Inspection Report For Well: UT20736 - 04434

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/ 12/18/2013

Others: Ajayi, Christopher — Time: 9:40 am / pm

OPERATOR (only if different): _____

REPRESENTATIVE(S): Chad Stevenson

PRE-INSPECTION REVIEW

Petroglyph Operating Company, Inc

Well Name:	Ute Tribal 03-14		
Well Type:	Enhanced Recovery (2R)		
Operating Status:	AC (ACTIVE) as of 4/20/2007		
Oil Field:	Antelope Creek (Duchesne)		
Location:	SESW S3 T5S R3W		
Indian Country:	X, Uintah and Ouray		
Last Inspection:	8/28/2012	***Allowable Inj Pressure:***	2230 /
Last MIT:	Pass 2/6/2012	***Annulus Pressure From Last MIT:***	1100

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: 2619 / 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

2 Entered
ate 12/17/13
nitial SR

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

GREEN	BLUE	CB
	1	

Inspection Report For Well: UT20736 - 04434 (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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

Ref: 8P-W-GW

APR 20 2007

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**
EPA UIC Area Permit UT20736-00000
Well ID: **UT20736-04434**
Ute Tribal 03-14, Duchesne County, Utah

Dear Mr. Wall:

Thank you for submitting information pertaining to the newly completed Ute Tribal 03-14 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 03-14 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. A 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 03-14 enhanced recovery injection well under the conditions of the Authorization for Additional Well and EPA 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.

Technical Enforcement Program - UIC
U.S. EPA Region 8, Mail Code 8ENF-UFO
1595 Wynkoop Street
Denver, Colorado 80202-1129

The Director has determined that the maximum allowable surface injection pressure (MAIP) for the Ute Tribal 03-14 is **2230** 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 UT20736-04434 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,

Steven J. Pratt, P.E., CAPM
Director, Groundwater 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

Ronald Groves, Councilman
Uintah & Ouray Business Committee
Ute Indian Tribe
P.O. Box 190
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Irene Cuch, Councilwoman
Uintah & Ouray Business Committee
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Richard Jenks, Jr., Councilman
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Smiley Arrowchis, Councilman
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Francis Poowegup, Councilman
Uintah & Ouray Business Committee
Ute Indian Tribe
P.O. Box 190
Fort Duchesne, UT 84026

Shawn Chapoose, Director
Land Use Department
Ute Indian Tribe
P.O. Box 460
Fort Duchesne, UT 84026

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

Lynn D. Becker
Director, Energy and Minerals Department
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, UT 84026

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

Fluid Minerals Engineering Department
BLM - Vernal District
170 South 500 East
Vernal, UT 84078

bcc: Nathan Wiser, 8 ENF-UFO

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: PW-GW-UIC

APR 2 0 2007

D

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

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Patti A Cox ☒ Agent ☐ Addressee

B. Received by (*Printed Name*) Patti A Cox
C. Date of Delivery

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

RECEIVED
APR 25 2007
Grounds 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*) 7005 0390 0000 4848 0868

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

7005 0390 0000 4848 0868

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OFFICIAL USE

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

Postmark Here

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

PS Form 3800, June 2002 See Reverse for Instructions

Printed on Recycled Paper

UIC Program Action : Auth to Inject

Permit Number: UT20736-04434 . **Well Name:** Ute Tribal 03-14 .

Form or Non-Form **Operator:** Petroglyph .

		Mailcode	Initials	Date
Writer: DWJ .	phone: 4155 .	8P-W-GW	DWJ	4/4
UIC Review	❑ DWJ ❑ CT ❑ NW (8ENF-UFO)	8P-W-GW		
J Carnal, *Admin*	*Proof*	8P-W-GW	JC	4/9/07
S Pratt, Dir, GWP	❑ concur ☑ signature Make Changes To KMcFar SP 4/18/07	8P-W-GW	SP	4/11/07
D Thomas, Dir, WP	❑ concur ❑ signature	8P-W	✓	
M Brennan, *Admin*	*proof*	8-P		
S Tuber, ARA, OPRA	❑ signature	8-P		
J Carnal	Data Entry; date stamp & mail original letter & copy of docs to Addressee	8P-W-GW		
J Taylor	*send Public Notice*	8P-W-GW		
Carnal, *Admin*	*mail copies to CC's*	8P-W-GW	JC	4/20/07
Writer	*file documents*	8P-W-GW		

LEFT SIDE
- Concurrence Copy
- Request Letter & relevant information
-

RIGHT SIDE
- Response Letter
-
-

COMMENTS:

.5

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

Ref: 8P-W-GW

CONCURRENCE

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**
EPA UIC Area Permit UT20736-00000
Well ID: **UT20736-04434**
Ute Tribal 03-14, Duchesne County, Utah

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See comment on signature
8P-W-GW
4/11/07
L Pratt

8P-W-GW
Duff 4/4/07

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Technical Enforcement Program - UIC
U.S. EPA Region 8, Mail Code 8ENF-UFO
1595 Wynkoop Street
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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,

Steven J. Pratt, P.E., CAPM (inactive)
Director, Groundwater Program

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

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1594 West North Temple - Suite 1220
Salt Lake City, UT 84114-5801

Fluid Minerals Engineering Department
BLM - Vernal District
170 South 500 East
Vernal, UT 84078

bcc: Nathan Wiser, 8 ENF-UFO

Printed on Recycled Paper

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

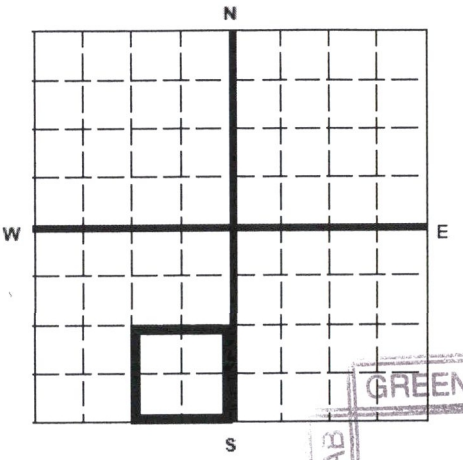
United States Environmental Protection Agency
Washington, DC 20460

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

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

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

Surface Location 1050 ft. frm (N/S) S Line of quarter section
and 1980 ft. from (E/W) W Line of quarter section.

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

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

Number of Wells 111

U2 Entered
Date 3/24/17
Initial DB

GREEN BLUE GBI
TAB 2

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 03-14

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	16	1967	2036	789		0	0
February	16	2080	2100	946		0	0
March	16	2079	2082	807		0	0
April	16	2061	2077	575		0	0
May	16	2064	2070	677		0	0
June	16	2023	2053	459		0	0
July	16	2030	2037	592		0	0
August	16	2034	2045	605		0	0
September	16	2034	2044	572		0	0
October	16	2057	2062	773		0	0
November	16	2023	2072	399		0	0
December	16	2049	2062	790		0	0

Certification

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

Name and Official Title *(Please type or print)*	Signature	Date Signed
Chad Stevenson, Water Facilities Supervisor		03/21/2017

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

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Units of Measurement: **Standard**

Water Analysis Report

Production Company:	**PETROGLYPH OPERATING CO INC - EBUS**	Sales Rep:	**James Patry**
Well Name:	**UTE TRIBAL 03-14 INJ, DUCHESNE**	Lab Tech:	**Kaitlyn Natelli**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2017**		
Sample ID:	**WA-345337**		

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:	8.00
Calculated TDS (mg/L):	6404.19
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	10.00
Tot. SuspendedSolids(mg/L):	
Corrosivity(LanglierSat.Indx)	0.00
Alkalinity:	

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	2152.28	Chloride (Cl):	2500.00
Potassium (K):	18.82	Sulfate (SO_4):	60.00
Magnesium (Mg):	17.26	Bicarbonate (HCO_3):	1586.00
Calcium (Ca):	34.34	Carbonate (CO_3):	
Strontium (Sr):	2.34	Hydroxide(HO):	
Barium (Ba):	5.16	Acetic Acid (CH_3COO)	
Iron (Fe):	10.17	Propionic Acid (C_2H_5COO)	
Zinc (Zn):	0.74	Butanoic Acid (C_3H_7COO)	
Lead (Pb):	0.09	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Ammonia NH_3:		Fluoride (F):	
Manganese (Mn):	0.20	Bromine (Br):	
Aluminum (Al):	0.21	Silica (SiO_2):	16.79
Lithium (Li):	2.77	Calcium Carbonate ($CaCO_3$):	
Boron (B):	2.83	Phosphates (PO_4):	4.75
Silicon (Si):	7.85	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	1.11	25.04	0.96	2.72	3.67	5.61	2.69	7.38	0.00	0.00	0.00	0.00	0.00	0.00	10.08	0.39
149.00	267.00	1.18	25.72	0.86	2.63	3.62	5.61	2.79	7.38	0.00	0.00	0.00	0.00	0.00	0.00	9.83	0.39
168.00	483.00	1.28	26.63	0.79	2.55	3.62	5.61	2.91	7.39	0.00	0.00	0.00	0.00	0.00	0.00	9.64	0.39
187.00	700.00	1.38	27.43	0.74	2.48	3.65	5.61	3.03	7.39	0.00	0.00	0.00	0.00	0.00	0.00	9.47	0.39
206.00	917.00	1.50	28.09	0.70	2.43	3.69	5.61	3.14	7.39	0.00	0.00	0.00	0.00	0.00	0.00	9.33	0.39
224.00	1133.00	1.62	28.61	0.68	2.39	3.75	5.61	3.25	7.39	0.00	0.00	0.00	0.00	0.00	0.00	9.20	0.39
243.00	1350.00	1.75	29.02	0.66	2.38	3.83	5.61	3.35	7.39	0.00	0.00	0.00	0.00	0.00	0.00	9.10	0.39
262.00	1567.00	1.88	29.32	0.66	2.38	3.92	5.61	3.44	7.39	0.00	0.00	0.00	0.00	0.00	0.00	9.02	0.39
281.00	1783.00	2.02	29.54	0.67	2.39	4.02	5.61	3.53	7.39	0.00	0.00	0.00	0.00	0.00	0.00	8.95	0.39
300.00	2000.00	2.16	29.69	0.69	2.41	4.12	5.61	3.61	7.39	0.00	0.00	0.00	0.00	0.00	0.00	8.89	0.39

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

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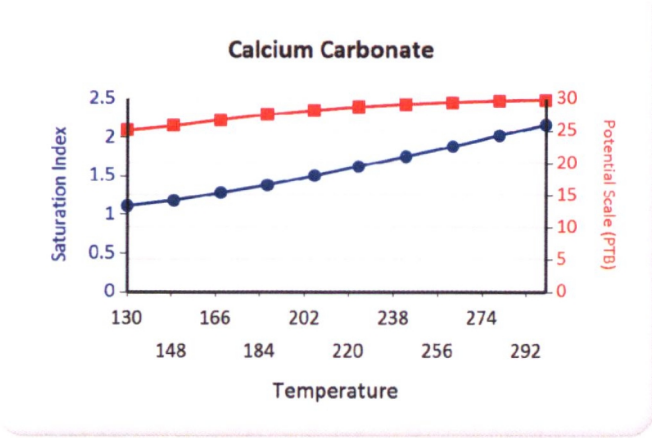
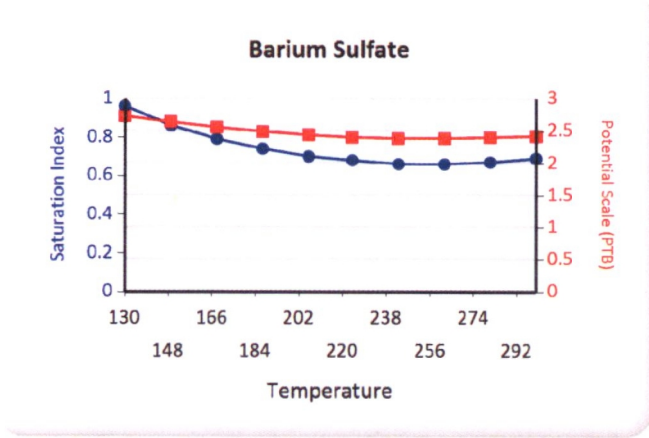
Water Analysis Report

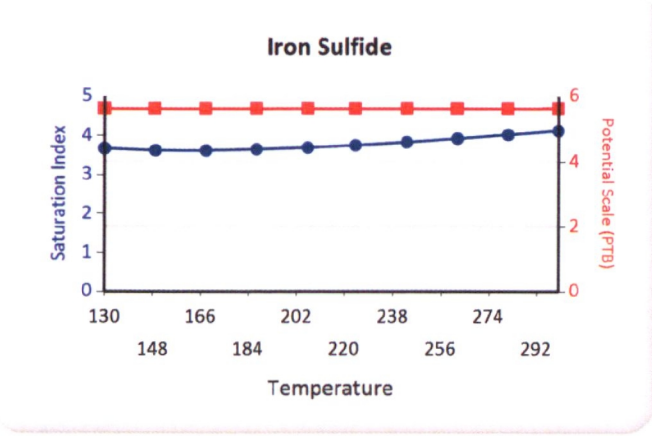
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
130.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20	0.47	10.88	0.04	1.49	8.51	0.37	2.61	8.79	7.89
149.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41	0.48	10.45	0.04	2.28	12.99	0.81	5.46	9.30	7.89
168.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	1.63	0.49	10.10	0.04	3.19	18.31	1.33	9.09	9.95	7.90
187.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	1.83	0.49	9.78	0.04	4.10	23.15	1.86	12.64	10.62	7.90
206.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	2.01	0.49	9.51	0.04	4.99	27.12	2.39	15.82	11.29	7.91
224.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	2.18	0.49	9.26	0.04	5.87	30.07	2.91	18.38	11.96	7.91
243.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	2.33	0.49	9.05	0.04	6.72	32.03	3.41	20.19	12.63	7.91
262.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	2.46	0.49	8.86	0.04	7.54	33.20	3.91	21.32	13.28	7.91
281.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	2.58	0.50	8.69	0.04	8.33	33.84	4.39	21.97	13.91	7.91
300.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	2.67	0.50	8.54	0.04	9.09	34.17	4.85	22.31	14.52	7.91

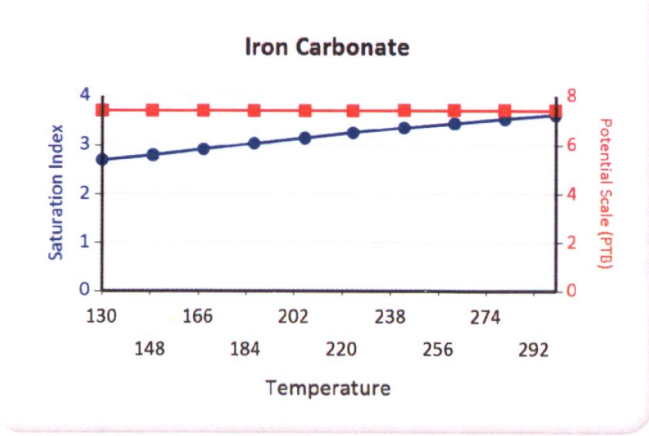
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

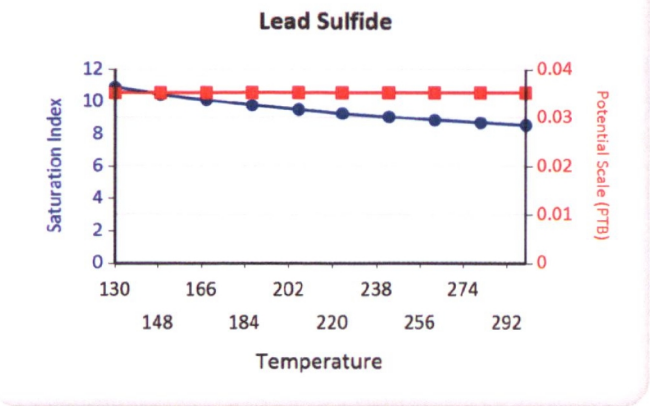
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

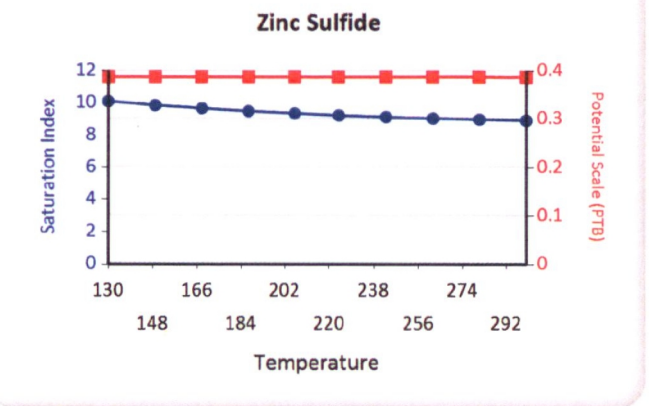


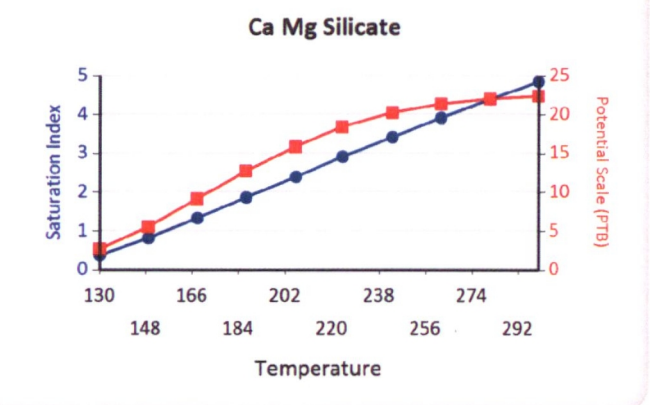







Lead Sulfide
Saturation Index
Potential Scale (PTB)
Temperature
130 166 202 238 274
148 184 220 256 292


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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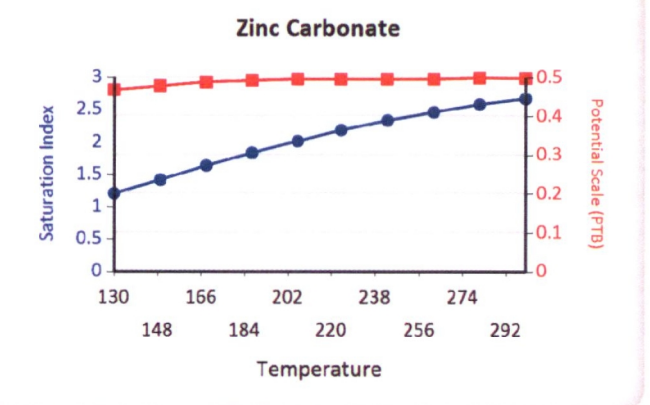
148 184 220 256 292


Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
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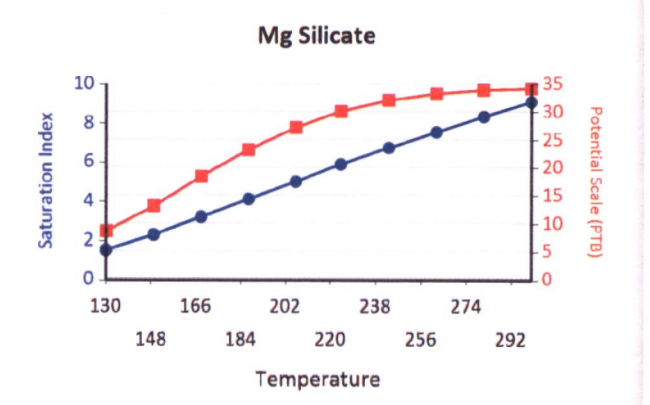
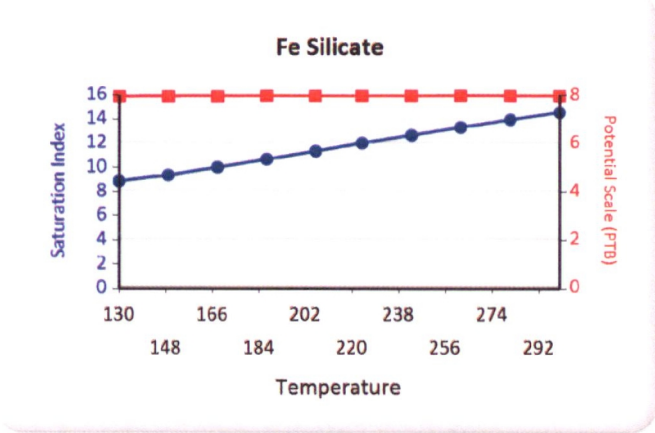
148 184 220 256 292


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

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

EPA

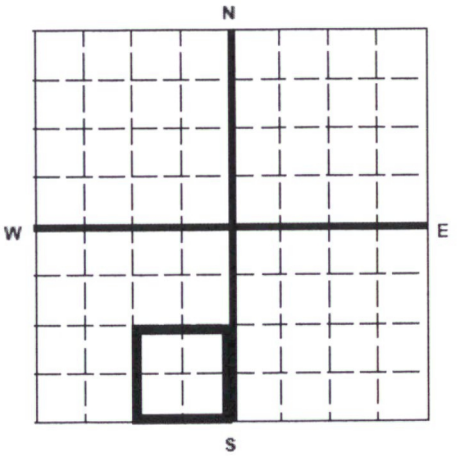
United States Environmental Protection Agency
Washington, DC 20460

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

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

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

Surface Location 1050 ft. frm (N/S) S Line of quarter section
and 1980 ft. from (E/W) W Line of quarter section.

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 03-14

		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	1967	2036	789		0	0
February	16	2080	2100	946		0	0
March	16	2079	2082	807		0	0
April	16	2061	2077	575		0	0
May	16	2064	2070	677		0	0
June	16	2023	2053	459		0	0
July	16	2030	2037	592		0	0
August	16	2034	2045	605		0	0
September	16	2034	2044	572		0	0
October	16	2057	2062	773		0	0
November	16	2023	2072	399		0	0
December	16	2049	2062	790		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		02/10/2017

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

GREEN TAB 2

UE Entered
Date 3/15/17
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 OPERATING CO INC - EBUS**	Sales Rep:	**James Patry**
Well Name:	**UTE TRIBAL 03-14 INJ, DUCHESNE**	Lab Tech:	**Kaitlyn Natelli**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2017**		
Sample ID:	**WA-345337**		

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:	8.00
Calculated TDS (mg/L):	6404.19
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	10.00
Tot. SuspendedSolids(mg/L):	
Corrosivity(LanglierSat.Indx)	0.00
Alkalinity:	

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	2152.28	Chloride (Cl):	2500.00
Potassium (K):	18.82	Sulfate (SO_4):	60.00
Magnesium (Mg):	17.26	Bicarbonate (HCO_3):	1586.00
Calcium (Ca):	34.34	Carbonate (CO_3):	
Strontium (Sr):	2.34	Hydroxide(HO):	
Barium (Ba):	5.16	Acetic Acid (CH_3COO)	
Iron (Fe):	10.17	Propionic Acid (C_2H_5COO)	
Zinc (Zn):	0.74	Butanoic Acid (C_3H_7COO)	
Lead (Pb):	0.09	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Ammonia NH_3:		Fluoride (F):	
Manganese (Mn):	0.20	Bromine (Br):	
Aluminum (Al):	0.21	Silica (SiO_2):	16.79
Lithium (Li):	2.77	Calcium Carbonate ($CaCO_3$):	
Boron (B):	2.83	Phosphates (PO_4):	4.75
Silicon (Si):	7.85	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	1.11	25.04	0.96	2.72	3.67	5.61	2.69	7.38	0.00	0.00	0.00	0.00	0.00	0.00	10.08	0.39
149.00	267.00	1.18	25.72	0.86	2.63	3.62	5.61	2.79	7.38	0.00	0.00	0.00	0.00	0.00	0.00	9.83	0.39
168.00	483.00	1.28	26.63	0.79	2.55	3.62	5.61	2.91	7.39	0.00	0.00	0.00	0.00	0.00	0.00	9.64	0.39
187.00	700.00	1.38	27.43	0.74	2.48	3.65	5.61	3.03	7.39	0.00	0.00	0.00	0.00	0.00	0.00	9.47	0.39
206.00	917.00	1.50	28.09	0.70	2.43	3.69	5.61	3.14	7.39	0.00	0.00	0.00	0.00	0.00	0.00	9.33	0.39
224.00	1133.00	1.62	28.61	0.68	2.39	3.75	5.61	3.25	7.39	0.00	0.00	0.00	0.00	0.00	0.00	9.20	0.39
243.00	1350.00	1.75	29.02	0.66	2.38	3.83	5.61	3.35	7.39	0.00	0.00	0.00	0.00	0.00	0.00	9.10	0.39
262.00	1567.00	1.88	29.32	0.66	2.38	3.92	5.61	3.44	7.39	0.00	0.00	0.00	0.00	0.00	0.00	9.02	0.39
281.00	1783.00	2.02	29.54	0.67	2.39	4.02	5.61	3.53	7.39	0.00	0.00	0.00	0.00	0.00	0.00	8.95	0.39
300.00	2000.00	2.16	29.69	0.69	2.41	4.12	5.61	3.61	7.39	0.00	0.00	0.00	0.00	0.00	0.00	8.89	0.39

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

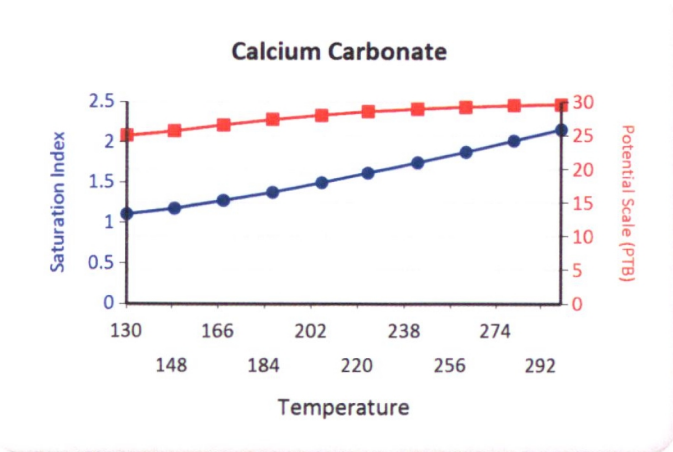
multi-chem®
A HALLIBURTON SERVICE

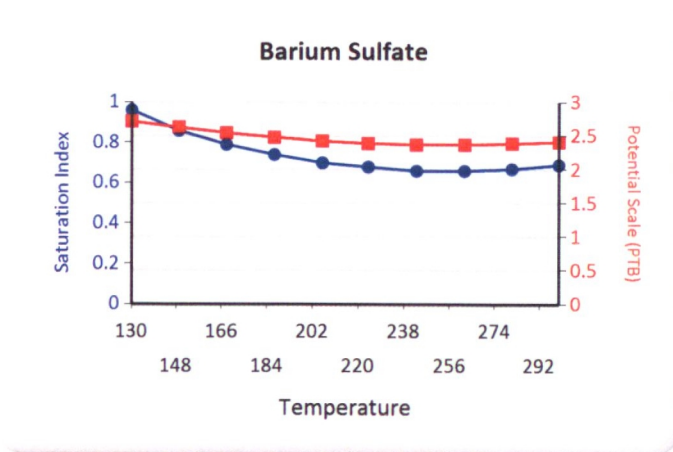
Water Analysis Report

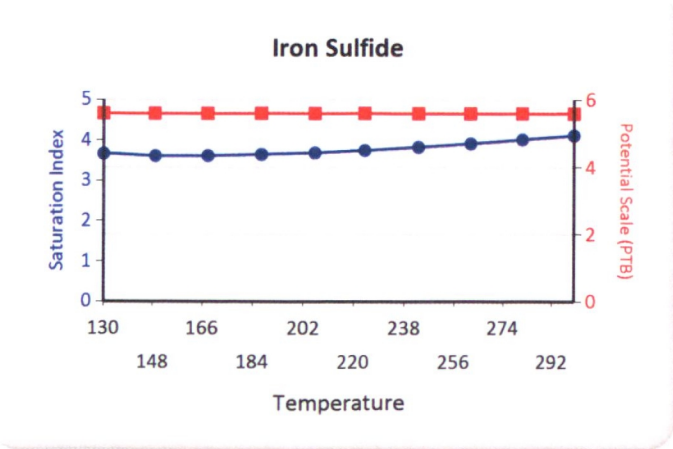
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
130.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20	0.47	10.88	0.04	1.49	8.51	0.37	2.61	8.79	7.89
149.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41	0.48	10.45	0.04	2.28	12.99	0.81	5.46	9.30	7.89
168.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	1.63	0.49	10.10	0.04	3.19	18.31	1.33	9.09	9.95	7.90
187.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	1.83	0.49	9.78	0.04	4.10	23.15	1.86	12.64	10.62	7.90
206.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	2.01	0.49	9.51	0.04	4.99	27.12	2.39	15.82	11.29	7.91
224.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	2.18	0.49	9.26	0.04	5.87	30.07	2.91	18.38	11.96	7.91
243.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	2.33	0.49	9.05	0.04	6.72	32.03	3.41	20.19	12.63	7.91
262.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	2.46	0.49	8.86	0.04	7.54	33.20	3.91	21.32	13.28	7.91
281.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	2.58	0.50	8.69	0.04	8.33	33.84	4.39	21.97	13.91	7.91
300.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	2.67	0.50	8.54	0.04	9.09	34.17	4.85	22.31	14.52	7.91

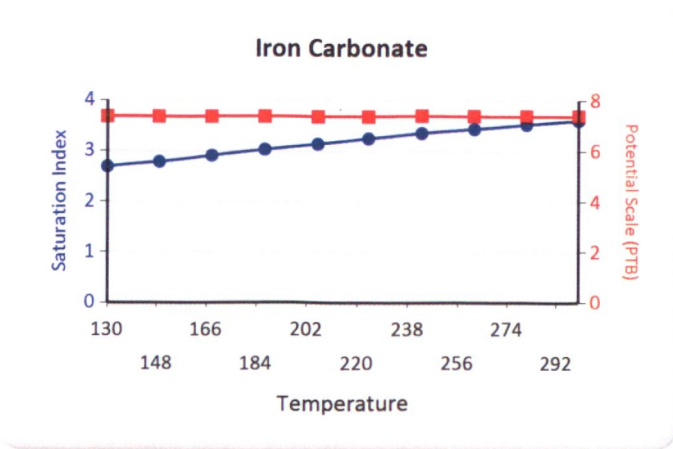
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

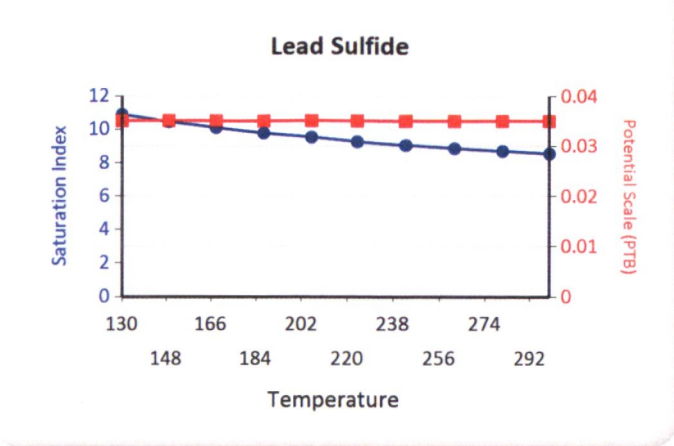
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

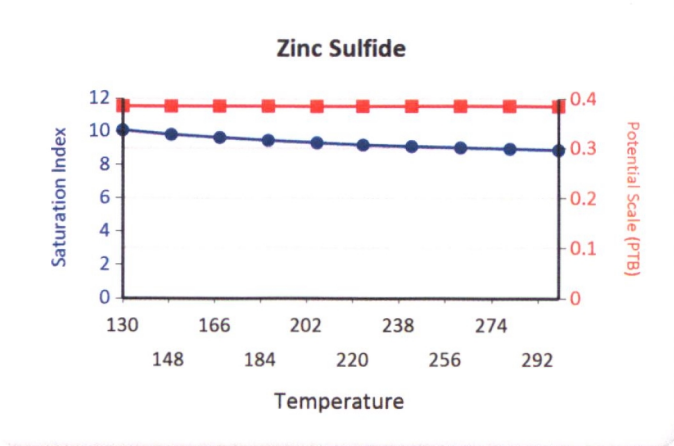









Lead Sulfide
Saturation Index
Potential Scale (PTB)
Temperature
130 148 166 184 202 220 238 256 274 292


Zinc Sulfide
Saturation Index
Potential Scale (PTB)
Temperature
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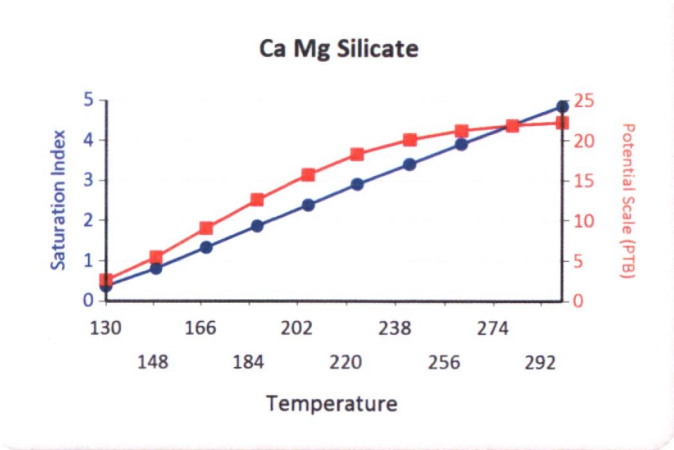
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Saturation Index
Potential Scale (PTB)
Temperature
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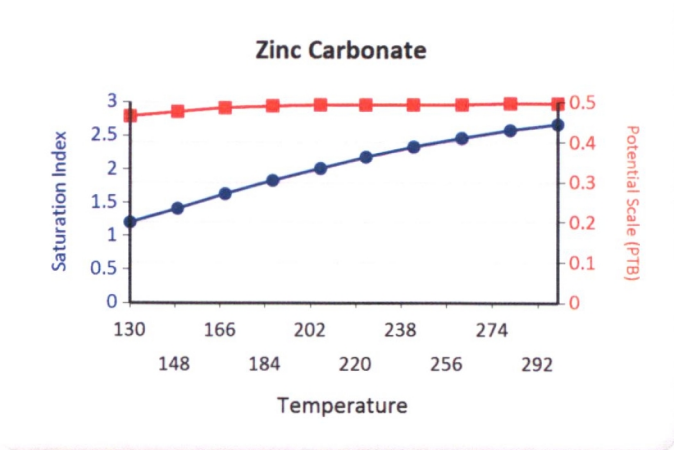
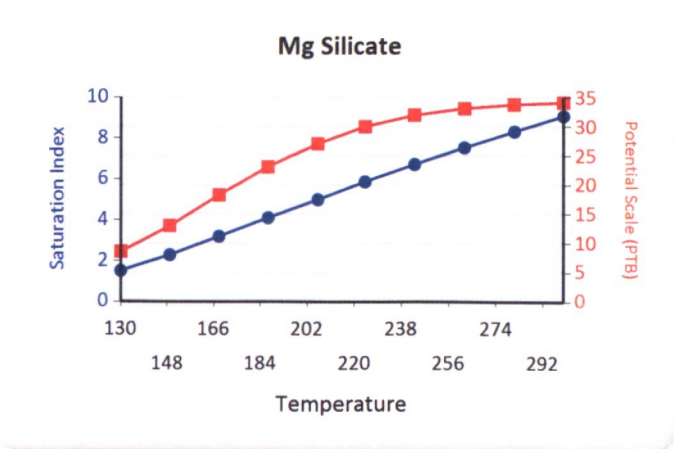
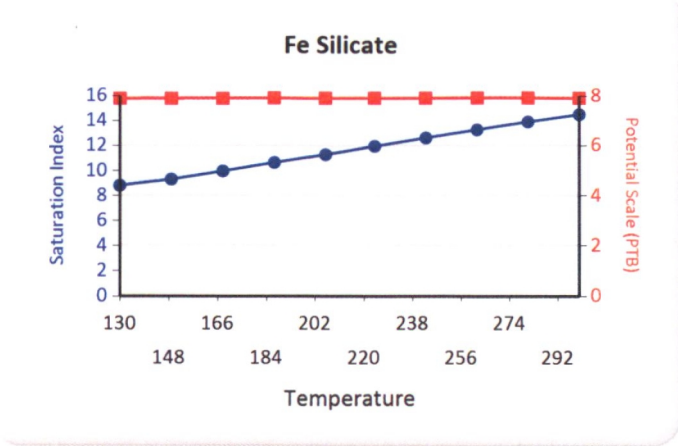

Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
130 148 166 184 202 220 238 256 274 292


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


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

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: 2 12 17
Test conducted by: CHAD STEVENSON
Others present: _____

Well Name: 03-14 UT20736-04434 **Type:** ER SWD **Status:** AC TA UC
Field: ANTELOPE CREEK
Location: _____ **Sec:** ____ **T** ____ **N / S** **R** ____ **E / W** **County:** DUCHESNE **State:** UT
Operator: PETROGLYPH ENERGY
Last MIT: ____ / ____ / ____ **Maximum Allowable Pressure:** _____ **PSIG**

GREEN	BLUE	CBI
	2	

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

U2 Entered
Date 3/20/17
Initial BS

Well injecting during test? If Yes, rate: 43 **bpd**
Pre-test annulus pressure: _____ **psig**

MIT DATA TABLE	Test #1	Test #2	Test #3
TUBING		**PRESSURE RECORD**	
Initial Pressure	2039 psig	psig	psig
End of test pressure	2039 psig	psig	psig
CASING / TUBING ANNULUS		**PRESSURE RECORD**	
0 minutes	1090 psig	psig	psig
5 minutes	1090 psig	psig	psig
10 minutes	1090 psig	psig	psig
15 minutes	1090 psig	psig	psig
20 minutes	1090 psig	psig	psig
25 minutes	1090 psig	psig	psig
30 minutes	1090 psig	psig	psig
4 Hours minutes	1090 psig	psig	psig
_____ minutes	psig	psig	psig
RESULT	[ ] Pass [ ] Fail	[ ] Pass [ ] Fail	[ ] Pass [ ] Fail

Does the annulus pressure build back up after the test ? **If Yes,** _____ **psig.**

CALIBRATED CHARTS
METER NUMBER
03-14
TIME PUT ON
DATE PUT ON
TIME TAKEN OFF
DATE TAKEN OFF
MW-MP 2000
PRINTED IN U.S.A.
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

EPA

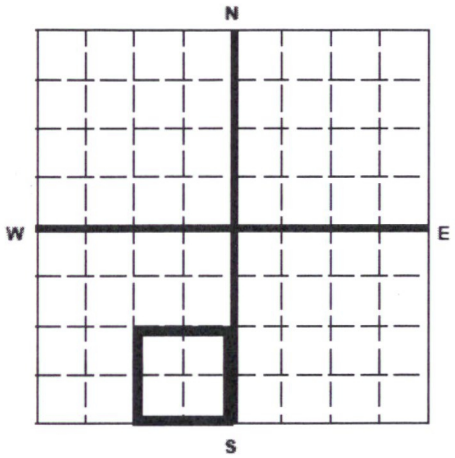
United States Environmental Protection Agency
Washington, DC 20460

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

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

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

Surface Location 1050 ft. frm (N/S) S Line of quarter section
and 1980 ft. from (E/W) W Line of quarter section.

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

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

Number of Wells 111

U2 Entered
Date
Initial

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 03-14

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	15	2074	2108	795		0	0
February	15	2091	2098	821		0	0
March	15	2079	2122	726		0	0
April	15	2079	2109	748		0	0
May	15	2097	2101	884		0	0
June	15	2099	2118	934		0	0
July	15	2107	2115	960		0	0
August	15	2096	2116	844		0	0
September	15	2075	2101	785		0	0
October	15	2080	2097	797		0	0
November	15	2067	2081	617		0	0
December	15	1905	1967	0		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

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 03-14 INJ, DUCHESNE**	Lab Tech:	**Gary Peterson**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2016**		
Sample ID:	**WA-327583**		

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

Sample Specifics

Test Date:	1/7/2016
System Temperature 1 (°F):	60
System Pressure 1 (psig):	2000
System Temperature 2 (°F):	180
System Pressure 2 (psig):	50
Calculated Density (g/ml):	1.0030
pH:	8.70
Calculated TDS (mg/L):	8309.69
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	10.00
Tot. SuspendedSolids(mg/L):	
Corrosivity(LanglierSat.Indx)	0.00
Alkalinity:	

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	2826.93	Chloride (Cl):	3500.00
Potassium (K):	17.86	Sulfate (SO_4):	1.00
Magnesium (Mg):	39.47	Bicarbonate (HCO_3):	1830.00
Calcium (Ca):	50.55	Carbonate (CO_3):	
Strontium (Sr):	3.55	Acetic Acid (CH_3COO)	
Barium (Ba):	9.65	Propionic Acid (C_2H_5COO)	
Iron (Fe):	4.33	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	1.20	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.38	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.15	Silica (SiO_2):	24.62
Aluminum (Al):	0.02	Calcium Carbonate ($CaCO_3$):	
Lithium (Li):	2.20	Phosphates (PO_4):	9.15
Boron (B):	2.13	Oxygen (O_2):	
Silicon (Si):	11.51		

Notes:
S=271.44

(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	2.10	43.44	0.00	0.00	3.80	2.39	3.17	3.15	0.00	0.00	0.00	0.00	0.00	0.00	10.29	0.63
167.00	267.00	2.02	43.24	0.00	0.00	3.79	2.39	3.08	3.15	0.00	0.00	0.00	0.00	0.00	0.00	10.42	0.63
153.00	483.00	1.95	43.05	0.00	0.00	3.80	2.39	2.99	3.14	0.00	0.00	0.00	0.00	0.00	0.00	10.56	0.63
140.00	700.00	1.89	42.84	0.00	0.00	3.81	2.39	2.90	3.14	0.00	0.00	0.00	0.00	0.00	0.00	10.72	0.63
127.00	917.00	1.83	42.61	0.00	0.00	3.85	2.39	2.80	3.14	0.00	0.00	0.00	0.00	0.00	0.00	10.90	0.63
113.00	1133.00	1.77	42.37	0.00	0.00	3.89	2.39	2.71	3.14	0.00	0.00	0.00	0.00	0.00	0.00	11.09	0.63
100.00	1350.00	1.72	42.12	0.00	0.00	3.95	2.39	2.62	3.14	0.00	0.00	0.00	0.00	0.00	0.00	11.30	0.63
87.00	1567.00	1.68	41.87	0.00	0.00	4.03	2.39	2.53	3.14	0.00	0.00	0.00	0.00	0.00	0.00	11.53	0.63
73.00	1783.00	1.64	41.63	0.00	0.00	4.12	2.39	2.44	3.14	0.00	0.00	0.00	0.00	0.00	0.00	11.79	0.63
60.00	2000.00	1.60	41.39	0.00	0.00	4.23	2.39	2.35	3.13	0.00	0.00	0.00	0.00	0.00	0.00	12.06	0.63

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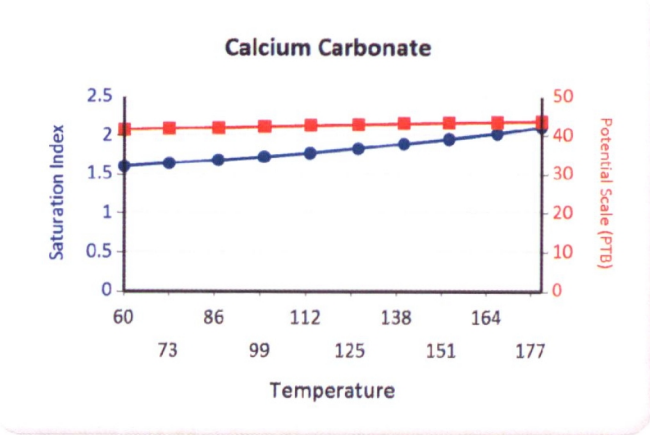
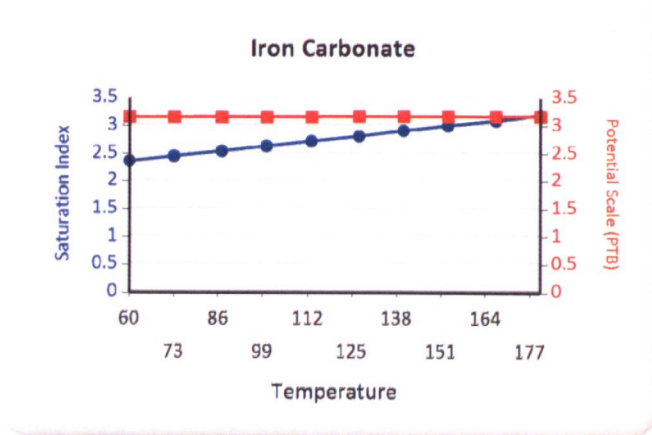
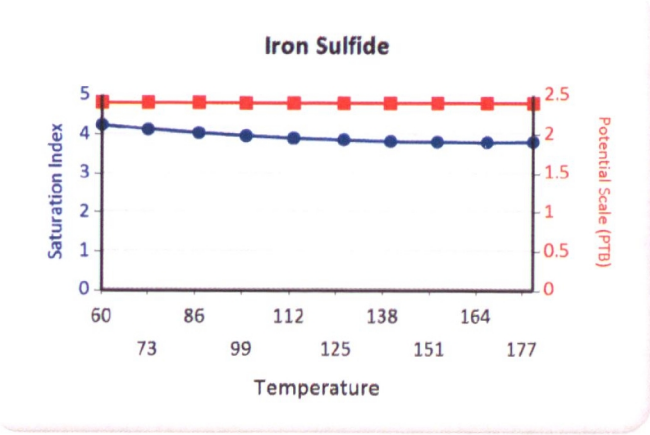
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	2.54	0.81	11.07	0.15	8.60	59.82	4.77	31.91	12.88	3.37
167.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	2.39	0.80	11.30	0.15	8.00	56.33	4.42	30.99	12.45	3.37
153.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	2.24	0.80	11.56	0.15	7.42	53.19	4.09	29.97	12.05	3.37
140.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	2.09	0.80	11.84	0.15	6.84	49.77	3.76	28.72	11.66	3.37
127.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	1.92	0.80	12.14	0.15	6.26	46.24	3.44	27.24	11.27	3.37
113.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	1.74	0.79	12.47	0.15	5.67	42.68	3.11	25.57	10.89	3.37
100.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	1.55	0.79	12.83	0.15	5.08	39.13	2.79	23.75	10.51	3.36
87.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	1.35	0.77	13.22	0.15	4.48	35.56	2.46	21.78	10.15	3.36
73.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.75	13.65	0.15	3.88	31.90	2.14	19.66	9.78	3.36
60.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91	0.71	14.10	0.15	3.27	28.04	1.81	17.38	9.43	3.36

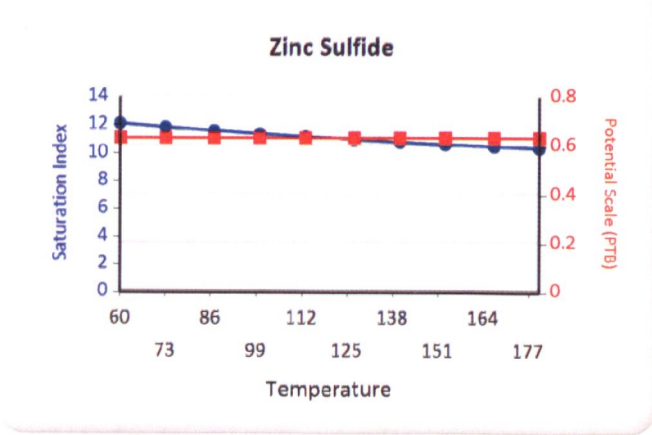
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

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









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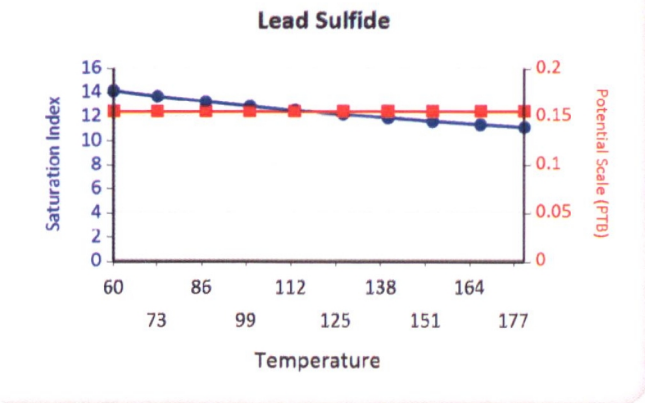
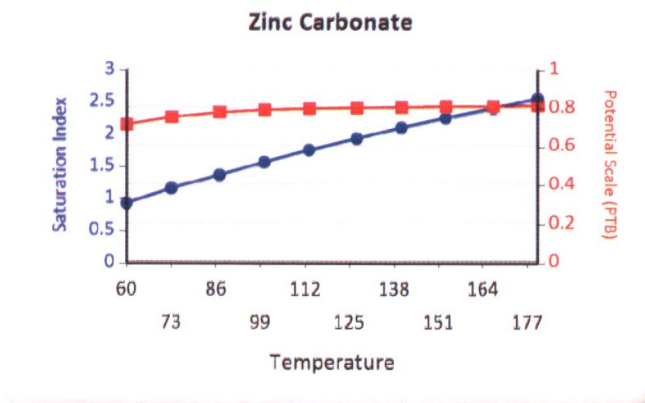
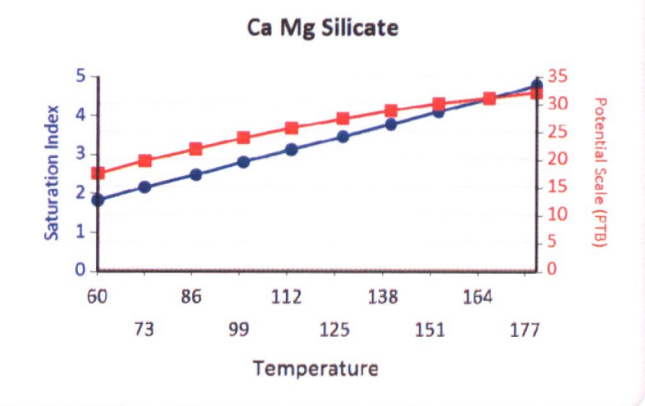
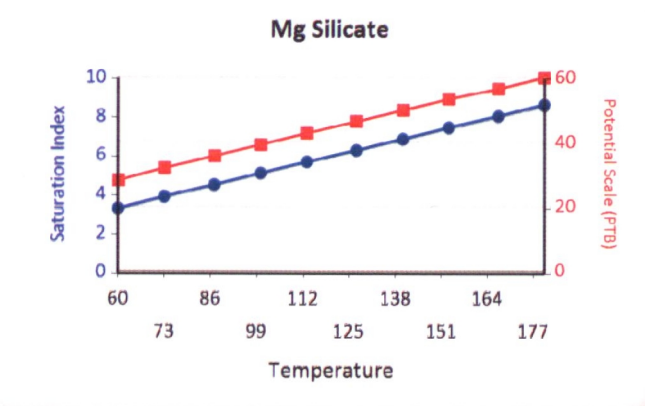
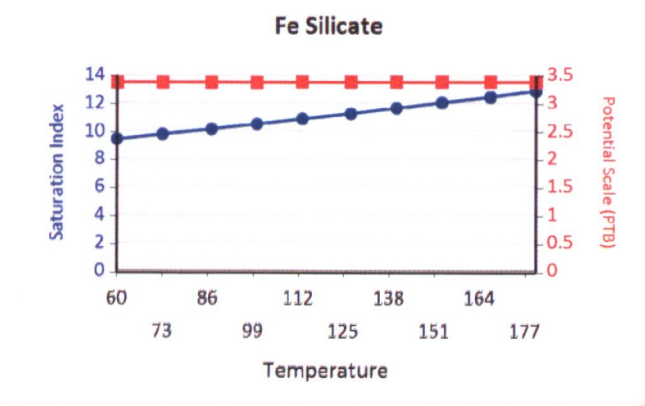
Water Analysis Report











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

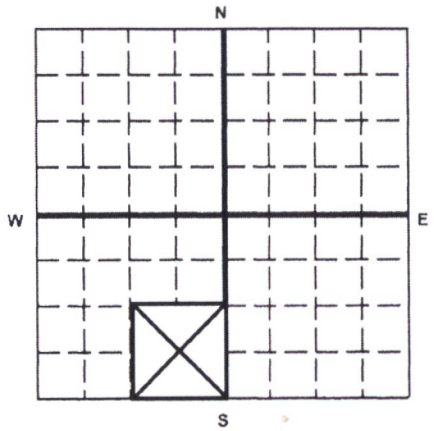
EPA

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	UT2736-04434

Surface Location Description

____ 1/4 of ____ 1/4 of SE 1/4 of SW 1/4 of Section 3 Township 5S Range 3W

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

Surface Location 1050 ft. frm (N/S) S Line of quarter section and 1980 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 03-14

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	14	1343	1996	1267		0	0
February	14	2095	2100	1602		0	0
March	14	2072	2087	1111		0	0
April	14	2094	2101	1088		0	0
May	14	2102	2105	1043		0	0
June	14	2107	2114	988		0	0
July	14	2080	2130	772		0	0
August	14	2106	2117	1043		0	0
September	14	2082	2109	829		0	0
October	14	2112	2108	1035		0	0
November	14	2102	2116	892		0	0
December	14	2103	2108	851		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 3/20/15
Initial GW

TAB	GREEN	BLUE	CBI
		2	

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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 03-14 INJ, DUCHESNE**	Lab Tech:	**Gary Winegar**
Sample Point:	**WELLHEAD**		
Sample Date:	**1/7/2015**		
Sample ID:	**WA-297463**		

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

Sample Specifics	
Test Date:	1/14/2015
System Temperature 1 (°F):	160
System Pressure 1 (psig):	1300
System Temperature 2 (°F):	80
System Pressure 2 (psig):	15
Calculated Density (g/ml):	1.0016
pH:	8.30
Calculated TDS (mg/L):	6392.90
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	10.00

Analysis @ Properties in Sample Specifics			
Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	1924.68	Chloride (Cl):	3000.00
Potassium (K):	31.43	Sulfate (SO_4):	166.00
Magnesium (Mg):	47.40	Bicarbonate (HCO_3):	1098.00
Calcium (Ca):	83.24	Carbonate (CO_3):	
Strontium (Sr):	4.12	Acetic Acid (CH_3COO)	
Barium (Ba):	3.59	Propionic Acid (C_2H_5COO)	
Iron (Fe):	7.03	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	5.16	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.00	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.09	Silica (SiO_2):	22.16

Notes:
B=3.55 Al=0 Li=1.1

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
80.00	14.00	1.50	51.14	1.59	2.08	3.98	3.88	2.26	5.08	0.00	0.00	0.00	0.00	0.00	0.00	12.03	2.70
88.00	157.00	1.49	49.38	1.51	2.07	3.89	3.88	2.28	5.08	0.00	0.00	0.00	0.00	0.00	0.00	11.84	2.70
97.00	300.00	1.51	50.35	1.43	2.06	3.83	3.88	2.33	5.08	0.00	0.00	0.00	0.00	0.00	0.00	11.68	2.70
106.00	443.00	1.53	51.38	1.36	2.04	3.78	3.88	2.38	5.09	0.00	0.00	0.00	0.00	0.00	0.00	11.52	2.70
115.00	585.00	1.55	52.47	1.30	2.03	3.74	3.88	2.42	5.09	0.00	0.00	0.00	0.00	0.00	0.00	11.38	2.70
124.00	728.00	1.57	53.61	1.24	2.02	3.70	3.88	2.47	5.09	0.00	0.00	0.00	0.00	0.00	0.00	11.25	2.70
133.00	871.00	1.59	54.78	1.19	2.00	3.67	3.88	2.51	5.09	0.00	0.00	0.00	0.00	0.00	0.00	11.12	2.70
142.00	1014.00	1.62	55.97	1.14	1.98	3.65	3.88	2.56	5.10	0.00	0.00	0.00	0.00	0.00	0.00	11.01	2.70
151.00	1157.00	1.65	57.17	1.10	1.97	3.64	3.88	2.60	5.10	0.00	0.00	0.00	0.00	0.00	0.00	10.90	2.70
160.00	1300.00	1.68	58.37	1.06	1.95	3.63	3.88	2.64	5.10	0.00	0.00	0.00	0.00	0.00	0.00	10.80	2.70

		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	3.34	0.00	0.00	1.88	8.13	0.72	3.36	7.97	5.44
88.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.57	3.36	0.00	0.00	2.11	8.59	0.82	3.62	8.04	5.44
97.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	1.70	3.39	0.00	0.00	2.48	10.18	1.02	4.45	8.25	5.44
106.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	1.81	3.41	0.00	0.00	2.87	11.86	1.23	5.30	8.48	5.45
115.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	1.93	3.42	0.00	0.00	3.26	13.61	1.44	6.17	8.72	5.45
124.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	2.03	3.43	0.00	0.00	3.65	15.44	1.66	7.04	8.97	5.45
133.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	2.14	3.44	0.00	0.00	4.04	17.29	1.88	7.92	9.23	5.46
142.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	2.24	3.45	0.00	0.00	4.44	19.14	2.10	8.77	9.49	5.46
151.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	2.33	3.45	0.00	0.00	4.84	20.89	2.32	9.59	9.75	5.46
160.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42	3.46	0.00	0.00	5.24	22.48	2.54	10.36	10.03	5.46

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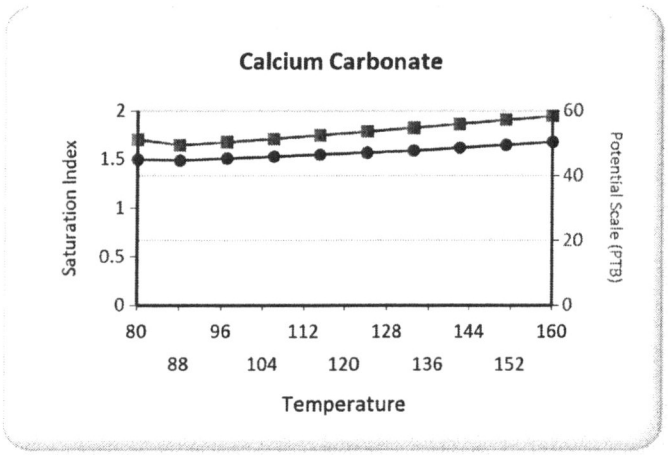
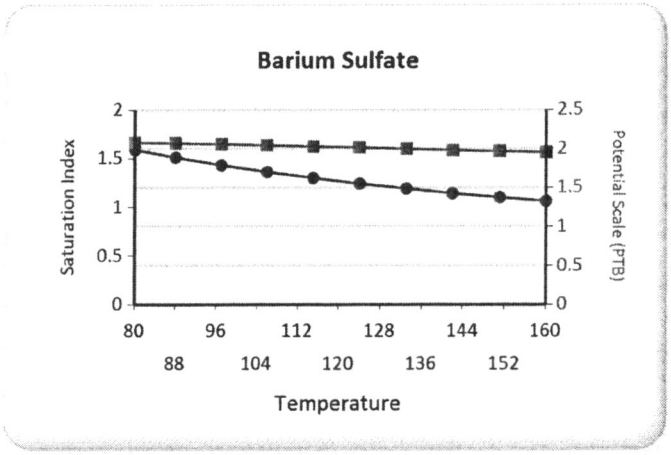
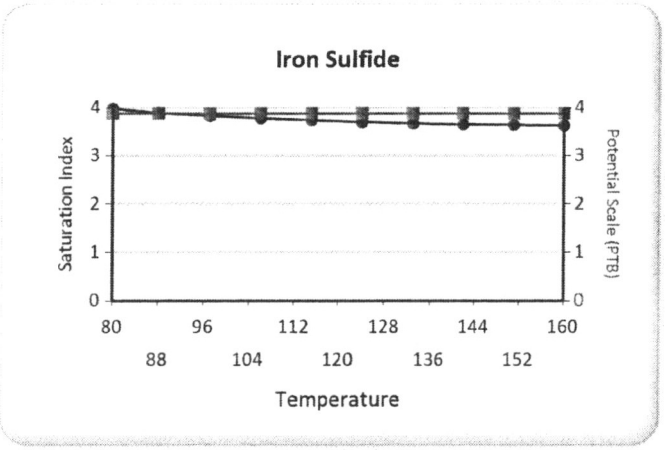
Water Analysis Report

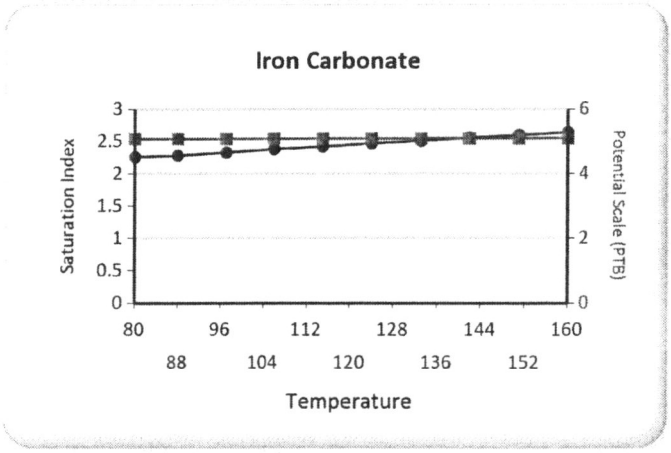
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

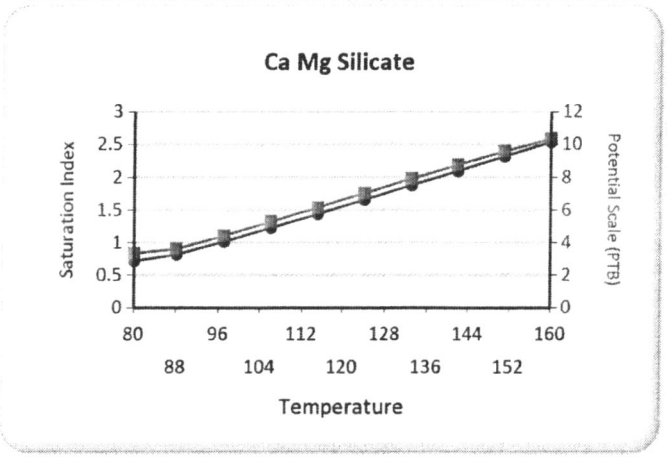
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

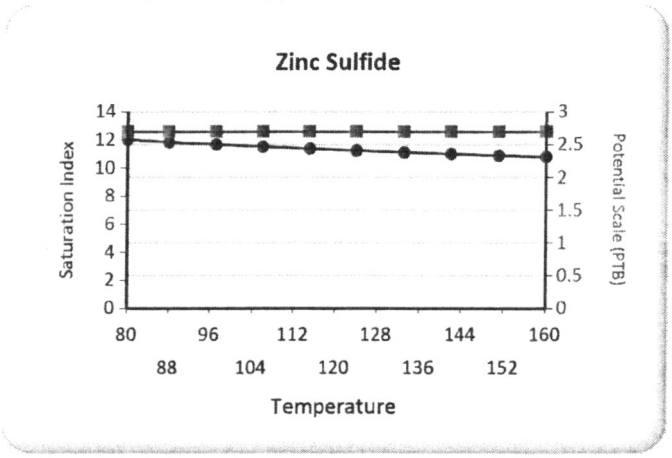


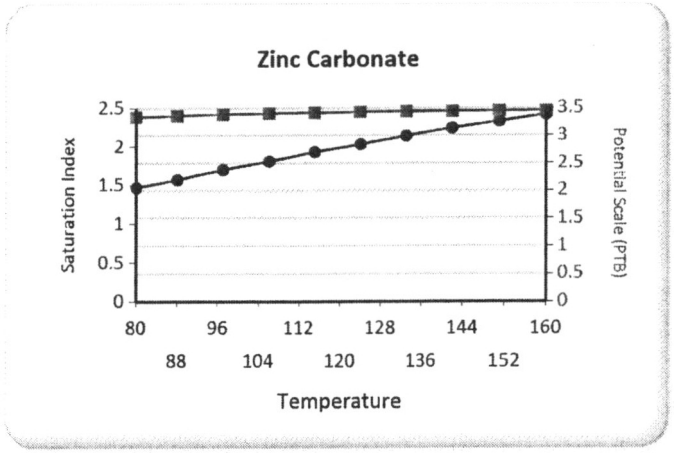


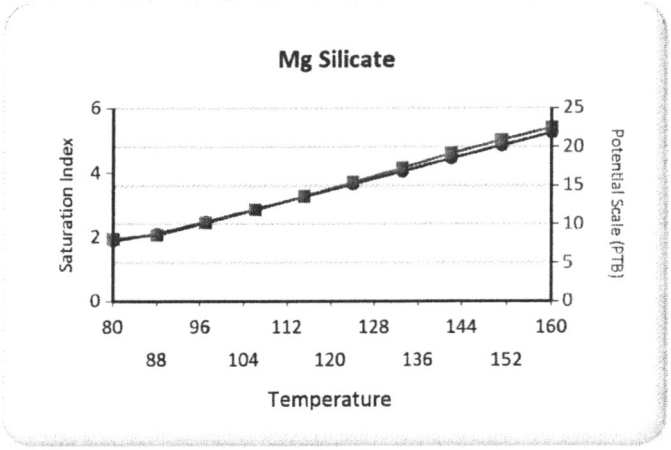


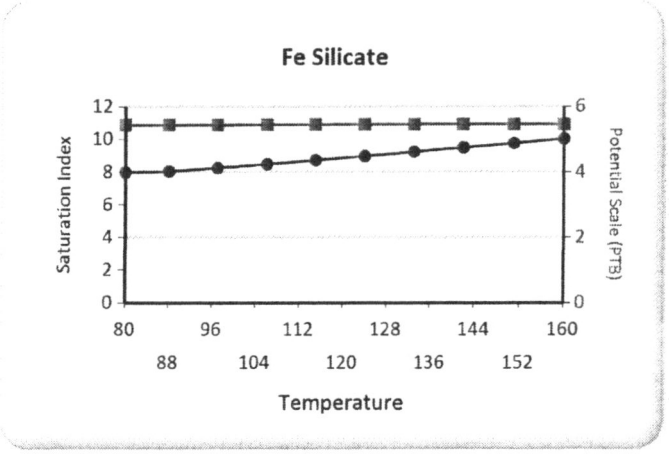







Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
2.5
2
1.5
1
0.5
0
3.5
3
2.5
2
1.5
1
0.5
0
80
96
112
128
144
160
88
104
120
136
152


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

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

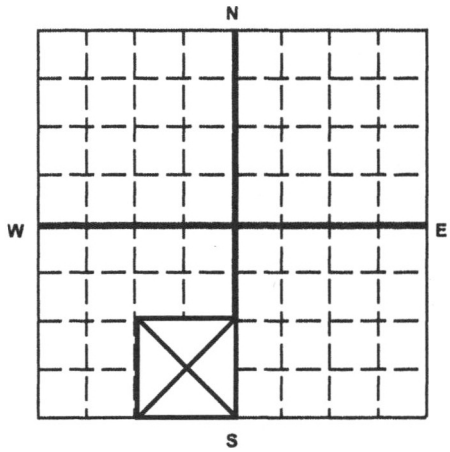
United States Environmental Protection Agency
Washington, DC 20460

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	UT2736-04434

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

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

Surface Location 1050 ft. frm (N/S) S Line of quarter section
and 1980 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 03-14

		INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING -- CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	13	2049	2088	693		0	0
February	13	2089	2132	1255		0	0
March	13	2105	2124	1291		0	0
April	13	2132	2142	1409		0	0
May	13	2136	2147	1422		0	0
June	13	2102	2123	889		0	0
July	13	2104	2158	1054		0	0
August	13	2130	2175	1273		0	0
September	13	2100	2145	943		0	0
October	13	2110	2128	1046		0	0
November	13	2130	2155	1134		0	0
December	13	1953	2136	569		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	C Stevenson	2/11/2014

U2 Entered
Date 3/17/14
Initial DB

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

TAB	GREEN	BLUE	CBI
		2	

Multi-Chem Analytical Laboratory
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Units of Measurement: **Standard**

Water Analysis Report

Production Company: **PETROGLYPH ENERGY INC**
Well Name: **UTE TRIBAL 03-14 INJ**
Sample Point: **Wellhead**
Sample Date: **1/8/2014**
Sample ID: **WA-263007**

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):	1.004
pH:	8.40
Calculated TDS (mg/L):	10108.67
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	50.00

Analysis @ Properties in Sample Specifics			
Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	3609.59	Chloride (Cl):	5000.00
Potassium (K):	24.00	Sulfate (SO_4):	0.00
Magnesium (Mg):	27.00	Bicarbonate (HCO_3):	1342.00
Calcium (Ca):	48.00	Carbonate (CO_3):	
Strontium (Sr):	5.00	Acetic Acid (CH_3COO)	
Barium (Ba):	18.00	Propionic Acid (C_2H_5COO)	
Iron (Fe):	11.00	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	0.30	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.06	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.18	Silica (SiO_2):	23.54

Notes:
B=4 Al=0 Li=.69

(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	1.30	33.48	0.00	0.00	5.09	6.07	2.40	7.96	0.00	0.00	0.00	0.00	0.00	0.00	11.93	0.16
73.00	157.00	1.30	33.19	0.00	0.00	4.95	6.07	2.47	7.96	0.00	0.00	0.00	0.00	0.00	0.00	11.62	0.16
86.00	300.00	1.32	33.61	0.00	0.00	4.83	6.07	2.53	7.97	0.00	0.00	0.00	0.00	0.00	0.00	11.35	0.16
100.00	443.00	1.34	34.11	0.00	0.00	4.74	6.07	2.60	7.97	0.00	0.00	0.00	0.00	0.00	0.00	11.10	0.16
113.00	585.00	1.37	34.68	0.00	0.00	4.67	6.07	2.67	7.98	0.00	0.00	0.00	0.00	0.00	0.00	10.88	0.16
126.00	728.00	1.40	35.30	0.00	0.00	4.61	6.07	2.74	7.98	0.00	0.00	0.00	0.00	0.00	0.00	10.67	0.16
140.00	871.00	1.44	35.95	0.00	0.00	4.57	6.07	2.80	7.98	0.00	0.00	0.00	0.00	0.00	0.00	10.49	0.16
153.00	1014.00	1.48	36.61	0.00	0.00	4.54	6.07	2.86	7.98	0.00	0.00	0.00	0.00	0.00	0.00	10.32	0.16
166.00	1157.00	1.53	37.26	0.00	0.00	4.53	6.07	2.92	7.99	0.00	0.00	0.00	0.00	0.00	0.00	10.17	0.16
180.00	1300.00	1.58	37.88	0.00	0.00	4.52	6.07	2.98	7.99	0.00	0.00	0.00	0.00	0.00	0.00	10.03	0.16

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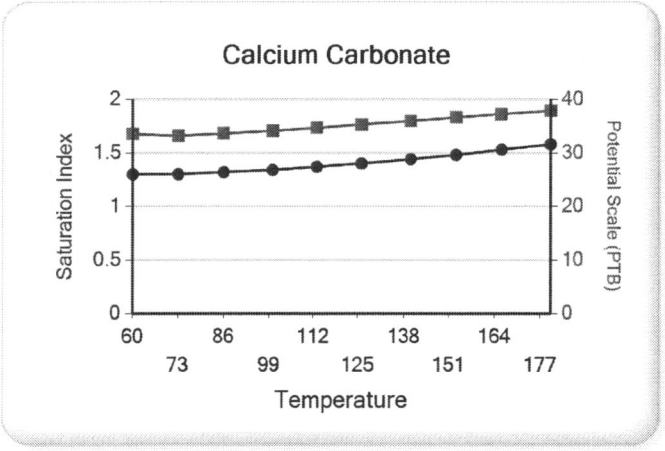
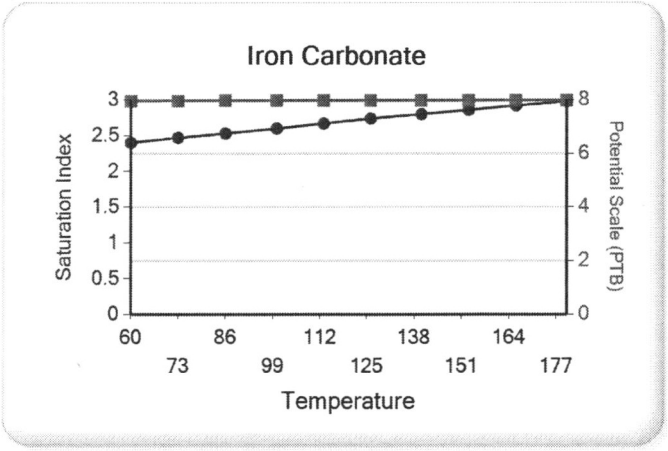
Water Analysis Report

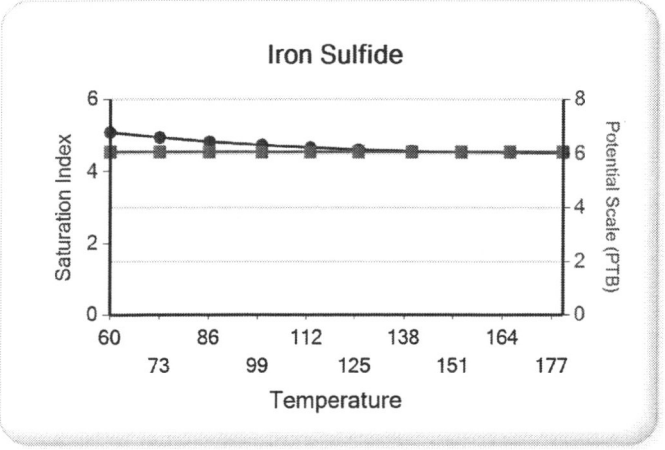
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
60.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.78	0.02	0.82	4.61	0.17	1.22	8.62	8.51
73.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.06	13.28	0.02	1.26	6.66	0.38	2.34	8.80	8.52
86.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.11	12.84	0.02	1.79	9.12	0.65	3.74	9.07	8.53
100.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.14	12.43	0.02	2.33	11.60	0.93	5.15	9.38	8.53
113.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.16	12.06	0.02	2.88	14.10	1.23	6.54	9.70	8.54
126.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86	0.18	11.72	0.02	3.44	16.63	1.53	7.90	10.04	8.54
140.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01	0.18	11.41	0.02	4.00	19.15	1.85	9.21	10.40	8.55
153.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	0.19	11.12	0.02	4.57	21.58	2.16	10.42	10.77	8.55
166.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27	0.19	10.85	0.02	5.13	23.77	2.48	11.50	11.15	8.55
180.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	1.39	0.19	10.61	0.02	5.68	25.58	2.79	12.42	11.53	8.55

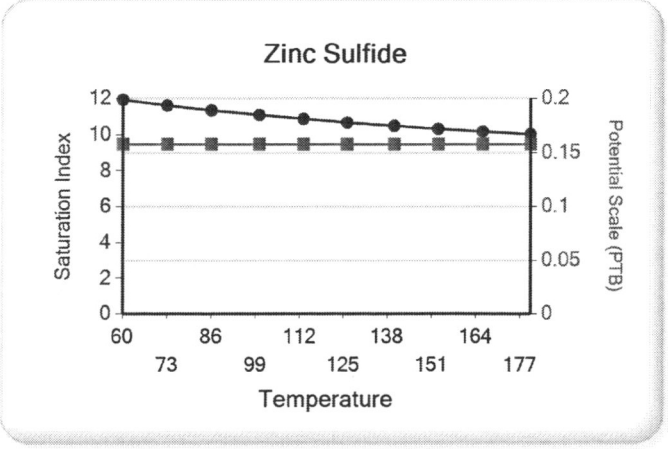
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Iron Sulfide Iron Carbonate Zinc Sulfide Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

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









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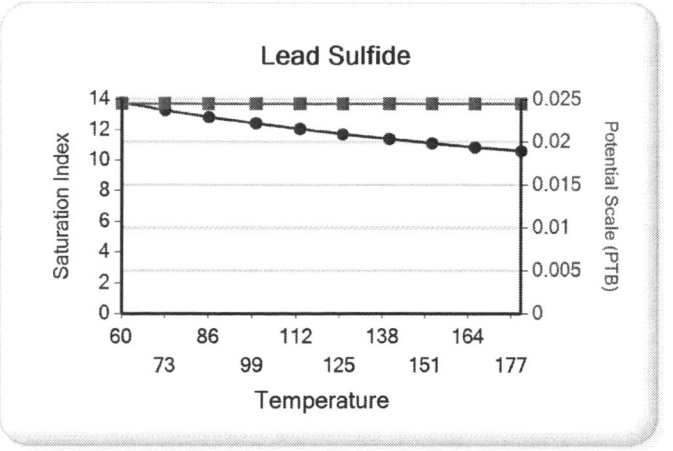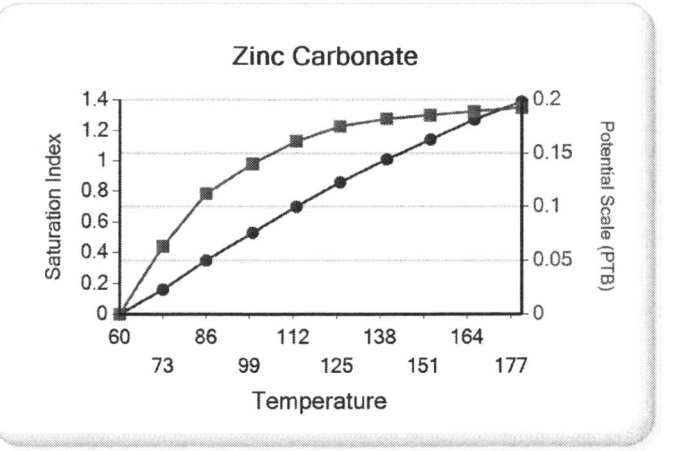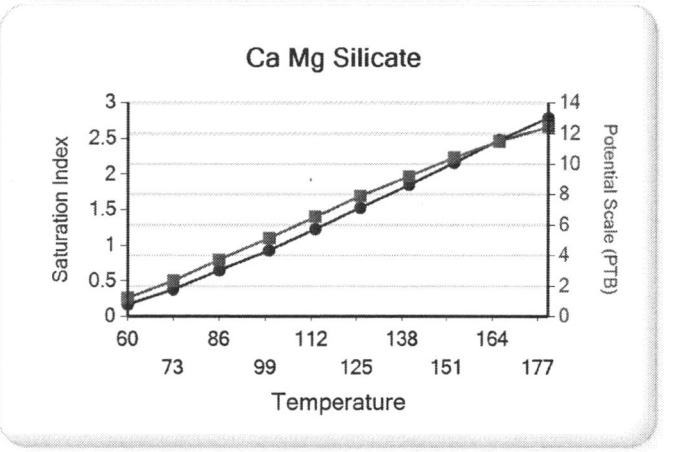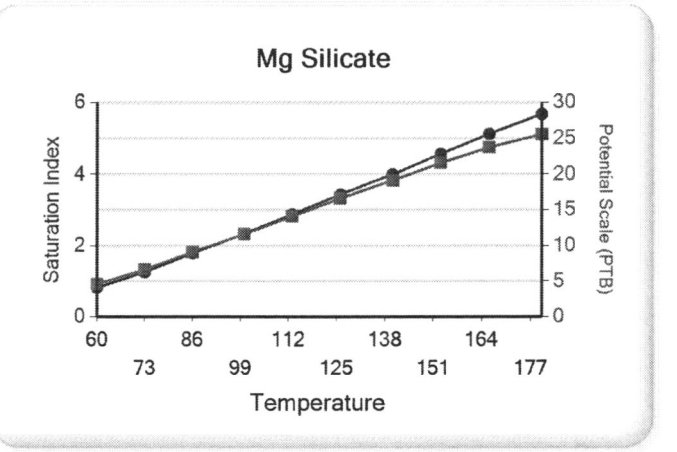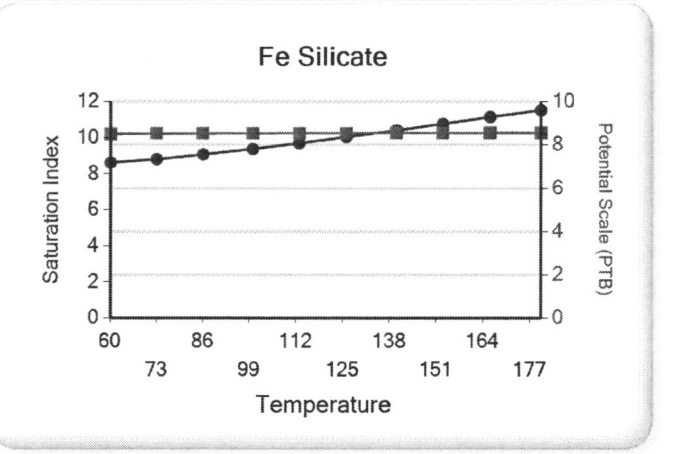
Water Analysis Report