BW-035

ANNUAL REPORT

2019

2019
Annual Class III
Well Report
Llano Disposal, LLC
BW-35
API – 30-25-30701

Submitted by: Laura Angell, 4/26/22

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Summary of Class III Well Operations

BW35 (Siringo ACS State # 1) was put into operation in mid-2017. After initial circulation and cleanup of the newly re-entered wellbore, the well started producing good, commercial quality brine water of 10# per gallon. Well operation was as expected, with the psi of injected fresh water very close to the calculated pressure needed to force the heavier brine water to the surface. The amount of fresh water injected as compared to the amount of brine water recovered, considering the known use of injected water to fill the void created by the continual solution mining of halite, has been as planned. All numbers are reported monthly per OCD requirement and is also noted and used on the brine cavern characterization report. In general, the operation of BW35 has not been difficult, and has done a good job of servicing the requirements of industry in the Lea/Eddy County areas.

Changes to well construction: No changes were made to well construction as would concern the 2019 annual report. At a later time, the dual port Baker packer was omitted. Specifics will be included in later reports.

Changes to tankage/loading facility: There are no changes to report for the 2019 period. See **Appendix E** for a well diagram.

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.

Annual Report Llano Disposal, LLC BW35 API 30-025-30701 2019

Monthly Fluid Injection and Brine Production

2019

Month	Brine Monthly BBLS	Brine Cumulative BBLS	Fresh Monthly BBLS	Fresh Cumulative BBLS	PSI	Percent Fresh/ Brine
Jan	50,913	50,913	56,045	56,045	265	1.1008
Feb	44,650	95,563	49,570	105,615	265	1.1102
Mar	41,043	136,606	45,147	150,763	265	1.1000
Apr	36,542	173,148	40,277	191,039	265	1.1022
May	37,595	210,743	41,355	232,394	265	1.1000
Jun	36,755	247,498	40,438	272,832	265	1.1002
Jul	36,665	284,163	40,533	313,365	265	1.1055
Aug	36,705	320,868	40,431	353,795	265	1.1015
Sep	32,625	353,493	35,888	389,683	265	1.1000
Oct	40,555	394,048	44,615	434,297	265	1.1001
Nov	33,385	427,433	36,790	471,088	265	1.1020
Dec	39,808	467,241	43,809	514,896	265	1.1005

Year	Brine Yearly BBLS	Brine Cumulative BBLS	Fresh Yearly BBLS	Fresh Cumulative BBLS
2019	467,241	994,667	514,896	1,096,201

Annual Monitor Well Analytical Data Results

Please see page 7 of this report for deviations.

Injection Pressure Data

Injection pressure at the well (tubing) averages 260/PSI. The brine well casing pressure (brine to battery), averages about 35 PSI. The field operator checks the pressures daily and records them on the daily log.

Pipeline Hydrostatic Test Results

Service piping both to and from BW35 is 3" SDR11 high density poly. These 2 lines are tested accordingly to 160 psi. The feeder line (fresh water) runs due west from the fresh water well to BW35. 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 entire line is visually inspected. The 3" SDR11 HD poly line leading from BW35 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 BW35 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, driving 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 6" SDR11 high density poly. These lines carry normal head pressure of 0 psi (emptied tanks) to 8.4 psi (full tankage) but are virtually always under positive pressure. These lines are under continual live camera observation and viewed daily both by truckers and by Llano field personnel. All tanks are 16' fiberglass and are manifolded together with said 6" SDR11 HD poly line. Valving is installed on the outlet of each tank so that anyone, or all of 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.

Quarterly Chemical Analysis

The full 2018 report can be viewed in **APPENDIX F** at the end of this report. No other analysis was done in 2019.

CARDINAL Laboratories

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

Analytical Results For:

LLANO BRINE
DARR ANGELL
P. O. BOX 250
LOVINGTON NM, 88260
Fax To:

Received:	04/26/2018	Sampling Date:	04/26/2018
Reported:	04/27/2018	Sampling Type:	Water
Project Name:	WATER SAMPLES	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: FRESH WATER (H801168-01)

Chloride, SM4500Cl-B mg/L **Analyzed By: CK**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**128**	4.00	04/27/2018	ND	100	100	100	0.00	

Sample ID: BRINE WATER (H801168-02)

Chloride, SM4500Cl-B mg/L **Analyzed By: CK**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**188000**	4.00	04/27/2018	ND	100	100	100	0.00	

Cardinal Laboratories *=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the

Mechanical Integrity Test

A MIT was performed on 9/15/17: Llano scheduled, then ran a MIT on BW35 using a calibrated chart recorder with OCD witness (Hobbs OCD, George Bowers). Meter was within meter calibration date requirements (calibrated 8/2/17). The well was tested to regulation psig for the regulation period and exhibited no psig leak-off. See Chart No. 1 in **APPENDIX A**.

Another MIT was ran on 7/2/18: A MIT was ran on the brine line used to carry brine from BW35 well to the tankage facility. The line was disconnected and isolated at each end, then was pressured to 195 psig. After the regulation test period, the observed test pressure had risen to 205 psig. Observed air temperature was 104 degrees F on a clear, windless day. Line is black poly, and is exposed to air temperature, and sunlight. See Chart No. 2 in **APPENDIX A**.

Deviations from normal Operations

1. Annual Monitor Well Analytical Data

There was no data for this period since the well had been in operation for a short period of time.

2. Quarterly Chemical Analysis

Analysis was not done in 2019 as the well was just ramping up.

3. Surface Subsidence Monitoring Plan Data Results

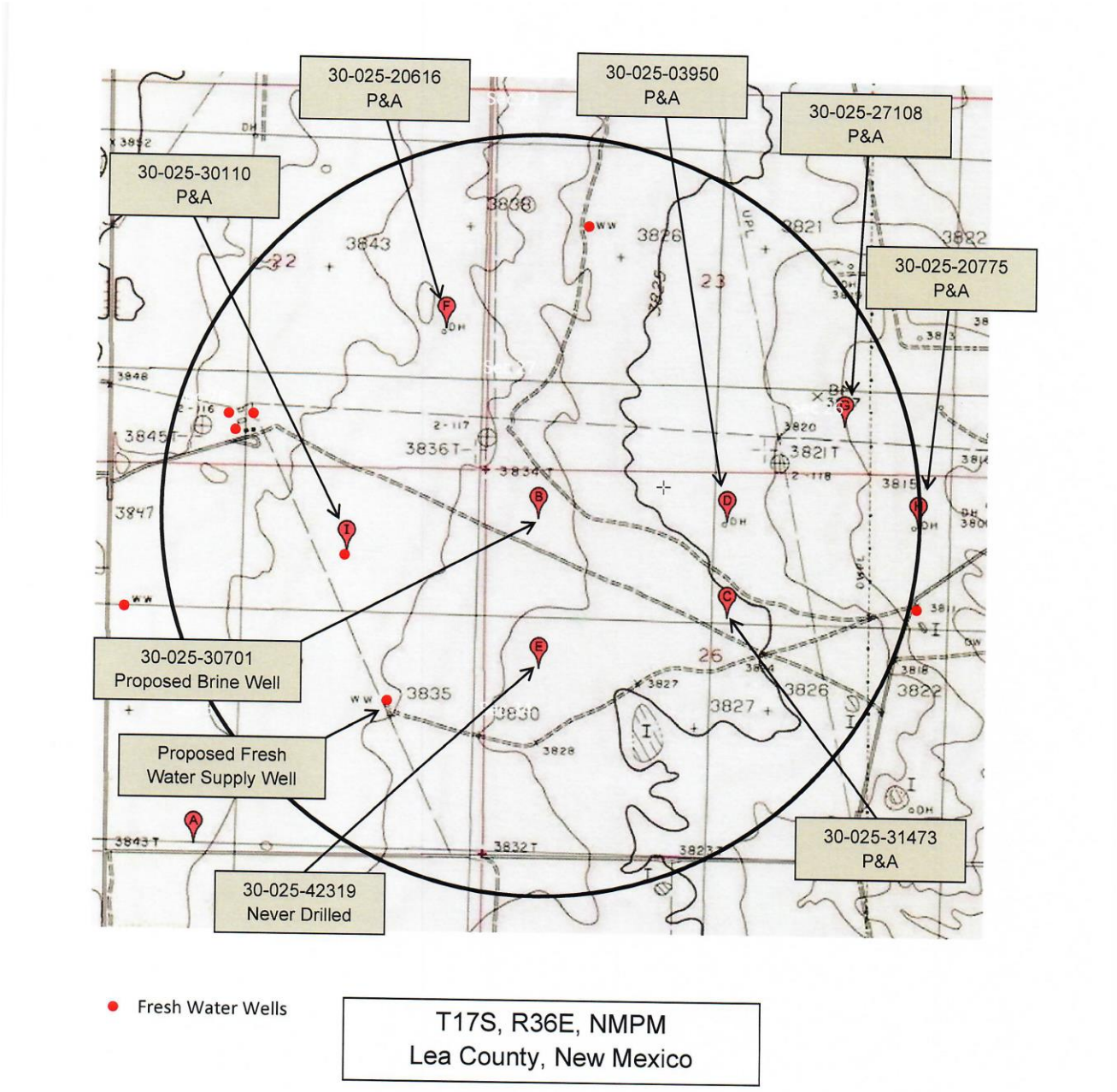
Other than the initial survey and plan creation, there was no other survey done, since the well had only been in operation for a very short period.

Leaks and Spills Corrective Action Reports

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

Area of Review Update Summary

Please see below, the original AOR document that was submitted as part of the original application for BW-35. 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.



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

There were no MITs performed in 2019. See Chart No. 2 in **APPENDIX A** at the end of this report for the most recent MIT.

Please find the Subsidence Plan and Report in **APPENDIX C** at the end of this report, that was prepared for us by Pettigrew and Associates out of their Hobbs, NM office. 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. All parameters of Pettigrew's investigation are included in the report, along with a review of the monitoring points as installed and archived during the initial development of the well. The full report/plan is included in **APPENDIX C**.

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

In conclusion, the operational history of BW35 could be described as "good", meaning that the well has performed very well in producing 10# brine. There are no recommendations at this time.

Injected Fluids to Brine Ratio

Total Brine for the year	467,241
Total Fresh for the year	514,896
Ratio of Fresh to Brine	**1.10**

Summary of Major Facility Activities

There were no major activities during this period.

Surface Subsidence Monitoring Plan Data Results

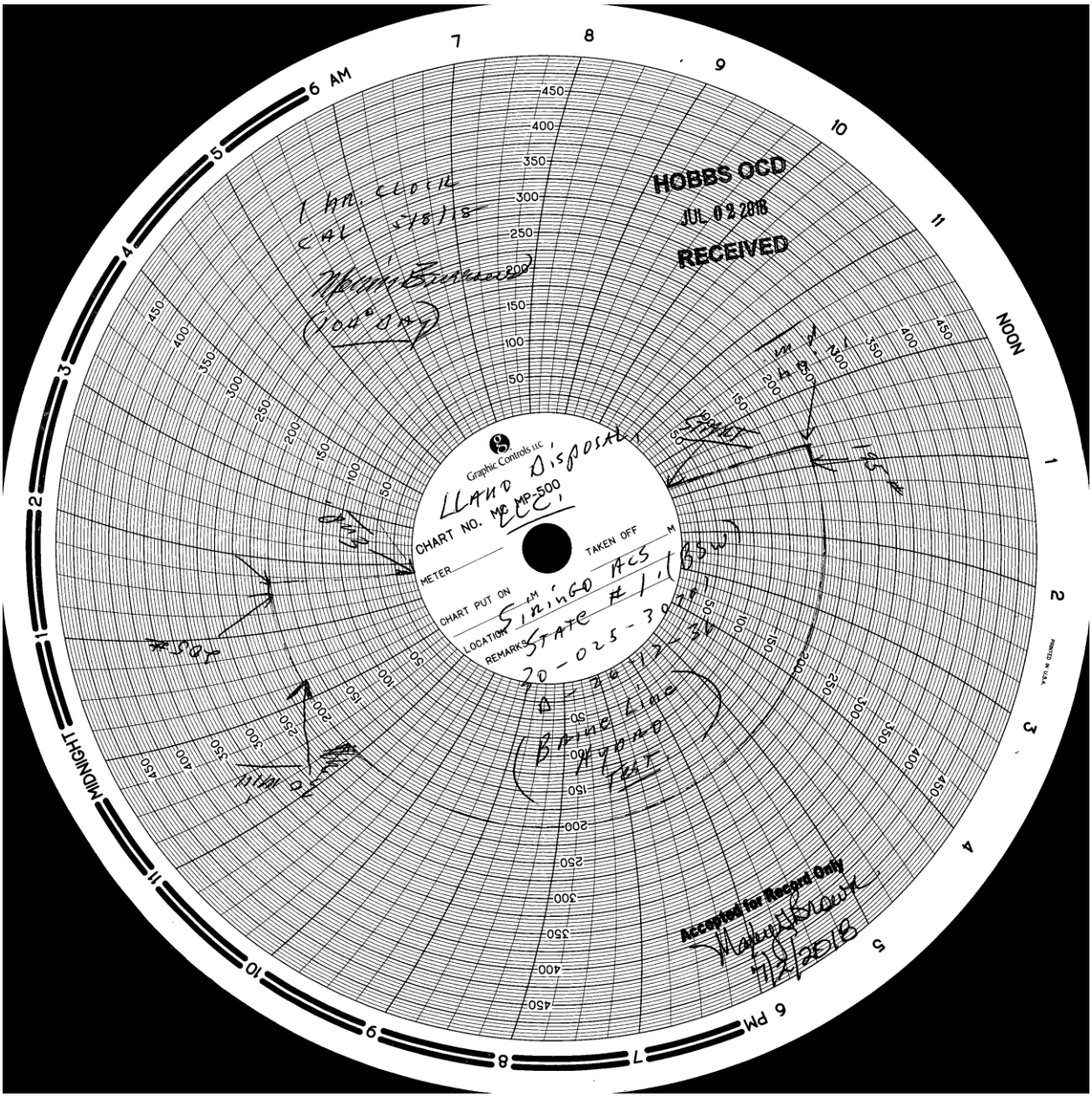
The initial plan and survey were done and are included in **Appendix C** at the end of this report.

Solution Cavern Characterization Data Results

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

APPENDIX A

MITs


HOBBS OCD
JUL 02 2018
RECEIVED
Graphic Controls LLC
CHART NO. MP-500
METER
TAKEN OFF
CHART PUT ON
LOCATION
REMARKS
Accepted for Record Only
7/12/2018
NOON
MIDNIGHT
6 AM
6 PM

APPENDIX B

Cavern Characterization

Cavern Characterization

For 2019, 514,896 bbls of fresh water have been injected into salt strata for the purpose of brine generation (21,625,632 gallons). Well production history has shown that the well reliably produces 10.0 + pound quality brine water. It therefore follows that each gallon of fresh water (testing 8.34 pounds per gallon) has dissolved 1.66 pounds of halite. By simple calculation, 35,898,549.10 pounds of halite have gone into solution during the past year. 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 261,137.33 cubic feet of halite has gone into solution. The amount of fresh water injected (514,896 bbls) as compared to the amount of brine produced (467,241 bbls) shows that water is being used to fill the cavity as the cavity increases in volume:

467,241 bbls / 514,896 bbls = 90.74% of water is being recovered as brine, 9.26 is being used to fill the brine cavity.

The grand total of halite that has gone into solution since operations began, is 556,224.667 cu ft.

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 anulus. Therefore, brine generation begins at depth, and by the time water so circulated reaches that anulus, it has become saturated brine (or “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 :

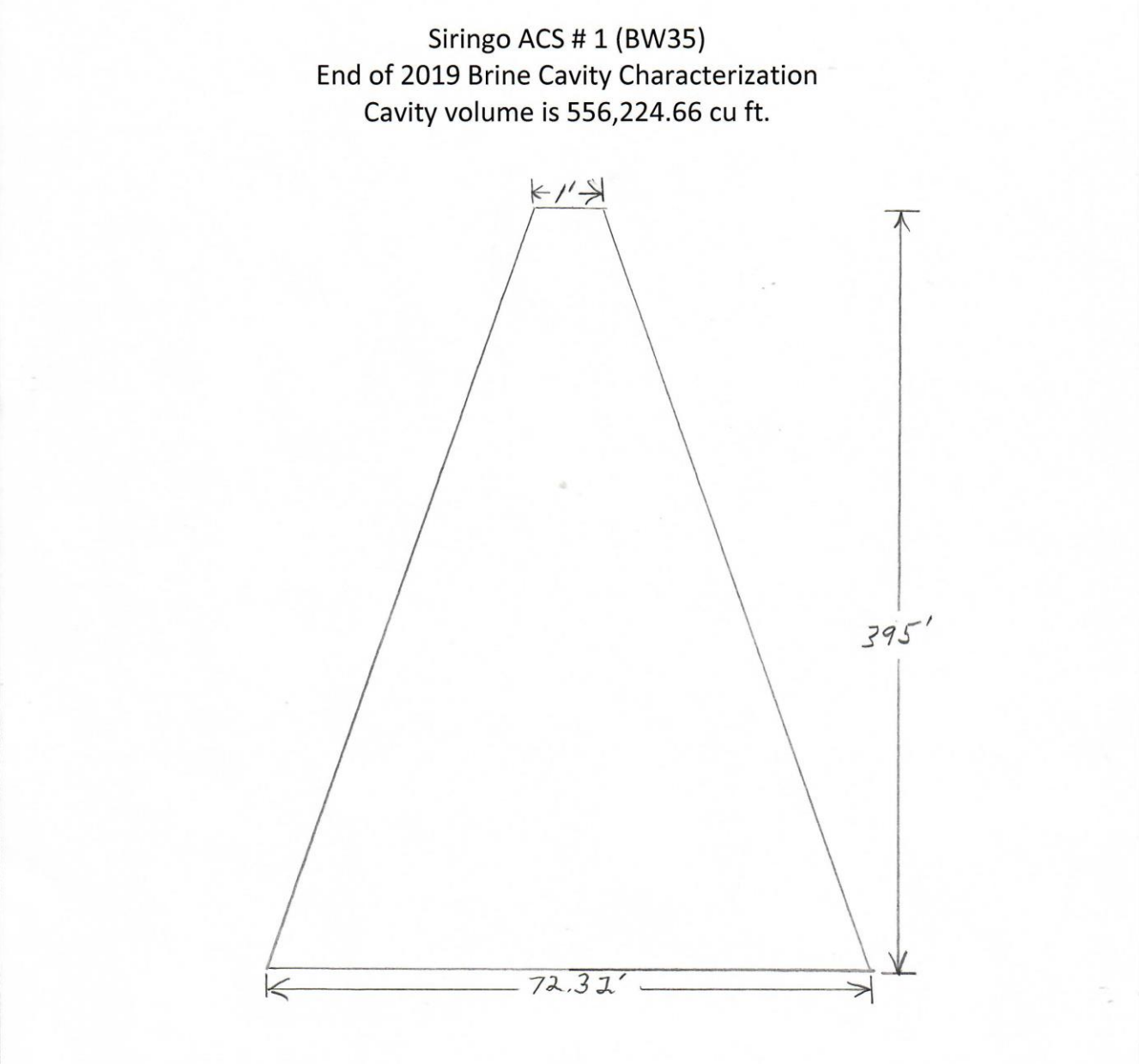
Volume = (1/3) x pi (Rsq + (R x r) + rsq) H

Where :

1) r equals the radius of the small end cone diameter in feet
2) R equals the radius of the large end cone diameter in feet
3) Rsq is “R squared”. rsq is “r squared”.
4) H is height in feet from tubing depth to top of salt (casing shoe).

The illustration on the following page, with dimensions shown, satisfies the number of cubic feet of halite in solution since operations began, hence size of cavern.

Cavern Size, Shape, & Volume Estimate



Estimated height (H) to Casing Shoe is 2043’

Estimated cavern floor diameter (D) is 72.32’

Estimated * Cavern Collapse Ratio is **.03** where 72.32/2043 = .035399

* Per the OCD, the Cavern Collapse Ratio is D/H

APPENDIX C

Subsidence Survey Results

PETTIGREW & ASSOCIATES PA

ENGINEERING | SURVEYING | TESTING
DEFINING QUALITY SINCE 1965

Darr Angell, Llano Disposal LLC
PO Box 190
Lovington, New Mexico, 88260
575-704-2777

10 April, 2017

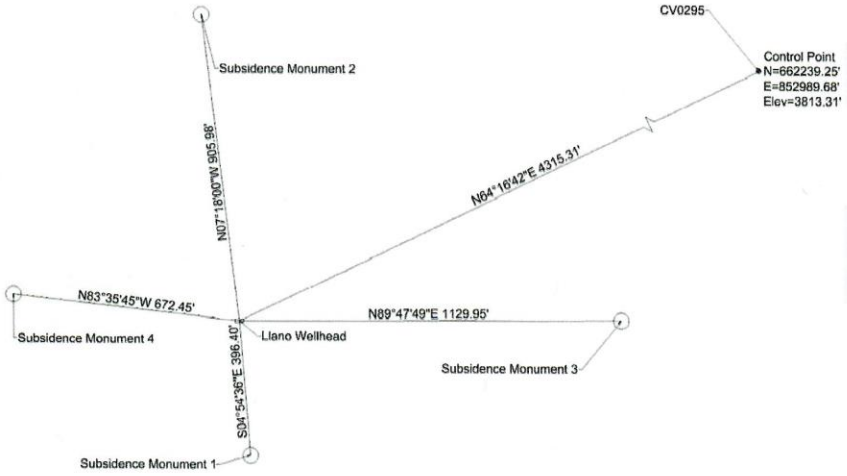
RE: Survey Report
Llano Well Subsidence Monitoring
2017.1005

100 E. Navajo Drive Suite 100 Hobbs NM 88240 T 575 393 9827 F 575 393 1543 Pettigrew.us

SUBSIDENCE MONUMENT SURVEY

On March 9, 2017 a field survey was conducted to set and observe positions of four new subsidence monuments surrounding the Llano Wellhead located at N32°48'59.1", W103°19'08.02301". The well location and associated subsidence monuments can be accessed from NM 483 by turning East on the first road to the South of Buckeye Road, in Lea County.

The Google Earth image and the sketch below illustrate locations of the monuments.



The positions for the four set monuments were placed based on a conversation with Carl Chavez from the Energy Minerals and Natural Resources Department. The discussion was to set at least three monuments at varying distances from the well head. The distances were to be kept to a minimum of 400 feet and a maximum of 1200 feet. The four monuments were set at differing distances in the given interval and in 4 separate directions.

This survey was conducted using Trimble R8 GNSS Receivers and a Trimble DiNi digital level. The GNSS Receivers were used to establish the locations of the monuments and the well head through Differential GNSS observations. In an effort to tie into an existing published control point, the National Geodetic Survey website was reference to find the nearest published benchmark. Vertical Control point CV0295 is located approximately 4,300 feet northeast of the well site. Once the monument was recovered, a GNSS base was setup over the point and static data was observed for over 5 hours. The data was then submitted to an online positioning service to firmly establish the horizontal coordinates: Latitude N32°48'40.92945", Longitude W103°19'53.77433". The published elevation of 3813.31 was held.

While the published/accepted elevation for the point was used. The Trimble DiNi was then used to accurately establish the elevation of the monuments and the wellhead in relation to the NGS control point. The DiNi reads a barcode off of a special rod in order to determine difference in elevation from a known control point. The accuracy of this level helps to eliminate human reading errors. The data is stored onboard and may be transferred directly into the computer software at the office for analysis of results, ensuring greater accuracy.

SUBSIDENCE MONITORING PLAN

The NGS Control Point CV0295, with an elevation of 3813.31 feet above mean sea level (MSL), will be used as the Reference Control Point for determining the elevations of the newly placed Subsidence Monuments. The elevations of these monuments will be observed semi-annually by a level loop run with the DiNi level to ensure accuracy and precision.

Future observations will made on all available points and tabulated to compare the elevations to the base elevations established on March 9, 2017. The results will be graphically represented by trend lines representing measurements made on each monument. The continual change will be monitored by P.A. and presented to you semi-annually.

MONUMENT DESCRIPTIONS

Each of the monuments set and observed are shown below with a description and images of the point.

CV0295

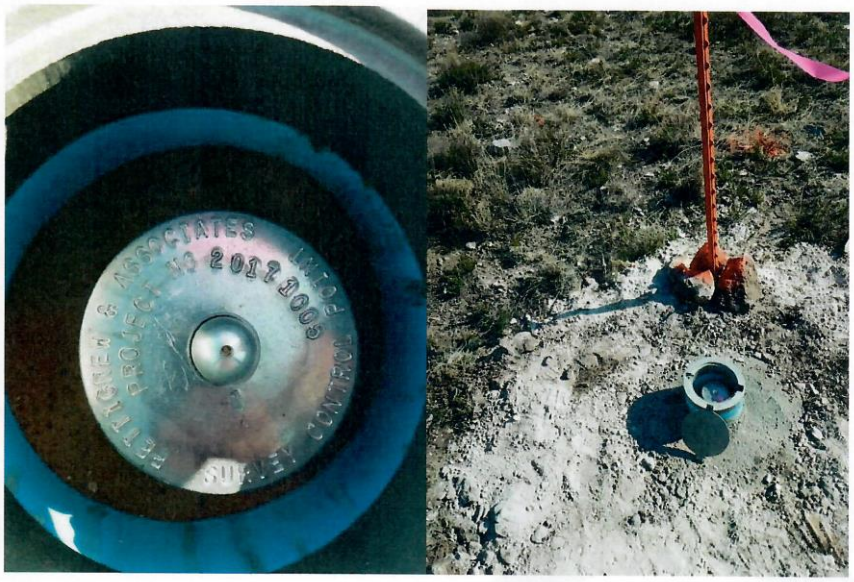
NGS Control Point CV0295 is a brass U.S. Coast & Geodetic Survey Benchmark set in concrete projecting approximately one foot out of the ground. It is stamped with an X and with the year it was set as shown below, followed by the NGS datasheet:

Llano Wellhead

The existing wellhead was measured on the top of the First Flange leaving the wellhead on the horizontal plane. There is an X Filed into the metal that may fade with rust.

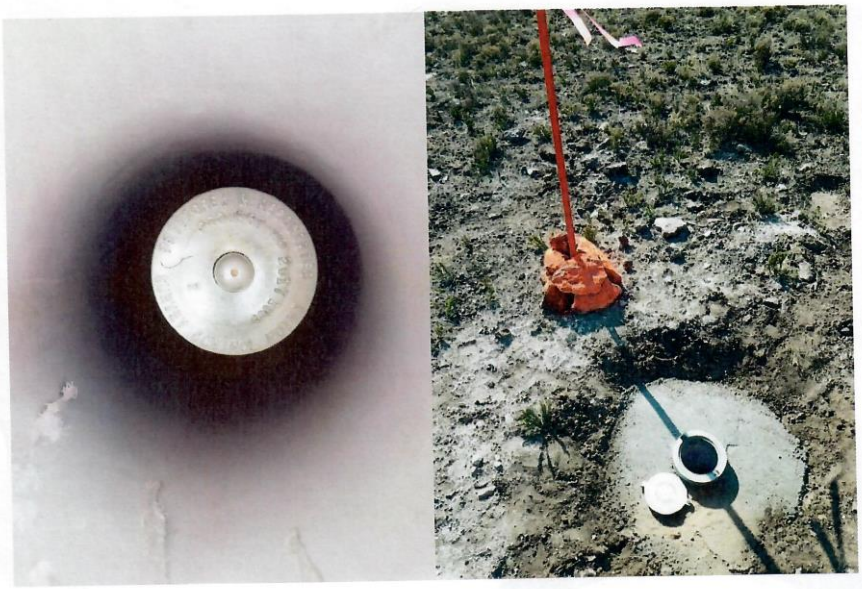
Subsidence Monument 1

A Berntsen three quarter inch Aluminum Top Security Sleeve Monument was set. It consists of a rod driven till refusal into a pre drilled three-foot deep hole with a twelve inch diameter. The sleeved rod is encased in six-inch PVC filled with sand, then topped with a Datum Point and an Aluminum Floating Datum Cap. It is then capped with an Access Cover that must be removed with a flathead screw driver or similar tool. The Monument is pictured below:



Subsidence Monument 2

A Berntsen three quarter inch Aluminum Top Security Sleeve Monument was set. It consists of a rod driven till refusal into a pre drilled three-foot deep hole with a twelve inch diameter. The sleeved rod is encased in six-inch PVC filled with sand, then topped with a Datum Point and an Aluminum Floating Datum Cap. It is then capped with an Access Cover that must be removed with a flathead screw driver or similar tool. The Monument is pictured below:



Subsidence Monument 3

A Berntsen three quarter inch Aluminum Top Security Sleeve Monument was set. It consists of a rod driven till refusal into a pre drilled three-foot deep hole with a twelve inch diameter. The sleeved rod is encased in six-inch PVC filled with sand, then topped with a Datum Point and an Aluminum Floating Datum Cap. It is then capped with an Access Cover that must be removed with a flathead screw driver or similar tool. The Monument is pictured below:

Subsidence Monument 4

A Berntsen three quarter inch Aluminum Top Security Sleeve Monument was set. It consists of a rod driven till refusal into a pre drilled three-foot deep hole with a twelve inch diameter. The sleeved rod is encased in six-inch PVC filled with sand, then topped with a Datum Point and an Aluminum Floating Datum Cap. It is then capped with an Access Cover that must be removed with a flathead screw driver or similar tool. The Monument is pictured below:

STATE PLANE POINT REPORT FROM TRIMBLE BUSINESS CENTER

Project file data		Coordinate System	
Name:	Z:\2017.1005\Survey\Subsidence_Survey\Field Data\Llano Subsidence.vce	Name:	United States/State Plane 1983
Size:	66 KB	Datum:	NAD 1983 (Conus)
Modified:	3/31/2017 11:26:28 AM (UTC:-6)	Zone:	Default
Time zone:	Mountain Standard Time	Geoid:	GEOID12A (Conus)
Reference number:		Vertical datum:	
Description:			
Comment 1:			
Comment 2:			
Comment 3:			

Additional Coordinate System Details

Local Site Settings			
Project latitude:	N32°48'59.08897"	Ground scale factor:	1.00015857066738
Project longitude:	W103°19'08.02301"	False northing offset:	0.000
Project height:	3747.243	False easting offset:	0.000

Point List

ID	Northing (US survey foot)	Easting (US survey foot)	Elevation (US survey foot)	Feature Code	Combined Scale Factor	Meridian convergence angle
100	660370.412	850231.908	3826.913	SUBSIDENCE MONUMENT 3	0.9999973961	0°32'41"
101	661265.048	848986.847	3827.323	SUBSIDENCE MONUMENT 2	0.9999964984	0°32'34"
102	660441.416	848433.714	3830.030	SUBSIDENCE MONUMENT 4	0.9999959805	0°32'30"
103	659971.468	849135.891	3828.318	SUBSIDENCE MONUMENT 1	0.9999965553	0°32'34"
104	660366.410	849101.963	3827.868	LLANO WELLHEAD	0.9999965526	0°32'34"
295	662239.254	852989.679	3813.310	7080 NGS CV0295	1.0000000000	0°32'59"

4/20/2017 9:09:47 AM	Z:\2017.1005\Survey\Subsidence_Survey\Field Data\Llano Subsidence.vce	Trimble Business Center

LAT/LONG POINT REPORT FROM TRIMBLE BUSINESS CENTER

Project file data		Coordinate System	
Name:	Z:\2017.1005\Survey\Subsidence_Survey\Field Data\Llano Subsidence.vce	Name:	United States/State Plane 1983
Size:	66 KB	Datum:	NAD 1983 (Conus)
Modified:	3/31/2017 11:26:28 AM (UTC:-6)	Zone:	Default
Time zone:	Mountain Standard Time	Geoid:	GEOID12A (Conus)
Reference number:		Vertical datum:	
Description:			
Comment 1:			
Comment 2:			
Comment 3:			

Additional Coordinate System Details

Local Site Settings			
Project latitude:	N32°48'59.08897"	Ground scale factor:	1.00015857066738
Project longitude:	W103°19'08.02301"	False northing offset:	0.000
Project height:	3747.243	False easting offset:	0.000

Point List

ID	Latitude	Longitude	Height (US survey foot)	Feature Code
100	32.811351	103.327927	3760.741	Subsidence Monument 3
101	32.813842	103.331951	3761.132	Subsidence Monument 2
102	32.811593	103.333776	3763.824	Subsidence Monument 4
103	32.810283	103.331506	3762.14	Subsidence Monument 1
104	32.811369	103.331604	3761.696	Llano Wellhead
295	32.816414	103.318895	3747.243	7080 NGS CV0295

4/27/2017 3:53 PM	Z:\2017.1005\Survey\Subsidence_Survey\Field Data\Llano Subsidence.vce	Trimble Business Center

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.1
1        National Geodetic Survey,   Retrieval Date = APRIL 10, 2017
 CV0295 ***********************************************************************
 CV0295  DESIGNATION -  X 151
 CV0295  PID         -  CV0295
 CV0295  STATE/COUNTY-  NM/LEA
 CV0295  COUNTRY     -  US
 CV0295  USGS QUAD   -  LOVINGTON SE (1985)
 CV0295
 CV0295                         *CURRENT SURVEY CONTROL
 CV0295
 CV0295* NAD 83(1986) POSITION- 32 48 57.     (N) 103 19 08.     (W)   SCALED
 CV0295* NAVD 88 ORTHO HEIGHT -  1163.883 (meters)     3818.51  (feet) ADJUSTED
 CV0295
 CV0295  GEOID HEIGHT    -        -21.727 (meters)                     GEOID12B
 CV0295  DYNAMIC HEIGHT  -       1162.298 (meters)     3813.31  (feet) COMP
 CV0295  MODELED GRAVITY -    979,235.1   (mgal)                       NAVD 88
 CV0295
 CV0295  VERT ORDER      -  SECOND    CLASS 0
 CV0295
 CV0295.The horizontal coordinates were scaled from a topographic map and have
 CV0295.an estimated accuracy of +/- 6 seconds.
 CV0295.
 CV0295.The orthometric height was determined by differential leveling and
 CV0295.adjusted by the NATIONAL GEODETIC SURVEY
 CV0295.in June 1991.
 CV0295
 CV0295.Significant digits in the geoid height do not necessarily reflect accuracy.
 CV0295.GEOID12B height accuracy estimate available here.
 CV0295
 CV0295.The dynamic height is computed by dividing the NAVD 88
 CV0295.geopotential number by the normal gravity value computed on the
 CV0295.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 CV0295.degrees latitude (g = 980.6199 gals.).
 CV0295
 CV0295.The modeled gravity was interpolated from observed gravity values.
 CV0295
 CV0295;                    North         East     Units  Estimated Accuracy
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 CV0295
 CV0295_U.S. NATIONAL GRID SPATIAL ADDRESS: 13SF5573321(NAD 83)
 CV0295
 CV0295                           SUPERSEDED SURVEY CONTROL
 CV0295
 CV0295  NGVD 29 (??/??/92) 1163.479  (m)         3817.18   (f) ADJ UNCH    2 0
 CV0295
 CV0295.Superseded values are not recommended for survey control.
 CV0295
 CV0295.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 CV0295.See file dsdata.pdf to determine how the superseded data were derived.
 CV0295
 CV0295_MARKER: DB = BENCH MARK DISK
 CV0295_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 CV0295_STAMPING: X 151 1935
 CV0295_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 CV0295+STABILITY: SURFACE MOTION
```

```
CV0295
CV0295  HISTORY     - Date     Condition        Report By
CV0295  HISTORY     - 1935     MONUMENTED       CGS
CV0295  HISTORY     - 1979     GOOD             USGS
CV0295
CV0295                          STATION DESCRIPTION
CV0295
CV0295'DESCRIBED BY COAST AND GEODETIC SURVEY 1935
CV0295'6.1 MI W FROM HUMBLE CITY.
CV0295'6.1 MI W ALONG ROADS TOWARDS BUCKEYE RANCH WEST OF HUMBLE CITY ON THE
CV0295'ROAD TO BUCKEYE RANCH, AND 15. FT. S. OF THE CENTER LINE OF THE ROAD.
CV0295
CV0295                          STATION RECOVERY (1979)
CV0295
CV0295'RECOVERY NOTE BY US GEOLOGICAL SURVEY 1979
CV0295'COURT HOUSE LOVINGTON, LEA CO. NEW MEXICO 12.6 MILES SE ALONG NM 18
CV0295'THENCE 1.3 MI. SE ALONG GRAVEL RD. TO KIMBOROUGH RANCH, THENCE FOLLOW
CV0295'SECTION LINE AND FENCE WEST FOR 3.3 MILES, 620 FEET NORTH OF A FENCE,
CV0295'600 FEET EAST OF A PIPE LINE, 1500 FEET NW OF THE SE COR OF SEC. 23 T
CV0295'17S R 36 E, IN A PATCH OF MESQUITE. A STANDARD DISK STAMPED X 151
CV0295'1935 AND SET IN THE TOP OF A CONCRETE POST PROJECTING 1.0 FEET.

*** retrieval complete.
Elapsed Time = 00:00:07
```

Top Security Sleeve Rod Monuments

9/16" Stainless Steel Top Security Sleeve Monument

More Info

3/4" Aluminum Top Security Sleeve Monument

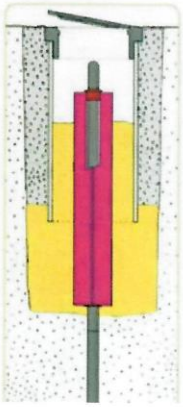
More Info

Berntsen Sectional Rod Monument with Floating Sleeve

A BERNTSEN EXCLUSIVE! PRODUCT

Berntsen's exclusive Top Security™ Sleeve 3-Dimensional Rod Monument System is specifically designed for high-precision geodetic and GPS surveys. Its patented design helps protect against excessive movements in the control monument. The Berntsen extendible rods, when driven to refusal, provide excellent vertical stability. The unique Y-shaped design of the Top Security Sleeve adds the second and third dimension to provide the most stable 3-D survey monument available.

Eliminate most common and unexpected shifts in stability by eliminating most of the direct transfer of shifts in movement from ground level or surface movement. Here's how: Rod markers (driven to refusal) have good vertical stability but can be disturbed by the natural phenomenon known as frost heave. Rod markers, installed with a greased-filled PVC pipe surrounding the upper three or four feet (900 or 1200 mm) (or more) of rod, are known to be effective in combating movement caused by frost heave but offer little protection against possible horizontal movement of surrounding earth (another major cause of differences in readings on rod markers). For the first time, Berntsen's Top Security Sleeve™ with the horizontal stability of the original Berntsen Top Security™ finned rod marker system, this is now available in a commercially available survey monument.



It's even extendible! 3' (914mm) lengths of Top Security Sleeves can also be connected together by Berntsen's exclusive End Cap Alignment Bushings and a little PVC Cement. When used in combination(s), nearly any even-foot length over six feet long (1.83m) of support for the rod marker is possible. That's innovative and flexible design at work for you.

More good news! The Top Security Sleeves' greatest advantage at installation time is speed. Simply drive standard Berntsen round rods to refusal, slip on the grease-filled finned Top Security Sleeve (recommended sleeve length greater than maximum recorded local frost depth), back-fill around the fins with sand, tamp firmly. The color coded End Cap Alignment Bushings follow Berntsen's long established universal color codes for rod marker systems and tell other surveyor's at a glance what size rod is installed - 9/16" (14 mm) Yellow; 3/4" (19 mm) Blue. We recommend NO-TOX lubricating grease to fill the Top Security Sleeve. It is specially formulated to be non-toxic and environmentally safe. It is available in an easy to use cartridge that fits a standard "grease gun". One cartridge should be used for each 36" (915mm) long Top Security Sleeve.

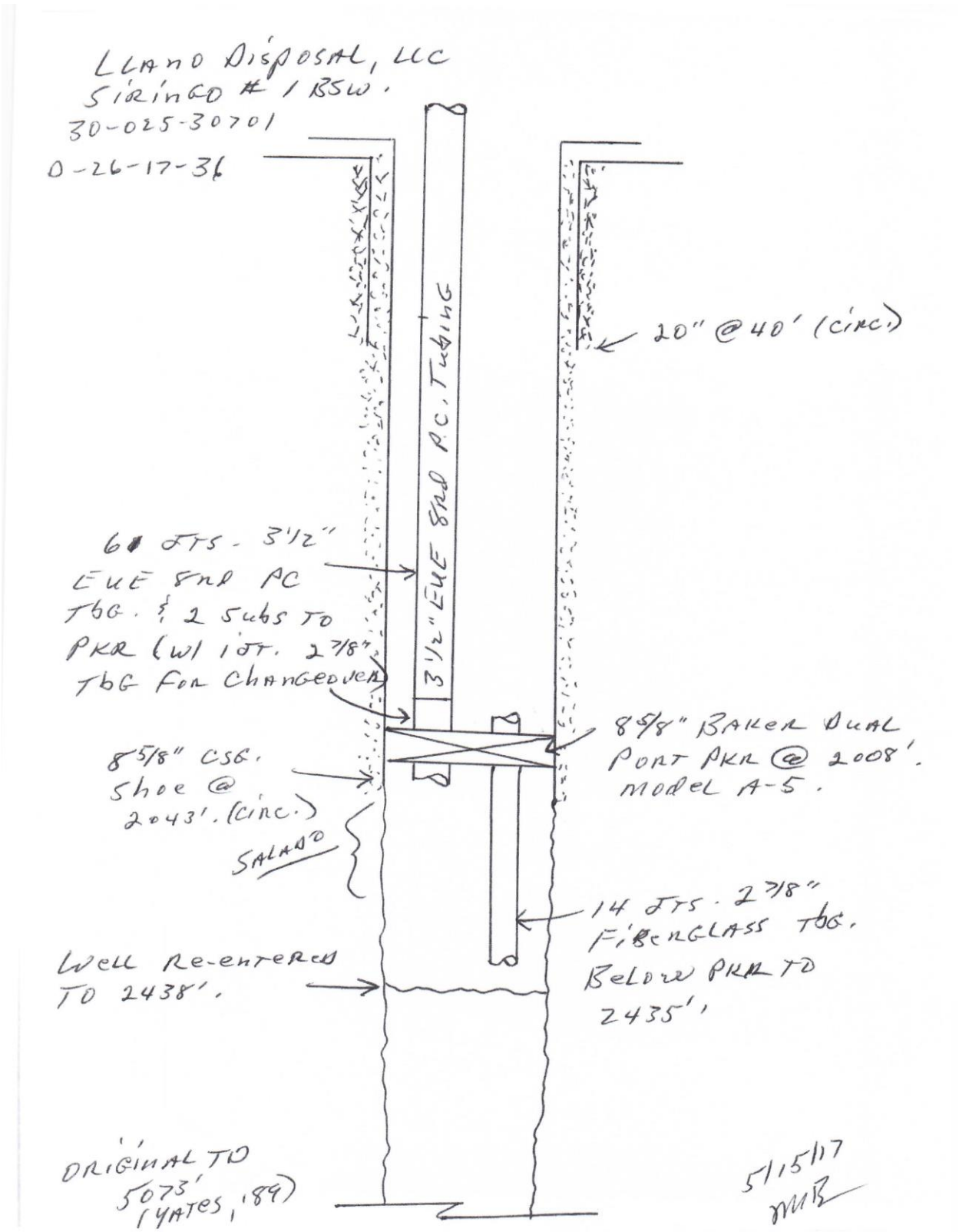
APPENDIX D

Sundries

There were no sundries during 2019.

APPENDIX E

Well Diagrams


LLANO DISPOSAL, LLC
SIRING CO # 1 BSW.
30-025-30701
O-26-17-36
20" @ 40' (CIRC.)
3 1/2" EUE 8RD PC. TUBING
60 JTS. 3 1/2" EUE 8RD AC TBG. & 2 SUBS TO PKR (W/ 1 JT. 2 7/8" TBG FOR CHANGEOVER
8 5/8" BAKER DUAL PORT PKR @ 2008'. MODEL A-5.
8 5/8" CSG. SHOE @ 2043'. (CIRC.)
SALADO
14 JTS. 2 7/8" FIBERGLASS TBG. BELOW PKR TO 2435'.
WELL RE-ENTERED TO 2438'.
ORIGINAL TD 5073' (YATES, 1989)
5/15/17
MB

APPENDIX F

Chemical Analysis

CARDINAL Laboratories

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

April 27, 2018

DARR ANGELL

LLANO BRINE

P. O. BOX 250

LOVINGTON, NM 88260

RE: WATER SAMPLES

Enclosed are the results of analyses for samples received by the laboratory on 04/26/18 16:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

LLANO BRINE
DARR ANGELL
P. O. BOX 250
LOVINGTON NM, 88260
Fax To:

Received:	04/26/2018	Sampling Date:	04/26/2018
Reported:	04/27/2018	Sampling Type:	Water
Project Name:	WATER SAMPLES	Sampling Condition:	** (See Notes)
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: FRESH WATER (H801168-01)

Chloride, SM4500Cl-B mg/L Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	128	4.00	04/27/2018	ND	100	100	100	0.00	

Sample ID: BRINE WATER (H801168-02)

Chloride, SM4500Cl-B mg/L Analyzed By: CK

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	188000	4.00	04/27/2018	ND	100	100	100	0.00	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

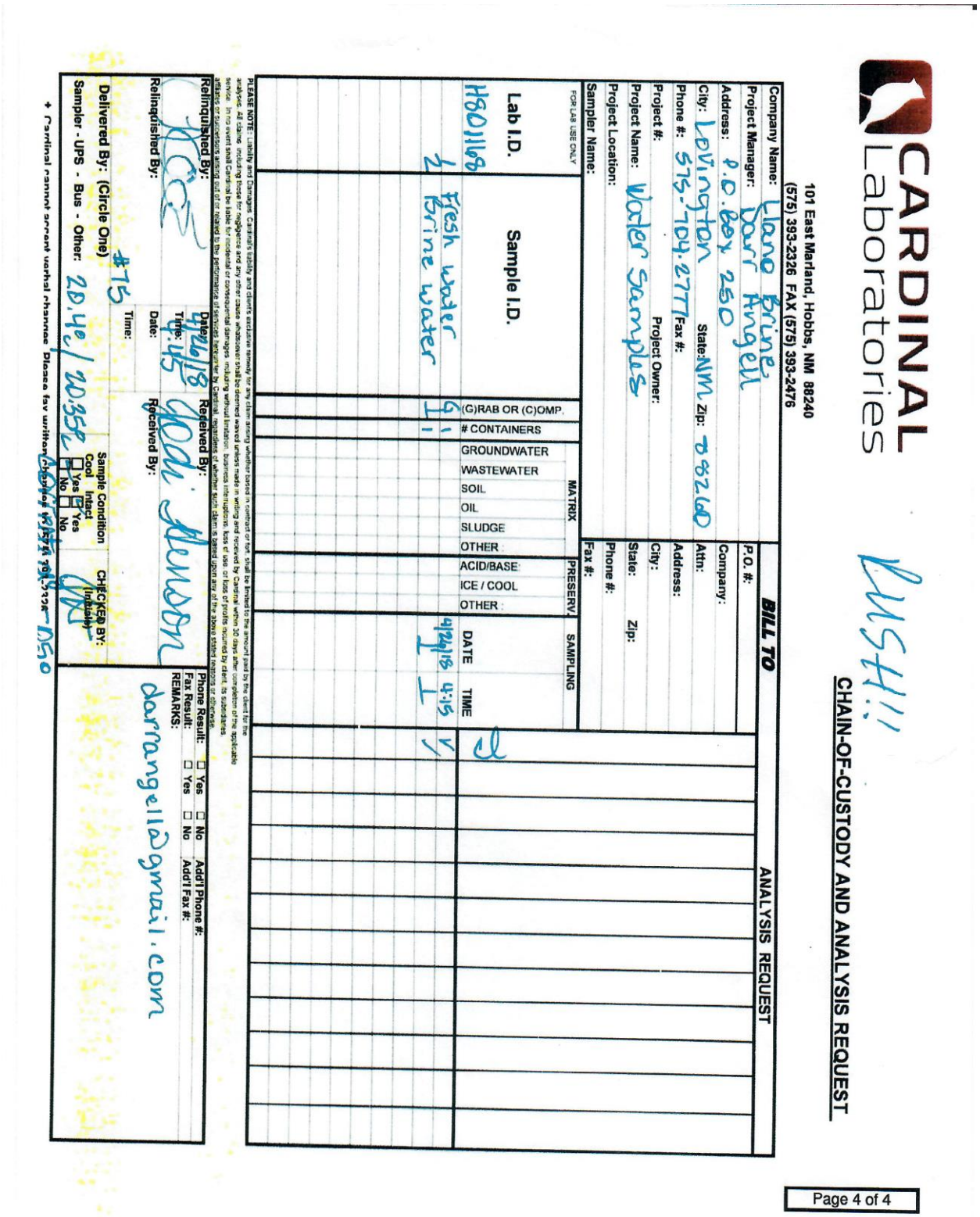
Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager



CARDINAL Laboratories

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

RUSH!!!

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 4 of 4

Company Name:	Llano Brine	BILL TO	ANALYSIS REQUEST
Project Manager:	Darr Angel	P.O. #:	
Address:	P.O. Box 250	Company:	
City:	Levington State: NM Zip: 88260	Attn:	
Phone #:	575-704-2777 Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:	Water Samples	State: Zip:	
Project Location:		Phone #:	
Sampler Name:		Fax #:	

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

FOR LAB USE ONLY			MATRIX					PRESERV.		SAMPLING			
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	
H801168	1 Fresh water	G	1										4/26/18	4:15	X
	2 Brine water	G	1												X

Relinquished By: [signature] Date: 4/26/18 Received By: Jodi Henson Time: 4:45

Relinquished By: Date: Received By:

Delivered By: (Circle One) Sample Condition: Cool: Yes No Intact: Yes No CHECKED BY: (Initials)

Sampler - UPS - Bus - Other: #75 20.4° / 20.3°C

+ Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

Phone Result: Yes No Add'l Phone #:
Fax Result: Yes No Add'l Fax #:
REMARKS: darrangell2@gmail.com

APPENDIX G

Certification

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	Owner/Permittee Holder
Name	Title
	4/26/22
Signature	Date

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

COMMENTS

Action 123612

COMMENTS

Operator: LLANO DISPOSAL, L.L.C. P.O. Box 250 Lovington, NM 88260	OGRID: 370661
	Action Number: 123612
	Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)

COMMENTS

Created By	Comment	Comment Date
cchavez	Annual Report 2019	7/13/2022

District I
1625 N. French Dr., Hobbs, NM 88240
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Phone:(505) 334-6178 Fax:(505) 334-6170
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Operator: LLANO DISPOSAL, L.L.C. P.O. Box 250 Lovington, NM 88260	OGRID: 370661
	Action Number: 123612
	Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)

CONDITIONS

Created By	Condition	Condition Date
cchavez	1) Environmental Analytical Laboratory Data Results Sheet “Sample ID” descriptors based on permit should include: MW (GW)- Annually, Injection Fresh Water- Quarterly and Brine- Quarterly. Also, the complete QA/QC laboratory analytical laboratory report for all analytical data shall be provided in each annual report. 2) AOR should include all wells within ½ mile of the brine well. 3) Appendix A MIT Chart(s) shall include Chart Recorder Calibration Sheet(s) with last date of calibration, calibration results, spring weight, and clock setting. 4) Appendix B “Right Circular Cone” volume algorithm “H” estimated cavern height value shall be the base of cavern depth minus the casing shoe depth value. A depth of salt cavern sounding shall be performed during well workovers to determine cavern height in algorithm calc. 5) Appendix F permit sample frequency, sample parameters for MW (groundwater), injected H2O, and brine quality shall be completed. 6) Subsidence Monument Surveys are needed.	7/13/2022