FORM 27 Rev 6/99

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State of Colorado
Oil and Gas Conservation Commission

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

#8426

FOR OGCC USE ONLY

RECEIVED 5/8/2014

OGCC Employee:

[X] Spill [ ] Complaint [ ] Inspection [ ] NOAV

Tracking No: 400599061

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): Partially Buried Tank 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: PCU F31-19G, 05-103-09711; PCU 52-19G 05-103-66423
County: Rio Blanco
Facility Name: Piceance Creek Unit
Facility Number: PCU 52-19G #116998
Well Name: Piceance Creek Unit
Well Number: F31-19G and 52-19G
Location: (QtrQtr, Sec, Twp, Rng, Meridian): NWNE, Sec. 19, T2S, R96W, 6th PM
Latitude: 39.86638 Longitude: -108.20904

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Condensate/Produced Water

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: Torriorthents-Rock outcrop complex

Potential receptors (water wells within 1/4 mi, surface waters, etc.): no water wells within 1/4 mile, nearest surface water is ~2702'

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

Impacted Media (check):	Extent of Impact:	How Determined:
[✓] Soils	TPH, PAHs and Arsenic	laboratory analysis
[ ] Vegetation		
[ ] Groundwater		
[ ] Surface Water		

REMEDIATION WORKPLAN

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

The Partially Buried Tanks (PBTs) associated with PCU F31-19G (Location # 311832) and PCU 52-19G (Location # 311865) have been put out of service and removed. Initial impacts were identified and reported via Form 19 (Spill Report DOC# 400599061). The PBTs are in close proximity to each other and impacts are expected to be contiguous. Assessment is currently underway, please refer to Figure 1 and Table 1 Attached. See Attachment I for for details regarding background Arsenic consideration.

Describe how source is to be removed:

Impacted soils will be removed and either mix/blend processed onsite or transported for disposal offsite.

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 be removed and either mix/blend processed onsite, or transported for disposal offsite.

Submit Page 2 with Page 1

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Page 2

REMEDIATION WORKPLAN (Cont.)

Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: _____
Facility Name & No: _____

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 for each of the PBT locations. Assessment and impacted soil removal are currently underway. Soil samples will be collected for laboratory analysis to confirm no groundwater impact potential exists.

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.

Once the assessment and remediation is completed, a revised Form 27 (Site Investigation and Remediation Workplan) will be submitted. Pending approval of the workplan, the pits will be backfilled with mix/blend processed or clean fill material in accordance with COGCC 900 & 1000 series rules. Upon completion of reclamation, a Notice of Completion will be submitted.

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:

Subtank impacts have been identified for both Partially Buried Tank pits. Impacts are expected to be contiguous based on close proximity of tanks. Assessment is currently underway.

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

Impacted material will be removed and either mix/blend processed onsite or transported to an approved off-site disposal/recycling facility. Mix/blend processed material will be used onsite for fill material.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 2/2/2010	Date Site Investigation Completed: in progress	Date Remediation Plan Submitted: 5/8/2014
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: Piceance EH&S Supervisor Date: 5/8/2014

OGCC Approved: Stanley C. Spencer Title: EPS NW Date: 5/14/14

ATTACHMENT I

PCU F31-19 and PCU 52-19 Partially Buried Tank Closure Workplan, Form 27
Page 1

Background Arsenic:

XTO Energy herein requests consideration of site-specific background Arsenic levels as an alternative to the Table 910-1 value for the PCU F31-19G and PCU 52-19G 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.

1. Eight representative background samples were collected from undisturbed areas adjacent to the subject location. Arsenic concentrations in those samples ranged from 8.2 mg/kg to 21.4 mg/kg. Applying the 10% variability factor to the highest concentration detected results in an allowable Arsenic concentration level of 23.5 mg/kg.

2. Arsenic samples were collected from the PCU T52-19G Partially Buried Tank bottom and sidewalls with results ranging from 3.9 mg/kg to 21.4 mg/kg. These Arsenic concentrations are within the allowable background Arsenic concentration of 23.5 mg/kg. PCU F31-19G subtank Arsenic samples will be collected to determine Table 910 compliance.

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

Table 1
Location: PCU F31-19G and PCU 52-19G
Lab Summary - SE and NE Partially Buried Tanks (PBT)

Last Updated 5/5/2014

Analytical Parameter	PCU F31-19G SE PBT					PCU 52-19G NE PBT					Background Arsenics								COGCC	Maximum based on Background
(with units)	*Base (TE-B)*	*West Sidewall (TE-WS)*	*East Sidewall (TE-ES)*	*North Sidewall (TE-NS)*	*South Sidewall (TE-SS)*	*Bottom*	*West Sidewall*	*South Sidewall*	*East Sidewall*	*North Sidewall*	#1	#2	#3	#4	#5	#6	#7	#8	*Table 910-1 Concentration Levels*	
Accutest Job #	D10800 (2/2/2010)					D45080 (4/3/13)					D35034 (5/31/12)								-	-
Sample Type (**C**omposite/**D**iscrete)	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	-	-
TPH (GRO) (mg/Kg)	269	452	1,280	3,560	422	132	9.61	55.7	66.6	30.8	-	-	-	-	-	-	-	-	-	-
TPH (DRO) (mg/Kg)	301	681	2,120	1,460	1,420	108	63.7	79.8	59.0	62.0	-	-	-	-	-	-	-	-	-	-
TPH (GRO + DRO) (mg/Kg)	570	1133	3400	5020	1842	240	73.3	135.5	125.6	92.8	-	-	-	-	-	-	-	-	500	-
Benzene (mg/Kg)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	-	0.170	-
Toluene (mg/Kg)	ND	0.508	1.880	ND	ND	ND	0.110	ND	ND	ND	-	-	-	-	-	-	-	-	85	-
Ethylbenzene (mg/Kg)	0.465	1.94	4.860	15.000	1.35	0.104	ND	0.0728	ND	ND	-	-	-	-	-	-	-	-	100	-
Xylenes (total) (mg/Kg)	7.445	24.673	1.560	158.400	20.169	1.93	0.288	0.741	ND	0.508	-	-	-	-	-	-	-	-	175	-
Acenaphthene (mg/Kg)	-	-	-	-	-	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	-	1000	-
Anthracene (mg/Kg)	-	-	-	-	-	0.0305	ND	ND	ND	ND	-	-	-	-	-	-	-	-	1000	-
Benzo(A)anthracene (mg/Kg)	-	-	-	-	-	0.451	ND	ND	ND	ND	-	-	-	-	-	-	-	-	0.22	-
Benzo(B)fluoranthene (mg/Kg)	-	-	-	-	-	0.481	ND	ND	0.0063	ND	-	-	-	-	-	-	-	-	0.22	-
Benzo(K)fluoranthene (mg/Kg)	-	-	-	-	-	0.129	ND	ND	ND	ND	-	-	-	-	-	-	-	-	2.2	-
Benzo(A)pyrene (mg/Kg)	-	-	-	-	-	0.290	ND	ND	ND	ND	-	-	-	-	-	-	-	-	0.022	-
Chrysene (mg/Kg)	-	-	-	-	-	0.409	ND	ND	ND	ND	-	-	-	-	-	-	-	-	22	-
Dibenzo(A,H)anthracene (mg/Kg)	-	-	-	-	-	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	-	0.022	-
Fluoranthene (mg/Kg)	-	-	-	-	-	0.831	ND	ND	ND	ND	-	-	-	-	-	-	-	-	1000	-
Fluorene (mg/Kg)	-	-	-	-	-	0.0281	ND	0.0062	0.0083	ND	-	-	-	-	-	-	-	-	1000	-
Indo(1,2,3,C,D)pyrene (mg/Kg)	-	-	-	-	-	0.124	ND	ND	ND	ND	-	-	-	-	-	-	-	-	0.22	-
Napthalene (mg/Kg)	-	-	-	-	-	0.358	0.0582	0.173	0.0339	0.0719	-	-	-	-	-	-	-	-	23	-
Pyrene (mg/Kg)	-	-	-	-	-	0.858	ND	0.0062	0.0063	ND	-	-	-	-	-	-	-	-	1000	-
Electrical Conductivity (mmhos/cm)	0.320	0.551	0.630	0.670	0.849	0.455	0.250	0.644	0.791	0.356	-	-	-	-	-	-	-	-	<4	-
Sodium Adsorption Ratio (SAR)	0.913	1.29	1.31	0.608	2.64	0.760	0.524	0.534	0.460	0.477	-	-	-	-	-	-	-	-	<12	-
pH	9.17	9.21	9.22	8.55	9.0	9.03	8.96	8.39	8.77	8.70	-	-	-	-	-	-	-	-	6-9	-
Arsenic (mg/kg)	-	-	-	-	-	3.9	9.8	8.5	9.9	21.4	19.4	17.2	21.4	10.4	9.2	8.2	18.1	19.5	0.39	23.5
Barium (mg/kg)	-	-	-	-	-	99.8	62.8	435	439	536	-	-	-	-	-	-	-	-	15000	-
Cadmium (mg/kg)	-	-	-	-	-	<1.1	<1.2	<1.1	<1.2	<1.2	-	-	-	-	-	-	-	-	70	-
Chromium (III) (mg/Kg)	-	-	-	-	-	40.9	2.6	23.0	30.7	25.5	-	-	-	-	-	-	-	-	120000	-
Chromium (VI) (mg/Kg)	-	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	-	-	-	-	-	-	-	-	23	-
Copper (mg/kg)	-	-	-	-	-	13.3	154	19.8	18.2	18.1	-	-	-	-	-	-	-	-	3100	-
Lead (inorganic) (mg/kg)	-	-	-	-	-	<5.3	<5.8	13.8	11.6	14.6	-	-	-	-	-	-	-	-	400	-
Mercury (mg/kg)	-	-	-	-	-	<0.090	<0.10	<0.094	<0.091	<0.10	-	-	-	-	-	-	-	-	23	-
Nickel (mg/kg)	-	-	-	-	-	48.8	4.2	19.7	30.7	19.8	-	-	-	-	-	-	-	-	1600	-
Selenium (mg/kg)	-	-	-	-	-	<5.3	11.2	<5.6	<6.0	<6.0	-	-	-	-	-	-	-	-	390	-
Silver (mg/kg)	-	-	-	-	-	<3.2	<3.5	<3.4	<3.6	<3.6	-	-	-	-	-	-	-	-	390	-
Zinc (mg/kg)	-	-	-	-	-	26.5	89.0	43.1	41.3	45.8	-	-	-	-	-	-	-	-	23000	-
% Solids	86.3	89.5	83.3	78.2	93.8	93.8	84.6	89.1	86.2	82.7	97.0	97.7	98.5	97.5	95.2	96.3	96.0	96.9	-	-

Notes:

1) ND = not detectible to the laboratory detection limit.

2) "-" indicates no analysis was performed.

3) Results highlighted in yellow exceed Table 910-1 concentration levels; results highlighted in gray exceed Table 910-1 but are within background.

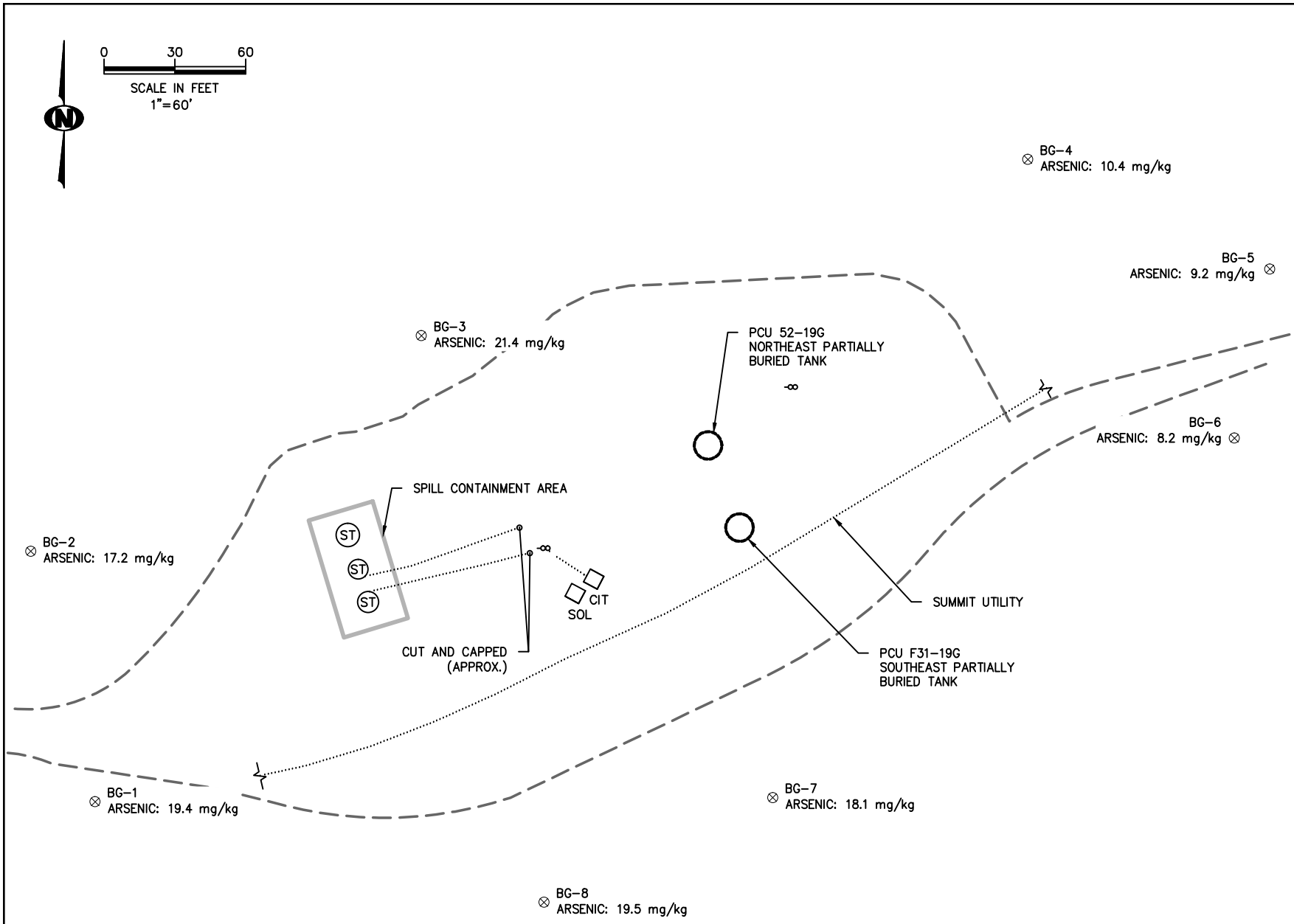

FIGURE 1
PICEANCE CREEK
PCU 52-19G AND F31-19G
BACKGROUND SAMPLE LOCATIONS
AND TANK EXCAVATION AREAS
PREPARED FOR XTO ENERGY

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

DATE	REVISIONS

GPS: TRIMBLE	CHECKED: DK	FIGURE 1	SHEET NO. 1 of 5
DATE: 5/5/14	DRAWN: DRF	FILE NAME: samples	SCALE: 1" = 60'
		PROJECT NO. 1304-04	

\\hyper-v03\kwd-co\sask\proj\xto environmental\1304-04 pcu 152-19g\samples.dwg,5/5/14