2022 ANNUAL CLASS III WELL REPORT

H.R.C. INC.

Schubert 7 Well # 1 (BW-031)

API 30-025-36781

JANUARY 30, 2023

GARY M. SCHUBERT

From: Ben Donahue
To: Chavez, Carl, EMNRD
Subject: Re: [EXTERNAL] Re: BW-31 Annual Report 2022: Solution Cavern Characterization Data Results Pg. 77 Figure
Date: Saturday, March 4, 2023 4:40:54 PM
Attachments: BW-31 Annual Class III Well Report 2022 Revised.pdf

---

Carl,

Here is the Annual Report with the amended Cavern Characterization calculations and schematic. We took the lifetime brine production total for the well and calculated our cavern volume from that number instead of the totals since the workover like we had been doing. We also changed the h value to be 744 ft. (2609 -1865) as you suggested to ensure we are treating the cavern as one and not multiple caverns. I am sending you the report in its entirety with the changes so you do not get stuck having to add/ remove pages into the report. Let me know if you need anything further or have any questions. Thanks, have a great weekend.

Ben

On Mon, Feb 20, 2023 at 1:24 PM Chavez, Carl, EMNRD <Carlj.Chavez@emnrd.nm.gov> wrote:

> Thank you, and safe travels!
>
> **Carl J. Chavez** ● UIC Group
>
> Engineering Bureau
>
> EMNRD - Oil Conservation Division
>
> Horizon Building
>
> 8801 Horizon Blvd., Suite 260 | Albuquerque, NM 87113
>
> 505.660.7923 | CarlJ.Chavez@emnrd.nm.gov
>
> www.emnrd.nm.gov
>
> ---
>
> **From:** Ben Donahue <benwdonahue@gmail.com>
> **Sent:** Monday, February 20, 2023 12:01 PM
> **To:** Chavez, Carl, EMNRD <Carlj.Chavez@emnrd.nm.gov>

Cc: Gary Schubert <garymschubert@gmail.com>; Goetze, Phillip, EMNRD <phillip.goetze@emnrd.nm.gov>
Subject: [EXTERNAL] Re: BW-31 Annual Report 2022: Solution Cavern Characterization Data Results Pg. 77 Figure

Carl,

I received this and am going to get with our consultants who have helped us with the characterization. I am going to be out of town for a few days but will be working on it and plan on having an answer as soon as possible. Thanks.

Ben Donahue

On Mon, Feb 20, 2023 at 11:39 AM Chavez, Carl, EMNRD <Carlj.Chavez@emnrd.nm.gov> wrote:

> Ben and Gary,
>
> Good morning!
>
> The New Mexico Oil Conservation Division (OCD) has completed its review of the above subject section of HRC's recent submittal. OCD is seeking to address the issue in text below for the ultimate approval of the Action ID#. OCD could reject it, but seems more efficient to allow HRC to submit a revised section to the OCD via E-mail to allow OCD to revise the submittal as part of its review process.
>
> OCD placed a post to the right side of the base of cavern in the figure provided by HRC explaining why OCD requires a recalculation utilizing the cavern estimation method. In short, the cavern height "h" increased to about 744 ft. with the deepening of the tubing depth that was approved by the OCD. This increase in H should be applied to the calculation utilizing the total brine production volume to estimate the max. cavern diameter. The D/H Ratio = Max. Estimated Cavern Diameter (D)/ H (Depth to Casing Shoe at 1865 ft.

OCD realizes that increasing tubing depth presents challenges to estimating he max. cavern diameter based on cumulative brine production, but the current approach by HRC to focus on the new cavern does address the cavern safety issue of D/H << 0.5 than the OCD approach listed above where OCD continues to treat the cavern as one cavern and not multiple caverns with focus of the newest cavern.

Ultimately, the issue returns to a well sonar to verify the Max. Cavern Diameter at some point based on the age of the brine well and cumulative brine production.

OCD requires a revised figure and above subject section recalculation to assess the maturity of the brine well on or before COB on March 6, 2023.

Please contact me if you have questions or would like to schedule a meeting to discuss.

Thank you.

Carl J. Chavez ● UIC Group

Engineering Bureau

EMNRD - Oil Conservation Division

Horizon Building

8801 Horizon Blvd., Suite 260 | Albuquerque, NM 87113

505.660.7923 | CarlJ.Chavez@emnrd.nm.gov

www.emnrd.nm.gov

575 393 3194 Office

615 305 6408 Cell

benwdonahue@gmail.com

--
Schubert Construction
P.O. Box 6056
Hobbs,NM 88241

575 393 3194 Office
615 305 6408 Cell

benwdonahue@gmail.com

TABLE OF CONTENTS

SUMMARY OF CLASS III OPERATIONS 2022

Schubert 7 Well # 1 (BW-31) production operations in 2022 recorded an upward trend as the industry recovered from the COVID pandemic. An annual total of 262,023 bbl. of brine was extracted at an average weight of 9.89 PPG (1.1851 SG), an increase of 26.07% over 2021. Steady sales are expected in 2022.

Analysis of water samples from the designated monitor well showed no changes in water quality.

All facility lines and connections receive a daily visual inspection. Readings on pressure gauges are recorded daily, along with the produced brine and injected water volumes. Safety shut off mechanisms are tested to ensure that the high and low pressure shut down systems are fully functional. In 2022 there were no leaks that occurred during the year. The fresh water systems and well are insulated to protect the fresh water system from freezing. All meters and valves were protected and are in good working condition.

H.R.C., Inc. preventive maintenance plan is to replace any connections or valves that could be showing wear. This will continue as a safe operating procedure in 2022. Connections are changed when the first sign of salt is seen behind the threaded end.
In May and November of 2022, a new mechanical seal was installed on the Summit MT Transfer pump as a part of routine maintenance on the pump. The work was performed by Odessa Pumps of Hobbs and was completed in approximately three hours for each job. The pump was tested for any leaks and operating pressure was verified upon completion of the work.
In October of 2022 the packings on the triplex injection pump were removed and replaced and all porcelain cylinders were inspected and cleaned prior to reinstallation. The cylinders were greased and oil was changed out on the pump at the same time. This work is performed as preventative maintenance to maintain consistent pump pressures on the well.

There were no deviations from normal operations of the well.

Surface subsidence monitoring results show no changes in elevations at the designated monitoring points.

Solution cavern characterization results show that the cavern size and shape remain within NMOCD recommended limits.

H.R.C., Inc. has continued its COVID protection plan for employees, requiring appropriate masks, hand sanitizers, aerosols and nitrile gloves in the field and office. Field tickets are stored in plastic bags and handled diligently for the least exposure possible to its employees.

H.R.C., Inc. Schubert 7 # 1 is an asset to industry and continues to support oil & gas production operations in New Mexico.

FLUID INJECTION & BRINE PRODUCTION VOLUMES

2022 MONTHLY TOTALS PRODUCED BRINE & INJECTED FRESH WATER

MONTH	PROD. BRINE (BBLS)	INJ. FRESH WATER (BBLS)
JANUARY	11156	10993
FEBRUARY	20469	20267
MARCH	19491	19305
APRIL	24921	24645
MAY	24776	24557
JUNE	25107	24864
JULY	26962	26650
AUGUST	24997	24721
SEPTEMBER	28015	27707
OCTOBER	18794	18610
NOVEMBER	19646	19445
DECEMBER	17698	17512
YEARLY TOTAL	262,023	259,276

ANNUAL TOTALS PRODUCED BRINE & INJECTED FRESH WATER

YEAR	PROD. BRINE (BBLS)	INJ. FRESH WATER (BBLS)
2017	301,502	282,445
2018	240,838	241,242
2019	284,882	278,960
2020	133,110	131,644
2021	207,828	205,513
2022	262,023	259,276
TOTAL 2006-2022	4,666,835	4,691,310

The Schubert 7 Well #1 (BW-31) was worked over at end of December of 2020, as per previously submitted reports, and depth of production was lowered. New cavern characterization beginning January 2021.

EXTRACTION VS. INJECTION RATIOS

2021 FLUID INJECTION & BRINE PRODUCTION VOLUME RATIO

MONTH	BRINE	BRINE PSI	FRESH WATER	FW PSI	RATIO (RAW)	RATIO (CALC)
JANUARY	11156	35	10993	267	11156:10993	1.014827
FEBRUARY	20469	39	20267	269	20469:20267	1.009966
MARCH	19491	36	19305	269	19491:19305	1.009634
APRIL	24921	38	24645	270	24921:24645	1.011199
MAY	24776	36	24557	266	24776:24557	1.008918
JUNE	25107	38	24864	269	25107:24864	1.009773
JULY	26962	37	26650	268	26962:26650	1.011707
AUGUST	24997	36	24721	268	24997:24721	1.011164
SEPTEMBER	28015	36	27707	268	28015:27707	1.011116
OCTOBER	18794	37	18610	269	18794:18610	1.009887
NOVEMBER	19646	35	19445	267	19646:19445	1.010336
DECEMBER	17698	35	17512	266	17698:17512	1.010621

INJECTION PRESSURE

Production pressure remained consistent with 2021. Annulus average is 36.5 PSIG and the tubing average is at 268 PSIG. RFD pump runs at 38.6 Hz. with a yield of 24 to 27 GPM. The lease operator checks the pressure daily and records it on his daily logs.

Please find production & injection pressure and volume data attached in Appendix A, and can be seen in the table above.

MONITOR WELL WATER SAMPLE CHEMICAL ANALYSIS DATA

The BW-31 order requires that the specified monitor well be sampled quarterly and chemical analysis results be reported to the OCD. H.R.C. Inc. had been performing this sampling on a semi-annual basis prior to 2022. However, quarterly sampling and analysis for the produced brine and injected fresh water has been instituted as of January 2022 and the monitor well will be sampled at the same time and same interval, so therefore will also begin and then remain on a quarterly basis going forward. Cardinal Laboratories sampled water from the designated monitor well on 12/27/21, 04/01/2022, 7/1/2022, and 10/5/22.

Summary of the analyses from for Inorganic Compounds and Total Recovery Metals by ICP (E200.7) are shown below. There were no appreciable changes in the designated monitor well water quality throughout 2022, and as compared to 2021.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14 for 12/27/21, T104704398-21-14 for 04/01/22, T104704398-22-15 for 07/01/22, and certificate number T104704398-22-15 for 10/5/22.

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:
Method SM 9223-B Total Coliform and E. coli (Colilert MMO-MUG)

Method EPA 524.2 Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2 Total Halo acetic Acids (HAA-5)

Full details of the analytical results are attached at the end of this report in Appendix B.

DECEMBER 2021 / JANUARY 2022 RESULTS

MONITOR WELL INORGANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Alkalinity, Bicarbonate	224		5.00	MG/L	12-20-21	310.1
Alkalinity, Carbonate	<1.00		1.00	MG/L	12-20-21	310.1
Chloride	68.0		4.00	MG/L	12-20-21	4500. C1.B
Conductivity	671		1.00	UMHOS/CM	12-17-21	120.1
pH	7.83		0.100	pH units	12-17-21	150.1
Sulfate	81.6		25.0	MG/L	12-20-21	375.4
TDS	417		5.0	MG/L	12-20-21	160.1
Alkalinity Total	184		4.00	MG/L	12-20-21	310.1

MONITOR WELL TOTAL RECOVERABLE METALS by ICP (E220.7)

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	49.8		1.00	MG/L	1-6-22	EPA 200.7
Magnesium	15.2		1.00	MG/L	1-5-22	EPA 200.7
Potassium	1.89	1.83	10.00	MG/L	1-5-22	EPA 200.7
Sodium	63.3		10.00	MG/L	1-5-22	EPA 200.7

APRIL 2022 RESULTS

MONITOR WELL INORGANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Alkalinity, Bicarbonate	205		5.00	MG/L	4-4-22	310.1
Alkalinity, Carbonate	<1.00		1.00	MG/L	4-4-22	310.1
Chloride	56.0		4.00	MG/L	4-5-22	4500. C1.B
Conductivity	674		1.00	UMHOS/CM	4-4-22	120.1
pH	7.81		0.100	pH units	4-4-22	150.1
Sulfate	63.7		25.0	MG/L	4-6-22	375.4
TDS	388		5.0	MG/L	4-5-22	160.1
Alkalinity Total	168		4.00	MG/L	4-4-22	310.1

MONITOR WELL TOTAL RECOVERABLE METALS by ICP (E220.7)

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	49.8		0.50	MG/L	4-12-22	EPA 200.7
Magnesium	15.4		0.50	MG/L	4-12-22	EPA 200.7
Potassium	2.08	0.888	5.00	MG/L	4-12-22	EPA 200.7
Sodium	59.7		5.00	MG/L	4-12-22	EPA 200.7

JULY 2022 RESULTS

MONITOR WELL INORGANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Alkalinity, Bicarbonate	215		5.00	MG/L	7-6-22	310.1
Alkalinity, Carbonate	<1.00		1.00	MG/L	7-6-22	310.1
Chloride	152		4.00	MG/L	7-6-22	4500. C1.B
Conductivity	893		1.00	UMHOS/CM	7-1-22	120.1
pH	7.82		0.100	pH units	7-1-22	150.1
Sulfate	60.6		10.0	MG/L	7-6-22	375.4
TDS	561		5.0	MG/L	7-6-22	160.1
Alkalinity Total	176		4.00	MG/L	7-6-22	310.1

MONITOR WELL TOTAL RECOVERABLE METALS by ICP (E220.7)

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	56.4		1.00	MG/L	7-13-22	EPA 200.7
Magnesium	17.4		1.00	MG/L	7-13-22	EPA 200.7
Potassium	2.10	1.78	10.00	MG/L	7-13-22	EPA 200.7
Sodium	82.7		10.00	MG/L	7-13-22	EPA 200.7

OCTOBER 2022 RESULTS

MONITOR WELL INORGANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Alkalinity, Bicarbonate	195		5.00	MG/L	10-9-22	310.1
Alkalinity, Carbonate	<1.00		1.00	MG/L	10-9-22	310.1
Chloride	64.0		4.00	MG/L	10-6-22	4500. C1.B
Conductivity	641		1.00	UMHOS/CM	10-9-22	120.1
pH	7.62		0.100	pH units	10-7-22	150.1
Sulfate	62.7		10.0	MG/L	10-12-22	375.4
TDS	349		5.0	MG/L	10-6-22	160.1
Alkalinity Total	160		4.00	MG/L	10-9-22	310.1

MONITOR WELL TOTAL RECOVERABLE METALS by ICP (E220.7)

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	46.4		1.00	MG/L	10-11-22	EPA 200.7
Magnesium	14.1		1.00	MG/L	10-11-22	EPA 200.7
Potassium	<10		10.00	MG/L	10-11-22	EPA 200.7
Sodium	56.4		10.00	MG/L	10-11-22	EPA 200.7

PRODUCED BRINE & INJECTED FRESH WATER CHEMICAL ANALYSIS DATA

The BW-31 order requires that the specified monitor well be sampled quarterly and chemical analysis results be reported to the OCD. H.R.C. Inc. had been performing this sampling on a semi-annual basis prior to 2022. However, quarterly sampling and analysis for the produced brine and injected fresh water has been instituted as of January 2022. Cardinal Laboratories sampled produced brine and fresh injection water on 12/27/2021, 04/01/2022, 7/1/2022, and 10/5/2022.

Summaries of the analyses from for Inorganic Compounds and Total Recovery Metals by ICP (E200.7) are shown below. There were no appreciable changes in the designated monitor well water quality throughout 2022, and as compared to 2021.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14 for 12/27/21, T104704398-21-14 for 04/01/22, T104704398-22-15 for 07/01/22, and certificate number T104704398-22-15 for 10/5/22.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:
Method EPA 552.2 Total Halo acetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:
Method SM 9223-B Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2 Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2 Total Halo acetic Acids (HAA-5)

Full details of the analytical results are attached at the end of this report in Appendix B.

DECEMBER 2021 / JANUARY 2022 RESULTS

BRINE WATER INORGANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Alkalinity, Bicarbonate	264		5.00	MG/L	12-20-21	310.1
Alkalinity, Carbonate	<1.00		1.00	MG/L	12-20-21	310.1
Chloride	190000		4.00	MG/L	12-20-21	4500. C1.B
Conductivity	283000		1.00	UMHOS/CM	12-17-21	120.1
pH	6.59		0.100	pH units	12-17-21	150.1
Sulfate	6880		1250	MG/L	12-20-21	375.4
TDS	319000		5.0	MG/L	12-20-21	160.1
Alkalinity Total	216		4.00	MG/L	12-20-21	310.1

BRINE WATER TOTAL RECOVERABLE METALS by ICP (E220.7)

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	915		20.0	MG/L	1-6-22	EPA 200.7
Magnesium	645		20.0	MG/L	1-5-22	EPA 200.7
Potassium	1370	36.6	200	MG/L	1-5-22	EPA 200.7
Sodium	104000		200	MG/L	1-6-22	EPA 200.7

APRIL 2022 RESULTS

BRINE WATER INORGANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Alkalinity, Bicarbonate	254		5.00	MG/L	4-4-22	310.1
Alkalinity, Carbonate	<1.00		1.00	MG/L	4-4-22	310.1
Chloride	204000		4.00	MG/L	4-5-22	4500. C1.B
Conductivity	279000		1.00	UMHOS/CM	4-4-22	120.1
pH	6.57		0.100	pH units	4-4-22	150.1
Sulfate	7010		1250	MG/L	4-6-22	375.4
TDS	328000		5.0	MG/L	4-5-22	160.1
Alkalinity Total	208		4.00	MG/L	4-4-22	310.1

BRINE WATER TOTAL RECOVERABLE METALS by ICP (E220.7)

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	1050		50.0	MG/L	4-8-22	EPA 200.7
Magnesium	757		50.0	MG/L	4-8-22	EPA 200.7
Potassium	1450	88.8	500	MG/L	4-8-22	EPA 200.7
Sodium	113000		500	MG/L	4-8-22	EPA 200.7

JULY 2022 RESULTS

BRINE WATER INORGANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Alkalinity, Bicarbonate	249		5.00	MG/L	7-6-22	310.1
Alkalinity, Carbonate	<1.00		1.00	MG/L	7-6-22	310.1
Chloride	188000		4.00	MG/L	7-6-22	4500. C1.B
Conductivity	276000		1.00	UMHOS/CM	7-1-22	120.1
pH	6.54		0.100	pH units	7-1-22	150.1
Sulfate	7110		1250	MG/L	7-6-22	375.4
TDS	329000		5.0	MG/L	7-6-22	160.1
Alkalinity Total	204		4.00	MG/L	7-6-22	310.1

BRINE WATER TOTAL RECOVERABLE METALS by ICP (E220.7)

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	977		50.0	MG/L	7-13-22	EPA 200.7
Magnesium	681		50.0	MG/L	7-13-22	EPA 200.7
Potassium	1440	88.8	500	MG/L	7-13-22	EPA 200.7
Sodium	109000		500	MG/L	7-13-22	EPA 200.7

OCTOBER 2022 RESULTS

BRINE WATER INORGANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Alkalinity, Bicarbonate	234		5.00	MG/L	10-9-22	310.1
Alkalinity, Carbonate	<1.00		1.00	MG/L	10-9-22	310.1
Chloride	170000		4.00	MG/L	10-6-22	4500. C1.B
Conductivity	271000		1.00	UMHOS/CM	10-9-22	120.1
pH	6.77		0.100	pH units	10-7-22	150.1
Sulfate	22.4		1250	MG/L	10-12-22	375.4
TDS	322000		5.0	MG/L	10-6-22	160.1
Alkalinity Total	192		4.00	MG/L	10-9-22	310.1

BRINE WATER TOTAL RECOVERABLE METALS by ICP (E220.7)

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	917		50.0	MG/L	10-11-22	EPA 200.7
Magnesium	649		50.0	MG/L	10-11-22	EPA 200.7
Potassium	1410		500	MG/L	10-11-22	EPA 200.7
Sodium	106000		500	MG/L	10-11-22	EPA 200.7

DECEMBER 2021 / JANUARY 2022 RESULTS

INJECTION WATER INORGANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Alkalinity, Bicarbonate	303		5.00	MG/L	12-20-21	310.1
Alkalinity, Carbonate	<1.00		1.00	MG/L	12-20-21	310.1
Chloride	292		4.00	MG/L	12-20-21	4500. C1.B
Conductivity	1630		1.00	UMHOS/CM	12-17-21	120.1
pH	7.44		0.100	pH units	12-17-21	150.1
Sulfate	158		25.0	MG/L	12-20-21	375.4
TDS	1000		5.0	MG/L	12-20-21	160.1
Alkalinity Total	248		4.00	MG/L	12-20-21	310.1

INJECTION WATER TOTAL RECOVERABLE METALS by ICP (E220.7)

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	124		1.00	MG/L	1-5-22	EPA 200.7
Magnesium	24.3		1.00	MG/L	1-5-22	EPA 200.7
Potassium	12.2	1.83	10.00	MG/L	1-5-22	EPA 200.7
Sodium	168		10.00	MG/L	1-5-22	EPA 200.7

APRIL 2022 RESULTS

INJECTION WATER INORGANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Alkalinity, Bicarbonate	249		5.00	MG/L	4-4-22	310.1
Alkalinity, Carbonate	<1.00		1.00	MG/L	4-4-22	310.1
Chloride	470		4.00	MG/L	4-5-22	4500. C1.B
Conductivity	2760		1.00	UMHOS/CM	4-4-22	120.1
pH	7.15		0.100	pH units	4-4-22	150.1
Sulfate	623		125	MG/L	4-6-22	375.4
TDS	1740		5.0	MG/L	4-6-22	160.1
Alkalinity Total	204		4.00	MG/L	4-4-22	310.1

INJECTION WATER TOTAL RECOVERABLE METALS by ICP (E220.7)

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	246		0.50	MG/L	4-8-22	EPA 200.7
Magnesium	78.6		0.50	MG/L	4-8-22	EPA 200.7
Potassium	8.92	0.888	5.00	MG/L	4-8-22	EPA 200.7
Sodium	231		5.00	MG/L	4-8-22	EPA 200.7

JULY 2022 RESULTS

INJECTION WATER INORGANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Alkalinity, Bicarbonate	259		5.00	MG/L	7-6-22	310.1
Alkalinity, Carbonate	<1.00		1.00	MG/L	7-6-22	310.1
Chloride	272		4.00	MG/L	7-6-22	4500. C1.B
Conductivity	1650		1.00	UMHOS/CM	7-1-22	120.1
pH	7.49		0.100	pH units	7-1-22	150.1
Sulfate	273		50.0	MG/L	7-6-22	375.4
TDS	1080		5.0	MG/L	7-6-22	160.1
Alkalinity Total	212		4.00	MG/L	7-6-22	310.1

INJECTION WATER TOTAL RECOVERABLE METALS by ICP (E220.7)

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	116		1.00	MG/L	7-13-22	EPA 200.7
Magnesium	29.0		1.00	MG/L	7-13-22	EPA 200.7
Potassium	8.40	1.78	10.00	MG/L	7-13-22	EPA 200.7
Sodium	140		10.00	MG/L	7-13-22	EPA 200.7

OCTOBER 2022 RESULTS

INJECTION WATER INORGANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Alkalinity, Bicarbonate	254		5.00	MG/L	10-9-22	310.1
Alkalinity, Carbonate	<1.00		1.00	MG/L	10-9-22	310.1
Chloride	530		4.00	MG/L	10-6-22	4500. C1.B
Conductivity	2970		1.00	UMHOS/CM	10-9-22	120.1
pH	7.29		0.100	pH units	10-7-22	150.1
Sulfate	641		125	MG/L	10-12-22	375.4
TDS	2150		5.00	MG/L	10-6-22	160.1
Alkalinity Total	208		4.00	MG/L	10-9-22	310.1

INJECTION WATER TOTAL RECOVERABLE METALS by ICP (E220.7)

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	261		1.00	MG/L	10-11-22	EPA 200.7
Magnesium	88.9		1.00	MG/L	10-11-22	EPA 200.7
Potassium	<10		10.00	MG/L	10-11-22	EPA 200.7
Sodium	252		10.00	MG/L	10-11-22	EPA 200.7

PIPE LINE HYDROSTATIC TEST RESULTS

Lines that lead to the storage tanks from the wellhead have a hydrostatic pressure of 8.3 pounds of pressure at the base of the line at the fill tank when idle. The operating static pressure average is 11.7 psi respectively. The operating pressure is at around 20 psig. Discharge line is of 3" Polyethylene SDR 11 with a max operating pressure of 160 PSI.

The Brine Water transfer line from the storage tanks at the Schubert 7 Well # 1 Facility is run straight to the ETZ Water Station sales tanks located approximately 3.8 miles to the southwest of the well. The line is run in 3" SDR-11 Polyethylene and has an operating pressure of 150 psi when the transfer pump is running. There is a 2" ball valve on the discharge of the transfer pump and a 3" ball valve at the inlet to the sales tanks that can be closed to allow for testing of the pipe integrity. This test is performed on a quarterly basis along with daily visual inspections.

VISUAL LEAK INSPECTION MONITORING

H.R.C. Inc. operations personnel walks each above ground facility line daily, and inspects all lines and connections for any sign of leaks or sweating of threads.

The H.R.C. lease operator drives out the lines that are underground and below frost level and visually inspects for any signs of compromised line integrity. This is done up to four times daily, but at a minimum once daily.

No leaks were detected in 2022. Because there were no leaks or spills detected in 2022, there are no leak or spill corrective action reports required.

MECHANICAL INTEGRITY TESTS

A successful mechanical integrity test was performed on 12/18/20. Please find a copy of the MIT Chart, Procedure Report, and C-103 in Appendix C.

AREA OF REVIEW (AOR) UPDATE

H.R.C., Inc. has updated the 2022 AOR for the Schubert 7 Well # 1 (BW-31), showing no new permits or new drilled wells have been located within the ½ or 2 mile AOR since the 2020 report. The last reported change to the AOR was in 2016: Sozo Natural Resources, Schubert 18 #4H, API #30-025-43365, currently Temporarily Abandoned status. This well is outside the ½ mile AOR, but within the 2 mile AOR.

Please find a copy of the ½ and 2 mile AOR review map in Appendix D.

DEVIATIONS FROM NORMAL FLOW CONFIGURATION

H.R.C. Inc. certifies that the well was operated in compliance with its permitted normal flow configuration throughout 2021 (inject fresh water down tubing, produce brine up annulus --- note that permitted normal flow configuration was reverse of this prior to 2020 workover).

MAJOR FACILITY ACTIVITIES OR EVENTS

There were no major facility events or activities in the year 2022. Upgrades made to storage capacity in 2021 met the needs of operations in 2022. All tanks and lines will continue to be evaluated on a daily basis as per the visual leak inspection program in place. H.R.C. Inc does not anticipate any facility upgrades in the coming year based on current usage and performance.

SURFACE SUBSIDENCE MONITORING PLAN RESULTS

Surface subsidence surveys were conducted in March 2022, July 2022, and September 2022, by Basin Surveys, certified by Gary L. Jones, Texas PLS. Three elevation markers are in place. No changes in elevation have been found.

Please find a copy of the BW-31 surveyor's plat in Appendix F, with locations of the BW-31 EM markers, and stating no changes found as of September 30, 2022.

SOLUTION CAVERN CHARACTERIZATION DATA RESULTS

The characterization of the cavern can be mathematically calculated using $V=\Pi R^2h/3$, where the cavern is assumed to be conical in shape, V=volume of salt removed in ft ^{3}, R= cavern radius in ft at bottom, and h = height of cavern in ft.

BW-31 has produced 4,666,835 Bbl. of brine from the Salado formation from 2006 to December 31, 2022. As per the 2021 annual report, the cavern diameter at end of 2020 was 311.7 ft, and cavern top was at 1865 ft. At end of 2020, the well was recompleted, with a new 5 ½" surface casing set at 404 ft. and a new 4 ½" liner set at 1993 ft. The well was drilled to a new depth of 2649 ft., and new 2 7/8" tubing set at 2609 ft. This recompletion has been previously approved and submitted to the Department. In 2022, 262,023 bbls of brine were produced from the formation. This total added to the previous year's production makes a total of 4,666,835 bbls produced from the cavern. The old wellbore schematic as well as a new wellbore and cavern characterization diagram can be found in Appendix G.

Because the "new" cavern and the "old" caverns are interconnected, the old cavern top at 1865 ft will be used for the cavern size factor calculations. The new cavern height will be taken as the distance from the new end of tubing to the top of the old cavern, 2609 ft – 1865 ft, or h=744 ft.

It takes 122.136 Lbs. of salt to produce one barrel of quality brine yielding a Specific Gravity of 1.195. Multiplying salt ratio to total fluid bbl. equals 569,988,560 lbs of salt mined. The amount of salt mined, 569,988,560 lbs, divided by 80 lbs salt/ft. ^{3} equals 7,124,857 ft.^{3} volume of salt removed through December 31, 2022. Volume of cavern, V=7,124,857 ft ^{3}.

Substituting into $V=\Pi R^2h/3$ for V and h, and solving for R shows that the radius of the cavern, R=95.63 ft. Diameter of new cavern, D=2R=191.26 ft.

Depth of cavern is taken to be depth of top of old cavern, 1865 ft.

In respect to the recommended maximum allowable D/depth cavern size factor of 0.5, the Schubert 7 Well No. 1 (BW-31) has a factor value of (191.26'/1865') = 0.102, which is well below the maximum allowable.

The recompletion of the BW-31 well to a deeper horizon has added years of remaining life to enable continued mining for the salt that is used throughout the oil and gas industry in Southeastern New Mexico.

Please find a copy of the BW-31 new wellbore schematic and input data for the cavern characterization calculations in Appendix G.

CONCLUSIONS & RECOMMENDATIONS

This well and facility are in good working order and maintained regularly. The cavern diameter/depth ratio is well within recommended maximum limits, and will not cause cavern collapse. There has been no evidence of surface subsidence. The nearby monitor well shows no evidence of contamination of USDW's. H.R.C. Inc. has not been fully in compliance with reporting to OCD, but procedures have been implemented to bring this well into full reporting compliance, and will remain so going forward.

ANNUAL CERTIFICATION

H.R.C. Inc. certifies that continued salt solution mining of the Schubert 7 Well #1 (BW-31) will not cause cavern collapse, surface subsidence, property damage, or otherwise threaten public health and the environment, based on geologic and engineering data.

Signature _____ for H.R.C., Inc. Date 1/30/23

Gary M. Schubert, President

APPENDIX A

BW-31 Injection / Production

2022 Production & Injection Pressures and Volumes

Month	Brine Production (Bbls) Average Pressure (psi)	Fresh Injection (Bbls) Average Pressure (psi)
January	11,156 35	10,993 267
February	20,469 39	20,267 269
March	19,491 36	19,305 269
April	24,921 38	24,645 270
May	24,776 36	24,557 266
June	25,107 38	24,864 269
July	26,962 37	26,650 268
August	24,997 36	24,721 268
September	28,015 36	27,707 268
October	18,794 37	18,610 269
November	19,646 35	19,445 267
December	17,689 35	17,512 266

Yearly Total	262,023 36.5	259,276 268

Running Totals New Cavern	**Brine Production (Bbls)** **469,851** Jan 1 2021- December 31 2022	**Fresh Injection (Bbls)** **464,789** Jan 1 2021- December 31 2022

Running Totals	**Brine Production (Bbls)** **4,666,835** 2006 - December 31 2022	**Fresh Injection (Bbls)** **4,691,310** 2006-December 31 2022

** Did workover in December of 2020 and lowered depth of production. Begin new cavern characterization in January 2021

** Injecting down the tubing and producing brine back up the casing (2021-Current)

APPENDIX B

CARDINAL Laboratories

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

January 10, 2022

BEN DONAHUE

ETZ WATER STATION

PO BOX 6056

HOBBS, NM 88241

RE: SCHUBERT

Enclosed are the results of analyses for samples received by the laboratory on 12/17/21 12:27.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. 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	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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

Page 1 of 10

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 10-Jan-22 12:02

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FRESH WATER	H213653-01	Water	17-Dec-21 09:35	17-Dec-21 12:27
BRINE WATER	H213653-02	Water	17-Dec-21 09:40	17-Dec-21 12:27
MONITOR WELL	H213653-03	Water	17-Dec-21 09:30	17-Dec-21 12:27

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 10-Jan-22 12:02

FRESH WATER

H213653-01 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**303**		5.00	mg/L	1	1120308	AC	20-Dec-21	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	1120308	AC	20-Dec-21	310.1	
Chloride*	**292**		4.00	mg/L	1	1121717	GM	20-Dec-21	4500-Cl-B	
Conductivity*	**1630**		1.00	umhos/cm @ 25°C	1	1121716	GM	17-Dec-21	120.1	
pH*	**7.44**		0.100	pH Units	1	1121716	GM	17-Dec-21	150.1	
Temperature °C	**21.2**			pH Units	1	1121716	GM	17-Dec-21	150.1	
Sulfate*	**158**		25.0	mg/L	2.5	1122003	AC	20-Dec-21	375.4	
TDS*	**1000**		5.00	mg/L	1	1120903	AC	20-Dec-21	160.1	
Alkalinity, Total*	**248**		4.00	mg/L	1	1120308	AC	20-Dec-21	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**124**		1.00	mg/L	10	B213157	JDA	05-Jan-22	EPA200.7	
Magnesium*	**24.3**		1.00	mg/L	10	B213157	JDA	05-Jan-22	EPA200.7	
Potassium*	**12.2**	1.83	10.0	mg/L	10	B213157	JDA	05-Jan-22	EPA200.7	
Sodium*	**168**		10.0	mg/L	10	B213157	JDA	05-Jan-22	EPA200.7	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 10-Jan-22 12:02

BRINE WATER

H213653-02 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**264**		5.00	mg/L	1	1120308	AC	20-Dec-21	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	1120308	AC	20-Dec-21	310.1	
Chloride*	**190000**		4.00	mg/L	1	1121717	GM	20-Dec-21	4500-Cl-B	
Conductivity*	**283000**		1.00	umhos/cm @ 25°C	1	1121716	GM	17-Dec-21	120.1	
pH*	**6.59**		0.100	pH Units	1	1121716	GM	17-Dec-21	150.1	
Temperature °C	**21.4**			pH Units	1	1121716	GM	17-Dec-21	150.1	
Sulfate*	**6880**		1250	mg/L	125	1122003	AC	20-Dec-21	375.4	
TDS*	**319000**		5.00	mg/L	1	1120903	AC	20-Dec-21	160.1	
Alkalinity, Total*	**216**		4.00	mg/L	1	1120308	AC	20-Dec-21	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**915**		20.0	mg/L	200	B213157	JDA	05-Jan-22	EPA200.7	
Magnesium*	**645**		20.0	mg/L	200	B213157	JDA	05-Jan-22	EPA200.7	
Potassium*	**1370**	36.6	200	mg/L	200	B213157	JDA	05-Jan-22	EPA200.7	
Sodium*	**104000**		500	mg/L	500	B213157	JDA	06-Jan-22	EPA200.7	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 10-Jan-22 12:02

MONITOR WELL

H213653-03 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**224**		5.00	mg/L	1	1120308	AC	20-Dec-21	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	1120308	AC	20-Dec-21	310.1	
Chloride*	**68.0**		4.00	mg/L	1	1121717	GM	20-Dec-21	4500-Cl-B	
Conductivity*	**671**		1.00	umhos/cm @ 25°C	1	1121716	GM	17-Dec-21	120.1	
pH*	**7.83**		0.100	pH Units	1	1121716	GM	17-Dec-21	150.1	
Temperature °C	**21.4**			pH Units	1	1121716	GM	17-Dec-21	150.1	
Sulfate*	**81.6**		25.0	mg/L	2.5	1122003	AC	20-Dec-21	375.4	
TDS*	**417**		5.00	mg/L	1	1120903	AC	20-Dec-21	160.1	
Alkalinity, Total*	**184**		4.00	mg/L	1	1120308	AC	20-Dec-21	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**49.8**		1.00	mg/L	10	B213157	JDA	06-Jan-22	EPA200.7	
Magnesium*	**15.2**		1.00	mg/L	10	B213157	JDA	05-Jan-22	EPA200.7	
Potassium*	**1.89**	1.83	10.0	mg/L	10	B213157	JDA	05-Jan-22	EPA200.7	J
Sodium*	**63.3**		10.0	mg/L	10	B213157	JDA	05-Jan-22	EPA200.7	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 10-Jan-22 12:02

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1120308 - General Prep - Wet Chem										
Blank (1120308-BLK1)				Prepared & Analyzed: 03-Dec-21						
Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							
LCS (1120308-BS1)				Prepared & Analyzed: 03-Dec-21						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120			
Alkalinity, Bicarbonate	292	12.5	mg/L				80-120			
Alkalinity, Total	240	10.0	mg/L	250		96.0	80-120			
LCS Dup (1120308-BSD1)				Prepared & Analyzed: 03-Dec-21						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120		20	
Alkalinity, Bicarbonate	305	12.5	mg/L				80-120	4.18	20	
Alkalinity, Total	250	10.0	mg/L	250		100	80-120	4.08	20	
Batch 1120903 - Filtration										
Blank (1120903-BLK1)				Prepared: 09-Dec-21 Analyzed: 13-Dec-21						
TDS	ND	5.00	mg/L							
LCS (1120903-BS1)				Prepared: 09-Dec-21 Analyzed: 13-Dec-21						
TDS	523		mg/L	500		105	80-120			
Duplicate (1120903-DUP1)	**Source: H213532-06**			Prepared: 09-Dec-21 Analyzed: 13-Dec-21						
TDS	613	5.00	mg/L		591			3.65	20	
Batch 1121716 - General Prep - Wet Chem										
LCS (1121716-BS1)				Prepared & Analyzed: 17-Dec-21						
pH	7.11		pH Units	7.00		102	90-110			
Conductivity	105000		uS/cm	100000		105	80-120			

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 10-Jan-22 12:02

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1121716 - General Prep - Wet Chem										
Duplicate (1121716-DUP1)		**Source: H213653-01**		Prepared & Analyzed: 17-Dec-21						
pH	7.47	0.100	pH Units		7.44			0.402	20	
Conductivity	1610	1.00	umhos/cm @ 25°C		1630			1.17	20	
Temperature °C	21.3		pH Units		21.2			0.471	200	
Batch 1121717 - General Prep - Wet Chem										
Blank (1121717-BLK1)				Prepared & Analyzed: 17-Dec-21						
Chloride	ND	4.00	mg/L							
LCS (1121717-BS1)				Prepared & Analyzed: 17-Dec-21						
Chloride	100	4.00	mg/L	100		100	80-120			
LCS Dup (1121717-BSD1)				Prepared & Analyzed: 17-Dec-21						
Chloride	104	4.00	mg/L	100		104	80-120	3.92	20	
Batch 1122003 - General Prep - Wet Chem										
Blank (1122003-BLK1)				Prepared & Analyzed: 20-Dec-21						
Sulfate	ND	10.0	mg/L							
LCS (1122003-BS1)				Prepared & Analyzed: 20-Dec-21						
Sulfate	22.4	10.0	mg/L	20.0		112	80-120			
LCS Dup (1122003-BSD1)				Prepared & Analyzed: 20-Dec-21						
Sulfate	23.1	10.0	mg/L	20.0		116	80-120	3.21	20	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 10-Jan-22 12:02

Total Recoverable Metals by ICP (E200.7) - Quality Control

Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B213157 - Total Rec. 200.7/200.8/200.2										
Blank (B213157-BLK1)				Prepared: 28-Dec-21 Analyzed: 05-Jan-22						
Magnesium	ND	0.100	mg/L							
Calcium	ND	0.100	mg/L							
Potassium	ND	1.00	mg/L							
Sodium	ND	1.00	mg/L							
LCS (B213157-BS1)				Prepared: 28-Dec-21 Analyzed: 05-Jan-22						
Potassium	7.86	1.00	mg/L	8.00		98.3	85-115			
Sodium	3.15	1.00	mg/L	3.24		97.1	85-115			
Magnesium	20.2	0.100	mg/L	20.0		101	85-115			
Calcium	3.93	0.100	mg/L	4.00		98.3	85-115			
LCS Dup (B213157-BSD1)				Prepared: 28-Dec-21 Analyzed: 05-Jan-22						
Magnesium	20.2	0.100	mg/L	20.0		101	85-115	0.397	20	
Calcium	3.93	0.100	mg/L	4.00		98.3	85-115	0.00694	20	
Potassium	7.86	1.00	mg/L	8.00		98.2	85-115	0.0388	20	
Sodium	3.14	1.00	mg/L	3.24		96.8	85-115	0.252	20	

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

J	Estimated conentration. Analyte concentration between MDL and RL.
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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	ETZ Water Station	**BILL TO**	
Project Manager:	Ben Donahue	P.O. #:	
Address:	PO Box 5102	Company:	
City:	Hobbs	State: NM Zip: 88241	Attn:
Phone #:	575 393 3494	Fax #:	Address:
Project #:		Project Owner:	City:
Project Name:	Schubert #7 Water Samples		State: Zip:
Project Location:	Schubert #7 Brine Well		Phone #:
Sampler Name:	Ben Donahue		Fax #:

ANALYSIS REQUEST

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	Cation / Anion
H213653															✓
1	Fresh Water	G	2	✓									12/17/21	9:35a	
2	Brine Water	G	2	✓									12/17/21	9:40a	
3	Monitor Well	G	2	✓									12/17/21	9:30a	

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.

Relinquished By:	Date: 12-17-21	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1222		All Results are emailed. Please provide Email address: garymschubert@gmail.com
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		

Delivered By: (Circle One)	Observed Temp. °C 1.0	Sample Condition	CHECKED BY:	Turnaround Time: Standard ☑ Rush ☐
Sampler - UPS - Bus - Other:	Corrected Temp. °C 0.5	Cool ☑ Yes ☐ No / Intact ☑ Yes ☐ No	(Initials) YO	Thermometer ID #113 Correction Factor -0.5°C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No / Intact ☐ Yes ☐ No — Observed Temp. °C — Corrected Temp. °C

FORM-006 R 3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

CARDINAL Laboratories

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

April 13, 2022

BEN DONAHUE

ETZ WATER STATION

PO BOX 6056

HOBBS, NM 88241

RE: SCHUBERT

Enclosed are the results of analyses for samples received by the laboratory on 04/01/22 15:09.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. 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	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT 7 Project Manager: BEN DONAHUE Fax To:	Reported: 13-Apr-22 13:44

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FRESH WATER	H221318-01	Water	01-Apr-22 08:45	01-Apr-22 15:09
BRINE WATER	H221318-02	Water	01-Apr-22 09:00	01-Apr-22 15:09
MONITOR WELL	H221318-03	Water	01-Apr-22 08:35	01-Apr-22 15:09

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT 7 Project Manager: BEN DONAHUE Fax To:	Reported: 13-Apr-22 13:44

FRESH WATER

H221318-01 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**249**		5.00	mg/L	1	2021401	GM	04-Apr-22	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	2021401	GM	04-Apr-22	310.1	
Chloride*	**470**		4.00	mg/L	1	2040418	AC	05-Apr-22	4500-Cl-B	
Conductivity*	**2760**		1.00	umhos/cm @ 25°C	1	2040417	GM	04-Apr-22	120.1	
pH*	**7.15**		0.100	pH Units	1	2040417	GM	04-Apr-22	150.1	
Temperature °C	**23.3**			pH Units	1	2040417	GM	04-Apr-22	150.1	
Sulfate*	**623**		125	mg/L	12.5	2040416	GM	06-Apr-22	375.4	
TDS*	**1740**		5.00	mg/L	1	2040104	GM	06-Apr-22	160.1	
Alkalinity, Total*	**204**		4.00	mg/L	1	2021401	GM	04-Apr-22	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**246**		0.500	mg/L	5	B220889	AES	08-Apr-22	EPA200.7	
Magnesium*	**78.6**		0.500	mg/L	5	B220889	AES	08-Apr-22	EPA200.7	
Potassium*	**8.92**	0.888	5.00	mg/L	5	B220889	AES	08-Apr-22	EPA200.7	
Sodium*	**231**		5.00	mg/L	5	B220889	AES	08-Apr-22	EPA200.7	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT 7 Project Manager: BEN DONAHUE Fax To:	Reported: 13-Apr-22 13:44

BRINE WATER

H221318-02 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**254**		5.00	mg/L	1	2021401	GM	04-Apr-22	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	2021401	GM	04-Apr-22	310.1	
Chloride*	**204000**		4.00	mg/L	1	2040418	AC	05-Apr-22	4500-Cl-B	
Conductivity*	**279000**		1.00	umhos/cm @ 25°C	1	2040417	GM	04-Apr-22	120.1	
pH*	**6.57**		0.100	pH Units	1	2040417	GM	04-Apr-22	150.1	
Temperature °C	**23.4**			pH Units	1	2040417	GM	04-Apr-22	150.1	
Sulfate*	**7010**		1250	mg/L	125	2040416	GM	06-Apr-22	375.4	
TDS*	**328000**		5.00	mg/L	1	2040104	GM	05-Apr-22	160.1	
Alkalinity, Total*	**208**		4.00	mg/L	1	2021401	GM	04-Apr-22	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**1050**		50.0	mg/L	500	B220889	AES	08-Apr-22	EPA200.7	
Magnesium*	**757**		50.0	mg/L	500	B220889	AES	08-Apr-22	EPA200.7	
Potassium*	**1450**	88.8	500	mg/L	500	B220889	AES	08-Apr-22	EPA200.7	
Sodium*	**113000**		500	mg/L	500	B220889	AES	08-Apr-22	EPA200.7	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT 7 Project Manager: BEN DONAHUE Fax To:	Reported: 13-Apr-22 13:44

MONITOR WELL

H221318-03 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**205**		5.00	mg/L	1	2040415	GM	04-Apr-22	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	2040415	GM	04-Apr-22	310.1	
Chloride*	**56.0**		4.00	mg/L	1	2040418	AC	05-Apr-22	4500-Cl-B	
Conductivity*	**674**		1.00	umhos/cm @ 25°C	1	2040417	GM	04-Apr-22	120.1	
pH*	**7.81**		0.100	pH Units	1	2040417	GM	04-Apr-22	150.1	
Temperature °C	**23.3**			pH Units	1	2040417	GM	04-Apr-22	150.1	
Sulfate*	**63.7**		25.0	mg/L	2.5	2040416	GM	06-Apr-22	375.4	
TDS*	**388**		5.00	mg/L	1	2040104	GM	05-Apr-22	160.1	
Alkalinity, Total*	**168**		4.00	mg/L	1	2040415	GM	04-Apr-22	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**49.8**		0.500	mg/L	5	B220910	AES	12-Apr-22	EPA200.7	
Magnesium*	**15.4**		0.500	mg/L	5	B220910	AES	12-Apr-22	EPA200.7	
Potassium*	**2.08**	0.888	5.00	mg/L	5	B220910	AES	12-Apr-22	EPA200.7	J
Sodium*	**59.7**		5.00	mg/L	5	B220910	AES	12-Apr-22	EPA200.7	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT 7 Project Manager: BEN DONAHUE Fax To:	Reported: 13-Apr-22 13:44

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2021401 - General Prep - Wet Chem										
Blank (2021401-BLK1)				Prepared & Analyzed: 14-Feb-22						
Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							
LCS (2021401-BS1)				Prepared & Analyzed: 14-Feb-22						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120			
Alkalinity, Bicarbonate	305	12.5	mg/L				80-120			
Alkalinity, Total	250	10.0	mg/L	250		100	80-120			
LCS Dup (2021401-BSD1)				Prepared & Analyzed: 14-Feb-22						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120		20	
Alkalinity, Bicarbonate	318	12.5	mg/L				80-120	4.02	20	
Alkalinity, Total	260	10.0	mg/L	250		104	80-120	3.92	20	
Batch 2040104 - Filtration										
Blank (2040104-BLK1)				Prepared: 01-Apr-22 Analyzed: 04-Apr-22						
TDS	ND	5.00	mg/L							
LCS (2040104-BS1)				Prepared: 01-Apr-22 Analyzed: 05-Apr-22						
TDS	532		mg/L	500		106	80-120			
Duplicate (2040104-DUP1)	**Source: H221301-02**			Prepared: 01-Apr-22 Analyzed: 04-Apr-22						
TDS	531	5.00	mg/L		501			5.81	20	
Batch 2040415 - General Prep - Wet Chem										
Blank (2040415-BLK1)				Prepared & Analyzed: 04-Apr-22						
Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT 7 Project Manager: BEN DONAHUE Fax To:	Reported: 13-Apr-22 13:44

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2040415 - General Prep - Wet Chem										
LCS (2040415-BS1)				Prepared & Analyzed: 04-Apr-22						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120			
Alkalinity, Bicarbonate	280	12.5	mg/L				80-120			
Alkalinity, Total	230	10.0	mg/L	250		92.0	80-120			
LCS Dup (2040415-BSD1)				Prepared & Analyzed: 04-Apr-22						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120		20	
Alkalinity, Bicarbonate	292	12.5	mg/L				80-120	4.37	20	
Alkalinity, Total	240	10.0	mg/L	250		96.0	80-120	4.26	20	
Batch 2040416 - General Prep - Wet Chem										
Blank (2040416-BLK1)				Prepared: 04-Apr-22 Analyzed: 06-Apr-22						
Sulfate	ND	10.0	mg/L							
LCS (2040416-BS1)				Prepared: 04-Apr-22 Analyzed: 06-Apr-22						
Sulfate	19.5	10.0	mg/L	20.0		97.6	80-120			
LCS Dup (2040416-BSD1)				Prepared: 04-Apr-22 Analyzed: 06-Apr-22						
Sulfate	19.1	10.0	mg/L	20.0		95.6	80-120	2.17	20	
Batch 2040417 - General Prep - Wet Chem										
LCS (2040417-BS1)				Prepared & Analyzed: 04-Apr-22						
Conductivity	101000		uS/cm	100000		101	80-120			
pH	7.11		pH Units	7.00		102	90-110			

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT 7 Project Manager: BEN DONAHUE Fax To:	Reported: 13-Apr-22 13:44

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2040417 - General Prep - Wet Chem										
Duplicate (2040417-DUP1)	**Source: H221318-01**			Prepared & Analyzed: 04-Apr-22						
Conductivity	2770	1.00	umhos/cm @ 25°C		2760			0.362	20	
pH	7.19	0.100	pH Units		7.15			0.558	20	
Temperature °C	23.4		pH Units		23.3			0.428	200	
Batch 2040418 - General Prep - Wet Chem										
Blank (2040418-BLK1)				Prepared & Analyzed: 05-Apr-22						
Chloride	ND	4.00	mg/L							
LCS (2040418-BS1)				Prepared & Analyzed: 05-Apr-22						
Chloride	100	4.00	mg/L	100	100	80-120				
LCS Dup (2040418-BSD1)				Prepared & Analyzed: 05-Apr-22						
Chloride	104	4.00	mg/L	100	104	80-120	3.92	20		

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT 7 Project Manager: BEN DONAHUE Fax To:	Reported: 13-Apr-22 13:44

Total Recoverable Metals by ICP (E200.7) - Quality Control

Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B220889 - Total Recoverable by ICP										
Blank (B220889-BLK1)				Prepared: 07-Apr-22 Analyzed: 08-Apr-22						
Potassium	ND	1.00	mg/L							
Calcium	ND	0.100	mg/L							
Magnesium	ND	0.100	mg/L							
Sodium	ND	1.00	mg/L							
LCS (B220889-BS1)				Prepared: 07-Apr-22 Analyzed: 08-Apr-22						
Sodium	1.55	1.00	mg/L	1.62		95.7	85-115			
Calcium	1.97	0.100	mg/L	2.00		98.6	85-115			
Potassium	4.07	1.00	mg/L	4.00		102	85-115			
Magnesium	10.3	0.100	mg/L	10.0		103	85-115			
LCS Dup (B220889-BSD1)				Prepared: 07-Apr-22 Analyzed: 08-Apr-22						
Sodium	1.50	1.00	mg/L	1.62		92.4	85-115	3.57	20	
Potassium	4.00	1.00	mg/L	4.00		100	85-115	1.68	20	
Calcium	1.91	0.100	mg/L	2.00		95.4	85-115	3.33	20	
Magnesium	9.95	0.100	mg/L	10.0		99.5	85-115	2.98	20	
Batch B220910 - Total Recoverable by ICP										
Blank (B220910-BLK1)				Prepared: 11-Apr-22 Analyzed: 12-Apr-22						
Potassium	ND	1.00	mg/L							
Sodium	ND	1.00	mg/L							
Magnesium	ND	0.100	mg/L							
Calcium	ND	0.100	mg/L							
LCS (B220910-BS1)				Prepared: 11-Apr-22 Analyzed: 12-Apr-22						
Magnesium	10.7	0.100	mg/L	10.0		107	85-115			
Potassium	4.11	1.00	mg/L	4.00		103	85-115			
Sodium	1.55	1.00	mg/L	1.62		95.8	85-115			
Calcium	2.10	0.100	mg/L	2.00		105	85-115			

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT 7 Project Manager: BEN DONAHUE Fax To:	Reported: 13-Apr-22 13:44

Total Recoverable Metals by ICP (E200.7) - Quality Control

Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B220910 - Total Recoverable by ICP										
LCS Dup (B220910-BSD1)				Prepared: 11-Apr-22 Analyzed: 12-Apr-22						
Magnesium	10.6	0.100	mg/L	10.0		106	85-115	0.696	20	
Potassium	4.11	1.00	mg/L	4.00		103	85-115	0.165	20	
Calcium	2.09	0.100	mg/L	2.00		105	85-115	0.206	20	
Sodium	1.53	1.00	mg/L	1.62		94.4	85-115	1.44	20	

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

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	ETB Water Stations
Project Manager:	Ben Donahue
Address:	P.O. Box 5162
City:	Hobbs State: NM Zip: 88241
Phone #:	575 393-3194 Fax #:
Project #:	Project Owner:
Project Name:	Schubert 7 Water Samples
Project Location:	Schubert #7 Brine Well
Sampler Name:	Ben Donahue

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

Caution / Anion

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	
H221318															
1	Fresh Water	G	2	✓									4/1/22	8:45a	✓
2	Brine Water	G	2	✓									4/1/22	9:00a	✓
3	Monitor Well	G	2	✓									4/1/22	8:35a	✓

Relinquished By:	Date: 4/1/2022 Time: 3:09 PM	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
			All Results are emailed. Please provide Email address: garymschubert@gmail.com
Relinquished By:	Date: Time:	Received By:	REMARKS:

Delivered By: (Circle One)	Observed Temp. °C 3.1	Sample Condition Cool ☑ Yes Intact ☑ Yes	CHECKED BY: (Initials)	Turnaround Time: Standard ☑ Rush ☐	Bacteria (only) Sample Condition Cool ☐ Yes Intact ☐ Yes Observed Temp. °C
Sampler - UPS - Bus - Other:	Corrected Temp. °C 2.6	☐ No ☐ No	TO	Thermometer ID #113 Correction Factor -0.5°C	☐ No ☐ No Corrected Temp. °C

FORM-006 R 3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

CARDINAL Laboratories

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

July 18, 2022

BEN DONAHUE

ETZ WATER STATION

PO BOX 6056

HOBBS, NM 88241

RE: SCHUBERT

Enclosed are the results of analyses for samples received by the laboratory on 07/01/22 10:12.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 18-Jul-22 14:31

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRINE WATER	H222826-01	Water	01-Jul-22 05:20	01-Jul-22 10:12
MONITOR WELL	H222826-02	Water	01-Jul-22 05:15	01-Jul-22 10:12
INJECTION WATER	H222826-03	Water	01-Jul-22 05:25	01-Jul-22 10:12

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 18-Jul-22 14:31

BRINE WATER

H222826-01 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**249**		5.00	mg/L	1	2042827	GM	06-Jul-22	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	2042827	GM	06-Jul-22	310.1	
Chloride*	**188000**		4.00	mg/L	1	2063022	GM	06-Jul-22	4500-Cl-B	
Conductivity*	**276000**		1.00	umhos/cm @ 25°C	1	2070119	AC	01-Jul-22	120.1	
pH*	**6.54**		0.100	pH Units	1	2070119	AC	01-Jul-22	150.1	
Temperature °C	**20.8**			pH Units	1	2070119	AC	01-Jul-22	150.1	
Sulfate*	**7110**		1250	mg/L	125	2063006	GM	06-Jul-22	375.4	
TDS*	**329000**		5.00	mg/L	1	2062820	GM	06-Jul-22	160.1	
Alkalinity, Total*	**204**		4.00	mg/L	1	2042827	GM	06-Jul-22	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**977**		50.0	mg/L	500	B221831	AES	13-Jul-22	EPA200.7	
Magnesium*	**681**		50.0	mg/L	500	B221831	AES	13-Jul-22	EPA200.7	
Potassium*	**1440**	88.8	500	mg/L	500	B221831	AES	13-Jul-22	EPA200.7	
Sodium*	**109000**		500	mg/L	500	B221831	AES	13-Jul-22	EPA200.7	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 18-Jul-22 14:31

MONITOR WELL

H222826-02 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**215**		5.00	mg/L	1	2042827	GM	06-Jul-22	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	2042827	GM	06-Jul-22	310.1	
Chloride*	**152**		4.00	mg/L	1	2063022	GM	06-Jul-22	4500-Cl-B	
Conductivity*	**893**		1.00	umhos/cm @ 25°C	1	2070119	AC	01-Jul-22	120.1	
pH*	**7.82**		0.100	pH Units	1	2070119	AC	01-Jul-22	150.1	
Temperature °C	**20.8**			pH Units	1	2070119	AC	01-Jul-22	150.1	
Sulfate*	**60.6**		10.0	mg/L	1	2063006	GM	06-Jul-22	375.4	
TDS*	**561**		5.00	mg/L	1	2062820	GM	06-Jul-22	160.1	
Alkalinity, Total*	**176**		4.00	mg/L	1	2042827	GM	06-Jul-22	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**56.4**		1.00	mg/L	10	B221831	AES	13-Jul-22	EPA200.7	
Magnesium*	**17.4**		1.00	mg/L	10	B221831	AES	13-Jul-22	EPA200.7	
Potassium*	**2.10**	1.78	10.0	mg/L	10	B221831	AES	13-Jul-22	EPA200.7	J
Sodium*	**82.7**		10.0	mg/L	10	B221831	AES	13-Jul-22	EPA200.7	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 18-Jul-22 14:31

INJECTION WATER

H222826-03 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**259**		5.00	mg/L	1	2042827	GM	06-Jul-22	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	2042827	GM	06-Jul-22	310.1	
Chloride*	**272**		4.00	mg/L	1	2063022	GM	06-Jul-22	4500-Cl-B	
Conductivity*	**1650**		1.00	umhos/cm @ 25°C	1	2070119	AC	01-Jul-22	120.1	
pH*	**7.49**		0.100	pH Units	1	2070119	AC	01-Jul-22	150.1	
Temperature °C	**20.8**			pH Units	1	2070119	AC	01-Jul-22	150.1	
Sulfate*	**273**		50.0	mg/L	5	2063006	GM	06-Jul-22	375.4	
TDS*	**1080**		5.00	mg/L	1	2070520	GM	06-Jul-22	160.1	
Alkalinity, Total*	**212**		4.00	mg/L	1	2042827	GM	06-Jul-22	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**116**		1.00	mg/L	10	B221831	AES	13-Jul-22	EPA200.7	
Magnesium*	**29.0**		1.00	mg/L	10	B221831	AES	13-Jul-22	EPA200.7	
Potassium*	**8.40**	1.78	10.0	mg/L	10	B221831	AES	13-Jul-22	EPA200.7	J
Sodium*	**140**		10.0	mg/L	10	B221831	AES	13-Jul-22	EPA200.7	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 18-Jul-22 14:31

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2042827 - General Prep - Wet Chem										
Blank (2042827-BLK1)				Prepared & Analyzed: 29-Apr-22						
Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							
LCS (2042827-BS1)				Prepared & Analyzed: 29-Apr-22						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120			
Alkalinity, Bicarbonate	292	12.5	mg/L				80-120			
Alkalinity, Total	240	10.0	mg/L	250		96.0	80-120			
LCS Dup (2042827-BSD1)				Prepared & Analyzed: 29-Apr-22						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120		20	
Alkalinity, Bicarbonate	305	12.5	mg/L				80-120	4.18	20	
Alkalinity, Total	250	10.0	mg/L	250		100	80-120	4.08	20	
Batch 2062820 - Filtration										
Blank (2062820-BLK1)				Prepared: 27-Jun-22 Analyzed: 28-Jun-22						
TDS	ND	5.00	mg/L							
LCS (2062820-BS1)				Prepared: 27-Jun-22 Analyzed: 29-Jun-22						
TDS	561		mg/L	500		112	80-120			
Duplicate (2062820-DUP1)	**Source: H222692-01**			Prepared: 27-Jun-22 Analyzed: 28-Jun-22						
TDS	6830	5.00	mg/L		6790			0.558	20	
Batch 2063006 - General Prep - Wet Chem										
Blank (2063006-BLK1)				Prepared: 30-Jun-22 Analyzed: 06-Jul-22						
Sulfate	ND	10.0	mg/L							

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 18-Jul-22 14:31

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2063006 - General Prep - Wet Chem										
LCS (2063006-BS1)				Prepared: 30-Jun-22 Analyzed: 06-Jul-22						
Sulfate	20.4	10.0	mg/L	20.0		102	80-120			
LCS Dup (2063006-BSD1)				Prepared: 30-Jun-22 Analyzed: 06-Jul-22						
Sulfate	19.7	10.0	mg/L	20.0		98.4	80-120	3.74	20	
Batch 2063022 - General Prep - Wet Chem										
Blank (2063022-BLK1)				Prepared & Analyzed: 30-Jun-22						
Chloride	ND	4.00	mg/L							
LCS (2063022-BS1)				Prepared & Analyzed: 30-Jun-22						
Chloride	100	4.00	mg/L	100		100	80-120			
LCS Dup (2063022-BSD1)				Prepared & Analyzed: 30-Jun-22						
Chloride	100	4.00	mg/L	100		100	80-120	0.00	20	
Batch 2070119 - General Prep - Wet Chem										
LCS (2070119-BS1)				Prepared & Analyzed: 01-Jul-22						
pH	7.13		pH Units	7.00		102	90-110			
Conductivity	100000		uS/cm	100000		100	80-120			
Duplicate (2070119-DUP1)		**Source: H222826-01**		Prepared & Analyzed: 01-Jul-22						
pH	6.57	0.100	pH Units		6.54			0.458	20	
Conductivity	275000	1.00	umhos/cm @ 25°C		276000			0.508	20	
Temperature °C	20.8		pH Units		20.8			0.00	200	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 18-Jul-22 14:31

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2070520 - Filtration										
Blank (2070520-BLK1)				Prepared: 05-Jul-22 Analyzed: 06-Jul-22						
TDS	ND	5.00	mg/L							
LCS (2070520-BS1)				Prepared: 05-Jul-22 Analyzed: 06-Jul-22						
TDS	851		mg/L	1000		85.1	80-120			
Duplicate (2070520-DUP1)	**Source: H222826-03**			Prepared: 05-Jul-22 Analyzed: 06-Jul-22						
TDS	1060	5.00	mg/L		1080			1.88	20	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 18-Jul-22 14:31

Total Recoverable Metals by ICP (E200.7) - Quality Control

Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B221831 - Total Recoverable by ICP										
Blank (B221831-BLK1)				Prepared: 11-Jul-22 Analyzed: 13-Jul-22						
Sodium	ND	1.00	mg/L							
Magnesium	ND	0.100	mg/L							
Calcium	ND	0.100	mg/L							
Potassium	ND	1.00	mg/L							
LCS (B221831-BS1)				Prepared: 11-Jul-22 Analyzed: 13-Jul-22						
Sodium	1.65	1.00	mg/L	1.62		102	85-115			
Potassium	3.98	1.00	mg/L	4.00		99.5	85-115			
Magnesium	9.62	0.100	mg/L	10.0		96.2	85-115			
Calcium	1.87	0.100	mg/L	2.00		93.6	85-115			
LCS Dup (B221831-BSD1)				Prepared: 11-Jul-22 Analyzed: 13-Jul-22						
Potassium	3.69	1.00	mg/L	4.00		92.4	85-115	7.48	20	
Magnesium	9.17	0.100	mg/L	10.0		91.7	85-115	4.85	20	
Sodium	1.72	1.00	mg/L	1.62		106	85-115	4.15	20	
Calcium	1.79	0.100	mg/L	2.00		89.3	85-115	4.66	20	

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

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: ETB Water Station		**BILL TO**	ANALYSIS REQUEST
Project Manager: Ben Donahue		P.O. #:	
Address: PO Box 5102		Company:	
City: Hobbs	State: NM Zip: 88241	Attn:	
Phone #: 575 393 3194	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name: Schubert #7 Water Samples		State: Zip:	
Project Location: Schubert #7 Brine Well		Phone #:	
Sampler Name: Ben Donahue		Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Cations / Anions
H222826															
1	Brine Water	G	2	✓									7/1/22	5:20a	✓
2	Monitor Well	G	2	✓									7/1/22	5:15a	✓
3	Injection Water	G	2	✓									7/1/22	5:25a	✓

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.

Relinquished By:	Date: 7/1/22 Time: 10:10am	Received By: Tamara Oldaker	Verbal Result: ☐ Yes ☐ No	Add'l Phone #:
			All Results are emailed. Please provide Email address:	
Relinquished By:	Date: Time:	Received By:	REMARKS: Email Garey Shubert	

Delivered By: (Circle One)	Observed Temp. °C 3.6	Sample Condition Cool Intact	CHECKED BY: (Initials)	Turnaround Time: Standard ☐ Rush ☐	Bacteria (only) Sample Condition Cool Intact	Observed Temp. °C
Sampler - UPS - Bus - Other:	Corrected Temp. °C 3.1	☐ Yes ☑ Yes ☐ No ☐ No	T.O.	Thermometer ID #113 Correction Factor -0.5°C	☐ Yes ☐ Yes ☐ No ☐ No	Corrected Temp. °C

FORM-006 R 3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

CARDINAL Laboratories

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

October 17, 2022

BEN DONAHUE

ETZ WATER STATION

PO BOX 6056

HOBBS, NM 88241

RE: SCHUBERT

Enclosed are the results of analyses for samples received by the laboratory on 10/05/22 13:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SCHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 17-Oct-22 10:49

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MONITOR WELL	H224651-01	Water	05-Oct-22 09:15	05-Oct-22 13:45
INJECTION WATER	H224651-02	Water	05-Oct-22 09:20	05-Oct-22 13:45
BRINE WATER	H224651-03	Water	05-Oct-22 09:25	05-Oct-22 13:45

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SCHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 17-Oct-22 10:49

MONITOR WELL

H224651-01 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**195**		5.00	mg/L	1	2090610	GM	09-Oct-22	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	2090610	GM	09-Oct-22	310.1	
Chloride*	**64.0**		4.00	mg/L	1	2092901	AC	06-Oct-22	4500-Cl-B	
Conductivity*	**641**		1.00	umhos/cm @ 25°C	1	2100727	GM	09-Oct-22	120.1	
pH*	**7.62**		0.100	pH Units	1	2100727	GM	07-Oct-22	150.1	
Temperature °C	**22.6**			pH Units	1	2100727	GM	07-Oct-22	150.1	
Sulfate*	**62.7**		10.0	mg/L	1	2100725	GM	12-Oct-22	375.4	
TDS*	**349**		5.00	mg/L	1	2093001	AC	06-Oct-22	160.1	
Alkalinity, Total*	**160**		4.00	mg/L	1	2090610	GM	09-Oct-22	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**46.4**		1.00	mg/L	10	B222803	AES	11-Oct-22	EPA200.7	
Magnesium*	**14.1**		1.00	mg/L	10	B222803	AES	11-Oct-22	EPA200.7	
Potassium*	<10.0		10.0	mg/L	10	B222803	AES	11-Oct-22	EPA200.7	
Sodium*	**56.4**		10.0	mg/L	10	B222803	AES	11-Oct-22	EPA200.7	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SCHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 17-Oct-22 10:49

INJECTION WATER

H224651-02 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**254**		5.00	mg/L	1	2090610	GM	09-Oct-22	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	2090610	GM	09-Oct-22	310.1	
Chloride*	**530**		4.00	mg/L	1	2092901	AC	06-Oct-22	4500-Cl-B	
Conductivity*	**2970**		1.00	umhos/cm @ 25°C	1	2100727	GM	09-Oct-22	120.1	
pH*	**7.29**		0.100	pH Units	1	2100727	GM	07-Oct-22	150.1	
Temperature °C	**22.4**			pH Units	1	2100727	GM	07-Oct-22	150.1	
Sulfate*	**641**		125	mg/L	12.5	2100725	GM	12-Oct-22	375.4	
TDS*	**2150**		5.00	mg/L	1	2093001	AC	06-Oct-22	160.1	
Alkalinity, Total*	**208**		4.00	mg/L	1	2090610	GM	09-Oct-22	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**261**		1.00	mg/L	10	B222803	AES	11-Oct-22	EPA200.7	
Magnesium*	**88.9**		1.00	mg/L	10	B222803	AES	11-Oct-22	EPA200.7	
Potassium*	<10.0		10.0	mg/L	10	B222803	AES	11-Oct-22	EPA200.7	
Sodium*	**252**		10.0	mg/L	10	B222803	AES	11-Oct-22	EPA200.7	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SCHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 17-Oct-22 10:49

BRINE WATER

H224651-03 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**234**		5.00	mg/L	1	2100726	GM	09-Oct-22	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	2100726	GM	09-Oct-22	310.1	
Chloride*	**170000**		4.00	mg/L	1	2092901	AC	06-Oct-22	4500-Cl-B	
Conductivity*	**271000**		1.00	umhos/cm @ 25°C	1	2100727	GM	09-Oct-22	120.1	
pH*	**6.77**		0.100	pH Units	1	2100727	GM	07-Oct-22	150.1	
Temperature °C	**22.4**			pH Units	1	2100727	GM	07-Oct-22	150.1	
Sulfate*	**5590**		1250	mg/L	125	2100725	GM	12-Oct-22	375.4	
TDS*	**322000**		5.00	mg/L	1	2093001	AC	06-Oct-22	160.1	
Alkalinity, Total*	**192**		4.00	mg/L	1	2100726	GM	09-Oct-22	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**917**		50.0	mg/L	500	B222803	AES	11-Oct-22	EPA200.7	
Magnesium*	**649**		50.0	mg/L	500	B222803	AES	11-Oct-22	EPA200.7	
Potassium*	**1410**		500	mg/L	500	B222803	AES	11-Oct-22	EPA200.7	
Sodium*	**106000**		500	mg/L	500	B222803	AES	11-Oct-22	EPA200.7	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SCHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 17-Oct-22 10:49

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2090610 - General Prep - Wet Chem										
Blank (2090610-BLK1)				Prepared & Analyzed: 06-Sep-22						
Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							
LCS (2090610-BS1)				Prepared & Analyzed: 06-Sep-22						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120			
Alkalinity, Bicarbonate	292	12.5	mg/L				80-120			
Alkalinity, Total	240	10.0	mg/L	250		96.0	80-120			
LCS Dup (2090610-BSD1)				Prepared & Analyzed: 06-Sep-22						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120		20	
Alkalinity, Bicarbonate	305	12.5	mg/L				80-120	4.18	20	
Alkalinity, Total	250	10.0	mg/L	250		100	80-120	4.08	20	
Batch 2092901 - General Prep - Wet Chem										
Blank (2092901-BLK1)				Prepared & Analyzed: 29-Sep-22						
Chloride	ND	4.00	mg/L							
LCS (2092901-BS1)				Prepared & Analyzed: 29-Sep-22						
Chloride	104	4.00	mg/L	100		104	80-120			
LCS Dup (2092901-BSD1)				Prepared & Analyzed: 29-Sep-22						
Chloride	100	4.00	mg/L	100		100	80-120	3.92	20	
Batch 2093001 - Filtration										
Blank (2093001-BLK1)				Prepared: 30-Sep-22 Analyzed: 04-Oct-22						
TDS	ND	5.00	mg/L							

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SCHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 17-Oct-22 10:49

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2093001 - Filtration										
LCS (2093001-BS1)				Prepared: 30-Sep-22 Analyzed: 03-Oct-22						
TDS	492		mg/L	500		98.4	80-120			
Duplicate (2093001-DUP1)	**Source: H224512-04**			Prepared: 30-Sep-22 Analyzed: 03-Oct-22						
TDS	584	5.00	mg/L		569			2.60	20	
Batch 2100725 - General Prep - Wet Chem										
Blank (2100725-BLK1)				Prepared: 07-Oct-22 Analyzed: 12-Oct-22						
Sulfate	ND	10.0	mg/L							
LCS (2100725-BS1)				Prepared: 07-Oct-22 Analyzed: 12-Oct-22						
Sulfate	19.2	10.0	mg/L	20.0		95.9	80-120			
LCS Dup (2100725-BSD1)				Prepared: 07-Oct-22 Analyzed: 12-Oct-22						
Sulfate	21.4	10.0	mg/L	20.0		107	80-120	10.8	20	
Batch 2100726 - General Prep - Wet Chem										
Blank (2100726-BLK1)				Prepared: 07-Oct-22 Analyzed: 09-Oct-22						
Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							
LCS (2100726-BS1)				Prepared: 07-Oct-22 Analyzed: 09-Oct-22						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120			
Alkalinity, Bicarbonate	318	12.5	mg/L				80-120			
Alkalinity, Total	260	10.0	mg/L	250		104	80-120			

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SCHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 17-Oct-22 10:49

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2100726 - General Prep - Wet Chem										
LCS Dup (2100726-BSD1)				Prepared: 07-Oct-22 Analyzed: 09-Oct-22						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120		20	
Alkalinity, Bicarbonate	318	12.5	mg/L				80-120	0.00	20	
Alkalinity, Total	260	10.0	mg/L	250		104	80-120	0.00	20	
Batch 2100727 - General Prep - Wet Chem										
LCS (2100727-BS1)				Prepared & Analyzed: 07-Oct-22						
pH	7.08		pH Units	7.00		101	90-110			
Conductivity	99200		uS/cm	100000		99.2	80-120			
Duplicate (2100727-DUP1)	**Source: H224651-01**			Prepared & Analyzed: 07-Oct-22						
pH	7.65	0.100	pH Units		7.62			0.393	20	
Conductivity	655	1.00	umhos/cm @ 25°C		641			2.16	20	
Temperature °C	22.5		pH Units		22.6			0.443	200	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SCHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 17-Oct-22 10:49

Total Recoverable Metals by ICP (E200.7) - Quality Control

Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B222803 - Total Recoverable by ICP										
Blank (B222803-BLK1)				Prepared: 10-Oct-22 Analyzed: 11-Oct-22						
Potassium	ND	1.00	mg/L							
Sodium	ND	1.00	mg/L							
Magnesium	ND	0.100	mg/L							
Calcium	ND	0.100	mg/L							
LCS (B222803-BS1)				Prepared: 10-Oct-22 Analyzed: 11-Oct-22						
Sodium	1.63	1.00	mg/L	1.62		101	85-115			
Potassium	3.84	1.00	mg/L	4.00		96.0	85-115			
Magnesium	9.57	0.100	mg/L	10.0		95.7	85-115			
Calcium	1.86	0.100	mg/L	2.00		92.8	85-115			
LCS Dup (B222803-BSD1)				Prepared: 10-Oct-22 Analyzed: 11-Oct-22						
Magnesium	9.55	0.100	mg/L	10.0		95.5	85-115	0.148	20	
Potassium	3.84	1.00	mg/L	4.00		96.0	85-115	0.00174	20	
Sodium	1.59	1.00	mg/L	1.62		97.9	85-115	2.62	20	
Calcium	1.86	0.100	mg/L	2.00		92.9	85-115	0.0177	20	

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

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	EZ Water Station
Project Manager:	Ben Donahue
Address:	PO Box 5402
City:	Hobbs
State:	NM
Zip:	88241
Phone #:	575 393 3194
Fax #:	
Project #:	
Project Owner:	
Project Name:	Schubert #7 Water Samples
Project Location:	Schubert #7 Brine Well
Sampler Name:	Ben Donahue

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

Cation / Anion ✓

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME
H224651														
1	Monitor Well	G	2	✓									10/5/22	9:15am ✓
2	Injection Water	G	2	✓									10/5/22	9:20am ✓
3	Brine Water	G	2	✓									10/5/22	9:25am ✓

Relinquished By:	Date: 10/5/22 Time: 1345	Received By:	
Relinquished By:	Date: Time:	Received By:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 0.3 Corrected Temp. °C 0.3	Sample Condition Cool: Yes / No Intact: Yes / No	CHECKED BY: (Initials)

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address: garymschubert@gmail.com
REMARKS:

Turnaround Time: Standard ☑ Rush ☐
Thermometer ID #113
Correction Factor -0.6°C

Bacteria (only) Sample Condition
Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No
Observed Temp. °C
Corrected Temp. °C

FORM-006 R 3.3 07/18/22

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com

APPENDIX C

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

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

Form C-103
Revised July 18, 2013

WELL API NO.
30-025-36781

5. Indicate Type of Lease
STATE ☐ FEE ■

6. State Oil & Gas Lease No.

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

7. Lease Name or Unit Agreement Name
Shubert 7

1. Type of Well: Oil Well ☐ Gas Well ■ Other Brine

8. Well Number 1 BW-31

2. Name of Operator
H.R.C., INC.

9. OGRID Number
131652

3. Address of Operator
P.O. Box 5102 Hobbs, New Mexico

10. Pool name or Wildcat
BSW - Salado

4. Well Location
Unit Letter J : 2313 feet from the South line and 2313 feet from the East line
Section 7 Township 19S Range 39E NMPM Lea County

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
3585 GL

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.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
DOWNHOLE COMMINGLE	☐						
CLOSED-LOOP SYSTEM	☐			OTHER: Bradenhead Test Report		■	
OTHER:	☐						

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

Please find with this report the Bradenhead Test Report conducted 1/4/2021 as per request of OCD District I Kerry Fortner.

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 David H. Alvarado TITLE Acting Agent for H.R.C., INC DATE 2/5/2021

Type or print name David H. Alvarado E-mail address: davidal00136@gmail.com PHONE: 575 513 1238

For State Use Only

APPROVED BY: TITLE DATE

Conditions of Approval (if any):

NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE
1000 RIO BRAZOS ROAD
AZTEC NM 87410
(505) 334-6178 FAX: (505) 334-6170
http://emnrd.state.nm.us/ocd/District III/3district.htm

BRADENHEAD TEST REPORT

(submit 1 copy to above address)

Date of Test 1/4/2021 Operator H.R.C. Inc. API #30-0 25-36781

Property Name SCHUBERT 7 Well No. 1 Location: Unit J Section 7 Township 19S Range 37E

Well Status(Shut-In or Producing) Initial PSI: Tubing 2 3/8 Intermediate 5 1/2 Casing 4 1/2 Bradenhead 8 5/8

OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH

PRESSURE

Testing	Bradenhead			INTERM	
TIME	BH	Int	Csg	Int	Csg
5 min	0	0	230	0	230
10 min	0	0	230	0	230
15 min	0	0	230	0	230
20 min					
25 min					
30 min					

FLOW CHARACTERISTICS

	BRADENHEAD	INTERMEDIATE
Steady Flow		
Surges		
Down to Nothing		
Nothing	✓	
Gas		
Gas & Water		
Water		

If bradenhead flowed water, check all of the descriptions that apply below:

CLEAR_____ FRESH_____ SALTY_____ SULFUR_____ BLACK_____

5 MINUTE SHUT-IN PRESSURE BRADENHEAD 0 INTERMEDIATE 230

REMARKS:

By GARY M. SCHUBERT Witness BEN DONAHUE / DAVID AARON

MGR.
(Position)

E-mail address GARYMSCHUBERT@GMAIL.COM

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

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

Form C-103
Revised July 18, 2013

WELL API NO.
30-025-36781

5. Indicate Type of Lease
STATE ☐ FEE ■

6. State Oil & Gas Lease No.

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

7. Lease Name or Unit Agreement Name
Shubert 7

1. Type of Well: Oil Well ☐ Gas Well ■ Other Brine

8. Well Number 1 BW-031

2. Name of Operator
H.R.C., INC.

9. OGRID Number
131652

3. Address of Operator
P.O. Box 5102 Hobbs, New Mexico

10. Pool name or Wildcat
BSW - Salado

4. Well Location
Unit Letter J : 2313 feet from the South line and 2313 feet from the East line
Section 7 Township 19S Range 39E NMPM Lea County

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
3585 GL

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.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
DOWNHOLE COMMINGLE	☐						
CLOSED-LOOP SYSTEM	☐						
OTHER:	☐			OTHER: Re set tubing depth deeper	■		

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.

Please see the attached report with this C- 103 of work completed on the Shubert 7 Well # 1 BW-031.

Please find with this report the MIT chart that was conducted on 12/18/2020

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 *David H. Alvarado* TITLE Acting Agent for H.R.C., INC DATE 2/5/2021

Type or print name David H. Alvarado E-mail address: davidal00136@gmail.com PHONE: 575 513 1238

For State Use Only

APPROVED BY: TITLE DATE

Conditions of Approval (if any):

pg. 69

C-103 SUBSEQUENT REPORT

SHUBERT 7 WELL No. 1

API 30-025-36781 BW-031

12/14/2020 Performed JSA's, MI & RU workover unit and drilling reverse unit, ND wellhead tree and lift on 2 7/8 J-55 tbg. to 20K tbg. stuck worked tbg. to 30K tbg. started moving, removed tbg. hanger. NU BOP prepare for tubing extraction lay down total 71- 2 7/8 J 55 jts. and one parted jt. 23 foot long. Left in hole 8 foot of 2 7/8 J-55, bit sub w/ 4 ¾" bit. Tallied extracted pipe @ 2307' left in hole from 2307'-2312' closed BOP SDFN

12/15/2020 MI 86 jts. 2 3/8" EUE 4.7# J-55 tbg. and 50 jts. 4 ½" 11.35 # J-55 Csg. w/ID 4". RIH w/new 4 ¾" skirted Varel cone bit w/ bit sub and 6- 3 ½" OD d/c's on top of bit sub. RIH w/tbg. tag top of fish @ 1820' rolled of top of fish continue to RIH to 1826' RU Swivel rotate from 1826' to 1844' continued to drill and wash out bore to 1985', pulled bit up into 8 5/8 csg. To 1702 shut in BOP SDFN

12/16/2020 Open up BOP continued to RIH with Bit, Bit sub, D/C and tubing rolling off of TOF @ 1856' continued to drill and wash 1985' to 2020' hard drilling from 2020'-2034' fall out washing to 2044' circulate hole 60 minutes, POH LD 3 ½" d/c w/BHA shut in BOP SDFN

12/17/2020 Open BOP installed 4 ½ rams MI Lewis Casing Crew, P/U 1- 4 1/2 muleshoed jt., TIH with 47 jts. 4 /12" 11.35# J-55 LTC casing total 48 joints landed casing w/ 4 ½ " X 3.85' LTC Pin X 4 ½" LTC Box 11.35# J-55 in Box liner w/22k string weight. Casing well head hanger(double grove O ring seal) tighten hanger retaining pins. 4 ½" 11.35# Liner Casing set at 1993' closed well in. SDFN

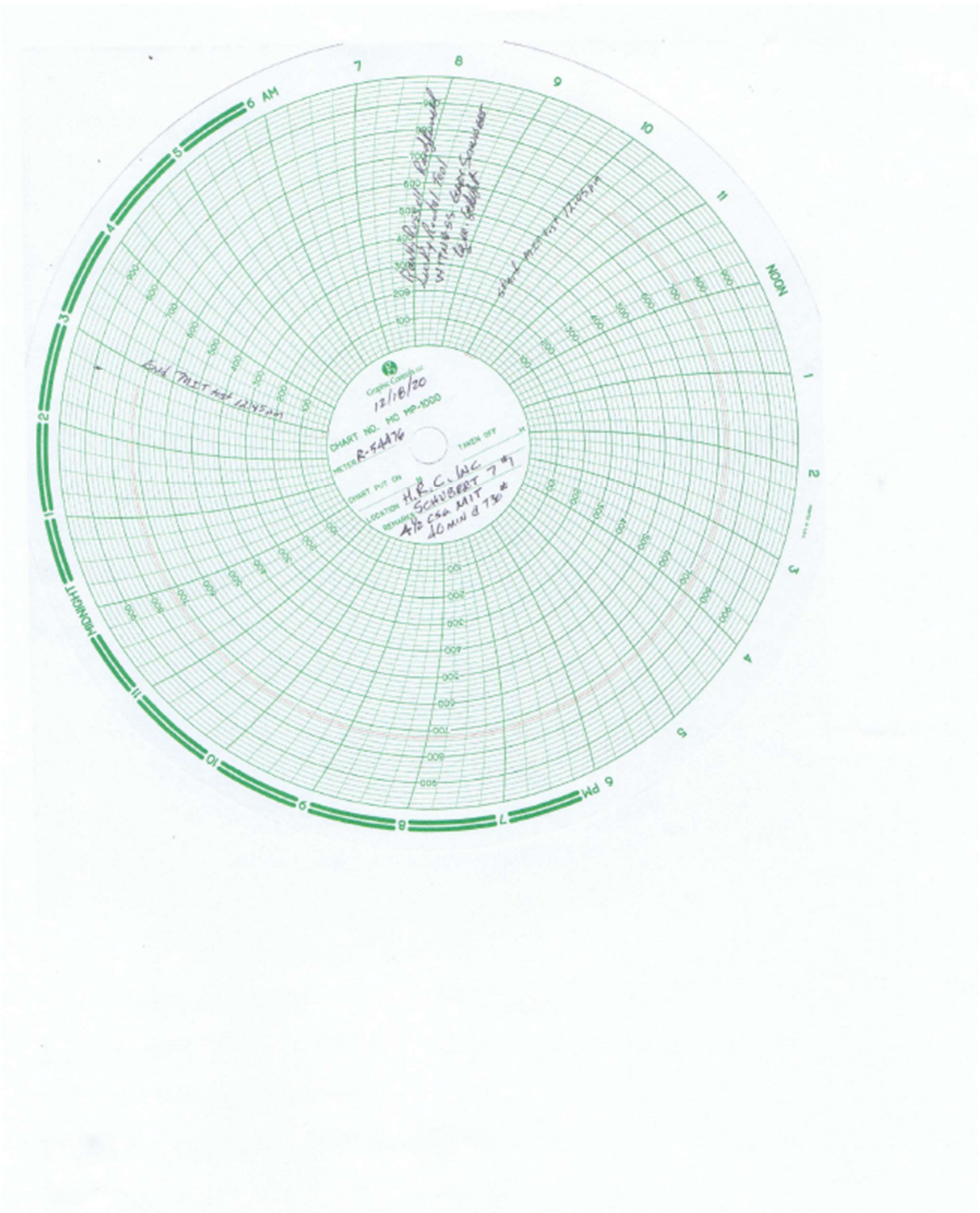
12/18/2020 Open well and BOP removed landing sub R/D Lewis Casing Crew. N/D BOP installed 7 1/16" 3M x 7 1/16" 3M tbg. spool w/ 6 3/8" bore TC Profile with 2" API pipe outlets, installed to 5 ½" csg. Wellhead section 7 1/16" 3M flange top over 4 ½" csg. hanger. Tested wellhead for 10 minutes @ 2200 psi no leak off, NU BOP & installed 2 3/8" rams. RIH w/ AD1 Pkr. Set @ 1960', tested 4 ½" annulus to 730 Psi for 40 minutes tested good no leak off. TOH with AD1 Pkr. RIH with new 3 7/8" skirted mill tooth bit, 2 3/8"eubx X 2 3/8" rgbx bit sub below 2 3/8" J-55 tbg. tag @2048' Pulled bit up into 4 ½" casing at 1864 closed well in and BOP SDFN.

12/19/2020 Open well RIH with Bit to 2048' drilled to 2051', fell out ran to 2074' drill from 2074 – 2076 ran to 2079' continued drilling 2079' – 2081' ran to to 2102', continued drilling from 2102' -2105' fell out continued washing to 2163' got stuck, worked pipe free, could not return back to 2163' Pipe stacking out after lifting. Re moved swivel POH w/ tbg. Tubing was

bent on joint number two above bit sub, and sheared cut on jt. # 1 above bit sub and bit left 1-16' 2 3/8" tbg. piece and a bit sub w/ 3 7/8" bit in hole. 18'fish est. depth of TOF #2 @2145'-2163" shut in SDFN.

12/21/20 Open up well P/U & RIH w/ 3 7/8" bear claw bit, bit sub, 4- 3 1/8" OD drill collars, & 2 3/8" tubing to 2012' attached swivel w/ 2 ½ md connection on top Joint, drilled from 2012'-2014' then ran to drill 2018'-2021' ran to 2025'-2026' then ran to 2162'- 2166' fell out 2182' ran to drill 2188' – 2190' ran to 2194' – 2231' fell out 2231' ran to drill 2231' – 2236' fell out to drll 2240' – 2265' TUH w/ bit into 4 ½" casing @ 1865' closed well in SDFN

12/22/2020 Open well up ran bit back to drill 2265' – 2267' fell out and ran to tag 2649' pulled bit to land @2609' RD swivel, ND stripper head & BOP, install tbg. hanger flange and N/U well head connections pumped on well 6 hrs. shut down & connect to facility surface injection pump, RD rig & reverse unit then released all workover equipment.


6 AM
7
8
9
10
11
NOON
1
2
3
4
5
6 PM
7
8
9
10
11
MIDNIGHT
1
2
3
4
5
6
12/16/20
CHART NO. MP-1000
METER R-5447G
LOCATION H.R.C. WC
REMARKS SCHUBERT 7 #1
4½ CSG MIT
40 MIN @ 730#

American Valve & Meter, Inc.

1113 W. BROADWAY

P.O. BOX 166 HOBBS, NM 88240

T0: Lucky Rental DATE: 12/1/20

This is to certify that:

I, Stephen Waskas , Technician for American Valve & Meter Inc. Has checked the calibration of the following instrument.

12"_Pressure recorder Ser# R-54476

at these points.

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

Remarks:

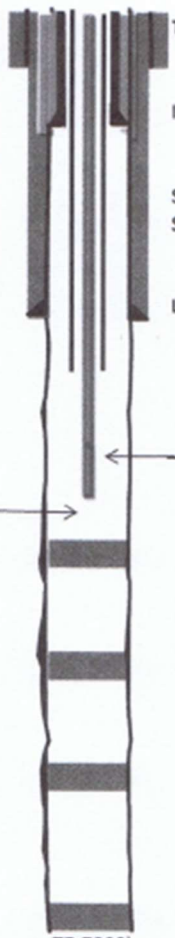
Signature:

SCHUBERT 7 WELL NO. 1
API 30-025-36781
2313 FSL, 2313 FEL
J - SEC 7 - T19S - R39E
LAT: 32.6738815 LONG: -103.0835953

Current
12/22/2020

Lithology Record (C-105)

From	To	Thick / ft.	Lithology
212'	1151'	939'	Redbed
1151'	1455'	304'	RB / Shale
1455'	1775'	320'	Shale
1775'	1880'	105'	Anhydrite
1880'	2900'	1020'	Salt,Redbed,Shale
2900'	3130'	230'	Anhy,Salt, Shale
3130'	4080'	950'	Anhy.,Dolomite
4080'	4430'	350'	Dolomite, Anhydrite
4430'	7500'	3070'	Dolomite, Limestone
7500'	7900'	400'	Dolomite



TREE — Hung with 3M head
79 jts. 2 3/8" 4.7# J-55
Bit SET @ 2609'

INTER. — 5 1/2" 15.5# Drift 4.825"
Set @ 404' 200 sx cir surf

SURFACE — 8 5/8" 24# ST&C
SET AT — 1865' w/900SX
CIR. SURFACE

Liner — 4 1/2 " 11.35# J55 liner Csg.
set @ 1993'
3% KCL Surface to 1865'

OH HOLE SIZE — 7 7/8"

BHA point @ 2609' W/...
3 1/8" OD X 1 1/2" ID xo
4 - 3 1/8" OD x 1 1/2" ID D/C
3 1/8" x 1 3/4" ID xo
Bit 3 7/8" Bear Claw Bit

DRILL OH TO 2649'

Yates @2930'

PLUG # 4 — 100sx @ 2947'
est. TOC @ 2,557' 390'

PLUG # 3 — 40sx @ 4089'
est. TOC @ 3,933' 156'

PLUG # 2 — 35sx @ 5710'
est. TOC @ 5,573' 137'

PLUG # 1 — 30sx @ 7900'
est. TOC @ 7,783' 117'

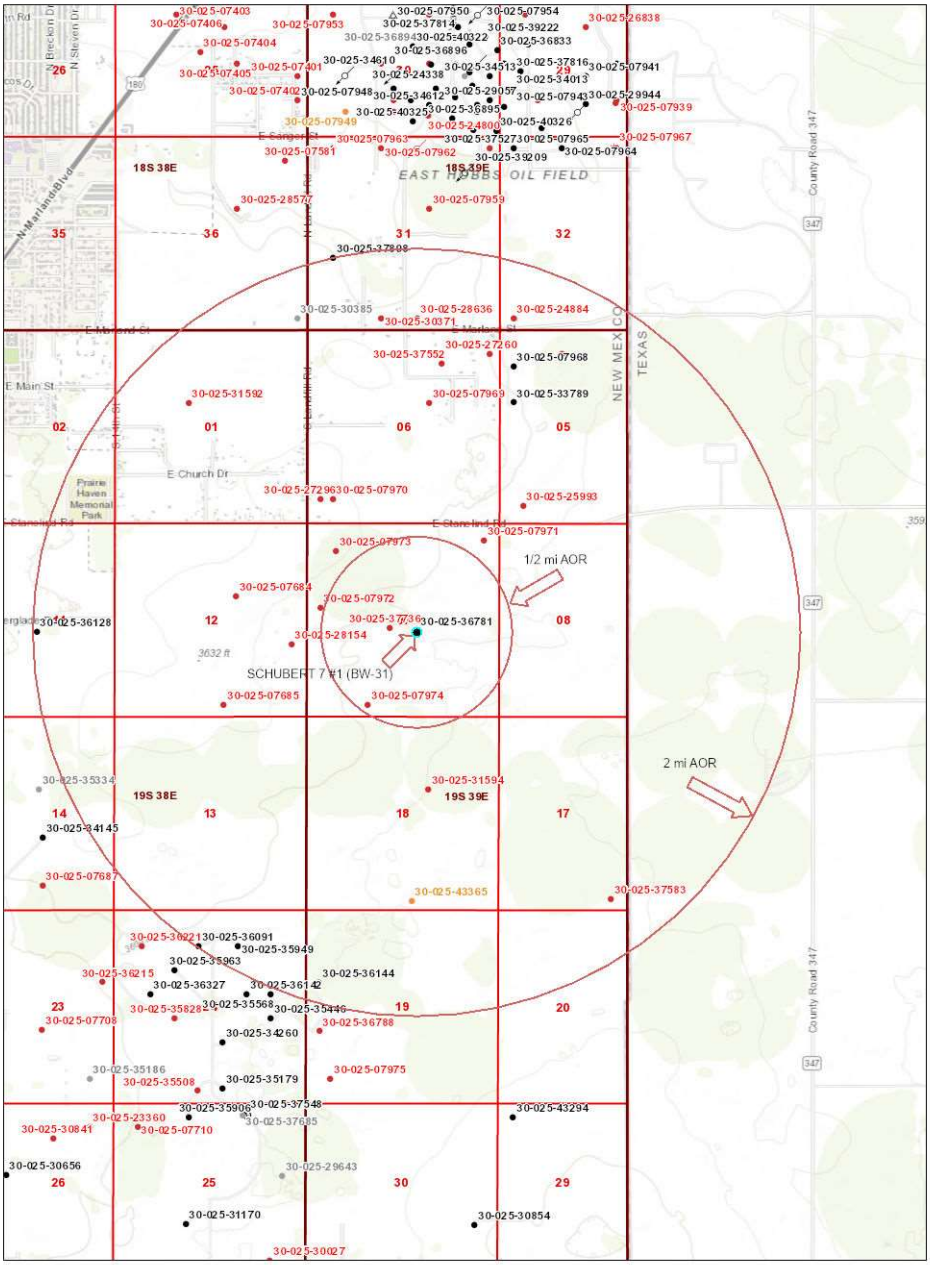
TD 7900'

Formation Top (C-105)

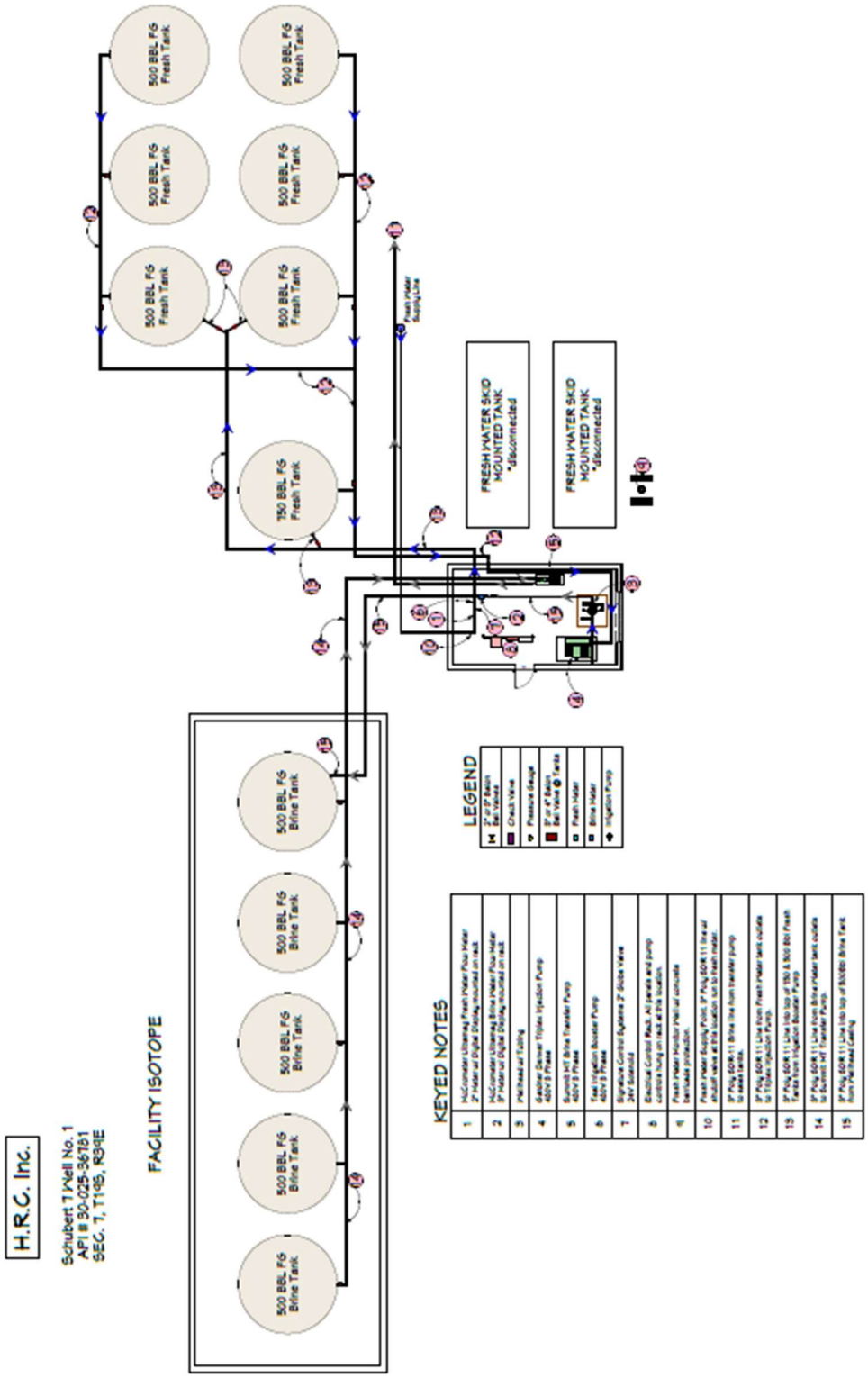
T. Anhy	1775'
T. Salt	1880'
B. Salt	2900'
T. Yates	2930'
T. 7 Rivers	3160'
T. Queen	3710'
T. Grayburg	4080'
T. San Andres	4396'
T. Glorieta	5715'
T. Paddock	5858'
T. Blinebry	6260'
T. Tubb	6820'
T. Drinkard	7050'
T. Abo	7464'

APPENDIX D

Schubert 7 #1 (BW-31) 1/2 & 2 Mi AOR



APPENDIX E


H.R.C. Inc.
Schubert 7 Well No. 1
API # 30-025-36761
SEC. 7, T19S, R34E
FACILITY ISOTOPE
500 BBL F/S Brine Tank
500 BBL F/S Fresh Tank
750 BBL F/S Fresh Tank
FRESH WATER SKID MOUNTED TANK *disconnected
LEGEND
KEYED NOTES

H.R.C. Inc.

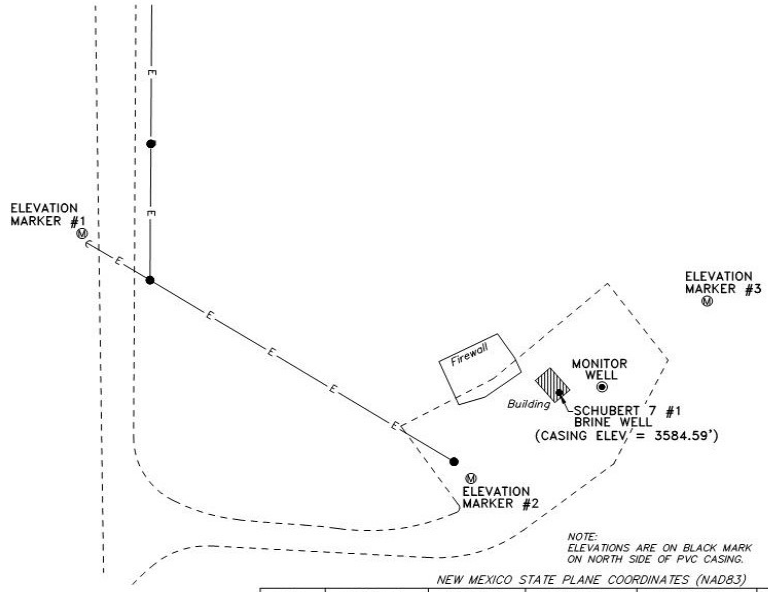
Pipeline Overlay Map

A	Schubert 7 Well # 1 32.673935, -103.083677
B	Schubert Farms Well # 1 32.637603, -103.098728
C	Peanut Shed Storage Battery 32.628787, -103.111053
D	ETZ Water Station 32.624077, -103.113627

	3" SDR 11 Poly pipeline from Schubert 7 Well # 1 to ETZ Water Station
	3" SDR 11 Poly pipeline from Schubert Farms Well # 1 to Peanut Shed Storage Battery
	3" SDR 11 Poly pipeline from transfer pump at Peanut Shed to ETZ Water Station
	2" SDR 11 Poly pipeline from transfer pump at Peanut Shed to ETZ Water Station
	2" SDR 11 Poly pipeline from transfer pump at Peanut Shed to ETZ Water Station

APPENDIX F

SECTION 7, TOWNSHIP 19 SOUTH, RANGE 39 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



NEW MEXICO STATE PLANE COORDINATES (NAD83)

WELL	NORTHING	EASTING	LATITUDE	LONGITUDE	ELEVATION
EM-1	611304.81	925484.92	32°40'27.52"	103°05'05.71"	3591.65
EM-2	611100.65	925800.11	32°40'25.46"	103°05'02.05"	3586.37
EM-3	611248.41	925991.42	32°40'26.90"	103°04'59.79"	3586.23
EM-4	610926.15	925561.84	32°40'23.76"	103°05'04.86"	3586.94
CASING					3584.59

NOTE:
1. SEE DOCUMENTS FILED FOR RECORD IN THIS OFFICE WHICH DESCRIBE IN DETAIL THE RECONSTRUCTION OF THIS SECTION.
2. COORDINATES AND BEARINGS ARE BASED ON THE STATE PLANE COORDINATE SYSTEM NAD 83, NEW MEXICO EAST ZONE AND DISTANCES ARE OF SURFACE VALUE.
3. ELEVATIONS BASED OFF GOVERNMENT TRI-STATION GOVERNMENT TR-STATION. DESIGNATION: E 98, PID: CV0314 N: 608923.89, E: 907545.93, ELEV: 3602.22
4. WELLS HAVE NOT REDUCED IN ELEVATION SINCE SEPTEMBER 9, 2015.

REVISION #	DATE	DESCRIPTION
1	SEPT. 9, 2015	ORIGINAL SURVEY
2	DEC. 15, 2015	RESURVEY–NO CHANGE IN ELEVATIONS
3	APRIL 12, 2016	RESURVEY–NO CHANGE IN ELEVATIONS
4	JULY 26, 2016	RESURVEY–NO CHANGE IN ELEVATIONS
5	OCTOBER 27, 2016	RESURVEY–NO CHANGE IN ELEVATIONS
6	February 6, 2017	RESURVEY–NO CHANGE IN ELEVATIONS
7	May 11, 2017	RESURVEY–NO CHANGE IN ELEVATIONS
8	AUGUST 30, 2017	RESURVEY–NO CHANGE IN ELEVATIONS
9	JANUARY 10, 2018	RESURVEY–NO CHANGE IN ELEVATIONS
10	MAY 1, 2018	RESURVEY–NO CHANGE IN ELEVATIONS
11	SEPTEMBER 5, 2018	RESURVEY–NO CHANGE IN ELEVATIONS
12	JANUARY 15, 2019	RESURVEY–NO CHANGE IN ELEVATIONS
13	MAY 7, 2019	RESURVEY–NO CHANGE IN ELEVATIONS
14	OCTOBER 14, 2019	RESURVEY–NO CHANGE IN ELEVATIONS
15	JANUARY 31, 2020	RESURVEY–NO CHANGE IN ELEVATIONS
16	MAY 12, 2020	RESURVEY–NO CHANGE IN ELEVATIONS
17	SEPTEMBER 9, 2020	RESURVEY–NO CHANGE IN ELEVATIONS
18	JUNE 21, 2021	RESURVEY–NO CHANGE IN ELEVATIONS
19	Sept. 30, 2021	RESURVEY–NO CHANGE IN ELEVATIONS
20	December 27. 2021	RESURVEY–NO CHANGE IN ELEVATIONS
21	March 8, 2022	RESURVEY–NO CHANGE IN ELEVATIONS

100 0 100 200 FEET
SCALE: 1" = 100'

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES TAKEN ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

GARY L. JONES — No. 7977
No. 5074

BASIN SURVEYS P.O. BOX 1786 – HOBBS, NEW MEXICO

H.R.C. INC.

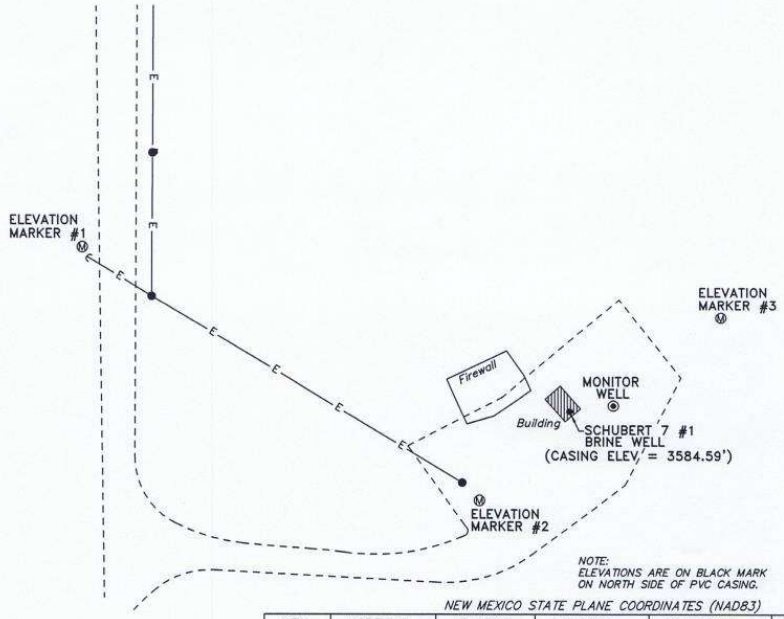
REF: ELEVATION MARKERS

ELEVATION MARKERS LOCATED IN SECTION 7, TOWNSHIP 19 SOUTH, RANGE 39 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.

W.O. Number: 35624	Drawn By: K. GOAD		
Date: 03–09–2022	Disk: KJG – SCHUBERT MW 35624	Survey Date: 03–08–2022	Sheet 1 of 1 Sheets

SECTION 7, TOWNSHIP 19 SOUTH, RANGE 39 EAST, N.M.P.M.,

LEA COUNTY, NEW MEXICO.



NOTE: ELEVATIONS ARE ON BLACK MARK ON NORTH SIDE OF PVC CASING.

NEW MEXICO STATE PLANE COORDINATES (NAD83)

WELL	NORTHING	EASTING	LATITUDE	LONGITUDE	ELEVATION
EM-1	611304.81	925484.92	32°40'27.52"	103°05'05.71"	3591.65
EM-2	611100.65	925800.11	32°40'25.46"	103°05'02.05"	3586.37
EM-3	611248.41	925991.42	32°40'26.90"	103°04'59.79"	3586.23
EM-4	610926.15	925561.84	32°40'23.76"	103°05'04.86"	3586.94
CASING					3584.59

NOTE:
1. SEE DOCUMENTS FILED FOR RECORD IN THIS OFFICE WHICH DESCRIBE IN DETAIL THE RECONSTRUCTION OF THIS SECTION.
2. COORDINATES AND BEARINGS ARE BASED ON THE STATE PLANE COORDINATE SYSTEM NAD 83, NEW MEXICO EAST ZONE AND DISTANCES ARE OF SURFACE VALUE.
3. ELEVATIONS BASED OFF GOVERNMENT TRI-STATION GOVERNMENT TR-STATION. DESIGNATION: E 98, PID: CV0314 N:608923.89, E:907545.93, ELEV: 3602.22
4. WELLS HAVE NOT REDUCED IN ELEVATION SINCE SEPTEMBER 9, 2015.

REVISION #	DATE	DESCRIPTION
1	SEPT. 9, 2015	ORIGINAL SURVEY
2	DEC. 15, 2015	RESURVEY–NO CHANGE IN ELEVATIONS
3	APRIL 12, 2016	RESURVEY–NO CHANGE IN ELEVATIONS
4	JULY 26, 2016	RESURVEY–NO CHANGE IN ELEVATIONS
5	OCTOBER 27, 2016	RESURVEY–NO CHANGE IN ELEVATIONS
6	February 6, 2017	RESURVEY–NO CHANGE IN ELEVATIONS
7	May 11, 2017	RESURVEY–NO CHANGE IN ELEVATIONS
8	AUGUST 30, 2017	RESURVEY–NO CHANGE IN ELEVATIONS
9	JANUARY 10, 2018	RESURVEY–NO CHANGE IN ELEVATIONS
10	MAY 1, 2018	RESURVEY–NO CHANGE IN ELEVATIONS
11	SEPTEMBER 5, 2018	RESURVEY–NO CHANGE IN ELEVATIONS
12	JANUARY 15, 2019	RESURVEY–NO CHANGE IN ELEVATIONS
13	MAY 7, 2019	RESURVEY–NO CHANGE IN ELEVATIONS
14	OCTOBER 14, 2019	RESURVEY–NO CHANGE IN ELEVATIONS
15	JANUARY 31, 2020	RESURVEY–NO CHANGE IN ELEVATIONS
16	MAY 12, 2020	RESURVEY–NO CHANGE IN ELEVATIONS
17	SEPTEMBER 9, 2020	RESURVEY–NO CHANGE IN ELEVATIONS
18	JUNE 21, 2021	RESURVEY–NO CHANGE IN ELEVATIONS
19	Sept. 30, 2021	RESURVEY–NO CHANGE IN ELEVATIONS
20	December 27, 2021	RESURVEY–NO CHANGE IN ELEVATIONS
21	March 8, 2022	RESURVEY–NO CHANGE IN ELEVATIONS
22	July 15, 2022	RESURVEY–NO CHANGE IN ELEVATIONS

100 0 100 200 FEET

SCALE: 1" = 100'

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

GARY L. JONES No. 7977 REGISTERED PROFESSIONAL SURVEYOR No. 5074

BASIN SURVEYS P.O. BOX 1786 – HOBBS, NEW MEXICO

H.R.C. INC.

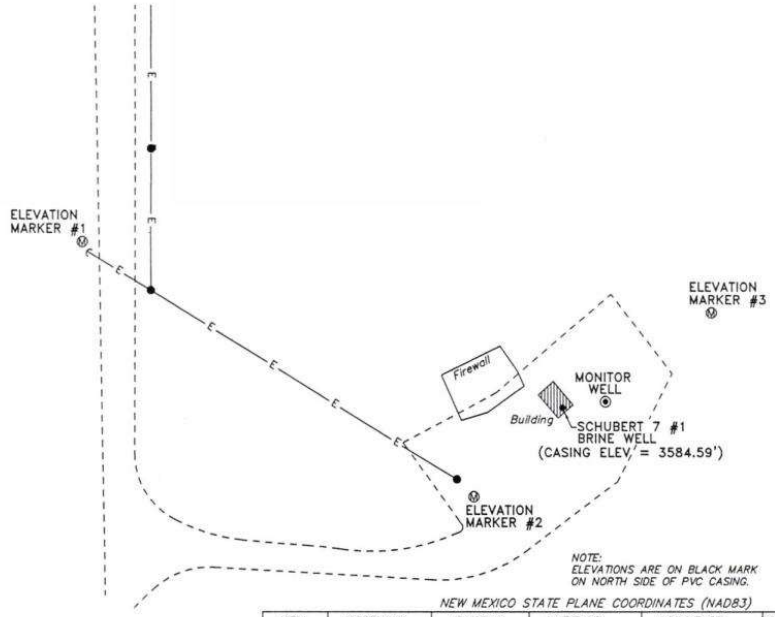
REF: ELEVATION MARKERS

ELEVATION MARKERS LOCATED IN SECTION 7, TOWNSHIP 19 SOUTH, RANGE 39 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.

W.O. Number: 35624	Drawn By: K. GOAD		
Date: 07–21–2022	Disk: KJG – SCHUBERT MW 35624	Survey Date: 07–15–2022	Sheet 1 of 1 Sheets

SECTION 7, TOWNSHIP 19 SOUTH, RANGE 39 EAST, N.M.P.M.,

LEA COUNTY, NEW MEXICO.



NOTE:
ELEVATIONS ARE ON BLACK MARK ON NORTH SIDE OF PVC CASING.

NEW MEXICO STATE PLANE COORDINATES (NAD83)

WELL	NORTHING	EASTING	LATITUDE	LONGITUDE	ELEVATION
EM-1	611304.81	925484.92	32°40'27.52"	103°05'05.71"	3591.65
EM-2	611100.65	925800.11	32°40'25.46"	103°05'02.05"	3586.37
EM-3	611248.41	925991.42	32°40'26.90"	103°04'59.79"	3586.23
EM-4	610926.15	925561.84	32°40'23.76"	103°05'04.86"	3586.94
CASING					3584.59

NOTE:
1. SEE DOCUMENTS FILED FOR RECORD IN THIS OFFICE WHICH DESCRIBE IN DETAIL THE RECONSTRUCTION OF THIS SECTION.
2. COORDINATES AND BEARINGS ARE BASED ON THE STATE PLANE COORDINATE SYSTEM NAD 83, NEW MEXICO EAST ZONE AND DISTANCES ARE OF SURFACE VALUE.
3. ELEVATIONS BASED OFF GOVERNMENT TRI-STATION GOVERNMENT TR-STATION. DESIGNATION: E 98, PID: CV0314 N: 608923.89, E: 907545.93, ELEV: 3602.22
4. WELLS HAVE NOT REDUCED IN ELEVATION SINCE SEPTEMBER 9, 2015.

REVISION #	DATE	DESCRIPTION
1	SEPT. 9, 2015	ORIGINAL SURVEY
2	DEC. 15, 2015	RESURVEY-NO CHANGE IN ELEVATIONS
3	APRIL 12, 2016	RESURVEY-NO CHANGE IN ELEVATIONS
4	JULY 26, 2016	RESURVEY-NO CHANGE IN ELEVATIONS
5	OCTOBER 27, 2016	RESURVEY-NO CHANGE IN ELEVATIONS
6	February 6, 2017	RESURVEY-NO CHANGE IN ELEVATIONS
7	May 11, 2017	RESURVEY-NO CHANGE IN ELEVATIONS
8	AUGUST 30, 2017	RESURVEY-NO CHANGE IN ELEVATIONS
9	JANUARY 10, 2018	RESURVEY-NO CHANGE IN ELEVATIONS
10	MAY 1, 2018	RESURVEY-NO CHANGE IN ELEVATIONS
11	SEPTEMBER 5, 2018	RESURVEY-NO CHANGE IN ELEVATIONS
12	JANUARY 15, 2019	RESURVEY-NO CHANGE IN ELEVATIONS
13	MAY 7, 2019	RESURVEY-NO CHANGE IN ELEVATIONS
14	OCTOBER 14, 2019	RESURVEY-NO CHANGE IN ELEVATIONS
15	JANUARY 31, 2020	RESURVEY-NO CHANGE IN ELEVATIONS
16	MAY 12, 2020	RESURVEY-NO CHANGE IN ELEVATIONS
17	SEPTEMBER 9, 2020	RESURVEY-NO CHANGE IN ELEVATIONS
18	JUNE 21, 2021	RESURVEY-NO CHANGE IN ELEVATIONS
19	Sept. 30, 2021	RESURVEY-NO CHANGE IN ELEVATIONS
20	December 27, 2021	RESURVEY-NO CHANGE IN ELEVATIONS
21	March 8, 2022	RESURVEY-NO CHANGE IN ELEVATIONS
22	July 15, 2022	RESURVEY-NO CHANGE IN ELEVATIONS
23	Sept. 30, 2022	RESURVEY-NO CHANGE IN ELEVATIONS

100 0 100 200 FEET

SCALE: 1" = 100'

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

GARY L. JONES No. 7977

GARY L. JONES NEW MEXICO 7977 REGISTERED PROFESSIONAL SURVEYOR

BASIN SURVEYS P.O. BOX 1786-HOBBS, NEW MEXICO

H.R.C. INC.

REF: ELEVATION MARKERS

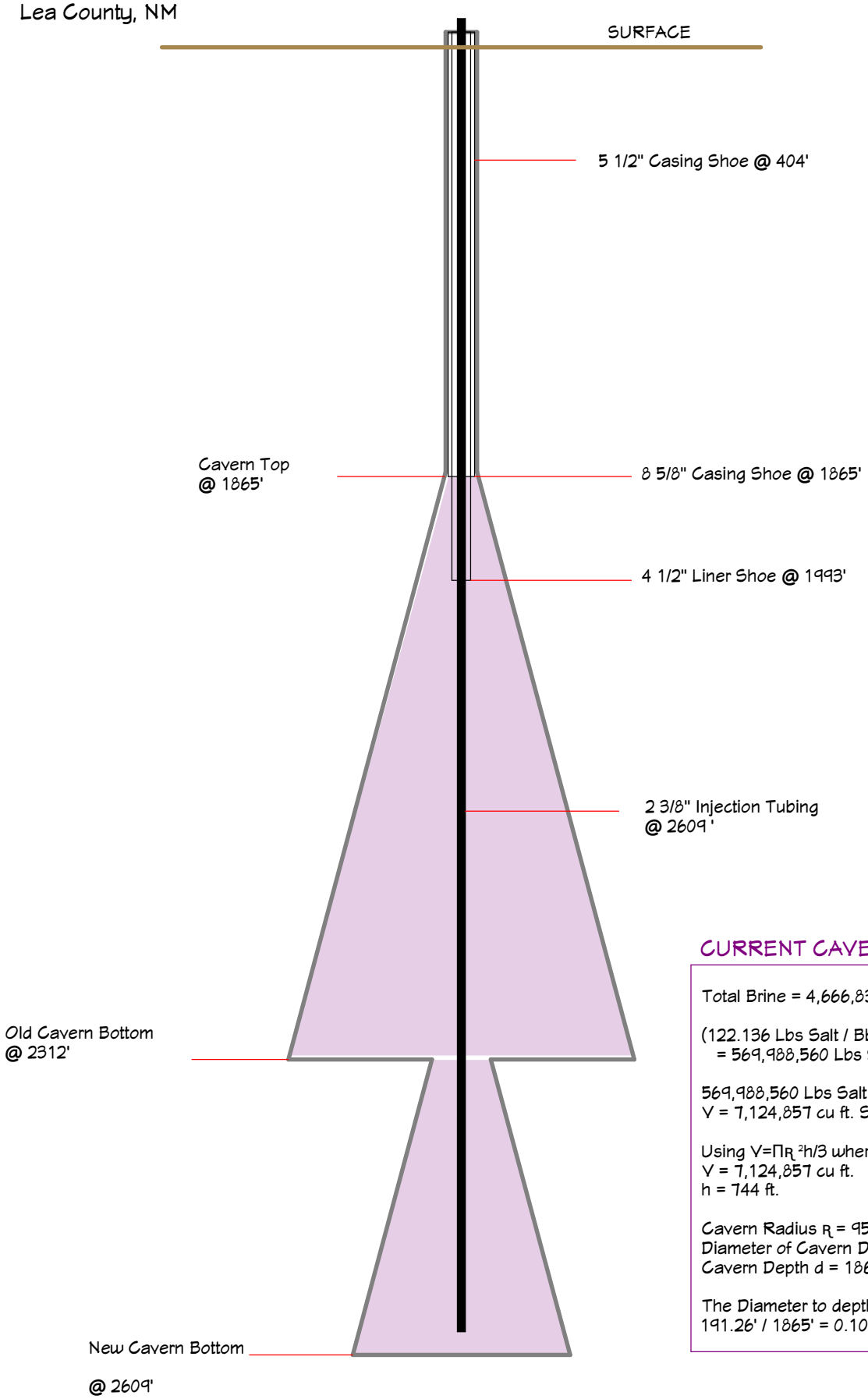
ELEVATION MARKERS LOCATED IN SECTION 7, TOWNSHIP 19 SOUTH, RANGE 39 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.

W.O. Number: 35624	Drawn By: K. GOAD		
Date: 10-07-2022	Disk: KJG - SCHUBERT MW 35888	Survey Date: 09-30-2022	Sheet 1 of 1 Sheets

APPENDIX G

H.R.C. Inc.

Schubert 7 Well #1 BW-31
2313 FSL, 2313 FEL, Sec. 7, T19S, R39E
API # 30-025-36781
Lea County, NM



CURRENT CAVERN CHARACTERIZATION

Total Brine = 4,666,835 Bbls through December 31, 2022

(122.136 Lbs Salt / Bbl Brine) * Total Bbls
= 569,988,560 Lbs Salt Mined

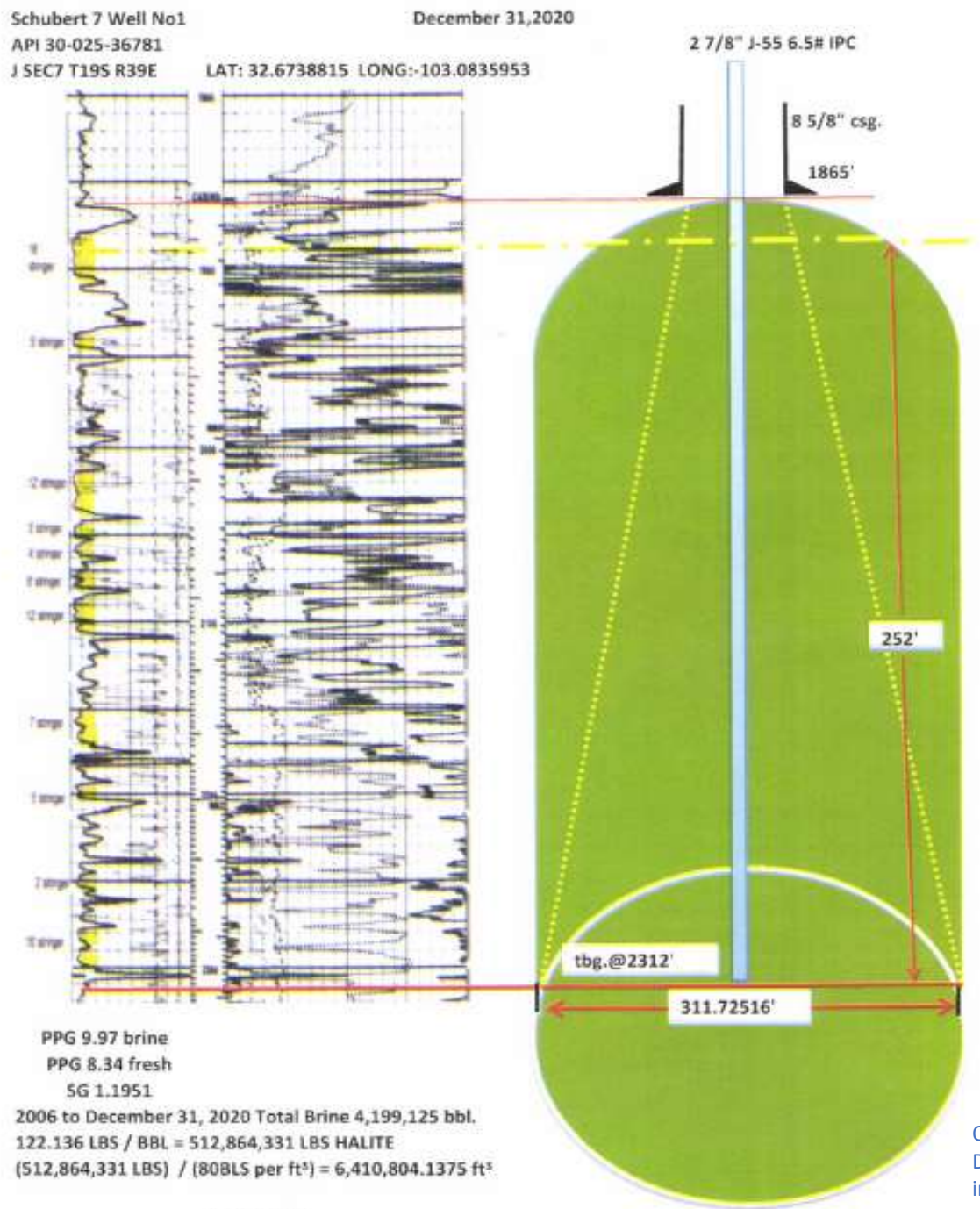
569,988,560 Lbs Salt / (80 lbs salt per cu ft.) = V
V = 7,124,857 cu ft. Salt Mined

Using $V=\Pi R^2 h/3$ where
V = 7,124,857 cu ft.
h = 744 ft.

Cavern Radius R = 95.63 ft.
Diameter of Cavern D = $2R$ = 191.26 ft.
Cavern Depth d = 1865 ft.

The Diameter to depth ratio D/d = Cavern size factor
191.26' / 1865' = 0.102 , <0.5 max

OLD CAVERN DIAGRAM & CHARACTERIZATION



PPG 9.97 brine
PPG 8.34 fresh
SG 1.1951
2006 to December 31, 2020 Total Brine 4,199,125 bbl.
122.136 LBS / BBL = 512,864,331 LBS HALITE
(512,864,331 LBS) / (80BLS per ft³) = 6,410,804.1375 ft³

$V = \pi r^2 h / 3$
$V = (3.14159 * 155.86258^2) * (252') / 3$
$V = 6,410,804\ ft.^3$

Est. hight is 252'
Est. cavern floor diameter is 311.72516'
311.72516 / 1865 = 0.167145 factor value

OCD changed h to 744 ft. Due to tubing depth increase. Result: D/H = 0.102 instead of 0.167145 CJC w OCD on 3/6/2023

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 181385

COMMENTS

Operator: HRC INC P.O. Box 5102 Hobbs, NM 88241	OGRID: 131652
	Action Number: 181385
	Action Type: [C-103] Sub. General Sundry (C-103Z)

COMMENTS

Created By	Comment	Comment Date
cchavez	BW-31 Annual Report 2022 Revised due to tubing depth increase.	3/6/2023

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

CONDITIONS

Action 181385

CONDITIONS

Operator:	OGRID:
HRC INC P.O. Box 5102 Hobbs, NM 88241	131652
	Action Number: 181385
	Action Type: [C-103] Sub. General Sundry (C-103Z)

CONDITIONS

Created By	Condition	Condition Date
cchavez	1. In the future, the configuration of cavern should be changed to an egg shape to reflect conditions based on tubing depth. 2. Max. cavern diameter will ultimately be assessed by sonar test when cavern is deemed to be mature and due to tubing depth increase. Prior diameter was over 300 ft. and was revised to 191 ft. due to tubing depth increase. 3. Tubing depth shall not be increased from this point forward.	3/6/2023