Inspection Report For Well: UT20736 - 04451

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: 1:27 am / pm

OPERATOR (only if different): _____

REPRESENTATIVE(S): Chad Stevinson

PRE-INSPECTION REVIEW

Petroglyph Operating Company, Inc

Well Name:	Ute Tribal 30-09		
Well Type:	Enhanced Recovery (2R)		
Operating Status:	AC (ACTIVE) as of 7/14/2005		
Oil Field:	Antelope Creek (Duchesne)		
Location:	NESE S30 T5S R3W		
Indian Country:	X, Uintah and Ouray		
Last Inspection:	7/9/2012	***Allowable Inj Pressure:***	2152 /
Last MIT:	Pass 5/24/2011	***Annulus Pressure From Last MIT:***	1930

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 12/27/13
Initials DB

OBSERVED VALUES:

Tubing Gauge:	[x] Yes / [ ] No	Pressure: U: 1788 / L: ____ psig Gauge Range: Scada psig	Gauge Owner:	[ ] EPA / [x] Operator
Annulus Gauge:	[x] Yes / [ ] No	Pressure: 0 psig Gauge Range: opened psig	Gauge Owner:	[x] EPA / [ ] Operator
Bradenhead Gauge:	[ ] Yes / [ ] No	Pressure: ____ psig Gauge Range: ____ psig	Gauge Owner:	[ ] EPA / [ ] Operator
Pump Gauge:	[ ] Yes / [ ] No	Pressure: ____ psig Gauge Range: ____ psig	Gauge Owner:	[ ] EPA / [ ] Operator

Operating Status: (Select One)
- [x] Active
- [ ] Being Reworked
- [ ] Not Injecting
- [ ] Production
- [ ] Plugged and Abandoned
- [ ] Under Construction

U2 Entered
Date 12/17/13
Initials SL

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

GREEN	BLUE	CBI
	/	

Inspection Report For Well: UT20736 - 04451 (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

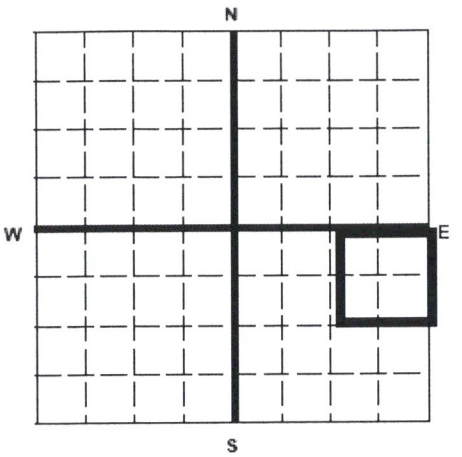
United States Environmental Protection Agency
Washington, DC 20460

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	UT2736-04451

Surface Location Description
___ 1/4 of ___ 1/4 of NE 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 1980 ft. frm (N/S) S Line of quarter section
and 660 ft. from (E/W) E Line of quarter section.

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

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

Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 30-09

		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	1716	1737	753		0	0
February	16	1805	1843	1068		0	0
March	16	1821	1833	1044		0	0
April	16	1770	1809	776		0	0
May	16	1801	1815	1003		0	0
June	16	1773	1819	859		0	0
July	16	1780	1800	914		0	0
August	16	1768	1797	874		0	0
September	16	1741	1774	775		0	0
October	16	1782	1798	980		0	0
November	16	1700	1756	630		0	0
December	16	1742	1766	872		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

U2 Entered
Date 4/7/17
Initial 83

GREEN BLUE GB
2

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 30-09,DUCHESNE**	Lab Tech:	**Kaitlyn Natelli**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2017**		
Sample ID:	**WA-345382**		

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

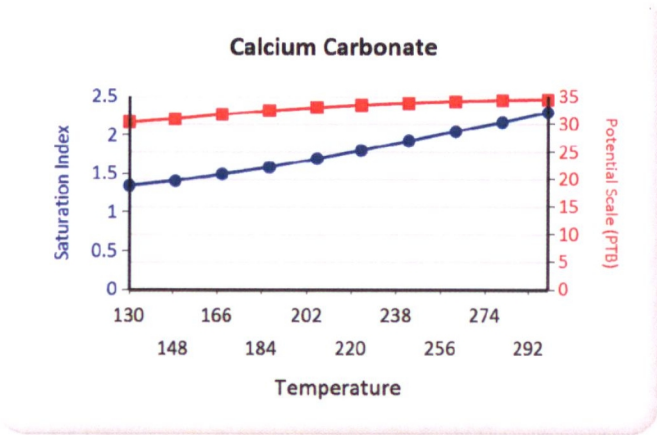
multi-chem
A HALLIBURTON SERVICE

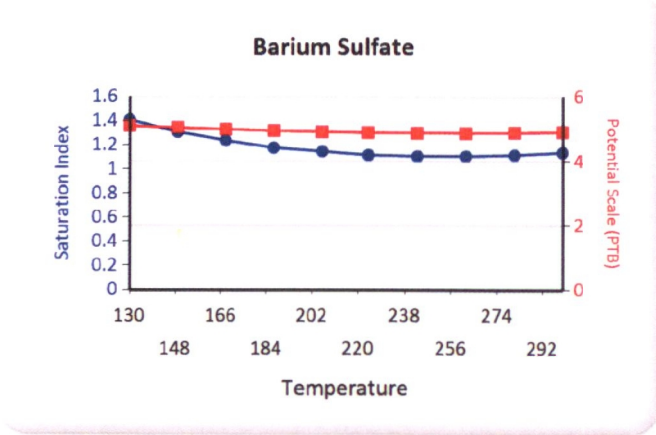
Water Analysis Report

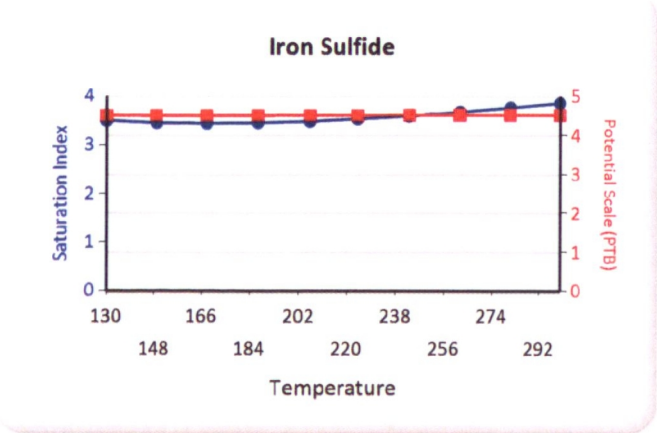
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
130.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75	1.17	10.76	0.04	2.54	13.47	1.05	6.41	9.59	7.22
149.00	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

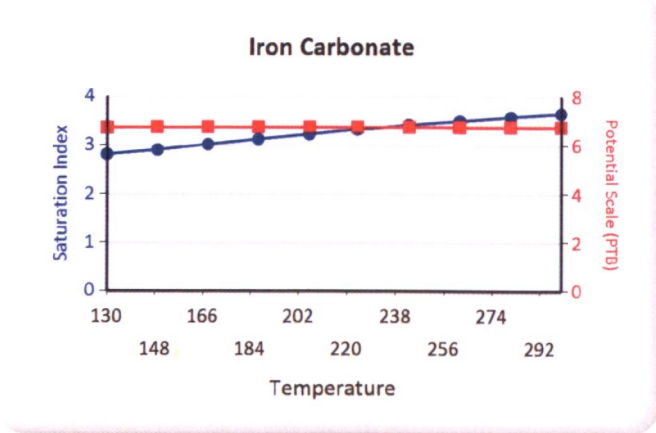
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

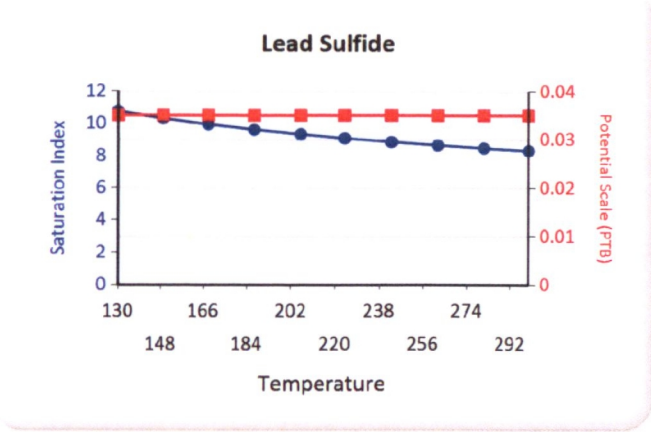
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

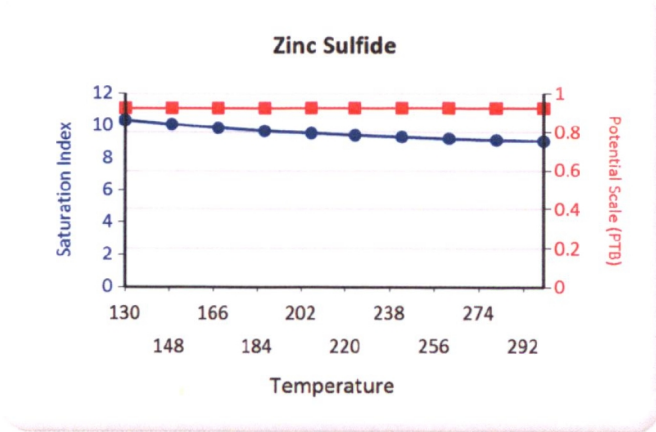


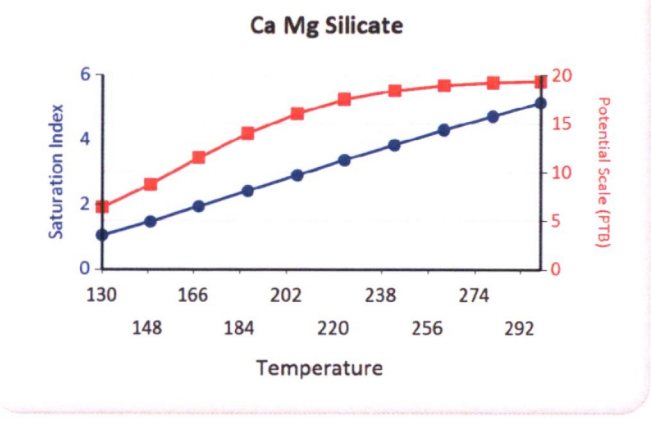


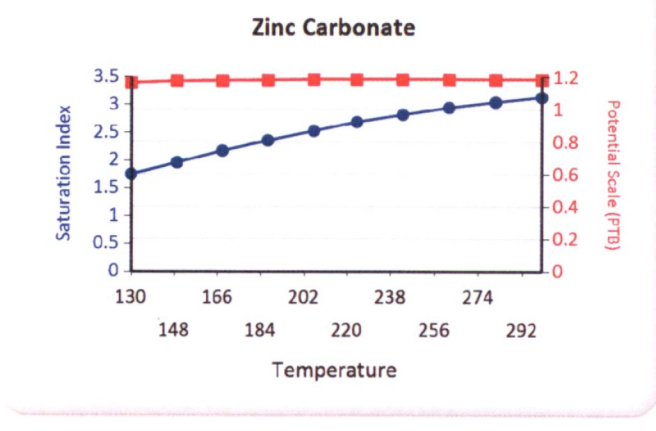


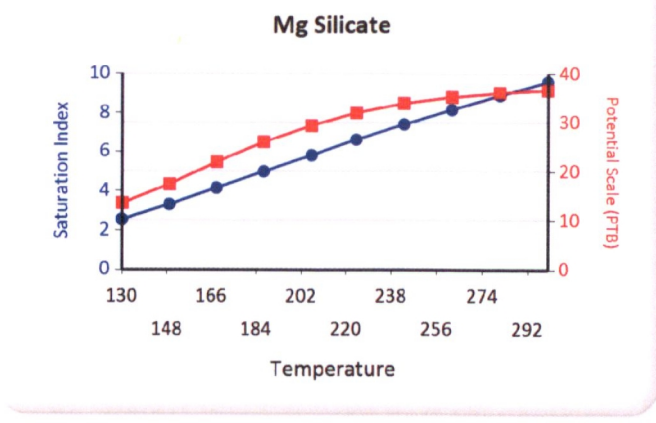


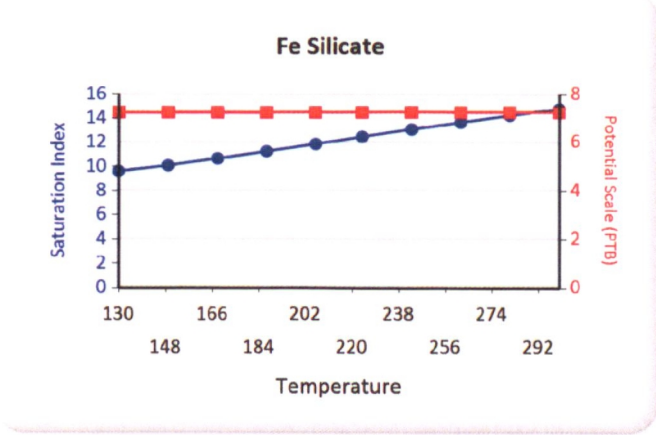

Lead Sulfide
Saturation Index
Potential Scale (PTB)
Temperature
130 166 202 238 274
148 184 220 256 292


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
130 166 202 238 274
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
148
166
184
202
220
238
256
274
292

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

EPA

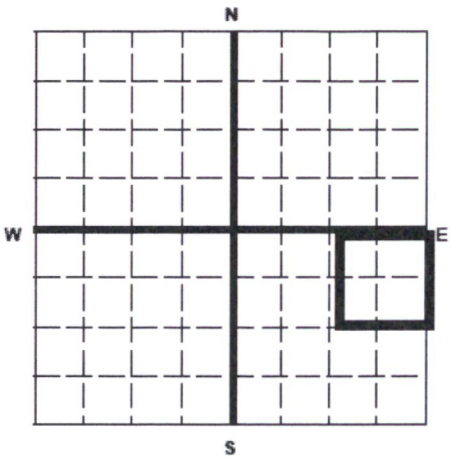
United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee
Petroglyph Operating Company, Inc. 2258
P.O. Box 7608
Boise, Idaho 83709

Name and Address of Surface Owner
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, Utah, 84026

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
Utah	Duchesne	UT2736-~~04434~~ 04451

Surface Location Description
___ 1/4 of ___ 1/4 of NE 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 1980 ft. frm (N/S) S Line of quarter section
and 660 ft. from (E/W) E Line of quarter section.

U2 Entered
Date 3/3/16
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 30-09

		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	1736	1780	951		0	0
February	15	1786	1824	975		0	0
March	15	1796	1823	1110		0	0
April	15	1760	1815	952		0	0
May	15	1781	1805	1044		0	0
June	15	1771	1806	1020		0	0
July	15	1805	1820	986		0	0
August	15	1778	1788	879		0	0
September	15	1769	1797	959		0	0
October	15	1787	1788	956		0	0
November	15	1795	1807	1014		0	0
December	15	1799	1814	1017		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

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 30-09,DUCHESNE**	Lab Tech:	**Michele Pike**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2016**		
Sample ID:	**WA-327667**		

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):	**1.0051**
pH:	**8.10**
Calculated TDS (mg/L):	**11312.96**
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	**0.00**
H_2S in Gas (%):	
H2S in Water (mg/L):	**0.00**
Tot. SuspendedSolids(mg/L):	
Corrosivity(LanglierSat.Indx)	**0.00**
Alkalinity:	

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	**3896.56**	Chloride (Cl):	**5000.00**
Potassium (K):	**22.97**	Sulfate (SO_4):	**150.00**
Magnesium (Mg):	**37.83**	Bicarbonate (HCO_3):	**2074.00**
Calcium (Ca):	**92.39**	Carbonate (CO_3):	
Strontium (Sr):	**6.22**	Acetic Acid (CH_3COO)	
Barium (Ba):	**5.77**	Propionic Acid (C_2H_5COO)	
Iron (Fe):	**2.10**	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	**1.14**	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	**0.62**	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	**0.04**	Silica (SiO_2):	**23.32**
Aluminum (Al):	**0.04**	Calcium Carbonate ($CaCO_3$):	
Lithium (Li):	**1.24**	Phosphates (PO_4):	**6.99**
Boron (B):	**3.25**	Oxygen (O_2):	
Silicon (Si):	**10.90**		

Notes:

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	1.88	76.38	0.97	3.06	0.00	0.00	2.44	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167.00	267.00	1.77	74.52	1.00	3.08	0.00	0.00	2.31	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	483.00	1.69	73.00	1.03	3.11	0.00	0.00	2.21	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	700.00	1.62	71.26	1.08	3.14	0.00	0.00	2.10	1.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127.00	917.00	1.54	69.34	1.13	3.18	0.00	0.00	2.00	1.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	1133.00	1.48	67.27	1.20	3.21	0.00	0.00	1.89	1.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	1350.00	1.42	65.08	1.28	3.25	0.00	0.00	1.79	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87.00	1567.00	1.36	62.86	1.37	3.29	0.00	0.00	1.69	1.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	1783.00	1.31	60.63	1.48	3.32	0.00	0.00	1.59	1.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.00	2000.00	1.26	58.47	1.61	3.35	0.00	0.00	1.49	1.48	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

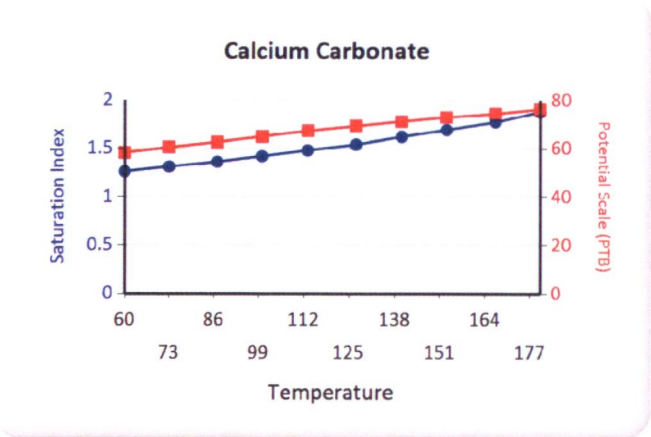
multi-chem®
A HALLIBURTON SERVICE

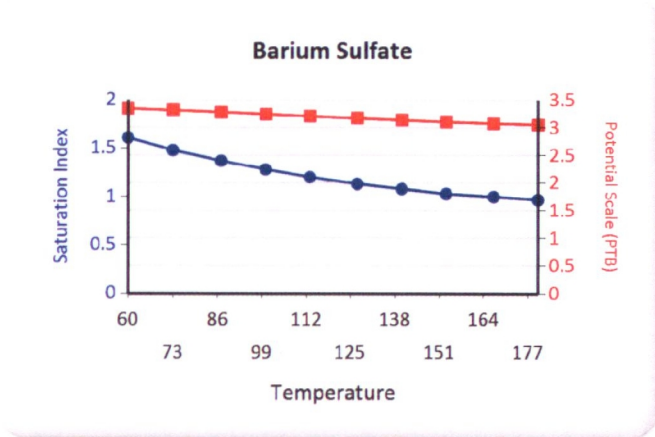
Water Analysis Report

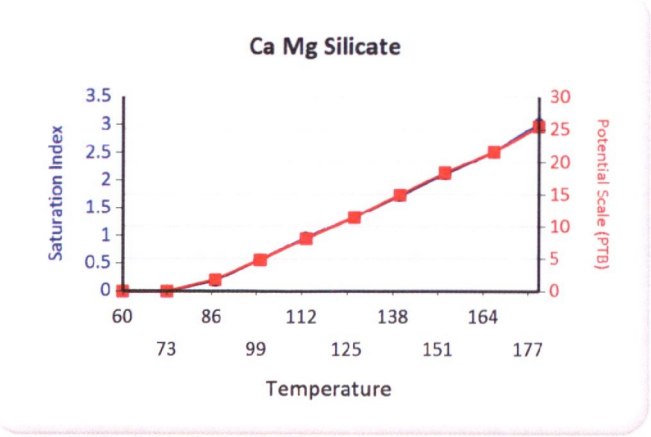
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	2.01	0.76	0.00	0.00	5.51	46.99	3.01	25.45	9.06	1.63
167.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	1.84	0.75	0.00	0.00	4.69	39.26	2.52	21.60	8.41	1.63
153.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	1.68	0.75	0.00	0.00	4.02	33.19	2.12	18.37	7.92	1.63
140.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	1.51	0.74	0.00	0.00	3.35	27.01	1.73	14.95	7.43	1.63
127.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	1.32	0.73	0.00	0.00	2.67	20.96	1.34	11.50	6.96	1.62
113.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13	0.71	0.00	0.00	2.00	15.23	0.96	8.13	6.49	1.62
100.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93	0.68	0.00	0.00	1.32	9.85	0.57	4.89	6.03	1.62
87.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	0.72	0.62	0.00	0.00	0.64	4.77	0.19	1.78	5.58	1.61
73.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.52	0.00	0.00	0.00	0.00	0.00	0.00	5.14	1.59
60.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.35	0.00	0.00	0.00	0.00	0.00	0.00	4.71	1.58

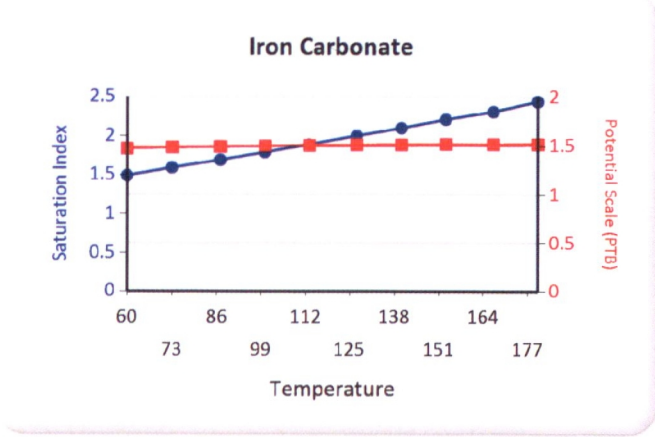
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

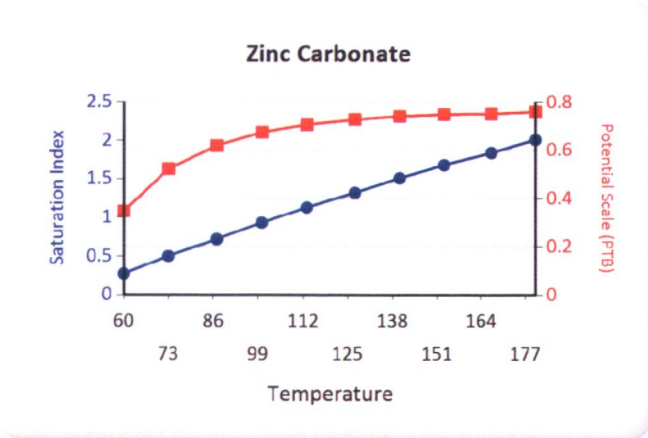
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Fe Silicate

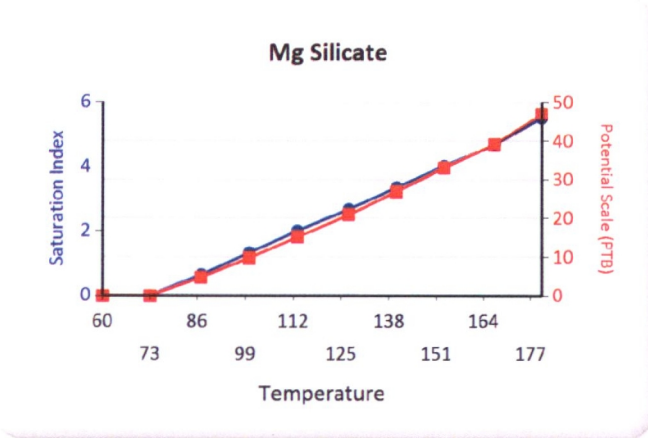


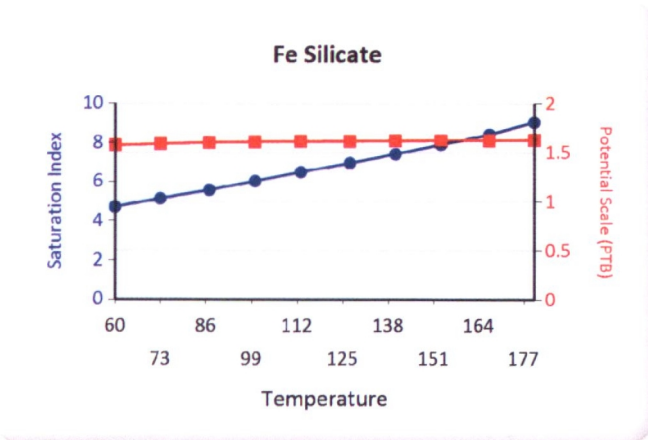







Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
2.5
2
1.5
1
0.5
0
0.8
0.6
0.4
0.2
0
60
86
112
138
164
73
99
125
151
177


Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
6
4
2
0
50
40
30
20
10
0
60
86
112
138
164
73
99
125
151
177


Fe Silicate
Saturation Index
Potential Scale (PTB)
Temperature
10
8
6
4
2
0
2
1.5
1
0.5
0
60
86
112
138
164
73
99
125
151
177

Mechanical Integrity Test
Tubing/Casing Annulus Pressure Test

UT20736-04451

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

EPA Witness: _____ Date: 5/23/16
Test conducted by: CHAD STEVENSON
Others present: _____

Well Name: 30-09 Type: ER SWD **Status:** AC TA UC
Field: ANTELOPE CREEK
Location: 30-09 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: 38 **bpd**
Pre-test annulus pressure: **psig**

MIT DATA TABLE	*Test #1*	*Test #2*	*Test #3*
TUBING		***PRESSURE RECORD***	
Initial Pressure	1824 psig	psig	psig
End of test pressure	1824 psig	psig	psig
CASING / TUBING ANNULUS		***PRESSURE RECORD***	
0 minutes	1170 psig	psig	psig
5 minutes	1170 psig	psig	psig
10 minutes	1170 psig	psig	psig
15 minutes	1170 psig	psig	psig
20 minutes	1170 psig	psig	psig
25 minutes	1170 psig	psig	psig
30 minutes	1170 psig	psig	psig
5 HOURS *minutes*	1170 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.**

	GREEN	BLUE	CBI
TAE		2	

U2 Entered
Date 7/20/16
Initial DS

12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6
7
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.
CALIBRATED CHARTS
METER NUMBER
30-09
TIME PUT ON
9:30 A.M.
DATE PUT ON
5-22-96
TIME TAKEN OFF
2:20 P.M.
DATE TAKEN OFF
5-23-96
MW-MS 2000

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

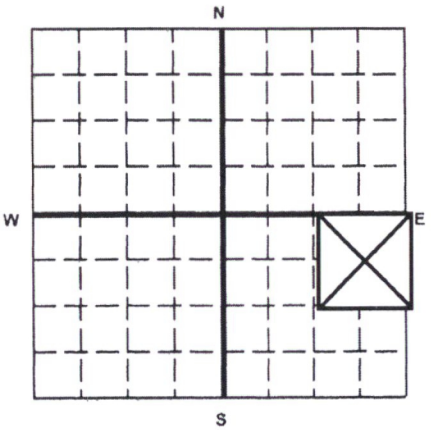
EPA

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	UT2736-04451

Surface Location Description

___ 1/4 of ___ 1/4 of NE 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 1980 ft. frm (N/S) S Line of quarter section and 660 ft. from (E/W) E Line of quarter section.

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

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

Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 30-09

		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	1807	1839	1402		0	0
February	14	1838	1846	1241		0	0
March	14	1798	1811	1290		0	0
April	14	1834	1843	1341		0	0
May	14	1813	1820	1441		0	0
June	14	1789	1843	388		0	0
July	14	1712	1825	950		0	0
August	14	1801	1833	1109		0	0
September	14	1752	1792	956		0	0
October	14	1824	1818	1234		0	0
November	14	1826	1839	1115		0	0
December	14	1766	1836	969		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibliity of fine and imprisonment. (Ref. 40 CFR 144.32)

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

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

U2 Entered
Date 3/31/15
Initial GW

TAB	GREEN	BLUE	CBI
		2	

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**	Sales Rep:	**James Patry**
Well Name:	**Ute Tribal 30-09 Inj**	Lab Tech:	**Gary Winegar**
Sample Point:	**Well**		
Sample Date:	**1/7/2015**		
Sample ID:	**WA-298484**		

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):	1.0038
pH:	8.50
Calculated TDS (mg/L):	9875.37
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	30.00

Analysis @ Properties in Sample Specifics			
Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	2791.11	Chloride (Cl):	4000.00
Potassium (K):	37.73	Sulfate (SO_4):	251.00
Magnesium (Mg):	26.94	Bicarbonate (HCO_3):	2684.00
Calcium (Ca):	40.99	Carbonate (CO_3):	
Strontium (Sr):	4.92	Acetic Acid (CH_3COO)	
Barium (Ba):	8.28	Propionic Acid (C_2H_5COO)	
Iron (Fe):	1.61	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	2.76	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.05	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.09	Silica (SiO_2):	25.89

Notes:
B=6.07 Al=0 Li=1.39

(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	1.72	34.66	1.99	4.88	4.09	0.89	2.25	1.16	0.00	0.00	0.00	0.00	0.00	0.00	12.36	1.44
88.00	157.00	1.73	34.63	1.91	4.87	4.01	0.89	2.29	1.16	0.00	0.00	0.00	0.00	0.00	0.00	12.18	1.44
97.00	300.00	1.74	34.68	1.83	4.86	3.95	0.89	2.33	1.16	0.00	0.00	0.00	0.00	0.00	0.00	12.01	1.44
106.00	443.00	1.75	34.72	1.76	4.84	3.89	0.89	2.37	1.17	0.00	0.00	0.00	0.00	0.00	0.00	11.85	1.44
115.00	585.00	1.77	34.78	1.69	4.83	3.85	0.89	2.41	1.17	0.00	0.00	0.00	0.00	0.00	0.00	11.71	1.44
124.00	728.00	1.79	34.83	1.63	4.82	3.81	0.89	2.45	1.17	0.00	0.00	0.00	0.00	0.00	0.00	11.57	1.44
133.00	871.00	1.81	34.89	1.58	4.80	3.78	0.89	2.50	1.17	0.00	0.00	0.00	0.00	0.00	0.00	11.44	1.44
142.00	1014.00	1.83	34.95	1.53	4.78	3.75	0.89	2.54	1.17	0.00	0.00	0.00	0.00	0.00	0.00	11.32	1.44
151.00	1157.00	1.86	35.01	1.49	4.77	3.73	0.89	2.58	1.17	0.00	0.00	0.00	0.00	0.00	0.00	11.21	1.44
160.00	1300.00	1.88	35.07	1.45	4.75	3.72	0.89	2.61	1.17	0.00	0.00	0.00	0.00	0.00	0.00	11.11	1.44

		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	1.68	1.82	12.89	0.02	2.35	18.64	1.04	8.39	7.64	1.25
88.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79	1.83	12.59	0.02	2.65	20.04	1.19	9.13	7.76	1.25
97.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	1.91	1.83	12.32	0.02	3.01	22.02	1.37	10.15	7.96	1.25
106.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	2.02	1.84	12.07	0.02	3.38	23.84	1.57	11.10	8.17	1.25
115.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	2.13	1.84	11.82	0.02	3.75	25.49	1.76	11.97	8.38	1.25
124.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	2.24	1.84	11.60	0.02	4.12	26.93	1.97	12.74	8.61	1.25
133.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	2.34	1.85	11.38	0.02	4.50	28.14	2.17	13.42	8.84	1.25
142.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	2.43	1.85	11.18	0.02	4.88	29.12	2.38	14.00	9.08	1.25
151.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	2.52	1.85	10.98	0.02	5.26	29.86	2.59	14.49	9.33	1.25
160.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	2.61	1.85	10.80	0.02	5.65	30.39	2.80	14.89	9.58	1.25

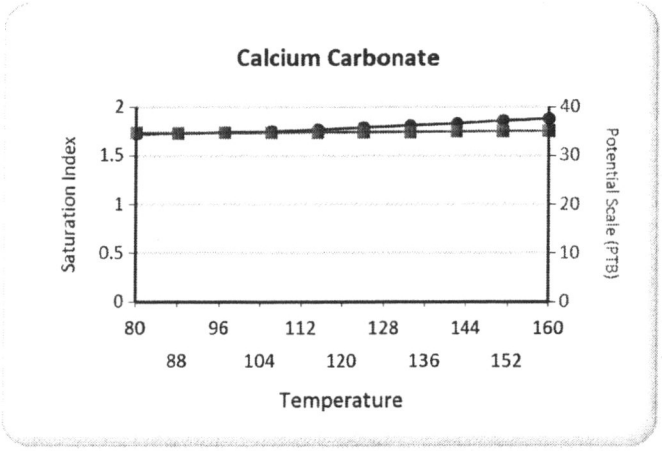
Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

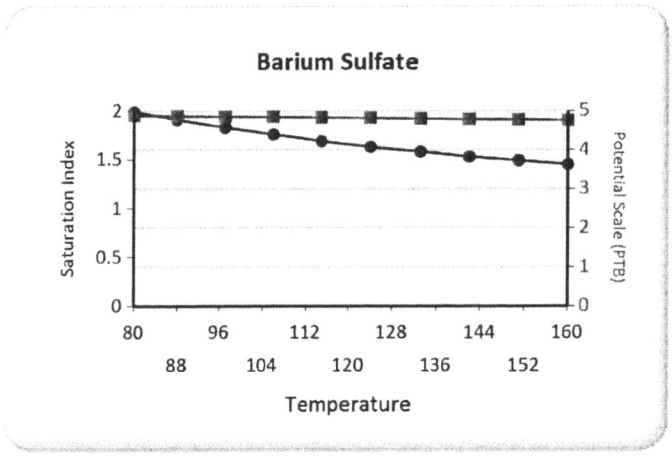
multi-chem®
A HALLIBURTON SERVICE

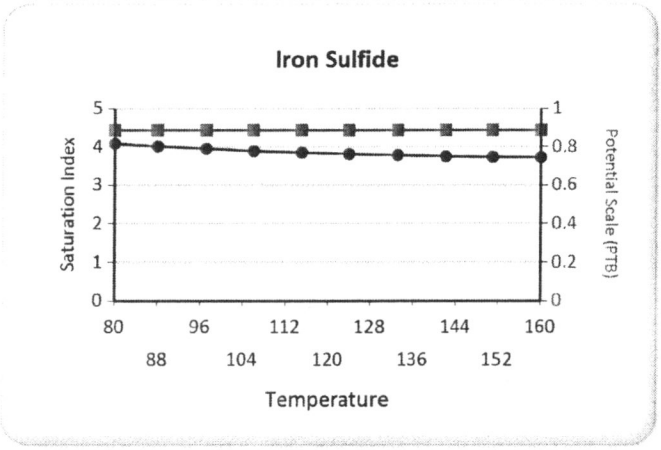
Water Analysis Report

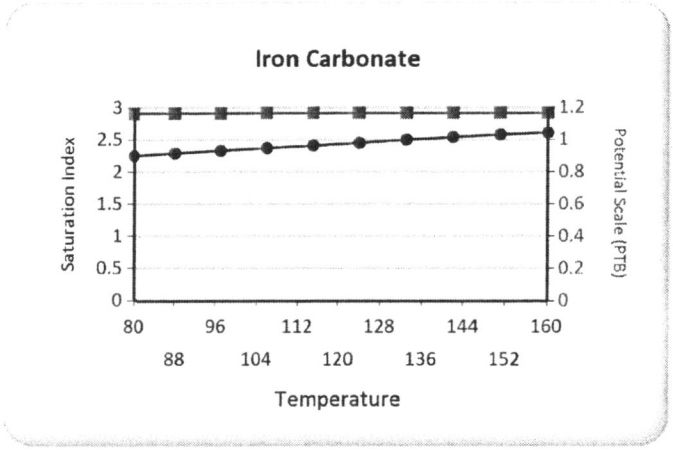
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

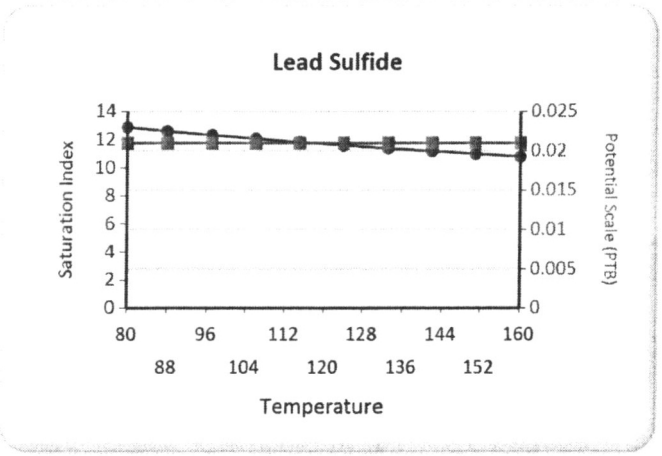
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

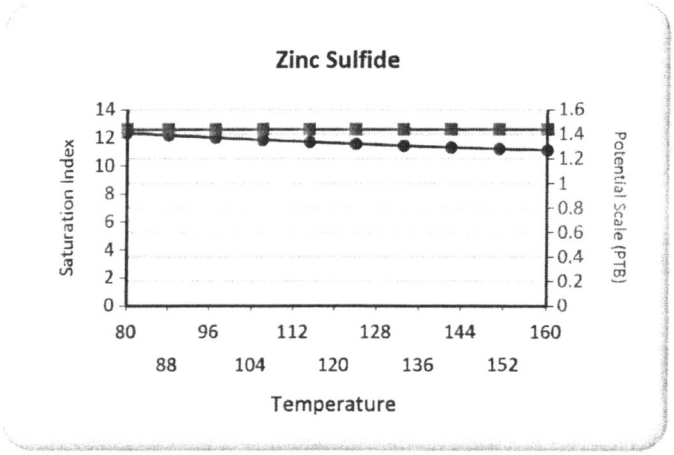


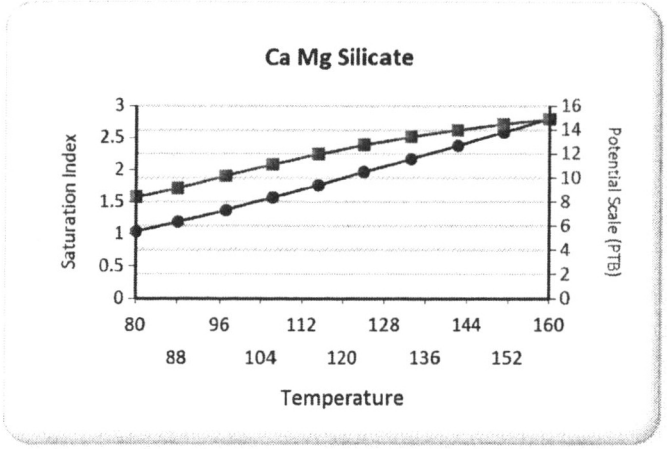


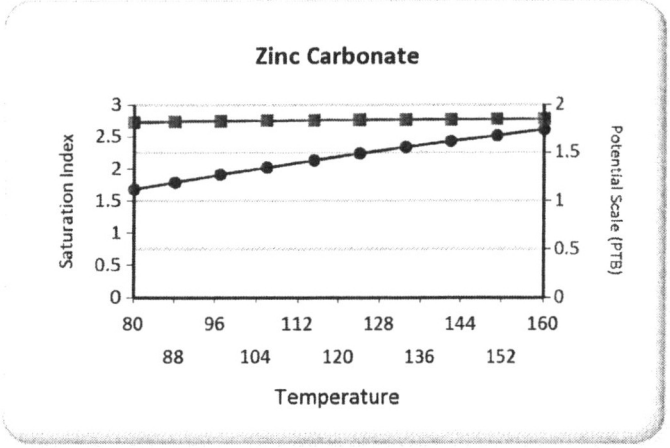


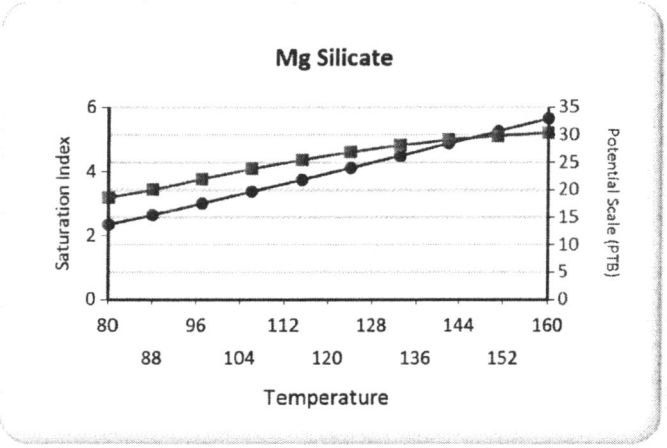


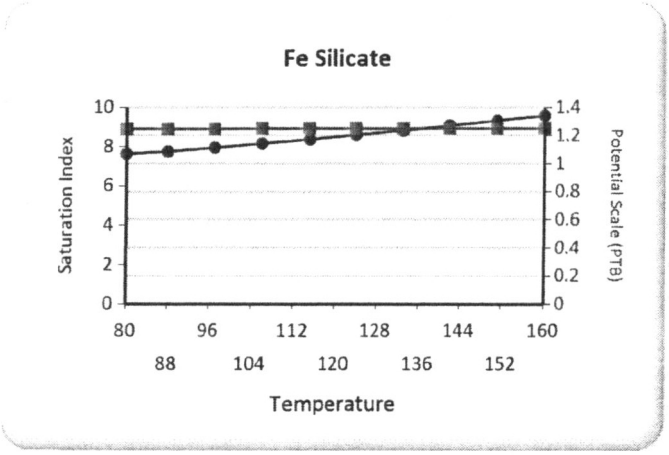





Ca Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
3
2.5
2
1.5
1
0.5
0
16
14
12
10
8
6
4
2
0
80
96
112
128
144
160
88
104
120
136
152


Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
3
2.5
2
1.5
1
0.5
0
2
1.5
1
0.5
0
80
96
112
128
144
160
88
104
120
136
152


Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
6
4
2
0
35
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
1.4
1.2
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

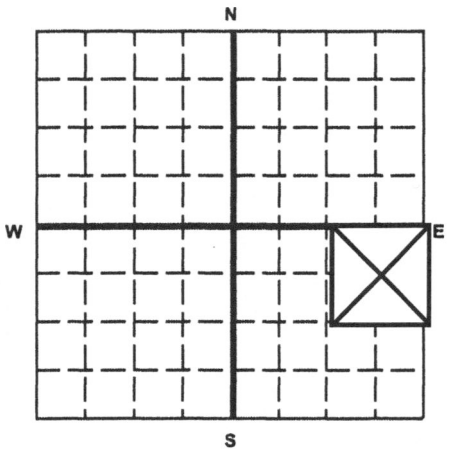
United States Environmental Protection Agency
Washington, DC 20460

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	UT2736-04451

Surface Location Description
___ 1/4 of ___ 1/4 of NE 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 1980 ft. frm (N/S) S Line of quarter section
and 660 ft. from (E/W) E Line of quarter section.

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

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

Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 30-09

		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	1767	1826	1086		0	0
February	13	1850	1886	1432		0	0
March	13	1808	1842	1170		0	0
April	13	1875	1896	1533		0	0
May	13	1856	1883	1966		0	0
June	13	1831	1862	1550		0	0
July	13	1817	1871	1449		0	0
August	13	1827	1906	1604		0	0
September	13	1802	1881	1435		0	0
October	13	1820	1851	1613		0	0
November	13	1827	1839	1435		0	0
December	13	1804	1815	1333		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title *(Please type or print)*	Signature	Date Signed
Chad Stevenson, Water Facilities Supervisor		2/11/2014

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

TAB GREEN BLUE CRI 2

U2 Entered
Date 3/24/14
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 30-09 INJ**
Sample Point: **Wellhead**
Sample Date: **1/8/2014**
Sample ID: **WA-262997**

Sales Rep: **James Patry**
Lab Tech: **Gary Peterson**

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):	1.001
pH:	8.10
Calculated TDS (mg/L):	4737.20
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	11.00

Analysis @ Properties in Sample Specifics			
Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	1249.65	Chloride (Cl):	1000.00
Potassium (K):	1.90	Sulfate (SO_4):	308.00
Magnesium (Mg):	63.00	Bicarbonate (HCO_3):	1952.00
Calcium (Ca):	137.00	Carbonate (CO_3):	
Strontium (Sr):	3.00	Acetic Acid (CH_3COO)	
Barium (Ba):	0.21	Propionic Acid (C_2H_5COO)	
Iron (Fe):	2.70	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	0.28	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.01	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.19	Silica (SiO_2):	19.26

Notes:
B=.49 Al=0 Li=.03

(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	1.75	101.05	0.91	0.11	3.69	1.49	1.90	1.94	0.00	0.00	0.00	0.00	0.00	0.00	11.04	0.15
73.00	157.00	1.75	100.17	0.77	0.11	3.53	1.49	1.96	1.94	0.00	0.00	0.00	0.00	0.00	0.00	10.72	0.15
86.00	300.00	1.78	101.82	0.64	0.09	3.44	1.49	2.04	1.95	0.00	0.00	0.00	0.00	0.00	0.00	10.47	0.15
100.00	443.00	1.82	103.58	0.52	0.09	3.37	1.49	2.13	1.95	0.00	0.00	0.00	0.00	0.00	0.00	10.24	0.15
113.00	585.00	1.87	105.37	0.43	0.08	3.32	1.49	2.22	1.95	0.00	0.00	0.00	0.00	0.00	0.00	10.04	0.15
126.00	728.00	1.92	107.14	0.34	0.07	3.28	1.49	2.30	1.95	0.00	0.00	0.00	0.00	0.00	0.00	9.85	0.15
140.00	871.00	1.97	108.85	0.27	0.06	3.26	1.49	2.39	1.96	0.00	0.00	0.00	0.00	0.00	0.00	9.69	0.15
153.00	1014.00	2.03	110.46	0.22	0.05	3.26	1.49	2.47	1.96	0.00	0.00	0.00	0.00	0.00	0.00	9.54	0.15
166.00	1157.00	2.10	111.94	0.17	0.04	3.27	1.49	2.55	1.96	0.00	0.00	0.00	0.00	0.00	0.00	9.41	0.15
180.00	1300.00	2.17	113.26	0.13	0.03	3.29	1.49	2.64	1.96	0.00	0.00	0.00	0.00	0.00	0.00	9.30	0.15

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

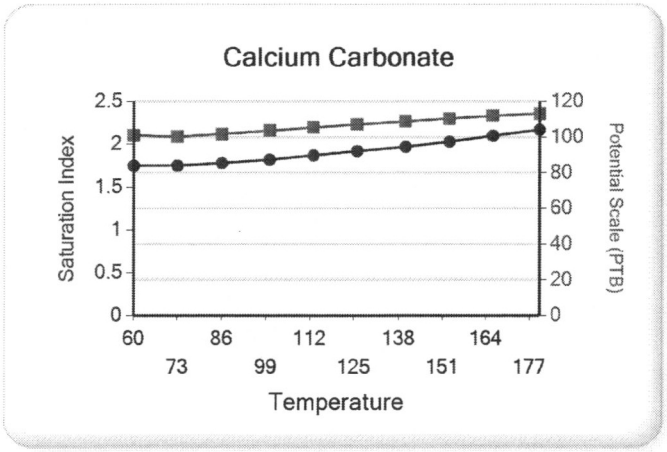
multi-chem®
A HALLIBURTON SERVICE

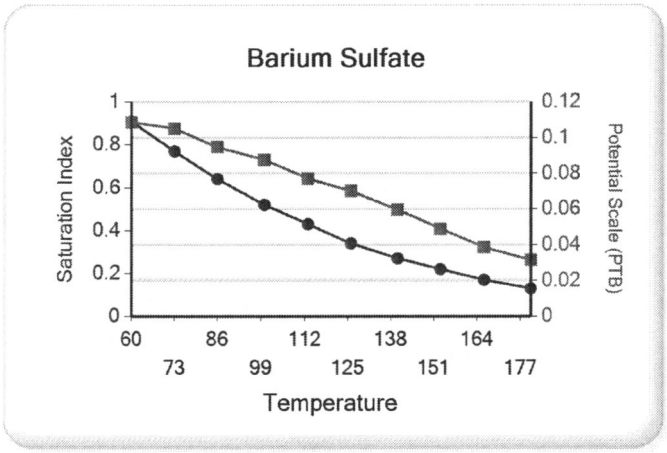
Water Analysis Report

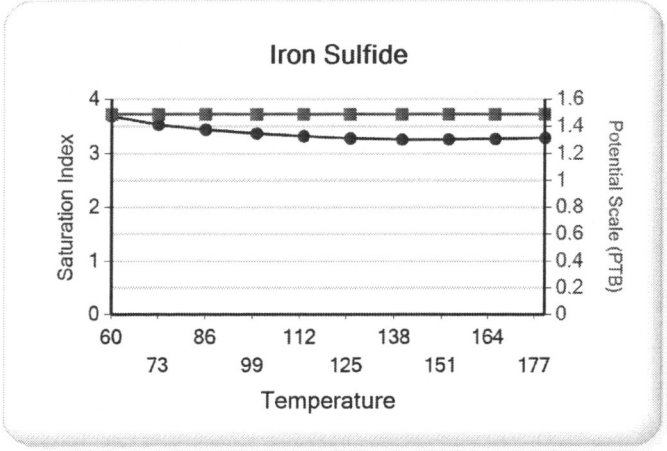
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
60.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.13	0.00	0.00	0.00	0.00	0.00	5.19	2.05
73.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.06	11.63	0.00	0.38	2.33	0.00	0.00	5.32	2.05
86.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.11	11.21	0.00	1.00	6.03	0.16	1.03	5.69	2.06
100.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.14	10.82	0.00	1.64	9.88	0.51	2.98	6.10	2.08
113.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.15	10.47	0.00	2.31	13.69	0.88	4.89	6.53	2.08
126.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93	0.16	10.15	0.00	2.98	17.13	1.26	6.67	6.99	2.09
140.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.17	9.86	0.00	3.67	19.83	1.65	8.22	7.46	2.09
153.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	1.26	0.18	9.59	0.00	4.36	21.60	2.05	9.47	7.95	2.10
166.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41	0.18	9.35	0.00	5.05	22.56	2.45	10.40	8.45	2.10
180.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56	0.18	9.13	0.00	5.74	23.01	2.85	11.05	8.96	2.10

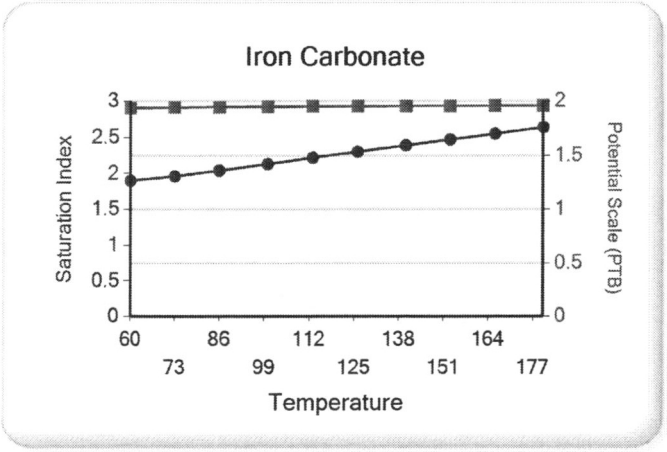
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Lead Sulfide Fe Silicate

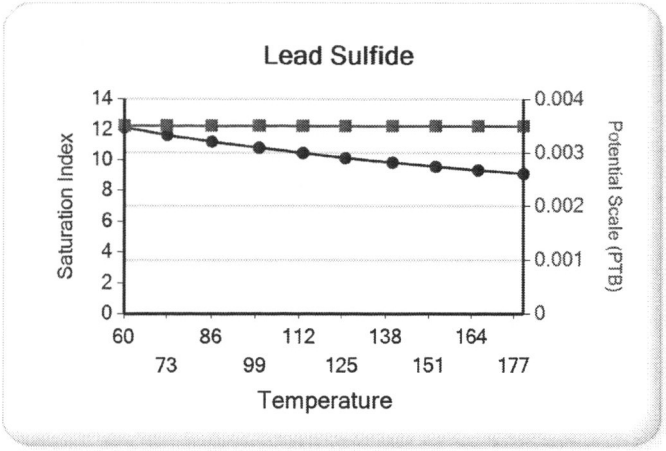
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

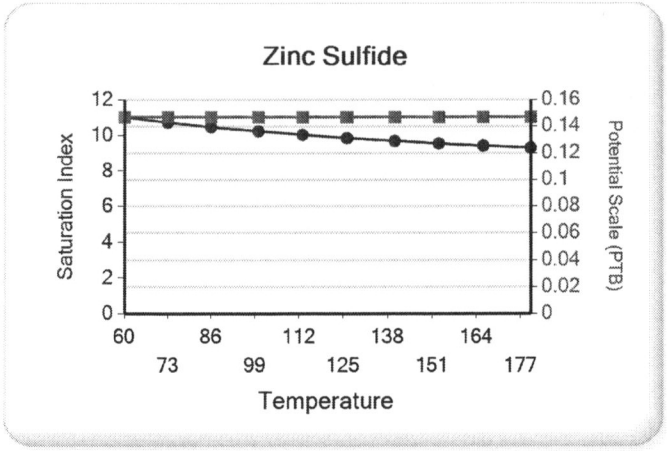


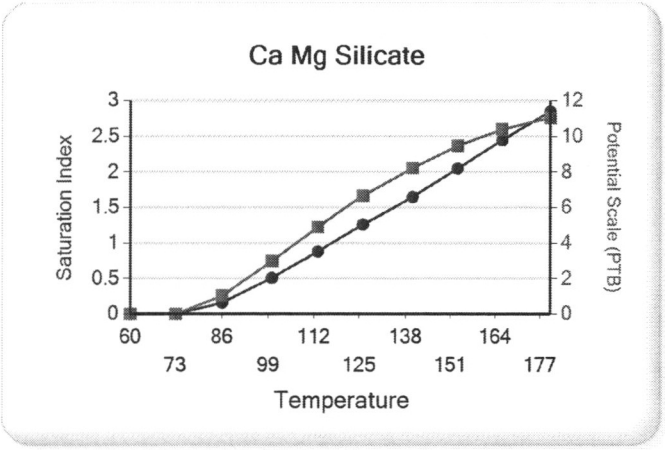


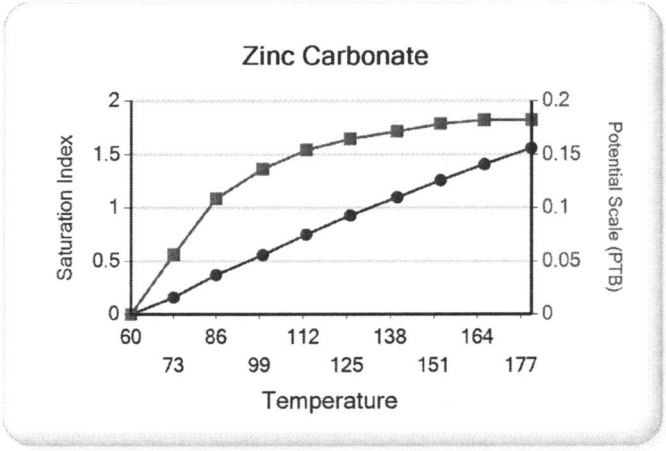


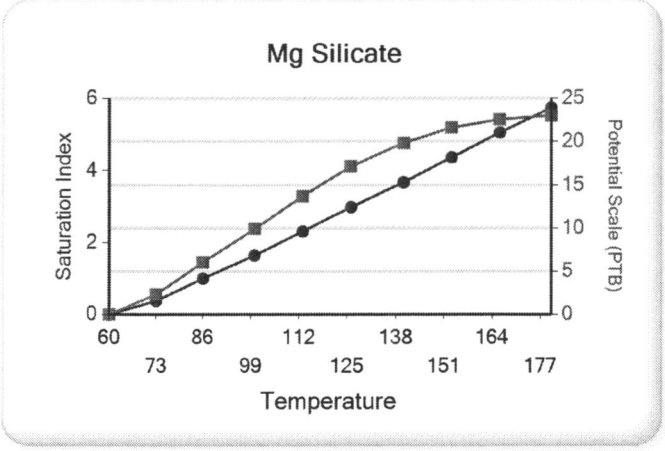


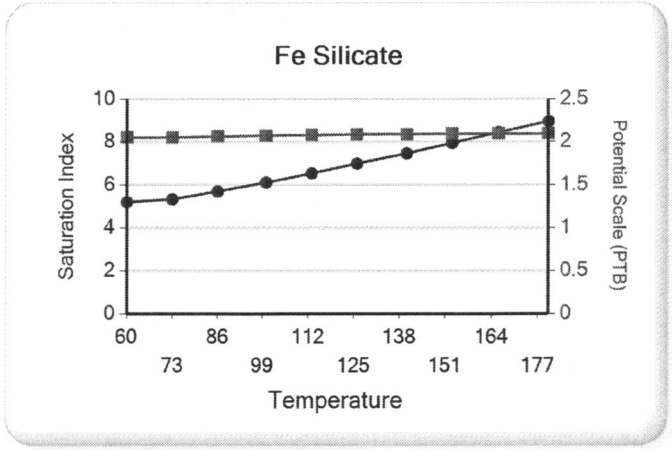

Lead Sulfide
Saturation Index
Potential Scale (PTB)
Temperature
60 86 112 138 164
73 99 125 151 177


Zinc Sulfide
Saturation Index
Potential Scale (PTB)
Temperature
60 86 112 138 164
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
2.5
2
1.5
1
0.5
0
60
73
86
99
112
125
138
151
164
177

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466
Phone 800-227-8917
http://www.epa.gov/region08

Ref: 8P-W-GW

JUL 14 2005

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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

RE: Authorization to Inject
Ute Tribal 30-09
UIC Permit UT20736-**04451**
Antelope Creek Field, Duchesne County, Utah

Dear Mr. Wall:

Thank you for submitting information pertaining to the newly constructed/converted Ute Tribal 30-09 enhanced recovery injection well to the Region 8 Ground Water Program office of the Environmental Protection Agency (EPA). The "Prior To Commencing Injection" requirements for the Ute Tribal 30-09 injection well required well owner and operator Petroglyph Energy, Inc. to submit the following information to the Director:

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

All required information has been submitted, and has been reviewed and approved by the EPA. Therefore, effective upon your receipt of this letter, Administrative approval hereby is granted for injection into the Ute Tribal 30-09 enhanced recovery injection well under the conditions of the Authorization for Additional Well and UIC Area Permit UT20736-00000 as modified.

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

Printed on Recycled Paper

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466
Phone 800-227-8917
http://www.epa.gov/region08

Scan under
UT20736 - 04451
Authorization to
Inject - Final 7/14/2005

Ref: 8P-W-GW

JUL 14 2005

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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

RE: Authorization to Inj
Ute Tribal 30-09
UIC Permit UT20736-**04451**
Antelope Creek Field, Duchesne County, Utah

Dear Mr. Wall:

Thank you for submitting information pertaining to the newly constructed/converted Ute Tribal 30-09 enhanced recovery injection well to the Region 8 Ground Water Program office of the Environmental Protection Agency (EPA). The "Prior To Commencing Injection" requirements for the Ute Tribal 30-09 injection well required well owner and operator Petroglyph Energy, Inc. to submit the following information to the Director:

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

All required information has been submitted, and has been reviewed and approved by the EPA. Therefore, effective upon your receipt of this letter, Administrative approval hereby is granted for injection into the Ute Tribal 30-09 enhanced recovery injection well under the conditions of the Authorization for Additional Well and UIC Area Permit UT20736-00000 as modified.

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

Printed on Recycled Paper

Technical Enforcement Program - UIC
U.S. EPA Region 8, Mail Code 8ENF-UFO
999 18th Street, Suite 300
Denver, Colorado 80202-2466

The Director has determined that the maximum allowable surface injection pressure (MAIP) for the Ute Tribal 30-09 is **2152** psig. Please be reminded that it is the responsibility of the owner/operator to be aware of, and to comply with, all conditions of Authorization for Additional Well UT20736-04451 and EPA UIC Area Permit UT20736-00000 and relevant modifications as issued.

If you have any questions regarding this Authorization, please call Dan Jackson of my staff at (303) 312-6155. For questions regarding notification, testing, monitoring, reporting or other Permit requirements, the UIC Technical Enforcement Program may be reached by calling (800) 227-8917.

Sincerely,

Tracy M. Eagle
Director
Ground Water Program

cc: Mr. Kenneth Smith
Executive Vice President and Chief Operating Officer
Petroglyph Energy, Inc.
555 S. Cole Blvd
Boise, ID 83709

Maxine Natchees, Chairperson
Uintah & Ouray Business Committee
Ute Indian Tribe
P.O. Box 190
Fort Duchesne, UT 84026

Elaine Willie
Environmental Coordinator
Ute Indian Tribe
P.O. Box 460
Fort Duchesne, UT 84026

Gil Hunt
Technical Services Manager
Utah Division of Oil, Gas, and Mining
1594 West North Temple - Suite 1220
Salt Lake City, UT 84114-5801

Kirk Fleetwood, PE
BLM - Vernal District
170 South 500 East
Vernal, UT 84078

Chester Mills
BIA - Uintah & Ouray Indian Agency
P.O. Box 130
Fort Duchesne, UT 84026

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

04637, 04451, 04446

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

JUL 14 2005

Sent To: Steve Wall, District Manager
Street, Apt. No.; or PO Box No.: Petroglyph Energy, Inc.
City, State, ZIP+4: 4116 West 3000 So. Ioka Lane, Roosevelt, UT 84066

PS Form 3800, January 2001 — See Reverse for Instructions

7001 0320 0005 9389 4276

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
UT 20736-04451

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

I gw-uic

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Callie Duncan ☐ Agent ☒ Addressee

B. Received by (Printed Name): Callie Duncan
C. Date of Delivery: JUL 1[illegible] 2005

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

RECEIVED JUL 21 2005
EPA Region 8
Ground Water Program

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label): 7001 0320 0005 9389 4276

PS Form 3811, February 2004 — Domestic Return Receipt — 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

04637, 04451, 04446

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

JUL 14 2005

Sent To: Steve Wall, District Manager
Street, Apt. No.; or PO Box No.: Petroglyph Energy, Inc.
City, State, ZIP+4: 4116 West 3000 So. Ioka Lane, Roosevelt, UT 84066

PS Form 3800, January 2001 — See Reverse for Instructions

7001 0320 0005 9389 4276

U 445

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 200
DENVER, CO 80202-2466
Phone 800-227-8917

Ref: 8P-W-GW

DEC -2 2005

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Steve Wall, Office Supervisor
Petroglyph Operating Company, Inc.
4116 West 3000 South Ioka Lane
Roosevelt, UT 84066

Re: Modification No. 1 - Minor Modification
UIC Area Permit UT20736-00000
Antelope Creek Water Flood Project
Duchesne County, UT

Dear Mr. Wall:

On October 27, 2005, the Region 8 Ground Water Program offices of the Environmental Protection Agency received a letter from Petroglyph Operating Company, Inc. (Petroglyph) consenting to modification of EPA UIC Area Permit UT20736-00000 to change pressure testing requirements for demonstrating Part I (Internal) Mechanical Integrity. Enclosed is a copy of the modified Permit language.

Please be reminded that Part I (Internal) Mechanical Integrity of the well must be demonstrated following completion of injection well completion or conversion, and at least once every five years thereafter.

If you have any questions regarding this modification, please contact Dan Jackson of my staff at (303) 312-6155, or by email at jackson.dan@epa.gov.

Sincerely,

Deb H Thora

for Stephen S. Tuber
Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

	GREEN	BLUE	CBI
TAB		/	

cc: without enclosures

Maxine Natchees, Chairperson
Uintah & Ouray Business Committee
Ute Indian Tribe
P.O. Box 190
Fort Duchesne, UT 84026

Chester Mills, Superintendent
BIA - Uintah & Ouray Indian Agency
P.O. Box 130
Fort Duchesne, UT 84026

cc: with enclosures

Mr. Kenneth Smith
Executive Vice President and Chief Operating Officer
Petroglyph Energy, Inc.
555 S. Cole Blvd
Boise, ID 83709

Elaine Willie
Environmental Coordinator
Ute Indian Tribe
P.O. Box 460
Fort Duchesne, UT 84026

Gil Hunt
Technical Services Manager
Utah Division of Oil, Gas, and Mining
1594 West North Temple - Suite 1220
Salt Lake City, UT 84114-5801

Kirk Fleetwood, PE
BLM - Vernal District
170 South 500 East
Vernal, UT 84078

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

COMPLETE THIS SECTION ON DELIVERY

A. Signature
x Dana Fillmgm ☐ Agent ☐ Addressee

B. Received by (Printed Name) C. Date of Delivery

RECEIVED
DEC 8 2005
EPA Region 8
Ground Water Program

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

1. Article Addressed to:

DEC - 2 2005

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

4T20736-00000

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number
(Transfer from service label) 7001 0320 0005 9389 3699

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	DEC - 2 2005
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To
Street, Apt. No.; or PO Box No.
City, State, ZIP+4

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

7001 0320 0005 9389 3699

PS Form 3800, January 2001 See Reverse for Instructions

EPA UIC Area Permit UT20736-00000

Permit Modification No. 1: Minor Modification

Antelope Creek Water Flood Enhanced Oil Recovery Project
Antelope Creek Oil Field, Duchesne County, Utah

Pursuant to requirements of 40 CFR 144.39 and 40 CFR 144.40, this modification of Part I (Internal) mechanical integrity testing requirements is considered to be a Minor Modification of EPA UIC Permit UT20736-00000. This Modification is effective upon signature.

Date: DEC - 2 2005

Stephen S. Tuber
for *Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

** The person holding this title is referred to as the Director in the Permit.*

ORIGINAL PERMIT LANGUAGE:

PART II. SPECIFIC PERMIT CONDITIONS

***

C. WELL OPERATION

***

*3. **Mechanical Integrity**. A demonstration of the absence of significant leaks in the casing, tubing and .packer must be made by performing a tubing/casing annulus pressure test. This test shall be for a minimum forty-five (45) minutes at: (1) a pressure of 300 pounds per square inch gauge (psig) measured at the surface, if the well is shut in; or (2) a pressure differential of 200 psig between the tubing and the tubing/casing annulus, if injection activities are continued during the test. The tubing/casing annulus shall be filled with a non-corrosive fluid (either a non-toxic liquid or the injection liquid) at least twenty-four (24) hours in advance of the test. Pressure values shall be recorded at five-minute intervals. A well passes the mechanical integrity test if there is less than a ten (10) percent decrease or increase in the pressure over a forty-five (45) minute period.*

***

Printed on Recycled Paper

PART III. GENERAL PERMIT CONDITIONS

***

(c) ***Twenty-four hour reporting.***

(i) The Permittee shall report to the Director any noncompliance which may endanger human health or the environment, including. Any information shall be provided orally within twenty four (24) hours from the time the permittee becomes aware of the circumstances by telephoning EPA at 1-800-424-8802. The following shall be included as information which must be reported orally within twenty four (24) hours:

(A) Any monitoring or other information which indicates that any contaminant may cause endangerment to an underground source of drinking water.

(B) Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between underground sources of drinking water.

(ii) A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurence of the noncompliance

(d) ***Other Noncompliance.*** *The Permittee shall report all instances of noncompliance not reported under paragraphs Part III, Section E Paragraph 11(b) or Section E, Paragraph 11(e) at the time the monitoring reports are submitted. The reports shall contain the information listed in Paragraph 11(e) of this Section.*

(e) ***Other information.*** *Where the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Director, the Permittee shall promptly submit such facts or information to the Director.*

IS MODIFIED TO READ:

PART II. SPECIFIC PERMIT CONDITIONS

***

C. WELL OPERATION

***

3. **Mechanical Integrity**. A demonstration of the absence of significant leaks in the casing, tubing and .packer must be made by performing a tubing/casing annulus pressure test. This test shall be for a minimum thirty (30) minutes: (1) if the well is shut in, at a pressure of at least 1000 pounds per square inch gauge (psig) measured at the surface or the permitted Maximum Allowable Injection Pressure (MAIP), whichever is less; and (2) if injection activities are continued during the test, with a pressure differential of at least 200 psig between the tubing and the tubing/casing annulus and at a pressure of at least 1000 pounds per square inch gauge (psig) measured at the surface or the permitted Maximum Allowable Injection Pressure (MAIP), whichever is less. The tubing/casing annulus shall be filled with a non-corrosive fluid (either a non-toxic liquid or the injection liquid) at least twenty-four (24) hours in advance of the test. Pressure values shall be recorded at five-minute intervals. A well passes the mechanical integrity test if there is less than a ten (10) percent decrease or increase in the pressure over a thirty (30) minute period.

PART III. GENERAL PERMIT CONDITIONS

***

(c) **Twenty-four Hour Reporting.**

(i) The Permittee shall report to the Director any noncompliance which may endanger human health or the environment, including:

(i) Any monitoring or other information which indicates that any contaminant may cause endangerment to a USDW; or

(ii) Any noncompliance with a permit condition or malfunction of the injection system which may cause fluid migration into or between USDWs.

(ii) Information shall be provided, either directly or by leaving a message, within twenty-four (24) hours from the time the permittee becomes aware of the circumstances by telephoning (800) 227-8917 and requesting EPA Region VIII UIC Program Compliance and Technical Enforcement Director, or by contacting the EPA Region VIII Emergency Operations Center at (303) 293-1788.

In addition, a follow up written report shall be provided to the Director within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

(d) **Oil Spill and Chemical Release Reporting:** The Permittee shall comply with all reporting requirements related to the occurence of oil spills and chemical releases by contacting the National Response Center (NRC) at (800) 424-8802, (202) 267-2675, or through the NRC website http://www.nrc.uscg.mil/index.htm.

(e) **Other Noncompliance:** The Permittee shall report all instances of noncompliance not reported under paragraphs Part III, Section E Paragraph 11(b) or Section E, Paragraph 11(e) at the time the monitoring reports are submitted. The reports shall contain the information listed in Paragraph 11(e) of this Section.

(f) **Other information**. Where the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Director, the Permittee shall promptly submit such facts or information to the Director.

UIC Program Action : Minor Mod- ~~revise~~ increase MIT requirements

UIC Number: UT20736-00000 **Well Name :** Area Permit

Non Form

Operator:

		Mailcode	Initials	Date
Writer: DWJ	phone: 6155	8P-W-GW	DWJ	11/14/05
UIC Review	❑ DWJ ❑ CT ❑ ~~NW (8ENF-UFO)~~	8P-W-GW		
B Thomas, Admin	*proof*	8P-W-GW	BT	11/15
T Eagle, Dir, GWP	❑ **concur** ❑ **signature**	8P-W-GW		11/14
L Johnson, Admin	*proof*	8P-W		11/16
D Thomas, Dir, WP	❑ **concur** ❑ **signature**	8P-W	DHS	11/18/05
~~*M Brennan, Admin*~~	*proof*	8-P		
~~**S Tuber, ARA, OPRA**~~	❑ **signature**	8-P	DHS for	11/18/0
K Bartholow	***Data Entry*** *& date stamp & mail original letter & copy of docs to Addressee*	8P-W-GW	KB	12/2
J Taylor	*send Public Notice*	8P-W-GW		
B Thomas, Admin	*mail copies to CC's*	8P-W-GW	BT	12/6
Writer	*file documents*	8P-W-GW		

LEFT SIDE

- Concurrence Copy
- Request Letter & relevant information
-
-

RIGHT SIDE

- Response Letter
-
-

COMMENTS:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 200
DENVER, CO 80202-2466
Phone 800-227-8917

Ref: 8P-W-GW

DEC - 2 2005

CONCURRENCE COPY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Steve Wall, Office Supervisor
Petroglyph Operating Company, Inc.
4116 West 3000 South Ioka Lane
Roosevelt, UT 84066

Re: Modification No. 1 - Minor Modification
UIC Area Permit UT20736-00000
Antelope Creek Water Flood Project
Duchesne County, UT

Dear Mr. Wall:

On October 27, 2005, the Region 8 Ground Water Program offices of the Environmental Protection Agency received a letter from Petroglyph Operating Company, Inc. (Petroglyph) consenting to modification of EPA UIC Area Permit UT20736-00000 to change pressure testing requirements for demonstrating Part I (Internal) Mechanical Integrity. Enclosed is a copy of the modified Permit language.

Please be reminded that Part I (Internal) Mechanical Integrity of the well must be demonstrated following completion of injection well completion or conversion, and at least once every five years thereafter.

If you have any questions regarding this modification, please contact Dan Jackson of my staff at (303) 312-6155, or by email at jackson.dan@epa.gov.

Sincerely,

Stephen S. Tuber
Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

8P-W-GW
11/14/05

8PW GW
11/16/05

cc: without enclosures

Maxine Natchees, Chairperson
Uintah & Ouray Business Committee
Ute Indian Tribe
P.O. Box 190
Fort Duchesne, UT 84026

Chester Mills, Superintendent
BIA - Uintah & Ouray Indian Agency
P.O. Box 130
Fort Duchesne, UT 84026

cc: with enclosures

Mr. Kenneth Smith
Executive Vice President and Chief Operating Officer
Petroglyph Energy, Inc.
555 S. Cole Blvd
Boise, ID 83709

Elaine Willie
Environmental Coordinator
Ute Indian Tribe
P.O. Box 460
Fort Duchesne, UT 84026

Gil Hunt
Technical Services Manager
Utah Division of Oil, Gas, and Mining
1594 West North Temple - Suite 1220
Salt Lake City, UT 84114-5801

Kirk Fleetwood, PE
BLM - Vernal District
170 South 500 East
Vernal, UT 84078