FORM 27 Rev 6/99

State of Colorado
Oil and Gas Conservation Commission

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

#7662

FOR OGCC USE ONLY

RECEIVED 3/10/2013

OGCC Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☑ Other (describe): Pit Closure

OGCC Operator Number: 100264
Name of Operator: XTO Energy Inc.
Address: PO Box 6501
City: Englewood State: CO Zip: 80155

Contact Name and Telephone:
Jessica Dooling
No: 970-675-4122
Fax: 970-675-4150

API Number: 05-103-10947-00
County: Rio Blanco
Facility Name: Piceance Creek Unit
Facility Number: 287190 Drilling Pit / Location ID# 335706
Well Name: Piceance Creek Unit
Well Number: 296-17A
Location: (QtrQtr, Sec, Twp, Rng, Meridian): SWSE, Sec. 17, T2S, R96W, 6th P.M. Latitude: 39.871382 Longitude: -108.190645

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Drill Cuttings and Fluids

Site Conditions: Is location within a sensitive area (according to Rule 901e)? ☐ Y ☑ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Non-Crop Land, Rangeland

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Redcreek-Rentsac Complex, 5 - 30% slopes

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Closest water well is >1 mile; closest surface water ~1200'

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):	Extent of Impact:	How Determined:
☑ Soils	TPH, Benzene and Arsenic	laboratory analysis
☐ Vegetation		
☐ Groundwater		
☐ Surface Water		

REMEDIATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):

See Attachment I for details regarding initial action taken.

Describe how source is to be removed:

Synthetic liners from all pits have been removed and will be transported offsite to a permitted disposal facility. Reserve Pit and Cuttings Pit contents will either be treated onsite with a temporary Thermal Desorption Unit; by mix/blend processing and/or transported offsite to a permitted disposal facility.

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

Any remaining impacted soils will either be treated onsite or removed to a permitted disposal/recycling facility.

Submit Page 2 with Page 1

FORM 27 Rev 6/99

Page 2

State of Colorado
Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801, Denver, Colorado 80203
(303)894-2100 Fax:(303)894-2109

Tracking Number: _____
Name of Operator: XTO
OGCC Operator No: _____
Received Date: _____
Well Name & No: Location ID # 335706
Facility Name & No: Pit Facility ID # 287190

REMEDIATION WORKPLAN (Cont.)

OGCC Employee:

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

Available information indicates that the uppermost groundwater bearing zone is greater than 100 feet below the ground surface. Soil samples were collected for laboratory analysis of subliner material to confirm no groundwater impact potential exists.(see Tables 1, 3 and 4).

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

Please see Attachment I

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☐ Y ☑ N If yes, describe:

Based on subliner sample results no additional assessment will be necessary beneath the Freshwater, Reserve, Cuttings Pit #2 or Cuttings Pit #3. (see Tables 1, 3 and 4).

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

Synthetic liners from each of the pits were removed and will be transported to an approved offsite disposal/recycling facility. Reserve Pit and Cuttings Pits #2 and #3 contents will either be treated onsite with a temporary Thermal Desorption Unit; mix/blend processed to below Table 910-1 concentration levels and/or transported to an approved offsite disposal/recycling facility. Material mix/blend and/or Thermal Desorption Unit processed will be used for onsite fill.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 9/26/12	Date Site Investigation Completed: in progress	Date Remediation Plan Submitted: 3/10/2013
Remediation Start Date: pending approval	Anticipated Completion Date: pending approval	Actual Completion Date: TBD

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

Print Name: Jessica Dooling Signed: _____

Title: Lead EH&S Coordinator Date: 3/10/2013

OGCC Approved: _____ Title: FOR Chris Canfield Date: 03/13/13

EPS NW Region

ATTACHMENT I

PCU 296-17A Pit Closure Workplan, Form 27 Page 1

Describe initial action taken:

The site consists of Freshwater, Reserve, and Cuttings Pits #2 and #3 (see Figure 1).

1. **Freshwater Pit**
    - Freshwater Pit contents (de minimis) and associated synthetic liners were removed and will be transported to an offsite permitted disposal/recycling facility.
    - Freshwater Pit subliner composite samples were collected and analyzed for Table 910-1 parameters. Results exceeded Table 910-1 concentration levels for TPH (1600 mg/kg), pH (9.72) and Arsenic (5.5 mg/kg).
    - Freshwater Pit subliner impacted soils were removed, treated onsite and sampled to ensure Table 910-1 concentration levels. Subliner confirmation samples were collected for TPH and ranged from 66.8 mg/kg to 397 mg/kg (see Table 3).

2. **Reserve Pit**
    - Reserve Pit contents were solidified and sampled for Table 910-1 parameters. Results exceeded Table 910-1 concentration levels for TPH (4099 mg/kg), EC (7.420 mmhos/cm), pH (12.46) and Arsenic (9.8 mg/kg).
    - Reserve Pit subliner composite samples were collected and analyzed for Table 910-1 parameters. Results exceeded Table 910-1 concentration levels for TPH (594 mg/kg), EC (4.590 mmhos/cm), pH (9.72) and Arsenic (4.8 mg/kg).
    - Reserve Pit subliner impacted soils were removed, treated onsite and sampled to ensure Table 910-1 concentration levels. Subliner confirmation samples were collected for TPH and ranged from 307 mg/kg at -2’ below subliner to 432 mg/kg at -6’ below subliner (see Table 4).

3. **Cuttings Pit #2**
    - Cuttings Pit #2 contents were sampled for Table 910-1 parameters. Results exceeded Table 910-1 concentration levels for Benzene (0.222 mg/kg), EC (8.370 mmhos/cm), SAR (105), pH (11.94) and Arsenic (8.6 mg/kg).

- Cuttings Pit #2 subliner composite samples were collected and analyzed for Table 910-1 parameters. Results exceeded Table 910-1 concentration levels for SAR (12.9), pH (9.88) and Arsenic (7.7 mg/kg).

4. **Cuttings Pit #3**
    - Cuttings Pit #3 contents were sampled for Table 910-1 parameters. Results exceeded Table 910-1 concentration levels for Benzene (0.945 mg/kg), EC (13.600 mmhos/cm), SAR (29.4), pH (11.94) and Arsenic (17.9 mg/kg).
    - Cuttings Pit #3 subliner samples were collected and analyzed for Table 910-1 parameters. Results exceeded Table 910-1 concentration levels for EC (7.030 mmhos/cm), pH (9.77) and Arsenic (6.4 mg/kg).

- Reserve and Cuttings Pits #2 and #3 contents were removed from the respective pits and will either be treated on-site with a temporary Thermal Desorption Unit; mix/blend processed and sampled to ensure Table 910 compliance and/or transported to an offsite permitted disposal/recycling facility.

- Mix/blend and/or Thermal Desorption Unit processed Reserve Pit and Cuttings Pit #2 and #3 material that meets Table 910-1 concentration levels will be used onsite for backfill.

- All associated Reserve and Cuttings Pit #2 and #3 synthetic liners were removed and will be transported to an offsite permitted disposal/recycling facility.

- Refer to Tables 1, 3 and 4 for a summary of the laboratory results and Figures 1 through 3A (5 total) for layout of the pits and sample locations.

- Elevated Arsenic levels above Table 910-1 concentration were detected beneath the Freshwater, Reserve, and Cuttings Pits #2 and #3. Please refer to the associated sundry requesting consideration of background Arsenic levels.

- Any remaining elevated levels of Electrical Conductivity, SAR and pH detected beneath the pits or in material used for backfill will be covered with a minimum 3 feet of clean, native soils per COGCC guidance. No additional treatment of these soils will be required.

- Material used to fill the top 3 feet of each pit will be found onsite.

- Reclamation activities will be performed in accordance with applicable COGCC 900, 1000 Series rules and as specified in the Surface Use Plan and BLM Conditions of Approval.

Table 1
Location: PCU 296-17A
Lab Summary

Last update 3/7/2013

Analytical Parameter	Fresh Water Pit		Reserve Pit		Cuttings #2		Cuttings #3		Background								COGCC	Maximum based on Background
(with units)	*FW Pit Contents*	*FW Pit Subliner [5] 10/2/12*	*RP Post Solid. 10/9/12*	*RP Subliner [6] 10/9/12*	*Cut #2 Contents (10/1/12)*	*Cut #2 Subliner 10/18/12*	*Cut #3 Contents 9/26/12*	*Cut #3 Subliner 3/1/13*	*#1*	*#2*	*#3*	*#4*	*#5*	*#6*	*#7*	*#8*	*Table 910-1 Concentration Levels*	
Accutest Job #	**Pit Contents De Minimis**	**D39513**	**D39735**	**D39736**	**D39514**	**D40112**	**D39256**	**D43950**	**D39264 (9/26/12)**								**-**	**-**
Sample type (**C**omposite/**D**iscrete)		**C**	**C**	**C**	**C**	**C**	**C**	**C**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	-	-
TPH (GRO) (mg/Kg)		ND	49.4	ND	ND	ND	16.4	ND	-	-	-	-	-	-	-	-	-	-
TPH (DRO) (mg/Kg)		1600	4050	594	339	82.3	362	108	-	-	-	-	-	-	-	-	-	-
TPH (GRO + DRO) (mg/Kg)		1600	4099	594	339	82.3	378	108	-	-	-	-	-	-	-	-	500	-
Benzene (mg/Kg)		ND	ND	ND	0.222	0.113	0.945	ND	-	-	-	-	-	-	-	-	0.170	-
Toluene (mg/Kg)		ND	0.109	ND	0.923	0.308	2.18	ND	-	-	-	-	-	-	-	-	85	-
Ethylbenzene (mg/Kg)		ND	0.0449	ND	0.215	0.0474	0.355	ND	-	-	-	-	-	-	-	-	100	-
Xylenes (total) (mg/Kg)		ND	0.745	ND	1.14	0.283	1.87	ND	-	-	-	-	-	-	-	-	175	-
Acenaphthene (mg/Kg)		ND	ND	ND	ND	ND	0.0071	ND	-	-	-	-	-	-	-	-	1000	-
Anthracene (mg/Kg)		ND	ND	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	-	1000	-
Benzo(A)anthracene (mg/Kg)		ND	ND	ND	0.0190	0.0204	0.0108	ND	-	-	-	-	-	-	-	-	0.22	-
Benzo(A)pyrene (mg/Kg)		ND	ND	ND	ND	0.0096	ND	ND	-	-	-	-	-	-	-	-	0.022	-
Benzo(B)fluoranthene (mg/Kg)		ND	ND	ND	ND	0.0293	0.0189	ND	-	-	-	-	-	-	-	-	0.22	-
Benzo(K)fluoranthene (mg/Kg)		ND	ND	ND	ND	0.010	0.0103	ND	-	-	-	-	-	-	-	-	2.2	-
Chrysene (mg/Kg)		0.0321	0.0558	0.0114	0.0510	0.0295	0.0338	ND	-	-	-	-	-	-	-	-	22	-
Dibenzo(A,H)anthracene (mg/Kg)		ND	ND	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	-	0.022	-
Fluoranthene (mg/Kg)		0.0251	ND	0.0110	ND	0.0327	0.0127	ND	-	-	-	-	-	-	-	-	1000	-
Fluorene (mg/Kg)		0.354	0.382	0.0914	0.0502	0.0126	0.0735	ND	-	-	-	-	-	-	-	-	1000	-
Indeno(1,2,3,C,D)pyrene (mg/Kg)		ND	ND	ND	ND	0.0082	ND	ND	-	-	-	-	-	-	-	-	0.22	-
Naphthalene (mg/Kg)		0.0974	1.06	0.0308	0.403	0.0726	0.349	0.118	-	-	-	-	-	-	-	-	23	-
Pyrene (mg/Kg)		0.0362	0.0740	0.0123	0.0440	0.0202	0.0267	ND	-	-	-	-	-	-	-	-	1000	-
Electrical Conductivity (mmhos/cm)		2.460	7.420	4.590	8.370	3.600	13.600	7.030	-	-	-	-	-	-	-	-	4	-
Sodium Adsorption Ratio (SAR)		9.57	11.0	10.5	105	12.9	29.4	8.27	-	-	-	-	-	-	-	-	12	-
pH		9.72	12.46	9.72	11.94	9.88	11.94	9.77	-	-	-	-	-	-	-	-	6-9	-
Arsenic (mg/kg)		5.5	9.8	4.8	8.6	7.7	17.9	6.4	5.5	4.4	5.6	6.7	4.6	6.5	4.8	7.8	0.39	8.6
Barium (mg/kg)		1250	5510	3010	4540	3990	5540	5260	-	-	-	-	-	-	-	-	15000	-
Cadmium (mg/kg)		<1.0	<1.5	<1.0	<1.2	<1.1	<1.3	<1.4	-	-	-	-	-	-	-	-	70	-
Chromium (III) (mg/Kg)		37.0	17.4	32.1	26.7	42.1	18.1	36.4	-	-	-	-	-	-	-	-	120000	-
Chromium (VI) (mg/Kg)		<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	-	-	-	-	-	-	-	-	23	-
Copper (mg/kg)		16.9	15.8	19.7	25.4	11.8	34.0	17.6	-	-	-	-	-	-	-	-	3100	-
Lead (inorganic) (mg/kg)		15.7	13.0	15.8	44.4	12.5	33.7	22.4	-	-	-	-	-	-	-	-	400	-
Mercury (mg/kg)		<0.10	<0.14	<0.097	<0.13	<0.095	<0.13	<0.12	-	-	-	-	-	-	-	-	23	-
Nickel (mg/kg)		19.3	83.9	19.8	16.1	16.2	15.8	23.2	-	-	-	-	-	-	-	-	1600	-
Selenium (mg/kg)		<5.2	<7.4	<5.2	<6.2	<5.7	<6.3	<7.1	-	-	-	-	-	-	-	-	390	-
Silver (mg/kg)		<3.1	<4.5	<3.1	<3.7	<3.4	<3.8	<4.3	-	-	-	-	-	-	-	-	390	-
Zinc (mg/kg)		52.8	29.7	55.5	75.7	42.3	75.8	63.1	-	-	-	-	-	-	-	-	23000	-
% Solids		94.2	67.2	96.9	80.1	84.5	78.2	73.1	86.3	90.1	87.3	91.4	89.8	93.9	90.4	90.6	-	-

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.
4) See site map for sample locations.
5) See Table 3 for FW subliner assessment.
6) See Table 4 for RP subliner assessment.

Table 2
Location: PCU 296-17A
Lab Summary - Arsenic Summary

Last update 3/6/2013

Analytical Parameter	Reserve Pit					Cuttings #3					Background								COGCC	Maximum based on Background
(with units)	*Discrete #1*	*Discrete #2*	*Discrete #3*	*Discrete #4*	*Discrete #5*	*Discrete #1*	*Discrete #2*	*Discrete #3*	*Discrete #4*	*Discrete #5*	*#1*	*#2*	*#3*	*#4*	*#5*	*#6*	*#7*	*#8*	*Table 910-1 Concentration Levels*	
Accutest Job #	D43936 (2/28/13)					D43937 (2/28/13)					D39264 (9/26/12)								-	-
Sample type (**C**omposite/**D**iscrete)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	-	-
TPH (GRO) (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH (DRO) (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH (GRO + DRO) (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500	-
Benzene (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.170	-
Toluene (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	85	-
Ethylbenzene (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-
Xylenes (total) (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	175	-
Acenaphthene (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1000	-
Anthracene (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1000	-
Benzo(A)anthracene (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.22	-
Benzo(A)pyrene (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.022	-
Benzo(B)fluoranthene (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.22	-
Benzo(K)fluoranthene (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	-
Chrysene (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-
Dibenzo(A,H)anthracene (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.022	-
Fluoranthene (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1000	-
Fluorene (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1000	-
Indeno(1,2,3,C,D)pyrene (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.22	-
Naphthalene (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	-
Pyrene (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1000	-
Electrical Conductivity (mmhos/cm)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-
Sodium Adsorption Ratio (SAR)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-
pH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6-9	-
Arsenic (mg/kg)	8.1	9.2	12.7	13.0	9.4	12.9	12.7	8.1	11.7	9.5	5.5	4.4	5.6	6.7	4.6	6.5	4.8	7.8	0.39	8.6
Barium (mg/kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15000	-
Cadmium (mg/kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	-
Chromium (III) (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120000	-
Chromium (VI) (mg/Kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	-
Copper (mg/kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3100	-
Lead (inorganic) (mg/kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	400	-
Mercury (mg/kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	-
Nickel (mg/kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1600	-
Selenium (mg/kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	390	-
Silver (mg/kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	390	-
Zinc (mg/kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23000	-
% Solids	83.8	82.4	65.2	78.9	70.2	82.5	75.1	86.7	89.4	76.5	86.3	90.1	87.3	91.4	89.8	93.9	90.4	90.6	-	-

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 3
Location: PCU 296-17A
Lab Summary - FW Subliner Assessment

Last update 3/5/2013

Analytical Parameter	Fresh Water Pit		Discrete Samples					Post 2' Ex.					Ex. MTRL	COGCC
(with units)	*FW Pit Contents*	*FW Pit Subliner 10/2/12*	*Subliner D-1*	*Subliner D-2*	*Subliner D-3*	*Subliner D-4*	*Subliner D-5*	*Subliner Composite (-2') 11/1/12*	*Subliner D-1 (-2')*	*Subliner D-2 (-2')*	*Subliner D-3 (-2')*	*Subliner D-5 (-2')*	*FW Ex. MTRL 11/27/12*	*Table 910-1 Concentration Levels*
Accutest Job #		D39513	D39519 (10/2/12)					D40534	D40541 (11/1/12)				D41304	-
Sample type (**C**omposite/**D**iscrete)		C	D	D	D	D	D	C	D	D	D	D	C	-
TPH (GRO) (mg/Kg)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-
TPH (DRO) (mg/Kg)		1600	2590	1200	5660	140	1430	289	397	66.8	112	150	282	-
TPH (GRO + DRO) (mg/Kg)		1600	2590	1200	5660	140	1430	289	397	66.8	112	150	282	500
Benzene (mg/Kg)		ND	-	-	-	-	-	-	-	-	-	-	-	0.170
Toluene (mg/Kg)		ND	-	-	-	-	-	-	-	-	-	-	-	85
Ethylbenzene (mg/Kg)		ND	-	-	-	-	-	-	-	-	-	-	-	100
Xylenes (total) (mg/Kg)		ND	-	-	-	-	-	-	-	-	-	-	-	175
Acenaphthene (mg/Kg)		ND	-	-	-	-	-	-	-	-	-	-	-	1000
Anthracene (mg/Kg)		ND	-	-	-	-	-	-	-	-	-	-	-	1000
Benzo(A)anthracene (mg/Kg)		ND	-	-	-	-	-	-	-	-	-	-	-	0.22
Benzo(A)pyrene (mg/Kg)		ND	-	-	-	-	-	-	-	-	-	-	-	0.022
Benzo(B)fluoranthene (mg/Kg)		ND	-	-	-	-	-	-	-	-	-	-	-	0.22
Benzo(K)fluoranthene (mg/Kg)		ND	-	-	-	-	-	-	-	-	-	-	-	2.2
Chrysene (mg/Kg)		0.0321	-	-	-	-	-	-	-	-	-	-	-	22
Dibenzo(A,H)anthracene (mg/Kg)		ND	-	-	-	-	-	-	-	-	-	-	-	0.022
Fluoranthene (mg/Kg)		0.0251	-	-	-	-	-	-	-	-	-	-	-	1000
Fluorene (mg/Kg)		0.354	-	-	-	-	-	-	-	-	-	-	-	1000
Indeno(1,2,3,C,D)pyrene (mg/Kg)		ND	-	-	-	-	-	-	-	-	-	-	-	0.22
Naphthalene (mg/Kg)		0.0974	-	-	-	-	-	-	-	-	-	-	-	23
Pyrene (mg/Kg)		0.0362	-	-	-	-	-	-	-	-	-	-	-	1000
Electrical Conductivity (mmhos/cm)		2.460	-	-	-	-	-	-	-	-	-	-	-	4
Sodium Adsorption Ratio (SAR)		9.57	-	-	-	-	-	-	-	-	-	-	-	12
pH		9.72	-	-	-	-	-	-	-	-	-	-	-	6-9
Arsenic (mg/kg)		5.5	-	-	-	-	-	-	-	-	-	-	-	0.39
Barium (mg/kg)		1250	-	-	-	-	-	-	-	-	-	-	-	15000
Cadmium (mg/kg)		<1.0	-	-	-	-	-	-	-	-	-	-	-	70
Chromium (III) (mg/Kg)		37.0	-	-	-	-	-	-	-	-	-	-	-	120000
Chromium (VI) (mg/Kg)		<1.0	-	-	-	-	-	-	-	-	-	-	-	23
Copper (mg/kg)		16.9	-	-	-	-	-	-	-	-	-	-	-	3100
Lead (inorganic) (mg/kg)		15.7	-	-	-	-	-	-	-	-	-	-	-	400
Mercury (mg/kg)		<0.10	-	-	-	-	-	-	-	-	-	-	-	23
Nickel (mg/kg)		19.3	-	-	-	-	-	-	-	-	-	-	-	1600
Selenium (mg/kg)		<5.2	-	-	-	-	-	-	-	-	-	-	-	390
Silver (mg/kg)		<3.1	-	-	-	-	-	-	-	-	-	-	-	390
Zinc (mg/kg)		52.8	-	-	-	-	-	-	-	-	-	-	-	23000
% Solids		94.2	91.6	95.9	95.6	93	91.4	90.0	92.3	89.2	88.5	89.1	92.4	-

Pit Contents De Minimis

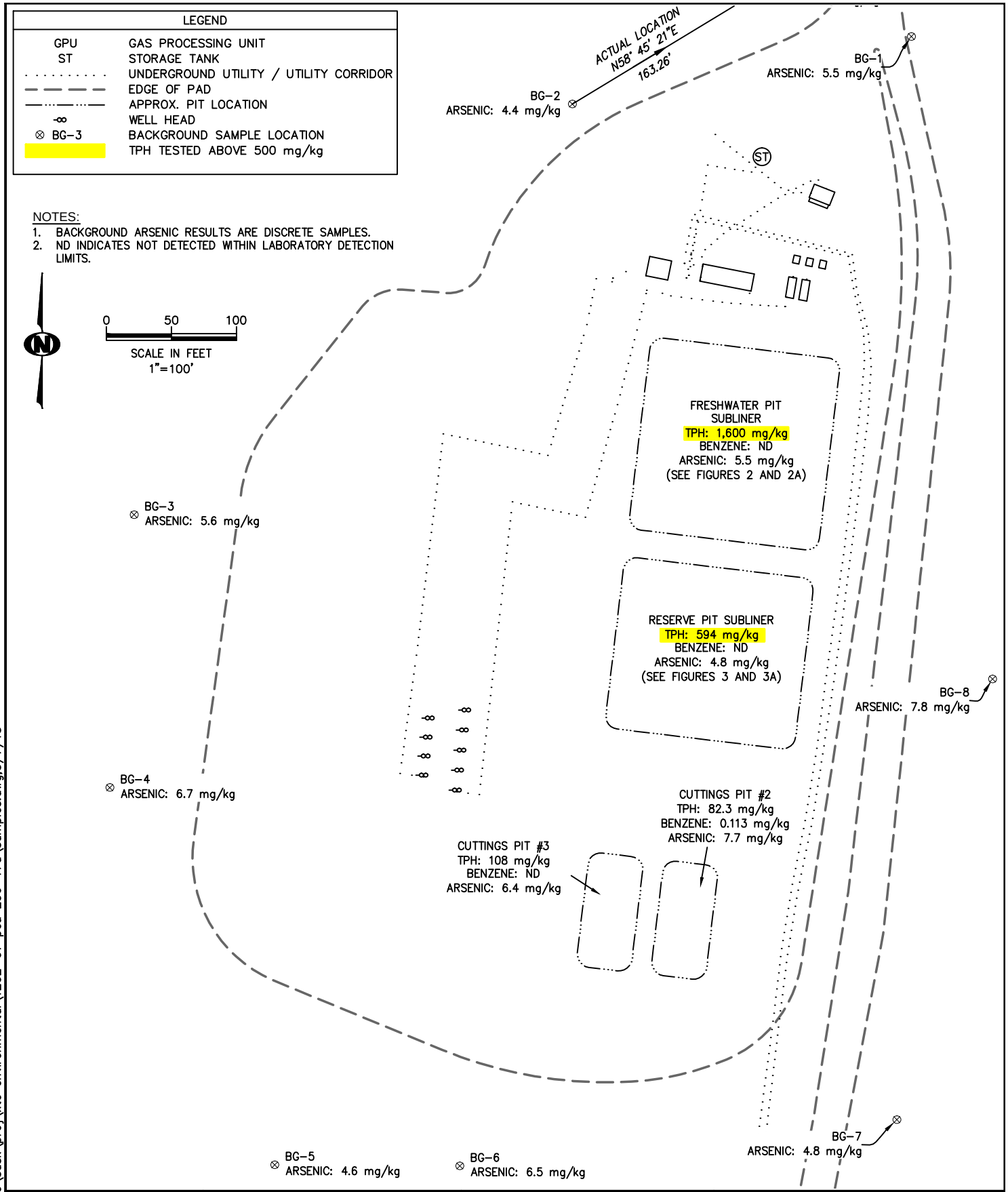
Notes:
1) ND = not detectible to the laboratory detection limit.
2) Results highlighted in yellow exceed Table 910-1 concentration levels. Results highlighted in Gray exceed Table 910-1, but are below background levels.
3) "-" indicates no analysis.
4) See site map for sample locations.

Table 4
Location: PCU 296-17A
Lab Summary - Reserve Pit Subliner Assessment

Last update 3/5/2013

Analytical Parameter	Contents	Subliner	Subliner Discrete						Post 2' Ex.		Post 4' Ex	Post 6' Ex	Excavated MTRL				COGCC	Maximum based on Background
(with units)	*RP Post Solid. 10/9/12*	*RP Subliner 10/9/12*	*D - 1*	*D - 2*	*D - 3*	*D - 4*	*D - 5*	*D - 6*	*D - 1 (-2') 11/1/12*	*D - 2 (-2') 11/1/12*	*D - 2 (-4')[5] 12/3/12*	*D - 2 (-6') 12/13/12*	*RP Ex MTRL 1/4/13*	*RP Ex MTRL MB Day 1*	*RP Ex MTRL MB Day 2*	*RP Ex MTRL MB Day 3 2/7/13*	*Table 910-1 Concentration Levels*	
Accutest Job #	**D39735**	**D39736**	**D39740 (10/9/12)**						**D40535**		**D41507**	**D41864**	**D42435**	**D43192 (2/4/13)**		**D43357**	**-**	**-**
Sample type (**C**omposite/**D**iscrete)	**C**	**C**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**D**	**C**	**C**	**C**	**C**	-	-
TPH (GRO) (mg/Kg)	49.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-
TPH (DRO) (mg/Kg)	4050	594	2800	1460	364	25.7	240	493	307	1070	534	432	716	92.8	101	72.7	-	-
TPH (GRO + DRO) (mg/Kg)	4099	594	2800	1460	364	25.7	240	493	307	1070	534	432	716	92.8	101	72.7	500	-
Benzene (mg/Kg)	ND	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.170	-
Toluene (mg/Kg)	0.109	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	85	-
Ethylbenzene (mg/Kg)	0.0449	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-
Xylenes (total) (mg/Kg)	0.745	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	175	-
Acenaphthene (mg/Kg)	ND	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1000	-
Anthracene (mg/Kg)	ND	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1000	-
Benzo(A)anthracene (mg/Kg)	ND	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.22	-
Benzo(A)pyrene (mg/Kg)	ND	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.022	-
Benzo(B)fluoranthene (mg/Kg)	ND	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.22	-
Benzo(K)fluoranthene (mg/Kg)	ND	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	-
Chrysene (mg/Kg)	0.0558	0.0114	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-
Dibenzo(A,H)anthracene (mg/Kg)	ND	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.022	-
Fluoranthene (mg/Kg)	ND	0.0110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1000	-
Fluorene (mg/Kg)	0.382	0.0914	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1000	-
Indeno(1,2,3,C,D)pyrene (mg/Kg)	ND	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.22	-
Naphthalene (mg/Kg)	1.06	0.0308	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	-
Pyrene (mg/Kg)	0.0740	0.0123	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1000	-
Electrical Conductivity (mmhos/cm)	7.420	4.590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-
Sodium Adsorption Ratio (SAR)	11.0	10.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-
pH	12.46	9.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6-9	-
Arsenic (mg/kg)	9.8	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.39	8.6
Barium (mg/kg)	5510	3010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15000	-
Cadmium (mg/kg)	<1.5	<1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	-
Chromium (III) (mg/Kg)	17.4	32.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120000	-
Chromium (VI) (mg/Kg)	<5.0	<1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	-
Copper (mg/kg)	15.8	19.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3100	-
Lead (inorganic) (mg/kg)	13.0	15.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	400	-
Mercury (mg/kg)	<0.14	<0.097	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	-
Nickel (mg/kg)	83.9	19.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1600	-
Selenium (mg/kg)	<7.4	<5.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	390	-
Silver (mg/kg)	<4.5	<3.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	390	-
Zinc (mg/kg)	29.7	55.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23000	-
% Solids	67.2	96.9	95.2	97.6	96.4	95.7	97.1	97.8	89.5	88.7	87.6	86.2	92.6	86.4	83.1	83.6	-	-

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.
4) See site map for sample locations.
5) Chain of custody reads -6' but should read -4'



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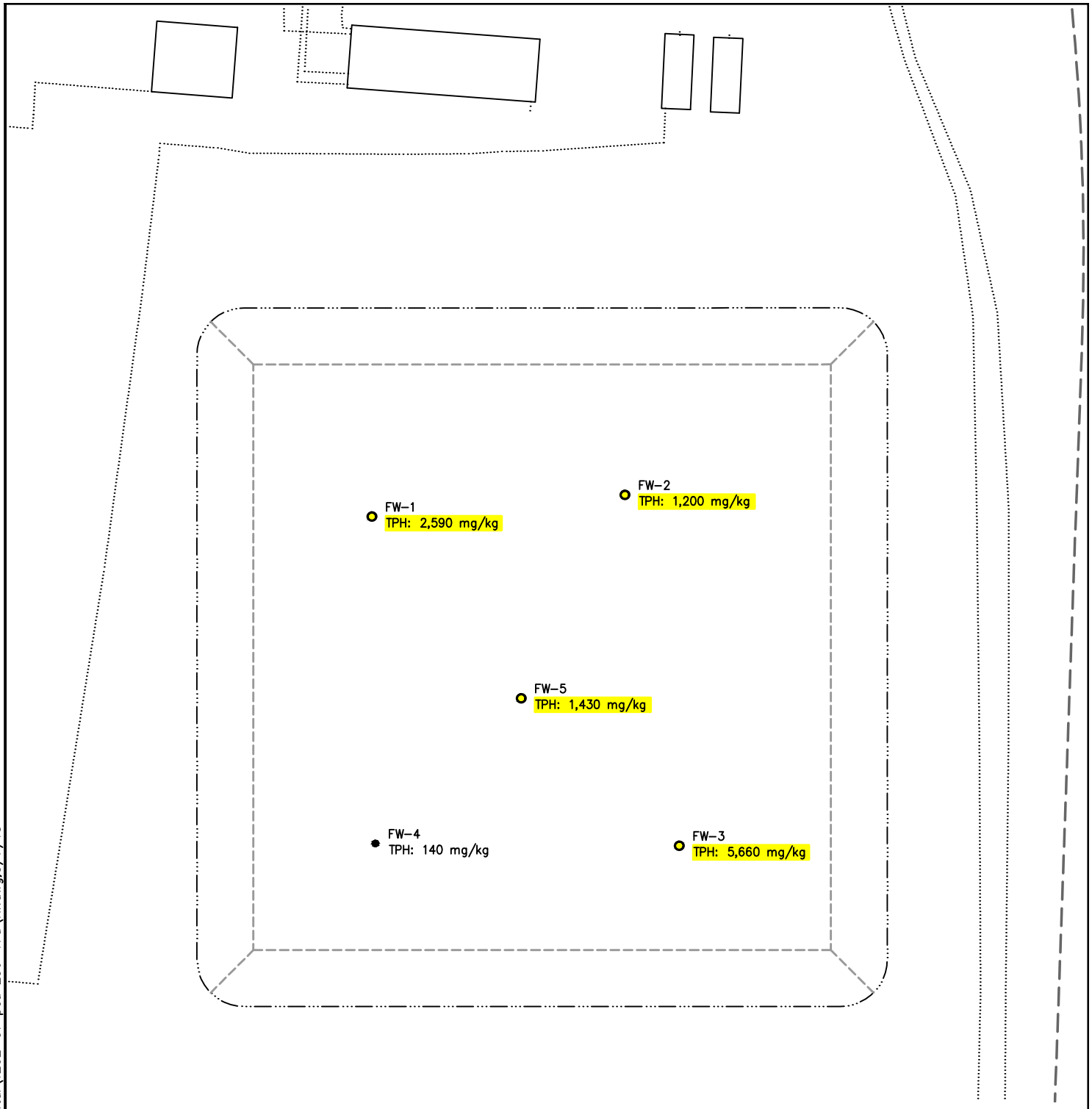
GPS: TRIMBLE	CHECKED: DK	FIGURE 1	DATE	REVISIONS	KRW CONSULTING, INC. 8000 W. 14TH AVENUE, SUITE 200 LAKEWOOD, COLORADO (303) 239-9011
DATE: 3/7/13	DRAWN: DRF				
FILE NAME: samples		SHEET NO. 1 of 5			
PROJECT NO. 1202-07		SCALE: 1" = 100'			

FIGURE 1
PICEANCE CREEK
PCU 296-17A
SAMPLE LOCATIONS MAP
WITH SELECT RESULTS
PREPARED FOR XTO ENERGY



LEGEND	
.....	UNDERGROUND UTILITY / UTILITY CORRIDOR
— — — — —	EDGE OF PAD
—·····—·····—	APPROX. PIT LOCATION
- - - - - - - - -	APPROX. TOE OF PIT
FW-0 TPH: ≤ 500 mg/kg	DISCRETE SAMPLE LOCATION WITH TPH LAB RESULTS LESS THAN OR EQUAL TO 500 mg/kg
FW-0 TPH: > 500 mg/kg	DISCRETE SAMPLE LOCATION WITH TPH LAB RESULTS GREATER THAN 500 mg/kg

N

0 15 30

SCALE IN FEET
1"=30'

NOTE:
ND INDICATES NOT DETECTED WITHIN LABORATORY DETECTION LIMITS.

GPS: TRIMBLE	CHECKED: DK	FIGURE 2	
DATE: 3/7/13	DRAWN: DRF		
FILE NAME: fw		SHEET NO. 2 of 5	
PROJECT NO. 1202-07		SCALE: 1" = 30'	

DATE	REVISIONS

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FIGURE 2
PICEANCE CREEK
PCU 296-17A
FRESHWATER PIT
SUBLINER CONFIRMATION DATA
PREPARED FOR XTO ENERGY

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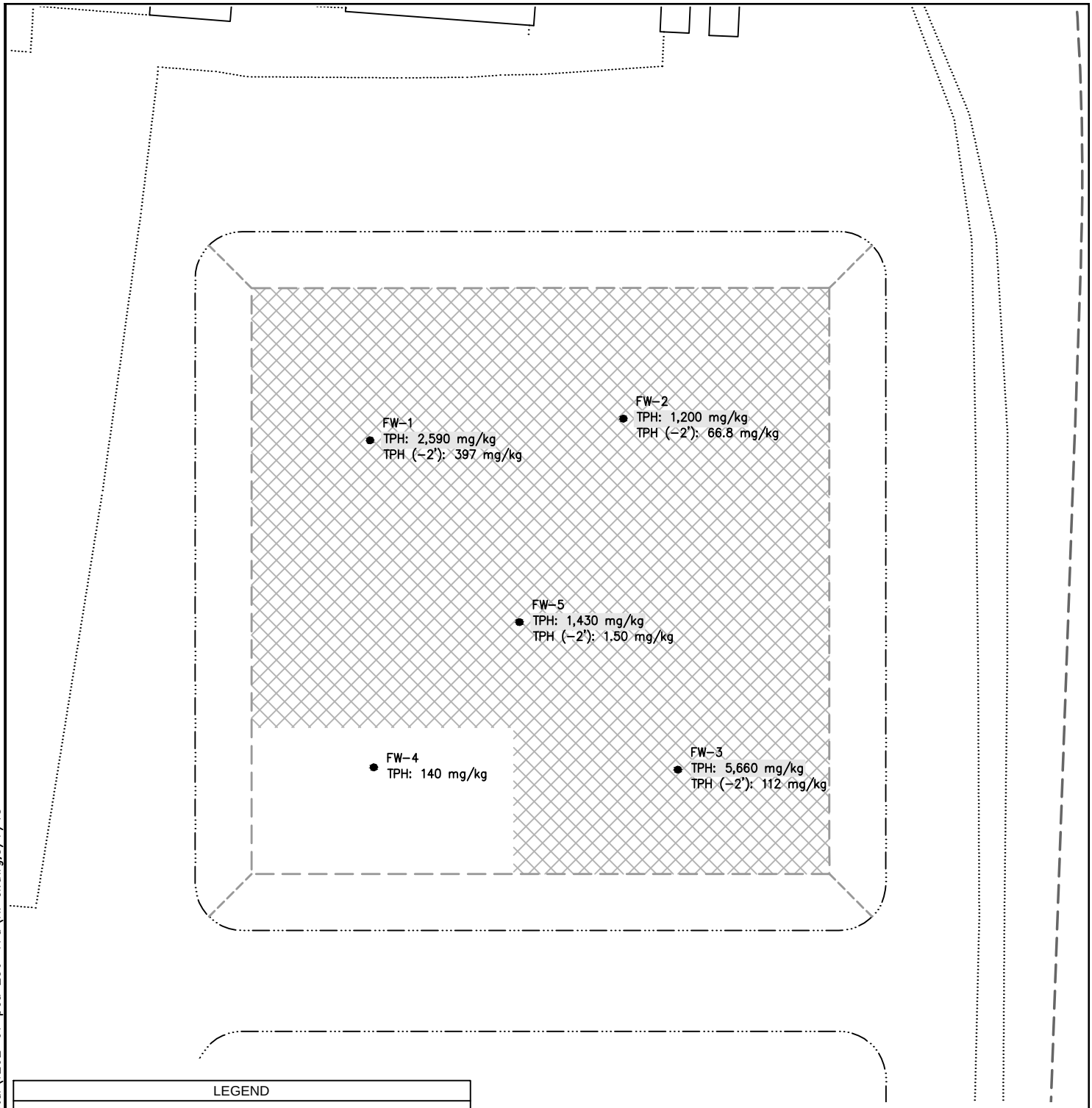

LEGEND	
	UNDERGROUND UTILITY / UTILITY CORRIDOR
	EDGE OF PAD
	APPROX. PIT LOCATION
	APPROX. TOE OF PIT
	(-2') EXCAVATION AREA
FW-0 TPH: ≤ 500 mg/kg	DISCRETE SAMPLE LOCATION WITH TPH LAB RESULTS LESS THAN OR EQUAL TO 500 mg/kg
FW-0 TPH: > 500 mg/kg TPH: ≤ 500 mg/kg	DISCRETE SAMPLE LOCATION WITH PREVIOUS TPH LAB RESULTS GREATER THAN 500 mg/kg AND CURRENT RESULTS BELOW 500 mg/kg

N

0 15 30

SCALE IN FEET
1"=30'

NOTES:
1. ND INDICATES NOT DETECTED WITHIN LABORATORY DETECTION LIMITS.
2. TESTING INTERVALS ARE SHOWN AS (-2') WHERE (-2') IS 2' BELOW THE ORIGINALLY TESTED ELEVATION.
3. RESULTS SHOWN ARE SUBLINER CONFIRMATION SAMPLES UNLESS OTHERWISE NOTED.

GPS: TRIMBLE	CHECKED: DK	FIGURE 2A	
DATE: 3/7/13	DRAWN: DRF		
FILE NAME: fw cl		SHEET NO. 3 of 5	
PROJECT NO. 1202-07		SCALE: 1" = 30'	

DATE	REVISIONS

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FIGURE 2A
PICEANCE CREEK
PCU 296-17A
FRESHWATER PIT
SELECT SAMPLE RESULTS
PREPARED FOR XTO ENERGY

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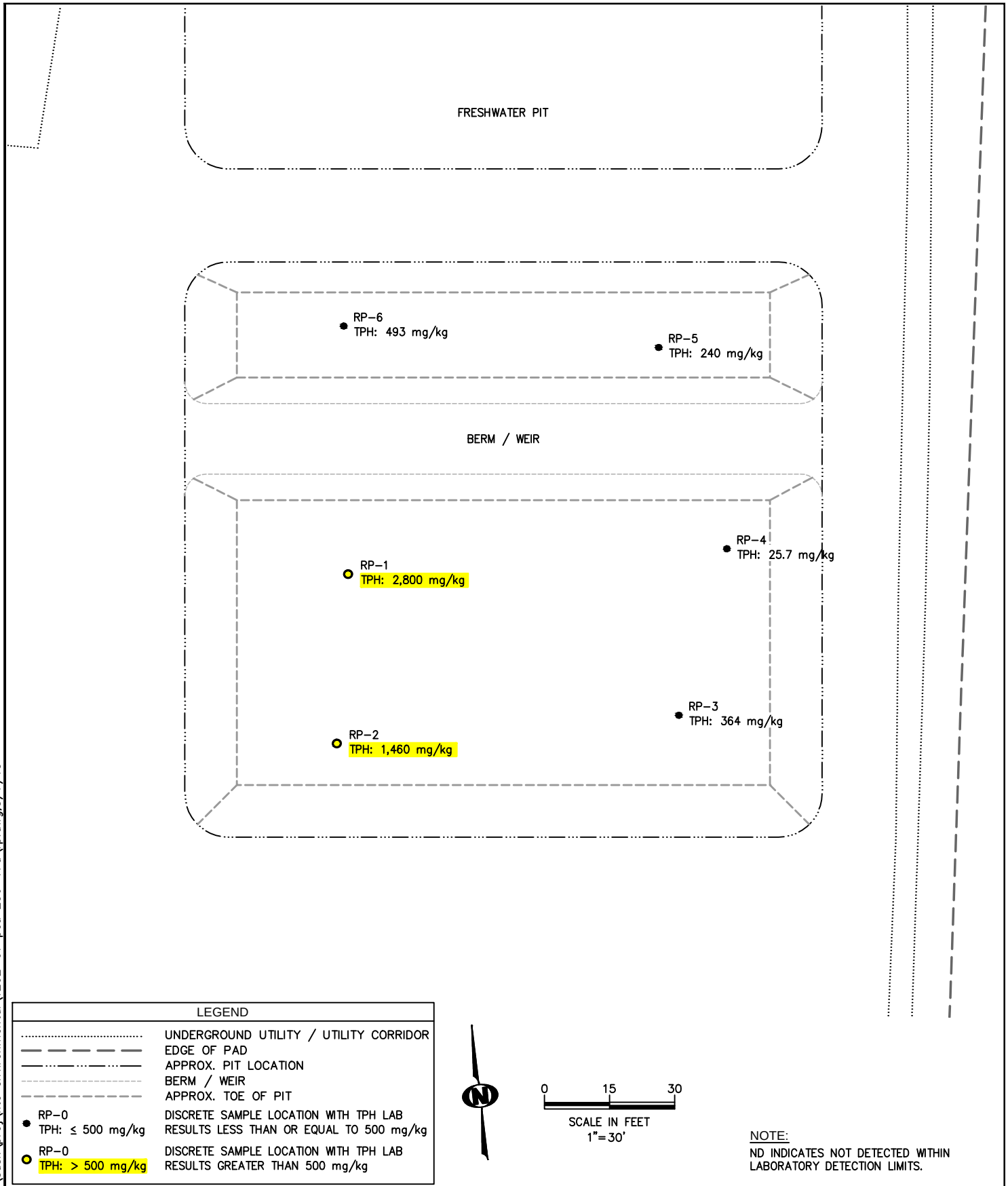

LEGEND

- UNDERGROUND UTILITY / UTILITY CORRIDOR
- EDGE OF PAD
- APPROX. PIT LOCATION
- BERM / WEIR
- APPROX. TOE OF PIT
- RP-0 TPH: ≤ 500 mg/kg — DISCRETE SAMPLE LOCATION WITH TPH LAB RESULTS LESS THAN OR EQUAL TO 500 mg/kg
- RP-0 TPH: > 500 mg/kg — DISCRETE SAMPLE LOCATION WITH TPH LAB RESULTS GREATER THAN 500 mg/kg

N

0 15 30

SCALE IN FEET
1"=30'

NOTE:
ND INDICATES NOT DETECTED WITHIN LABORATORY DETECTION LIMITS.

GPS: TRIMBLE	CHECKED: DK	FIGURE 3	
DATE: 3/7/13	DRAWN: DRF		
FILE NAME: rp		SHEET NO. 4 of 5	
PROJECT NO. 1202-07		SCALE: 1" = 30'	

DATE	REVISIONS

KRW CONSULTING, INC.
8000 W. 14TH AVENUE, SUITE 200
LAKEWOOD, COLORADO
(303) 239-9011

FIGURE 3
PICEANCE CREEK
PCU 296-17A
RESERVE PIT
SUBLINER CONFIRMATION DATA
PREPARED FOR XTO ENERGY

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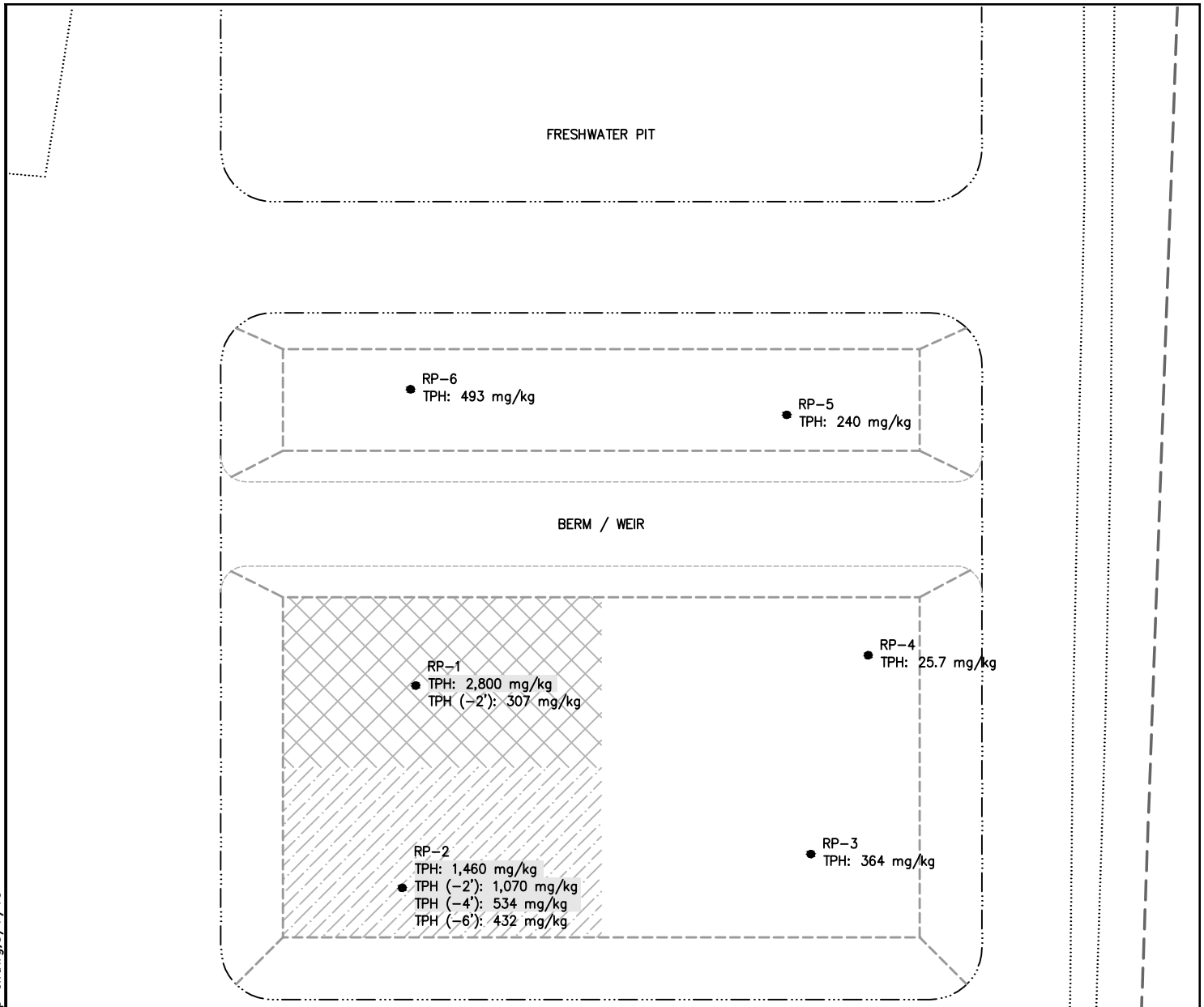

LEGEND	
	UNDERGROUND UTILITY / UTILITY CORRIDOR
	EDGE OF PAD
	APPROX. PIT LOCATION
	APPROX. PIT TOE
	BERM / WEIR
	-2' EXCAVATION AREA
	-6' EXCAVATION AREA
RP-0 TPH: ≤ 500 mg/kg	DISCRETE SAMPLE LOCATION WITH TPH LAB RESULTS LESS THAN OR EQUAL TO 500 mg/kg
RP-0 TPH: > 500 mg/kg	DISCRETE SAMPLE LOCATION WITH PREVIOUS TPH LAB RESULTS GREATER THAN 500 mg/kg
TPH: ≤ 500 mg/kg	AND CURRENT RESULTS BELOW 500 mg/kg

N

0 15 30

SCALE IN FEET
1"=30'

NOTES:
1. ND INDICATES NOT DETECTED WITHIN LABORATORY DETECTION LIMITS.
2. TESTING INTERVALS ARE SHOWN AS (-2') WHERE (-2') IS 2' BELOW THE ORIGINALLY TESTED ELEVATION.
3. RESULTS SHOWN ARE SUBLINER CONFIRMATION SAMPLES UNLESS OTHERWISE NOTED.

GPS: TRIMBLE	CHECKED: DK	FIGURE 3A	
DATE: 3/7/13	DRAWN: DRF		
FILE NAME: rp cl		SHEET NO. 5 of 5	
PROJECT NO. 1202-07		SCALE: 1" = 30'	

DATE	REVISIONS

KRW CONSULTING, INC.
8000 W. 14TH AVENUE, SUITE 200
LAKEWOOD, COLORADO
(303) 239-9011

FIGURE 3A
PICEANCE CREEK
PCU 296-17A
RESERVE PIT
SELECT SAMPLE RESULTS
PREPARED FOR XTO ENERGY

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