>The brine well will be designed to produce approximately 13 million barrels of brine water over a 20 year life period. The anticipated cavern radius will not exceed 150 feet. The well has been located on private land and provides a minimum of 2150 feet separation from any significant features, such as houses, water supplies, buildings, schools, businesses, etc.</p> <p>Groundwater possibly affected by an unintentional spill or leak is located at a depth of approximately 140 - 190 feet below ground level. Typical groundwater in this area has a total dissolved solids concentration of approximately 400 mg/l. According to the Office of the State Engineer, average water well depth in the area is 223 feet below ground level. The brine facility will be designed and permitted to have no intentional water contaminants discharged to the surface or subsurface for the protection of groundwater.</p>	<p>The brine station will have a concrete loading pad for trucks and will have a synthetic liner underneath tanks areas to prevent any spills or leaks from reaching the ground surface. The brine well will have cemented casing and tubing strings to protect groundwater.</p> <p>The owner and operator of the proposed facility will be:</p> <p style="text-align: center;">Llano Disposal, LLC 783 Highway 483 Lovington, NM 88260</p> <p>Comments and inquiries about the application may be directed to Llano Disposal, LLC c/o Mr. Danny Holcomb at 806-471-5628 or email danny@owlic.net. Mr. Holcomb is a consultant to Llano Disposal, LLC providing assistance obtaining the regulatory permits for this project.</p> <p>The New Mexico Oil Conservation Division (OCD) will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to receive future notices. Persons interested in obtaining further information, submitting comments or requesting to be on a facility-specific mailing list for future notices may contact:</p> <p style="text-align: center;">Environmental Bureau Chief New Mexico Oil Conservation Division 1220 South Saint Francis Drive Santa Fe, New Mexico 87505 Telephone: 505-476-3440</p>	<p style="text-align: center;">State '27' #1 and Hummingbird Brine Station</p> <p style="text-align: center;">T16S, R33E Lea County, New Mexico</p>

State '27' #1
API # 30-025-20592
Discharge Plan Attachments – Attachment Q

Notificación Aviso

Notificación legal de 2' X 3' (min) señalización por Reglamento de Comisión de Control de Calidad de Agua
20.6.2.3108.B.1 NMAC

Llano Disposal, LLC, 783 Highway 483, Lovington, NM 88260, Sr. Darr Angell ha presentado una solicitud con el División de Conservación de Petróleo de Nuevo Mexicano para instalar y operar así una salmuera de clase III y estación de la salmuera.

La nueva estación de salmuera será situados aproximadamente 200 pies sureste de este signo. Una descripción detallada y un mapa de las instalaciones propuestas por este medio se unen por debajo.

Pozos de salmuera son pozos completados en formaciones de sal con el propósito de la solución de minería de la sal para crear agua de la salmuera. Agua dulce es bombeado en zonas profundas sal tal modo produciendo concentrado agua salada llamado "agua de la salmuera". Esta agua de la salmuera se utiliza en el campo petrolífero principalmente para operaciones de perforación y terminación. Se prevé que se producirán salmuera agua a una velocidad de menos de 1900 barriles por día con una concentración disuelta total de 320.000 mg/l (principalmente NaCl). Agua subterránea en esta área está presente en aproximadamente 140 a 190 pies de profundidad. La concentración de sólidos totales disueltos en esta agua subterránea es generalmente cerca de 400 mg/l. El permiso requiere que la salmuera bien y asociados las operaciones deben ser construidas y operadas en un asunto que no afectará negativamente la calidad de las aguas subterráneas.

El División de Conservación de Petróleo de Nuevo Mexicano se aceptan comentarios y declaraciones de interés respecto a esta aplicación y creará una lista de correo de instalaciones específicas para las personas que deseen recibir futuras notificaciones. Las personas interesadas podrán en contacto con:

Jefe de la Oficina Ambiental
División de Conservación de Petróleo de Nuevo Mexicano
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505
Teléfono: 505-476-3440

State '27' #1
API #30-025-20592
Discharge Plan Attachments - Attachment R

Public Notice

**Legal notification for onsite Public Notice per Water Quality Control
Commission Regulations 20.6.2.3108.B.1 NMAC**

Llano Disposal, L.L.C. (Mr. Darr Angell), 783 Highway 483, Lovington, NM 88260 has submitted an application to the New Mexico Oil Conservation Division (NMOCD) for installation and operation of a Class III brine well to be located in Unit Letter L of Section 27, Township 16 South, Range 33 East (Lat. 32.8909645°, Long. -103.6576157°), Lea County, New Mexico. The proposed brine injection well is located approximately 17.8 miles west of Lovington, New Mexico on US Highway 82, then south 0.62 miles on Rooney Rd, then east 0.3 miles on lease road to well location.

The application proposes to produce fresh water from a proposed water source well to be drilled in Unit Letter L of Section 27, Township 16 South, Range 33 East (Lat. 32.890782°, Long. -103.657470°), Lea County, New Mexico. From time to time when brine is needed, the fresh water would be transported via a buried polyethylene pipeline approximately 75 feet northwest to the brine well. The fresh water would be pumped down the well's casing to an approximate depth of 1780 feet to 2300 feet below ground level at a rate of approximately 40 - 120 GPM and a normal operating pressure of 200 to 250 psig. The maximum allowable surface injection pressure would be 356 psig. Dissolution brine water (NaCl) would then be produced up the well tubing to surface.

The produced brine water would be metered then transported via a second buried polyethylene pipeline approximately 5928 feet west to three 1000 barrel fiberglass storage tanks at the proposed Hummingbird Brine Station located in Unit Letter L of Section 28, Township 16 South, Range 33 East (Lat. 32.890740°, Long. -103.676520°), Lea County, New Mexico. This brine station is located approximately 18.7 miles west of Lovington, New Mexico or 0.2 miles south of the intersection of US Hwy 82 and County Road L-122 (Hummingbird Rd). The brine water would be transferred/sold by delivery into water trucks on a concrete loading pad with containment curbing and a sump to prevent spills. There would be a synthetic liner and secondary containment underneath the brine storage tanks. The entire infrastructure is located on private land owned by the applicant.

Brine water is used in the oil and gas industry to supply concentrated salt water (i.e. brine water) with a total dissolved concentration of approximately 320,000 mg/l and a density that is 20% higher than fresh water. Typical brine water is 10 pounds per gallon (ppg) with the increased weight due to dissolved NaCl. Heavy brine water is essential in preventing blow-outs in high pressure gas wells and prevents loss of circulation when drilling through salt zones typically found in southeastern New Mexico.

The brine well will be designed to produce approximately 13 million barrels of brine water over a 20 year life period. The anticipated cavern radius will not exceed 150 feet. The well has been located on private land and provides a minimum of 2150 feet separation from any significant features, such as houses, water supplies, buildings, schools, businesses, etc.

Groundwater possibly affected by an unintentional spill or leak is located at a depth of approximately 140 – 190 feet below ground level. Typical groundwater in this area has a total dissolved solids concentration of approximately 400 mg/l. According to the Office of the State Engineer, average water well depth in the area is 223 feet below ground level. The brine facility will be designed and permitted to have no intentional water contaminants discharged to the surface or subsurface for the protection of groundwater.

State '27' #1
API #30-025-20592
Discharge Plan Attachments - Attachment R

The brine station will have a concrete loading pad for trucks and will have a synthetic liner underneath tanks areas to prevent any spills or leaks from reaching the ground surface. The brine well will have cemented casing and tubing strings to protect groundwater.

The owner and operator of the proposed facility will be:

Llano Disposal, LLC
783 Highway 483
Lovington, NM 88260

Comments and inquiries about the application may be directed to Llano Disposal, LLC c/o Mr. Danny Holcomb at 806-471-5628 or email danny@pwllc.net. Mr. Holcomb is a consultant to Llano Disposal, LLC providing assistance obtaining the regulatory permits for this project.

The New Mexico Oil Conservation Division (OCD) will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to receive future notices. Persons interested in obtaining further information, submitting comments or requesting to be on a facility-specific mailing list for future notices may contact:

Environmental Bureau Chief
New Mexico Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505
Telephone: 505-476-3440

State '27' #1
API #30-025-20592
Discharge Plan Attachments - Attachment R

Aviso Público

**Legal notificación para aviso público por Reglamento de Comisión de
Control de calidad de agua 20.6.2.3108.B.1 NMAC**

Llano Disposal, L.L.C. (Sr. Darr Angell), 783 Highway 483, Lovington, NM 88260 ha presentado una solicitud para La División de Conservación de Petróleo de Nuevo Mexicano (NMOCD) para la instalación y operación de una clase III de la salmuera bien que se encuentra en la unidad letra E de la sección 27, municipio de 16 sur, gama 33 este (Lat. 32.8909645°, Long. -103.6576157°), Condado Lea, Nuevo México. La inyección de salmuera propuesto está bien situada aproximadamente 17,8 millas al oeste de Lovington, Nuevo México en Highway 82, entonces del sur 0,62 millas en Rooney Road, entonces este 0,3 millas en carretera arrendamiento de ubicación bien.

La aplicación propone producir agua fresca de una fuente de agua propuesta para taladrarse en unidad letra L de la sección 27, municipio de 16 sur, gama 33 este (Lat. 32,890782°, Long. -103.657470°), Condado Lea, Nuevo México. De vez en cuando se necesita salmuera, el agua dulce transportarse a través de una tubería de polietileno enterrada aproximadamente 75 pies del noroeste a la salmuera bien. El agua se bombea al pozo de cubierta a una profundidad aproximada de 1780 pies a 2300 pies debajo de nivel del suelo a una tasa de aproximadamente 40-120 GPM y una presión normal de 200 a 250 psi. La presión de inyección superficial permisible máxima sería 356 psi. Agua de disolución salmuera (NaCl) entonces se produciría por el bien de la tubería a la superficie.

El agua de la salmuera producida se mide entonces transportado por una tubería de polietileno enterrada segundo aproximadamente 5928 pies al oeste a tres 1000barril tanques de almacenamiento de fibra de vidrio en la propuesta estación de salmuera Colibrí ubicado en la unidad letra L de la sección 28, municipio de 16 sur, gama 33 este (Lat. 32,890740°, Long. -103.676520°), Condado Lea, Nuevo México. Esta estación de salmuera está situados a aproximadamente 18,7 millas al oeste de Lovington, Nuevo México o 0,2 millas al sur de la intersección de Highway 82 y County Road L-122 (Hummingbird Road). El agua de la salmuera sería transferido/vendido por entrega en camiones de agua sobre una almohadilla con frenar de contención de carga de hormigón y un colector de aceite para evitar derrames. Habría un forro sintético y contención secundaria debajo de los tanques de almacenamiento de la salmuera. Toda esta infraestructura se encuentra en terrenos privados propiedad de la demandante.

Agua de la salmuera se utiliza en el aceite y la industria del gas para suministrar concentrado sal agua (es decir, salmuera) con una concentración disuelta total de aproximadamente 320.000 mg/l y una densidad que es 20% mayor de agua dulce. Salmuera típica está 10 libras por galón (ppg) con el aumento de peso debido a NaCl disuelto. Agua de salmuera pesada es esencial en la prevención de salidas de golpe en pozos de gas de alta presión y previene la pérdida de circulación durante la perforación a través de zonas de sal suelen encontradas en el sureste de Nuevo México.

Bien la salmuera se diseñará para producir aproximadamente 13 millones de barriles de salmuera durante un período de vida de 20 años. El radio caverna anticipada no excederá de 150 pies. El pozo se ha situado en terrenos privados y un mínimo de separación de 2150 pies de cualquier características importantes, tales como casas, suministros de agua, edificios, escuelas, empresas, etc.

State '27' #1
API #30-025-20592
Discharge Plan Attachments - Attachment R

Agua subterránea posiblemente afectado por un derrame accidental o escape se encuentra a una profundidad de aproximadamente 140 – 190 pies debajo de nivel del suelo. Típico agua subterránea en esta área tiene una concentración de sólidos disueltos totales de aproximadamente 400 mg/l. Según la oficina del ingeniero de estado, profundidad media del agua en la zona es 223 pies debajo de nivel del suelo. La instalación de la salmuera será diseñada y puede no tener contaminantes intencional de agua descargadas a la superficie o subsuperficie para la protección de las aguas subterráneas. La estación de salmuera tendrá una plataforma de carga de cemento para camiones y tendrá un revestimiento sintético debajo de áreas de depósitos para evitar cualquier vertido o derrame accidental de llegar a la superficie de la tierra. La salmuera bien habremos cementado carcasa y tubos cadenas para proteger las aguas subterráneas.

El propietario y operador de la instalación propuesta será:

Llano Disposal, LLC
783 Highway 483
Lovington, NM 88260

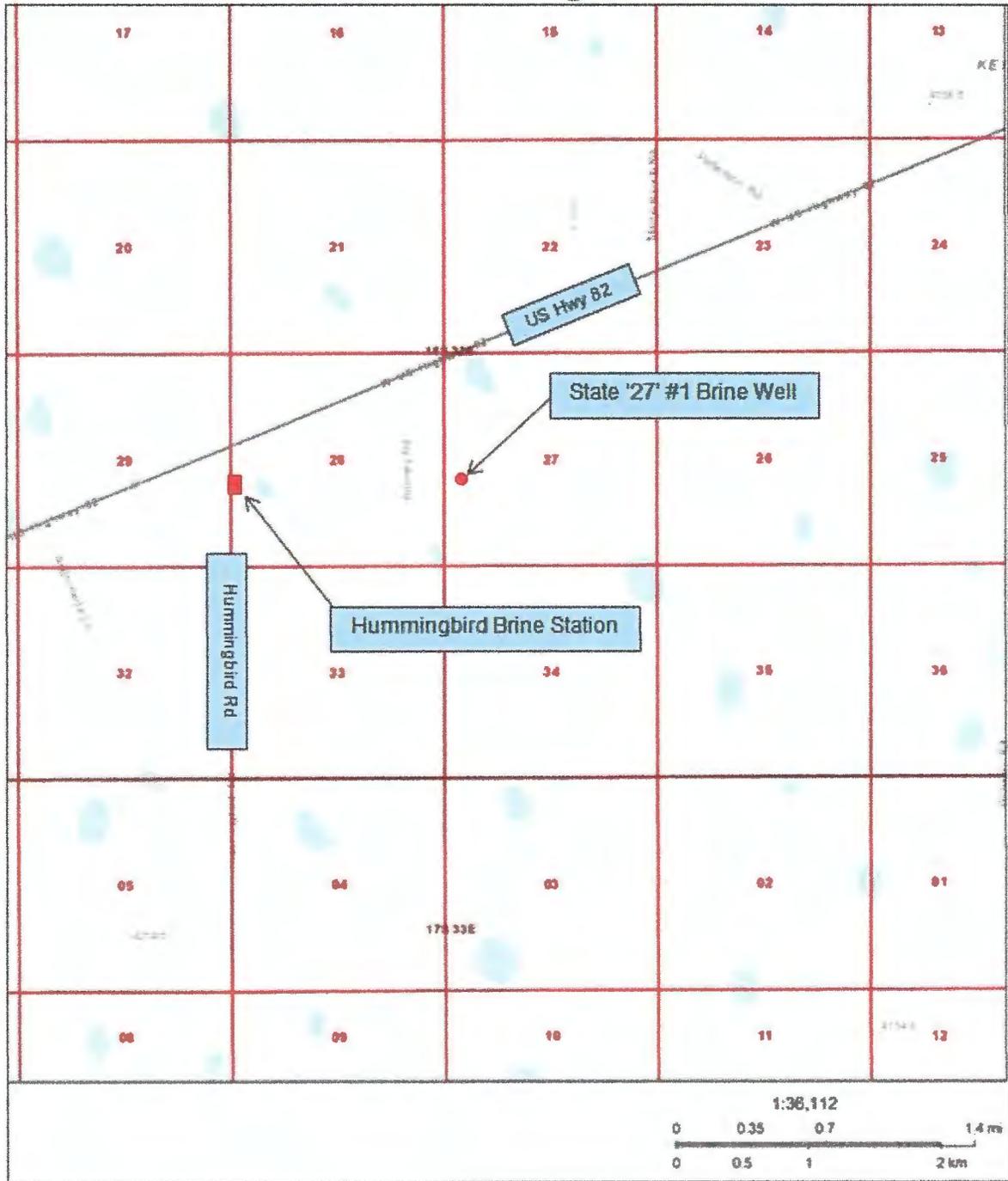
Comentarios y consultas sobre la aplicación pueden ser dirigidas a Llano Disposal, LLC c/o Sr. Danny Holcomb en 806-471-5628 o por correo electrónico danny@pwllic.net. El Sr. Holcomb es consultor para proporcionar asistencia de Llano Disposal, LLC obtener los permisos reglamentarios para este proyecto.

La División de Conservación de Petróleo de Nuevo México (NMOCD) se aceptan comentarios y declaraciones de interés respecto a esta aplicación y creará una lista de correo de instalaciones específicas para las personas que deseen recibir futuras notificaciones. Puede contactar a las personas interesadas en obtener más información, enviar comentarios o solicitar estar en una lista de correo de instalaciones específicas para futuros avisos:

Jefe de la Oficina Ambiental
División de Conservación de Petróleo de Nuevo México
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505
Teléfono: 505-476-3440

State '27' #1
API #30-025-20592
Discharge Plan Attachments - Attachment R

State '27' #1 and Hummingbird Brine Station



T16S, R33E
Lea County, New Mexico

State '27' #1
API # 30-025-20592
Discharge Plan Attachments – Attachment 'S'

Public Notice Letter

Certified Mail

Date: _____

Property Owner of Record

Name:

Address:

City/State:

Public Notice

Legal notification per Water Quality Control Commission Regulations 20.6.2.3108.B.2 NMAC to property owner(s) of record that adjoin(s) the property owned by the applicant.

Llano Disposal, L.L.C. (Mr. Darr Angell), 783 Highway 483, Lovington, NM 88260 has submitted an application to the New Mexico Oil Conservation Division (NMOCD) for installation and operation of a Class III brine well to be located in Unit Letter L of Section 27, Township 16 South, Range 33 East (Lat. 32.8909645°, Long. -103.6576157°), Lea County, New Mexico. The proposed brine injection well is located approximately 17.8 miles west of Lovington, New Mexico on US Highway 82, then south 0.62 miles on Rooney Rd, then east 0.3 miles on lease road to well location.

The application proposes to produce fresh water from a proposed water source well to be drilled in Unit Letter L of Section 27, Township 16 South, Range 33 East (Lat. 32.890782°, Long. -103.657470°), Lea County, New Mexico. From time to time when brine is needed, the fresh water would be transported via a buried polyethylene pipeline approximately 75 feet northwest to the brine well. The fresh water would be pumped down the well's casing to an approximate depth of 1780 feet to 2300 feet below ground level at a rate of approximately 40 - 120 GPM and a normal operating pressure of 200 to 250 psig. The maximum allowable surface injection pressure would be 356 psig. Dissolution brine water (NaCl) would then be produced up the well tubing to surface.

The produced brine water would be metered then transported via a second buried polyethylene pipeline approximately 5928 feet west to three 1000 barrel fiberglass storage tanks at the proposed Hummingbird Brine Station located in Unit Letter L of Section 28, Township 16 South, Range 33 East (Lat. 32.890740°, Long. -103.676520°), Lea County, New Mexico. This brine station is located approximately 18.7 miles west of Lovington, New Mexico or 0.2 miles south of the intersection of US Hwy 82 and County Road L-122 (Hummingbird Rd). The brine water would be transferred/sold by delivery into water trucks on a concrete loading pad with containment curbing and a sump to prevent spills. There would be a synthetic liner and secondary containment underneath the brine storage tanks. The entire infrastructure is located on private land owned by the applicant.

State '27' #1
API # 30-025-20592
Discharge Plan Attachments – Attachment 'S'

Brine water is used in the oil and gas industry to supply concentrated salt water (i.e. brine water) with a total dissolved concentration of approximately 320,000 mg/l and a density that is 20% higher than fresh water. Typical brine water is 10 pounds per gallon (ppg) with the increased weight due to dissolved NaCl. Heavy brine water is essential in preventing blow-outs in high pressure gas wells and prevents loss of circulation when drilling through salt zones typically found in southeastern New Mexico.

The brine well will be designed to produce approximately 13 million barrels of brine water over a 20 year life period. The anticipated cavern radius will not exceed 150 feet. The well has been located on private land and provides a minimum of 2150 feet separation from any significant features, such as houses, water supplies, buildings, schools, businesses, etc.

Groundwater possibly affected by an unintentional spill or leak is located at a depth of approximately 140 – 190 feet below ground level. Typical groundwater in this area has a total dissolved solids concentration of approximately 400 mg/l. According to the Office of the State Engineer, average water well depth in the area is 223 feet below ground level. The brine facility will be designed and permitted to have no intentional water contaminants discharged to the surface or subsurface for the protection of groundwater.

The brine station will have a concrete loading pad for trucks and will have a synthetic liner underneath tanks areas to prevent any spills or leaks from reaching the ground surface. The brine well will have cemented casing and tubing strings to protect groundwater.

The owner and operator of the proposed facility will be:

Llano Disposal, LLC
783 Highway 483
Lovington, NM 88260

Comments and inquiries about the application may be directed to Llano Disposal, LLC c/o Mr. Danny Holcomb at 806-471-5628 or email danny@pwllc.net. Mr. Holcomb is a consultant to Llano Disposal, LLC providing assistance obtaining the regulatory permits for this project.

The New Mexico Oil Conservation Division (OCD) will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to receive future notices. Persons interested in obtaining further information, submitting comments or requesting to be on a facility-specific mailing list for future notices may contact:

Environmental Bureau Chief
New Mexico Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505
Telephone: 505-476-3440

Sincerely,

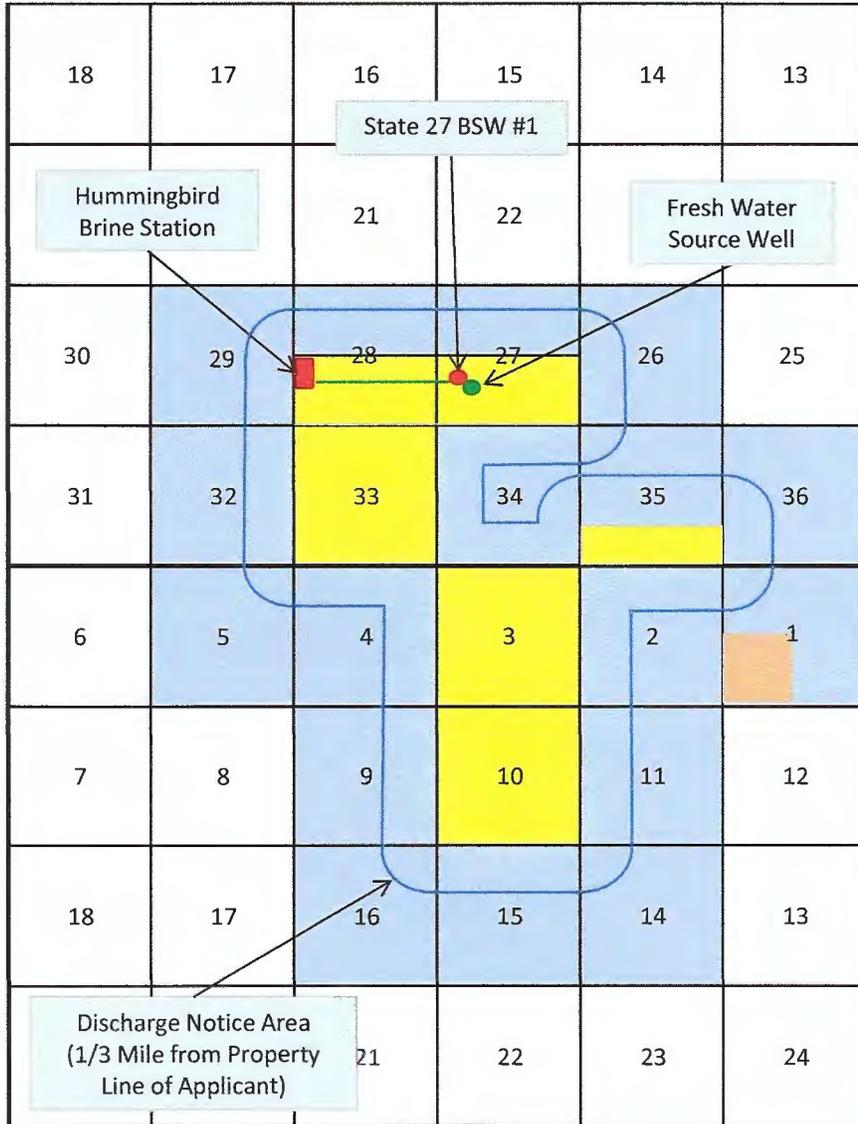
Danny J. Holcomb
Agent for Llano Disposal, LLC

Attachment (map of area)

State '27' #1
 API # 30-025-20592
 Discharge Plan Attachments – Attachment 'S'

Llano Disposal, LLC
 State 27 BSW #1
 Surface Property Ownership Map

T16S, R33E



T17S, R33E

Angell #2 Family LP, P. O. Box 190, Lovington, NM 88260
 State of New Mexico, P. O. Box 1148, Santa Fe, NM 87504

Property Owner Notices

State '27' #1
 API # 30-025-20592
 Discharge Plan Attachments – Attachment 'S'

NOTIFICATION LIST - ADJOINING PROPERTY OWNERS

#	NAME	ADDRESS	CITY STATE ZIP	TYPE
	Angell #2 Family LP c/o Mr. Darr Angell	P. O. Box 190	Lovington, NM 88260	Surface Owner/Applicant

#	NAME	ADDRESS	CITY STATE ZIP	TYPE
1	State of New Mexico Commissioner of Public Land	P. O. Box 1148	Santa Fe, NM 87504	Adjoining Property Owner

NOTIFICATION LIST - MINERAL OWNER AND LESSEE

#	NAME	ADDRESS	CITY STATE ZIP	TYPE
	State of New Mexico Commissioner of Public Land	P. O. Box 1148	Santa Fe, NM 87504	Mineral Owner
2	Cimarex Energy Company	600 N. Marienfeld St, Suite 600	Midland, TX 79701	Mineral Lessee (VC-0071-0000)

State'27' #1
API # 30-025-20592
Discharge Plan Attachments - Attachment T

Public Notice Display Ad

Legal notification for 3" X 4" (min) newspaper display ad per Water Quality Control Commission Regulations 20.6.2.3108.B.4 NMAC

Llano Disposal, L.L.C. (Mr. Darr Angell), 783 Highway 483, Lovington, NM 88260 has submitted an application to the New Mexico Oil Conservation Division (NMOCD) for installation and operation of a Class III brine well to be located in Unit Letter L of Section 27, Township 16 South, Range 33 East (Lat. 32.8909645°, Long. -103.6576157°), Lea County, New Mexico. The proposed brine injection well is located approximately 17.8 miles west of Lovington, New Mexico on US Highway 82, then south 0.62 miles on Rooney Rd, then east 0.3 miles on lease road to well location.

The application proposes to produce fresh water from a proposed water source well to be drilled in Unit Letter L of Section 27, Township 16 South, Range 33 East (Lat. 32.890782°, Long. -103.657470°), Lea County, New Mexico. From time to time when brine is needed, the fresh water would be transported via a buried polyethylene pipeline approximately 75 feet northwest to the brine well. The fresh water would be pumped down the well's casing to an approximate depth of 1780 feet to 2300 feet below ground level at a rate of approximately 40 - 120 GPM and a normal operating pressure of 200 to 250 psig. The maximum allowable surface injection pressure would be 356 psig. Dissolution brine water (NaCl) would then be produced up the well tubing to surface.

The produced brine water would be metered then transported via a second buried polyethylene pipeline approximately 5928 feet west to three 1000 barrel fiberglass storage tanks at the proposed Hummingbird Brine Station located in Unit Letter L of Section 28, Township 16 South, Range 33 East (Lat. 32.890740°, Long. -103.676520°), Lea County, New Mexico. This brine station is located approximately 18.7 miles west of Lovington, New Mexico or 0.2 miles south of the intersection of US Hwy 82 and County Road L-122 (Hummingbird Rd). The brine water would be transferred/sold by delivery into water trucks on a concrete loading pad with containment curbing and a sump to prevent spills. There would be a synthetic liner and secondary containment underneath the brine storage tanks. The entire infrastructure is located on private land owned by the applicant.

Brine water is used in the oil and gas industry to supply concentrated salt water (i.e. brine water) with a total dissolved concentration of approximately 320,000 mg/l and a density that is 20% higher than fresh water. Typical brine water is 10 pounds per gallon (ppg) with the increased weight due to dissolved NaCl. Heavy brine water is essential in preventing blow-outs in high pressure gas wells and prevents loss of circulation when drilling through salt zones typically found in southeastern New Mexico.

The brine well will be designed to produce approximately 13 million barrels of brine water over a 20 year life period. The anticipated cavern radius will not exceed 150 feet. The well has been located on private land and provides a minimum of 2150 feet separation from any significant features, such as houses, water supplies, buildings, schools, businesses, etc.

Groundwater possibly affected by an unintentional spill or leak is located at a depth of approximately 140 – 190 feet below ground level. Typical groundwater in this area has a total dissolved solids concentration

State'27' #1
API # 30-025-20592
Discharge Plan Attachments - Attachment T

of approximately 400 mg/l. According to the Office of the State Engineer, average water well depth in the area is 223 feet below ground level. The brine facility will be designed and permitted to have no intentional water contaminants discharged to the surface or subsurface for the protection of groundwater. The brine station will have a concrete loading pad for trucks and will have a synthetic liner underneath tanks areas to prevent any spills or leaks from reaching the ground surface. The brine well will have cemented casing and tubing strings to protect groundwater.

The owner and operator of the proposed facility will be:

Llano Disposal, LLC
783 Highway 483
Lovington, NM 88260

Comments and inquiries about the application may be directed to Llano Disposal, LLC c/o Mr. Danny Holcomb at 806-471-5628 or email danny@pwllc.net. Mr. Holcomb is a consultant to Llano Disposal, LLC providing assistance obtaining the regulatory permits for this project.

The New Mexico Oil Conservation Division (OCD) will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to receive future notices. Persons interested in obtaining further information, submitting comments or requesting to be on a facility-specific mailing list for future notices may contact:

Environmental Bureau Chief
New Mexico Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505
Telephone: 505-476-3440

State'27' #1
API # 30-025-20592
Discharge Plan Attachments - Attachment T

Aviso Público

Legal notificación para aviso público por Reglamento de Comisión de Control de calidad de agua 20.6.2.3108.B.1 NMAC

Llano Disposal, L.L.C. (Sr. Darr Angell), 783 Highway 483, Lovington, NM 88260 ha presentado una solicitud para La División de Conservación de Petróleo de Nuevo México (NMOCD) para la instalación y operación de una clase III de la salmuera bien que se encuentra en la unidad letra E de la sección 27, municipio de 16 sur, gama 33 este (Lat. 32.8909645°, Long. -103.6576157°), Condado Lea, Nuevo México. La inyección de salmuera propuesto está bien situada aproximadamente 17,8 millas al oeste de Lovington, Nuevo México en Highway 82, entonces del sur 0,62 millas en Rooney Road, entonces este 0,3 millas en carretera arrendamiento de ubicación bien.

La aplicación propone producir agua fresca de una fuente de agua propuesta para taladrarse en unidad letra L de la sección 27, municipio de 16 sur, gama 33 este (Lat. 32,890782°, Long. -103.657470°), Condado Lea, Nuevo México. De vez en cuando se necesita salmuera, el agua dulce transportarse a través de una tubería de polietileno enterrada aproximadamente 75 pies del noroeste a la salmuera bien. El agua se bombea al pozo de cubierta a una profundidad aproximada de 1780 pies a 2300 pies debajo de nivel del suelo a una tasa de aproximadamente 40-120 GPM y una presión normal de 200 a 250 psi. La presión de inyección superficial permisible máxima sería 356 psi. Agua de disolución salmuera (NaCl) entonces se produciría por el bien de la tubería a la superficie.

El agua de la salmuera producida se mide entonces transportado por una tubería de polietileno enterrada segundo aproximadamente 5928 pies al oeste a tres 1000barril tanques de almacenamiento de fibra de vidrio en la propuesta estación de salmuera Colibrí ubicado en la unidad letra L de la sección 28, municipio de 16 sur, gama 33 este (Lat. 32,890740°, Long. -103.676520°), Condado Lea, Nuevo México. Esta estación de salmuera está situados a aproximadamente 18,7 millas al oeste de Lovington, Nuevo México o 0,2 millas al sur de la intersección de Highway 82 y County Road L-122 (Hummingbird Road). El agua de la salmuera sería transferido/vendido por entrega en camiones de agua sobre una almohadilla con frenar de contención de carga de hormigón y un colector de aceite para evitar derrames. Habría un forro sintético y contención secundaria debajo de los tanques de almacenamiento de la salmuera. Toda esta infraestructura se encuentra en terrenos privados propiedad de la demandante.

Agua de la salmuera se utiliza en el aceite y la industria del gas para suministrar concentrado sal agua (es decir, salmuera) con una concentración disuelta total de aproximadamente 320.000 mg/l y una densidad que es 20% mayor de agua dulce. Salmuera típica está 10 libras por galón (ppg) con el aumento de peso debido a NaCl disuelto. Agua de salmuera pesada es esencial en la prevención de salidas de golpe en pozos de gas de alta presión y previene la pérdida de circulación durante la perforación a través de zonas de sal suelen encontradas en el sureste de Nuevo México.

Bien la salmuera se diseñará para producir aproximadamente 13 millones de barriles de salmuera durante un período de vida de 20 años. El radio caverna anticipada no excederá de 150 pies. El pozo se ha situado en terrenos privados y un mínimo de separación de 2150 pies de cualquier características importantes, tales como casas, suministros de agua, edificios, escuelas, empresas, etc.

State'27' #1
API # 30-025-20592
Discharge Plan Attachments - Attachment T

Agua subterránea posiblemente afectado por un derrame accidental o escape se encuentra a una profundidad de aproximadamente 140 – 190 pies debajo de nivel del suelo. Típico agua subterránea en esta área tiene una concentración de sólidos disueltos totales de aproximadamente 400 mg/l. Según la oficina del ingeniero de estado, profundidad media del agua en la zona es 223 pies debajo de nivel del suelo. La instalación de la salmuera será diseñada y puede no tener contaminantes intencional de agua descargadas a la superficie o subsuperficie para la protección de las aguas subterráneas. La estación de salmuera tendrá una plataforma de carga de cemento para camiones y tendrá un revestimiento sintético debajo de áreas de depósitos para evitar cualquier vertido o derrame accidental de llegar a la superficie de la tierra. La salmuera bien habremos cementado carcasa y tubos cadenas para proteger las aguas subterráneas.

El propietario y operador de la instalación propuesta será:

Llano Disposal, LLC
783 Highway 483
Lovington, NM 88260

Comentarios y consultas sobre la aplicación pueden ser dirigidas a Llano Disposal, LLC c/o Sr. Danny Holcomb en 806-471-5628 o por correo electrónico danny@pwllic.net. El Sr. Holcomb es consultor para proporcionar asistencia de Llano Disposal, LLC obtener los permisos reglamentarios para este proyecto.

La División de Conservación de Petróleo de Nuevo México (NMOCD) se acepta comentarios y declaraciones de interés respecto a esta aplicación y creará una lista de correo de instalaciones específicas para las personas que deseen recibir futuras notificaciones. Puede contactar a las personas interesadas en obtener más información, enviar comentarios o solicitar estar en una lista de correo de instalaciones específicas para futuros avisos:

Jefe de la Oficina Ambiental
División de Conservación de Petróleo de Nuevo México
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505
Teléfono: 505-476-3440

Holcomb Consultants
6900 Spring Cherry Lane
Amarillo, Texas 79124

July 16, 2018

NMOCD Environmental Bureau
1220 South St. Francis Drive
Santa Fe, NM 87505
Attn: Mr. Carl Chavez

Re: State 27 #1 (30-025-20592)

UL 'L', Section 27, T16S, R33E, Lea County, New Mexico

Per the rules and regulations of the New Mexico Oil Conservation Division, please find enclosed a copy of NMOCD form C-108 for the above referenced well. This C-108 is being submitted with a WQCC Discharge Plan Application.

Llano Disposal, LLC, P. O. Box 190, Lovington, NM 88260 hereby submits a form C-108 (Application for Authorization to Inject) to the New Mexico Oil Conservation Division seeking administrative approval to convert the State '27' #1, API 30-025-20592, 1980 FSL x 660 FWL, Unit Letter "L", Section 27, T16S, R33E, Lea County, New Mexico from a plugged and abandoned well to a commercial brine service well. The proposed production interval would be the Salado formation through cased hole completion between 1780' – 2400'. Injection fluid will be fresh water from a newly drilled water well. Anticipated average daily injection volume is 1550 BWPD with a maximum daily injection volume of 1900 BWPD. Anticipated average injection pressure is 250 psi with a maximum injection pressure of 475 psi. The well is located approximately 18.5 miles west of Lovington, New Mexico.

No notices of this C-108 application were made since WQCC rules (20.6.2.3108 NMAC) will determine notice requirements once a discharge plan is considered "Administratively Complete" by the OCD.

Sincerely,



Danny J. Holcomb
Agent for Llano Disposal, LLC
Email: danny@pwllc.net
Cell: 806-471-5628

Llano Disposal, LLC
State '27' #1
API # 30-025-20592
1980 FSL x 660 FWL
Unit Letter 'L', Section 27, T16S, R33E
Lea County, New Mexico
C108 Application for Authorization to Inject

I.

The purpose of this application is seeking administrative approval for authorization to convert the State '27' #1 from a plugged and abandoned well to a commercial brine production well. This C-108 application is submitted in conjunction with a WQCC discharge plan application.

II.

Operator: Llano Disposal, LLC

Address: P.O. Box 190, Lovington, New Mexico 88260

Contact Party: Marvin Burrows phone: 575-631-8067 email: burrowsmarvin@gmail.com

III.

Well Name: State '27' #1

API Number: 30-025-20592

Location: Unit Letter 'L', Section 27, T16S, R33E, Lea County, New Mexico

Operator: Llano Disposal, LLC OGRID: 370661

Proposed Formation: BSW; Salado (Pool Code: 96173)

Please see Exhibit "A" for additional well data.

IV.

This is not an expansion of an existing project.

V.

Please see Exhibit "B" for lease map.

VI.

There is one offset well located within the 0.5 mile Area of Review and an additional 6 offset wells located outside the 0.5 mile AOR, but within the 1 mile AOR. See Exhibit "C" for map with 0.5 mile and 1 mile AORs, offset well lists and offset wellbore diagram.

VII.

1. Anticipated daily injection volume – 1550 BWPD with a maximum of 1900 BWPD.
2. System will be closed. Brine will be pipelined into the brine station and trucked out.
3. Anticipated disposal pressure: Average 250 psig, Maximum 475 psig.
4. Please see Exhibit "D" for fresh water analysis of water injected for brine production.

VIII.

The proposed injection interval is the Salado (salt) formation between 1780' – 2400'.

Llano Disposal, LLC
State '27' #1
API # 30-025-20592
1980 FSL x 660 FWL
Unit Letter 'L', Section 27, T16S, R33E
Lea County, New Mexico
C108 Application for Authorization to Inject

IX.

Proposed Completion Procedure: After drilling out cement plugs from surface to 4511' in 9-5/8" casing, circulate out mud laden fluid, fill casing with fresh water, run CBL, CNL and caliper log from 4511' to surface and submit to OCD for review. If approved, set a 9-5/8" CIBP on wireline at 2596' capped with 10' of cement at BOS. Set a CIBP ~1800' capped with 10' of cement for Whipstock seat. Cut a window in the 9-5/8" casing at 1780'-1790', drill through salt to 2400'. Run a dual port 9-5/8" packer set at 1760' with 2-7/8' fiberglass tail pipe landed at 2300' and 3-1/2" IPC production tubing to surface. No stimulation will be performed. Note: Depths for casing window, packer and tailpipe were agreed upon during consultations with OCD personnel after log evaluations.

X.

Copies of any logs performed will be submitted to OCD.

XI.

NM OSE records indicate that there are 19 fresh water wells located within a nine square mile Area of Review. There are only 5 fresh water wells located within the 1 mile AOR. See Exhibit "E" for OSE data base query and water sample test results on two of the wells.

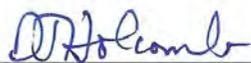
XII.

Available geological and engineering data have been examined and no evidence of open faults or hydrological connection between the proposed salt formation and any underground sources of drinking water has been found.

XIII.

This C-108 is for OCD general use. No notifications of this C-108 have been made. Notifications will be made per WQCC rules (20.3.2.3108 NMAC) following OCD determination that the proposed associated discharge plan is "Administratively Complete".

Danny J. Holcomb: _____



Agent for Llano Disposal, LLC

Date: _____

7/16/2018

Llano Disposal, LLC
State '27' #1
API # 30-025-20592
1980 FSL x 660 FWL
Unit Letter 'L', Section 27, T16S, R33E
Lea County, New Mexico
Well Data

Atlantic Refining Company drilled and abandoned this well as a Penn test in 1964.

Drilled 17-1/2" hole to 420', ran 13-3/8" 48# surface casing to 414', cemented with 370 sacks cement. Circulated cement to surface.

Drilled 12-1/4" hole to 4581', ran 9-5/8" 32.3/36# intermediate casing to 4578', cemented with 2940 sacks cement. Circulated cement to surface.

Drilled 8-3/4" hole to 11647', performed multiple DSTs and ran logs, plugged and abandoned as a dry hole in 1964. Set cement plugs as follows:

Plug #1	40 sx	11469-11579'
Plug #2	45 sx	10765'-10891'
Plug #3	40 sx	9684'-9796'
Plug #4	25 sx	7940'-8010'
Plug #5	25 sx	4523'-4593'
Surface Plug	10 sx	30'-surface

In 1977, W. A. Moncrief, Jr. re-entered the well to deepen it to 13900' as a Lower Seamen, Atoka and Morrow test.

Drilled 8-3/4" hole to 13804', ran 5-1/2" 20/17# production casing to 13798', cemented with 1975 sacks cement. Top of cement at 8190' per temperature survey (reported in C-103 dated 4/18/97).

Well produced for a short time from Morrow and Kemnitz perms before isolating them and recompleting the well into the lower Wolfcamp in 1980. The well produced from the lower Wolfcamp until 1995 and was plugged and abandoned by Moncrief in 1997. Cement plugs were set as follows:

Plug #1	CIBP w/ 35' cmt	10700'
Plug #2	25 sx	7760'-8000'
Plug #3	25 sx	5760'-6000'
Cut and pull 5-1/2" casing at 4965'		
Plug #4	45 sx	4917'-5022'
Plug #5	45 sx	4505'-4650'
Plug #6	45 sx	1465'-1600'
Plug #7	50 sx	315'-465'
Surface Plug	10 sx	30'-surface

EXHIBIT "A"

Llano Disposal, LLC
State '27' #1
API # 30-025-20592
1980 FSL x 660 FWL
Unit Letter 'L', Section 27, T16S, R33E
Lea County, New Mexico
Well Data (cont'd)

In May, 2018, Llano Disposal worked with the OCD District 1 and Environmental Bureau staffs for approval to drill out the top 3 cement plugs to evaluate the well as a possible brine supply well. Cement plugs were drilled out to 4511' and CBL, CNL and casing inspection logs were run. After consulting with the OCD, the decision was made to move forward with WQCC discharge plan permitting.

<u>Reported Formation Tops</u>	<u>Depths (ft)</u>
Anhydrite	1480
Salt	1593
B. Salt	2606
Yates	2764
Queen	3714
Grayburg	4120
San Andres	4460
Glorieta	5936
Tubb	7180
Drinkard	7305
Abo	7856
Wolfcamp	9720
Kemnitz	10770
Cisco	11486
Canyon	12023
Strawn	12336
Atoka	12470
Morrow	13640
Chester	13767

Information obtained from NMOCD well file.

EXHIBIT "A"

CURRENT WELLBORE (after cmt plug drillout)

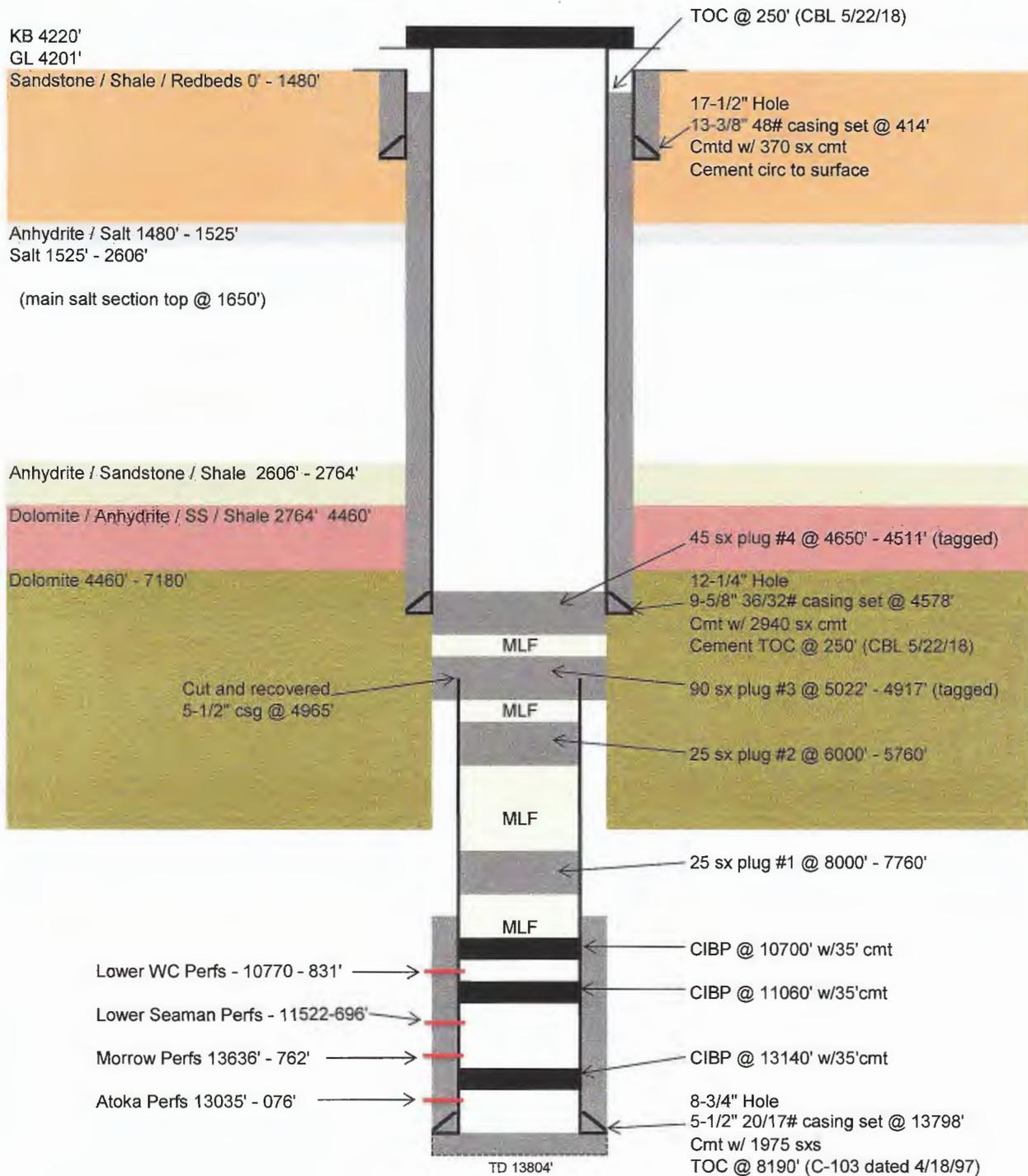
P&A Well

Llano Disposal, LLC

State 27 #1 P&A

API # 30-025-20592

1980' FSL x 660' FWL, UL 'L', Sec 27, T16S, R33E, Lea County, NM



Drawing Not to Scale

EXHIBIT "A"

Note: This wellbore diagram represents information obtained from OCD files and new logs (5/22/18).

PROPOSED WELLBORE

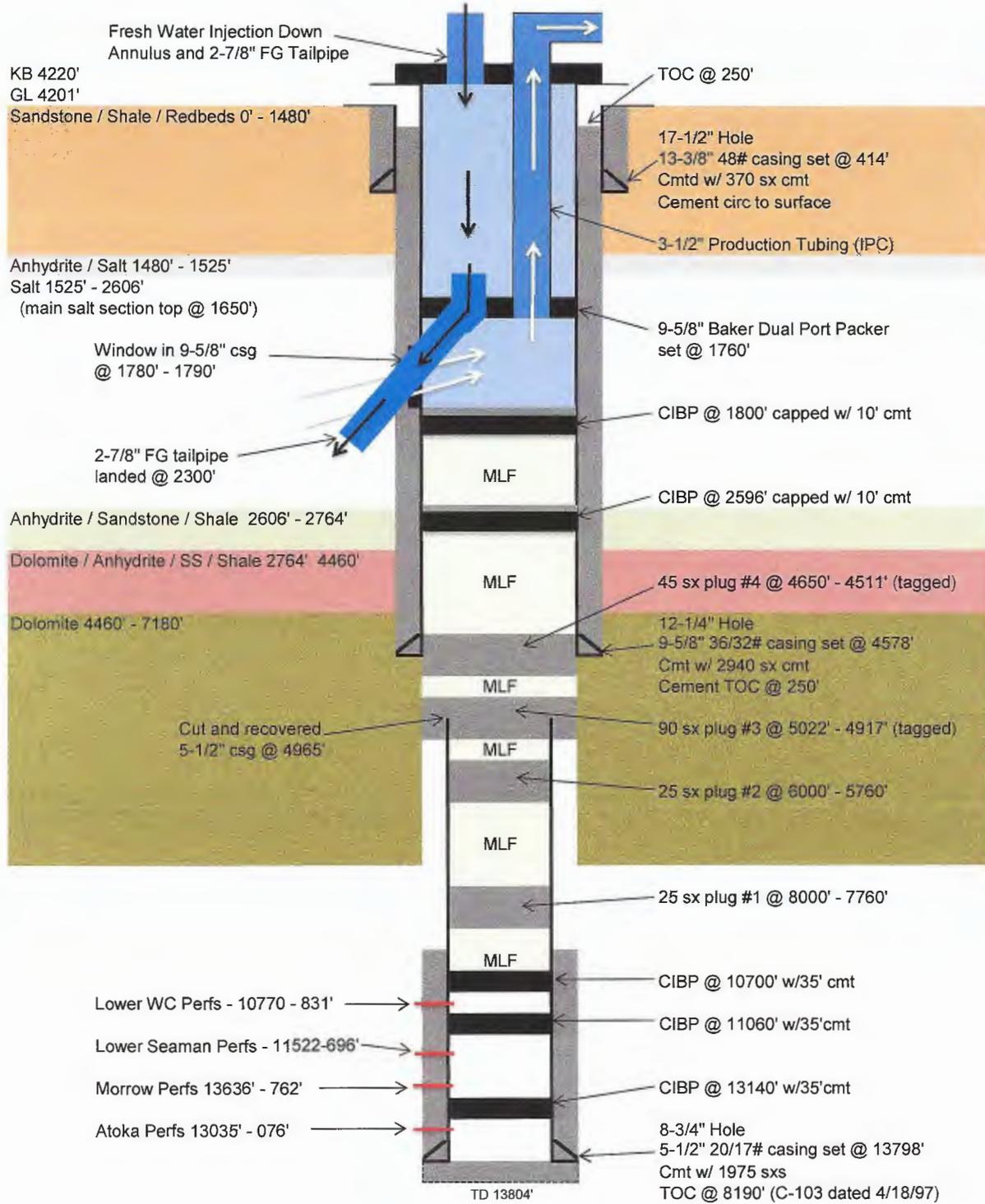
Configured for Brine Service Well

Llano Disposal, LLC

State 27 #1 P&A

API # 30-025-20592

1980' FSL x 660' FWL, UL 'L', Sec 27, T16S, R33E, Lea County, NM

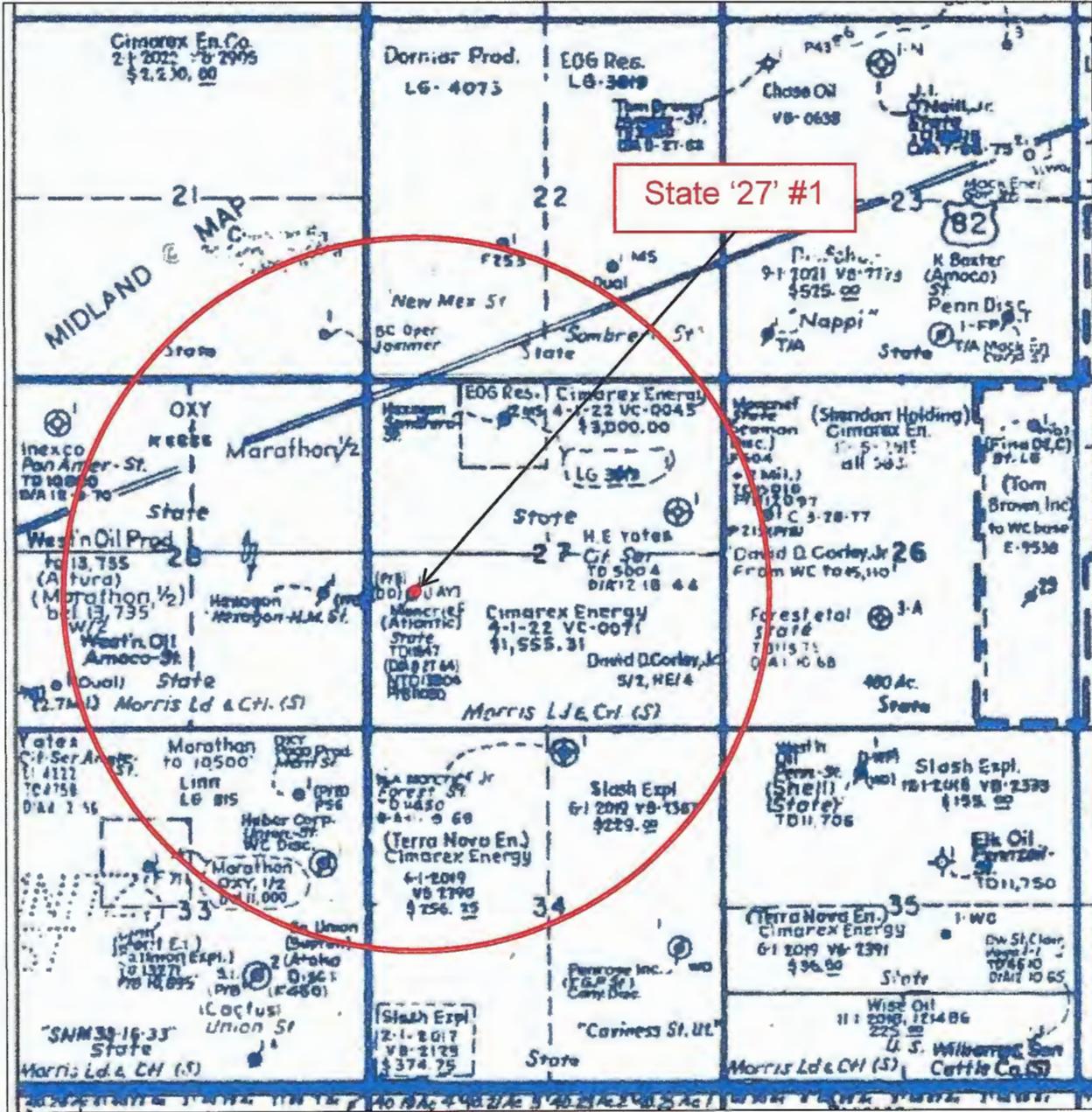


Drawing Not to Scale

EXHIBIT "A"

Note: This wellbore diagram represents information obtained from OCD files and new logs (5/22/18).

Llano Disposal, LLC
State '27' #1
API # 30-025-20592
1980 FSL x 660 FWL
Unit Letter 'L', Section 27, T16S, R33E
Lea County, New Mexico Lease Map - 1 Mile Area of Review

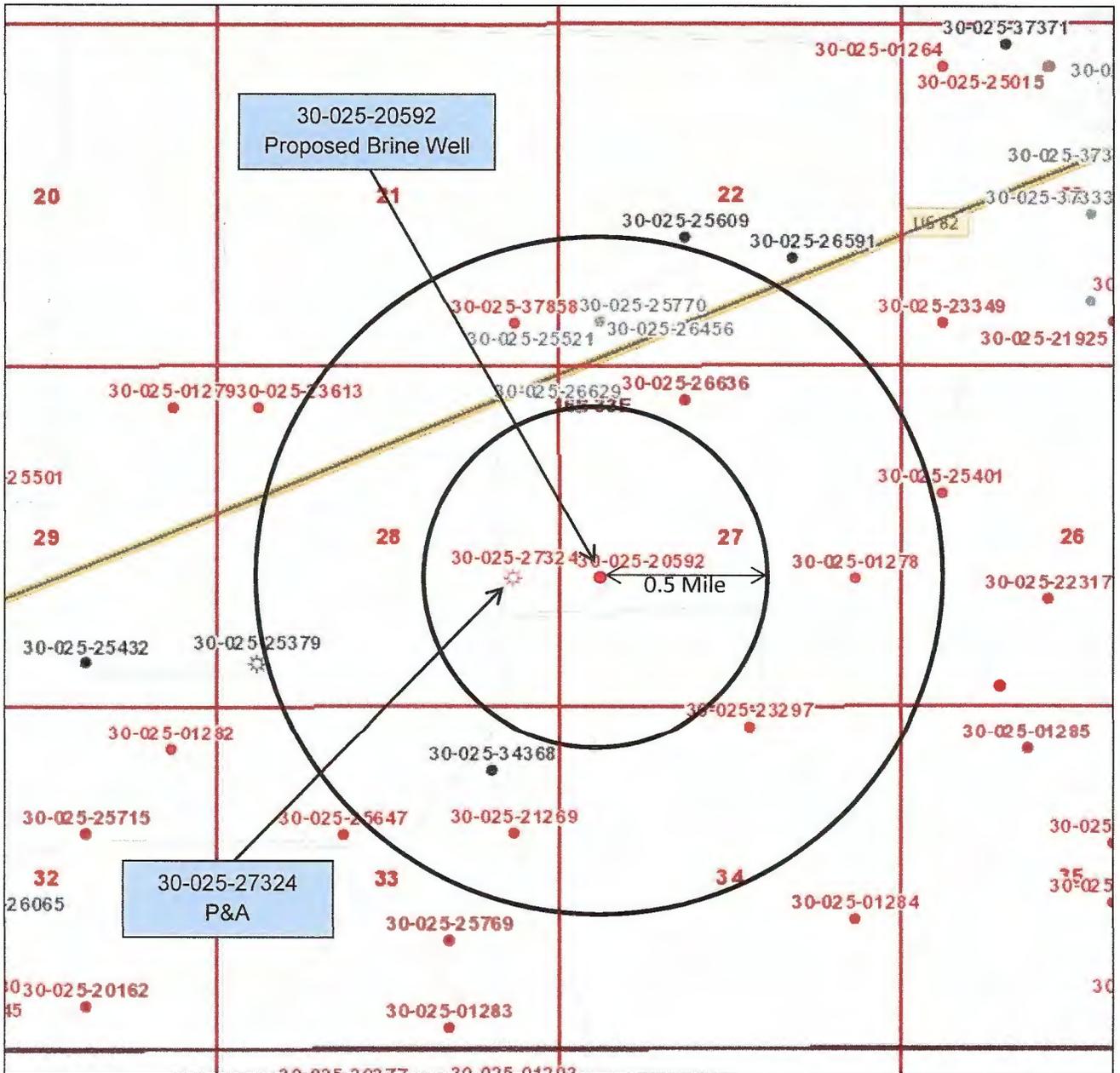


Map Source: Midland Map Co.

T16S, R33E

EXHIBIT "B"

Llano Disposal, LLC
State '27' #1
API # 30-025-20592
1980 FSL x 660 FWL
Unit Letter 'L', Section 27, T16S, R33E
Lea County, New Mexico
Lease Map – 0.5 Mile and 1 Mile Areas of Review



30-025-20592
Proposed Brine Well

30-025-27324
P&A

Map Source: NMOCD GIS

T16S, R33E
Lea County, New Mexico

0.5 miles

EXHIBIT "C"

Llano Disposal, LLC
State 27 #1

API # 30-025-20592

Offset Wells Located within 0.5 and 1 Mile Areas of Review

There is only one offset well located within the 0.5 mile AOR.

UL, Sec, T, R	API Well No.	Well Name	TVD	Operator	Status	Salt Plugs or Covered with Casing/Cement
I-28-16S-33E	30-025-27324	Hexagon NM 28 State #1	13848'	Hexagon Oil & Gas Inc	Drilled 1981, P&A 1991	Cmt plug @ TOS and below salt, 8-5/8" csg/cmt cover salt

There are six additional offset wells located outside the 0.5 mile AOR, but within the 1 mile AOR.

UL, Sec, T, R	API Well No.	Well Name	TVD	Operator	Status	Salt Plugs or Covered with Casing/Cement
P-21-16S-33E	30-025-37858	Jammer #1	10902'	Legacy Reserves Operating, LP	Drilled 2006, P&A 2010	Cmt plugs @ TOS and below salt, 8-5/8" csg/cmt cover salt
C-27-16S-33E	30-025-26636	Sombrero MS State #2	11730'	I&W Inc	Drilled 1980, P&A 1998	Cmt plugs @ TOS and below salt, 8-5/8" csg/cmt cover salt
I-27-16S-33E	30-025-01278	Cities Service State #1	5004'	Harvey E. Yates	Drilled 1944, P&A 1946	Bridge plugs at TOS and at BOS, no csg/cmt cover salt
A-33-16S-33E	30-025-34368	Merit 33 State #1	15094'	Oxy USA Inc	Drilled 1998, active WC producer	9-5/8" csg/cmt cover salt
H-33-16S-33E	30-025-21269	Union State #1	11650'	J. M. Huber Corp	Drilled 1965, P&A 1972	Cmt plugs above and below salt, 8-5/8" csg covers salt
B-34-16S-33E	30-025-23297	Apple State #1	11650'	Manzano Oil Corp	D&A 1969, Re-entered 1986, P&A 1987	Cmt plugs above and below salt, 8-5/8" csg covers salt

Wellbore diagram for the well located within the 0.5 mile AOR is on page 10.

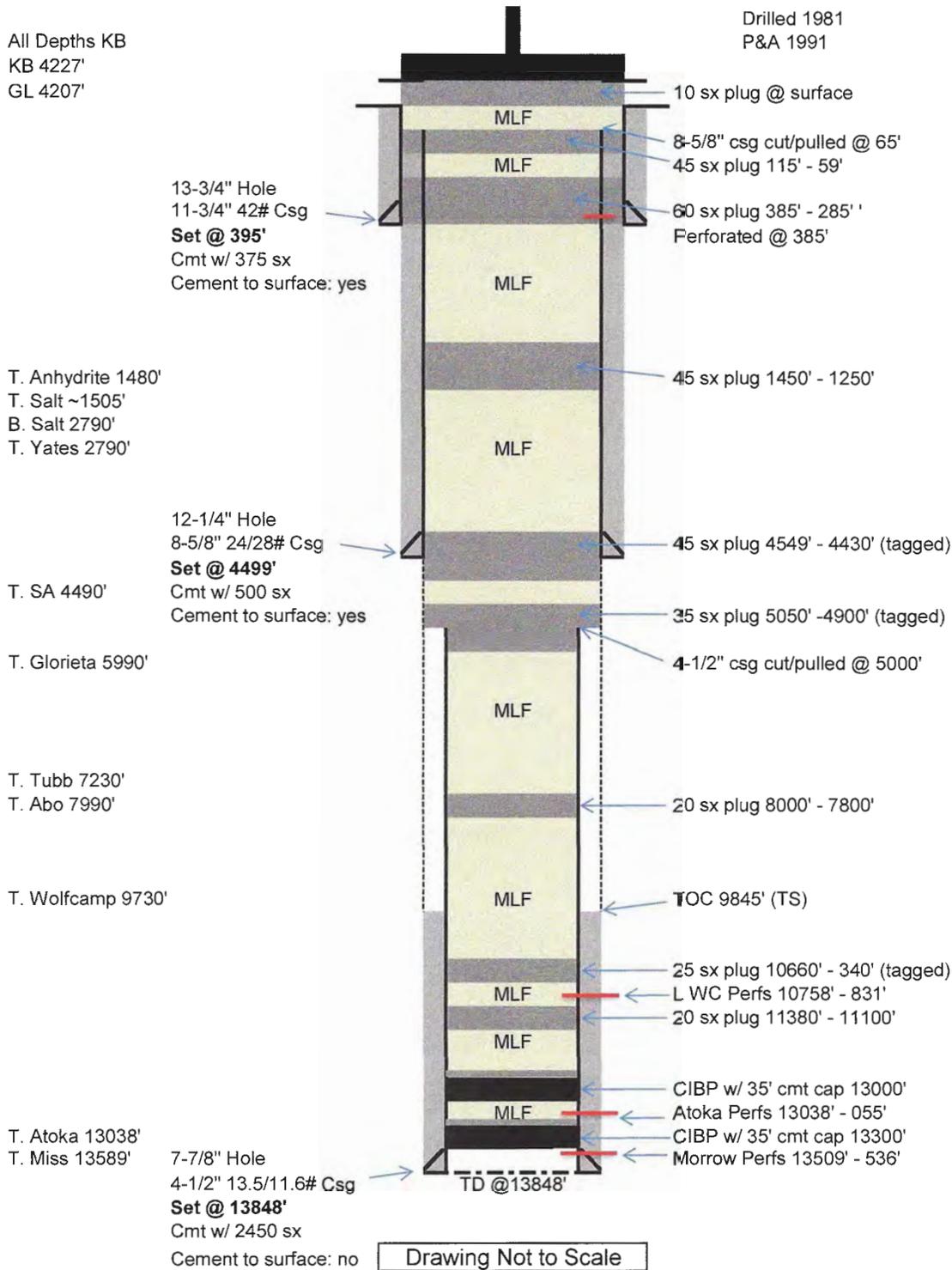
EXHIBIT "C"

CURRENT WELLBORE DIAGRAM - OFFSET WELL

P&A Well

Hexagon Oil and Gas Inc
Hexagon NM 28 State #1
API # 30-025-27324

1980' FSL x 660' FEL, UL 'I', Sec 28, T16S, R33E, Lea County, NM



Drawing Not to Scale

EXHIBIT "C"



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

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 01391 POD5	L	LE		1	1	1	33	16S	33E	623792	3639333	100	62	38
L 03527 S2	L	LE		3	4	3	35	16S	33E	627508	3637911*	275	138	137
L 03527 S3	L	LE		2	3	3	35	16S	33E	627305	3638104*	240	155	85
L 03576	L	LE		2	4	34	16S	33E	626799	3638401*	212	160	52	
L 03599	L	LE		1	1	3	28	16S	33E	623854	3640075			
L 03599 S	L	LE		4	4	4	33	16S	33E	625293	3637871	287	175	112
L 03599 S2	L	LE		1	1	1	34	16S	33E	625480	3639285	290	168	122
L 03599 S3	L	LE		2	2	2	27	16S	33E	626858	3640918	280	160	120
L 03712	L	LE		2	2	26	16S	33E	628377	3640841*	170	135	35	
L 03751	L	LE		2	2	26	16S	33E	628377	3640841*	175			
L 03789	L	LE					26	16S	33E	627788	3640216*	223	145	78
L 05419	L	LE		1	3	27	16S	33E	625570	3639990*	240	130	110	
L 06072	L	LE		3	4	23	16S	33E	627969	3641236*	163	80	83	
L 06222	L	LE		2	3	26	16S	33E	627582	3640022*	205	154	51	
L 06594	L	LE		1	1	2	34	16S	33E	626284	3639297*	230	160	70
L 06611	L	LE		3	3	3	23	16S	33E	627063	3641121*	230	160	70
L 06724	L	LE		1	1	1	28	16S	33E	623849	3640868*	243	190	53
L 10288	L	ED		2	1	27	16S	33E	625962	3640800*	200			
L 13233 POD1	L	LE		1	1	1	34	16S	33E	625422	3639335	260		

There are 19 fresh water wells located within 9 square miles of the proposed brine well.

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

Average Depth to Water: 144 feet
Minimum Depth: 62 feet
Maximum Depth: 190 feet

Record Count: 19

PLSS Search:

Section(s): 21, 22, 23, 26,
27, 28, 33, 34,
35

Township: 16S

Range: 33E

EXHIBIT "D"

Fresh Water Well Test Results



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

Analytical Results For:

LLANO DISPOSAL, LLC 125 W. ST. ANNE HOBBS NM, 88240	Project: CAPROCK BSW Project Number: NONE GIVEN Project Manager: MARVIN BURROWS Fax To: NONE	Reported: 16-Jul-18 09:40
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SAMPLE A H801855-01 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

Cardinal Laboratories

Inorganic Compounds

Alkalinity, Bicarbonate	190		5.00	mg/L	1	8062505	AC	10-Jul-18	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	8062505	AC	10-Jul-18	310.1	
Chloride*	36.0		4.00	mg/L	1	8070501	AC	10-Jul-18	4500-C1-B	
Conductivity*	480		1.00	uS/cm	1	8071001	AC	10-Jul-18	120.1	
pH*	7.73		0.100	pH Units	1	8071001	AC	10-Jul-18	150.1	
Sulfate*	34.3		10.0	mg/L	1	8071002	AC	10-Jul-18	375.4	
TDS*	324		5.00	mg/L	1	8070311	AC	11-Jul-18	160.1	
Alkalinity, Total*	156		4.00	mg/L	1	8062505	AC	10-Jul-18	310.1	

Green Analytical Laboratories

Total Recoverable Metals by ICP (E200.7)

Calcium*	70.9		1.00	mg/L	10	B807085	JDA	12-Jul-18	EPA200.7	
Magnesium*	8.93		1.00	mg/L	10	B807085	JDA	12-Jul-18	EPA200.7	
Potassium*	2.86	0.677	10.0	mg/L	10	B807085	JDA	12-Jul-18	EPA200.7	
Sodium*	15.2		10.0	mg/L	10	B807085	JDA	12-Jul-18	EPA200.7	

Sample A – Fresh water well at ranch house in A-33-16S-33E (0.48 miles SW of State 27 #1)

Cardinal Laboratories

* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claims arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence in any other case whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damage including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated theories or otherwise. Results relate only to the samples identified herein. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

EXHIBIT "D"

Celey D. Keene, Lab Director/Quality Manager

Fresh Water Well Test Results



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

Analytical Results For:

LLANO DISPOSAL, LLC 125 W. ST. ANNE HOBBS NM, 88240	Project: CAPROCK BSW Project Number: NONE GIVEN Project Manager: MARVIN BURROWS Fax To: NONE	Reported: 16-Jul-18 09:40
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SAMPLE B H801855-02 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Alkalinity, Bicarbonate	181		5.00	mg/L	1	8062505	AC	10-Jul-18	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	8062505	AC	10-Jul-18	310.1	
Chloride*	48.0		4.00	mg/L	1	8070501	AC	10-Jul-18	4500-C1-B	
Conductivity*	468		1.00	uS/cm	1	8071001	AC	10-Jul-18	120.1	
pH*	7.86		0.100	pH Units	1	8071001	AC	10-Jul-18	150.1	
Sulfate*	34.0		10.0	mg/L	1	8071002	AC	10-Jul-18	375.4	
TDS*	310		5.00	mg/L	1	8070311	AC	11-Jul-18	160.1	
Alkalinity, Total*	148		4.00	mg/L	1	8062505	AC	10-Jul-18	310.1	

Green Analytical Laboratories

Total Recoverable Metals by ICP (E200.7)

Calcium*	47.0		1.00	mg/L	10	B807085	JDA	12-Jul-18	EPA200.7	
Magnesium*	9.14		1.00	mg/L	10	B807085	JDA	12-Jul-18	EPA200.7	
Potassium*	2.49	0.677	10.0	mg/L	10	B807085	JDA	12-Jul-18	EPA200.7	J
Sodium*	38.4		10.0	mg/L	10	B807085	JDA	12-Jul-18	EPA200.7	

Sample B – Fresh water well at proposed Brine Station
in L-28-16S-33E (1.08 miles W of State 27 #1)

Cardinal Laboratories

* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's recourse remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence or any other cause whatsoever shall be waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damage including, without limitation, business interruption, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether a claim is based upon any of the above stated causes or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Coley D. Keene

EXHIBIT "D"

Coley D. Keene, Lab Director/Quality Manager

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

Form C-101
Revised July 18, 2013

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

AMENDED REPORT

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

¹ Operator Name and Address Llano Disposal, LLC PO Box 190 Lovington, NM 88260		² OGRID Number 370661
		³ API Number 30-025-20592
⁴ Property Code	⁵ Property Name State '27'	⁶ Well No. 001

⁷ Surface Location

UL - Lot L	Section 27	Township 16S	Range 33E	Lot Idn	Feet from 1980	N/S Line S	Feet From 660	E/W Line W	County Lea
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⁸ Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
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⁹ Pool Information

Pool Name BSW; Salado	Pool Code 96173
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Additional Well Information

¹¹ Work Type E	¹² Well Type M	¹³ Cable/Rotary R	¹⁴ Lease Type S	¹⁵ Ground Level Elevation 4201
¹⁶ Multiple N	¹⁷ Proposed Depth 4505' (PBSD)	¹⁸ Formation Salado	¹⁹ Contractor Unknown	²⁰ Spud Date Unknown
Depth to Ground water 60' - 190'	Distance from nearest fresh water well ~2542 feet		Distance to nearest surface water Greater than 1 mile	

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

²¹ Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	17-1/2"	13-3/8"	48	414	370	Surface - In Place
Intermed	12-1/4"	9-5/8"	36/32	4578	2940	Surface - In Place
Production	8-3/4"	5-1/2"	20/17	4965 - 13798	700	8190' - In Place

Casing/Cement Program: Additional Comments

Enclosures: Current and Proposed Wellbore Diagrams

²² Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double/Pipe/Blinds	3000	3000	Cameron/Schaffer

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:

D. Holcomb

Printed name: **Danny J. Holcomb**

Title: **Agent for Llano Disposal, LLC**

E-mail Address: **danny@pwllc.net**

Date: **4/18/2018**

Phone: **806-471-5628**

OIL CONSERVATION DIVISION

Approved By:

Title:

Approved Date:

Expiration Date:

Conditions of Approval Attached

CURRENT WELLBORE (after cmt plug drillout)

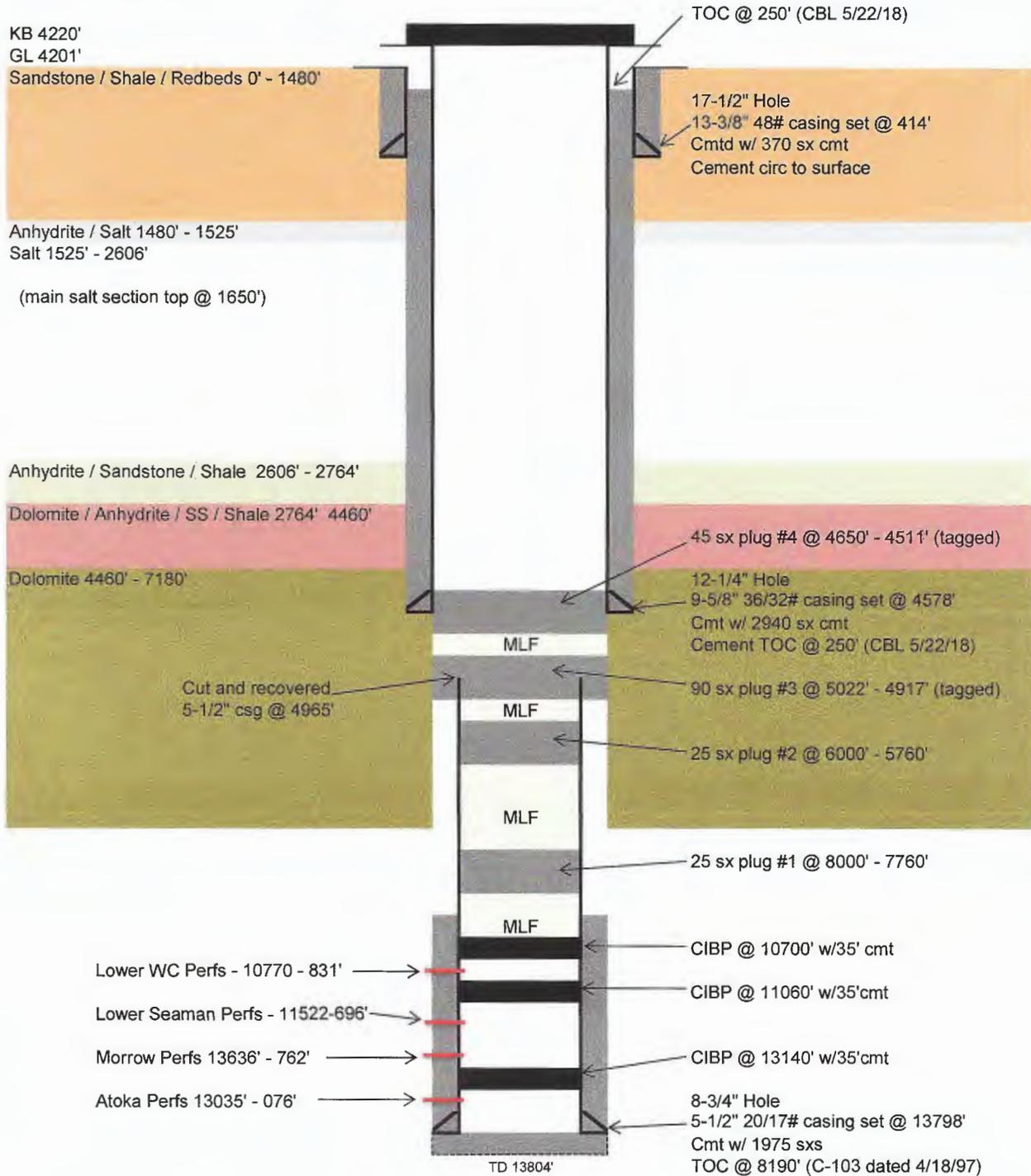
P&A Well

Llano Disposal, LLC

State 27 #1 P&A

API # 30-025-20592

1980' FSL x 660' FWL, UL 'L', Sec 27, T16S, R33E, Lea County, NM



Drawing Not to Scale

Note: This wellbore diagram represents information obtained from OCD files and new logs (5/22/18).

PROPOSED WELLBORE

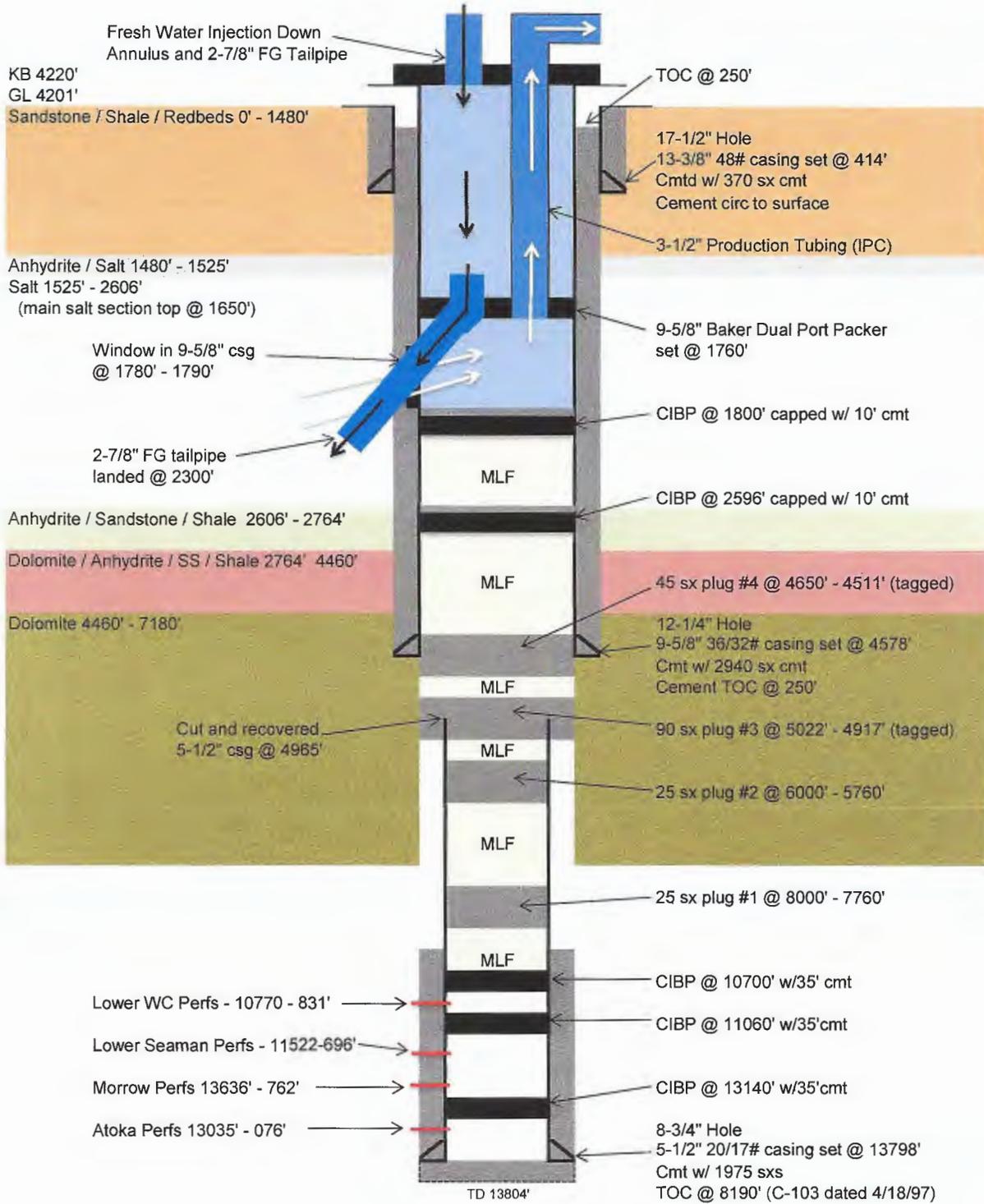
Configured for Brine Service Well

Llano Disposal, LLC

State 27 #1 P&A

API # 30-025-20592

1980' FSL x 660' FWL, UL 'L', Sec 27, T16S, R33E, Lea County, NM



Drawing Not to Scale

Note: This wellbore diagram represents information obtained from OCD files and new logs (5/22/18).

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

State of New Mexico
 Energy, Minerals and Natural Resources

Form C-103
 Revised July 18, 2013

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

WELL API NO. 30-025-20592
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name State '27'
8. Well Number 1
9. OGRID Number 370661
10. Pool name or Wildcat BSW; Salado
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 4201' GL

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

1. Type of Well: Oil Well Gas Well Other - Proposed Brine Well

2. Name of Operator
Llano Disposal, LLC

3. Address of Operator
P.O. Box 190, Lovington, NM 88260

4. Well Location
 Unit Letter L : 1980 feet from the South line and 660 feet from the West line
 Section 27 Township 13S Range 36E NMPM Lea County

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input checked="" type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input type="checkbox"/>			
CLOSED-LOOP SYSTEM <input checked="" type="checkbox"/>			
OTHER: Recomplete well to BSW <input checked="" type="checkbox"/>		OTHER: <input type="checkbox"/>	

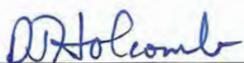
13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

In accordance with discussions with OCD Environmental Bureau, Llano Disposal LLC proposes the following procedure to convert this well to brine well service after WQCC Discharge Permit BW-38 approval:

- MIRU WL, run 9-5/8" CIBP on WL, set at 2596' (BOS) capped with 10' cement via WL dump bailer. Run 9-5/8" CIBP on WL, set at 1800' (seat for Whipstock) capped with 10' cement via WL dump bailer, RDMO WL.
- MIRU pulling unit, reverse unit/swivel and Whipstock assembly, NU BOP, unload and tally 2-7/8" workstring, set 2 frac tanks (closed loop system) and fill one tank with BW. Perform casing MIT to 300 psi for 30 minutes. RIH with Whipstock anchor on workstring, tag CIBP cement cap at 1790', set anchor, pull workstring.
- RIH with casing cutter assembly, four 4-3/4" DCs and workstring to Whipstock anchor, mill 10' casing side window in 9-5/8" casing at 1780' - 1790'. POH with workstring, DCs, casing cutter, pick up bit. RIH with workstring and bit assembly, drill through salt to 2400', circulate hole clean. POH with workstring, DCs and BHA.
- RIH with 9-5/8" Baker dual port packer on 3-1/2" IPC production tubing, set packer 1760', land 2-7/8" fiberglass tailpipe at 2300'.
- ND BOP, hook up wellhead, perform open-hole pressure test to 300 psi for 4 hours. RDMO pulling unit, reverse unit, frac tanks.
- Circulate FW to test brine service well. Install surface equipment. Prepare to initiate brine production.

Re-entry Spud Date: 5/14/2018 Rig Release Date: 5/19/2018

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

SIGNATURE  TITLE Agent for Llano Disposal, LLC DATE 7/16/2018
 Type or print name Danny J. Holcomb E-mail address: danny@pwllc.net PHONE: 806-471-5628
For State Use Only

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