

# BW-031

# ANNUAL

# REPORT

# 2020

**ADDENDUM TO  
2020 ANNUAL CLASS III WELL REPORT  
-ANNUAL CERTIFICATION-**

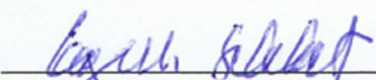
**H.R.C. INC.**

**Schubert 7 Well # 1 (BW-031)**

**API 30-025-36781**

## ANNUAL CERTIFICATION

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

Signature  for H.R.C., Inc. Date 5/5/22  
Name GARY M. SCHUBERT Title PRES.



**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  
B-31 Schubert 7 – Well #1

Dear Mr. Griswold,

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

Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read 'Gary M. Schubert', is written over the typed name.

Gary M. Schubert  
GMS/br

Attachments

H.R.C., Inc.

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ANNUAL CLASS III WELL REPORT

H.R.C., INC.

YEARLY REPORT (BW-031)

API 30-025-36781

February 25, 2020

DAVID ALVARADO

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

## H.R.C., Inc.

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### 20.6.2.3107 NMAC MONITORING, REPORTING, AND OTHER REQUIERMENTS

#### SUMMARY OF CLASS III OPERATIONS 2019

Schubert 7 Well # 1 was impacted by the Pandemic outbreak of 2020 where the historical yearly total was 46.72% less than 2019 a decrease of 151,772 bbl. No leaks occurred nor did the fresh water freeze all meters and valves were and still are in good working conditions.

A preventive maintenance scheduled plan is in place to replace any connections or valves showing wear. This will continue as a safe operating condition and it will continue in 2021. Connections are changed out when the first sign of salt is seen behind the threaded end.

During 2020 the transfer pump that transports brine to the sales tanks had the mechanical seals replaced in the month of June 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 also 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 133,110 bbl. brine was extracted and weighed at an average of 9.89 PPG.

H.R.C., Inc. plans on replacing the triplex pump with a VFD pump in doing so, the pump will run with a smoother injection rate without the harmonics that the triplex pump emits.

## H.R.C., Inc.

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H.R.C., Inc. at the end of the year elected to proceed with the workover that was approved by District I and Santa Fe Intent C-103 on file. H.R.C., Inc. followed the States DOH and Federal CDC requirement guidelines for the H.R.C., Inc. team this included office personal. Subcontractors that worked on the location followed their own protocol guidelines to create a safe environment.

After the removal of lines and the electrical system disconnect at the power transformers rendering zero power status the building was skidded backward to receive the service unit rig. A 4 ½" liner was placed 100 foot below the top of the Salado formation as per the request of OCD Santa Fe.

MIT was conducted on the liner showing good continuity. The wellbore was extended downward into the Salado formation with the bottom hole assembly point set at 2609' starting a new Halite mining cavern below the old cavern of 2412' and the bottom of the new hole at 2649' adding 237' of net pay to mine.

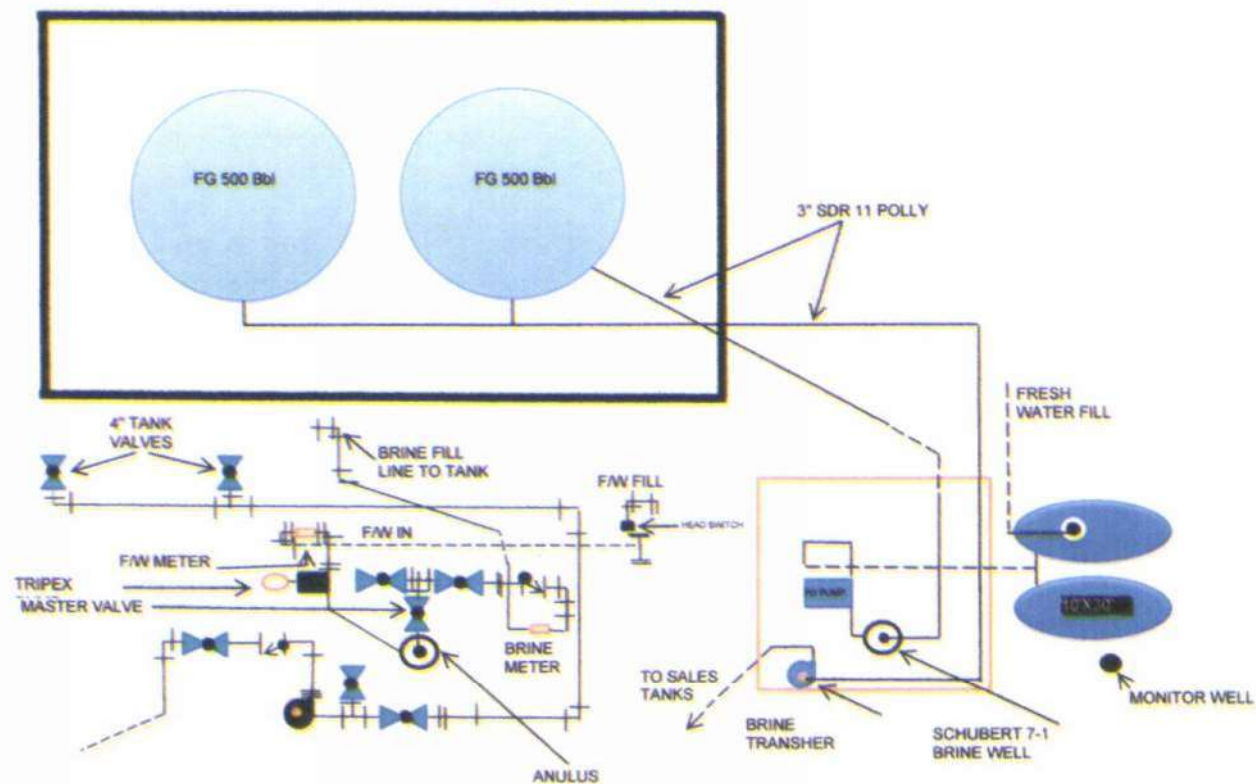
H.R.C., Inc. has included in this report the C-103 Subsequent Report, MIT Chart with Meter Certification, C-103 Subsequent Bradenhead Report and the C-105 Report for the liner set and new OH bore depth with wellbore schematic for your viewing all of the above has been sent for approval.

Please find on page 4 a schematic of the facility operations of equipment on the BW-31



## H.R.C., Inc.

H.R.C., INC  
SHUBERT 7 WELL No. 1  
NW/4, SE/4-SEC. 7-T19S-R39E  
LEA COUNTY, NM  
API 30-025-36781  
LAT: 32.6738815  
LONG: -103.0835953





## H.R.C., Inc.

**2020 FLUID BRINE PRODUCTION & INJECTION VOLUME**

<b>MONTH</b>	<b>BRINE</b>	<b>FRESH WATER</b>	
JANUARY	10,966	10,719	
FEBRUARY	28,034	27,840	
MARCH	24,919	24,764	
APRIL	11,426	11,319	
MAY	3,492	3,435	
JUNE	13,257	13,140	
JULY	7,624	7,526	
AUGUST	7,645	7,538	
SEPTEMBER	8,933	8,795	
OCTOBER	5,349	5,286	
NOVEMBER	7,213	7,086	
DECEMBER	4,252	4,196	
<b>YEAR TOTAL</b>	<b>133,110</b>	<b>131,644</b>	

**HISTORICAL YEARLY TOTALS BRINE & FRESH**

<b>YEAR</b>	<b>BRINE</b>	<b>FRESH</b>		
2006	42,950	44,800		
2007	312,800	315,000		
2008	305,990	316,100		
2009	212,779	226,058		
2010	341,134	350,887		
2011	396,278	408,437		
2012	435,040	442,427		
2013	304,136	306,265		
2014	310,568	316,007		
2015	291,205	289,656		
2016	283,741	276,593		
2017	303,502	282,445		
2018	241,010	238,627		
2019	284,882	278,960		
2020	133,110	131,644		
<b>TOTAL</b>	<b>4,199,125</b>	<b>4,223,906</b>		

## H.R.C., Inc.

**Semi-Annual Monitor Well Analytical Data Results**

Monitor well for the BW-31 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.

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 Limit	Units	Analyzed Date	Method
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**F/W MONITOR INORGANIC COMPOUNDS JUNE 2020**

Alkalinity, Bicarbonate	215		5.0	mg/L	6-05-20	310.1
Alkalinity Carbonate	<1.00		1.00	mg/L	6-05-20	310.1
Chloride	56.0		4.0	mg/L	6-05-20	4500-C1-B
Conductivity	651		1.00	uS/cm	6-05-20	120.1
pH	7.86		0.100	pH Units	6-05-20	150.1
Sulfate	64.8		10.0	mg/L	6-11-20	375.4

## H.R.C., Inc.

TDS	433		5.0	mg/L	6-08-20	160.1
Alkalinity Total	176		4.00	mg/L	6-05-20	310.1

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

Continued Report for June 2020

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
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Calcium	47		0.500	mg/L	6-10-20	EPA200.7
Magnesium	15.1		0.500	mg/L	6-10-20	EPA200.7
Potassium	2.26	0.758	5.00	mg/L	6-10-20	EPA200.7
Sodium	63.8		5.00	mg/L	6-10-20	EPA200.7

**FW MONITOR DECEMBER 2020**

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
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**INORGANIC COMPOUNDS**

Alkalinity, Bicarbonate	210		5.0	mg/L	12-07-20	310.1
Alkalinity Carbonate	<1.00		1.00	mg/L	12-07-20	310.1
Chloride	60.0		4.0	mg/L	12-07-20	4500-C1-B
Conductivity	651		1.00	uS/cm	12-07-20	120.1
pH	7.76		0.100	pH Units	12-07-20	150.1
Sulfate	60.1		10.0	mg/L	12-10-20	375.4
TDS	262		5.00	mg/L	12-11-20	160.1
Alkalinity Total	172		4.0	mg/L	12-07-20	310.1

**F/W MONITOR TOTAL RECOVERABLE METALS by ICP (E220.7)**

Calcium	50.0		0.500	mg/L	12-11-20	EPA200.7
Magnesium	16.0		0.500	mg/L	12-11-20	EPA200.7



## H.R.C., Inc.

Potassium	2.20	0.758	5.00	mg/L	12-11-20	EPA200.7
Sodium	54.9		5.0	mg/L	12-11-20	EPA200.7

TDS comparison from June 2020 to December 2020 the Quality of the Monitor water has improved showing a total of 61.93% reduction in December with a PH level of 7.76 pH units. Total Recoverable Metals from the June and December testing shows 3PPM increase of Calcium in December with a slight reduction of 8.9 PPM of Sodium overall water is within the EPA standards.

**INJECTION PRESSURE**

Injection pressure still runs the same the annulus average is 200 PSIG and the tubing average is at 25 PSIG. 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 17 psi respectively. The operating pressure is at around 25 psig. Discharge line is of 4" SDR 11 with a max operating pressure of 160 PSI.

Brine Water transfer line from storage tanks at the Schubert 7 well # 1 facility to the sales point at the ANITZ sales facility located 0.8 miles east of WHY 18 on Nadine Rd. (P-26-19S-38E) is constructed of 4" SDR 11 Polyethylene Line with a max pressure of 160 psi the line enters into the west 16' tank holding tank at the top and has a hydrostatic pressure at the base of the line of 8.3 pounds of pressure at the base of the line. In operation transferring fluid from the BW-31 it takes 140 pounds to move 175 GPM through the 4" line. The line is tested periodically by closing the valve at the sales holding tank and line is then pressured at the transfer pump to 150 psi and held for 15 min with the valve closed at the pump. Line has shown no leaks showing good continuity.

**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.

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**H.R.C., Inc.**

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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 twice 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-31.

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

**BRINE ANALYTICAL RESULTS: JUNE 2020**

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
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**INORGANIC COMPOUNDS**

Alkalinity, Bicarbonate	83.0		5.0	mg/L	6-05-20	310.1
Alkalinity Carbonate	<1.00		1.00	mg/L	6-05-20	310.1

## H.R.C., Inc.

Chloride	194,000		4.00	mg/L	6-05-20	4500-C1-B
Conductivity	276,000		1.00	uS/cm	6-05-20	120.1
pH	6.99		0.100	pH Units	6-05-20	150.1
Sulfate	4,010		1250	mg/L	6-11-20	375.4
TDS	323,000		5.00	mg/L	6-08-20	160.1
Alkalinity Total	68.00		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
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Calcium	1360		50.0	mg/L	6-10-20	EPA200.7
Magnesium	384		50.0	mg/L	6-10-20	EPA200.7
Potassium	102	75.8	500	mg/L	6-10-20	EPA200.7
Sodium	113000		500	mg/L	6-10-20	EPA200.7

**BRINE ANALYTICAL RESULTS: DECEMBER 2020**

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
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**INORGANIC COMPOUNDS**

Alkalinity, Bicarbonate	83.0		5.0	mg/L	12-07-20	310.1
Alkalinity Carbonate	<1.00		1.00	mg/L	12-07-20	310.1
Chloride	188,000		4.00	mg/L	12-07-20	4500-C1-B
Conductivity	277,000		1.00	uS/cm	12-07-20	120.1
pH	7.02		0.100	pH Units	12-07-20	150.1
Sulfate	3,830		833	mg/L	12-10-20	375.4
TDS	318,000		5.00	mg/L	12-11-20	160.1



## H.R.C., Inc.

Alkalinity Total	68.0		4.0	mg/L	12-07-20	310.1
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**TOTAL RECOVERABLE METALS by ICP (E220.7)**

Continued Brine Report for December 2020

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
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Calcium	1,300		50.0	mg/L	12-11-20	EPA200.7
Magnesium	504		50.0	mg/L	12-11-20	EPA200.7
Potassium	153	75.8	500	mg/L	12-11-20	EPA200.7
Sodium	110,000		500	mg/L	12-11-20	EPA200.7

**FRESH WATER ANALYTICAL RESULTS: JUNE 2020**

Analyte	Result	MDL	Reporting Limit	Units	Analyzed Date	Method
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**INORGANIC COMPOUNDS**

Alkalinity, Bicarbonate	293		5.00	mg/L	6-05-20	310.1
Alkalinity Carbonate	<1.00		1.00	mg/L	6-05-20	310.1
Chloride	288		4.00	mg/L	6-05-20	4500-C1-B
Conductivity	1730		1.00	uS/cm	6-05-20	120.1
pH	7.68		.100	pH Units	6-05-20	150.1



## H.R.C., Inc.

Sulfate	205		205	mg/L	6-11-20	375.4
TDS	1,080		1080	mg/L	6-08-20	160.1
Alkalinity Total	240		240	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
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Calcium	133		0.500	mg/L	6-10-20	EPA200.7
Magnesium	32.3		0.500	mg/L	6-10-20	EPA200.7
Potassium	14.7	0.758	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 Limit	Units	Analyzed Date	Method
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## INORGANIC COMPOUNDS

Alkalinity, Bicarbonate	224		5.00	mg/L	12-07-20	310.1
Alkalinity Carbonate	<1.00		1.00	mg/L	12-07-20	310.1
Chloride	244		4.00	mg/L	12-07-20	4500-C1-B
Conductivity	1,620		1.00	uS/cm	12-07-20	120.1
pH	7.87		0.100	pH Units	12-07-20	150.1

## H.R.C., Inc.

Sulfate	242		50.0	mg/L	12-10-20	375.4
TDS	978		5.00	mg/L	12-11-20	160.1
Alkalinity Total	184		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
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Calcium	134		0.500	mg/L	12-11-20	EPA200.7
Magnesium	36.7		0.500	mg/L	12-11-20	EPA200.7
Potassium	3.89	0.758	5.00	mg/L	12-11-20	EPA200.7
Sodium	120		5.00	mg/L	12-11-20	EPA200.7

## MECHANICAL INTEGRITY TEST CHART

On December 14, 2020 H.R.C., Inc. implemented their workover plan on the Schubert 7 Well No. 1 where a 4 ½" 11.35# J-55 liner was set into the 5 ½ Intermediate and 8 5/8" Surface casing. The anchor point of the 4 ½" was set at 1993'. This was done to extend the production casing 100' below the top of the Salado formation as per the request of OCD Santa Fe. A C-103 Intent was filed and received approval of both OCD District 1 and OCD Santa Fe.

H.R.C., Inc. delayed the work in 2019 because of pipe availability at the time. With the World Pandemic unfolding in the beginning of 2020 H.R.C., Inc. waited to do this work. H.R.C., Inc. did not want to expose risk to those that were going to be on location and also to H.R.C., Inc. Personal.

## H.R.C., Inc.

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With the guidelines given from CDC and the NM DOH as to how to protect and establish safe environment procedures for all to follow H.R.C., Inc. initiated the plan forward with the workover. After the liner was set H.R.C., Inc. elected to deepen the well bore into the new horizons of Halite below the existing cavern to a depth of 2,649' and set the tubing point at 2,609'.

An MIT was conducted on 12/18/20 where the 4 ½" casing was pressured up to 730 PSI and a Chart was run for 40 min. Please find below the C-103 Subsequent report on pages 17,18 and 19, Casing MIT on page 20, Recorder Certification on page 21 and the wellbore diagram on page 22 the MIT was witnessed by Gary Schubert and was in communication with OCD Kerry Fortner.

District I Kerry Fortner requested that a Bradenhead test be done so, on January 4, 2021 H.R.C., Inc. recorded the test where it was witnessed by Ben Donahue and David Aaron please find on page 23 C-103 Subsequent Bradenhead Report and Bradenhead Test done at the Schubert 7 Well No. 1 on page 24. It was approved by Mr. Fortner and is on record. A C-105 Subsequent of the work done to the wellbore and liner was made it can be viewed on pages 25, 26, 27 and 28. All of the above were sent via OCDs paperless program for record and approval.

A formation mechanical test was performed on 11/20/16 on the BW-31. Formation Salado was pressured up to 300 psi and was witnessed the chart recorder was started by Mark Whitaker at 8:15 AM for a duration of 4 hours test ended at 12:15PM where the casing valve was closed in it was witnessed by George Bowen. Formation Salado held 300 psi for the duration of the test.

Recorder was removed and well was bled back to tanks. Nipple up connections and placed the well back into operation producing brine at 200 psi. Please find the subsequent report C-103 and the Chart below for your viewing.

Next formation integrity test will be November 2021.



## H.R.C., Inc.

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

State of New Mexico  
 Energy, Minerals and Natural Resources

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

Form C-103

Revised July 18, 2013

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-025-36781
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other (Brine Supply)		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
2. Name of Operator H.R.C., Inc.		6. State Oil & Gas Lease No.
3. Address of Operator P. O. Box 5102, Hobbs, NM 88241		7. Lease Name or Unit Agreement Name SCHUBERT 7
4. Well Location Unit Letter J 2313 feet from the South line and 2313 feet from the East line Section 7 Township 19S Range 39E NMPM County Lea		8. Well Number 1
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3585 GL		9. OGRID Number 131652
		10. Pool name or Wildcat BSW-Saldo

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input type="checkbox"/>			
CLOSED-LOOP SYSTEM <input type="checkbox"/>			
OTHER: MIT TEST <input checked="" type="checkbox"/>		OTHER: MIT TEST <input checked="" type="checkbox"/>	

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

11/20/16 PRESSURE FORMATION TO 300 PSI -- SHUT IN 8 P.M.  
 11/21/16 SHUT IN  
 11/22/16 RIG UP CHART RECORDER; OPEN CSA. TO CHART  
 RECORDER @ 300 PSI @ 8:15 AM; WITNESS: MARK  
 WHITAKER; 4 HR. TEST CLOSE CSA. @ 12:15 PM  
 WITNESS GEORGE BOWEN -- HED @ 300 PSI.  
 1:00 PM - OPEN WELL TO TANKS -- BLEED PRESSURE TO 200 PSI  
 7:00 PM - PRODUCE BRINE @ 200 PSI

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE



TITLE President

DATE 11-16-2016

Type or print name

Gary M. Schubert

E-mail address: garymschubert@gmail.com

PHONE: 575-393-3194

For State Use Only

APPROVED BY:



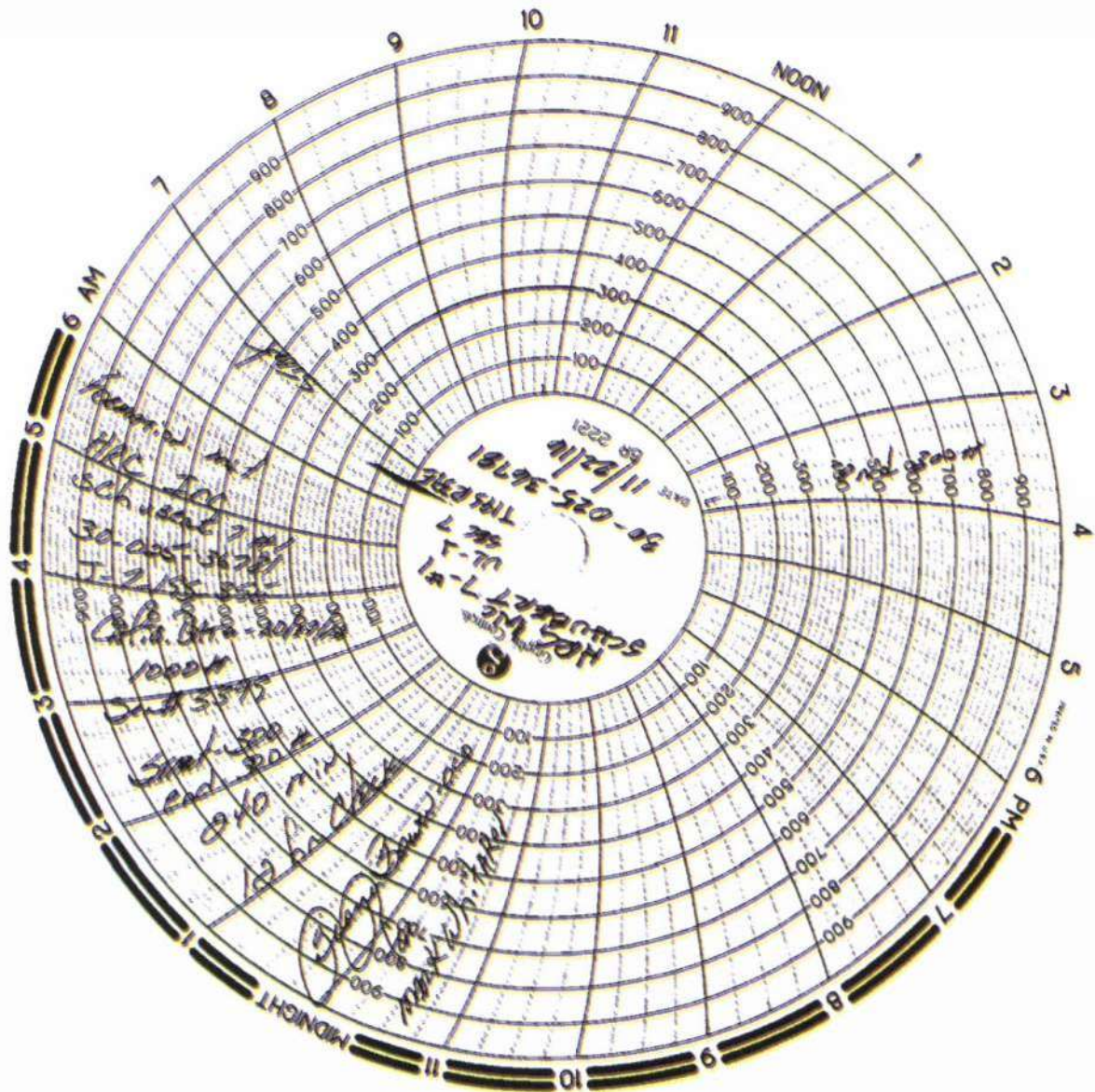
TITLE Senior Engineer

DATE 12/1/2016

Conditions of Approval (if any):



MIT BW-31 CHART 11-20-16



## H.R.C., Inc.

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

State of New Mexico  
 Energy, Minerals and Natural Resources

Form C-103  
 Revised July 18, 2013

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

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-025-36781
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other Brine <input type="checkbox"/>		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
2. Name of Operator H.R.C., INC.		6. State Oil & Gas Lease No.
3. Address of Operator P.O. Box 5102 Hobbs, New Mexico		7. Lease Name or Unit Agreement Name Shubert 7
4. Well Location Unit Letter <u>J</u> : <u>2313</u> feet from the <u>South</u> line and <u>2313</u> feet from the <u>East</u> line Section <u>7</u> Township <u>19S</u> Range <u>39E</u> NMPM Lea County		8. Well Number <u>1 BW-031</u>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3585 GL		9. OGRID Number 131652
		10. Pool name or Wildcat BSW - Salado

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

<b>NOTICE OF INTENTION TO:</b> PERFORM REMEDIAL WORK <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> CHANGE PLANS <input type="checkbox"/> PULL OR ALTER CASING <input type="checkbox"/> MULTIPLE COMPL. <input type="checkbox"/> DOWNHOLE COMMINGLE <input type="checkbox"/> CLOSED-LOOP SYSTEM <input type="checkbox"/> OTHER: <input type="checkbox"/>		<b>SUBSEQUENT REPORT OF:</b> REMEDIAL WORK <input type="checkbox"/> ALTERING CASING <input checked="" type="checkbox"/> COMMENCE DRILLING OPNS. <input type="checkbox"/> P AND A <input type="checkbox"/> CASING/CEMENT JOB <input type="checkbox"/> OTHER: Re set tubing depth deeper <input checked="" type="checkbox"/>	
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13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

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

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

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

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

Type or print name David H. Alvarado E-mail address: davidal00176@gmail.com PHONE: 575 513 1238

**For State Use Only**

APPROVED BY: \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

Conditions of Approval (if any):



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H.R.C., Inc.

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**C-103 SUBSEQUENT REPORT****SHUBERT 7 WELL No. 1****API 30-025-36781 BW-031**

12/14/2020 Performed JSA's, MI & RU workover unit and drilling reverse unit, ND wellhead tree and lift on 2 7/8 J-55 tbg. to 20K tbg. stuck worked tbg. to 30K tbg. started moving, removed tbg. hanger. NU BOP prepare for tubing extraction lay down total 71- 2 7/8 J 55 jts. and one parted jt. 23 foot long. Left in hole 8 foot of 2 7/8 J-55, bit sub w/ 4 1/4" bit. Tallied extracted pipe @ 2307' left in hole from 2307'-2312' closed BOP SDFN

12/15/2020 MI 86 jts. 2 3/8" EUE 4.7# J-55 tbg. and 50 jts. 4 1/2" 11.35 # J-55 Csg. w/ID 4". RIH w/new 4 1/4" skirted Varel cone bit w/ bit sub and 6- 3 1/2" OD d/c's on top of bit sub. RIH w/tbg. tag top of fish @ 1820' rolled off top of fish continue to RIH to 1826' RU Swivel rotate from 1826' to 1844' continued to drill and wash out bore to 1985', pulled bit up into 8 5/8 csg. To 1702' shut in BOP SDFN

12/16/2020 Open up BOP continued to RIH with Bit, Bit sub, D/C and tubing rolling off of TOF @ 1856' continued to drill and wash 1985' to 2020' hard drilling from 2020'-2034' fall out washing to 2044' circulate hole 60 minutes, POH LD 3 1/2" d/c w/BHA shut in BOP SDFN

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

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

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



H.R.C., Inc.

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

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

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

[illegible]

H.R.C., Inc.

**American Valve & Meter, Inc.****1113 W. BROADWAY****P.O. BOX 166 HOBBS, NM 88240****T0: Lucky Rental****DATE: 12/1/20****This is to certify that:****I, Stephen Waskas, Technician for American Valve & Meter Inc. Has checked the calibration of the following instrument.****12" Pressure recorder****Ser# R-54476****at these points.**

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

**Remarks:****Signature:**



## H.R.C., Inc.

## SCHUBERT 7 WELL NO. 1

API 30-025-36781

2313 FSL, 2313 FEL

J - SEC 7 - T19S - R39E

LAT: 32.6738815 LONG: -103.0835953

Current

12/22/2020

## Lithology Record (C-105)

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

OH HOLE SIZE 7 7/8"

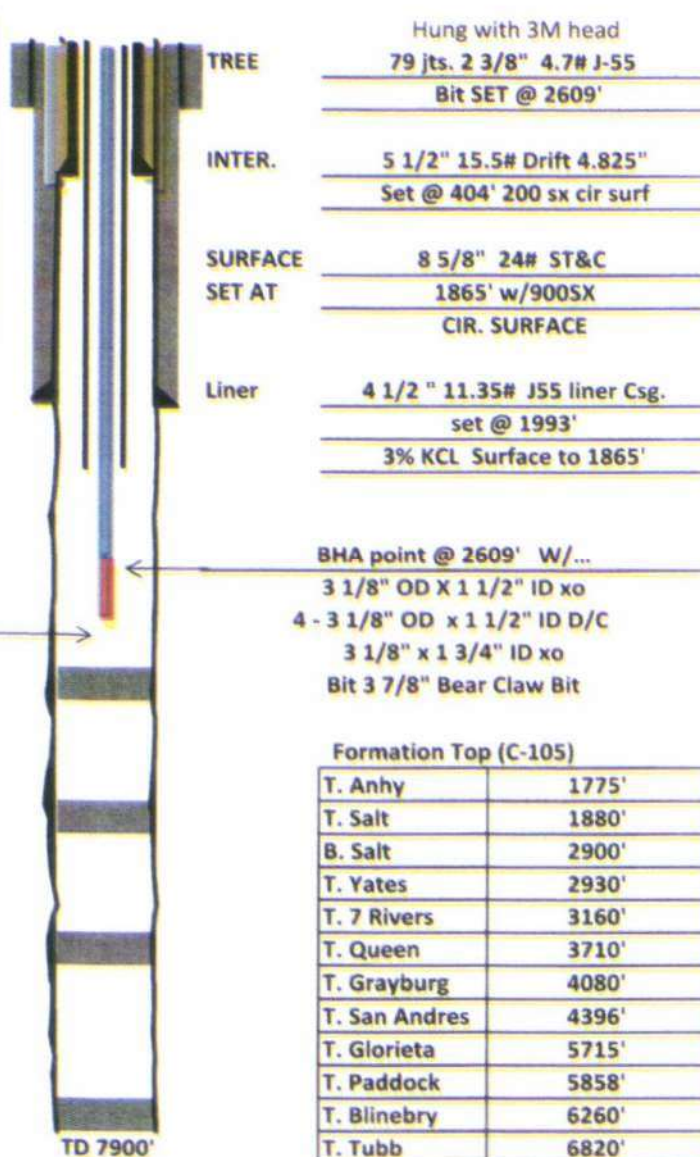
## DRILL OH TO 2649'

Yates @2930' PLUG # 4 100sx @ 2947'  
est. TOC @ 2,557' 390'

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

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

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



## Formation Top (C-105)

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

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

**HDC Inc**  
 State of New Mexico  
 Energy, Minerals and Natural Resources

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

Form C-103  
 Revised July 18, 2013

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-025-36781
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other Brine <input type="checkbox"/>		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
2. Name of Operator H.R.C., INC.		6. State Oil & Gas Lease No.
3. Address of Operator P.O. Box 5102 Hobbs, New Mexico		7. Lease Name or Unit Agreement Name Shubert 7
4. Well Location Unit Letter <u>J</u> : <u>2313</u> feet from the <u>South</u> line and <u>2313</u> feet from the <u>East</u> line Section <u>7</u> Township <u>19S</u> Range <u>39E</u> NMPM <u>Lea</u> County		8. Well Number <u>1</u> BW-31
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3585 GL		9. OGRID Number 131652
		10. Pool name or Wildcat BSW - Salado

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

<b>NOTICE OF INTENTION TO:</b> PERFORM REMEDIAL WORK <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> CHANGE PLANS <input type="checkbox"/> PULL OR ALTER CASING <input type="checkbox"/> MULTIPLE COMPL <input type="checkbox"/> DOWNHOLE COMMINGLE <input type="checkbox"/> CLOSED-LOOP SYSTEM <input type="checkbox"/> OTHER: <input type="checkbox"/>		<b>SUBSEQUENT REPORT OF:</b> REMEDIAL WORK <input type="checkbox"/> ALTERING CASING <input type="checkbox"/> COMMENCE DRILLING OPNS <input type="checkbox"/> P AND A <input type="checkbox"/> CASING/CEMENT JOB <input type="checkbox"/> OTHER: Bradenhead Test Report <input checked="" type="checkbox"/>	
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13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

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

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

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

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

**For State Use Only**

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



## H.R.C., Inc.


**NEW MEXICO ENERGY, MINERALS  
& NATURAL RESOURCES DEPARTMENT**

OIL CONSERVATION DIVISION  
AZTEC DISTRICT OFFICE  
1000 RIO BRAZOS ROAD  
AZTEC NM 87410  
(808) 334-8178 FAX: (808) 334-8170  
<http://omwrd.state.nm.us/oed/District/87410.htm>

**BRADENHEAD TEST REPORT**

(submit 1 copy to above address)

Date of Test 1/4/2021 Operator H.R.C. INC. API #30-0 25-36781  
Property Name SCHUBERT 7 Well No. 1 Location: Unit 1 Section 7 Township 19S Range 37E  
Well Status(Shut-In or Producing) Initial PSI: Tubing 230 Intermediate 5 1/2 Casing 4 1/2 Bradenhead 0 5/6

OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH

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

**FLOW CHARACTERISTICS**  
**BRADENHEAD INTERMEDIATE**

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

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

CLEAR \_\_\_\_\_ FRESH \_\_\_\_\_ SALTY \_\_\_\_\_ SULFUR \_\_\_\_\_ BLACK \_\_\_\_\_

5 MINUTE SHUT-IN PRESSURE

BRADENHEAD 0 INTERMEDIATE 230

REMARKS:

By GARY M. SCHUBERT Witness BEN DONAHUE / DAVID AARON

MGR.  
(Position)

E-mail address GARYMSCHUBERT@GMAIL.COM

## H.R.C., Inc.

Submit To Appropriate District Office Two Copies District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 N. First St., Artesia, NM 88210 District III 1000 Rio Brazos Rd., Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505		<b>State of New Mexico</b> <b>Energy, Minerals and Natural Resources</b>  <b>Oil Conservation Division</b> <b>1220 South St. Francis Dr.</b> <b>Santa Fe, NM 87505</b>		<b>Form C-105</b> Revised April 3, 2017	
		1. WELL API NO. 30-025-36781		2. Type of Lease <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/> FED/INDIAN	
		3. State Oil & Gas Lease No.		5. Lease Name or Unit Agreement Name SHUBERT 7	
		6. Well Number: No.1 BW-031			
<b>WELL COMPLETION OR RECOMPLETION REPORT AND LOG</b>					
4. Reason for filing: <input checked="" type="checkbox"/> <b>COMPLETION REPORT</b> (Fill in boxes #1 through #31 for State and Fee wells only) <input type="checkbox"/> <b>C-144 CLOSURE ATTACHMENT</b> (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33; attach this and the plat to the C-144 closure report in accordance with 19.15.17 13.K NMAC)					
7. Type of Completion: <input type="checkbox"/> NEW WELL <input type="checkbox"/> WORKOVER <input checked="" type="checkbox"/> DEEPENING <input type="checkbox"/> PLUGBACK <input type="checkbox"/> DIFFERENT RESERVOIR <input checked="" type="checkbox"/> OTHER, set liner 100' below surface csg.					
8. Name of Operator H.R.C., INC.				9. OGRID 131652	
10. Address of Operator P.O. Box 5102 Hobbs, NM 88241				11. Pool name or Wildcat BSW SALADO	
12. Location	Unit Ltr	Section	Township	Range	Lot
Surface:	J	7	19S	39E	2313
BH:					
13. Date Spudded 9-22-04	14. Date T.D. Reached 10-7-04	15. Date Rig Released SERVICE UNIT RELEASED 12/22/2020		16. Date Completed (Ready to Produce) 12/22/2020	
17. Elevations (DF and RKB, RT, GR, etc.) 3585 GL					
18. Total Measured Depth of Well 7900'		19. Plug Back Measured Depth		20. Was Directional Survey Made? NO	
21. Type Electric and Other Logs Run EXISTING ON FILE					
22. Producing Interval(s), of this completion - Top, Bottom, Name 1865' -2649'				SALADO	
<b>23. CASING RECORD (Report all strings set in well)</b>					
CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8"	24#	1865'	12 1/4"	900 SX CIR. SURFACE	
Intermediate	15.5 #	404'	8 5/8"	200 SX CIR. SURFACE	
<b>24. LINER RECORD</b>					
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	
4.5" 11.35# J-55	SURFACE	1993'	3% PKR. FLUID		
<b>25. TUBING RECORD</b>					
SIZE	DEPTH SET	PACKER SET			
2 3/8" J-55	2609'				
26. Perforation record (interval, size, and number) 7 7/8" OH 1865' - 2609'					
27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC. DEPTH INTERVAL      AMOUNT AND KIND MATERIAL USED _____ _____ _____					
<b>28. PRODUCTION</b>					
Date First Production 12/22/2020		Production Method (Flowing, gas lift, pumping - Size and type pump) PUMPING - 1A3		Well Status (Prod. or Shut-in) PRODUCING	
Date of Test 1/15/2021	Hours Tested 24	Choke Size	Prod'n For Test Period	Oil - Bbl	Gas - MCF
Water - Bbl 860-1000 10# BRINE	Gas - Oil Ratio				
Flow Tubing Press 260 PSI	Casing Pressure 45	Calculated 24-Hour Rate	Oil - Bbl	Gas - MCF	Water - Bbl
Oil Gravity - API - (Corr.)					
29. Disposition of Gas (Sold, used for fuel, vented, etc.)					30. Test Witnessed By BEN DONAHUE
31. List Attachments WELL BORE SHEMATIC					



## H.R.C., Inc.

32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit. SERVICE UNIT RELEASED 12/22/2020		33. Rig Release Date:
34. If an on-site burial was used at the well, report the exact location of the on-site burial.		
Latitude	Longitude	NAD83
I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief		
Signature <u>David M. Alvarado</u> 2/5/2021	Printed Name <b>DAVID ALVARADO</b>	Title <b>ACTING AGENT FOR H.R.C., INC.</b> Date:
E-mail Address <u>davidal00136@gmail.com</u>		

**INSTRUCTIONS**

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone.

**INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE**

Southeastern New Mexico		Northwestern New Mexico	
T. Anhy 1775	T. Canyon	T. Ojo Alamo	T. Penn "A"
T. Salt 1880	T. Strawn	T. Kirtland	T. Penn. "B"
B. Salt 2900	T. Atoka	T. Fruitland	T. Penn. "C"
T. Yates 2930	T. Miss	T. Pictured Cliffs	T. Penn. "D"
T. 7 Rivers 3160	T. Devonian	T. Cliff House	T. Leadville
T. Queen 3710	T. Silurian	T. Menefee	T. Madison
pT. Grayburg 4080	T. Montoya	T. Point Lookout	T. Elbert
T. San Andres 4396	T. Simpson	T. Mancos	T. McCracken
T. Glorieta 5715	T. McKee	T. Gallup	T. Ignacio Otzte
T. Paddock 5858	T. Ellenburger	Base Greenhorn	T. Granite
T. Blinberry 6260	T. Gr. Wash	T. Dakota	
T. Tubb 6820	T. Delaware Sand	T. Morrison	
T. Drinkard 7050	T. Bone Springs	T. Todilto	
T. Abo 7464	T.	T. Entrada	
T. Wolfcamp	T.	T. Wingate	
T. Penn	T.	T. Chinle	
T. Cisco (Bough C)	T.	T. Permian	

**OIL OR GAS  
SANDS OR ZONES**

No. 1, from.....to.....  
 No. 2, from.....to.....  
 No. 3, from.....to.....  
 No. 4, from.....to.....

**IMPORTANT WATER SANDS**

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....  
 No. 2, from.....to.....feet.....  
 No. 3, from.....to.....feet.....

**LITHOLOGY RECORD (Attach additional sheet if necessary)**

From	To	Thickness In Feet	Lithology	From	To	Thickness In Feet	Lithology

## H.R.C., Inc.

212	1151	939	REDBED					
1151	1455	304	RB /SHALE					
1455	1775	320	SHALE					
1775	1880	105	ANHYDRITE					
1880	2900	1020	SALT, RB,SHALE					
2900	3130	230	ANHY., SALT,SHALE					
3130	4080	950	ANHY., DOLOMITE					
4080	4430	350	DOLOMITE, ANHY.					
4430	7500	3070	DOLOMITE, LIMESTONE					
7500	7900	400	DOLOMITE					



## H.R.C., Inc.

SCHUBERT 7 WELL NO. 2  
 API 30-025-36781  
 2313 FSL, 2313 FEL  
 J - SEC 7 - T19S - R39E  
 LAT: 32.6738815 LONG: -103.0835953

Current  
 12/22/2020

## Lithology Record (C-105)

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

OH HOLE SIZE 7 7/8"

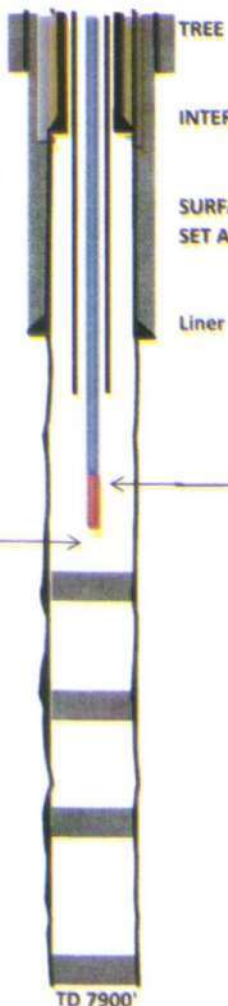
## DRILL OH TO 2649'

Yates @2930' PLUG # 4 100sx @ 2947'  
 est. TOC @ 2,557' 390'

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

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

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



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

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

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

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

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

## Formation Top (C-105)

T. Anhy	1775'
T. Salt	1880'
B. Salt	2900'
T. Yates	2930'
T. 7 Rivers	3160'
T. Queen	3710'
T. Grayburg	4080'
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T. Blinbry	6260'
T. Tubb	6820'
T. Drinkard	7050'
T. Abo	7464'

## H.R.C., Inc.

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### **DEVIATIONS FROM THE NORMAL OPERATIONS**

No deviations occurred in 2020 from the normal operations at the Schubert 7 Well # 1 BW-31 until the end of the year during the remedial work performed in December. All lines were cleaned out with fresh water and disconnected from the well head. Power was shut off and building was skidded back to work on the well once work was finished the system was placed back into operation.

### **LEAKS, SPILL CORRECTIVE ACTION REPORTS**

No leaks or spills occurred in 2020 for the Schubert 7 Well # 1 and facility.

### **AREA OF REVIEW UPDATE SUMMARY**

H.R.C., Inc. has updated the AOR for the Schubert 7 Well # 1 (BW-31) showing no new permits have been plotted on the NM OCD GIS program. H.R.C., Inc. will give notice to the Department if any future staking transpires within the AOR.

Please find on page 30 a half mile AOR review showing no new permits nor has there been any new wells drilled at this point.

Please find on page 31 a two mile AOR review showing no new permits nor has there been any new wells drilled at this point.

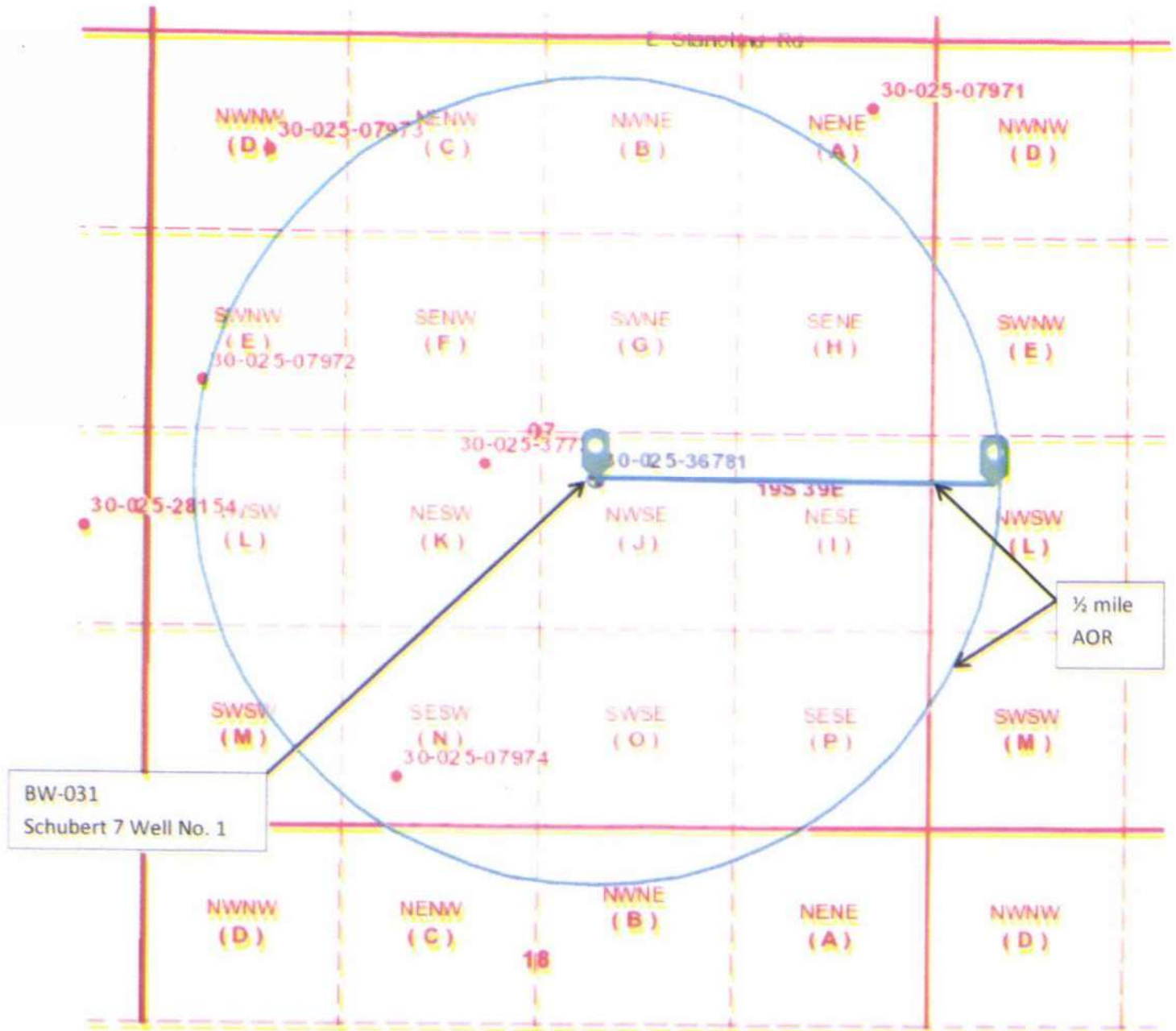
H.R.C., Inc.

## Schubert 7 Well No. 1

BW-031

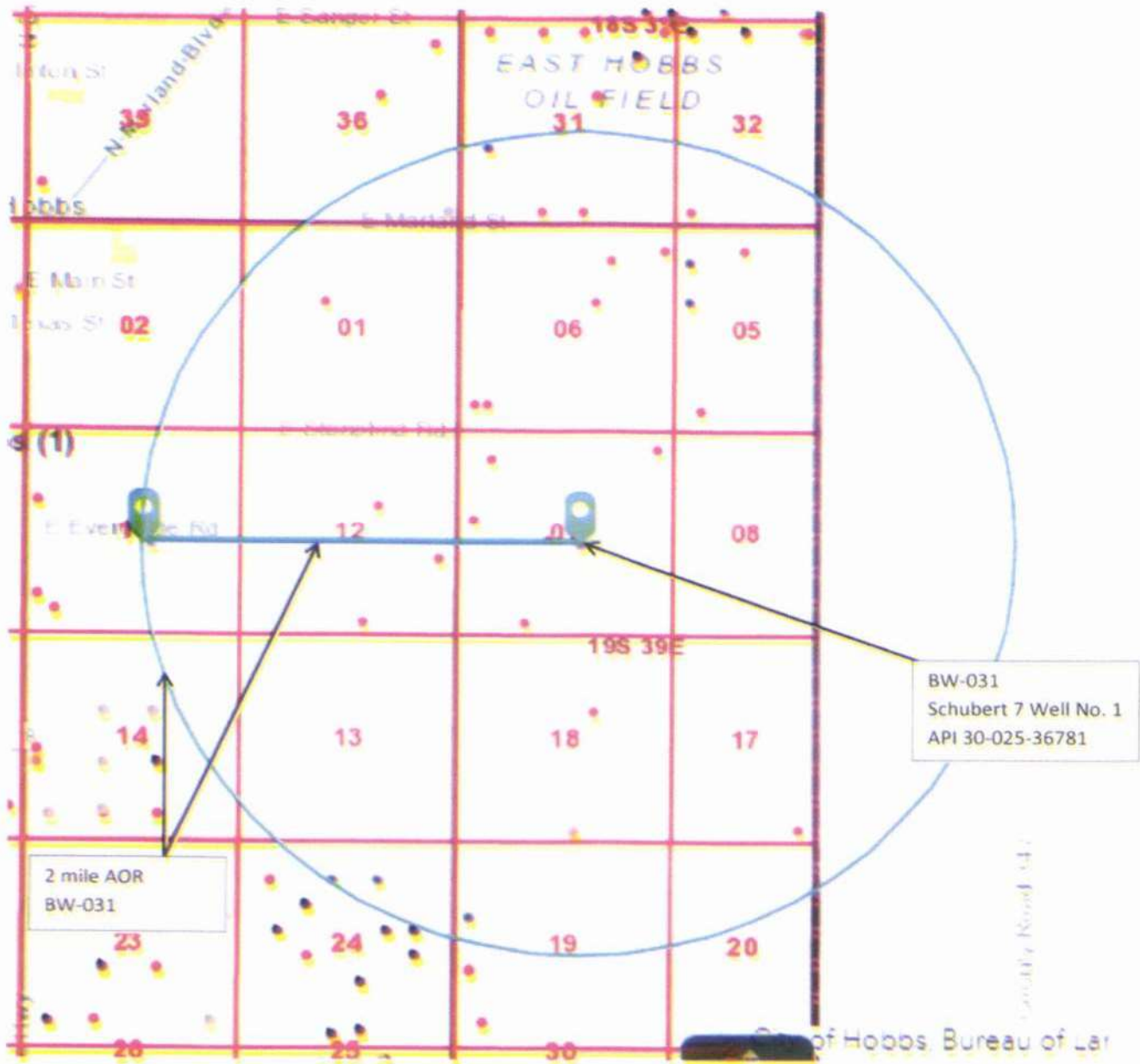
API 30-025-36781

½ Mile AOR 2020



H.R.C., Inc.

BW-031  
Schubert 7 Well No. 1  
2 Mile AOR 2020





## H.R.C., Inc.

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

Please see page 15 & 16 for last Cavern MIT conducted on 11-20-16 held 300 psi and passed with OCD witnesses. Please see on page 20 the chart for the new 4 ½" liner that held 730 PSI for 40 minutes on 12/18/2020.

Surface Subsidence Surveys were conducted by Basin Surveys certified by Gary L. Jones. Four Elevation markers are in place. Please find below where the EM markers are located for BW-31.

**NEW MEXICO STATE PLANE COORDINATES (NAD83)**

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

Three Surveys were conducted by Basin Surveys during the 2020 period with the description where no change in elevations has occurred. H.R.C., Inc. has depicted the 2020 reports of the surveys for your review below. Please find the plats of the Surveys at the end of this report for your viewing.

REVISION #	DATE	DESCRIPTION
12	January 15, 2019	Resurvey-No Change in Elevations
13	May 7, 2019	Resurvey-No Change in Elevations
14	October 14, 2019	Resurvey-No Change in Elevations
15	January 31, 2020	Resurvey-No Change in Elevations
16	May 12, 2020	Resurvey- No Change in Elevations
17	September 9, 2020	Resurvey-No Change in Elevations



---

H.R.C., Inc.

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**Cavern Characterization**

BW-31 has extracted an estimated total of 6,410,804.1375 ft.<sup>3</sup> of Halite from the Salado formation from 2006 to December 31, 2020. This calculates to 512,864,331 lbs. of Halite that has produced 4,199,125 Bbl. of brine within this period stated above.

The Sonic log shown on page 34 has approximately 252' of good Halite net pay less than 5 API units on the Gama ray side of the log.

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  $V = \pi R^2 h / 3$  where  $[V = (3.14159 * 155.86258^2) * (252') / 3]$

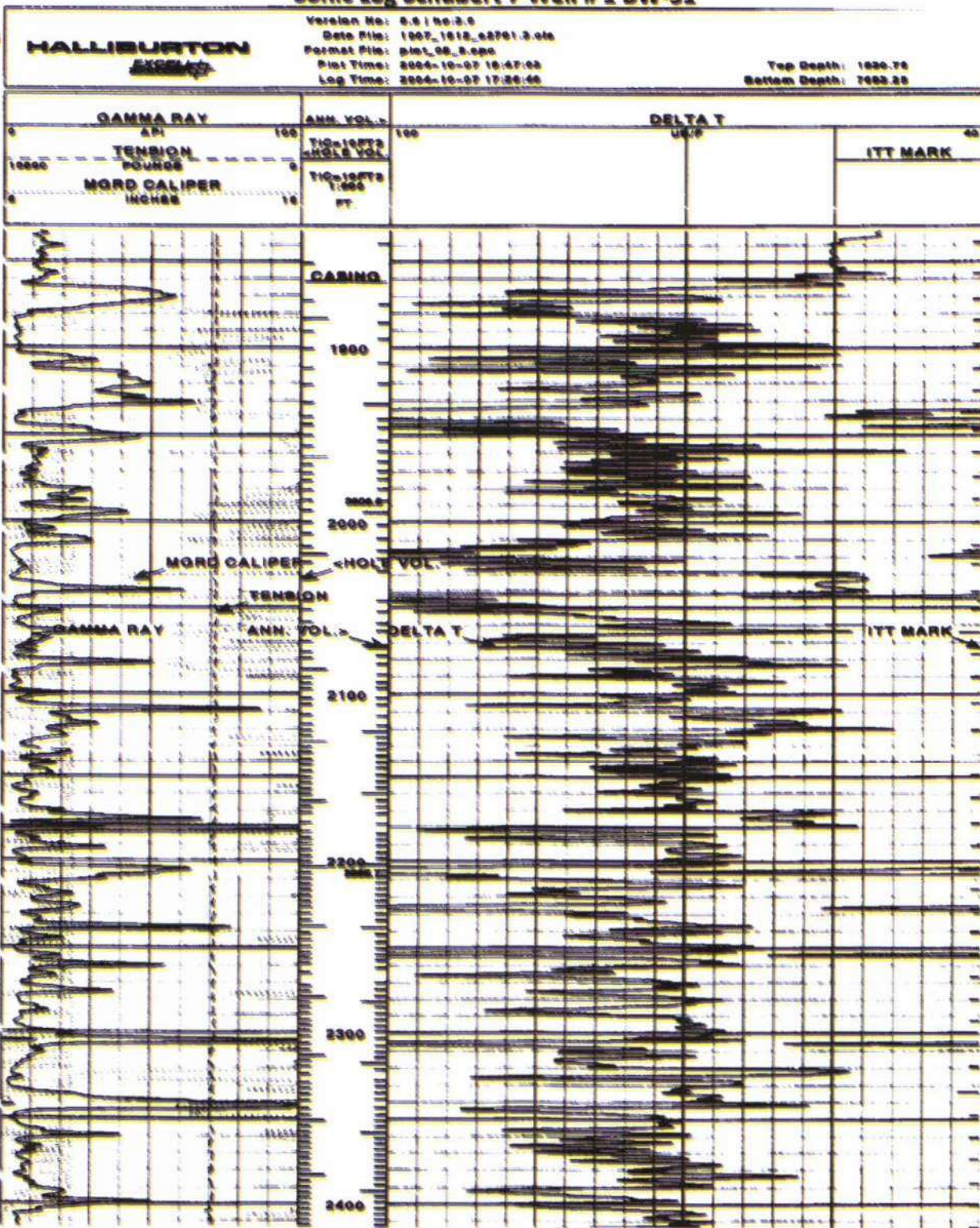
$V = 6,410,804$  ft.<sup>3</sup> of Halite has been extracted to date. This amount of volume calculated correlates with the total of brine produced from 2006 through December 31, 2020 of 4,199,125 Bbl.

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 4,199,125 (extracted fluid bbl.) equals 512,864,331 Lbs. of salt mined from 2006 to the end of December 31, 2020.

Taking the amount of Halite mined of 512,864,331 Lbs. and dividing the amount by 80 (Lbs. salt per ft.<sup>3</sup>) will equal 6,410,804.1375 ft.<sup>3</sup>. In respect to the cavern safety factor of 0.45 % the Schubert 7 Well No. 1 (BW-31) has a factor value of  $(311.72516' W / 1865 H) = 0.167145$  well below the States warning factor. New horizons below 2312' will yield greater opportunities.

BW-31 has a lot of life to continue mining for Halite that is used throughout our needs for the oil industry in Southeastern New Mexico.

## Sonic Log Schubert 7 Well # 1 BW-31





## H.R.C., Inc.

**SUMMARY RATIO INJECTION VS. EXTRACTION****2020 BRINE PRODUCTION & WATER INJECTION VOLUME RATIO %**

MONTH	BRIINE	PSI	FRESH WATER	PSI	RATIO	RATIO %
JANUARY	10,966	195-200	10,719	25-30	10966:10719	1.023043
FEBRUARY	28,034	195-200	27,840	25-30	14017:13920	1.006968
MARCH	24,919	195-200	24,764	25-30	24919:24764	1.006259
APRIL	11,426	195-200	11,319	25-30	11426:11319	1.009453
MAY	3,492	195-200	3,435	25-30	1164:1145	1.016594
JUNE	13,257	195-200	13,140	25-30	1473:1460	1.008904
JULY	7,624	195-200	7,526	25-30	3812:3763	1.013022
AUGUST	7,645	195-200	7,538	25-30	7645:7538	1.014195
SEPTEMBER	8,933	195-200	8,795	25-30	8933:8795	1.015691
OCTOBER	5,349	195-200	5,286	25-30	1783:1762	1.011918
NOVEMBER	7,213	195-200	7,086	25-30	7213:7086	1.017923
DECEMBER	4,252	195-200	4,196	25-30	1063:1049	1.013346

**MAJOR FACILITY ACTIVITY OR EVENTS**

Some major activities and events have taken place during 2020 at the end of 2020 in December all lines were flushed out with fresh water and disconnected from wellhead and triplex pump. The building was skidded back after electrical power was disconnected. For the other months before December no major activities or events took place. The well was worked on as the approved C-103 Intent on file.



## H.R.C., Inc.

H.R.C., Inc. completed the 180 day report after permit was renewed in 2019.

### SURFACE SUBSIDENCE MONITORING PLAN

Surface Subsidence Surveys were conducted by Basin Surveys certified by Gary L. Jones. Four Elevation markers are in place. Please find below where the EM markers are located for BW-31.

#### NEW MEXICO STATE PLANE COORDINATES (NAD83)

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

Three Surveys were conducted by Basin Surveys during the 2020 period with the description stating that no change in elevations had occurred. H.R.C., Inc. has depicted the 2020 reports of the surveys for your review below. Please find the plats of the Surveys at the end of this report for your viewing.

REVISION #	DATE	DESCRIPTION
12	January 15, 2019	Resurvey-No Change in Elevations
13	May 7, 2019	Resurvey-No Change in Elevations
14	October 14, 2019	Resurvey-No Change in Elevations
15	January 31, 2020	Resurvey-No Change in Elevations
16	May 12, 2020	Resurvey-No Change in Elevations
17	September 9, 2020	Resurvey-No Change in Elevations

H.R.C., Inc.

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## CAVERN CHARACTERIZATION DATA RESULTS.

Please refer to page 33 and page 34 for data results.

Please find the characterization of the Schubert 7 Well No. 1 (BW-31) on Page 38

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

## H.R.C., Inc.

Schubert 7 Well No1

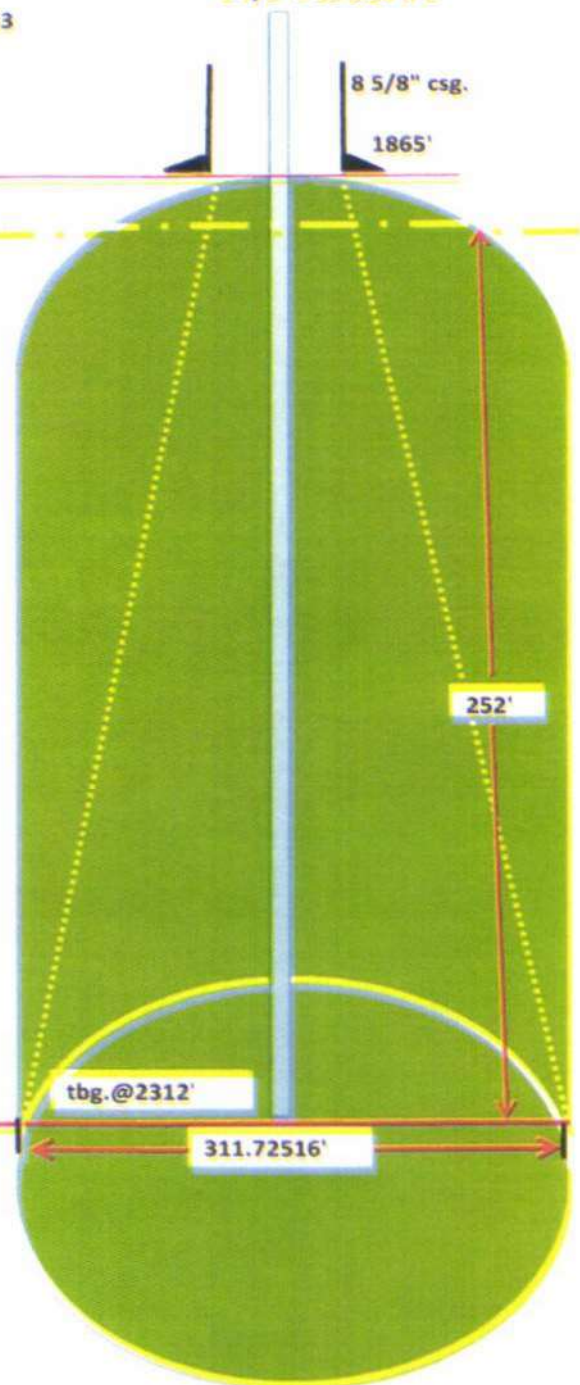
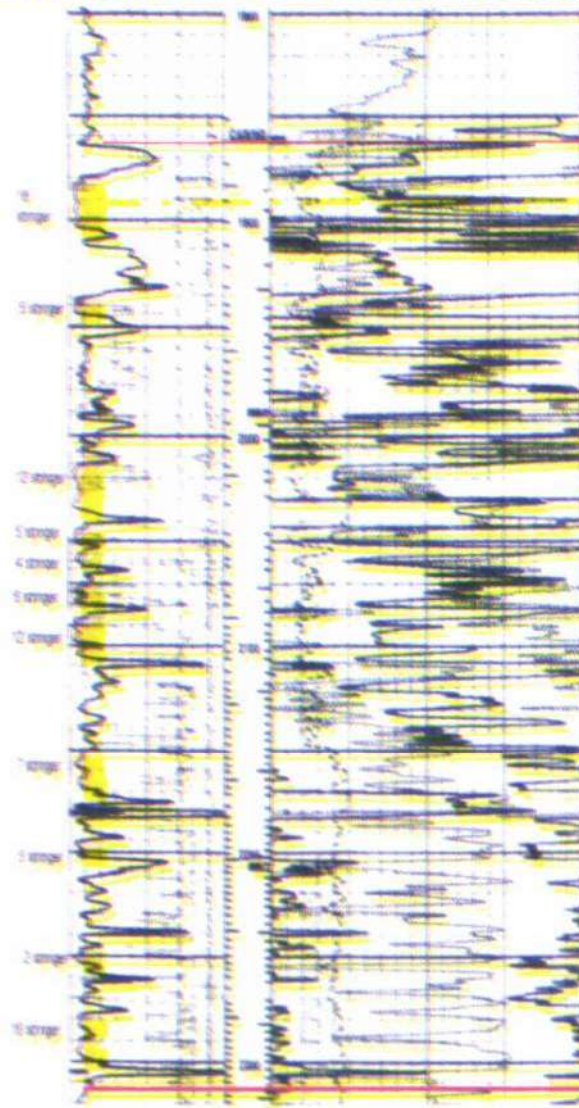
December 31, 2020

API 30-025-36781

J SEC7 T19S R39E

LAT: 32.6738815 LONG:-103.0835953

2 7/8" J-55 6.5# IPC



PPG 9.97 brine

PPG 8.34 fresh

SG 1.1951

2006 to December 31, 2020 Total Brine 4,199,125 bbl.

122.136 LBS / BBL = 512,864,331 LBS HALITE

(512,864,331 LBS) / (80BLS per ft<sup>3</sup>) = 6,410,804.1375 ft<sup>3</sup>

$$V = \frac{\pi R^2 h}{3}$$

$$V = (3.14159 * 155.86258^2) * (252') / 3$$

$$V = 6,410,804 \text{ ft}^3$$

Est. height is 252'

Est. cavern floor diameter is 311.72516'

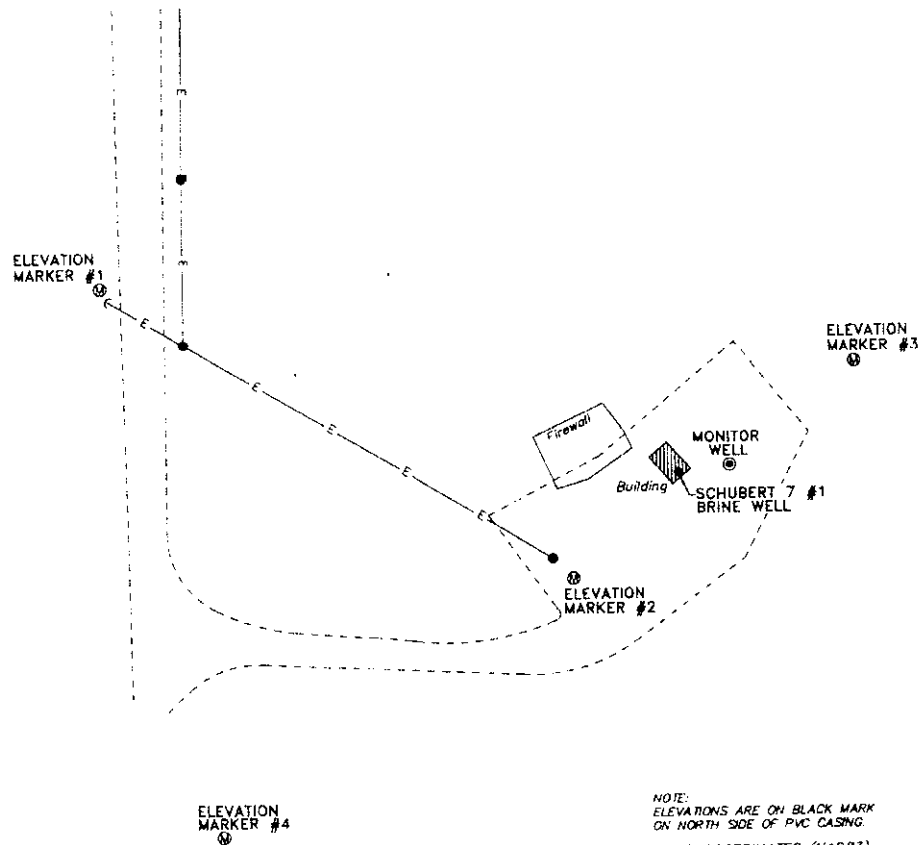
311.72516 / 1865 = 0.167145 factor value



**BW - 31****SCHUBERT 7 – WELL # 1****Year 2020**

<b>MONTH</b>	<b>BRINE PRODUCTION (BY Meter)</b>	<b>FRESH WATER INJECTED (By Meter)</b>
January	10,966	10,719
February	28,034	27,840
March	24,919	24,764
April	11,426	11,319
May	3,492	3,435
June	13,257	13,140
July	7,624	7,526
August	7,645	7,538
September	8,933	8,795
October	5,349	5,286
November	7,213	7,086
December	4,252	4,196

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



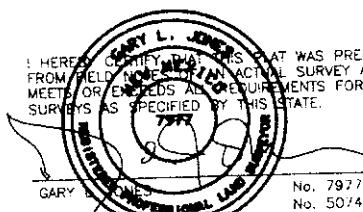
NEW MEXICO STATE PLANE COORDINATES (NAD83)

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EM-3	611248.41	925991.42	32°40'26.90"	103°04'59.79"	3586.23
EM-4	610926.15	925561.84	32°40'23.76"	103°05'04.86"	3586.94

REVISION #	DATE	DESCRIPTION
1	SEPT. 9, 2015	ORIGINAL SURVEY
2	DEC. 15, 2015	RESURVEY-NO CHANGE IN ELEVATIONS
3	APRIL 12, 2016	RESURVEY-NO CHANGE IN ELEVATIONS
4	JULY 26, 2016	RESURVEY-NO CHANGE IN ELEVATIONS
5	OCTOBER 27, 2016	RESURVEY-NO CHANGE IN ELEVATIONS
6	February 6, 2017	RESURVEY-NO CHANGE IN ELEVATIONS
7	May 11, 2017	RESURVEY-NO CHANGE IN ELEVATIONS
8	AUGUST 30, 2017	RESURVEY-NO CHANGE IN ELEVATIONS
9	JANUARY 10, 2018	RESURVEY-NO CHANGE IN ELEVATIONS
10	MAY 1, 2018	RESURVEY-NO CHANGE IN ELEVATIONS
11	SEPTEMBER 5, 2018	RESURVEY-NO CHANGE IN ELEVATIONS
12	JANUARY 15, 2019	RESURVEY-NO CHANGE IN ELEVATIONS
13	MAY 7, 2019	RESURVEY-NO CHANGE IN ELEVATIONS
14	OCTOBER 14, 2019	RESURVEY-NO CHANGE IN ELEVATIONS
15	JANUARY 31, 2020	RESURVEY-NO CHANGE IN ELEVATIONS
16	MAY 12, 2020	RESURVEY-NO CHANGE IN ELEVATIONS

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

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

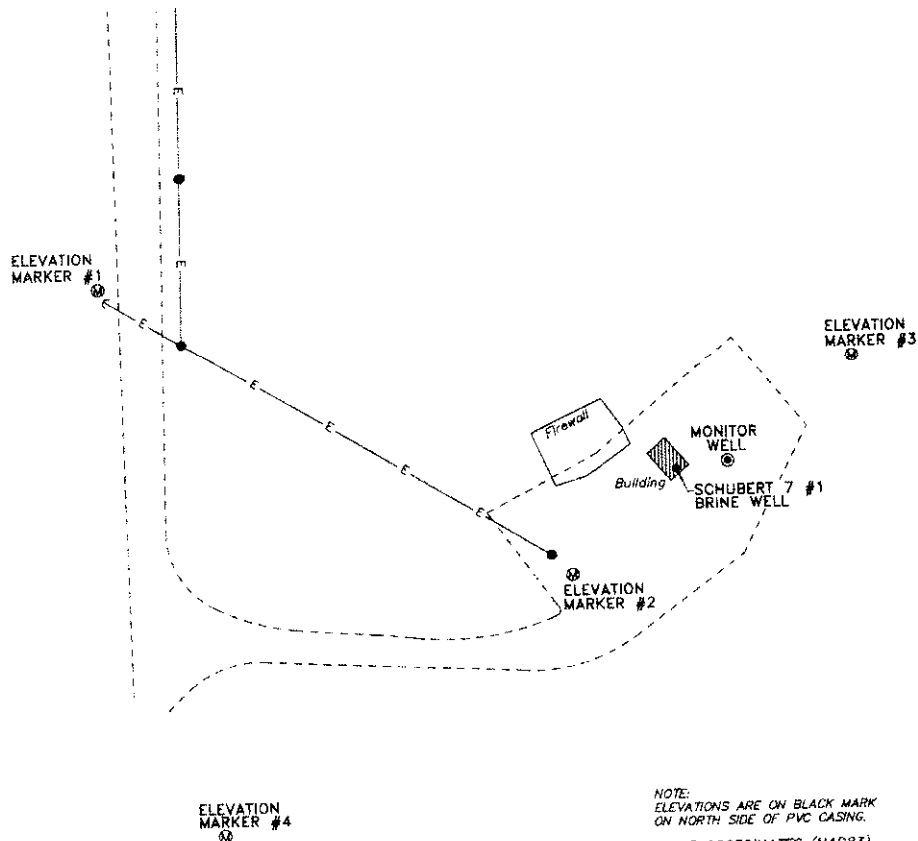


**Basin Surveys** P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 35104 Drawn By: K. GOAD  
Date: 05-12-2020 Disk: KJG - SCHUBERT MW 35104 Survey Date: 05-12-2020 Sheet 1 of 1 Sheets

**H.R.C. INC.**  
REF: ELEVATION MARKERS  
ELEVATION MARKERS LOCATED IN  
SECTION 7, TOWNSHIP 19 SOUTH, RANGE 39 EAST,  
N.M.P.M., LEA COUNTY, NEW MEXICO.

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

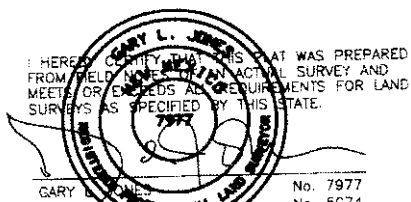


NEW MEXICO STATE PLANE COORDINATES (NAD83)

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EW-4	610926.15	925561.84	32°40'23.76"	103°05'04.86"	3586.94

REVISION #	DATE	DESCRIPTION
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7	May 11, 2017	RESURVEY-NO CHANGE IN ELEVATIONS
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11	SEPTEMBER 5, 2018	RESURVEY-NO CHANGE IN ELEVATIONS
12	JANUARY 15, 2019	RESURVEY-NO CHANGE IN ELEVATIONS
13	MAY 7, 2019	RESURVEY-NO CHANGE IN ELEVATIONS
14	OCTOBER 14, 2019	RESURVEY-NO CHANGE IN ELEVATIONS
15	JANUARY 31, 2020	RESURVEY-NO CHANGE IN ELEVATIONS
16	MAY 12, 2020	RESURVEY-NO CHANGE IN ELEVATIONS
17	SEPTEMBER 9, 2020	RESURVEY-NO CHANGE IN ELEVATIONS

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



**BASIN SURVEYS** P.O. BOX 1766-HOBBS, NEW MEXICO

W.O. Number: 35187 Drawn By: K. GOAD  
Date: 09-09-2020 Disk: KJG - SCHUBERT MW 35187

**H.R.C. INC.**

REF: ELEVATION MARKERS

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

Survey Date: 09-09-2020 Sheet 1 of 1 Sheets





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

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 [www.tceq.texas.gov/fold/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/fold/qa/lab_accred_certif.html).

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 (Coliport 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  
Lab Director/Quality Manager



ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 15-Jun-20 14:49
---	--	------------------------------

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRINE WATER	H001511-01	Water	03-Jun-20 15:17	04-Jun-20 10:25
FRESH WATER	H001511-02	Water	03-Jun-20 15:20	04-Jun-20 10:25
MONITOR WELL	H001511-03	Water	03-Jun-20 15:15	04-Jun-20 10:25

\*=Accredited Analyte

© 2005 The Authors  
Journal compilation © 2005 Blackwell Publishing Ltd, *Journal of Internal Medicine* 258: 103–110

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains.

Celey D. Keene, Lab Director/Quality Manager

Page 2 of 11



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

**Analytical Results For:**

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 15-Jun-20 14:49
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**BRINE WATER**  
H001511-01 (Water)

Analysis	Reagent	MDI	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories**

### Inorganic Compounds

Inorganic Compounds								
Alkalinity, Bicarbonate	83.0	5.00	mg/L	1	0043006	AC	05-Jun-20	310.1
Alkalinity, Carbonate	<1.00	1.00	mg/L	1	0043006	AC	05-Jun-20	310.1
Chloride*	194000	4.00	mg/L	1	0052602	GM	05-Jun-20	4500-Cl-B
Conductivity*	276000	1.00	µS/cm	1	0060503	AC	05-Jun-20	130.1
pH*	6.99	0.100	pH Units	1	0060503	AC	05-Jun-20	150.1
Sulfate*	4010	1.20	mg/L	125	0061104	AC	11-Jun-20	375.1
TDS*	323000	5.00	mg/L	1	0060211	GM	08-Jun-20	760.1
Alkalinity, Total*	68.9	4.00	mg/L	1	0043006	AC	05-Jun-20	310.1

## Green Analytical Laboratories

**Total Recoverable Metals by ICP (E200.7)**

Total Recoverable Metals by TCR (E2009.7)									
Calcium*	1360	50.0	mg/L	500	B200973	AFS	10-Jun-20	EPA200.7	
Magnesium*	364	50.0	mg/L	500	B200973	AFS	10-Jun-20	EPA200.7	
Potassium*	102	75.8	mg/L	500	B200973	AFS	10-Jun-20	EPA200.7	
Sodium*	113000	500	mg/L	500	B200973	AFS	10-Jun-20	EPA200.7	

Cardinal Laboratories

\*=Accredited Analyte

SEVERAL TIMES, WITH MY DRAFTS, I WROTE AT THE HOUSE OF THE LATE PRESIDENT FOR THE QUARTERLY MEETING OF THE BOARD OF THE NATIONAL ASSOCIATION OF WOMEN. AT THESE MEETINGS THERE WAS ALWAYS A VERY LARGE REPRESENTATION OF THE PEOPLE OF THE NORTH, AND I WAS ALWAYS VERY WELL RECEIVED BY THE PRESIDENT. THE PRESIDENT WAS ALWAYS VERY INTERESTED IN THE WORK OF THE ASSOCIATION, AND WAS ALWAYS VERY KIND TO ME. HE WAS ALWAYS VERY INTERESTED IN THE WORK OF THE ASSOCIATION, AND WAS ALWAYS VERY KIND TO ME. HE WAS ALWAYS VERY INTERESTED IN THE WORK OF THE ASSOCIATION, AND WAS ALWAYS VERY KIND TO ME.

1940-1941

Celey D. Keene, Lab Director/Quality Manager

Page 3 of 11





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

**Analytical Results For:**

ETZ WATER STATION  
PO BOX 6056  
HOBBS NM, 88241

Project: SCHUBERT  
Project Number: SHUBERT #7 WATER SAMPLES  
Project Manager: BEN DONAHUE  
Fax To:

Reported:  
15-Jun-20 14:49

**FRESH WATER**  
**H001511-02 (Water)**

Analyte	Result	MDL	Reporting Unit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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**Cardinal Laboratories****Inorganic Compounds**

Alkalinity, Bicarbonate	293		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*	288		4.00	mg/L	1	0052602	GM	05-Jun-20	4500-Cl-B	
Conductivity*	1730		1.00	uS/cm	1	0060503	AC	05-Jun-20	120.1	
pH*	7.68		0.100	pH units	1	0060503	AC	05-Jun-20	150.1	
Sulfate*	205		50.0	mg/L	5	0061100	AC	11-Jun-20	375.4	
TDS*	1080		5.00	mg/L	1	0060211	GM	08-Jun-20	160.1	
Alkalinity, Total*	240		1.00	mg/L	1	0060508	AC	05-Jun-20	310.1	

**Green Analytical Laboratories****Total Recoverable Metals by ICP (E200.7)**

Calcium <sup>6</sup>	133		0.500	mg/L	5	B209973	AFS	10-Jun-20	EPA200.7	
Magnesium <sup>6</sup>	32.1		0.500	mg/L	5	B209973	AFS	10-Jun-20	EPA200.7	
Potassium <sup>6</sup>	14.7	0.058	5.00	mg/L	5	B209973	AFS	10-Jun-20	EPA200.7	
Sodium <sup>6</sup>	162		5.00	mg/L	5	B209973	AFS	10-Jun-20	EPA200.7	

Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Cardinal Laboratories is not responsible for any errors or omissions in the data reported herein. The data is provided for informational purposes only. It is not intended to be used for legal or regulatory purposes. The data is provided for informational purposes only. It is not intended to be used for legal or regulatory purposes. The data is provided for informational purposes only. It is not intended to be used for legal or regulatory purposes.

Caley D. Keene, Lab Director/Quality Manager

Page 4 of 11



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

**Analytical Results For:**

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 15-Jun-20 14:49
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## MONITOR WELL

H001511-03 (Water)

Analyte	Result	MDL	Reporting Unit	Units	Dilution	Batch	Analyte	Analyzed	Method	Notes
---------	--------	-----	----------------	-------	----------	-------	---------	----------	--------	-------

**Cardinal Laboratories**

### Inorganic Compounds

Alkalinity, Bicarbonate	215	5.68	mg/L	1	0960508	AC	05-Jun-20	310.1
Alkalinity, Carbonate	0.00	1.00	mg/L	1	0960508	AC	05-Jun-20	310.1
Chloride*	56.0	0.00	mg/L	1	0952642	CM	05-Jun-20	4506.6 (A-B)
Conductivity*	651	1.00	uS/cm	1	0960503	AC	05-Jun-20	520.3
pH*	7.86	0.100	pH Units	1	0960503	AC	05-Jun-20	150.1
Sulfate*	64.8	10.0	mg/L	1	0961104	AC	05-Jun-20	375.4
TDS*	433	5.00	mg/L	1	0960211	CM	05-Jun-20	160.1
Alkalinity, Total*	176	4.30	mg/L	1	0960508	AC	05-Jun-20	310.1

## Green Analytical Laboratories

**Total Recoverable Metals by ICP (E200.7)**

Calcium*	47.0	0.500	mg/L	5	B200973	AFS	10-Jun-20	EPA200.7
Magnesium*	15.1	0.500	mg/L	5	B200973	AFS	10-Jun-20	EPA200.7
Potassium*	2.26	0.758	mg/L	5	B200973	AFS	10-Jun-20	EPA200.7
Sodium*	63.8	5.00	mg/L	5	B200973	AFS	10-Jun-20	EPA200.7

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\* = Accredited Analyte

1935-1937: WALTON AND DUNN - first study of the effects of a diet deficient in vitamin C on the growth of rats. They found that the rats on the vitamin C deficient diet had a lower growth rate than the rats on the vitamin C supplemented diet. They also found that the rats on the vitamin C deficient diet had a lower survival rate than the rats on the vitamin C supplemented diet. This study was the first to show that a diet deficient in vitamin C can lead to growth retardation and death in rats.

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: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 15-Jun-20 14:49
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## Inorganic Compounds - Quality Control

## Cardinal Laboratories

[illegible]

Batch 0043096 - General Prep - Wet Chem

Blank (0043006-B1.K1)		Prepared & Analyzed: 30-Apr-20	
Acidity, Carbonate	ND	1.00	mg/L
Acidity, Bicarbonate	5.00	5.00	mg/L
Acidity, Total	4.00	4.00	mg/L

LCS (0043006-B81)		Prepared & Analyzed: Mr. April 20	
Alkalinity, carbonate	819	2.56	819.120
Alkalinity, Bicarbonate	247	12.3	819.120
Alkalinity, Total	1066	14.9	819.120

LCS Dup (0043006-BSD1)		Prepared & Analyzed: 30-Apr-20			
Alkalinity, Carbonate	ND	2.50	mg/L	80-120	20
Alkalinity, Bicarbonate	330	12.5	mg/L	80-120	12.0
Alkalinity, Total	276	10.0	mg/L	80-120	11.8

## Batch 0052602 - General Prep - Wet Chem

Blank (0052602-BLK1) Prepared & Analyzed: 26-May-2016

LCS (0052602-B81)		Prepared & Analyzed: 26-May-20	
Chloride	104	4.05	1.4
			10.5
			80.120

ICS Dup (0052602-BSD1)	Prepared & Analyzed: 26-May-26
Chloride	194      183      198.1      196      196      196.12%      199      20

**Batch 0060211 - Filtration**

Blank (0060211-B1-K1) Prepared: 02-Jun-20 Analyzed: 03-Jun-20

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[illegible]

1952

Celey D. Keene, Lab Director/Quality Manager

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

**Analytical Results For:**

ETZ WATER STATION  
PO BOX 6056  
HOBBS NM, 88241

Project: SCHUBERT  
Project Number: SHUBERT #7 WATER SAMPLES  
Project Manager: BEN DONAHUE  
Fax To:

Reported:  
15-Jun-20 14:49

### Inorganic Compounds - Quality Control

## Cardinal Laboratories

Amide	Results	Reporting Unit	Units	Stock Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 0060211 - Filtration**

LC# (0060211-BS1)				Prepared: 02-Jun-20 Analyzed: 03-Jun-20			
TDS	mg/L	mg/L	mg/L	TDS	mg/L	mg/L	mg/L
Duplicate (0060211-DUP1)				Source: H001477-02			
TDS	721	506	und	TDS	724	645	20

Batch 0060503 - General Prep - Wet Chem

1.CS (0060503-BST)		Prepared & Analyzed: 05-Jun-20	
pH	7.13	pH Unit	00
Conductivity	161µmS	µS/cm	30
Duplicate (0060503-DUP1)		Source: H1001511-01	
Prepared & Analyzed: 05-Jun-20			
pH	7.02	pH Unit	0.99
Conductivity	275000	µS/cm	0.218
			20

Batch 0060508 - General Prep - Wet Chem

<b>Blank (0060508-BLK1)</b>				<b>Prepared &amp; Analyzed: 05-Jun-20</b>			
Alkalinity, Carbonate	Nil	0.00	mg/L				
Alkalinity, Bicarbonate	5.00	5.00	mg/L				
Alkalinity, Total	1.90	4.00	mg/L				
<b>LOC (0060508-BST)</b>				<b>Prepared &amp; Analyzed: 05-Jun-20</b>			
Alkalinity, Carbonate	Nil	2.50	mg/L			86.120	
Alkalinity, Bicarbonate	30.8	12.8	mg/L			86.120	
Alkalinity, Total	29.1	10.0	mg/L	250	160	86.120	

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[illegible]

... ..

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Page 7 of 11



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

**Analytical Results For:**

ETZ WATER STATION PO BOX 6056 HOBBS NM, 88241	Project: SCHUBERT Project Number: SHUBERT #7 WATER SAMPLES Project Manager: BEN DONAHUE Fax To:	Reported: 15-Jun-20 14:49
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### Inorganic Compounds - Quality Control

## Cardinal Laboratories

Article	Result	Reporting Unit	Units	Spike Level	Source Result	"aREC"	"aREC" Units	RPD	RPD Unit	Notes
---------	--------	----------------	-------	-------------	---------------	--------	--------------	-----	----------	-------

Batch 0060508 - General Prep - Wet Chem

LCS Dup (0060508-BSD1)		Prepared & Analyzed: 05-Jun-20	
Alkalinity, Carbonate	ND	2.50	mg/L
Alkalinity, Bicarbonate	405	12.5	mg/L
Alkalinity, Total	250	10.00	mg/L

Batch 0061104 - General Prep - Wet Chem

Blank (0061104-BL.K1)				Prepared & Analyzed: 11-Jun-20			
Sulfate	ND	10.0	mg/L				
ICS (0061104-BS1)				Prepared & Analyzed: 11-Jun-20			
Sulfate	20.0	10.0	mg/L	20.0	100	80+120	
ICS Dup (0061104-BSD1)				Prepared & Analyzed: 11-Jun-20			
Sulfate	18.8	10.0	mg/L	2.14	44.3	80+120	6.34 29

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[illegible]

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Page 8 of 11



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**Analytical Results For:**

ETZ WATER STATION  
PO BOX 6056  
HOBBS NM. 88241

Project: SCHUBERT  
Project Number: SHUBERT #7 WATER SAMPLES  
Project Manager: BEN DONAHUE  
Fax To:

Reported:  
15-Jun-20 14:49

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

## Green Analytical Laboratories

Analyte	Result	Reference		Spills Level	Source Result	%REC		RPD	RPD Limit	Notes
		Limit	Units			%REC	Limits			

Batch B200973 - Total Rec. 200.7/200.8/200.2

## Blank (B200973-BLK1)

Prepared: 08-Jan-20 Analyzed: 10-Jan-20

Potassium	ND	1.30	mg/L
Sodium	ND	1.00	mg/L
Calcium	ND	0.100	mg/L
Magnesium	ND	0.100	mg/L

## LCS (B200973-B813)

Prepared: 08-Jun-20 Analyzed: 10-Jun-20

Sodrum	2.32	1 00	ang. 4	3.24	103	85-115
Potassium	8.50	1 00	ang. 1	8.60	100	85-115
Magnesium	20.6	0 100	ang. 1	20.0	103	85-115
Calcium	4.05	0 100	ang. 1	4.60	101	85-115

ICS Dup (B200973-BSD1)

Prepared: 08-Jun-20 Analyzed: 10-Jun-20

Magnesium	35.7	0.360	mg/L	20.6	101	85-115	2.12	20
Potassium	8.30	1.40	mg/L	8.63	104	85-115	1.40	20
Sodium	3.28	0.60	mg/L	3.24	100	85-115	3.64	20
Calcium	9.95	0.160	mg/L	3.49	53.8	35-115	2.38	20

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[illegible]

Figure 1. The effect of the concentration of the *Agaricus bisporus* spores on the growth of *Agaricus bisporus* on the substrate.

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## Notes and Definitions

J	Estimated concentration. 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.
**v	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

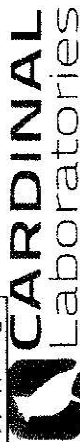
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(575) 393-2326 FAX (575) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO				ANALYSIS REQUEST												
Company Name: ETR Water Station				P.O. #												
Project Manager: Ben Donahue				Company:												
Address: P.O. Box 5102				Attn:												
City: Hobbs				Address:												
Phone #: 575 343 3194				City:												
State: NM Zip: 88241				State:												
Fax #: 575 343 3194				City:												
Project #: 575 343 3194				State:												
Project Name: Schubert #7 Bore Well				Phone #:												
Project Location: Schubert #7 Bore Well				Fax #:												
Sampler Name: Ben Donahue																
Lab I.D.	Sample I.D.	MATRIX	PRESERV	SAMPLING												
H001511	Bore Water	WASTEWATER	ICE-COOL	DATE TIME												
1	Bore Water	WASTEWATER	ICE-COOL	6/3/20 3:17PM												
2	Fresh Water	WASTEWATER	ICE-COOL	6/3/20 3:20PM												
3	Monitor Well	WASTEWATER	ICE-COOL	6/3/20 3:15PM												
Relinquished By: Ben Donahue Date: 6/4/20 Time: 10:00am Received By: [Signature] Date: [Blank] Time: [Blank]					Vertical Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Add'l Phone # All Results are emailed. Please provide email address REMARKS: email to gsc-smschubert@gmail.com Turnaround Time: Standard <input type="checkbox"/> Expedited <input type="checkbox"/> Thermometer ID: #113 Corrected Temp: 72.64 Bacteria (only Sample Condition): Cool Intact <input type="checkbox"/> Observed Temp: °C No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Corrected Temp: °C											

\* Cardinal cannot accept verbal changes. Please email changes to caley.keene@cardinallabsnm.com



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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 [www.tceq.texas.gov/field/ga/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/ga/lab_accred_certif.html).

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 (ColiIert 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

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 #7  
Project Manager: BEN DONAHUE  
Fax To:

Reported:  
15-Dec-20 16:38

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRINE WATER	H003188-01	Water	03-Dec-20 11:45	04-Dec-20 14:00
FRESH WATER	H003188-02	Water	03-Dec-20 11:48	04-Dec-20 14:00
MONITOR WELL	H003188-03	Water	03-Dec-20 11:47	04-Dec-20 14:00

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Colby 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 #7  
Project Manager: BEN DONAHUE  
Fax To:

Reported:  
15-Dec-20 16:38

**BRINE WATER**  
**H003188-01 (Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Not
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**Cardinal Laboratories****Inorganic Compounds**

Alkalinity, Bicarbonate	83.0		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*	188000		4.00	mg/L	1	0111906	GM	07-Dec-20	4500-C1-B	
Conductivity*	277000		1.00	umhos/cm @ 25°C	1	0120707	GM	07-Dec-20	120.1	
pH*	7.02		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*	3830		833	mg/L	83.33	0120404	GM	10-Dec-20	375.4	
TDS*	318000		5.00	mg/L	1	0120812	GM	11-Dec-20	160.1	
Alkalinity, Total*	68.0		4.00	mg/L	1	0120709	GM	07-Dec-20	310.1	

**Green Analytical Laboratories****Total Recoverable Metals by ICP (E200.7)**

Calcium*	1300		50.0	mg/L	500	B202689	AES	11-Dec-20	EPA200.7	
Magnesium*	504		50.0	mg/L	500	B202689	AES	11-Dec-20	EPA200.7	
Potassium*	153	75.8	500	mg/L	500	B202689	AES	11-Dec-20	EPA200.7	
Sodium*	110000		500	mg/L	500	B202689	AES	11-Dec-20	EPA200.7	

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Coley 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 #7  
Project Manager: BEN DONAHUE  
Fax To:

Reported:  
15-Dec-20 16:38

**FRESH WATER**  
**H003188-02 (Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Not
<b>Cardinal Laboratories</b>										
<b>Inorganic Compounds</b>										
Alkalinity, Bicarbonate	224		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*	244		4.00	mg/L	1	0111906	GM	07-Dec-20	4500-Cl-B	
Conductivity*	1620		1.00	umhos/cm @ 25°C	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*	242		50.0	mg/L	5	0120404	GM	10-Dec-20	375.4	
TDS*	978		5.00	mg/L	1	0120812	GM	11-Dec-20	160.1	
Alkalinity, Total*	184		4.00	mg/L	1	0120709	GM	07-Dec-20	310.1	

**Green Analytical Laboratories****Total Recoverable Metals by ICP (E200.7)**

Calcium*	134		0.500	mg/L	5	B202689	AES	11-Dec-20	EPA200.7	
Magnesium*	36.7		0.500	mg/L	5	B202689	AES	11-Dec-20	EPA200.7	
Potassium*	3.89	0.758	5.00	mg/L	5	B202689	AES	11-Dec-20	EPA200.7	
Sodium*	120		5.00	mg/L	5	B202689	AES	11-Dec-20	EPA200.7	

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Coley 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 #7  
Project Manager: BEN DONAHUE  
Fax To:

Reported:  
15-Dec-20 16:38

**MONITOR WELL****H003188-03 (Water)**

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Not
<b>Cardinal Laboratories</b>										
<b>Inorganic Compounds</b>										
Alkalinity, Bicarbonate	210		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*	60.0		4.00	mg/L	1	0120708	GM	07-Dec-20	4500-Cl-B	
Conductivity*	651		1.00	umhos/cm @ 25°C	1	0120707	GM	07-Dec-20	120.1	
pH*	7.76		0.100	pH Units	1	0120707	GM	07-Dec-20	150.1	
Temperature °C	23.1			pH Units	1	0120707	GM	07-Dec-20	150.1	
Sulfate*	60.1		10.0	mg/L	1	0120404	GM	10-Dec-20	375.4	
TDS*	262		5.00	mg/L	1	0120812	GM	11-Dec-20	160.1	
Alkalinity, Total*	172		4.00	mg/L	1	0120709	GM	07-Dec-20	310.1	

**Green Analytical Laboratories****Total Recoverable Metals by ICP (E200.7)**

Calcium*	50.0		0.500	mg/L	5	B202689	AES	11-Dec-20	EPA200.7	
Magnesium*	16.0		0.500	mg/L	5	B202689	AES	11-Dec-20	EPA200.7	
Potassium*	2.20	0.758	5.00	mg/L	5	B202689	AES	11-Dec-20	EPA200.7	
Sodium*	54.9		5.00	mg/L	5	B202689	AES	11-Dec-20	EPA200.7	

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Colby 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 #7  
Project Manager: BEN DONAHUE  
Fax To:

Reported:  
15-Dec-20 16:38

**Inorganic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 0111906 - General Prep - Wet Chem</b>										
<b>Blank (0111906-BLK1)</b>										
Chloride	ND	4.00	mg/L							Prepared & Analyzed: 19-Nov-20
<b>LCS (0111906-BS1)</b>										
Chloride	100	4.00	mg/L	100		100	80-120			Prepared & Analyzed: 19-Nov-20
<b>LCS Dup (0111906-BSD1)</b>										
Chloride	100	4.00	mg/L	100		100	80-120	0.00	20	Prepared & Analyzed: 19-Nov-20
<b>Batch 0120404 - General Prep - Wet Chem</b>										
<b>Blank (0120404-BLK1)</b>										
Sulfate	ND	10.0	mg/L							Prepared: 04-Dec-20 Analyzed: 10-Dec-20
<b>LCS (0120404-BS1)</b>										
Sulfate	21.0	10.0	mg/L	20.0		105	80-120			Prepared: 04-Dec-20 Analyzed: 10-Dec-20
<b>LCS Dup (0120404-BSD1)</b>										
Sulfate	20.2	10.0	mg/L	20.0		101	80-120	3.94	20	Prepared: 04-Dec-20 Analyzed: 10-Dec-20
<b>Batch 0120707 - General Prep - Wet Chem</b>										
<b>LCS (0120707-BS1)</b>										
Conductivity	102000		uS/cm	100000		102	80-120			Prepared & Analyzed: 07-Dec-20
pH	7.09		pH Units	7.00		101	90-110			
<b>Duplicate (0120707-DUP1)</b>										
pH	7.00	0.100	pH Units	6.90				1.44	20	Source: H1003187-01 Prepared & Analyzed: 07-Dec-20
Conductivity	262000	1.00	umhos/cm @ 25°C	262000				0.305	20	
Temperature °C	23.0		pH Units	23.0				0.00	200	

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\*=Accredited Anal

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Colony D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ETZ WATER STATION  
PO BOX 6056  
HOBBS NM, 88241

Project: SCHUBERT  
Project Number: SCHUBERT #7  
Project Manager: BEN DONAHUE  
Fax To:

Reported:  
15-Dec-20 16:38

**Inorganic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 0120708 - General Prep - Wet Chem****Blank (0120708-BLK1)**

Prepared &amp; Analyzed: 07-Dec-20

Chloride	ND	4.00	mg/L							
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**LCS (0120708-BS1)**

Prepared &amp; Analyzed: 07-Dec-20

Chloride	100	4.00	mg/L	100		100	80-120			
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**LCS Dup (0120708-BSD1)**

Prepared &amp; Analyzed: 07-Dec-20

Chloride	104	4.00	mg/L	100		104	80-120	3.92	20	
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**Batch 0120709 - General Prep - Wet Chem****Blank (0120709-BLK1)**

Prepared &amp; Analyzed: 07-Dec-20

Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							

**LCS (0120709-BS1)**

Prepared &amp; Analyzed: 07-Dec-20

Alkalinity, Carbonate	ND	2.50	mg/L				80-120			
Alkalinity, Bicarbonate	305	12.5	mg/L				80-120			
Alkalinity, Total	250	10.0	mg/L	250		100	80-120			

**LCS Dup (0120709-BSD1)**

Prepared &amp; Analyzed: 07-Dec-20

Alkalinity, Carbonate	ND	2.50	mg/L				80-120			20
Alkalinity, Bicarbonate	318	12.5	mg/L				80-120	4.02		20
Alkalinity, Total	260	10.0	mg/L	250		104	80-120	3.92		20

**Batch 0120812 - Filtration****Blank (0120812-BLK1)**

Prepared: 08-Dec-20 Analyzed: 11-Dec-20

TDS	ND	5.00	mg/L							
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Colby 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 #7  
Project Manager: BEN DONAHUE  
Fax To:

Reported:  
15-Dec-20 16:38

**Inorganic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 0120812 - Filtration</b>										
<b>LCS (0120812-BS1)</b>										
TDS	532		mg/L	500		106	80-120			Prepared: 08-Dec-20 Analyzed: 11-Dec-20
<b>Duplicate (0120812-DUP1)</b>										
TDS	1090	5.00	mg/L		1160			5.88	20	Source: H003187-03 Prepared: 08-Dec-20 Analyzed: 11-Dec-20

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*Colony D. Keene*  
Colony 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 #7  
Project Manager: BEN DONAHUE  
Fax To:

Reported:  
15-Dec-20 16:38

**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
<b>Batch B202689 - Total Rec. 200.7/200.8/200.2</b>										
<b>Blank (B202689-BLK1)</b>										
Prepared: 10-Dec-20 Analyzed: 11-Dec-20										
Magnesium	ND	0.100	mg/L							
Sodium	ND	1.00	mg/L							
Potassium	ND	1.00	mg/L							
Calcium	ND	0.100	mg/L							
<b>LCS (B202689-BS1)</b>										
Prepared: 10-Dec-20 Analyzed: 11-Dec-20										
Calcium	3.93	0.100	mg/L	4.00		98.2	85-115			
Potassium	7.99	1.00	mg/L	8.00		99.9	85-115			
Sodium	3.32	1.00	mg/L	3.24		103	85-115			
Magnesium	20.4	0.100	mg/L	20.0		102	85-115			
<b>LCS Dup (B202689-BSD1)</b>										
Prepared: 10-Dec-20 Analyzed: 11-Dec-20										
Magnesium	20.9	0.100	mg/L	20.0		104	85-115	2.36	20	
Calcium	4.02	0.100	mg/L	4.00		101	85-115	2.40	20	
Potassium	7.98	1.00	mg/L	8.00		99.8	85-115	0.164	20	
Sodium	3.37	1.00	mg/L	3.24		104	85-115	1.39	20	

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Coley D. Keene, Lab Director/Quality Manager



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### Notes and Definitions

J	Estimated concentration. 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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A handwritten signature in black ink, appearing to read "Coley D. Keene".

---

Coley D. Keene, Lab Director/Quality Manager



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

## BILL TO

## ANALYSIS REQUEST

Company Name: **Cardinal Laboratories**  
Project Manager:

Address: **PO 5102**

City: **Hobbs**

State: **NM** Zip: **88241**

Phone #: **575 393-3141**

Fax #:

Project #: **Schubert #7** Project Owner:

Project Name: **Water Samples**

Project Location: **Schubert #7 Brine Well**

Sampler Name: **Ben Denner**

P.O. #:

Company:

Attn:

Address:

City:

State:

Phone #:

Fax #:

MATRIX

PRESERV

SAMPLING

Lab I.D.

Sample I.D.

11003188

Brine water  
6 Fresh water  
3 Monitor well

(G)RAB OR (C)OMP

# CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER

ACID/BASE

ICE / COOL

OTHER

DATE TIME

12/20/11 4:35pm  
12/3/2011 4:00pm  
12/3/2011 4:00pm

Cations / Anions

Relinquished By:

Date:

Time:

Received By:

Verbal Result:

Yes

No

Add Phone #:

All Results are emailed. Please provide email address

Remarks:

getm@cardinallabsnm.com

Relinquished By:

Date:

Time:

Received By:

Verbal Result:

Yes

No

Add Phone #:

All Results are emailed. Please provide email address

Remarks:

getm@cardinallabsnm.com

Delivered By: (Circle One)

Observed Temp. °C

Sample Condition

CHECKED BY:

Turnaround Time:

Standard

Bacteria (only) Sample Condition

Cool Intact

Observed Temp. °C

Corrected Temp. °C

Sampler: UPS - Bus - Other

Corrected Temp. °C

Sample Condition

CHECKED BY:

Turnaround Time:

Standard

Bacteria (only) Sample Condition

Cool Intact

Observed Temp. °C

Corrected Temp. °C

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

Schubert 7 Well No1

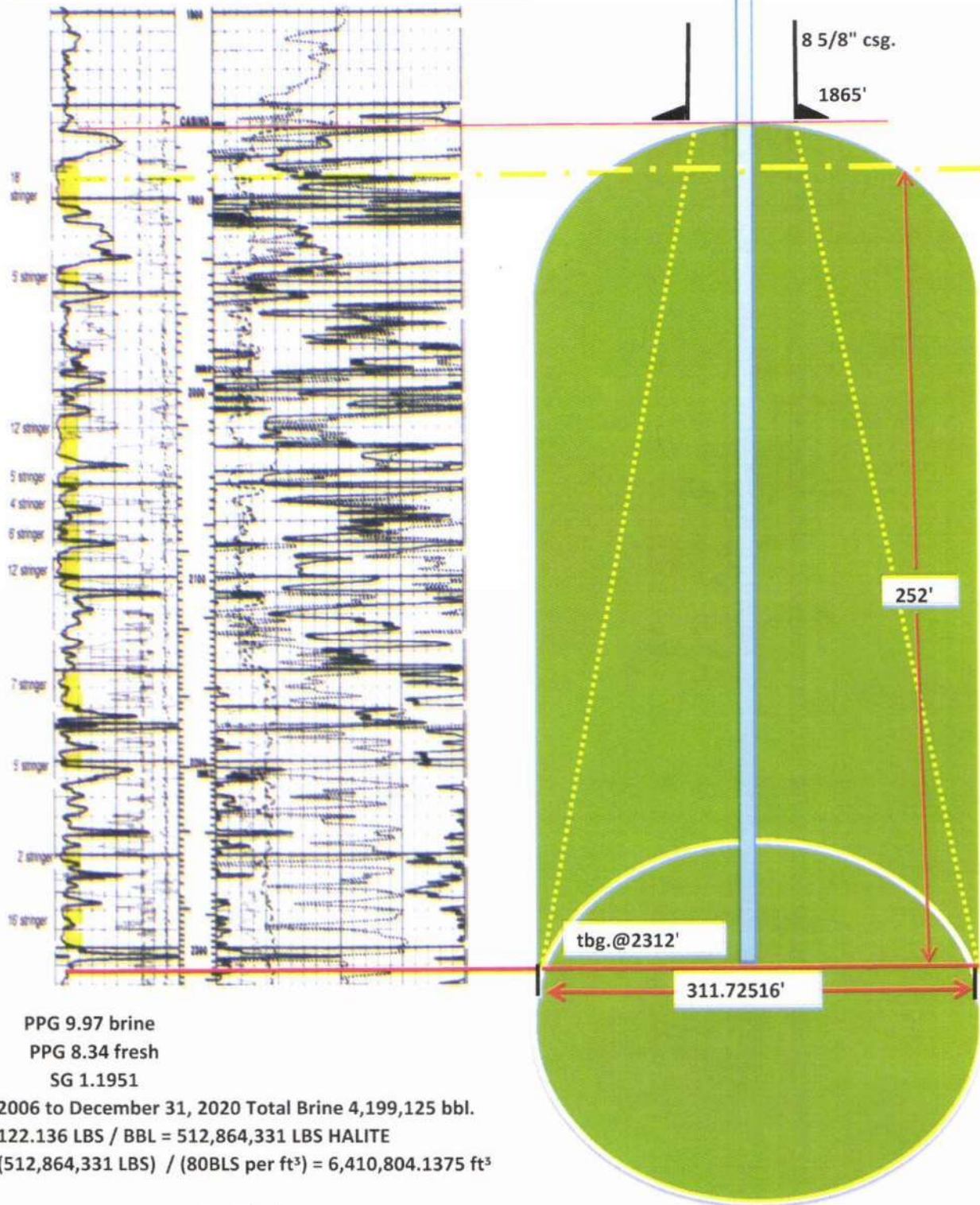
December 31,2020

API 30-025-36781

J SEC7 T19S R39E

LAT: 32.6738815 LONG:-103.0835953

2 7/8" J-55 6.5# IPC



Est. height is 252'

Est. cavern floor diameter is 311.72516'

311.72516 / 1865 = 0.167145 factor value

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

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

COMMENTS  
  
Action 106345

COMMENTS

Operator: HRC INC P.O. Box 5102 Hobbs, NM 88241	OGRID: 131652
	Action Number: 106345
	Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)

COMMENTS

Created By	Comment	Comment Date
cchavez	Annual Report 2020	7/6/2022



**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720

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1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 106345

CONDITIONS

Operator: HRC INC P.O. Box 5102 Hobbs, NM 88241	OGRID: 131652
	Action Number: 106345
	Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)

CONDITIONS

Created By	Condition	Condition Date
cchavez	None	7/6/2022