Inspection Report For Well: UT20736 - 04203

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/ ~~14~~ 12/2013

Others: Ajayi, Christopher — Time: 9:45 am / pm

OPERATOR (only if different): _____

REPRESENTATIVE(S): Chad Stevinson

PRE-INSPECTION REVIEW

Petroglyph Operating Company, Inc

Well Name:	Ute Tribal 08-06 (old 5-8)
Well Type:	Enhanced Recovery (2R)
Operating Status:	AC (ACTIVE) as of 12/31/2002
Oil Field:	Antelope Creek (Duchesne)
Location:	SENW S8 T5S R3W
Indian Country:	X, Uintah and Ouray

Last Inspection:	8/29/2012	***Allowable Inj Pressure:***	2155 /
Last MIT:	Pass 5/15/2012	***Annulus Pressure From Last MIT:***	1055

BLACK = POSSIBLE VIOLATION GREY = DATA MISSING

INSPECTION TYPE: **(Select One)**

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

OBSERVED VALUES:

Tubing Gauge:	[x] Yes / [ ] No	Pressure: U: 2107 / 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

12 Entered
Date 12/17/13
Initial AR

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

B	GREEN	BLUE	CBI
		1	

Inspection Report For Well: UT20736 - 04203 (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

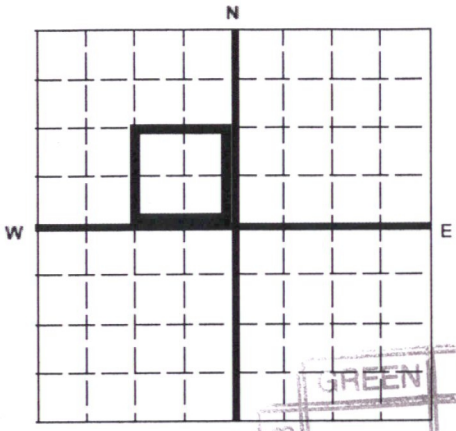
United States Environmental Protection Agency
Washington, DC 20460

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	UT2736-04203

Surface Location Description
___ 1/4 of 1/4 of SE 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 1550 ft. frm (N/S) N Line of quarter section
and 1550 ft. from (E/W) W Line of quarter section.

U2 Entered
Date 3/29/17
Initial B3

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 08-06

GREEN BLUE 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	2060	2083	357		0	0
February	16	2098	2116	463		0	0
March	16	2082	2120	446		0	0
April	16	2066	2084	404		0	0
May	16	2049	2088	396		0	0
June	16	2026	2068	299		0	0
July	16	2053	2096	422		0	0
August	16	2088	2104	519		0	0
September	16	2076	2095	433		0	0
October	16	2088	2096	529		0	0
November	16	2040	2085	290		0	0
December	16	2060	2074	495		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 08-06 INJ, DUCHESNE**	Lab Tech:	**Kaitlyn Natelli**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2017**		
Sample ID:	**WA-345307**		

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):	1.0017
pH:	8.20
Calculated TDS (mg/L):	6482.33
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):	2174.09	Chloride (Cl):	2500.00
Potassium (K):	15.01	Sulfate (SO_4):	60.00
Magnesium (Mg):	19.26	Bicarbonate (HCO_3):	1647.00
Calcium (Ca):	34.67	Carbonate (CO_3):	
Strontium (Sr):	2.42	Hydroxide(HO):	
Barium (Ba):	6.10	Acetic Acid (CH_3COO)	
Iron (Fe):	7.26	Propionic Acid (C_2H_5COO)	
Zinc (Zn):	2.70	Butanoic Acid (C_3H_7COO)	
Lead (Pb):	0.07	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Ammonia NH_3:		Fluoride (F):	
Manganese (Mn):	0.10	Bromine (Br):	
Aluminum (Al):	0.04	Silica (SiO_2):	13.65
Lithium (Li):	2.87	Calcium Carbonate ($CaCO_3$):	
Boron (B):	2.78	Phosphates (PO_4):	6.96
Silicon (Si):	6.38	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	1.31	26.71	1.03	3.27	3.71	4.00	2.73	5.27	0.00	0.00	0.00	0.00	0.00	0.00	10.83	1.41
149.00	267.00	1.37	27.20	0.93	3.18	3.66	4.00	2.83	5.27	0.00	0.00	0.00	0.00	0.00	0.00	10.58	1.41
168.00	483.00	1.46	27.85	0.86	3.09	3.65	4.00	2.94	5.27	0.00	0.00	0.00	0.00	0.00	0.00	10.37	1.41
187.00	700.00	1.55	28.42	0.80	3.02	3.66	4.00	3.05	5.28	0.00	0.00	0.00	0.00	0.00	0.00	10.19	1.41
206.00	917.00	1.66	28.88	0.76	2.97	3.69	4.00	3.15	5.28	0.00	0.00	0.00	0.00	0.00	0.00	10.04	1.41
224.00	1133.00	1.77	29.26	0.74	2.93	3.74	4.00	3.25	5.28	0.00	0.00	0.00	0.00	0.00	0.00	9.90	1.41
243.00	1350.00	1.89	29.56	0.73	2.92	3.81	4.00	3.34	5.28	0.00	0.00	0.00	0.00	0.00	0.00	9.79	1.41
262.00	1567.00	2.01	29.78	0.73	2.92	3.89	4.01	3.42	5.28	0.00	0.00	0.00	0.00	0.00	0.00	9.70	1.41
281.00	1783.00	2.14	29.94	0.74	2.93	3.97	4.01	3.50	5.28	0.00	0.00	0.00	0.00	0.00	0.00	9.61	1.41
300.00	2000.00	2.27	30.06	0.76	2.96	4.07	4.01	3.57	5.28	0.00	0.00	0.00	0.00	0.00	0.00	9.54	1.41

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

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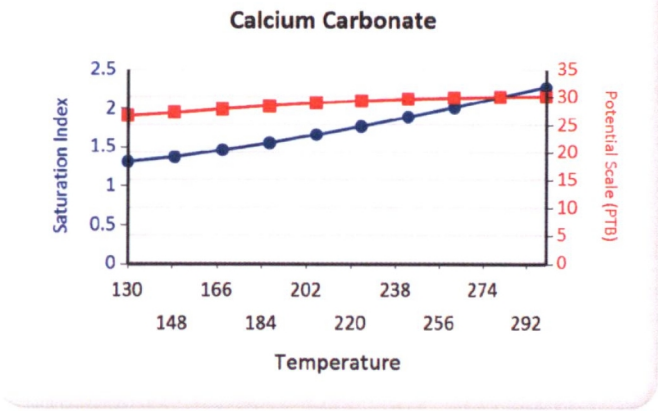
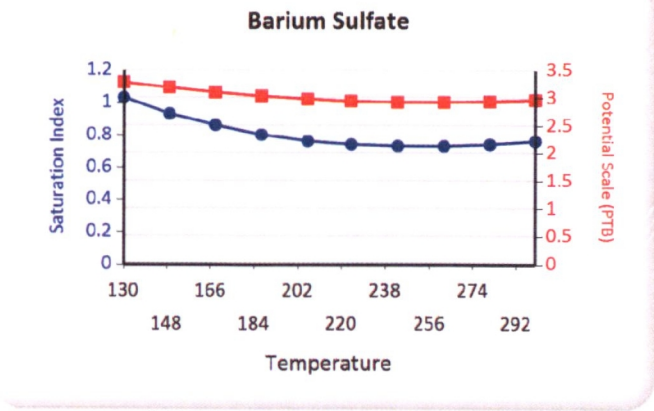
Water Analysis Report

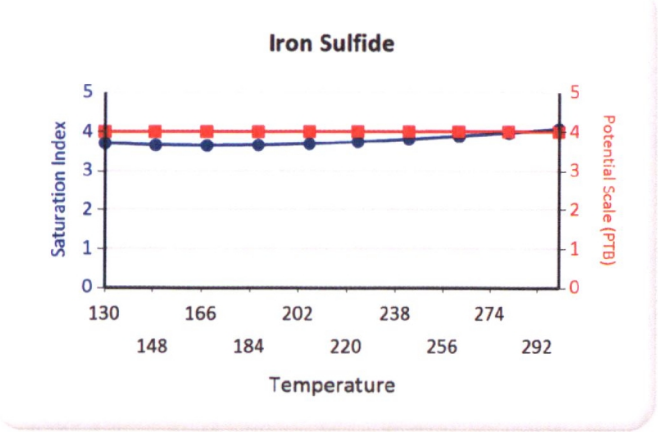
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
130.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	1.95	1.79	10.96	0.03	2.53	13.56	0.95	5.84	9.24	5.64
149.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	2.16	1.80	10.53	0.03	3.29	17.45	1.37	8.16	9.72	5.64
168.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	2.37	1.81	10.16	0.03	4.14	21.92	1.85	10.84	10.31	5.64
187.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	2.56	1.81	9.83	0.03	4.98	25.92	2.34	13.25	10.91	5.64
206.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	2.73	1.81	9.54	0.03	5.81	29.19	2.82	15.17	11.52	5.65
224.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	2.89	1.81	9.29	0.03	6.62	31.65	3.29	16.53	12.13	5.65
243.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	3.03	1.81	9.07	0.03	7.41	33.34	3.76	17.39	12.73	5.65
262.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	3.15	1.82	8.87	0.03	8.17	34.39	4.21	17.88	13.32	5.65
281.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	3.25	1.82	8.69	0.03	8.90	34.97	4.65	18.14	13.90	5.65
300.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	3.34	1.82	8.53	0.03	9.60	35.24	5.07	18.28	14.45	5.65

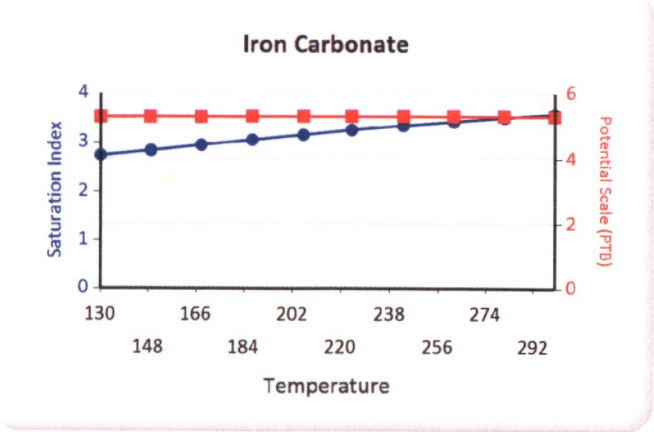
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

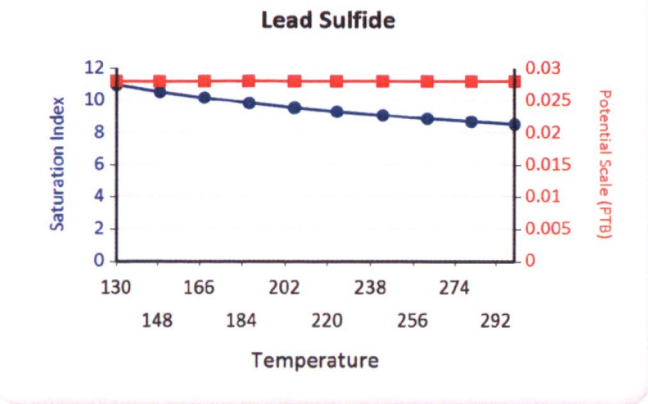
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

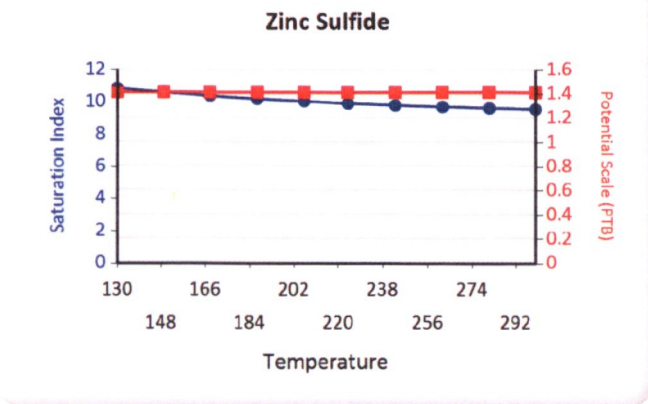


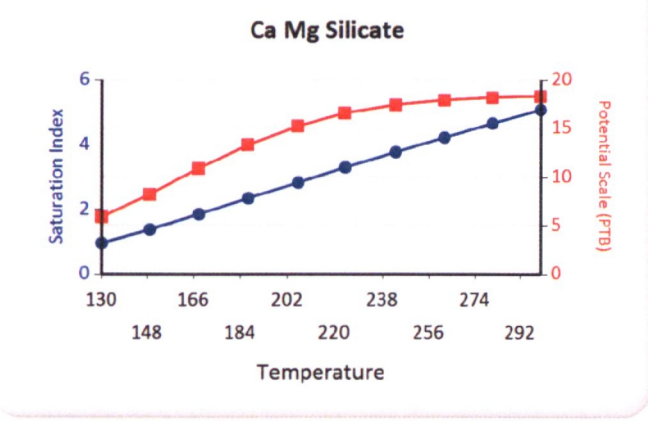







Lead Sulfide
Saturation Index
Potential Scale (PTB)
Temperature
130 148 166 184 202 220 238 256 274 292


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


Ca Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
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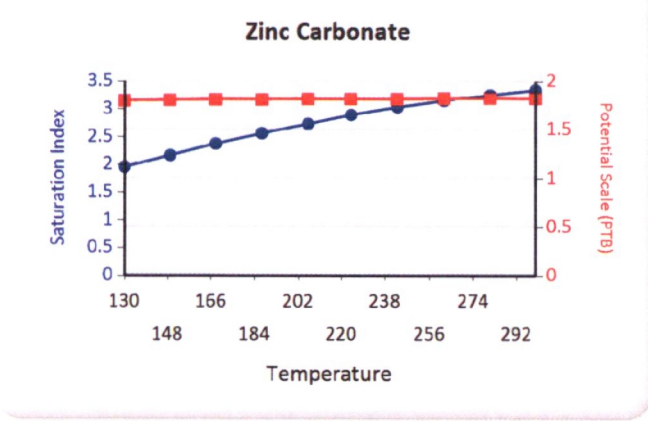
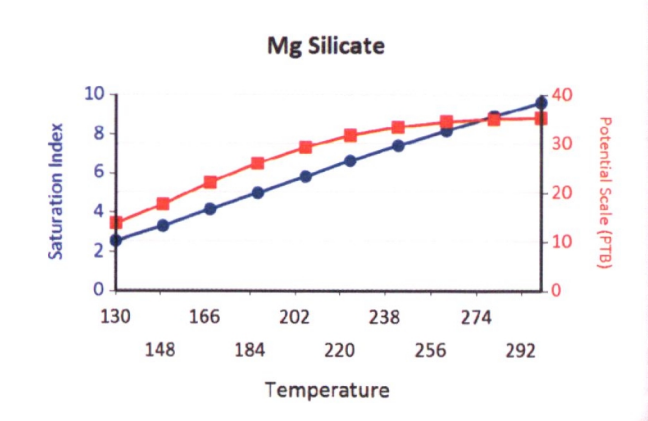
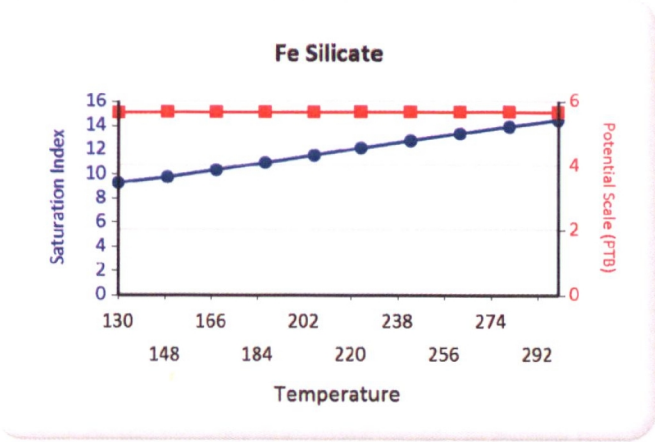

Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
130 148 166 184 202 220 238 256 274 292


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


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

PETROGLYPH EXECUTIVE OFFICES

June 1, 2017

Gary Wang or Don Breffle
Underground Injection Control Enforcement
U.S. Environmental Protection Agency
Mail Code: 8ENF-UFO
US EPA Region 8
1595 Wyncoop Street
Denver, CO 80202-1129

RE: 5-year Mechanical Integrity Tests

Mr. Wang/ Mr. Breffle:

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

- Ute Tribal 04-01
- Ute Tribal 08-06 UT20736-04203
- Ute Tribal 16-16
- Ute Tribal 18-14
- Ute Tribal 28-11
- Ute Tribal 29-02
- Ute Tribal 29-08A
- Ute Tribal 29-10
- Ute Tribal 29-11
- Ute Tribal 29-15
- Ute Tribal 30-16
- Ute Tribal 33-16D3

Best Regards,

Nicole Colby
Manager, Land & Regulatory Compliance

U2 Entered
Date 6/14/17
Initial DB

	GREEN	BLUE	CBI
TAB		2	

Mechanical Integrity Test
Tubing/Casing Annulus Pressure Test

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

EPA Witness: _____ Date: 5/12/17
Test conducted by: CHAD STEVENSON
Others present: _____

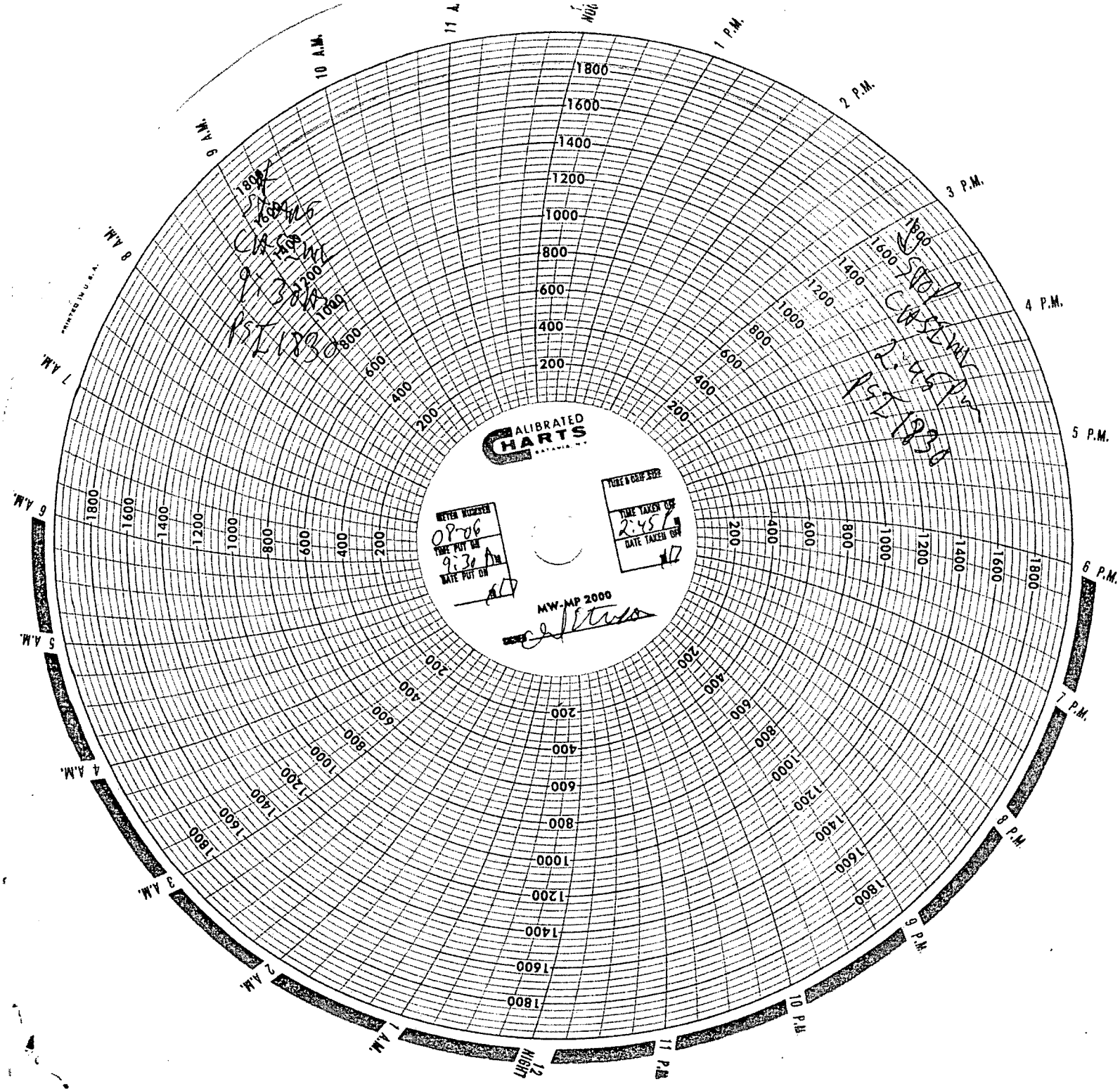
Well Name: 08-06
Field: ANTELOPE CREEK Type: ER SWD Status: AC TA UC
Location: 08-06 Sec: ____ T ____ N / S R ____ E / W County: DUCHESNE State: UT
Operator: PETROGLYPH ENERGY
Last MIT: / / Maximum Allowable Pressure: _____ PSIG

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

Well injecting during test? If Yes, rate: 17 **bpd**
Pre-test annulus pressure: _____ **psig**

MIT DATA TABLE	Test #1	Test #2	Test #3
TUBING		**PRESSURE RECORD**	
Initial Pressure	2046 psig	psig	psig
End of test pressure	2046 psig	psig	psig
CASING / TUBING ANNULUS		**PRESSURE RECORD**	
0 minutes	1830 psig	psig	psig
5 minutes	1830 psig	psig	psig
10 minutes	1830 psig	psig	psig
15 minutes	1830 psig	psig	psig
20 minutes	1830 psig	psig	psig
25 minutes	1830 psig	psig	psig
30 minutes	1830 psig	psig	psig
5 ~~minutes~~ HOURS	1830 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
METER NUMBER
08-06
TIME PUT ON
9:30 AM
DATE PUT ON
TIME TAKEN OFF
2:45
DATE TAKEN OFF
MW-MP 2000
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 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.

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

EPA

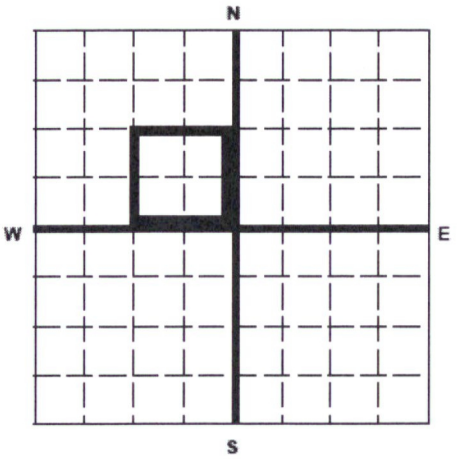
United States Environmental Protection Agency
Washington, DC 20460

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~~ 04203

Surface Location Description
___ 1/4 of ___ 1/4 of SE 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 1550 ft. frm (N/S) N Line of quarter section
and 1550 ft. from (E/W) W Line of quarter section.

U2 Entered
Date 3/1/16
Initial DB

WELL ACTIVITY	TYPE OF PERMIT
[ ] Brine Disposal	[ ] Individual
[X] Enhanced Recovery	[X] Area
[ ] Hydrocarbon Storage	Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 08-06

		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	2065	2094	451		0	0
February	15	2096	2111	496		0	0
March	15	2091	2115	597		0	0
April	15	2079	2105	493		0	0
May	15	2101	2123	597		0	0
June	15	2108	2123	598		0	0
July	15	2104	2107	598		0	0
August	15	2099	2111	565		0	0
September	15	2090	2117	552		0	0
October	15	2089	2105	501		0	0
November	15	2101	2121	515		0	0
December	15	2111	2123	502		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 08-06 INJ, DUCHESNE**	Lab Tech:	**Gary Peterson**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2016**		
Sample ID:	**WA-327567**		

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):	1.0016
pH:	8.10
Calculated TDS (mg/L):	6154.13
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	15.00
Tot. SuspendedSolids(mg/L):	
Corrosivity(LanglierSat.Indx)	0.00
Alkalinity:	

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	1921.95	Chloride (Cl):	2500.00
Potassium (K):	12.85	Sulfate (SO_4):	160.00
Magnesium (Mg):	64.14	Bicarbonate (HCO_3):	1318.00
Calcium (Ca):	131.65	Carbonate (CO_3):	
Strontium (Sr):	4.48	Acetic Acid (CH_3COO)	
Barium (Ba):	2.72	Propionic Acid (C_2H_5COO)	
Iron (Fe):	6.78	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	2.63	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.66	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.08	Silica (SiO_2):	28.19
Aluminum (Al):	0.06	Calcium Carbonate ($CaCO_3$):	
Lithium (Li):	0.53	Phosphates (PO_4):	9.75
Boron (B):	0.84	Oxygen (O_2):	
Silicon (Si):	13.18		

Notes:
S=335.51

(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	1.95	100.99	0.86	1.40	3.72	3.74	2.82	4.92	0.00	0.00	0.00	0.00	0.00	0.00	10.37	1.37
167.00	267.00	1.84	95.84	0.89	1.41	3.66	3.74	2.68	4.92	0.00	0.00	0.00	0.00	0.00	0.00	10.46	1.37
153.00	483.00	1.75	91.96	0.92	1.42	3.65	3.74	2.57	4.91	0.00	0.00	0.00	0.00	0.00	0.00	10.58	1.37
140.00	700.00	1.67	87.83	0.97	1.44	3.65	3.74	2.46	4.91	0.00	0.00	0.00	0.00	0.00	0.00	10.72	1.37
127.00	917.00	1.59	83.57	1.02	1.47	3.66	3.74	2.35	4.90	0.00	0.00	0.00	0.00	0.00	0.00	10.88	1.37
113.00	1133.00	1.52	79.28	1.09	1.49	3.69	3.74	2.24	4.90	0.00	0.00	0.00	0.00	0.00	0.00	11.05	1.37
100.00	1350.00	1.46	75.08	1.17	1.51	3.73	3.74	2.14	4.89	0.00	0.00	0.00	0.00	0.00	0.00	11.25	1.37
87.00	1567.00	1.40	71.08	1.27	1.53	3.79	3.74	2.03	4.88	0.00	0.00	0.00	0.00	0.00	0.00	11.46	1.37
73.00	1783.00	1.35	67.38	1.38	1.55	3.87	3.74	1.93	4.86	0.00	0.00	0.00	0.00	0.00	0.00	11.70	1.37
60.00	2000.00	1.30	64.05	1.51	1.57	3.96	3.74	1.83	4.84	0.00	0.00	0.00	0.00	0.00	0.00	11.96	1.37

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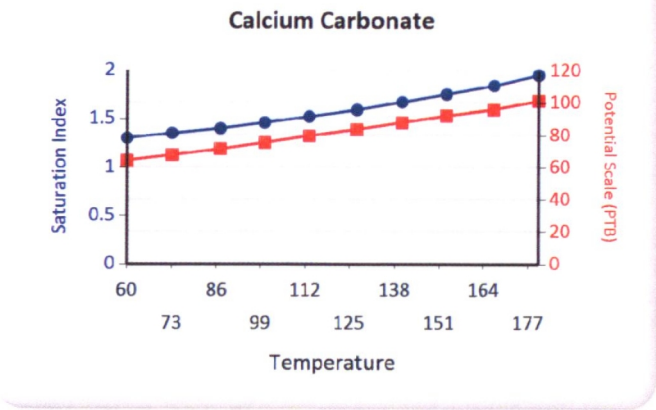
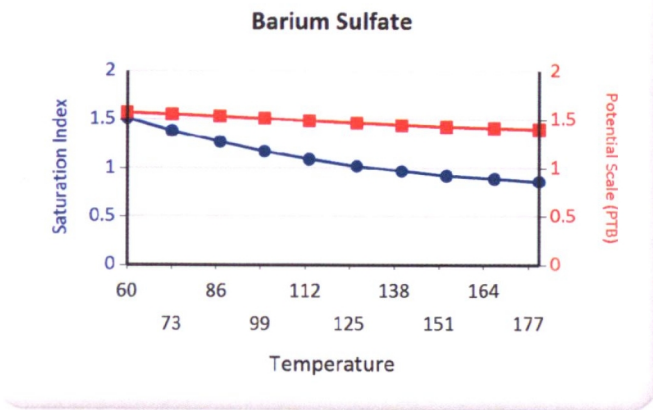
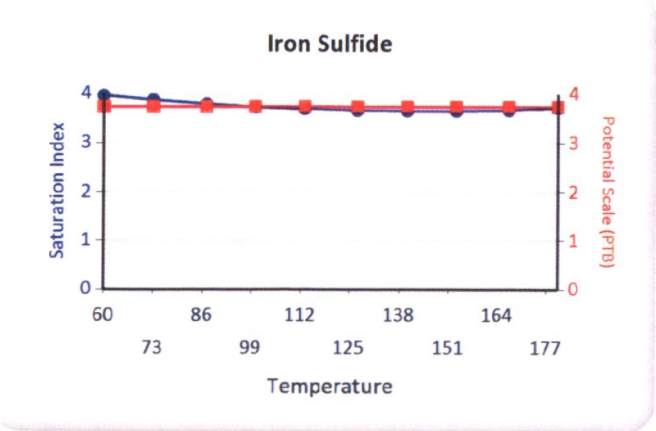
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	2.34	1.76	11.05	0.27	6.55	57.09	3.69	29.76	10.84	5.27
167.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	2.16	1.76	11.24	0.27	5.71	46.60	3.18	24.87	10.16	5.27
153.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	1.99	1.75	11.48	0.27	5.02	38.85	2.78	21.12	9.65	5.27
140.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82	1.74	11.73	0.27	4.34	31.40	2.38	17.37	9.14	5.26
127.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	1.63	1.72	12.02	0.27	3.65	24.58	1.98	13.80	8.65	5.26
113.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	1.44	1.70	12.33	0.27	2.97	18.55	1.59	10.54	8.16	5.25
100.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23	1.66	12.67	0.27	2.28	13.32	1.20	7.60	7.69	5.24
87.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02	1.59	13.05	0.27	1.60	8.81	0.81	4.98	7.23	5.23
73.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	1.47	13.46	0.27	0.92	4.86	0.43	2.63	6.79	5.21
60.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	1.25	13.90	0.27	0.24	1.31	0.06	0.46	6.36	5.18

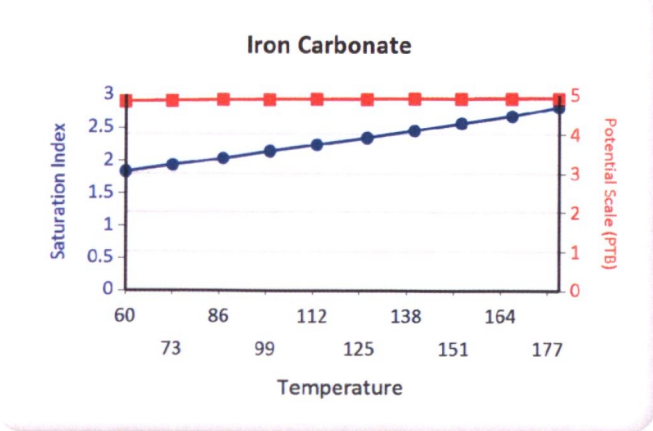
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

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









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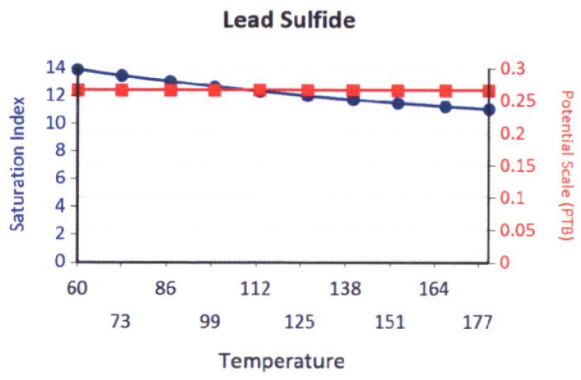
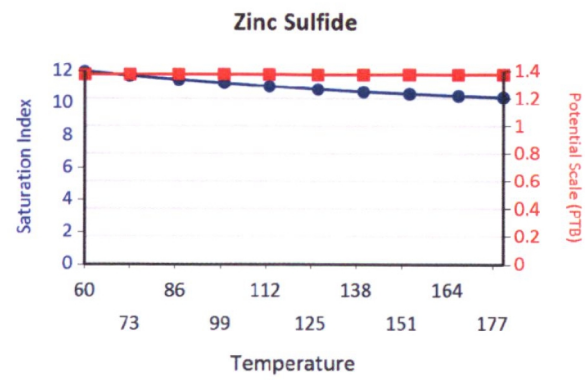
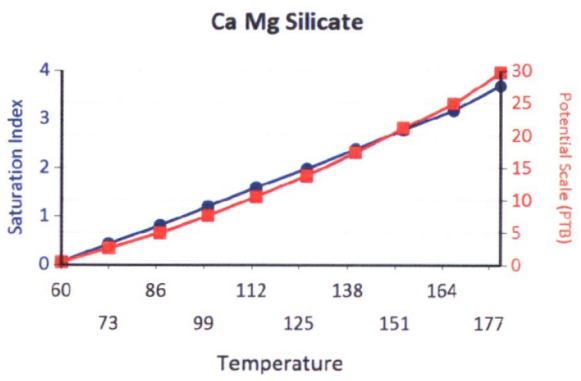
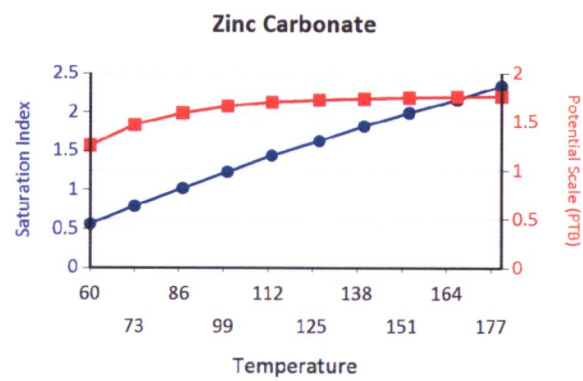
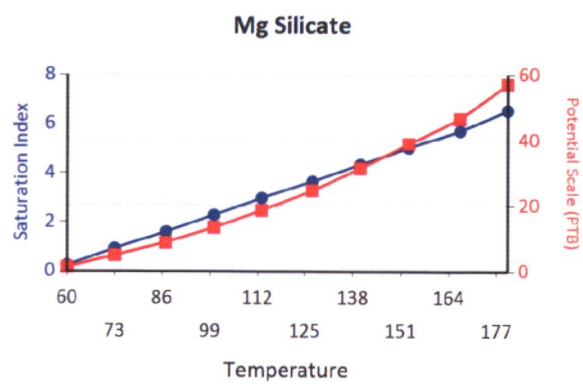
Water Analysis Report

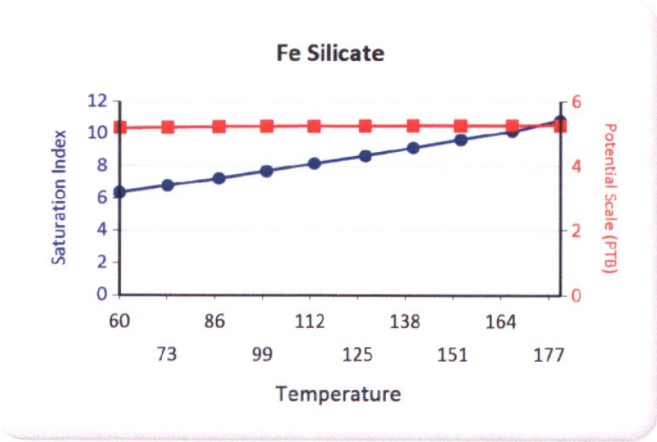











Fe Silicate
Saturation Index
Potential Scale (PTB)
Temperature
12
10
8
6
4
2
0
6
4
2
0
60
86
112
138
164
73
99
125
151
177

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

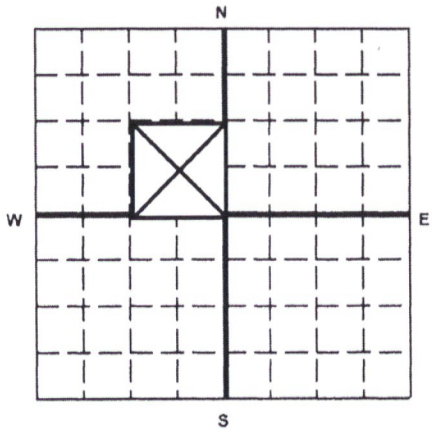
EPA

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	UT2736-04203

Surface Location Description

____ 1/4 of ____ 1/4 of SE 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 1550 ft. frm (N/S) N Line of quarter section and 1550 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 08-06

		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	2106	2116	530		0	0
February	14	2107	2112	476		0	0
March	14	2101	2112	550		0	0
April	14	2090	2097	505		0	0
May	14	2100	2108	524		0	0
June	14	2104	2108	504		0	0
July	14	2080	2109	417		0	0
August	14	2097	2104	591		0	0
September	14	2086	2124	551		0	0
October	14	2103	2112	597		0	0
November	14	2112	2120	558		0	0
December	14	2101	2110	562		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	Ch 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
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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 08-06 INJ, DUCHESNE**	Lab Tech:	**Gary Winegar**
Sample Point:	**WELLHEAD**		
Sample Date:	**1/7/2015**		
Sample ID:	**WA-297447**		

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

Sample Specifics

Test Date:	1/15/2015
System Temperature 1 (°F):	160
System Pressure 1 (psig):	1300
System Temperature 2 (°F):	80
System Pressure 2 (psig):	15
Calculated Density (g/ml):	1.0023
pH:	7.90
Calculated TDS (mg/L):	7791.92
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	15.00

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	1999.93	Chloride (Cl):	4000.00
Potassium (K):	48.68	Sulfate (SO_4):	201.00
Magnesium (Mg):	50.78	Bicarbonate (HCO_3):	1342.00
Calcium (Ca):	105.60	Carbonate (CO_3):	
Strontium (Sr):	5.07	Acetic Acid (CH_3COO)	
Barium (Ba):	5.66	Propionic Acid (C_2H_5COO)	
Iron (Fe):	1.64	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	0.35	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.10	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.09	Silica (SiO_2):	31.02

Notes:
B=3.75 Al=.02 Li=1.25

(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	1.30	65.43	1.81	3.32	3.13	0.90	1.35	1.14	0.00	0.00	0.00	0.00	0.00	0.00	10.60	0.18
88.00	157.00	1.27	62.91	1.73	3.31	3.01	0.90	1.35	1.14	0.00	0.00	0.00	0.00	0.00	0.00	10.37	0.18
97.00	300.00	1.29	64.24	1.65	3.29	2.96	0.90	1.40	1.14	0.00	0.00	0.00	0.00	0.00	0.00	10.22	0.18
106.00	443.00	1.32	65.65	1.58	3.28	2.92	0.90	1.46	1.15	0.00	0.00	0.00	0.00	0.00	0.00	10.08	0.18
115.00	585.00	1.35	67.12	1.52	3.27	2.89	0.90	1.51	1.15	0.00	0.00	0.00	0.00	0.00	0.00	9.95	0.18
124.00	728.00	1.38	68.64	1.46	3.25	2.86	0.90	1.57	1.16	0.00	0.00	0.00	0.00	0.00	0.00	9.82	0.18
133.00	871.00	1.41	70.19	1.41	3.24	2.85	0.90	1.62	1.16	0.00	0.00	0.00	0.00	0.00	0.00	9.71	0.18
142.00	1014.00	1.45	71.76	1.36	3.22	2.84	0.90	1.67	1.17	0.00	0.00	0.00	0.00	0.00	0.00	9.60	0.18
151.00	1157.00	1.48	73.32	1.32	3.21	2.83	0.90	1.72	1.17	0.00	0.00	0.00	0.00	0.00	0.00	9.51	0.18
160.00	1300.00	1.52	74.86	1.28	3.19	2.83	0.90	1.78	1.17	0.00	0.00	0.00	0.00	0.00	0.00	9.42	0.18

		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	0.00	0.00	12.33	0.04	0.00	0.00	0.00	0.00	4.12	1.21
88.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.03	11.99	0.04	0.00	0.00	0.00	0.00	4.02	1.21
97.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.08	11.73	0.04	0.42	2.44	0.00	0.00	4.29	1.22
106.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.12	11.49	0.04	0.85	5.06	0.08	0.56	4.57	1.23
115.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.15	11.26	0.04	1.30	7.89	0.32	2.08	4.86	1.24
124.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.17	11.05	0.04	1.75	10.93	0.58	3.67	5.17	1.25
133.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.18	10.85	0.04	2.20	14.15	0.84	5.32	5.48	1.25
142.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.20	10.66	0.04	2.66	17.49	1.10	7.02	5.80	1.26
151.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.20	10.48	0.04	3.12	20.88	1.36	8.72	6.13	1.26
160.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97	0.21	10.31	0.04	3.58	24.21	1.63	10.38	6.46	1.27

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

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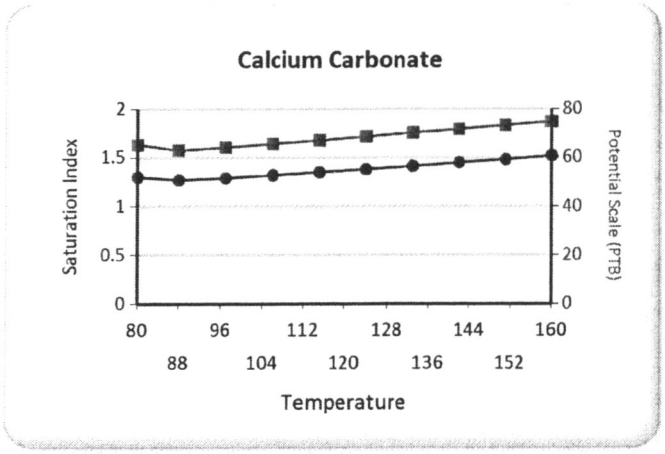
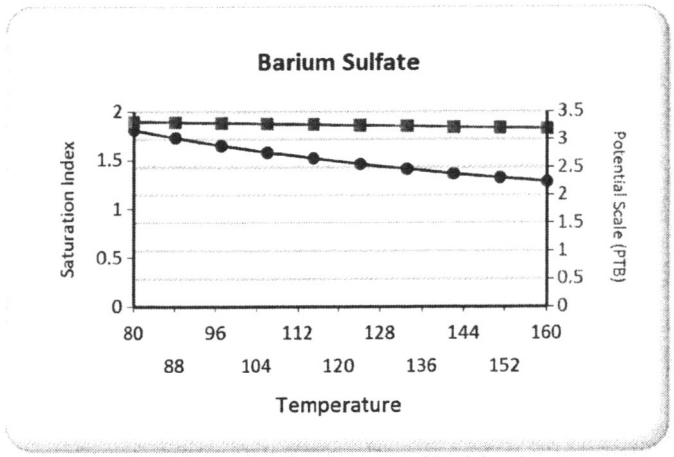
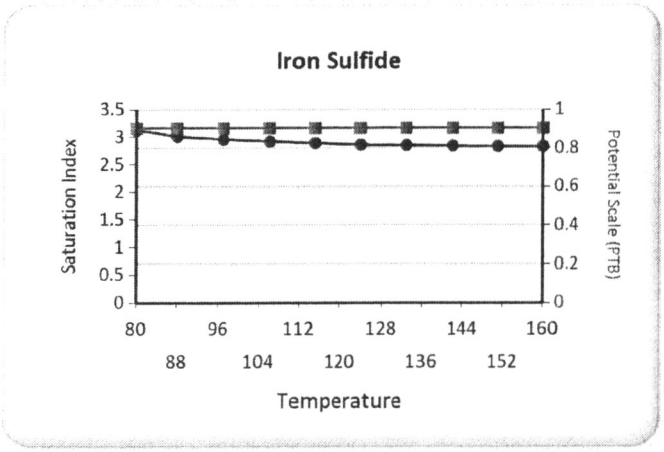
Water Analysis Report

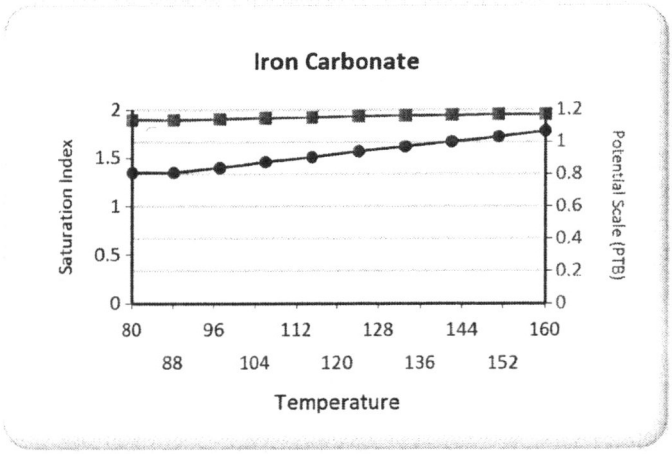
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Lead Sulfide Fe Silicate

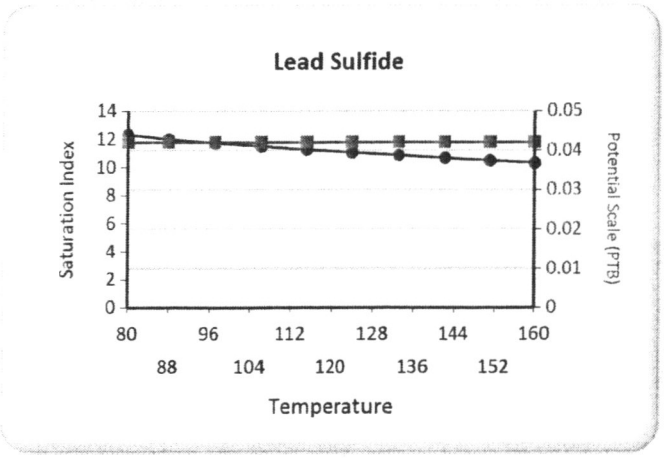
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

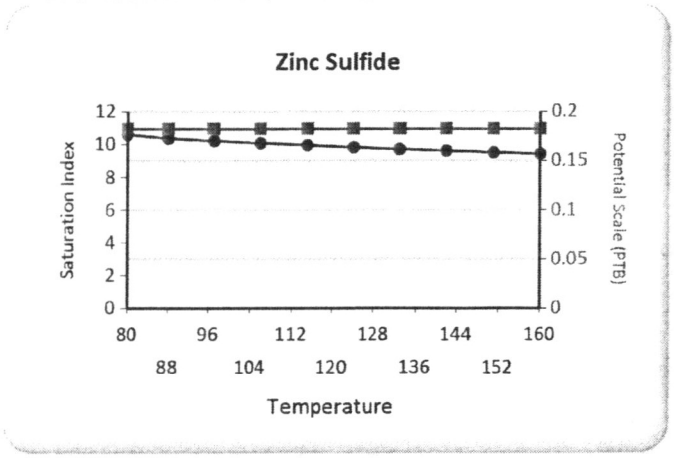


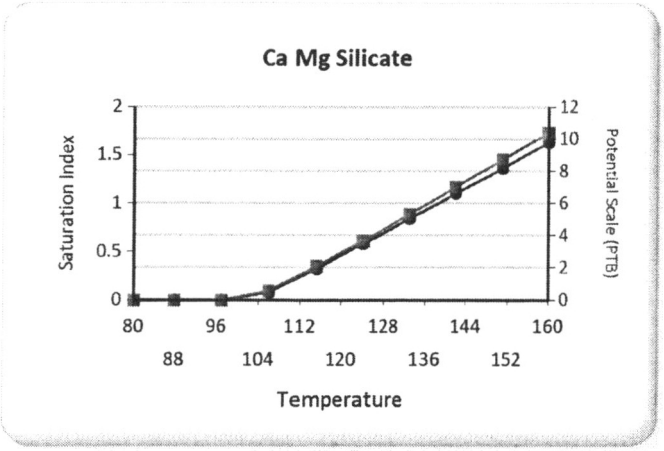


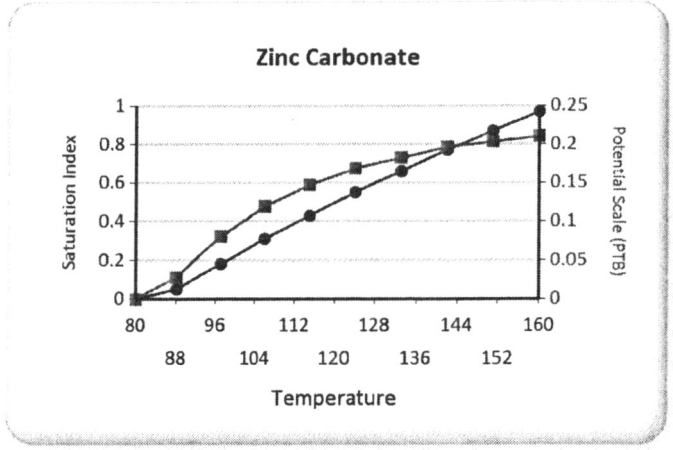









Ca Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
0
0.5
1
1.5
2
0
2
4
6
8
10
12
80
88
96
104
112
120
128
136
144
152
160


Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
0
0.2
0.4
0.6
0.8
1
0
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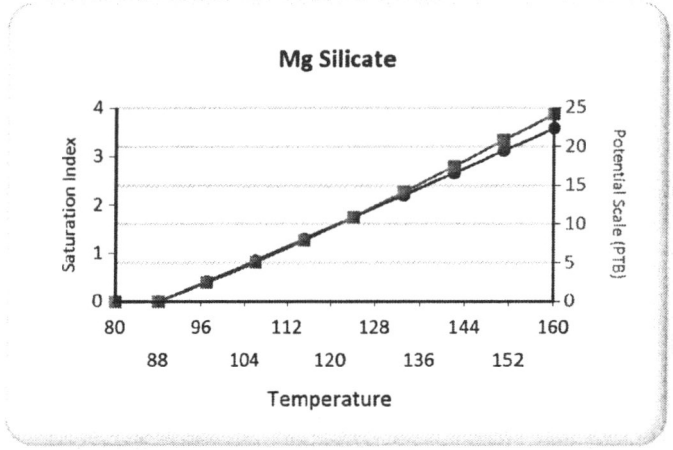
0.15
0.2
0.25
80
88
96
104
112
120
128
136
144
152
160


Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
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5
10
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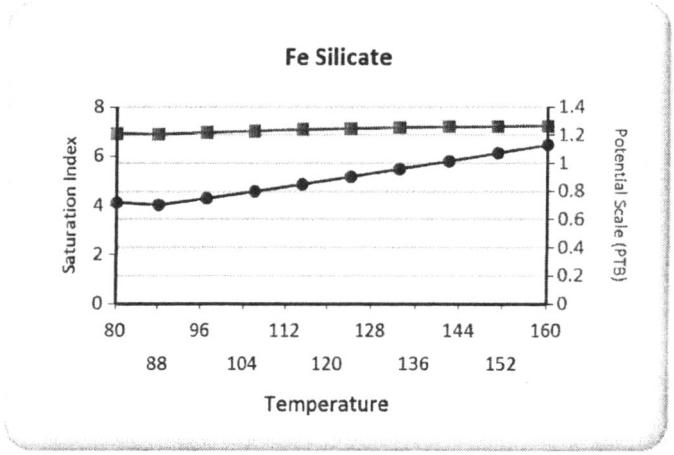
120
128
136
144
152
160


Fe Silicate
Saturation Index
Potential Scale (PTB)
Temperature
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8
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0.2
0.4
0.6
0.8
1
1.2
1.4
80
88
96
104
112
120
128
136
144
152
160

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

EPA

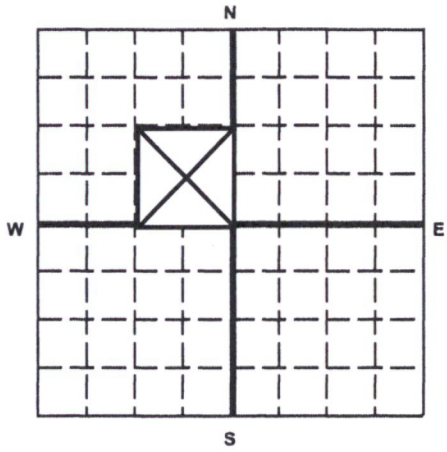
United States Environmental Protection Agency
Washington, DC 20460

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	UT2736-04203

Surface Location Description
___ 1/4 of ___ 1/4 of SE 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 1550 ft. frm (N/S) N Line of quarter section
and 1550 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 08-06

		INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING -- CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	13	2048	2069	434		0	0
February	13	2087	2113	599		0	0
March	13	2082	2114	593		0	0
April	13	2097	2111	591		0	0
May	13	2097	2110	690		0	0
June	13	2086	2090	566		0	0
July	13	2082	2106	368		0	0
August	13	2084	2114	451		0	0
September	13	2072	2103	442		0	0
October	13	2078	2105	461		0	0
November	13	2101	2107	521		0	0
December	13	2101	2109	491		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 | SLDR | CBL
2

U2 Entered
Date 3/18/14
Initial DB

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 ENERGY INC**
Well Name: **UTE TRIBAL 08-06 INJ**
Sample Point: **Wellhead**
Sample Date: **1/8/2014**
Sample ID: **WA-262953**

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):	1.006
pH:	8.40
Calculated TDS (mg/L):	12612.92
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):	4451.45	Chloride (Cl):	6000.00
Potassium (K):	77.00	Sulfate (SO_4):	189.00
Magnesium (Mg):	31.00	Bicarbonate (HCO_3):	1756.80
Calcium (Ca):	68.00	Carbonate (CO_3):	
Strontium (Sr):	5.00	Acetic Acid (CH_3COO)	
Barium (Ba):	4.00	Propionic Acid (C_2H_5COO)	
Iron (Fe):	6.50	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	0.29	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.08	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.26	Silica (SiO_2):	23.54

Notes:
B=4.7 Al=.01 Li=1.1

(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	1.55	50.61	1.64	2.33	0.00	0.00	2.31	4.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	157.00	1.56	50.35	1.49	2.31	0.00	0.00	2.37	4.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86.00	300.00	1.58	51.01	1.36	2.28	0.00	0.00	2.44	4.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	443.00	1.61	51.71	1.25	2.25	0.00	0.00	2.51	4.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	585.00	1.63	52.43	1.15	2.22	0.00	0.00	2.58	4.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126.00	728.00	1.67	53.17	1.07	2.18	0.00	0.00	2.64	4.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	871.00	1.70	53.89	1.00	2.14	0.00	0.00	2.70	4.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	1014.00	1.74	54.59	0.93	2.10	0.00	0.00	2.77	4.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166.00	1157.00	1.79	55.25	0.88	2.06	0.00	0.00	2.83	4.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.00	1300.00	1.83	55.86	0.84	2.03	0.00	0.00	2.88	4.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

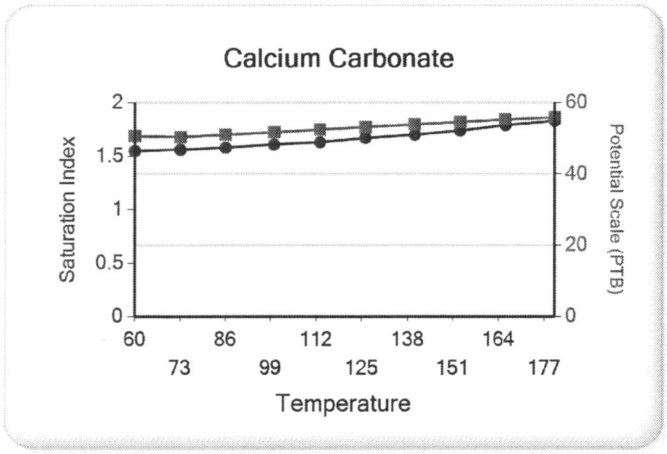
multi-chem®
A HALLIBURTON SERVICE

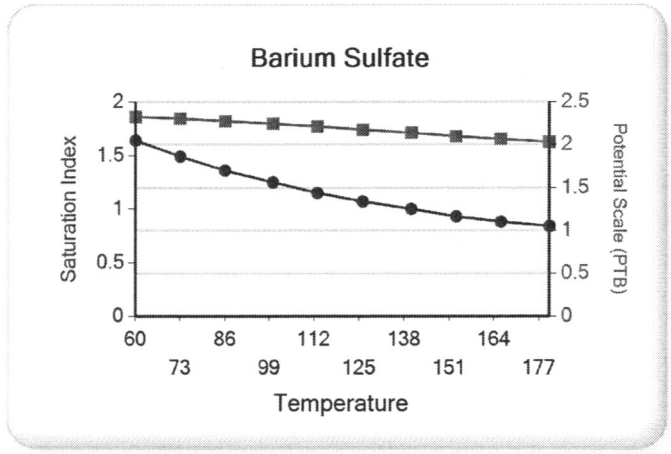
Water Analysis Report

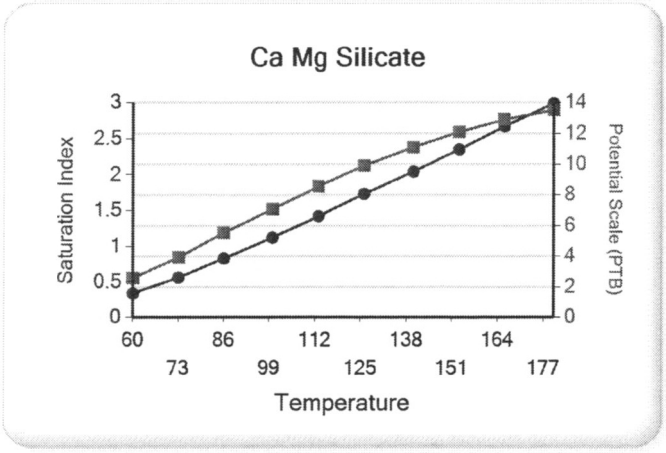
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
60.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.92	6.45	0.34	2.58	7.95	5.04
73.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.08	0.00	0.00	1.39	9.08	0.56	3.94	8.15	5.04
86.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.12	0.00	0.00	1.92	12.10	0.83	5.54	8.43	5.04
100.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.15	0.00	0.00	2.47	15.04	1.12	7.09	8.73	5.05
113.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.16	0.00	0.00	3.02	17.88	1.42	8.57	9.06	5.05
126.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93	0.17	0.00	0.00	3.59	20.56	1.73	9.91	9.40	5.05
140.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07	0.18	0.00	0.00	4.15	22.99	2.04	11.10	9.76	5.05
153.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21	0.18	0.00	0.00	4.72	25.01	2.35	12.10	10.13	5.05
166.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34	0.19	0.00	0.00	5.28	26.51	2.67	12.91	10.50	5.05
180.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.19	0.00	0.00	5.84	27.48	2.99	13.51	10.88	5.05

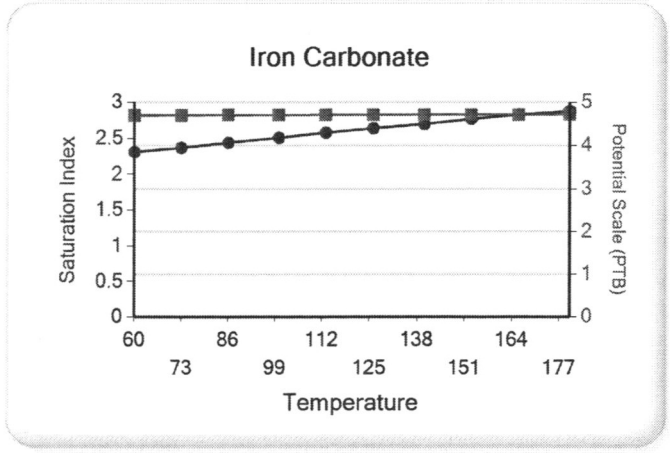
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

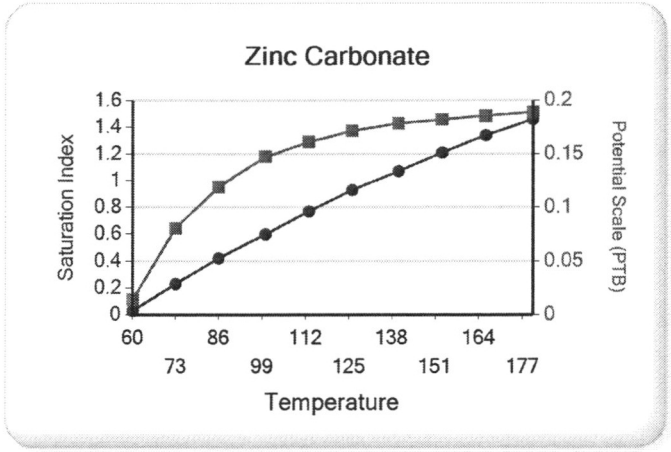
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate










Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
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1.4
1.2
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0.6
0.4
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0.05
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138
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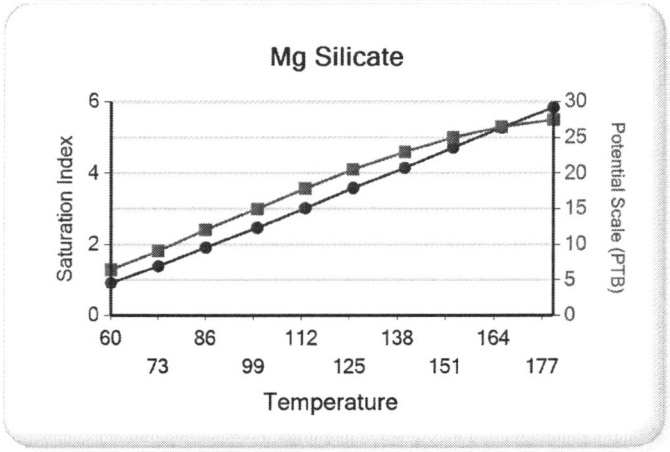
73
99
125
151
177


Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
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25
20
15
10
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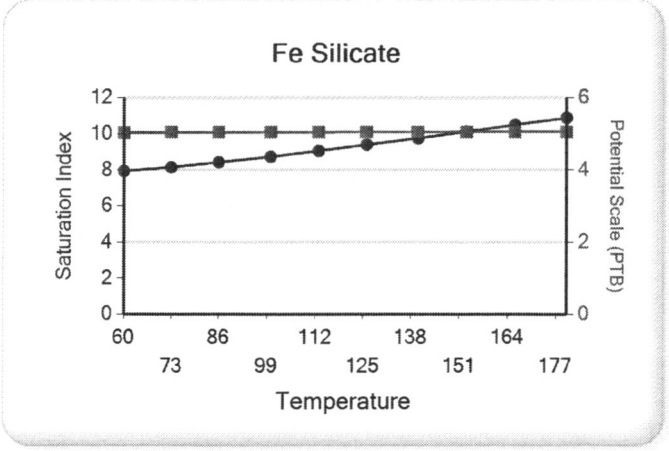
86
112
138
164
73
99
125
151
177


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

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

OCT 3 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:

Thank you for the recently submitted Well Rework Record and mechanical integrity test results for the Ute Tribal enhanced recovery well #5-8 (EPA Permit No. UT2736-04203) in the Antelope Creek Field. Petroglyph has complied with all pertinent conditions [Part II, C. 1.] of the area permit which includes this well, 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,

Thomas J. Pike
Chief
UIC Implementation Section

Printed on Recycled Paper

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

OCT 3 1994

Scan under
UT20736-04203
Authorization to
Inject - Final

Ref: 8WM-DW

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CONCURRENCE COPY

OCT 3 1994

Ref: 8WM-DW

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Sincerely,

Thomas J. Pike
Chief
UIC Implementation Section

FCD: September 29, 1994, jac, car, A:\PETROGP.AU2

8WM-DW
JOC
9/29/94

s your RETURN ADDRESS completed on the reverse side?

SENDER: cew 10/03/94 2231C

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- 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.

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

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to: UT2736-00000

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

4a. Article Number
P 241 458 908

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
10-7-94 KRS

5. Signature (Addressee)
Carolyn Hamby

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

cjo

PS Form 3811, December 1991 ☆U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

P 241 458 908

Receipt for Certified Mail

UNITED STATES POSTAL SERVICE

No Insurance Coverage Provided
Do not use for International Mail
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Sent to
Mr. R. A. Christensen
President
Street and No.
Petroglyph Operating Co. Inc.
6209 North Highway 61
Post Office, State, and ZIP Code
Hutchinson, Kansas 67502

Postage	$
Certified Fee OCT 3 1994	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$

Postmark or Date
Authorization to Inject
Antelope Creek Field
Waterflood EPA Permit
No. UT2736-00000
Duchesne County, Utah

PS Form 3800, June 1991

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466

JUL 23 2001

CONCURRENCE COPY

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Micheal Safford
Operations Coordinator
Petroglyph Operating Company, Inc.
P.O. Box 607
Roosevelt, UT 84066

RE: **UNDERGROUND INJECTION CONTROL (UIC)**
APPROVAL TO INCREASE MAXIMUM SURFACE INJECTION PRESSURE
EPA Area Permit No. UT2736-00000
Ute Tribal No. 08-06
EPA Well Authority No. UT2736-04203
Antelope Creek Waterflood
Duchesne County, Utah

Dear Mr. Safford:

The Environmental Protection Agency (EPA) Antelope Creek Final Area Permit UT2736-00000 (Effective July 12, 1994) Part II, Section C. 5. (b), permits the "Director" to authorize, by letter, an increase in the maximum surface injection pressure (MIP) for the Ute Tribal No. 08-06, following receipt and approval of a valid step-rate test (SRT).

On June 26, 2001, Petroglyph Energy, Inc. (Petroglyph) submitted an SRT to the EPA, dated June 5, 2001. The SRT was received by the EPA on July 2, 2001. The SRT was reviewed and approved by the EPA on July 9, 2001. The SRT shows the fracture gradient (FG) for the Green River Formation injection interval between the approximate depths of 4556' and 5086' to be 0.910 psi/ft.

As of the date of this letter, the EPA authorizes an increase in the maximum surface injection pressure (MIP) from 1900 psig to 2155 psig. The following modified injection pressure will provide for higher injectivity capacity which will improve the waterflood efficiency without endangering any underground sources of drinking water (USDWs).

CEW 7/12/01 8P-W-GW 7/13/01 8P-W-GW 7/17/01 7/23/01 7/19/01 8P-W 7/23/01

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466

JUL 23 2001

CONCURRENCE COPY

Scan under UT20736-04203 MAIP Change Request

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Micheal Safford
Operations Coordinator
Petroglyph Operating Company, Inc.
P.O. Box 607
Roosevelt, UT 84066

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8P-W-GW 7/17/01 7/23/01

8P-W 7/23/01

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FG	=	0.910 psi/ft
D	=	4556 feet: Top perforation
SG	=	Specific gravity of injectate: 1.01
0.433	=	Density of injectate fluid
MIP	=	[(0.910) - (.433)(1.01)] 4556

MIP = 2155 psig

Please send all compliance correspondence relative to this well to the **ATTENTION: Nathan Wiser, at the letterhead address, citing Mail Code: 8ENF-T very prominently.** You may call Mr. Wiser at 303.312.6211.

All other provisions and conditions of the Permit remain as originally issued July 12, 1994 and Revised April 30, 1998.

Sincerely,

Kerrigan G. Clough
Assistant Regional Administrator
Office of Partnerships and
Regulatory Assistance

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

Ms. Elaine Willie, Environmental Coordinator
Ute Indian Tribe

Norman Cambridge
BIA - Uintah & Ouray Agency

Mr. Jerry Kenczka
BLM - Vernal District Office

Mr. Gilbert Hunt
State of Utah Natural Resources
Division of Oil, Gas & Mining

Mr. Nathan Wiser
8ENF-T