

BW – 38

**PERMIT
APPLICATIONS,
RENEWALS,
& MODS**

(1 of 2)

2018

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, October 16, 2018 11:48 AM
To: Darr Angell
Cc: 'danny@pwillc.net'; 'Marvin'; Estes, Bob, DCA
Subject: FW: bw 38
Attachments: 108843.pdf

Mr. Angell:

Please find attached and below a paragraph from the attached letter that appears to require follow-up by Llano Disposal.

Please contact Mr. Bob Estes if you have questions.

Thank you.

The application states that the surface estate is privately owned. Although a cultural resources survey is not required for permits on private land, HPD recommends that a qualified archaeologist update to current standards the previously recorded archaeological sites, and to ensure that they not inadvertently damaged by construction of the pipeline. A list of archaeological consultants can be obtained from our website at www.nmhistoricpreservation.org.

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”)

-----Original Message-----

From: Estes, Bob, DCA
Sent: Tuesday, October 16, 2018 11:28 AM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Subject: FW: bw 38

Mornin' Carl,

Here's the letter for BW 38.

Have a great day.

Bob

-----Original Message-----

From: HPDXerox@state.nm.us [mailto:HPDXerox@state.nm.us]
Sent: Tuesday, October 16, 2018 10:33 AM
To: Estes, Bob, DCA
Subject: bw 38

Please open the attached document. It was scanned and sent to you using a Xerox Multifunction Device.

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Susana Martinez
Governor

STATE OF NEW MEXICO
DEPARTMENT OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

BATAAN MEMORIAL BUILDING
407 GALISTEO STREET, SUITE 236
SANTA FE, NEW MEXICO 87501
PHONE (505) 827-6320 FAX (505) 827-6338

October 16, 2018

Carl Chavez
Environmental Engineer
Oil Conservation Bureau-Environmental Bureau Mining and Minerals Division
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: Discharge permit (BW-038) Llano Disposal "State 27", Well No. 1. (HPD Log:108843)

Dear Mr. Chavez:

This letter is in response to the above referenced discharge permit application received at the Historic Preservation Division (HPD) on April 2, 2018. According to the application, the proposed project is within Township 16 South, Range 33 East, Sections 26 and 28. State Land Office records show that the site is on split estate with State Trust mineral estates.

I reviewed our records to determine if cemeteries, burial grounds or cultural resources listed on the State Register of Cultural Properties or the National Register of Historic Places exist within or near the permit area. Our records show that there are no cultural resources listed on the National Register or State Register within or near the proposed permit area and no known cemeteries or burial grounds.

Although there are no cultural resources listed on the State or National Register, our records show that the area has not been surveyed for cultural resources and there is no information about previously recorded archaeological sites near the project area of potential effect. Recent aerial photography shows that the well location and brine station have been subjected to ground disturbance.

The application states that the surface estate is privately owned. Although a cultural resources survey is not required for permits on private land, HPD recommends that a qualified archaeologist conduct a survey of the area where the new well will be drilled and the corridor where flow lines will be installed to ensure that cultural resources are not inadvertently damaged by construction. A list of qualified archaeological consultants can be obtained from our website at www.nmhistoricpreservation.org.

Please do not hesitate to contact me if you have any questions regarding these comments. I can be reached by telephone at (505) 827-4225 or by email at bob.estes@state.nm.us.

Sincerely,

A handwritten signature in blue ink that reads "Bob Estes".

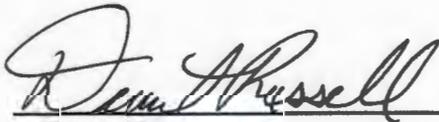
Bob Estes Ph.D.
HPD Staff Archaeologist

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

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

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



Publisher

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

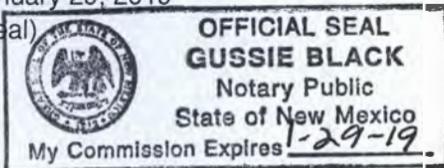


Business Manager

My commission expires

January 29, 2019

(Seal)



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

LEGAL NOTICE
SEPTEMBER 30, 2018

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/ocd/>. 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, sírvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energia, Minerías 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

Heather Riley, Director

SEAL
#33277

01101546

00218882

LEONARD LOWE
NEW MEXICO OIL CONSERVATION DIVISION, EMNRD
1220 S. SAINT FRANCIS DR.
SANTA FE, NM 87505

OCT 05 2018 AM 08:02

Cash Remittance Report (CRR)

Appendix 8-14 revised 11/27/01

Energy, Minerals & Natural Resources Department CASH REMITTANCE REPORT (CRR)



Location Name ①

Location Code ②

OCD - Environment

0740

Today's Date: 07 / 19 / 2018
MONTH DAY YEAR

Collection Period: ___ / ___ / ___ through ___ / ___ / ___
MM DD YYYY MM DD YYYY

Cost Center ⑤	Revenue Code ⑤	Receipt Amount ⑦	Collected Amount ⑧
0740		100.00	

Total == == == == == → \$ 100.00 ⑨ \$ ⑩

Over/Short Amount \$ ⑪

CRR Deposit Amount \$ ⑫

Print Name: Lorraine DeVargas ⑬ Signature: Lorraine DeVargas ⑬

Print Name: _____ ⑬ Signature: _____ ⑬

Distribution: White and Yellow copy to Accounts Receivable-ASD.
Pink copy retained at CRR submitting location.

Official Use Only

Completed by the Accounts Receivable

Date Received: _____ ①

Notes: _____ ②

Amount Received: _____ ③

State Treasurer Deposit Number: _____ ④

Verified by: _____ ⑥

Deposit Date: _____ ⑤

EMNRDCRR Revised 4/01



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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

PURPOSE BW-38 Application Filing Fee

AUTHORIZED SIGNATURE(S)

HAP 5010-N (R 8/15)

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,



Danny J Holcomb
Holcomb Consultants
Agent for Llano Disposal, LLC

Attachments



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AND TRUST COMPANY

www.happybank.com

CASHIER'S CHECK

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MISPLACED OR STOLEN.

DATE July 16, 2018

REMITTER LLANO DISPOSAL LLC

PAY ONE HUNDRED AND 00/100

\$*****100.00

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

PAY ONE HUNDRED AND 00/100

\$*****100.00

TO THE ORDER OF WATER QUALITY MANAGEMENT FUND

PURPOSE BW-3B Application Filing Fee

AUTHORIZED SIGNATURE(S)

HAP 5010-N (R 8/15)

SIGNATURE HAS A COLORED BACKGROUND • BORDER CONTAINS MICROPRINTING

⑈01021269⑈ ⑆111310870⑆ ⑆116378⑈

— 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)

Insitu 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.

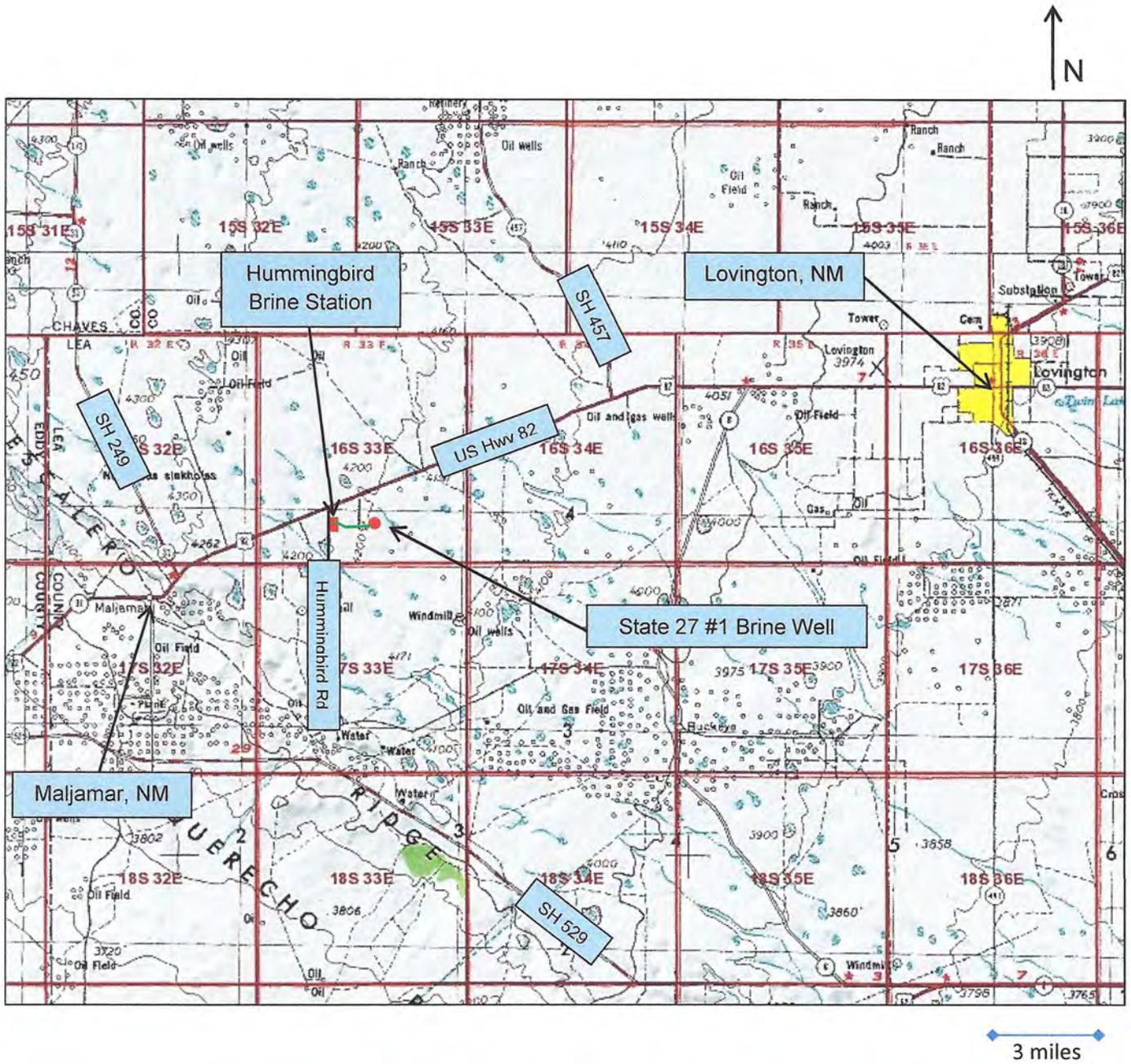
Llano Disposal, LLC
State '27' BSW #1
Discharge Plan

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

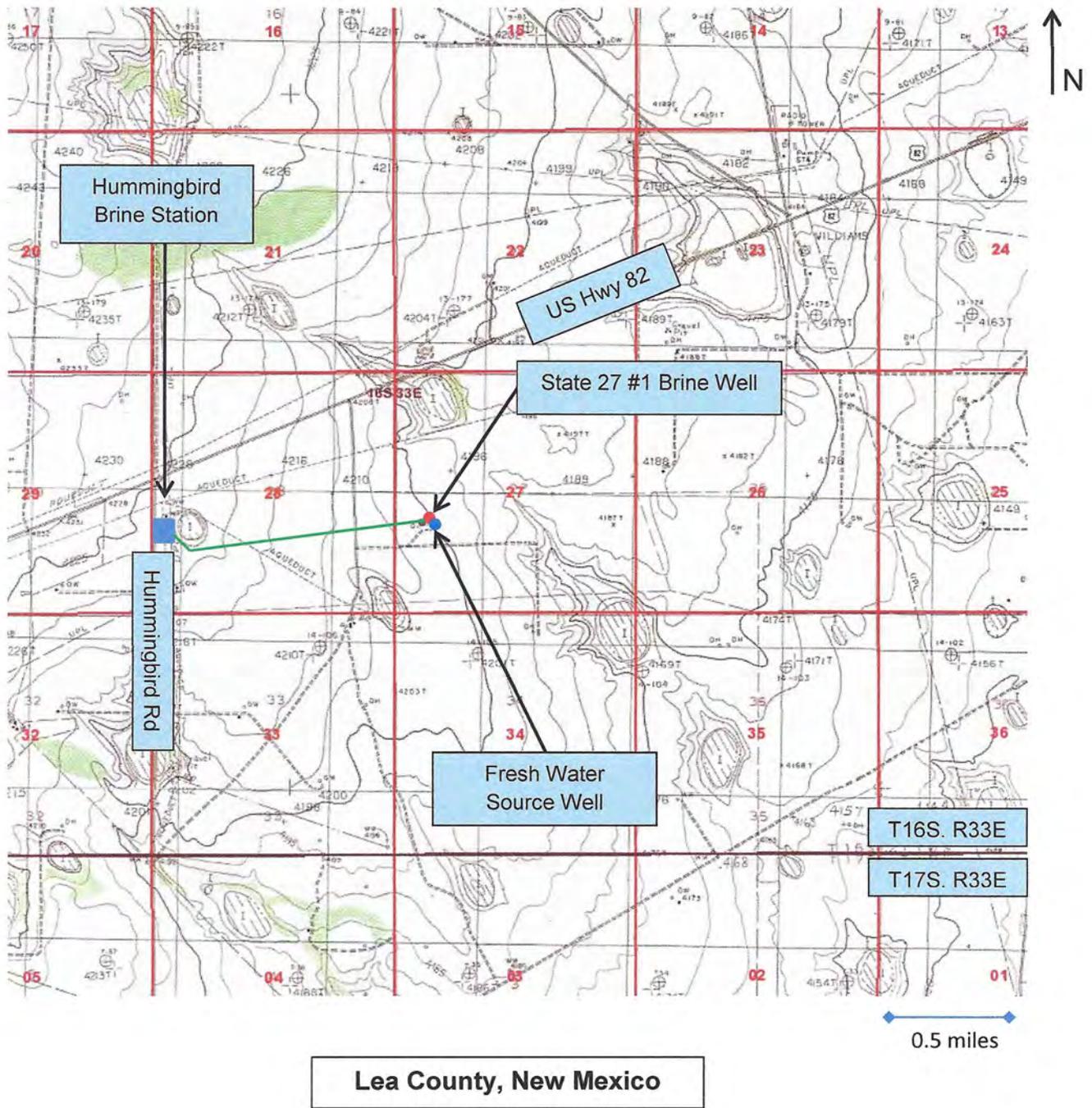
Attachment A – Small Scale Topo Map



Lea County, New Mexico

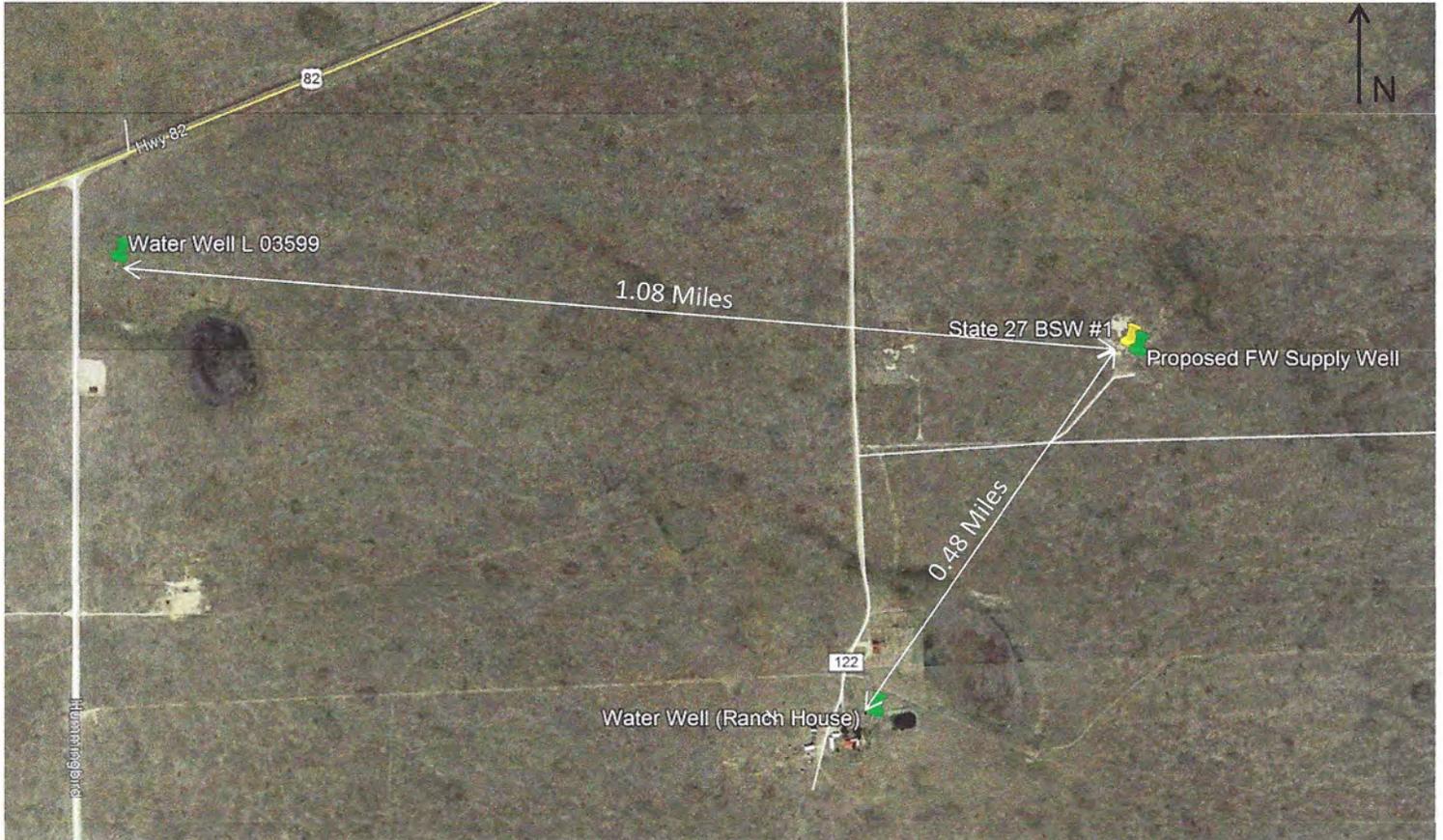
State 27 BSW #1
API # 30-025-20592
Discharge Plan Attachments

Attachment B – Large Scale Topo Map



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

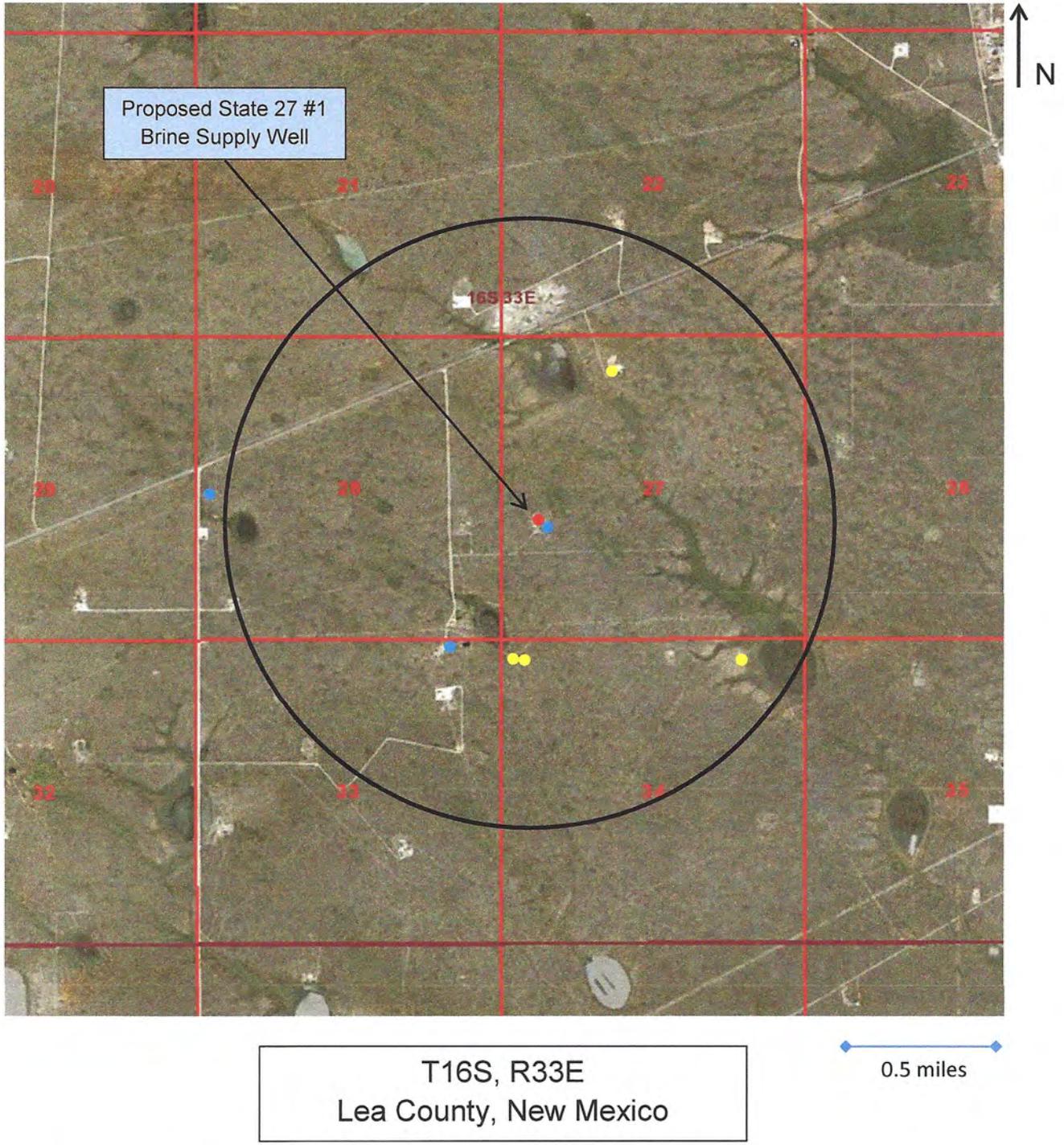
Attachment C – Aerial Photo with Ground Water Monitoring Wells



T16S, R33E
Lea County, New Mexico

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

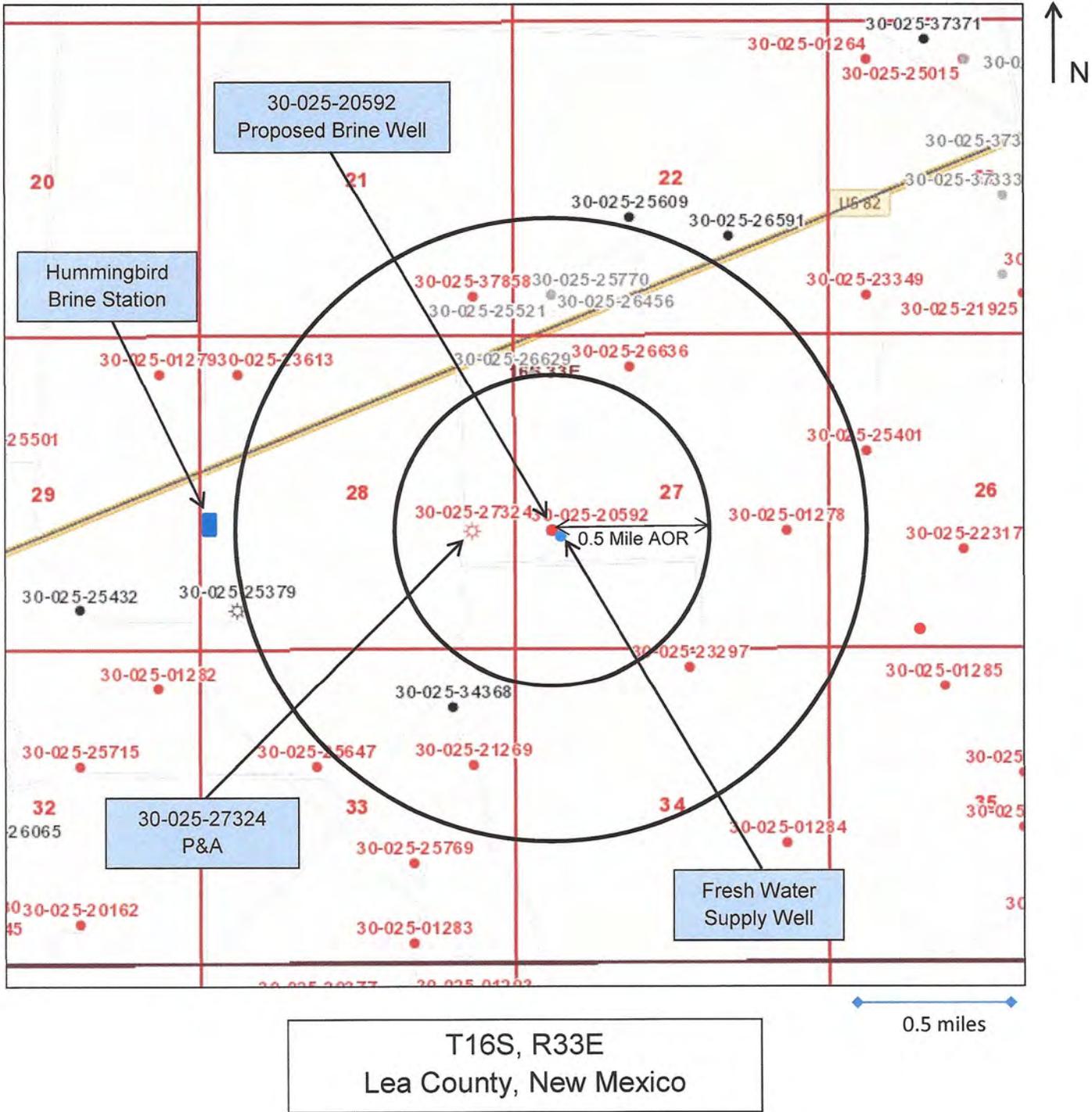
Attachment C – 1 Mile Area of Review for Fresh Water Wells



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

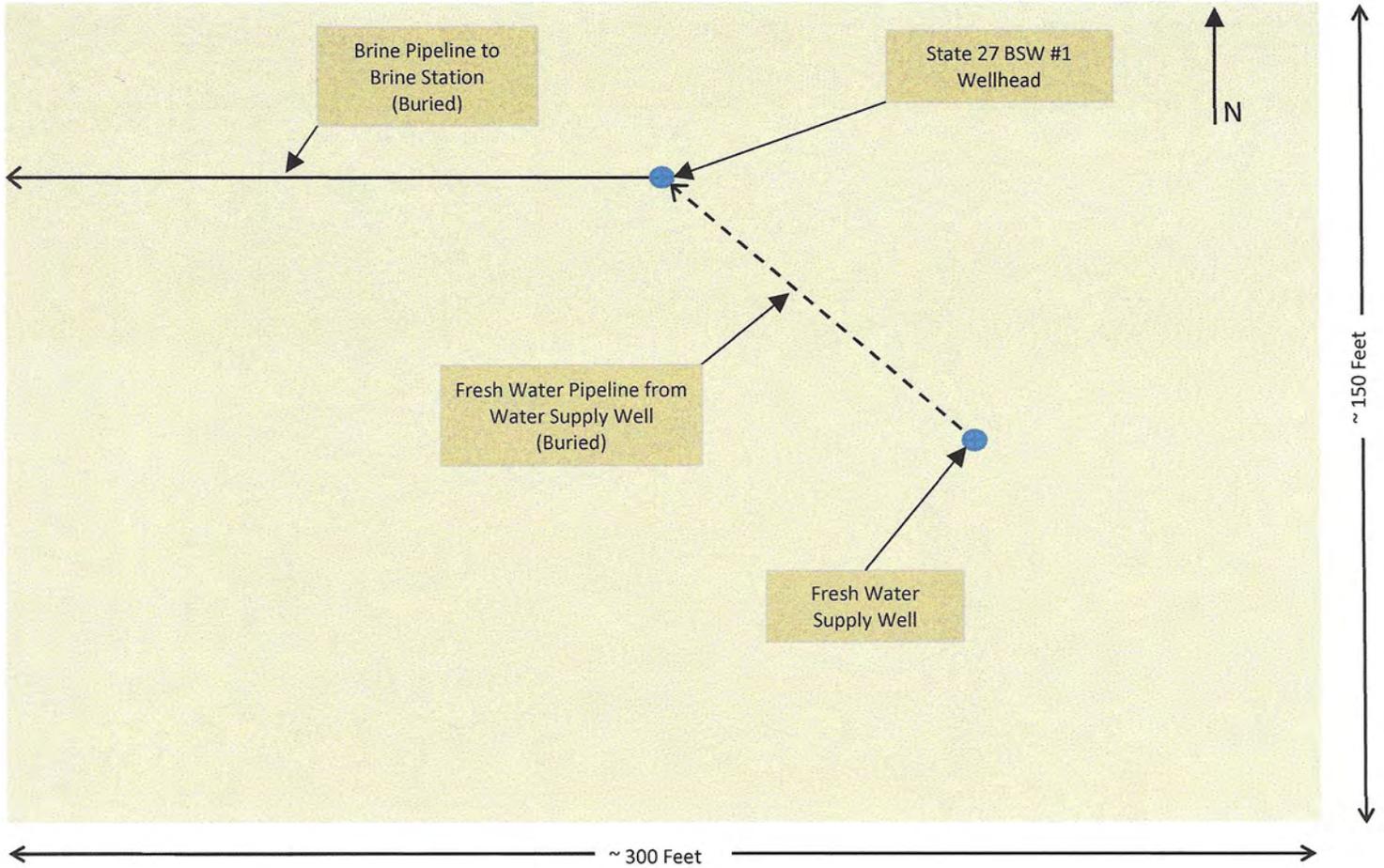
State 27 BSW #1
API # 30-025-20592
Discharge Plan Attachments

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



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

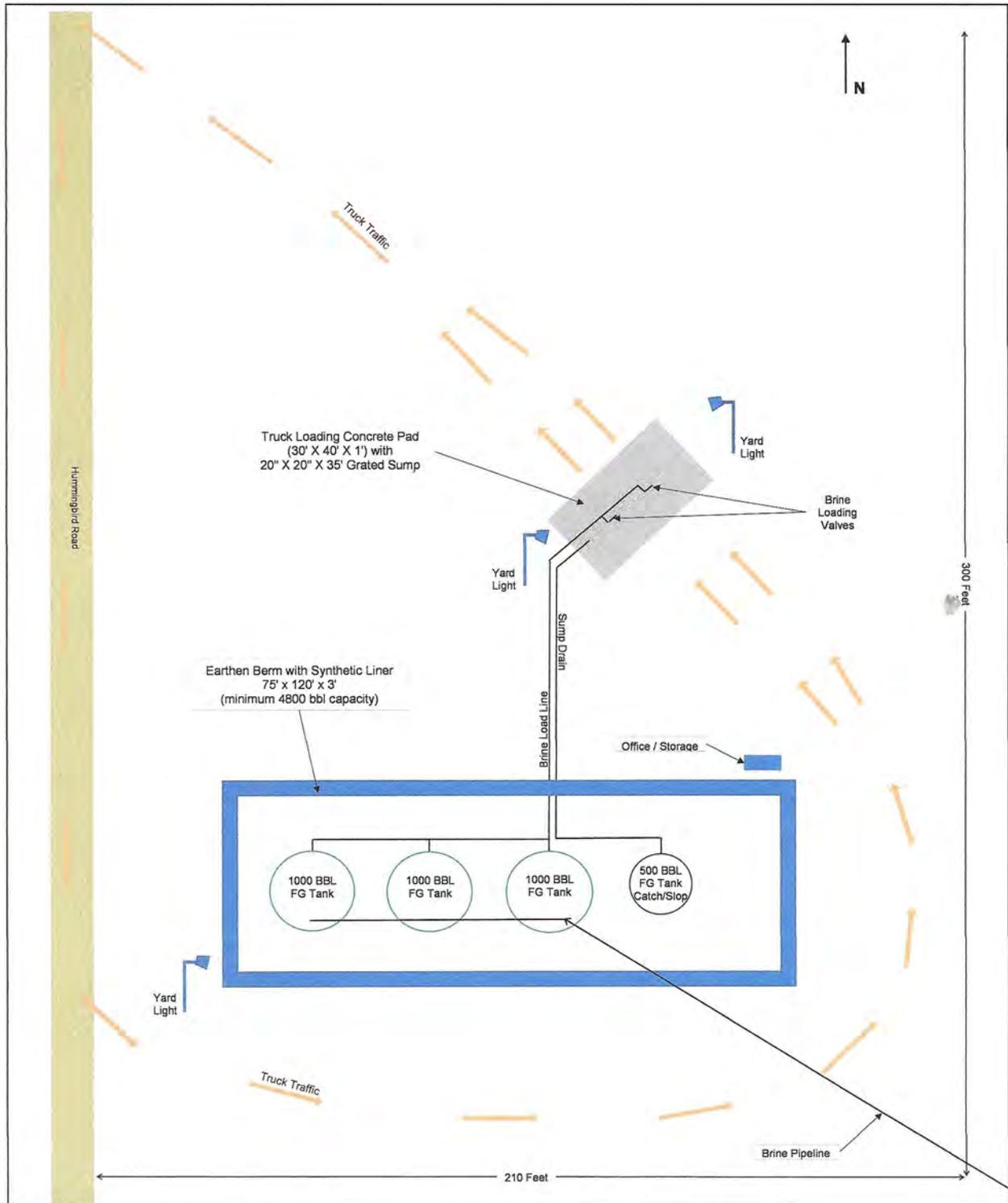
Attachment E – Well Location Site Plan (UL L, Section 27, T16S, R33E)



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

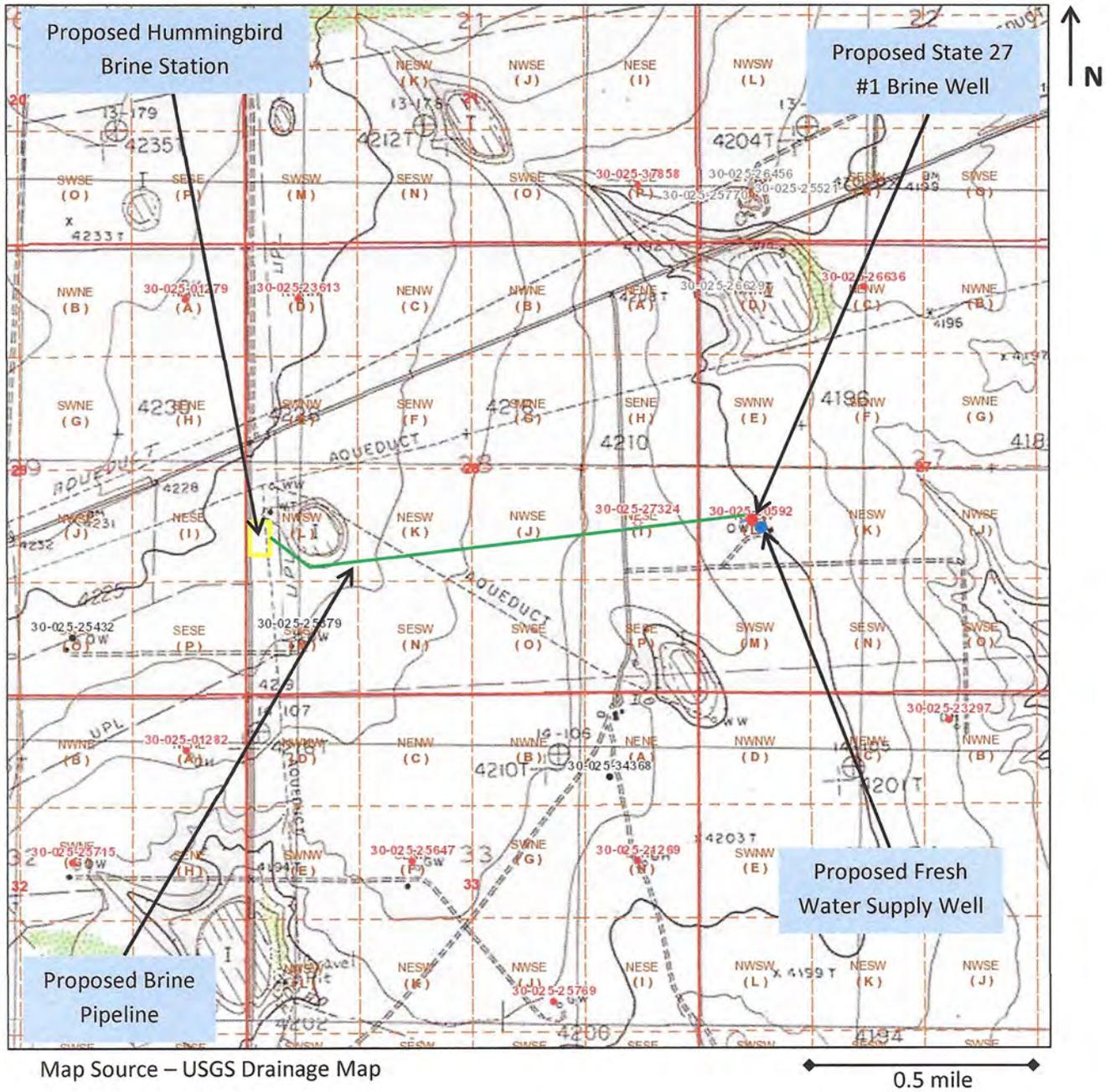
Attachment F – Hummingbird Brine Station Site Plan (UL L, Section 28, T16S, R33E)



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

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

Attachment G – USGS Drainage Map of Project Area



There is no USGS defined drainage basin in the project area. The topography is generally sandy and grass covered. Most of the area is drained via playa lakes. There are no established streambeds in the area. The Mescalero Ridge (ie. caprock) is located approximately 4.4 miles southwest of the proposed brine well.

T16S, R33E
Lea County, New Mexico

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 APN 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
810 Houston St. Fort Worth tx. 76102

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

8. Well No. 1

9. Pool name or Wildcat
Kempco-Lower Wolfcamp

4. Well Location
Unit Letter I : 1960 Feet From The South Line and 600 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"/>	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.

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 @ 385'
 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 8 5/8" 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. 817/870-128

(This space for State Use)

APPROVED BY Tom W. Hill TITLE OIL CONSERVATION DIVISION DATE 1991

CURRENT WELLBORE DIAGRAM - OFFSET WELL

P&A Well

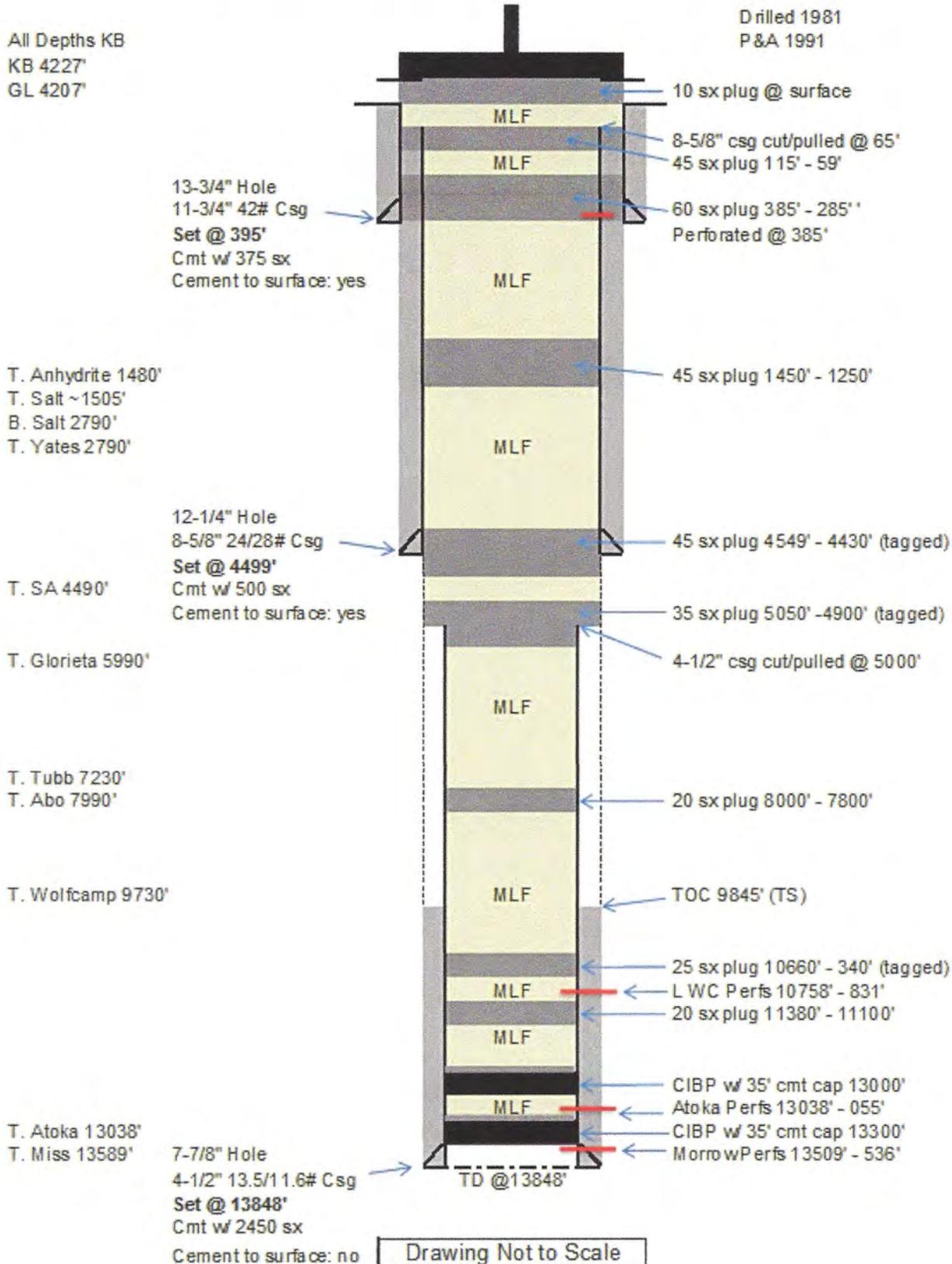
Hexagon Oil and Gas Inc

Hexagon NM 28 State #1

API # 30-025-27324

OFFSET WELL 30-025-27324

1980' FSL x 660' FEL, UL 1", Sec 28, T16S, R33E, Lea County, NM



CURRENT WELLBORE (after cmt plug drillout)

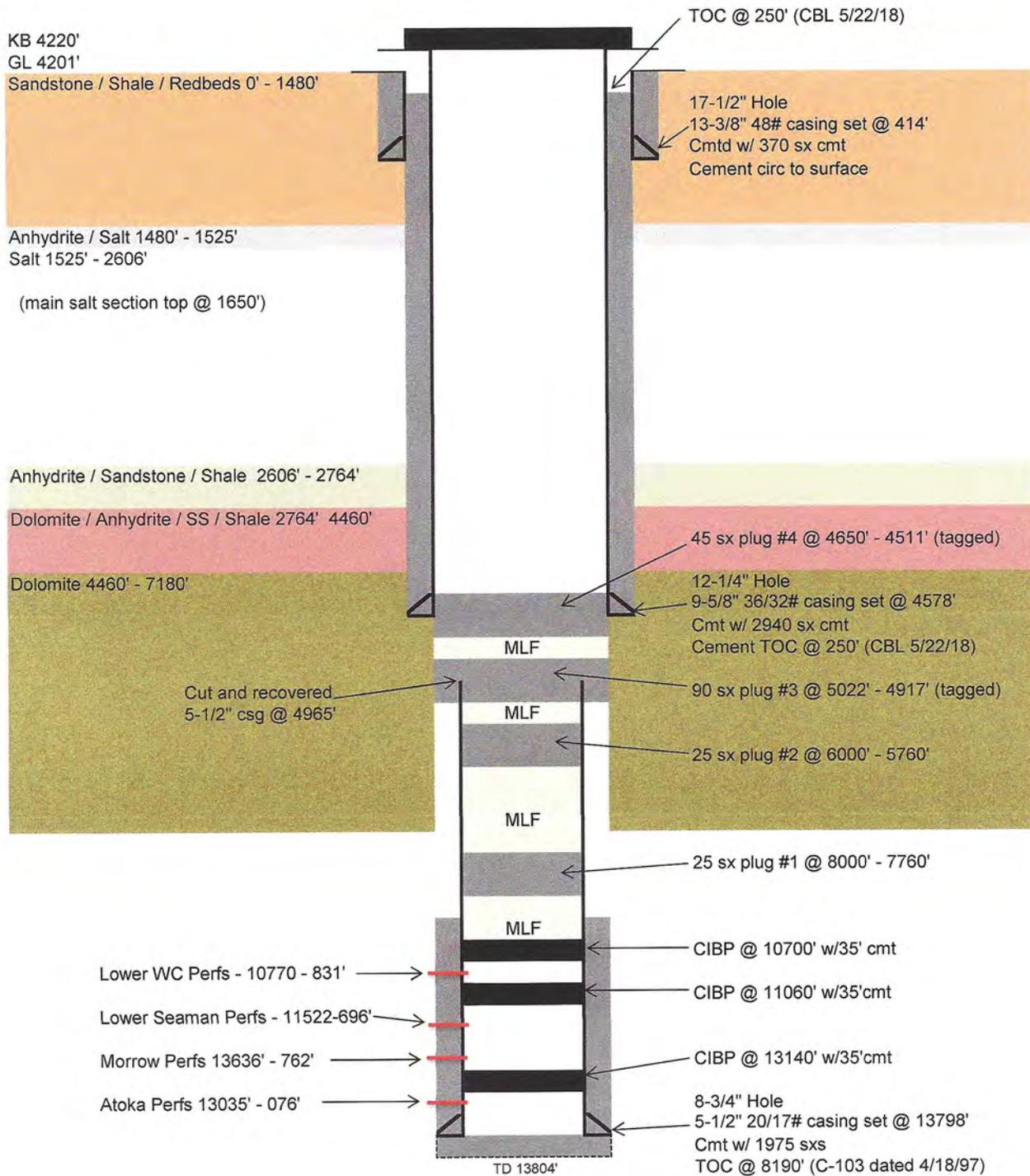
P&A Well

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

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

Attachment I
Drawing Not to Scale

PROPOSED WELLBORE

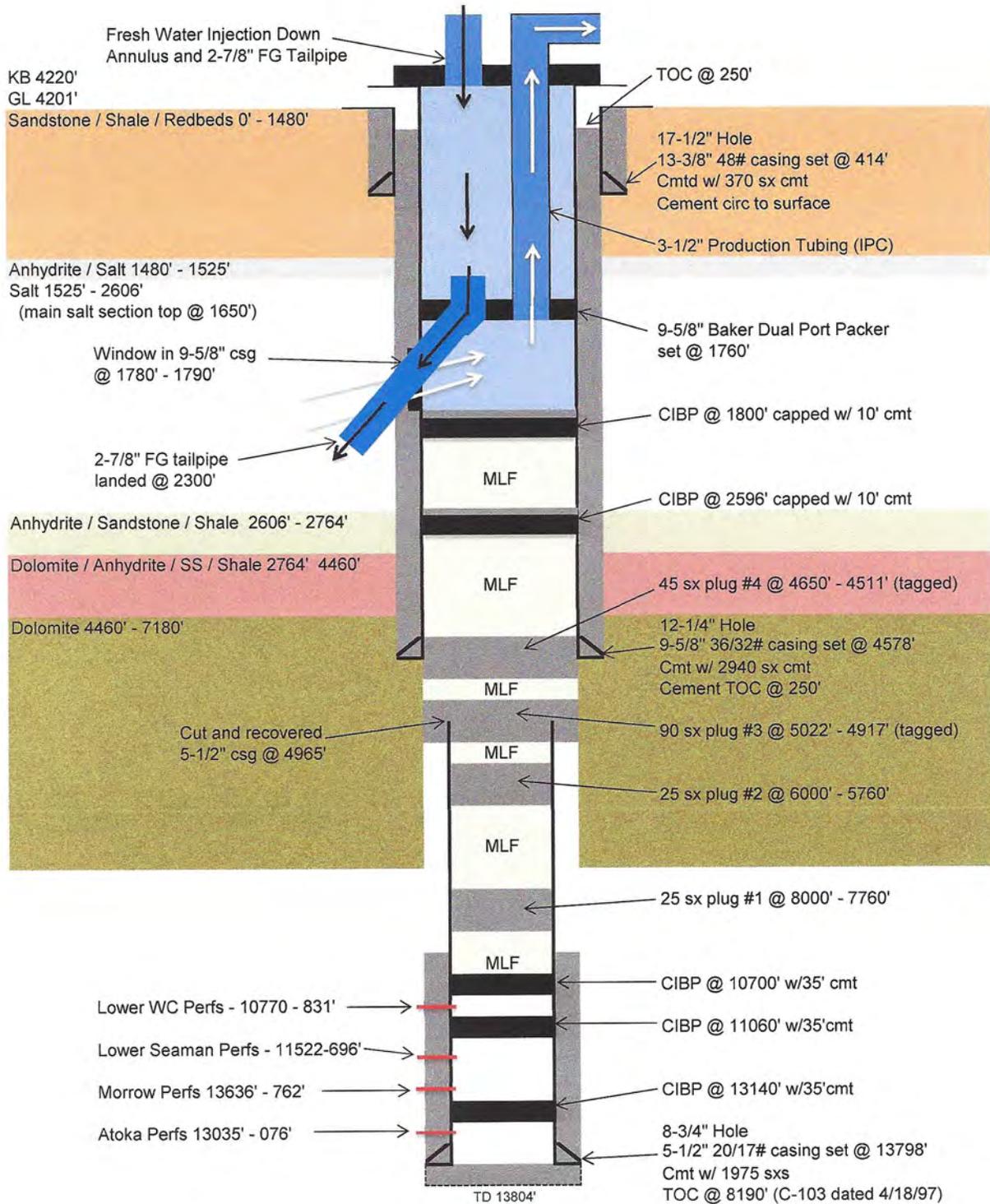
Configured for Brine Service Well

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

BOBBS OFFICE B. C. C.

NOTICE OF INTENTION TO DRILL

July 25, 2 53 PM '64

NUMBER OF COPIES RECEIVED	
DISTRIBUTION	
SANTA FE	
FILE	
U. S. D.	
LAND OFFICE	
TRANSPORTER	OIL
	GAS
PRODUCTION OFFICE	
OPERATOR	

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 C-128 in triplicate to first 3 copies of form C-101

Roswell, New Mexico

June 24, 1964

(Place)

(Date)

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

(Company, or Operator)

State "AY"

(Lease)

Well No. 1

in

L

The well is

(Unit)

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) Wildest Pool, Lea 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 Kennitz or Seaman 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	Sacks 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 sx ✓

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.....

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 OF DEEDS	
DISTRICT	
PLAT	
U.S.G.S.	
LAND OFFICE	
REGISTRATION OFFICE	
OPERATION	

NEW MEXICO OIL CONSERVATION COMMISSION

FORM C-128
Revised 5/1/57

WELL LOCATION AND ACREAGE DEDICATION PLAT

40813 (77) 25 O.C.C.

30-025-20592

JUN 25 2 53 PM '64

SECTION A

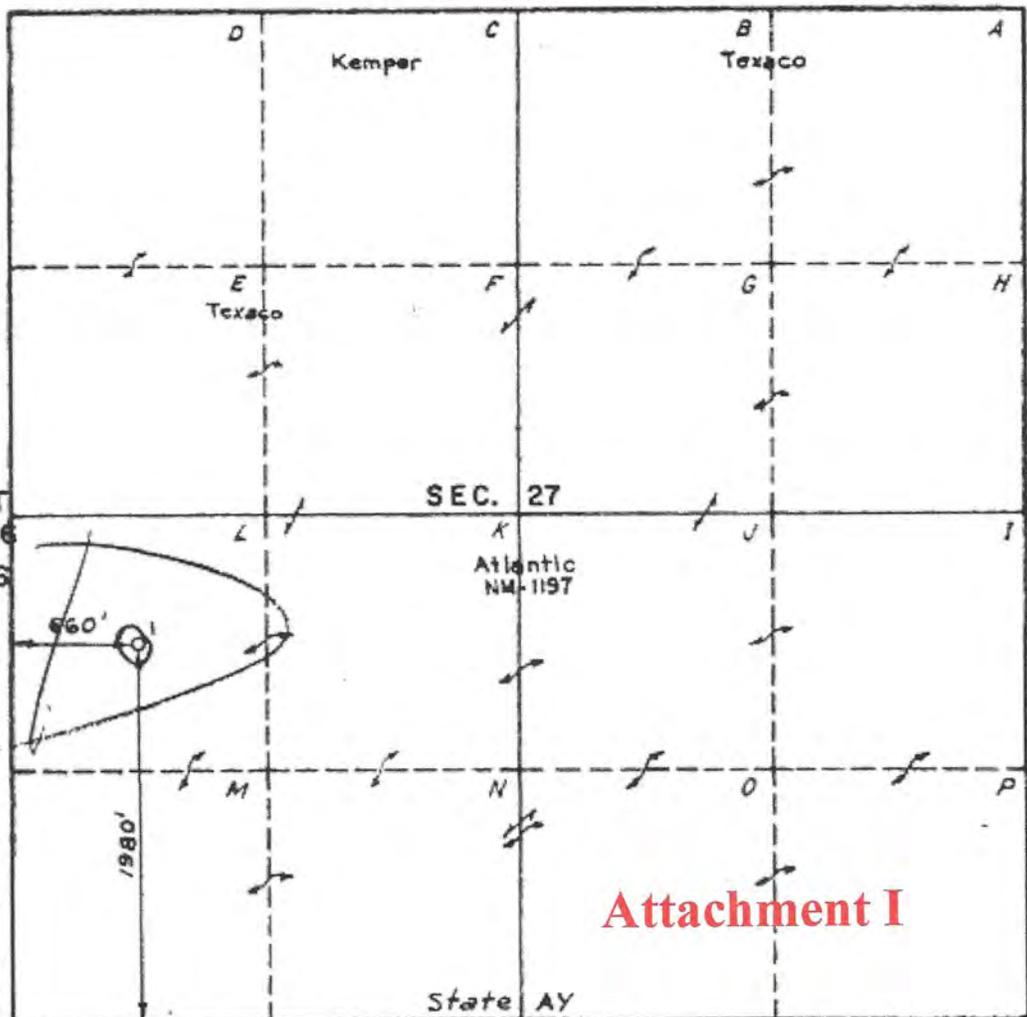
Operator The Atlantic Refining Company		Lease State AY		Well No. 1
Unit Letter L	Section 27	Township 16 South	Range 33 East	County Lea
Actual Footage Location of Well: 1980 feet from the South line and 660 feet from the West line				
Ground Level Elev.	Producing Formation <i>Permian</i>	Pool <i>Permian</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 (e) NMSA 1935 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.

R. W. Williams
Surveyor
The Atlantic Refining Company

Date Surveyed: 6-23-64

Attachment I

NUMBER OF COPIES RECEIVED DISTRIBUTION		NEW MEXICO OIL CONSERVATION COMMISSION				FORM C-103 (Rev 3-55)	
SANTA FE PILE LEGS LAND OFFICE TRANSPORTER PRODUCTION OFFICE OPERATOR		MISCELLANEOUS REPORTS ON WELLS				P. O. C.	
(Submit to appropriate District Office as per Commission Rule 1194)							
Name of Company The Atlantic Refining Company				Address P. O. Box 1978, Roswell, New Mexico			
Lease State "AY"		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# H-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							
D F Elev.		T D	P B T D		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. Kloria</i> A. D. Kloria			
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>SANTA FE</td><td></td></tr> <tr><td>FILE</td><td></td></tr> <tr><td>U.S.G.</td><td></td></tr> <tr><td>LAND OFFICE</td><td></td></tr> <tr><td>TRANSPORTER</td><td>OIL</td></tr> <tr><td></td><td>NAT</td></tr> <tr><td>PRODUCTION OFFICE</td><td></td></tr> <tr><td>OPERATOR</td><td></td></tr> </table>	NUMBER OF COPIES RECEIVED		DISTRIBUTION		SANTA FE		FILE		U.S.G.		LAND OFFICE		TRANSPORTER	OIL		NAT	PRODUCTION OFFICE		OPERATOR		<p>NEW MEXICO OIL CONSERVATION COMMISSION</p> <p>MISCELLANEOUS REPORTS ON WELLS C.</p> <p><i>(Submit to appropriate District Office on ^{HUBBARD OFFICE} July 22 ^{10 07 AM '64} 10/07 AM '64)</i></p>	<p>FORM C-103 (Rev 3-55)</p>
NUMBER OF COPIES RECEIVED																						
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	NAT																					
PRODUCTION OFFICE																						
OPERATOR																						

Name of Company The Atlantic Refining Company				Address Rowell		
Lease State "AY"	Well No. 1	Unit Letter L	Section 27	Township 16S	Range 33E	
Date Work Performed 7/12/64-7/14/64	Pool Wildcat			County Lea		

THIS IS A REPORT OF: (Check appropriate block)

<input 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.

Drilled 12 1/4" hole to 4581' (REB). 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 sx 1:1 mix Incer-Diamix + 8% gal & 2% CaCl. Tailed in w/250 sx 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 B T D	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 O. D. Bretches		
Title	Position District Drilling Supervisor		
Date	Company The Atlantic Refining Company		

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. A.P.I. 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. Anhy. 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 Rivers	T. McKee	T. Menace	
T. Queen	T. Ellenburger	T. Point Lookout	
T. Grayburg	T. Gr. Wash	T. Mancos	
T. San Andres 4460	T. Granite	T. Dakota	
T. Glorieta 5932	T. Wolfcamp 9725	T. Morrison	
T. Drinkard	T. Kennits Line (Penn) 10775	T. Penn	
T. Tubbs 7215	T. Seaman (Penn) 11520		
T. Abo 7963			
T. Penn			
T. Miss			

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 *E. L. ...*

Position or Title **District Drilling Supervisor**

Attachment I

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-101
Revised 1-4-65

NO. OF COPIES RECEIVED	
DISTRIBUTION	
SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

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 DEEPEN PLUG BACK

b. Type of Well
OIL WELL GAS WELL OTHER SINGLE ZONE MULTIPLE ZONE

7. Unit Agreement Name

8. Farm or Lease Name
State 27

9. Well No.
1-2

10. Field and Pool, or Wildcat
Wildcat

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

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

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 REE. 33E HMPM



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. Thornton SUPERVISOR DISTRICT #1 Date 3-31-77

(This space for State Use)

SUPERVISOR DISTRICT #1

APPROVED BY [Signature] TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY

30-025-20592

Form C-103
Supersedes Old
C-102 and C-103
Effective 1-1-65

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SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION

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 <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER- <input type="checkbox"/>	7. Unit Agreement Name
2. Name of Operator W. A. MONCRIEF, JR.	8. Farm or Lease Name State 27
3. Address of Operator Moncrief Building, Ninth at Commerce, Fort Worth, Texas 76102	9. Well No. 1
4. Location of Well UNIT LETTER <u>L</u> , <u>1980</u> FEET FROM THE <u>South</u> LINE AND <u>660</u> FEET FROM THE <u>West</u> LINE, SECTION <u>27</u> TOWNSHIP <u>16S</u> RANGE <u>33E</u> NMPM.	10. Field and Pool, or Wildcat UNDESIGNATED
15. Elevation (Show whether DF, RT, GR, etc.) 4201 GD 4220 KB	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 Wate w/5/10 of 1% CFR-2 + 1275 sax Trinity Lite Wate + 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

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

SIGNED Mervey 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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FILE	
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LAND OFFICE	
OPERATOR	

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

5a. Indicate Type of Lease
State Free

5. State Oil & Gas Lease No.
L 3392

1a. TYPE OF WELL
OIL WELL GAS WELL DRY OTHER _____

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

7. Unit Agreement Name

8. Term or Lease Name
State "27"

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

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

9. Well No.
1

10. Field and Pool, or Wildcat
() ~~Wildcat~~ **WIDECASED**

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 NMPM

11. County
Lea

15. Date Entered old hole 4-11-77 16. Date T.D. Reached 5-13-77 17. Date Compl. (Ready to Prod.) 5-31-77 18. Elevations (DF, RKB, RT, GR, 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 _____ 23. Intervals Drilled By: Rotary Tools 0-13,804 Cable Tools _____

25. Was Directional Survey Made
No

24. Producing Interval(s), of this completion - Top, Bottom, Name
11,522-24 & 11,528-32 Upper Seaman
11,566-74, 11,604-06, 11,610-12 & 11,620-22 Middle Seaman
11,678-86 and 11,690-96 Lower Seaman

27. Was Well Cored
No

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

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) Well Status (Shut-in)

Date of Test	Hours Tested	Choke Size	Prod'n. 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 Reaney 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 30 days after the completion of any newly-drilled or deepened well. It shall be accompanied by a copy of all electrical and radioactivity logs in 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 depths shall also be reported. For multiple completions, Items 30 through 34 shall be reported for each zone. The form is to be filed in triplicate 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. "B" _____
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. Yates <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. Ibinebry _____	T. Gr. Wash _____	T. Morrison _____	T. _____
T. Tubb <u>7180</u>	T. Granite _____	T. Todilto _____	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 & rebeds	12,336	12,470	134	Lime & shale
1480	1593	113	Anhydrite & rebeds	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 & rebeds	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

Submit 3 Copies
to Appropriate
District Office

State of New Mexico
Energy, Minerals and Natural Resources Department

30-025-20592

Form C-103
Revised 1-1-89

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 API NO. 30-025-20522
1. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. 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.)

7. Lease Name or Unit Agreement Name

1. Type of Well: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>

STATE 27

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

8. Well No. 1

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

9. Pool name or Wildcat KEMNITZ LOWER WOLFCAMP

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

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

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data
NOTICE OF INTENTION TO:
PERFORM REMEDIAL WORK <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>
OTHER: <input type="checkbox"/>
PLUG AND ABANDON <input type="checkbox"/>
CHANGE PLANS <input type="checkbox"/>
OTHER: <input type="checkbox"/>
SUBSEQUENT REPORT OF:
REMEDIAL WORK <input type="checkbox"/>
COMMENCE DRILLING OPNS. <input type="checkbox"/>
CASING TEST AND CEMENT JOB <input type="checkbox"/>
OTHER: <input type="checkbox"/>
ALTERING CASING <input type="checkbox"/>
PLUG AND ABANDONMENT <input checked="" 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 <u>Karen M. McGovern</u>	TITLE <u>AGENT</u>	DATE <u>8/5/97</u>
TYPE OR PRINT NAME <u>KAREN MCGOVERN</u>		TELEPHONE NO. <u>336-7232</u>

(This space for State Use)

APPROVED BY <u>Johnny Robinson</u>	TITLE _____	DATE _____
------------------------------------	-------------	------------

Attachment I

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 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

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: *D. J. Holecomb*

Printed name: **Danny J. Holecomb**

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

E-mail Address: **danny@pwillc.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
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6191 Fax (575) 393-0720
District II
831 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) 476-1460 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									
UL or lot no. L	Section 27	Township 16S	Range 33E	Lot Idn	Feet from the 1980	North/South line S	Feet from the 660	East/West line W	County Lea
¹¹ Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No. (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

	¹⁷ OPERATOR CERTIFICATION <i>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 retained mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i>	
	Signature: <u>DJ Holcomb</u> Date: 4/18/2018 Danny J. Holcomb – Agent for Llano Disposal Printed Name danny@pwllc.net E-mail Address	
	¹⁸ SURVEYOR CERTIFICATION <i>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.</i>	
	See Original Survey dated June 23, 1964 attached Date of Survey Signature and Seal of Professional Surveyor: See Original Survey dated June 23, 1964 attached Certificate Number	

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

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 TO 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

HOBBS OCD
 APR 20 2018
 RECEIVED

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

NOTICE OF INTENTION TO:

- PERFORM REMEDIAL WORK PLUG AND ABANDON
 TEMPORARILY ABANDON CHANGE PLANS
 PULL OR ALTER CASING MULTIPLE COMPL.
 DOWNHOLE COMMINGLE
 CLOSED-LOOP SYSTEM
 OTHER: Re-entry to run CBL, CNL and caliper log

SUBSEQUENT REPORT OF:

- REMEDIAL WORK ALTERING CASING
 COMMENCE DRILLING OPNS. P AND A
 CASING/CEMENT JOB
 OTHER:

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 DJ 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):