

## HRC, Inc. P.O. Box 1606 Hobbs, NM 88241-6056 (575) 393-6662 (575) 393-6662 Fax

February 24, 2021

Jim Griswold Senior Hydrologist ENMRD/Oil Conservation Division 1220 South St. Francis Drive Santa Fe. NM 87505

Ref: 2020 Annual Report

Schubert Farms No. 1 (API # 30-025-37548)

Dear Mr. Griswold.

Attached please find the Annual Report of Operations numbers for the Hobbs Facility for the year of 2020. Please review and report back any questions or comments.

Thank you.

Sincerely.

Gary M. Schubert

GMS/br

Attachments

# ANNUAL CLASS III WELL REPORT H.R.C., INC.

YEARLY REPORT (BW-036)

API 30-025-37548

February 18, 2021

DAVID ALVARADO

(ACTING AGENT FOR H.R.C., INC.)

## 20.6.2.3107 NMAC MONITORING, REPORTING, AND OTHER REQUIERMENTS

#### **SUMMARY OF CLASS III OPERATIONS 2020**

Schubert Farms Well # 1 production operations in 2020 recorded a downward trend as the COVID Pandemic became priority as the industry's ability to establish safety protections and adapt to the NMDOH and CDC regulations. H.R.C., Inc. quickly placed into action for its team the methods of protection by wearing appropriate masks, hand sanitizers, aerosols and nitrile gloves in the field and office, tickets were gathered where they were stored in plastic bags and handled diligently for the least exposure possible to its employees. In 2019 a total of 263,276 bbl. of brine was extracted where in 2020 a total of 223,276 bbl. were extracted a difference of 39,651 bbl. less than 2019 or respectfully 84.9% of 2019. In 2020 there were no leaks that occurred during the fiscal year. In December a new impeller with shaft was installed in the RFD pump. With the new installation of the impeller the pump gained more efficiency allowing the pump to be slowed down to 53.2 Hz. while extraction of brine stayed the same. The fresh water systems and well are well insulated protecting the fresh water total system from freezing. All meters and valves were well protected and are in good working condition.

H.R.C., Inc. Preventive maintenance scheduled plan is to replace any connections or valves that could be showing wear. This will continue as a safe operating condition and it will continue in 2021 as needed. Connections are changed when the first sign of salt is seen behind the threaded end.

During 2020 the transfer pump that transports brine to the sales tanks required a mechanical seal replaced in the month of September. This is a common task due to the abrasion of the 9.98 PPG brine. In 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.

Daily inspections of all lines and connections are visually looked at during a walk around of the facility tanks. All lines are each walked and visually inspected that lead to the pump house. Readings on pressure gauges are recorded with the reading of the brine output meter and the

injection of fresh water are recorded on the day to month logs. Safety shut off mechanisms are tested to insure if high or low pressures were to occur all systems would shut down.

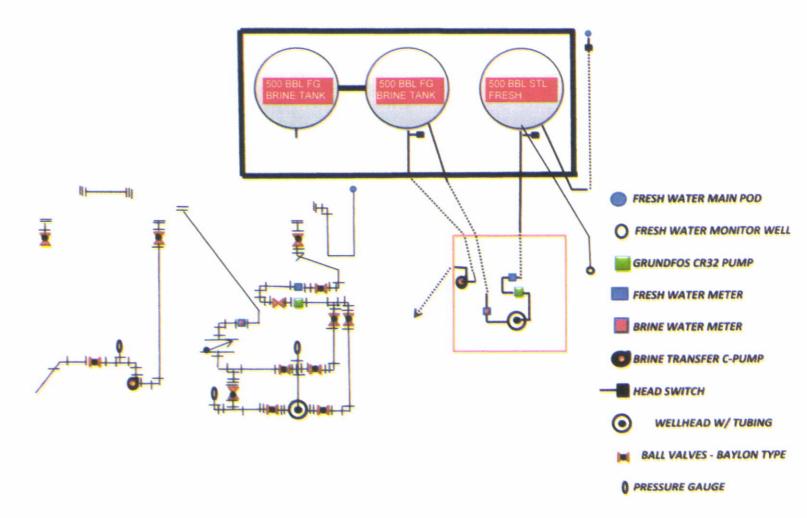
A total of 223,625 Bbl. of brine was extracted and weighed at an average of 9.89 PPG or a SG of 1.1851 in 2020. Production of brine slowed down due to demand of brine during the months of April, May, June, and July, attributed to COVID 19 slowdown of the oil Industry. Brine sales started rebounding in October and held steady at a means of 25,830 bbl. per month for the rest of 2020.

H.R.C., Inc. Schubert Farms # 1 is an asset and continues to assist in the needs of the Industry.

Please find below an isotope schematic of the facility's operation equipment on the BW-36. No modifications were done in 2020 and the Isotope of the facility stands as is.

SCHUBERT FARMS No. 1 API # 30-025-37548 UL: B, SEC 25, T198, R34E

#### FACILITY ISOTOPE



## 2020 FLUID INJECTION & BRINE PRODUCTION VOLUME

MONTH	BRIINE	FRESH WATER	
JANUARY	23,319	23,098	
FEBRUARY	13,446	13,282	
MARCH	22,734	22,517	
APRIL	13,047	12,869	
MAY	13,526	13,321	
JUNE	5,901	5,840	
JULY	12,314	12,126	
AUGUST	21,698	21,474	
SEPTEMBER	20,148	19,995	
OCTOBER	21,239	21,031	
NOVEMBER	27,587	27,321	
DECEMBER	28,666	28,373	
YEAR TOTAL	223,625	221,247	

## **YEARLY TOTALS BRINE & FRESH**

YEAR	BRINE	FRESH	
2017	153,518	148,678	
2018	306,806	303,899	
2019	263,276	261,658	
2020	223,625	221,247	
TOTAL	946,865	935,482	

## Semi-Annual Monitor Well Analytical Data Results

Monitor well for the BW-36 last testing for 2019 is on record with OCD, Cardinal Laboratories performed and sampled water from the monitor well on December 20, 2019 for your review. Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13 for 6/04/20 and 12/04/20

Cardinal Laboratories is accredited 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)

Please find the Table below comparison of the June 2020 sample and December 2020 sample for Inorganic Compounds and Total Recovery Metals by ICP (E200.7) full detail of the Analytical results are attached at the end of this report for your viewing.

Analyte	Result	MDL	Reporting	Units	Analyzed	Method
			Limit		Date	

#### FW MONITOR INORGANIC COMPOUNDS JUNE 2020

Alkalinity,					
Bicarbonate	234	5.00	mg/L	6-05-20	310.1
Alkalinity					
Carbonate	<1.00	1.00	mg/L	6-05-20	310.1
Chloride	356	4.00	mg/L	6-05-20	4500-C1-B
Conductivity	1960	1.0	uS/cm	6-05-20	120.1
рН	7.73	0.100	pH Units	6-05-20	150.1

Sulfate	260	50.0	mg/L	6-11-20	375.4
TDS	1170	5.0	mg/L	6-08-20	160.1
Alkalinity					
Total	192	4.0	mg/L	6-05-20	310.1

## FW MONITOR TOTAL RECOVERABLE METALS by ICP (E220.7)

## Continued Report for June 2020

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	179		0.500	mg/L	6-10-20	EPA200.7
Magnesium	51.5		0.500	mg/L	6-10-20	EPA200.7
Potassium	5.39	0.758	5.00	mg/L	6-10-20	EPA200.7
Sodium	126		5.00	mg/L	6-10-20	EPA200.7

## **FW MOMITOR DECEMBER 2020 RESULTS**

Analyte	Result	MDL	Reporting	Units	Analyzed	Method
			Limit		Date	

## **INORGANIC COMPOUNDS**

Alkalinity,					
Bicarbonate	220	5.0	mg/L	12-07-20	310.1
Alkalinity					
Carbonate	<1.00	1.00	mg/L	12-07-20	310.1
Chloride	372	4.0	mg/L	12-07-20	4500-C1-B
Conductivity	2060	1.00	umhos/cm@	12-07-20	120.1
рН	7.52	0.100	pH Units	12-07-20	150.1
Sulfate	263	50.0	mg/L	12-10-20	375.4
TDS	1160	5.00	mg/L	12-11-20	160.1
Alkalinity					
Total	180	4.0	mg/L	12-07-20	310.1

#### FW MONITOR TOTAL RECOVERABLE METALS by ICP (E220.7)

Calcium	185		0.500	mg/L	12-11-20	EPA200.7
Magnesium	53.8		0.500	mg/L	12-11-20	EPA200.7
Potassium	5.23	0.758	5.00	mg/L	12-11-20	EPA200.7
Sodium	135		5.00	mg/L	12-11-20	EPA200.7

#### INJECTION PRESSURE

Injection pressure still runs the same the annulus average is 20 PSIG and the tubing average is at 240 PSIG the RFD pump runs at 53.2 Hz. with a yield of 28 to 29 GPM. With the new replacement of the RFD impeller and rod allowed better pump efficiency. The lease operator checks the pressure daily and records it on his daily logs.

#### 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 ANITZ sales facility located 0.8 miles east of WHY 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 ANITZ 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 Inspections Monitoring**

H.R.C., Inc. Operation personnel walks each line that is above ground and inspects all connecting points for any sign of leaks or sweating of threads on connections daily.

The Lease Operator drives out the lines that are underground and below frost level for any signs of compromised line integrity. This is done up to four times a day.

## **Quarterly Chemical Analyses**

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13.

Cardinal Laboratories is accredited 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)

Depicted below is Cardinals Analytical Results for Brine and Fresh water at the BW-36.

With this reports is attached the Cardinals results for your viewing.

## **BRINE ANALYTICAL RESULTS: JUNE 2020**

Analyte	Result	MDL	Reporting	Units	Analyzed	Method
			Limit		Date	

## **INORGANIC COMPOUNDS**

Alkalinity,					
Bicarbonate	244	5.0	mg/L	6-05-20	310.1
Alkalinity					
Carbonate	<1.00	1.00	mg/L	6-05-20	310.1
Chloride	186,000	4.00	mg/L	6-05-20	4500-C1-B
Conductivity	264,000	1.00	uS/cm	6-05-20	120.1
рН	6.95	0.100	pH Units	6-05-20	150.1
Sulfate	2660	1250	mg/L	6-11-20	375.4
TDS	294,000	5.00	mg/L	6-08-20	160.1
Alkalinity					
Total	200	4.0	mg/L	6-05-20	310.1

## **TOTAL RECOVERABLE METALS by ICP (E220.7)**

## Continued Brine Report for June 2020

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
						9
Calcium	681		50.0	mg/L	6-10-20	EPA200.7
Magnesium	204		50.0	mg/L	6-10-20	EPA200.7
Potassium	335	75.8	500	mg/L	6-10-20	EPA200.7
Sodium	107,000		500	mg/L	6-10-20	EPA200.7

## **BRINE ANALYTICAL RESULTS: DECEMBER 2020**

Analyte	Result	MDL	Reporting	Units	Analyzed	Method
			Limit		Date	

#### **INORGANIC COMPOUNDS**

Alkalinity,					
Bicarbonate	244	5.0	mg/L	12-07-20	310.1
Alkalinity					
Carbonate	<1.00	1.00	mg/L	12-07-20	310.1
Chloride	176,000	4.00	mg/L	12-07-20	4500-C1-B
Conductivity	262,000	1.00	uS/cm	12-07-20	120.1
рН	6.9	0.100	pH Units	12-07-20	150.1
Sulfate	2310	500	mg/L	12-10-20	375.4
TDS	291,000	5.00	mg/L	12-09-20	160.1
Alkalinity					
Total	200	4.0	mg/L	12-07-20	310.1

## TOTAL RECOVERABLE METALS by ICP (E220.7)

Continued Brine Report for December 2020

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	750		50.0	mg/L	12-11-20	EPA200.7
Magnesium	198		50.0	mg/L	12-11-20	EPA200.7
Potassium	274	75.8	500	mg/L	12-11-20	EPA200.7
Sodium	108,000		500	mg/L	12-11-20	EPA200.7

## FRESH WATER ANALYTICAL RESULTS: JUNE 2020

Analyte	Result	MDL	Reporting	Units	Analyzed	Method
			Limit		Date	

#### **INORGANIC COMPOUNDS**

Alkalinity, Bicarbonate	298	5.00	mg/L	6-05-20	310.1
Alkalinity					
Carbonate	<1.00	1.00	mg/L	6-05-20	310.1
Chloride	284	4.00	mg/L	6-05-20	4500-C1-B
Conductivity	1730	1.00	uS/cm	6-05-20	120.1
рН	7.72	0.100	pH Units	6-05-20	150.1
Sulfate	198	50.0	mg/L	6-11-20	375.4
TDS	1070	5.00	mg/L	6-08-20	160.1
Alkalinity					
Total	244	4.00	mg/L	6-05-20	310.1

## TOTAL RECOVERABLE METALS by ICP (E220.7)

## Continued F/W Report for June 2020

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	132		0.500	mg/L	6-10-20	EPA200.7
Magnesium	31.6		0.500	mg/L	6-10-20	EPA200.7
Potassium	14.7	0758	5.00	mg/L	6-10-20	EPA200.7
Sodium	162		5.00	mg/L	6-10-20	EPA200.7

## FRESH WATER ANALYTICAL RESULTS: DECEMBER 2020

Analyte	Result	MDL	Reporting	Units	Analyzed	Method
			Limit		Date	

#### **INORGANIC COMPOUNDS**

Alkalinity,					
Bicarbonate	234	5.00	mg/L	12-07-20	310.1
Alkalinity					
Carbonate	<1.00	1.00	mg/L	12-07-20	310.1
Chloride	240	4.00	mg/L	12-07-20	4500-C1-B
Conductivity	1,620	1.00	uS/cm	12-07-20	120.1
рН	7.87	0.100	pH Units	12-07-20	150.1
Sulfate	233	50.0	mg/L	12-07-20	375.4
TDS	929	5.00	mg/L	12-09-20	160.1
Alkalinity			18		
Total	192	4.00	mg/L	12-07-20	310.1

## TOTAL RECOVERABLE METALS by ICP (E220.7)

## Continued F/W Report for December 2020

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
Calcium	140		0.500	mg/L	12-11-20	EPA200.7
Magnesium	39.2		0.500	mg/L	12-11-20	EPA200.7
Potassium	4.37	0.758	5.00	mg/L	12-11-20	EPA200.7
Sodium	124		5.00	mg/L	12-11-20	EPA200.7

#### MECHANICAL INTEGRITY TEST CHART

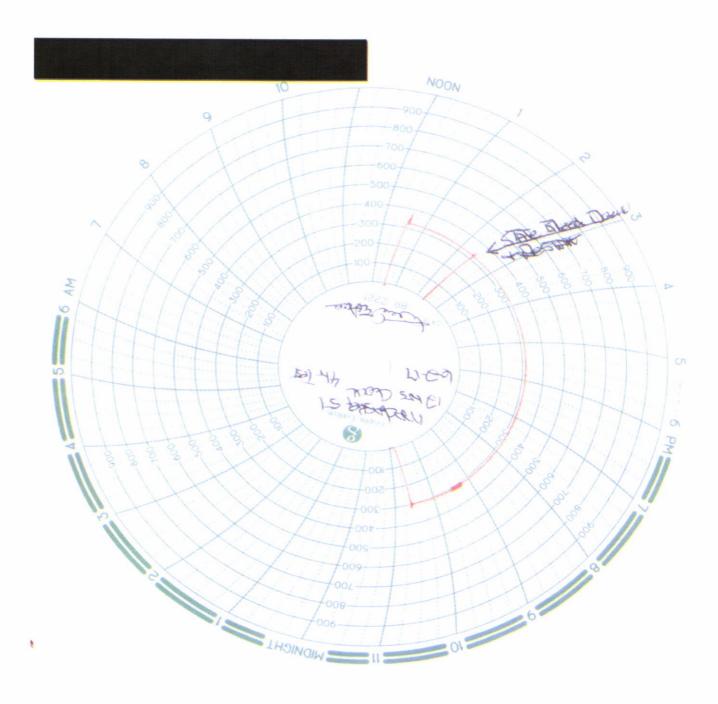
A formation mechanical test was performed on 2/23/17 on the BW-36. The Salado Formation was pressured up to 320 psi and was witnessed by a district officer and C-103 approved by Mark Whitaker in Hobbs on 11/15/17.

Recorder was removed and well was bled back to tanks. Nipple up connections and placed well back into operation producing brine at 230-240 psi. Please find the subsequent report C-103 and the Chart below for your viewing.

Next formation integrity test will be scheduled in February of 2022 H.R.C., Inc. will notify Santa Fe and Hobbs District Office to set up a time and date of the BW-36 Formation MIT.

Please find a copy of the MIT Chart on page 15 on page 16, 17 the C-103 Subsequent Report.

## MIT BW-36 CHART 6-2-17



ENTEREN FRANKFAR IN THE R. V.	west Yumer NOV	WHEN SOURCES WHEN SOURCES AS PROCESS OF SOURCES OF SOUR	
Section 25	to teet from the Township 198 11 Elevation (Short wheether 199 35.55	line and Range 38E	Rectifienths in County Lea
NOTICE OF INTIPEREDIAL WORK TO TEMPORARILY ABANDON TO TEMPORARILY AB	PLUG AND ABANDON CONTROL COMPLETE COMPLICATION COMPLETE C	SUBSEQUE! REMEDIAL WORK COMMENCE DRILLING OPI CASING/CEMENT TOB  OTHER WORKOVER TO X I pertinent details, and give pert IC. For Widisple Completions.	NT REPORT OF  ALTERING CASING CI NS CI PAND A CI CONVERT TO BRINE IVE.
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#### Feb 9, 2017

Rig up Capitan Wireline and set (18P @ 2667; above previous CiBP and cement plug that was set @ 2750' on time 21, 2016. (CIBP above top of cement was required to set whip stock by Baker Hughes).

#### Feb. 20, 2017

Rig up Lacky Services and Baker Hughes reverse unit Set BOP; run in hole with 2 7/8" tubing and csg. scraper, circulate; tag CIBP @ 2660. Run in hole with whipstock and set. lay down 2 joints. SDFN.

#### Feb. 21, 2017

Rig up swivel; mill csg. from 2651 to 2661", come out of hole and rig up with bit assembly. POOH with mill, lay down, make up bit assy. Run in hole begin drill into salt, drill from 2661" to 2715. Rig down swivel and pull up into csg. 5DFN.

#### Feb 22, 2017

RIII tag @ 2703; wash to 2715, circulate; space out tbg. with sub-Set bottom of tbg./ bit assembly @ 2680° Rig down swivel and pulling unit Install well head Hook up reverse unit. Circulate and pressure to 275 psi SDLN

#### Feb. 23, 2017

Pressure to 300 psi; make chart; Curulate 5 hours at 150 to 200 psi; Water turns safty. Fig down reverse unit; Shut well in Begin installing surface equipment

#### April 17, 2017

Begin injecting water to produce brine water

H.R.C., Inc. has updated the 2020 AOR for the Schubert Farms Well # 1 (BW-36) showing no new permits have been plotted on the NM OCD GIS program in the half mile AOR. H.R.C., Inc. will give notice to the Department if any future staking transpires within the AOR.

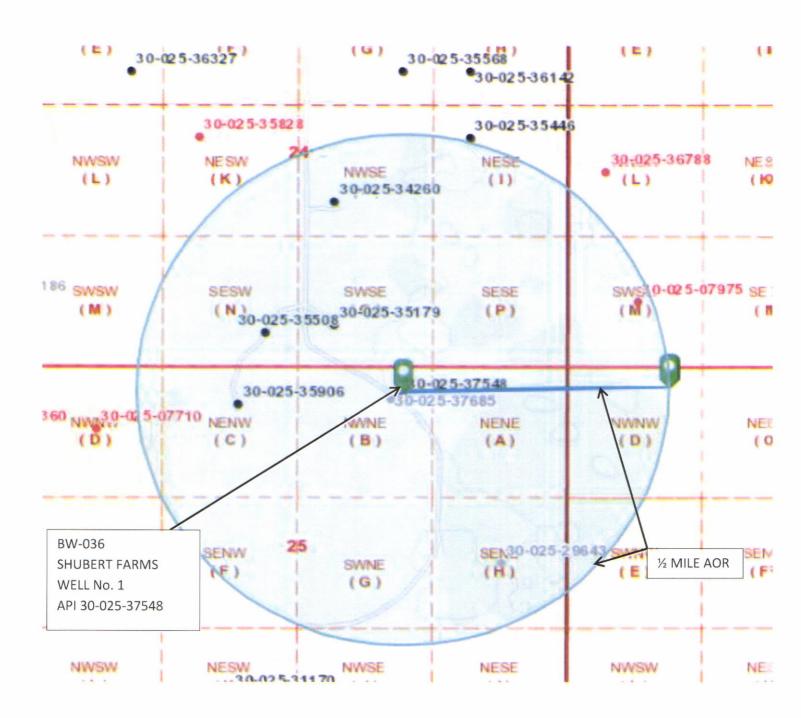
Please, find on page 19 the half mile AOR review map showing no new permits nor has there been any new wells drilled at this point.

Please find on page 20 the two mile 2020 AOR review showing the same three APD permits as in 2019. Apache Corp. has three APDs as depicted in the two mile AOR H.R.C., Inc. has placed the information below for your viewing and will give notice to the Department if any future staking transpires within the 2 mile AOR.

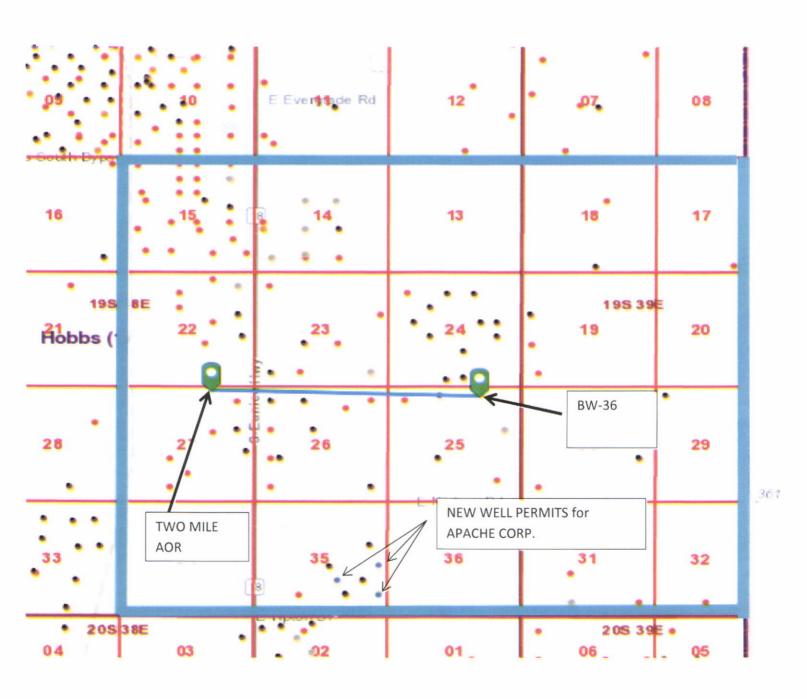
#### New Permits to Drill in Two Mile AOR

30-025-	Werta	Apache	I-35-19S-	32.61576	-103.11174	Oil
42532	Federal #	Corp.	38E			House
	006					Drinker
30-025-	Plow Boy	Apache	J-35-19S-	32.61394	-103-11716	Oil
42530	Federal #	Corp.	38E			House
	002					Blinebry
30-025-	Werta	Apache	P-35-19S-	32.61213	-103.11175	Oil
42531	Federal #	Corp.	38E			House
	005					Blinebry

# HALF MILE AOR SCHUBERT FARMS WELL # 1 (BW-36) 2020



# TWO MILE AOR SCHUBERT FARMS WELL # 1 (BW-36) 2020



## MITs, SURFACE SUBSIDENCE SURVEYS, CAVERN SIZE AND SHAPE AND VOLUME

Please see page 15 through page 17 for last MIT conducted and C-103 Subsequent Report on 6-2-17 held 300 psi and passed with OCD witnesses.

Surface Subsidence Surveys were conducted by Basin Surveys certified by Gary L. Jones. Three Elevation markers are in place. Please find below where the EM markers are located for BW-36.

#### **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

Three Surveys were conducted by Basin Surveys during the 2020 period with the description stating there were no changes in elevations that had occurred also one survey that was conducted in January 2020 that was reported in the 2019 report. H.R.C., Inc. has depicted the 2020 reports of the surveys for your review in the table below. Please find the plats of the Surveys at the end of this report for your viewing.

REVISION #	DATE	DESCRIPTION
6	January 15, 2019	Resurvey-No Change in Elevations
7	May 7, 2019	Resurvey-No Change in Elevations
8	October 14, 2019	Resurvey-No Change in Elevations
9	January 31, 2020	Resurvey-No Change in Elevations
10	May 12,2020	Resurvey-No Change in Elevations
11	September 9, 2020	Resurvey-No Change in Elevations

#### Cavern Characterization

BW-36 has extracted an estimated total of 1,445,579 ft.<sup>3</sup> of Halite from the Salado formation from March, 2017 to December 31, 2020. This calculates to 115,646,304 lbs. of Halite that has produced 946,865 Bbl. of brine within this period stated above.

The Litho Density Compensated Neutron log shown on page 23 has approximately 51' of good Halite net pay showing less than 4 API units on the Gama Ray side of the log that is presently being mined. This interval is from 2661'-2715'

Without a true means of running a log that would allow us to see a true picture behind the anhydrite rock would be questionable. The characterization of the cavern can be mathematically calculated using  $V=\Pi R^2h/3$  where  $[V=(3.14159*159.8858^2)*(54')/3]$ 

V = 1,445,578.89 ft.<sup>3</sup> of Halite has been extracted to date respectively. This amount of volume calculated correlates with the total of brine produced from 2017 through December 31, 2020 of 946,865 Bbl.

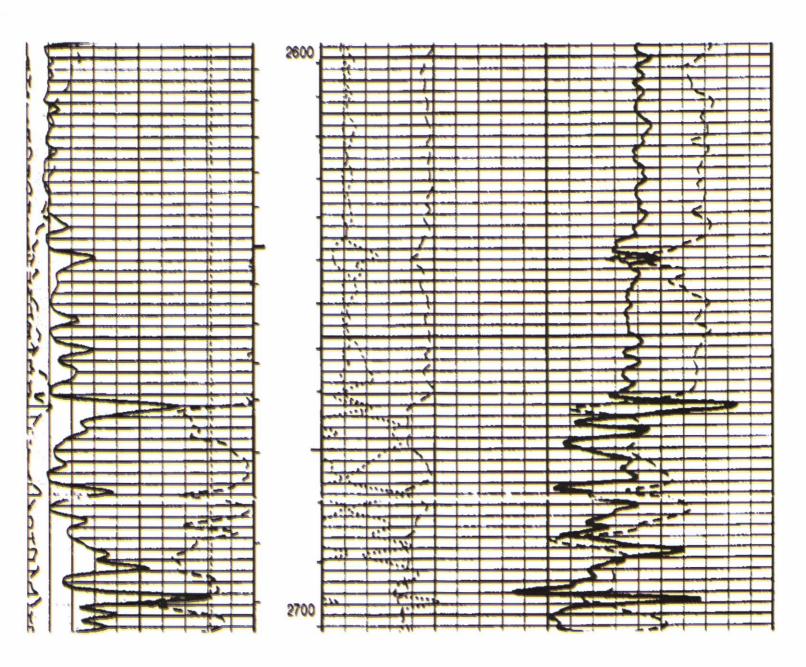
It takes 122.136 Lbs. of salt to produce one barrel of quality brine yielding a Specific Gravity of 1.1959. Multiplying salt ratio to total fluid bbl. total of 946,865 (extracted fluid bbl.) equals 115,646,304 Lbs. of salt mined from 2017 to the end of December 31, 2020.

Taking the amount of Halite mined of 115,646,304 Lbs. and dividing the amount by 80 (Lbs. salt per ft. $^3$ ) will equal 1,445,579 ft. $^3$ . In respect to the cavern safety factor of 0.45 % the Schubert Farms Well No. 1 (BW-36) has a factor value of (319.77' W / 955' H) = 0.3348 well below the States warning factor. New horizons above 2661' will yield greater opportunities.

BW-36 has a lot of life to continue mining for Halite that is used throughout our needs for the oil industry in Southeastern New Mexico.

#### SCHUBERT FARMS WELL # 001 LITHO DENSITY COMPENSATED NEUTRON LOG

WINDOW @ 2661' TD OH 2715'



## SUMMARY RATIO EXTRACTION VS. INJECTION

#### 2020 FLUID INJECTION & BRINE PRODUCTION VOLUME RATIO %

MONTH	BRIINE	PSI	FRESH	PSI	RATIO	RATIO
			WATER			%
JANUARY	23319	230-240	23098	20	23319:23098	1.009568
FEBRUARY	13446	230-240	13282	20	6723:6641	1.012348
MARCH	22734	230-240	22517	20	22734:22517	1.009637
APRIL	13047	230-240	12869	20	13047:12869	1.013832
MAY	13526	230-240	13321	20	13526:13321	1.015389
JUNE	5901	230-240	5840	20	5901:5840	1.010445
JULY	12314	230-240	12126	20	131:129	1.015504
AUGUST	21698	230-240	21474	20	10849:10737	1.010431
SEPTEMBER	20148	230-240	19995	20	6716:6665	1.007652
OCTOBER	21239	230-240	21031	20	21239:21031	1.00989
NOVEMBER	27587	230-240	27321	20	3941:3903	1.009736
DECEMBER	28666	230-240	28373	20	28666:28373	1.010327

#### **MAJOR FACILITY ACTIVITY OR EVENTS**

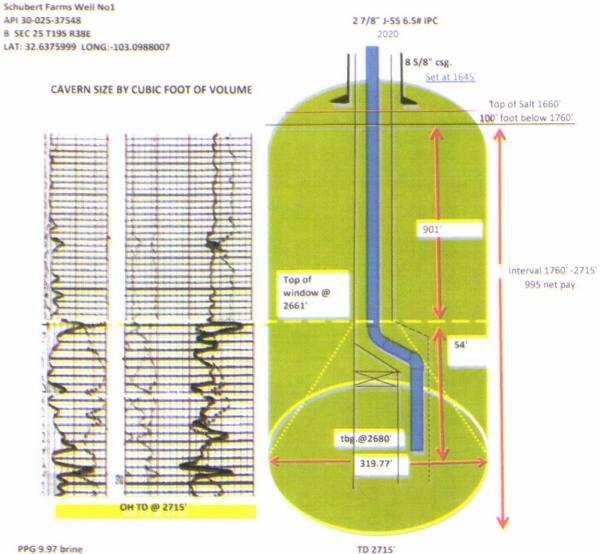
No major activities or events have taken place during 2020 on location.

## CAVERN CHARACTERIZATION DATA RESULTS.

Please re	fer to	page	22	and	page	23	for	data	results.
-----------	--------	------	----	-----	------	----	-----	------	----------

On Page 26; please find the characterization of the Schubert Farms Well No. 1 (BW-36)

We have attached a copy for your viewing at the end of this yearly report.



PPG 9.97 brine PPG 8.34 fresh SG 1.1951

> 2017 thru Dec. 2020 Total Brine bbl. 946,865 122.136 LBS / BBL = 115,646,304 LBS HALITE (115,646,304 LBS) / (80BLS per ft³) = 1,445,579 ft³

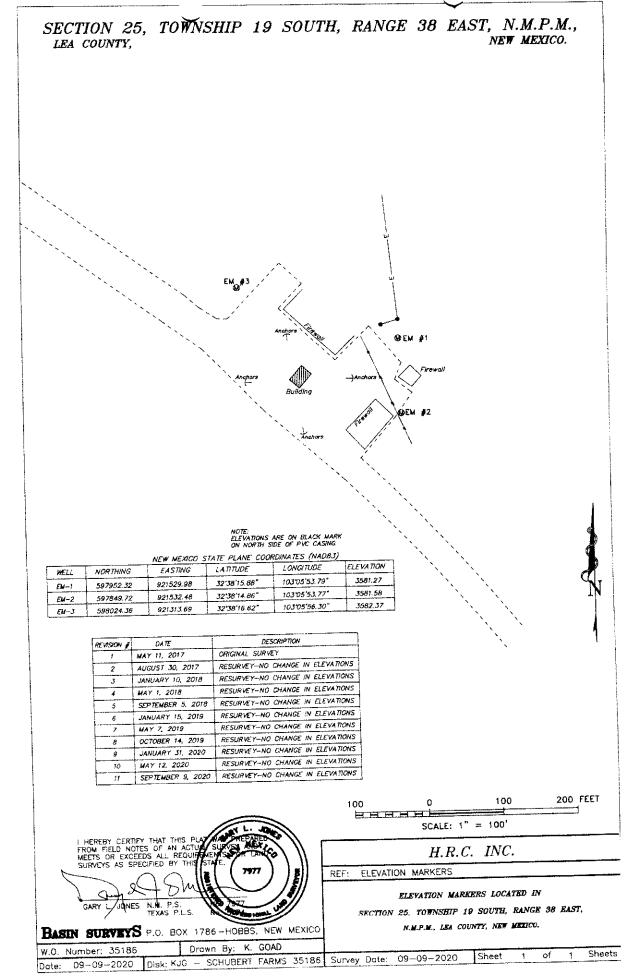
V = (3.14159 \* 159.8858²) \* (54') / 3 V = 1,445,578.89 ft.3

Est. hight is 54'
Est. cavern floor diameter is 319.77'
Cavern Ratio 319.77' / 955 = 0.3348 Factor

# Schubert Farms Well No. 1 "

## Year 2020

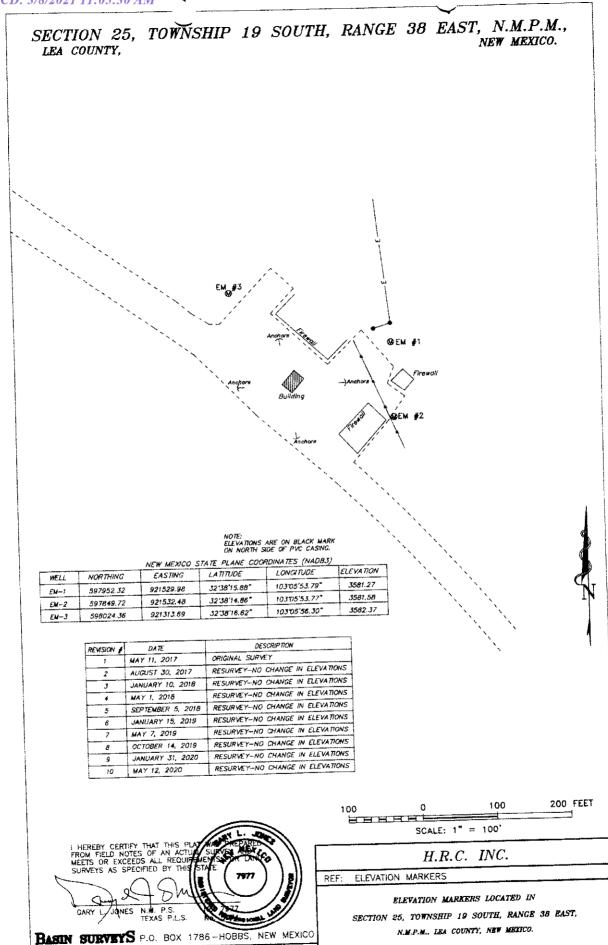
BRINE	FRESH WATER	
PRODUCTION	INJECTED	
(BY Meter)	(By Meter)	
23,319	23,098	
13,446	13,282	
22,734	22,517	
13,047	12,869	
13,526	13,321	
5,901	5,840	
12,314	12,126	
21,698	21,474	
20,148	19,995	
21,239	21,031	
27,587	27,321	
28,666	28,373	
	23,319 13,446 22,734 13,047 13,526 5,901 12,314 21,698 20,148 21,239 27,587	PRODUCTION (BY Meter)  23,319 23,098 13,446 13,282 22,734 22,517 13,047 12,869 13,526 13,321 5,901 5,840 12,314 12,126 21,698 21,474 20,148 19,995 21,239 21,031 27,587



Sheets

Sheet

05-12-2020



Drawn By: K. GOAE

Date: 05-12-2020 Disk: KJG - SCHUBERT FARMS 35103 Survey Date:



June 15, 2020

**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 06/04/20 10:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. 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 <a href="https://www.tceg.texas.gov/field/qa/lab-accred-certif.html">www.tceg.texas.gov/field/qa/lab-accred-certif.html</a>.

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.

Celeg & Keens

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

Lab Director/Quality Manager

Page 1 of 11



#### Analytical Results For:

**ETZ WATER STATION** 

HOBBS NM, 88241

PO BOX 6056

Project: SCHUBERT

Project Number: SCHUBERT FARMS # 1 WATER SA

Reported:

Project Manager: BEN DONAHUE

15-Jun-20 15:03

Fax To:

					$\neg$
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	
BRINE WATER	H001512-01	Water	03-Jun-20 15:48	04-Jun-20 10:25	
FRESH WATER	H001512-02	Water	03-Jun-20 15:50	04-Jun-20 10:25	
MONITOR WELL	H001512-03	Water	03-Jun-20 15:45	04-Jun-20 10:25	

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Celey D. Keene, Lab Director/Quality Manager

Page 2 of 11



#### Analytical Results For:

**ETZ WATER STATION** 

PO BOX 6056 HOBBS NM, 88241 Project: SCHUBERT

Project Number: SCHUBERT FARMS # 1 WATER SA

Reported: 15-Jun-20 15:03

Project Manager: BEN DONAHUE

Fax To:

Reporting

## **BRINE WATER** H001512-01 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardii	nal Laborat	ories					
Inorganic Compounds										
Alkalinity, Bicarbonate	244		5.00	mg/L	1	0060508	ΑC	05-Jun-20	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	0060508	AC	05-Jun-20	310.1	
Chloride*	186000		4.00	mg/L	1	0052602	GM	05-Jun-20	4500-CI-B	
Conductivity*	264000		1.00	uS/cm	1	0060503	AC'	05-Jun-20	120.1	
pH*	6.95		0.100	pH Units	1	0060503	AC	05-Jun-20	150.1	
Sulfate*	2660		1250	mg/L	125	0061104	AC	11-Jun-20	375.4	
TDS*	294000		5.00	mg/L	1	0060211	GM	08-Jun-20	160.1	
Alkalinity, Total*	200		4.00	mg/L	1	0060508	AC	05-Jun-20	310.1	
			Green Ana	ilytical Labo	oratories					
Total Recoverable Metals by	ICP (E200.7)									
Calcium*	681		50.0	mg/L	500	B200973	AES	10-Jun-20	EPA200.7	
Magnesium*	204		50.0	mg/L	500	B200973	AES	10-Jun-20	EPA200.7	
Potassium*	335	75.8	500	mg/L	500	B200973	AES	10-Jun-20	EPA200,7	J
Sodium*	107000		500	mg/L	500	B200973	AES	10-Jun-20	EPA200.7	Í

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Celey D. Keene, Lab Director/Quality Manager

Page 3 of 11



#### Analytical Results For:

**ETZ WATER STATION** 

PO BOX 6056

HOBBS NM, 88241

Project: SCHUBERT

Project Number: SCHUBERT FARMS # 1 WATER SA

Project Manager: BEN DONAHUE

Fax To:

Reported:

15-Jun-20 15:03

## FRESH WATER H001512-02 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	al I aborat	<b>ori</b> ne					

#### Cardinal Laboratories

Inorganic Compounds								
Alkalinity, Bicarbonate	298	5.00	mg/L	1	0060508	AC	05-Jun-20	310.1
Alkalinity, Carbonate	<1.00	1.00	mg/L	1	0060508	AC	05-Jun-20	310.1
Chloride*	284	4.00	mg/L	1	0052602	GM	05-Jun-20	4500-CI-B
Conductivity*	1730	1.00	uS/em	1	0060503	AC	05-Jun-20	120.1
pH*	7.72	0.100	pH Units	1	0060503	AC	05-Jun-20	150.1
Sulfate*	198	50.0	mg/L	5	0061104	AC	H-Jun-20	375.4
TDS*	1070	5.00	mg/L	1	0060211	GM	08-Jun-20	160.1
Alkalinity, Total*	244	4.00	mg/L	1	0060508	AC	05-Jun-20	310.1

#### Green Analytical Laboratories

Total Recoverable Meta	als by ICP (E200.7)				_				
Calcium*	132		0.500	mg/L	5	B200973	AES	10-Jun-20	EPA200.7
Magnesium*	31.6		0.500	mg/L	5	B200973	AES	10-Jun-20	EPA200.7
Potassium*	14.7	0.758	5.00	mg/L	5	B200973	AES	10-Jun-20	EPA200.7
Sodium*	162		5.00	mg/L	5	B200973	AES	10-Jun-20	EPA200.7

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Celey D. Keene, Lab Director/Quality Manager

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#### Analytical Results For:

**ETZ WATER STATION** 

PO BOX 6056

Project: SCHUBERT

Reported:

HOBBS NM, 88241

Project Number: SCHUBERT FARMS # 1 WATER SA

15-Jun-20 15:03

Project Manager: BEN DONAHUE

Fax To:

## MONITOR WELL H001512-03 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardin	ıal Laborat	ories					
Inorganic Compounds										
Alkalinity, Bicarbonate	234		5.00	mg/L	1	0060508	AC	05-Jun-20	310.1	
Alkalinity, Carbonate	<1.00		1.00	ing/L	!	0060508	AC	05-Jun-20	310.1	
Chloride*	356		4.00	mg/L	i	0060502	GM	05-Jun-20	4500-CI-B	
Conductivity*	1960		1.00	uS/cm	1	0060503	AC	05-Jun-20	120.1	
pH*	7.53		0.100	pH Units	1	0060503	AC	05-Jun-20	150.1	
Sulfate*	260		50.0	mg/L	5	0061104	AC	11-Jun-20	375,4	
TDS*	1170		5.00	mg/L	1	0060211	GM	08-Jun-20	160.1	
Alkalinity, Total*	192		4.00	ing/L	1	0060508	AC	05-Jun-20	310.1	
			Green Ana	lytical Labo	oratories					
Total Recoverable Metals by	ICP (E200.7)									
Calcium*	179		0.500	mg/L	5	B200973	AES	10-Jun-20	EPA200.7	
Magnesium*	51.5		0.500	mg/L	5	B200973	AE\$	10-Jun-20	EPA200,7	
Potassium*	5.39	0.758	5.00	mg/L	5	B200973	AES	10-Jun-20	EPA200,7	
Sodium*	126		5.00	mg/L	5	B200973	AES	10-Jun-20	EPA200.7	

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Celey D. Keene, Lab Director/Quality Manager

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#### Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241 Project: SCHUBERT

Project Number: SCHUBERT FARMS # 1 WATER SA

Reported: 15-Jun-20 15:03

Project Manager: BEN DONAHUE

Fax To:

#### Inorganic Compounds - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052602 - General Prep - Wet Chem										
Biank (0052602-BLK1)				Prepared &	Analyzed:	26-May-2	0			
Chloride	ND	4.00	mg/L	· · · · · · · · · · · · · · · · · · ·						
LCS (0052602-BS1)				Prepared &	: Analyzed:	26-May-2	0			
Chloride	104	4.00	mg/L	100		104	80-120			
LCS Dup (0052602-BSD1)				Prepared &	: Analyzed:	26-May-2	0			
Chloride	104	4.00	mg/L	100		104	80-120	0.00	20	
Batch 0060211 - Filtration										
Blank (0060211-BLK1)				Prepared: 0	)2-Jun-20 A	nalyzed: 0	3-Jun-20		•	
TDS	ND	5.00	mg/L				#16.12 £		<del></del>	
LCS (0060211-BS1)				Prepared: 0	02-Jun-20 A	nalyzed: 0	3-Jun-20			
TDS	523		mg/L	500	<del></del>	105	80-120	~		
Duplicate (0060211-DUP1)	Sour	rce: <b>H001477</b> -	02	Prepared: 0	2-Jun-20 A	nalyzed: 0	3-Jun-20			
TUS	721	5.00	mg/[,		724			0.415	20	
Batch 0060502 - General Prep - Wet Chem										
Blank (0060502-BLK1)				Prepared &	Analyzed:	05-Jun-20				
Chloride	ND	4.00	mg/L							
LCS (0060502-BS1)				Prepared &	Analyzed:	05-Jun-20				
Chloride	100	4.00	nig/L	:00	· · · · ·	100	80-120		wn#.	

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Celey D. Keene, Lab Director/Quality Manager

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### Analytical Results For:

**ETZ WATER STATION** 

Project: SCHUBERT PO BOX 6056 Project Number: SCHUBERT FARMS # 1 WATER SA

HOBBS NM, 88241 Project Manager: BEN DONAHUE

Fax To:

Reported:

15-Jun-20 15:03

## Inorganic Compounds - Quality Control

### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0060502 - General Prep - Wet Chem				ranto del del comenzatare en accionence e				249a. Siriyar edirlek sarisalar parlasanay ee		
LCS Dup (0060502-BSD1)				Prepared &	Analyzed:	05-Jun-20		THE PERSONNEL PROPERTY OF THE PERSONNEL PROP		MATERIA
Chloride	104	4.00	mg/L	100		104	80-120	3.92	20	
Batch 0060503 - General Prep - Wet Chem										
LCS (0060503-BS1)				Prepared &	Analyzed:	05-Jun-20		AND STREET, IS NOT THE OWNER, THE		
oH.	7.13		pH Units	7.00		102	90-110			
Conductivity	101000		uS/cm	100000		101	80-120			
Duplicate (0060503-DUP1)	Sou	rce: H001511	-01	Prepared &	Analyzed:					
H	7.02	0.100	pH Units		6.99			0.428	20	
Conductivity	275000	1.00	uS/cm		276000			0.218	20	
Batch 0060508 - General Prep - Wet Chem										
Blank (0060508-BLK1)				Prepared &	Analyzed:	05-Jun-20				
Alkalinity, Carbonate	ND	1.00	mg/L	***************************************						THE OTHER DESIGNATION OF THE PERSON OF THE P
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							
CS (0060508-BS1)				Prepared &	Analyzed:	05-Jun-20				
Alkalinity, Carbonate	ND	2.50	mg/L	-			80-120			-
lkalinity, Bicarbonate	305	12.5	mg/L				80-120			
Alkalinity, Total	250	10.0	mg/L	250		100	80-120			
CS Dup (0060508-BSD1)				Prepared &	Analyzed: (	)5-Jun-20				
Ikalinity, Carbonate	ND	2.50	mg/L				80-120		20	
Ikalinity, Bicarbonate	305	12.5	mg/L				80-120	0.00	20	
lkalinity, Total	250	10.0	1000					0.00	20	

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Celen D. Keens

Celey D. Keene, Lab Director/Quality Manager

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## Analytical Results For:

**ETZ WATER STATION** 

Project: SCHUBERT

Reported:

PO BOX 6056

Project Number: SCHUBERT FARMS # 1 WATER SA

15-Jun-20 15:03

Project Manager: BEN DONAHUE HOBBS NM, 88241

Fax To:

## Inorganic Compounds - Quality Control

#### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0061104 - General Prep - Wet Chem										
Blank (0061104-BLK1)				Prepared &	Analyzed:	11-Jun-20		······································		
Sulfate	ND	10.0	mg/L		~ <del> </del>					
LCS (0061104-BS1)				Prepared &	Analyzed:	11-Jun-20				
Sulfate	20.0	10.0	ing/L	20.0		100	80-120			
LCS Dup (0061104-BSD1)				Prepared &	Analyzed:	11-Jun-20				
Sulfate	18.8	10.0	mg/L	20.0	<del></del>	94.0	80-120	6.34	20	

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Celey D. Keene, Lab Director/Quality Manager

Page 8 of 11



## Analytical Results For:

**ETZ WATER STATION** 

Project: SCHUBERT

Reported:

PO BOX 6056

Project Number: SCHUBERT FARMS # 1 WATER SA

15-Jun-20 15:03

HOBBS NM, 88241

Project Manager: BEN DONAHUE

Fax To:

# 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 B200973 - Total Rec. 200.7/20	0.8/200.2									
Blank (B200973-BLK1)	· · · <del></del>			Prepared: (	8-Jun-20 A	nalyzed: 10	)-Jun-20	······································		•
Magnesium	ND	0.100	ing/L						· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
Calcium	ND	0.100	mg/L							
Sodium	ND	1.00	mg/L							
Potassium	ND	1.00	mg/L							
LCS (B200973-BS1)				Prepared: 0	98-Jun-20 A	nalyzed: 10	-Jun-20			
Sodium	3.35	1.00	mg/L	3.24	/	103	85-115	·		
Potassium	8.50	1.00	mg/L	8.00		106	85-115			
Magnesium	20.6	0.100	mg.L	20,0		103	85-115			
Calcium	4.05	0.100	mg/L	4.00		101	85-115			
LCS Dup (B200973-BSD1)				Prepared: 0	8-Jun-20 A	nalyzed: 10	-Jun-20			
Magnesium	20.2	0.100	mg L	20.0		101	85-115	2.12	20	·
Potassium	8.30	1.00	mg/L	8.00		104	85-115	2.40	20	
Sodium	3.25	1.00	mg/L	3.24		100	85-115	3.04	20	
Calcium	3.95	0.100	me/L	4.00		98.8	85-115	2.38	20	

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Celey D. Keene, Lab Director/Quality Manager

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#### **Notes and Definitions**

3	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

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alex & Kenne

Celey D. Keene, Lab Director/Quality Manager

Page 10 of 11



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	EFF Water Stadio		BILLTO		ANALYSIS RE	QUEST
Project Manager	Ben Donahue		P.O. #:			
	Box 5102		Company:			
ciry Hobbs	State	eNM zip: 88241	Attn:			
Phone #:575 ?	3033194 Fax#		Address:			
Project #:		ct Owner:	City:			
	Schuber Farms #	Water Samples	State: Zip:	1 2		
Project Location	: Shuber Farms #	1 Bine well	Phone #:			
	Ber Donahue		Fax #:			1
FOR LAB USE ONLY		MAT	RIX PRESERV SAMPLING			
1		GW C		(2)		
		(C)OM/ IERS WATER TER		, Si		
Lab I.D.	Sample I.D.	NDV TAIN	34 SE 3001	3		
1/05/05/2		(G)RAB OR (C)OF # CONTAINERS GROUNDWATER WASTEWATER SOIL	OIL SEUDGE OTHER: ACID/BASE: ACID/BASE: T STAD	ME O		
1001512	Briewader Fresh water Monitor Well					
· · · <u>· ·  </u>	The water		6320 30 6320 33			
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	Special Co. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
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-15100-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0	an and of an extense to the mericinesses of confron	hereuncier by Gardinal, regardless of whether t	uruptions, loss of use, or loss of profits incurred by client, its such claim is based upon any of the above stated reasons o	otherwise.	A CONTRACTOR	
Relinguished By	y: Ben brance Bate:	H 2020 Received By:		al Result:     □  Yes     □  No esults are emailed. Please p		en en en en estado en entre en
- SIYL	Time:	rson Saul	ro Marth a	arymschubert	egmail a	<b>ಎ</b> ^∖
Relinquished By	y: Date:	Received By:	RE	ARKS.		
	Time:					
Delivered By: (C	ircle One) Observed	Temp. °C D.6 Sample	· · · · · · · · · · · · · · · · · · ·	around Time: Standar	d Bacteria (on	lly) Sample Condition Observed Temp. °C
Sampler - UPS -	Bus - Other: Corrected		There There	nometer ID ##7#1/3 ection Factor #84 C 79 - 4	☐Yes ☐ Ye	es ·

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



December 15, 2020

**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 12/04/20 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. 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 <a href="https://www.tceq.texas.gov/field/qa/lab\_accred\_certif.html">www.tceq.texas.gov/field/qa/lab\_accred\_certif.html</a>.

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)

Celez D. Keine

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

Lab Director/Quality Manager



# Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241

Project: SCHUBERT

Project Number: SCHUBERT FARMS #1

Project Manager: BEN DONAHUE

Fax To:

Reported: 15-Dec-20 16:01

			<del></del>	
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRINE WATER	H003187-01	Water	03-Dec-20 13:00	04 Dan 30 44 00
FRESH WATER	H003187-02	Water	03-Dec-20 13:05	04-Dec-20 14:00
MONITOR WELL	H003187-03	Water	03-Dec-20 13:02	04-Dec-20 14:00
		**atei	00-20-20-15.02	04-Dec-20 14:00

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## Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241

Project: SCHUBERT

Project Number: SCHUBERT FARMS #1

Project Manager: BEN DONAHUE

Fax To:

Reported: 15-Dec-20 16:01

## BRINE WATER H003187-01 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Not
			Card	inal Laborato	ries					
Inorganic Compounds										
Alkalinity, Bicarbonate	244		5.00	mg/L,	1	0120709	GM	07-Dec-20	210.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	0120709	GM		310.1	
Chloride*	176000		4.00	ing/L	1	0111906		07-Dec-20	310.1	
Conductivity*	262000		1.00	umhos/em (d)	1	0111908	GM GM	07-Dec-20 07-Dec-20	4500-Cl-B	
				25°C	-	0120701	GM	07-DCC-20	120.1	
pH*	6.90		0.100	pH Units	1	0120707	GM	07-Dec-20	150.1	
Temperature °C	23.0			pH Units	1	0120707	GM	07-Dec-20		
Sulfate*	2310		500	mg/L	50	0120404	GM GM		150.1	
TDS*	291000		5.00	mg/L	1			10-Dec-20	375.4	
Alkalinity, Total*	200			=		0112304	GM	09-Dec-20	160.1	
2,	200		4.00	nig. L	}	0120709	GM	07-Dec-20	310.1	

## Green Analytical Laboratories

Total Recoverable Metals b	y ICP (E200.7)									
Calcium*	750		50.0	ing/L	500	B202689	AES	11 12 ag 20	Y'D + 0.00 0	
Magnesium*	198		50.0	mg/L	500	B202689	AES	11-Dec-20 11-Dec-20	EPA200.7	
Potassium*	274	75.8	500	mg/L	500	B202689	AES	11-Dec-20	EPA 200.7	
Sodium*	108000		500	mg/L	500	B202689	AES	11-Dec-20	EPA200.7 EPA200.7	

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Color D. Keona Lah Director/Quality Manager

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## Analytical Results For:

**ETZ WATER STATION** PO BOX 6056

Project: SCHUBERT

Project Number: SCHUBERT FARMS #1

Reported: 15-Dec-20 16:01

HOBBS NM, 88241

Project Manager: BEN DONAHUE

Fax To:

# FRESH WATER H003187-02 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Not
			Cardi	inal Laborato	ries		····			
Inorganic Compounds										
Alkalinity, Bicarbonate	234		5.00	mg/L	1	0120709	GM	07-Dec-20	310.1	
Alkalinity, Carbonate	<1.00		1.00	mg/L	1	0120709	GM	07-Dec-20	310.1	
Chloride*	240		4.00	mg/L	1	0111906	GM	07-Dec-20	4500-CI-B	
Conductivity*	1620		1.00	unhos/cm @ 25°€	1	0120707	GM	07-Dec-20	120.1	
pH*	7.87		0.100	pH Units	1	0120707	GM	07-Dec-20	150.1	
Temperature °C	23.0			pH Units	1	0120707	GM	07-Dec-20	150.1	
Sulfate*	233		50.0	mg/L	5	0120404	GM	10-Dec-20	375.4	
TDS*	929		5.00	mg/L	1	0112304	GM	09-Dec-20	160.1	
Alkalinity, Total*	192		4.00	mg/L	1	0120709	GM	07-Dec-20	310.1	
			Green Ana	alytical Labor	ratories					
Total Recoverable Metals by I	CP (E200.7)									4
Calcium*	140		0.500	mg/L	5	B202689	AES	11-Dec-20	EPA200.7	
Magnesium*	39.2		0.500	mg/L	5	B202689	AES	11-Dec-20	EPA200.7 EPA200.7	
Potassium*	4.37	0.758	5.00	mg/L	5	B202689	AES	11-Dec-20		
odium*	124		5.00	mg/l,	5	B202689	AES	11-Dec-20	EPA200.7 EPA200.7	

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# Analytical Results For:

**ETZ WATER STATION** PO BOX 6056 HOBBS NM, 88241

Project: SCHUBERT

Project Number: SCHUBERT FARMS #1

Project Manager: BEN DONAHUE

Fax To:

Reported: 15-Dec-20 16:01

# MONITOR WELL H003187-03 (Water)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	No
			Cardi	inal Laborato	ries	· · · · · · · · · · · · · · · · · · ·			***	<del></del>
Inorganic Compounds										
Alkalinity, Bicarbonate	220		5.00	mg/L	1	0120709	GM	07-Dec-20	310.1	
Alkalinity, Carbonate	<1.00		1.00	nıg/L	1	0120709	GM	07-Dec-20	310.1	
Chloride*	372		4.00	mg/L	ī	0111906	GM		310.1	
Conductivity*	2060		1.00	umhos/cm @ 25°C	1	0120707	GM	07-Dec-20 07-Dec-20	4500-CI-B 120.1	
oH*	7.52		0.100	pH Units	1	0120707	GM	07-Dec-20	150.1	
Temperature °C	23.0			pH Units	1	6120707	GM	07-Dec-20		
Sulfate*	263		50.0	mg/L	5	0120404	GM		150.1	
°DS*	1160		5.00	mg:L	1	0120812		10-Dec-20	375.4	
Alkalinity, Total*	180		4.00	mg/L	1	0120709	GM GM	11-Dec-20 07-Dec-20	160.1 310.1	

## Green Analytical Laboratories

				•						
Total Recoverable Metals	s by ICP (E200.7)	_								
Calcium*	185		0.500	mg/L	5	B202689	AES	11.33 20	DD 4 0 0 0	
Magnesium*	53,8			~	.,	D202089	AES	11-Dec-20	EPA200.7	
o .	23.0		0.500	mg/L	5	B202689	AES	11-Dec-20	EPA200.7	
Potassium*	5.23	0.758	5.00	mg/L	5	B202689	4 170			
Sodium*	125				-	D202089	AES	11-Dec-20	EPA200.7	
	135		5.00	mgL	5	B202689	AES	11-Dec-20	EPA 200 7	

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alex There

Colou D. Koone 1 sh Director/Quality Manager



# Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241 Project: SCHUBERT

Project Number: SCHUBERT FARMS #1

Project Manager: BEN DONAHUE

Fax To:

Reported: 15-Dec-20 16:01

# Inorganic Compounds - Quality Control

### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0111906 - General Prep - Wet Chem							· · · · · · · · · · · · · · · · · · ·			
Blank (0111906-BLK1)				Prepared &	Analyzed:	19 <b>-N</b> ov-20	)			
Chloride	ND	4.00	mg/L	.,,						
LCS (0111906-BS1)				Prepared &	: Analyzed:	19-Nov-26	1			
Chloride	100	4.00	mg/L	100		100	80-120			
LCS Dup (0111906-BSD1)				Prepared &	: Analyzed:	19-Nov-20	)			
Chloride	100	4.00	nıg/L	100	3 3 3 4 2 1	100	80-120	0.00	20	
Batch 0112304 - Filtration										
Blank (0112304-BLK1)		*****		Prepared: 2	0-Nov-20 A	Analyzed: 2	23-Nov-20			<del></del>
TDS	ND	5.00	mg/L	··						
LCS (0112304-BS1)				Prepared: 2	0-Nov-20 4	inalizadi 1	2 Nov 20			
TDS	494		mg/L	500	0 1104-202	98.8	80-120		·	
Duplicate (0112304-DUP1)	Sou	rce: H003086-	01	Prepared: 2	0-Nov-20 A	nalvzed: 2	3-Nov-20			
TDS	410	5.00	mg/L		414		1101 20	0.971	20	
Batch 0120404 - General Prep - Wet Chem										
Blank (0120404-BLK1)				Prepared: 0	4-Dec-20 A	nalvzed: 1	0-Dec-20			
Sulfate	ND	10.0	mg/l.							
LCS (0120404-BS1)				Prepared: 0	4-Dec-20 A	nalyzed: 16	0-Dec-20			
Sulfate	21.0	10.0	mg/L	20.0		105	80-120		·····	

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Color D. Koona Lah Director/Oualihi Manager



## Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241

Project: SCHUBERT

Project Number: SCHUBERT FARMS #1

Project Manager: BEN DONAHUE

Fax To:

Reported: 15-Dec-20 16:01

# **Inorganic Compounds - Quality Control**

## **Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Note
Batch 0120404 - General Prep - Wet Chem					*		· · · · · · · · · · · · · · · · · · ·			
LCS Dup (0120404-BSD1)				Prepared: (	04-Dec-20 A	nalvzed: 1	0-Dec-20			<u> </u>
Sulfate	20.2	10.0	mg/L	20.0		101	80-120	3.94	20	Nee to
Batch 0120707 - General Prep - Wet Chem										
LCS (0120707-BS1)				Prepared &	: Analyzed:	07-Dec-20	···			······································
Conductivity	102000		uS/cm	100000		102	80-120			-
рH	7.09		pH Units	7.00		101	90-110			
Duplicate (0120707-DUP1)	Sou	rce: H003187	-01	Prepared &	: Analyzed:	0 <b>7-</b> Dec-20				
Н	7,00	0.100	pH Units		6.90			1.44	20	
Conductivity	262000	1.00 4	anthos/cm @		262000			0.305	20	
Temperature °C	23.0		pH Units		23.0			0.00	200	
Batch 0120709 - General Prep - Wet Chem										
Blank (0120709-BLK1)	·			Prepared &	Analyzed	07_IDec_20			······································	
Alkalinity, Carbonate	ND	1.00	mg/L	· i opiaca de	Timiyzeu.	V/~17CC+Z(/				
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							
_CS (0120709-BS1)				Prepared &	Analyzed: (	17-Dec-20				
Alkalinity, Carbonate	ND	2.50	mg/L			37-DCC-20	80-120			
Alkalinity, Bicarbonate	305	12.5	mg/L				80-120 80-120			
Alkalinity, Total	250	10.0	mg/L	250		100	80-120			
.CS Dup (0120709-BSD1)				Prepared &	Analyzed: (	)7-Dec-20				
Alkalinity, Carbonate	ND	2.50	mg/L	.,		. 500 20	80-120	· ···	20	
alkalimity, Bicarbonate	318	12.5	mg/L				80-120	4.02	20	
Alkalinity, Total	260	10.0					00-120	4.02	20	

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alex There

Colour D. Koons 1 sh Director/Quality Manager



### Analytical Results For:

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241

Project: SCHUBERT

Project Number: SCHUBERT FARMS #1

Project Manager: BEN DONAHUE

Fax To:

Reported: 15-Dec-20 16:01

# Inorganic Compounds - Quality Control

### Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0120812 - Filtration										
Blank (0120812-BLK1)				Prepared: (	08-Dec-20 A	Analyzed: 1	I-Dec-20			· · · · · · · · · · · · · · · · · · ·
TDS	ND	5,00	mg/L							
LCS (0120812-BS1)				Prepared: 0	8-Dec-20 A	nalyzed: 1	i-Dec-20			
TDS	532		mg/L	500		106	80-120	····		
Duplicate (0120812-DUP1)	Sou	rce: H003187-	03	Prepared: 0	8-Dec-20 A	nalyzed: 1	i-Dec-20			
TDS	1090	5.00	mg/L		1160			5,88	20	

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alex thene-

Color D. Konno Lah Director/Oriality Manager



### Analytical Results For:

ETZ WATER STATION PO BOX 6056

Project: SCI

Project: SCHUBERT

Reported:

HOBBS NM, 88241

Project Number: SCHUBERT FARMS #1
Project Manager: BEN DONAHUE

15-Dec-20 16:01

Fax To:

# 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 B202689 - Total Rec. 200.7/20	0.8/200.2									····
Blank (B202689-BLK1)				Prepared: 1	10-Dec-20 A	nalvzed: I	1-Dec-20			
Magnesium	ND	0.100	mg/L							
Calcium	ND	0.100	ing/L							
Sodium	ND	1.00	mg/L							
Potassium	ND	1.00	mg/L							
LCS (B202689-BS1)				Prepared: 1	0-Dec-20 A	malvzed: 1	1-Dec-20			
Sodium	3.32	1.00	mg/L	3.24		103	85-115			
Potassium	7.99	1.00	mg/L	8.00		99.9	85-115			
Magnesium	20.4	0.100	mg/L	20.0		102	85-115			
Calcium	3.93	0.100	mg/L	4.00		98.2	85-115			
LCS Dup (B202689-BSD1)				Prepared: I	0-Dec-20 A	nalvzed: 1	1-Dec-20			
Magnesium	20.9	0.100	mg/L	20.0		104	85-115	2.36	20	
Potassium	7.98	1.00	mg/I.	8.00		99.8	85-115	0.164	20	
Sodium	3.37	1.00	mg/l	3.24		104	85-115	1,39	20	
Calcium	4.02	0.100	mg/L	4.00		101	85-115	2.40	20	

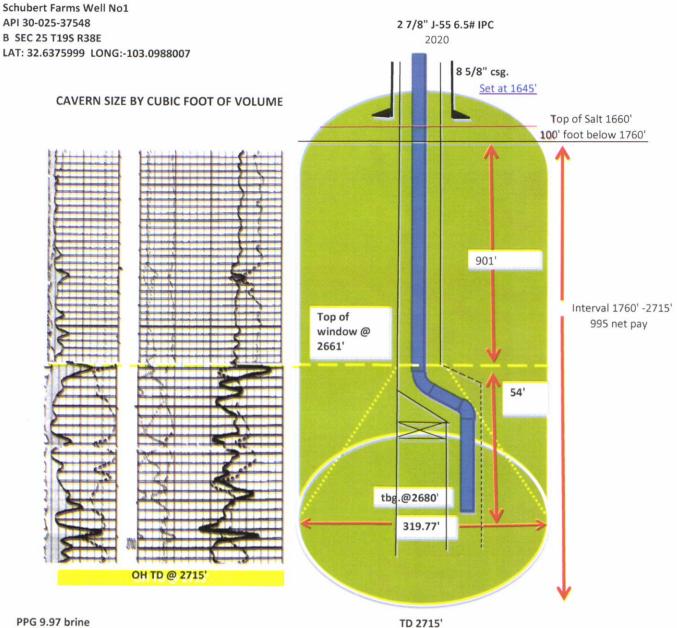
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\*=Accredited Analy

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alexanter.

Calou D. Koone Lah Director/Quality Manager



PPG 9.97 brine PPG 8.34 fresh SG 1.1951

> 2017 thru Dec. 2020 Total Brine bbl. 946,865 122.136 LBS / BBL = 115,646,304 LBS HALITE (115,646,304 LBS) / (80BLS per ft³) = 1,445,579 ft³

 $V = \prod_{R}^{2}h / 3$   $V = (3.14159 * 159.8858^{2}) * (54') / 3$   $V = 1,445,578.89 \text{ ft.}^{3}$ 

Est. hight is 54'
Est. cavern floor diameter is 319.77'
Cavern Ratio 319.77' / 955 = 0.3348 Factor

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

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 19990

### **COMMENTS**

Operator:	OGRID:
HRC INC	131652
P.O. Box 5102	Action Number:
Hobbs, NM 88241	19990
	Action Type:
	[UF-DP] Discharge Permit (DISCHARGE PERMIT)

#### COMMENTS

Created By	Comment	Comment Date
cchavez	BW-36 Annual Report 2020 Schubert Farms No. 1	6/9/2021

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#### CONDITIONS

Create	ed By	Condition	Condition Date
cchave	ez	None	6/9/2021