Inspection Report For Well: UT20736 - 04525

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

This form was printed on 9/24/2013

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

Others: Ajayi, Christopher — Time: 2:34 am / pm

OPERATOR (only if different): _____

REPRESENTATIVE(S): Chad Stevinson

PRE-INSPECTION REVIEW

Petroglyph Operating Company, Inc

Well Name:	Ute Tribal 30-14		
Well Type:	Enhanced Recovery (2R)		
Operating Status:	AC (ACTIVE) as of 12/31/2002		
Oil Field:	Antelope Creek (Duchesne)		
Location:	SESW S30 T5S R3W		
Indian Country:	X, Uintah and Ouray		
Last Inspection:	8/29/2012	***Allowable Inj Pressure:***	1900 /
Last MIT:	Pass 3/25/2012	***Annulus Pressure From Last MIT:***	1780

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 12/30/13
Initials DB

OBSERVED VALUES:

Tubing Gauge:	[x] Yes [ ] No	Pressure: U: 1781 / L: ____ psig Gauge Range: Scale 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

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

U2 Entered
Date 12/17/13
Initial

	GREEN	BLUE	CBI
TAB			

Inspection Report For Well: UT20736 - 04525 (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

United States Environmental Protection Agency
Washington, DC 20460

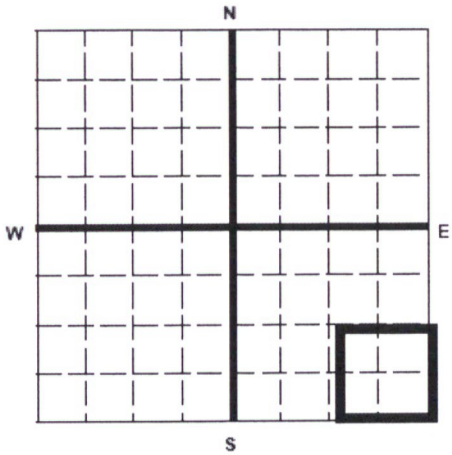
EPA

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	UT2736-04525

Surface Location Description
___ 1/4 of ___ 1/4 of SE 1/4 of SE 1/4 of Section 30 Township 5S Range 3W

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

Surface
Location 715 ft. frm (N/S) S Line of quarter section
and 2518 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 30-14

		INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING -- CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	16	1711	1725	473		0	0
February	16	1786	1806	696		0	0
March	16	1790	1805	672		0	0
April	16	1761	1784	499		0	0
May	16	1778	1786	663		0	0
June	16	1743	1769	492		0	0
July	16	1756	1767	536		0	0
August	16	1744	1774	431		0	0
September	16	1734	1762	415		0	0
October	16	1756	1778	636		0	0
November	16	1697	1744	255		0	0
December	16	1717	1744	432		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	[signature]	03/21/2017

GREEN BLUE CBI
TAC

U2 Entered
Date 4/7/17
Initial [initials]

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

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

multi-chem
A HALLIBURTON SERVICE

Units of Measurement: **Standard**

Water Analysis Report

Production Company:	**PETROGLYPH OPERATING CO INC - EBUS**	Sales Rep:	**James Patry**
Well Name:	**UTE TRIBAL 30-14,DUCHESNE**	Lab Tech:	**Kaitlyn Natelli**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2017**		
Sample ID:	**WA-345383**		

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):	6459.74
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	5.00
Tot. SuspendedSolids(mg/L):	
Corrosivity(LanglierSat.Indx)	0.00
Alkalinity:	

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	2163.45	Chloride (Cl):	2500.00
Potassium (K):	13.20	Sulfate (SO_4):	100.00
Magnesium (Mg):	18.91	Bicarbonate (HCO_3):	1586.00
Calcium (Ca):	39.79	Carbonate (CO_3):	
Strontium (Sr):	3.65	Hydroxide(HO):	
Barium (Ba):	8.94	Acetic Acid (CH_3COO)	
Iron (Fe):	9.30	Propionic Acid (C_2H_5COO)	
Zinc (Zn):	1.77	Butanoic Acid (C_3H_7COO)	
Lead (Pb):	0.09	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Ammonia NH_3:		Fluoride (F):	
Manganese (Mn):	0.14	Bromine (Br):	
Aluminum (Al):	0.00	Silica (SiO_2):	14.50
Lithium (Li):	2.73	Calcium Carbonate ($CaCO_3$):	
Boron (B):	2.59	Phosphates (PO_4):	8.86
Silicon (Si):	6.78	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	1.35	30.45	1.41	5.10	3.51	4.52	2.82	6.75	0.00	0.00	0.00	0.00	0.00	0.00	10.35	0.93
149.00	267.00	1.41	31.03	1.31	5.05	3.46	4.52	2.91	6.75	0.00	0.00	0.00	0.00	0.00	0.00	10.09	0.93
168.00	483.00	1.50	31.82	1.24	5.00	3.45	4.52	3.02	6.75	0.00	0.00	0.00	0.00	0.00	0.00	9.88	0.93
187.00	700.00	1.59	32.51	1.18	4.96	3.46	4.52	3.13	6.76	0.00	0.00	0.00	0.00	0.00	0.00	9.70	0.93
206.00	917.00	1.70	33.08	1.15	4.92	3.49	4.52	3.23	6.76	0.00	0.00	0.00	0.00	0.00	0.00	9.55	0.93
224.00	1133.00	1.81	33.54	1.12	4.90	3.54	4.52	3.33	6.76	0.00	0.00	0.00	0.00	0.00	0.00	9.42	0.93
243.00	1350.00	1.93	33.89	1.11	4.89	3.60	4.53	3.42	6.76	0.00	0.00	0.00	0.00	0.00	0.00	9.30	0.93
262.00	1567.00	2.05	34.16	1.11	4.89	3.68	4.53	3.50	6.76	0.00	0.00	0.00	0.00	0.00	0.00	9.21	0.93
281.00	1783.00	2.17	34.35	1.12	4.90	3.77	4.53	3.58	6.76	0.00	0.00	0.00	0.00	0.00	0.00	9.12	0.93
300.00	2000.00	2.30	34.49	1.14	4.91	3.86	4.53	3.65	6.76	0.00	0.00	0.00	0.00	0.00	0.00	9.05	0.93

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

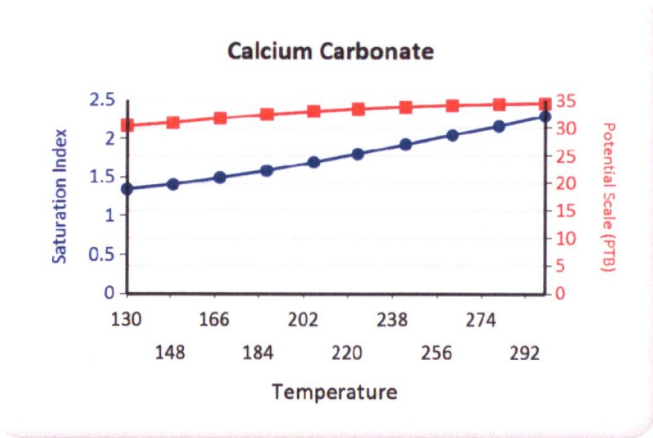
multi-chem®
A HALLIBURTON SERVICE

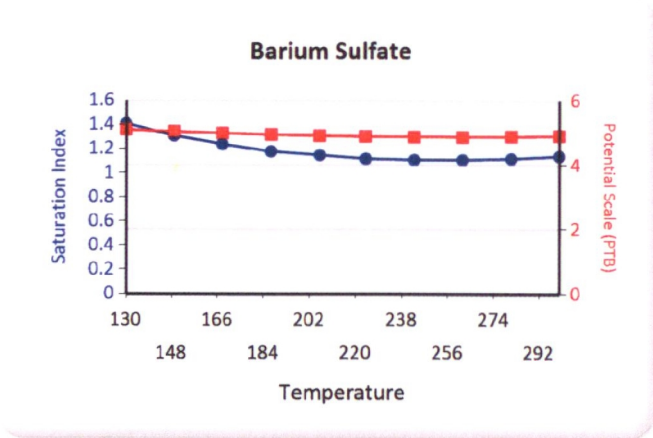
Water Analysis Report

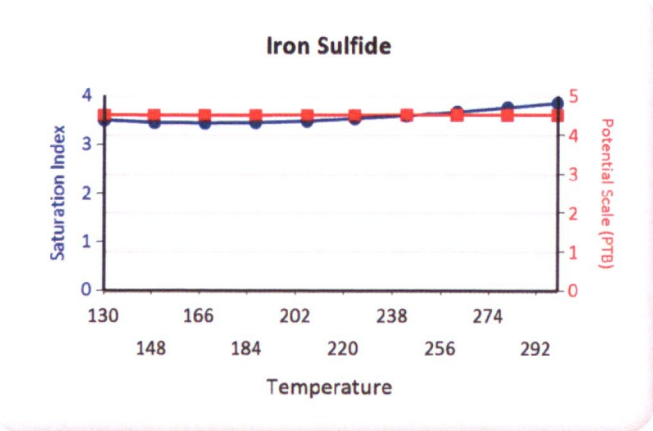
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
130.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75	1.17	10.76	0.04	2.54	13.47	1.05	6.41	9.59	7.22
149.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	1.96	1.18	10.33	0.04	3.31	17.36	1.47	8.76	10.07	7.22
168.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	2.17	1.18	9.96	0.04	4.15	21.88	1.95	11.51	10.66	7.23
187.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	2.36	1.18	9.64	0.04	4.99	25.98	2.43	14.02	11.26	7.23
206.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	2.53	1.19	9.35	0.04	5.81	29.39	2.91	16.06	11.87	7.23
224.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	2.69	1.19	9.10	0.04	6.62	32.02	3.38	17.52	12.47	7.23
243.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	2.82	1.19	8.87	0.04	7.41	33.92	3.84	18.45	13.07	7.23
262.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	2.95	1.19	8.67	0.04	8.16	35.21	4.30	18.98	13.66	7.23
281.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	3.05	1.19	8.49	0.04	8.89	36.08	4.73	19.27	14.23	7.23
300.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	3.14	1.19	8.33	0.04	9.58	36.63	5.15	19.42	14.77	7.23

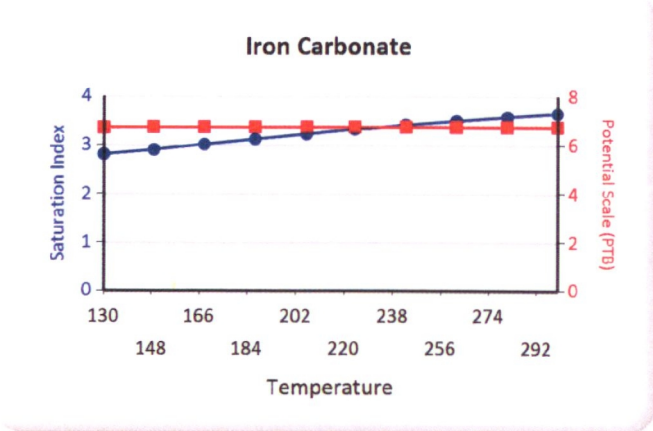
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

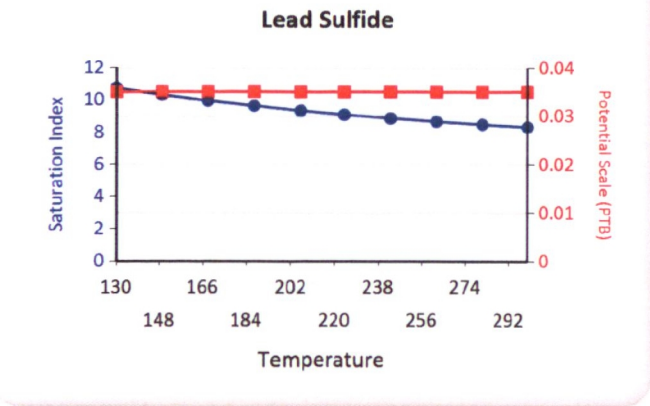
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

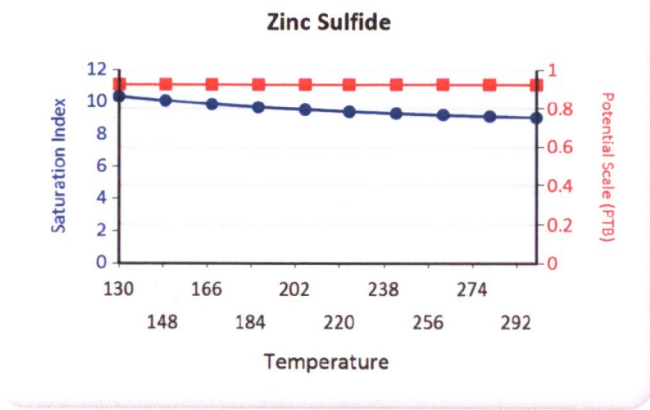


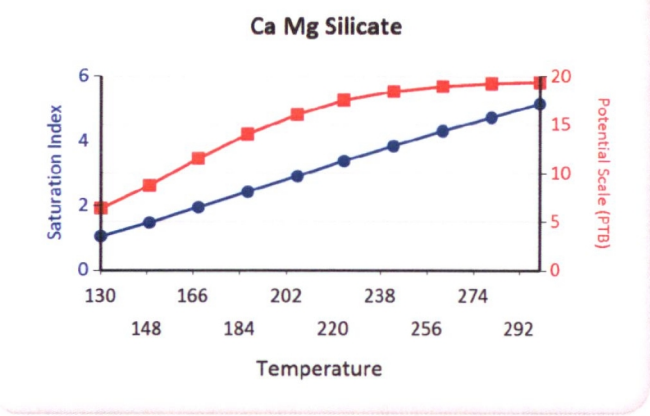







Lead Sulfide
Saturation Index
Potential Scale (PTB)
Temperature
130 166 202 238 274
148 184 220 256 292


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


Ca Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
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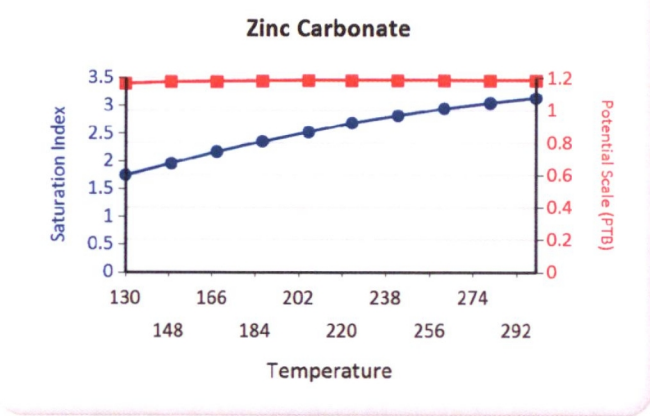
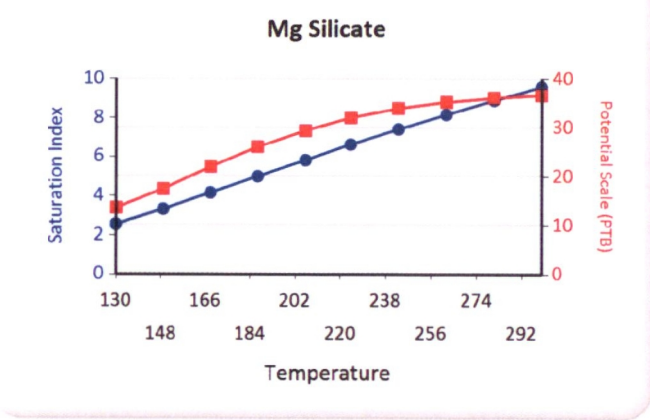
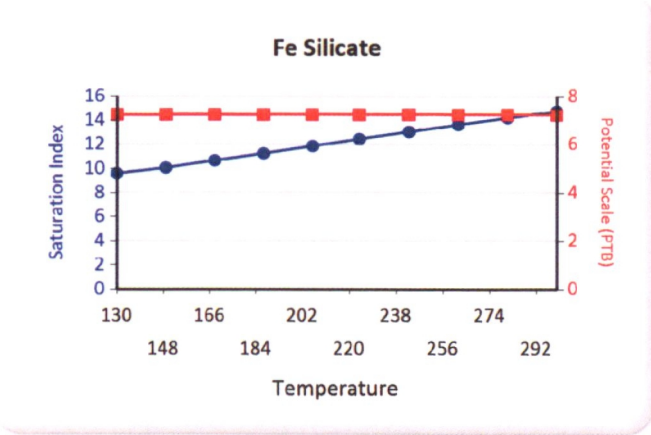
148 184 220 256 292


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


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


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

UT20736-04525

PETROGLYPH EXECUTIVE OFFICES

RECEIVED

MAR 31 2017

Office of Enforcement, Compliance and Environmental Justice (Water)

March 27, 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 29-08 UT20736-07123
- Ute Tribal 30-14 UT20736-04525
- Ute Tribal 28-04 UT20736-07118

If any questions, please reach me at (208) 685-9711; or Les Farnsworth at (435) 722-5301.

Best Regards,

Nicole Colby
Manager, Land & Regulatory Compliance

PETROGLYPH ENERGY, INC.

960 Broadway Avenue, Suite 500 ▪ P.O. Box 70019 ▪ Boise, Idaho 83707 ▪ (208) 685-7600 ▪ Fax: (208) 685-7605 ▪ www.petroglyphenergy.com

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: 3 / 21 / 17

Test conducted by: CHAD STEVENSON

Others present: _____

Well Name: 30-14 Type: ER SWD **Status:** AC TA UC

Field: ANTELOPE CREEK

Location: 30-14 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: 20 **bpd**

Pre-test annulus pressure: _____ **psig**

MIT DATA TABLE	*Test #1*	*Test #2*	*Test #3*
TUBING		***PRESSURE RECORD***	
Initial Pressure	1720 psig	psig	psig
End of test pressure	1720 psig	psig	psig
CASING / TUBING ANNULUS		***PRESSURE RECORD***	
0 minutes	1070 psig	psig	psig
5 minutes	1070 psig	psig	psig
10 minutes	1070 psig	psig	psig
15 minutes	1070 psig	psig	psig
20 minutes	1070 psig	psig	psig
25 minutes	1070 psig	psig	psig
30 minutes	1070 psig	psig	psig
5 HOURS *minutes*	1070 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.
PRINTED IN U.S.A.
MW-MP 2000
METER NUMBER
30-141
TIME PUT ON
10:00 A.M.
DATE PUT ON
3-21-77
TIME TAKEN OFF
3:00 P.M.
DATE TAKEN OFF
3-21-77
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9
10
11 A.M.

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

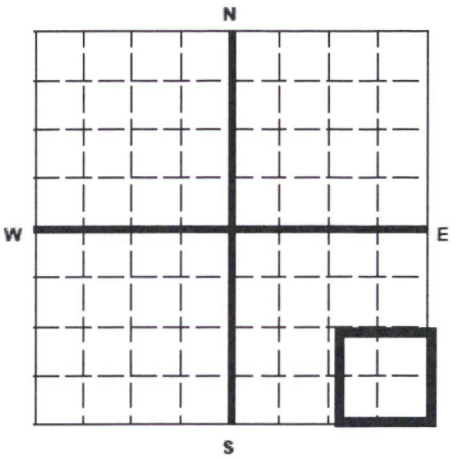
United States Environmental Protection Agency
Washington, DC 20460

EPA

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-~~04434~~ 04525

Surface Location Description

___ 1/4 of ___ 1/4 of SE 1/4 of SE 1/4 of Section 30 Township 5S Range 3W

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

Surface Location 715 ft. frm (N/S) S Line of quarter section and 2518 ft. from (E/W) W Line of quarter section.

U2 Entered
Date 3/3/16
Initial B

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 30-14

		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	1719	1746	527		0	0
February	15	1756	1790	575		0	0
March	15	1764	1797	593		0	0
April	15	1737	1765	480		0	0
May	15	1758	1772	470		0	0
June	15	1748	1801	387		0	0
July	15	1795	1798	702		0	0
August	15	1766	1775	527		0	0
September	15	1751	1775	484		0	0
October	15	1753	1768	531		0	0
November	15	1763	1779	496		0	0
December	15	1756	1777	175		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	[signature]	02/08/2016

TAB	GREEN	BLUE	CBI
		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 30-14,DUCHESNE**	Lab Tech:	**Michele Pike**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2016**		
Sample ID:	**WA-327666**		

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

Sample Specifics

Test Date:	1/13/2016
System Temperature 1 (°F):	60
System Pressure 1 (psig):	2000
System Temperature 2 (°F):	180
System Pressure 2 (psig):	50
Calculated Density (g/ml):	1.0061
pH:	8.30
Calculated TDS (mg/L):	12712.24
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	5.00
Tot. SuspendedSolids(mg/L):	
Corrosivity(LanglierSat.Indx)	0.00
Alkalinity:	

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	4439.43	Chloride (Cl):	6000.00
Potassium (K):	19.17	Sulfate (SO_4):	220.00
Magnesium (Mg):	48.20	Bicarbonate (HCO_3):	1830.00
Calcium (Ca):	119.60	Carbonate (CO_3):	
Strontium (Sr):	6.14	Acetic Acid (CH_3COO)	
Barium (Ba):	5.09	Propionic Acid (C_2H_5COO)	
Iron (Fe):	0.92	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	0.94	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.24	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.07	Silica (SiO_2):	22.44
Aluminum (Al):	0.01	Calcium Carbonate ($CaCO_3$):	
Lithium (Li):	0.70	Phosphates (PO_4):	7.29
Boron (B):	2.48	Oxygen (O_2):	
Silicon (Si):	10.49		

Notes:

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	2.05	97.30	1.03	2.74	2.39	0.50	2.08	0.66	0.00	0.00	0.00	0.00	0.00	0.00	9.40	0.49
167.00	267.00	1.96	94.39	1.05	2.76	2.36	0.50	1.97	0.66	0.00	0.00	0.00	0.00	0.00	0.00	9.52	0.49
153.00	483.00	1.88	92.11	1.08	2.78	2.37	0.50	1.88	0.66	0.00	0.00	0.00	0.00	0.00	0.00	9.66	0.49
140.00	700.00	1.82	89.59	1.13	2.80	2.38	0.50	1.78	0.66	0.00	0.00	0.00	0.00	0.00	0.00	9.81	0.49
127.00	917.00	1.75	86.88	1.18	2.83	2.41	0.50	1.69	0.66	0.00	0.00	0.00	0.00	0.00	0.00	9.99	0.49
113.00	1133.00	1.70	84.05	1.25	2.86	2.45	0.50	1.60	0.65	0.00	0.00	0.00	0.00	0.00	0.00	10.18	0.49
100.00	1350.00	1.64	81.16	1.33	2.89	2.51	0.50	1.50	0.65	0.00	0.00	0.00	0.00	0.00	0.00	10.38	0.49
87.00	1567.00	1.60	78.31	1.42	2.92	2.58	0.50	1.41	0.64	0.00	0.00	0.00	0.00	0.00	0.00	10.61	0.49
73.00	1783.00	1.55	75.55	1.53	2.94	2.67	0.50	1.32	0.64	0.00	0.00	0.00	0.00	0.00	0.00	10.86	0.49
60.00	2000.00	1.52	72.95	1.66	2.97	2.78	0.51	1.23	0.63	0.00	0.00	0.00	0.00	0.00	0.00	11.14	0.49

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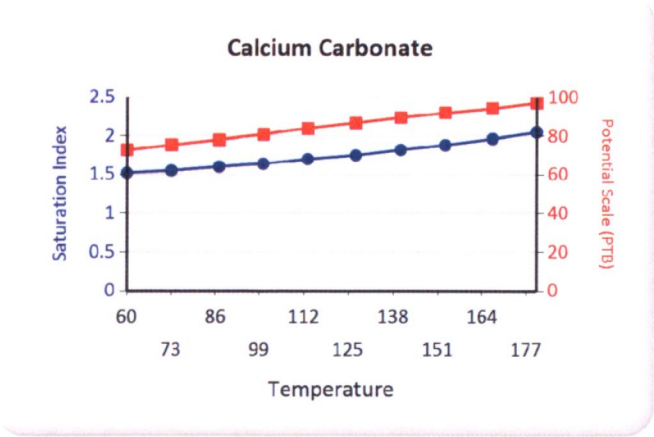
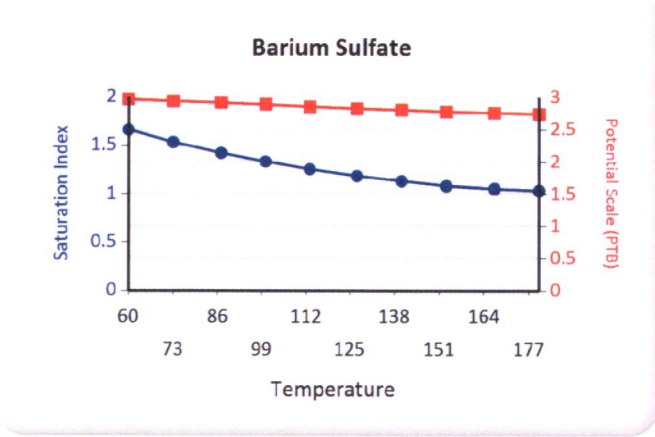
Water Analysis Report

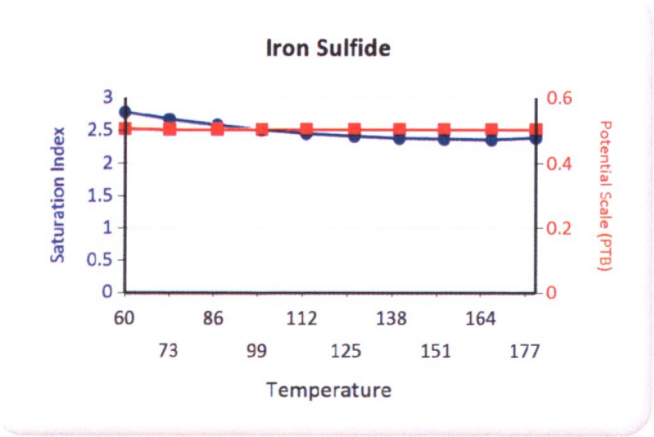
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	1.96	0.62	10.09	0.10	6.56	51.23	3.70	26.81	8.58	0.72
167.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	1.81	0.62	10.31	0.10	5.86	45.06	3.29	24.37	8.05	0.72
153.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	1.66	0.62	10.56	0.10	5.25	39.91	2.93	22.17	7.62	0.72
140.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.61	10.84	0.10	4.63	34.58	2.58	19.71	7.19	0.71
127.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.60	11.14	0.10	4.02	29.35	2.23	17.14	6.78	0.71
113.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15	0.59	11.46	0.10	3.40	24.39	1.89	14.53	6.37	0.71
100.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	0.95	0.56	11.82	0.10	2.78	19.73	1.54	11.95	5.96	0.71
87.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.52	12.21	0.10	2.16	15.31	1.20	9.41	5.57	0.70
73.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.45	12.63	0.10	1.53	11.01	0.85	6.87	5.18	0.70
60.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.32	13.08	0.10	0.89	6.67	0.51	4.30	4.80	0.70

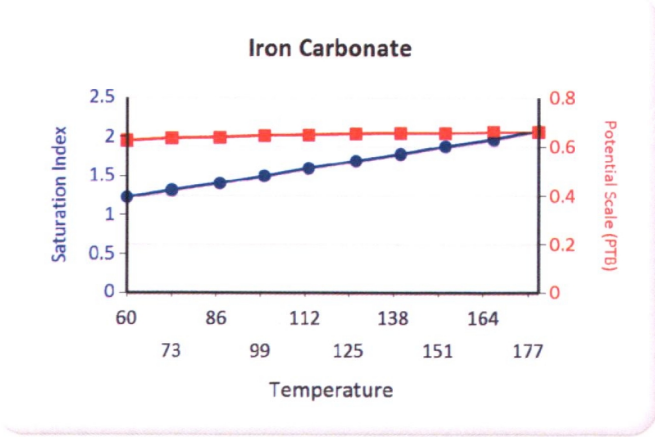
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

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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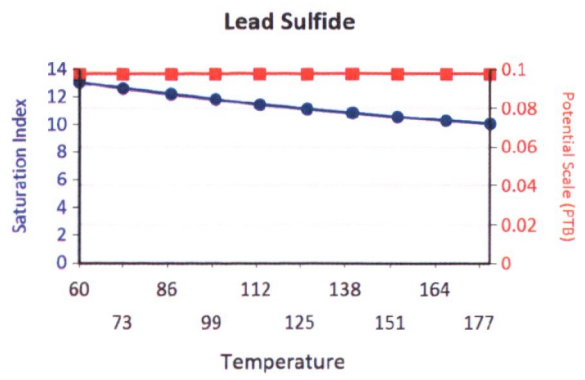
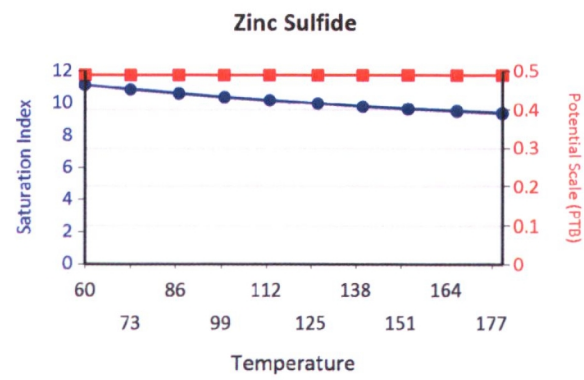
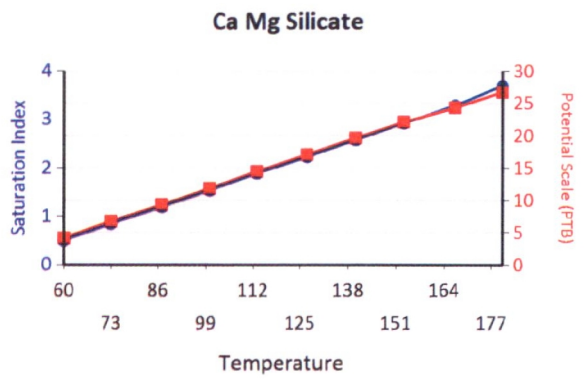
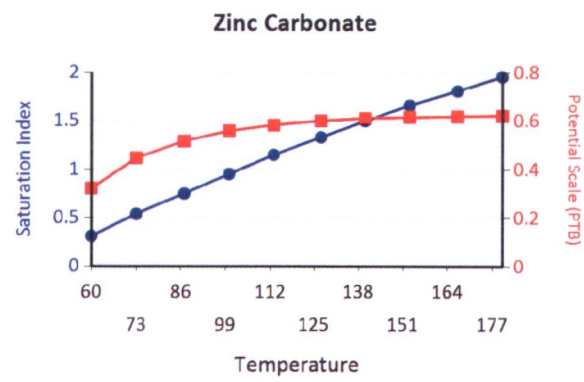
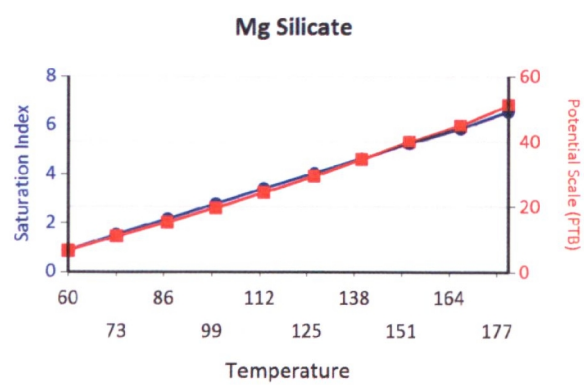
Water Analysis Report

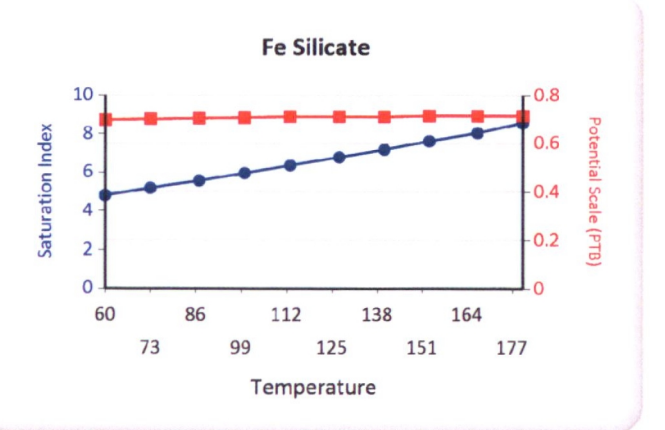











Fe Silicate
Saturation Index
Potential Scale (PTB)
10
8
6
4
2
0
0.8
0.6
0.4
0.2
0
60
86
112
138
164
73
99
125
151
177
Temperature

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

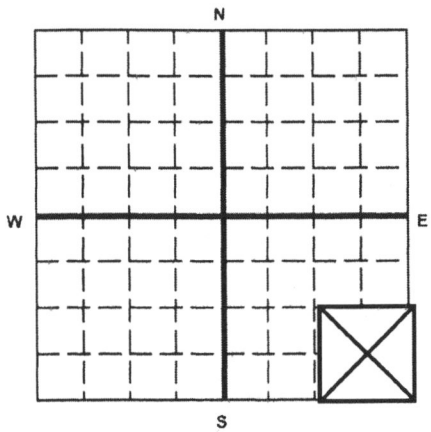
EPA

United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

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

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
Utah	Duchesne	UT2736-04525

Surface Location Description

___ 1/4 of ___ 1/4 of SE 1/4 of SE 1/4 of Section 30 Township 5S Range 3W

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

Surface Location 715 ft. frm (N/S) S Line of quarter section and 2518 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 30-14

		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	1794	1814	663		0	0
February	14	1814	1821	658		0	0
March	14	1797	1820	718		0	0
April	14	1828	1845	882		0	0
May	14	1746	1817	849		0	0
June	14	1809	1832	720		0	0
July	14	1759	1797	471		0	0
August	14	1774	1795	~~646~~	621 inj. mnthly	0	0
September	14	1734	1763	668		0	0
October	14	1789	1787	717		0	0
November	14	1793	1797	592		0	0
December	14	1713	1803	578		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 possiblity of fine and imprisonment. (Ref. 40 CFR 144.32)

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

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

U2 Entered
Date 3/31/15
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 30-14,DUCHESNE**	Lab Tech:	**Gary Winegar**
Sample Point:	**WELLHEAD**		
Sample Date:	**1/7/2015**		
Sample ID:	**WA-298198**		

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

Sample Specifics	
Test Date:	1/21/2015
System Temperature 1 (°F):	160
System Pressure 1 (psig):	1300
System Temperature 2 (°F):	80
System Pressure 2 (psig):	15
Calculated Density (g/ml):	1.0025
pH:	8.50
Calculated TDS (mg/L):	6741.23
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	20.00

Analysis @ Properties in Sample Specifics			
Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	3098.65	Chloride (Cl):	500.00
Potassium (K):	53.17	Sulfate (SO_4):	326.00
Magnesium (Mg):	16.40	Bicarbonate (HCO_3):	2684.00
Calcium (Ca):	27.06	Carbonate (CO_3):	
Strontium (Sr):	4.86	Acetic Acid (CH_3COO)	
Barium (Ba):	2.43	Propionic Acid (C_2H_5COO)	
Iron (Fe):	1.20	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	1.58	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.12	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.08	Silica (SiO_2):	25.68

Notes:
B=7.72 Al=0 Li=1.52

(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	1.52	22.58	1.67	1.42	3.80	0.66	2.14	0.87	0.00	0.00	0.00	0.00	0.00	0.00	11.97	0.82
88.00	157.00	1.52	22.55	1.58	1.41	3.72	0.66	2.17	0.87	0.00	0.00	0.00	0.00	0.00	0.00	11.79	0.82
97.00	300.00	1.54	22.60	1.51	1.40	3.66	0.66	2.22	0.87	0.00	0.00	0.00	0.00	0.00	0.00	11.62	0.82
106.00	443.00	1.55	22.65	1.43	1.40	3.61	0.66	2.26	0.87	0.00	0.00	0.00	0.00	0.00	0.00	11.47	0.82
115.00	585.00	1.57	22.69	1.37	1.38	3.56	0.66	2.31	0.87	0.00	0.00	0.00	0.00	0.00	0.00	11.33	0.82
124.00	728.00	1.59	22.74	1.31	1.38	3.53	0.66	2.35	0.87	0.00	0.00	0.00	0.00	0.00	0.00	11.19	0.82
133.00	871.00	1.61	22.80	1.26	1.37	3.50	0.66	2.39	0.87	0.00	0.00	0.00	0.00	0.00	0.00	11.06	0.82
142.00	1014.00	1.64	22.85	1.21	1.36	3.48	0.66	2.44	0.87	0.00	0.00	0.00	0.00	0.00	0.00	10.95	0.82
151.00	1157.00	1.66	22.90	1.17	1.35	3.46	0.66	2.48	0.87	0.00	0.00	0.00	0.00	0.00	0.00	10.84	0.82
160.00	1300.00	1.69	22.95	1.13	1.34	3.45	0.66	2.52	0.87	0.00	0.00	0.00	0.00	0.00	0.00	10.73	0.82

		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
80.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	1.47	1.03	13.13	0.05	1.54	10.70	0.53	4.38	7.18	0.93
88.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.58	1.03	12.83	0.05	1.82	12.09	0.66	5.21	7.30	0.93
97.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	1.70	1.04	12.56	0.05	2.19	14.10	0.86	6.45	7.51	0.93
106.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82	1.04	12.30	0.05	2.57	16.03	1.05	7.64	7.73	0.93
115.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	1.93	1.05	12.06	0.05	2.95	17.87	1.26	8.79	7.95	0.93
124.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	2.03	1.05	11.84	0.05	3.33	19.59	1.46	9.86	8.19	0.93
133.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	2.14	1.06	11.62	0.05	3.72	21.20	1.67	10.86	8.43	0.93
142.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	2.23	1.06	11.42	0.05	4.11	22.68	1.89	11.76	8.69	0.93
151.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	2.33	1.06	11.23	0.05	4.50	24.03	2.10	12.57	8.94	0.93
160.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42	1.06	11.05	0.05	4.89	25.23	2.32	13.27	9.20	0.93

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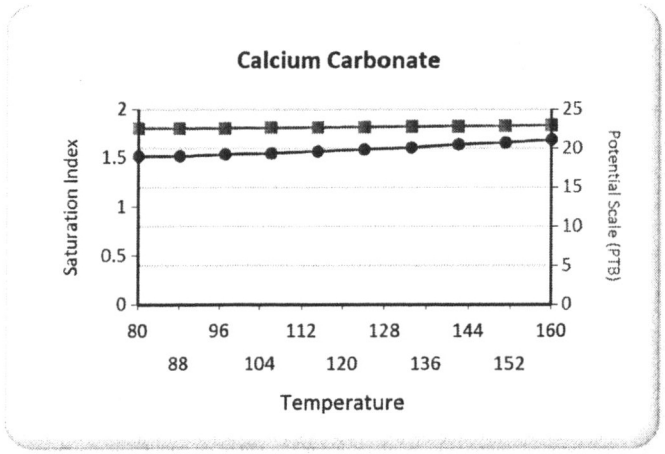
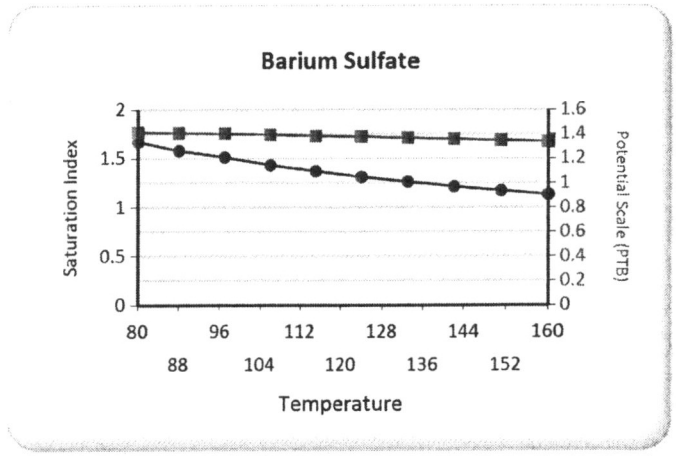
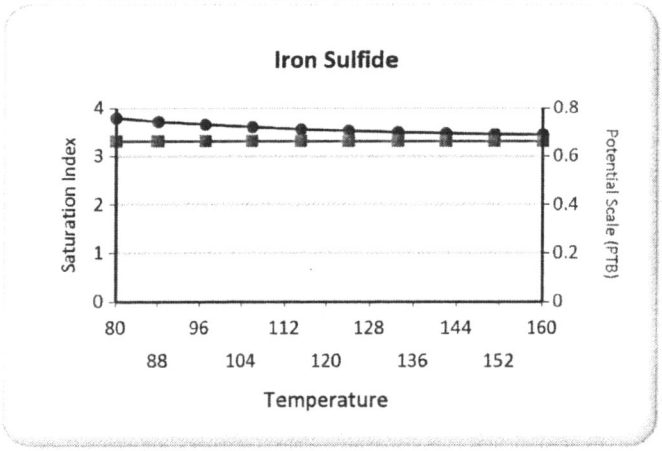
Water Analysis Report

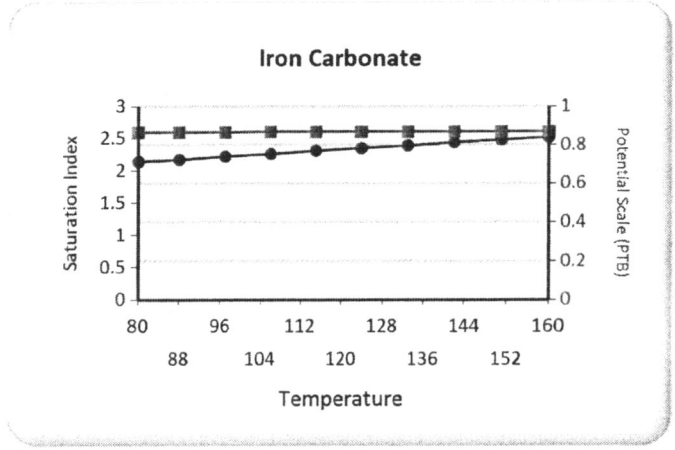
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

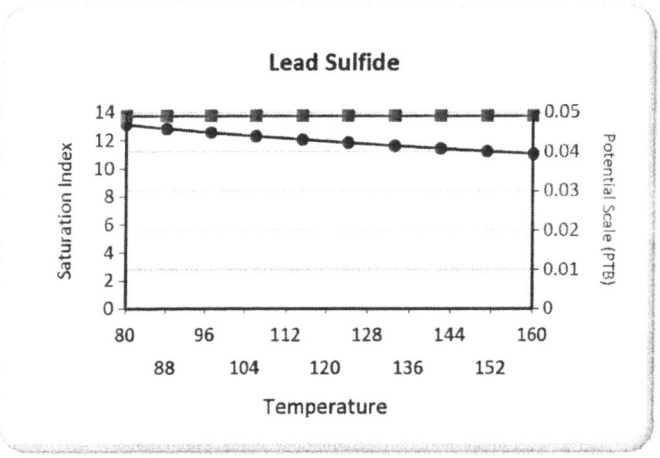
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

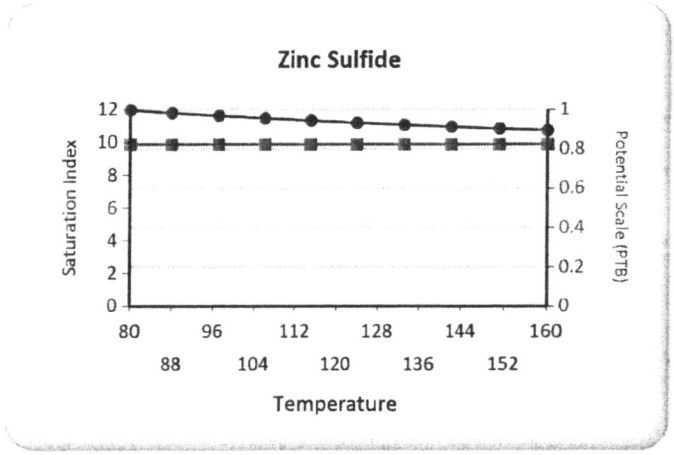


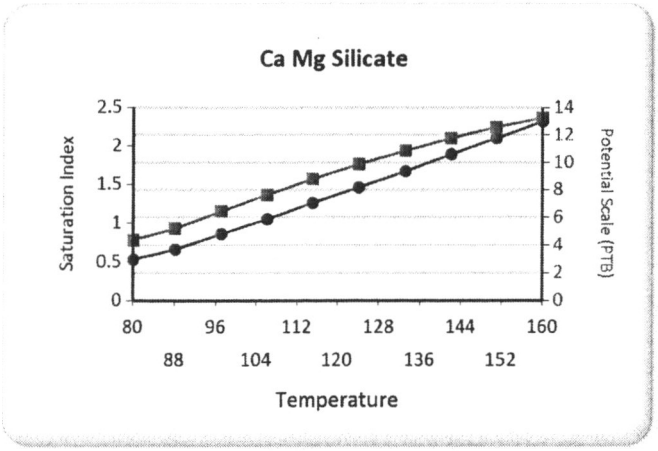


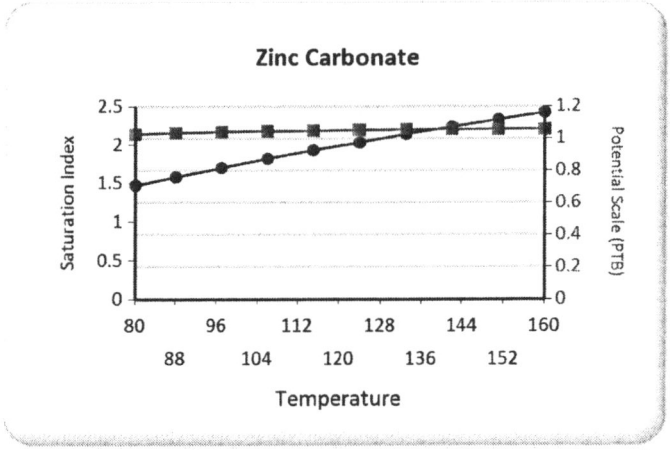









Ca Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
2.5
2
1.5
1
0.5
0
14
12
10
8
6
4
2
0
80
96
112
128
144
160
88
104
120
136
152


Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
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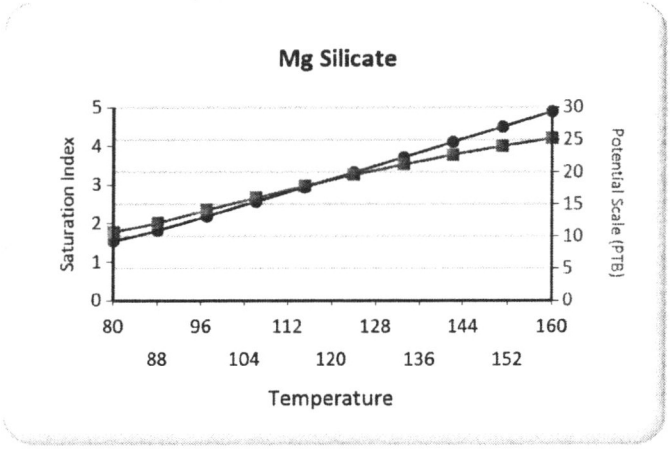
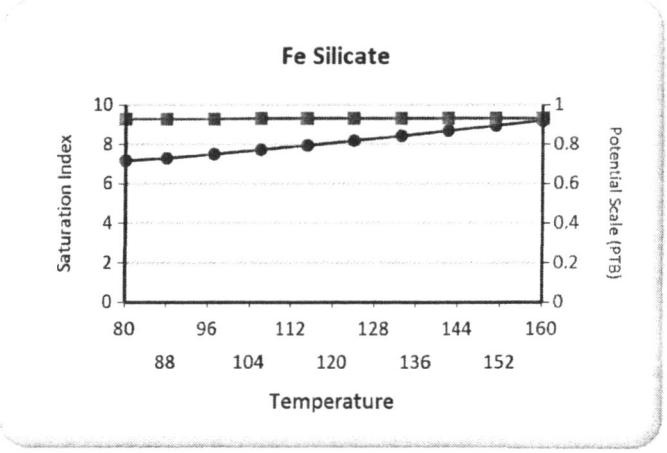
2
1.5
1
0.5
0
1.2
1
0.8
0.6
0.4
0.2
0
80
96
112
128
144
160
88
104
120
136
152


Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
5
4
3
2
1
0
30
25
20
15
10
5
0
80
96
112
128
144
160
88
104
120
136
152


Fe Silicate
Saturation Index
Potential Scale (PTB)
Temperature
10
8
6
4
2
0
1
0.8
0.6
0.4
0.2
0
80
96
112
128
144
160
88
104
120
136
152

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

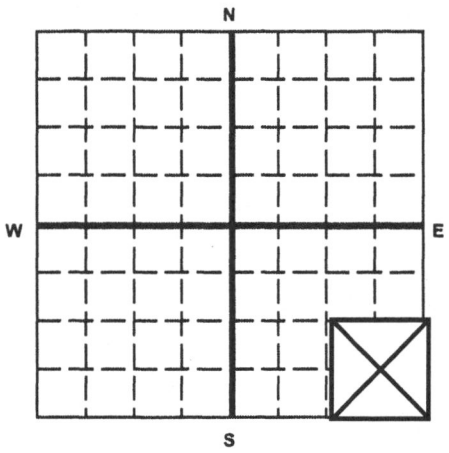
United States Environmental Protection Agency
Washington, DC 20460

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	UT2736-04525

Surface Location Description
___ 1/4 of ___ 1/4 of SE 1/4 of SE 1/4 of Section 30 Township 5S Range 3W

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

Surface Location 715 ft. frm (N/S) S Line of quarter section
and 2518 ft. from (E/W) W Line of quarter section.

WELL ACTIVITY
- ☐ Brine Disposal
- ☒ Enhanced Recovery
- ☐ Hydrocarbon Storage

TYPE OF PERMIT
- ☐ Individual
- ☒ Area

Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 30-14

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	1765	1791	269		0	0
February	13	1785	1805	279		0	0
March	13	1775	1790	414		0	0
April	13	1776	1851	902		0	0
May	13	1851	1868	839		0	0
June	13	1828	1853	609		0	0
July	13	1820	1854	724		0	0
August	13	1822	1860	706		0	0
September	13	1813	1850	594		0	0
October	13	1805	1839	772		0	0
November	13	1793	1799	599		0	0
December	13	1792	1803	673		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)

GREEN BLUE CBI
2

U2 Entered
Date 3/21/14
Initial JB

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 30-14 INJ**
Sample Point: **Wellhead**
Sample Date: **1/8/2014**
Sample ID: **WA-263022**

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):	1.007
pH:	8.40
Calculated TDS (mg/L):	14385.48
CO_2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H_2S in Water (mg/L):	10.00

Analysis @ Properties in Sample Specifics			
Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	5182.40	Chloride (Cl):	7000.00
Potassium (K):	67.00	Sulfate (SO_4):	135.00
Magnesium (Mg):	21.00	Bicarbonate (HCO_3):	1903.20
Calcium (Ca):	48.00	Carbonate (CO_3):	
Strontium (Sr):	5.00	Acetic Acid (CH_3COO)	
Barium (Ba):	0.50	Propionic Acid (C_2H_5COO)	
Iron (Fe):	1.20	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	0.46	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.08	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.24	Silica (SiO_2):	21.40

Notes:
B=5 Al=.06 Li=.94

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum $CaSO_4 \cdot 2H_2O$		Celestite $SrSO_4$		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	1.42	37.29	0.54	0.21	3.42	0.66	1.59	0.85	0.00	0.00	0.00	0.00	0.00	0.00	11.34	0.24
73.00	157.00	1.42	37.21	0.40	0.18	3.27	0.66	1.65	0.85	0.00	0.00	0.00	0.00	0.00	0.00	11.03	0.24
86.00	300.00	1.44	37.50	0.27	0.14	3.16	0.66	1.72	0.86	0.00	0.00	0.00	0.00	0.00	0.00	10.76	0.24
100.00	443.00	1.47	37.82	0.15	0.09	3.07	0.66	1.79	0.86	0.00	0.00	0.00	0.00	0.00	0.00	10.51	0.24
113.00	585.00	1.49	38.16	0.06	0.04	2.99	0.66	1.85	0.86	0.00	0.00	0.00	0.00	0.00	0.00	10.28	0.24
126.00	728.00	1.52	38.51	0.00	0.00	2.93	0.66	1.92	0.86	0.00	0.00	0.00	0.00	0.00	0.00	10.07	0.24
140.00	871.00	1.56	38.87	0.00	0.00	2.89	0.66	1.98	0.86	0.00	0.00	0.00	0.00	0.00	0.00	9.89	0.24
153.00	1014.00	1.60	39.21	0.00	0.00	2.86	0.66	2.04	0.87	0.00	0.00	0.00	0.00	0.00	0.00	9.72	0.24
166.00	1157.00	1.64	39.55	0.00	0.00	2.84	0.66	2.10	0.87	0.00	0.00	0.00	0.00	0.00	0.00	9.56	0.24
180.00	1300.00	1.69	39.86	0.00	0.00	2.83	0.66	2.15	0.87	0.00	0.00	0.00	0.00	0.00	0.00	9.42	0.24

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

multi-chem®
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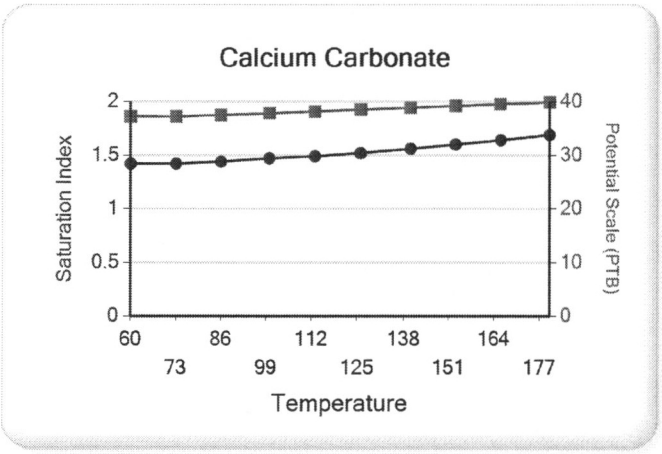
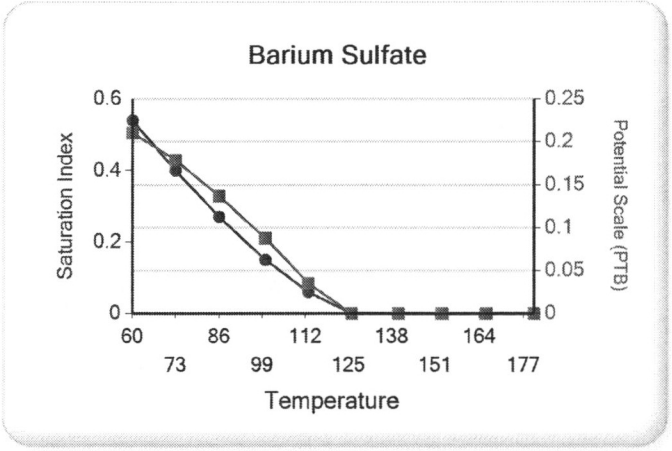
Water Analysis Report

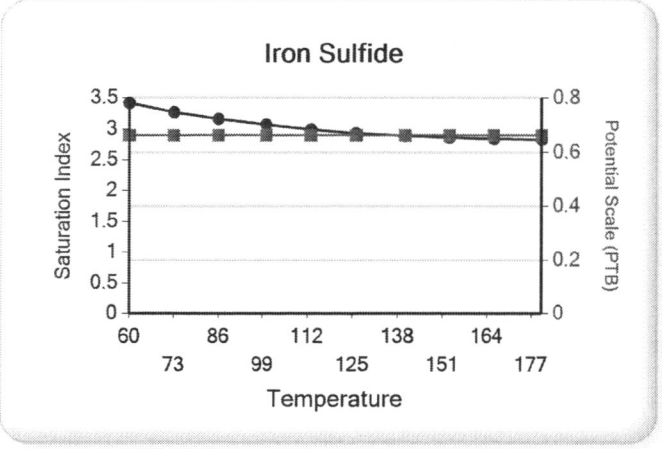
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
60.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.13	13.12	0.03	0.32	2.53	0.00	0.00	5.67	0.92
73.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.19	12.63	0.03	0.78	5.40	0.15	1.40	5.86	0.92
86.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.23	12.18	0.03	1.31	8.52	0.42	3.15	6.14	0.93
100.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.26	11.78	0.03	1.85	11.50	0.71	4.83	6.44	0.93
113.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96	0.28	11.40	0.03	2.41	14.31	1.00	6.42	6.76	0.93
126.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.28	11.06	0.03	2.96	16.93	1.30	7.87	7.09	0.93
140.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	1.26	0.29	10.74	0.03	3.52	19.31	1.61	9.16	7.44	0.93
153.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40	0.30	10.45	0.03	4.08	21.36	1.92	10.26	7.81	0.93
166.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.53	0.30	10.18	0.03	4.64	23.01	2.24	11.15	8.17	0.93
180.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	1.64	0.30	9.94	0.03	5.19	24.23	2.55	11.84	8.55	0.93

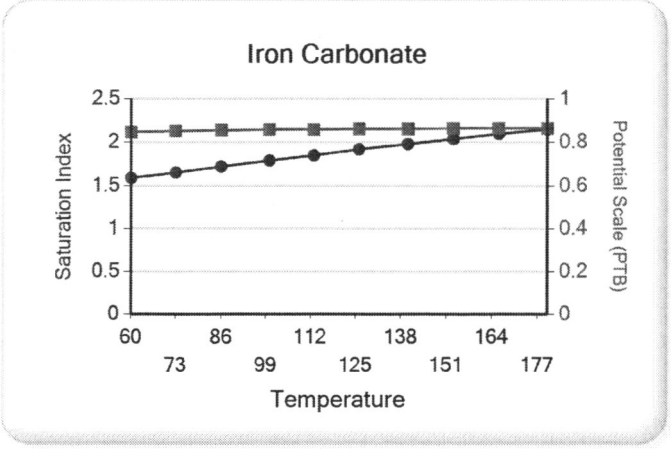
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Fe Silicate

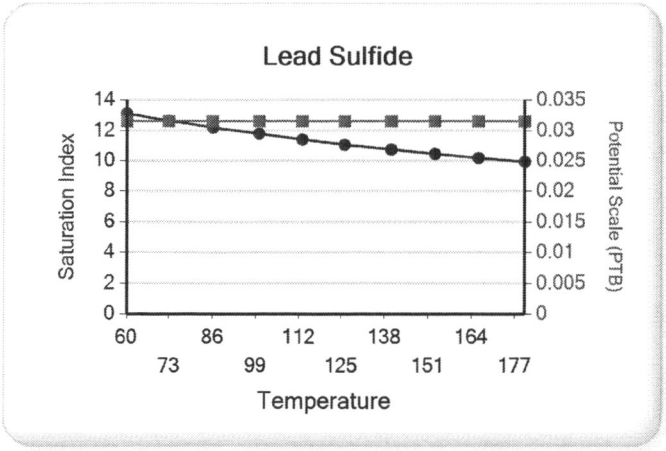
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

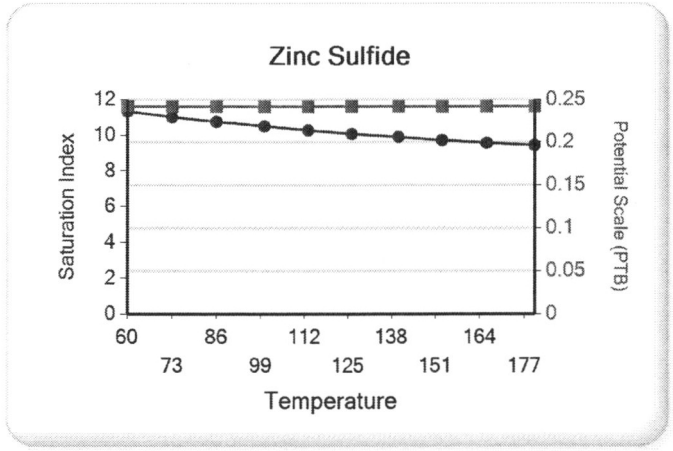









Lead Sulfide
Saturation Index
Potential Scale (PTB)
Temperature
60 86 112 138 164
73 99 125 151 177


Zinc Sulfide
Saturation Index
Potential Scale (PTB)
Temperature
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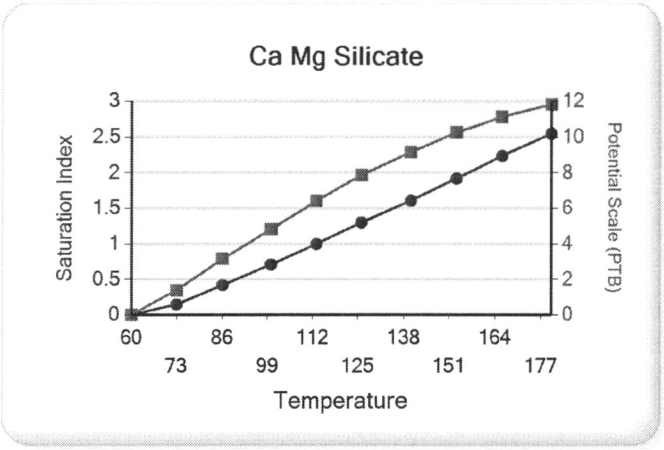
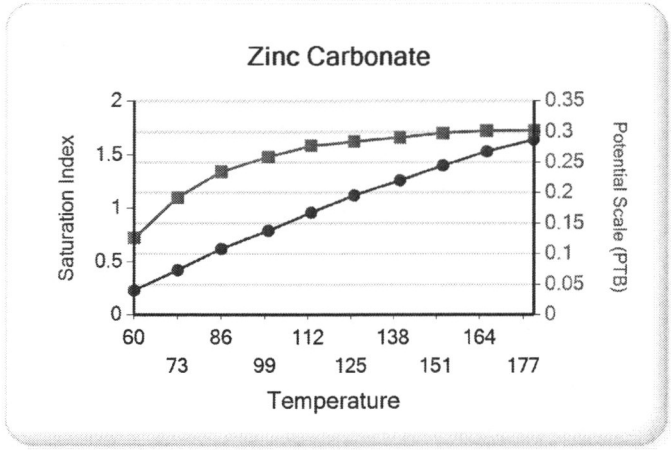
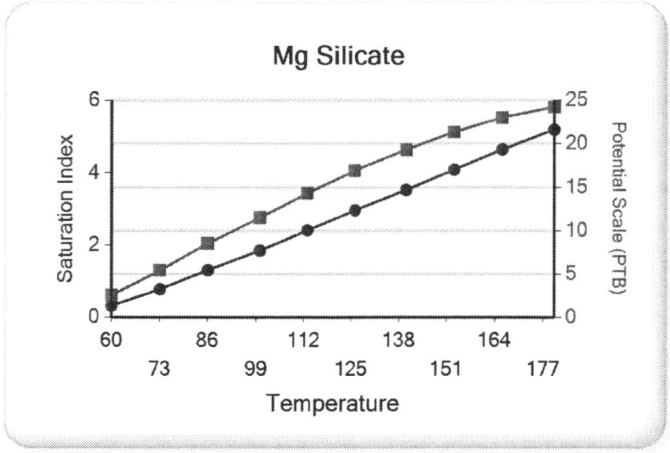
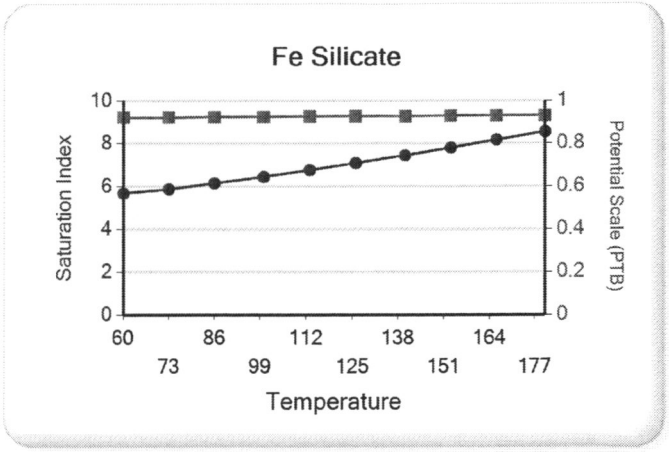
73 99 125 151 177


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


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


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


Fe Silicate
Saturation Index
Potential Scale (PTB)
Temperature
10
8
6
4
2
0
1
0.8
0.6
0.4
0.2
0
60
86
112
138
164
73
99
125
151
177

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

MAR 20 2001

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: AUTHORIZATION TO COMMENCE INJECTION
Ute Tribal #30-14 (UT04525)
Antelope Creek Field
EPA AREA PERMIT UT2736-00000
Duchesne County, Utah

Dear Mr. Safford:

Thank you for submitting information pertaining to Ute Tribal #30-14 to the Environmental Protection Agency (EPA) Region VIII Ground Water Program. Requirements of UIC Area Permit UT2736-00000 Part II Sections (C)(2) "Prior To Commencing Injection" required submittal of the following information:

1. Well Rework Record (*EPA Form 7520-12*) with after conversion well schematic; and

2. the well has successfully completed and passed a Mechanical Integrity Test (MIT), with pressure chart demonstrating Part I (internal) mechanical integrity; and

3. a pore pressure survey has been determined of the injection zones.

The conversion plan for this production well has been reviewed, and found satisfactory. EPA analysis of the cement bond log (CBL) for this well identified a minimum interval of adequate cement within the confining zone, pursuant to Region VIII Ground Water Section Guidance No. 34. Therefore, it is determinant that the annulus cement in the Ute Tribal #30-14 provides an effective barrier to upper movement of fluids through vertical channels adjacent to the wellbore.

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

MAR 20 2001

Scan under UT20736-04525 220 Authorization to Inject - Final 3/20/2001

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: AUTHORIZATION TO INJECT
Ute Tribal #30-14
Antelope Creek Field
EPA AREA PERMIT UT2736-00000
Duchesne County, Utah

Dear Mr. Safford:

Thank you for submitting information pertaining to Ute Tribal #30-14 to the Environmental Protection Agency (EPA) Region VIII Ground Water Program. Requirements of UIC Area Permit UT2736-00000 Part II Sections (C)(2) "Prior To Commencing Injection" required submittal of the following information:

1. Well Rework Record (*EPA Form 7520-12*) with after conversion well schematic; and

2. the well has successfully completed and passed a Mechanical Integrity Test (MIT), with pressure chart demonstrating Part I (internal) mechanical integrity; and

3. a pore pressure survey has been determined of the injection zones.

The conversion plan for this production well has been reviewed, and found satisfactory. EPA analysis of the cement bond log (CBL) for this well identified a minimum interval of adequate cement within the confining zone, pursuant to Region VIII Ground Water Section Guidance No. 34. Therefore, it is determinant that the annulus cement in the Ute Tribal #30-14 provides an effective barrier to upper movement of fluids through vertical channels adjacent to the wellbore.

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All required information has been submitted, and has been reviewed and approved by the EPA. Petroglyph has complied with all pertinent conditions of UIC Area Permit UT2736-00000 Part II Section (C)(2). Therefore, effective upon your receipt of this letter, Administrative approval hereby is granted for injection into the Ute Tribal #30-14 under the conditions of UIC Area Permit UT2736-00000. The Director has determined that the **maximum surface injection pressure for the Ute Tribal #30-14 shall not exceed 1900 psig.** per Final Area Permit UT2736-00000, Part II, Section C.5.(b).

Please be reminded that it is the responsibility of the permittee to be aware of, and to comply with, all conditions of the Permit. Effective upon receipt of this letter, EPA administration of this well is transferred to Mr. Al Craver, Compliance Officer in the Office of Enforcement, Compliance, and Environmental Justice Technical Enforcement Program, who is your point of contact for routine compliance matters and reports.

Please send all reporting forms and other required correspondence to Mr. Craver at the address listed below, referencing **EPA WELL ID NO: UT04525** on all reports and correspondence.

Mr. Al Craver,
Technical Enforcement Program, Mail Code 8ENF-T
U.S. Environmental Protection Agency
999 18th Street, Suite 300
Denver, Colorado, USA, 80202-2466

If you have any questions concerning this authorization or the Permit, please contact Mr. Dan Jackson of my staff at 303.312.6155 or Mr. Craver at 303.312.7821.

Sincerely,

D. Edwin Hogle
Director
Ground Water Program

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

Ms. Elaine Willie, Environmental Director
Ute Indian Tribe

Mr. Norman Cambridge
BIA - Uintah & Ouray Agency

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

Mr. Jerry Kenczka
BLM - Vernal District Office

3/20/01 CW 3950C (UTE TRIBAL #30-14 / UT04525)

SENDER:

- 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.

MAR 20 2001

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:

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

4a. Article Number

Z 159 952 313

4b. Service Type

☐ Registered ☐ Insured
XX Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery

3-23-01

5. Signature (Addressee)

6. Signature (Agent)

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

MAR 27 2001

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

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

Z 159 952 313

US Postal Service 3/20/01 CW 3950C

Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail *(See reverse)*

Sent to Mr. Micheal Safford	
Street & Number Operations Coordinator	
Post Office, State, & ZIP Code Petroglyph Operating Co., Inc. P.O. Box 607 Roosevelt, UT 84066	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

PS Form 3800, April 1995

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

MAR 20 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: AUTHORIZATION TO COMMENCE INJECTION
Ute Tribal #30-14 (UT04525)
Antelope Creek Field
EPA AREA PERMIT UT2736-00000
Duchesne County, Utah

Dear Mr. Safford:

Thank you for submitting information pertaining to Ute Tribal #30-14 to the Environmental Protection Agency (EPA) Region VIII Ground Water Program. Requirements of UIC Area Permit UT2736-00000 Part II Sections (C)(2) "Prior To Commencing Injection" required submittal of the following information:

1. **Well Rework Record (*EPA Form 7520-12*) with after conversion well schematic**; and

2. the well has successfully completed and passed a Mechanical Integrity Test (MIT), with pressure chart demonstrating **Part I (internal) mechanical integrity**; and

3. a **pore pressure survey has been determined** of the injection zones.

The conversion plan for this production well has been reviewed, and found satisfactory. EPA analysis of the cement bond log (CBL) for this well identified a minimum interval of adequate cement within the confining zone, pursuant to Region VIII Ground Water Section Guidance No. 34. Therefore, it is determinant that the annulus cement in the Ute Tribal #30-14 provides an effective barrier to upper movement of fluids through vertical channels adjacent to the wellbore.

Concur

3/20/01

8P-W-GW 3/20/01

8P-W-GW 3/20/01

3/20/01

Printed on Recycled Paper

All required information has been submitted, and has been reviewed and approved by the EPA. Petroglyph has complied with all pertinent conditions of UIC Area Permit UT2736-00000 Part II Section (C)(2). Therefore, effective upon your receipt of this letter, Administrative approval hereby is granted for injection into the Ute Tribal #30-14 under the conditions of UIC Area Permit UT2736-00000. The Director has determined that the **maximum surface injection pressure for the Ute Tribal #30-14 shall not exceed 1900 psig**. per Final Area Permit UT2736-00000, Part II, Section C.5.(b).

Please be reminded that it is the responsibility of the permittee to be aware of, and to comply with, all conditions of the Permit. Effective upon receipt of this letter, EPA administration of this well is transferred to Mr. Al Craver, Compliance Officer in the Office of Enforcement, Compliance, and Environmental Justice Technical Enforcement Program, who is your point of contact for routine compliance matters and reports.

Please send all reporting forms and other required correspondence to Mr. Craver at the address listed below, referencing **EPA WELL ID NO: UT04525** on all reports and correspondence.

Mr. Al Craver,
Technical Enforcement Program, Mail Code 8ENF-T
U.S. Environmental Protection Agency
999 18th Street, Suite 300
Denver, Colorado, USA, 80202-2466

If you have any questions concerning this authorization or the Permit, please contact Mr. Dan Jackson of my staff at 303.312.6155 or Mr. Craver at 303.312.7821.

Sincerely,

D. Edwin Hogle
Director
Ground Water Program

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

Ms. Elaine Willie, Environmental Director
Ute Indian Tribe

Mr. Norman Cambridge
BIA - Uintah & Ouray Agency

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

Mr. Jerry Kenczka
BLM - Vernal District Office

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

MAR 20 2001

Ref: 8P-W-GW

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RETURN RECEIPT REQUESTED

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

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