Inspection Report For Well: UT20736 - 07415

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~~ 12/11/2013

Others: Ajayi, Christopher — Time: 10:45 (am) / pm

OPERATOR (only if different): _____

REPRESENTATIVE(S): Chad Steinser

PRE-INSPECTION REVIEW

Petroglyph Operating Company, Inc

Well Name:	Ute Tribal 18-16		
Well Type:	Enhanced Recovery (2R)		
Operating Status:	AC (ACTIVE) as of 7/18/2007		
Oil Field:	Antelope Creek (Duchesne)		
Location:	SESE S18 T5S R3W		
Indian Country:	X, Uintah and Ouray		
Last Inspection:	8/29/2012	***Allowable Inj Pressure:***	1580 /
Last MIT:	Pass 1/7/2012	***Annulus Pressure From Last MIT:***	1500

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 1/2/14
Initials DB

OBSERVED VALUES:

Tubing Gauge:	[ ] Yes [ ] No	Pressure: U: ____ / L: ____ psig Gauge Range: ____ psig	Gauge Owner:	[ ] EPA [ ] Operator
Annulus Gauge:	[ ] Yes [ ] No	Pressure: ____ psig Gauge Range: ____ 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)
- [ ] Active
- [ ] Being Reworked
- [ ] Not Injecting
- [ ] Production
- [ ] Plugged and Abandoned
- [ ] Under Construction

	GREEN	BLUE	CBI
TAB		1	

U2 Entered
Date 12/17/13
Initial

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

Inspection Report For Well: UT20736 - 07415 (PAGE 2)

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

Comments and site conditions observed during inspection: _____

Workover Rig active onsite. Access to injection well had safety concerns

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

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

EPA

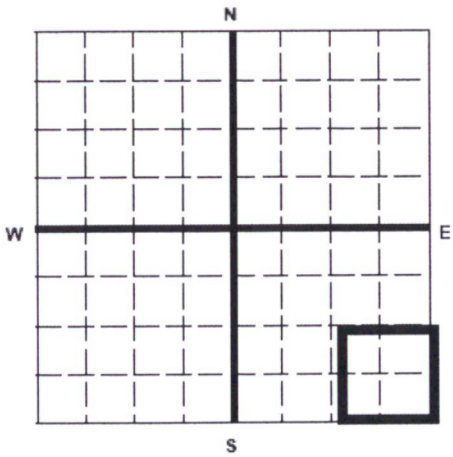
United States Environmental Protection Agency
Washington, DC 20460

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	UT2736-07415

Surface Location Description
___ 1/4 of 1/4 of SE 1/4 of SE 1/4 of Section 18 Township 5S Range 3W

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

Surface Location 895 ft. frm (N/S) S Line of quarter section
and 673 ft. from (E/W) E Line of quarter section.

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

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

Number of Wells 111

U2 Entered
Date 4/4/17
Initial JS

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 18-16

GREEN CBI TAB 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	1403	1457	369		0	0
February	16	1482	1527	449		0	0
March	16	1518	1529	513		0	0
April	16	1445	1479	342		0	0
May	16	1457	1500	413		0	0
June	16	1445	1484	392		0	0
July	16	1480	1493	464		0	0
August	16	1532	1547	595		0	0
September	16	1518	1557	496		0	0
October	16	1493	1502	529		0	0
November	16	1497	1505	541		0	0
December	16	1519	1531	625		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

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

multi-chem
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 18-16 INJ, DUCHESNE**	Lab Tech:	**Kaitlyn Natelli**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2017**		
Sample ID:	**WA-345366**		

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

Sample Specifics

Test Date:	1/23/2017
System Temperature 1 (°F):	300
System Pressure 1 (psig):	2000
System Temperature 2 (°F):	130
System Pressure 2 (psig):	50
Calculated Density (g/ml):	1.0049
pH:	8.70
Calculated TDS (mg/L):	10918.98
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):	3593.00	Chloride (Cl):	4500.00
Potassium (K):	24.58	Sulfate (SO_4):	40.00
Magnesium (Mg):	14.20	Bicarbonate (HCO_3):	2440.00
Calcium (Ca):	32.72	Carbonate (CO_3):	
Strontium (Sr):	4.87	Hydroxide(HO):	
Barium (Ba):	10.45	Acetic Acid (CH_3COO)	
Iron (Fe):	133.59	Propionic Acid (C_2H_5COO)	
Zinc (Zn):	97.32	Butanoic Acid (C_3H_7COO)	
Lead (Pb):	0.00	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Ammonia NH_3:		Fluoride (F):	
Manganese (Mn):	0.25	Bromine (Br):	
Aluminum (Al):	0.38	Silica (SiO_2):	28.00
Lithium (Li):	2.94	Calcium Carbonate ($CaCO_3$):	
Boron (B):	5.10	Phosphates (PO_4):	18.21
Silicon (Si):	13.09	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	1.78	27.99	0.87	5.24	5.34	9.05	4.48	97.13	0.00	0.00	0.00	0.00	0.00	0.00	12.73	10.03
149.00	267.00	1.83	28.06	0.78	5.00	5.27	9.05	4.57	97.13	0.00	0.00	0.00	0.00	0.00	0.00	12.46	10.03
168.00	483.00	1.89	28.15	0.70	4.78	5.24	9.05	4.65	97.13	0.00	0.00	0.00	0.00	0.00	0.00	12.23	10.03
187.00	700.00	1.96	28.22	0.64	4.58	5.22	9.05	4.73	97.13	0.00	0.00	0.00	0.00	0.00	0.00	12.02	10.03
206.00	917.00	2.04	28.29	0.60	4.43	5.23	9.05	4.81	97.14	0.00	0.00	0.00	0.00	0.00	0.00	11.84	10.03
224.00	1133.00	2.13	28.36	0.57	4.31	5.25	9.05	4.88	97.14	0.00	0.00	0.00	0.00	0.00	0.00	11.68	10.03
243.00	1350.00	2.23	28.42	0.56	4.25	5.29	9.05	4.94	97.14	0.00	0.00	0.00	0.00	0.00	0.00	11.54	10.03
262.00	1567.00	2.33	28.46	0.55	4.22	5.34	9.05	5.01	97.14	0.00	0.00	0.00	0.00	0.00	0.00	11.42	10.03
281.00	1783.00	2.43	28.50	0.55	4.24	5.40	9.05	5.06	97.14	0.00	0.00	0.00	0.00	0.00	0.00	11.31	10.03
300.00	2000.00	2.54	28.53	0.56	4.28	5.48	9.05	5.11	97.14	0.00	0.00	0.00	0.00	0.00	0.00	11.22	10.03

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

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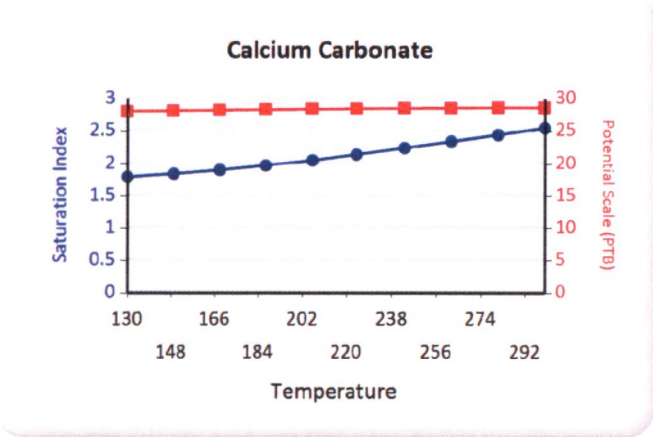
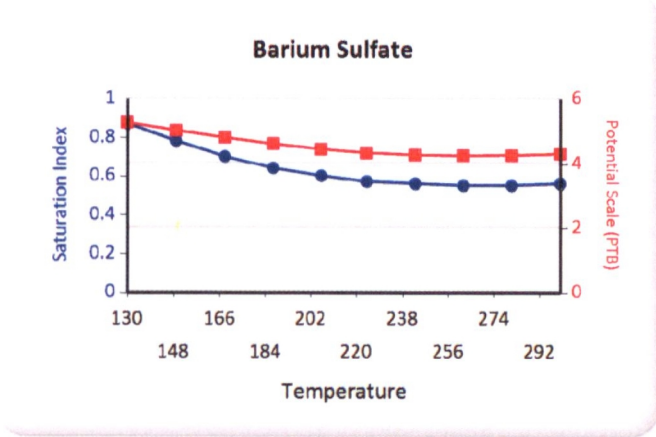
Water Analysis Report

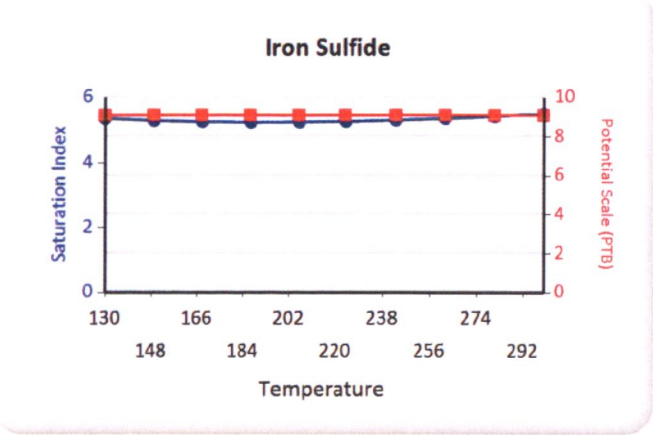
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
130.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	3.97	65.42	0.00	0.00	5.28	27.05	3.06	29.96	16.13	64.95
149.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	4.17	65.42	0.00	0.00	5.98	27.60	3.43	31.83	16.54	64.95
168.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	4.35	65.43	0.00	0.00	6.68	27.93	3.81	33.50	16.97	64.95
187.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	4.51	65.43	0.00	0.00	7.37	28.13	4.19	34.84	17.42	64.95
206.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	4.66	65.43	0.00	0.00	8.05	28.23	4.57	35.86	17.87	64.95
224.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	4.79	65.43	0.00	0.00	8.72	28.30	4.95	36.57	18.33	64.95
243.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	4.90	65.43	0.00	0.00	9.36	28.33	5.32	37.05	18.78	64.95
262.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	65.43	0.00	0.00	9.99	28.34	5.68	37.36	19.23	64.95
281.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	5.08	65.43	0.00	0.00	10.59	28.36	6.03	37.55	19.67	64.95
300.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	5.15	65.43	0.00	0.00	11.16	28.36	6.36	37.66	20.09	64.95

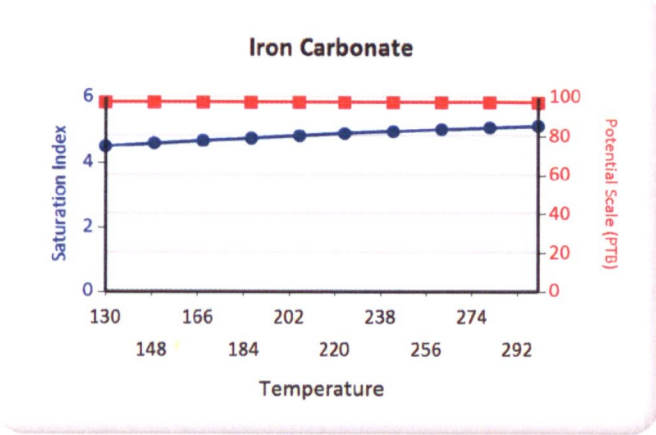
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

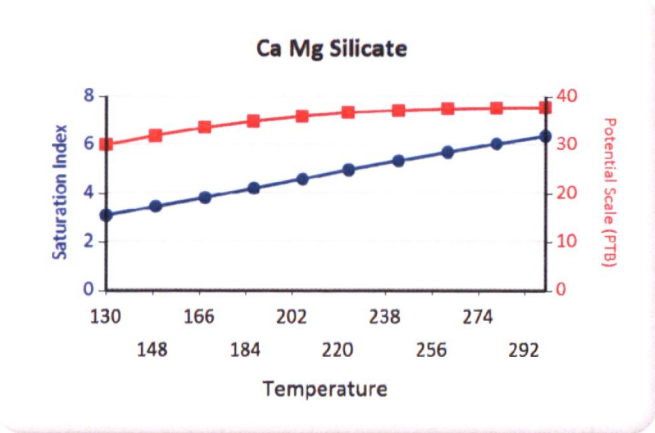
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

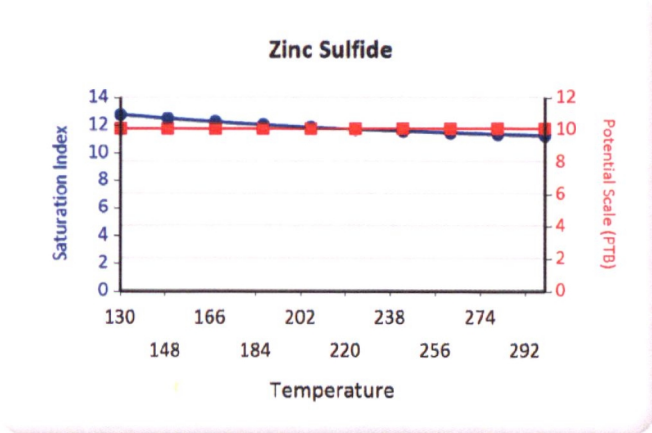


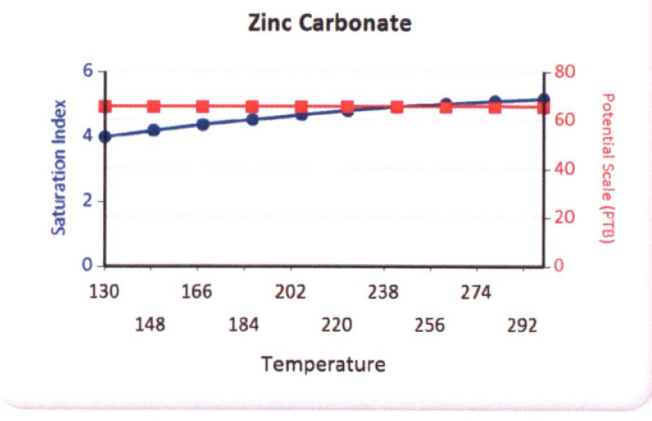







Ca Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
130 166 202 238 274
148 184 220 256 292


Zinc Sulfide
Saturation Index
Potential Scale (PTB)
Temperature
130 166 202 238 274
148 184 220 256 292


Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
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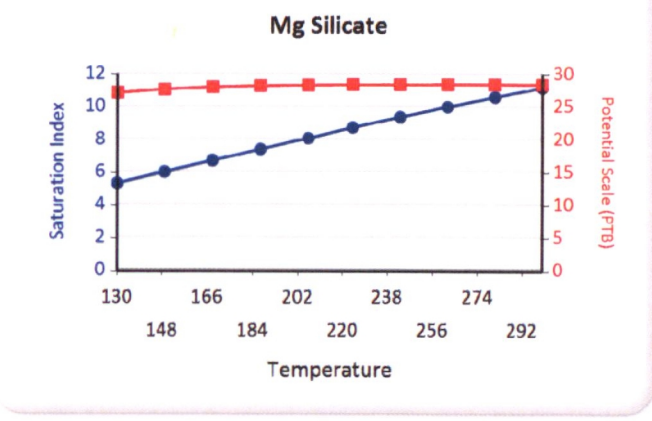
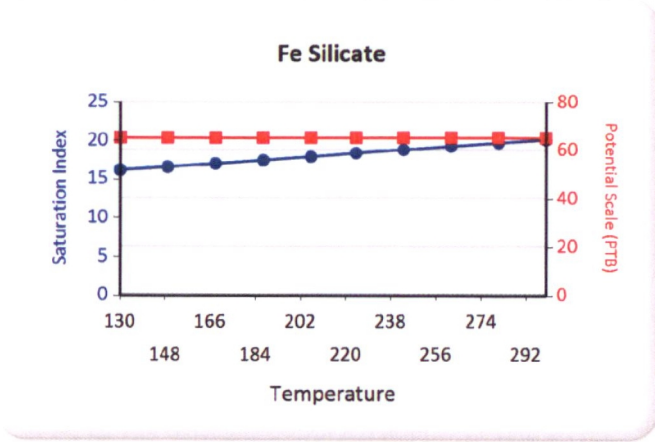
148 184 220 256 292


Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
130 166 202 238 274
148 184 220 256 292


Fe Silicate
Saturation Index
Potential Scale (PTB)
Temperature
25
20
15
10
5
0
80
60
40
20
0
130
166
202
238
274
148
184
220
256
292

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: 1 16 17
Test conducted by: C. HAD STEVENSON
Others present: _____

Well Name: 18-16 UT20736-07415 Type: ER SWD **Status: AC TA UC**
Field: ANTELOPE CREEK
Location: 18-16 Sec: ____ T ____ N / S R ____ E / W County: DUCHESNE State: UT
Operator: PETROGLYPH ENERGY
Last MIT: / / **Maximum Allowable Pressure:** _____ **PSIG**

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

U2 Entered
Date 3/20/17
Initial BS

Well injecting during test? If Yes, rate: 21 **bpd**
Pre-test annulus pressure: _____ **psig**

MIT DATA TABLE	Test #1	Test #2	Test #3
TUBING		**PRESSURE RECORD**	
Initial Pressure	1521 psig	psig	psig
End of test pressure	1521 psig	psig	psig
CASING / TUBING ANNULUS		**PRESSURE RECORD**	
0 minutes	970 psig	psig	psig
5 minutes	970 psig	psig	psig
10 minutes	970 psig	psig	psig
15 minutes	970 psig	psig	psig
20 minutes	970 psig	psig	psig
25 minutes	970 psig	psig	psig
30 minutes	970 psig	psig	psig
5 HOURS ~~minutes~~	970 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.**

TAB	GREEN	BLUE	CBI
		✓	

PRINTED IN U.S.A.
CALIBRATED CHARTS
MW-MP 2000
TIME & DATE ON
TIME TAKEN OFF
DATE TAKEN OFF
7 A.M.
8 A.M.
9
10 A.M.
11 A.M.
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.

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

EPA

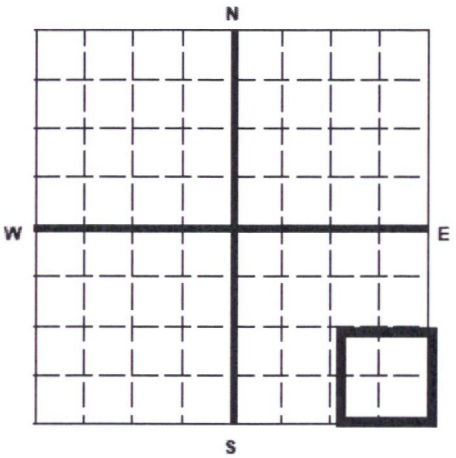
United States Environmental Protection Agency
Washington, DC 20460

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-~~04434~~ 07415

Surface Location Description
___ 1/4 of ___ 1/4 of SE 1/4 of SE 1/4 of Section 18 Township 5S Range 3W

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

Surface Location 895 ft. frm (N/S) S Line of quarter section
and 673 ft. from (E/W) E Line of quarter section.

U2 Entered
Date 3/2/16
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 18-16

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	1505	1510	568		0	0
February	15	1518	1527	559		0	0
March	15	1158	1544	667		0	0
April	15	1452	1501	550		0	0
May	15	1493	1537	571		0	0
June	15	1521	1545	571		0	0
July	15	1532	1544	593		0	0
August	15	1500	1527	544		0	0
September	15	1488	1528	475		0	0
October	15	1499	1522	494		0	0
November	15	1526	1549	510		0	0
December	15	1481	1527	433		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	CBI
		✓	

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

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

multi-chem®
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 18-16 INJ, DUCHESNE**	Lab Tech:	**Michele Pike**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2016**		
Sample ID:	**WA-327529**		

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

Sample Specifics

Test Date:	1/14/2016
System Temperature 1 (°F):	60
System Pressure 1 (psig):	2000
System Temperature 2 (°F):	180
System Pressure 2 (psig):	50
Calculated Density (g/ml):	1.0047
pH:	8.10
Calculated TDS (mg/L):	10596.21
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	60.00
H_2S in Gas (%):	
H2S in Water (mg/L):	
Tot. SuspendedSolids(mg/L):	
Corrosivity(LanglierSat.Indx)	0.00
Alkalinity:	

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	3653.56	Chloride (Cl):	5000.00
Potassium (K):	19.42	Sulfate (SO_4):	240.00
Magnesium (Mg):	50.96	Bicarbonate (HCO_3):	1464.00
Calcium (Ca):	114.26	Carbonate (CO_3):	
Strontium (Sr):	5.94	Acetic Acid (CH_3COO)	
Barium (Ba):	5.35	Propionic Acid (C_2H_5COO)	
Iron (Fe):	12.56	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	1.12	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.52	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.18	Silica (SiO_2):	28.34
Aluminum (Al):	0.07	Calcium Carbonate ($CaCO_3$):	
Lithium (Li):	0.87	Phosphates (PO_4):	8.04
Boron (B):	2.34	Oxygen (O_2):	
Silicon (Si):	13.25		

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	1.83	88.29	1.15	2.96	0.00	0.00	3.00	9.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167.00	267.00	1.72	83.94	1.18	2.97	0.00	0.00	2.87	9.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	483.00	1.64	80.64	1.21	2.99	0.00	0.00	2.77	9.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	700.00	1.56	77.10	1.25	3.01	0.00	0.00	2.67	9.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127.00	917.00	1.49	73.39	1.30	3.03	0.00	0.00	2.57	9.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	1133.00	1.42	69.62	1.37	3.05	0.00	0.00	2.46	9.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	1350.00	1.36	65.88	1.45	3.07	0.00	0.00	2.36	9.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87.00	1567.00	1.31	62.25	1.54	3.09	0.00	0.00	2.26	9.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	1783.00	1.26	58.83	1.65	3.12	0.00	0.00	2.16	9.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.00	2000.00	1.21	55.66	1.78	3.13	0.00	0.00	2.06	9.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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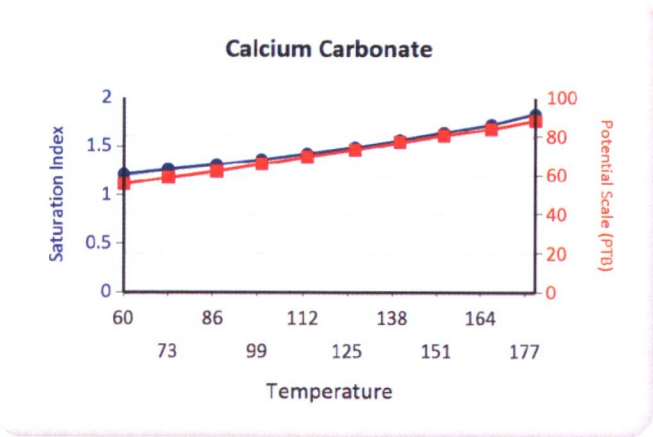
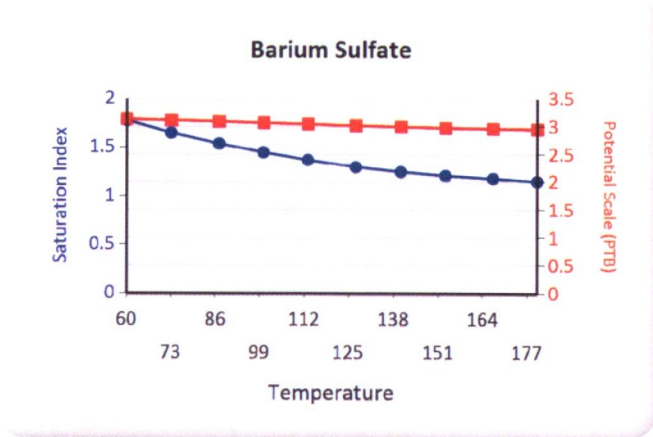
Water Analysis Report

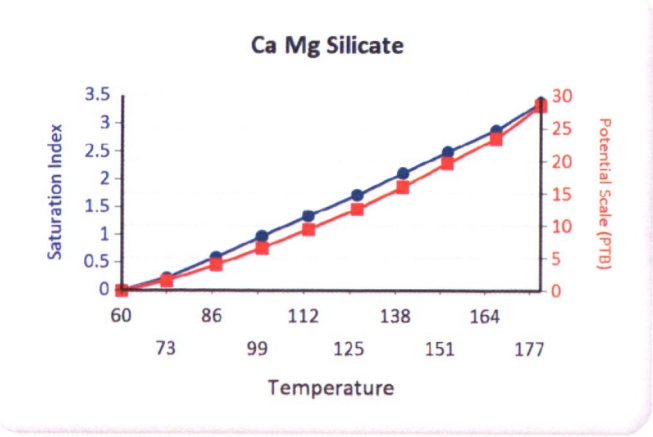
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	1.86	0.74	0.00	0.00	5.99	51.95	3.37	28.50	11.33	9.76
167.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	1.68	0.74	0.00	0.00	5.19	41.80	2.88	23.44	10.69	9.76
153.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52	0.73	0.00	0.00	4.53	34.65	2.49	19.72	10.21	9.76
140.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	1.36	0.72	0.00	0.00	3.87	27.89	2.11	16.07	9.73	9.75
127.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	1.18	0.70	0.00	0.00	3.21	21.72	1.72	12.64	9.26	9.74
113.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.67	0.00	0.00	2.54	16.22	1.34	9.48	8.80	9.73
100.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.63	0.00	0.00	1.87	11.37	0.97	6.61	8.35	9.71
87.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.55	0.00	0.00	1.20	7.05	0.59	3.98	7.91	9.68
73.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.42	0.00	0.00	0.53	3.09	0.22	1.53	7.47	9.65
60.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.18	0.00	0.00	0.00	0.00	0.00	0.00	7.05	9.59

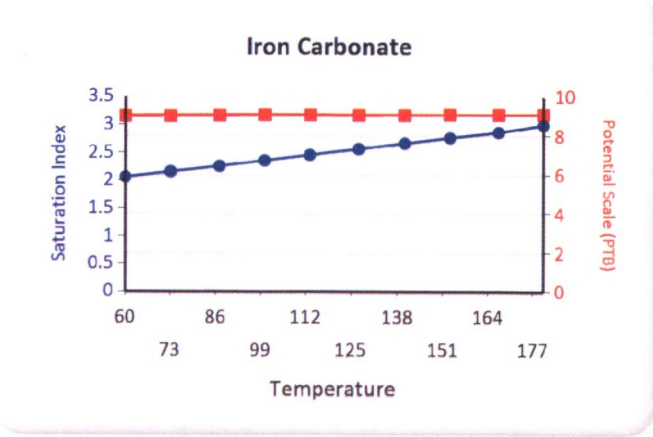
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

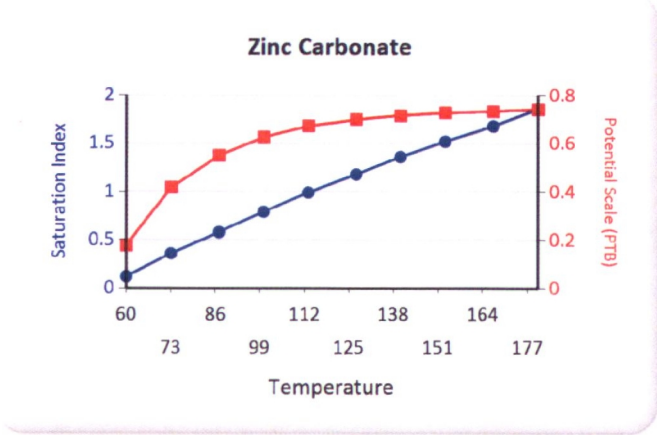
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Fe Silicate

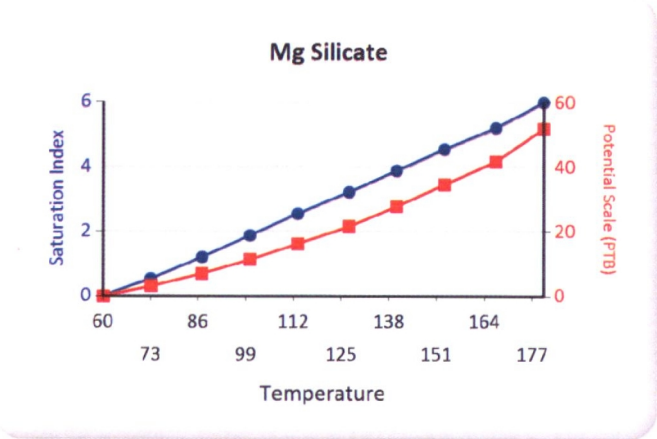









Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
0
0.5
1
1.5
2
0
0.2
0.4
0.6
0.8
60
86
112
138
164
73
99
125
151
177


Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
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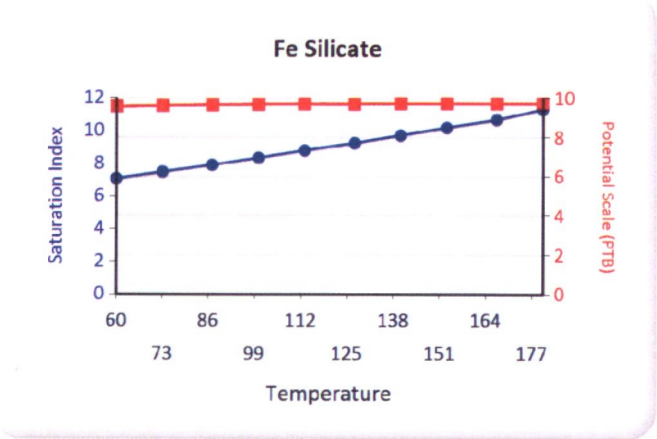
2
4
6
0
20
40
60
60
86
112
138
164
73
99
125
151
177


Fe Silicate
Saturation Index
Potential Scale (PTB)
Temperature
0
2
4
6
8
10
12
0
2
4
6
8
10
60
86
112
138
164
73
99
125
151
177

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

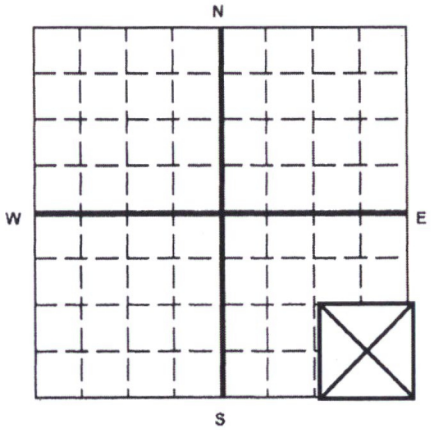
EPA

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	UT2736-07415

Surface Location Description

____ 1/4 of ____ 1/4 of SE 1/4 of SE 1/4 of Section 18 Township 5S Range 3W

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

Surface Location 895 ft. frm (N/S) S Line of quarter section and 673 ft. from (E/W) E 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 18-16

		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	535	560	0		0	0
February	14	506	510	0		0	0
March	14	499	500	0		0	0
April	14	221	470	0		0	0
May	14	430	440	0		0	0
June	14	375	410	0		0	0
July	14	373	395	0		0	0
August	14	359	370	43		0	0
September	14	1323	1422	1969		0	21
October	14	1518	1505	1078		0	0
November	14	1520	1530	836		0	0
December	14	1479	1541	769		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 3/30/15
Initial GW

TAB	GREEN	BLUE	CBI
		2	

Petroglyph Operating Company, Inc.
Annulus Pressure Cause and Mitigation Measures
2014 EPA Annual Injection Report

Well Name: Ute Tribal 18-16

UIC Permit Number: UT2736-07415

API Number: 43-013-31747

Cause of Pressure and Mitigation Measures:
This well reported a small amount of pressure during the month of September. The pressure was most likely due injection start up following a period of inactivity. The pressure was relieved and did not return.

PETROGLYPH

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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 18-16 INJ, DUCHESNE**	Lab Tech:	**Gary Winegar**
Sample Point:	**WELLHEAD**		
Sample Date:	**1/7/2015**		
Sample ID:	**WA-297442**		

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

Sample Specifics	
Test Date:	1/14/2015
System Temperature 1 (°F):	160
System Pressure 1 (psig):	1300
System Temperature 2 (°F):	80
System Pressure 2 (psig):	15
Calculated Density (g/ml):	1.0035
pH:	8.10
Calculated TDS (mg/L):	9399.11
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	5.00

Analysis @ Properties in Sample Specifics			
Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	2748.50	Chloride (Cl):	5000.00
Potassium (K):	44.29	Sulfate (SO_4):	127.00
Magnesium (Mg):	33.12	Bicarbonate (HCO_3):	1342.00
Calcium (Ca):	61.49	Carbonate (CO_3):	
Strontium (Sr):	5.35	Acetic Acid (CH_3COO)	
Barium (Ba):	7.87	Propionic Acid (C_2H_5COO)	
Iron (Fe):	2.52	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	0.72	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.00	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.10	Silica (SiO_2):	26.15

Notes:
B=5.14 Al=.09 Li=1.59

(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	1.23	39.95	1.69	4.59	3.01	1.39	1.69	1.79	0.00	0.00	0.00	0.00	0.00	0.00	10.61	0.38
88.00	157.00	1.21	38.66	1.61	4.57	2.91	1.39	1.71	1.79	0.00	0.00	0.00	0.00	0.00	0.00	10.40	0.38
97.00	300.00	1.23	39.40	1.53	4.55	2.85	1.39	1.76	1.80	0.00	0.00	0.00	0.00	0.00	0.00	10.24	0.38
106.00	443.00	1.25	40.17	1.46	4.52	2.81	1.39	1.80	1.80	0.00	0.00	0.00	0.00	0.00	0.00	10.09	0.38
115.00	585.00	1.28	40.97	1.40	4.49	2.77	1.39	1.85	1.81	0.00	0.00	0.00	0.00	0.00	0.00	9.95	0.38
124.00	728.00	1.30	41.78	1.34	4.47	2.74	1.39	1.90	1.81	0.00	0.00	0.00	0.00	0.00	0.00	9.82	0.38
133.00	871.00	1.33	42.61	1.29	4.43	2.71	1.39	1.95	1.81	0.00	0.00	0.00	0.00	0.00	0.00	9.70	0.38
142.00	1014.00	1.36	43.43	1.24	4.41	2.70	1.38	1.99	1.81	0.00	0.00	0.00	0.00	0.00	0.00	9.59	0.38
151.00	1157.00	1.39	44.25	1.20	4.38	2.69	1.38	2.04	1.82	0.00	0.00	0.00	0.00	0.00	0.00	9.48	0.38
160.00	1300.00	1.43	45.05	1.16	4.35	2.68	1.38	2.08	1.82	0.00	0.00	0.00	0.00	0.00	0.00	9.39	0.38

		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	0.44	0.31	0.00	0.00	0.34	1.88	0.00	0.00	5.63	1.92
88.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.34	0.00	0.00	0.51	2.56	0.00	0.00	5.63	1.92
97.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.38	0.00	0.00	0.91	4.52	0.06	0.47	5.87	1.93
106.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78	0.40	0.00	0.00	1.31	6.59	0.28	1.63	6.12	1.93
115.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	0.42	0.00	0.00	1.72	8.76	0.51	2.83	6.38	1.94
124.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.43	0.00	0.00	2.14	11.04	0.74	4.07	6.65	1.95
133.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11	0.45	0.00	0.00	2.56	13.41	0.97	5.33	6.92	1.95
142.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21	0.46	0.00	0.00	2.98	15.85	1.21	6.61	7.21	1.95
151.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.31	0.46	0.00	0.00	3.40	18.32	1.45	7.89	7.50	1.95
160.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41	0.47	0.00	0.00	3.82	20.76	1.69	9.13	7.79	1.95

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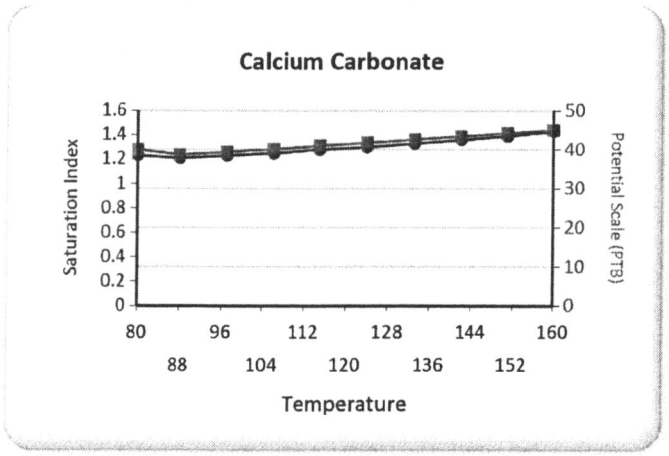
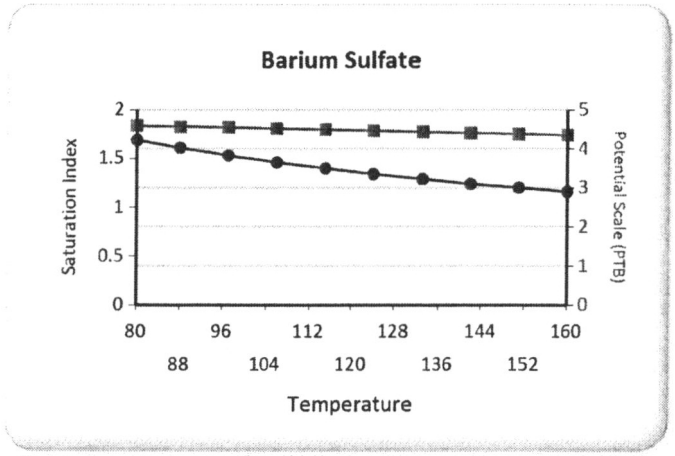
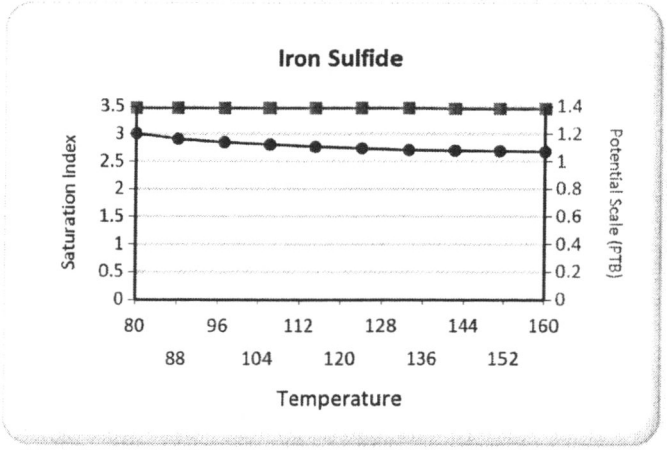
Water Analysis Report

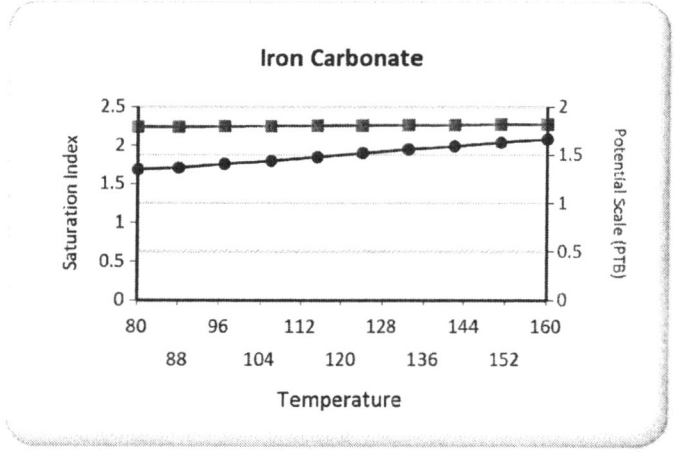
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Mg Silicate Fe Silicate

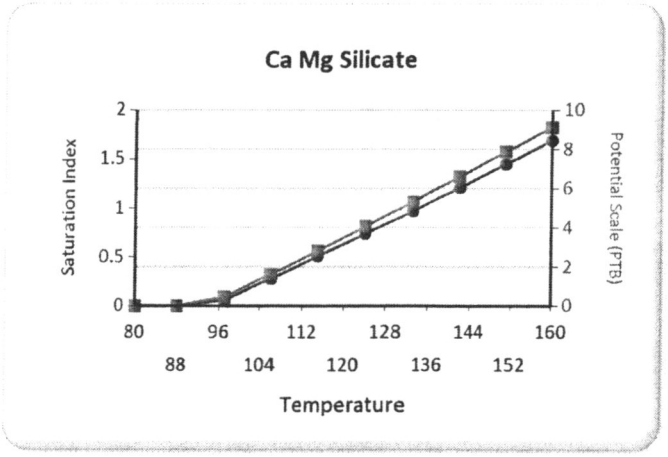
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

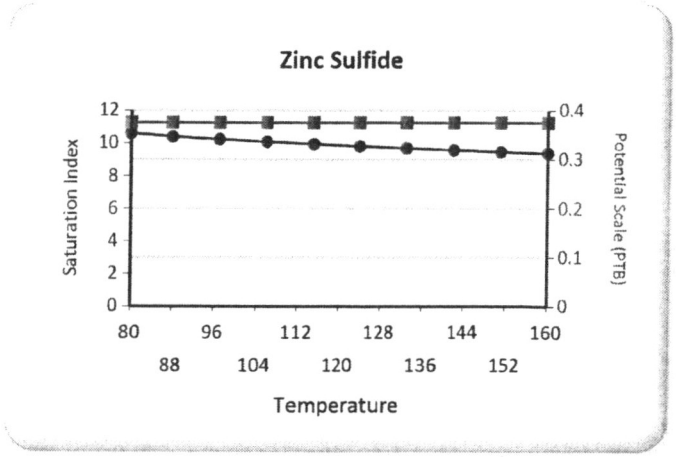


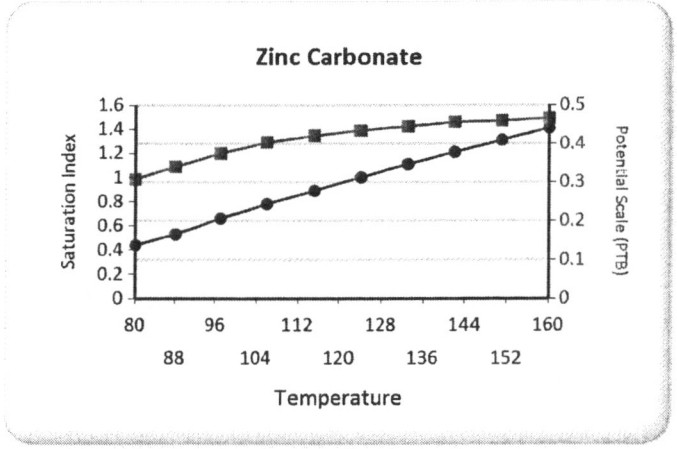


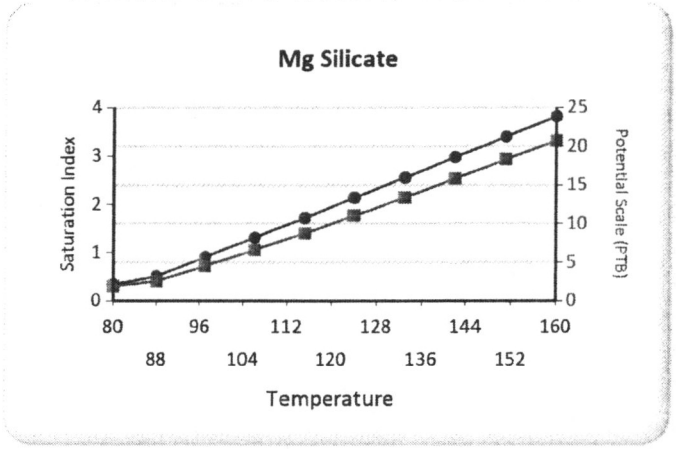


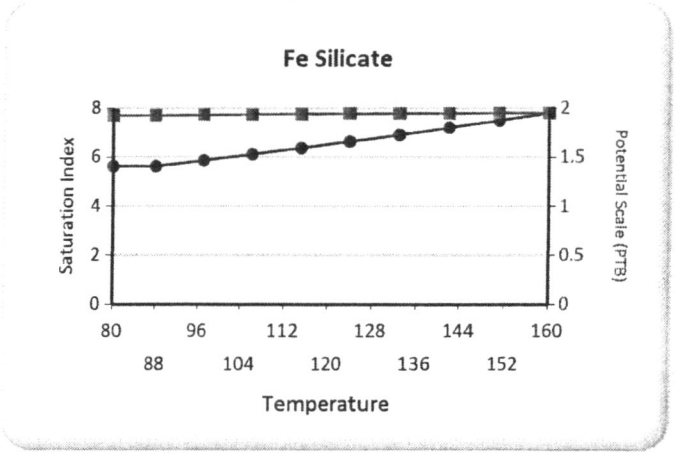







Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0.5
0.4
0.3
0.2
0.1
0
80
88
96
104
112
120
128
136
144
152
160


Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
4
3
2
1
0
25
20
15
10
5
0
80
88
96
104
112
120
128
136
144
152
160


Fe Silicate
Saturation Index
Potential Scale (PTB)
Temperature
8
6
4
2
0
2
1.5
1
0.5
0
80
88
96
104
112
120
128
136
144
152
160

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

EPA

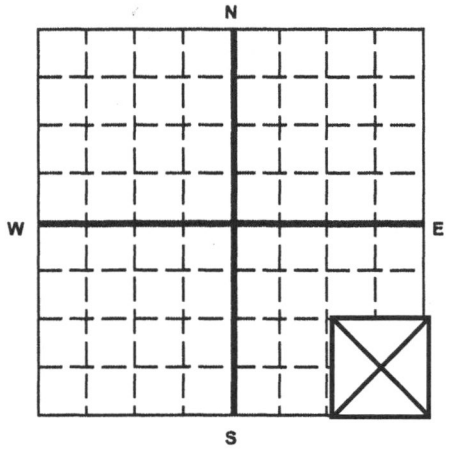
United States Environmental Protection Agency
Washington, DC 20460

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	UT2736-07415

Surface Location Description
___ 1/4 of ___ 1/4 of SE 1/4 of SE 1/4 of Section 18 Township 5S Range 3W

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

Surface Location 895 ft. frm (N/S) S Line of quarter section
and 673 ft. from (E/W) E 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 18-16

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	7	7	0		0	0
February	13	0	0	0		0	0
March	13	0	0	0		0	0
April	13	0	0	0		0	0
May	13	0	0	0		0	0
June	13	256	0	0		0	0
July	13	256	0	0		0	0
August	13	687	0	0		0	0
September	13	655	0	0		0	0
October	13	220	0	0		0	0
November	13	259	0	0		0	0
December	13	563	0	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		2/11/2014

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

GREEN BLUE OD
TAB 2

U2 Entered
Date 2/20/14
Initial DB

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

JUL 18 2007

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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

RE: Authorization to Inject
UIC Permit No. UT20736-00000
Well ID: UT20736-07415
Ute Tribal No. 18-16
Duchesne County, Utah

Dear Mr. Wall:

Thank you for submitting information pertaining to the newly constructed or converted Ute Tribal No. 18-16 enhanced recovery injection well to the Region 8 Ground Water Program office of the Environmental Protection Agency (EPA). The "Prior To Commencing Injection" requirements for the Ute Tribal No. 18-16 injection well required well owner and operator Petroglyph Operating Company, Inc. to submit the following information to the Director:

I. A successful mechanical integrity test (MIT) demonstrating Part I Internal MI,
II. Pore pressure calculation of the proposed injection zone, and
III. Completed EPA Form No. 7520-12.

All required information has been submitted, and has been reviewed and approved by the EPA. Therefore, effective upon your receipt of this letter, Administrative approval hereby is granted for injection into the Ute Tribal No. 18-16 enhanced recovery injection well under the conditions of the Authorization for Additional Well and UIC Area Permit UT20736-00000 as modified.

As of this approval, responsibility for permit compliance and enforcement is transferred to the Region 8 UIC Technical Enforcement Program office. Therefore, please direct all future notification, reporting, monitoring and compliance correspondence to the following address, referencing your well and UIC Permit number on all correspondence regarding this well.

Technical Enforcement Program - UIC
U.S. EPA Region 8, Mail Code 8ENF-UFO
1595 Wynkoop Street
Denver, Colorado 80202-1129

The Director has determined that the maximum allowable surface injection pressure (MAIP) for the Ute Tribal No. 18-16 shall not exceed **1580** psig. New information submitted in the Well Rework Record (dated 1/09/07) and a review of the add well application has led us to reconsider the location of the bottom perforation and the bottom of the injection zone. The lowermost perforation is located at a depth of 5777 ft and the bottom of the injection zone is now 5830 ft. Please be reminded that it is the responsibility of the owner/operator to be aware of, and to comply with, all conditions of Authorization for Additional Well UT20736-07415 and EPA UIC Area Permit UT20736-00000 and relevant modifications as issued.

If you have any questions regarding this Authorization, please call Linda Bowling of my staff at (303) 312-6254. For questions regarding notification, testing, monitoring, reporting or other Permit requirements, please contact Nathan Wiser of the UIC Technical Enforcement Program by calling (303) 312-6211.

Sincerely,

Steven J. Pratt, P.E., CAPM (inactive)
Director, Ground Water Program

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

Mr. 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