Inspection Report For Well: UT20736 - 04201

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: 9:35 (am) / pm

OPERATOR (only if different): _____

REPRESENTATIVE(S): Chad Stevinson

PRE-INSPECTION REVIEW

Petroglyph Operating Company, Inc

Well Name:	Ute Tribal 08-04 (old 1-8)		
Well Type:	Enhanced Recovery (2R)		
Operating Status:	AC (ACTIVE) as of 12/31/2002		
Oil Field:	Antelope Creek (Duchesne)		
Location:	NWNW S8 T5S R3W		
Indian Country:	X, Uintah and Ouray		
Last Inspection:	8/29/2012	***Allowable Inj Pressure:***	2065 /
Last MIT:	Pass 12/29/2010	***Annulus Pressure From Last MIT:***	1020

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: 1955 / 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 AR

GREEN	BLUE	CBI
	(	

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

Inspection Report For Well: UT20736 - 04201 (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: Petrochych 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

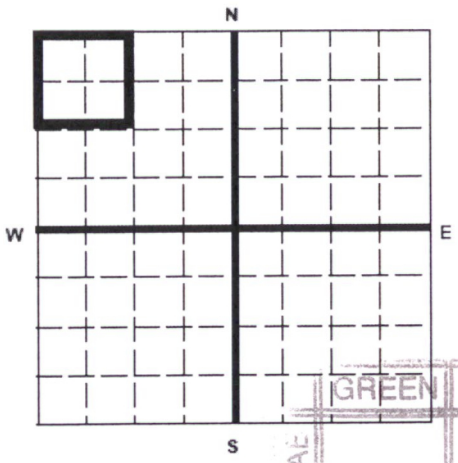
United States Environmental Protection Agency
Washington, DC 20460

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	UT2736-04201

Surface Location Description
___ 1/4 of ___ 1/4 of NW 1/4 of NW 1/4 of Section 8 Township 5S Range 3W

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

Surface Location 754 ft. frm (N/S) N Line of quarter section
and 888 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

U2 Entered
Date 3/29/17
Initial DB

GREEN BLUE CEN
TAE 2

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 08-04

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	1973	2017	351		0	0
February	16	1885	1992	544		0	0
March	16	1852	1999	500		0	0
April	16	1886	1989	333		0	0
May	16	1966	1992	409		0	0
June	16	1948	1982	400		0	0
July	16	1962	1977	501		0	0
August	16	1980	1996	577		0	0
September	16	1967	1985	539		0	0
October	16	1978	1984	674		0	0
November	16	1944	1976	599		0	0
December	16	1951	1958	714		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

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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 08-04 INJ, DUCHESNE**	Lab Tech:	**Kaitlyn Natelli**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2017**		
Sample ID:	**WA-345308**		

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):	1.0022
pH:	8.40
Calculated TDS (mg/L):	6719.70
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):	1599.60	Chloride (Cl):	2500.00
Potassium (K):	17.52	Sulfate (SO_4):	50.00
Magnesium (Mg):	18.52	Bicarbonate (HCO_3):	1708.00
Calcium (Ca):	42.19	Carbonate (CO_3):	
Strontium (Sr):	3.25	Hydroxide(HO):	
Barium (Ba):	4.35	Acetic Acid (CH_3COO)	
Iron (Fe):	514.05	Propionic Acid (C_2H_5COO)	
Zinc (Zn):	239.54	Butanoic Acid (C_3H_7COO)	
Lead (Pb):	0.01	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Ammonia NH_3:		Fluoride (F):	
Manganese (Mn):	0.49	Bromine (Br):	
Aluminum (Al):	0.95	Silica (SiO_2):	22.18
Lithium (Li):	2.79	Calcium Carbonate ($CaCO_3$):	
Boron (B):	3.65	Phosphates (PO_4):	22.99
Silicon (Si):	10.37	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	1.59	35.17	0.71	2.06	5.66	9.06	4.74	372.47	0.00	0.00	0.00	0.00	0.00	0.00	12.93	10.04
149.00	267.00	1.65	35.40	0.62	1.93	5.61	9.06	4.83	372.74	0.00	0.00	0.00	0.00	0.00	0.00	12.67	10.04
168.00	483.00	1.73	35.67	0.54	1.82	5.58	9.06	4.93	373.04	0.00	0.00	0.00	0.00	0.00	0.00	12.45	10.04
187.00	700.00	1.81	35.91	0.49	1.71	5.58	9.06	5.03	373.24	0.00	0.00	0.00	0.00	0.00	0.00	12.26	10.04
206.00	917.00	1.91	36.13	0.45	1.63	5.61	9.06	5.12	373.39	0.00	0.00	0.00	0.00	0.00	0.00	12.10	10.04
224.00	1133.00	2.01	36.32	0.42	1.57	5.65	9.06	5.21	373.50	0.00	0.00	0.00	0.00	0.00	0.00	11.96	10.04
243.00	1350.00	2.12	36.46	0.41	1.54	5.70	9.06	5.29	373.58	0.00	0.00	0.00	0.00	0.00	0.00	11.84	10.04
262.00	1567.00	2.24	36.58	0.41	1.54	5.78	9.06	5.37	373.63	0.00	0.00	0.00	0.00	0.00	0.00	11.73	10.04
281.00	1783.00	2.36	36.67	0.42	1.56	5.86	9.06	5.45	373.68	0.00	0.00	0.00	0.00	0.00	0.00	11.65	10.04
300.00	2000.00	2.49	36.74	0.43	1.59	5.95	9.06	5.52	373.70	0.00	0.00	0.00	0.00	0.00	0.00	11.57	10.04

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Vernal, UT 84078

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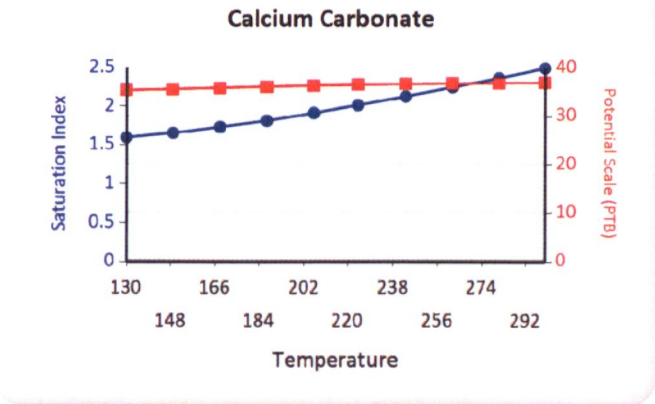
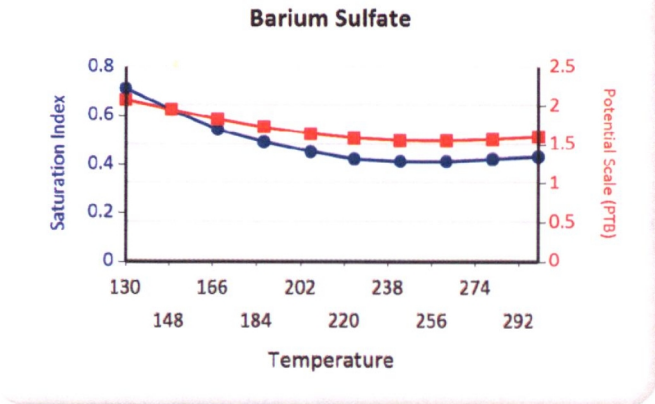
Water Analysis Report

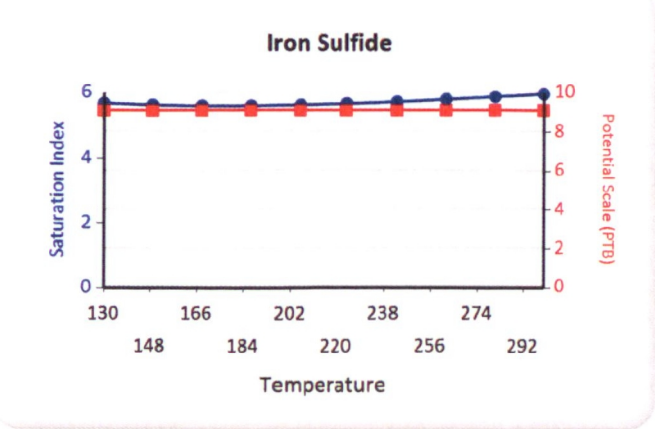
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
130.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	4.11	160.89	10.26	0.00	3.91	27.11	2.10	19.08	16.08	51.45
149.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	4.31	160.96	9.83	0.00	4.65	30.14	2.51	21.63	16.55	51.45
168.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	4.51	161.00	9.45	0.00	5.43	32.74	2.94	24.12	17.07	51.45
187.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	4.69	161.02	9.11	0.00	6.20	34.55	3.38	26.14	17.60	51.45
206.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	4.85	161.03	8.81	0.00	6.97	35.67	3.82	27.62	18.15	51.45
224.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	161.04	8.55	0.00	7.73	36.30	4.26	28.60	18.71	51.45
243.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	5.13	161.05	8.32	0.00	8.47	36.64	4.70	29.20	19.27	51.45
262.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	5.25	161.05	8.11	0.00	9.20	36.82	5.13	29.55	19.82	51.45
281.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	5.35	161.05	7.93	0.00	9.90	36.91	5.54	29.74	20.36	51.45
300.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	5.44	161.05	7.77	0.00	10.58	36.95	5.95	29.84	20.89	51.45

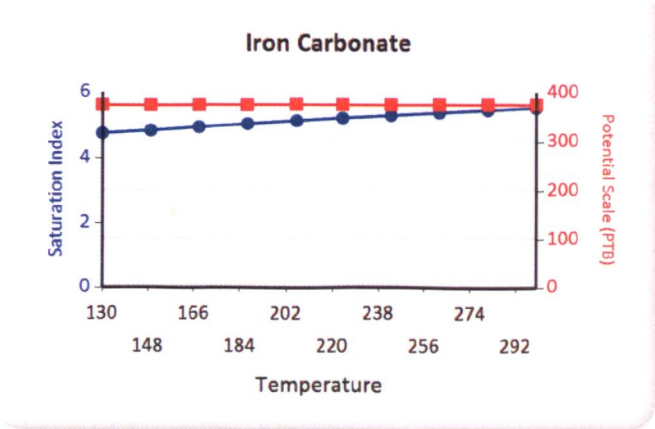
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

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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Vernal, UT 84078

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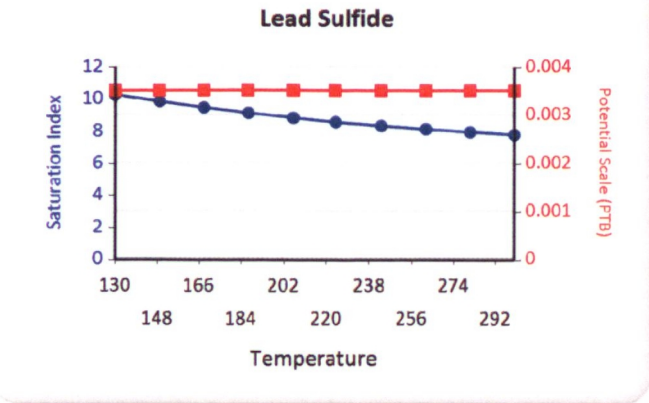
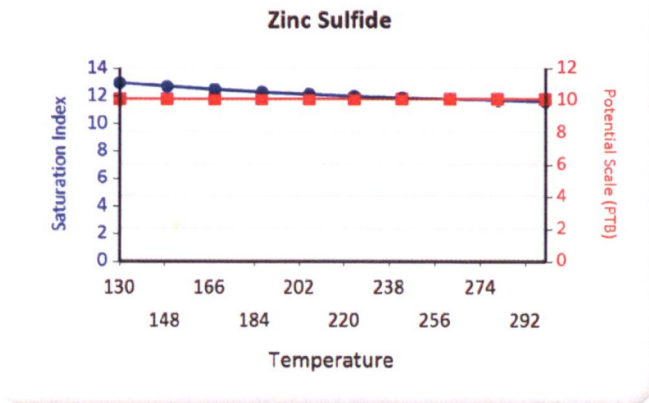
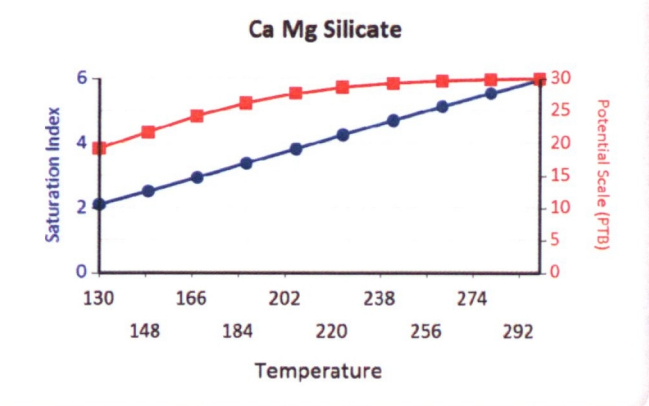
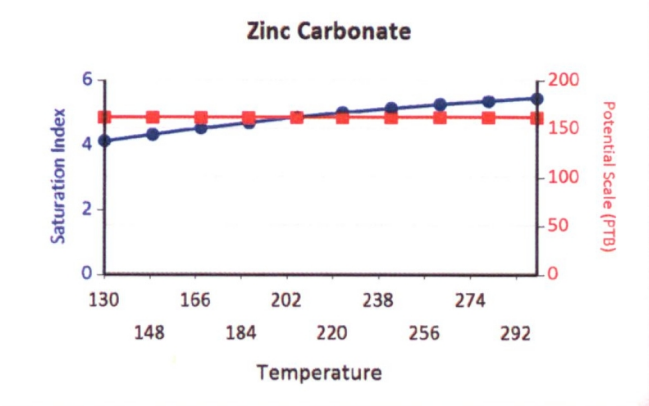
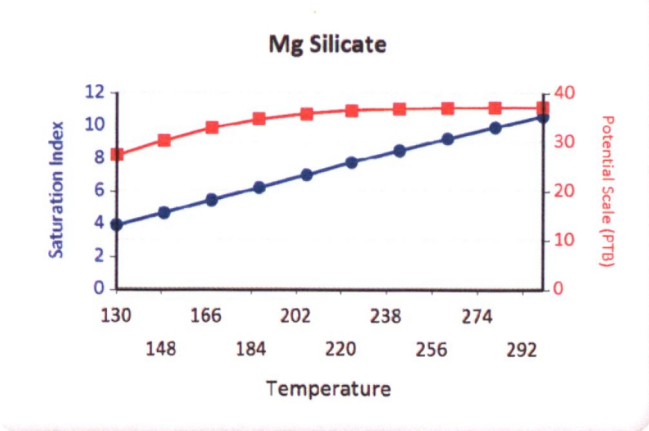
Water Analysis Report

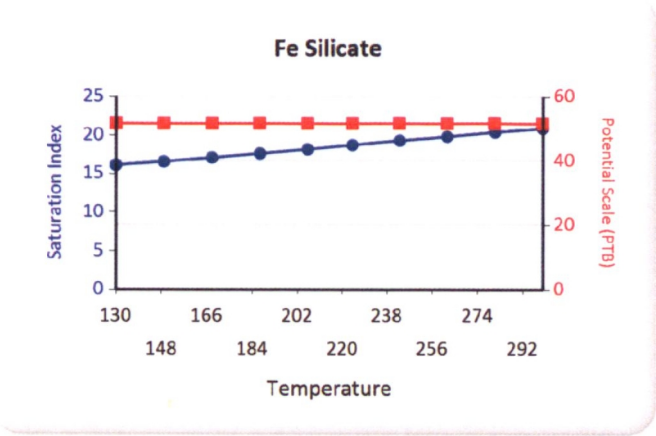











Fe Silicate
Saturation Index
Potential Scale (PTB)
Temperature
25
20
15
10
5
0
60
40
20
0
130
148
166
184
202
220
238
256
274
292

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

EPA

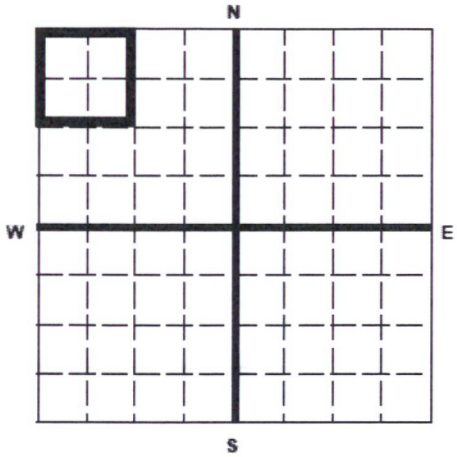
United States Environmental Protection Agency
Washington, DC 20460

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~~ 04201

Surface Location Description
___ 1/4 of ___ 1/4 of NW 1/4 of NW 1/4 of Section 8 Township 5S Range 3W

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

Surface Location 754 ft. frm (N/S) N Line of quarter section and 888 ft. from (E/W) W Line of quarter section.

U2 Entered
Date 3/1/16
Initial DJ

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 08-04

		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	1943	1973	681		0	0
February	15	1958	1977	784		0	0
March	15	1964	1980	782		0	0
April	15	1960	1991	689		0	0
May	15	1976	2008	659		0	0
June	15	1952	1979	672		0	0
July	15	1973	1985	788		0	0
August	15	1969	1986	789		0	0
September	15	1945	1977	484		0	0
October	15	1965	1965	594		0	0
November	15	1981	2002	488		0	0
December	15	1978	2004	386		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

GREEN BLUE CBI
TAB 2

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 08-04 INJ, DUCHESNE**	Lab Tech:	**Gary Peterson**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2016**		
Sample ID:	**WA-327569**		

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

Sample Specifics

Test Date:	1/7/2016
System Temperature 1 (°F):	60
System Pressure 1 (psig):	2000
System Temperature 2 (°F):	180
System Pressure 2 (psig):	50
Calculated Density (g/ml):	1.0018
pH:	7.70
Calculated TDS (mg/L):	6485.95
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	40.00
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):	2049.79	Chloride (Cl):	3000.00
Potassium (K):	0.15	Sulfate (SO_4):	560.00
Magnesium (Mg):	84.87	Bicarbonate (HCO_3):	561.00
Calcium (Ca):	186.92	Carbonate (CO_3):	
Strontium (Sr):	4.99	Acetic Acid (CH_3COO)	
Barium (Ba):	0.41	Propionic Acid (C_2H_5COO)	
Iron (Fe):	6.81	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	0.82	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.01	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.04	Silica (SiO_2):	30.14
Aluminum (Al):	0.11	Calcium Carbonate ($CaCO_3$):	
Lithium (Li):	0.04	Phosphates (PO_4):	3.60
Boron (B):	0.68	Oxygen (O_2):	
Silicon (Si):	14.09		

Notes:
S=202.19

(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	1.37	64.34	0.50	0.17	0.00	0.00	2.02	4.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167.00	267.00	1.23	55.28	0.52	0.17	0.00	0.00	1.86	4.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	483.00	1.14	49.54	0.55	0.18	0.00	0.00	1.74	4.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	700.00	1.05	44.12	0.58	0.18	0.00	0.00	1.62	4.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127.00	917.00	0.96	39.08	0.63	0.19	0.00	0.00	1.50	4.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	1133.00	0.88	34.45	0.70	0.20	0.00	0.00	1.37	4.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	1350.00	0.80	30.28	0.77	0.20	0.00	0.00	1.25	4.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87.00	1567.00	0.73	26.58	0.86	0.21	0.00	0.00	1.14	4.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	1783.00	0.67	23.35	0.97	0.22	0.00	0.00	1.02	4.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.00	2000.00	0.61	20.57	1.09	0.22	0.00	0.00	0.91	4.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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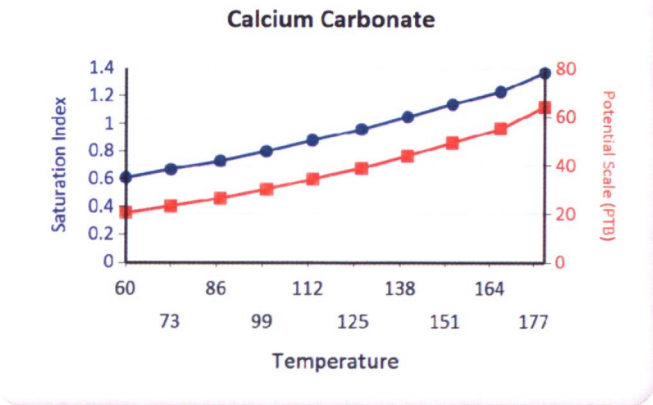
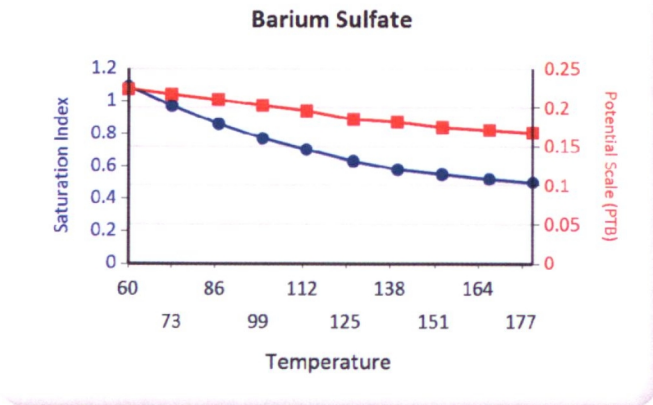
Water Analysis Report

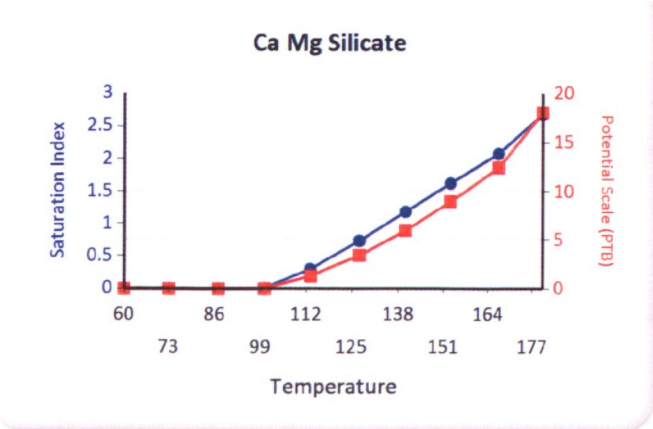
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13	0.51	0.00	0.00	4.93	34.25	2.68	18.09	8.68	5.28
167.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.48	0.00	0.00	3.94	23.75	2.07	12.43	7.85	5.26
153.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.45	0.00	0.00	3.19	17.36	1.62	8.97	7.26	5.24
140.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.39	0.00	0.00	2.44	11.92	1.18	5.97	6.68	5.21
127.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.30	0.00	0.00	1.69	7.39	0.73	3.41	6.11	5.16
113.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.15	0.00	0.00	0.93	3.67	0.29	1.27	5.55	5.09
100.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.66	0.00	0.00	5.00	4.97
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	4.45	4.81
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	3.92	4.58
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	3.41	4.28

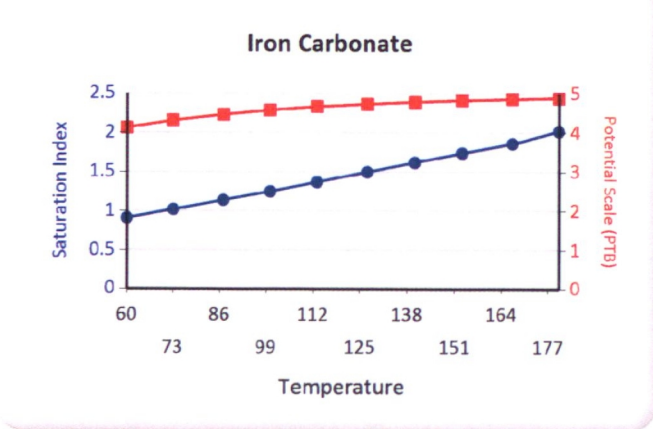
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

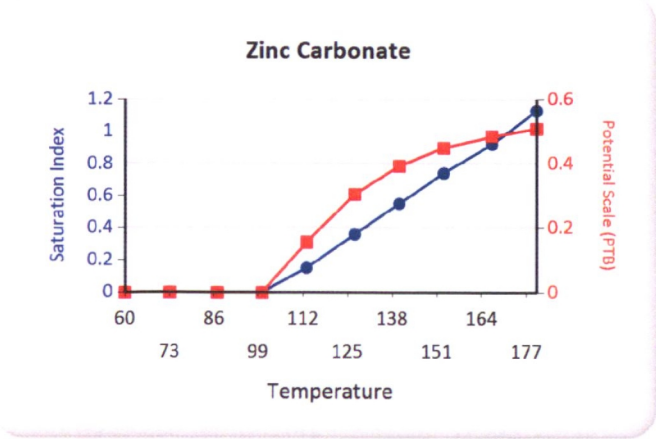
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Fe Silicate

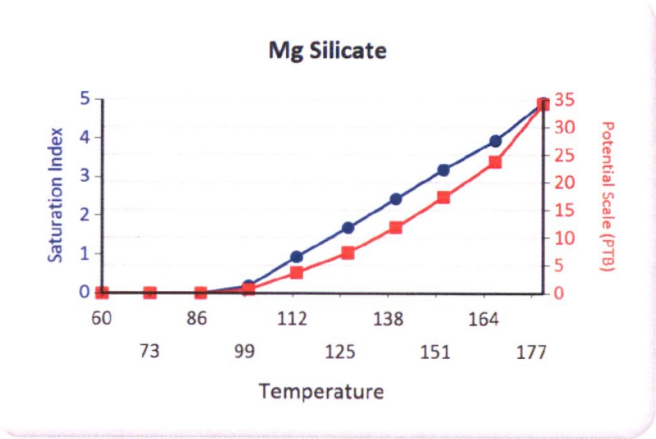


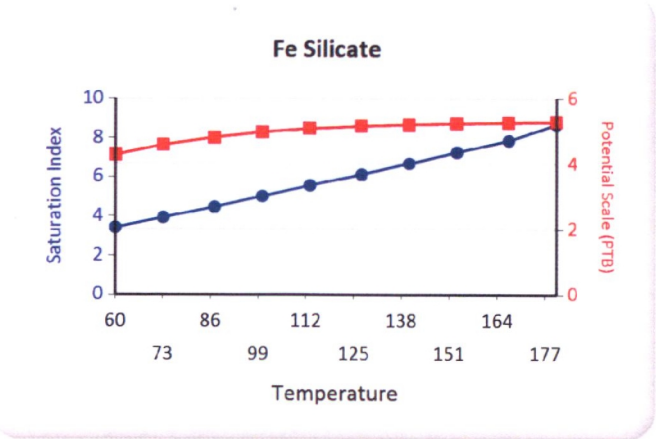







Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
1.2
1
0.8
0.6
0.4
0.2
0
0.6
0.4
0.2
0
60
86
112
138
164
73
99
125
151
177


Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
5
4
3
2
1
0
35
30
25
20
15
10
5
0
60
86
112
138
164
73
99
125
151
177


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

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

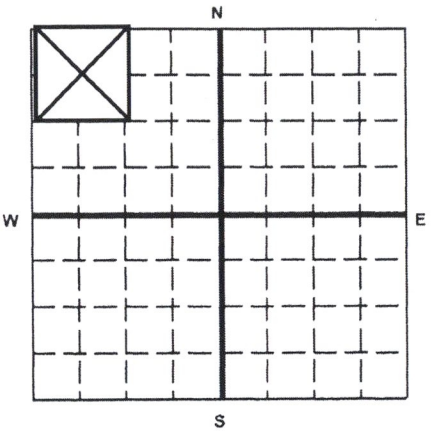
EPA

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	UT2736-04201

Surface Location Description

____ 1/4 of ____ 1/4 of NW 1/4 of NW 1/4 of Section 8 Township 5S Range 3W

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

Surface Location 754 ft. frm (N/S) N Line of quarter section and 888 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 08-04

		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	1981	2002	607		0	0
February	14	1981	1984	527		0	0
March	14	1955	1952	622		0	0
April	14	1961	1973	739		0	0
May	14	1953	1959	820		0	0
June	14	1949	1958	824		0	0
July	14	1937	1964	894		0	0
August	14	1957	1968	965		0	0
September	14	1922	1964	499		0	0
October	14	1962	1988	609		0	0
November	14	1976	1981	578		0	0
December	14	1969	1983	613		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	Chad Stevenson	2/10/2015

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

U2 Entered
Date 3/20/15
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:	**UTE TRIBAL 08-04 INJ, DUCHESNE**	Lab Tech:	**Gary Winegar**
Sample Point:	**WELLHEAD**		
Sample Date:	**1/7/2015**		
Sample ID:	**WA-297450**		

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):	1.0046
pH:	8.30
Calculated TDS (mg/L):	10808.62
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):	3609.19	Chloride (Cl):	5000.00
Potassium (K):	58.03	Sulfate (SO_4):	70.00
Magnesium (Mg):	20.95	Bicarbonate (HCO_3):	1952.00
Calcium (Ca):	42.16	Carbonate (CO_3):	
Strontium (Sr):	5.76	Acetic Acid (CH_3COO)	
Barium (Ba):	14.33	Propionic Acid (C_2H_5COO)	
Iron (Fe):	5.49	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	1.13	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.07	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.12	Silica (SiO_2):	29.39

Notes:
B=6.15 Al=.04 Li=2.01

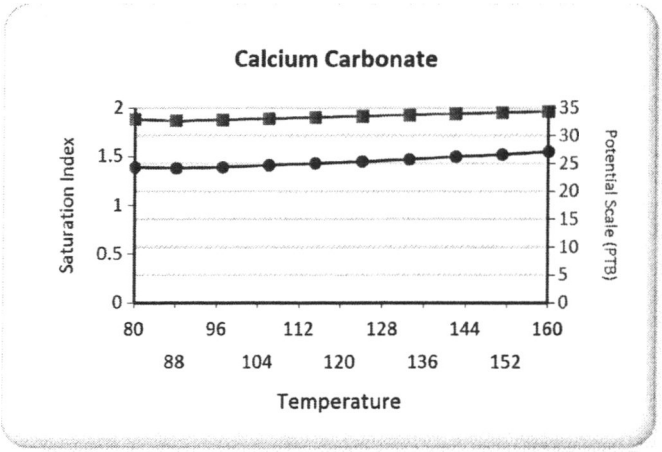
(PTB = Pounds per Thousand Barrels)

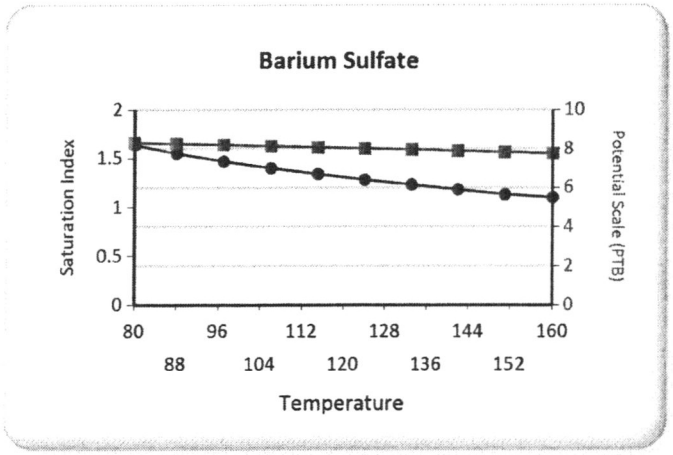
		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
80.00	14.00	1.39	32.97	1.64	8.31	3.57	3.02	2.39	3.97	0.00	0.00	0.00	0.00	0.00	0.00	10.97	0.59
88.00	157.00	1.38	32.67	1.55	8.26	3.48	3.02	2.41	3.97	0.00	0.00	0.00	0.00	0.00	0.00	10.77	0.59
97.00	300.00	1.39	32.88	1.47	8.21	3.42	3.02	2.46	3.98	0.00	0.00	0.00	0.00	0.00	0.00	10.61	0.59
106.00	443.00	1.41	33.09	1.40	8.15	3.37	3.02	2.50	3.98	0.00	0.00	0.00	0.00	0.00	0.00	10.46	0.59
115.00	585.00	1.43	33.31	1.34	8.08	3.32	3.02	2.55	3.98	0.00	0.00	0.00	0.00	0.00	0.00	10.31	0.59
124.00	728.00	1.45	33.54	1.28	8.02	3.29	3.02	2.59	3.98	0.00	0.00	0.00	0.00	0.00	0.00	10.18	0.59
133.00	871.00	1.47	33.76	1.23	7.95	3.26	3.02	2.63	3.98	0.00	0.00	0.00	0.00	0.00	0.00	10.05	0.59
142.00	1014.00	1.50	33.99	1.18	7.88	3.23	3.02	2.67	3.98	0.00	0.00	0.00	0.00	0.00	0.00	9.93	0.59
151.00	1157.00	1.52	34.21	1.13	7.82	3.22	3.02	2.71	3.99	0.00	0.00	0.00	0.00	0.00	0.00	9.82	0.59
160.00	1300.00	1.55	34.42	1.10	7.75	3.21	3.02	2.75	3.99	0.00	0.00	0.00	0.00	0.00	0.00	9.72	0.59

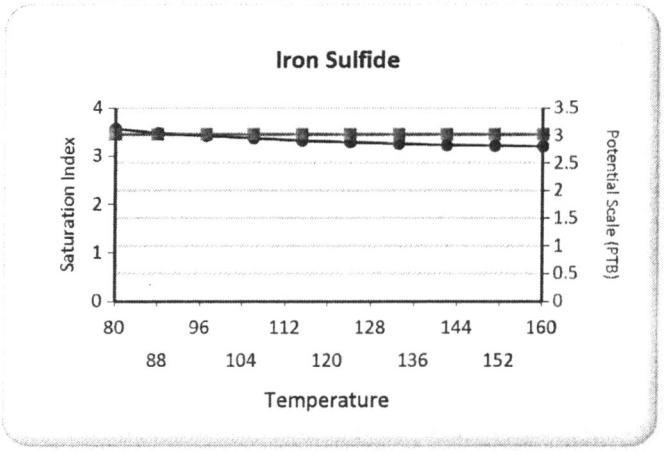
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
80.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.67	12.03	0.03	0.92	6.22	0.25	2.09	7.97	4.26
88.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05	0.69	11.73	0.03	1.16	7.44	0.36	2.77	8.05	4.26
97.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17	0.71	11.46	0.03	1.53	9.65	0.55	4.09	8.26	4.26
106.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	0.72	11.20	0.03	1.91	11.85	0.75	5.41	8.48	4.26
115.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	1.39	0.73	10.96	0.03	2.29	14.05	0.96	6.73	8.71	4.26
124.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.74	10.73	0.03	2.68	16.24	1.17	8.03	8.94	4.26
133.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	1.60	0.74	10.52	0.03	3.07	18.42	1.38	9.31	9.19	4.27
142.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	1.70	0.74	10.32	0.03	3.46	20.55	1.60	10.54	9.44	4.27
151.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79	0.75	10.13	0.03	3.85	22.61	1.82	11.72	9.70	4.27
160.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	1.88	0.75	9.95	0.03	4.24	24.59	2.04	12.82	9.96	4.27

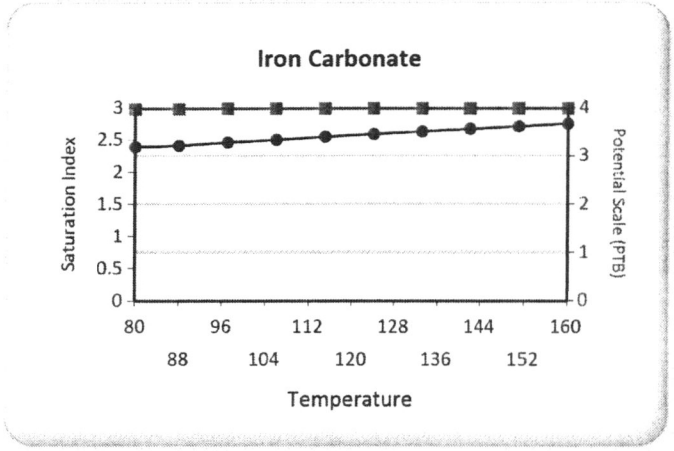
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

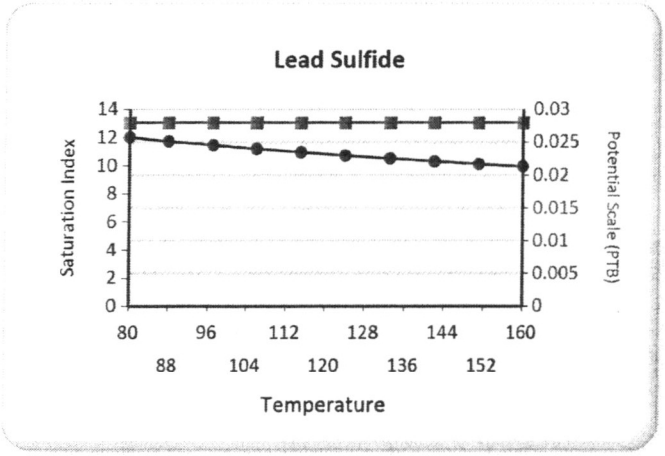
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

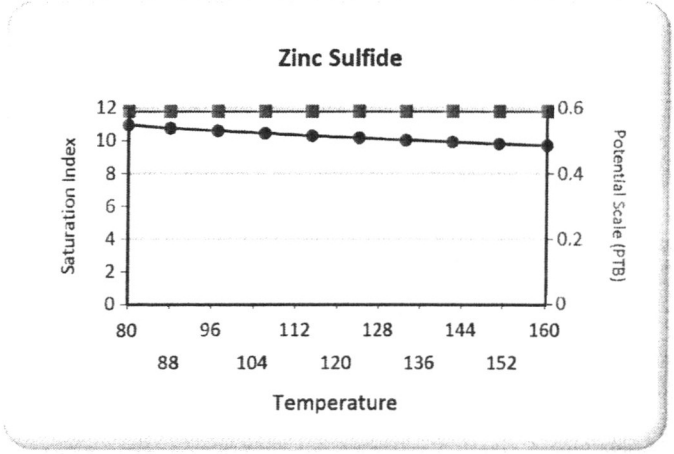












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Vernal, UT 84078

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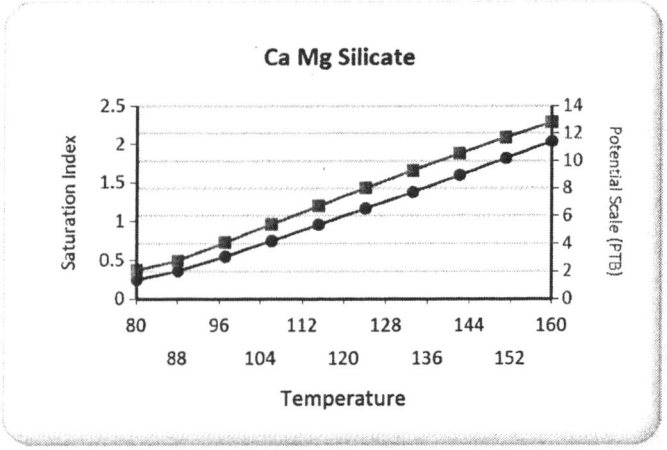
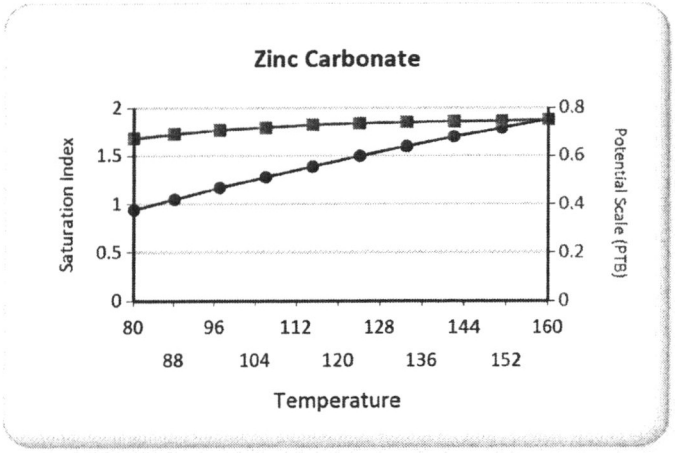
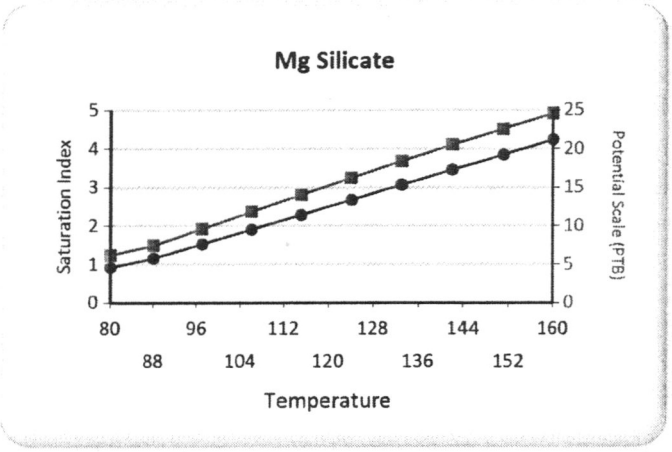
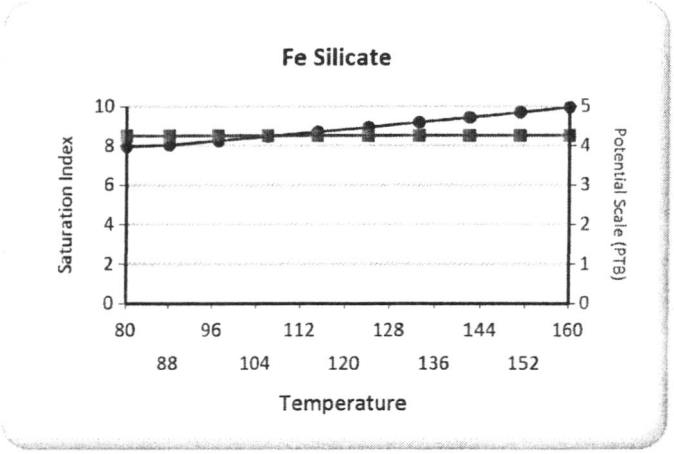
Water Analysis Report









December 29, 2015

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

RE: EPA AREA PERMIT NO. UT2736-04201
Mechanical Integrity Test
Standard Five year retesting for Ute Tribal 08-04

Mr. Breffle:
The enclose Mechanical Integrity Test was performed on the above referenced well on December 22, 2015. This MIT was performed because the well was due for the regular five year Mechanical Integrity Test.

If you need any more information please call at (435) 722-5302.

Sincerely,
Petroglyph Operating Co., Inc.

Rodrigo Jurado
Regulatory Compliance Specialist

Encl: MIT for the Ute Tribal 08-04

TAB	GREEN	BLUE	CBI
		2	

U2 Entered
Date 2/2/16
Initial

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: 12/22/15
Test conducted by: CHAD STEVENSON
Others present: _____

Well Name: 08-04 Type: ER SWD **Status: AC TA UC**
Field: ANTELOPE CREEK
Location: 08-04 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: 16 **bpd**
Pre-test annulus pressure: **psig**

MIT DATA TABLE	Test #1	Test #2	Test #3
TUBING		**PRESSURE RECORD**	
Initial Pressure	1987 psig	psig	psig
End of test pressure	1987 psig	psig	psig
CASING / TUBING ANNULUS		**PRESSURE RECORD**	
0 minutes	965 psig	psig	psig
5 minutes	965 psig	psig	psig
10 minutes	965 psig	psig	psig
15 minutes	965 psig	psig	psig
20 minutes	965 psig	psig	psig
25 minutes	965 psig	psig	psig
30 minutes	965 psig	psig	psig
3 1/2 HOURS minutes	965 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-WP 2000
METER NUMBER
08-04
TIME PUT ON
12:00
DATE PUT ON
12-22-65
TIME TAKEN OFF
3:00 P
DATE TAKEN OFF
12-22-65
Start Chasing 12:00 PST 965
Stop Chasing 3:30 PM PST 965
12 NOON
1 P.M.
2
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.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
PRINTED IN U.S.A.

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

United States Environmental Protection Agency
Washington, DC 20460

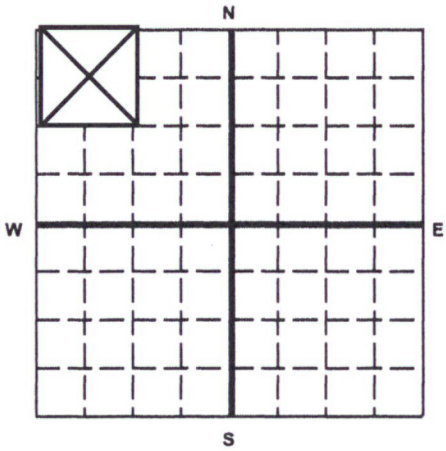
EPA

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	UT2736-04201

Surface Location Description
___ 1/4 of ___ 1/4 of NW 1/4 of NW 1/4 of Section 8 Township 5S Range 3W

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

Surface Location 754 ft. frm (N/S) N Line of quarter section
and 888 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 08-04

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	1838	2000	479		0	0
February	13	1958	2013	373		0	0
March	13	1609	1983	166		0	0
April	13	1928	1962	674		0	0
May	13	1976	1992	799		0	0
June	13	1950	1976	585		0	0
July	13	1936	1970	282		0	0
August	13	1745	1967	295		0	0
September	13	1957	1977	572		0	0
October	13	1944	1969	601		0	0
November	13	1955	1969	593		0	0
December	13	1951	1959	532		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

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

TAB | GREEN | BLUE | CBI
2

U2 Entered
Date 3/19/14
Initial

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 08-04 INJ**
Sample Point: **Wellhead**
Sample Date: **1/8/2014**
Sample ID: **WA-263366**

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):	1.005
pH:	8.50
Calculated TDS (mg/L):	13129.61
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	0.00

Analysis @ Properties in Sample Specifics			
Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	3068.00	Chloride (Cl):	8000.00
Potassium (K):	131.00	Sulfate (SO_4):	55.00
Magnesium (Mg):	18.00	Bicarbonate (HCO_3):	1756.80
Calcium (Ca):	47.00	Carbonate (CO_3):	
Strontium (Sr):	6.00	Acetic Acid (CH_3COO)	
Barium (Ba):	17.00	Propionic Acid (C_2H_5COO)	
Iron (Fe):	7.00	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	0.10	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.00	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.17	Silica (SiO_2):	23.54

Notes:
B=6 Al=.02 Li=1.7

(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	1.56	38.16	1.77	9.91	0.00	0.00	2.50	5.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	157.00	1.57	38.16	1.62	9.82	0.00	0.00	2.56	5.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86.00	300.00	1.59	38.32	1.49	9.72	0.00	0.00	2.63	5.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	443.00	1.62	38.51	1.38	9.59	0.00	0.00	2.70	5.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	585.00	1.64	38.72	1.28	9.46	0.00	0.00	2.76	5.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126.00	728.00	1.68	38.93	1.19	9.32	0.00	0.00	2.83	5.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	871.00	1.71	39.15	1.12	9.18	0.00	0.00	2.89	5.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	1014.00	1.75	39.36	1.06	9.03	0.00	0.00	2.95	5.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166.00	1157.00	1.80	39.57	1.01	8.90	0.00	0.00	3.01	5.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.00	1300.00	1.85	39.77	0.97	8.78	0.00	0.00	3.07	5.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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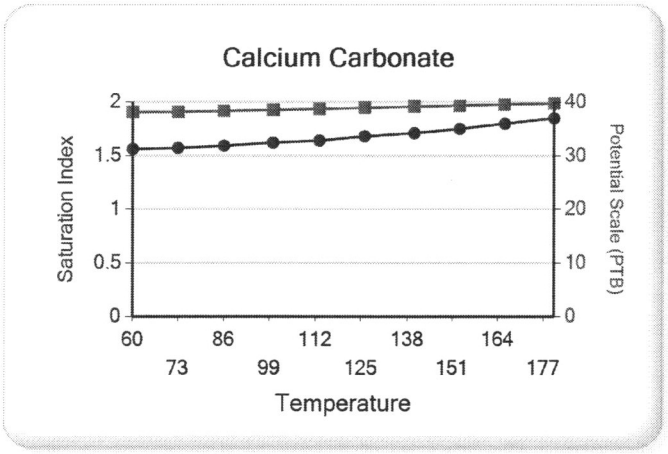
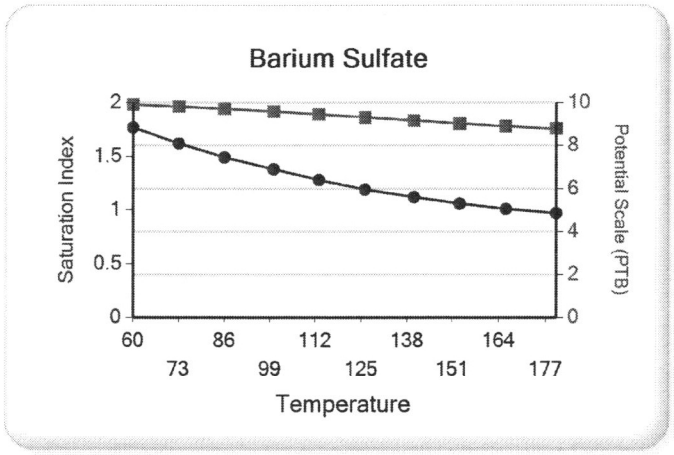
Water Analysis Report

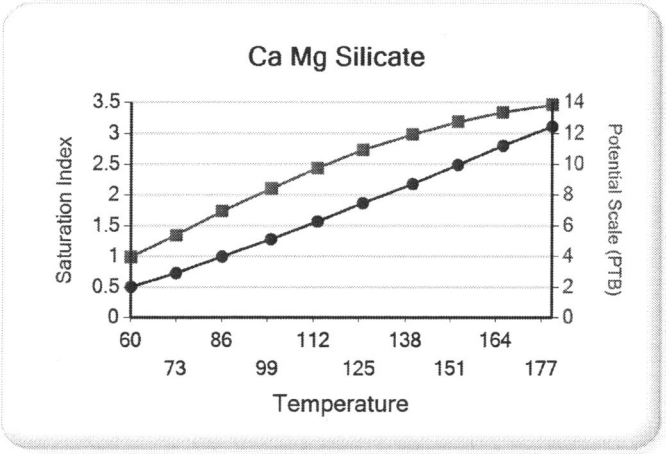
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
60.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06	7.53	0.50	3.97	8.86	5.44
73.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.53	10.25	0.73	5.40	9.07	5.44
86.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	2.06	13.09	1.00	6.95	9.33	5.44
100.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.03	0.00	0.00	2.59	15.77	1.28	8.41	9.63	5.44
113.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.04	0.00	0.00	3.14	18.25	1.57	9.75	9.95	5.44
126.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.05	0.00	0.00	3.70	20.52	1.87	10.93	10.28	5.44
140.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.06	0.00	0.00	4.26	22.53	2.18	11.93	10.63	5.44
153.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	0.06	0.00	0.00	4.82	24.26	2.49	12.73	10.99	5.44
166.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02	0.06	0.00	0.00	5.37	25.67	2.80	13.36	11.35	5.44
180.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13	0.06	0.00	0.00	5.93	26.75	3.11	13.82	11.72	5.44

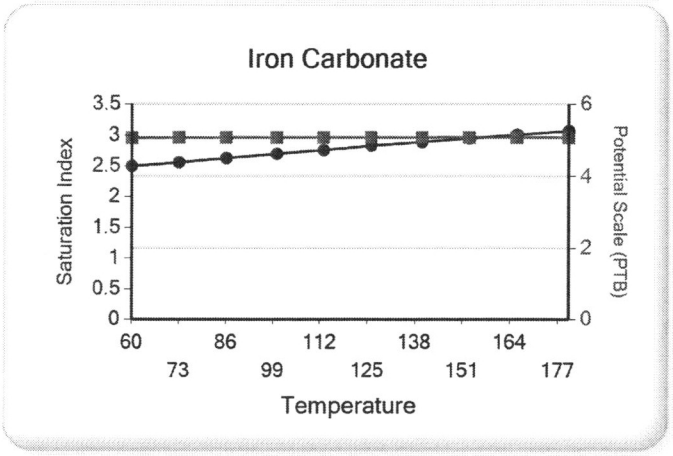
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

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









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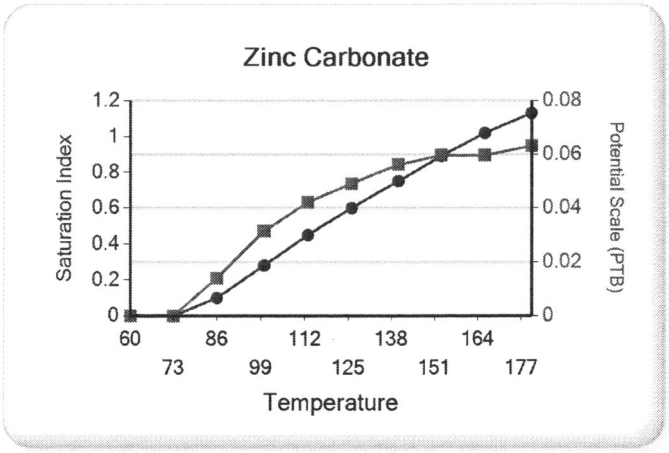
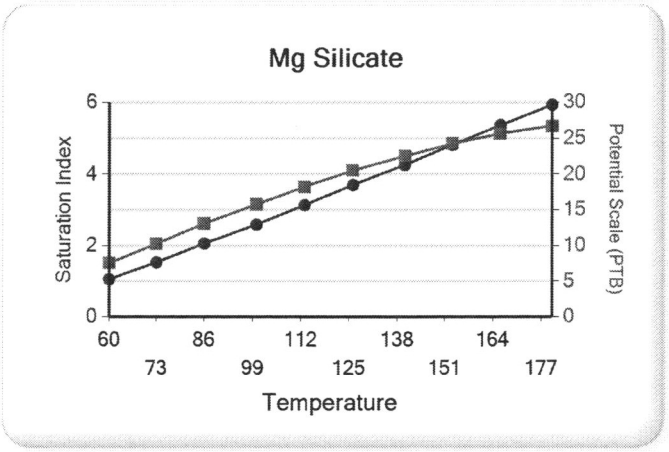
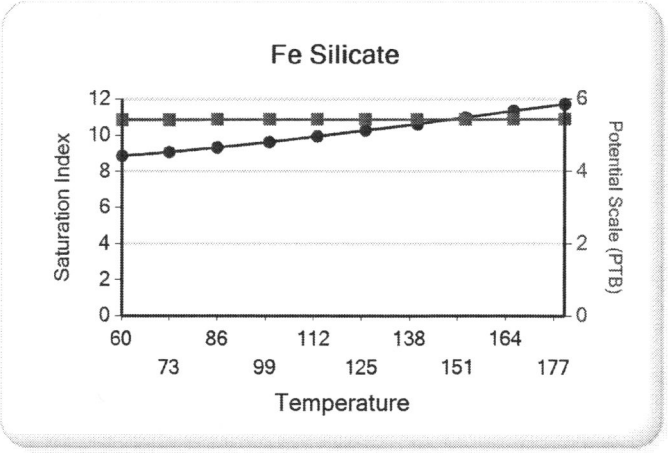
Water Analysis Report







UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

AUG 30 1994

Ref: 8WM-DW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

R. A. Christensen
President
Petroglyph Operating Company, Inc.
6209 North Highway 61
Hutchinson, Kansas 67502

RE: UNDERGROUND INJECTION CONTROL (UIC)
Authorization to Inject
Antelope Creek Field Waterflood
EPA Area Permit No. UT2736-00000
Duchesne County, Utah

Dear Mr. Christensen: #1-8

Thank you for the recently submitted Well Rework Records and mechanical integrity test results for the Ute Tribal enhanced recovery wells #1-18, #4-18, and #5-18 in the Antelope Creek Field. Petroglyph has complied with all pertinent conditions [Part II, C. 1.] of the area permit which includes these three wells, and may begin injection operations.

Please be aware of the monitoring, recordkeeping, and reporting obligations described in Part II, Section D of the permit. If you have any questions on this action, you may call Chuck Williams at (303) 293-1550. Also, please direct all correspondence to the attention of Chuck Williams at Mail Code 8WM-DW.

Sincerely,

John A. Carson

for Thomas J. Pike
Chief
UIC Implementation Section

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

AUG 30 1994

Scan under
UT20736-04201
Authorization to
Inject-Final

Ref: 8WM-DW

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Chief
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