BW-036

ANNUAL REPORT

2018

2018 ANNUAL CLASS III WELL REPORT

H.R.C. INC.

Schubert Farms Well # 1 (BW-036)

API 30-025-37548

Resubmitted May 11, 2022

GARY M. SCHUBERT

ADDENDUM TO
2018 ANNUAL CLASS III WELL REPORT
-ANNUAL CERTIFICATION-

H.R.C. INC.

Schubert Farms Well # 1 (BW-036)

API 30-025-37548

ANNUAL CERTIFICATION

H.R.C. Inc. certifies that continued salt solution mining of the Schubert Farms Well #1 (BW-36) 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 5/5/22

Name GARY M. SCHUBERT Title PRES.

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SUMMARY OF CLASS III OPERATIONS 2018

Schubert Farms Well # 1 (BW-36) production operations in 2018 recorded an upward trend from its first year of operations in 2017. A combination of factors including increased market demand for brine and steady well operations contributed to the increased production. An annual total of 306,806 bbl. of brine was extracted at an average weight of 9.91 PPG (1.1875 SG). HRC Inc. is expecting sales to continue to remain steady in 2019.

Analysis of water samples from the designated monitor well showed no changes in water quality throughout the year 2018.

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 2018 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 2019. Connections are changed when the first sign of salt is seen behind the threaded end. During 2018 the transfer pump that transports brine to the sales tanks required a mechanical seal replaced in the month of December. This is a common task due to the abrasion of the 9.91 PPG brine. When replacing the seals, fresh water was used to clean out the lines, and valves were shut in allowing the connecting unions to be broken to prevent any impact to the ground within the pump shop where the pump resides.

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. Schubert Farms # 1 is an asset to industry and continues to support oil & gas production operations in New Mexico.

FLUID INJECTION & BRINE PRODUCTION VOLUMES

2018 MONTHLY TOTALS PRODUCED BRINE & INJECTED FRESH WATER

MONTH	PROD. BRINE	INJ. FRESH WATER
JANUARY	25,912	25,360
FEBRUARY	21,338	21,124
MARCH	26,609	26,407
APRIL	20,459	20,102
MAY	18,030	17,831
JUNE	24,897	24,719
JULY	23,761	23,557
AUGUST	23,511	23,319
SEPTEMBER	24,333	24,114
OCTOBER	29,826	29,631
NOVEMBER	31,826	31,614
DECEMBER	36,304	36,121
TOTAL	306,806	303,899

ANNUAL TOTALS PRODUCED BRINE & INJECTED FRESH WATER

YEAR	PROD. BRINE	INJ. FRESH WATER
2017	153,518	148,678
2018	306,806	303,899
TOTAL	460,324	452,577

EXTRACTION VS. INJECTION RATIOS

2018 FLUID INJECTION & BRINE PRODUCTION VOLUME RATIO

MONTH	BRINE	BRINE PSI	FRESH WATER	FW PSI	RATIO (RAW)	RATIO (CALC)
JANUARY	25912	20	25360	255	25912:25360	1.0218
FEBRUARY	21338	19	21124	254	21338:21124	1.0101
MARCH	26609	22	26407	256	26609:26407	1.0076
APRIL	20459	21	20102	255	20459:20102	1.0178
MAY	18030	22	17831	253	18030:17831	1.0112
JUNE	24897	21	24719	255	24897:24719	1.0072
JULY	23761	23	23557	256	23761:23557	1.0087
AUGUST	23511	20	23319	256	23511:23319	1.0082
SEPTEMBER	24333	21	24114	254	24333:24114	1.0091
OCTOBER	29826	22	29631	255	29826:29631	1.0066
NOVEMBER	31826	20	31614	256	31826:31614	1.0067
DECEMBER	36304	19	36121	256	36304:36121	1.0051

INJECTION PRESSURE

Injection pressure remains consistent with 2018. Annulus average is 21 PSIG and the tubing average is at 255 PSIG. RFD pump runs at 54.0 Hz. with a yield of 28 to 30 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-36 order requires that the specified monitor well be sampled semi-annually and chemical analysis results be reported to the OCD. H.R.C. Inc. has been performing this sampling on a semi-annual basis. 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 analyzed water sampled from the designated monitor well on 5/18/2018 and 11/21/2018. Summary of the analyses from May 2018 and November 2018 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 2018.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10 for 05/18/18 and certificate number T104704398-18-11 for 11/21/18.

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.

MAY 2018 RESULTS

MONITOR WELL INOGRANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Alkalinity, Bicarbonate	249		5.00	MG/L	5-21-18	310.1
Alkalinity Carbonate	< 1.00		1.00	MG/L	5-21-18	310.1
Chloride	328		4.00	MG/L	5-21-18	4500-C1.B
Conductivity	1860		1.00	US/CM	5-21-18	120.1
pH	7.56		0.100	pH Units	5-21-18	150.1
Sulfate	273		50.0	MG/L	5-22-18	375.4
TDS	1170		5.00	MG/L	5-23-18	160.1
Alkalinity Total	204		4.00	MG/L	5-21-18	310.1

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

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	176		1.00	MG/L	5-29-18	EPA200.7
Magnesium	46.5		1.00	MG/L	5-29-18	EPA200.7
Potassium	<10		10	MG/L	5-29-18	EPA200.7
Sodium	127		10	MG/L	5-29-18	EPA200.7

NOVEMBER 2018 RESULTS

MONITOR WELL INORGANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Alkalinity, Bicarbonate	288		5.00	MG/L	11-26-18	310.1
Alkalinity Carbonate	<1.00		1.00	MG/L	11-26-18	310.1
Chloride	320		4.00	MG/L	11-26-18	4500. C1.B
Conductivity	1800		1.00	UMHOS/CM	11-21-18	120.1
pH	7.58		0.100	pH units	11-21-18	150.1
Sulfate	298		50.0	MG/L	11-27-18	375.4
TDS	982		5.00	MG/L	11-28-18	160.1
Alkalinity Total	236		4.00	MG/L	11-26-18	310.1

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

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	172		0.100	MG/L	12-7-18	EPA 200.7
Magnesium	44.3		0.100	MG/L	12-7-18	EPA 200.7
Potassium	4.95		1.00	MG/L	12-7-18	EPA 200.7
Sodium	124		1.00	MG/L	12-7-18	EPA 200.7

PRODUCED BRINE & INJECTED FRESH WATER CHEMICAL ANALYSIS DATA

The BW-36 order requires that the produced brine and injected fresh water be sampled quarterly and chemical analysis results be reported to the OCD. H.R.C. Inc. has erroneously been performing this sampling on a semi-annual basis instead of quarterly. Quarterly sampling and analysis has been instituted as of January 2022, and will remain on a quarterly basis going forward. Cardinal Laboratories sampled produced brine and injected fresh water from the BW-36 facility on 05/18/2018 and 11/21/2018. Summary of the analyses from May 2018 and November 2018 for Inorganic Compounds and Total Recovery Metals by ICP (E200.7) are shown below. There were no appreciable changes in both the produced brine chemistry and injected fresh water chemistry throughout 2018.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10 for 05/18/18 and certificate number T104704398-18-11 for 11/21/18.

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.

BRINE ANALYTICAL RESULTS: MAY 2018

INORGANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Alkalinity, Bicarbonate	256		5.00	MG/L	5-21-18	310.1
Alkalinity Carbonate	<1.00		1.00	MG/L	5-21-18	310.1
Chloride	166,000		4.00	MG/L	5-21-18	4500.C1.B
Conductivity	236,000		1.00	UMHOS/CM	5-21-18	120.1
pH	6.95		0.100	Ph Units	5-21-18	150.1
Sulfate	4490		833	MG/L	5-22-18	375.4
TDS	263,000		5.00	MG/L	5-23-18	160.1
Alkalinity Total	210		4.00	MG/L	5-21-18	310.1

TOTAL RECOVERABLE METALS by ICP (E220.7)

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	814		50.0	MG/L	5-29-18	EPA 200.7
Magnesium	401		50.0	MG/L	5-29-18	EPA200.7
Potassium	667		500	MG/L	5-29-18	EPA 200.7
Sodium	98,200		500	MG/L	5-29-18	EPA 200.7

FRESH WATER ANALYTICAL RESULTS: MAY 2018

INORGANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed	Method
Alkalinity, Bicarbonate	229		5.00	MG/L	5-21-18	310.1
Alkalinity Carbonate	<1.00		1.00	MG/L	5-21-18	310.1
Chloride	124		4.00	MG/L	5-21-18	4500.C1.B
Conductivity	1020		1.00	UMHOS/CM	5-21-18	120.1
pH	7.87		0.100	pH units	5-21-18	150.1
Sulfate	206		50	MG/L	5-22-18	375.1
TDS	656		5.00	MG/L	5-23-18	160.1
Alkalinity Total	188		4.00	MG/L	5-21-18	310.1

TOTAL RECOVERABLE METALS by ICP (E220.7)

Analyte	Result	MDL	Reporting Limit	Units	Analyzed	Method
Calcium	85.3		1.00	MG/L	5-29-18	EPA 200.7
Magnesium	24.7		1.00	MG/L	5-29-18	EPA 200.7
Potassium	<10		10.0	MG/L	5-29-18	EPA 200.7
Sodium	92.3		10.0	MG/L	5-29-18	EPA 200.7

BRINE ANALYTICAL RESULTS: NOVEMBER 2018

INORGANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Alkalinity Bicarbonate	478		5.00	MG/L	11-26-18	310.1
Alkalinity Carbonate	<1.00		1.00	MG/L	11-26-18	310.1
Chloride	152,000		4.00	MG/L	11-26-18	4500. C1.B
Conductivity	237,000		1.00	UMHOS/CM	11-21-18	120.1
pH	6.87		0.100	Ph Units	11-21-18	150.1
Sulfate	4190		833	MG/L	11-27-18	375.1
TDS	254,000		5.00	MG/L	11-28-18	160.1
Alkalinity Total	392		4.00	MG/L	11-26-18	310.1

TOTAL RECOVERABLE METALS by ICP (E220.7)

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	820		50.0	MG/L	12-5-18	EPA 200.7
Magnesium	507		50.0	MG/L	12-5-18	EPA 200.7
Potassium	830		500	MG/L	12-5-18	EPA 200.7
Sodium	94,700		500	MG/L	12-5-18	EPA 200.7

FRESH WATER ANALYTICAL RESULTS: NOVEMBER 2018

INORGANIC COMPOUNDS

Analyte	Result	MDL	Reporting Limit	Units	Analyzed	Method
Alkalinity, Bicarbonate	327		5.00	MG/L	11-26-18	310.1
Alkalinity Carbonate	<1.00		1.00	MG/L	11-26-18	310.1
Chloride	260		4.00	MG/L	11-26-18	4500. C1.B
Conductivity	1490		1.00	UMHOS/CM	11-21-18	120.1
pH	7.53		0.100	Ph Units	11-21-18	150.1
Sulfate	165		50.0	MG/L	11-27-18	375.1
TDS	702		5.00	MG/L	11-28-18	160.1
Alkalinity Total	268		4.00	MG/L	11-26-18	310.1

TOTAL RECOVERABLE METALS by ICP (E220.7)

Analyte	Result	MDL	Reporting Limit	Units	Analyzed	Method
Calcium	110		0.100	MG/L	12-5-18	EPA 200.7
Magnesium	21.6		0.100	MG/L	12-5-18	EPA 200.7
Potassium	14.6		1.00	MG/L	12-5-18	EPA 200.7
Sodium	150		1.00	MG/L	12-5-18	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.

Brine Water transfer line from storage tanks at the Schubert Farms Well # 1 facility to the storage point located 1.5 miles south of the Schubert Farms Well # 1 has an operating pressure of 130 psi. The second point of diversion is the transfer of brine from the storage tanks known as the Peanut Shed to the A.N. ETZ sales facility located 0.8 miles east of HWY 18 on Nadine Rd. (P-26-19S-38E) this line is constructed of 2" SDR 11 Polyethylene Line with a max pressure of 160 psi the line enters into the west 16' holding tank at the top and has a hydrostatic pressure at the base of the line of 0 pounds of pressure at the base of the line due to the (Peanut Shed) storage tanks being higher in elevation. In the transferring operation of brine from the storage tanks (Peanut Shed) it takes 20 to 30 static pounds to move fluid through the 2" line to the A.N. ETZ sales point. Pump # 1 runs at 26 GPM and Pump # 2 runs at 42 GPM depending on demand both pumps can be run together.

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 2018. Because there were no leaks or spills detected in 2018, there are no leak or spill corrective action reports required.

MECHANICAL INTEGRITY TESTS

A cavern mechanical integrity test was performed on 6/2/17. Please find the documentation for this test in Appendix C.

AREA OF REVIEW (AOR) UPDATE

H.R.C., Inc. has updated the 2018 AOR for the Schubert Farms Well # 1 (BW-36), showing no new permits or new drilled wells have been located within the ½ or 2 mile AOR since the 2017 report.

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 2018 (inject fresh water down tubing, produce brine up annulus).

MAJOR FACILITY ACTIVITIES OR EVENTS

There were no major facility changes or events in the year 2018. The facilities have met the current operations needs and will be evaluated on a yearly basis moving forward.

SURFACE SUBSIDENCE MONITORING PLAN RESULTS

Surface subsidence surveys were conducted in January 2018, May 2018, and September 2018, 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-36 surveyor's plat in Appendix F, with locations of the BW-36 EM markers, and stating no changes found as of September 5, 2018.

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.

The Litho Density Compensated Neutron logs showed approximately 54' of good Halite net pay showing less than 4 API units on the Gamma Ray side of the log that is presently being mined. This interval is from 2661'-2715'. Height of cavern, h=54 ft.

BW-36 has produced 460,324 Bbl. of brine from the Salado formation from March, 2017 to December 31, 2018. 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 56,222,132 lbs of salt mined during this period. The amount of salt mined, 56,222,132 lbs, divided by 80 lbs salt/$ft.^3$ equals 702,777 $ft.^3$ volume of salt removed through December 31, 2021. Volume of cavern, V=702,777 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=111 ft. Diameter of cavern, D=2R=222 ft.

Depth of cavern is taken to be depth of casing window, 2661 ft.

In respect to the recommended maximum allowable D/depth cavern size factor of 0.5, the Schubert Farms Well No. 1 (BW-36) has a factor value of (222'/2661') = 0.083, which is well below the maximum allowable.

BW-36 has years of remaining life to continue mining for the salt that is used throughout the oil and gas industry in Southeastern New Mexico. New horizons above 2661' can be considered in the future to increase the lifespan of this facility.

Please find a copy of the BW-36 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 Farms Well #1 (BW-36) 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 5/5/22

Name GARY M. SCHUBERT Title PRES.

APPENDIX A

BW-36 Injection / Production

2018 Production & Injection Pressures and Volumes

Month	Brine Production (Bbls) Average Pressure (psi)	Fresh Injection (Bbls) Average Pressure (psi)
January	25,912 20	25,360 255
February	21,338 19	21,124 254
March	26,609 22	26,407 256
April	20,459 21	20,102 255
May	18,030 22	17,831 253
June	24,897 21	24,719 255
July	23,761 23	23,557 256
August	23,511 20	23,319 256
September	24,333 21	24,114 254
October	29,826 22	29,631 255
November	31,826 20	31,614 256
December	36,304 19	36,121 256

Yearly Total	306,806 20.8333333	303,899 255.083333

Running Totals	**Brine Production (Bbls)** **460,324**	**Fresh Injection (Bbls)** **452,577**

APPENDIX B

CARDINAL Laboratories

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

June 04, 2018

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 05/18/18 15:50.

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

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

Method EPA 552.2	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: FARMS #1 WATER SAMPLES- BRIN Project Manager: BEN DONAHUE Fax To:	Reported: 04-Jun-18 12:06

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FRESH WATER	H801390-01	Water	18-May-18 10:50	18-May-18 15:50
BRINE WATER	H801390-02	Water	18-May-18 10:47	18-May-18 15:50
MONITOR WELL	H801390-03	Water	18-May-18 10:45	18-May-18 15:50

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: FARMS #1 WATER SAMPLES- BRIN Project Manager: BEN DONAHUE Fax To:	Reported: 04-Jun-18 12:06

FRESH WATER

H801390-01 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**229**		5.00	mg/L	1	8050906	AC	21-May-18	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	8050906	AC	21-May-18	310.1	
Chloride*	**124**		4.00	mg/L	1	8051614	AC	21-May-18	4500-Cl-B	
Conductivity*	**1020**		1.00	uS/cm	1	8052104	AC	21-May-18	120.1	
pH*	**7.87**		0.100	pH Units	1	8052104	AC	21-May-18	150.1	
Sulfate*	**206**		50.0	mg/L	5	8052201	AC	22-May-18	375.4	
TDS*	**656**		5.00	mg/L	1	8052105	AC	23-May-18	160.1	
Alkalinity, Total*	**188**		4.00	mg/L	1	8050906	AC	21-May-18	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**85.3**		1.00	mg/L	10	B805178	JDA	29-May-18	EPA200.7	
Magnesium*	**24.7**		1.00	mg/L	10	B805178	JDA	29-May-18	EPA200.7	
Potassium*	<10.0		10.0	mg/L	10	B805178	JDA	29-May-18	EPA200.7	
Sodium*	**92.3**		10.0	mg/L	10	B805178	JDA	29-May-18	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: FARMS #1 WATER SAMPLES- BRIN Project Manager: BEN DONAHUE Fax To:	Reported: 04-Jun-18 12:06

BRINE WATER

H801390-02 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**256**		5.00	mg/L	1	8050906	AC	21-May-18	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	8050906	AC	21-May-18	310.1	
Chloride*	**166000**		4.00	mg/L	1	8051614	AC	21-May-18	4500-Cl-B	
Conductivity*	**236000**		1.00	uS/cm	1	8052104	AC	21-May-18	120.1	
pH*	**6.95**		0.100	pH Units	1	8052104	AC	21-May-18	150.1	
Sulfate*	**4490**		833	mg/L	83.33	8052201	AC	22-May-18	375.4	
TDS*	**263000**		5.00	mg/L	1	8052105	AC	23-May-18	160.1	
Alkalinity, Total*	**210**		4.00	mg/L	1	8050906	AC	21-May-18	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**814**		50.0	mg/L	500	B805178	JDA	29-May-18	EPA200.7	
Magnesium*	**401**		50.0	mg/L	500	B805178	JDA	29-May-18	EPA200.7	
Potassium*	**667**		500	mg/L	500	B805178	JDA	29-May-18	EPA200.7	
Sodium*	**98200**		500	mg/L	500	B805178	JDA	29-May-18	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: FARMS #1 WATER SAMPLES- BRIN Project Manager: BEN DONAHUE Fax To:	Reported: 04-Jun-18 12:06

MONITOR WELL

H801390-03 (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	8050906	AC	21-May-18	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	8050906	AC	21-May-18	310.1	
Chloride*	**328**		4.00	mg/L	1	8052107	AC	21-May-18	4500-Cl-B	
Conductivity*	**1860**		1.00	uS/cm	1	8052104	AC	21-May-18	120.1	
pH*	**7.56**		0.100	pH Units	1	8052104	AC	21-May-18	150.1	
Sulfate*	**273**		50.0	mg/L	5	8052201	AC	22-May-18	375.4	
TDS*	**1170**		5.00	mg/L	1	8052105	AC	23-May-18	160.1	
Alkalinity, Total*	**204**		4.00	mg/L	1	8050906	AC	21-May-18	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**176**		1.00	mg/L	10	B805178	JDA	29-May-18	EPA200.7	
Magnesium*	**46.5**		1.00	mg/L	10	B805178	JDA	29-May-18	EPA200.7	
Potassium*	<10.0		10.0	mg/L	10	B805178	JDA	29-May-18	EPA200.7	
Sodium*	**127**		10.0	mg/L	10	B805178	JDA	29-May-18	EPA200.7	

Cardinal Laboratories

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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: FARMS #1 WATER SAMPLES- BRIN Project Manager: BEN DONAHUE Fax To:	Reported: 04-Jun-18 12:06

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8050906 - General Prep - Wet Chem										
Blank (8050906-BLK1)				Prepared & Analyzed: 09-May-18						
Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							
LCS (8050906-BS1)				Prepared & Analyzed: 09-May-18						
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			
LCS Dup (8050906-BSD1)				Prepared & Analyzed: 09-May-18						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120		20	
Alkalinity, Bicarbonate	365	12.5	mg/L				80-120	13.9	20	
Alkalinity, Total	300	10.0	mg/L	250		120	80-120	14.3	20	
Batch 8051614 - General Prep - Wet Chem										
Blank (8051614-BLK1)				Prepared & Analyzed: 16-May-18						
Chloride	ND	4.00	mg/L							
LCS (8051614-BS1)				Prepared & Analyzed: 16-May-18						
Chloride	100	4.00	mg/L	100		100	80-120			
LCS Dup (8051614-BSD1)				Prepared & Analyzed: 16-May-18						
Chloride	104	4.00	mg/L	100		104	80-120	3.92	20	
Batch 8052104 - General Prep - Wet Chem										
LCS (8052104-BS1)				Prepared & Analyzed: 21-May-18						
Conductivity	501		uS/cm	500		100	80-120			
pH	7.20		pH Units	7.00		103	90-110			

Cardinal Laboratories

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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: FARMS #1 WATER SAMPLES- BRIN Project Manager: BEN DONAHUE Fax To:	Reported: 04-Jun-18 12:06

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8052104 - General Prep - Wet Chem										
Duplicate (8052104-DUP1)		**Source: H801389-01**		Prepared & Analyzed: 21-May-18						
Conductivity	1020	1.00	uS/cm		1020			0.0984	20	
pH	7.54	0.100	pH Units		7.53			0.133	20	
Batch 8052105 - Filtration										
Blank (8052105-BLK1)				Prepared: 21-May-18 Analyzed: 23-May-18						
TDS	ND	5.00	mg/L							
LCS (8052105-BS1)				Prepared: 21-May-18 Analyzed: 23-May-18						
TDS	518	5.00	mg/L	527		98.3	80-120			
Duplicate (8052105-DUP1)		**Source: H801385-01**		Prepared: 21-May-18 Analyzed: 23-May-18						
TDS	996	5.00	mg/L		1000			0.800	20	
Batch 8052107 - General Prep - Wet Chem										
Blank (8052107-BLK1)				Prepared & Analyzed: 21-May-18						
Chloride	ND	4.00	mg/L							
LCS (8052107-BS1)				Prepared & Analyzed: 21-May-18						
Chloride	100	4.00	mg/L	100		100	80-120			
LCS Dup (8052107-BSD1)				Prepared & Analyzed: 21-May-18						
Chloride	104	4.00	mg/L	100		104	80-120	3.92	20	

Cardinal Laboratories

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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: FARMS #1 WATER SAMPLES- BRIN Project Manager: BEN DONAHUE Fax To:	Reported: 04-Jun-18 12:06

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8052201 - General Prep - Wet Chem										
Blank (8052201-BLK1)				Prepared & Analyzed: 22-May-18						
Sulfate	ND	10.0	mg/L							
LCS (8052201-BS1)				Prepared & Analyzed: 22-May-18						
Sulfate	19.6	10.0	mg/L	20.0		98.2	80-120			
LCS Dup (8052201-BSD1)				Prepared & Analyzed: 22-May-18						
Sulfate	20.8	10.0	mg/L	20.0		104	80-120	5.88	20	

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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: FARMS #1 WATER SAMPLES- BRIN Project Manager: BEN DONAHUE Fax To:	Reported: 04-Jun-18 12:06

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 B805178 - Total Rec. 200.7/200.8/200.2										
Blank (B805178-BLK1)				Prepared: 24-May-18 Analyzed: 29-May-18						
Potassium	ND	1.00	mg/L							
Magnesium	ND	0.100	mg/L							
Calcium	ND	0.100	mg/L							
Sodium	ND	1.00	mg/L							
LCS (B805178-BS1)				Prepared: 24-May-18 Analyzed: 29-May-18						
Magnesium	20.2	0.100	mg/L	20.0		101	85-115			
Potassium	8.17	1.00	mg/L	8.00		102	85-115			
Calcium	4.00	0.100	mg/L	4.00		100	85-115			
Sodium	3.21	1.00	mg/L	3.24		99.2	85-115			
LCS Dup (B805178-BSD1)				Prepared: 24-May-18 Analyzed: 29-May-18						
Calcium	4.07	0.100	mg/L	4.00		102	85-115	1.63	20	
Potassium	8.34	1.00	mg/L	8.00		104	85-115	2.03	20	
Sodium	3.26	1.00	mg/L	3.24		101	85-115	1.43	20	
Magnesium	20.6	0.100	mg/L	20.0		103	85-115	1.60	20	

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

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: ETZ Water Station		**BILL TO**	
Project Manager: Ben Donahue		P.O. #:	
Address: P.O. Box 5102		Company:	
City: Hobbs	State: NM Zip: 88241	Attn:	
Phone #: 575 393 3194	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name: Schubert Farms #1 Water Samples		State: Zip:	
Project Location: Schubert Farms #1 Brine Well		Phone #:	
Sampler Name: Ben Donahue		Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST
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 / Anions
H801390															
1	Fresh Water	G	1						✓				5/18/18	10:50a	✓
2	Brine Water	1	1						✓				5/18/18	10:47a	1
3	Monitor Well	1	1	✓									5/18/18	10:45a	1

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 consequental 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: 5-18-18	Received By:	Phone Result: ☐ Yes ☐ No	Add'l Phone #:
	Time: 3:50		Fax Result: ☐ Yes ☐ No	Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: Email results to: garymschubert@gmail.com	
	Time:			
Delivered By: (Circle One)	Sample Condition: Cool ☑ Yes ☐ No, Intact ☑ Yes ☐ No	CHECKED BY: (Initials)		
Sampler - UPS - Bus - Other:	-1.1° Corrected -1.5°	TC #15		

+ Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

CARDINAL Laboratories

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

December 18, 2018

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 11/21/18 8:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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: FARMS #1 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 18-Dec-18 11:46

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRINE WATER	H803420-01	Water	21-Nov-18 06:15	21-Nov-18 08:15
FRESH WATER	H803420-02	Water	21-Nov-18 06:15	21-Nov-18 08:15
MONITOR WELL	H803420-03	Water	21-Nov-18 06:15	21-Nov-18 08:15

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: FARMS #1 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 18-Dec-18 11:46

BRINE WATER

H803420-01 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**478**		5.00	mg/L	1	8112610	AC	26-Nov-18	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	8112610	AC	26-Nov-18	310.1	
Chloride*	**152000**		4.00	mg/L	1	8112601	AC	26-Nov-18	4500-Cl-B	
Conductivity*	**237000**		1.00	uS/cm	1	8112118	AC	21-Nov-18	120.1	
pH*	**6.87**		0.100	pH Units	1	8112118	AC	21-Nov-18	150.1	
Sulfate*	**4190**		833	mg/L	83.3	8112713	AC	27-Nov-18	375.4	
TDS*	**254000**		5.00	mg/L	1	8112718	AC	28-Nov-18	160.1	
Alkalinity, Total*	**392**		4.00	mg/L	1	8112610	AC	26-Nov-18	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**820**		50.0	mg/L	500	B812008	AES	05-Dec-18	EPA200.7	
Magnesium*	**507**		50.0	mg/L	500	B812008	AES	05-Dec-18	EPA200.7	
Potassium*	**830**		500	mg/L	500	B812008	AES	05-Dec-18	EPA200.7	
Sodium*	**94700**		500	mg/L	500	B812008	AES	05-Dec-18	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: FARMS #1 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 18-Dec-18 11:46

FRESH WATER

H803420-02 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**327**		5.00	mg/L	1	8112610	AC	26-Nov-18	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	8112610	AC	26-Nov-18	310.1	
Chloride*	**260**		4.00	mg/L	1	8112601	AC	26-Nov-18	4500-Cl-B	
Conductivity*	**1490**		1.00	uS/cm	1	8112118	AC	21-Nov-18	120.1	
pH*	**7.53**		0.100	pH Units	1	8112118	AC	21-Nov-18	150.1	
Sulfate*	**165**		50.0	mg/L	5	8112713	AC	27-Nov-18	375.4	
TDS*	**702**		5.00	mg/L	1	8112718	AC	28-Nov-18	160.1	
Alkalinity, Total*	**268**		4.00	mg/L	1	8112610	AC	26-Nov-18	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**110**		0.100	mg/L	1	B812008	AES	05-Dec-18	EPA200.7	
Magnesium*	**21.6**		0.100	mg/L	1	B812008	AES	05-Dec-18	EPA200.7	
Potassium*	**14.6**		1.00	mg/L	1	B812008	AES	05-Dec-18	EPA200.7	
Sodium*	**150**		1.00	mg/L	1	B812008	AES	05-Dec-18	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: FARMS #1 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 18-Dec-18 11:46

MONITOR WELL

H803420-03 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories										
Inorganic Compounds										
Alkalinity, Bicarbonate	**288**		5.00	mg/L	1	8112610	AC	26-Nov-18	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	8112610	AC	26-Nov-18	310.1	
Chloride*	**320**		4.00	mg/L	1	8112601	AC	26-Nov-18	4500-Cl-B	
Conductivity*	**1800**		1.00	uS/cm	1	8112118	AC	21-Nov-18	120.1	
pH*	**7.58**		0.100	pH Units	1	8112118	AC	21-Nov-18	150.1	
Sulfate*	**298**		50.0	mg/L	5	8112713	AC	27-Nov-18	375.4	
TDS*	**982**		5.00	mg/L	1	8112718	AC	28-Nov-18	160.1	
Alkalinity, Total*	**236**		4.00	mg/L	1	8112610	AC	26-Nov-18	310.1	
Green Analytical Laboratories										
Total Recoverable Metals by ICP (E200.7)										
Calcium*	**172**		0.100	mg/L	1	B812009	AES	07-Dec-18	EPA200.7	
Magnesium*	**44.3**		0.100	mg/L	1	B812009	AES	07-Dec-18	EPA200.7	
Potassium*	**4.95**		1.00	mg/L	1	B812009	AES	07-Dec-18	EPA200.7	
Sodium*	**124**		1.00	mg/L	1	B812009	AES	07-Dec-18	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: FARMS #1 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 18-Dec-18 11:46

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8112118 - General Prep - Wet Chem										
LCS (8112118-BS1)				Prepared & Analyzed: 21-Nov-18						
Conductivity	100000		uS/cm	100000		100	80-120			
pH	7.12		pH Units	7.00		102	90-110			
Duplicate (8112118-DUP1)	**Source: H803419-01**			Prepared & Analyzed: 21-Nov-18						
Conductivity	236000	1.00	uS/cm		237000			0.338	20	
pH	7.07	0.100	pH Units		7.02			0.710	20	
Batch 8112601 - General Prep - Wet Chem										
Blank (8112601-BLK1)				Prepared & Analyzed: 26-Nov-18						
Chloride	ND	4.00	mg/L							
LCS (8112601-BS1)				Prepared & Analyzed: 26-Nov-18						
Chloride	100	4.00	mg/L	100		100	80-120			
LCS Dup (8112601-BSD1)				Prepared & Analyzed: 26-Nov-18						
Chloride	100	4.00	mg/L	100		100	80-120	0.00	20	
Batch 8112610 - General Prep - Wet Chem										
Blank (8112610-BLK1)				Prepared & Analyzed: 26-Nov-18						
Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							
LCS (8112610-BS1)				Prepared & Analyzed: 26-Nov-18						
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: FARMS #1 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 18-Dec-18 11:46

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8112610 - General Prep - Wet Chem										
LCS Dup (8112610-BSD1)				Prepared & Analyzed: 26-Nov-18						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120		20	
Alkalinity, Bicarbonate	305	12.5	mg/L				80-120	4.02	20	
Alkalinity, Total	250	10.0	mg/L	250		100	80-120	3.92	20	
Batch 8112713 - General Prep - Wet Chem										
Blank (8112713-BLK1)				Prepared & Analyzed: 27-Nov-18						
Sulfate	ND	10.0	mg/L							
LCS (8112713-BS1)				Prepared & Analyzed: 27-Nov-18						
Sulfate	23.3	10.0	mg/L	20.0		117	80-120			
LCS Dup (8112713-BSD1)				Prepared & Analyzed: 27-Nov-18						
Sulfate	19.6	10.0	mg/L	20.0		98.0	80-120	17.5	20	
Batch 8112718 - Filtration										
Blank (8112718-BLK1)				Prepared: 27-Nov-18 Analyzed: 28-Nov-18						
TDS	ND	5.00	mg/L							
LCS (8112718-BS1)				Prepared: 27-Nov-18 Analyzed: 28-Nov-18						
TDS	574		mg/L	672		85.4	80-120			
Duplicate (8112718-DUP1)	**Source: H803420-01**			Prepared: 27-Nov-18 Analyzed: 28-Nov-18						
TDS	265000	5.00	mg/L		254000			3.95	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: FARMS #1 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 18-Dec-18 11:46

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 B812008 - Total Rec. 200.7/200.8/200.2										
Blank (B812008-BLK1)				Prepared: 03-Dec-18 Analyzed: 05-Dec-18						
Sodium	ND	1.00	mg/L							
Calcium	ND	0.100	mg/L							
Magnesium	ND	0.100	mg/L							
Potassium	ND	1.00	mg/L							
LCS (B812008-BS1)				Prepared: 03-Dec-18 Analyzed: 05-Dec-18						
Calcium	3.94	0.100	mg/L	4.00		98.6	85-115			
Sodium	3.51	1.00	mg/L	3.24		108	85-115			
Magnesium	19.5	0.100	mg/L	20.0		97.5	85-115			
Potassium	8.22	1.00	mg/L	8.00		103	85-115			
LCS Dup (B812008-BSD1)				Prepared: 03-Dec-18 Analyzed: 05-Dec-18						
Potassium	8.08	1.00	mg/L	8.00		101	85-115	1.65	20	
Sodium	3.40	1.00	mg/L	3.24		105	85-115	3.01	20	
Calcium	3.98	0.100	mg/L	4.00		99.5	85-115	0.907	20	
Magnesium	19.7	0.100	mg/L	20.0		98.4	85-115	0.965	20	
Batch B812009 - Total Rec. 200.7/200.8/200.2										
Blank (B812009-BLK1)				Prepared: 03-Dec-18 Analyzed: 07-Dec-18						
Magnesium	ND	0.100	mg/L							
Sodium	ND	1.00	mg/L							
Potassium	ND	1.00	mg/L							
Calcium	ND	0.100	mg/L							
LCS (B812009-BS1)				Prepared: 03-Dec-18 Analyzed: 11-Dec-18						
Potassium	8.21	1.00	mg/L	8.00		103	85-115			
Magnesium	20.7	0.100	mg/L	20.0		104	85-115			
Calcium	4.17	0.100	mg/L	4.00		104	85-115			
Sodium	3.38	1.00	mg/L	3.24		104	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: FARMS #1 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 18-Dec-18 11:46

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 B812009 - Total Rec. 200.7/200.8/200.2										
LCS Dup (B812009-BSD1)				Prepared: 03-Dec-18 Analyzed: 11-Dec-18						
Potassium	8.16	1.00	mg/L	8.00		102	85-115	0.686	20	
Calcium	4.19	0.100	mg/L	4.00		105	85-115	0.480	20	
Sodium	3.34	1.00	mg/L	3.24		103	85-115	1.13	20	
Magnesium	20.8	0.100	mg/L	20.0		104	85-115	0.586	20	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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:	ETB Water Station
Project Manager:	Ben Donahue
Address:	P.O. Box 5152
City:	Hobbs
State:	NM
Zip:	88241
Phone #:	575 393 3194
Fax #:	
Project #:	
Project Owner:	Gary Schubert
Project Name:	Schubert Farms #1 Water Samples
Project Location:	Schubert Farms #1 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
H803420														
1	Brine Water		1										11/21/18	6:15Am
2	Fresh Water		1										11/21/18	6:15Am
3	Monitor Well		1										11/21/18	6:15AM

Relinquished By:	Date: 11/21/18	Received By: Jodi Henson	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 3:15		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 0.3°C / #97

Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No

CHECKED BY: (Initials)

+ Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

APPENDIX C

SCHUBERT FARMS WELL No.1
API 30-025-37548
MIT ACCEPTANCE OCD LETTER

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, June 27, 2017 9 41 AM
To 'Gary Schubert'
Cc: Griswold, Jim, EMNRD, Whitaker, Mark A, EMNRD, Fortner, Kerry, EMNRD
Subject: RE BW-36 Schubert Farms Well No 1 (API# 30-025-37548) OCD June 2, 2017 MIT Approval

Gary

Good morning The New Mexico Oil Conservation Division (OCD) is in receipt of and has completed its evaluation of the requested information.

OCD has determined that the above subject well MIT passed.

OCD review and reading from the original MIT chart indicates a start pressure of 325 psig and end pressure of 300 psig However, based on the spring weight, 24-hr chart scale, and clock speed, etc run for the MIT, OCD does not discount your stated pressures below

OCD evaluated this Cavern MIT Method utilizing the "Casing MIT" Pressure of +/- 10% Pass/Fail due to the low volume of fluids associated with the new brine well and small cavern size. As the cavern size matures, and fluid volume increases, OCD will communicate closely with the Permittee on MIT interpretations, and will eventually implement the +/- 1% Pass/Fail evaluation for the Cavern MIT method. In addition, OCD may require a Casing MIT to be run in lieu of a Cavern MIT in the future.

Please contact me if you have questions. Thank you

Mr Carl J Chavez, CHMM (#13099)
New Mexico Oil Conservation Division
Energy Minerals and Natural Resources Department
1220 South St Francis Drive
Santa Fe, New Mexico 87505
Ph (505) 476-3490
E-mail CarlJ Chavez@state nm us
"Why not prevent pollution, minimize waste to reduce operating costs, reuse or recycle, and move forward with the rest of the Nation?" (To see how, go to: http //www emnrd state nm us/OCD and see "Publications")

From: Gary Schubert [mailto garymschubert@gmail com]
Sent: Tuesday, June 27, 2017 8 22 AM
To: Chavez, Carl J, EMNRD <Carl J Chavez@state nm us>
Subject: BW-36

Mr Chavez,

Attached is the requested information regarding the MIT test on the Schubert Farms Well No. 1 (BW-36).
1 Signed letter from Mr. Larry Scott
2 Calibration information on Chart Recorder from Maclaskey Oilfield Services

1

SCHUBERT FARMS WELL No.1
API 30-025-37548
LETTER OF EXPLANATION

Lynx Petroleum Consultants, Inc.
PO Box 1708
3325 Enterprise Drive
Hobbs, New Mexico 88241
575 392-6950 Fax 575 392-7886
June 9, 2017

New Mexico Oil Conservation Division
1625 N French Drive
Hobbs, New Mexico 88240

Re HRC Inc Schubert Farms Brine Well No 1 (BW-36)
API#230-025-2976

Gentlemen

I was requested by the principal to review the pressure tests run on the above well which were performed on June 2, 2017 and exhibited a pressure loss over several test intervals of some 12-15 psig The concern expressed was that this loss slightly exceeded that allowed by the OCD (9 6 psig)

This wellbore was recently completed in the halite interval and has no significant operational history in this zone The well was originally drilled and completed in several intervals below the halite in attempts to establish hydrocarbon production This history would lead to the conclusion that there has been no significant "mining" of the salt with the operations that have been conducted so far

Although I am unable to develop a quantitative analysis due to incomplete data, there is a qualitative observation that can be drawn from the wellbore history along with the charts The pressure tests were conducted with fresh water It is therefore probable that solution mining was underway during the test period Water chemistry dictates that volume losses converting fresh water to brine are on the order of 3%, that is, 43 3 gallons of material (water + halite) are required to generate 42 gallons of saturated brine The volume decrease as a result of salt going into solution could very well be the cause of the pressure loss This effect is masked during pressure tests on established brine wells due to the fact that there is already a large reservoir of brine in the cavern I am of the opinion that there is nothing leaking here and that the wellbore should be approved to commence operations

Sincerely
Lynx Petroleum Consultants, Inc

Larry R. Scott

Larry R Scott
President

SCHUBERT FARMS WELL No. 1
API 30-025-37548
SUBSEQUENT MIT TEST

HRC INC.
P. O. Box 5011
Hobbs, NM 88241
(Office) 575-393-6662 (Fax) 575-397-2976

HRC Inc. Schubert Farms Brine Well No. 1 (BW-36)

MIT TEST

6-2-2017

7:30 AM
Rig up Maclaskey Oilfield Services Pump Truck - (David Arron) at 7:30AM

Hook up backside CSG Pump 5 5 bbl to 500 psi for 5 minutes; bleed down to 360 psi for 1.5 hours.

Call OCD to request witness of test talk to George Saenz (OCD) He advises to bleed pressure to 320 psi and start chart at 11:15AM

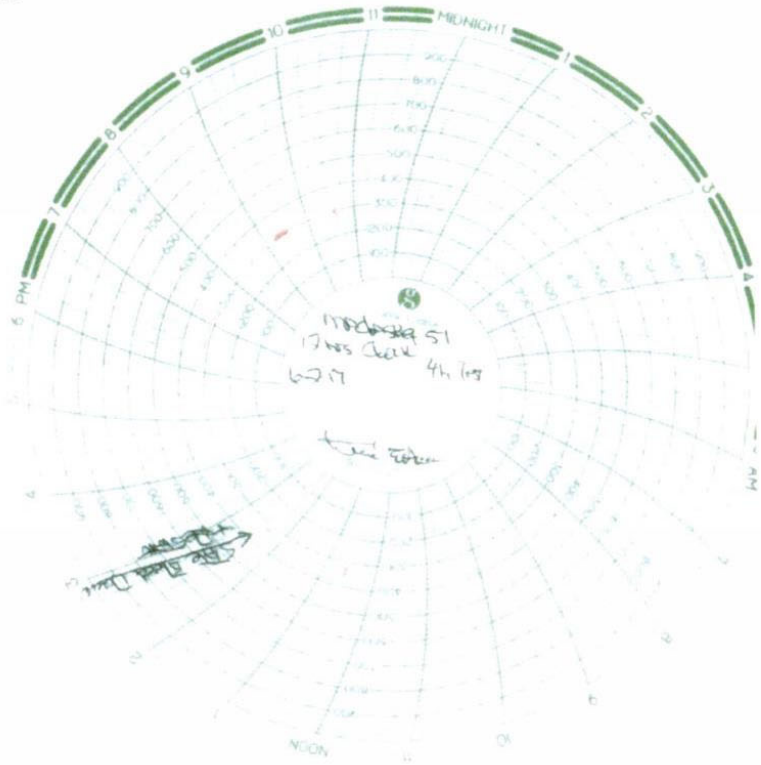
Kerry Fortner, (OCD) arrives to witness test Kerry Fortner witnessed chart recorder calibration. He advises to bleed pressure off chart recorder to 0 psi and then open pressure back to chart recorder (note on chart) Run chart. Test for 4 hours Begin test 12:20 pm Complete test at 4:20 pm

David Arron (Maclaskey Oilfield Services)

See enclosed test explanation from Lynx Petroleum Consultants, Inc

SCHUBERT FARMS WELL No. 1 BW-36
API 30-025-37548
330'FNL, 1650 FEL
UL:B, SEC 25, T19S, R38E
LAT:32.6375999
LONG:-103.0988007
LEA COUNTY NM

MIT CHART 6-2-17



SCHUBERT FARMS WELL No. 1
CERTIFICATE OF CALABRATION
CHART RECORDER

MACLASKEY
OILFIELD SERVICES

5960 WEST LOVINGTON HWY HOBBS NM 88240
575-393-4116

THIS IS TO CERTIFY THAT. DATE 5-1-17

I Albert Rodriguez METER TECHNICAN FOR MACLASKEY OILFIELD SERVICES, INC HAS CHECKED THE CALIBRATION ON THE FOLLOWING INSTRUMENT. 1000 PRESSURE RECORDER.

SERIAL NUMBER 950

TESTED AT THESE POINTS.

PRESSURE 500

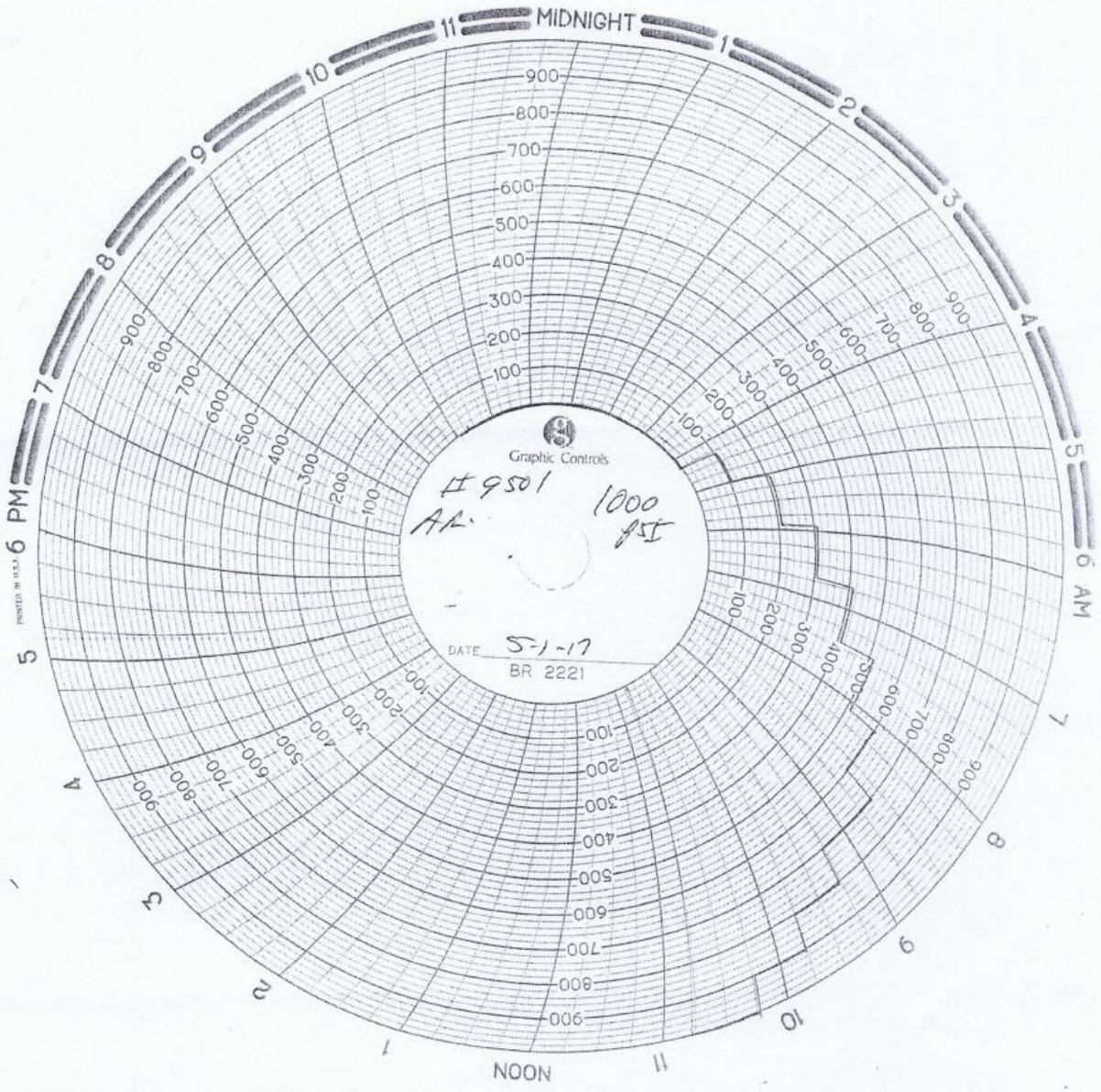
TEST	AS FOUND	CORRECTED
0	100	✓
100	200	✓
200	300	✓
300	400	✓
400	500	✓

PRESSURE 1000

TEST	AS FOUND	CORRECT
500	600	✓
600	700	✓
700	800	✓
800	900	✓
900	1000	✓

REMARKS

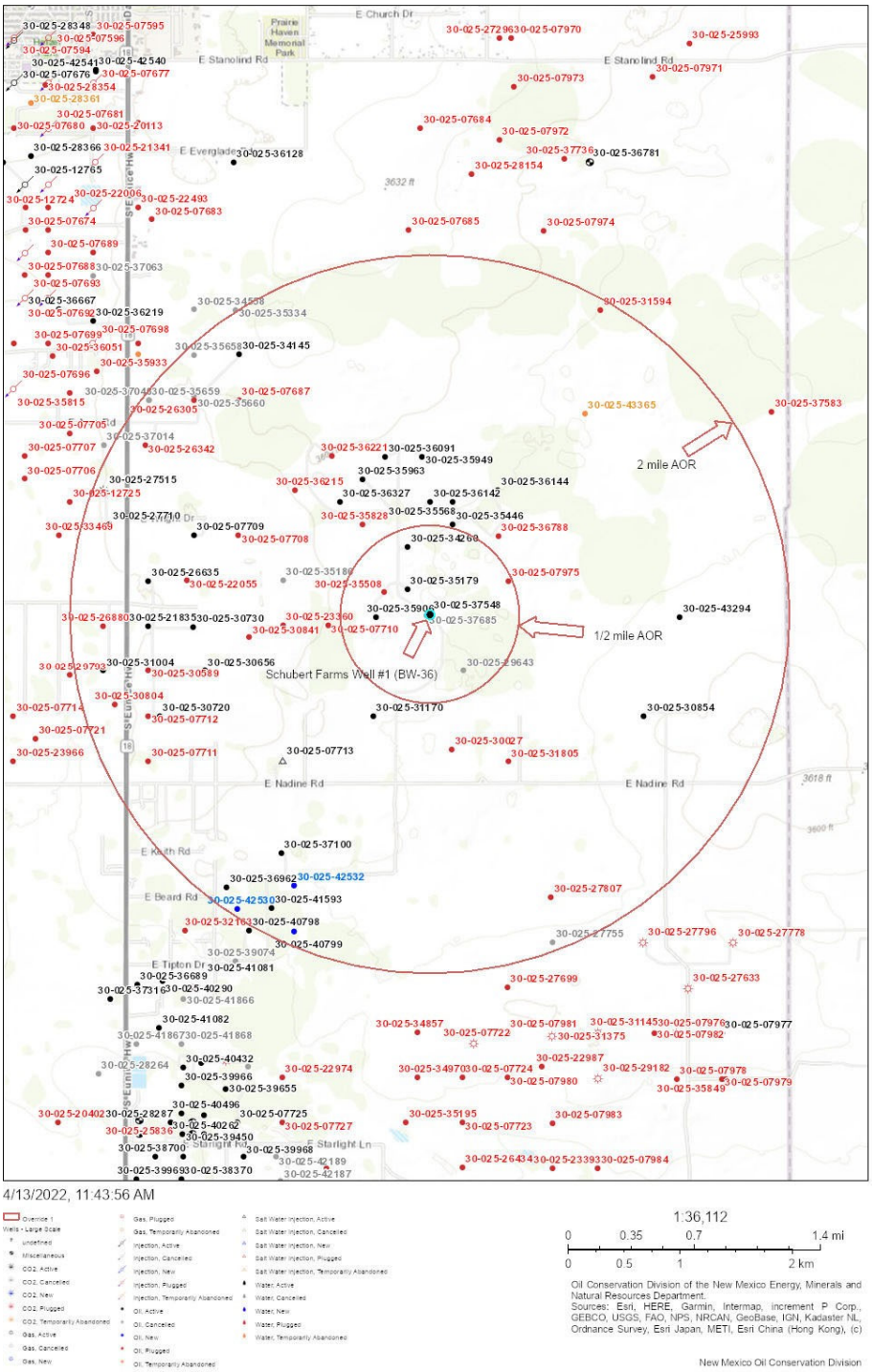
SIGNED Albert Rodriguez



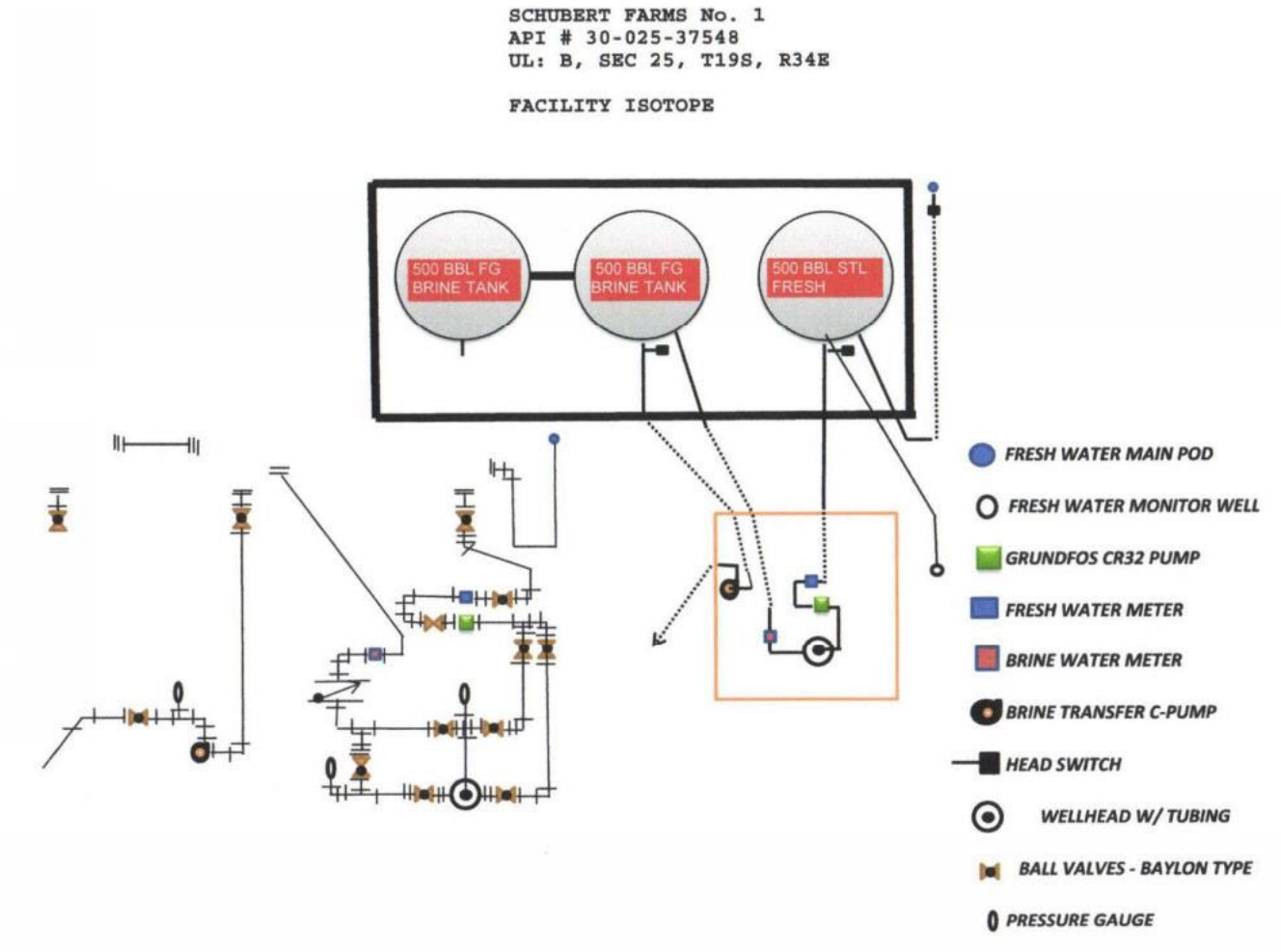
Schubert Farms Well #1
Chart Recorder Calibration Chart
5-1-2017 MacLaskey

APPENDIX D

Schubert Farms Well #1 (BW-36) 1/2 & 2 Mi AOR



APPENDIX E

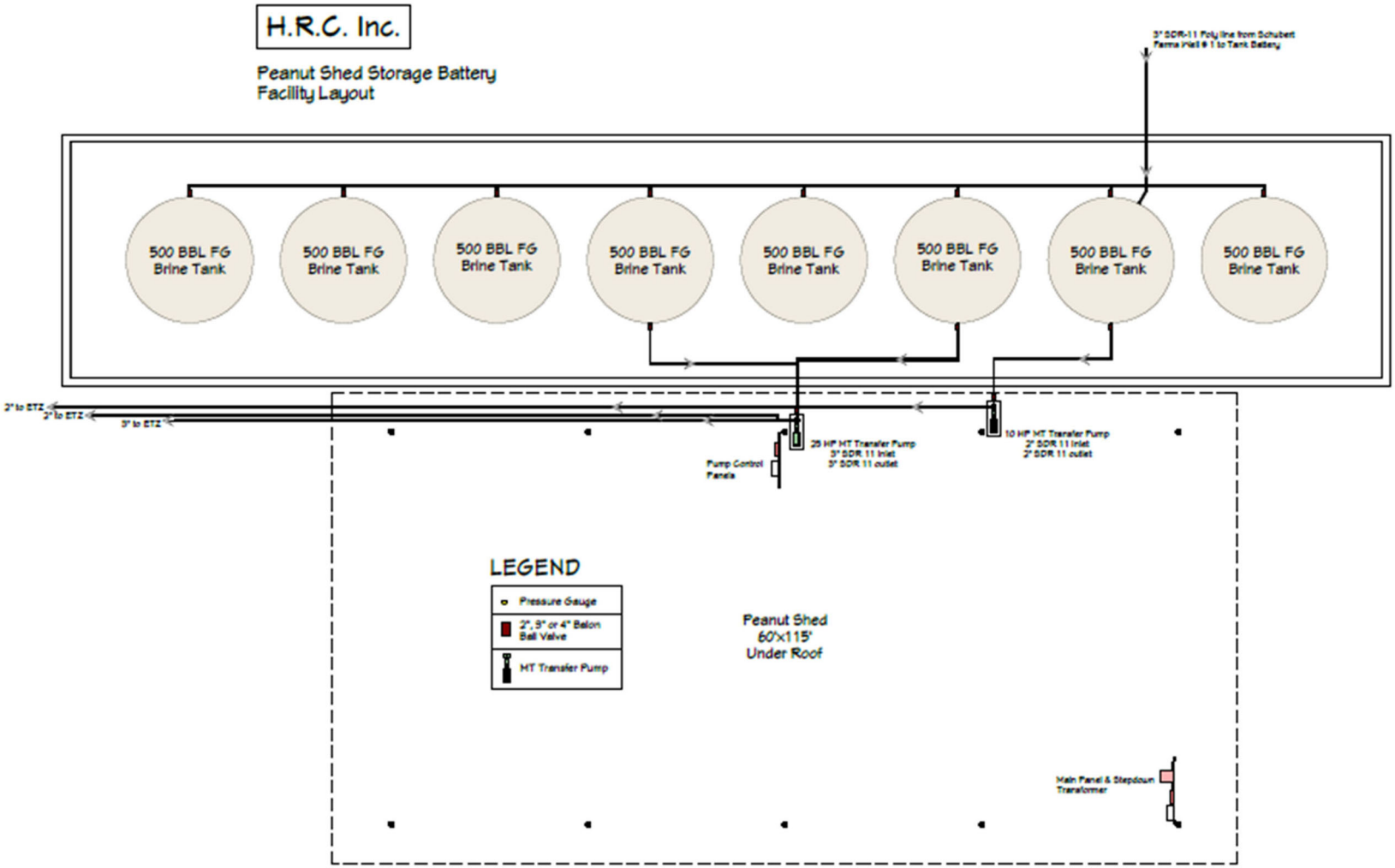

SCHUBERT FARMS No. 1
API # 30-025-37548
UL: B, SEC 25, T19S, R34E
FACILITY ISOTOPE
500 BBL FG BRINE TANK
500 BBL FG BRINE TANK
500 BBL STL FRESH
FRESH WATER MAIN POD
FRESH WATER MONITOR WELL
GRUNDFOS CR32 PUMP
FRESH WATER METER
BRINE WATER METER
BRINE TRANSFER C-PUMP
HEAD SWITCH
WELLHEAD W/ TUBING
BALL VALVES - BAYLON TYPE
PRESSURE GAUGE

H.R.C. Inc.

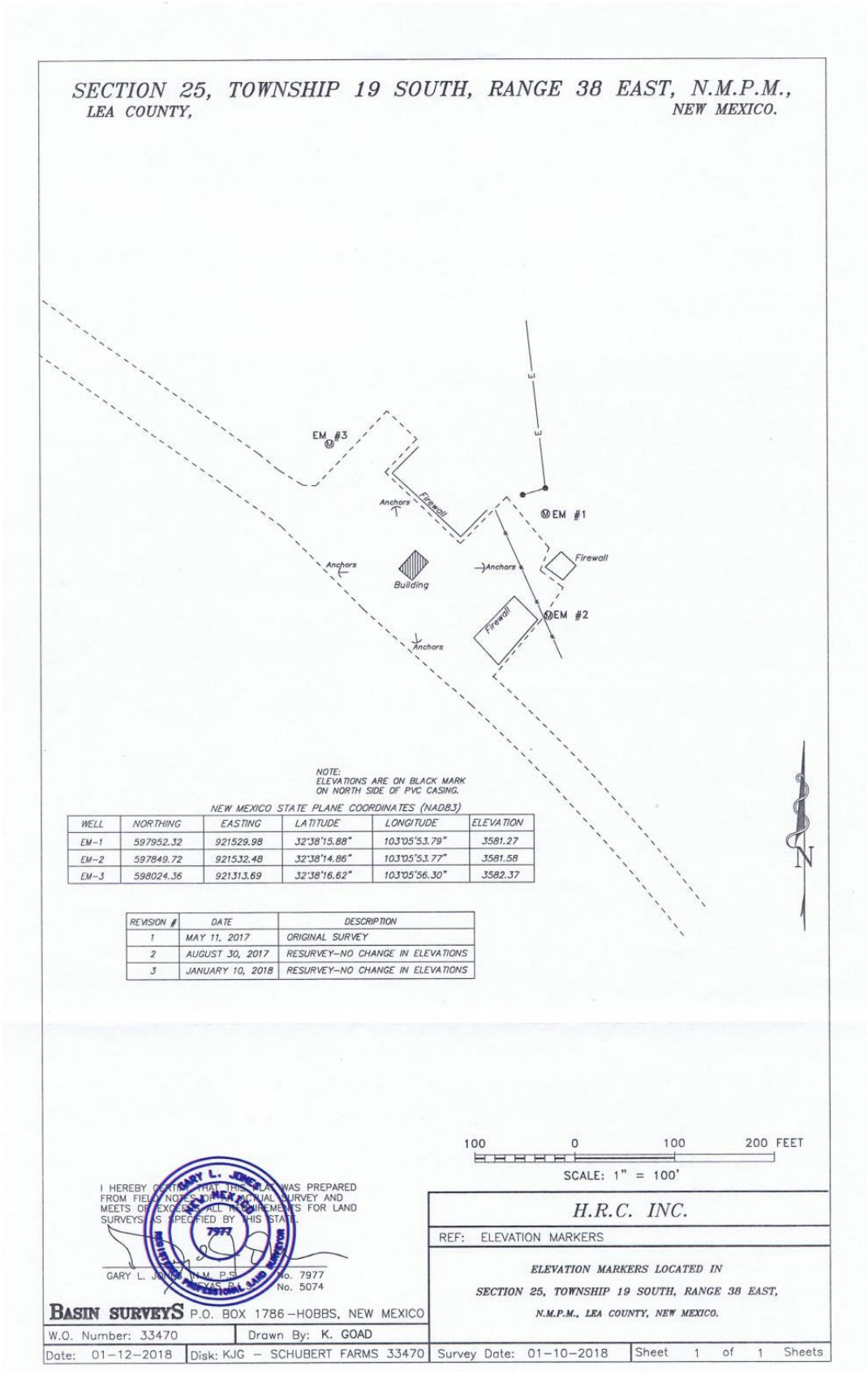
Pipeline Overlay Map

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

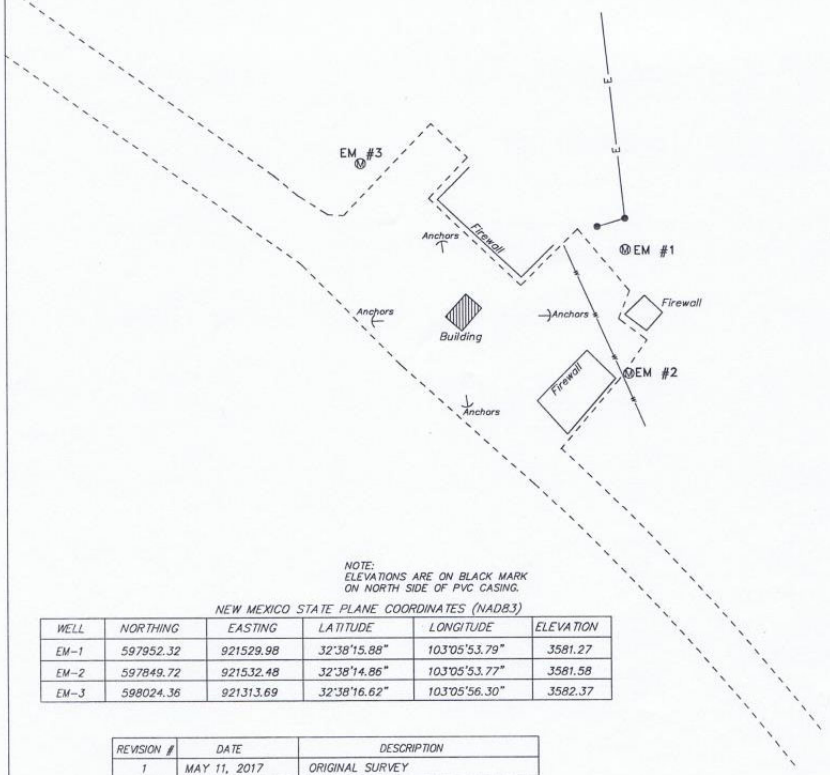
	3" SDR 11 Poly pipeline from Schubert 7 Well # 1 to ETZ Water Station
	3" SDR 11 Poly pipeline from Schubert Farms Well # 1 to Peanut Shed Storage Battery
	3" SDR 11 Poly pipeline from transfer pump at Peanut Shed to ETZ Water Station
	2" SDR 11 Poly pipeline from transfer pump at Peanut Shed to ETZ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


H.R.C. Inc.
Peanut Shed Storage Battery
Facility Layout
3" SDR-11 Poly line from Schubert Farms Well # 1 to Tank Battery
500 BBL FG Brine Tank
500 BBL FG Brine Tank
500 BBL FG Brine Tank
500 BBL FG Brine Tank
500 BBL FG Brine Tank
500 BBL FG Brine Tank
500 BBL FG Brine Tank
500 BBL FG Brine Tank
2" to ETZ
2" to ETZ
3" to ETZ
Pump Control Panels
25 HP MT Transfer Pump
3" SDR 11 inlet
3" SDR 11 outlet
10 HP MT Transfer Pump
2" SDR 11 inlet
2" SDR 11 outlet
LEGEND
Pressure Gauge
2", 3" or 4" Baion Ball Valve
MT Transfer Pump
Peanut Shed
60'x115'
Under Roof
Main Panel & Stepdown Transformer

APPENDIX F


SECTION 25, TOWNSHIP 19 SOUTH, RANGE 38 EAST, N.M.P.M.,
LEA COUNTY,
NEW MEXICO.
EM #3
Anchors
Firewall
EM #1
Anchors
Building
Anchors
Firewall
EM #2
Anchors
N
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 | 597952.32 | 921529.98 | 32°38'15.88" | 103°05'53.79" | 3581.27
EM-2 | 597849.72 | 921532.48 | 32°38'14.86" | 103°05'53.77" | 3581.58
EM-3 | 598024.36 | 921313.69 | 32°38'16.62" | 103°05'56.30" | 3582.37
REVISION # | DATE | DESCRIPTION
1 | MAY 11, 2017 | ORIGINAL SURVEY
2 | AUGUST 30, 2017 | RESURVEY–NO CHANGE IN ELEVATIONS
3 | JANUARY 10, 2018 | 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 ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.
GARY L. JONES, N.M. P.S. No. 7977
TEXAS P.S. No. 5074
BASIN SURVEYS P.O. BOX 1786 – HOBBS, NEW MEXICO
H.R.C. INC.
REF: ELEVATION MARKERS
ELEVATION MARKERS LOCATED IN
SECTION 25, TOWNSHIP 19 SOUTH, RANGE 38 EAST,
N.M.P.M., LEA COUNTY, NEW MEXICO.
W.O. Number: 33470
Drawn By: K. GOAD
Date: 01-12-2018
Disk: KJG – SCHUBERT FARMS 33470
Survey Date: 01-10-2018
Sheet 1 of 1 Sheets

SECTION 25, TOWNSHIP 19 SOUTH, RANGE 38 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	597952.32	921529.98	32°38'15.88"	103°05'53.79"	3581.27
EM-2	597849.72	921532.48	32°38'14.86"	103°05'53.77"	3581.58
EM-3	598024.36	921313.69	32°38'16.62"	103°05'56.30"	3582.37

REVISION #	DATE	DESCRIPTION
1	MAY 11, 2017	ORIGINAL SURVEY
2	AUGUST 30, 2017	RESURVEY-NO CHANGE IN ELEVATIONS
3	JANUARY 10, 2018	RESURVEY-NO CHANGE IN ELEVATIONS
4	MAY 1, 2018	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 ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

GARY L. JONES, N.M. P.S. No. 7977
TEXAS R.P.L.S. No. 5074

GARY L. JONES 7977 NEW MEXICO REGISTERED PROFESSIONAL LAND SURVEYOR

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

H.R.C. INC.

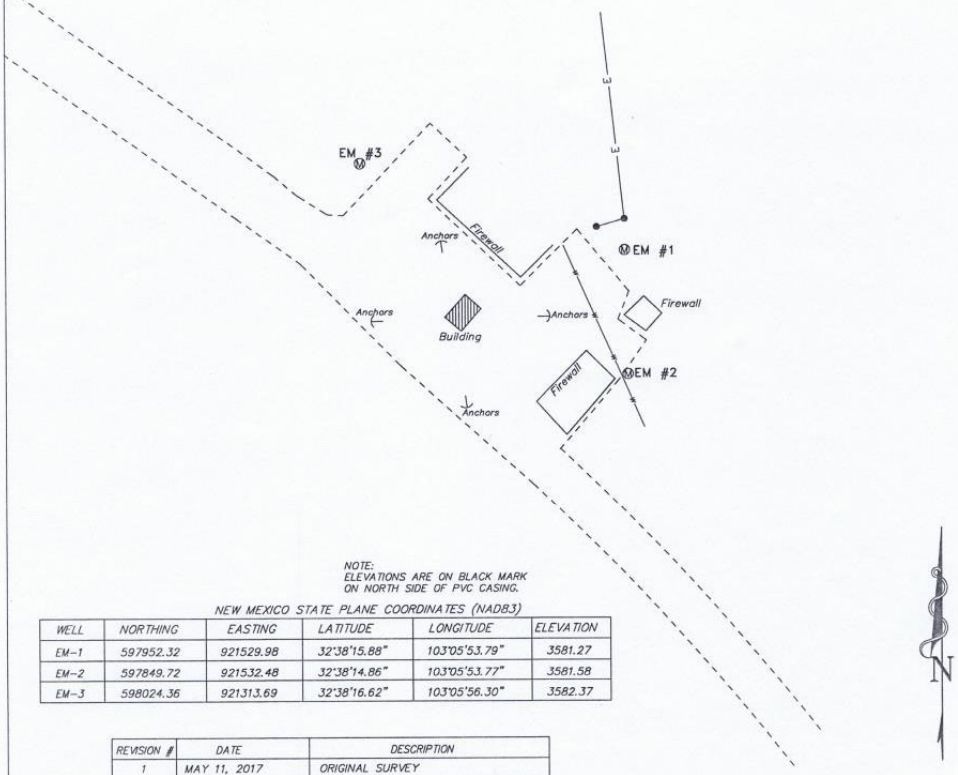
REF: ELEVATION MARKERS

ELEVATION MARKERS LOCATED IN
SECTION 25, TOWNSHIP 19 SOUTH, RANGE 38 EAST,
N.M.P.M., LEA COUNTY, NEW MEXICO.

W.O. Number: 33746	Drawn By: K. GOAD		
Date: 05-10-2018	Disk: KJG – SCHUBERT FARMS 33746	Survey Date: 05-01-2018	Sheet 1 of 1 Sheets

SECTION 25, TOWNSHIP 19 SOUTH, RANGE 38 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	597952.32	921529.98	32°38'15.88"	103°05'53.79"	3581.27
EM-2	597849.72	921532.48	32°38'14.86"	103°05'53.77"	3581.58
EM-3	598024.36	921313.69	32°38'16.62"	103°05'56.30"	3582.37

REVISION #	DATE	DESCRIPTION
1	MAY 11, 2017	ORIGINAL SURVEY
2	AUGUST 30, 2017	RESURVEY-NO CHANGE IN ELEVATIONS
3	JANUARY 10, 2018	RESURVEY-NO CHANGE IN ELEVATIONS
4	MAY 1, 2018	RESURVEY-NO CHANGE IN ELEVATIONS
5	SEPTEMBER 5, 2018	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 ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

GARY L. JONES, N.M. P.S. No. 7977
TEXAS R.P.L.S. No. 5074

GARY L. JONES 7977 NEW MEXICO PROFESSIONAL LAND SURVEYOR

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

H.R.C. INC.

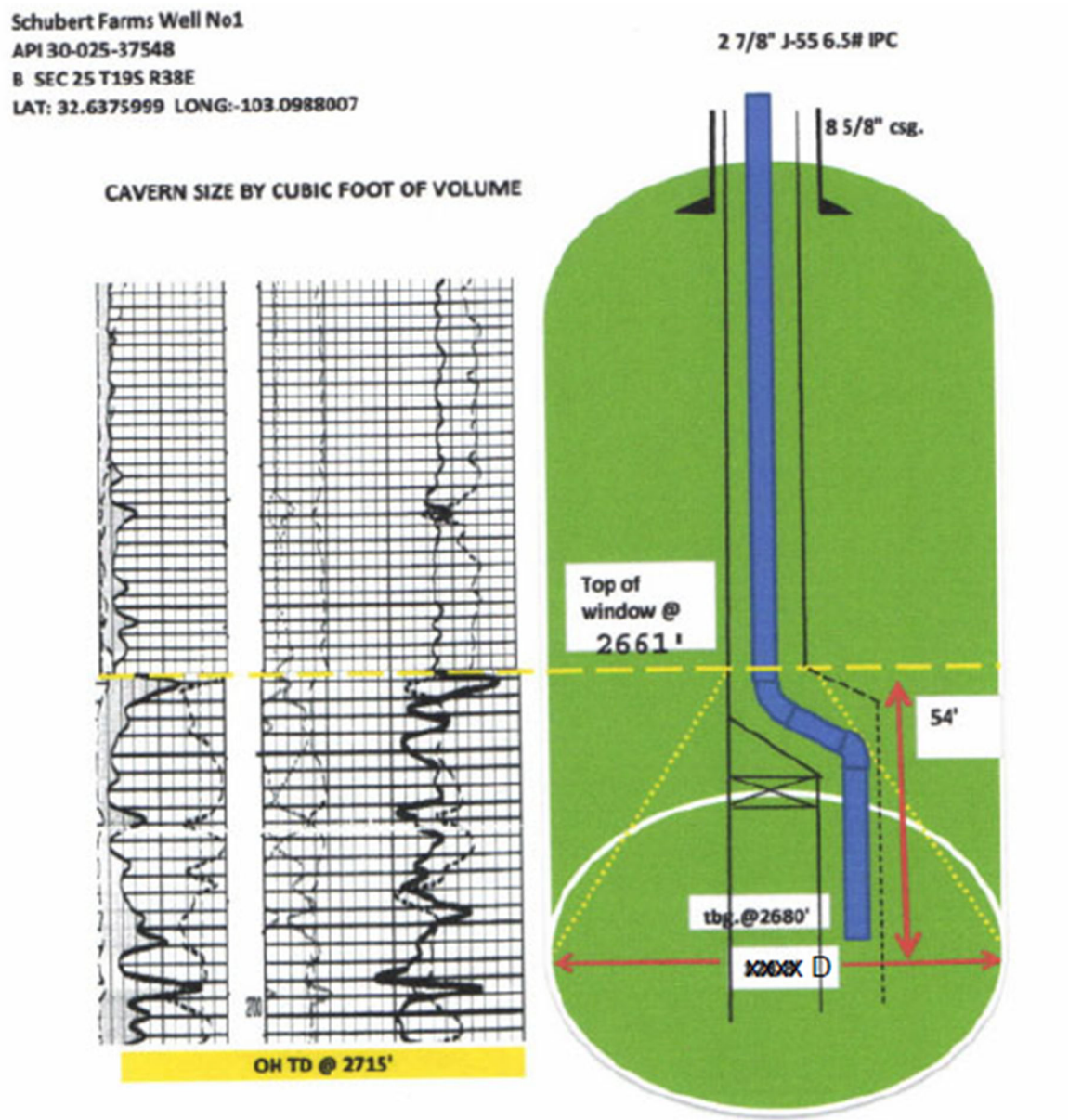
REF: ELEVATION MARKERS

ELEVATION MARKERS LOCATED IN
SECTION 25, TOWNSHIP 19 SOUTH, RANGE 38 EAST,
N.M.P.M., LEA COUNTY, NEW MEXICO.

W.O. Number: 34054	Drawn By: K. GOAD		
Date: 09-12-2018	Disk: KJG – SCHUBERT FARMS 34054	Survey Date: 09-05-2018	Sheet 1 of 1 Sheets

APPENDIX G

Schubert Farms Well No1
API 30-025-37548
B SEC 25 T19S R38E
LAT: 32.6375999 LONG:-103.0988007



PPG 9.97 brine
PPG 8.34 fresh
SG 1.1951

Total Brine = 460,324 bbl through 12/31/2018 (date)
122.136 lbs of salt/bbl = 56,222,132 lbs salt mined
lbs / (80 lbs/cu. ft. salt) = 702,777 cu. ft. cavern volume

Using $V=\Pi R^2 h/3$, h=54 ft., and V= 702,777 cu. ft

Cavern radius, R= 111 ft.
Cavern Diameter, D= 222 ft.
Cavern depth, d=2661 ft

D/d ratio = 0.083, <0.5 max