

2023 Annual Class III Well Report Llano Disposal, LLC BW-38 API – 30-25-20592

Submitted by: Laura Angell, 10/28/24

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Summary of Class III Well Operations

BW3 (State 27 # 1) was put into service in the last quarter 2018 after a successful re-entry and recompletion. After re-entry was accomplished, a production string was run into the Salado. Fresh water was then circulated to test brine quality. Brine quality from this well has been excellent at 10.00 and 10.00+ lbs. per gallon. The amount of fresh water injected to brine recovered has been within expected ratio and in agreement with known cavern development. Injection pressure required to raise brine to surface has been approximate to anticipated (calculated) value.

Initially, there was not a great demand for brine water in the Maljamar area. However, that market has evolved as horizontal shale drilling continues to migrate northward from southern Lea and Eddy counties. Brine demand has increased accordingly. This well is situated perfectly to service changing industry needs. Currently this well is the only brine producer in the Maljamar area.

No changes have been made to the well/surface connection. Also, no changes have been made to the physical plant since the well was first put into operation. Trucks load on a one-foot-thick concrete pad. The loading pad is curbed, and has a sump for catching any brine incidentally spilled in handling hoses, etc. A heavy gauge plastic liner has been maintained under the storage tank and dike areas.

MITs have been performed on this well when required and have all been Hobbs OCD witnessed. Test pressure charts are found in **APPENDIX A** at the end of this report.

A chronological list of C103 forms that Llano Disposal has filed on subject well can be found in **APPENDIX D** at the end of this report.

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Monthly Fluid Injection and Brine Production

Federal Fiscal Year 2023

Month	Brine Monthly	Cumulative	Fresh Monthly	Cumulative	PSI
	BBLS	BBLS	BBLS	BBLS	
* Oct	0	0	0	0	
* Nov	0	0	0	0	
* Dec	0	0	0	0	
Jan	21,140	21,140	23,410	23,410	210
Feb	18,743	39,883	20,773	44,183	170
Mar	22,640	62,523	25,302	69,485	210
Apr	21,685	84,208	23,945	93,430	170
May	23,250	107,458	25,643	119,073	150
June	19,910	127,368	22,022	141,095	210
July	16,111	143,479	17,788	158,883	210
Aug	16,347	159,826	18,097	176,980	170
Sep	6,891	166,717	7,713	184,693	220

Fiscal Year Starting with 2023

Year	Brine Yearly	Brine Cumulative	Fresh Yearly	Fresh Cumulative
	BBLS	BBLS	BBLS	BBLS
2019	85,810	85,810	94,485	94,485
2020	72,836	158,646	82,076	176,561
2021	159,876	318,522	179,267	355,828
2022	213,762	532,284	243,876	599,704
Fiscal Year 2023	166,717	699,001	184,693	784,397

*** Note – 2023 is the first time using the Federal Fiscal Year calendar. The first three months of the fiscal year were included in the 2022 Annual Report. The 2024 Annual Report will include a full fiscal year.**

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Annual Monitor Well Analytical Data Results

An analysis was done on the monitor well each quarter in 2023. The reports can be viewed in **APPENDIX F** at the end of this report. However, the fourth quarter results are listed below:

Sample Data

Llano Disposal LLC PO Box 250 Lovington NM, 88260	Project Name: Hummingbird Brine Station Project Number: 22117-0001 Project Manager: Elizabeth Pickerele	Reported: 1/8/2024 4:31:20PM
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Monitor Well

E401003-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C	mg/L	mg/L	Analyst: RAS		Batch: 2401006	
Total Dissolved Solids	1210	10.0	1	01/03/24	01/08/24	
Wet Chemistry by 9040C/4500H+B	pH Units	pH Units	Analyst: WF		Batch: 2401031	
pH @25°C	8.02		1	01/04/24 09:23	01/04/24 14:40	H5
Wet Chemistry by SM2710F**	N/A	N/A	Analyst: KH		Batch: 2401037	
Specific Gravity	1.000		1	01/05/24	01/05/24	
Anions by EPA 300.0/9056A	mg/L	mg/L	Analyst: DT		Batch: 2401016	
Chloride	594	4.00	2	01/03/24	01/03/24	

Injection Pressure Data

Injection pressure at the well (tubing) averages 265/PSI. The brine well casing pressure (brine to battery), averages about 22 PSI. The field operator checks the pressures daily and records them on the daily log.

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Pipeline Hydrostatic Test Results

Service piping carrying fresh water to BW38, is a combination of 2" steel and 2" SDR11 HD poly piping. This line is tested accordingly to 160 psi. The feeder line (fresh water) runs due north from the freshwater pump. The distance is approximately 145'. Testing is accomplished by closing a steel ball valve on the well head, then allowing the freshwater pump to bring pressure up to 160 psi. The line is then isolated by valving installed at each end of the line. Pressure is held static on the line for 1 hour, during which time the line is visually inspected. The 3" SDR11 HD poly line leading from BW38 due west approximately 2500' to the tankage facility, is tested in the same manner. A valve in the line is closed at the tankage facility. Then the freshwater line at the wellhead is allowed to pressure to 160 psi. A jumper line between the freshwater line and the brine line has been installed at BW38 well head to accomplish this. After brine line pressure has risen to 160 psi, the entire system is shut down, then the brine line is isolated by closing valving in place at each end of the line. Pressure is held for 1 hour, during which time the line is visually inspected.

The freshwater line and the brine line run across land that is under the same ownership as Llano Disposal, LLC. Therefore, observing these lines for inspection during testing, and during normal operations, is frequent, and at will. The lines between the storage tanks and the truck loading valves, are all SDR11 high density poly. These lines carry normal head pressure of 0 psi (emptied tanks) to 17 psi (full tankage) but are virtually always under positive pressure. These lines are under continual live camera observation and viewed in person daily, both by truckers and by Llano field personnel. All tanks are 30' fiberglass and are manifolded together with 6" SDR11 HD poly line. Valving is installed on the outlet of each tank so that any one, or all the tanks can be closed off if needed. All valving and connections are plastic coated steel, stainless steel, poly, or fiberglass.

Pipeline Visual Inspections for leaks are done at minimum every other day, monitoring lines, joints, tanks, and recording volumes and pressure.

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Quarterly Chemical Analysis

A chemical analysis was done each quarter in 2023. The reports can be viewed in **APPENDIX F** at the end of this report.

Mechanical Integrity Test

A MIT was performed on 9/26/19 and on 5/7/24: Llano scheduled, then ran a MIT on BW38 using a calibrated chart recorder and the well passed the pressure test requirement. See the chart in **APPENDIX A**.

Deviations from normal Operations

There were no deviations from normal operations in 2023.

Leaks and Spills Corrective Action Reports

There were no leaks, spills, or corrective action during this period.

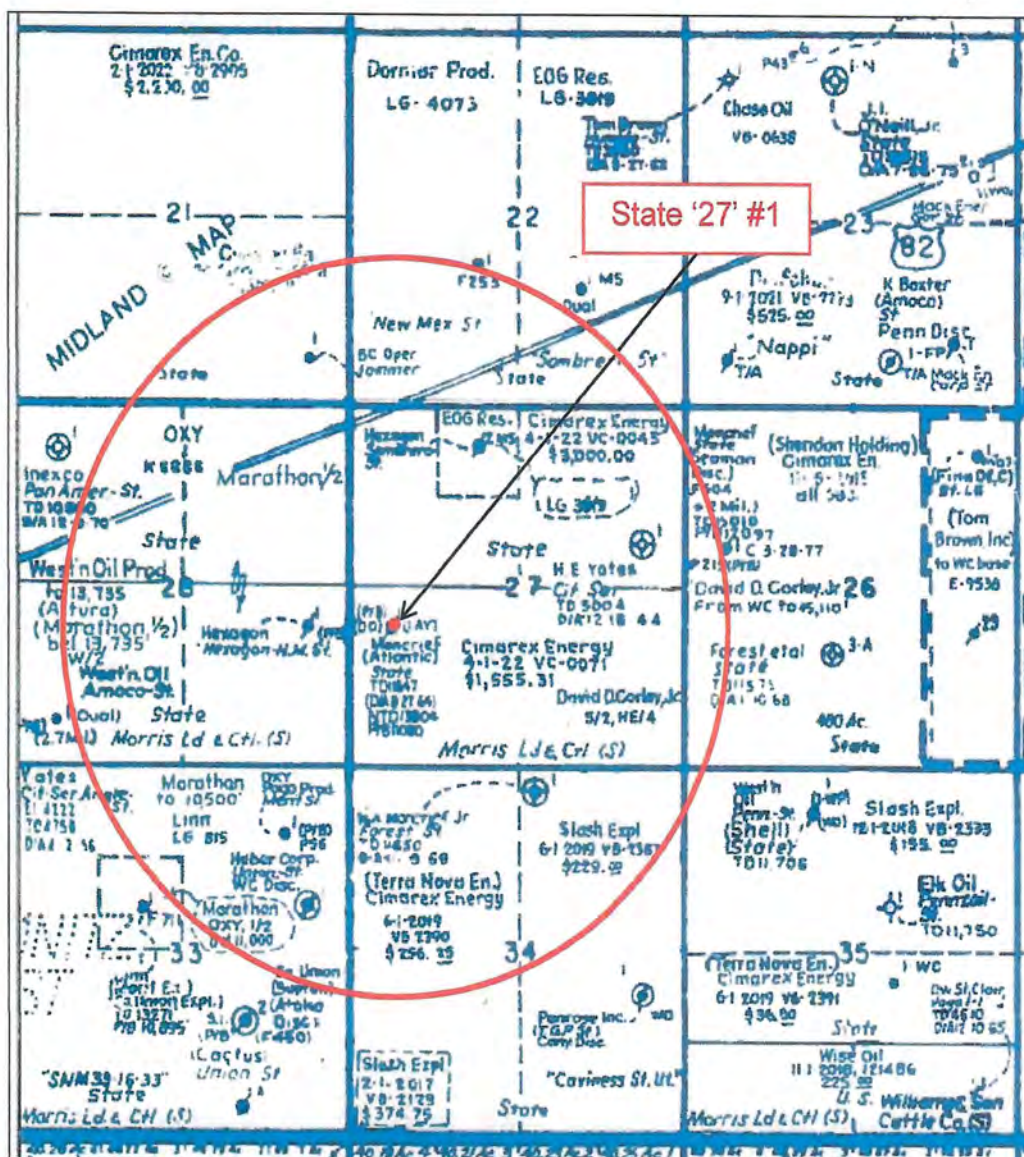
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Area of Review Update Summary

Please see below, the original AOR document that was submitted as part of the original application for BW38. A current, location-by-location review of this brine permit has been completed, and it was found that there has been no oil or gas well development in the area since the original AOR document was created and submitted to NMOCD as part of the original brine permit.



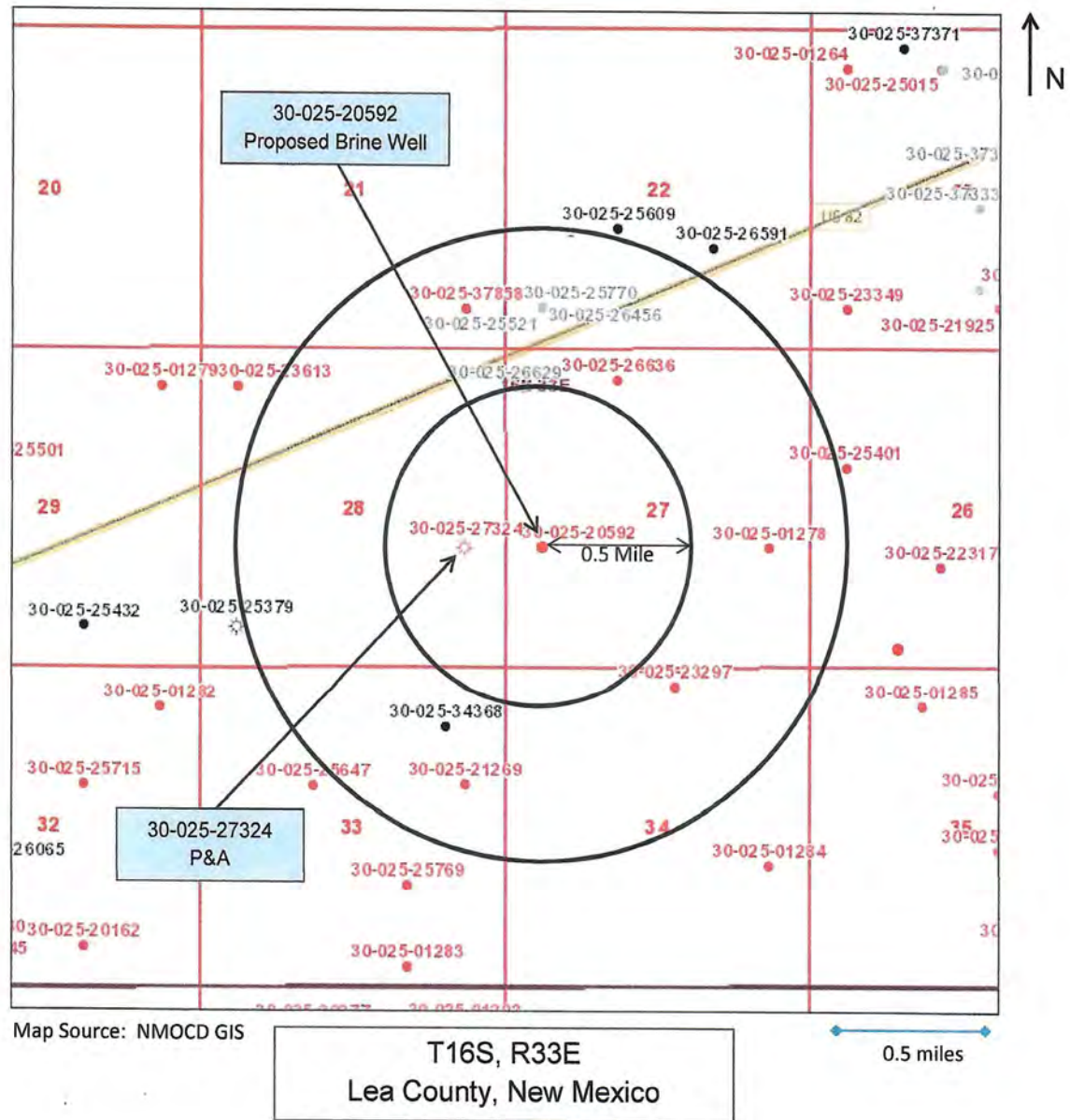
Map Source: Midland Map Co.

T16S, R33E

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Llano Disposal, LLC

State 27 #1

API # 30-025-20592

Offset Wells Located within 0.5 and 1 Mile Areas of Review

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

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

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

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

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Summary MITs, Surface Subsidence Surveys, Cavern Size & Shape, Cavern Volume and Geometry Measurements with Conclusion(s) and Recommendation(s)

A MIT was performed on 11/7/19 and 5/7/24 (BEFORE THIS 2023 REPORT WAS SUBMITTED). Llano scheduled, then ran the MITs on BW38 using a calibrated chart recorder. Subsequent pressure tests were successful. See the charts in **APPENDIX A**.

Please find the Subsidence Report in **APPENDIX C** at the end of this report, that was prepared for us by Asel Surveying of Hobbs, NM. The importance and purpose of the report is to closely monitor any geological shifting, either vertically or horizontally, in the earth surrounding the brine well.

A description of the Cavern Size & Shape, Cavern Volume and Geometry Measurements, is in **APPENDIX B** at the end of this report.

In conclusion, the operational history of BW38 could be described as “good”, meaning that the well has performed very well in producing 10# brine. There are currently no recommendations.

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Injected Fluids to Brine Ratio

Total Brine for the year	166,717
Total Fresh for the year	184,693
Ratio of Fresh to Brine	1.11

Summary of Major Facility Activities

There were no major activities during this period.

Surface Subsidence Monitoring Plan Data Results

The initial plan and survey were done and are included in **Appendix C** at the end of this report.

Solution Cavern Characterization Data Results

Please see **APPENDIX B** at the end of this report for a full description.

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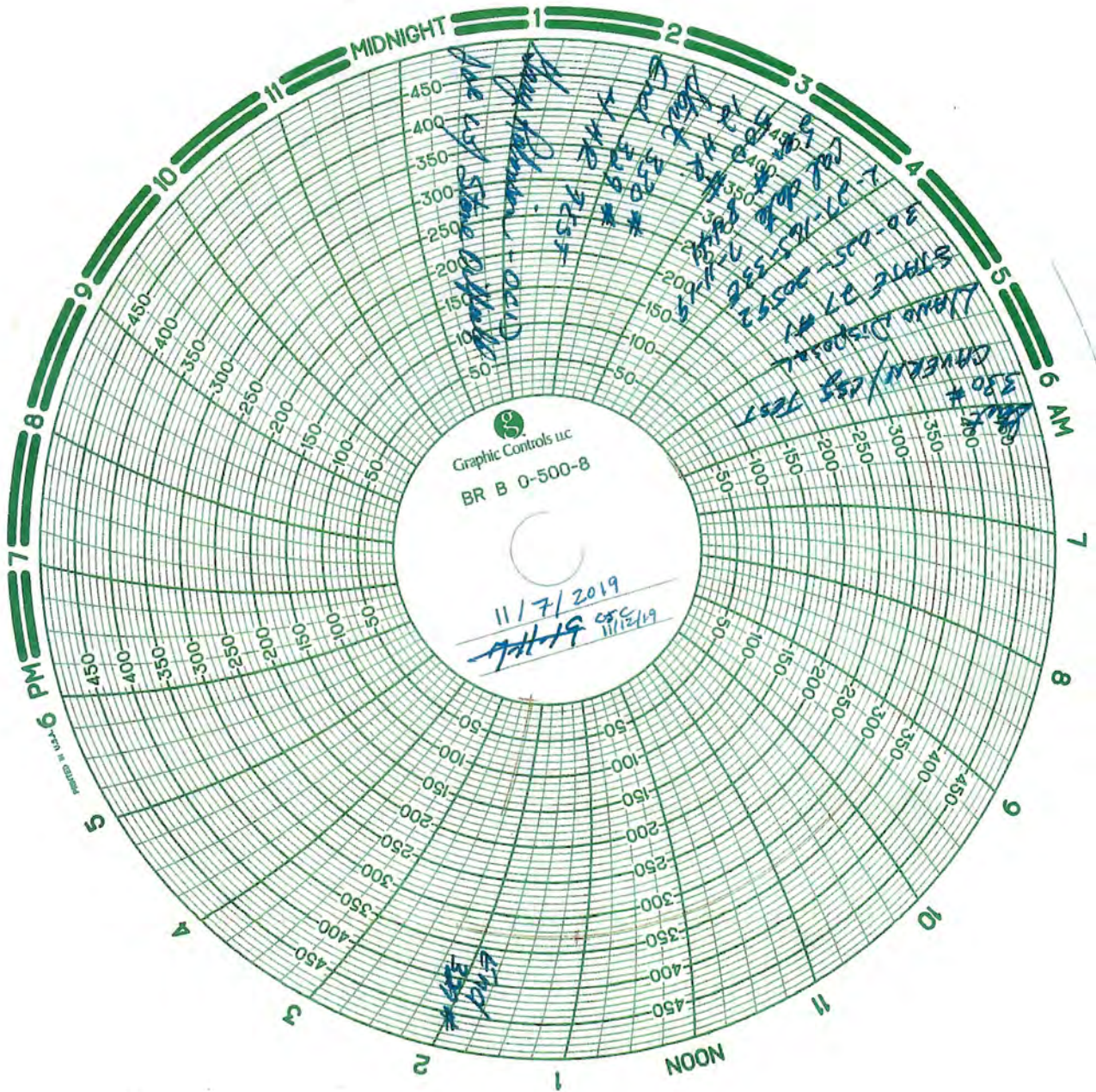
APPENDIX A

MITs

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2023

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

State of New Mexico
 Energy, Minerals and Natural Resources

Form C-103
 Revised July 18, 2013

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

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.)		WELL API NO. 30-025-20592
1. Type of Well: Oil Well Gas Well Other BSW		5. Indicate Type of Lease STATE x FEE
2. Name of Operator Llano Disposal, LLC		6. State Oil & Gas Lease No. Salt lease w/ SLO
3. Address of Operator PO Box 250, Lovington NM 88260		7. Lease Name or Unit Agreement Name State 27
4. Well Location Unit Letter I : 1980 feet from the S line and 660 feet from the W line Section 27 Township 16S Range 33E NMPM County Lea		8. Well Number 1
11. Elevation (Show whether DR, RKB, RT, GR, etc.)		9. OGRID Number 370661
10. Pool name or Wildcat Salado brine generation lease.		

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK	PLUG AND ABANDON	REMEDIAL WORK	ALTERING CASING
TEMPORARILY ABANDON	CHANGE PLANS	COMMENCE DRILLING OPNS.	PANDA
PULL OR ALTER CASING	MULTIPLE COMPL	CASING/CEMENT JOB	
DOWNHOLE COMMINGLE			
CLOSED-LOOP SYSTEM			
OTHER:		OTHER:	Casing and brine cavity pressure test.

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.

On 11/7/19, met on location w/ OCD Dist I rep Gary Hamilton to perform scheduled casing/brine cavity test on this well. Connected truck and chart pressure recorder (recorder w/ valid cal date) to perform 4 hour static pressure test. Ran test for 4+ hours. Well lost 1 psi according to chart. Per direction from Santa Fe OCD and Dist I rep, we returned the well to brine production immediately after conclusion of this test.

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 Burrows TITLE _____ Agent for _____ DATE 11/08/19
 Type or print name Marvin Burrows E-mail address: burrowsmarvin@gmail.com PHONE 575-631-8067
 For State Use Only

APPROVED BY: Emily J. Chavez TITLE Environmental Engineer DATE 11/12/2019
 Conditions of Approval (if any):

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CHARTS Ltd.

GAS MEASUREMENT

CALIBRATION CERTIFICATE	
Cert Date:	7/11/2019
Due Date:	7/11/2020

Customer: AMERICAN VALVE & METER INC
 Model: BULLFROG 8"
 Serial: 8441

This is to certify that this Instrument has been inspected and tested against ADDITEL Digital Gauge ADT680-GP30K, SN: 218183B0028 Calibrated (04/25/2019) Due Date (04/25/2020) Reference Standard used in this calibration are traceable to the SI Units through NIST. This calibration is compliant to ISO/IEC 17025:2017 and ANSI/NCSL Z540-1:R2002.

This Instrument is certified to be accurate within +/- 1% of Full Scale

Input Type/ Range: 500#		Color: RRED	
Pen Number: 2			
Ascending	Descending		
Applied	Reading	Applied	Reading
0	0	499	500
99	100	398	400
248	250	249	250
398	400	100	100
499	500	0	0

2031 TRADE DR.
 MIDLAND, TX 79706
 (432) 697-7801 (432) 520-3564

Technician:

Suzanne [Signature]

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PERFORMING BRADENHEAD TEST

General Procedure for Bradenhead Test

Identify: All valves prior to testing

Gauges: Install on each casing string to record pressure.

Assure: That all valves are in good working condition and closed at least 24 hours prior to testing.

Open: Each valve (Bradenhead, intermediate and casing valves) is to be opened separately.

Check Gauges: Record pressure on each gauge and casing string on BHT form. Open valves to atmosphere and record results on BHT form.

Designate what applies to the result of opening the valves for each string:

- | | |
|------------------------|-----------|
| • Blow or Puff | Yes or No |
| • Bled down to Nothing | Yes or No |
| • Steady Flow | Yes or No |
| • Oil or Gas | Yes or No |
| • Water | Yes or No |

Start: Injection or SWD pump so tubing pressure can be read.

Instructions below apply to the District 1 Hobbs office since this must be reported on a form.

In case of pressure:

1. Record pressure reading on gauge.
2. Bleed and note time elapsed to bleed down.
3. Leave valve open for additional observation
4. Note any fluids expelled.

In absence of Pressure:

1. Leave valve open for additional observation
2. Note types of fluids expelled.
3. Note if fluids persist throughout test.

Note: Tubing pressure on injection or SWD wells.

Test will be signed by person performing test with a contact phone number.

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District I
1525 N Fensch Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-6720

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division Hobbs District Office

BRADENHEAD TEST REPORT

Operator Name Llano Disposal		API Number 30-025-20592	
Property Name STATE 27		Well No. 1	

Surface Location

UL - Lot L	Section 27	Township 16S	Range 33E	Feet from 1980	N/S Line S	Feet from 660	E/W Line W	County LEA
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Well Status

TA'D WELL YES	NO	YES	SHUT-IN NO	INJ	INJECTOR SWD	OIL	PRODUCER GAS	DATE 11-7-19
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BRINE WELL

OBSERVED DATA

	(A)Surface	(B)Interm(1)	(C)Interm(2)	(D)Prod Csmg	(E)Tubing
Pressure	Cemented			0	0
Flow Characteristics					
Puff	Y / N	Y / N	Y / N	Y / N	CO2
Steady Flow	Y / N	Y / N	Y / N	Y / N	WTR
Surges	Y / N	Y / N	Y / N	Y / N	GAS
Down to nothing	Y / N	Y / N	Y / N	N	Type of fluid Inferred for Waterflood if applies
Gas or Oil	Y / N	Y / N	Y / N	Y / N	
Water	Y / N	Y / N	Y / N	Y / N	

Remarks - Please state for each string (A,B,C,D,E) pertinent information regarding bleed down or continuous build up if applies.

BRINE WELL
MIT

C-103
chart
CAL. papers
BHT

send to Carl
and
Hobbs office

Signature:		OIL CONSERVATION DIVISION	
Printed name:		Entered into RBDMS	
Title:		Re-test	
E-mail Address:			
Date:	Phone:		
Witness: Shirley Robinson			

INSTRUCTIONS ON BACK OF THIS FORM

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State of New Mexico
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1220 South St. Francis Dr.
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Form C-103
Revised July 18, 2013

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.)		WELL API NO. 30-025-20592
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Brine Well <input type="checkbox"/>		5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
2. Name of Operator Llano Disposal, LLC		6. State Oil & Gas Lease No. Salado BSW
3. Address of Operator P.O. Box 250, Lovington, NM 88260		7. Lease Name or Unit Agreement Name State 27
4. Well Location Unit Letter <u>L</u> : 1980 feet from the <u>S</u> line and <u>660</u> feet from the <u>W</u> line Section <u>27</u> Township <u>16S</u> Range <u>33E</u> NMPM County <u>Lea</u>		8. Well Number <u>1</u>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 4201		9. OGRID Number <u>370661</u>
		10. Pool name or Wildcat BSW Salado

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: <u>Cavern MIT</u> <input checked="" type="checkbox"/>		OTHER: <input type="checkbox"/>	

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

- 1) Shut well off 24 hours prior to testing.
- 2) Have pump truck on location prior to scheduled test time, loaded with 120 bbls water.
- 3) Have recently inspected and calibrated pressure recorder on location. Pressure recorder will be equipped with the proper 500 psi range paper charts.
- 4) Wait for NMOCD field technician to arrive on location to witness this 4-hour test.
- 5) Tie pump truck onto well as directed.
- 6) Connect chart recorder to wellhead to record pressure during test period. Place 500 psi paper chart into recorder. Activate chart recorder (turn recorder on and off to verify chart recorder pen are working).
- 7) Using pump truck, load well, then bring pressure up to NMOCD specified test pressure. Test pressure of at least 300 psi.
- 8) Shut pump truck down, disconnect pump truck. Isolate well to pressure recorder.
- 9) With well so isolated to pressure recorder, allow recorder to chart pressure for duration of test.
- 10) At the end of the test period, remove pressure chart, then present to NMOCD witness for processing and further direction.
- 11) Write down date, type of test, witnesses, witness signatures, and the start and end pressure on the chart.

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 Elizabeth Pickeral TITLE Brine Manager DATE 04/28/2024
 Type or print name Elizabeth Pickeral E-mail address: service.llanobrine@gmail.com PHONE: 575-605-6490
For State Use Only

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

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Submit 1 Copy To Appropriate District
Office
District I – (575) 393-6161
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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

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

Form C-103
Revised July 18, 2013

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.)		WELL API NO. 30-025-20592
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Brine Well		5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
2. Name of Operator Llano Disposal, LLC		6. State Oil & Gas Lease No. Salado BSW
3. Address of Operator P.O. Box 250, Lovington, NM 88260		7. Lease Name or Unit Agreement Name State 27
4. Well Location Unit Letter L : 1980 feet from the S line and 660 feet from the W line Section 27 Township 16S Range 33E NMPM County Lea		8. Well Number 1
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 4201		9. OGRID Number 370661
		10. Pool name or Wildcat BSW Salado

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: <input type="checkbox"/>		OTHER: Cavern MIT <input checked="" 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 is submitting this follow up report (and results) for the conclusion of a successful MIT performed on 5/7/2024 with the assistance of Gary Robinson, OCD. Please see the attached pages for the Bradenhead Test Report and other pertinent data.

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 Elizabeth Pickerel TITLE Brine Manager DATE 05/8/2024
Type or print name Elizabeth Pickerel E-mail address: service.llanobrine@gmail.com PHONE: 575-605-6490
For State Use Only

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

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Llano Disposal, LLC BW-38 API 30-025-20592

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District I
1431 N. French Dr., Hobbs, NM 88240
Phone: (505) 325-6151 Fax: (505) 325-0925

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division Hobbs District Office

BRADENHEAD TEST REPORT

Operator Name Llano Disposal	API Number 30-025-20592
Property Name STATE 27	Well No. # 1

2. Surface Location								
U/L Line L	Section 27	Township 16S	Range 33E	Feet from 1980	NS Line S	Feet from 660	EW Line W	County LEA

Well Status									
TAB WELL YES	NO	YES	SHUT-IN NO	NO	INJ INJ	SWD	OIL	PRODUCER GAS	DATE 5-7-24

BRINE WELL
OBSERVED DATA

	(A) Surface	(B) Interwell	(C) Interwell	(D) Prod Casing	(E) Tubing
Pressure	Cemented	Cemented		0	0
Flow Characteristics					
Puff	Y / N	Y / N	Y / N	Y / N	CO ₂
Steady Flow	Y / N	Y / N	Y / N	Y / N	WTR
Surge	Y / N	Y / N	Y / N	Y / N	GAS
Down to nothing	Y / N	Y / N	Y / N	Y / N	Type of Fluid
Gas or Oil	Y / N	Y / N	Y / N	Y / N	Weight and
Water	Y / N	Y / N	Y / N	Y / N	Viscosity

Remarks - Please state for each string (A,B,C,D,E) pertinent information regarding bleed down or continuous build up if applies.

Brine Well ~~not~~ casing/casing MT/BAT

Signature:		OIL CONSERVATION DIVISION
Printed name:		Entered into RBDMS
Title:		Re-test
E-mail Address:		
Date:	Phone:	
Witness:	Grey Kohnen	

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General Procedure for Bradenhead Test

- Identify: All valves prior to testing
- Gauges: Install on each casing string to record pressure.
- Assure: That all valves are in good working condition and closed at least 24 hours prior to testing.
- Open: Each valve (Bradenhead, intermediate and casing valves) is to be opened separately.
- Check Gauges: Record pressure on each gauge and casing string on BHT form. Open valves to atmosphere and record results on BHT form
- Designate what applies to the result of opening the valves for each string:
- | | |
|-------------------------|-----------|
| • Blow or Puff | Yes or No |
| • Bleed down to Nothing | Yes or No |
| • Steady Flow | Yes or No |
| • Oil or Gas | Yes or No |
| • Water | Yes or No |
- Start: Injection or SWD pump so tubing pressure can be read

Instructions below apply to the District 1 Hobbs office since this must be reported on a form.

In case of pressure

1. Record pressure reading on gauge
2. Bleed and note time elapsed to bleed down
3. Leave valve open for additional observation
4. Note any fluids expelled

In absence of Pressure.

1. Leave valve open for additional observation.
2. Note types of fluids expelled
3. Note if fluids persist throughout test

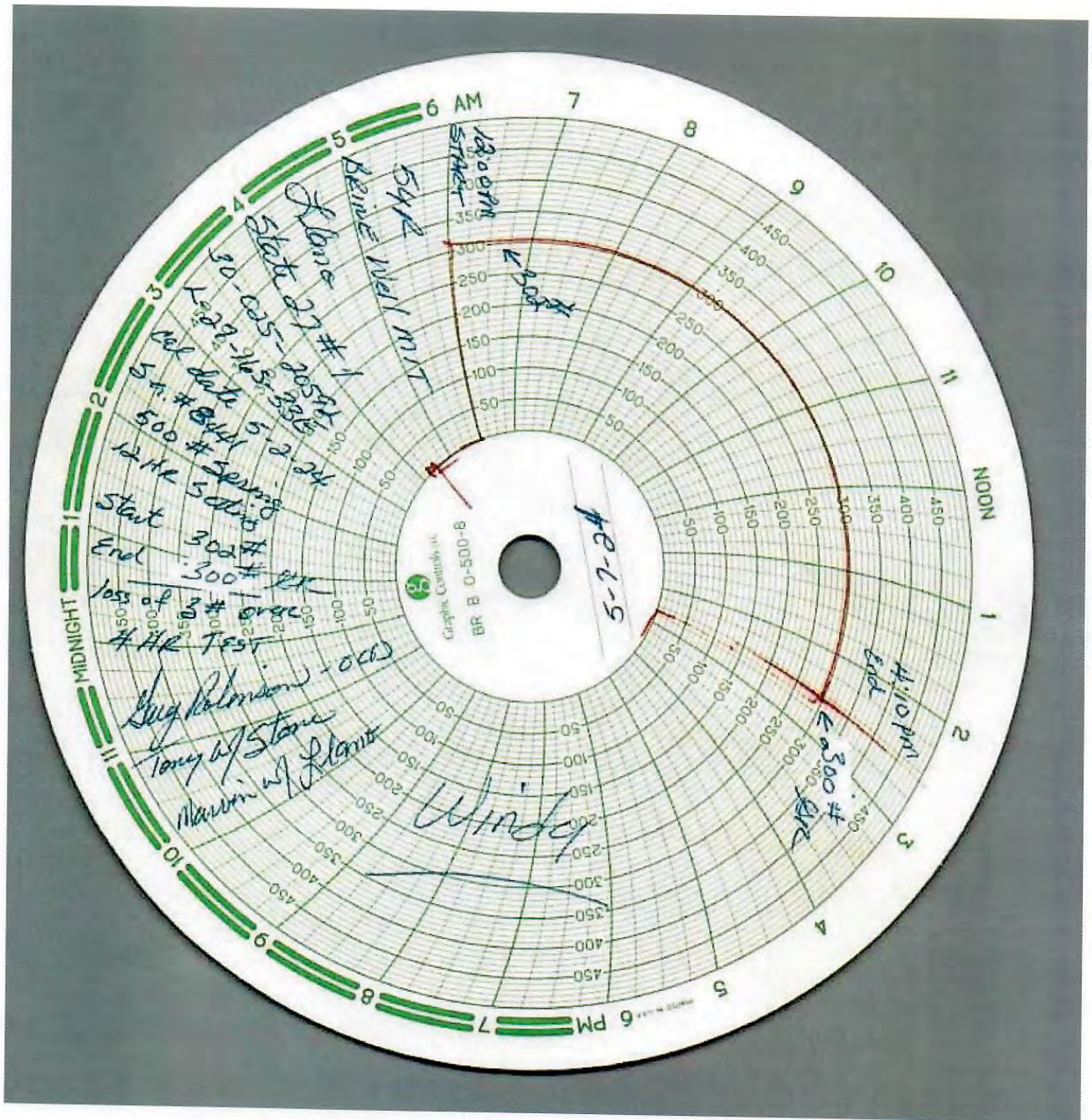
Note: Tubing pressure on Injection or SWD wells

Test will be signed by person performing test with a contact phone number.

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American Valve & Meter, Inc.

1113 W. BROADWAY

P.O. BOX 166 HOBBS, NM 88240

T0: LLANO DISPOSAL

Date: 5/2/24

This is to certify that:

I, EBARISTO CRUZ, technician for American Valve & Meter Inc. Has checked
the calibration of the following instrument.

8' Pressure recorder

Ser# 8441

at these points.

Pressure #			Temperature *or Pressure #		
Test	Found	Left	Test	Found	Left
- 0	-	- 0	- 0	-	- 0
- 250	- s	- 250	-	- c	-
- 350	- a	- 350	-	- a	-
- 500	- m	- 500	-	- l	-
- 100	- e	- 100	-	-	-
- 0	-	- 0	-	-	- 0

Remarks: _____

Signature: Ebaristo Cruz

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APPENDIX B

Cavern Characterization

Annual Report**Llano Disposal, LLC BW-38 API 30-025-20592****2023****Cavern Characterization**

By the end of Federal Fiscal Year 2023, 784,397 total bbls of fresh water had been injected into the salt strata for the purpose of brine generation (32,944,674 gallons). water had been injected into the salt strata for the purpose of brine generation (9,026,640 gallons). *Since this is the first time using the Federal Fiscal Year, this report includes nine months. Oct, Nov and Dec 2022 were included in the 2022 Annual report.* Well production history has shown that this well reliably produces 10.0 pound/gallon brine water. It therefore follows that each gallon of fresh water (testing 8.34 pounds per gallon) has been dissolving 1.66 pounds of halite. By simple calculation, 54,688,158 pounds of halite (and other water solubles) have gone into solution since operations began. Halite has a SG of 2.17 (compared to fresh water), so is calculated and known to weigh 137.47 pounds per cubic foot. It follows then, that 397,818 cubic feet of halite have gone into solution since operations began. The amount of fresh water injected (784,397 bbls) as compared to the amount of brine produced (699,001 bbls) shows that water is being used to fill the cavity as the cavity increases in volume.

Fresh water injected compared to brine water produced, is 112.21 %.

Since it is impossible to know the exact dimensions of the cavity, some assumptions are reasonably made. OCD regulations require that fresh water be injected down a tubing string so that brine may be produced up the tubing/casing annulus. Therefore, brine generation begins at total depth, and by the time water so circulated reaches the annulus, it has become marketable 10# brine. It is logical then, that dissolution will be rapid at first, then tapers off as saturation is achieved. Such action would imply a cone shaped (inverted cone) cavity.

The teaching to calculate the volume of a truncated cone is :

$$\text{Volume} = (1/3) \times \pi (R^2 + (R \times r) + r^2) H$$

Where:

- 1) r equals the radius of the small (upper) end cone diameter in feet
- 2) R equals the radius of the large (lower) end cone diameter in feet
- 3) R² is "R squared". r² is "r squared".
- 4) H is depth in feet from tubing depth to top of salt (casing shoe).

Justification for calculation of salt dissolved by the injection of fresh water into BW38 Salado :

Fresh water used at BW38 for the purpose of brine generation is known to weigh 8.34 lbs per gallon. Therefore 1.66 lbs of salt must be taken up by each gallon of fresh water so injected to result in 10 ppg brine water, which is the known marketable industry standard. It follows then that each barrel of brine water (one API barrel = 42 gallons) contains 42 x 1.66 lbs of salt, or 69.72 lbs of salt. One cubic foot of salt weighs 137.47 lbs. Continuing, the cubic feet of salt

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

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consumed is equal to the total amount of salt that is calculated to have gone into solution divided by 137.47 lbs.

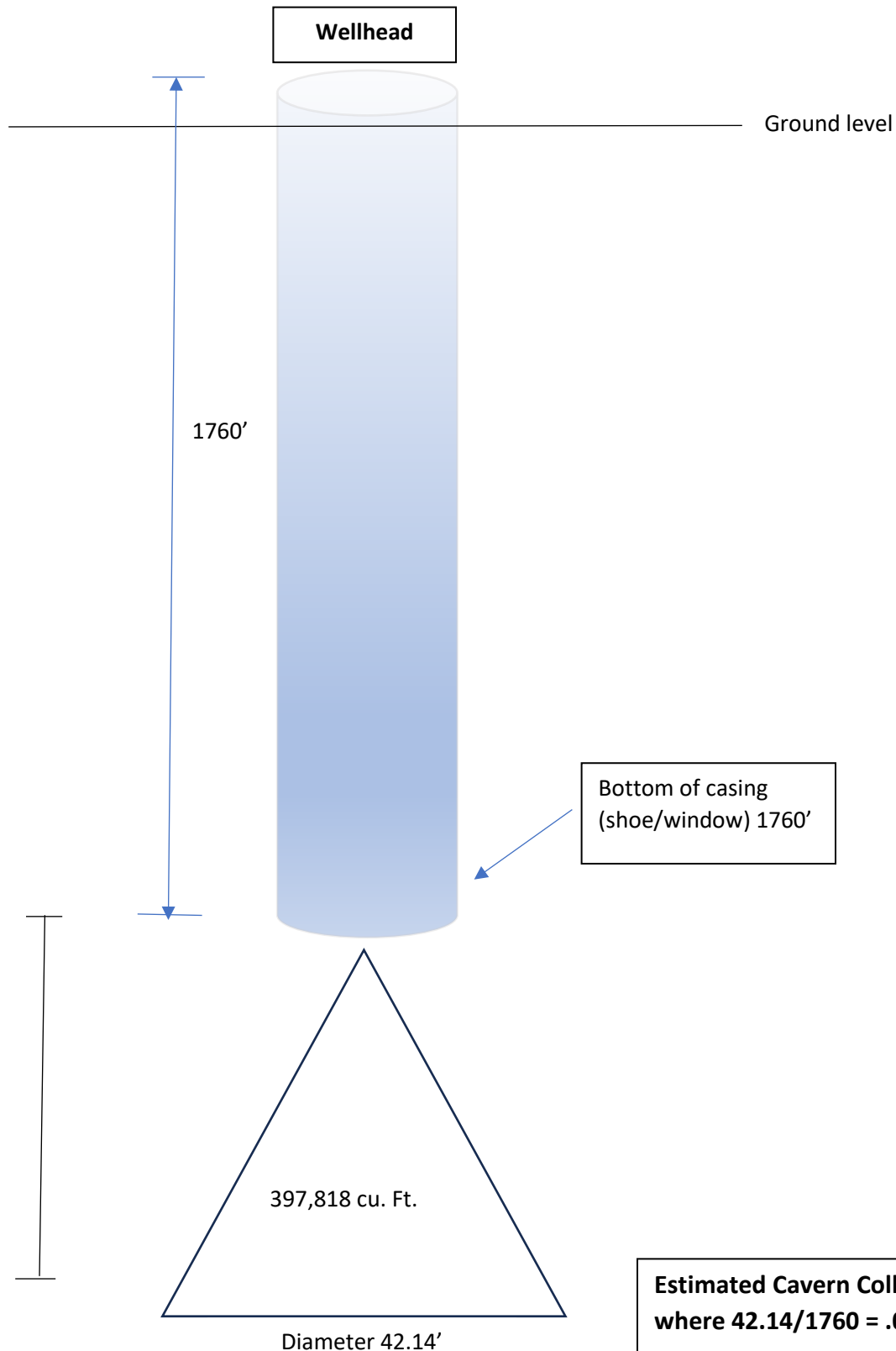
The attached illustration, with dimensions shown, satisfies the cubic foot volume of solubles (halite) that have been solution mined since operations first began.

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Cavern Size, Shape, & Volume Estimate



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APPENDIX C

Subsidence Survey Results

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LLANO DISPOSAL LLC.

STATE 27 BSW #1 (BW-38) API #30-025-20592

On March 15, 2023 a field survey was conducted of the Llano Disposal LLC - State 27 BSW #1 (BW-38)(API #30-025-20592) and three subsidence monuments located in Unit letter L, Section 27, Township 16 South, Range 33 East, N.M.P.M., Lea County, New Mexico.
Located approximately 6.5 miles East of Maljamar NM.

VERTICAL ELEVATION TABLE

Survey	Original Survey EL (Feet)	EL (Feet)	EL (Feet)	EL (Feet)	EL (Feet)	EL (Feet)
Monument ID	01/31/2022*	03/15/2023				
1	4198.73*	4198.77				
2	4205.18*	4205.18				
3	4201.40*	4201.42				
Well Flange	-	4202.09				
Bench Mark	4242.81*	4242.82				
Control Point	4203.96*	4203.98				

* - Data from Pettigrew & Associates.

HORIZONTAL LOCATIONS

Monument ID	Northing	Easting
1	688106.02	749446.29
2	688234.66	748492.54
3	688560.28	748845.62
Well Head	688513.20	748782.69
"	N32°53'27.29"	W103°39'27.07"



SURVEYORS CERTIFICATE

I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR NO. 15079, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND MEETS THE "MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO" AS ADOPTED BY THE NEW MEXICO STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND SURVEYORS.

Terry J. Asel 3/2/2023
Terry J. Asel N.M. R.P.L.S. No. 15079

Asel Surveying, LLC

P.O. BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 575-393-9146



Bearings and Coordinates conform to the New Mexico State Plane Coordinate System, New Mexico East Zone, NAD83, as derived from static GPS data sent to the National Geodetic Survey for OPUS solution processing.
Basis of Elevations: U.S.C. & G.S. Bench Mark
S34 1933 - CV0419
Published Elev. = 4242.79

LLANO DISPOSAL LLC.

STATE 27 BSW WELL #1 (BW-38) LOCATED IN
SECTION 27, TOWNSHIP 16 SOUTH, RANGE 33
EAST, N.M.P.M., LEA COUNTY, NEW MEXICO

Survey Date: 03/15/23	Sheet 1 of 1 Sheets
W.O. Number: 230315MS	Drawn By: KA Rev:
Date: 03/17/23	230315MS Scale: 1"=1000'

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Llano Disposal, LLC BW-38 API 30-025-20592

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Monument Survey Table – BW-38

Monument ID-1, Horizontal Locations: Northing - 688106.02, Easting - 749446.29

Survey Date	Elevation	+/- ft.	
3/14/2019	4198.65		*
1/31/2022	4198.73	-0.08	*
3/15/2023	4198.77	-0.04	

Monument ID-2, Horizontal Locations: Northing - 688234.66, Easting - 748492.54

Survey Date	Elevation	+/- ft.	
3/14/2019	4205.14		*
1/31/2022	4205.18	-0.04	*
3/15/2023	4205.18	0.00	

Monument ID-3, Horizontal Locations: Northing - 688560.28, Easting - 748845.62

Survey Date	Elevation	+/- ft.	
3/14/2019	4201.37		*
1/31/2022	4201.40	-0.03	*
3/15/2023	4201.42	-0.02	

Wellhead, Horizontal Locations: Northing - 688513.20, Easting - 748782.69

Survey Date	Elevation	+/- ft.
3/15/2023	4202.09	

Benchmark, Horizontal Locations: Northing - 684706.85, Easting - 731653.40

Survey Date	Elevation	+/- ft.	
1/31/2022	4242.81		*
3/15/2023	4242.82	-0.01	

Control Point, Horizontal Locations: Northing - 811570.11, Easting - 851983.51

Survey Date	Elevation	+/- ft.	
1/31/2022	4203.96		*
3/15/2023	4203.98	-0.02	

* Elevations for the State 27 BSW #1 (BW-38) Wellhead and three subsidence monuments were determined by Asel Surveying LLC. using Geodetic Position System (Trimble R8 Base and Trimble 5800 Rover) RTK measurements off the United States Coastal and Geodetic Survey standard Benchmark S34 1933 NGS-CV0419 with a published elevation of 4242.79'.

Differences in elevations are attributed to the difference in GPS equipment and procedures used. Asel Surveying LLC. versus Pettigrew and Associates PA

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APPENDIX D

Sundries

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There were no sundries in 2023.

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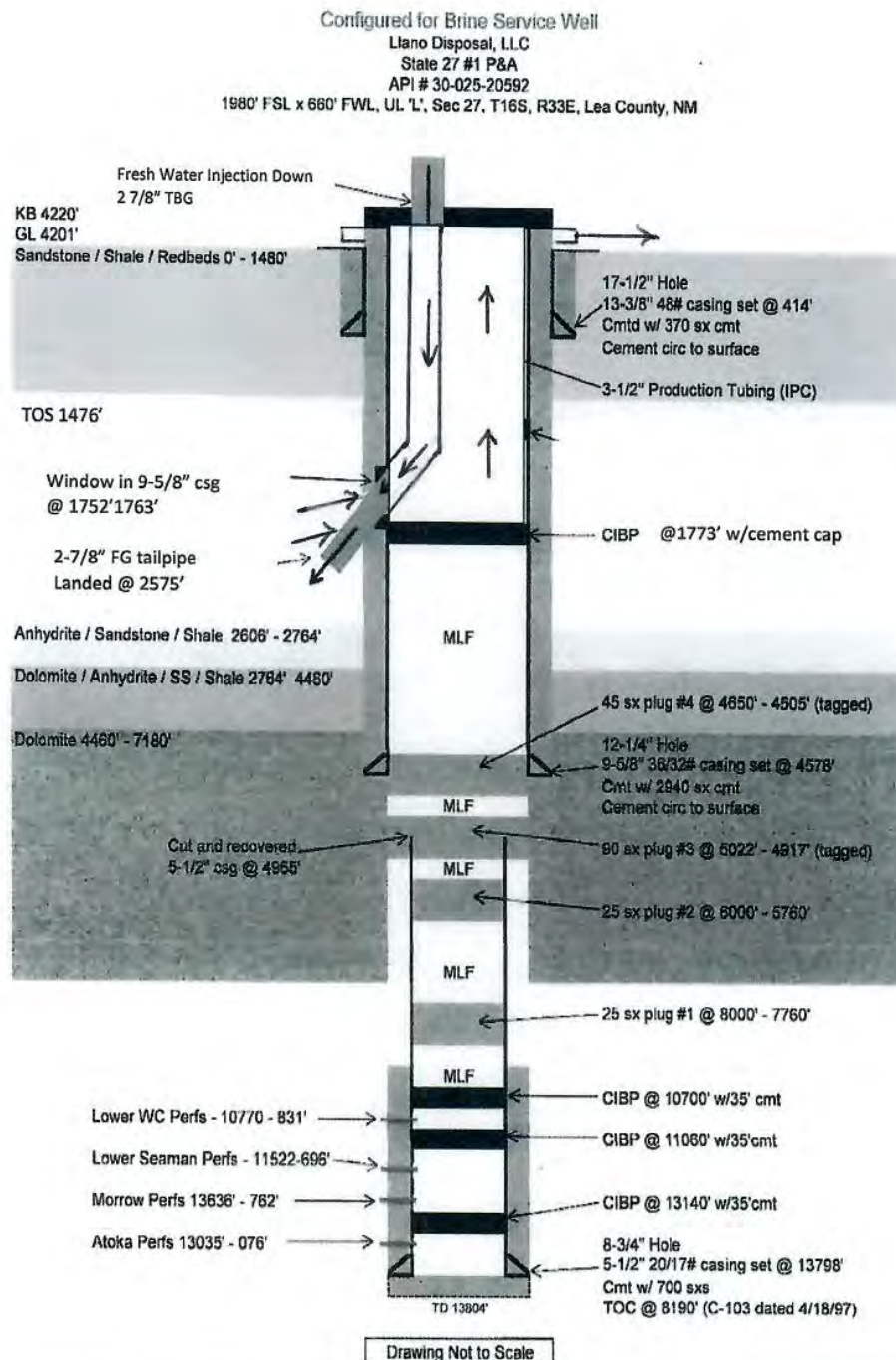
APPENDIX E

Well Diagrams

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Llano Disposal, LLC BW-38 API 30-025-20592

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Llano Disposal, LLC BW-38 API 30-025-20592

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APPENDIX F

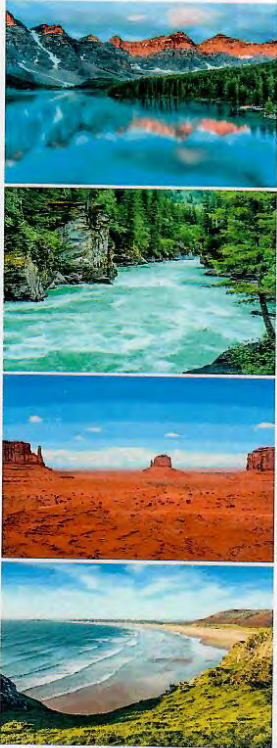
Chemical Analysis

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

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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: Hummingbird Brine Station

Work Order: E303129

Job Number: 22117-0001

Received: 3/30/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
4/7/23

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.

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

Date Reported: 4/7/23

Elizabeth Pickerel
PO Box 250
Lovington, NM 88260



Project Name: Hummingbird Brine Station
Workorder: E303129
Date Received: 3/30/2023 7:00:00AM

Elizabeth Pickerel,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 3/30/2023 7:00:00AM, under the Project Name: Hummingbird Brine Station.

The analytical test results summarized in this report with the Project Name: Hummingbird Brine Station apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

Alexa Michaels
Sample Custody Officer
Office: 505-632-1881
labadmin@envirotech-inc.com

Field Offices:

Southern New Mexico Area
Lynn Jarboe
Technical Representative/Client Services
Office: 505-421-LABS(5227)
Cell: 505-320-4759
ljjarboe@envirotech-inc.com

West Texas Midland/Odessa Area
Rayny Hagan
Technical Representative
Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

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QC - Wet Chemistry by 9040C/4500H+B	9
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Sample Summary

Llano Disposal LLC PO Box 250 Lovington NM, 88260	Project Name: Hummingbird Brine Station Project Number: 22117-0001 Project Manager: Elizabeth Pickerel	Reported: 04/07/23 11:23
---	--	-----------------------------

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Brine Well	E303129-01A	Aqueous	03/29/23	03/30/23	Poly 500mL
Fresh Well	E303129-02A	Aqueous	03/29/23	03/30/23	Poly 500mL
Monitor Well	E303129-03A	Aqueous	03/29/23	03/30/23	Poly 500mL

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Llano Disposal, LLC BW-38 API 30-025-20592

2023

Sample Data

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported: 4/7/2023 11:23:18AM
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickerele	

Brine Well

E303129-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C						
Total Dissolved Solids	mg/L	mg/L				Batch: 2313044
	288000	500	1	03/30/23	04/03/23	
Wet Chemistry by 9040C/4500H+B						
pH @25°C	pH Units	pH Units				Batch: 2313096
	6.76		1	03/31/23 11:37	03/31/23 11:51	H5
Wet Chemistry by SM2710F**						
Specific Gravity	N/A	N/A				Batch: 2314002
	1.191		1	04/03/23	04/03/23	
Total Metals by EPA 6010C						
Sodium	mg/L	mg/L				Batch: 2314015
	127000	2000	1000	04/04/23	04/06/23	
Anions by EPA 300.0/9056A						
Chloride	mg/L	mg/L				Batch: 2313097
	206000	2000	1000	03/31/23	04/03/23	

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Sample Data

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported: 4/7/2023 11:23:18AM
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickere1	

Fresh Well

E303129-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C						
Total Dissolved Solids	352	10.0	1	03/30/23	04/03/23	Batch: 2313044
Wet Chemistry by 9040C/4500H+B						
pH @25°C	7.67		1	03/31/23 11:37	03/31/23 11:51	Batch: 2313096 H5
Wet Chemistry by SM2710F**						
Specific Gravity	0.992		1	04/03/23	04/03/23	Batch: 2314002
Anions by EPA 300.0/9056A						
Chloride	47.4	2.00	1	03/31/23	04/03/23	Batch: 2313097

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Llano Disposal, LLC BW-38 API 30-025-20592

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Sample Data

Llano Disposal LLC PO Box 250 Lovington NM, 88260	Project Name: Hummingbird Brine Station Project Number: 22117-0001 Project Manager: Elizabeth Pickerel	Reported: 4/7/2023 11:23:18AM
---	--	----------------------------------

Monitor Well

E303129-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C						
Total Dissolved Solids	319	10.0	1	03/30/23	04/03/23	Batch: 2313044
Wet Chemistry by 9040C/4500H+B						
pH @25°C	7.70		1	03/31/23 11:37	03/31/23 11:51	Batch: 2313096 H5
Wet Chemistry by SM2710F**						
Specific Gravity	0.991	N/A	1	04/03/23	04/03/23	Batch: 2314002
Anions by EPA 300.0/9056A						
Chloride	45.0	2.00	1	03/31/23	04/03/23	Batch: 2313097

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Llano Disposal, LLC BW-38 API 30-025-20592

2023

QC Summary Data

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported:
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickere1	4/7/2023 11:23:18AM

Wet Chem/Gravimetric by SM2540C

Analyst: KF

Analyte	Result mg/L	Reporting Limit mg/L	Spike Level mg/L	Source Result mg/L	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
---------	----------------	----------------------------	------------------------	--------------------------	----------	--------------------	----------	-------------------	-------

Blank (2313044-BLK1)

Total Dissolved Solids ND 10.0 Prepared: 03/30/23 Analyzed: 04/03/23

LCS (2313044-BS1)

Total Dissolved Solids 97.0 10.0 100 97.0 55-134 Prepared: 03/30/23 Analyzed: 04/03/23

Duplicate (2313044-DUP1)

Source: E303107-01

Total Dissolved Solids 2930 10.0 2940 0.341 5 Prepared: 03/30/23 Analyzed: 04/03/23

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QC Summary Data

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported:
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickrel	4/7/2023 11:23:18AM

Wet Chemistry by 9040C/4500H+B

Analyst: BA

Analyte	Result pH Units	Reporting Limit pH Units	Spike Level pH Units	Source Result pH Units	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
---------	--------------------	--------------------------------	----------------------------	------------------------------	----------	--------------------	----------	-------------------	-------

LCS (2313096-BS1)

Prepared: 03/31/23 Analyzed: 03/31/23

pH	7.97	8.00	99.8	98.75-101.25
----	------	------	------	--------------

Duplicate (2313096-DUP1)

Source: E303129-01

Prepared: 03/31/23 Analyzed: 03/31/23

pH	6.79	6.76	0.443	20
----	------	------	-------	----

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Llano Disposal, LLC BW-38 API 30-025-20592

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QC Summary Data

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported:
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickrel	4/7/2023 11:23:18AM

Total Metals by EPA 6010C

Analyst: RKS

Analyte	Result mg/L	Reporting Limit mg/L	Spike Level mg/L	Source Result mg/L	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
---------	----------------	----------------------------	------------------------	--------------------------	----------	--------------------	----------	-------------------	-------

Blank (2314015-BLK1)

Prepared: 04/04/23 Analyzed: 04/06/23

Sodium

ND

2.00

LCS (2314015-BS1)

Prepared: 04/04/23 Analyzed: 04/06/23

Sodium

20.7

2.00

20.0

103

80-120

Matrix Spike (2314015-MS1)

Source: E303161-01

Prepared: 04/04/23 Analyzed: 04/06/23

Sodium

29.8

2.00

20.0

9.44

102

75-125

Matrix Spike Dup (2314015-MSD1)

Source: E303161-01

Prepared: 04/04/23 Analyzed: 04/06/23

Sodium

33.2

2.00

20.0

9.44

119

75-125

10.7

20

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2023

QC Summary Data

Llano Disposal LLC PO Box 250 Lovington NM, 88260	Project Name: Project Number: Project Manager:	Hummingbird Brine Station 22117-0001 Elizabeth Pickerel	Reported: 4/7/2023 11:23:18AM
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Anions by EPA 300.0/9056A

Analyst: RAS

Analyte	Result mg/L	Reporting Limit mg/L	Spike Level mg/L	Source Result mg/L	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2313097-BLK1)

Prepared: 03/31/23 Analyzed: 04/03/23

Chloride	ND	2.00							
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LCS (2313097-BS1)

Prepared: 03/31/23 Analyzed: 04/03/23

Chloride	26.1	2.00	25.0		105	90-110			
----------	------	------	------	--	-----	--------	--	--	--

LCS Dup (2313097-BSD1)

Prepared: 03/31/23 Analyzed: 04/03/23

Chloride	25.6	2.00	25.0		102	90-110	2.25	20	
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QC Summary Report Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

Definitions and Notes

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported: 04/07/23 11:23
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickrel	

H5 pH is specified to be performed in the field within 15 minutes of sampling. The sample analysis was performed as quickly as possible.

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

DNI Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

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Llano Disposal, LLC BW-38 API 30-025-20592

2023

Envirotech Analytical Laboratory		Printed: 3/30/2023 10:41:25AM
Sample Receipt Checklist (SRC)		
Instructions: Please take note of any NO checkmarks.		
If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.		
Client: Llano Disposal LLC	Date Received: 03/30/23 07:00	Work Order ID: E303129
Phone: 575-605-6490	Date Logged In: 03/29/23 15:27	Logged In By: Caitlin Christian
Email: service.llanobrinc@gmail.com	Due Date: 04/05/23 17:00 (4 day TAT)	
Chain of Custody (COC)		
1. Does the sample ID match the COC?	Yes	
2. Does the number of samples per sampling site location match the COC?	Yes	
3. Were samples dropped off by client or carrier?	Yes	Carrier: <u>Courier</u>
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?	Yes	
5. Were all samples received within holding time?	Yes	
Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.		
Sample Turn Around Time (TAT)		
6. Did the COC indicate standard TAT, or Expedited TAT?	Yes	
Sample Cooler		
7. Was a sample cooler received?	Yes	
8. If yes, was cooler received in good condition?	Yes	
9. Was the sample(s) received intact, i.e., not broken?	Yes	
10. Were custody/security seals present?	No	
11. If yes, were custody/security seals intact?	NA	
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C	Yes	
Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling		
13. If no visible ice, record the temperature. Actual sample temperature: 4°C		
Sample Container		
14. Are aqueous VOC samples present?	No	
15. Are VOC samples collected in VOA Vials?	NA	
16. Is the head space less than 6-8 mm (pea sized or less)?	NA	
17. Was a trip blank (TB) included for VOC analyses?	NA	
18. Are non-VOC samples collected in the correct containers?	Yes	
19. Is the appropriate volume/weight or number of sample containers collected?	Yes	
Field Label		
20. Were field sample labels filled out with the minimum information:		
Sample ID?	Yes	
Date/Time Collected?	No	
Collectors name?	No	
Sample Preservation		
21. Does the COC or field labels indicate the samples were preserved?	No	
22. Are sample(s) correctly preserved?	NA	
24. Is lab filtration required and/or requested for dissolved metals?	No	
Multiphase Sample Matrix		
26. Does the sample have more than one phase, i.e., multiphase?	No	
27. If yes, does the COC specify which phase(s) is to be analyzed?	NA	
Subcontract Laboratory		
28. Are samples required to get sent to a subcontract laboratory?	No	
29. Was a subcontract laboratory specified by the client and if so who?	NA	Subcontract Lab: NA
Client Instruction		

Signature of client authorizing changes to the COC or sample disposition.

Date



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Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

Envirotech Analytical Laboratory		Printed: 3/30/2023 10:41:25AM
Sample Receipt Checklist (SRC)		
Instructions: Please take note of any NO checkmarks.		
If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.		
Client: Llano Disposal LLC	Date Received: 03/30/23 07:00	Work Order ID: E303129
Phone: 575-605-6490	Date Logged In: 03/29/23 15:27	Logged In By: Caitlin Christian
Email: service.llanobrinc@gmail.com	Due Date: 04/05/23 17:00 (4 day TAT)	

Chain of Custody (COC)		
1. Does the sample ID match the COC?	Yes	
2. Does the number of samples per sampling site location match the COC?	Yes	
3. Were samples dropped off by client or carrier?	Yes	Carrier: <u>Courier</u>
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?	Yes	
5. Were all samples received within holding time?	Yes	
Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.		
Sample Turn Around Time (TAT)		
6. Did the COC indicate standard TAT, or Expedited TAT?	Yes	
Sample Cooler		
7. Was a sample cooler received?	Yes	
8. If yes, was cooler received in good condition?	Yes	
9. Was the sample(s) received intact, i.e., not broken?	Yes	
10. Were custody/security seals present?	No	
11. If yes, were custody/security seals intact?	NA	
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C	Yes	
Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling		
13. If no visible ice, record the temperature. Actual sample temperature: 4°C		
Sample Container		
14. Are aqueous VOC samples present?	No	
15. Are VOC samples collected in VOA Vials?	NA	
16. Is the head space less than 6-8 mm (pea sized or less)?	NA	
17. Was a trip blank (TB) included for VOC analyses?	NA	
18. Are non-VOC samples collected in the correct containers?	Yes	
19. Is the appropriate volume/weight or number of sample containers collected?	Yes	
Field Label		
20. Were field sample labels filled out with the minimum information:		
Sample ID?	Yes	
Date/Time Collected?	No	
Collectors name?	No	
Sample Preservation		
21. Does the COC or field labels indicate the samples were preserved?	No	
22. Are sample(s) correctly preserved?	NA	
24. Is lab filtration required and/or requested for dissolved metals?	No	
Multiphase Sample Matrix		
26. Does the sample have more than one phase, i.e., multiphase?	No	
27. If yes, does the COC specify which phase(s) is to be analyzed?	NA	
Subcontract Laboratory		
28. Are samples required to get sent to a subcontract laboratory?	No	
29. Was a subcontract laboratory specified by the client and if so who?	NA	Subcontract Lab: NA
Client Instruction		

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

Sample Summary

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported:
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickereel	07/07/23 14:09

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Brine Well	E306218-01A	Aqueous	06/28/23	06/29/23	Poly 500mL
Fresh Well	E306218-02A	Aqueous	06/28/23	06/29/23	Poly 500mL
Monitor Well	E306218-03A	Aqueous	06/28/23	06/29/23	Poly 500mL

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

Sample Data

Llano Disposal LLC PO Box 250 Lovington NM, 88260	Project Name: Project Number: Project Manager:	Hummingbird Brine Station 22117-0001 Elizabeth Pickereel	Reported: 7/7/2023 2:09:53PM
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Brine Well

E306218-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C						
Total Dissolved Solids	mg/L	mg/L	Analyst: KF			Batch: 2326065
	311000	200	1	06/29/23	06/29/23	
Wet Chemistry by 9040C/4500H+B						
pH @25°C	pH Units	pH Units	Analyst: BA			Batch: 2326067
	6.87		1	06/29/23 10:39	06/29/23 14:00	H5
Wet Chemistry by SM2710F**						
Specific Gravity	N/A	N/A	Analyst: KH			Batch: 2327022
	1.207		1	07/06/23	07/06/23	
Total Metals by EPA 6010C						
Sodium	mg/L	mg/L	Analyst: RKS			Batch: 2327011
	121000	2000	1000	07/05/23	07/06/23	
Anions by EPA 300.0/9056A						
Chloride	mg/L	mg/L	Analyst: BA			Batch: 2326045
	202000	4000	2000	06/29/23	06/29/23	

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Llano Disposal, LLC BW-38 API 30-025-20592

2023

Sample Data

Llano Disposal LLC PO Box 250 Lovington NM, 88260	Project Name: Hummingbird Brine Station Project Number: 22117-0001 Project Manager: Elizabeth Pickere1	Reported: 7/7/2023 2:09:53PM
---	--	---------------------------------

Fresh Well

E306218-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C						
Total Dissolved Solids	447	10.0	1	06/29/23	06/29/23	Batch: 2326065
Wet Chemistry by 9040C/4500H+B						
pH @25°C	6.89		1	06/29/23 10:39	06/29/23 14:00	Batch: 2326067 H5
Wet Chemistry by SM2710F**						
Specific Gravity	1.002		1	07/06/23	07/06/23	Batch: 2327022
Anions by EPA 300.0/9056A						
Chloride	44.3	2.00	1	06/29/23	06/29/23	Batch: 2326045

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

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Sample Data

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported: 7/7/2023 2:09:53PM
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickerel	

Monitor Well

E306218-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C						
Total Dissolved Solids	381	10.0	1	06/29/23	06/29/23	Batch: 2326065
Wet Chemistry by 9040C/4500H+B						
pH @25°C	7.62		1	06/29/23 10:39	06/29/23 14:00	H5
Wet Chemistry by SM2710F**						
Specific Gravity	0.999	N/A	1	07/06/23	07/06/23	Batch: 2327022
Anions by EPA 300.0/9056A						
Chloride	43.9	2.00	1	06/29/23	06/29/23	Batch: 2326045

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Llano Disposal, LLC BW-38 API 30-025-20592

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Envirotech Analytical Laboratory

Printed: 6/29/2023 12:01:28PM

Instructions: Please take note of any NO checkmarks.

Sample Receipt Checklist (SRC)

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client: Llano Disposal LLC	Date Received: 06/29/23 08:00	Work Order ID: E306218
Phone: 575-605-6490	Date Logged In: 06/29/23 08:41	Logged In By: Caitlin Mars
Email: service.llanobrinc@gmail.com	Due Date: 07/07/23 17:00 (4 day TAT)	

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
 2. Does the number of samples per sampling site location match the COC? Yes
 3. Were samples dropped off by client or carrier? Yes
 4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
 5. Were all samples received within holding time? Yes
- Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
 8. If yes, was cooler received in good condition? Yes
 9. Was the sample(s) received intact, i.e., not broken? Yes
 10. Were custody/security seals present? No
 11. If yes, were custody/security seals intact? NA
 12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6±2°C? Yes
- Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: na

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date

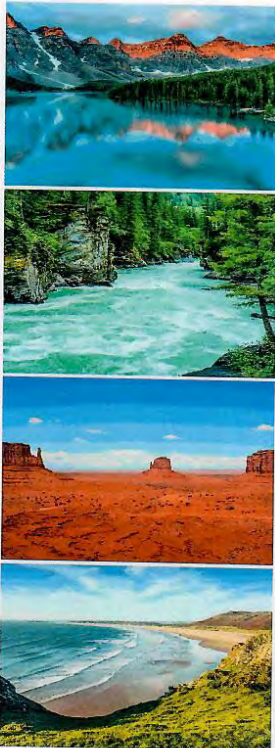




envirotech Inc.

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

<p>Report to: Elizabeth Pickerel</p>  <p>5796 U.S. Hwy 64 Farmington, NM 87401</p> <p>Phone: (505) 632-1881 Envirotech-inc.com</p> 	 <p>envirotech <i>Practical Solutions for a Better Tomorrow</i></p> <hr/> <p>Analytical Report</p> <p>Llano Disposal LLC</p> <p>Project Name: Hummingbird Brine Station</p> <p>Work Order: E310020</p> <p>Job Number: 22117-0001</p> <p>Received: 10/4/2023</p> <p>Revision: 2</p> <p>Report Reviewed By:</p> <p>Walter Hinchman Laboratory Director 10/11/23</p> <p><small>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.</small></p>
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Llano Disposal, LLC BW-38 API 30-025-20592

2023

Date Reported: 10/11/23

Elizabeth Pickerel
PO Box 250
Lovington, NM 88260



Project Name: Hummingbird Brine Station
Workorder: E310020
Date Received: 10/4/2023 8:20:00AM

Elizabeth Pickerel,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 10/4/2023 8:20:00AM, under the Project Name: Hummingbird Brine Station.

The analytical test results summarized in this report with the Project Name: Hummingbird Brine Station apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

Alexa Michaels
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mgonzales@envirotech-inc.com

Envirotech Web Address: www.envirotech-inc.com

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Llano Disposal, LLC BW-38 API 30-025-20592

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QC - Wet Chemistry by 9040C/4500H+B	10
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Llano Disposal, LLC BW-38 API 30-025-20592

2023

Sample Summary

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported: 10/11/23 16:50
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickerel	

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Brine Well	E310020-01A	Aqueous	10/03/23	10/04/23	Poly 500mL
Fresh Well	E310020-02A	Aqueous	10/03/23	10/04/23	Poly 500mL
Monitor Well	E310020-03A	Aqueous	10/03/23	10/04/23	Poly 500mL

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

Sample Data

Llano Disposal LLC PO Box 250 Lovington NM, 88260	Project Name: Hummingbird Brine Station Project Number: 22117-0001 Project Manager: Elizabeth Pickere1	Reported: 10/11/2023 4:50:19PM
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Brine Well

E310020-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C						
Total Dissolved Solids	mg/L	mg/L		Analyst: KF		Batch: 2341013
	326000	200	1	10/10/23	10/11/23	T19
Wet Chemistry by 9040C/4500H+B						
pH @25°C	pH Units	pH Units		Analyst: BA		Batch: 2340080
	6.80		1	10/05/23 09:47	10/05/23 16:54	H5
Wet Chemistry by SM2710F**						
Specific Gravity	N/A	N/A		Analyst: KH		Batch: 2340077
	1.202		1	10/05/23	10/05/23	
Total Metals by EPA 6010C						
Sodium	mg/L	mg/L		Analyst: JL		Batch: 2341012
	96400	2000	1000	10/09/23	10/10/23	
Anions by EPA 300.0/9056A						
Chloride	mg/L	mg/L		Analyst: IY		Batch: 2341045
	374000	4000	2000	10/10/23	10/10/23	

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

Sample Data

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported: 10/11/2023 4:50:19PM
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickerele	

Fresh Well

E310020-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C						
Total Dissolved Solids	1340	10.0	1	10/06/23	10/06/23	Batch: 2340083
Wet Chemistry by 9040C/4500H+B						
pH @25°C	7.80		1	10/05/23 09:47	10/05/23 16:54	Batch: 2340080 H5
Wet Chemistry by SM2710F**						
Specific Gravity	0.993	N/A	1	10/05/23	10/05/23	Batch: 2340077
Anions by EPA 300.0/9056A						
Chloride	43.2	2.00	1	10/10/23	10/10/23	Batch: 2341045

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

Sample Data

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported:
PO Box 250	Project Number:	22117-0001	10/11/2023 4:50:19PM
Lovington NM, 88260	Project Manager:	Elizabeth Pickere	

Monitor Well

E310020-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C	mg/L	mg/L	Analyst: KF			Batch: 2340083
Total Dissolved Solids	320	10.0	1	10/06/23	10/06/23	
Wet Chemistry by 9040C/4500H+B	pH Units	pH Units	Analyst: BA			Batch: 2340080
pH @25°C	7.74		1	10/05/23 09:47	10/05/23 16:54	H5
Wet Chemistry by SM2710F**	N/A	N/A	Analyst: KH			Batch: 2340077
Specific Gravity	0.994		1	10/05/23	10/05/23	
Anions by EPA 300.0/9056A	mg/L	mg/L	Analyst: IY			Batch: 2341045
Chloride	43.2	2.00	1	10/10/23	10/10/23	

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Llano Disposal, LLC BW-38 API 30-025-20592

2023

QC Summary Data

Llano Disposal LLC PO Box 250 Lovington NM, 88260	Project Name: Project Number: Project Manager:	Hummingbird Brine Station 22117-0001 Elizabeth Pickernel	Reported: 10/11/2023 4:50:19PM
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Wet Chem/Gravimetric by SM2540C

Analyst: KF

Analyte	Result mg/L	Reporting Limit mg/L	Spike Level mg/L	Source Result mg/L	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2340083-BLK1)

Total Dissolved Solids ND 10.0 Prepared: 10/06/23 Analyzed: 10/06/23

LCS (2340083-BS1)

Total Dissolved Solids 117 10.0 100 117 55-134 Prepared: 10/06/23 Analyzed: 10/06/23

Duplicate (2340083-DUP1)

Source: E310023-01

Total Dissolved Solids 414 10.0 425 2.62 5 Prepared: 10/06/23 Analyzed: 10/06/23

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

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QC Summary Data

Llano Disposal LLC PO Box 250 Lovington NM, 88260	Project Name: Project Number: Project Manager:	Hummingbird Brine Station 22117-0001 Elizabeth Pickerel	Reported: 10/11/2023 4:50:19PM
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Wet Chem/Gravimetric by SM2540C

Analyst: KF

Analyte	Result mg/L	Reporting Limit mg/L	Spike Level mg/L	Source Result mg/L	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2341013-BLK1)

Prepared: 10/09/23 Analyzed: 10/11/23

Total Dissolved Solids	ND	10.0							
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LCS (2341013-BS1)

Prepared: 10/09/23 Analyzed: 10/11/23

Total Dissolved Solids	102	10.0	100		102	55-134			
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LCS Dup (2341013-BSD1)

Prepared: 10/09/23 Analyzed: 10/11/23

Total Dissolved Solids	98.0	10.0	100		98.0	55-134	4.00	5	
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Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

QC Summary Data

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported:
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickrel	10/11/2023 4:50:19PM

Wet Chemistry by 9040C/4500H+B

Analyst: BA

Analyte	Result pH Units	Reporting Limit pH Units	Spike Level pH Units	Source Result pH Units	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
---------	--------------------	--------------------------------	----------------------------	------------------------------	----------	--------------------	----------	-------------------	-------

LCS (2340080-BS1)

Prepared: 10/05/23 Analyzed: 10/05/23

pH	7.99	8.00	99.9	98.75-101.25
----	------	------	------	--------------

Duplicate (2340080-DUP1)

Source: E310020-01

Prepared: 10/05/23 Analyzed: 10/05/23

pH	6.85	6.80	0.733	20
----	------	------	-------	----

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

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QC Summary Data

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported:
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickerel	10/11/2023 4:50:19PM

Total Metals by EPA 6010C

Analyst: JL

Analyte	Result mg/L	Reporting Limit mg/L	Spike Level mg/L	Source Result mg/L	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
---------	----------------	----------------------------	------------------------	--------------------------	----------	--------------------	----------	-------------------	-------

Blank (2341012-BLK1)

Prepared: 10/09/23 Analyzed: 10/09/23

Sodium ND 2.00

LCS (2341012-BS1)

Prepared: 10/09/23 Analyzed: 10/09/23

Sodium 17.5 2.00 20.0 87.7 80-120

Matrix Spike (2341012-MS1)

Source: E310013-04

Prepared: 10/09/23 Analyzed: 10/09/23

Sodium 1580 2.00 20.0 1590 NR 75-125 M4

Matrix Spike Dup (2341012-MSD1)

Source: E310013-04

Prepared: 10/09/23 Analyzed: 10/09/23

Sodium 1560 2.00 20.0 1590 NR 75-125 0.828 20 M4

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

QC Summary Data

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported:
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickere1	10/11/2023 4:50:19PM

Anions by EPA 300.0/9056A

Analyst: IY

Analyte	Result mg/L	Reporting Limit mg/L	Spike Level mg/L	Source Result mg/L	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
Blank (2341045-BLK1)									
Chloride	ND	2.00							Prepared: 10/10/23 Analyzed: 10/10/23
LCS (2341045-BS1)									
Chloride	24.7	2.00	25.0		98.7	90-110			Prepared: 10/10/23 Analyzed: 10/10/23
LCS Dup (2341045-BSD1)									
Chloride	24.7	2.00	25.0		98.8	90-110	0.0701	20	Prepared: 10/10/23 Analyzed: 10/10/23

QC Summary Report Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

Definitions and Notes

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported: 10/11/23 16:50
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickarel	

H5	pH is specified to be performed in the field within 15 minutes of sampling. The sample analysis was performed as quickly as possible.
M4	Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
T19	The sample matrix was not a typical aqueous matrix and took a significant amount of time to evaporate. The Final weight measured was past the prescribed holding time.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
DNI	Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

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[illegible]

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Envirotech Analytical Laboratory		Printed: 10/4/2023 9:58:31AM
Sample Receipt Checklist (SRC)		
Instructions: Please take note of any NO checkmarks.		
If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.		
Client: Llano Disposal LLC	Date Received: 10/04/23 08:20	Work Order ID: E310020
Phone: 575-605-6490	Date Logged In: 10/04/23 09:53	Logged In By: Caitlin Mars
Email: service.llanobrinc@gmail.com	Due Date: 10/10/23 17:00 (4 day TAT)	

Chain of Custody (COC)

1. Does the sample ID match the COC?	Yes	
2. Does the number of samples per sampling site location match the COC	Yes	
3. Were samples dropped off by client or carrier?	Yes	Carrier: <u>Courier</u>
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?	Yes	
5. Were all samples received within holding time?	Yes	

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT?	Yes	
---	-----	--

Sample Cooler

7. Was a sample cooler received?	Yes	
8. If yes, was cooler received in good condition?	Yes	
9. Was the sample(s) received intact, i.e., not broken?	Yes	
10. Were custody/security seals present?	No	
11. If yes, were custody/security seals intact?	NA	
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C	Yes	

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present?	No	
15. Are VOC samples collected in VOA Vials?	NA	
16. Is the head space less than 6-8 mm (pea sized or less)?	NA	
17. Was a trip blank (TB) included for VOC analyses?	NA	
18. Are non-VOC samples collected in the correct containers?	Yes	
19. Is the appropriate volume/weight or number of sample containers collected?	Yes	

Field Label

20. Were field sample labels filled out with the minimum information:		
Sample ID?	Yes	
Date/Time Collected?	No	
Collectors name?	No	

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved?	No	
22. Are sample(s) correctly preserved?	NA	
24. Is lab filtration required and/or requested for dissolved metals?	No	

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase?	No	
27. If yes, does the COC specify which phase(s) is to be analyzed?	NA	

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory?	No	
29. Was a subcontract laboratory specified by the client and if so who?	NA	Subcontract Lab: na

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

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: Hummingbird Brine Station

Work Order: E401003

Job Number: 22117-0001

Received: 1/2/2024

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
1/8/24

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.

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Llano Disposal, LLC BW-38 API 30-025-20592

2023

Date Reported: 1/8/24

Elizabeth Pickerel
PO Box 250
Lovington, NM 88260



Project Name: Hummingbird Brine Station
Workorder: E401003
Date Received: 1/2/2024 8:00:00AM

Elizabeth Pickerel,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 1/2/2024 8:00:00AM, under the Project Name: Hummingbird Brine Station.

The analytical test results summarized in this report with the Project Name: Hummingbird Brine Station apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
Office: 505-632-1881
rainaschwanz@envirotech-inc.com

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Laboratory Technical Representative
Office: 505-421-LABS(5227)
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ljjarboe@envirotech-inc.com

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Client Representative
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Cell: 505-947-8222
mgonzales@envirotech-inc.com

Envirotech Web Address: www.envirotech-inc.com

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Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

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Llano Disposal, LLC BW-38 API 30-025-20592

2023

Sample Summary

Llano Disposal LLC PO Box 250 Lovington NM, 88260	Project Name: Hummingbird Brine Station Project Number: 22117-0001 Project Manager: Elizabeth Pickerel	Reported: 01/08/24 16:31
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Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Brine Well	E401003-01A	Aqueous	12/29/23	01/02/24	Poly 500mL
Fresh Well	E401003-02A	Aqueous	12/29/23	01/02/24	Poly 500mL
Monitor Well	E401003-03A	Aqueous	12/29/23	01/02/24	Poly 500mL

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

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Sample Data

Llano Disposal LLC PO Box 250 Lovington NM, 88260	Project Name: Project Number: Project Manager:	Hummingbird Brine Station 22117-0001 Elizabeth Pickere1	Reported: 1/8/2024 4:31:20PM
---	--	---	---------------------------------

Brine Well

E401003-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C						
Total Dissolved Solids	mg/L	mg/L		Analyst: RAS		Batch: 2401006
	329000	100	1	01/03/24	01/08/24	
Wet Chemistry by 9040C/4500H+B						
pH @25°C	pH Units	pH Units		Analyst: WF		Batch: 2401031
	6.86		1	01/04/24 09:23	01/04/24 14:40	H5
Wet Chemistry by SM2710F**						
Specific Gravity	N/A	N/A		Analyst: KH		Batch: 2401037
	1.203		1	01/05/24	01/05/24	
Total Metals by EPA 6010C						
Sodium	mg/L	mg/L		Analyst: RKS		Batch: 2401003
	124000	2000	1000	01/04/24	01/08/24	
Anions by EPA 300.0/9056A						
Chloride	mg/L	mg/L		Analyst: DT		Batch: 2401016
	240000	2000	1000	01/03/24	01/03/24	

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Llano Disposal, LLC BW-38 API 30-025-20592

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Sample Data

Llano Disposal LLC PO Box 250 Lovington NM, 88260	Project Name: Hummingbird Brine Station Project Number: 22117-0001 Project Manager: Elizabeth Pickercel	Reported: 1/8/2024 4:31:20PM
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Fresh Well

E401003-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C						
Total Dissolved Solids	1300	10.0	1	01/03/24	01/08/24	Batch: 2401006
Wet Chemistry by 9040C/4500H+B						
pH @25°C	8.04		1	01/04/24 09:23	01/04/24 14:40	Batch: 2401031 H5
Wet Chemistry by SM2710F**						
Specific Gravity	1.000	N/A	1	01/05/24	01/05/24	Batch: 2401037
Anions by EPA 300.0/9056A						
Chloride	593	4.00	2	01/03/24	01/03/24	Batch: 2401016

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

Sample Data

Llano Disposal LLC PO Box 250 Lovington NM, 88260	Project Name: Hummingbird Brine Station Project Number: 22117-0001 Project Manager: Elizabeth Pickerei	Reported: 1/8/2024 4:31:20PM
---	--	---------------------------------

Monitor Well

E401003-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C						
Total Dissolved Solids	mg/L 1210	mg/L 10.0	1	01/03/24	01/08/24	Batch: 2401006
Wet Chemistry by 9040C/4500H+B						
pH @25°C	pH Units 8.02	pH Units	1	01/04/24 09:23	01/04/24 14:40	Batch: 2401031 H5
Wet Chemistry by SM2710F**						
Specific Gravity	N/A 1.000	N/A	1	01/05/24	01/05/24	Batch: 2401037
Anions by EPA 300.0/9056A						
Chloride	mg/L 594	mg/L 4.00	2	01/03/24	01/03/24	Batch: 2401016

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

QC Summary Data

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported:
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickarel	1/8/2024 4:31:20PM

Wet Chem/Gravimetric by SM2540C

Analyst: RAS

Analyte	Result mg/L	Reporting Limit mg/L	Spike Level mg/L	Source Result mg/L	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
---------	----------------	----------------------------	------------------------	--------------------------	----------	--------------------	----------	-------------------	-------

Blank (2401006-BLK1)

Prepared: 01/03/24 Analyzed: 01/08/24

Total Dissolved Solids	ND	10.0							
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LCS (2401006-BS1)

Prepared: 01/03/24 Analyzed: 01/08/24

Total Dissolved Solids	82.0	10.0	100	82.0	55-134				
------------------------	------	------	-----	------	--------	--	--	--	--

Duplicate (2401006-DUP1)

Source: E401002-02

Prepared: 01/03/24 Analyzed: 01/08/24

Total Dissolved Solids	595	10.0		380			44.1	5	R3
------------------------	-----	------	--	-----	--	--	------	---	----

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

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QC Summary Data

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported:
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickernel	1/8/2024 4:31:20PM

Wet Chemistry by 9040C/4500H+B

Analyst: WF

Analyte	Result pH Units	Reporting Limit pH Units	Spike Level pH Units	Source Result pH Units	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
---------	--------------------	--------------------------------	----------------------------	------------------------------	----------	--------------------	----------	-------------------	-------

LCS (2401031-BS1)

Prepared: 01/04/24 Analyzed: 01/04/24

pH	8.00	8.00	100	98.75-101.25
----	------	------	-----	--------------

Duplicate (2401031-DUP1)

Source: E401001-01

Prepared: 01/04/24 Analyzed: 01/04/24

pH	6.94	6.93	0.144	20
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Llano Disposal, LLC BW-38 API 30-025-20592

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QC Summary Data

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported:
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickrel	1/8/2024 4:31:20PM

Total Metals by EPA 6010C

Analyst: JL

Analyte	Result mg/L	Reporting Limit mg/L	Spike Level mg/L	Source Result mg/L	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
---------	----------------	----------------------------	------------------------	--------------------------	----------	--------------------	----------	-------------------	-------

Blank (2401003-BLK1)

Prepared: 01/04/24 Analyzed: 01/04/24

Sodium ND 2.00

LCS (2401003-BS1)

Prepared: 01/04/24 Analyzed: 01/04/24

Sodium 20.2 2.00 20.0 101 80-120

Matrix Spike (2401003-MS1)

Source: E312156-01

Prepared: 01/04/24 Analyzed: 01/04/24

Sodium 1800 20.0 200 1550 129 75-125 M4

Matrix Spike Dup (2401003-MSD1)

Source: E312156-01

Prepared: 01/04/24 Analyzed: 01/04/24

Sodium 1790 20.0 200 1550 125 75-125 0.500 20

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Llano Disposal, LLC BW-38 API 30-025-20592

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QC Summary Data

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported:
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickerel	1/8/2024 4:31:20PM

Anions by EPA 300.0/9056A

Analyst: DT

Analyte	Result mg/L	Reporting Limit mg/L	Spike Level mg/L	Source Result mg/L	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
---------	----------------	----------------------------	------------------------	--------------------------	----------	--------------------	----------	-------------------	-------

Blank (2401016-BLK1)

Prepared: 01/03/24 Analyzed: 01/03/24

Chloride	ND	2.00							
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LCS (2401016-BS1)

Prepared: 01/03/24 Analyzed: 01/03/24

Chloride	24.9	2.00	25.0		99.7	90-110			
----------	------	------	------	--	------	--------	--	--	--

LCS Dup (2401016-BSD1)

Prepared: 01/03/24 Analyzed: 01/03/24

Chloride	25.0	2.00	25.0		100	90-110	0.329	20	
----------	------	------	------	--	-----	--------	-------	----	--

QC Summary Report Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

Definitions and Notes

Llano Disposal LLC	Project Name:	Hummingbird Brine Station	Reported:
PO Box 250	Project Number:	22117-0001	
Lovington NM, 88260	Project Manager:	Elizabeth Pickere1	01/08/24 16:31

- H5 pH is specified to be performed in the field within 15 minutes of sampling. The sample analysis was performed as quickly as possible.
- M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
- R3 The RPD exceeded the acceptance limit. LCS spike recovery met acceptance criteria.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite
- DNR Did not react with the addition of acid or base.

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

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Llano Disposal, LLC BW-38 API 30-025-20592

2023

[illegible]

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

Envirotech Analytical Laboratory		Printed: 1/2/2024 10:13:55AM
Sample Receipt Checklist (SRC)		
Instructions: Please take note of any NO checkmarks. If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.		
Client: Llano Disposal LLC	Date Received: 01/02/24 08:00	Work Order ID: E401003
Phone: 575-605-6490	Date Logged In: 01/02/24 09:30	Logged In By: Alexa Michaels
Email: service.llanobrine@gmail.com	Due Date: 01/08/24 17:00 (4 day TAT)	
Chain of Custody (COC)		
1. Does the sample ID match the COC?	Yes	
2. Does the number of samples per sampling site location match the COC?	Yes	
3. Were samples dropped off by client or carrier?	Yes	Carrier: <u>Courier</u>
4. Was the COC complete, i.e., signatures, dates/times, requested analyses?	Yes	
5. Were all samples received within holding time?	Yes	
<small>Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.</small>		
Sample Turn Around Time (TAT)		
6. Did the COC indicate standard TAT, or Expedited TAT?	Yes	
Sample Cooler		
7. Was a sample cooler received?	Yes	
8. If yes, was cooler received in good condition?	Yes	
9. Was the sample(s) received intact, i.e., not broken?	Yes	
10. Were custody/security seals present?	No	
11. If yes, were custody/security seals intact?	NA	
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C	Yes	
<small>Note: Thermal preservation is not required, if samples are received w/ 15 minutes of sampling</small>		
13. If no visible ice, record the temperature. Actual sample temperature: 4°C		
Sample Container		
14. Are aqueous VOC samples present?	No	
15. Are VOC samples collected in VOA Vials?	NA	
16. Is the head space less than 6-8 mm (pea sized or less)?	NA	
17. Was a trip blank (TB) included for VOC analyses?	NA	
18. Are non-VOC samples collected in the correct containers?	No	
19. Is the appropriate volume/weight or number of sample containers collected?	Yes	
Field Label		
20. Were field sample labels filled out with the minimum information:		
Sample ID?	Yes	
Date/Time Collected?	Yes	
Collectors name?	Yes	
Sample Preservation		
21. Does the COC or field labels indicate the samples were preserved?	No	
22. Are sample(s) correctly preserved?	NA	
24. Is lab filtration required and/or requested for dissolved metals?	No	
Multiphase Sample Matrix		
26. Does the sample have more than one phase, i.e., multiphase?	No	
27. If yes, does the COC specify which phase(s) is to be analyzed?	NA	
Subcontract Laboratory		
28. Are samples required to get sent to a subcontract laboratory?	No	
29. Was a subcontract laboratory specified by the client and if so who?	NA	Subcontract Lab: NA
Client Instruction		

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

APPENDIX G

Certification

Annual Report

Llano Disposal, LLC BW-38 API 30-025-20592

2023

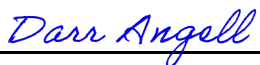
Llano Disposal, LLC certifies that continued salt solution mining will not cause cavern collapse, surface subsidence, property damage, or otherwise threaten public health and the environment, based on geologic and engineering data provided herein.

Darr Angell

Name

Owner/Permittee Holder

Title



Signature

10/28/24

Date

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

COMMENTS

Action 396116

COMMENTS

Operator: LLANO DISPOSAL, L.L.C. P.O. Box 250 Lovington, NM 88260	OGRID: 370661
	Action Number: 396116
	Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)

COMMENTS

Created By	Comment	Comment Date
cchavez	Annual Report 2023	4/10/2025

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

CONDITIONS

Action 396116

CONDITIONS

Operator: LLANO DISPOSAL, L.L.C. P.O. Box 250 Lovington, NM 88260	OGRID: 370661
	Action Number: 396116
	Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)

CONDITIONS

Created By	Condition	Condition Date
cchavez	Conditions of Approval are: 1. Appendix E Well Diagram should be referenced in Appendix B D/H Calculation with accurate variables, i.e., casing depth is top of Whipstock Window at 1733 ft (KB calc.); 2. Calculated diameter of Salt Cavern in Appendix B was estimated to be 54.31 ft.; 3. Implementing the standard "Halbouty, Michel T., Salt Domes: Gulf Region, US & Mexico" Useful Conversion calculations OCD calculates a D/H of ~ 0.03134,, 0.5 Safety Factor which is good; 4. Appendix C: Check Pg. 31 Survey of 3/15/2023 Monument ID-1 change in elevation of 0.12. 0.1 ft. This was supposed to be reported to the OCD. 5. Water Testing is semi-annual and not quarterly. Also, MW chemical data is missing Gen. Chem. parameters, Oxid. Reduction Potential, SC, T & Bromide (Except TDS/Cl was tested). Must lab test. 6. Chain of Custody Form: absent COC seals, date/time of sample collection, sampler name. Address COC lab comments to ensure QA/QC & DQOs are met.	4/10/2025