UIC - I - ___5___

EPA FALL-OFF TEST

DATE:

2019

Chavez, Carl J, EMNRD

From: Pham, Lisa <Pham.Lisa@epa.gov>
Sent: Monday, November 25, 2019 3:44 PM
To: Chavez, Carl J, EMNRD
Subject: Automatic reply: [EXT] Sunco Disposal #1 RPE Evaluation: UICI-005 UIC Class I (NH) SUNCO Well No. 1 (API# 30-045-28653) Only Commercial Disposal Well, Agua Moss, LLC

I will be out of the office from November 25th to December 7th. I will respond to your e-mail upon my return.

Regards,

Lisa Pham
Environmental Engineer
U.S. EPA Region 6
1201 Elm Street
Dallas TX 75270

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Monday, November 25, 2019 3:42 PM
To: 'Pham, Lisa'; 'Graves, Brian'
Cc: 'pthompson@merrion.bz'; 'Ryan Davis'; Griswold, Jim, EMNRD; Wade, Gabriel, EMNRD; Goetze, Phillip, EMNRD
Subject: FW: [EXT] Sunco Disposal #1 RPE Evaluation: UICI-005 UIC Class I (NH) SUNCO Well No. 1 (API# 30-045-28653) Only Commercial Disposal Well, Agua Moss, LLC
Attachments: 2019-10-11 Final Version RPE Sunco Disosal.pdf

Lisa and Brian:

Good afternoon. The New Mexico Oil Conservation Division (OCD) has received and reviewed the above subject Reservoir Pressure Evaluation Results for the above subject injection well.

OCD agreed to share the results of the pressure evaluation with the EPA due to a marginal injection "waiver request" from the standard Fall-Off Test for 2019.

Based on the injection zone pressure evaluation results, OCD has accepted the pressure evaluation for record.

Please contact me if you have questions. Thank you.

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

From: Philana Thompson <pthompson@merrion.bz>
Sent: Friday, October 11, 2019 4:13 PM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Cc: Ryan Davis <RDavis@merrion.bz>
Subject: [EXT] Sunco Disposal #1 RPE Evaluation

Carl,

Please see the attached report of the Reservoir Pressure Evaluation conducted in lieu of the Annual Fall Off Test.

Thank you,
Philana

--
Philana Thompson

Regulatory Compliance
Merrion Oil & Gas Corp
cell 505-486-1171

Chavez, Carl J, EMNRD

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Thank you,
Philana

--
Philana Thompson
Regulatory Compliance
Merrion Oil & Gas Corp
cell 505-486-1171

Sunco SWD #1

30-045-28653

Class I Disposal: UICI-5-0

2019 Reservoir Pressure Evaluation

Agua Moss, LLC

P.O Box 600

Farmington, NM 87499

ORGID 247130

Report Components:

1. Facility Operator Information
    a. Agua Moss, LLC
    b. PO Box 600 Farmington, NM 87499
    c. OGRID 247130
2. Well Information:
    a. UIC Permit # UICI-5-0
    b. Class I
    c. Sunco Disposal #1
    d. 30-045-28653
    e. UL E, Sec 2, T29N, R12W 1595 FNL & 1005 FWL San Juan County
3. Current Wellbore Diagram: **Attached** (page 4)
4. Copy of Electronic Log: **Previously submitted 1992** (page 5)
5. Copy of Porosity Log: **Previously submitted 1992** (page 6-7)
6. See attached Reservoir Pressure Evaluation analysis
    a. Reservoir Pressure Evaluation Procedure (page 8)
    b. Analysis (page 12)
    c. Results (page 13)
7. Results Comparison attached (page 13)
8. The raw test data will be kept on file for a period of 3-year and will be made available to the NMOCD upon written request. (page 13)
9. Conclusions (page 14)
10. Any pressure or temperature anomaly: One pressure anomaly was seen on 09/09/25/2019 at 9 am due to a plug in the line from the well head to pressure recorders.
11. Plots attached
    a. Calculated BH Pressure vs Time (page 12)
    b. Injection Volumes and Surface Pressure (page 15)
12. NO PVT data necessary, wellbore fluid is fresh-to-slightly saline water. No significant hydrocarbons present that would alter the density, compressibility and/or viscosity of the fluid.
    a. See attached partial repot of the Second Quarter WQ Report (page 16-20)
13. The Agua Moss, LLC internal Daily Injection Reports were used to determine the appropriate injection history to use for the analysis. A summary of those reports (January 2019 through September 2019) are attached. (page 21-23)
14. The Sunco Disposal #1 has injected approximately 16,297,839 bbls into the point lookout formation from 1994 through August 2019. The offset well McGrath SWD #4 API 30-045-25923 was plugged 7/25/2013. Cumulative injection 1994-7/2013 27,746,479 bbls.
15. 1 Mile AOR:
    a. AOR 1 mile (page 24)
    b. AOR 1 mile well data (page 25-29)

c. The McGrath #4 was the only offset well that was injecting into the Point Lookout formation within 1 mile. This well was plugged 7/25/2013.

16. Geological information was provided in the 2012 Permit renewal and approved in 2012.
17. Offset Wells: One offset well that was completed in the same injection interval was the McGrath #4. This well was plugged 7/2013 and therefore was not impacted.
18. Chronological listing of the daily, testing activities (Operations Log) attached (page 26)
    a. Date of Test: **Monday September 23rd, 2019 through Friday September 27th, 2019**
    b. Type of injection fluid: **Produced water**
    c. Total shut-in time: **105 hours**
    d. Final BH static pressure at the end of the RPE: **2939 psi**
19. Location of the shut in valve: **A wing valve located on the well's Christmas Tree was closed to begin the RPE Test.**
20. Pressure Gauges: (see attached)
    a. Crystal XP2i gauge (page 31)
        i. Pressure Range: **0-2000 psig**
        ii. Last Calibration: **9/17/19**
    b. Barton #2000 Chart Recorder (page 32)
        i. Pressure Range: **0-2000 psig**
        ii. Last Calibration: **9/23/19**

Wellbore Schematic:

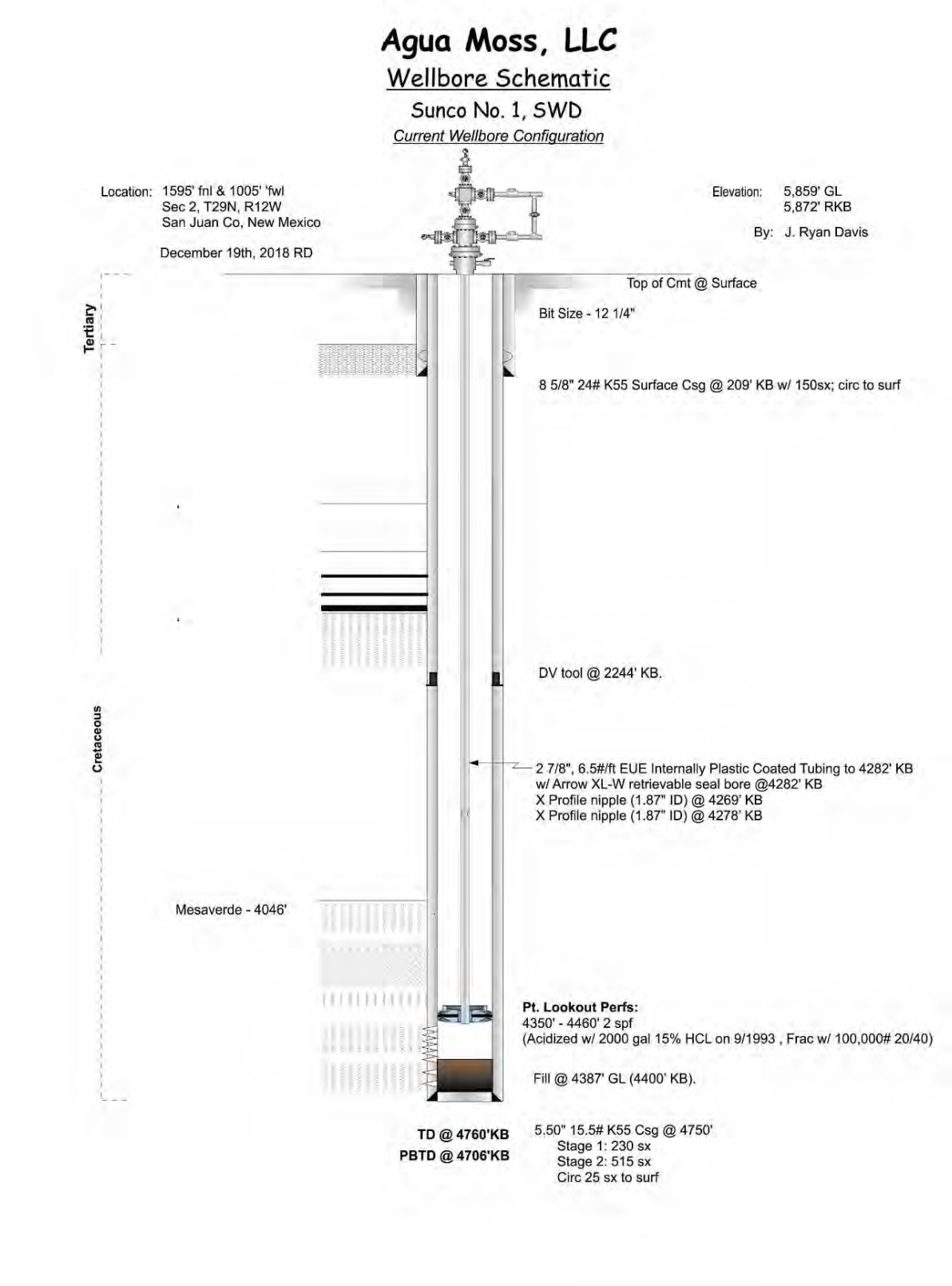
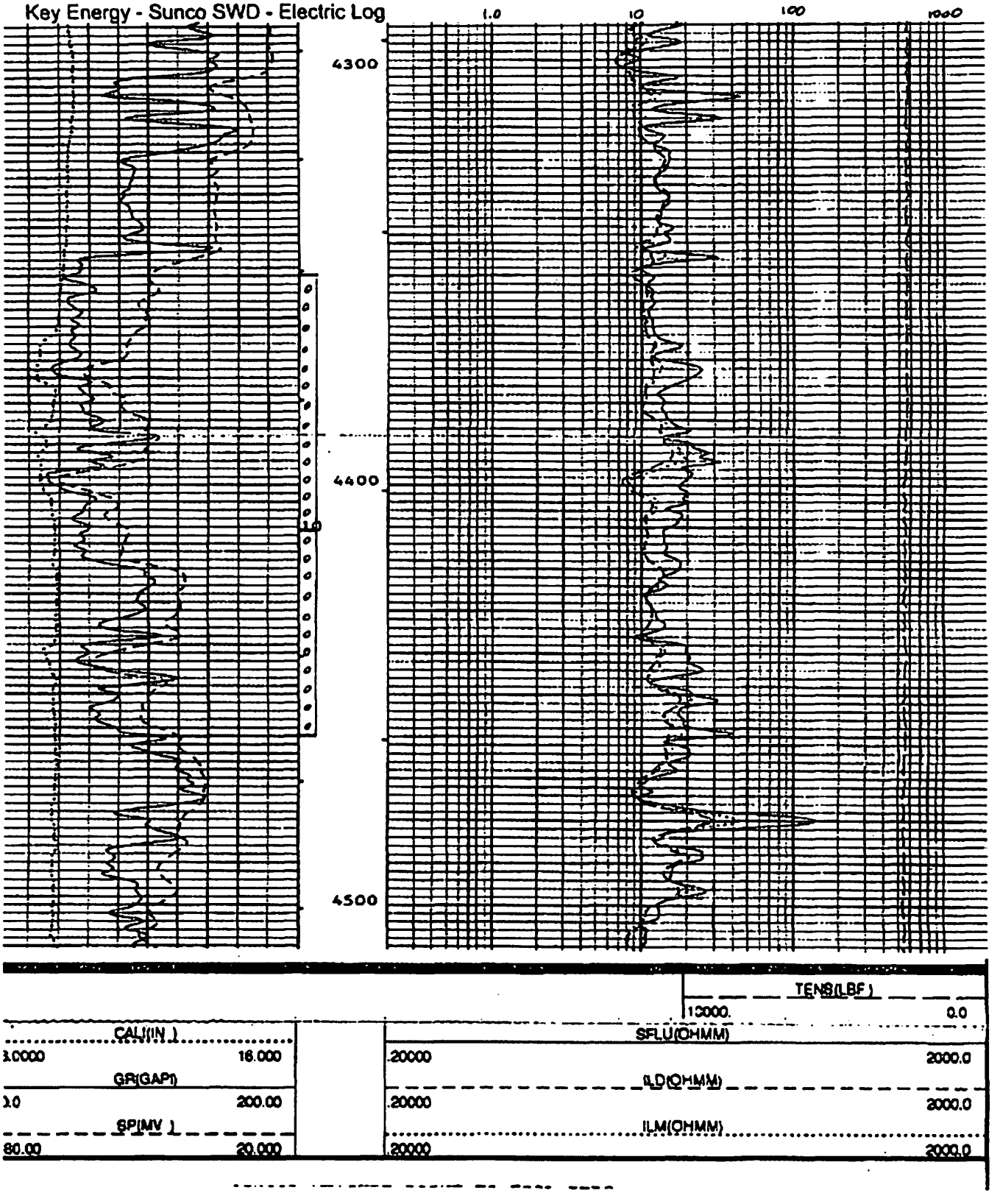
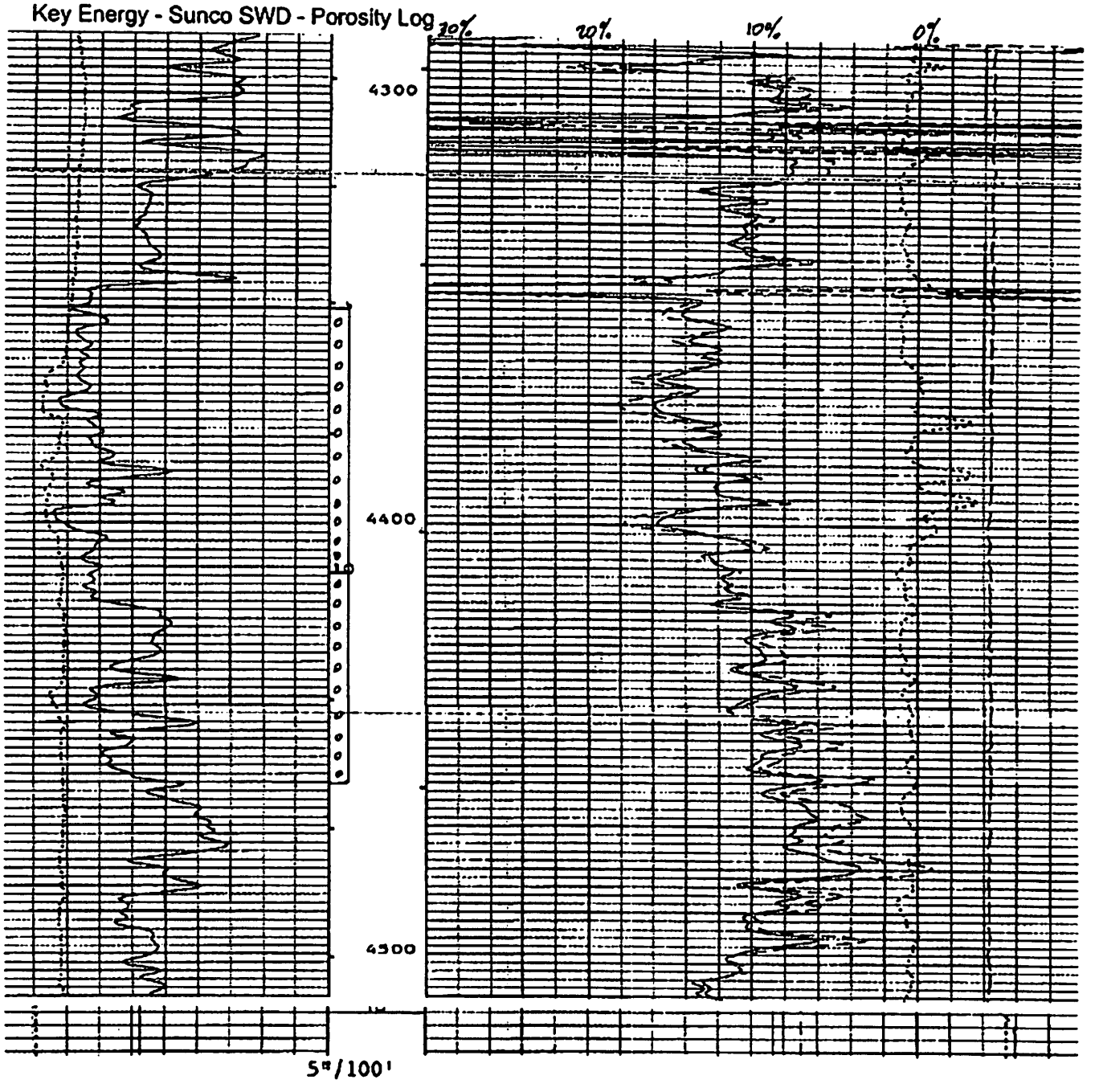
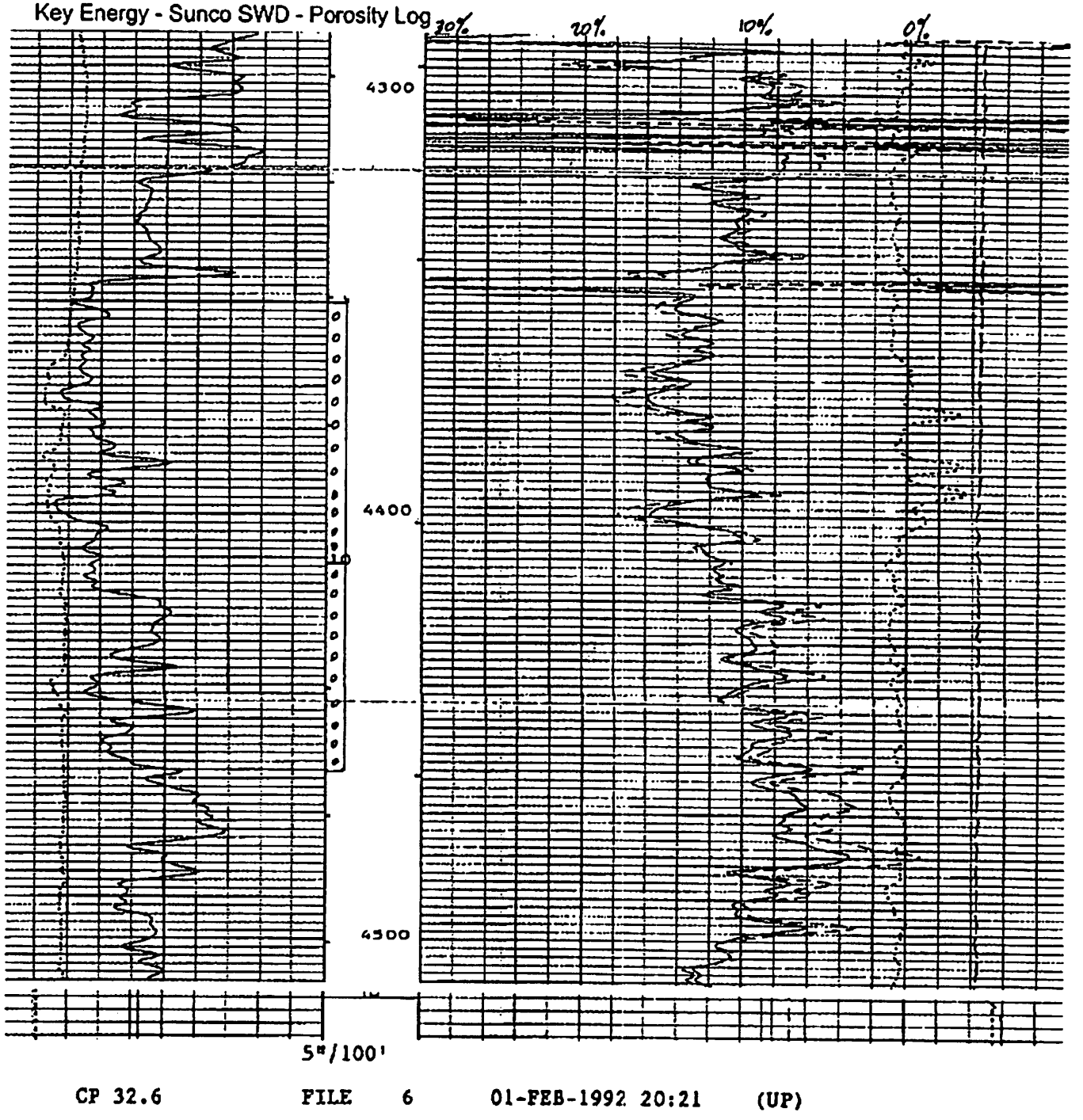


Figure 1: Wellbore Schematic


Key Energy - Sunco SWD - Electric Log
1.0
10
100
1000
4300
4400
4500
TENS(LBF)
10000.
0.0
CALI(IN)
16.000
SFLU(OHMM)
2000.0
GR(GAPI)
200.00
ILD(OHMM)
2000.0
SP(MV)
20.000
ILM(OHMM)
2000.0


Key Energy - Sunco SWD - Porosity Log
30%
20%
10%
0%
4300
4400
4500
5"/100'
CP 32.6
FILE 6
01-FEB-1992 20:21
(UP)
DRHO(G/C3)
-.2500
.25000
TENS(LBF)
10000.
0.0
CALI(IN)
8.0000
16.000
RHOB(G/C3)
2.0000
3.0000
GR(GAPI)
0.0
200.00
DPHI(V/V)
.30000
-.1000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CALI(IN)
8.0000
16.000
RHOB(G/C3)
2.0000
3.0000
GR(GAPI)
0.0
200.00
DPHI(V/V)
.30000
-.1000

AGUA MOSS, LLC

PLAN FOR RESERVOIR PRESSURE EVALUATION

Well Information			
Well:	**Sunco Disposal 1**	**Field:**	Mesaverde SWD
Location:	1595' fnl &1005' fwl S2, T29N, R12W San Juan Co. New Mexico	**Elevations:**	5859' GL 5872' RKB
		Depths:	4706' KB PBTD 4760' KB TD
		Engineer:	J. Ryan Davis (505.324.5335)
API:	30-045-28653	**Date:**	September 12, 2019
Surface Casing:	8- 5/8" @ 209' KB w/ 150sx; Circ to surface	**Production Casing:**	5-1/2" @ 4750' KB w/ 230 sx stage 1, 515 sx stage 2, circ 25 sx to surf, DV tool @ 2244' KB
Tubulars:	2- 7/8" 6.5# EUE (Epoxy Coated) @ 4282' KB	**Packer:**	Arrow XL-W retrievable seal bore @ 4282' KB.
Perforations (MV)	4350-4460' KB 2 spf (2000 gals 15% HCL, Frac w/ 100,000# 20/40)		
Additional Perforations			
Perforations (MV)	None		

Version 3: Static Reservoir Pressure Version Procedure subject to change based on changing well conditions.

Proposed Test Schedule:

Date	Event	Remarks
Monday, September 23rd , 2019	Check conditions, check pressures and perform MIT	TD, Fill, Restrictions, check tubing pressure 9 am
Friday, September 27th , 2019	5 days of tbg pressure monitoring	Conclude test at 5pm

Test Considerations:

V.1 The pressure acquisition will be performed with pressure gauges at the surface. Pressure readings will be taken and recorded twice per day.

V.2 There will be adequate storage capacity for waste water for the duration of the test.

V.3 There is one offset well completed in the Point Lookout disposal formation. The McGrath #4 is a class II disposal operated by ConocoPhillips approx 1.25 miles to the north west of the Sunco #1. The well has been P&A'd, so there will not be any injection activity from offset wells during the test.

V.4 Crown valve is currently in-place on the Sunco #1 wellhead. The slickline work will be performed through a lubricator prior to the test.

V.5 A shut-in valve is located on the injection riser approx 3-feet from the wellhead. This valve can be shut to isolated the tubing at the wellhead.

V.6 Bottomhole pressure will not be collected directly but calculated from the surface pressure collected using the appropriate gradient. The use of surface pressure for the test is justified by the fact that the well will maintain a positive pressure at the surface during the entire test (injection and pressure falloff).

V.7 A test log will be kept during the test and submitted with the FOT results. The log will include key events with date and times.

- Gauge ring run
- Tag depth
- Well isolation

- Pressure recordings

V.8 In addition surface pressures will be recorded continuously using a chart recorder during the test.
V.9 A Crystal XP2i Series Digital Test gauge will be utilized for the data collection. The gauge has a 0-3000 psi pressure range with 0.1% reading accuracy.

Reservoir Pressure Evaluation Test Procedure:

Prepare Well for Test

1. Perform MIT
2. Setup pressure recording chart and digital gauge
3. MIRU wireline
4. RIH w/ Gauge ring to SN
5. POOH w/ Gauge ring and PU impression block (or something to run thru SN)
6. RIH tag and record fill depth ***Note: (2018-9-12 Amendment- Tagged fill with wireline at 4387'. Contacted NMOCD Jim G. who then directed us to Will Jones. Will gave permission to conduct the FOT with the additional fill covering perfs. FOT will be executed once C103 is approved.)***

Conduct Pressure Monitoring

1. Ensure surface gauges are configured properly
2. Shut down injection pumps and isolate the well at the wellhead
3. Record surface tubing pressure data over a 5 day period, Pressure reading will be taken twice a day AM and PM
    a. Bottomhole pressures will be calculated and compiled for the test for review
    b. The bottomholw pressures will be compared to historic reservoir pressures extrapolated from FOT data
4. Put well back into service for normal operation

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

State of New Mexico
Energy, Minerals and Natural Resources

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

Form C-103
Revised July 18, 2013

WELL API NO.
30-045-28653

5. Indicate Type of Lease
STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

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

7. Lease Name or Unit Agreement Name
Sunco Disposal

1. Type of Well: Oil Well ☐ Gas Well ☐ Other SWD Class I

8. Well Number 1

2. Name of Operator
Agua Moss, LLC

9. OGRID Number 247130

3. Address of Operator
PO Box 600 Farmington, NM 87499

10. Pool name or Wildcat SWD-MV

4. Well Location
Unit Letter E : 1595 feet from the North line and 1005 feet from the West line
Section 2 Township 29N Range 12W NMPM County San Juan

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
5859'

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
DOWNHOLE COMMINGLE	☐						
CLOSED-LOOP SYSTEM	☐						
OTHER:	☐			OTHER: FOT			☒

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.

Agua Moss, LLC proposes to perform the following reservoir pressure evaluation test in place of the FOT. Please see the attached procedure.

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 Philana Thompson TITLE Regulatory Compliance Spec DATE 9/13/19

Type or print name Philana Thompson E-mail address: pthompson@merrion.bz PHONE: 505-486-1171

For State Use Only

APPROVED BY: Carl J. Chavez TITLE Environmental Engineer DATE 9/13/19

Conditions of Approval (if any):
1) Contact DO3 to schedule date & time of MIT w/ orig. chart, calibration sht. Sent to OCD-SF
2) If tag fill above perf. interval, clean fill out of well prior to running FOT Plan.

At the request of the NMOCD and permit requirements, a Reservoir Pressure Evaluation Test (RPE) was performed on the Sunco SWD #1 Class I injection well (UICI-5-0) on **09/23/2019**. Below is a summary of findings from the Reservoir Pressure Evaluation Test.

Procedure:

A digital Crystal XP2i gauge was installed in parallel with a two pin pressure recording chart meter. Injection pumps were shut down and well was isolated at the wellhead. Bottom hole pressure (BHP) was calculated based on the June 5, 2019 specific gravity measurement and the top perf depth with reference to ground level. The initial calculated BHP was 2,938 psi at a depth of 4,362' GL. The pressure from the Crystal XP2i was recorded twice per day and the pressure was charted continually over a 5 day period. The final calculated bottom hole pressure was 2,939 psi on 09/27/2019 at 6 pm.

Analysis:

The surface pressure data was compiled in excel and analyzed. The BHP was calculated using a 0.435 psi/ft. A pressure dip occurred 09/25/2019 at 9 am due to a plug in the line from the well head to pressure recorders. The line was disconnected, cleaned out and put back into service.

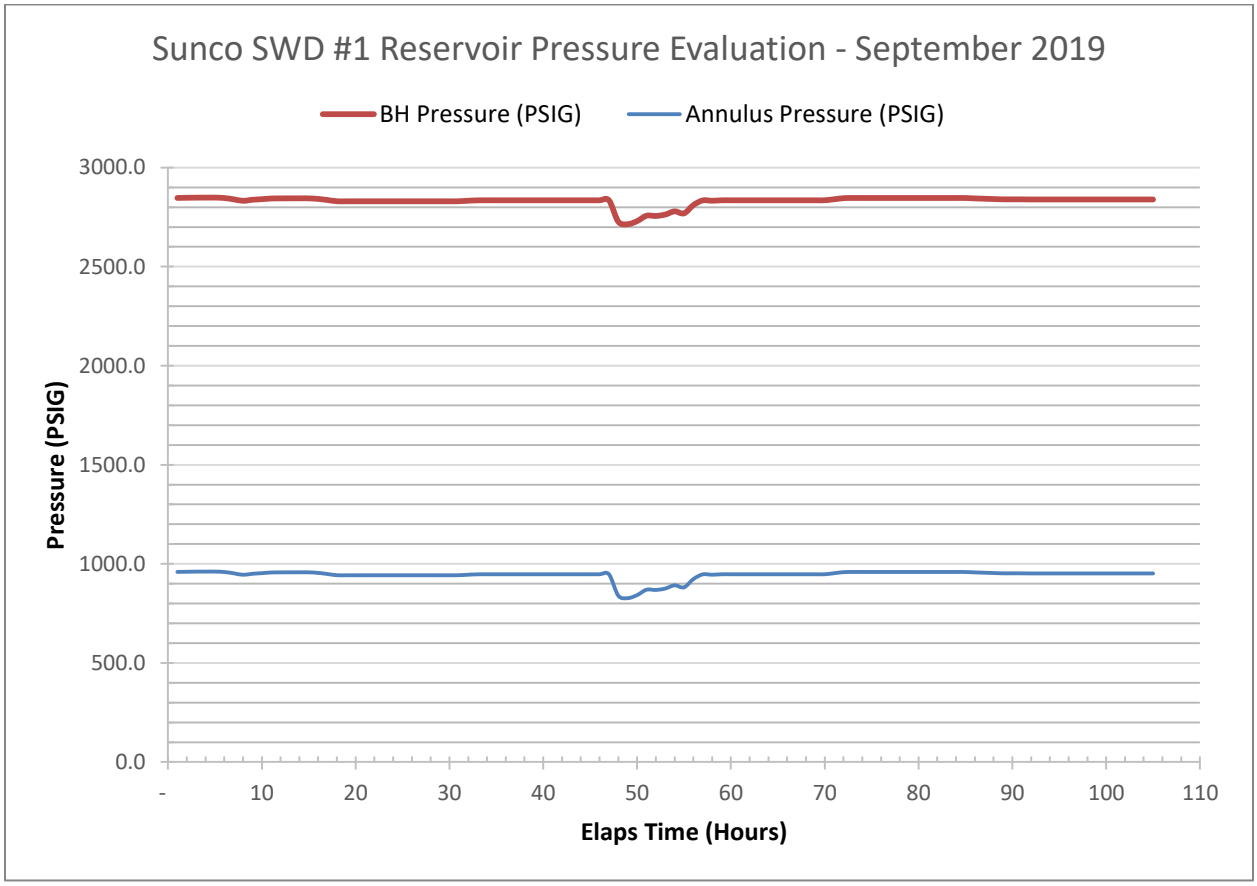

Figure 2 Calculated BH Pressure vs. Time

Results:

The well maintained a positive pressure during the entire RPE Test allowing a BHP to be calculated from the surface pressure readings collected. The average calculated BHP was 2,939 psi. The steady reservoir pressure observed during the RPE indicates that reservoir was in a near static state. This is due to the small amount of injection that has occurred this year and an amble shut in period prior the RPE Test. The RPE test this year was conducted with fill over a portion of the perforations.

Comparison with past Falloff Tests:

The results from the 2019 RPE were compiled with previous FOT results from the facility and are shown below in Table 2.

Table 1: Results Comparison

	2019	2018	2017	2016	2015	2010	2009	2008	2007
Rate (bbl/day)		3292	3150	3132	3340	4500			
P* (psi)	**2939**[1]	3479	3273	3114	3283	3231	3242	3176	3258
K (md)		10.8	10.4	11.5	15.8	13.6	10.2	20.7	
S		-6.0	-6.0	-5.93	-5.97	-7.18	-7.23	-6.79	
Radius of Inv (ft)		1690	1790	1430	1580	1450	1250	1750	1620
Frac ½ Length (ft)		598	517	594	467	893	926	596	688
Boundary		None	none	none	none	648, 1520	755	987	none

Agua Moss did not conduct tests prior to 2015 and is relying on the 2010 report submitted by Key Energy, the past operator, for those results. The following observations were derived from a comparison of the results:

1. The surface pressures collected were relatively consistent indicating that the reservoir has equalized and the calculated BHP is representative of a static reservoir pressure.
2. The calculated BHP was within an expected range and was below the extrapolated reservoir pressures from the previous FOTs.

The raw test data obtain during the 2019 RPE test will be kept on file for a period of three (3) years and will be available upon request.

[1] The pressure shown for 2019 is a bottom hole pressure calculated based on surface pressure and a fluid gradient. This pressure is being compared to the extrapolated reservoir pressures from previously completed FallOff Test. The comparison is being used to gauge the current condition of the injection interval to ensure the interval is suitable for continued injection operations.

Conclusions:

Based on the above analysis and results comparison, Agua Moss believes the Sunco SWD #1 2018 RPE was successfully completed. The results do not show indications of concern in continuing the current waste injection operations. The calculated BHP from the test was less than the previous FOT extrapolated reservoir pressures. This lower pressure is due to the low volume injected this year and indicates that the reservoir is still very suitable for continued injection.

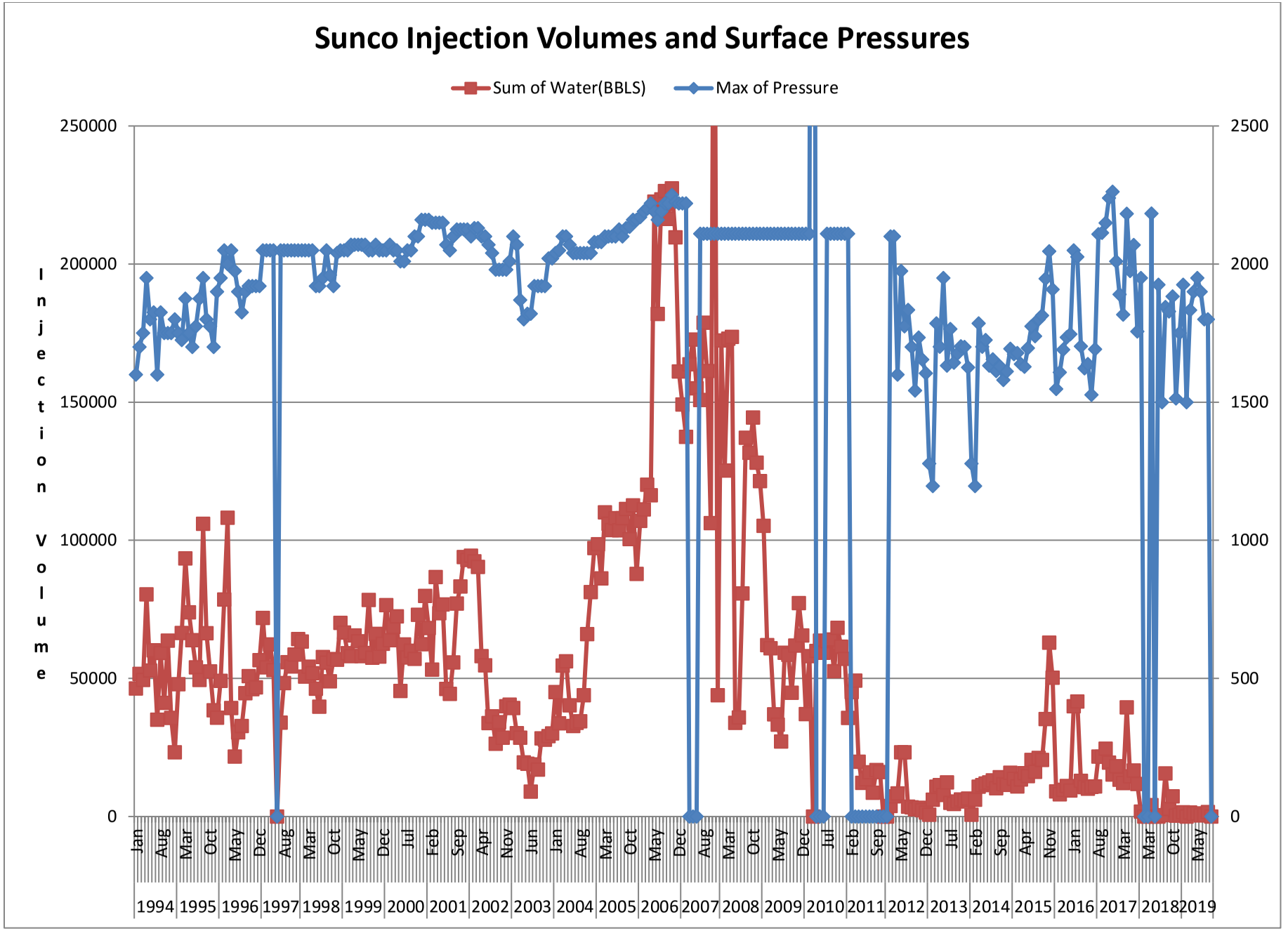

Figure 2 Injection and Pressure Plot

July 3, 2019

Ms. Shacie Murray
Agua Moss LLC
P.O. Box 600
Farmington, New Mexico 87499

Re: Sunco Disposal #1
Injection Water Quality Monitoring
2nd Quarter 2019

Dear Ms. Murray:

This report summarizes the sample collection, field screening, and laboratory analysis of the injection water at the Agua Moss LLC Sunco Disposal #1 facility for the 2nd Quarter 2019. Injection water of the Class I Sunco Disposal #1 well is assessed on a quarterly basis in accordance with 20.6.5207(B) NMAC.

Field Activities
Rule Engineering, LLC (Rule) personnel collected one injection water sample (S-10) from the process line inside the pump building at the location on June 5, 2019. Injection water was discharged directly from the valve of the process line into laboratory sample containers and a clean container for field screening.

Sample Collection and Field Screening Procedures
The injection water sample (S-10) was field screened for time sensitive parameters including pH, temperature, reduction potential, specific conductance, and total dissolved solids. Field screening was conducted utilizing a handheld water quality meter calibrated on the day of use with laboratory grade standards.

The sampled injection water was placed into laboratory supplied containers, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico.

Field Screening and Laboratory Analytical Results
The field screening and laboratory analytical results are summarized in the attached Table 1.

QA/QC Considerations
Field measurements for time sensitive parameters including pH, temperature, reduction potential, and specific conductance more accurately reflect the characteristics of the injection water than laboratory results for these parameters due to their rapidly changing nature when removed from the stable environment of

the process line. The hold time qualifier is indicated on the laboratory report for pH as the hold time of 15 minutes from collection was exceeded during transport prior to analysis. Similarly, the hold time was exceeded for reduction potential and corrosivity by pH.

A dilution due to matrix qualifier is indicated on the laboratory report for total dissolved solids.

Closure and Limitations
This report is prepared for the exclusive use of Agua Moss LLC and is subject to the terms, conditions, and limitations stated in Rule's report and Service Agreement with Agua Moss LLC. All work has been performed in accordance with generally accepted professional environmental consulting practices. No other warranty is expressed or implied.

Rule Engineering appreciates the opportunity to provide services to Agua Moss LLC. If you have any questions, please contact me at (505) 325-1055.

Sincerely,
Rule Engineering, LLC

Heather M. Woods, P.G.
Area Manager/Geologist

Attachments:
Table 1. Summary of Field Screening and Laboratory Analytical Results
Laboratory Analytical Reports (Hall: 1906280)

Table 1. Summary of Field Screening and Laboratory Analytical Results

Sample ID	S-10			
Collection Date	6/5/2019		Units	Toxicity Characteristic Concentrations
Analyte	Laboratory Results	Field Results		
pH	6.05 H	6.44	su	
Temperature	--	18.0	°C	
Reduction Potential	-26.0 H	-195	mV	
Specific Conductance	8,400	6,381	µmhos/cm	
Specific Gravity	1.005	--		
Total Dissolved Solids	8,260 D	6,880	mg/L	
Bicarbonate (As $CaCO_3$)	1,453	--	mg/L	
Carbonate (As $CaCO_3$)	<5.000	--	mg/L	
Flouride	<5.0	--	mg/L	
Chloride	860	--	mg/L	
Bromide	1.6	--	mg/L	
Phosphorus, Orthophosphate	<2.5	--	mg/L	
Sulfate	2,100	--	mg/L	
Nitrogen, Nitrate (as N)	<0.50	--	mg/L	
Nitrogen, Nitrite (as N)	<0.50	--	mg/L	
Calcium	560	--	mg/L	
Magnesium	9.7	--	mg/L	
Potassium	68	--	mg/L	
Sodium	1,600	--	mg/L	
Reactive Cyanide	0.0114	--	mg/L	
Reactive Sulfide	0.506	--	mg/L	
Flashpoint	Did not flash at 170°F	--		
Corrosivity by pH	5.88 H	--	su	
Arsenic	<0.10	--	mg/L	5.0 mg/L
Barium	0.15	--	mg/L	100.0 mg/L
Benzene	0.290	--	mg/L	0.5 mg/L
Cadmium	<0.010	--	mg/L	1.0 mg/L
Carbon tetrachloride	<0.020	--	mg/L	0.5 mg/L
Chlordane	<0.030	--	mg/L	0.03 mg/L
Chlorobenzene	<0.020	--	mg/L	100.0 mg/L
Chloroform	<0.020	--	mg/L	6.0 mg/L
Chromium	<0.030	--	mg/L	5.0 mg/L
Cresols, Total	<200	--	mg/L	200 mg/L
1,4-Dichlorobenzene	<0.020	--	mg/L	7.5 mg/L
1,2-Dichloroethane	<0.020	--	mg/L	0.5 mg/L
1,1-Dichloroethene	<0.020	--	mg/L	0.7 mg/L
2,4-Dinitroltoluene	<0.13	--	mg/L	0.13 mg/L
Hexachlorobenzene	<0.13	--	mg/L	0.13 mg/L
Hexachlorobutadiene	<0.50	--	mg/L	0.5 mg/L
Hexachloroethane	<3.0	--	mg/L	3.0 mg/L
Lead	<0.025	--	mg/L	5.0 mg/L
Mercury	<0.00020	--	mg/L	0.2 mg/L
Methyl ethyl ketone	3.100	--	mg/L	200.0 mg/L
Nitrobenzene	<2.0	--	mg/L	2.0 mg/L
Pentachlorophenol	<100	--	mg/L	100.0 mg/L
Pyridine	<5.0	--	mg/L	5.0 mg/L
Selenium	<0.25	--	mg/L	1.0 mg/L
Silver	<0.025	--	mg/L	5.0 mg/L
Tetrachloroethylene	<0.020	--	mg/L	0.7 mg/L
Trichloreoethylene	<0.020	--	mg/L	0.5 mg/L
2,4,5-Trichlorophenol	<400	--	mg/L	400.0 mg/L
2,4,6-Trichlorophenol	<2.0	--	mg/L	2.0 mg/L
Vinyl chloride	<0.020	--	mg/L	0.2 mg/L

Notes: su - standard units
°C - degrees Celcius
°F - degrees Farenheit
mV - millivolts
µmhos/cm - micromohs per centimeter
mg/L - milligrams per liter
H - Holding times for preparation or analysis exceeded
D - Sample diluted due to matrix
S - % Recovery outside of range due to dilution or matix

1.00 Concentration exeeds the Toxicity Characteristic Concer

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 03, 2019

Heather Woods

Rule Engineering LLC
501 Airport Dr., Ste 205
Farmington, NM 87401
TEL: (505) 325-1055
FAX

RE: Agua Moss Sunco Disposal 1 OrderNo.: 1906280

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/6/2019 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued June 20, 2019.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Client Sample ID: S-10 (6/5/19)
Project: Agua Moss Sunco Disposal 1
Collection Date: 6/5/2019 10:13:00 AM
Lab ID: 1906280-001 **Matrix:** AQUEOUS **Received Date:** 6/6/2019 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8081: PESTICIDES TCLP						Analyst:	**JME**
Chlordane	ND	0.030		mg/L	1	6/13/2019 2:10:16 PM	45511
Surr: Decachlorobiphenyl	55.7	29.4-99.8		%Rec	1	6/13/2019 2:10:16 PM	45511
Surr: Tetrachloro-m-xylene	55.7	20.7-100		%Rec	1	6/13/2019 2:10:16 PM	45511
EPA METHOD 8270C TCLP						Analyst:	**DAM**
2-Methylphenol	ND	200		mg/L	1	6/13/2019 3:21:55 PM	45549
3+4-Methylphenol	ND	200		mg/L	1	6/13/2019 3:21:55 PM	45549
2,4-Dinitrotoluene	ND	0.13		mg/L	1	6/13/2019 3:21:55 PM	45549
Hexachlorobenzene	ND	0.13		mg/L	1	6/13/2019 3:21:55 PM	45549
Hexachlorobutadiene	ND	0.50		mg/L	1	6/13/2019 3:21:55 PM	45549
Hexachloroethane	ND	3.0		mg/L	1	6/13/2019 3:21:55 PM	45549
Nitrobenzene	ND	2.0		mg/L	1	6/13/2019 3:21:55 PM	45549
Pentachlorophenol	ND	100		mg/L	1	6/13/2019 3:21:55 PM	45549
Pyridine	ND	5.0		mg/L	1	6/13/2019 3:21:55 PM	45549
2,4,5-Trichlorophenol	ND	400		mg/L	1	6/13/2019 3:21:55 PM	45549
2,4,6-Trichlorophenol	ND	2.0		mg/L	1	6/13/2019 3:21:55 PM	45549
Cresols, Total	ND	200		mg/L	1	6/13/2019 3:21:55 PM	45549
Surr: 2-Fluorophenol	54.2	15-82.5		%Rec	1	6/13/2019 3:21:55 PM	45549
Surr: Phenol-d5	44.3	15-74.2		%Rec	1	6/13/2019 3:21:55 PM	45549
Surr: 2,4,6-Tribromophenol	79.5	18.6-118		%Rec	1	6/13/2019 3:21:55 PM	45549
Surr: Nitrobenzene-d5	85.8	30.4-106		%Rec	1	6/13/2019 3:21:55 PM	45549
Surr: 2-Fluorobiphenyl	66.8	15-104		%Rec	1	6/13/2019 3:21:55 PM	45549
Surr: 4-Terphenyl-d14	80.5	15-133		%Rec	1	6/13/2019 3:21:55 PM	45549
SPECIFIC GRAVITY						Analyst:	**JRR**
Specific Gravity	1.005	0			1	7/2/2019 10:32:00 AM	R61110
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Fluoride	ND	5.0		mg/L	50	6/18/2019 6:04:24 PM	R60755
Chloride	860	25		mg/L	50	6/18/2019 6:04:24 PM	R60755
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	6/7/2019 6:09:43 AM	A60477
Bromide	1.6	0.50		mg/L	5	6/7/2019 6:09:43 AM	A60477
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	6/7/2019 6:09:43 AM	A60477
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	6/7/2019 6:09:43 AM	A60477
Sulfate	2100	25		mg/L	50	6/18/2019 6:04:24 PM	R60755
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	8400	5.0		µmhos/c	1	6/10/2019 11:37:09 AM	R60535
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	1453	50.00		mg/L Ca	2.5	6/10/2019 5:50:01 PM	R60535
Carbonate (As CaCO3)	ND	5.000		mg/L Ca	2.5	6/10/2019 5:50:01 PM	R60535

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

	WH	AP
1/1/19		0
1/2/19		
1/3/19		
1/4/19		
1/5/19		
1/6/19		
1/7/19		
1/8/19	1900	
1/9/19		
1/10/19	1950	
1/11/19		
1/12/19		
1/13/19		
1/14/19		
1/15/19		
1/16/19		
1/17/19		
1/18/19		
1/19/19		
1/20/19		
1/21/19		
1/22/19		
1/23/19		
1/24/19		
1/25/19		
1/26/19		
1/27/19		
1/28/19		
1/29/19		
1/30/19		
1/31/19		
	1925	**0** AVG
	1900	**0** MIN
	1950	**0** MAX

	WH	AP
2/1/19		0
2/2/19		
2/3/19		
2/4/19		
2/5/19		
2/6/19		
2/7/19		
2/8/19		
2/9/19		
2/10/19		
2/11/19		
2/12/19	1500	
2/13/19		
2/14/19		
2/15/19		
2/16/19		
2/17/19		
2/18/19		
2/19/19		
2/20/19		
2/21/19	1300	
2/22/19		
2/23/19		
2/24/19		
2/25/19		
2/26/19		
2/27/19		
2/28/19		
	1400	**0** AVG
	1300	**0** MIN
	1500	**0** MAX

	WH	AP
3/1/19		0
3/2/19		
3/3/19		
3/4/19		
3/5/19		
3/6/19	1700	
3/7/19	1500	
3/8/19		
3/9/19		
3/10/19		
3/11/19		
3/12/19		
3/13/19	1900	
3/14/19		
3/15/19		
3/16/19		
3/17/19		
3/18/19		
3/19/19		
3/20/19	1900	
3/21/19		
3/22/19		
3/23/19		
3/24/19		
3/25/19		
3/26/19		
3/27/19	1400	
3/28/19		
3/29/19		
3/30/19		
3/31/19		
	1680	**0** AVG
	1400	**0** MIN
	1900	**0** MAX

	WH	AP
4/1/19		0
4/2/19		
4/3/19	1400	
4/4/19		
4/5/19		
4/6/19		
4/7/19		
4/8/19		
4/9/19		
4/10/19		
4/11/19		
4/12/19		
4/13/19		
4/14/19		
4/15/19		
4/16/19		
4/17/19	1900	
4/18/19		
4/19/19	1400	
4/20/19		
4/21/19		
4/22/19		
4/23/19		
4/24/19		
4/25/19		
4/26/19		
4/27/19		
4/28/19		
4/29/19		
4/30/19		
	1566.667	**0** AVG
	1400	**0** MIN
	1900	**0** MAX

	WH	AP
5/1/19		0
5/2/19		
5/3/19		
5/4/19		
5/5/19		
5/6/19		
5/7/19		
5/8/19	1950	
5/9/19		
5/10/19		
5/11/19		
5/12/19		
5/13/19		
5/14/19		
5/15/19	1500	
5/16/19		
5/17/19		
5/18/19		
5/19/19		
5/20/19		
5/21/19		
5/22/19		
5/23/19	1250	
5/24/19		
5/25/19		
5/26/19		
5/27/19		
5/28/19		
5/29/19	1250	
5/30/19		
5/31/19		
	1487.5	**0** AVG
	1250	**0** MIN
	1950	**0** MAX

	WH	AP
6/1/19		0
6/2/19		
6/3/19		
6/4/19		
6/5/19		
6/6/19	1250	
6/7/19		
6/8/19		
6/9/19		
6/10/19		
6/11/19		
6/12/19		
6/13/19	1250	
6/14/19		
6/15/19		
6/16/19		
6/17/19		
6/18/19		
6/19/19	1250	
6/20/19		
6/21/19		
6/22/19		
6/23/19		
6/24/19		
6/25/19		
6/26/19	1900	
6/27/19		
6/28/19		
6/29/19		
6/30/19		
	1412.5	**0** AVG
	1250	**0** MIN
	1900	**0** MAX

	WH	AP
7/1/19		0
7/2/19		
7/3/19		
7/4/19		
7/5/19		
7/6/19		
7/7/19		
7/8/19		
7/9/19		
7/10/19		
7/11/19		
7/12/19		
7/13/19		
7/14/19		
7/15/19		
7/16/19	1250	
7/17/19		
7/18/19		
7/19/19		
7/20/19		
7/21/19		
7/22/19		
7/23/19	1250	
7/24/19		
7/25/19		
7/26/19		
7/27/19		
7/28/19	1800	
7/29/19		
7/30/19		
7/31/19		
	1433.333	**0** AVG
	1250	**0** MIN
	1800	**0** MAX

	WH	AP
8/1/19		0
8/2/19		
8/3/19	1850	
8/4/19		
8/5/19		
8/6/19		
8/7/19		
8/8/19	750	
8/9/19		
8/10/19		
8/11/19		
8/12/19		
8/13/19		
8/14/19		
8/15/19		
8/16/19		
8/17/19		
8/18/19		
8/19/19		
8/20/19		
8/21/19		
8/22/19		
8/23/19		
8/24/19		
8/25/19		
8/26/19		
8/27/19		
8/28/19		
8/29/19		
8/30/19		
8/31/19		
	1300	**0** AVG
	750	**0** MIN
	1850	**0** MAX

	WH	AP
9/1/19		0
9/2/19		
9/3/19		
9/4/19	1250	
9/5/19		
9/6/19		
9/7/19		
9/8/19		
9/9/19		
9/10/19		
9/11/19		
9/12/19		
9/13/19		
9/14/19		
9/15/19		
9/16/19		
9/17/19		
9/18/19		
9/19/19		
9/20/19		
9/21/19		
9/22/19		
9/23/19		
9/24/19		
9/25/19		
9/26/19		
9/27/19		
9/28/19		
9/29/19		
9/30/19		
	1250	**0** AVG
	1250	**0** MIN
	1250	**0** MAX

Total Injected	Avg Vol	Avg Flow		Avg Vol	Avg Flow		Avg Vol	Avg Flow		Avg Vol	Avg Flow		Avg Vol	Avg Flow		Avg Vol	Avg Flow		Avg Vol	Avg Flow		Avg Vol	Avg Flow
1/1/2019			2/1/2019	0	0	3/1/2019			4/1/2019			5/1/2019			6/1/2019			7/1/2019			8/1/2019			9/1/2019	0	0
1/2/2019			2/2/2019			3/2/2019			4/2/2019			5/2/2019			6/2/2019			7/2/2019			8/2/2019			9/2/2019		
1/3/2019			2/3/2019			3/3/2019			4/3/2019			5/3/2019			6/3/2019			7/3/2019			8/3/2019			9/3/2019		
1/4/2019			2/4/2019			3/4/2019			4/4/2019			5/4/2019			6/4/2019			7/4/2019			8/4/2019			9/4/2019		
1/5/2019			2/5/2019			3/5/2019			4/5/2019			5/5/2019			6/5/2019			7/5/2019			8/5/2019			9/5/2019		
1/6/2019			2/6/2019			3/6/2019	230	6.708333333	4/6/2019			5/6/2019			6/6/2019			7/6/2019			8/6/2019			9/6/2019		
1/7/2019			2/7/2019			3/7/2019			4/7/2019			5/7/2019			6/7/2019			7/7/2019			8/7/2019			9/7/2019		
1/8/2019	803	23.42083333	2/8/2019			3/8/2019			4/8/2019			5/8/2019	1147	33.45416667	6/8/2019			7/8/2019			8/8/2019	1628	47.48333333	9/8/2019		
1/9/2019			2/9/2019			3/9/2019			4/9/2019			5/9/2019			6/9/2019			7/9/2019			8/9/2019			9/9/2019		
1/10/2019	724	21.11666667	2/10/2019			3/10/2019			4/10/2019			5/10/2019			6/10/2019			7/10/2019			8/10/2019			9/10/2019		
1/11/2019			2/11/2019			3/11/2019			4/11/2019			5/11/2019			6/11/2019			7/11/2019			8/11/2019			9/11/2019		
1/12/2019			2/12/2019			3/12/2019			4/12/2019			5/12/2019			6/12/2019			7/12/2019			8/12/2019			9/12/2019		
1/13/2019			2/13/2019			3/13/2019	883	25.75416667	4/13/2019			5/13/2019			6/13/2019			7/13/2019			8/13/2019			9/13/2019		
1/14/2019			2/14/2019			3/14/2019			4/14/2019			5/14/2019			6/14/2019			7/14/2019			8/14/2019			9/14/2019		
1/15/2019			2/15/2019			3/15/2019			4/15/2019			5/15/2019			6/15/2019			7/15/2019			8/15/2019			9/15/2019		
1/16/2019			2/16/2019			3/16/2019			4/16/2019			5/16/2019			6/16/2019			7/16/2019	562	16.39166667	8/16/2019			9/16/2019		
1/17/2019			2/17/2019			3/17/2019			4/17/2019	857	24.99583333	5/17/2019			6/17/2019			7/17/2019			8/17/2019			9/17/2019		
1/18/2019			2/18/2019			3/18/2019			4/18/2019			5/18/2019			6/18/2019			7/18/2019			8/18/2019			9/18/2019		
1/19/2019			2/19/2019			3/19/2019			4/19/2019			5/19/2019			6/19/2019			7/19/2019			8/19/2019			9/19/2019		
1/20/2019			2/20/2019			3/20/2019	337	9.829166667	4/20/2019			5/20/2019			6/20/2019			7/20/2019			8/20/2019			9/20/2019		
1/21/2019			2/21/2019			3/21/2019			4/21/2019			5/21/2019			6/21/2019			7/21/2019			8/21/2019			9/21/2019		
1/22/2019			2/22/2019			3/22/2019			4/22/2019			5/22/2019			6/22/2019			7/22/2019			8/22/2019			9/22/2019		
1/23/2019			2/23/2019			3/23/2019			4/23/2019			5/23/2019			6/23/2019			7/23/2019			8/23/2019			9/23/2019		
1/24/2019			2/24/2019			3/24/2019			4/24/2019			5/24/2019			6/24/2019			7/24/2019			8/24/2019			9/24/2019		
1/25/2019			2/25/2019			3/25/2019			4/25/2019			5/25/2019			6/25/2019			7/25/2019			8/25/2019			9/25/2019		
1/26/2019			2/26/2019			3/26/2019			4/26/2019			5/26/2019			6/26/2019	418	12.19166667	7/26/2019			8/26/2019			9/26/2019		
1/27/2019			2/27/2019			3/27/2019			4/27/2019			5/27/2019			6/27/2019			7/27/2019			8/27/2019			9/27/2019		
1/28/2019			2/28/2019			3/28/2019			4/28/2019			5/28/2019			6/28/2019			7/28/2019			8/28/2019			9/28/2019		
1/29/2019						3/29/2019			4/29/2019			5/29/2019			6/29/2019			7/29/2019			8/29/2019			9/29/2019		
1/30/2019						3/30/2019			4/30/2019			5/30/2019			6/30/2019			7/30/2019			8/30/2019			9/30/2019		
1/31/2019						3/31/2019						5/31/2019						7/31/2019			8/31/2019					
AVG	763.5	22.26875		0	0		483.3333333	14.09722222		857	24.99583333		1147	33.45416667		418	12.19166667		562	16.39166667		1628	47.48333333		0	0
MAX	803	23.42083333		0	0		883	25.75416667		857	24.99583333		1147	33.45416667		418	12.19166667		562	16.39166667		1628	47.48333333		0	0
MIN	724	21.1166667		0	0.0000000		230	6.7083333		857	24.9958333		1147	33.4541667		418	12.1916667		562	16.3916667		1628	47.4833333		0	0.0000000
Total for mont	1527			0			1450			857			1147			418			562			1628			0	

UICI-5-0
Agua Moss, LLC
Sunco Disposal #1 30-045-28653

2019

Quarterly
Injection Report

	Average Pressure (psig)	Maximum Pressure (psig)	Minimum Pressure (psig)	Average Flow (gpm)	Maxium Flow (gpm)	Minimum Flow (gpm)	Average Annular Pressure (psig)	Maximum Annular Pressure (psig)	Minimum Annular Pressure (psig)	Average Volume (bpd)	Maximum Volume (bpd)	Minimum Volume (bpd)	Volume (barrels)	Total Cumulative Volume (barrels)	
													Previous year	14957142	
Jan-2019	1925	1950	1900	22.26875	23.42083333	21.1166667	0	0	0	763.5	803	724	1527	14958669	
Feb-2019	1400	1500	1300	0	0	0	0	0	0	0	0	0	0	14958669	
Mar-2019	1680	1900	1400	14.09722222	25.75416667	6.70833333	0	0	0	483.3333333	883	230	1450	14960119	
													Previous Quarter	14960119	
Apr-2019	1566.667	1900	1400	24.99583333	24.99583333	24.9958333	0	0	0	857	857	857	857	14960976	
May-2019	1487.5	1950	1250	33.45416667	33.45416667	33.4541667	0	0	0	1147	1147	1147	1147	14962123	
Jun-2019	1412.5	1900	1250	12.19166667	12.19166667	12.1916667	0	0	0	418	418	418	418	14962541	
													Previous Quarter	14962541	
Jul-19	1433.333	1800	1250	16.39166667	16.39166667	16.3916667	0	0	0	562	562	562	562	14963103	
Aug-19	1300	1850	750	47.48333333	47.48333333	47.4833333	0	0	0	1628	1628	1628	1628	14964731	
Sep-19	1250	1250	1250	0	0	0	0	0	0	0	0	0	0	14964731	
													Previous Quarter	14964731	
Oct-2019	0	0	0	0	0	0	0	0	0	0	0	0	0	14964731	
Nov-2019	0	0	0	0	0	0	0	0	0	0	0	0	0	14964731	
Dec-2019	0	0	0	0	0	0	0	0	0	0	0	0	0	14964731	
												Total for year	**7589**	**14972320**	**Life Of well injected**

2018 AREA OF REVIEW
UNIT LETTERS ENCOMPASSED BY THE 2-MILE AOR

Sec	TWN	RNG	UL	
1	29N	12W	ALL	
2	29N	12W	ALL	
3	29N	12W	ALL	
4	29N	12W	ACFJKNP	
9	29N	12W	ABH	
10	29N	12W	ABCDIJN	
11	29N	12W	ACDGHILOP	
12	29N	12W	AEFKM	
25	30N	12W	EMN	
26	30N	12W	FGLNOP	
27	30N	12W	LMP	
28	30N	12W	O	
33	30N	12W	GHIJK	
34	30N	12W	ALL	
35	30N	12W	ALL	
36	30N	12W	AEIMN	

Radius expanded to 2 miles for permit renewal requirements.

6 Wells were Plugged & Abandoned since last AOR 2017.

													Surface Casing			*INT Casing*			*Production Casing*					
API	Well Name	Well #	Current Operator	Type	Lease	Status	Sec	TWN	RNG	UL	Spud Date	TD	size	depth	Sacks TOC	size	depth	Sacks TOC	size	depth	Sacks TOC	Perfs	Packer	PLUGGED
30-045-28653	SUNCO DISPOSAL	#001	Agua Moss	Salt Water Disposal	Private	Active	2	29N	12W	E	1/28/1992	4760	8.625	209	150 surf				5.5	4760	1010 surf	4350-4460	4282 10/15/07	4350-4460 TA'd
30-045-08851	ALLEN A	#001	BP America	Gas	Private	Plugged	1	29N	12W	D	3/12/1961	6785	8.265	264	200 surf				4.5	6785	300 surf	6518-6718		3/27/2018
30-045-26214	ALLEN A	#001E	BP America	Gas	Federal	Active	1	29N	12W	L	3/22/1985	5825	8.625	318	225 surf				5.5	6622	820 surf	6425-6602		
30-045-34348	Allen Com	#100	Burlington	Gas	Federal	Plugged	1	29N	12W	B	10/22/2007	138												1/22/2009
30-045-08782	Cornell	5	Burlington	Gas	Federal	Plugged	1	29N	12W	G	9/30/1955	99999												4/28/1994
30-045-08656	Cornell	2	Energen Resources	Gas	Federal	Plugged	1	29N	12W	M	10/2/1955	1996												9/15/2005
30-045-29538	Cornell	5R	HilCorp	Gas	Federal	Active	1	29N	12W	A	4/14/1998	2225	7	131	45-53				3.5	2215	434-741	2029-2059		
30-045-29539	Cornell	3R	Epic Energy	Gas	Federal	Plugged	1	29N	12W	I	10/7/1955	0	7	131	45-53				3.5	2193	434-741	1991-2041		7/13/2018
30-045-32346	CORNELL	#002R	Southland Royalty	Gas	Federal	Active	1	29N	12W	M	7/22/2004	2152	7	137	90 surf				4.5	2151	310 surf	1702-1926		
30-045-31612	Cornell	2S	Southland Royalty	Gas	Federal	Active	1	29N	12W	O	7/27/1957	0	7	136	56 surf				4.5	2058	225 surf	1725-1921		
30-045-08661	Dudley Cornell A	#001	BP America	Gas	Federal	Active	1	29N	12W	O	11/15/1960	6730	9.625	263	200 surf				4.5	6707	300 surf	6434-6587		
30-045-24129	Dudley Cornell A	#001E	BP America	Gas	Federal	Active	1	29N	12W	G	4/28/1980	6722	9.625	348	250 surf				4.5	6710	180 surf	6496-6629		
30-045-29167	Hike	1	Dugan Production	Gas	Federal	Active	1	29N	12W	G	7/10/1994	3840	8.625	260	175 surf				4.5	3820	595 surf	3710-3718	3710	
30-045-08793	Pre-Ongard		Southern union	Gas	Private	Plugged	1	29N	12W	E	3/16/1948	2125												3/16/1948
30-045-08783	PRE-ONGARD WELL	#001	Pre Ongard	Gas	Private	Plugged	1	29N	12W	F	7/9/2003	2090												12/31/1901
30-045-08641	PRE-ONGARD WELL	#003	Pre Ongard	Gas	Federal	Plugged	1	29N	12W	O	4/11/1998	2203												11/16/1981
30-045-32241	BECK	#001R	HilCorp	Gas	Private	Active	2	29N	12W	G	12/1/2004	2225	7	135	34 surf				4.5	2221	262 surf	1774-2077		
30-045-33811	BECK	#001S	HilCorp	Gas	Private	Active	2	29N	12W	D	8/17/2006	2200	7	162	85 surf				4.5	2195	255 surf	1730-1951		
30-045-33573	CORNELL COM	#500S	Burlington	Gas	Private	Plugged	2	29N	12W	P	3/18/2006	2210	7	132	34 surf	6.25	2210		4.5	2198	279 surf	1754-1939 1743-1924		1/23/2013
30-045-31580	CORNELL COM	#500	HilCorp	Gas	Federal	Active	2	29N	12W	N	7/14/2003	2136	7	139	44 surf	6.25	2126		4.5	2126	258 surf	1658-1878		
30-045-08714	CORNELL SRC	#007	HilCorp	Gas	Federal	Active	2	29N	12W	L	7/29/1944	2107	16	42	10 surf	5.5	1978		3.5	2106	250 surf	1976-2010		
30-045-08844	KATTLER	#001	Burlington	Gas	Private	Plugged	2	29N	12W	C	1/26/1945	2069	10	846	surf	5.5	1960		3.5	2050	205 surf	1961-2007		5/26/2012
30-045-08704	MCGRATH B	#001	HilCorp	Gas	Private	Active	2	29N	12W	J	11/19/1961	6720	8.625	318	225 surf				4.5	1865	1065 surf	6489-6596		
30-045-08713	McGrath SRC	#001	Burlington	Gas	Private	Plugged	2	29n	12w	j	7/7/1973	2136												1998

30-045-30486	MCGRATH SRC	#001R	Burlington	Gas	Private	Plugged	2	29N	12W	J	3/23/2001	2235												6/25/2010
30-045-08797	Pre-Ongard		Southland	Gas	Private	Plugged	2	29n	12w	g	4/14/1948	2125												2/23/1984
30-045-27635	PRE-ONGARD WELL	#500		Gas	Federal	Plugged	2	29N	12W	M														12/31/1901
30-045-08839	YOUNG	#001	HilCorp	Gas	Private	Active	2	29N	12W	D	8/1/1961	6740	8.625	307	275 surf				4.5	6739	700 surf	6446-6644		
30-045-08709	MCGRATH	#003	Burlington	Gas	Private	Plugged	3	29N	12W	J	3/4/1945	2040												3/1/2013
30-045-33580	MCGRATH	#003S	HilCorp	Gas	Private	Active	3	29N	12W	B	7/13/2007	2132	7	218	150 surf				4.5	2112	289 surf	1692-1904		
30-045-08712	MCGRATH A	#001	HilCorp	Gas	Private	Active	3	29N	12W	I	3/14/1964	6689	8.625	307	250 surf				4.5	6688	500 surf	6432-6524		
30-045-08711	Pre-Ongard		Union Texas	Gas	Private	Plugged	3	29N	12W	K	6/25/1955	1940												11/10/1964
30-045-32931	WALKER	#100S	HilCorp	Gas	Private	Active	3	29N	12W	F	8/14/2005	2120	7	144	61 surf				4.5	2117	238 surf	1621-1885		
30-045-08801	WALKER 1	#001	HilCorp	Gas	Private	Active	3	29N	12W	E	4/12/1960	6620	8.625	232	150 surf				4.5	6620	300 surf	6546-6556		
30-045-30244	WALKER 100	#100	HilCorp	Gas	Private	TA'd	3	29N	12W	L	3/30/2001	1948	7	126	140-168				4.5	1940	219-399	1659-1872	1597 CIBP@1609	Tad
30-045-60274	WALKER 2	#002	Burlington	Gas	Private	Plugged	3	29N	12W	D	1/8/1945	1974												7/24/1998
30-045-08823	Walker SRC	1	Burlington	Gas	Private	Plugged	3	29N	12W	G	2/25/1943	2050												10/12/2009
30-045-08720	DEVONIAN FEDERAL	#001	Holcomb Oil & Gas	Gas	Federal	Active	4	29N	12W	K	6/23/1959	6538												
30-045-08804	FEDERAL	#001	Riggs Oil & Gas	Gas	Federal	Plugged	4	29N	12W	F	5/29/1959	1856												2/9/2017
30-045-24552	PRE-ONGARD WELL	#001	Pre Ongard	Gas	Federal	Plugged	4	29N	12W	A	5/29/1981	0												12/7/1995
30-045-29117	RIGGS	#001	Enduring Resources	Gas	Private	Active	4	29N	12W	A	6/24/1994	1900												
30-045-29118	RIGGS	#002	Enduring Resources	Gas	Private	Active	4	29N	12W	N	6/28/1994	1890												
30-045-32239	RIGGS	#003	Enduring Resources	Gas	Private	Active	4	29N	12W	C	2/21/2005	1906												
30-045-32312	RIGGS	#004	Enduring Resources	Gas	Private	Active	4	29N	12W	P	3/20/2005	2002												
30-045-08718	STANDARD	#001	HilCorp	Gas	Federal	Active	4	29N	12W	J	11/3/1960	6600	8.625	236	175 surf				4.5	6600	250 surf	6356-6510		
30-045-08586	FLORANCE GAS COM B	#001	BP America	Gas	Federal	Active	9	29N	12W	H	1/20/1964	6470												
30-045-26855	PRE-ONGARD WELL	#001	Pre Ongard	Gas	Private	Plugged	9	29N	12W	B	3/18/1988	0												3/9/1989
30-045-28824	ROPCO FEE FC 9	#002	HilCorp	Gas	Private	Active	9	29N	12W	A	11/25/1992	1975												
30-045-34452	BECK 29 12 10	#108	Synergy	Gas	Federal	Active	10	29N	12W	N	2/21/2008	1865												
30-045-23889	BECK A	#001E	HilCorp	Gas	Federal	Active	10	29N	12W	B	1/5/1981	6514	8.625	240	150 surf				4.5	6514	765 surf	6277-6454		

30-045-08517	BECK A	#001	HilCorp	Gas	Private	Active	10	29N	12W	J	6/12/1962	6410												
30-045-08605	**CORNELL**	**#007**	**Burlington**	**Gas**	**Federal**	**Plugged**	**10**	**29N**	**12W**	**C**	**4/20/1956**	**1807**												**7/18/1996**
30-045-30381	CORNELL	#100	HilCorp	Gas	Federal	Active	10	29N	12W	B	1/7/2003	1968	7	147	55 surf				4.5	1959	229 surf	1543-1704 1744-1800		
30-045-08601	CORNELL A	#001	BP America	Gas	Federal	Active	10	29N	12W	D	12/28/1960	6510												
30-045-24132	**CORNELL A**	**#001E**	**BP America**	**Gas**	**Federal**	**Plugged**	**10**	**29N**	**12W**	**N**	**4/4/1980**	**6350**												**1/24/2018**
30-045-23758	**Pre-Ongard**		**Southland**	**Gas**	**Federal**	**Plugged**	**10**	**29N**	**12W**	**A**	**12/19/1980**	**1870**												**2/10/1984**
30-045-08523	PRE-ONGARD WELL	#001	Pre Ongard	Water	Private	Permanently	10	29N	12W	J	8/21/1946	1871												??
30-045-08475	**CARROLL CORNELL**	**#012**	**Producing Royalties**	**Gas**	**Federal**	**Plugged**	**11**	**29N**	**12W**	**P**	**11/22/1953**	**1895**												**6/13/1979**
30-045-08615	CORNELL	#006	Epic Energy	Gas	Federal	Active	11	29N	12W	C	11/7/1955	1839	8.625	106	70 surf	5.5	1811		3.5	2022	181 surf	1811-1839		
30-045-31581	CORNELL	#101	HilCorp	Gas	Federal	Active	11	29N	12W	D	10/7/2003	2008	7	140	35 surf				4.5	2000	270 surf	1726-1764		
30-045-13092	CORNELL C	#001	BP America	Gas	Federal	Active	11	29N	12W	D	12/6/1961	6604	8.625	250	150 surf				4.5	6604	300 surf	6298-6483		
30-045-24447	FEDERAL PRI	#001E	HilCorp	Gas	Federal	Active	11	29N	12W	H	10/9/1980	6581												
30-045-22118	**PAYNE**	**#001**	**Producing Royalties**	**Gas**	**Federal**	**Plugged**	**11**	**29N**	**12W**	**A**	**7/31/1976**	**2060**												**2/13/2002**
30-045-29945	PAYNE	#001R	Mcelvain Energy	Gas	Federal	Active	11	29N	12W	H	10/27/1999	2050												
30-045-13218	**PRE-ONGARD WELL**	**#010**	**Pre Ongard**	**Gas**	**Federal**	**Plugged**	**11**	**29N**	**12W**	**A**		**0**												**12/31/1901**
30-045-08558	**PRE-ONGARD WELL**	**#001**	**Pre Ongard**	**Gas**	**Federal**	**Plugged**	**11**	**29N**	**12W**	**G**	**1/1/1940**	**0**												**4/16/1976**
30-045-08515	**PRE-ONGARD WELL**	**#001**	**Pre Ongard**	**Gas**	**Private**	**Plugged**	**11**	**29N**	**12W**	**L**	**11/25/1932**	**0**												**12/13/1982**
30-045-20067	**PRE-ONGARD WELL**	**#001**	**Pre Ongard**	**Gas**	**Federal**	**Plugged**	**11**	**29N**	**12W**	**O**	**5/5/1967**	**0**												**4/18/1986**
30-045-32667	PRI	#003	Mcelvain Energy	Gas	Federal	Active	11	29N	12W	I	2/27/2005	1960												
30-045-24086	CORNELL D	#001E	BP America	Gas	Federal	Active	12	29N	12W	A	5/22/1980	6635												
30-045-24283	CORNELL E	#001E	BP America	Gas	Federal	Active	12	29N	12W	F	5/12/1980	6609												
30-045-08444	**CORNELL E**	**#001**	**BP America**	**Gas**	**Federal**	**Plugged**	**12**	**29N**	**12W**	**M**	**9/28/1962**	**6562**												**6/27/2017**
30-045-08528	**CORNELL SRC**	**#004**	**Burlington**	**Gas**	**Federal**	**Plugged**	**12**	**29N**	**12W**	**K**	**5/25/1941**	**1970**												**3/29/2017**
30-045-22119	**PAYNE**	**#002**	**Mcelvain Energy**	**Gas**	**Federal**	**Plugged**	**12**	**29N**	**12W**	**F**	**7/22/1976**	**2062**												**10/30/2010**
30-045-22962	PAYNE	#002J	Mcelvain Energy	Gas	Federal	Active	12	29N	12W	E	6/12/1978	2026												
30-045-33015	PRI	#001S	Mcelvain Energy	Gas	Federal	Active	12	29N	12W	A	9/20/2005	2057												

30-045-32665	PRI	#001	Mcelvain Energy	Gas	Federal	Active	12	29N	12W	E	2/17/2005	2090													
30-045-32666	PRI	#002	Mcelvain Energy	Gas	Federal	Active	12	29N	12W	M	2/8/2005	2010													
30-045-09117	PRE-ONGARD WELL	#001	ONGARD WELL OPERATOR	Gas	Private	Plugged	25	30N	12W	M	4/13/1953	0													5/26/1958
30-045-26121	ROWLAND GAS COM	#001E	HilCorp	Gas	Private	Active	25	30N	12W	M	3/19/1985	6560													
30-045-29707	RUBY CORSCOT A	#001	HilCorp	Gas	Private	Active	25	30N	12W	N	9/25/1999	2007													
30-045-31641	RUBY CORSCOT A	#002	HilCorp	Gas	Private	Active	25	30N	12W	E	6/2/2003	2076													
30-045-30456	KATY COM	#002	[14634] MERRION OIL & GAS CORP	Gas	Private	Plugged	26	30N	12W	P	4/27/2001	2028													8/10/2015
30-045-30027	PADILLA	#001	HilCorp	Gas	Private	Active	26	30N	12W	F	1/15/2004	1953													
30-045-32243	PADILLA	#002	HilCorp	Gas	Private	Active	26	30N	12W	N	5/13/2004	2153													
30-045-09177	PAUL PALMER	#001	[14634] MERRION OIL & GAS CORP	Gas	Private	Plugged	26	30N	12W	L	9/13/1961	3509													8/14/2015
30-045-09165	PAUL PALMER D	#001	[5073] CONOCO INC	Gas	Private	Plugged	26	30N	12W	L	10/11/1961	99999													3/17/1995
30-045-29414	PRE-ONGARD WELL	#001	ONGARD WELL OPERATOR	Gas	Private	Plugged	26	30N	12W	G	6/21/1953	0													12/31/1901
30-045-09130	PRE-ONGARD WELL	#003	ONGARD WELL OPERATOR	Gas	Private	Plugged	26	30N	12W	O		0													3/12/1954
30-045-30544	DUFF GAS COM	#003	HilCorp	Gas	Private	Active	27	30N	12W	P	4/1/2001	5167													
30-045-13120	DUFF GAS COM B	#001	AMERICA PRODUCTION	Gas	Private	Plugged	27	30N	12W	P	2/28/1962	1950													5/30/1996
30-045-09134	DUFF GAS COM C	#001	HilCorp	Gas	Private	Active	27	30N	12W	M	1/30/1964	6365													
30-045-26076	DUFF GAS COM C	#001E	HilCorp	Gas	Private	Active	27	30N	12W	P	9/20/1984	6500													
30-045-29664	DUFF GAS COM C	#002	HilCorp	Gas	Private	Active	27	30N	12W	M	10/16/1998	1856													
30-045-31284	DUFF GAS COM C	#004	HilCorp	Gas	Private	Active	27	30N	12W	P	1/27/2003	1996													
30-045-09200	PRE-ONGARD WELL	#001	ONGARD WELL OPERATOR	Gas	Private	Plugged	27	30N	12W	L	3/30/1947	0													3/17/1959
30-045-34235	GILBREATH	#002	Enduring Resources	Gas	Private	Active	28	30N	12W	O	4/30/2008	2170													
30-045-09037	HARGIS	#001	MCGEE OIL & GAS ONSHORE LP	Gas	Private	Plugged	33	30N	12W	G	9/15/1944	1808													2/23/1994
30-045-08998	JULANDER	#002	PRODUCTION CORP	Gas	Private	Plugged	33	30N	12W	I	4/1/1946	1936													4/12/1999
30-045-09001	MADDOX	#001	HilCorp	Gas	Private	Active	33	30N	12W	J	9/21/1961	6400													
30-045-08999	PRE-ONGARD WELL	#002	ONGARD WELL OPERATOR	Gas	Private	Plugged	33	30N	12W	J	7/10/1946	0													6/4/1982
30-045-29023	REDFERN	#002	Enduring Resources	Gas	Private	Active	33	30N	12W	H	12/5/1993	1950													

30-045-32236	REDFERN	#003	Enduring Resources	Gas	Private	Active	33	30N	12W	I	3/8/2005	1993												
30-045-28912	SHIOTANI	#007	Enduring Resources	Gas	Private	Active	33	30N	12W	K	12/31/1992	1782												
30-045-26141	DUFF GAS COM	#001E	HilCorp	Gas	Federal	TA'd	34	30N	12W	G	11/20/1984	6608	8.625	316	295 surf				4.5	6608	1000 surf	6396-6576 04'RC to FC 1492-1870		TA'd 3/5/14
30-045-09071	DUFF GAS COM	#001	HilCorp	Gas	Private	Active	34	30N	12W	D	1/30/1962	6425												
30-045-08950	HUDSON	2	Burlington	Gas	Federal	Plugged	34	30N	12W	P	7/17/1946	2137												9/26/2008
30-045-31756	JULANDER	#100	HilCorp	Gas	Private	Shut In	34	30N	12W	D	7/13/2005	1895												
30-045-33411	JULANDER	#100S	HilCorp	Gas	Federal	Shut In	34	30N	12W	M	3/7/2006	2075												
30-045-25923	MCGRATH	#004	BURLINGTON RESOURCES OIL &	Salt Water Disposal	Federal	Plugged	34	30N	12W	B	9/4/1984	4700												7/25/2013
30-045-08945	MCGRATH C	#001	Burlington	Gas	Federal	Plugged	34	30n	12W	p	2/7/1963	6637												4/29/2009
30-045-09052	PRE-ONGARD WELL	#001	ONGARD WELL OPERATOR	Gas	Federal	Plugged	34	30N	12W	F	9/11/1945	0												1/22/1964
30-045-08939	PRE-ONGARD WELL	#001	ONGARD WELL OPERATOR	Gas	Private	Plugged	34	30N	12W	L	1/1/1945	0												6/4/1982
30-045-08946	CARNAHAN COM	#001	Holcomb Oil & Gas	Gas	Private	Active	35	30N	12W	P	12/19/1960	6778	8.625	301	200 surf				4.5	6760	445 surf	6521-6708 94 RC to FC 1824-2037		
30-045-25844	CARNAHAN COM	#002	Merrion Oil & Gas	Gas	Private	Active	35	30N	12W	P	6/15/1984	6780	8.625	230	170 surf				4.5	6777	1425 surf	6529-6714		
30-045-31355	CARNAHAN COM	#001Y	HOLCOMB OIL & GAS INC	Gas	Private	Active	35	30N	12W	A	2/15/2003	2150												
30-045-11770	HUDSON J	#003	HilCorp	Gas	Federal	Active	35	30N	12W	E	7/22/1966	6750	8.625	306	250 surf				4.5	6750	750 surf	6460-6680 01' RC to FC 1784-1994		
30-045-20140	Pre-Ongard		Southland	Gas	Federal	Plugged	35	30N	12W	L	9/7/1967	DH												6/9/1982
30-045-28177	FC STATE COM	#024	Burlington	Gas	State	Plugged	36	30N	12W	M	10/9/1990	6608												3/26/2013
30-045-12188	NEW MEXICO COM N	#001	HilCorp	Gas	State	Active	36	30N	12W	E	1/2/1966	6562												
30-045-31074	NEW MEXICO COM N	#100	HilCorp	Gas	State	Shut In	36	30N	12W	A	8/29/2002	2135												
30-045-08986	STATE COM AH	#030	HilCorp	Gas	State	Active	36	30N	12W	I	6/14/1961	6645												
30-045-24037	STATE COM AH	#030E	HilCorp	Gas	State	Plugged	36	30N	12W	N	8/10/1980	6620												4/28/2016

Sunco RPE Daily Operations Log			
Date	**Time**	**Surface Pressure (PSIG)**	**Comments**
9/23/2019	7:00 AM		RU wire line
9/23/2019	8:00 AM		2.31" gauge ring run to 4256' WLM
9/23/2019	9:00 AM		1.50" impression block to 4363' WLM, showed sand
9/23/2019	10:00 AM		Issolate well, install pressure gauge and chart
9/23/2019	10:30 AM	1040.2	
9/23/2019	6:00 PM	1041	
9/24/2019	10:30 AM	1041.1	
9/24/2019	6:00 PM	1040.8	
9/25/2019	10:30 AM	1000.8	when first put gauge on.
9/25/2019	10:35 AM	815	second time. Had plug in line see picture.
9/25/2019	6:00 PM	1041	
9/26/2019	10:30 AM	1040.9	
9/26/2019	6:00 PM	1041.2	
9/27/2019	10:30 AM	1041.1	
9/27/2019	6:00 PM	1041	Remove chart recorder

MESA
MEASUREMENT

Certificate of Calibration
14721

Customer Information

Walsh Engineering & Production Corp.
7415 E. Main St.
Farmington, NM 87402

Tech: George Reid
PO #: TBD
Account #: WEP103

Instrument Identification

Description: Digital Test Gauge
Manufacture: Crystal
Accuracy: Manufacture's Specifications

Model: 2KPSIXP2i
Serial #: 868054

Certification Information

Reason For Service: Maintenance of Accuracy
Type Of Calibration: Pneumatic Gauge
As Found Condition: In Tolerance
As Left Condition: In Tolerance
Procedure: 1000898
Technician Remarks: Previous calibration by MESA on 04/29/2016

Attested By:
Technician: Steve Olsen
Cal Date: 17-Sept-2019
Cal Due: 17-Sept-2020
Temperature: 23 +/- 3.0° C
Relative Humidity: 20% - 60%

This instrument has been calibrated using standards with accuracies traceable to the National Institute of Standards and Technology, derived from natural physical constants, derived from ratio measurements, or compared consensus standards.

MESA MEASUREMENT's calibrations, as applicable, are performed in compliance with the requirements of ANSI/NCSL Z540-1-1994, ISO 10012-1 & ISO/IEC 17025 Quality Standards.

The results contained herein relate only to the item calibrated. Calibration due dates appearing on the Certificate of Calibration and label are determined by the client for administrative purposes and do not imply continued conformance to specification.

Calibration Data

Range :	0 to 2000 PSIG
Stated Accuracy :	+/- 0.1% of R or 0.02% of F.S, whichever is greater

Standard :	PM600-A20M
Serial No.:	3247007

Step	Reference's Indicated Value	As Found Gauge's Reading	As Left Gauge's Reading	Acceptance Minimum	Limits Maximum
1	0.00	0.0	0.0	-0.4	0.4
2	2000.00	2000.3	2000.1	1998.0	2002.0
3	1800.00	1800.3	1800.0	1798.2	1801.8
4	1600.00	1600.3	1600.0	1598.4	1601.6
5	1400.00	1400.2	1400.0	1398.6	1401.4
6	1200.00	1200.2	1200.0	1198.8	1201.2
7	1000.00	1000.1	1000.0	999.0	1001.0
8	800.00	800.1	800.0	799.2	800.8
9	600.00	600.0	600.0	599.4	600.6
10	400.00	400.0	400.0	399.6	400.4
11	200.00	200.0	200.0	199.6	200.4
1	0.00	0.0	0.0	-0.4	0.4
	Multiplier:	1.00050	1.00033		

Technician Remarks: New batteries were installed.

JADE SALES & SERVICE, INC.

(505) 325-6173

CONTENT AND METER REPORT

GAS FROM MERRION OIL + GAS STA NO. 202A-175391

LEASE MOG TEST METER #1 SYSTEM

LEGAL DESCR. GAS TO

DATE OF TEST 9/23/19 TIME OF TEST 7:15 AM EFFECTIVE DATE 9/23/19

METER DATA		RECORDER DATA		AP CALIBRATION			
TYPE CONNECTION	FLG ☐ 0 PIPE ☐ 1		FLOW COMPUTER ☐	APP D W	ATMOS D W	FOUND	LEFT
METER TUBE SIZE	▲	RECORDER S/N OR MFG	BARTON #2000	0		0.0	0.0
ORIFICE INSTALLED	▲	DIFF RANGE	—	2000		1990.0	2000.0
ORIFICE REMOVED	▲	STATIC RANGE	0-2000#	1000		995.0	1000.0
ORIFICE S/N	▲	TEMP RANGE	—	1600		1592.5	1600.0
AV DIFF		AV STATIC		400		397.5	400.0
SAMPLE TAKEN	YES ☐ NO ☒	TYPE OF TEST	CHECK ☒ SETTLE ☐ ORIFICE ☐	0		0.0	0.0

TESTER AARON ESTRADA

WITNESS

REMARKS —

DP CALIBRATION

APP DW	FOUND	LEFT

TEMP CALIBRATION

THERM	FOUND	LEFT

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

State of New Mexico
Energy, Minerals and Natural Resources

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

Form C-103
Revised July 18, 2013

WELL API NO.
30-045-28653

5. Indicate Type of Lease
STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

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

7. Lease Name or Unit Agreement Name
Sunco Disposal

1. Type of Well: Oil Well ☐ Gas Well ☐ Other SWD Class I

8. Well Number 1

2. Name of Operator
Agua Moss, LLC

9. OGRID Number 247130

3. Address of Operator
PO Box 600 Farmington, NM 87499

10. Pool name or Wildcat SWD-MV

4. Well Location
Unit Letter E : 1595 feet from the North line and 1005 feet from the West line
Section 2 Township 29N Range 12W NMPM County San Juan

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
5859'

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

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
DOWNHOLE COMMINGLE	☐						
CLOSED-LOOP SYSTEM	☐						
OTHER:	☐			OTHER: FOT			☒

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.

Agua Moss, LLC proposes to perform the following reservoir pressure evaluation test in place of the FOT. Please see the attached procedure.

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 Philana Thompson TITLE Regulatory Compliance Spec DATE 9/13/19

Type or print name Philana Thompson E-mail address: pthompson@merrion.bz PHONE: 505-486-1171

For State Use Only

APPROVED BY: Carl J. Chavez TITLE Environmental Engineer DATE 9/13/19

Conditions of Approval (if any):
1) Contact DO3 to schedule date & time of MIT w/ orig. chart, calibration sht. Sent to OCD-SF
2) If tag fill above perf. interval, clean fill out of well prior to running FOT Plan.

Well Information			
Well:	**Sunco Disposal 1**	**Field:**	Mesaverde SWD
Location:	1595' fnl &1005' fwl S2, T29N, R12W San Juan Co. New Mexico	**Elevations:**	5859' GL 5872' RKB
		Depths:	4706' KB PBTD 4760' KB TD
		Engineer:	J. Ryan Davis (505.324.5335)
API:	30-045-28653	**Date:**	September 12, 2019
Surface Casing:	8- 5/8" @ 209' KB w/ 150sx; Circ to surface	**Production Casing:**	5-1/2" @ 4750' KB w/ 230 sx stage 1, 515 sx stage 2, circ 25 sx to surf, DV tool @ 2244' KB
Tubulars:	2- 7/8" 6.5# EUE (Epoxy Coated) @ 4282' KB	**Packer:**	Arrow XL-W retrievable seal bore @ 4282' KB.
Perforations (MV)	4350-4460' KB 2 spf (2000 gals 15% HCL, Frac w/ 100,000# 20/40)		
Additional Perforations			
Perforations (MV)	None		

Version 3: Static Reservoir Pressure Version Procedure subject to change based on changing well conditions.

Proposed Test Schedule:

Date	Event	Remarks
Monday, September 23rd , 2019	Check conditions, check pressures and perform MIT	TD, Fill, Restrictions, check tubing pressure 9 am
Friday, September 27th , 2019	5 days of tbg pressure monitoring	Conclude test at 5pm

Test Considerations:

V.1 The pressure acquisition will be performed with pressure gauges at the surface. Pressure readings will be taken and recorded twice per day.

V.2 There will be adequate storage capacity for waste water for the duration of the test.

V.3 There is one offset well completed in the Point Lookout disposal formation. The McGrath #4 is a class II disposal operated by ConocoPhillips approx 1.25 miles to the north west of the Sunco #1. The well has been P&A'd, so there will not be any injection activity from offset wells during the test.

V.4 Crown valve is currently in-place on the Sunco #1 wellhead. The slickline work will be performed through a lubricator prior to the test.

V.5 A shut-in valve is located on the injection riser approx 3-feet from the wellhead. This valve can be shut to isolated the tubing at the wellhead.

V.6 Bottomhole pressure will not be collected directly but calculated from the surface pressure collected using the appropriate gradient. The use of surface pressure for the test is justified by the fact that the well will maintain a positive pressure at the surface during the entire test (injection and pressure falloff).

V.7 A test log will be kept during the test and submitted with the FOT results. The log will include key events with date and times.

- Gauge ring run
- Tag depth
- Well isolation

- Pressure recordings

V.8 In addition surface pressures will be recorded continuously using a chart recorder during the test.
V.9 A Crystal XP2i Series Digital Test gauge will be utilized for the data collection. The gauge has a 0-3000 psi pressure range with 0.1% reading accuracy.

Reservoir Pressure Evaluation Test Procedure:

Prepare Well for Test

1. Perform MIT
2. Setup pressure recording chart and digital gauge
3. MIRU wireline
4. RIH w/ Gauge ring to SN
5. POOH w/ Gauge ring and PU impression block (or something to run thru SN)
6. RIH tag and record fill depth ***Note: (2018-9-12 Amendment- Tagged fill with wireline at 4387'. Contacted NMOCD Jim G. who then directed us to Will Jones. Will gave permission to conduct the FOT with the additional fill covering perfs. FOT will be executed once C103 is approved.)***

Conduct Pressure Monitoring

1. Ensure surface gauges are configured properly
2. Shut down injection pumps and isolate the well at the wellhead
3. Record surface tubing pressure data over a 5 day period, Pressure reading will be taken twice a day AM and PM
    a. Bottomhole pressures will be calculated and compiled for the test for review
    b. The bottomholw pressures will be compared to historic reservoir pressures extrapolated from FOT data
4. Put well back into service for normal operation

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Wednesday, August 7, 2019 11:13 AM
To: Wade, Gabriel, EMNRD; Goetze, Phillip, EMNRD; Griswold, Jim, EMNRD
Cc: Brancard, Bill, EMNRD
Subject: RE: [EXT] 2019 FOT Waiver Request (Phillip Dellinger- EPA Second Thoughts on Agua Moss, LLC Disposal Well

Gentlemen:

FYI:

Good morning. I just received a call from Phillip Dellinger (EPA Reg. 6) regarding the Agua Moss, LLC situation. As we know, Mr. Ken McQueen now at EPA apparently had some thoughts on this issue, and Phillip wanted to convey his thoughts after noticing Agua Moss had not injected a volumes approaching the typical FOT volume for the test, and really not stressing the injection zone.

He has seen EPA allow a FOT where the injection well was shut-in and monitored (as per FOT) for a couple days to record the bottom hole pressure without all the other requirements, equipment, fluids, etc. He believes there was still compliance with the Federal CFR Monitoring Regulations. OCD would need to stipulate the volume cut-off for allowing such a FOT to be run either through DP Mod., Addendum Letter or other state regulatory method.

From my experience reviewing the FOT, the Test Plan must be reviewed by OCD and approved for their FOT. I believe it could be as easy as Agua Moss, LLC submitting a "FOT Plan for Low Volume Injection" say… with cutoff injection volume (when NOT achieved) which would allow the operator to run this type of FOT. OCD would simply review the FOT Plan for approval in our process, and a standard FOT Plan Report should be submitted with charts, etc., etc. to document the results of the FOT. FOT requirements stipulate the contents of the reports.

Since Philana Thompson (Merrion Oil) Agua Moss, LLC indicated yesterday that Merrion was meeting with Agua Moss to decide the fate of the Class I (NH) Disposal Well, I left a phone msg. indicating OCD may be able apply EPA's concept to their well…. I just wanted to make sure they are aware of another way to satisfy the EPA Federal FOT requirements.

I thanked Phillip Dellinger and explained our situation with the only UIC Class I (NH) Commercial Disposal Well in NM, and how we really appreciate EPA's recent thoughts. Also, OCD noticed it was a "waiver" type request that EPA should be involved in when received. Phillip just said to copy Lisa Pham and Brian Graves on the FOT path OCD takes so they know or are aware.

I presume Jim will advise me on how proceed with Agua Moss, LLC, if at all, in this matter.

Thank you.

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

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, August 6, 2019 12:09 PM
To: 'pthompson@merrion.bz'
Cc: Wade, Gabriel, EMNRD
Subject: RE: UICI-005 UIC Class I (NH) SUNCO Well No. 1 (API# 30-045-28653) Disposal Well Agua Moss, LLC:] 2019 FOT Waiver Request

OCD means, please proceed to schedule the FOT.

Thank you.

From: Chavez, Carl J, EMNRD
Sent: Tuesday, August 6, 2019 12:06 PM
To: 'pthompson@merrion.bz' <pthompson@merrion.bz>
Cc: Wade, Gabriel, EMNRD <Gabriel.Wade@state.nm.us>
Subject: FW: UICI-005 UIC Class I (NH) SUNCO Well No. 1 (API# 30-045-28653) Disposal Well Agua Moss, LLC:] 2019 FOT Waiver Request

Philana:

The New Mexico Oil Conservation Division (OCD) has received a response to Agua Moss, LLC's request for a "waiver" from the annual Fall-Off Test (FOT).

OCD forwarded the request to the U.S. EPA Reg. 6 Office for an opinion and/or directive in the request.

Based on the EPA's e-mail message below, please proceed to schedule the MIT for your injection well.

Thank you.

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

From: Pham, Lisa <Pham.Lisa@epa.gov>
Sent: Tuesday, August 6, 2019 12:00 PM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Subject: RE: UICI-005 UIC Class I (NH) SUNCO Well No. 1 (API# 30-045-28653) Disposal Well Agua Moss, LLC:] 2019 FOT Waiver Request

Hi Carl,

Here is the input from our Fall-off Test group.

Based on our Federal Class I regulations there is no flexibility for allowing an exemption for the annual falloff test. We have had discussions in the past with operators proposing similar flexibility with the same rational (i.e., economics and similar yearly results) and we don't see how it would be allowed by the Federal regulations. Since the NM Class I program is a SDWA 1442 program their regulations should be as stringent or more stringent than the Federal Class I regulations.

Let me know if you have any other questions.

Regards,

Lisa

From: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Sent: Tuesday, August 06, 2019 11:51 AM
To: Pham, Lisa <Pham.Lisa@epa.gov>
Subject: RE: UICI-005 UIC Class I (NH) SUNCO Well No. 1 (API# 30-045-28653) Disposal Well Agua Moss, LLC:] 2019 FOT Waiver Request

Thanks Lisa.

From: Pham, Lisa <Pham.Lisa@epa.gov>
Sent: Tuesday, August 6, 2019 10:50 AM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Subject: RE: UICI-005 UIC Class I (NH) SUNCO Well No. 1 (API# 30-045-28653) Disposal Well Agua Moss, LLC:] 2019 FOT Waiver Request

Good morning Carl,

We will review the application and let you know soon.

Regards,

Lisa

From: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Sent: Tuesday, August 06, 2019 9:47 AM
To: Pham, Lisa <Pham.Lisa@epa.gov>
Cc: 'pthompson@merrion.bz' <pthompson@merrion.bz>
Subject: UICI-005 UIC Class I (NH) SUNCO Well No. 1 (API# 30-045-28653) Disposal Well Agua Moss, LLC:] 2019 FOT Waiver Request

Lisa:

Good morning. The New Mexico Oil Conservation Division (OCD) received a request to waive the FOT for 2019 for the above subject Class I (NH) Disposal Well.

Does EPA have an opinion and/or directive based on the circumstances? The injection well is the only Class Commercial Disposal Well in NM and due to economics, has been in operation at most 2 days out of the week for some time…..

Thank you.

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

From: Philana Thompson <pthompson@merrion.bz>
Sent: Monday, July 22, 2019 10:25 AM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>; Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>
Cc: Ryan Merrion <ryan@merrion.bz>
Subject: [EXT] 2019 FOT Waiver Request

Carl,

Attached is our request to waive the 2019 fall off test requirement. Please let me know if you have any questions or concerns.

Philana

--
Philana Thompson
Regulatory Compliance
Merrion Oil & Gas Corp
cell 505-486-1171

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, August 6, 2019 8:47 AM
To: Pham, Lisa
Cc: 'pthompson@merrion.bz'
Subject: UICI-005 UIC Class I (NH) SUNCO Well No. 1 (API# 30-045-28653) Disposal Well Agua Moss, LLC:] 2019 FOT Waiver Request
Attachments: FOT 2019.pdf

Lisa:

Good morning. The New Mexico Oil Conservation Division (OCD) received a request to waive the FOT for 2019 for the above subject Class I (NH) Disposal Well.

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Sent: Monday, July 22, 2019 10:25 AM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>; Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>
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Subject: [EXT] 2019 FOT Waiver Request

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Philana

--
Philana Thompson
Regulatory Compliance
Merrion Oil & Gas Corp

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Monday, July 22, 2019 11:29 AM
To: Wade, Gabriel, EMNRD; Goetze, Phillip, EMNRD
Cc: Brancard, Bill, EMNRD
Subject: FW: [EXT] 2019 FOT Waiver Request
Attachments: FOT 2019.pdf

Gentlemen:

Re: Agua Moss, LLC (UICI-5): REQUEST TO FOREGO THE SUNCO DISPOSAL #1 (30-045-28653) 2019 ANNUAL FALL OFF TEST (July 19, 2019)

I received a call on Friday to discuss the above subject request. I advised Agua Moss, LLC to submit a letter to OCD with the basis for requesting to skip the FOT for 2019.

Agua Moss, LLC needs to know quickly due to scheduling whether OCD can approve basically a "waiver" from the FOT requirement because they are continuing to operate the only "Commercial" Class I (NH) Disposal Well in San Juan County on a scheduling basis (~ 1 – 2 days/week) and have only injected ~ 5,400 bbls of wastewater during this EPA FY (10/1/18 to present). They currently don't have enough volume of injection fluids to run the MIT.

What do you think? Should I forward Philana's msg. with attached letter to EPA for a final determination? The injection interval has not been under stress during FY-19.

Thank you.

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

From: Philana Thompson <pthompson@merrion.bz>
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To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>; Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>
Cc: Ryan Merrion <ryan@merrion.bz>
Subject: [EXT] 2019 FOT Waiver Request

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Philana

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Philana Thompson
Regulatory Compliance
Merrion Oil & Gas Corp
cell 505-486-1171

Chavez, Carl J, EMNRD

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To: Chavez, Carl J, EMNRD; Griswold, Jim, EMNRD
Cc: Ryan Merrion
Subject: [EXT] 2019 FOT Waiver Request
Attachments: FOT 2019.pdf

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Attached is our request to waive the 2019 fall off test requirement. Please let me know if you have any questions or concerns.

Philana

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Philana Thompson
Regulatory Compliance
Merrion Oil & Gas Corp
cell 505-486-1171

Agua Moss

July 18th, 2019

SUBJECT: REQUEST TO FOREGO THE SUNCO DISPOSAL #1 (30-045-28653) 2019 ANNUAL FALL OFF TEST

Dear Carl Chavez:

Agua Moss, LLC requests the OCD's approval to forego the Sunco Disposal #1's annual fall off test for the 2019 reporting period.

After evaluating the 2019 injection volumes and economic viability for the Sunco Disposal #1, Agua Moss, LLC feels that performing a fall of test this year would only affirm existing data. Over the past few years, the fall off test results have yielded similar results and have not indicated reasons for concern. Please see the table below.

Fall Off Test Results	2018	2017	2016	2015	2010	2009	2008	2007
Rate (bbl/day)	3292	3150	3132	3340	4500			
P* (psi)	3479	3273	3114	3283	3231	3242	3176	3258
K (md)	10.8	10.4	11.5	15.8	13.6	10.2	20.7	
S	-6.0	-6.0	-5.93	-5.97	-7.18	-7.23	-6.79	
Radius of Inv (ft)	1690	1790	1430	1580	1450	1250	1750	1620
Frac ½ Length (ft)	598	517	594	467	893	926	596	688
Boundary	None	none	none	none	648, 1520	755	987	none

This year, our total injected volume has been minimal. From January to June of 2019, we've injected ~5400 total bbls of fluid. The fall off test alone, requires ~7000 bbls to perform, so we would have to outsource a significant volume of fluid. Additionally, the well has not indicated any abnormal mechanical issues or pressures. The highest injection pressure recorded this year was 1950 psig, which is significantly below the facilities max allowable pressure of 2400 psig. Based on this year's injection volumes and current operating conditions, we presume that there isn't additional stress to the injection zone that would warrant concern or require fall off test analytics.

Economics are another reason for not performing the fall off test. When evaluating the viability of continuing operations, the cost to perform and analyze the fall off test plays a significant role in the economics. This cost especially impacts the economics when volumes are marginal. Agua Moss understands the importance of this well to the State, so the avoidance of any additional expenditure aids in the continuance of our operations.

Please let us know your decision as soon as possible. If we aren't able to forego this years fall off test, we would need to plan accordingly to make the September report submission deadline.

Thanks,

Ryan Merrion
Production Engineer
303-653-223