

Llano Disposal, LLC
P.O. Box 250
Lovington, NM 88260

Date: January 2, 2023

To: Jim Griswold -Environmental Bureau Chief
Carl Chavez -Environmental Engineer
1220 South St. Francis
Santa Fe, New Mexico 87505

Re: NOTICE OF INTENT TO DISCHARGE
WQCC 20.6.2.1201 NMAC

Dear Sirs:

I, Darr Angell, Owner, Llano Disposal, LLC, am formally notifying the New Mexico Oil Conservation Division of Llano's intent to renew the permit for a Class III brine well located in Lea County, New Mexico. Pursuant to the Water Quality Control Commission Regulations 0/VQCC)

20.6.2.1201.B and C. NMAC, the following information is provided:

- 1) The name of the person making the discharge:
Llano Disposal, LCC, Mr. Darr Angell, owner
- 2) The address of the person making the discharge:
P.O. Box 250 (798 Highway 483)
Lovington, NM 88260
- 3) The location of the discharge:
Brine Well Location: SW/4 NW/4, UL 'E', Section 4, T13S, R36E
Proposed Brine Station Location: SW/4 NW/4, UL 'E', Section 4, T13S, R36E
- 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

Pursuant to 20.6.2.3114 NMAC attached is Llano's check number 3343 in the amount of \$100 made payable to the "Water Quality Management Fund" as filing fee for the discharge permit application. The discharge permit application along with pertinent attachments and a completed form C108 are attached.

If OCD requires additional information concerning this notice of intent or discharge permit application, please contact me at 575-704-2777 or email darrangell@gmail.com. Thank you for your consideration for renewal of this brine well application.

Sincerely,

Darr Angell

Darr Angell
Llano Disposal, LLC
575-704-2777

Attachments

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: Tatum Brine Station - State 4 BSW #1
- II. Operator: Llano Disposal, LLC
Address: P.O. Box 250, Lovington, NM 88260
Contact Person: Marvin Burrows Phone: 575-631-8067
- III. Location: SW /4 NW /4 Section 4 Township 13S Range 36E
Submit large scale topographic map showing exact location.
- IV. Attach the name and address of the landowner of the facility site.
- V. Attach a description of the types and quantities of fluids at the facility.
- VI. Attach a description of all fluid transfer and storage and fluid and solid disposal facilities.
- VII. Attach a description of underground facilities (i.e. brine extraction well).
- VIII. Attach a contingency plan for reporting and clean-up of spills or releases.
- IX. Attach geological/hydrological evidence demonstrating that brine extraction operations will not adversely impact fresh water.
- X. Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
- 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: Darr Angell

Date: 1/2/2023

E-mail Address: darrangell@gmail.com

Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1

- I. Facility Name: This is a renewal application for an existing facility. The brine well name is State '4' BSW #1 and the surface facility name is Tatum Brine Station.
- II. Operator: The operator is Llano Disposal, LLC, P. O. Box 250, Lovington, NM 88260. The operator's OGRID number is 370661. Llano Disposal, LLC is the owner of all the surface lands at the brine well and brine station. The contact person is Mr. Marvin Burrows at 575-631- 8067.
- III. Location: The facility is located at 1980 FNL X 660 FWL, Unit Letter 'E', Section 4, T13S, R36E, Lea County, New Mexico. The brine well is located at latitude 33.2225075°, longitude -103.3154755° (NAD83). The current brine well and brine station is located approximately 1.8 miles south of the Tatum town limits. The brine well is in the Salado (Salt) Formation between 2400' – 2970'. The brine station is located in UL 'E', Section 4, T13S, R36E, Lea County, New Mexico at latitude 33.222475°, longitude -103.315918° (NAD83). The water source well is located approximately 110 feet southwest of the proposed brine well. The water source well is in UL 'E', Section 4, T13S, R36E, Lea County, New Mexico at latitude 33.222287°, longitude -103.315707° (NAD83). See Attachment A.
- IV. Attach the name and address of the landowner of the facility site: See Attachment B.
- V. Attach a description of the types and quantities of fluids at the facility: See Attachment C.
- VI. Attach a description of all fluid transfer and storage and fluid and solid disposal facilities: See Attachment D.
- VII. Attach a description of underground facilities (i.e. brine extraction well): See Attachment E.
- VIII. Attach a contingency plan for reporting and cleanup of spills or releases: See Attachment F.
- IX. Attach geological/hydrological evidence demonstrating that brine extraction operations will not adversely impact fresh water: See Attachment G.
- X. Attach such other information as is necessary to demonstrate compliance with any other OCD rules, regulations, and/or orders: See Attachment H.

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Attachment A - Location



**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Attachment B - Landowner

The landowner for the site of the brine well, water source well and brine station location is the applicant, Llano Disposal, LLC, P. O. Box 250 (798 Highway 483), Lovington, NM 88260. Mr. Darr Angell is the principal owner of Llano Disposal, LLC.

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Attachment C - Fluids

At the freshwater source well, there is a submersible pump which pumps fresh water from the well, transports it approximately 50 feet through a buried 3" SDR-11 polyethylene pipeline to a 500-barrel fiberglass holding tank, the fresh water is then pumped 110 feet through a buried 3" SDR-11 polyethylene pipeline to the brine well. At the brine well, the fresh water is injected down the tubing with brine being forcibly circulated up the casing/tubing annulus. The brine is then transported approximately 135 feet through a 3" SDR-11 polyethylene pipeline from the brine well to the brine station. At the brine station, there is one 500-bbl fiberglass catch/flush tank, and three 1000-bbl fiberglass tanks for brine storage.

Average daily volumes produced are 1500 BWPD of brine water and 1550 BWPD of fresh water. Anticipated volumes stored will be 2500 bbls of brine water.

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Attachment D – Fluid Transfer and Storage

This facility includes approximately 135 feet of 3" SDR-11 HDPE pipeline for transportation of brine water between the brine well and the brine station. This SDR-11 HDPE pipe has a 160-psi rating, 0.318" minimum wall thickness, 2.825" ID and 3.500" OD. It is seamless pipe that is thermally fused at the ends. This pipeline is hydrostatically pressure tested per the NMOCD's HST Guidelines. Testing frequency includes the initial test at 100% of manufacturer's MAOP during the 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.

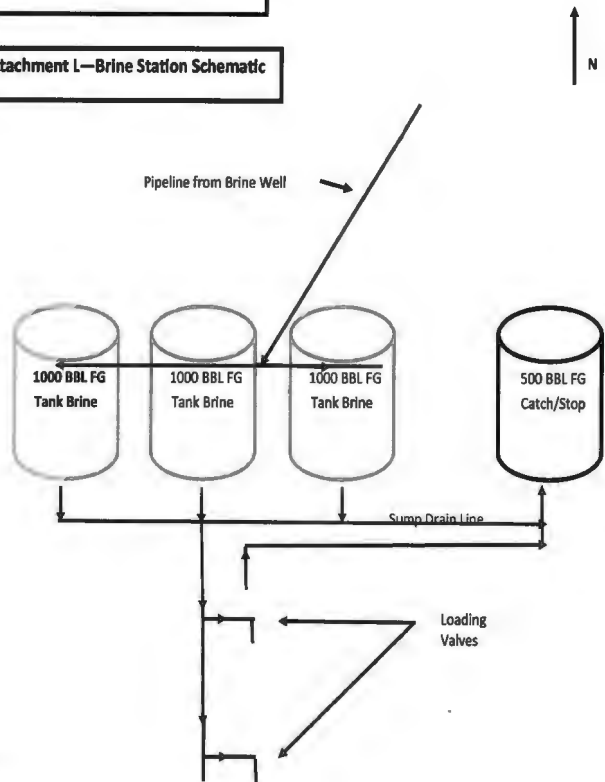
At the brine station, there are three interconnected 1000-bbl fiberglass brine water storage tanks and one 500-bbl fiberglass catch/flush tank. All four tanks are located within a common secondary containment berm. Each tank will have an isolation valve and will remain unpressured. The secondary containment consists of an earthen berm with a 20-mil string reinforced LLDPE liner capable of holding a minimum of 4800 bbls. There is a 32' X 60' concrete loading pad with a 20" X 20" X 55' concrete sump that is situated on top of the concrete loading pad. Any fluids entering the sump will be pumped to the 500-bbl catch/flush tank inside the lined secondary containment. There is a buried 3" SDR-11 polyethylene freshwater pipeline between a water supply well and the brine well location. There is also a 3" SDR-11 polyethylene pipeline between the brine well and the brine station. Both pipelines will remain unpressured while pump is not running.

Routine domestic household type trash or other similar non-domestic waste pursuant to 19.15.35.8 NMAC are 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.

Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1

State #4 BSW #1
API # 30-025-26370
Discharge Plan Attachments

Attachment L—Brine Station Schematic



Drawing not to scale

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

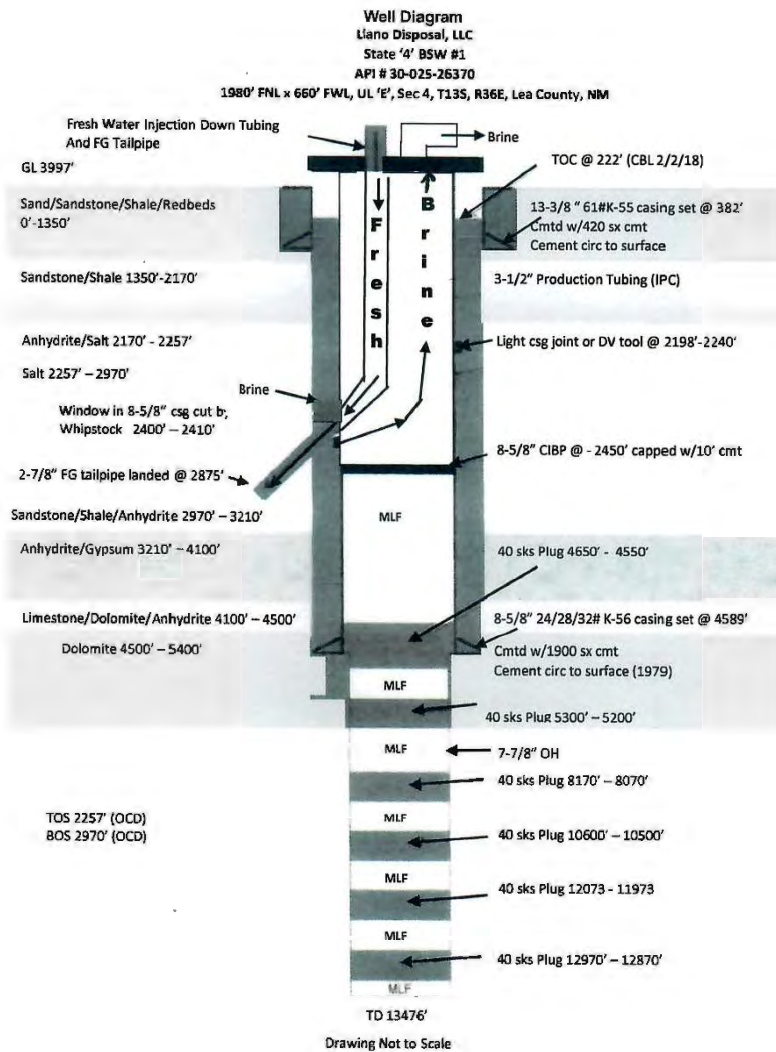
Attachment E – Underground Facilities

This facility includes approximately 110 feet of new 3" SDR-11 HDPE pipeline for transportation of fresh water, installed a minimum of 36" underground between the fresh water source well and the brine well. No fluids other than fresh water are planned to be used in this pipeline.

The pipeline has been designed to minimize the use of 90-degree fittings by making turns via long radius sweeps where possible.

Discharge Plan Application for Brine Extraction Facilities

Tatum Brine Station – State 4 BSW #1



**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Attachment F – Contingency and Emergency Response Plan

Routine visual inspections of surface equipment and automation systems occur daily by onsite facility personnel. Inspection logs are documented and maintained to ensure any necessary repairs are completed and for subsequent review. The 135-foot SDR-11 polyethylene brine pipeline 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 are visually inspected internally when emptied for maintenance. Tanks are visually inspected externally during daily routine inspections.

If a spill did occur, it would be contained by secondary containments around the brine station tanks. Spills at the loading pad would 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.

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.

See the Emergency Contingency and Response plan on the following page for additional information.

Discharge Plan Application for Brine Extraction Facilities

Tatum Brine Station – State 4 BSW #1

Location of Facilities:

Both the Brine Well and the Brine Station are located approximately 1.8 miles south of Tatum, New Mexico on HWY 206 on the east side of the road.

Facility	Latitude	Longitude	UL, S, T, N
State 4 BSW # 1	33.2225075°	-103.3154755°	E-4-13S-36E
Tatum Brine Station	33.222475°	-103.315918°	E-4-13S-36E

Emergency Response Agencies	Emergency	Direct Number
Tatum Fire and EMS	911	575-398-4444
Lovington Fire and EMS	911	575-396-2359
Lea County Sheriff's Dept	911	575-396-3611
New Mexico State Police	911	575-392-5588

Llano Responder	Cell Phone	Home Phone
Marvin Burrows – Fac. Operator	575-631-8067	575-392-4384
Darr Angell - Owner	575-704-2777	575-704-2777

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

Materials Stored or Transferred Onsite	Location of Anticipated Leaks/Spills
Fresh and brine water (Non-hazardous)	Brine station inside secondary containment, concrete loading pad, pipelines, and at brine well
Corrosion Chemical (Combustible, Oxidizer)	At poly storage tank on brine well location
Contaminated Soil (Non-hazardous)	Sealed drums at brine station
Trash (Non-hazardous)	Trash bins at brine station

Leak/Spill Prevention Actions

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

Containment and Clean up Actions

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

Emergency Procedures and Notification

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

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Attachment G – Geological/Hydrological Evidence

Due to the relatively flat nature of the terrain within the 1-mile area of review, there are no bodies of water, streams, arroyos, canals, drains, seeps, springs, marshes, or swamps evident. Fifteen freshwater wells have been identified on the ground and via the OSE data base. About half of them are utilized for cattle production and the other half are used for domestic household supply. See the table on the following pages.

The soil types are sand, clay, loam, and caliche; the aquifers are Ogallala and Quaternary Alluvium formations. The composition of aquifer material (e.g. alluvium, sandstone, basalt, etc.). The aquifer is generally located at a depth of 40—80 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 1350' across the area of review.

The area of review is not listed as a Flood Plain by FEMA. Average annual rainfall for this site is 10"-12" per year. There is a very slight slope 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. New Mexico Highway 206 runs north/south approximately 500 feet west of the proposed site. This highway with developed barrow ditches, helps control runoff events coming from the west and northwest.

The brine station has a storm water runoff berm installed on the northern and western edges of the site. This berm should direct any approaching runoff events away from the station. The brine well location is graded so that rainwater will not pond around the well head.

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**



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

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

(R=POD has
been replaced,
O=orphaned,
C=the file is
closed) (quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(in feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 00118 POD4	L	LE		3	1	3	32	12S	38E	855246	3678294*			
L 00118 POD4	R	L	LE	3	1	3	32	12S	38E	855246	3678294*			
L 00118 POD5	L	LE		3	1	3	32	12S	38E	855246	3678294*	112	30	82
L 00130 POD4	L	LE		3	1	3	32	12S	38E	855246	3678294*			
L 00155 POD3	L	LE		1	1	3	32	12S	38E	855246	3678494*	138	48	90
L 01318	L	LE		2	2	2	32	12S	38E	856839	3679317*	50	25	25
L 01485	L	LE		2	4	4	32	12S	38E	856859	3678111*	75	43	32
L 02863	L	LE		2	2	2	32	12S	38E	856839	3679317*	72	25	47
L 03422	L	LE		4	4	4	33	12S	38E	858269	3677937*	100	64	36
L 04064	L	LE		2	2	2	32	12S	38E	856839	3679317*	75	55	20
L 05163	L	LE			2	1	32	12S	38E	855736	3679208*	107	32	75
L 05675	L	LE		2	2	2	32	12S	38E	856839	3679317*	70		
L 06823	L	LE					32	12S	38E	856957	3678598*	90	38	52
L 07205	L	LE		1	1		32	12S	38E	855333	3679199*	75	40	35
L 07509	L	LE		1	1	1	32	12S	38E	855232	3679298*	85	40	45
L 07900	L	LE		3	4	4	32	12S	38E	856459	3677911*	71	18	53
L 08000	L	LE			1	3	32	12S	38E	855347	3678395*	126		
L 08015	L	LE		3	3	1	32	12S	38E	855239	3679698*	140	46	94
L 08263	L	LE			4	3	32	12S	38E	855756	3677999*	107	48	59
L 08479	L	LE		3	4	2	32	12S	38E	856446	3678715*	69	24	45
L 10214	L	LE			4		32	12S	38E	856359	3678207*	121		
L 10313	L	LE			2	2	32	12S	38E	856540	3679218*	105	28	77
L 11521	L	LE		1	1	1	32	12S	38E	855232	3679298*	100	42	58
L 13776 POD1	L	LE		3	1	2	32	12S	38E	855988	3679143*	120	35	85

*UTM location was derived from PLSS - see Help

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

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**



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

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 00167	L	LE		1	1	1	09	13S	36E	656895	3676108*	113	80	33
L 00180	L	LE		3	1	3	05	13S	36E	655273	3676687*	106		
L 00180 S	L	LE		3	3	1	05	13S	36E	655266	3677089*	95		
L 00200 POD4	L	LE		1	1	2	05	13S	36E	656063	3677704*			
L 00200 POD4	R	L	LE	1	1	2	05	13S	36E	656063	3677704*			
L 00327	R	L	LE	1	1	1	08	13S	36E	655286	3676082*	88		
L 00327 POD2	L	LE		4	4	1	08	13S	36E	655895	3675486*	88		
L 00900	R	L	LE	2	1	3	08	13S	36E	655500	3675278*	112		
L 00900 POD3	L	LE		2	1	3	08	13S	36E	655500	3675278*	122		
L 00900 S	L	LE		4	1	4	08	13S	36E	655809	3674977*	150	50	100
L 07827	L	LE		2	1	05	13S	36E	655762	3677598*			45	
L 08081	L	LE		2	2	08	13S	36E	656594	3676002*		80	45	15
L 09650	L	LE		2	1	08	13S	36E	655790	3675990*		65		

Average Depth to Water: 55 feet

Minimum Depth: 45 feet

Maximum Depth: 80 feet

Record Count: 13

PLSS Search:

Section(s): 3, 4, 5, 8, 9, 10 **Township:** 13S **Range:** 36E

*UTM location was derived from PLSS - see Help

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

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

In addition, water samples were obtained from two water wells within the area. The well titled "East Fresh Water Well" is a windmill located 1.27 miles northeast of the subject brine well and utilized for cattle production. The well titled "West Fresh Water Well" is a windmill located 0.92 miles north of the subject brine well and also utilized for cattle production. OSE data base indicates the average depth to water in the area of review is 40 - 80 feet.

See the following page for results.

Discharge Plan Application for Brine Extraction Facilities

Tatum Brine Station – State 4 BSW #1



PHONE (875) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

Analytical Results For:

LLANO DISPOSAL, LLC 125 W. ST. ANNE HOBBS NM, 88240	Project: TATUM BRINE Project Number: SE CORNER OF TATUM Project Manager: MARVIN BURROWS Fax To: NONE	Reported: 28-Nov-17 17:15
---	---	------------------------------

EAST FRESH WATER WELL

H703118-01 (Water)

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

Cardinal Laboratories

Inorganic Compounds

Alkalinity, Bicarbonate	200		5.00	mg/L	1	7110705	AC	10-Nov-17	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	7110705	AC	10-Nov-17	310.1	
Chloride*	88.8		4.00	mg/L	1	7110601	AC	10-Nov-17	4500-CL-B	
Conductivity*	825		1.00	uS/cm	1	7111001	AC	10-Nov-17	120.1	
pH*	7.63		0.100	pH Units	1	7111001	AC	10-Nov-17	150.1	
Sulfate*	140		25.0	mg/L	2.5	7110903	AC	09-Nov-17	375.4	
TDS*	410		5.00	mg/L	1	7110809	AC	10-Nov-17	160.1	
Alkalinity, Total*	164		4.00	mg/L	1	7110705	AC	10-Nov-17	310.1	

Green Analytical Laboratories

Total Recoverable Metals by ICP (E200.7)

Calcium*	75.1		1.00	mg/L	10	B711128	JDA	17-Nov-17	EPA200.7	
Magnesium*	16.6		1.00	mg/L	10	B711128	JDA	17-Nov-17	EPA200.7	
Potassium*	<10.0		10.0	mg/L	10	B711128	JDA	17-Nov-17	EPA200.7	
Sodium*	61.2		10.0	mg/L	10	B711128	JDA	17-Nov-17	EPA200.7	

Cardinal Laboratories

* = Accredited Analyte

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

Coley D. Keene

Coley D. Keene, Lab Director/Quality Manager

Discharge Plan Application for Brine Extraction Facilities

Tatum Brine Station – State 4 BSW #1



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

Analytical Results For:

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

Project: TATUM BRINE
Project Number: SE CORNER OF TATUM
Project Manager: MARVIN BURROWS
Fax To: NONE

Reported:
28-Nov-17 17:15

WEST FRESH WATER WELL

H703118-02 (Water)

Analys	Result	MDL	Reporting Units	Units	Dilution	Batch	Analyst	Analysed	Method	Notes
--------	--------	-----	--------------------	-------	----------	-------	---------	----------	--------	-------

Cardinal Laboratories

Inorganic Compounds

Alkalinity, Bicarbonate	205	5.00	mg/L	1	7110705	AC	10-Nov-17	310.1		
Alkalinity, Carbonate	<1.00	1.00	mg/L	1	7110705	AC	10-Nov-17	310.1		
Chloride*	56.0	4.00	mg/L	1	7110601	AC	10-Nov-17	4500-CL-D		
Conductivity*	607	1.00	uS/cm	1	7111001	AC	10-Nov-17	120.1		
pH*	7.74	0.100	pH Units	1	7111001	AC	10-Nov-17	150.1		
Sulfate*	103	25.0	mg/L	2.5	7110903	AC	09-Nov-17	375.4		
TDS*	344	5.00	mg/L	1	7110809	AC	10-Nov-17	160.1		
Alkalinity, Total*	168	4.00	mg/L	1	7110705	AC	10-Nov-17	310.1		

Green Analytical Laboratories

Total Recoverable Metals by ICP (EPA 200.7)

Calcium*	58.2	1.00	mg/L	10	D711128	JDA	17-Nov-17	EPA200.7		
Magnesium*	11.5	1.00	mg/L	10	D711128	JDA	17-Nov-17	EPA200.7		
Potassium*	<10.0	10.0	mg/L	10	D711128	JDA	17-Nov-17	EPA200.7		
Sodium*	39.7	10.0	mg/L	10	D711128	JDA	17-Nov-17	EPA200.7		

Cardinal Laboratories

*=Accredited Analyte

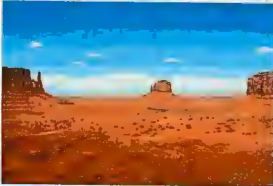
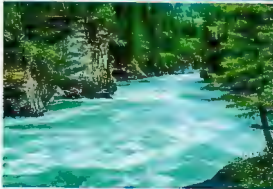
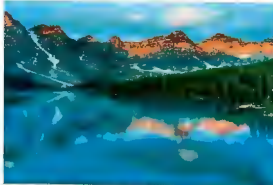
PLEASE NOTE: Liability and Damages. Cardinal's facility and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence or any other cause whatsoever shall be waived unless claims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

Colley D. Keene

Colley D. Keene, Lab Director/Quality Manager

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Report to:
Elizabeth Pickerel



5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

Llano Disposal LLC

Project Name: Tatum Brine Station

Work Order: E210017

Job Number: 22117-0001

Received: 10/5/2022

Revision: 2

Report Reviewed By:

Walter Hinchman
Laboratory Director
10/14/22

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc, attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc, holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc, holds the Texas TNI certification T104704557 for data reported.
Envirotech Inc, holds the NM SDWA certification for data reported. (Lab #NM00979)

Discharge Plan Application for Brine Extraction Facilities

Tatum Brine Station – State 4 BSW #1

Sample Data

Llano Disposal LLC PO Box 250 Lovington NM, 88260	Project Name: Tatum Brine Station Project Number: 22117-0001 Project Manager: Elizabeth Pickere1	Reported: 10/14/2022 3:04:12PM
---	--	-----------------------------------

Fresh Well

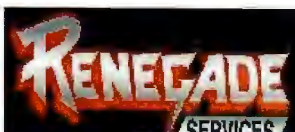
E210017-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C						
Total Dissolved Solids	564	10.0	1	10/07/22	10/10/22	Batch: 2241104
Wet Chemistry by 9040C/4500H+B						
pH @25°C	7.71	pH Units	1	10/10/22 10:15	10/10/22 14:48	Batch: 2242013 H5
Wet Chemistry by SM2710F**						
Specific Gravity	1.032	N/A	1	10/07/22	10/10/22	Batch: 2241107
Anions by EPA 300.0/9056A						
Chloride	74.2	mg/L	2	10/04/22	10/05/22	Batch: 2241056

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Geological Data

		RADIAL CEMENT BOND GAMMA-RAY CCL LOG	
Company LLANO DISPOSAL, LLC Well STATE 4 #1 Field TATUM County LEA State NM		Company LLANO DISPOSAL, LLC Well STATE 4 #1 Field TATUM County LEA State NM	
Location: API # : 30-025-26370		Other Services C/L/CNL	
Permanent Datum Log Measured From Drilling Measured From		SEC TWP RGE Elevation K.B. D.F. G.L.	
2-2-2018	ONE		
13.476'	3298		
3292	SURFACE		
NA	H2O		
NA	NA		
NA	SEE LOG		
ROA	9:00 AM		
71	LEVELAND TX		
R.D. MOTHERAL	MR. BURROWS		
Borehole Record			
Bit	From	To	Size
		Weight	
		From	
		To	
Tubing Record			
Size	Width	Top	Bottom
8.625"	28#	SURFACE	
<<< Fold Here >>>			
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.			
Comments			
ALL DEPTHS ARE LOGGER DEPTHS NO CORRELATION LOG AVAILABLE ON LOCATION NO KB USED			



MAIN PASS

Discharge Plan Application for Brine Extraction Facilities

Tatum Brine Station – State 4 BSW #1

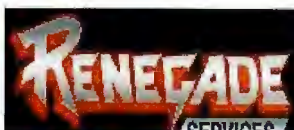
CASEID : Casing I.D.
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
CASEWGHT : Casing Weight
CMNTTHCK : Cement Thickness
CMTTKCOR : CN CemThk. Cor. ?
CSTKCOR : CN CasThk. Cor. ?

NPORSEL : Neutron Porosity Curve Select
PERFS : Perforation Flag
PPT : Predicted Pipe Time
SRFTEMP : Surface Temperature
SZCOR : CN Size Cor. ?
TDEPTH : Total Depth

Calibration Report				
Database File	Ilanostate4#1.db			
Dataset Pathname	pass6			
Dataset Creation	Fri Feb 02 12:02:37 2018			
Compensated Neutron Calibration Report				
Model:		CNT - Probe_B		
Serial Number:		100526		
SHOP CALIBRATION		Tue Nov 07 11:32:58 2017		
	Cal Tube	Units		
Tank Ratio	11.6940	SS/LS		
LS Detector	65.48	cps		
SS Detector	766.91	cps		
Tool Ratio	11.7125	SS/LS		
Tool Gain	0.9984	---		
PRE-SURVEY VERIFICATION				
	SS Detector	LS Detector	Measured (p.u.)	Target (p.u.)
POST-SURVEY VERIFICATION				
	SS Detector	LS Detector	Measured (p.u.)	Target (p.u.)
Gamma Ray Calibration Report				
Serial Number:	120366			
Tool Model:	Probe275dig			
Performed:	Tue Nov 07 11:24:04 2017			
Calibrator Value:	1092.0	GAPI		
Background Reading:	43.6	cps		
Calibrator Reading:	1820.3	cps		
Sensitivity:	0.6146	GAPI/cps		
Segmented Cement Bond Log Calibration Report				
Serial Number:	100919c			
Tool Model:	RBTC3			
Calibration Casing Diameter:	8.625	in		
Calibration Depth:	199.817	ft		
Master Calibration, performed Fri Feb 02 11:26:17 2018:				
	Raw (v)	Calibrated (mv)	Results	

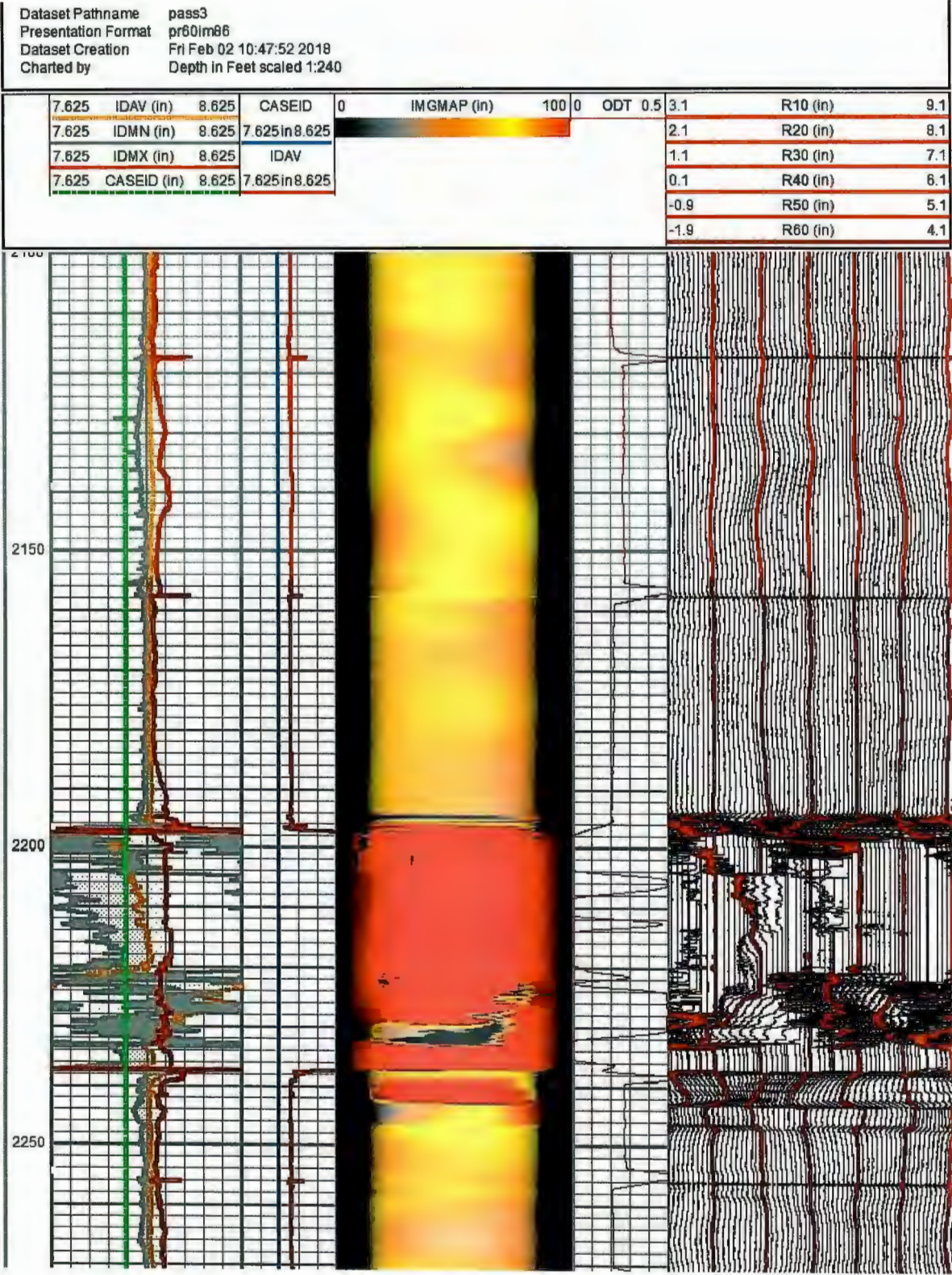
**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

		60-ARM CALIPER ODT CASING INSPECTION LOG	
		Company LLANO DISPOSAL, LLC Well STATE 4 #1 Field TATUM County LEA State NM	
Location: API # : 30-025-26370		Other Services RCBL/CNL	
SEC TWP RGE Elevation		Elevation K.B. D.F. G.L.	
Permanent Datum Log Measured From Drilling Measured From		G.L. K.B.	
Company LLANO DISPOSAL, LLC Well STATE 4 #1 Field TATUM County LEA State NM			
Log Number 2-2-2018 Depth Driller ONE Depth Logger 13.476' Bottom Logged Interval 3292 Depth Log Interval SURFACE Open Hole Size NA Depth Fluid H2O Density / Viscosity NA 3X Recorded Temp SEE LOG Estimated Cement Top ROA Time Well Ready 9:00 AM Time Logger on Bottom 71 Equipment Number LEVELAND TX Location R.D. MOTHERAL Logged By MR. BURROWS			
Borehole Record Run Number Bit From To Size Weight From To		Tubing Record Size Weight From To	
Logging Record Size Width Top Bottom 8.625" 28" SURFACE			
<<< Fold Here >>>			
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.			
Comments			
ALL DEPTHS ARE LOGGER DEPTHS NO CORRELATION LOG AVAILABLE ON LOCATION NO KB USED			



MAIN PASS

Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1



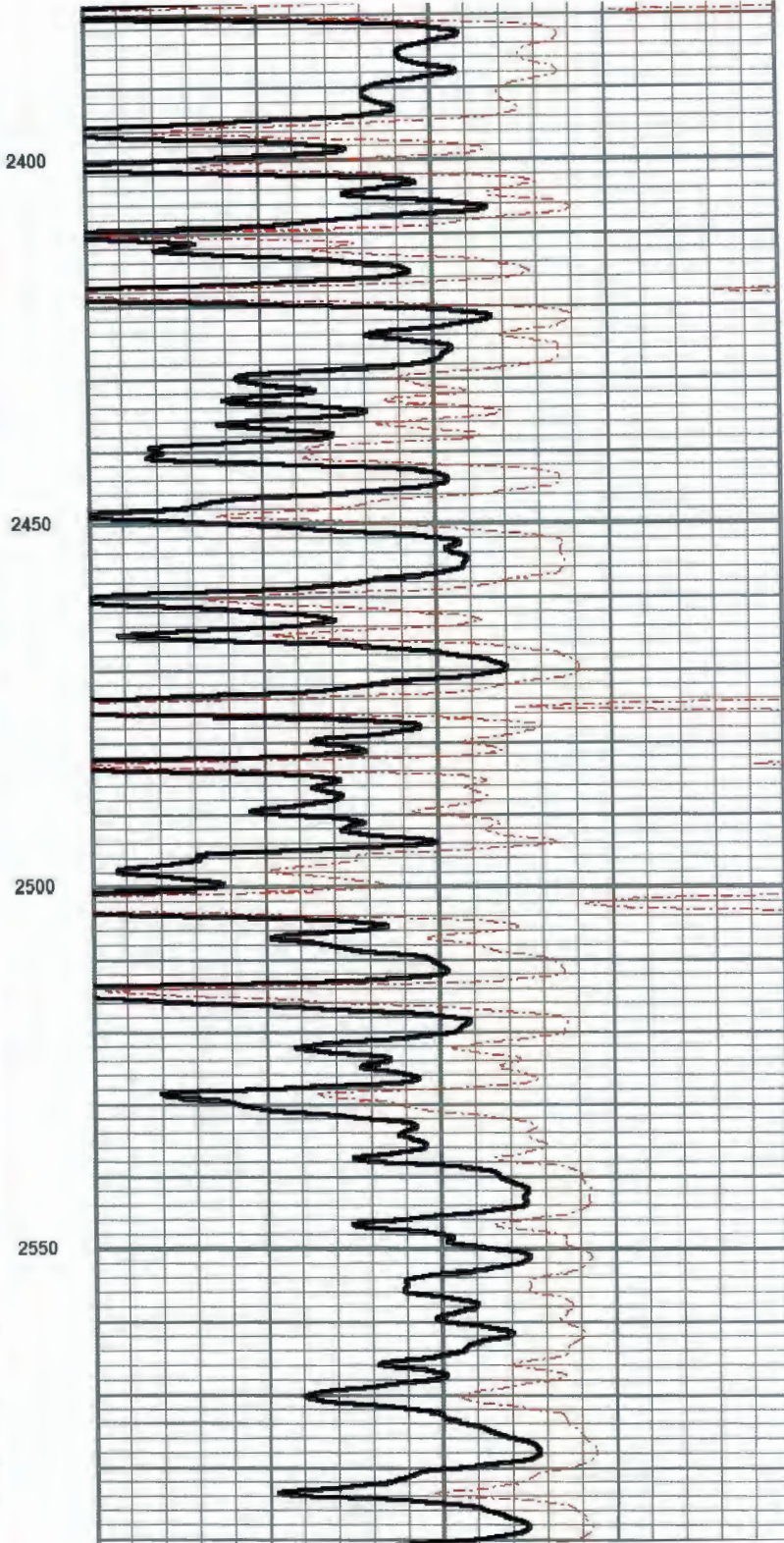
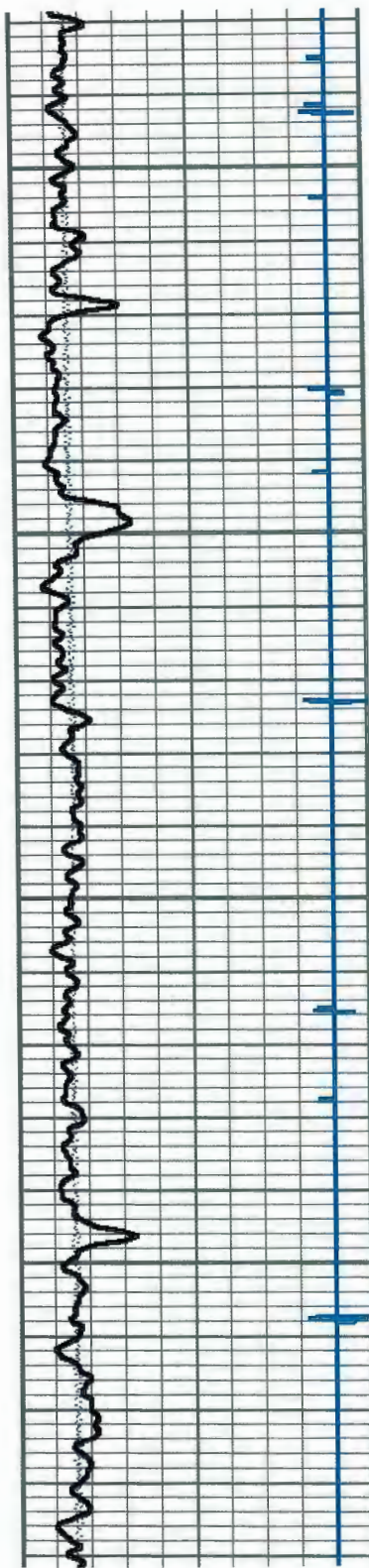
**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

		COMPENSATED NEUTRON GAMMA-RAY CCL LOG	
Company LLANO DISPOSAL, LLC Well STATE 4 #1 Field TATUM County LEA State NM		Country U.S.A	
Location:		API #: 30-025-26370	
Permanent Datum Log Measured From Drilling Measured From		SEC TWP RGE Elevation CIL/RCBL	
Other Services K.B. D.F. G.L.			
<<< Fold Here >>>			
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.			
Comments			
ALL DEPTHS ARE LOGGER DEPTHS NO CORRELATION LOG AVAILABLE ON LOCATION NO KB USED			



MAIN PASS

Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1



**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Attachment H – Other Information

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

5-Year MIT Requirement

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

Energy, Minerals and Natural Resources

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

WELL API NO. 30-025-26370
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. SALADO BSW
7. Lease Name or Unit Agreement Name STATE 4 #1
8. Well Number 1
9. OGRID Number 370661
10. Pool name or Wildcat BSW

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 ☒ **BSW**

2. Name of Operator
Llano Disposal, LLC

3. Address of Operator
P.O. Box 250, Lovington NM 87600

4. Well Location
Unit Letter **E** : **1980** feet from the **N** line and **660** feet from the **W** line
Section **4** Township **13S** Range **36E** NMPM County **LEA**

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
3997 GR

12. 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"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL. <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input type="checkbox"/>			
CLOSED-LOOP SYSTEM <input type="checkbox"/>			
OTHER: Casing/Cavity Test		OTHER: <input type="checkbox"/>	

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

**Llano Disposal, LLC would like to
Schedule a casing/cavity pressure test
for this well on Thursday, Jan 10,
2018 at 10:00 A.M.**

Spud Date:

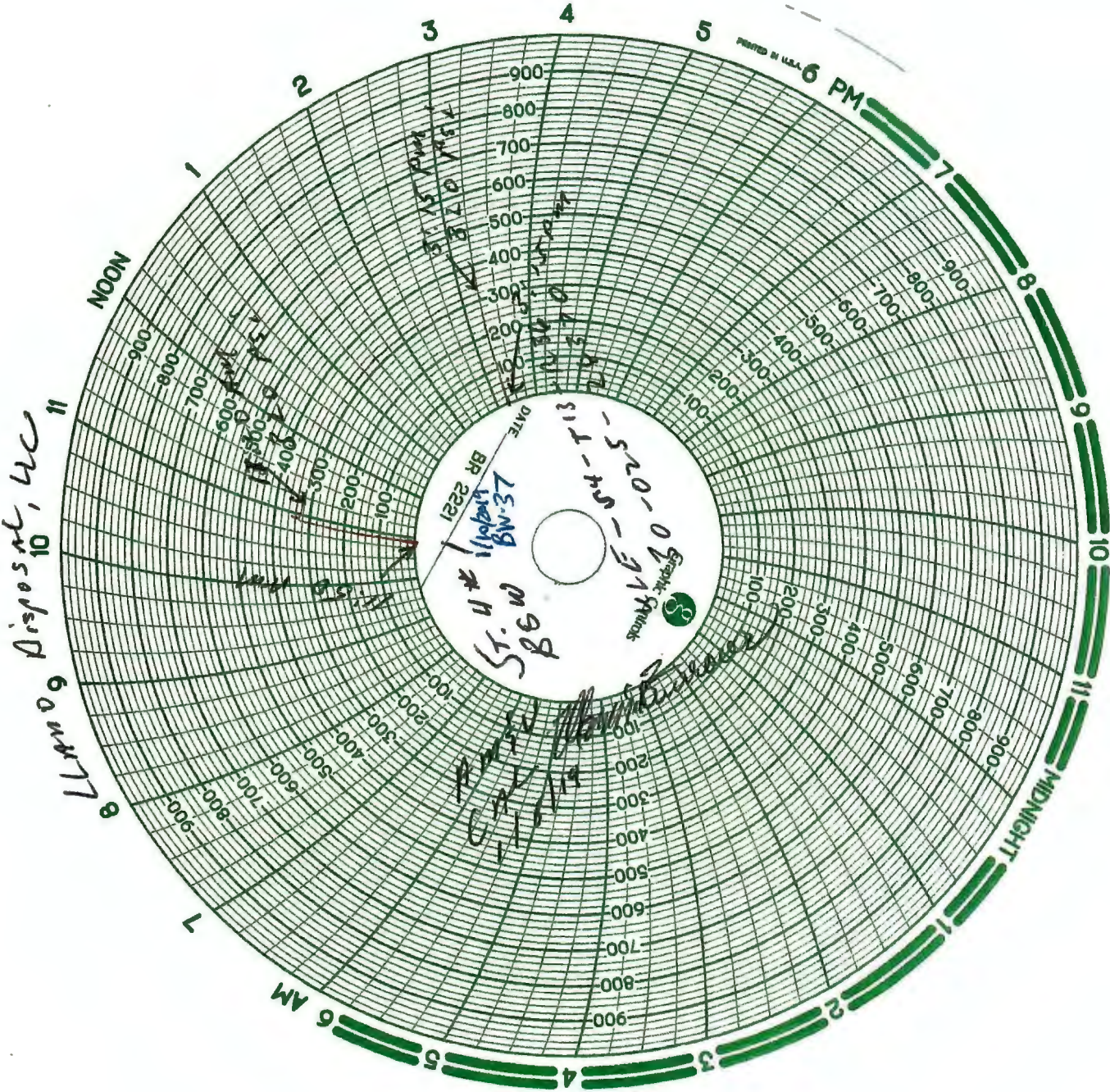
Rig Release Date:

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

SIGNATURE Marvin Burnows TITLE Agent for DATE 1/4/19
Type or print name MARVIN BURNOWS E-mail address: BURNOWS MARVIN PHONE: 575-631-8067
For State Use Only @gmail.com
APPROVED BY: [Signature] TITLE Petroleum Engineer DATE 01/09/19
Conditions of Approval (if any):

Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1

9



**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

American Valve & Meter, Inc.

1113 W. BROADWAY

P.O. BOX 166 HOBBS, NM 88240

T0:Rental

DATE: 01/08/2019

This is to certify

**I, Stephen Wasles, Technician for American Valve & Meter Inc. has checked the
calibration of the following instrument.**

8" _Pressure recorder

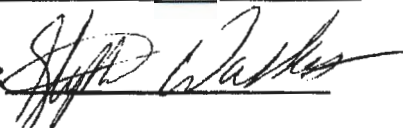
Ser# 3399

at these points:

Pressure #1000			Temperature *or Pressure #		
Test	Found	Left	Test	Found	Left
- 0	-	- 0	-	-	-
- 500	-	- 500	-	-	-
- 700	-	- 700	-	-	-
- 1000	-	- 1000	-	-	-
- 200	-	- 200	-	-	-
- 0	-	- 0			

Remarks: _____

Signature:



**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

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 8-5/8" 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.

Discharge Plan Application for Brine Extraction Facilities

Tatum Brine Station – State 4 BSW #1

Financial Assurance Plan

Llano currently has no well plugging bond for the proposed brine well. However, Llano has provided financial assurance for the State '4' #1 Brine Well and Tatum Brine Station via an irrevocable letter of credit in the amount of \$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 (work string, 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, winch, high line poles, winch 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.

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

C-108

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: ☒ Secondary Recovery ☐ Pressure Maintenance ☐ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ Yes ☐ No
- II. OPERATOR: Llano Disposal, LLC
ADDRESS: P.O. Box 250, Lovington, NM 88260
CONTACT PARTY: Marvin Burrows PHONE: 575-631-8067
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? ☐ Yes ☒ No
If yes, give the Division order number authorizing the project: _____
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- *X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- *XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: Darr Angell TITLE: Owner
SIGNATURE: *Darr Angell* DATE: 1/2/2023
E-MAIL ADDRESS: darrangell@gmail.com
- * If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: March 2018

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

Discharge Plan Application for Brine Extraction Facilities

Tatum Brine Station – State 4 BSW #1

Side 2

III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Side 1

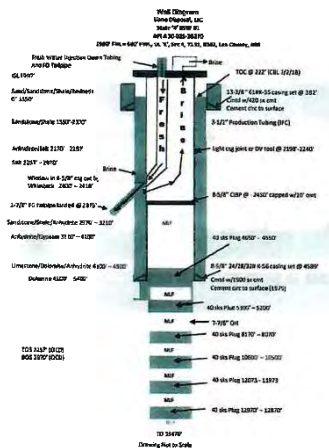
INJECTION WELL DATA SHEET

OPERATOR: Llano Disposal, LLC

WELL NAME & NUMBER: Tatum Brine Station State 4 BSW #1

WELL LOCATION: 1980 FNL 660 FWL E 4 13S 36E
FOOTAGE LOCATION UNIT LETTER SECTION TOWNSHIP RANGE

WELLBORE SCHEMATIC



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17.5" Casing Size: 13-3/8" 61# K-55

Cemented with: 420 sx. or ft³

Top of Cement: Surface Method Determined:

Intermediate Casing

Hole Size: 11" Casing Size: 8-5/8" 32#/28#/24# K55

Cemented with: 1900 sx. or ft³

Top of Cement: Surface Method Determined:

Production Casing

Hole Size: Casing Size:

Cemented with: sx. or ft³

Top of Cement: Method Determined:

Total Depth:

Injection Interval

 feet to

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEETTubing Size: 3.5" IPC Lining Material: _____

Type of Packer: _____

Packer Setting Depth: _____

Other Type of Tubing/Casing Seal (if applicable): N/A**Additional Data**

1. Is this a new well drilled for injection? _____ Yes
- X
- No

If no, for what purpose was the well originally drilled? _____

Oil and gas production.

2. Name of the Injection Formation:
- Salado

3. Name of Field or Pool (if applicable):
- (Pool Code: 96173)

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. _____

See schematic

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: _____

None productive

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

- I. Purpose: Llano Disposal, LLC seeks administration approval to renew the existing application for Tatum Brine Station State 4 BSW #1.
- II. Operator: The operator is Llano Disposal, LLC, P. O. Box 250, Lovington, NM 88260. The operator's OGRID number is 370661. Llano Disposal, LLC is the owner of all the surface lands at the brine well and brine station. The contact person is Mr. Marvin Burrows at 575-631- 8067.
- III. Well Data: See Attachment I.
- IV. Is this an expansion of an existing project: No
- V. Attach a map that identifies all wells and leases within two miles of the proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the area of review: See Attachment J.
- VI. Attach a tabulation of data on all wells of public record within the area of review: See Attachment K.
- VII. Attach data on the proposed operation: See Attachment L.
- VIII. Geological data: See Attachment G and data previously submitted on 3/5/2018.
- IX. Describe the proposed stimulation program if any: NA
- X. Attach appropriate logging and test data on the well: Previously submitted on 11/25/2020 & 11/30/2020
- XI. Attach a chemical analysis of fresh water from two wells: Previously submitted in 2018 with initial application. See Attachment M.
- XII. This is not a disposal well. However, available geologic and engineering data has been examined and there is no evidence for an open fault or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Proof of Notice: See Attachment N.

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Attachment I – Well Data

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Holcomb Consultants
6900 Spring Cherry Lane
Amarillo, Texas 79124

March 2, 2018

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

Re: State 4 #1 (30-025-26370)
UL 'E', Section 4, T13S, R36E, Lea County, New Mexico

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

Llano Disposal, LLC, P. O. Box 190, Lovington, NM 88260 hereby submits a form C-108 (Application for Authorization to Inject) to the New Mexico Oil Conservation Division seeking administrative approval to convert the State '4' #1, API 30-025-26370, 1980 FNL x 660 FWL, Unit Letter "E", Section 4, T13S, R36E, Lea County, New Mexico from a plugged and abandoned well to a commercial brine service well. The proposed production interval would be the Salado formation through cased hole completion between 2400' – 2970'. Injection fluid will be fresh water from a nearby water well. Anticipated average daily injection volume is 1550 BWPD with a maximum daily injection volume of 1900 BWPD. Anticipated average injection pressure is 250 psi with a maximum injection pressure of 475 psi. The well is located approximately 1.8 miles south of Tatum, New Mexico.

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

Sincerely,



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

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Llano Disposal, LLC
State '4' #1
API # 30-025-26370
1980 FNL x 660 FWL
Unit Letter 'E', Section 4, T13S, R36E
Lea County, New Mexico
C108 Application for Authorization to Inject

I.

The purpose of this application is seeking administrative approval for authorization to convert the State '4' #1 from a plugged and abandoned well to a commercial brine production well. This C-108 application is submitted in conjunction with a WQCC discharge plan application.

II.

Operator: Llano Disposal, LLC
Address: P.O. Box 190, Lovington, New Mexico 88260
Contact Party: Marvin Burrows phone: 575-631-8067 email: burrowsmarvin@gmail.com

III.

Well Name: State '4' #1
API Number: 30-025-26370
Location: Unit Letter 'E', Section 4, T13S, R36E, Lea County, New Mexico
Operator: Llano Disposal, LLC OGRID: 370661
Proposed Formation: BSW; Salado (Pool Code: 96173)
Please see Exhibit "A" for additional well data.

IV.

This is not an expansion of an existing project.

V.

Please see Exhibit "B" for lease map.

VI.

There is one offset well located within the 1 mile Area of Review. It was drilled in 1967 as a Wolfcamp test and was plugged and abandoned in 1969. See Exhibit "C" for a 1 mile AOR map, offset well list and offset wellbore diagram.

VII.

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

VIII.

The proposed injection interval is the Salado (salt) formation between 2400' – 2970'.

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Llano Disposal, LLC
State '4' #1
API # 30-025-26370
1980 FNL x 660 FWL
Unit Letter 'E', Section 4, T13S, R36E
Lea County, New Mexico
C108 Application for Authorization to Inject

IX.

Proposed Completion Procedure: After drilling out cement plugs from surface to 2500', circulate out mud laden fluid, fill casing with water, run CBL, CNL and caliper log from 3292' to surface and submit to OCD for review. If approved, set an 8-5/8" CIBP on wireline at 2450' capped with 10' of cement. Cut a window in the 8-5/8" casing at 2400'-2410', drill through salt to 2920'. Run a dual port 8-5/8" packer set at 2300' with 2-7/8" fiberglass tail pipe landed at 2900' and 3-1/2" IPC production tubing to surface. No stimulation will be performed. Note: Depths for casing window, packer and tailpipe were agreed upon during consultations with OCD personnel after log evaluations.

X.

Copies of any logs performed will be submitted to OCD.

XI.

NM OSE records indicate that there are 32 fresh water wells located within a nine square mile Area of Review. See Exhibit "E" for OSE data base query and water sample test results on two of these wells.

XII.

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

XIII.

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

Danny J. Holcomb 
Agent for Llano Disposal, LLC

Date: 3/2/2018

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Llano Disposal, LLC
State '4' #1
API # 30-025-26370
1980 FNL x 660 FWL
Unit Letter 'E', Section 4, T13S, R36E
Lea County, New Mexico
Well Data

Adobe Oil & Gas Corporation drilled and abandoned this well as a Mississippi test in 1979.

Drilled 17-1/2" hole to 382', ran 13-3/8" 61# K-55 surface casing to 382', cemented with 420 sacks cement. Circulated cement to surface.

Drilled 11" hole to 4590', ran 8-5/8" 32#/28#/24# K-55 intermediate casing to 4589', cemented with 1900 sacks cement. Circulated cement to surface.

Drilled 7-7/8" hole to 13476', performed multiple DSTs and ran logs, plugged and abandoned as a dry hole. Set 40 sack cement plugs as follows:

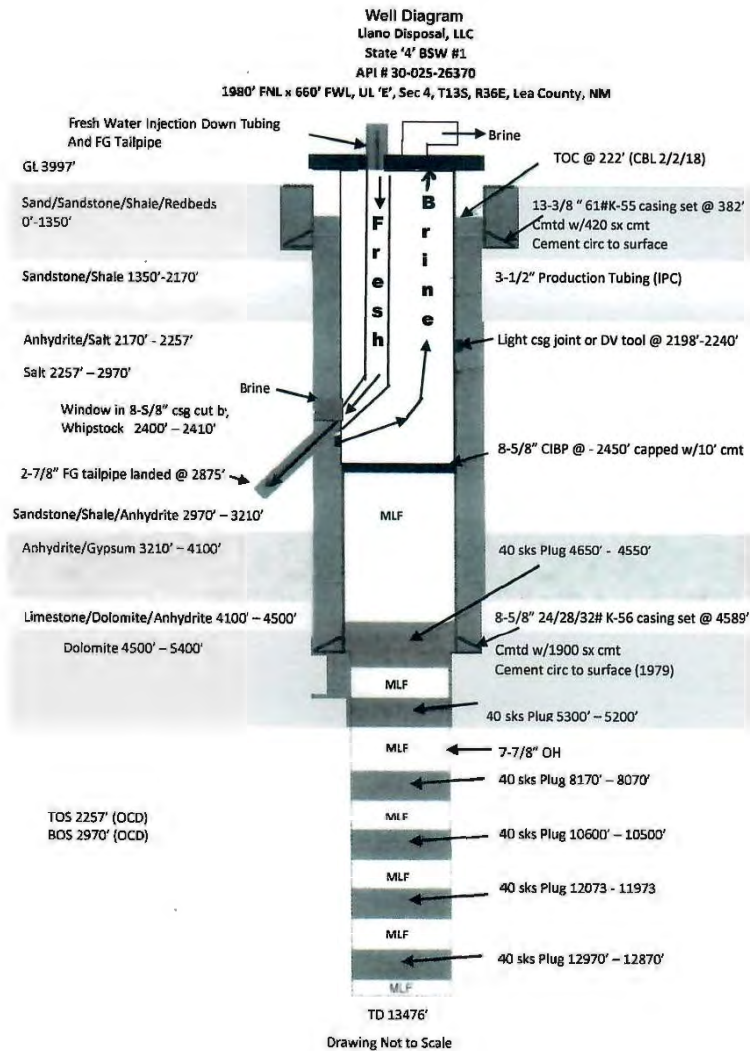
Plug #1	12970'-12870'
Plug #2	12073'-11973'
Plug #3	10600'-10500'
Plug #4	8170'-8070'
Plug #5	5300'-5200'
Plug #6	4650'-4550'
Plug #7	1800'-1700'
Surface Plug	30'-surface

<u>Reported Formation Tops</u>	<u>Depths (ft)</u>
Anhydrite	2200
Salt	2257 (OCD)
B. Salt	2970 (OCD)
Yates	3100
San Andres	4506
Glorieta	5980
Tubb	7420
Abo	8172
Wolfcamp	9600
Cisco	10590
Canyon	10905
Strawn	11315
Atoka	12072
Mississippi	12975

EXHIBIT "A"

Discharge Plan Application for Brine Extraction Facilities

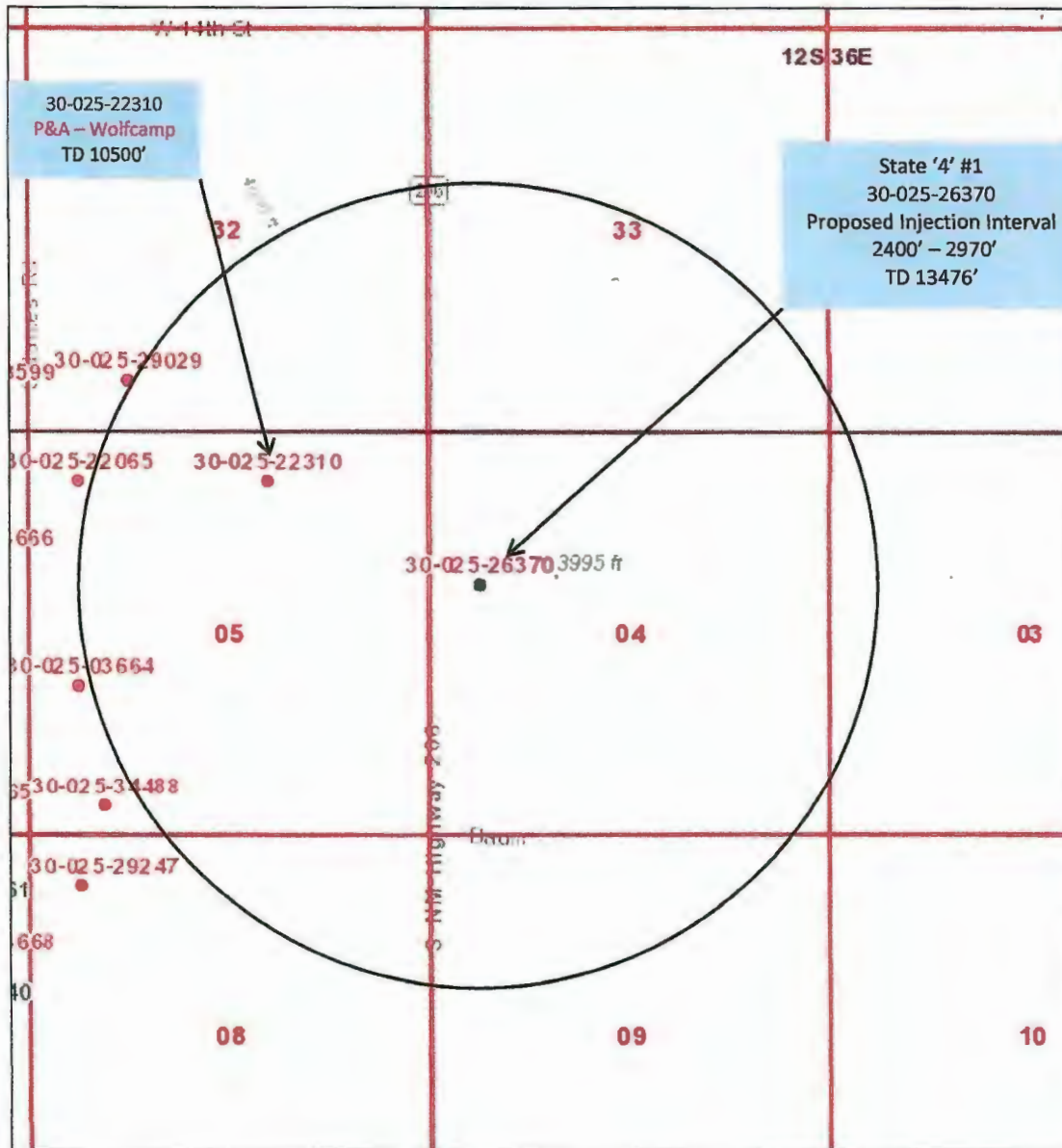
Tatum Brine Station – State 4 BSW #1



**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Attachment J – Area of Review

Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1



Source – NMOCD GIS Map

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

K – Well Tabulation

Llano Disposal, LLC

State '4' #1

API # 30-025-26370

Offset Wells Located within 1 Mile Area of Review

There is only one offset well within the 1 mile AOR.

UL, Sec, T, R	API Well No.	Well Name	TVD	Operator	Status
B-5-13S-36E	30-025-22310	State 'F' #1	10500'	Superior Oil Company	Plugged and abandoned 1969

This well was drilled in 1967 as a Wolfcamp test. It was plugged and abandoned in 1969.

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Attachment L - Operation

1. Anticipated daily injection volume – 1550 BWPD with a maximum of 1900 BWPD.
2. System will be closed. It includes a brine station and brine will be trucked out.
3. Disposal pressure: Average 250 psig, maximum 475 psig.
4. Please see freshwater analysis below:

Sample Data

Llano Disposal LLC PO Box 250 Lovington NM, 88260	Project Name: Tatum Brine Station Project Number: 22117-0001 Project Manager: Elizabeth Pickerele	Reported: 10/14/2022 3:04:12PM
---	---	-----------------------------------

Fresh Well

E210017-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C						
Total Dissolved Solids	564	10.0	1	10/07/22	10/10/22	Batch: 2241104
Wet Chemistry by 9040C/4500H+B						
pH @25°C	7.71	pH Units	1	10/10/22 10:15	10/10/22 14:48	Batch: 2242013 H5
Wet Chemistry by SM2710F**						
Specific Gravity	1.032	N/A	1	10/07/22	10/10/22	Batch: 2241107
Anions by EPA 300.0/9056A						
Chloride	74.2	mg/L	2	10/04/22	10/05/22	Batch: 2241056

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Attachment M – Chemical Analysis

Discharge Plan Application for Brine Extraction Facilities

Tatum Brine Station – State 4 BSW #1

Fresh Water Well Test Results



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

Analytical Results For:

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

Project: TATUM BRINE
Project Number: SE CORNER OF TATUM
Project Manager: MARVIN BURROWS
Fax To: NONE

Reported:
28-Nov-17 17:15

EAST FRESH WATER WELL

H703118-01 (Water)

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

Cardinal Laboratories

Inorganic Compounds

Alkalinity, Bicarbonate	200		5.00	mg/L	1	7110705	AC	10-Nov-17	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	7110705	AC	10-Nov-17	310.1	
Chloride*	88.0		4.00	mg/L	1	7110601	AC	10-Nov-17	4500-CJ-B	
Conductivity*	825		1.00	uS/cm	1	7111001	AC	10-Nov-17	120.1	
pH*	7.63		0.100	pH Units	1	7111001	AC	10-Nov-17	150.1	
Sulfate*	140		25.0	mg/L	2.5	7110903	AC	09-Nov-17	375.4	
TDS*	410		5.00	mg/L	1	7110809	AC	10-Nov-17	160.1	
Alkalinity, Total*	164		4.00	mg/L	1	7110705	AC	10-Nov-17	310.1	

Green Analytical Laboratories

Total Recoverable Metals by ICP (E200.7)

Calcium*	75.1		1.00	mg/L	10	0711128	JDA	17-Nov-17	EPA200.7	
Magnesium*	16.6		1.00	mg/L	10	0711128	JDA	17-Nov-17	EPA200.7	
Potassium*	<10.0		10.0	mg/L	10	0711128	JDA	17-Nov-17	EPA200.7	
Sodium*	61.2		10.0	mg/L	10	0711128	JDA	17-Nov-17	EPA200.7	

Cardinal Laboratories

*=Accredited Analyte

PLEASE READ: Liability and Damages. Cardinal's facility and client's exclusive liability for any claims arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence or any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within sixty (60) days after completion of the applicable portion. In no event shall Cardinal be liable for incidental or consequential damages including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, by subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether the claim is based upon any of the above stated theories of liability. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

EXHIBIT "D"

Discharge Plan Application for Brine Extraction Facilities

Tatum Brine Station – State 4 BSW #1

Fresh Water Well Test Results



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

Analytical Results For:

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

Project: TATUM BRINE
Project Number: SE CORNER OF TATUM
Project Manager: MARVIN BURROWS
Fax To: NONE

Reported:
28-Nov-17 17:15

WEST FRESH WATER WELL

H703118-02 (Water)

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

Cardinal Laboratories

Inorganic Compounds

Alkalinity, Bicarbonate	205		5.00	mg/L	1	7110705	AC	10-Nov-17	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	7110705	AC	10-Nov-17	310.1	
Chloride*	56.0		4.00	mg/L	1	7110601	AC	10-Nov-17	4500-Cl-B	
Conductivity*	607		1.00	uS/cm	1	7111001	AC	10-Nov-17	120.1	
pH*	7.74		0.100	pH Units	1	7111001	AC	10-Nov-17	150.1	
Sulfate*	103		25.0	mg/L	2.5	7110903	AC	09-Nov-17	375.4	
TDS*	344		5.00	mg/L	1	7110809	AC	10-Nov-17	160.1	
Alkalinity, Total*	168		4.00	mg/L	1	7110705	AC	10-Nov-17	310.1	

Green Analytical Laboratories

Total Recoverable Metals by ICP (E200.7)

Calcium*	58.2		1.00	mg/L	10	B711128	JDA	17-Nov-17	EPA200.7	
Magnesium*	11.5		1.00	mg/L	10	B711128	JDA	17-Nov-17	EPA200.7	
Potassium*	<10.0		10.0	mg/L	10	B711128	JDA	17-Nov-17	EPA200.7	
Sodium*	39.7		10.0	mg/L	10	B711128	JDA	17-Nov-17	EPA200.7	

Cardinal Laboratories

* = Accredited Analyte

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

Ceiley D. Keene

Ceiley D. Keene, Lab Director/Quality Manager

EXHIBIT "D"

Discharge Plan Application for Brine Extraction Facilities

Tatum Brine Station – State 4 BSW #1

Sample Data

Llano Disposal LLC PO Box 250 Lovington NM, 88260	Project Name: Tatum Brine Station Project Number: 22117-0001 Project Manager: Elizabeth Pickere1	Reported: 10/14/2022 3:04:12PM
---	--	-----------------------------------

Fresh Well

E210017-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C						
Total Dissolved Solids	564	10.0	1	10/07/22	10/10/22	Batch: 2241104
Wet Chemistry by 9040C/4500H+B						
pH @25°C	7.71	pH Units	1	10/10/22 10:15	10/10/22 14:48	Batch: 2242013 H5
Wet Chemistry by SM2710F**						
Specific Gravity	1.032	N/A	1	10/07/22	10/10/22	Batch: 2241107
Anions by EPA 300.0/9056A						
Chloride	74.2	mg/L	2	10/04/22	10/05/22	Batch: 2241056

**Discharge Plan Application for Brine Extraction Facilities
Tatum Brine Station – State 4 BSW #1**

Attachment N – Public Notice

Llano Disposal, LLC will publish the following display ad in both English and Spanish, at least 2 by 3 inches and not in the classified or legal section, in the Lovington Leader, the newspaper closest to the residents of the Brine Facility and the Tatum area.

Llano Disposal, LLC, P.O. Box 250, Lovington, NM 88260, Mr. Darr Angell has filed a renewal application with the New Mexico Oil and Conservation District (OCD) to continue to operate a Class III Brine well and brine station.

The current brine well and brine station is located approximately 1.8 miles south of the Tatum town limits on the east side of Highway 206. The facility is located at 1980 FNL X 660 FWL, Unit Letter 'E', Section 4, T13S, R36E, Lea County, New Mexico. The brine well is located at latitude 33.2225075°, longitude -103.3154755° (NAD83). Brine wells are wells completed into salt formations for the purpose of solution mining the salt to create brine water. Fresh water is pumped into deep salt zones thereby producing concentrated salt water called "brine water". This brine water is used in the oilfield primarily for drilling and completion operations. It is anticipated that brine water will be produced at a rate of less than 1900 barrels per day with a total dissolved concentration of 320,000 mg/l (primarily NaCl). Groundwater in this area is present at depths of approximately 40 – 80 feet. The concentration of total dissolved solids in this groundwater is generally about 400 mg/l. The permit requires that the brine well and associated operations must be constructed and operate in a manner that will not adversely affect groundwater quality.

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

***Environmental Bureau Chief
Oil Conservation Division (OCD)
1220 South saint Francis Drive
Santa FE, New Mexico 87505
Telephone 505-476-3440***