



**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,

  
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.)

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## 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.

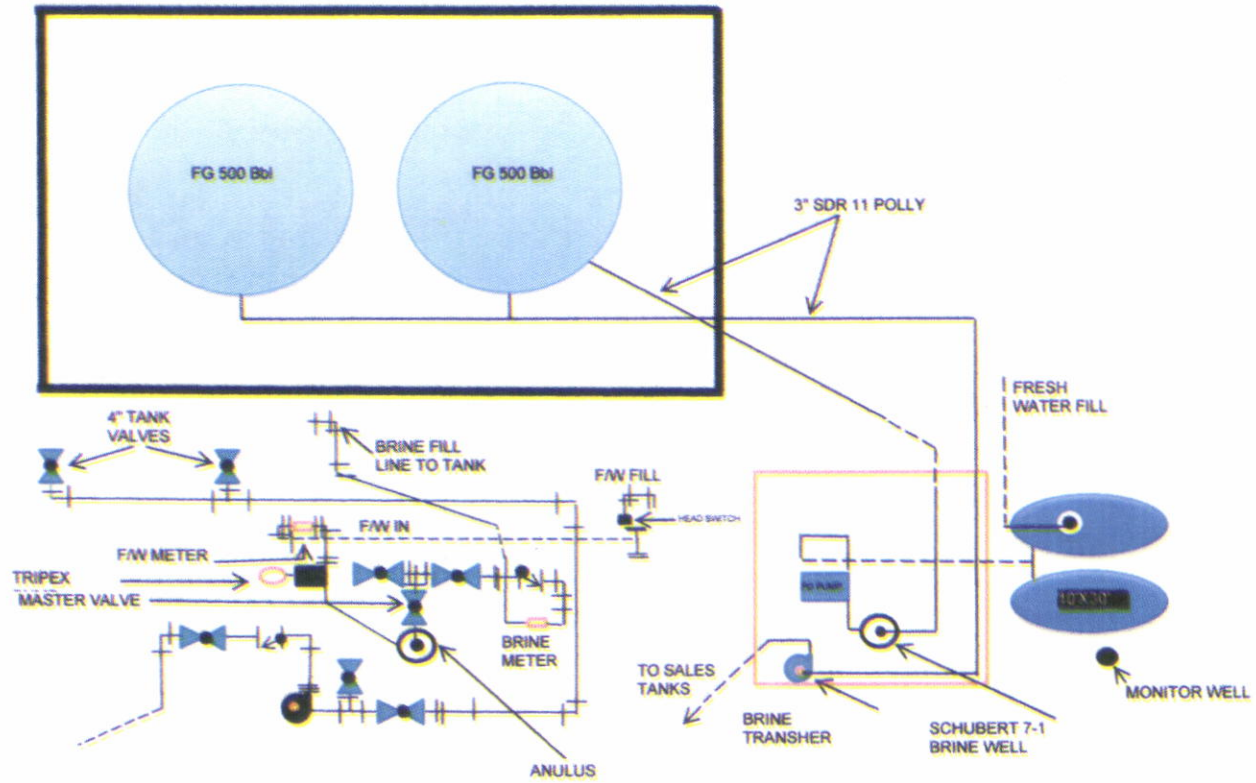
H.R.C., Inc. has included in this report the C-103 Subsequent Report, MIT Chart with Meter Certification, C-103 Subsequent Bradenhead Report and the C-105 Report for the liner set and new OH bore depth with wellbore schematic for your viewing all of the above has been sent for approval.

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

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

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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  
 1635 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-Salido

## 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 -- HELD @ 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

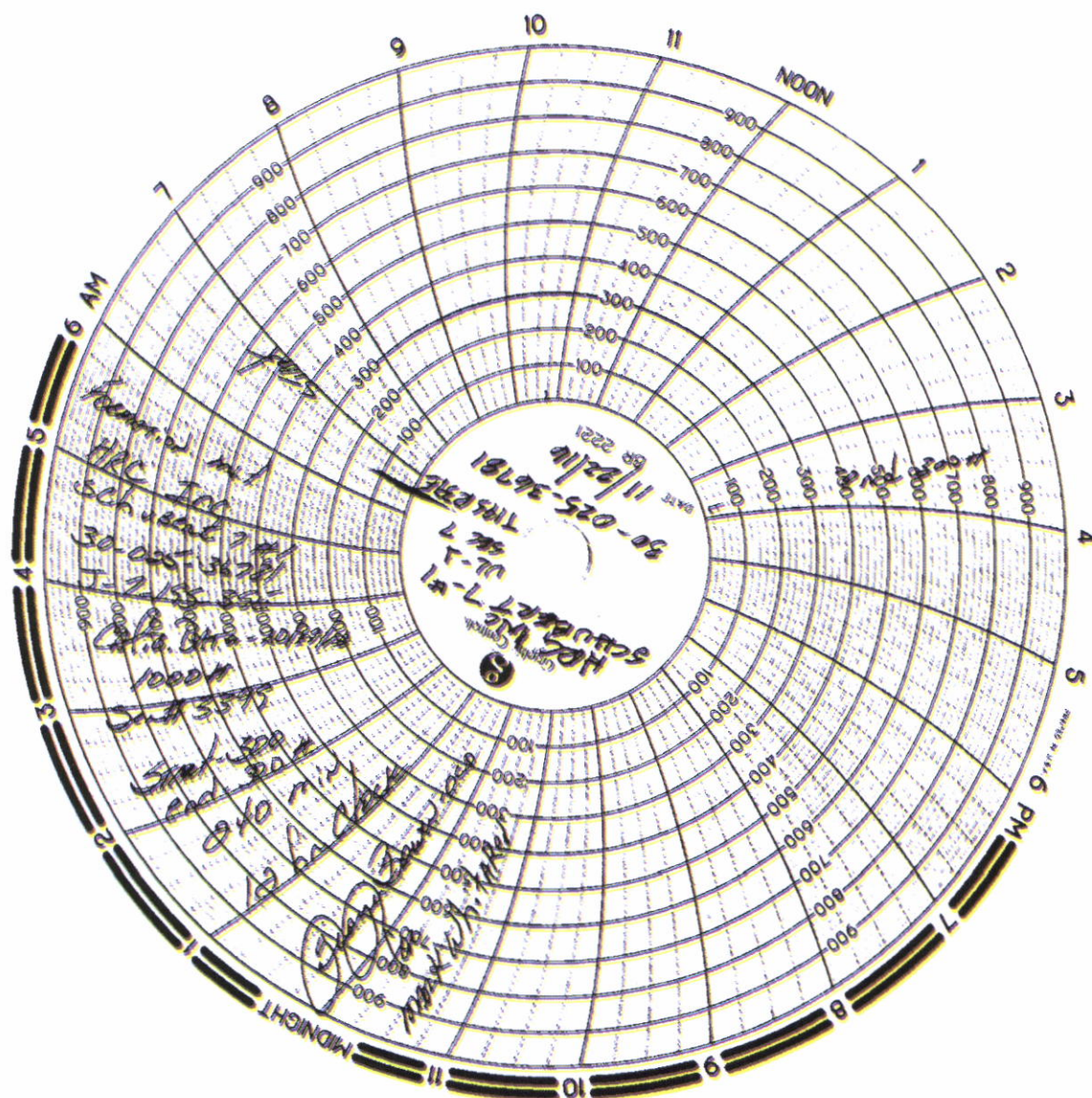
Senior Engineer

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

<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 Lea County		8. Well Number 1 BW-031
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"/>	
--	--	--	--

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

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

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

Spud Date:

Rig Release Date:

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

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

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

**For State Use Only**

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



## H.R.C., Inc.

## 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 3/4" 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 3/4" 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 of top of fish continue to RIH to 1826' RU Swivel rotate from 1826' to 1844' continued to drill and wash out bore to 1985', pulled bit up into 8 5/8 csg. To 1702' shut in BOP SDFN

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

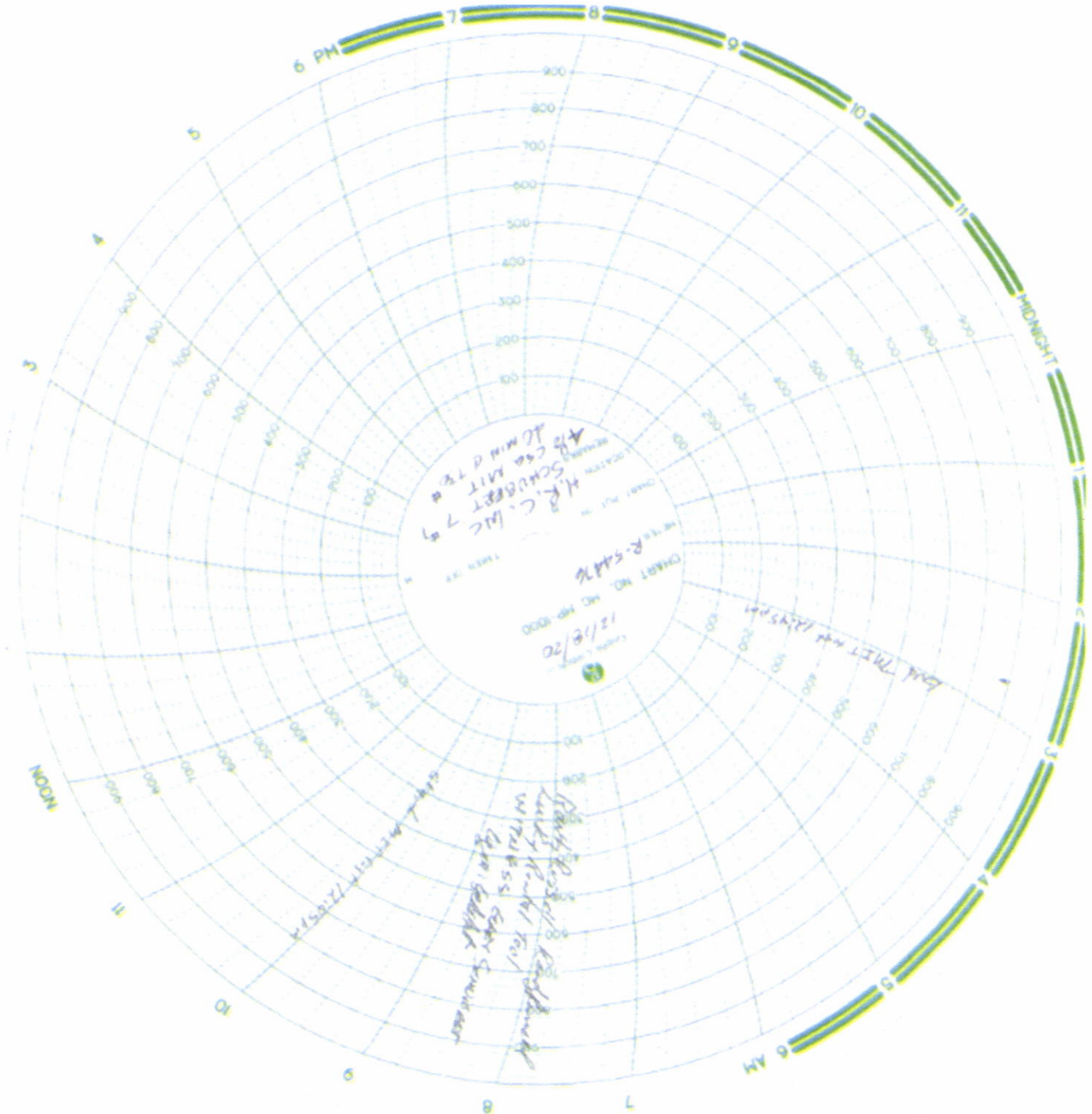
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bent on joint number two above bit sub, and sheared cut on jt. # 1 above bit sub and bit left 1-16' 2 3/8" tbg. piece and a bit sub w/ 3 7/8" bit in hole. 18' fish est. depth of TOF #2 @2145'-2163" shut in SDFN.

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.

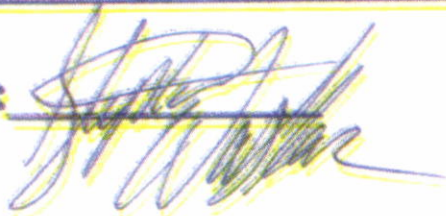
H.R.C., Inc.



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

## 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

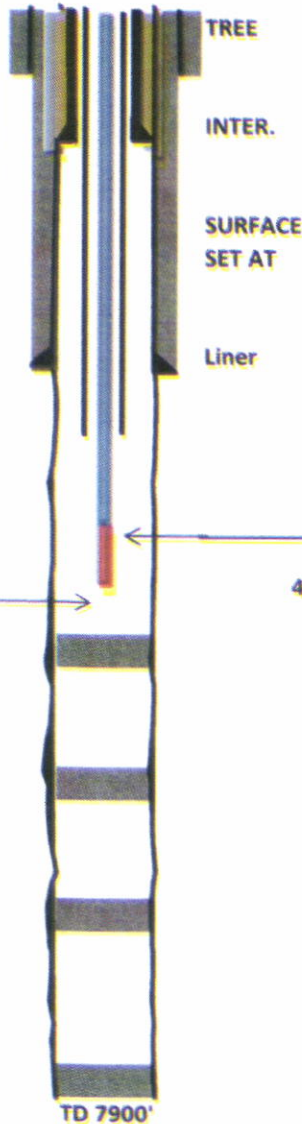
OH HOLE SIZE 7 7/8"

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'

Current

12/22/2020



Hung with 3M head

79 jts. 2 3/8" 4.7# J-55

Bit SET @ 2609'

INTER.

5 1/2" 15.5# Drift 4.825"

Set @ 404' 200 sx cir surf

SURFACE

8 5/8" 24# ST&amp;C

SET AT

1865' w/900SX

CIR. SURFACE

Liner

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'
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

**H D C, Inc.**  
**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

<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		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</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

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"/>		OTHER: Bradenhead Test Report <input checked="" type="checkbox"/>	
CLOSED-LOOP SYSTEM <input type="checkbox"/>			
OTHER: <input 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.

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  
(805) 334-8178 FAX: (805) 334-4170  
[http://omnrds.state.nm.us/oecd/District III/3daztec.htm](http://omnrds.state.nm.us/oecd/District%20III/3daztec.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 2 3/8 Intermediate 5 1/2 Casing 4 1/2 Bradenhead 8 5/8

OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH

Testing	PRESSURE			FLOW CHARACTERISTICS		
	BRADENHEAD			INTERMEDIATE		
	BH	Int.	Csg.	Int.	Csg.	
TIME						
5 min.	0	0	230	0	230	Steady Flow
10 min.	0	0	230	0	230	Surges
15 min.	0	0	230	0	230	Down to Nothing
20 min.						Nothing <input checked="" type="checkbox"/>
25 min.						Gas
30 min.						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 S. 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.			
<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)		5. Lease Name or Unit Agreement Name <b>SHUBERT 7</b>			
		6. Well Number:  No.1 <b>BW-031</b>			
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 <b>H.R.C., INC.</b>		9. OGRID <b>131652</b>			
10. Address of Operator <b>P.O. Box 5102 Hobbs, NM 88241</b>		11. Pool name or Wildcat <b>BSW SALADO</b>			
12. Location	Unit Ltr	Section	Township	Range	Lot
Surface:	J	7	19S	39E	
BH:					
13. Date Spudded <b>9-22-04</b>	14. Date T.D. Reached <b>10-7-04</b>	15. Date Rig Released SERVICE UNIT RELEASED <b>12/22/2020</b>		16. Date Completed (Ready to Produce) <b>12/22/2020</b>	
17. Elevations (DF and RKB, RT, GR, etc.) <b>3585 GL</b>		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 <b>1865' -2649'</b>		<b>SALADO</b>			
<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) <b>7 7/8" OH 1865' - 2609'</b>			27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC. DEPTH INTERVAL      AMOUNT AND KIND MATERIAL USED		
<b>28. PRODUCTION</b>					
Date First Production <b>12/22/2020</b>		Production Method (Flowing, gas lift, pumping - Size and type pump) <b>PUMPING - T43</b>		Well Status (Prod. or Shut-in) <b>PRODUCING</b>	
Date of Test <b>1/15/2021</b>	Hours Tested <b>24</b>	Choke Size	Prod'n For Test Period	Oil - Bbl	Gas - MCF
					Water - Bbl 860-1000 10# BRINE
Flow Tubing Press <b>260 PSI</b>	Casing Pressure <b>45</b>	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 <b>BEN DONAHUE</b>
31. List Attachments  <b>WELL BORE SHEMATIC</b>					



## 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 <i>David H. Alvarado</i> 2/5/2021		Printed Name DAVID ALVARADO	Title ACTING AGENT FOR H.R.C., INC.      Date:
E-mail Address      davidal00136@gmail.com			

**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. Penn A"
T. Salt	1880	T. Strawn	T. Penn. "B"
B. Salt	2900	T. Atoka	T. Penn. "C"
T. Yates	2930	T. Miss	T. Penn. "D"
T. 7 Rivers	3160	T. Devonian	T. Leadville
T. Queen	3710	T. Silurian	T. Madison
pT. Grayburg	4080	T. Montoya	T. Elbert
T. San Andres	4396	T. Simpson	T. McCracken
T. Glorieta	5715	T. McKee	T. Ignacio Otzte
T. Paddock	5858	T. Ellenburger	T. Granite
T. Blinberry	6260	T. Gr. Wash	
T. Tubb	6820	T. Delaware Sand	
T. Drinkard	7050	T. Bone Springs	
T. Abo	7464	T.	
T. Wolfcamp		T.	
T. Penn		T.	
T. Cisco (Bough C)		T.	

**OIL OR GAS  
SANDS OR ZONES**

No. 1, from.....to.....      No. 3, from.....to.....  
 No. 2, 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. 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
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4430'	7500'	3070'	Dolomite, Limestone
7500'	7900'	400'	Dolomite

OH HOLE SIZE 7 7/8"

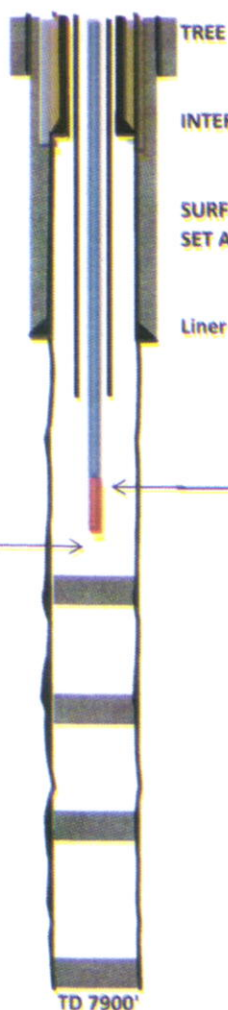
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est. TOC @ 2,557' 390'

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

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Bit SET @ 2609'

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Set @ 404' 200 sx cir surf

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

4 1/2" 11.35# J55 liner Csg.  
set @ 1993'  
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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'
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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'

## H.R.C., Inc.

---

### 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.



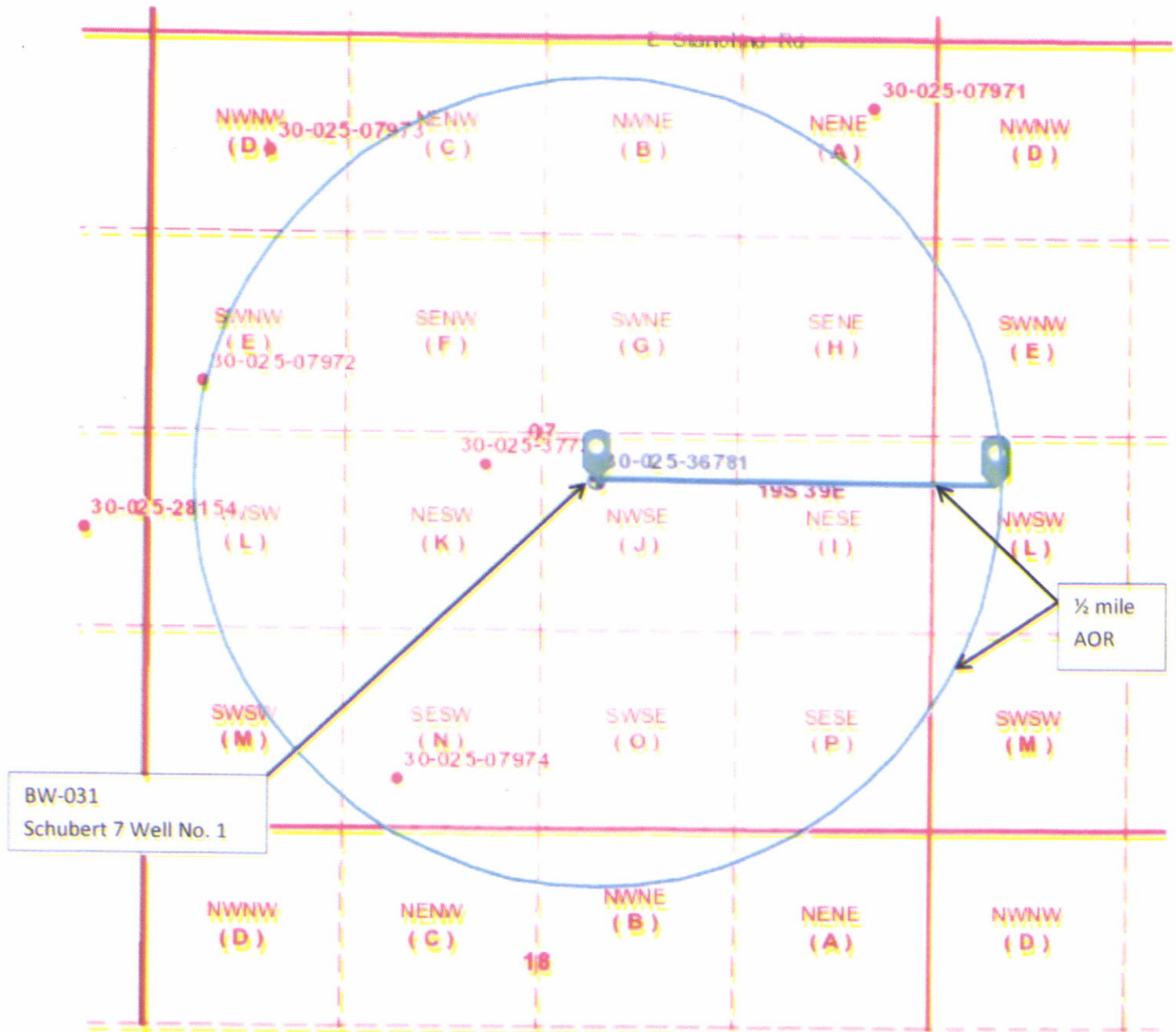
H.R.C., Inc.

Schubert 7 Well No. 1

BW-031

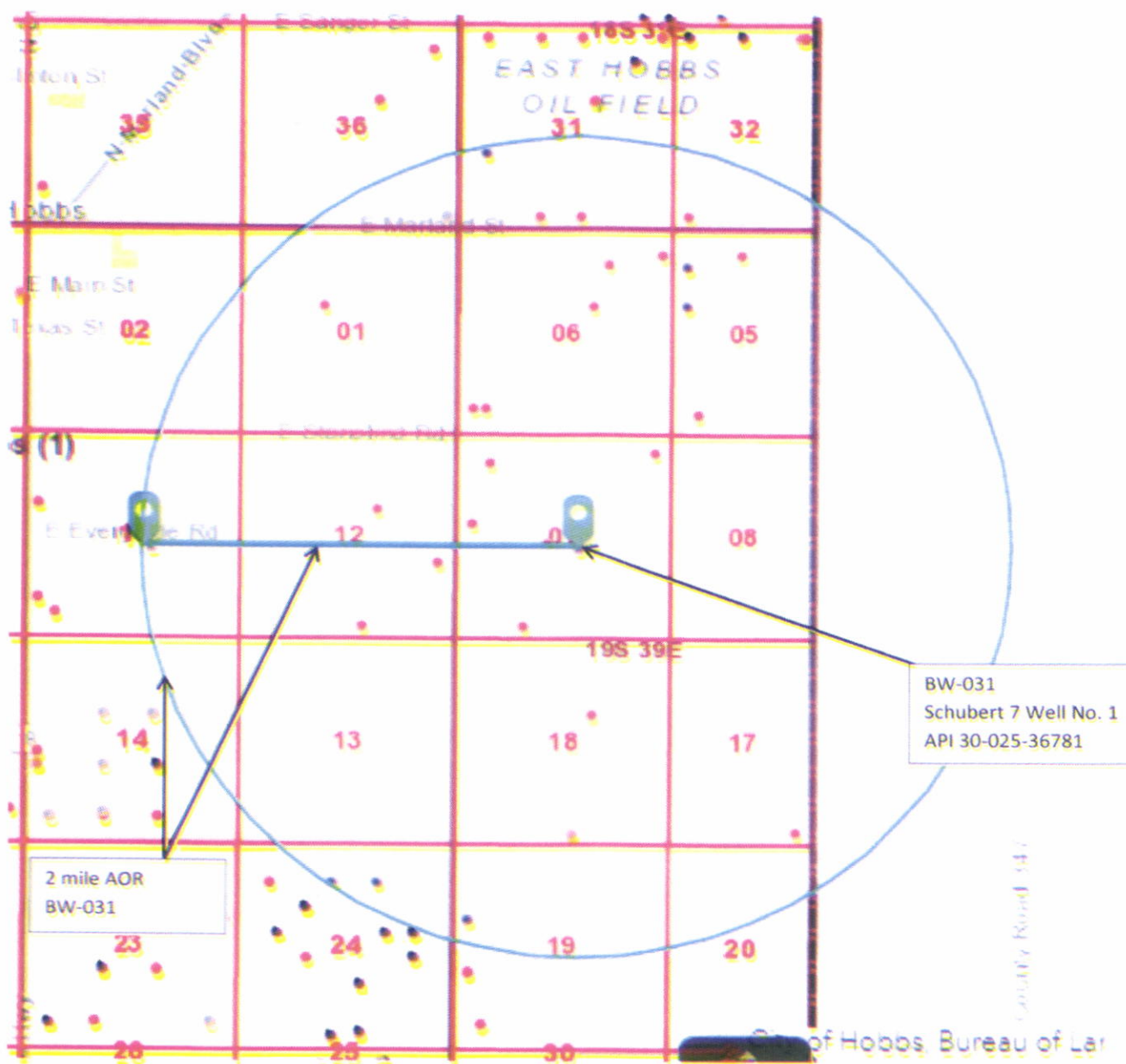
API 30-025-36781

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.

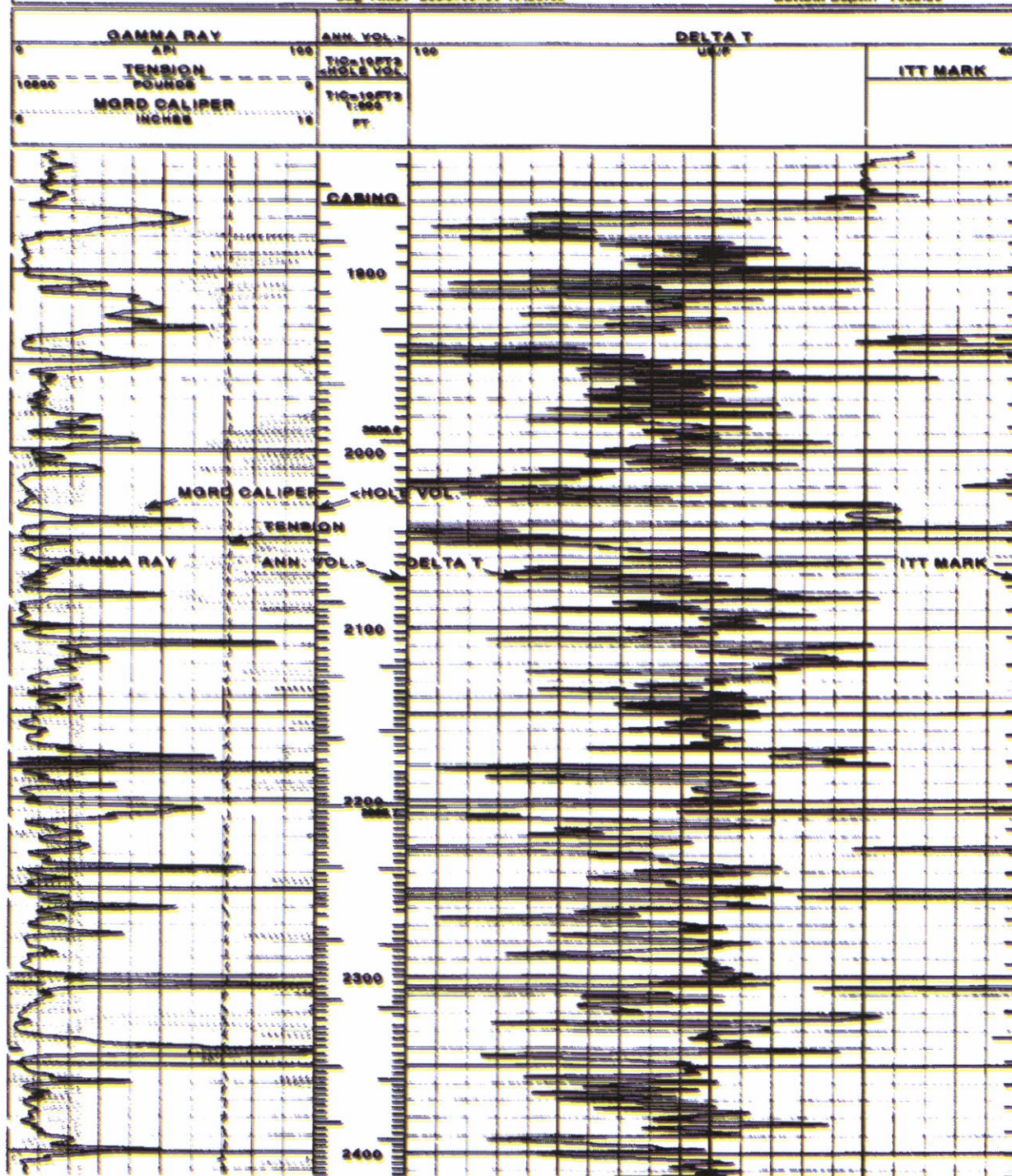
BW-31 has a lot of life to continue mining for Halite that is used throughout our needs for the oil industry in Southeastern New Mexico.



**HALLIBURTON**

```
Version No: 3.0 / No:3.0
Data File: 1007_1012_02701.3.cnt
Format File: plot_02_3.cmn
Plot Time: 2004-10-07 10:47:03
Log Time: 2004-10-07 17:26:46
```

Top Depth: 1620.70  
Bottom Depth: 7023.25





## 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
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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
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16	May 12, 2020	Resurvey-No Change in Elevations
17	September 9, 2020	Resurvey-No Change in Elevations

H.R.C., Inc.

---

## 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

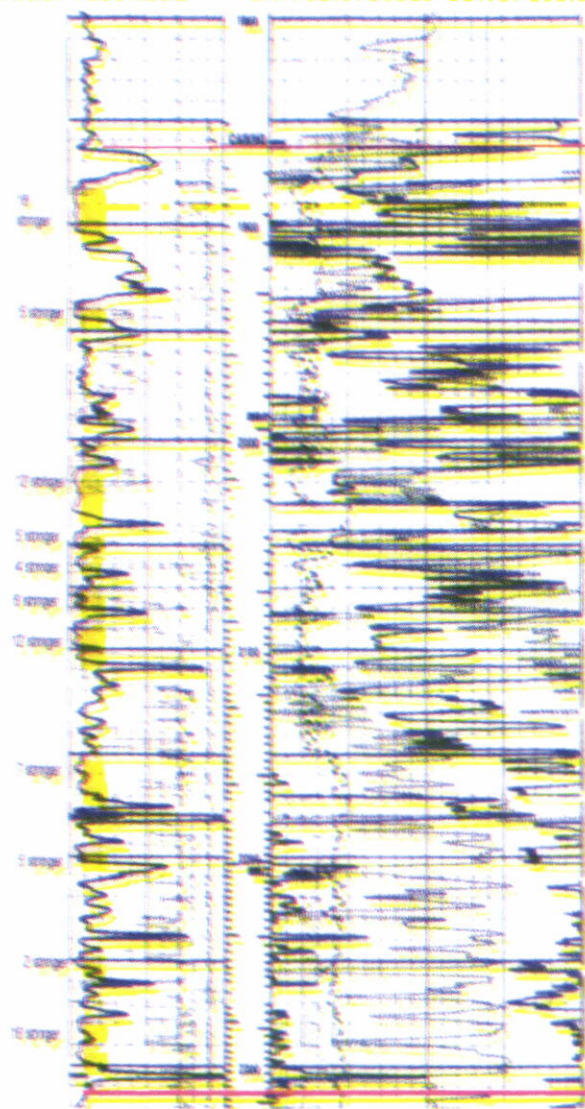
December 31, 2020

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.

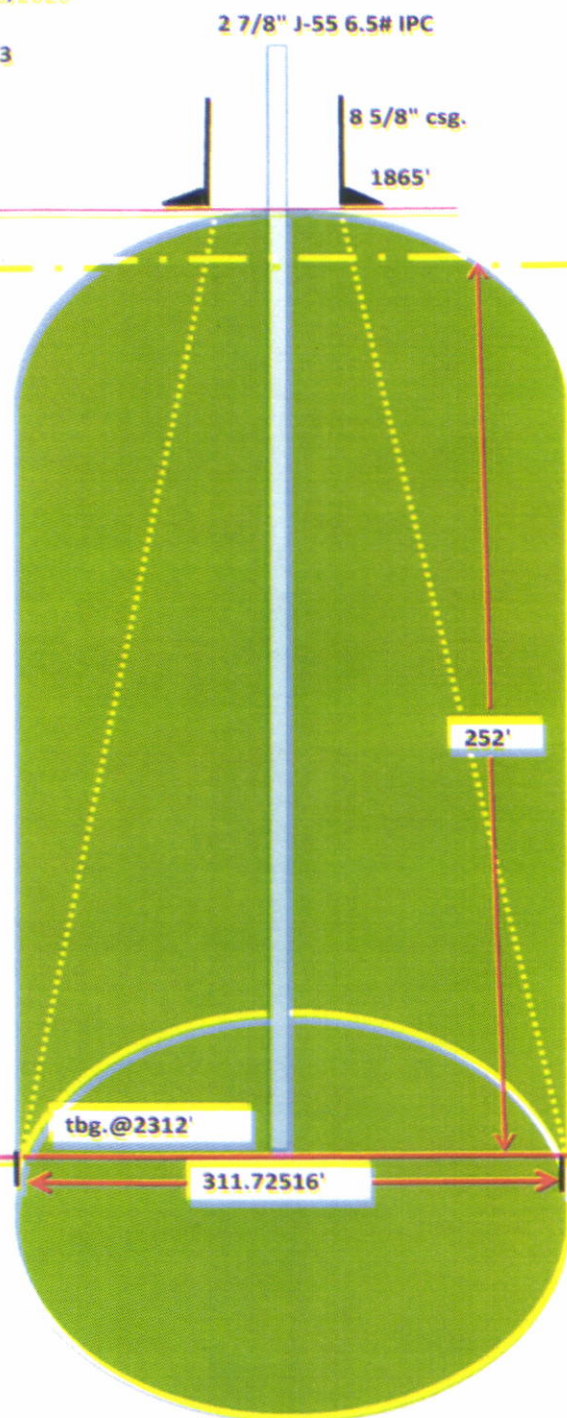
122.136 LBS / BBL = 512,864,331 LBS HALITE

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

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

$$V = \frac{(3.14159 * 155.86258^2) * (252')}{3}$$

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



Est. height is 252'

Est. cavern floor diameter is 311.72516'

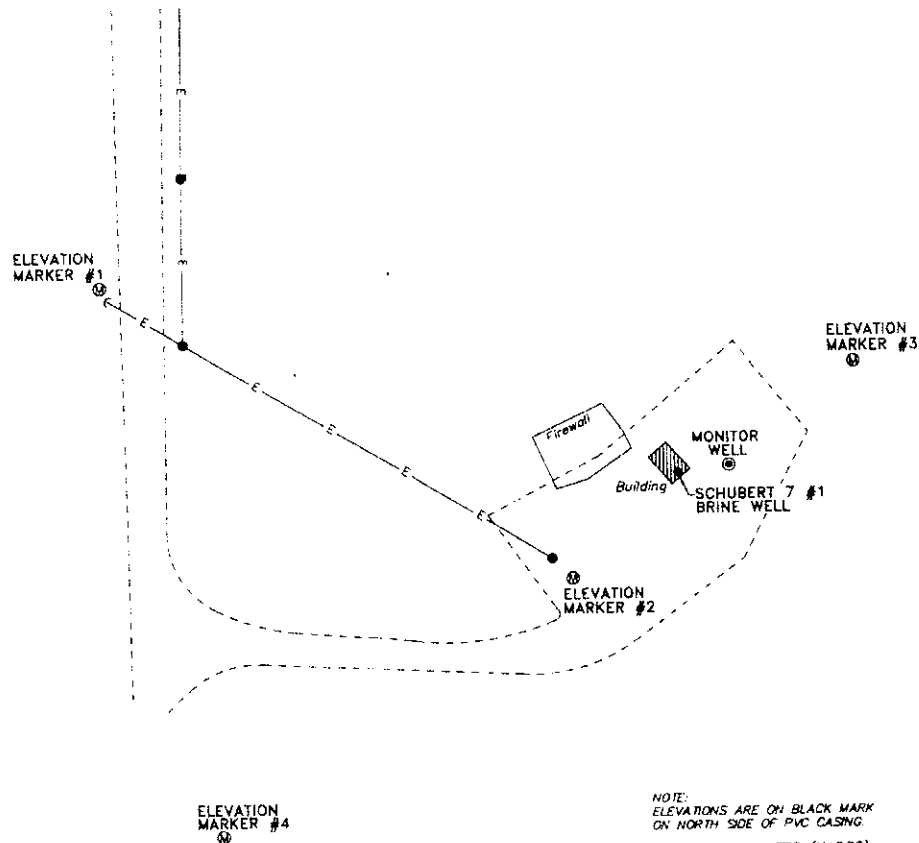
311.72516 / 1865 = 0.167145 factor value



**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)

WELL	NORTHING	EASTING	LATITUDE	LONGITUDE	ELEVATION
EM-1	611304.81	925484.92	32°40'27.52"	103°05'05.71"	3591.65
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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 5, 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.

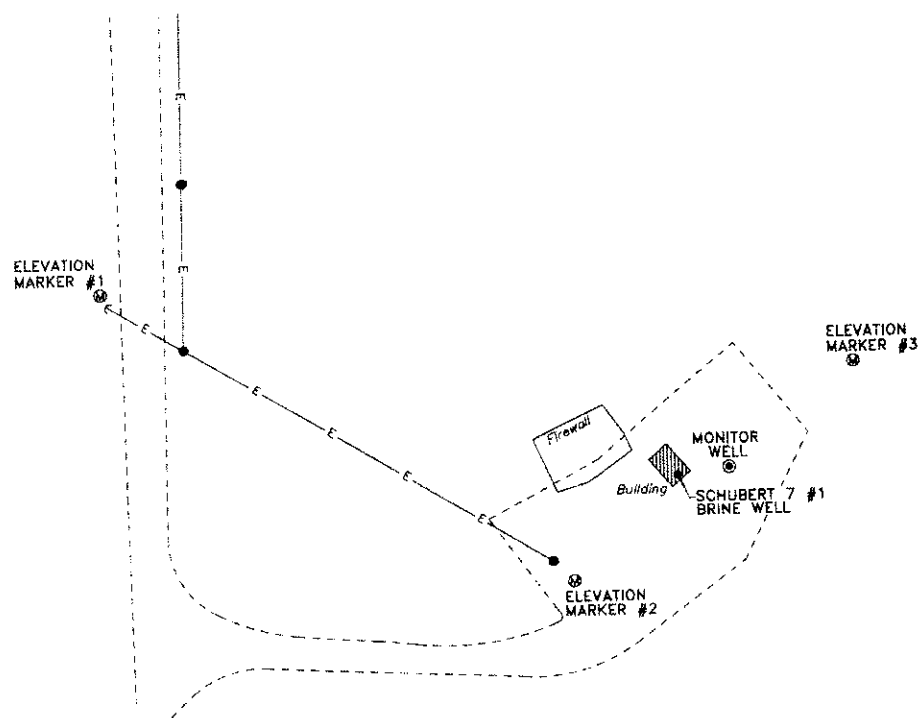


**BASIN SURVEYS** P.O. BOX 1786-HOBBS, NEW MEXICO

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,**



ELEVATION  
MARKER #4

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

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

WELL	NORTHING	EASTING	LATITUDE	LONGITUDE	ELEVATION
EM-1	611304.81	925484.92	32°40'27.52"	103°05'05.71"	3591.65
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REVISION #	DATE	DESCRIPTION
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2	DEC. 15, 2015	RESURVEY-NO CHANGE IN ELEVATIONS
3	APRIL 12, 2016	RESURVEY-NO CHANGE IN ELEVATIONS
4	JULY 26, 2016	RESURVEY-NO CHANGE IN ELEVATIONS
5	OCTOBER 27, 2016	RESURVEY-NO CHANGE IN ELEVATIONS
6	February 6, 2017	RESURVEY-NO CHANGE IN ELEVATIONS
7	May 11, 2017	RESURVEY-NO CHANGE IN ELEVATIONS
8	AUGUST 30, 2017	RESURVEY-NO CHANGE IN ELEVATIONS
9	JANUARY 10, 2018	RESURVEY-NO CHANGE IN ELEVATIONS
10	MAY 1, 2018	RESURVEY-NO CHANGE IN ELEVATIONS
11	SEPTEMBER 5, 2018	RESURVEY-NO CHANGE IN ELEVATIONS
12	JANUARY 15, 2019	RESURVEY-NO CHANGE IN ELEVATIONS
13	MAY 7, 2019	RESURVEY-NO CHANGE IN ELEVATIONS
14	OCTOBER 14, 2019	RESURVEY-NO CHANGE IN ELEVATIONS
15	JANUARY 31, 2020	RESURVEY-NO CHANGE IN ELEVATIONS
16	MAY 12, 2020	RESURVEY-NO CHANGE IN ELEVATIONS
17	SEPTEMBER 9, 2020	RESURVEY-NO CHANGE IN ELEVATIONS

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

HEREBY CERTIFY THAT THIS WAS PREPARED  
FROM FIELD NOTES, 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: 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/field/qa/lab/accred\\_certif.html](http://www.tceq.texas.gov/field/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
---	--	------------------------------

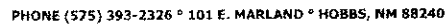
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BRINE WATER	H001511-01	Water	03-Jun-20 15:17	04-Jun-20 10:25
FRESH WATER	H001511-02	Water	03-Jun-20 15:20	04-Jun-20 10:25
MONITOR WELL	H001511-03	Water	03-Jun-20 15:15	04-Jun-20 10:25

\*=Accredited Analyte

© 2006 The Authors  
Journal compilation © 2006 Blackwell Publishing Ltd, *Journal of Internal Medicine* 260: 395–403

2022. 12. 12. 14:00

Celey D. Keene, Lab Director/Quality Manager



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

Analysis	Result	MDI	Reporting Limit	Units	Detection	Batch	Analyst	Analyzed	Method	Notes
----------	--------	-----	-----------------	-------	-----------	-------	---------	----------	--------	-------

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	3	0052602	GM	05-Jun-20	4500-CL-B
Conductivity*	276000	1.00	uS/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	1250	mg/l	125	0061104	AC	11-Jun-20	375.4
TDS*	323000	5.00	mg/l	1	0060211	GM	08-Jun-20	160.1
Alkalinity, Total*	68.0	4.00	mg/l	1	0043006	AC	05-Jun-20	310.1

Calcium*	1360	50.0	mg/L	500	B200973	AFS	10-Jun-20	EPA200.7
Magnesium*	384	50.0	mg/L	500	B200973	AFS	10-Jun-20	EPA200.7
Potassium*	102	75.3	mg/L	500	B200973	AFS	10-Jun-20	EPA200.7
Sodium*	113000	500	mg/L	500	B200973	AFS	10-Jun-20	EPA200.7

[illegible]

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 Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

**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	CM	05-Jun-20	4500-Cl-B	
Conductivity*	1730		1.00	uS/cm	1	0060508	AC	05-Jun-20	120.1	
pH*	7.68		0.100	pH units	1	0060508	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	CM	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>2+</sup>	133		0.500	mg/L	5	B209973	AFS	10-Jun-20	EPA200.7	
Magnesium <sup>2+</sup>	32.1		0.500	mg/L	5	B209973	AFS	10-Jun-20	EPA200.7	
Potassium <sup>+</sup>	14.7	0.155	5.00	mg/L	1	B209973	AFS	10-Jun-20	EPA200.7	
Sodium <sup>+</sup>	162		5.00	mg/L	5	B209973	AFS	10-Jun-20	EPA200.7	

Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Cardinal Laboratories hereby warrants that the data reported herein were obtained from a valid and reliable analytical method. Cardinal Laboratories does not warrant the accuracy of the data reported herein for any other purpose, including but not limited to, regulatory compliance, litigation, or other legal proceedings. Cardinal Laboratories does not warrant the accuracy of the data reported herein for any other purpose, including but not limited to, regulatory compliance, litigation, or other legal proceedings. Cardinal Laboratories does not warrant the accuracy of the data reported herein for any other purpose, including but not limited to, regulatory compliance, litigation, or other legal proceedings.

*Celey D. Keene*  
Celey 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

**MONITOR WELL**  
**H001511-03 (Water)**

Analyte	Result	MDL	Reporting Unit	Units	Volume	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----	----------------	-------	--------	-------	---------	----------	--------	-------

**Cardinal Laboratories****Inorganic Compounds**

Alkalinity, Bicarbonate	215		5.00	mg/L	1	0060508	AC	05-Jun-20	310.1	
Alkalinity, Carbonate	91.00		1.00	mg/L	1	0060508	AC	05-Jun-20	310.1	
Chloride*	56.0		4.00	mg/L	1	0052602	GM	05-Jun-20	4506-CL-B	
Conductivity*	651		1.00	µS/cm	1	0060503	AC	05-Jun-20	320.1	
pH*	7.86		0.100	unitless	1	0060503	AC	05-Jun-20	350.1	
Sulfate*	64.8		10.0	mg/L	1	0061104	AC	05-Jun-20	375.4	
TDS*	433		5.00	mg/L	1	0060211	GM	08-Jun-20	160.1	
Alkalinity, Total*	176		4.00	mg/L	1	0060503	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	AES	10-Jun-20	EPA200.7	
Magnesium*	15.1		0.500	mg/L	5	B200973	AES	10-Jun-20	EPA200.7	
Potassium*	2.26	0.758	5.00	mg/L	5	B200973	AES	10-Jun-20	EPA200.7	
Sodium*	63.8		5.00	mg/L	5	B200973	AES	10-Jun-20	EPA200.7	

Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Cardinal Laboratories is not responsible for any errors or omissions that may occur in the analysis of samples submitted to the laboratory. The laboratory is not responsible for any errors or omissions that may occur in the analysis of samples submitted to the laboratory. The laboratory is not responsible for any errors or omissions that may occur in the analysis of samples submitted to the laboratory. The laboratory is not responsible for any errors or omissions that may occur in the analysis of samples submitted to the laboratory.

Celely 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

Analyte	Result	Reporting Unit	Units	Spike Level	Source Result	%REC	RMSE Limits	RPD	RPD Limit	Notes
<b>Batch 0043006 - General Prep - Wet Chem</b>										
<b>Blank (0043006-BL K1)</b>				Prepared & Analyzed: 30-Apr-20						
Alkalinity, Carbonate	ND	1.00	mg/L							
Alkalinity, Bicarbonate	5.00	5.00	mg/L							
Alkalinity, Total	4.00	4.00	mg/L							
<b>LCS (0043006-BL1)</b>				Prepared & Analyzed: 30-Apr-20						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120			
Alkalinity, Bicarbonate	247	12.5	mg/L				80-120			
Alkalinity, Total	240	10.0	mg/L	250		96.0	80-120			
<b>LCS Dup (0043006-BSD1)</b>				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	20	
Alkalinity, Total	270	10.0	mg/L	250		108	80-120	11.8	20	
<b>Batch 0052602 - General Prep - Wet Chem</b>										
<b>Blank (0052602-BLK1)</b>				Prepared & Analyzed: 26-May-20						
Chloride	ND	4.00	mg/L							
<b>LCS (0052602-BL1)</b>				Prepared & Analyzed: 26-May-20						
Chloride	194	4.00	mg/L	1.8		100	80-120			
<b>LCS Dup (0052602-BSD1)</b>				Prepared & Analyzed: 26-May-20						
Chloride	194	4.00	mg/L	1.80		100	80-120	0.60	20	
<b>Batch 0060211 - Filtration</b>										
<b>Blank (0060211-BL K1)</b>				Prepared: 02-Jun-20 Analyzed: 03-Jun-20						
TDS	ND	5.00	mg/L							

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1. *Large* and *small* are relative. In a very small country, a small number of people may be enough to make a difference in the amount and in kind of goods produced. As time goes by, however, for countries of the first rank, additional units of workers and land have a smaller effect on the national output than in the earlier stages of the country's growth. In a country that is able to produce for consumption, foreign trade is not an absolute necessity. It is a way of using surplus products of goods, to purchase products that are themselves scarce or to obtain the convenience of the various products in foreign countries of superior to the domestic ones in some particular quality. However, the first necessity is to produce goods for consumption at home and to export surplus goods to other countries.

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

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

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

LCS (0060211-BS1)					Prepared: 02-Jun-20 Analyzed: 03-Jun-20					
TDS	523		mg/L	500	105		80-120			

Duplicate (0060211-DUP1)				Source: H001477-02	Prepared: 02-Jun-20 Analyzed: 03-Jun-20					
TDS	521		mg/L	500	774			0.415	20	

**Batch 0060503 - General Prep - Wet Chem**

LCS (0060503-BS1)					Prepared & Analyzed: 05-Jun-20					
pH	7.13		pH Units	00	102		90-110			
Conductivity	103000		uS/cm	100000	101		80-120			

Duplicate (0060503-DUP1)				Source: H001511-01	Prepared & Analyzed: 05-Jun-20					
pH	7.02		pH Units	0.100	6.99			0.428	20	
Conductivity	275000		uS/cm	1.00	276000			0.218	20	

**Batch 0060508 - General Prep - Wet Chem**

Blank (0060508-BLK1)					Prepared & Analyzed: 05-Jun-20					
Alkalinity, Carbonate	ND		mg/L	0.00						
Alkalinity, Bicarbonate	5.00		mg/L	5.00						
Alkalinity, Total	1.70		mg/L	4.00						

LCS (0060508-BS1)					Prepared & Analyzed: 05-Jun-20					
Alkalinity, Carbonate	ND		mg/L	2.50			80-120			
Alkalinity, Bicarbonate	36.5		mg/L	12.5			80-120			
Alkalinity, Total	2.0		mg/L	10.0	160		80-120			

Cardinal Laboratories

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Cardinal Laboratories, Inc. warrants that all data reported on this report were obtained from the analysis of the sample submitted for analysis. All data are subject to change without notice. Cardinal Laboratories, Inc. warrants that all data reported on this report were obtained from the analysis of the sample submitted for analysis. All data are subject to change without notice. Cardinal Laboratories, Inc. warrants that all data reported on this report were obtained from the analysis of the sample submitted for analysis. All data are subject to change without notice.

Celey D. Keene, Lab Director/Quality Manager

Page 7 of 11



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**Analytical Results For:**

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

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Batch 0060508 - General Prep - Wet Chem</b>										
<b>LCS Dup (0060508-BSD1)</b>				Prepared & Analyzed: 05-Jun-20						
Alkalinity, Carbonate	ND	2.50	mg/L				80-120		20	
Alkalinity, Bicarbonate	405	12.5	mg/L				80-120	0.00	20	
Alkalinity, Total	250	10.0	mg/L	250		100	80-120	0.00	20	
<b>Batch 0061104 - General Prep - Wet Chem</b>										
<b>Blank (0061104-BLK1)</b>				Prepared & Analyzed: 11-Jun-20						
Sulfate	ND	10.0	mg/L							
<b>LCS (0061104-BS1)</b>				Prepared & Analyzed: 11-Jun-20						
Sulfate	20.0	10.0	mg/L	20.0		100	80-120			
<b>LCS Dup (0061104-BSD1)</b>				Prepared & Analyzed: 11-Jun-20						
Sulfate	18.5	10.0	mg/L	20.0		94.0	80-120	0.14	20	

Cardinal Laboratories

\* = Accredited Analyte

Cardinal Laboratories, Inc. (CLL) is a laboratory that provides analytical services to its clients. The laboratory is located at 101 E. Marland, Hobbs, NM 88240. The laboratory is accredited by the National Association of Public Health Laboratories (NAPHL) for the analysis of water samples. The laboratory is also a member of the American Public Health Association (APHA) and the American Water Works Association (AWWA). The laboratory is committed to providing accurate and reliable analytical results to its clients. The laboratory is also committed to providing excellent customer service to its clients. The laboratory is a member of the American Society for Testing and Materials (ASTM) and the International Organization for Standardization (ISO). The laboratory is also a member of the American Public Health Association (APHA) and the American Water Works Association (AWWA). The laboratory is committed to providing accurate and reliable analytical results to its clients. The laboratory is also committed to providing excellent customer service to its clients. The laboratory is a member of the American Society for Testing and Materials (ASTM) and the International Organization for Standardization (ISO). The laboratory is also a member of the American Public Health Association (APHA) and the American Water Works Association (AWWA).

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

## Green Analytical Laboratories

Analysis	Result	Reporting Unit	Units	Spdx Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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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

1.CS (B200973-B81)

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

Sodium	2.35	1.00	mg/l	3.20	103	85-115
Potassium	3.50	1.00	mg/l	8.00	100	85-115
Magnesium	20.0	0.100	mg/l	20.0	103	85-115
Calcium	4.05	0.100	mg/l	4.00	101	85-115

1.CS Dup (B200973-BSD1)

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

Magnesium	35.7	0.100	mg/L	20.6	101	85-115	2.12	20
Potassium	8.30	1.00	mg/L	8.60	104	85-115	2.40	20
Sodium	3.25	1.00	mg/L	3.24	109	85-115	3.64	20
Calcium	2.95	0.100	mg/L	3.40	93.8	55-115	2.38	20

Cardinal Laboratories

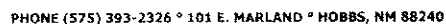
\*=Accredited Analyte

[illegible][illegible]

Celey D. Keene, Lab Director/Quality Manager

Page 9 of 11





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 as as received basis (wet) unless otherwise noted on report

\*=Accredited Analyte

[illegible]

Celey D. Keene, Lab Director/Quality Manager

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

**Company Name:** ETS Water Station  
**Project Manager:** Ben Dornik  
**Address:** P.O. Box 5102  
**City:** Hobbs  
**State:** NM **Zip:** 88241  
**Phone #:** 575 393 3194  
**Fax #:**  
**Project Owner:** Gert Shuck  
**Project Name:** Shuck #7 Water Samples  
**Project Location:** Shuck #7 Bore Well  
**Sample Name:** Ben Dornik

**Lab I.D.** H001511  
**Sample I.D.** 1 Bore Water  
 2 Fresh Water  
 3 Monitor Well

**MATRIX**  
 # CONTAINERS 1  
 GROUNDWATER 1  
 WASTEWATER 1  
 SOIL 1  
 OIL 1  
 SLUDGE 1  
 OTHER 1  
 ACIDBASE 1  
 ICE / COOL 1  
 OTHER 1

**PRESERV**  
 DATE TIME 6/30 3:12 PM  
 6/30 3:15 PM  
 6/30 3:15 PM

**SAMPLING**

**Delivered By:** (Circle One)  
 Sample - UPS - Bus - Other  
 Observed Temp. °C 6.6  
 Corrected Temp. °C  
 Sample Condition  
 Cool Intact  
 CHECKED BY: (Initials)  
 Received By: (Signature)  
 Date: 6/30/20  
 Time: 10:30 AM

**Relinquished By:** Ben Dornik  
 Date: 6/30/20  
 Time: 10:30 AM

**Remarks:** email to gertshuck@cardinallabsnm.com  
 Standard  
 Bacteria (only) Sample Condition  
 Cool Intact  
 Observed Temp. °C  
 Corrected Temp. °C  
 Turbidity Factor  
 Turbidity Time  
 Verbal Result: Yes No  
 All Results are emailed. Please provide email address.

**Cardinal cannot accept verbal changes. Please email changes to cely.keeene@cardinallabsnm.com**

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

**Cardinal Laboratories**



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

---

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/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/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 (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

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

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey 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

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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\* = Accredited Analysis

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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-Cl-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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\* = Accredited Analytical

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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

**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	

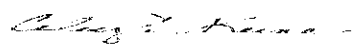
**Green Analytical Laboratories****Total Recoverable Metals by ICP (E200.7)**

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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\* = Accredited Analytical

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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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\* = Accredited Analyte

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Colby D. Keane, 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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch 0111906 - General Prep - Wet Chem****Blank (0111906-BLK1)**

Prepared &amp; Analyzed: 19-Nov-20

Chloride ND 4.00 mg/L

**LCS (0111906-BS1)**

Prepared &amp; Analyzed: 19-Nov-20

Chloride 100 4.00 mg/L 100 100 80-120

**LCS Dup (0111906-BSD1)**

Prepared &amp; Analyzed: 19-Nov-20

Chloride 100 4.00 mg/L 100 100 80-120 0.00 20

**Batch 0120404 - General Prep - Wet Chem****Blank (0120404-BLK1)**

Prepared: 04-Dec-20 Analyzed: 10-Dec-20

Sulfate ND 10.0 mg/L

**LCS (0120404-BS1)**

Prepared: 04-Dec-20 Analyzed: 10-Dec-20

Sulfate 21.0 10.0 mg/L 20.0 105 80-120

**LCS Dup (0120404-BSD1)**

Prepared: 04-Dec-20 Analyzed: 10-Dec-20

Sulfate 20.2 10.0 mg/L 20.0 101 80-120 3.94 20

**Batch 0120707 - General Prep - Wet Chem****LCS (0120707-BS1)**

Prepared &amp; Analyzed: 07-Dec-20

Conductivity 102000 uS/cm 100000 102 80-120

pH 7.09 pH Units 7.00 101 90-110

**Duplicate (0120707-DUP1)**

Source: H1003187-01

Prepared &amp; Analyzed: 07-Dec-20

pH 7.00 0.100 pH Units 6.90 1.44 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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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
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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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*Colan D. Keene*  
Colan 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			
<b>Duplicate (0120812-DUP1)</b>										
TDS	1090	5.00	mg/L		1160			5.88	20	

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Coley D. Kopp, 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
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**Batch B202689 - Total Rec. 200.7/200.8/200.2****Blank (B202689-BLK1)**

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							

**LCS (B202689-BS1)**

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			

**LCS Dup (B202689-BSD1)**

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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Colby 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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Colby 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: <b>ETZ Water Station</b> Project Manager: Address: <b>P.O. 5102</b> City: <b>Hobbs</b> State: <b>NM</b> Zip: <b>88241</b> Phone #: <b>505 393-3194</b> Fax #: Project #: <b>Schubert #7</b> Project Owner: Project Name: <b>Water Samples</b> Project Location: <b>Schubert #7 Brine Well</b> Sampler Name: <b>Ben Donahue</b>				P.O. #: Company: Attn: Address: City: State: Zip: Phone #: Fax #:																	
Lab I.D. <b>H003188</b>		Sample I.D. <b>1 Brine Water</b> <b>2 Fresh Water</b> <b>3 Monitor Well</b>		MATRIX GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER		PRESERV. ACID/BASE ICE / COOL OTHER		SAMPLING DATE TIME <b>12/20/11 4:50a</b> <b>12/3/20 11:48a</b> <b>12/3/20 11:48a</b>		<b>Cations / Anions</b>											

[illegible]

Relinquished By:  Relinquished By: _____ Date: 12/4/20 Time: 2:00p Delivered By: (Circle One) (Sampler) - UPS - Bus - Other: _____		Received By:  Received By: _____ Date: _____ Time: _____ Observed Temp. °C: 12.8 Corrected Temp. °C: _____ Sample Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No All Results are emailed. Please provide Email address: garfmschubert@gmail.com REMARKS: Turnaround Time: Standard <input checked="" type="checkbox"/> Bacteria (only) Sample Condition <input type="checkbox"/> Cool <input type="checkbox"/> Intact Observed Temp. °C <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No Thermometer ID #113 Correction Factor None Corrected Temp. °C: _____	
--	--	--	--	---	--

† Cardinal cannot accept verbal changes. Please email changes to [celey.keene@cardinallabsnm.com](mailto:celey.keene@cardinallabsnm.com)

Schubert 7 Well No1

December 31,2020

API 30-025-36781

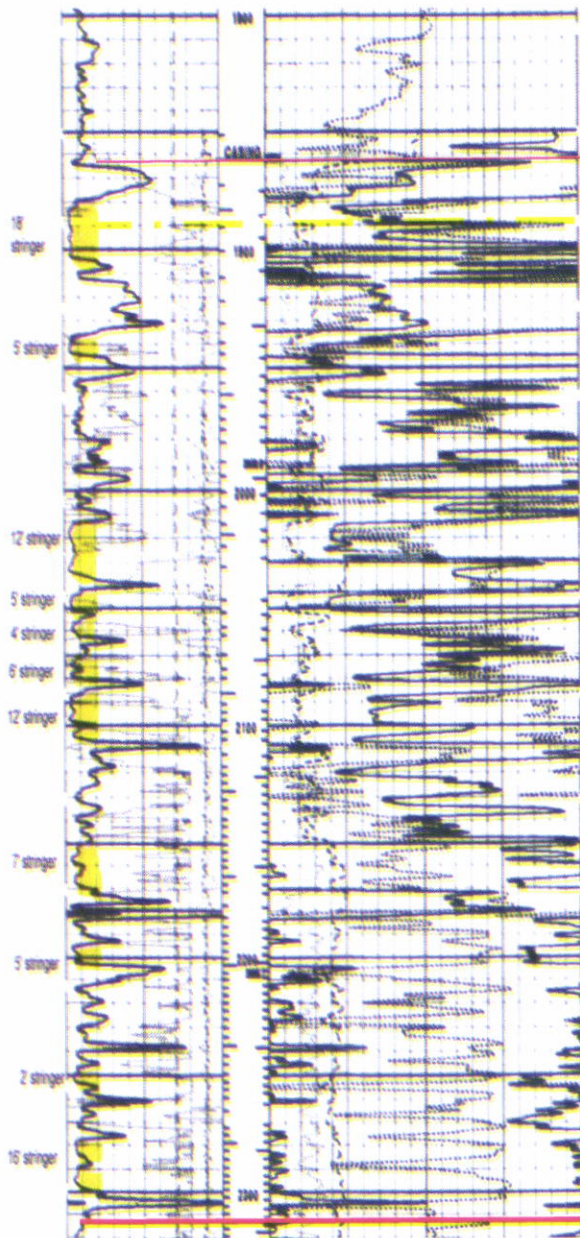
J SEC7 T19S R39E

LAT: 32.6738815 LONG:-103.0835953

2 7/8" J-55 6.5# IPC

8 5/8" csg.

1865'



PPG 9.97 brine

PPG 8.34 fresh

SG 1.1951

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

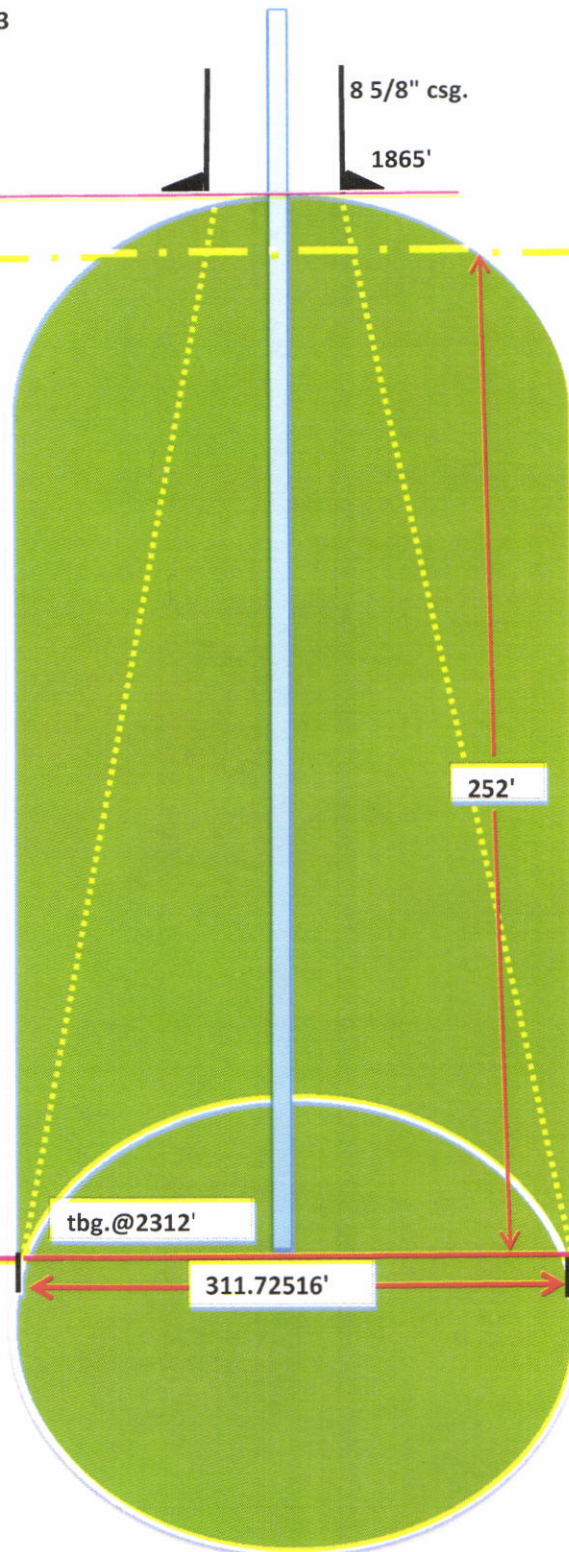
122.136 LBS / BBL = 512,864,331 LBS HALITE

(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



**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 21138

**COMMENTS**

Operator:	HRC INC	P.O. Box 5102	Hobbs, NM88241	OGRID:	131652	Action Number:	21138	Action Type:	DISCHARGE PLAN BRINE EXTRACTION
Created By	Comment							Comment Date	
cchavez	Permittee AR 2020 BW-31 3-18-2021							03/18/2021	

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

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

CONDITIONS  
  
Action 21138

**CONDITIONS OF APPROVAL**

Operator:	HRC INC	P.O. Box 5102	Hobbs, NM88241	OGRID:	131652	Action Number:	21138	Action Type:	DISCHARGE PLAN BRINE EXTRACTION
OCD Reviewer								Condition	
cchavez								None	