Inspection Report For Well: UT20736 - 06605

U.S. Environmental Protection Agency
Underground Injection Control Program, 8ENF-T
999 18th Street, Suite 300, Denver, CO 80202-2466

This form was printed on 9/24/2013

INSPECTOR(S): Lead: Roberts, Sarah — Date: ~~10~~ 12/10/2013

Others: Ajayi, Christopher — Time: 11:35 am / pm

OPERATOR (only if different): _____

REPRESENTATIVE(S): Chad Stevison

PRE-INSPECTION REVIEW

Petroglyph Operating Company, Inc

Well Name:	Ute Tribal 16-13		
Well Type:	Enhanced Recovery (2R)		
Operating Status:	AC (ACTIVE) as of 1/10/2006		
Oil Field:	Antelope Creek (Duchesne)		
Location:	SWSW S16 T5S R3W		
Indian Country:	X, Uintah and Ouray		
Last Inspection:	8/28/2012	***Allowable Inj Pressure:***	1790 /
Last MIT:	Pass 1/17/2011	***Annulus Pressure From Last MIT:***	1070

BLACK = POSSIBLE VIOLATION GREY = DATA MISSING

INSPECTION TYPE: (Select One)

- [ ] Construction / Workover
- [ ] Plugging
- [ ] Post-Closure
- [ ] Response to Complaint
- [x] Routine
- [ ] Witness MIT
- [ ] Other

ICIS Entered
Date 12/20/13
Initials DB

OBSERVED VALUES:

Tubing Gauge:	[x] Yes / [ ] No	Pressure: U: 1732 / L: ____ psig Gauge Range: Scada psig	Gauge Owner:	[ ] EPA [x] Operator
Annulus Gauge:	[x] Yes / [ ] No	Pressure: 0 psig Gauge Range: open psig	Gauge Owner:	[ ] EPA [ ] Operator
Bradenhead Gauge:	[ ] Yes / [ ] No	Pressure: ____ psig Gauge Range: ____ psig	Gauge Owner:	[ ] EPA [ ] Operator
Pump Gauge:	[ ] Yes / [ ] No	Pressure: ____ psig Gauge Range: ____ psig	Gauge Owner:	[ ] EPA [ ] Operator

Operating Status: (Select One)
- [x] Active
- [ ] Being Reworked
- [ ] Not Injecting
- [ ] Production
- [ ] Plugged and Abandoned
- [ ] Under Construction

See page 2 for photos, comments, and site conditions.

TAB	GREEN	BLUE	
		1	

U2 Entered
Date 12/17/13
Initial

Inspection Report For Well: UT20736 - 06605 (PAGE 2)

PHOTOGRAPHS: ☐ Yes ☒ No List of photos taken: _____

Comments and site conditions observed during inspection: _____

GPS: GPS File ID: _____

Signature of EPA Inspector(s): _____ _____ _____

☐ Data Entry ☐ Compliance Staff ☐ Hard Copy Filing

NOTICE OF INSPECTION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII, 999 18TH STREET - SUITE 500
DENVER, COLORADO 80202-2405

Date: 12/16/13
Hour: 8:00a

Notice of inspection is hereby given according to Section 1445(b) of the Safe Drinking Water Act (42 U.S.C. §300f et seq.).

Firm Name: Petroglyph Operating, Inc.

Firm Address: Roosevelt, UT, Antelope Creek Oil Field

REASON FOR INSPECTION:

For the purpose of inspecting records, files, papers, processes, controls and facilities, and obtaining samples to determine whether the person subject to an applicable underground injection control program has acted or is acting in compliance with the Safe Drinking Water Act and any applicable condition of permit or rule authorization.

SECTION 1445(b) of the SAFE DRINKING WATER ACT is quoted below:

Section 1445(b)(1): Except as provided in Paragraph (2), the Administrator, or representatives of the Administrator duly designated by him, upon presenting appropriate credentials, and a written notice to any supplier of water or other person subject to (a), or person subject (A) a national primary drinking water regulation prescribed under Section 1412(B) an applicable Underground Injection Control Program, or (C) any requirement to monitor an unregulated contaminant pursuant to subsection (a), or person in charge of any of the property of such supplier or other person referred to in clause (A), (B), or (C), is authorized to enter any establishment, ... facility, or other property of such supplier or other person in order to determine whether such supplier or other person has acted or is acting in compliance with this title, including for this purpose, inspection, at reasonable times, of records, files, papers, processes, controls, and facilities, or in order to test any feature of a public water system, including its raw water source. The Administrator or the Comptroller General (or any representative designated by either) shall have access for the purpose of audit and examination to any records, reports, or information of a grantee which are required to be maintained under subsection (a) or which are pertinent to any financial assistance under this title.

Sarah Roberts
Inspector's Name & Title (Print)

Inspector's Signature

EPA R8 3560-1 (8-89)

Original - Regional Office Copy
Yellow Copy - Operator Copy

PETROGLYPH EXECUTIVE OFFICES

RECEIVED
DEC 20 2016
Office of Enforcement, Compliance and Environmental Justice (Water)

December 14, 2016

Don Breffle
Mail Code: 8ENF-UFO
US EPA Region 8
1595 Wyncoop Street
Denver, CO 80202-1129

UT20736-06605

RE: Underground Injection Control (UIC)
Follow-up re: Loss of Mechanical Integrity
Well No. Ute Tribal 16-13
Antelope Creek Oil Field
Duchesne County, Utah

Mr. Breffle:

Petroglyph Operating earlier provided notice that it had lost Mechanical Integrity on September 26, 2016, on the Ute Tribal 16-13 Injection Well.

Please find enclosed a Mechanical Integrity Test for this well.

Sincerely,
Petroglyph Operating Company, Inc.

Nicole Colby
Manager, Land & Regulatory Compliance
(208) 685-9711

U2 Entered
Date 12/21/16
Initial DB

TAB	GREEN	BLUE	CBI
		2	

Mechanical Integrity Test
Tubing/Casing Annulus Pressure Test

U.S. Environmental Protection Agency
Underground Injection Control Program
1595 Wynkoop Street, Denver, CO 80202

EPA Witness: _____ Date: 11/22/16
Test conducted by: CHAD STEVENSON
Others present: _____

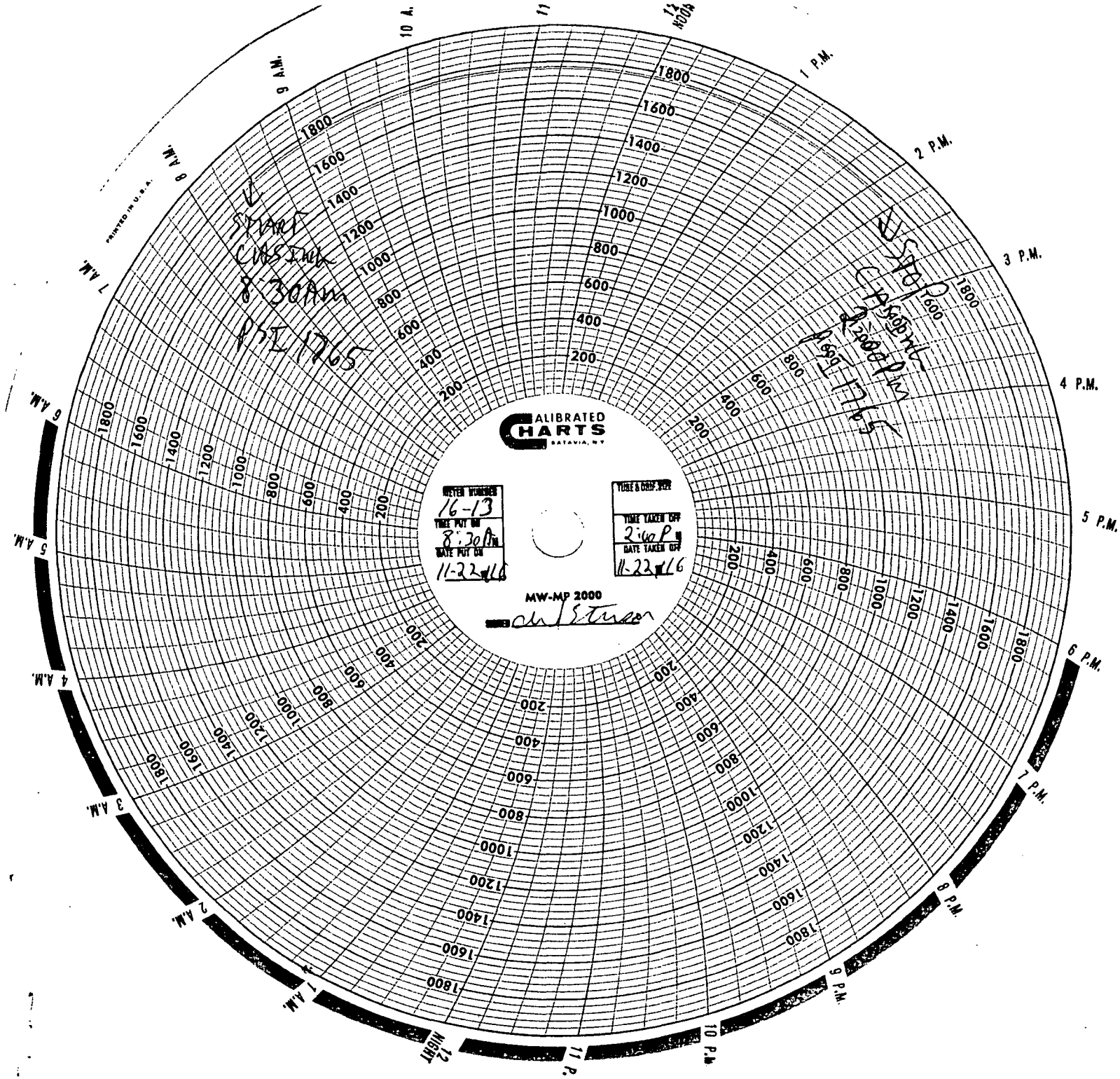
Well Name: 16-13 Type: ER SWD **Status:** AC TA UC
Field: ANTELOPE CREEK
Location: 16-13 Sec: ____ T ____ N / S R ____ E / W County: DUCHESNE State: UT
Operator: PETROGLYPH
Last MIT: ___/___/___ **Maximum Allowable Pressure:** _____ **PSIG**

Regularly scheduled test? [ ] Yes [ ] No
Initial test for permit? [ ] Yes [ ] No
Test after well rework? [X] Yes [ ] No

Well injecting during test? If Yes, rate: _____ bpd
Pre-test annulus pressure: _____ psig

MIT DATA TABLE	Test #1	Test #2	Test #3
TUBING		**PRESSURE RECORD**	
Initial Pressure	788 psig	psig	psig
End of test pressure	788 psig	psig	psig
CASING / TUBING ANNULUS		**PRESSURE RECORD**	
0 minutes	1765 psig	psig	psig
5 minutes	1765 psig	psig	psig
10 minutes	1765 psig	psig	psig
15 minutes	1765 psig	psig	psig
20 minutes	1765 psig	psig	psig
25 minutes	1765 psig	psig	psig
30 minutes	1765 psig	psig	psig
4 1/2 HOURS minutes	1765 psig	psig	psig
_____ minutes	psig	psig	psig
RESULT	[ ] Pass [ ] Fail	[ ] Pass [ ] Fail	[ ] Pass [ ] Fail

Does the annulus pressure build back up after the test ? If Yes, _____ psig.


CALIBRATED CHARTS
BATAVIA, N.Y.
MW-MP 2000
METER NUMBER
16-13
TIME PUT ON
8:30 AM
DATE PUT ON
11-22-16
TIME TAKEN OFF
2:00 PM
DATE TAKEN OFF
11-22-16
PRINTED IN U.S.A.
Start Chart 8:30 AM PSI 1265
Stop Chart 2:00 PM PSI 1265

OMB No. 2040-0042 Approval Expires 11/30/2014

EPA

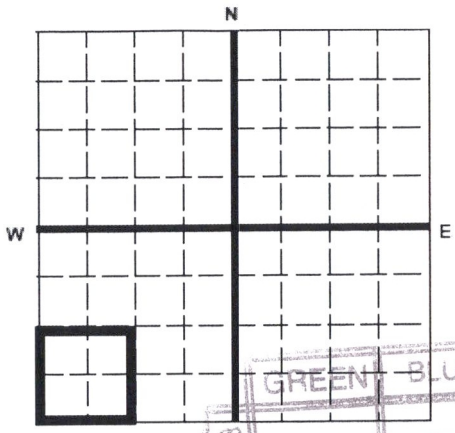
United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee
Petroglyph Operating Company, Inc. 2258
P.O. Box 7608
Boise, Idaho 83709

Name and Address of Surface Owner
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, Utah, 84026

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
Utah	Duchesne	UT2736-06605

Surface Location Description
___ 1/4 of ___ 1/4 of SW 1/4 of SW 1/4 of Section 16 Township 5S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location 750 ft. frm (N/S) S Line of quarter section
and 500 ft. from (E/W) W Line of quarter section.

U2 Entered
Date 4/3/17
Initial JB

WELL ACTIVITY
- [ ] Brine Disposal
- [X] Enhanced Recovery
- [ ] Hydrocarbon Storage

TYPE OF PERMIT
- [ ] Individual
- [X] Area

Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 16-13

GREEN BLUE CBI
TAG 2

MONTH	YEAR	INJECTION PRESSURE AVERAGE PSIG	INJECTION PRESSURE MAXIMUM PSIG	TOTAL VOLUME INJECTED BBL	TOTAL VOLUME INJECTED MCF	TUBING – CASING ANNULUS PRESSURE (OPTIONAL MONITORING) MINIMUM PSIG	TUBING – CASING ANNULUS PRESSURE (OPTIONAL MONITORING) MAXIMUM PSIG
January	16	1686	1700	1906		0	0
February	16	1743	1761	2081		0	0
March	16	1735	1742	1986		0	0
April	16	1719	1754	1786		0	0
May	16	1723	1735	1829		0	0
June	16	1724	1751	1864		0	0
July	16	1704	1711	1870		0	0
August	16	1732	1743	1987		0	0
September	16	1664	1738	1496		0	1650
October	16	1218	1272	0		1180	1310
November	16	538	1159	0		0	2080
December	16	857	875	0		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibliity of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title *(Please type or print)*	Signature	Date Signed
Chad Stevenson, Water Facilities Supervisor		03/21/2017

Petroglyph Operating Company, Inc.
Annulus Pressure Cause and Mitigation Measures
EPA Annual Injection Report for Reporting Period 2016

Well Name: Ute Tribal 16-13

UIC Permit Number: UT2736-04434

API Number: 43-013-31166

Cause of Pressure and Mitigation Measures:

This well lost mechanical integrity on September 26, 2016, and a rig was placed on the well from November 10, 2016 to November 18, 2016. A successful Mechanical Integrity Test was submitted December 14, 2016. This well is still waiting on approval to inject.

Please see copy of attached notice and successful MIT test submitted to EPA on December 14, 2016.

PETROGLYPH

Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

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A HALLIBURTON SERVICE

Units of Measurement: **Standard**

Water Analysis Report

Production Company:	**PETROGLYPH OPERATING CO INC - EBUS**	Sales Rep:	**James Patry**
Well Name:	**UTE TRIBAL 16-13, DUCHESNE**	Lab Tech:	**Kaitlyn Natelli**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2017**		
Sample ID:	**WA-345292**		

Scaling potential predicted using ScaleSoftPitzer from Brine Chemistry Consortium (Rice University)

Sample Specifics

Test Date:	1/25/2017
System Temperature 1 (°F):	300
System Pressure 1 (psig):	2000
System Temperature 2 (°F):	130
System Pressure 2 (psig):	50
Calculated Density (g/ml):	1.0016
pH:	8.20
Calculated TDS (mg/L):	6355.17
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	10.00
Tot. SuspendedSolids(mg/L):	
Corrosivity(LanglierSat.Indx)	0.00
Alkalinity:	

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	2119.58	Chloride (Cl):	2500.00
Potassium (K):	13.86	Sulfate (SO_4):	30.00
Magnesium (Mg):	15.01	Bicarbonate (HCO_3):	1586.00
Calcium (Ca):	33.80	Carbonate (CO_3):	
Strontium (Sr):	1.61	Hydroxide(HO):	
Barium (Ba):	6.14	Acetic Acid (CH_3COO)	
Iron (Fe):	40.85	Propionic Acid (C_2H_5COO)	
Zinc (Zn):	1.48	Butanoic Acid (C_3H_7COO)	
Lead (Pb):	0.01	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Ammonia NH_3:		Fluoride (F):	
Manganese (Mn):	0.71	Bromine (Br):	
Aluminum (Al):	1.40	Silica (SiO_2):	6.12
Lithium (Li):	2.74	Calcium Carbonate ($CaCO_3$):	
Boron (B):	1.91	Phosphates (PO_4):	5.49
Silicon (Si):	2.86	Oxygen (O_2):	

Notes:

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
130.00	50.00	1.29	25.94	0.74	2.90	4.46	9.07	3.47	29.68	0.00	0.00	0.00	0.00	0.00	0.00	10.58	0.77
149.00	267.00	1.36	26.44	0.64	2.72	4.41	9.07	3.57	29.68	0.00	0.00	0.00	0.00	0.00	0.00	10.32	0.77
168.00	483.00	1.44	27.09	0.57	2.56	4.40	9.07	3.68	29.69	0.00	0.00	0.00	0.00	0.00	0.00	10.12	0.77
187.00	700.00	1.54	27.65	0.51	2.42	4.41	9.07	3.78	29.69	0.00	0.00	0.00	0.00	0.00	0.00	9.94	0.77
206.00	917.00	1.65	28.13	0.48	2.31	4.44	9.07	3.89	29.70	0.00	0.00	0.00	0.00	0.00	0.00	9.78	0.77
224.00	1133.00	1.76	28.51	0.45	2.24	4.50	9.07	3.99	29.70	0.00	0.00	0.00	0.00	0.00	0.00	9.65	0.77
243.00	1350.00	1.88	28.80	0.44	2.21	4.56	9.07	4.08	29.70	0.00	0.00	0.00	0.00	0.00	0.00	9.54	0.77
262.00	1567.00	2.01	29.02	0.44	2.21	4.64	9.07	4.17	29.70	0.00	0.00	0.00	0.00	0.00	0.00	9.45	0.77
281.00	1783.00	2.13	29.19	0.45	2.24	4.73	9.07	4.24	29.70	0.00	0.00	0.00	0.00	0.00	0.00	9.37	0.77
300.00	2000.00	2.26	29.30	0.47	2.29	4.83	9.07	4.32	29.70	0.00	0.00	0.00	0.00	0.00	0.00	9.30	0.77

Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

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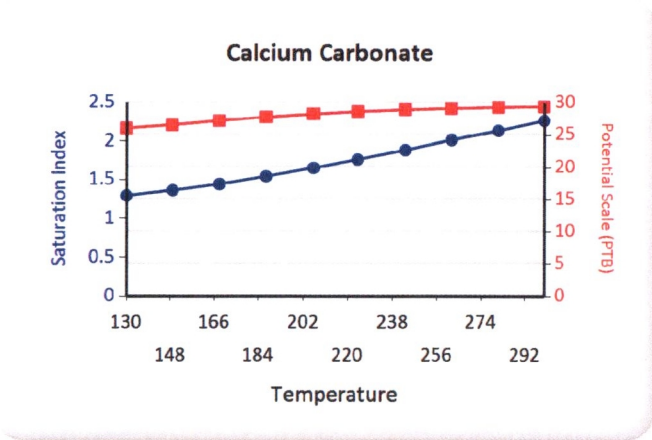
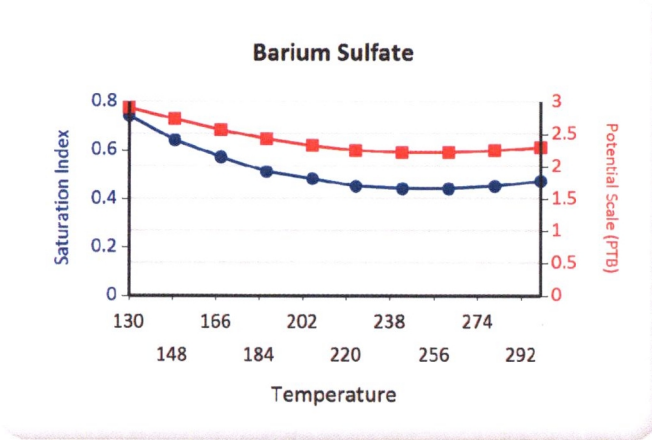
Water Analysis Report

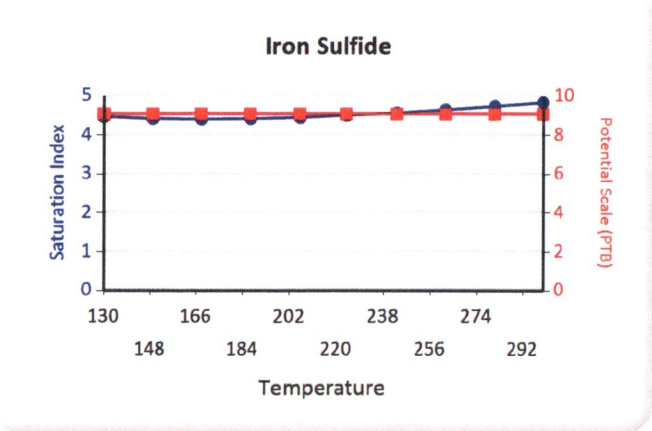
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
130.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	1.69	0.97	10.12	0.00	1.53	6.59	0.16	0.90	10.79	14.20
149.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	1.90	0.98	9.69	0.00	2.30	9.35	0.58	2.63	11.28	14.20
168.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	2.10	0.99	9.32	0.00	3.15	12.05	1.06	4.37	11.88	14.20
187.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	2.29	0.99	9.00	0.00	4.00	13.98	1.55	5.76	12.48	14.20
206.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	2.47	0.99	8.71	0.00	4.83	15.09	2.04	6.76	13.10	14.20
224.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	2.62	0.99	8.46	0.00	5.65	15.58	2.52	7.40	13.71	14.20
243.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	2.76	0.99	8.23	0.00	6.45	15.77	2.99	7.78	14.32	14.20
262.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	2.89	1.00	8.03	0.00	7.21	15.84	3.44	8.00	14.91	14.20
281.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	2.99	1.00	7.86	0.00	7.95	15.86	3.88	8.12	15.49	14.20
300.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	3.08	1.00	7.70	0.00	8.65	15.87	4.30	8.18	16.04	14.20

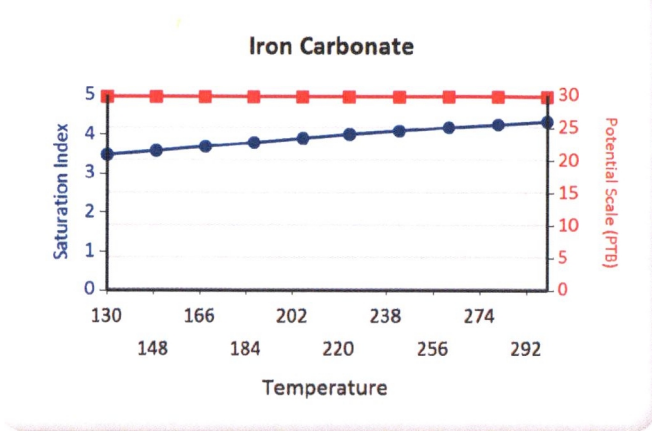
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

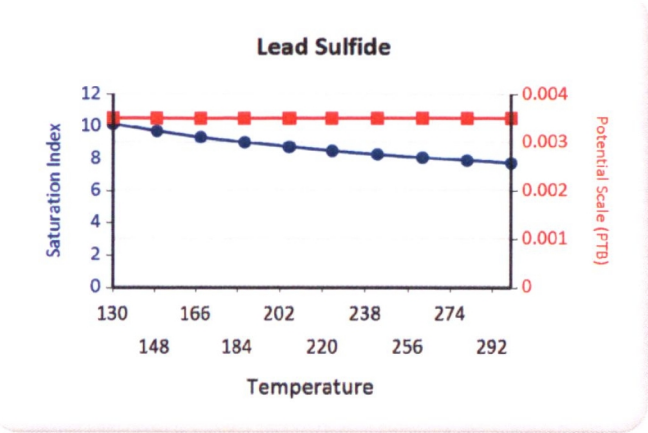
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

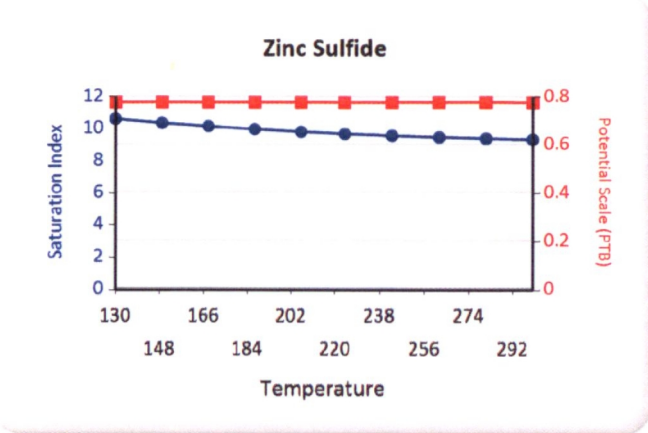


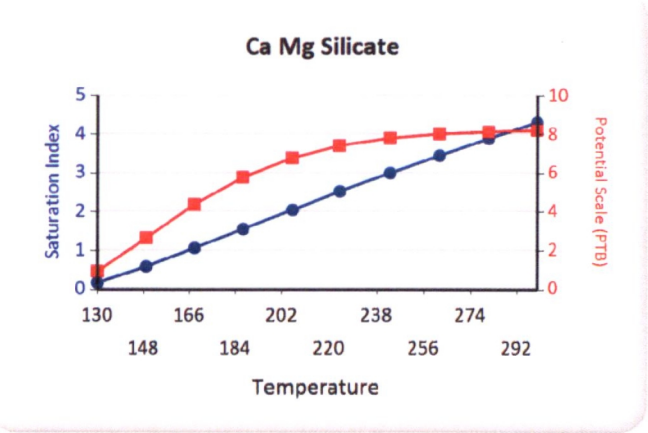







Lead Sulfide
Saturation Index
Potential Scale (PTB)
Temperature
12
10
8
6
4
2
0
0.004
0.003
0.002
0.001
0
130
166
202
238
274
148
184
220
256
292


Zinc Sulfide
Saturation Index
Potential Scale (PTB)
Temperature
12
10
8
6
4
2
0
0.8
0.6
0.4
0.2
0
130
166
202
238
274
148
184
220
256
292


Ca Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
5
4
3
2
1
0
10
8
6
4
2
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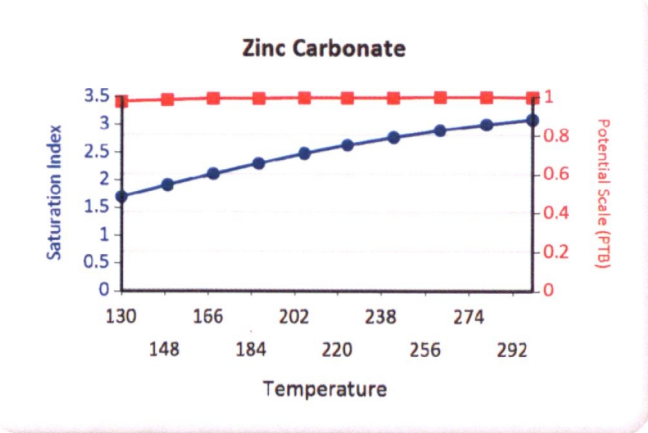
238
274
148
184
220
256
292


Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
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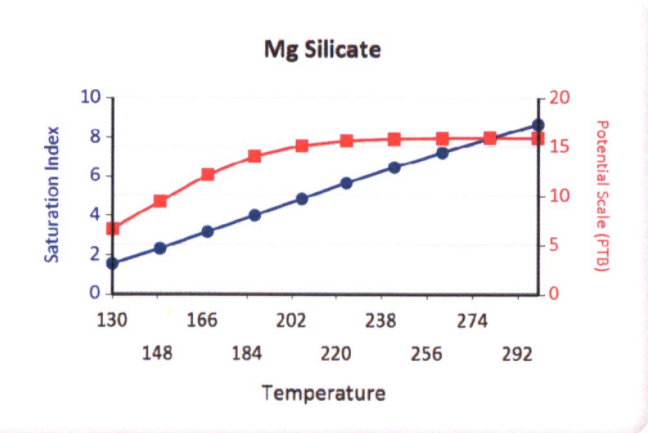
3
2.5
2
1.5
1
0.5
0
1
0.8
0.6
0.4
0.2
0
130
166
202
238
274
148
184
220
256
292


Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
10
8
6
4
2
0
20
15
10
5
0
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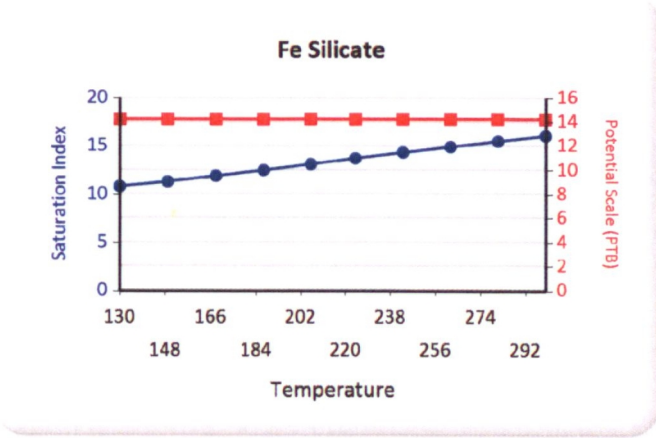
238
274
148
184
220
256
292


Fe Silicate
Saturation Index
Potential Scale (PTB)
Temperature
20
15
10
5
0
16
14
12
10
8
6
4
2
0
130
148
166
184
202
220
238
256
274
292

OMB No. 2040-0042 Approval Expires 11/30/2014

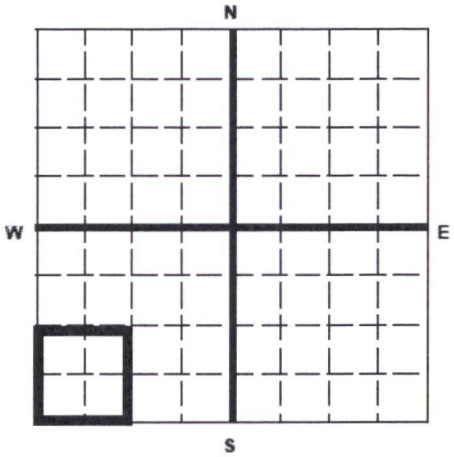
United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee
Petroglyph Operating Company, Inc. 2258
P.O. Box 7608
Boise, Idaho 83709

Name and Address of Surface Owner
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, Utah, 84026

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
Utah	Duchesne	UT2736-~~04434~~ 06605

Surface Location Description
___ 1/4 of ___ 1/4 of SW 1/4 of SW 1/4 of Section 16 Township 5S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location 750 ft. frm (N/S) S Line of quarter section and 500 ft. from (E/W) W Line of quarter section.

U2 Entered
Date 3/1/16
Initial DB

WELL ACTIVITY
- [ ] Brine Disposal
- [X] Enhanced Recovery
- [ ] Hydrocarbon Storage

TYPE OF PERMIT
- [ ] Individual
- [X] Area

Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 16-13

MONTH	YEAR	INJECTION PRESSURE AVERAGE PSIG	INJECTION PRESSURE MAXIMUM PSIG	TOTAL VOLUME INJECTED BBL	TOTAL VOLUME INJECTED MCF	TUBING – CASING ANNULUS PRESSURE (OPTIONAL MONITORING) MINIMUM PSIG	TUBING – CASING ANNULUS PRESSURE (OPTIONAL MONITORING) MAXIMUM PSIG
January	15	1687	1704	1430		0	0
February	15	1682	1709	1390		0	0
March	15	1701	1724	1717		0	0
April	15	1615	1715	1404		0	0
May	15	1724	1760	2588		0	0
June	15	1722	1739	2141		0	0
July	15	1724	1733	2031		0	0
August	15	1719	1749	2246		0	0
September	15	1706	1725	1993		0	0
October	15	1693	1697	2041		0	0
November	15	1699	1721	2003		0	0
December	15	1724	1747	2167		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibliity of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title *(Please type or print)*	Signature	Date Signed
Chad Stevenson, Water Facilities Supervisor		02/08/2016

TAB | GREEN | BLUE 2 | CB

EPA Form 7520-11 (Rev. 12-11)

Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

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Units of Measurement: **Standard**

Water Analysis Report

Production Company:	**PETROGLYPH OPERATING CO INC - EBUS**	Sales Rep:	**James Patry**
Well Name:	**UTE TRIBAL 16-13, DUCHESNE**	Lab Tech:	**Michele Pike**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2016**		
Sample ID:	**WA-327673**		

Scaling potential predicted using ScaleSoftPitzer from Brine Chemistry Consortium (Rice University)

Sample Specifics

Test Date:	1/13/2016
System Temperature 1 (°F):	60
System Pressure 1 (psig):	2000
System Temperature 2 (°F):	180
System Pressure 2 (psig):	50
Calculated Density (g/ml):	1.0037
pH:	6.80
Calculated TDS (mg/L):	9123.77
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	80.00
H_2S in Gas (%):	
H2S in Water (mg/L):	0.00
Tot. SuspendedSolids(mg/L):	
Corrosivity(LanglierSat.Indx)	0.00
Alkalinity:	

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	3057.85	Chloride (Cl):	4500.00
Potassium (K):	0.77	Sulfate (SO_4):	520.00
Magnesium (Mg):	88.41	Bicarbonate (HCO_3):	732.00
Calcium (Ca):	177.74	Carbonate (CO_3):	
Strontium (Sr):	4.62	Acetic Acid (CH_3COO)	
Barium (Ba):	0.07	Propionic Acid (C_2H_5COO)	
Iron (Fe):	11.22	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	2.11	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.32	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.06	Silica (SiO_2):	28.60
Aluminum (Al):	0.15	Calcium Carbonate ($CaCO_3$):	
Lithium (Li):	0.66	Phosphates (PO_4):	3.93
Boron (B):	0.44	Oxygen (O_2):	
Silicon (Si):	13.37		

Notes:

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	0.61	54.24	0.00	0.00	0.00	0.00	1.49	7.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167.00	267.00	0.44	39.96	0.00	0.00	0.00	0.00	1.30	7.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	483.00	0.33	30.57	0.00	0.00	0.00	0.00	1.17	7.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	700.00	0.23	21.37	0.00	0.00	0.00	0.00	1.04	7.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127.00	917.00	0.13	12.50	0.00	0.00	0.00	0.00	0.91	7.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	1133.00	0.04	4.06	0.00	0.00	0.00	0.00	0.78	6.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66	6.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	5.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	1783.00	0.00	0.00	0.07	0.01	0.00	0.00	0.41	4.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.00	2000.00	0.00	0.00	0.20	0.01	0.00	0.00	0.29	3.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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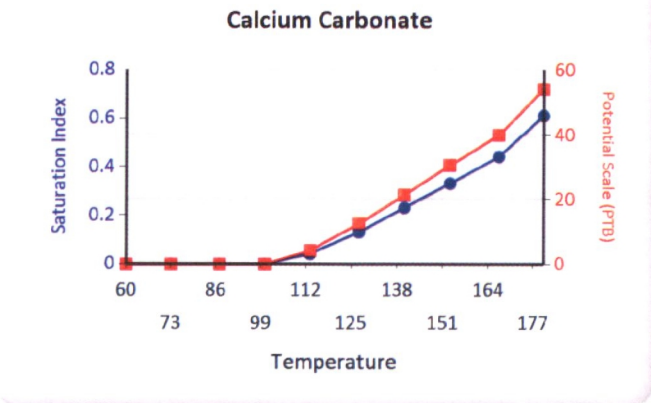
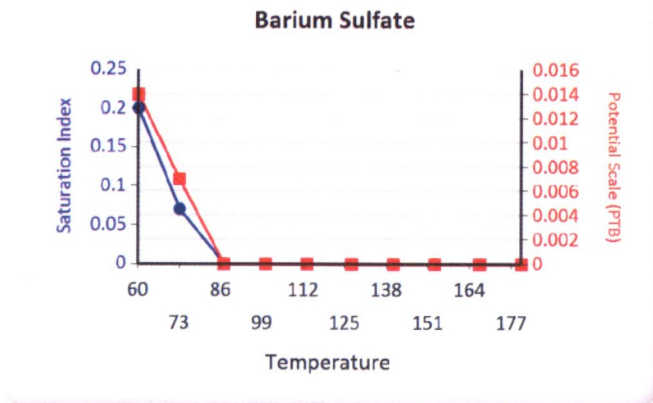
Water Analysis Report

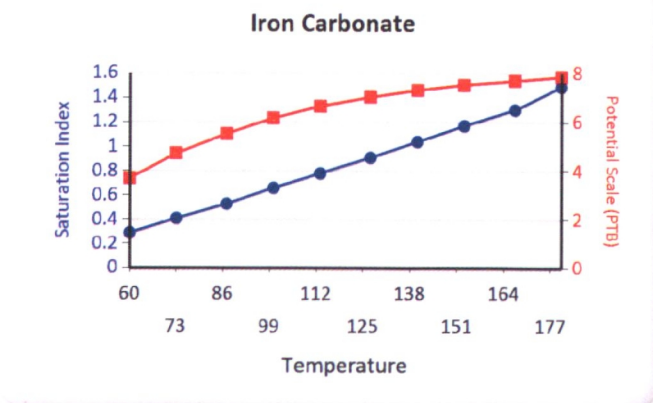
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	1.16	0.00	0.00	0.00	0.00	0.00	0.00	4.30	8.26
167.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.98	0.00	0.00	0.00	0.00	0.00	0.00	3.30	7.75
153.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.75	0.00	0.00	0.00	0.00	0.00	0.00	2.65	7.15
140.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.37	0.00	0.00	0.00	0.00	0.00	0.00	2.01	6.25
127.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.38	4.94
113.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	3.13
100.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.76
87.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

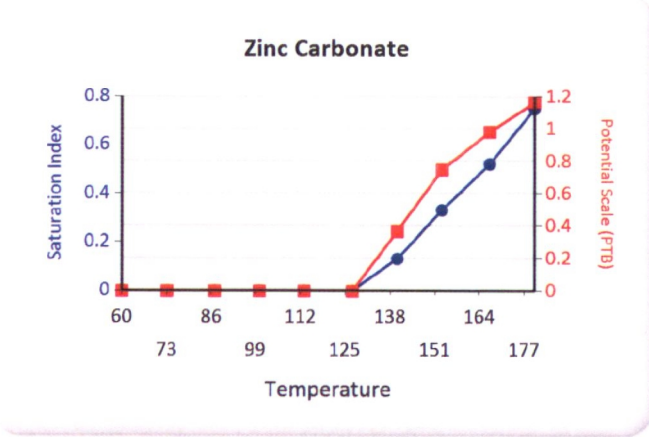
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Iron Carbonate Zinc Carbonate Fe Silicate

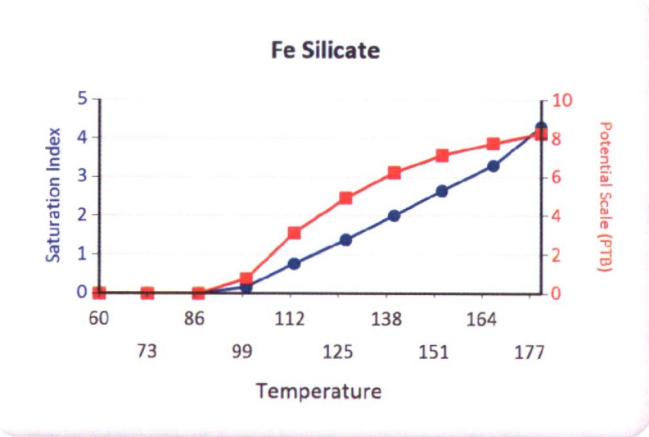
These scales have positive scaling potential under final temperature and pressure: Barium Sulfate Iron Carbonate








Zinc Carbonate
Saturation Index
0.8
0.6
0.4
0.2
0
Potential Scale (PTB)
1.2
1
0.8
0.6
0.4
0.2
0
60
73
86
99
112
125
138
151
164
177
Temperature


Fe Silicate
Saturation Index
5
4
3
2
1
0
Potential Scale (PTB)
10
8
6
4
2
0
60
73
86
99
112
125
138
151
164
177
Temperature

OMB No. 2040-0042 Approval Expires 12/31/2011

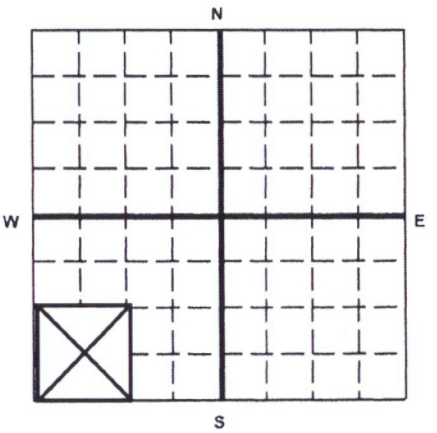
EPA

United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee	Name and Address of Surface Owner
Petroglyph Operating Company, Inc. 2258 P.O. Box 7608 Boise, Idaho 83709	Ute Indian Tribe P.O. Box 70 Ft. Duchesne, Utah 84026

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
Utah	Duchesne	UT2736-06605

Surface Location Description

___ 1/4 of ___ 1/4 of SW 1/4 of SW 1/4 of Section 16 Township 5S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location 750 ft. frm (N/S) S Line of quarter section and 500 ft. from (E/W) W Line of quarter section.

WELL ACTIVITY
- [ ] Brine Disposal
- [X] Enhanced Recovery
- [ ] Hydrocarbon Storage

TYPE OF PERMIT
- [ ] Individual
- [X] Area

Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 16-13

		INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING -- CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	14	1729	1740	2122		0	0
February	14	1731	1734	2017		0	0
March	14	1705	1722	2044		0	0
April	14	1740	1757	2146		0	0
May	14	1728	1740	1805		0	0
June	14	1694	1727	1174		0	0
July	14	1640	1740	1345		0	0
August	14	1701	1707	1609		0	0
September	14	1700	1735	1617		0	0
October	14	1734	1732	1935		0	0
November	14	1746	1748	1844		0	0
December	14	1741	1755	1761		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibliity of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title *(Please type or print)*	Signature	Date Signed
Chad Stevenson, Water Facilities Supervisor		2/10/2015

EPA Form 7520-11 (Rev. 12-08)

U2 Entered
Date 3/23/15
Initial GW

	GREEN	BLUE	CBI
TAB		2	

Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

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Units of Measurement: **Standard**

Water Analysis Report

Production Company:	**PETROGLYPH OPERATING CO INC - EBUS**	Sales Rep:	**James Patry**
Well Name:	**PETROGLYPH UTE TRIB 16-13, DUCHESNE**	Lab Tech:	**Gary Winegar**
Sample Point:	**WELLHEAD**		
Sample Date:	**1/7/2015**		
Sample ID:	**WA-298190**		

Scaling potential predicted using ScaleSoftPitzer from Brine Chemistry Consortium (Rice University)

Sample Specifics	
Test Date:	1/21/2015
System Temperature 1 (°F):	160
System Pressure 1 (psig):	1300
System Temperature 2 (°F):	80
System Pressure 2 (psig):	15
Calculated Density (g/ml):	1.0042
pH:	8.50
Calculated TDS (mg/L):	10611.80
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	10.00

Analysis @ Properties in Sample Specifics			
Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	2922.76	Chloride (Cl):	5000.00
Potassium (K):	42.50	Sulfate (SO_4):	400.00
Magnesium (Mg):	26.53	Bicarbonate (HCO_3):	2146.00
Calcium (Ca):	39.20	Carbonate (CO_3):	
Strontium (Sr):	4.67	Acetic Acid (CH_3COO)	
Barium (Ba):	1.35	Propionic Acid (C_2H_5COO)	
Iron (Fe):	0.92	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	1.40	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.08	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.07	Silica (SiO_2):	26.32

Notes:
B=6.71 Al=.15 Li=1.37

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
80.00	14.00	1.60	32.60	1.37	0.77	3.31	0.51	1.85	0.66	0.00	0.00	0.00	0.00	0.00	0.00	11.58	0.73
88.00	157.00	1.60	32.55	1.29	0.76	3.23	0.51	1.89	0.66	0.00	0.00	0.00	0.00	0.00	0.00	11.39	0.73
97.00	300.00	1.61	32.62	1.21	0.75	3.16	0.51	1.93	0.66	0.00	0.00	0.00	0.00	0.00	0.00	11.22	0.73
106.00	443.00	1.63	32.69	1.14	0.75	3.11	0.51	1.97	0.66	0.00	0.00	0.00	0.00	0.00	0.00	11.07	0.73
115.00	585.00	1.64	32.76	1.08	0.74	3.06	0.51	2.01	0.66	0.00	0.00	0.00	0.00	0.00	0.00	10.92	0.73
124.00	728.00	1.66	32.84	1.02	0.73	3.02	0.51	2.05	0.66	0.00	0.00	0.00	0.00	0.00	0.00	10.78	0.73
133.00	871.00	1.68	32.92	0.96	0.72	2.99	0.51	2.09	0.66	0.00	0.00	0.00	0.00	0.00	0.00	10.65	0.73
142.00	1014.00	1.70	33.00	0.92	0.71	2.97	0.51	2.13	0.66	0.00	0.00	0.00	0.00	0.00	0.00	10.53	0.73
151.00	1157.00	1.73	33.09	0.87	0.70	2.95	0.51	2.17	0.67	0.00	0.00	0.00	0.00	0.00	0.00	10.42	0.73
160.00	1300.00	1.75	33.17	0.83	0.69	2.93	0.51	2.21	0.67	0.00	0.00	0.00	0.00	0.00	0.00	10.31	0.73

		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
80.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	0.89	12.61	0.03	2.37	17.41	1.03	7.95	6.76	0.71
88.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.39	0.90	12.31	0.03	2.67	18.73	1.18	8.67	6.89	0.71
97.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	1.51	0.91	12.04	0.03	3.03	20.66	1.36	9.69	7.09	0.71
106.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	1.62	0.92	11.78	0.03	3.39	22.50	1.55	10.66	7.29	0.71
115.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	1.73	0.92	11.54	0.03	3.76	24.22	1.75	11.56	7.50	0.72
124.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	1.83	0.93	11.31	0.03	4.13	25.80	1.95	12.38	7.72	0.72
133.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	1.93	0.93	11.09	0.03	4.50	27.22	2.15	13.12	7.95	0.72
142.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	2.03	0.93	10.88	0.03	4.88	28.44	2.36	13.77	8.19	0.72
151.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	2.12	0.93	10.69	0.03	5.25	29.45	2.56	14.34	8.43	0.72
160.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	2.20	0.94	10.51	0.03	5.63	30.23	2.77	14.81	8.67	0.72

Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

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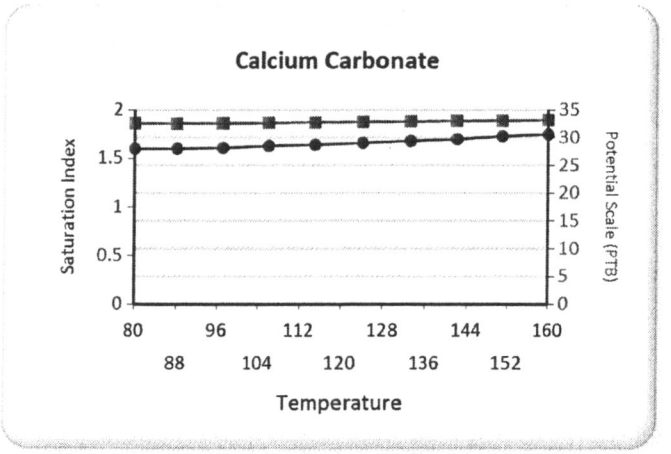
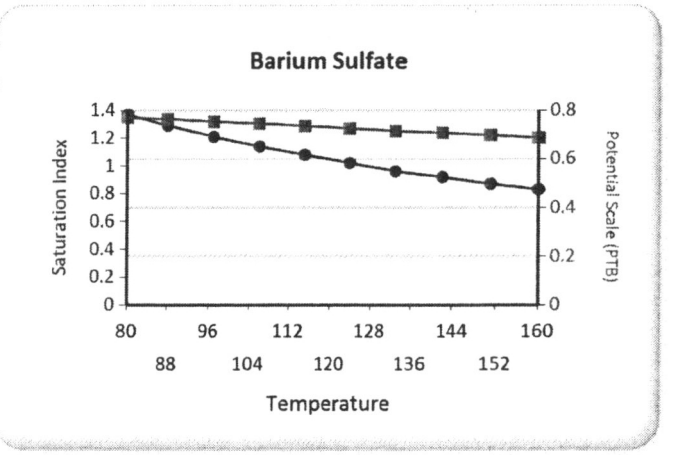
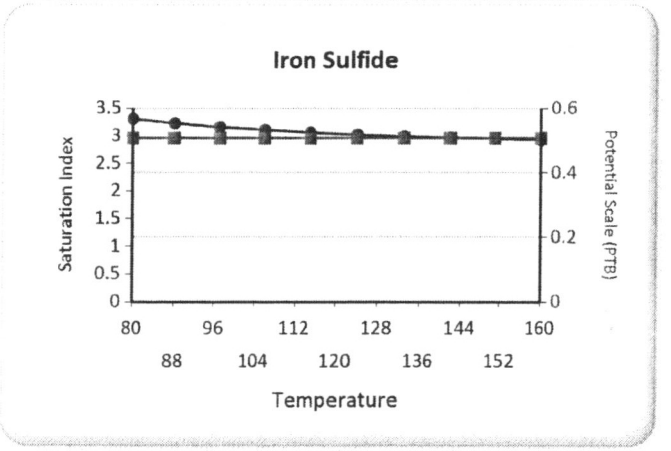
Water Analysis Report

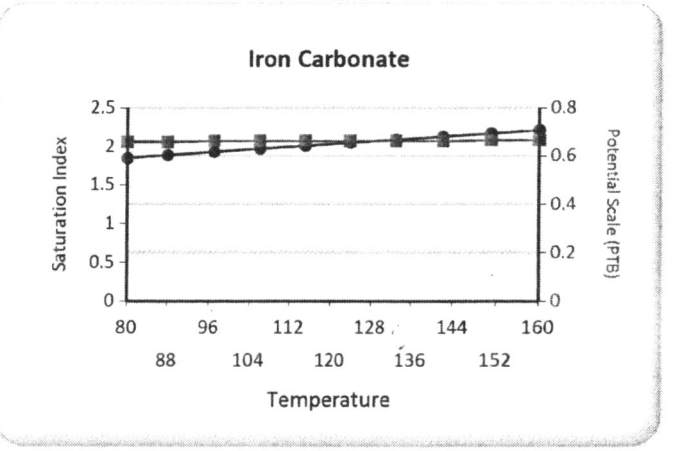
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

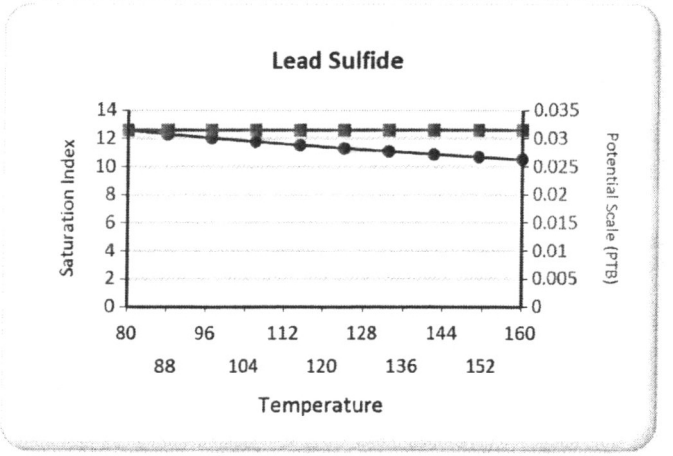
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

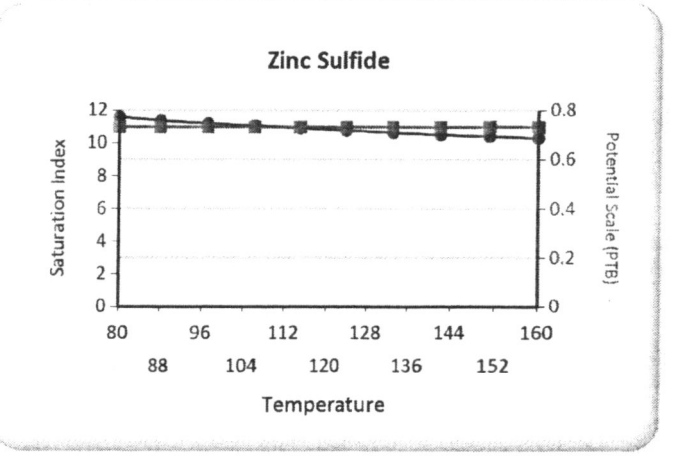












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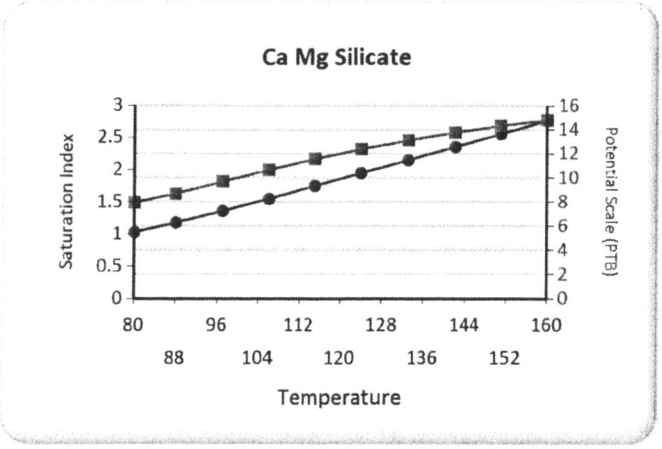
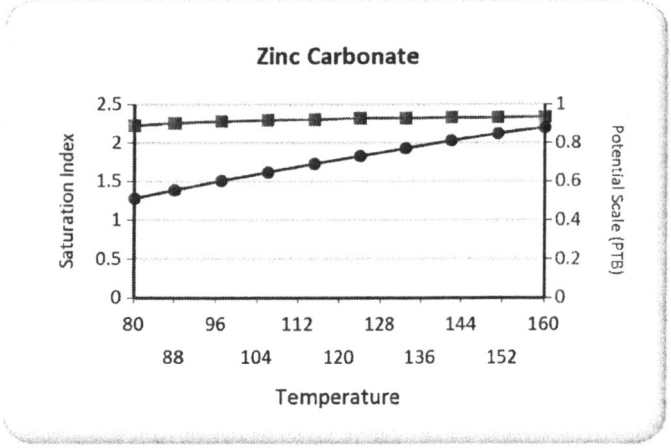
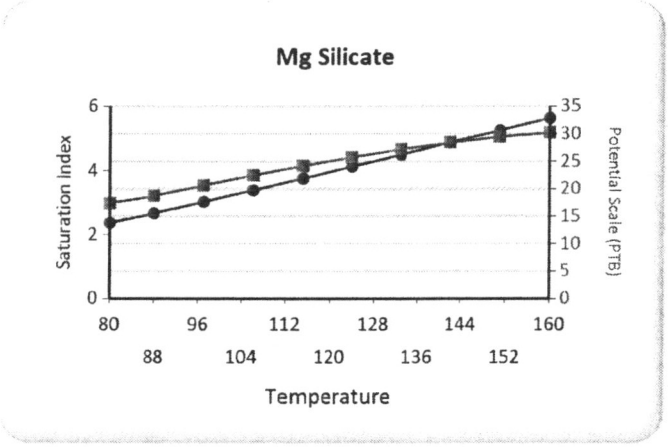
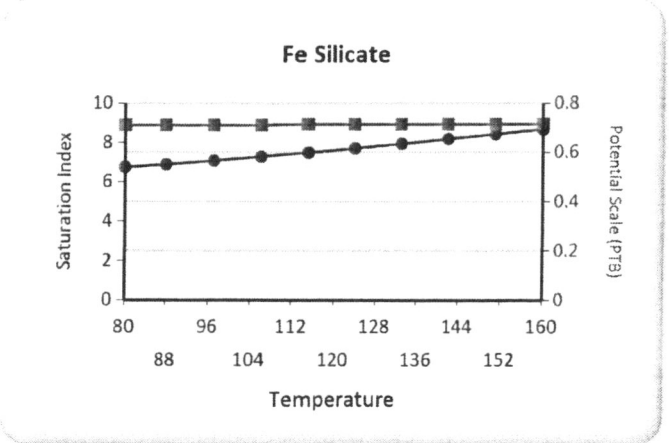
Water Analysis Report









OMB No. 2040-0042 Approval Expires 12/31/2011

EPA

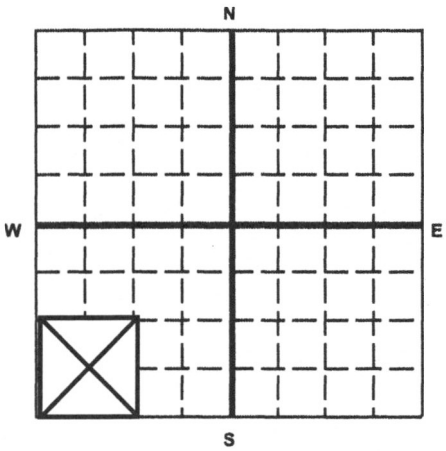
United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee
Petroglyph Operating Company, Inc. 2258
P.O. Box 7608
Boise, Idaho 83709

Name and Address of Surface Owner
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, Utah 84026

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
Utah	Duchesne	UT2736-06605

Surface Location Description
____ 1/4 of ____ 1/4 of SW 1/4 of SW 1/4 of Section 16 Township 5S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location 750 ft. frm (N/S) S Line of quarter section
and 500 ft. from (E/W) W Line of quarter section.

WELL ACTIVITY
- [ ] Brine Disposal
- [x] Enhanced Recovery
- [ ] Hydrocarbon Storage

TYPE OF PERMIT
- [ ] Individual
- [x] Area

Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 16-13

MONTH	YEAR	INJECTION PRESSURE AVERAGE PSIG	INJECTION PRESSURE MAXIMUM PSIG	TOTAL VOLUME INJECTED BBL	TOTAL VOLUME INJECTED MCF	TUBING -- CASING ANNULUS PRESSURE (OPTIONAL MONITORING) MINIMUM PSIG	TUBING -- CASING ANNULUS PRESSURE (OPTIONAL MONITORING) MAXIMUM PSIG
January	13	1655	1668	1829		0	0
February	13	1684	1714	1879		0	0
March	13	1687	1731	1976		0	0
April	13	1660	1715	2195		0	0
May	13	1673	1707	2460		0	0
June	13	1697	1718	2501		0	0
July	13	1661	1735	1816		0	0
August	13	1713	1748	2413		0	0
September	13	1715	1737	2320		0	0
October	13	1732	1742	2509		0	0
November	13	1737	1746	2378		0	0
December	13	1730	1761	2420		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title *(Please type or print)*	Signature	Date Signed
Chad Stevenson, Water Facilities Supervisor		2/11/2014

U2 Entered
Date 3/18/14
Initial DB

GREEN BOOK CBI
TAB 2

EPA Form 7520-11 (Rev. 12-08)

Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

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Units of Measurement: **Standard**

Water Analysis Report

Production Company: **PETROGLYPH ENERGY INC**
Well Name: **UTE TRIBAL 16-13 INJ**
Sample Point: **Wellhead**
Sample Date: **1/8/2014**
Sample ID: **WA-263034**

Sales Rep: **James Patry**
Lab Tech: **Gary Winegar**

Scaling potential predicted using ScaleSoftPitzer from Brine Chemistry Consortium (Rice University)

Sample Specifics	
Test Date:	1/15/2014
System Temperature 1 (°F):	180
System Pressure 1 (psig):	1300
System Temperature 2 (°F):	60
System Pressure 2 (psig):	15
Calculated Density (g/ml):	0.999
pH:	7.40
Calculated TDS (mg/L):	3133.53
CO2 in Gas (%):	
Dissolved CO2 (mg/L)):	0.00
H2S in Gas (%):	
H2S in Water (mg/L):	0.00

Analysis @ Properties in Sample Specifics			
Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	809.58	Chloride (Cl):	1000.00
Potassium (K):	3.00	Sulfate (SO4):	358.00
Magnesium (Mg):	64.00	Bicarbonate (HCO3):	732.00
Calcium (Ca):	138.00	Carbonate (CO3):	
Strontium (Sr):	3.60	Acetic Acid (CH3COO)	
Barium (Ba):	0.35	Propionic Acid (C2H5COO)	
Iron (Fe):	3.00	Butanoic Acid (C3H7COO)	
Zinc (Zn):	0.33	Isobutyric Acid ((CH3)2CHCOO)	
Lead (Pb):	0.10	Fluoride (F):	
Ammonia NH3:		Bromine (Br):	
Manganese (Mn):	0.17	Silica (SiO2):	21.40

Notes:
B=.6 Al=.01 Li=.04

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
60.00	14.00	0.64	37.15	1.30	0.20	0.00	0.00	0.72	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	157.00	0.62	35.81	1.15	0.19	0.00	0.00	0.76	1.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86.00	300.00	0.67	38.95	1.02	0.19	0.00	0.00	0.86	1.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	443.00	0.73	42.48	0.91	0.18	0.00	0.00	0.96	1.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	585.00	0.79	46.37	0.81	0.18	0.00	0.00	1.07	1.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126.00	728.00	0.86	50.56	0.73	0.17	0.00	0.00	1.17	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	871.00	0.93	55.00	0.66	0.16	0.00	0.00	1.28	2.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	1014.00	1.01	59.63	0.60	0.16	0.00	0.00	1.38	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166.00	1157.00	1.09	64.40	0.56	0.15	0.00	0.00	1.48	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.00	1300.00	1.18	69.25	0.52	0.15	0.00	0.00	1.58	2.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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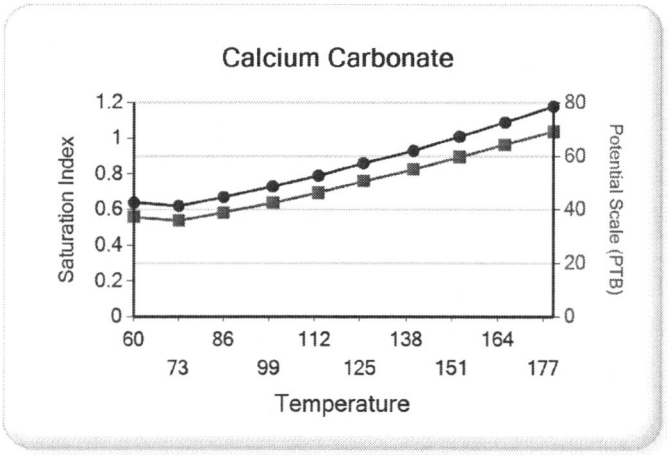
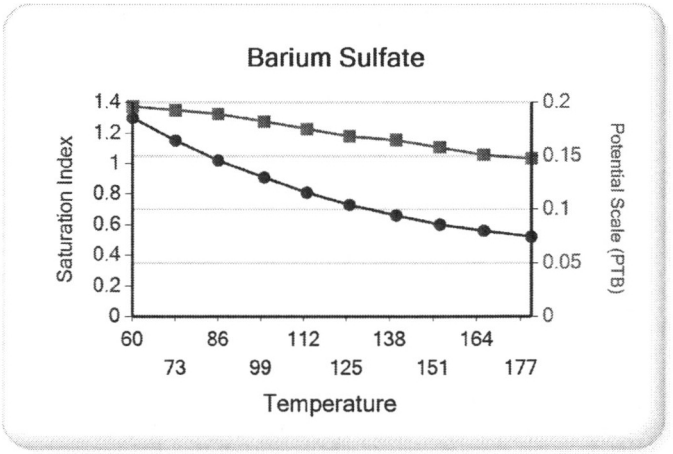
Water Analysis Report

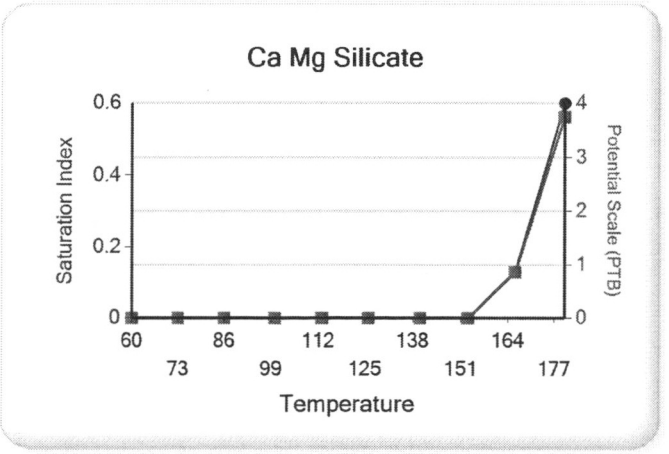
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
60.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.87
73.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.90
86.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25	1.29
100.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.76	1.59
113.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.29	1.83
126.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.85	2.00
140.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.07	0.00	0.00	0.00	0.00	0.00	0.00	3.44	2.12
153.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.12	0.00	0.00	0.75	5.11	0.00	0.00	4.04	2.20
166.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.15	0.00	0.00	1.56	10.61	0.13	0.86	4.65	2.25
180.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.18	0.00	0.00	2.36	15.79	0.60	3.75	5.27	2.28

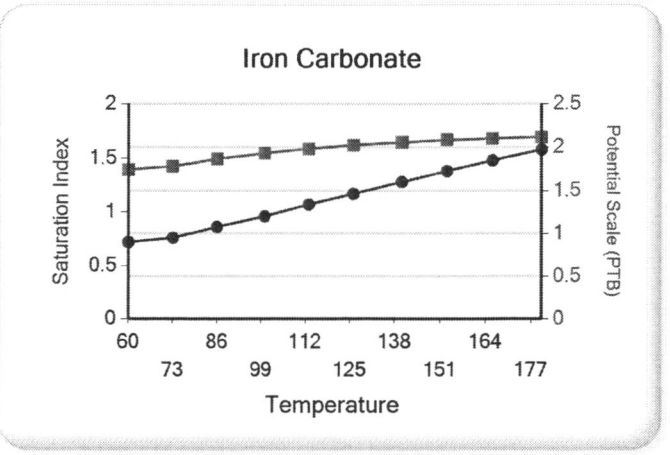
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Fe Silicate

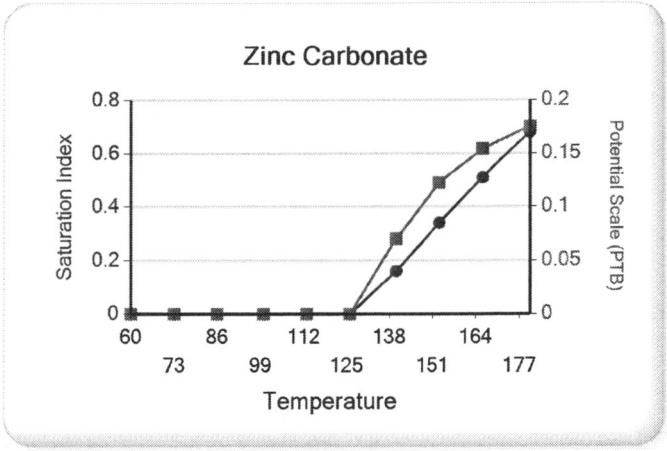
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

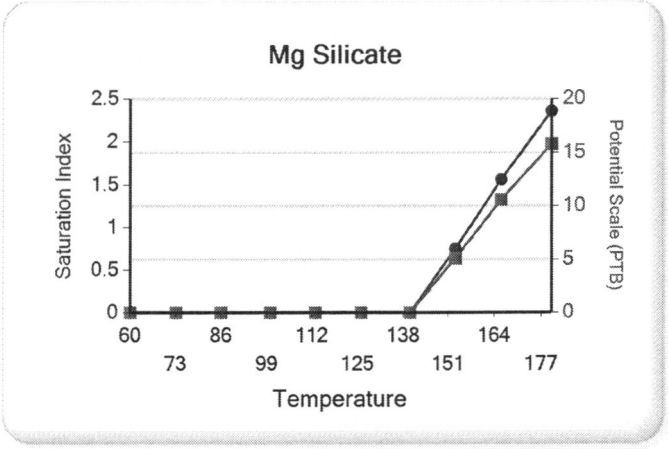


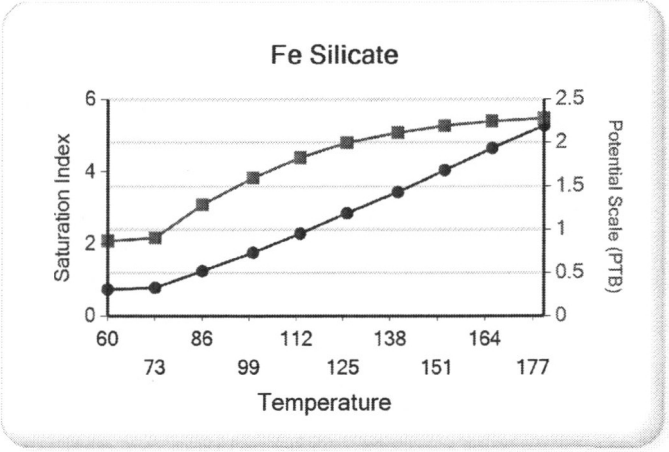







Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
0.8
0.6
0.4
0.2
0
0.2
0.15
0.1
0.05
0
60
86
112
138
164
73
99
125
151
177


Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
2.5
2
1.5
1
0.5
0
20
15
10
5
0
60
86
112
138
164
73
99
125
151
177


Fe Silicate
Saturation Index
Potential Scale (PTB)
Temperature
6
4
2
0
2.5
2
1.5
1
0.5
0
60
86
112
138
164
73
99
125
151
177

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

Ref: 8P-W-GW

AUG 30 2007

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Steve Wall
District Manager
Petroglyph Energy, Inc.
4116 West 3000 So. Ioka Lane
Roosevelt, UT 84066

RE: UNDERGROUND INJECTION CONTROL (UIC) PROGRAM
Minor Permit Modification No. 2
Increase Injection Pressure No.1
UIC Area Permit No. UT20736-00000
EPA Well ID No. UT20736-06605
Ute Tribal 16-13
Antelope Creek Field, Duchesne County, Utah

Dear Mr. Wall:

The Region 8 Ground Water Program office of the Environmental Protection Agency (EPA) received from Petroglyph Energy, Inc. the results of a May 22, 2007 Step-Rate Test (SRT) conducted on the Ute Tribal 16-13 injection well, as required by the initial permit requirements. This test is required by the EPA to increase the maximum allowed injection pressure (MAIP).

This SRT identified the fracture gradient (FG) of the authorized injection interval to be **0.81 psi/ft**. Therefore, the maximum authorized injection pressure is **1790 psig**, not 1750 psig as stated in the previous Authorization For Additional Well, signed November 9, 2005.

This increase of MAIP for the Ute Tribal 16-13 injection well is being made under the authority of 40 CFR §144.41 (e) and terms of the Antelope Creek Waterflood UIC Area Permit No. UT20736-00000. In the future, should you choose to request a modification to the approved MAIP, new supporting data such as a new SRT will be required. In order to inject at pressures greater than the permitted MAIP during any future test(s), you must receive prior authorization from the Director.

Please be reminded that it is your responsibility to be aware of and to comply with all conditions of your Permit. If you have any questions regarding this approval, please call Linda Bowling at 800-227-8917 (ext. 312-6254).

For questions regarding notification, testing, monitoring, reporting, or other Permit requirements, please call Nathan Wiser at 800-227-8917 (ext. 312-6211).

Sincerely,

Stephen S. Tuber
Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

cc:

Curtis Cesspooch, Chairperson
Uintah & Ouray Business Committee
Ute Indian Tribe

Ronald Groves, Councilman
Uintah & Ouray Business Committee
Ute Indian Tribe

Irene Cuch, Vice-Chairperson
Uintah & Ouray Business Committee
Ute Indian Tribe

Steven Cesspooch, Councilman
Uintah & Ouray Business Committee
Ute Indian Tribe

Phillip Chimbraus, Councilman
Uintah & Ouray Business Committee
Ute Indian Tribe

Francis Poowegup, Councilman
Uintah & Ouray Business Committee
Ute Indian Tribe

Chester Mills, Superintendent
BIA - Uintah & Ouray Indian Agency

Kenneth Smith
Executive Vice President and Chief
Operating Officer
Petroglyph Energy, Inc.

Shawn Chapoose, Director
Land Use Department
Ute Indian Tribe

Gil Hunt
Technical Services Manager
Utah Division of Oil, Gas, and Mining

Fluid Minerals Engineering Office
BLM - Vernal Office

Lynn Becker, Director
Energy and Minerals Department
Ute Indian Tribe

bcc w/o enclosures:

Monica Morales, 8TAP
Nathan Wiser, ENF-UFO

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

D. 8P-W-GW-VIC
AUG 30 2007

Mr. Steve Wall
District Manager
Petroglyph Energy, Inc
4116 West 3000 So. Ioka Lane
Roosevelt, UT 84066

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) Patti Cox
C. Date of Delivery 9-4-07

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

ROOSEVELT UT 84066
SEP - 4 2007

3. Service Type USPS
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from se 7005 1820 0005 4855 8169

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

7005 1820 0005 4855 8169

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Total Postag	

Postmark Here

Sent To Mr. Steve Wall
District Manager
Petroglyph Energy, Inc
Street, Apt. No. or PO Box No. 4116 West 3000 So. Ioka Lane
City, State, ZI Roosevelt, UT 84066

PS Form 3800, June 2002 See Reverse for Instructions

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