

FORM
4
Rev 12/05

Page 1

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 Phone (303) 894-2100 Fax (303) 894-2109



SUNDRY NOTICE

Submit original plus one copy. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full on Technical Information Page (Page 2 of this form). Identify well or other facility by API Number or by OGCC Facility ID. Operator shall send an informational copy of all sundry notices for wells located in High Density Areas to the Local Government Designee (Rule 603b).

RECEIVED
9/4/2012

1. OGCC Operator Number: 100264	4. Contact Name: Jessica Dooling	Complete the Attachment Checklist OP OGCC
2. Name of Operator: XTO Energy Inc.	Phone: 970-675-4122	
3. Address: PO Box 6501 City: Englewood State: CO Zip: 80155	Fax: 970-675-4150	
5. API Number: 05-103-11191-00	OGCC Facility ID Number: []	Survey Plat
6. Well/Facility Name: Freedom Unit	7. Well/Facility Number: FRU 297-88	Directional Survey
8. Location (Qtr/Sec, Twp, Rng, Meridian): SENW, 8, 2S, 97W, 6th		Surface Egmpt Diagram
9. County: Rio Blanco	10. Field Name: Freedom Unit	Technical Info Page
11. Federal, Indian or State Lease Number: []		Other

Location ID
336019Fit Facility ID
294702

General Notice

<input type="checkbox"/> CHANGE OF LOCATION: Attach New Survey Plat (a change of surface qtr/qtr is substantive and requires a new permit)	
Change of Surface Footage from Exterior Section Lines:	<input type="checkbox"/> FNL/FSL <input type="checkbox"/> FEL/FWL
Change of Surface Footage to Exterior Section Lines:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Change of Bottomhole Footage from Exterior Section Lines:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Change of Bottomhole Footage to Exterior Section Lines:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> attach directional survey
Bottomhole location Qtr/Sec, Twp, Rng, Mer	
Latitude	Distance to nearest property line
Longitude	Distance to nearest bldg, public rd, utility or RR
Ground Elevation	Distance to nearest lease line
	Is location in a High Density Area (rule 603b)? Yes/No
	Distance to nearest well same formation
	Surface owner consultation date:
GPS DATA:	
Date of Measurement	PDOP Reading
	Instrument Operator's Name
<input type="checkbox"/> CHANGE SPACING UNIT	
Formation	Formation Code
Spacing order number	Unit Acreage
Unit configuration	
<input type="checkbox"/> Remove from surface bond	
Signed surface use agreement attached	
<input type="checkbox"/> CHANGE OF OPERATOR (prior to drilling):	
Effective Date:	
Plugging Bond <input type="checkbox"/> Blanket <input type="checkbox"/> Individual	
<input type="checkbox"/> CHANGE WELL NAME NUMBER	
From:	
To:	
Effective Date:	
<input type="checkbox"/> ABANDONED LOCATION:	
Was location ever built? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Is site ready for inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Date Ready for inspection:	
<input type="checkbox"/> NOTICE OF CONTINUED SHUT IN STATUS	
Date well shut in or temporarily abandoned:	
Has Production Equipment been removed from site? <input type="checkbox"/> Yes <input type="checkbox"/> No	
MIT required if shut in longer than two years. Date of last MIT	
<input type="checkbox"/> SPUD DATE:	
<input type="checkbox"/> REQUEST FOR CONFIDENTIAL STATUS (6 mos from date casing set)	
<input type="checkbox"/> SUBSEQUENT REPORT OF STAGE, SQUEEZE OR REMEDIAL CEMENT WORK	
*submit cbl and cement job summaries	
Method used	Cementing tool setting/perf depth
Cement volume	Cement top
Cement bottom	Date
<input type="checkbox"/> RECLAMATION: Attach technical page describing final reclamation procedures per Rule 1004.	
Final reclamation will commence on approximately	
<input type="checkbox"/> Final reclamation is completed and site is ready for inspection.	

Technical Engineering/Environmental Notice

<input type="checkbox"/> Notice of Intent		<input type="checkbox"/> Report of Work Done	
Approximate Start Date:		Date Work Completed:	
Details of work must be described in full on Technical Information Page (Page 2 must be submitted.)			
<input type="checkbox"/> Intent to Recomplete (submit form 2)	<input type="checkbox"/> Request to Vent or Flare	<input type="checkbox"/> E&P Waste Disposal	
<input type="checkbox"/> Change Drilling Plans	<input type="checkbox"/> Repair Well	<input type="checkbox"/> Beneficial Reuse of E&P Waste	
<input type="checkbox"/> Gross Interval Changed?	<input type="checkbox"/> Rule 502 variance requested	<input type="checkbox"/> Status Update/Change of Remediation Plans	
<input type="checkbox"/> Casing/Cementing Program Change	<input checked="" type="checkbox"/> Other: See Page 2	for Spills and Releases	

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: Jessica Dooling Date: 9/4/2012 Email: jessica_dooling@xtoenergy.com
Print Name: Jessica Dooling Title: Environmental CoordinatorOGCC Approved: Chris Canfield Title: FDR Date: 09/05/2012

CONDITIONS OF APPROVAL, IF ANY

Chris Canfield
EPS NW Regionaudie
OK

TECHNICAL INFORMATION PAGE



FOR OGCC USE ONLY

1. OGCC Operator Number: 100264 API Number: 05-103-11191-00
2. Name of Operator: XTO Energy Inc. OGCC Facility ID #
3. Well/Facility Name: Freedom Unit Well/Facility Number: FRU 297-8B
4. Location (QtrQtr, Sec, Twp, Rng, Meridian): SENW, Sec 8, T2S, R97W, 6th PM

This form is to be completed whenever a Sundry Notice is submitted requiring detailed report of work to be performed or completed. This form shall be transmitted within 30 days of work completed as a "subsequent" report and must accompany Form 4, page 1.

DESCRIBE PROPOSED OR COMPLETED OPERATIONS

XTO Energy herin requests consideration of site-specific background Arsenic levels as an alternative to the Table 910-1 value for the FRU 297-8B location. COGCC Table 910-1 Concentration Levels list the allowable concentration level for arsenic in soil at 0.39 mg/kg. Footnote 1 of Table 910-1 states "Consideration shall be given to background levels in native soils and ground water." At other locations COGCC has allowed the determination of allowable levels based upon a 10 % variability factor applied to background soil concentration values where the maximum allowable level is computed by multiplying the highest detected background concentration by 1.1.

Eleven representative background samples were collected from undisturbed areas adjacent to the subject location. Arsenic concentrations in those samples ranged from 3.8 mg/kg to 6.8 mg/kg. Applying the 10% variability factor to the highest concentration detected results in an allowable arsenic concentration level of 7.5 mg/kg.

The initial Cuttings Pits 1 and 2 contents Arsenic concentrations of 18.6 mg/kg (Cuttings Pit 1) and 20.1 mg/kg (Cuttings Pit 2) are presumed to be the result of material from the Mancos formation. Eleven additional discrete samples representing the Cuttings Pits contents, including, in part, material from the Mancos formation were analyzed for Arsenic and result in a range of 7.7 mg/kg to 18.5 mg/kg (see Table 4). It is our interpretation that the discrete Arsenic samples demonstrate that there were no anthropogenic affects to the Cuttings Pits 1 and 2 material and that the elevated Arsenic levels reflect contributions due to drilling through the Mancos formation.

Cuttings Pits 1 and 2 subliner Arsenic values of 8.3 mg/kg (Cuttings Pit 1) and 8.9 mg/kg (Cuttings Pit 2) are above the allowable background value of 7.5 mg/kg. Cuttings Pits 1 and 2 initial contents Arsenic levels were 18.6 mg/kg and 20.1 mg/kg respectively (see Table 1). XTO Energy believes the subliner Arsenic values reflect the heterogeneous nature of the substrate and does not indicate subliner impacts due to operations.

Please find the Lab Data Summary Tables and the Site Map indicating arsenic sampling locations attached.

Table 1
Location: FRU 297-8B
Lab Summary

Updated: 7/25/2012

Analytical Parameter	Fresh Water Pit		Reserve Pit			Cuttings #1			Cuttings #2			Background 1/26/11					Background 7/3/12						COGCC	Background	
(with units)	FW Pit Contents 6/1/19/11	FW Subliner 6/12/12	Res Pit Contents 1/19/11	Res Pit Contents 7/25/11	Res Pit Subliner 7/2/12	Cut #1 Pit Contents 1/19/11	Cut #1 Pit Contents ⁶ 7/25/11	Cut #1 Pit Subliner 6/20/12	Cut #2 Pit Contents 1/19/11	Cut #2 Pit Contents ⁷ 7/25/11	Cut #2 Pit Subliner 6/20/12													Table 910-1 Concentration Levels	Maximum based on Background
Accutest Job #	D20575	D35489	D20575	D25856	D36105	D20575	D25856	D35710	D20575	D25856	D35708	D20761					D36166								
Sample type (Composite/Discrete)	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D			
TPH (GRO) (mg/Kg)	ND	ND	ND	ND	ND	96.4	131	ND	ND	200	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	
TPH (DRO) (mg/Kg)	0.7	ND	120	224	26.4	834	1,040	83.9	612	1,530	107	-	-	-	-	-	-	-	-	-	-	-	-	-	
TPH (GRO + DRO) (mg/Kg)	0.7	ND	120	224	26.4	930	1,171	83.9	612	1,730	107	-	-	-	-	-	-	-	-	-	-	-	-	-	
Benzene (mg/Kg)	-	ND	ND	-	ND	0.202	0.174	ND	ND	-	0.0220	-	-	-	-	-	-	-	-	-	-	-	-	500	
Toluene (mg/Kg)	-	ND	0.347	-	ND	4.920	-	0.271	0.159	-	0.445	-	-	-	-	-	-	-	-	-	-	-	-	85	
Ethylbenzene (mg/Kg)	-	ND	0.154	-	ND	1.190	-	0.0912	0.057	-	0.149	-	-	-	-	-	-	-	-	-	-	-	-	100	
Xylenes (total) (mg/Kg)	-	ND	0.539	-	ND	4.232	-	0.398	0.230	-	0.614	-	-	-	-	-	-	-	-	-	-	-	-	175	
Acenaphthene (mg/Kg)	-	ND	ND	-	ND	ND	-	ND	ND	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	1000	
Anthracene (mg/Kg)	-	ND	ND	-	ND	ND	-	ND	ND	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	1000	
Benzo(A)anthracene (mg/Kg)	-	ND	ND	-	ND	ND	-	ND	ND	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	0.22	
Benzo(B)fluoranthene (mg/Kg)	-	ND	ND	-	ND	ND	-	ND	ND	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	0.22	
Benzo(K)fluoranthene (mg/Kg)	-	ND	ND	-	ND	ND	-	ND	ND	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	2.2	
Benzo(A)pyrene (mg/Kg)	-	ND	ND	-	ND	ND	-	ND	ND	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	0.022	
Chrysene (mg/Kg)	-	ND	ND	-	ND	ND	-	ND	ND	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	22	
Dibenzo(A,H)anthracene (mg/Kg)	-	ND	ND	-	ND	ND	-	ND	ND	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	0.022	
Fluoranthene (mg/Kg)	-	ND	ND	-	ND	ND	-	ND	ND	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	1000	
Fluorene (mg/Kg)	-	ND	ND	-	ND	ND	-	ND	ND	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	0.22	
Indo(1,2,3,C,D)pyrene (mg/Kg)	-	ND	ND	-	ND	ND	-	ND	ND	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	23	
Napthalene (mg/Kg)	-	ND	ND	-	ND	0.445	-	0.0549	0.100	-	0.0578	-	-	-	-	-	-	-	-	-	-	-	-	1000	
Pyrene (mg/Kg)	-	ND	ND	-	ND	ND	-	ND	ND	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	<4 or 2X BG	
Electrical Conductivity (mmhos/cm)	0.931	0.492	8.28	2.93	0.412	13.2	14.5	8.130	13.6	8.34	7.860	-	-	-	-	-	-	-	-	-	-	-	-	<12	
Sodium Adsorption Ratio (SAR)	-	8.14	126	32.0	11.1	232	327	102	163	172	34.7	-	-	-	-	-	-	-	-	-	-	-	-	6-9	
pH	8.56	9.97	11.99	11.82	10.49	11.78	11.93	10.49	12.23	11.09	10.59	4.6	6.0	5.8	3.8	6.8	4.2	4.4	5.2	5.7	5.3	6.0	-	7.5	
Arsenic (mg/kg)	0.115	6.6	7.3	4.1	6.8	18.6	18.5	8.3	20.1	16.3	8.9	4.6	6.0	5.8	3.8	6.8	4.2	4.4	5.2	5.7	5.3	6.0	-	-	
Approximate Elevation in Feet	-	6433	-	-	6432	-	-	6427	-	-	6428	6497	6501	6501	6485	6503	6453	6444	6438	6428	6423	6412	-	-	
Barium (mg/kg)	-	159	11,500	-	596	1,250	-	533	2,220	-	807	-	-	-	-	-	-	-	-	-	-	-	-	15000	
Cadmium (mg/kg)	-	<1.1	<3.8	-	<1.0	2.7	-	<1.1	<1.3	-	<1.0	-	-	-	-	-	-	-	-	-	-	-	-	70	
Chromium (III) (mg/Kg)	-	41.1	15.5	-	40.2	18.2	-	36.3	18.0	-	36.5	-	-	-	-	-	-	-	-	-	-	-	-	120000	
Chromium (VI) (mg/Kg)	-	<1.0	2.3	-	<1.0	<0.49	-	<1.0	<0.50	-	<1.0	-	-	-	-	-	-	-	-	-	-	-	-	23	
Copper (mg/kg)	-	7.2	37.9	-	7.8	29.3	-	13.1	27.3	-	11.3	-	-	-	-	-	-	-	-	-	-	-	-	3100	
Lead (inorganic) (mg/kg)	-	10.9	26.2	-	11.7	21.2	-	12.2	33.5	-	11.5	-	-	-	-	-	-	-	-	-	-	-	-	400	
Mercury (mg/kg)	-	<0.11	<0.37	-	<0.11	<0.12	-	<0.11	<0.11	-	<0.10	-	-	-	-	-	-	-	-	-	-	-	-	23	
Nickel (mg/kg)	-	14.6	15.5	-	13.3	16.6	-	16.3	16.8	-	15.4	-	-	-	-	-	-	-	-	-	-	-	-	1600	
Selenium (mg/kg)	-	<5.7	<19	-	<5.0	11.4	-	<5.4	<6.5	-	<5.1	-	-	-	-	-	-	-	-	-	-	-	-	390	
Silver (mg/kg)	-	<3.4	<12	-	<3.0	<3.8	-	<3.3	<3.9	-	<3.1	-	-	-	-	-	-	-	-	-	-	-	-	390	
Zinc (mg/kg)	-	39.5	72.2	-	39.0	50.0	-	46.5	53.4	-	44.2	-	-	-	-	-	-	-	-	-	-	-	-	23000	
% Solids	n/a	89.7	26.3	58.6	94.5	79.3	79.2	92.1	77.9	79.6	95.0	82.2	86.7	84.1	71.6	85.1	98.3	99.1	98.5	98.2	98.2	98.7	-	-	

Notes:

- 1) ND = not detectable to the laboratory detection limit.
- 2) Results highlighted in yellow exceed Table 910-1 concentration levels. Results highlighted in gray exceed Table 910-1, but are below background levels.
- 3) "-" indicates no analysis.
- 4) See site map for sample locations.
- 5) FW pit only contained water (< 1') that was sampled for limited Table 910 constituents. De minimis to no pit content was encountered.
- 6) See Table 2 for mix/blend results.
- 7) See Table 3 for mix/blend results.

Table 2
Location: FRU 297-8B
Lab Summary - Cuttings #1 Mix/Blend

Updated: 7/25/2012

Analytical Parameter (with units)	Cuttings #1										COGCC	Background
	Cut #1 Pit Contents Comp 1/19/11	Cut #1 Pit Contents Comp 7/25/11	Cut #1 MixBlend Trial 1:1 4/12/12	Cut #1 MixBlend Trial 2:1 4/12/12	Cut #1 MixBlend Day 1 (6/7) 6/11/12	Cut #1 MixBlend Day 2 (6/11) 6/12/12	Cut #1 MixBlend Day 3 (6/12) 6/13/12	Cut #1 MixBlend Day 4 (6/13) 6/13/12	Cut #1 MixBlend Day 5 (6/14) 6/18/12	Cut #1 MixBlend Day 6 (6/18) 6/20/12	Table 910-1 Concentration Levels	Maximum based on Background
Accutest Job #	D20575	D25856	D33672		D35344	D35485	D35547		D35617	D35709	-	-
Sample type (Composite/Discrete)	C	C	C	C	C	C	C	C	C	C	-	-
TPH (GRO) (mg/Kg)	96.4	131	6.59	8.77	63.2	8.61	72.8	77.4	27.6	9.05	-	-
TPH (DRO) (mg/Kg)	834	1,040	253	463	256	171	179	159	243	124	-	-
TPH (GRO + DRO) (mg/Kg)	930	1,171	260	472	319	180	252	236	271	133	500	-
Benzene (mg/Kg)	0.202	0.174	ND	ND	0.0375	ND	ND	ND	ND	0.0247	0.170	-
Toluene (mg/Kg)	4.920	-	-	-	-	-	-	-	-	-	85	-
Ethylbenzene (mg/Kg)	1.190	-	-	-	-	-	-	-	-	-	100	-
Xylenes (total) (mg/Kg)	4.232	-	-	-	-	-	-	-	-	-	175	-
Acenaphthene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	1000	-
Anthracene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	1000	-
Benzo(A)anthracene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	0.22	-
Benzo(B)fluoranthene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	0.22	-
Benzo(K)fluoranthene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	2.2	-
Benzo(A)pyrene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	0.022	-
Chrysene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	22	-
Dibenzo(A,H)anthracene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	0.022	-
Fluoranthene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	1000	-
Fluorene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	1000	-
Indo(1,2,3,C,D)pyrene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	0.22	-
Napthalene (mg/Kg)	0.445	-	-	-	-	-	-	-	-	-	23	-
Pyrene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	1000	-
Electrical Conductivity (mmhos/cm)	13.2	14.5	-	-	-	-	-	-	-	-	<4 or 2X BG	-
Sodium Adsorption Ratio (SAR)	232	327	-	-	-	-	-	-	-	-	<12	-
pH	11.78	11.93	-	-	-	-	-	-	-	-	6-9	-
Arsenic (mg/kg)	18.6	18.5	-	-	-	-	-	-	-	-	0.39	7.5
Barium (mg/kg)	1,250	-	-	-	-	-	-	-	-	-	15000	-
Cadmium (mg/kg)	2.7	-	-	-	-	-	-	-	-	-	70	-
Chromium (III) (mg/Kg)	18.2	-	-	-	-	-	-	-	-	-	120000	-
Chromium (VI) (mg/Kg)	<0.49	-	-	-	-	-	-	-	-	-	23	-
Copper (mg/kg)	29.3	-	-	-	-	-	-	-	-	-	3100	-
Lead (inorganic) (mg/kg)	21.2	-	-	-	-	-	-	-	-	-	400	-
Mercury (mg/kg)	<0.12	-	-	-	-	-	-	-	-	-	23	-
Nickel (mg/kg)	16.6	-	-	-	-	-	-	-	-	-	1600	-
Selenium (mg/kg)	11.4	-	-	-	-	-	-	-	-	-	390	-
Silver (mg/kg)	<3.8	-	-	-	-	-	-	-	-	-	390	-
Zinc (mg/kg)	50.0	-	-	-	-	-	-	-	-	-	23000	-
% Solids	79.3	79.2	89.9	87.6	87.3	89.2	85.6	88.9	88.7	89.2	-	-

Notes:

- 1) ND = not detectable to the laboratory detection limit.
- 2) Results highlighted in yellow exceed Table 910-1 Concentration levels. Results highlighted in gray exceed Table 910-1, but are below background levels.
- 3) "-" indicates no analysis.

Table 3
Location: FRU 297-8B
Lab Summary - Cuttings #2 Mix/Blend

Updated: 7/25/2012

Analytical Parameter (with units)	Cuttings #2								COGCC	Background
	Cut #2 Pit Contents Comp 1/19/11	Cut #2 Pit Contents Comp 7/25/11	Cut #2 MixBlend Trial 1:1 4/12/12	Cut #2 MixBlend Trial 2:1 4/12/12	Cut #2 MixBlend Day 1 (5/23) 5/25/12	Cut #2 MixBlend Day 2 (5/24) 5/25/12	Cut #2 MixBlend Day 3 (5/29) 5/30/12	Cut #2 MixBlend Day 4 (6/6) 6/7/12	Table 910-1 Concentration Levels	Maximum based on Background
Accutest Job #	D20575	D25856	D33672		D34861		D34958	D35287	-	-
Sample type (Composite/Discrete)	C	C	C	C	C	C	C	C	-	-
TPH (GRO) (mg/Kg)	ND	200	12.7	ND	65.1	53.6	21.6	ND	-	-
TPH (DRO) (mg/Kg)	612	1,530	211	395	196	344	326	127	-	-
TPH (GRO + DRO) (mg/Kg)	612	1,730	224	395	261	398	348	127	500	-
Benzene (mg/Kg)	ND	-	-	-	-	-	-	-	0.170	-
Toluene (mg/Kg)	0.159	-	-	-	-	-	-	-	85	-
Ethylbenzene (mg/Kg)	0.057	-	-	-	-	-	-	-	100	-
Xylenes (total) (mg/Kg)	0.230	-	-	-	-	-	-	-	175	-
Acenaphthene (mg/Kg)	ND	-	-	-	-	-	-	-	1000	-
Anthracene (mg/Kg)	ND	-	-	-	-	-	-	-	1000	-
Benzo(A)anthracene (mg/Kg)	ND	-	-	-	-	-	-	-	0.22	-
Benzo(B)fluoranthene (mg/Kg)	ND	-	-	-	-	-	-	-	0.22	-
Benzo(K)fluoranthene (mg/Kg)	ND	-	-	-	-	-	-	-	2.2	-
Benzo(A)pyrene (mg/Kg)	ND	-	-	-	-	-	-	-	0.022	-
Chrysene (mg/Kg)	ND	-	-	-	-	-	-	-	22	-
Dibenzo(A,H)anthracene (mg/Kg)	ND	-	-	-	-	-	-	-	0.022	-
Fluoranthene (mg/Kg)	ND	-	-	-	-	-	-	-	1000	-
Fluorene (mg/Kg)	ND	-	-	-	-	-	-	-	1000	-
Indo(1,2,3,C,D)pyrene (mg/Kg)	ND	-	-	-	-	-	-	-	0.22	-
Napthalene (mg/Kg)	0.100	-	-	-	-	-	-	-	23	-
Pyrene (mg/Kg)	ND	-	-	-	-	-	-	-	1000	-
Electrical Conductivity (mmhos/cm)	13.6	8.34	-	-	-	-	-	-	<4 or 2X BG	-
Sodium Adsorption Ratio (SAR)	163	172	-	-	-	-	-	-	<12	-
pH	12.23	11.09	-	-	-	-	-	-	6-9	-
Arsenic (mg/kg)	20.1	16.3	-	-	-	-	-	-	0.39	7.5
Barium (mg/kg)	2,220	-	-	-	-	-	-	-	15000	-
Cadmium (mg/kg)	<1.3	-	-	-	-	-	-	-	70	-
Chromium (III) (mg/Kg)	18.0	-	-	-	-	-	-	-	120000	-
Chromium (VI) (mg/Kg)	<0.50	-	-	-	-	-	-	-	23	-
Copper (mg/kg)	27.3	-	-	-	-	-	-	-	3100	-
Lead (inorganic) (mg/kg)	33.5	-	-	-	-	-	-	-	400	-
Mercury (mg/kg)	<0.11	-	-	-	-	-	-	-	23	-
Nickel (mg/kg)	16.8	-	-	-	-	-	-	-	1600	-
Selenium (mg/kg)	<6.5	-	-	-	-	-	-	-	390	-
Silver (mg/kg)	<3.9	-	-	-	-	-	-	-	390	-
Zinc (mg/kg)	53.4	-	-	-	-	-	-	-	23000	-
% Solids	77.9	79.6	87.0	86.0	87.0	85.9	86.3	90.4	-	-

Notes:

- 1) ND = not detectible to the laboratory detection limit.
- 2) Results highlighted in yellow exceed Table 910-1 Concentration levels. Results highlighted in gray exceed Table 910-1, but are below background levels.
- 3) "-" indicates no analysis.

Table 4
Location: FRU 297-8B
Lab Summary - Arsenic Summary

Updated: 7/25/2012

Analytical Parameter	Cuttings #1						Cuttings #1 and #2 ⁴						Background 1/26/11					Background 7/3/12						COGCC	Maximum based on Background		
(with units)	Cut #1 Pit Contents 1/19/11	Cut #1 Pit Contents 7/25/11	Cut #1 Discrete #1 6/28/12	Cut #1 Discrete #2 6/28/12	Cut #1 Discrete #3 6/28/12	Cut #1 Discrete #4 6/28/12	Cut #2 Pit Contents 1/19/11	Cut #2 Pit Contents 7/25/11	Cut #1 & #2 Discrete #1 6/28/12	Cut #1 & #2 Discrete #2 6/28/12	Cut #1 & #2 Discrete #3 6/28/12	Cut #1 & #2 Discrete #4 6/28/12	Cut #1 & #2 Discrete #5 6/28/12	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11		Table 910-1 Concentration Levels	
Accutest Job #	D20575	D25856	D36015				D20575	D25856	D36015					D20761					D36166						-	-	
Sample type (Composite/Discrete)	C	C	D	D	D	D	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	-	-
TPH (GRO) (mg/Kg)	96.4	131	-	-	-	-	ND	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH (DRO) (mg/Kg)	834	1,040	-	-	-	-	612	1,530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH (GRO + DRO) (mg/Kg)	930	1,171	-	-	-	-	612	1,730	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene (mg/Kg)	0.202	0.174	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene (mg/Kg)	4.920	-	-	-	-	-	0.159	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene (mg/Kg)	1.190	-	-	-	-	-	0.057	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (total) (mg/Kg)	4.232	-	-	-	-	-	0.230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene (mg/Kg)	ND	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene (mg/Kg)	ND	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(A)anthracene (mg/Kg)	ND	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(B)fluoranthene (mg/Kg)	ND	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(K)fluoranthene (mg/Kg)	ND	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(A)pyrene (mg/Kg)	ND	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene (mg/Kg)	ND	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(A,H)anthracene (mg/Kg)	ND	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene (mg/Kg)	ND	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene (mg/Kg)	ND	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indo(1,2,3,C,D)pyrene (mg/Kg)	ND	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Napthalene (mg/Kg)	0.445	-	-	-	-	-	0.100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene (mg/Kg)	ND	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical Conductivity (mmhos/cm)	13.2	14.5	-	-	-	-	13.6	8.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium Adsorption Ratio (SAR)	232	327	-	-	-	-	163	172	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH	11.78	11.93	-	-	-	-	12.23	11.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic (mg/kg)	18.6	18.5	11.8	11.3	12.3	8.8	20.1	16.3	9.8	7.7	8.8	9.9	9.9	4.6	6.0	5.8	3.8	6.8	4.2	4.4	5.2	5.7	5.3	6.0	0.39	7.5	
Approximate Elevation in Feet	-	-	-	-	-	-	-	-	-	-	-	-	-	6497	6501	6501	6485	6503	6453	6444	6438	6428	6423	6412	-	-	
Barium (mg/kg)	1,250	-	-	-	-	-	2,220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium (mg/kg)	2.7	-	-	-	-	-	<1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (III) (mg/Kg)	18.2	-	-	-	-	-	18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (VI) (mg/Kg)	<0.49	-	-	-	-	-	<0.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (mg/kg)	29.3	-	-	-	-	-	27.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (inorganic) (mg/kg)	21.2	-	-	-	-	-	33.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury (mg/kg)	<0.12	-	-	-	-	-	<0.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (mg/kg)	16.6	-	-	-	-	-	16.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium (mg/kg)	11.4	-	-	-	-	-	<6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver (mg/kg)	<3.8	-	-	-	-	-	<3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (mg/kg)	50.0	-	-	-	-	-	53.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Solids	79.3	79.2	94.7	99.1	99.0	93.2	77.9	79.6	93.6	93.9	88.2	88.5	94.5	82.2	86.7	84.1	71.6	85.1	98.3	99.1	98.5	98.2	98.2	98.7	-	-	

- Notes:
- 1) ND = not detectable to the laboratory detection limit.
 - 2) Results highlighted in yellow exceed Table 910-1 Concentration levels. Results highlighted in gray exceed Table 910-1, but are below background levels.
 - 3) "-" indicates no analysis.
 - 4) Cuttings #2 was mixed with Cuttings #1 mix/blended material prior to the sampling on 6/28/12.

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