Inspection Report For Well: UT20736 - 04472

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: 10:17 am / pm

OPERATOR (only if different): _____

REPRESENTATIVE(S): Chad Stevinson

PRE-INSPECTION REVIEW

Petroglyph Operating Company, Inc

Well Name:	Ute Tribal 18-05		
Well Type:	Enhanced Recovery (2R)		
Operating Status:	AC (ACTIVE) as of 12/31/2002		
Oil Field:	Antelope Creek (Duchesne)		
Location:	SWNW S18 T5S R3W		
Indian Country:	X, Uintah and Ouray		
Last Inspection:	8/29/2012	***Allowable Inj Pressure:***	2369 /
Last MIT:	Pass 10/8/2011	***Annulus Pressure From Last MIT:***	2040

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 12/31/13
Initials DB

OBSERVED VALUES:

Tubing Gauge:	[x] Yes [ ] No	Pressure: U: 1853 / L: ____ psig Gauge Range: Scada psig	Gauge Owner:	[ ] EPA [x] Operator
Annulus Gauge:	[x] Yes [ ] No	Pressure: 0 psig Gauge Range: opened psig	Gauge Owner:	[x] 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

U2 Entered
Date 12/17/13
Initial SB

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

GREEN	BLUE	CBI
	1	

Inspection Report For Well: UT20736 - 04472 (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

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

EPA

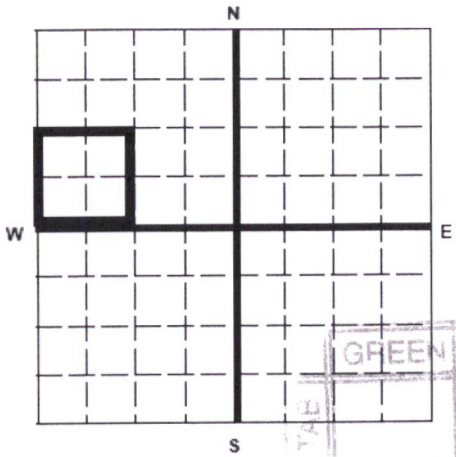
United States Environmental Protection Agency
Washington, DC 20460

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	UT2736-04472

Surface Location Description
___ 1/4 of ___ 1/4 of SW 1/4 of NW 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 1935 ft. frm (N/S) N Line of quarter section
and 477 ft. from (E/W) W Line of quarter section.

U2 Entered
Date 4/4/17
Initial JB

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

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

Number of Wells 111

GREEN BLUE CBI
2

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 18-05

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	1824	1843	1853		0	0
February	16	1822	1839	1802		0	0
March	16	1864	1866	2119		0	0
April	16	1844	1865	1864		0	0
May	16	1853	1867	2029		0	0
June	16	1800	1863	1650		0	0
July	16	1845	1867	1835		0	0
August	16	1845	1884	1785		0	0
September	16	1827	1839	1650		0	0
October	16	1852	1867	1843		0	0
November	16	1827	1854	1555		0	0
December	16	1843	1852	1721		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 18-05,DUCHESNE**	Lab Tech:	**Kaitlyn Natelli**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2017**		
Sample ID:	**WA-345291**		

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):	0.9983
pH:	6.80
Calculated TDS (mg/L):	1608.99
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	11.00
H_2S in Gas (%):	
H2S in Water (mg/L):	5.00
Tot. SuspendedSolids(mg/L):	
Corrosivity(LanglierSat.Indx)	0.00
Alkalinity:	

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	367.22	Chloride (Cl):	291.00
Potassium (K):	4.10	Sulfate (SO_4):	110.00
Magnesium (Mg):	24.54	Bicarbonate (HCO_3):	707.00
Calcium (Ca):	44.09	Carbonate (CO_3):	
Strontium (Sr):	0.96	Hydroxide(HO):	
Barium (Ba):	1.89	Acetic Acid (CH_3COO)	
Iron (Fe):	36.84	Propionic Acid (C_2H_5COO)	
Zinc (Zn):	13.46	Butanoic Acid (C_3H_7COO)	
Lead (Pb):	0.00	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Ammonia NH_3:		Fluoride (F):	
Manganese (Mn):	0.19	Bromine (Br):	
Aluminum (Al):	0.07	Silica (SiO_2):	7.70
Lithium (Li):	2.66	Calcium Carbonate ($CaCO_3$):	
Boron (B):	0.68	Phosphates (PO_4):	3.95
Silicon (Si):	3.60	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	0.00	0.00	1.15	1.04	2.67	4.69	1.90	26.29	0.00	0.00	0.00	0.00	0.00	0.00	9.90	5.22
149.00	267.00	0.01	0.69	1.06	1.03	2.66	4.69	2.02	26.41	0.00	0.00	0.00	0.00	0.00	0.00	9.69	5.22
168.00	483.00	0.14	7.23	0.99	1.01	2.72	4.69	2.18	26.53	0.00	0.00	0.00	0.00	0.00	0.00	9.55	5.22
187.00	700.00	0.28	13.43	0.94	1.00	2.80	4.69	2.33	26.60	0.00	0.00	0.00	0.00	0.00	0.00	9.44	5.22
206.00	917.00	0.43	19.06	0.91	0.98	2.90	4.70	2.48	26.66	0.00	0.00	0.00	0.00	0.00	0.00	9.36	5.22
224.00	1133.00	0.59	23.93	0.89	0.98	3.02	4.70	2.63	26.70	0.00	0.00	0.00	0.00	0.00	0.00	9.29	5.22
243.00	1350.00	0.76	27.94	0.89	0.98	3.15	4.70	2.78	26.72	0.00	0.00	0.00	0.00	0.00	0.00	9.25	5.22
262.00	1567.00	0.94	31.10	0.90	0.98	3.30	4.70	2.92	26.74	0.00	0.00	0.00	0.00	0.00	0.00	9.22	5.22
281.00	1783.00	1.12	33.46	0.92	0.99	3.46	4.70	3.06	26.75	0.00	0.00	0.00	0.00	0.00	0.00	9.21	5.22
300.00	2000.00	1.31	35.17	0.94	1.00	3.63	4.70	3.20	26.76	0.00	0.00	0.00	0.00	0.00	0.00	9.21	5.22

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

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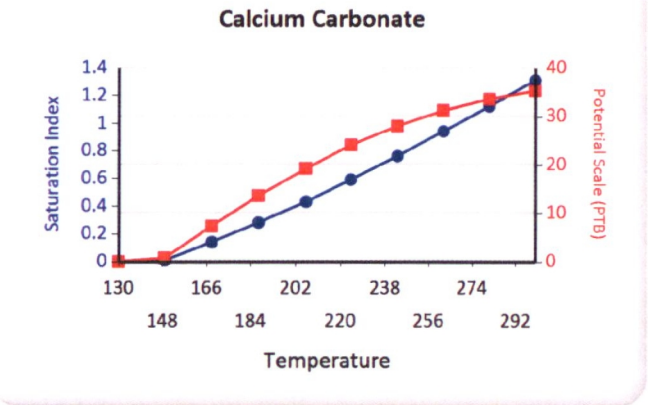
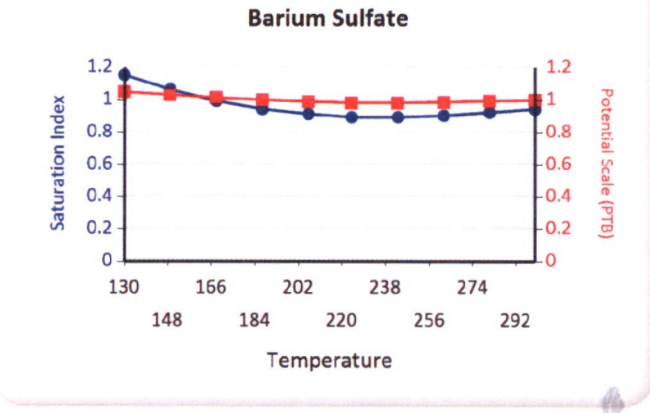
Water Analysis Report

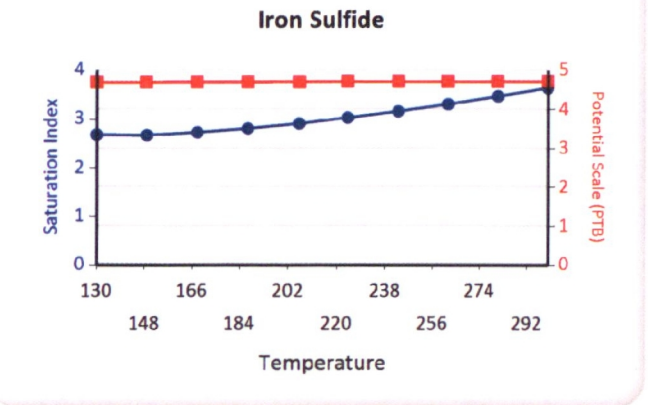
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
130.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23	8.45	0.00	0.00	0.00	0.00	0.00	0.00	3.06	14.89
149.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46	8.70	0.00	0.00	0.00	0.00	0.00	0.00	3.66	16.08
168.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	1.71	8.85	0.00	0.00	0.00	0.00	0.00	0.00	4.50	17.07
187.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	1.95	8.94	0.00	0.00	0.00	0.00	0.00	0.00	5.37	17.54
206.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	2.17	8.98	0.00	0.00	0.00	0.00	0.00	0.00	6.25	17.74
224.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	2.38	9.01	0.00	0.00	0.00	0.00	0.00	0.00	7.15	17.82
243.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	2.58	9.02	0.00	0.00	0.99	8.42	0.00	0.00	8.06	17.85
262.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	2.76	9.03	0.00	0.00	2.06	14.59	0.03	0.29	8.97	17.86
281.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	2.93	9.04	0.00	0.00	3.13	17.91	0.69	4.66	9.88	17.86
300.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	3.08	9.04	0.00	0.00	4.17	19.28	1.34	7.37	10.79	17.86

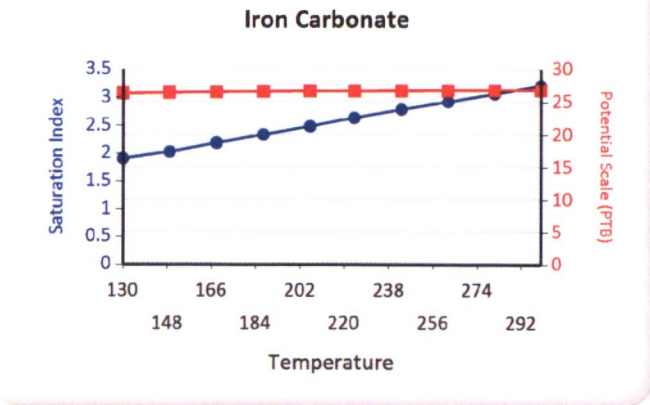
These scales have positive scaling potential under initial temperature and pressure: Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Fe Silicate

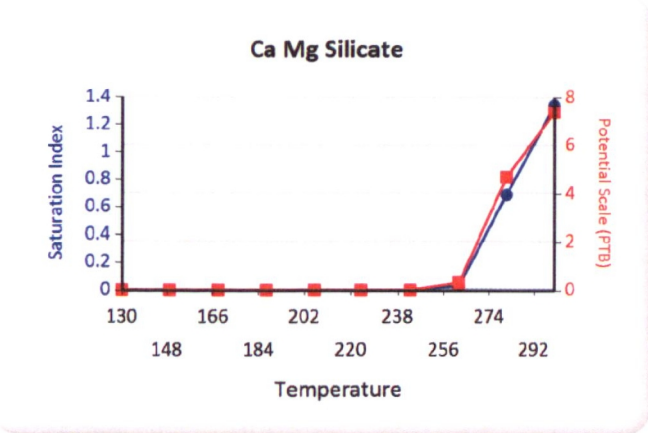
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

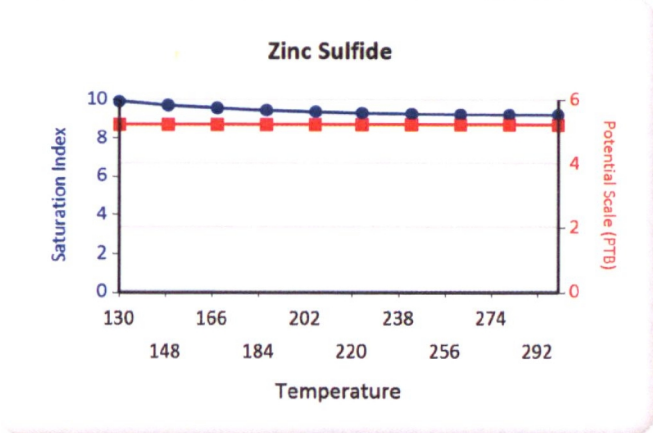









Ca Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
130 148 166 184 202 220 238 256 274 292


Zinc Sulfide
Saturation Index
Potential Scale (PTB)
Temperature
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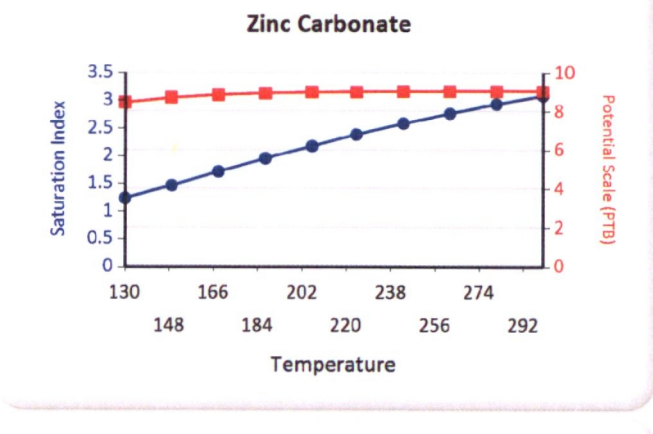
Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
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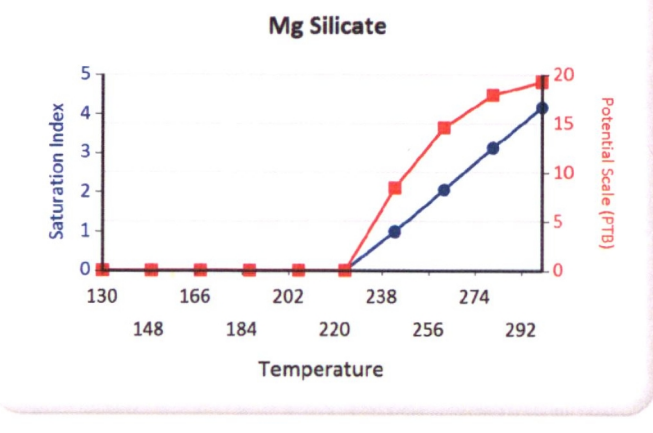
Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
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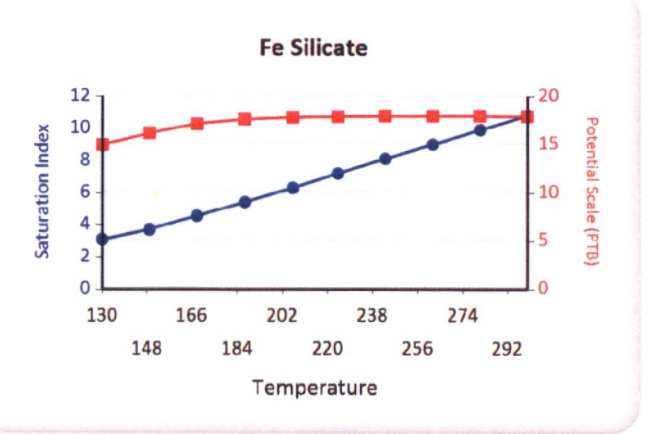

Fe Silicate
Saturation Index
Potential Scale (PTB)
Temperature
12
10
8
6
4
2
0
20
15
10
5
0
130
166
202
238
274
148
184
220
256
292

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

EPA

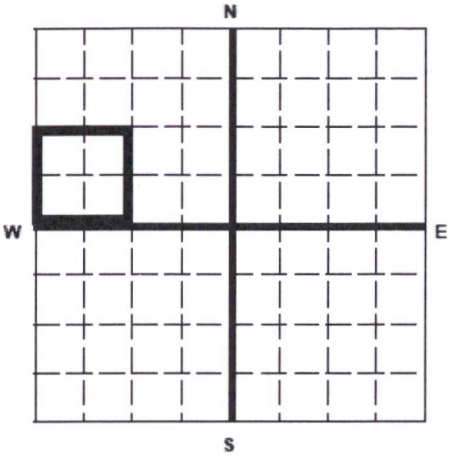
United States Environmental Protection Agency
Washington, DC 20460

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~~ 04412

Surface Location Description
___ 1/4 of ___ 1/4 of SW 1/4 of NW 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 1935 ft. frm (N/S) N Line of quarter section
and 477 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 18-05

		INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING – CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	15	1817	1842	3358		0	0
February	15	1836	1854	3134		0	0
March	15	1847	1877	3332		0	0
April	15	1830	1844	1824		0	0
May	15	1851	1875	2037		0	0
June	15	1851	1868	1969		0	0
July	15	1855	1868	1970		0	0
August	15	1841	1861	1824		0	0
September	15	1806	1866	1538		0	0
October	15	1843	1861	2034		0	0
November	15	1860	1867	2037		0	0
December	15	1835	1870	1931		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

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

TAB	GREEN	BLUE	ODI
		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:	**UTE TRIBAL 18-05,DUCHESNE**	Lab Tech:	**Michele Pike**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2016**		
Sample ID:	**WA-327672**		

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):	1.0030
pH:	7.70
Calculated TDS (mg/L):	8039.64
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
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):	2365.02	Chloride (Cl):	4000.00
Potassium (K):	1.45	Sulfate (SO_4):	450.00
Magnesium (Mg):	86.16	Bicarbonate (HCO_3):	586.00
Calcium (Ca):	244.39	Carbonate (CO_3):	
Strontium (Sr):	6.73	Acetic Acid (CH_3COO)	
Barium (Ba):	1.48	Propionic Acid (C_2H_5COO)	
Iron (Fe):	230.66	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	36.74	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.65	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	1.01	Silica (SiO_2):	29.35
Aluminum (Al):	1.24	Calcium Carbonate ($CaCO_3$):	
Lithium (Li):	2.08	Phosphates (PO_4):	8.67
Boron (B):	0.04	Oxygen (O_2):	
Silicon (Si):	13.72		

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	1.50	79.28	0.87	0.76	0.00	0.00	3.54	156.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167.00	267.00	1.37	69.41	0.90	0.77	0.00	0.00	3.38	152.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	483.00	1.27	63.11	0.93	0.78	0.00	0.00	3.27	150.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	700.00	1.18	57.08	0.97	0.79	0.00	0.00	3.15	147.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127.00	917.00	1.10	51.40	1.02	0.80	0.00	0.00	3.03	143.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	1133.00	1.02	46.12	1.08	0.81	0.00	0.00	2.91	140.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	1350.00	0.94	41.31	1.16	0.82	0.00	0.00	2.80	136.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87.00	1567.00	0.87	36.97	1.25	0.83	0.00	0.00	2.68	132.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	1783.00	0.81	33.14	1.36	0.84	0.00	0.00	2.57	128.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.00	2000.00	0.75	29.81	1.49	0.85	0.00	0.00	2.46	123.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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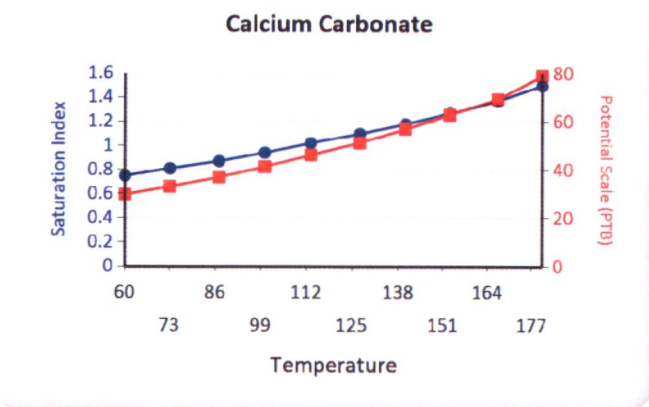
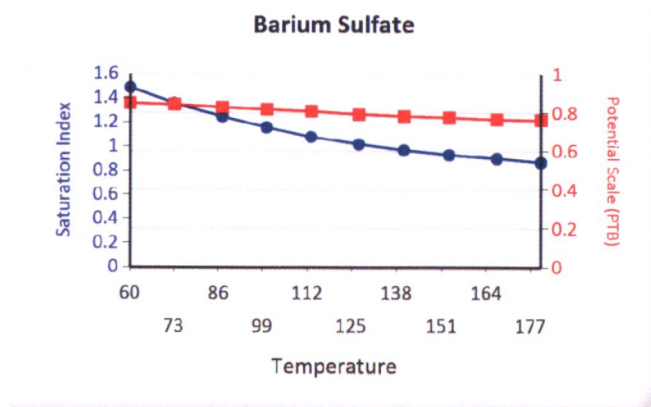
Water Analysis Report

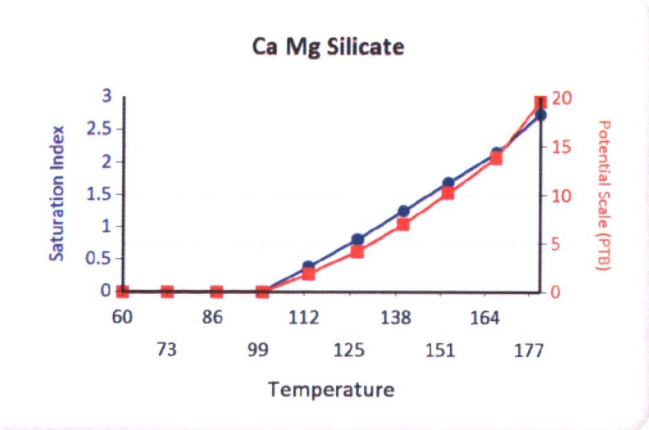
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	2.76	24.59	0.00	0.00	4.85	35.72	2.74	19.67	13.11	68.03
167.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	2.55	24.52	0.00	0.00	3.87	25.00	2.14	13.87	12.30	67.91
153.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	2.38	24.42	0.00	0.00	3.14	18.40	1.69	10.23	11.73	67.71
140.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	2.19	24.26	0.00	0.00	2.39	12.71	1.25	7.01	11.16	67.31
127.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	24.00	0.00	0.00	1.65	7.91	0.81	4.21	10.61	66.57
113.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	1.80	23.57	0.00	0.00	0.90	3.94	0.38	1.83	10.06	65.29
100.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	1.58	22.86	0.00	0.00	0.16	0.66	0.00	0.00	9.52	63.29
87.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	1.36	21.70	0.00	0.00	0.00	0.00	0.00	0.00	8.99	60.51
73.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	19.82	0.00	0.00	0.00	0.00	0.00	0.00	8.47	57.04
60.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87	16.94	0.00	0.00	0.00	0.00	0.00	0.00	7.97	53.06

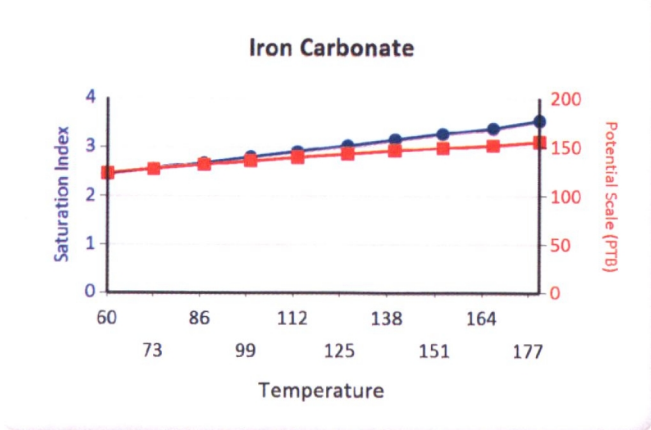
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

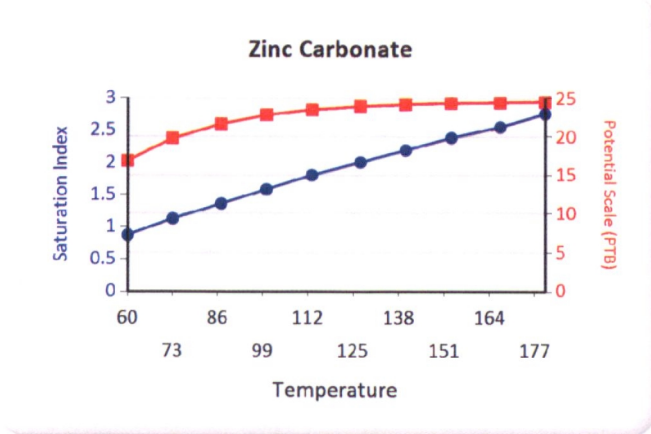
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Fe Silicate

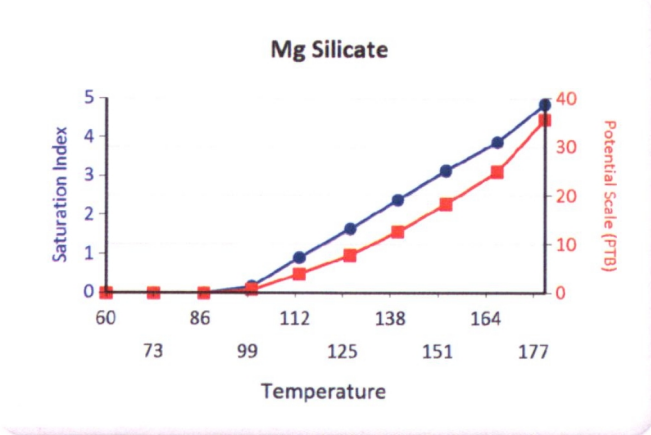


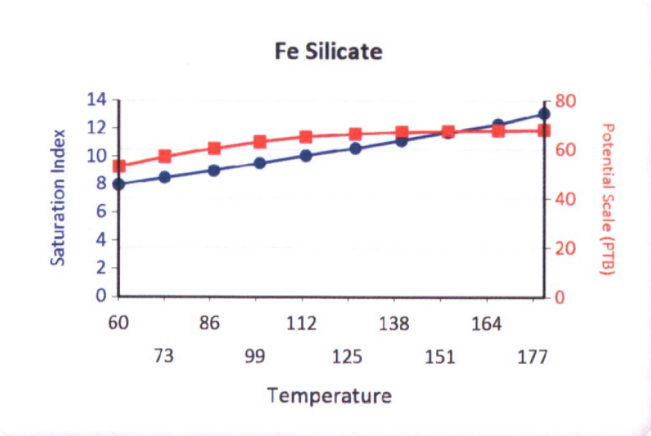







Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
60
86
112
138
164
73
99
125
151
177


Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
60
86
112
138
164
73
99
125
151
177


Fe Silicate
Saturation Index
Potential Scale (PTB)
Temperature
60
86
112
138
164
73
99
125
151
177

UT20736-04472

PETROGLYPH EXECUTIVE OFFICES

RECEIVED

NOV 08 2016

Office of Enforcement, Compliance and Environmental Justice (Water)

October 20, 2016

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

RE: 5-year Mechanical Integrity Test
Ute Tribal 30-01 UT 20736-04362
Ute Tribal 18-05 UT 20736-04472

Mr. Wang:

Please find enclosed the 5-year Mechanical Integrity Tests for:

- Ute Tribal 30-01
- Ute Tribal 18-05

If any questions, please reach me at (208) 685-9711.

Best Regards,

Nicole Colby
Manager, Land & Regulatory Compliance

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: 10 / 6 / 16
Test conducted by: CHAD STEVENSON
Others present: _____

Well Name: 18-05 Type: ER SWD **Status:** AC TA UC
Field: ANTELOPE CREEK
Location: 18-05 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

Well injecting during test? If Yes, rate: 40 **bpd**
Pre-test annulus pressure: _____ **psig**

MIT DATA TABLE	Test #1	Test #2	Test #3
TUBING		**PRESSURE RECORD**	
Initial Pressure	1820 psig	psig	psig
End of test pressure	1820 psig	psig	psig
CASING / TUBING ANNULUS		**PRESSURE RECORD**	
0 minutes	975 psig	psig	psig
5 minutes	975 psig	psig	psig
10 minutes	975 psig	psig	psig
15 minutes	975 psig	psig	psig
20 minutes	975 psig	psig	psig
25 minutes	975 psig	psig	psig
30 minutes	975 psig	psig	psig
5 Hours ~~minutes~~	975 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
MW-MP 2000
METER NUMBER
18-05
TIME PUT ON
9:30 AM
DATE PUT ON
10-6-96
TIME TAKEN OFF
2:30 PM
DATE TAKEN OFF
10-6-96
PRINTED IN U.S.A.
NOON
MIDNIGHT
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 MIDNIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10
11 A.M.

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

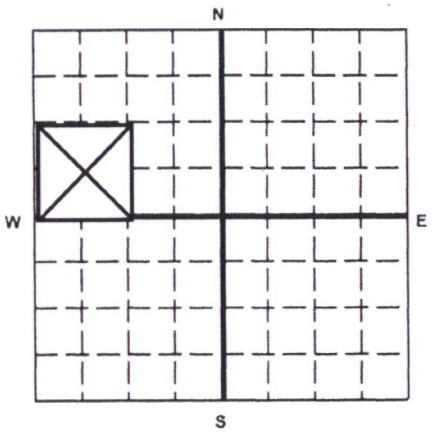
EPA

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	UT2736-04472

Surface Location Description

___ 1/4 of ___ 1/4 of SW 1/4 of NW 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 1935 ft. frm (N/S) N Line of quarter section and 477 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 18-05

		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	1853	1870	3655		0	0
February	14	1865	1871	3292		0	0
March	14	1852	1858	3202		0	0
April	14	1864	1868	3114		0	0
May	14	1864	1873	3174		0	0
June	14	1860	1879	2910		0	0
July	14	1826	1856	2717		0	0
August	14	1781	1827	2340		0	0
September	14	1758	1793	2229		0	0
October	14	1840	1854	3105		0	0
November	14	1865	1877	3607		0	0
December	14	1854	1872	3528		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		2/10/2015

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

U2 Entered
Date 3/23/15
Initial GW

TAB	GREEN	BLUE	CBI
		2	

Multi-Chem Analytical Laboratory
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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 18-05,DUCHESNE**	Lab Tech:	**Gary Winegar**
Sample Point:	**WELLHEAD**		
Sample Date:	**1/7/2015**		
Sample ID:	**WA-298191**		

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:	8.10
Calculated TDS (mg/L):	10389.25
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):	3071.65	Chloride (Cl):	5000.00
Potassium (K):	40.64	Sulfate (SO_4):	160.00
Magnesium (Mg):	23.44	Bicarbonate (HCO_3):	2000.00
Calcium (Ca):	35.66	Carbonate (CO_3):	
Strontium (Sr):	5.38	Acetic Acid (CH_3COO)	
Barium (Ba):	13.09	Propionic Acid (C_2H_5COO)	
Iron (Fe):	8.75	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	4.16	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.03	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.13	Silica (SiO_2):	26.32

Notes:
B=5.88 Al=.06 Li=1.79

(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	1.16	26.66	1.98	7.71	3.60	4.51	2.45	6.33	0.00	0.00	0.00	0.00	0.00	0.00	11.35	2.17
88.00	157.00	1.14	26.25	1.89	7.69	3.50	4.51	2.47	6.33	0.00	0.00	0.00	0.00	0.00	0.00	11.14	2.17
97.00	300.00	1.16	26.52	1.82	7.67	3.44	4.51	2.52	6.34	0.00	0.00	0.00	0.00	0.00	0.00	10.98	2.17
106.00	443.00	1.19	26.80	1.75	7.65	3.40	4.50	2.57	6.34	0.00	0.00	0.00	0.00	0.00	0.00	10.83	2.17
115.00	585.00	1.21	27.08	1.68	7.63	3.36	4.50	2.61	6.34	0.00	0.00	0.00	0.00	0.00	0.00	10.69	2.17
124.00	728.00	1.23	27.36	1.62	7.60	3.33	4.50	2.66	6.34	0.00	0.00	0.00	0.00	0.00	0.00	10.56	2.17
133.00	871.00	1.26	27.64	1.57	7.57	3.31	4.50	2.71	6.34	0.00	0.00	0.00	0.00	0.00	0.00	10.44	2.17
142.00	1014.00	1.29	27.92	1.52	7.55	3.29	4.50	2.76	6.35	0.00	0.00	0.00	0.00	0.00	0.00	10.33	2.17
151.00	1157.00	1.32	28.19	1.48	7.52	3.28	4.50	2.80	6.35	0.00	0.00	0.00	0.00	0.00	0.00	10.23	2.17
160.00	1300.00	1.36	28.45	1.44	7.50	3.27	4.50	2.85	6.35	0.00	0.00	0.00	0.00	0.00	0.00	10.13	2.17

		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	1.35	2.66	11.48	0.01	0.00	0.00	0.00	0.00	7.42	6.75
88.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.45	2.69	11.16	0.01	0.03	0.36	0.00	0.00	7.42	6.75
97.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	1.57	2.72	10.89	0.01	0.43	2.84	0.00	0.00	7.66	6.76
106.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	1.69	2.74	10.64	0.01	0.84	5.37	0.00	0.00	7.91	6.77
115.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	1.80	2.75	10.41	0.01	1.25	7.95	0.12	1.05	8.17	6.78
124.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	1.92	2.76	10.19	0.01	1.67	10.56	0.35	2.59	8.44	6.78
133.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	2.02	2.77	9.98	0.01	2.09	13.19	0.59	4.14	8.72	6.79
142.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	2.12	2.78	9.78	0.01	2.52	15.79	0.83	5.66	9.01	6.79
151.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	2.22	2.78	9.60	0.01	2.94	18.33	1.07	7.15	9.30	6.79
160.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	2.32	2.78	9.42	0.01	3.37	20.76	1.31	8.58	9.59	6.79

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Vernal, UT 84078

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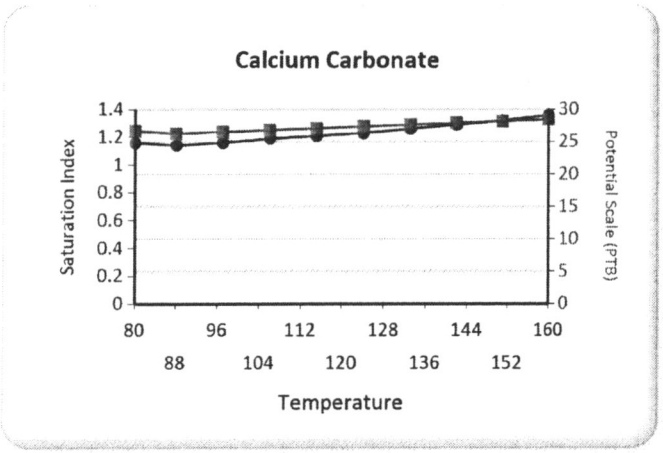
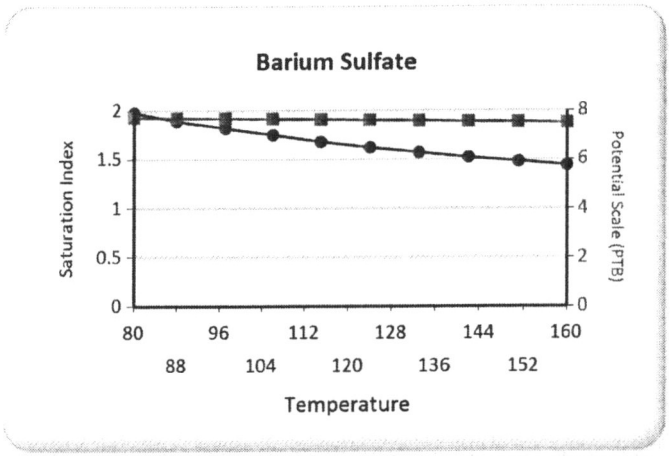
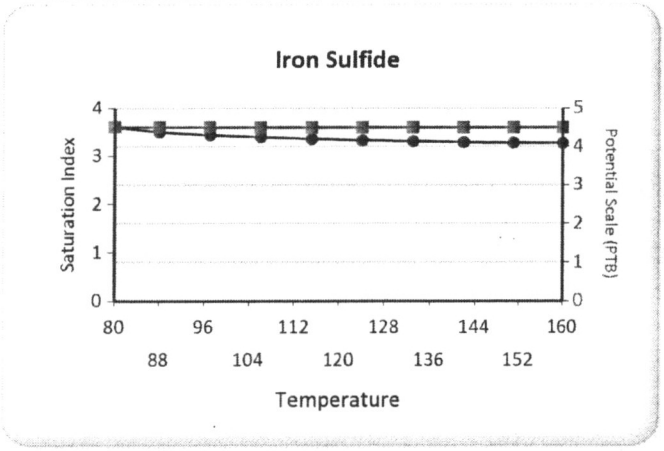
Water Analysis Report

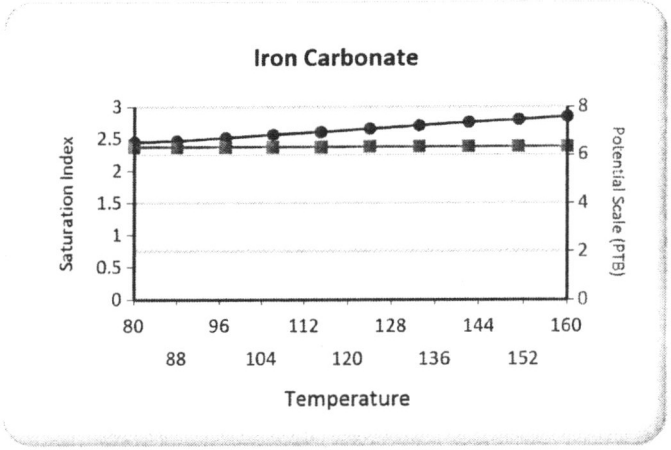
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Fe Silicate

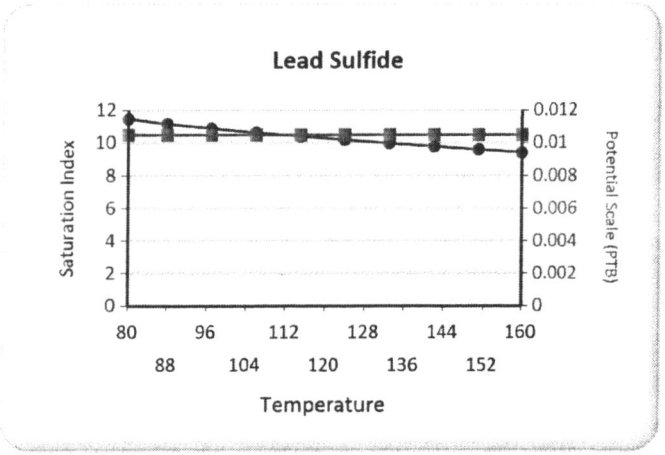
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

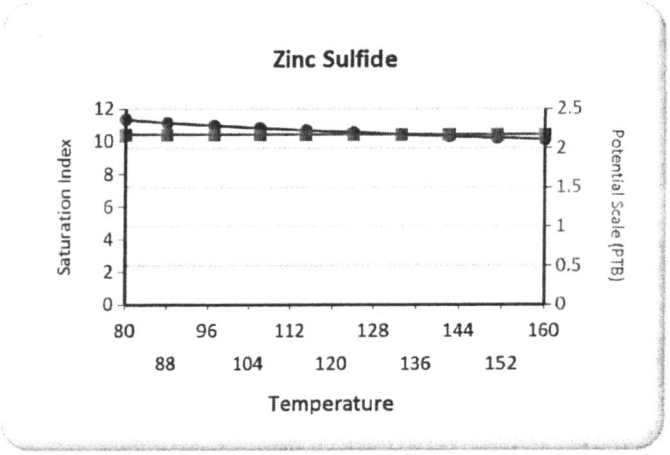












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1553 East Highway 40
Vernal, UT 84078

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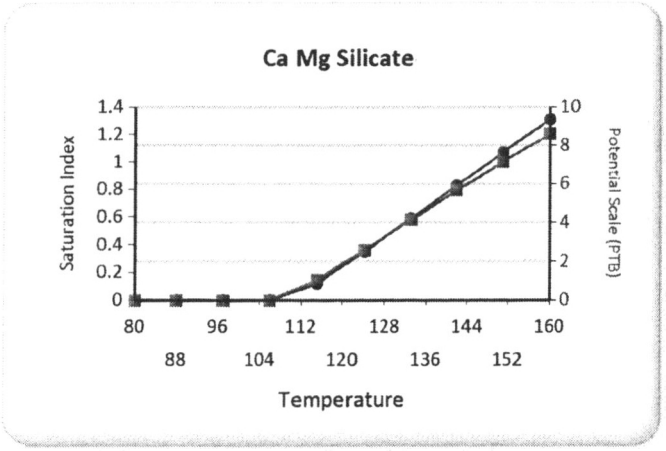
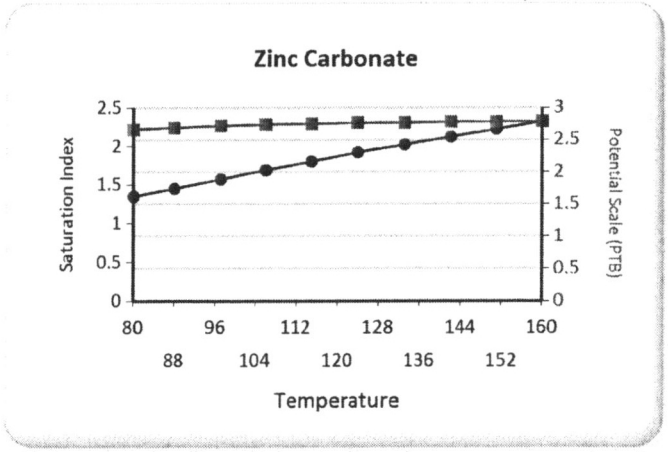
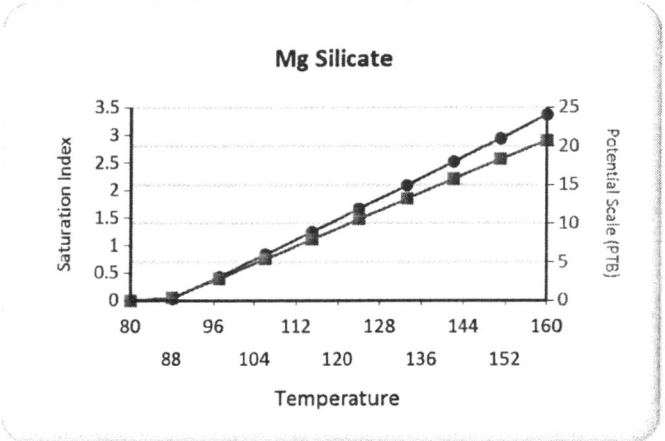
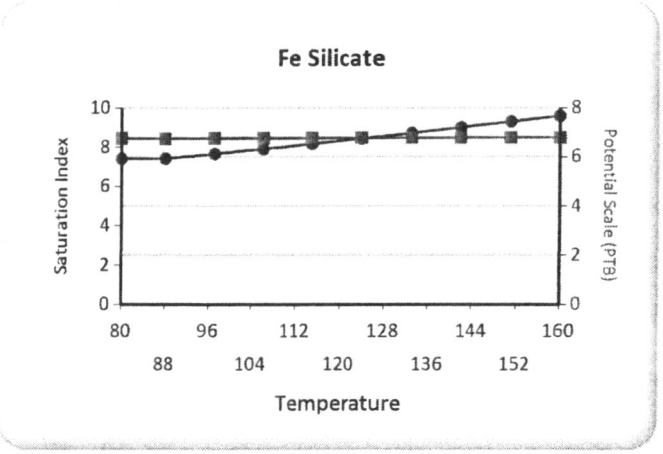
Water Analysis Report









UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 500
DENVER, CO 80202-2466

JAN 20 1999

Ref:8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mrs. Deanna Bell, Operations Coordinator
Petroglyph Operating Company, Inc.
4116 West 3000 South Ioka Lane
P. O. Box 607
Roosevelt, UT 84066

RE: UNDERGROUND INJECTION CONTROL (UIC)
Authorization to Inject
Ute Tribal #18-05 (UT04472)
Antelope Creek Waterflood
EPA Area Permit UT2736-00000
Duchesne County, Utah

Dear Mrs. Bell:

Thank you for the recently submitted information pertaining to the above-referenced area permit and well. The Well Rework Record with after conversion well schematic, injection zone fluid pore pressure survey, and the successfully run mechanical integrity test (MIT), with chart, on the Ute Tribal #18-05 (UT2736-04472) have been reviewed and approved. Petroglyph Operating Company, Inc, has complied with all of the pertinent permit conditions (Part II, Section C. 2.) for the Modified Antelope Creek Waterflood Area Permit.

Pleased be advised that administrative approval is hereby granted, as of the date of this letter, for injection of Class II fluids into the above referenced well for enhanced recovery of oil and gas. Please also be aware of the monitoring, recordkeeping and reporting requirements described in Part II, Section D of the permit and that the current **maximum surface injection pressure (Pmax) is limited to 2369 psig**, as modified by UIC Minor Area Permit Modification dated May 4, 1998.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 500
DENVER, CO 80202-2466

JAN 20 1999

Scan under
UT 20736-04472
Authorization to
Inject Final 1/20/1999

TED

rations Coordinator
Company, Inc.
Ioka Lane

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Upon receipt of this letter, the Compliance Officer, Mr. John Carson will then take over routine matters involving well operations, future correspondence, forms, and reports. Please direct all correspondence to the attention of Mr. Carson at the above letterhead **(MAIL CODE ENF-T)** or contact Mr. Carson at 303.312.6203. Thank you for your continued cooperation.

Sincerely,

D. Edwin Hogle
Director, Groundwater Program
Office of Partnerships and
Regulatory Assistance

cc: Mr. Ronald Wopsock, Chairman
Uintah & Ouray Business Committee
Ute Indian Tribe

Ms. Elaine Willie, Environmental Director
Ute Indian Tribe

Mr. Norman Cambridge
BIA - Uintah & Ouray Agency

Mr. Gil Hunt
State of Utah Natural Resources
Division of Oil, Gas, and Mining

Mr. Jerry Kenczka
BLM - Vernal District Office

Is your RETURN ADDRESS completed on the reverse side?

SENDER: 1/20/99 CW 3447C JAN 21 1999

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write *"Return Receipt Requested"* on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered. Ute Tribal #18-05

I also wish to receive the following services (for an extra fee):

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2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mrs. Deanna Bell
Operations Coordinator
Petroglyph Operating Co., Inc.
4116 West 3000 South Ioka Lane
P.O. Box 607
Roosevelt, UT 84066

4a. Article Number
P 380 306 115

4b. Service Type
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1/20/99 CW 3447C

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail *(See reverse)*

Sent to Mrs. Deanna Bell	
Street & Number Operations Coordinator	
Petroglyph Operating Co., Inc.	
4116 West 3000 South Ioka Lane	
P.O. Box 607	$
Roosevelt, UT 84066	
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

PS Form **3800**, April 1995