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June 4, 2013

Craig Myers
On-Scene Coordinator
U.S. Environmental Protection Agency, Region 8
Mail Code: 8EPR-SA
1595 Wynkoop Street
Denver, Colorado 80202-1129

SUBJECT: START 3, EPA Region 8, Contract No. EP-W-05-050, TDD No. 1303-13 Sampling Activities Report, Cowboy Timber, Manderson, Big Horn County, Wyoming

Dear Craig:

Attached is one copy of the draft Sampling Activities Report for Removal Assessment at the Cowboy Timber site in Manderson, Big Horn County, Wyoming. Field activities were conducted in April 2013. This document is submitted for your review and comments.

If you have any questions, please call me at 303-291-8264.

Sincerely,

URS OPERATING SERVICES, INC.

for

Megan Adamczyk
Project Manager

cc: Charles W. Baker/UOS (w/o attachment)
File/UOS

START 3

Superfund Technical Assessment and Response Team 3 – Region 8

United States
Environmental Protection Agency
Contract No. EP-W-05-050

SAMPLING ACTIVITIES REPORT
FOR
REMOVAL ASSESSMENT

COWBOY TIMBER
Manderson, Big Horn County, Wyoming

TDD No. 1303-13

June 4, 2013

URS
OPERATING SERVICES, INC.

In association with:
Garry Struthers Associates, Inc.
OTIE
TechLaw, Inc.
Tetra Tech EMI
TN & Associates, Inc.

SAMPLING ACTIVITIES REPORT
FOR
REMOVAL ASSESSMENT

COWBOY TIMBER
Manderson, Big Horn County, Wyoming

EPA Contract No. EP-W-05-050
TDD No. 1303-13

Prepared By:
Megan Adamczyk
Project Manager

URS Operating Services, Inc.
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Approved: _____ Date: _____
Craig Myers, On-Scene Coordinator, EPA, Region 8

Approved: Charles W. Baker Date: 6/4/13
Charles W. Baker, START 3 Program Manager, UOS

Approved: Megan J. Adamczyk Date: 6/4/13
Megan Adamczyk, Project Manager, START 3, UOS

DISTRIBUTION LIST

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SAMPLING ACTIVITIES REPORT

COWBOY TIMBER
Manderson, Big Horn County, Wyoming

TABLE OF CONTENTS

TABLE OF CONTENTS, cont.

FIGURES

TABLES

APPENDICES

1.0 INTRODUCTION

This Sampling Activities Report (SAR) for the Cowboy Timber site in Manderson, Big Horn County, Wyoming has been prepared to satisfy the requirements of Technical Direction Document (TDD) No. 1303-13 issued to URS Operating Services, Inc. (UOS) under the U.S. Environmental Protection Agency (EPA) Region 8 Superfund Technical Assessment and Response Team 3 (START) Contract No. EP-W-05-050. Field work at the Cowboy Timber site took place from April 22, 2013 to April 27, 2013.

UOS performed field activities following applicable UOS Technical Standard Operating Procedures (TSOPs) (UOS 2005). Field activities included collecting 90 field samples, consisting of 38 waste samples, 45 soil samples, and 7 water samples. In addition, five quality assurance samples (including duplicates and splits) were collected. The EPA obtained a site access agreement.

All waste/product samples were analyzed on site using field hazard classification procedures. All soil samples were analyzed in analytical laboratories, with 20 samples (including two duplicates) sent to Accutest Laboratories for Volatile Organic Compounds (VOCs) and/or Semivolatile Organic Compounds (SVOCs) analysis, and 29 samples (including two split samples) sent to the EPA Environmental Services Assistance Team (ESAT) Laboratory for pentachlorophenol (PCP) analysis. All water samples were submitted to Accutest Laboratories for SVOC and/or VOC analysis. Site photographs are presented in Appendix A.

2.0 OBJECTIVES

The objective of the sampling activity was to characterize areas with contamination and identify potential sources. The goal of the assessment is to obtain adequate data to support removal/remedial decisions associated with possible exposure to contaminants. The EPA may complete a risk assessment to determine an acceptable level of risk to humans and to establish an action level, if removal or treatment of the contamination is determined to be necessary. Information obtained during this site investigation is intended to guide future assessment or remedial efforts, as warranted by the EPA.

3.0 SITE DESCRIPTION

3.1 SITE LOCATION AND DESCRIPTION

The Cowboy Timber site is located at 91 Highway 31 in Manderson, Big Horn County, Wyoming at latitude 44.284291 and longitude -107.960274 (Figure 1). The property is approximately 36 acres in size. Prior to the 1960s, a refinery operated on the property. Some of the structures present on the property are associated with the refinery. The property has been operated as a

lumber mill and wood treatment facility since the 1960s. The facility used a PCP/diesel lumber treatment process until the early 2000s and currently operates intermittently using a copper arsenate treatment process. The portion of the site that was used for PCP treatment operations consists of approximately 3 acres (Figure 2).

The WDEQ requested assistance from the EPA after conducting a compliance inspection of the Cowboy Timber site, during which the inspector observed a large number of totes, drums, and containers, many of which were unlabeled and could not be identified by personnel on site (WDEQ 2012). The inspector also noted multiple instances of stained soil and hydrocarbon odor in various locations on the property.

This investigation focused on the portion of the site where PCP/diesel treatment took place, which is located at the northeast corner of the site. PCP-related equipment and structures are identified in Figure 2 and include the following:

- A concrete primary drip pad approximately 115 feet long;
- A metal-lined basin at the downslope (south) end of the retort tank pad and associated sump;
- A secondary drip pad;
- A large vertical tank (approximately 10,000 gallons) presumed to be a mix tank;
- A smaller horizontal tank with a welded-on roof, presumed to be a work tank;
- A concrete equipment platform, with associated piping believed to have been associated with the former refinery;
- A concrete vault presumed to be a product capture structure and/or primary drip pad;
- Two concrete building foundations with evidence of tank foundations, piping, and floor drains believed to have been associated with the former refinery; and
- A material storage shed.

Additionally, five groundwater monitoring wells are located on the site. These wells were installed to investigate the potential impact of an underground storage tank (UST) removed in the early 1990s (WDEQ 2013).

3.2 SITE HISTORY AND PREVIOUS WORK

In March 2013, START and the EPA On-Scene Coordinator (OSC) Craig Myers conducted an initial site inspection, which included the collection of 12 surface soil samples. These samples

identified PCP in soil at concentrations ranging from non-detect to 3,500 milligrams per kilogram (mg/kg) (UOS 2013). START and EPA observed a large number of unlabeled containers that could not be identified at the time of the site visit. In addition, following the site visit, OSC Myers was informed that a refinery formerly operated on the property.

3.3 SITE CHARACTERISTICS

3.3.1 Geology

Manderson is located in the east-central part of the Bighorn Basin, a northwest-trending structural and sedimentary basin, formed as an asymmetric syncline. The Bighorn Basin is very deep, with structural relief as much as 30,000 feet, and in areas contains well-exposed, smaller-scale anticlines and synclines. Several major anticlines in this region are commercial producers of oil and gas, including the local Manderson gas field, which was discovered in 1951.

In the Manderson area, surficial geology consists of unconsolidated quaternary-aged flood plain alluvium and terrace deposits (with grain sizes from clay through boulders) overlying the tertiary-aged Willwood (Eocene) and Fort Union (Paleocene) formations (both comprising interbedded shale, claystone, siltstone, and sandstone). The alluvial and terrace deposits are locally up to 45 feet thick, while the Willwood Formation is approximately 245 to 2,500 feet thick, and the Fort Union Formation is approximately 1,000 to 1,500 feet thick, depending on location. Alluvial flood plain deposits more than 1 mile wide occur along the Bighorn and Nowood rivers near Manderson. Terrace deposits occur up to 125 feet above the rivers (Andrews et al. 1947).

The Willwood Formation crops out west of terrace deposits along the Big Horn River. The Fort Union formation, which contains coal beds as much as 10 feet thick that have been mined locally, outcrops just to the east of Manderson, east of the Big Horn River alluvial deposit (Andrews et al. 1947).

3.3.2 Hydrogeology

The shallowest aquifer at the site lies within the saturated flood plain alluvium and terrace deposits. The flood plain alluvium is composed of unconsolidated silt, sand, gravel, and boulders located along the Bighorn River. Groundwater at the site is expected

generally to flow southwest towards the Bighorn River, which is located approximately 1,000 feet southwest of the property.

Recharge to the shallow aquifer occurs by direct infiltration of precipitation, irrigation water, and stream losses and by discharge from underlying aquifers. Discharge from the shallow aquifer occurs by springs, seeps, and evapotranspiration. The quality of the water within the shallow aquifer is considered fair to poor for domestic use (Western Water Consultants [WWC] 1983).

The four aquifers with the highest potential water yield in the area occur in the Paleozoic-aged Tensleep Sandstone, Madison Limestone, Bighorn Dolomite, and Flathead Sandstone. As of 1983, the Lance Formation provided the existing water supply for the Town of Manderson. The depth of the Tensleep Sandstone (the shallowest of these formations) is more than 7,000 feet at Manderson (WWC 1983).

4.0 SITE ACTIVITIES

Site activities were accomplished by three START members accompanied by one EPA Emergency and Rapid Response Services (ERRS) contractor. Site activities included the following:

- Test pitting and soil sampling,
- Groundwater sampling,
- Surface water sampling, and
- Container reconnaissance, sampling, and classification.

4.1 TEST PITTING AND SOIL SAMPLING

Subsurface geological conditions, especially large cobbles, precluded Geoprobe sampling, so the subsurface soil investigation consisted of using an excavator to facilitate test pitting. Utility locates were completed prior to any excavation activities, including meeting with utility representatives on site on April 23, 2013.

START and OSC Myers directed the excavator operator to the appropriate excavation locations, which were focused in the PCP treatment area. As excavations took place, START observed the excavated material and excavation walls for staining or odors. Initially soil was screened with a TVA1000 Photoionization Detector/Flame Ionization Detector (PID/FID); however, START

personnel noted that elevated PID/FID readings were not observed in areas where a PCP odor was evident and discontinued used of the PID/FID unless VOC contamination was suspected.

Where contamination was observed, the operator continued to excavate, with START evaluating soil until a non-contaminated depth was encountered or depth became non-feasible. The deepest excavations went to approximately 14 feet below ground surface (bgs). The bucket was approximately 5 feet wide, allowing trenches to be evaluated on all four sides. Samples were collected from test pits in the following circumstances:

- To document concentrations in the areas of test pits that appeared to have the highest level of contamination, and
- To document the absence of PCP/SVOCs when START believed there was no contamination in the bottom or sidewalls of excavations.

Soil samples were collected in accordance with UOS TSOP 4.16 "Surface & Shallow Depth Soil Sampling" (UOS 2005). Soil samples were collected as grab samples from the excavator bucket with a disposable plastic scoop. Samples were placed directly into sample jars labeled with sample identifying information.

All subsurface soil sampling locations were photographed and documented in accordance with the procedures outlined in UOS TSOP 4.5, "Sample Location Documentation" (UOS 2005). The location of each test pit was recorded with a GPS device.

When sampling was completed, the ERRS operator backfilled the test pit. All efforts were made to replace soil at the approximate depth from which it originated to prevent bringing subsurface contamination to the surface. Following backfilling, START used field observations to determine the location of the next test pit and repeated the procedure to define lateral and vertical extent of contamination in the PCP treatment area.

This investigation consisted of 23 test pits characterized by the collection of 45 soil samples. The location of test pits are presented in Figure 3. The observations and depths of each test pit are presented in Table 1.

This investigation also included collection of one surface soil sample (CTSO015) in the vicinity of a former drip pad.

4.2 WATER SAMPLING

Groundwater sampling from existing monitoring wells and a drinking water well on one adjacent property was conducted according to UOS TSOP 4.12, "Groundwater Sampling" (UOS 2005).

Five groundwater monitoring wells are located on the property, but at the time of this sampling event only three contained water. Water level and total depth were determined with a water level indicator prior to sampling. In addition, one drinking water well is located on an adjacent property, owned by the Cowboy Timber property owner. The total depth of the well was estimated by the property owner. Data for the wells sampled is summarized in Table A below.

TABLE A
Groundwater Well Data

Location ID	Total Depth (feet bgs)	Water Level (feet bgs)	Approximate Casing Volume (gallons)
CTGW01	51	42'8"	1.4
CTGW02	50	31'7"	3
CTGW03	50	31'8"	3
CTDW01	65 (approx.)	Unknown	Unknown

START purged three casing volumes of water or until three consecutive readings of water quality field parameters were within 10 percent of each another, indicating formation water was being collected. Purging and sampling for groundwater monitoring wells was accomplished using disposable bailers. Purging and sampling of the drinking water well was accomplished using the submersible pump present in the well. The sample was collected from an exterior spigot, prior to entering the house water treatment system.

START measured field parameters including pH, temperature, and electrical conductivity of each sample collected as described in TSOP 4.14 "Water Sample Field Measurements" (UOS 2005). All groundwater sampling locations were photographed and documented in accordance with the procedures outlined in UOS TSOP 4.5, "Sample Location Documentation" (UOS 2005). The location of the groundwater monitoring or drinking water well was recorded with a GPS device. Groundwater sample locations are presented in Figure 4.

4.3 SURFACE WATER SAMPLING

Two surface water samples were collected as opportunity samples from locations on the property where structures allowed precipitation to collect: a concrete basin and a metal lined sump. Surface water samples were collected by submerging tubing connected to a peristaltic pump into the water collection structure and filling the sample bottle. The peristaltic pump was used in favor of submerging the sample bottles because significant amounts of debris were present in the water and the tubing was the most efficient way to eliminate the debris. Surface water sample locations are presented in Figure 4.

4.4 CONTAINER SAMPLING

START conducted a container/hazardous substance reconnaissance in areas where the property owner was not able to identify container contents. The reconnaissance consisted of documenting information on each container including:

- Container identifier assigned,
- Size and construction of the container,
- Any markings on the container,
- Condition of the container,
- Approximate volume of contents,
- Location of the container, and
- Photo documentation of each container.

A paint or grease marker was used to permanently label each container with the identifier. A GPS data dictionary customized for START sampling was used to document the location of each container as well as the container inventory information.

Containers were opened by personnel wearing Level C or B personal protective equipment (PPE) using appropriate equipment. Air monitoring (using a PID/FID) was conducted during container opening. Samples were collected using dedicated drum thieves (liquids) or dedicated scoops (solids) and placed into sample jars labeled with the container identifier. The samples were then staged for a qualitative Hazard Classification (Hazclass) analysis to determine the chemical hazard class. Hazard classification is further discussed in section 5.1. The locations of container samples are displayed in Figure 5, and container reconnaissance data is presented in Table 6.

5.0 SAMPLE SCREENING AND ANALYSIS

Samples were analyzed by a commercial laboratory, the ESAT laboratory, and by on-site field analytical methods.

5.1 FIELD ANALYTICAL METHODS

Field analytical was limited to Hazclass testing, which determines Department of Transportation (DOT) hazard class and Resource Conservation and Recovery Act (RCRA) characteristic hazardous waste.

Hazclass analysis is a qualitative test tube analysis that can identify a chemical hazard for liquids, solids, sludges, and mixtures. The qualitative categories identified using the Hazclass process are:

- Acids,
- Acid oxidizers,
- Bases,
- Base oxidizers,
- Combustibles,
- Flammables,
- Halogenated hydrocarbons,
- Cyanides (reactive),
- Sulfides (reactive), and
- Toxics (non-classified).

The analysis allows for rapid assessment of hazards on site. Containerized material was classified by DOT hazard. Each container was left in place and marked to indicate DOT hazard with the following scheme:

- Combustible – Orange dot
- Flammable – Red dot
- Non-Classified – Green dot
- Oxidizer – letters OX in orange paint

5.2 LABORATORY ANALYSIS

Soil samples were sent either to Accutest Laboratories in Wheat Ridge, Colorado or the EPA ESAT Region 8 Laboratory in Golden, Colorado.

Twenty samples (including two duplicates) were hand-delivered to Accutest Laboratories on April 29, 2013. All 20 samples were analyzed for SVOCs using EPA Method 8270C. Five of the samples were also analyzed for VOCs using EPA Method 8260. All samples were received by the laboratory in good condition, at an appropriate temperature, and within holding times.

Twenty-nine soil samples (including two split samples that were also analyzed at Accutest Laboratories) were hand-delivered to the EPA ESAT Region 8 Laboratory for PCP analysis using EPA Method 8270C.

Laboratory data is included in Appendix B.

6.0 FINDINGS AND OBSERVATIONS

The focus of this sampling event was to estimate the extent of contamination from historical lumber treating and refinery operations and to determine the potential hazards presented by unidentified containers.

The soil sample results are compared to the Wyoming Voluntary Remediation Program (VRP) Migration to Groundwater Standard and the EPA Regional Screening Level (RSL) for industrial soil in Tables 2 and 3. Water sample results are compared to the Wyoming VRP Water Cleanup Levels in Tables 4 and 5.

6.1.1 Soil Samples

Forty-four soil samples were collected representing 23 test pits. One sample was collected from the surface near a drip pad at the southeast corner of the PCP treatment area. During soil sampling START personnel observed stained soil and other indications of potential contamination including subsurface piping, subsurface concrete structures, and PCP odors.

Of the 44 test pit samples, 19 showed concentrations of PCP in excess of the EPA Region 8 RSL. The samples represented 10 test pits. The test pits with PCP in excess of the RSLs include the following:

- Test Pit 03 – primarily in the west end,
- Test Pit 04 – present in the entire trench,
- Test Pit 07 – primarily in the south end,
- Test Pit 08 – present in the entire trench,
- Test Pit 09 – localized/spotty,
- Test Pit 10 – present in the entire trench,
- Test Pit 12 – present in the entire trench,
- Test Pit 14 – present in the entire trench,
- Test Pit 15 – present in the entire trench, and
- Test Pit 17 – primarily in the west end.

PCP concentrations ranged from non-detect at the method detection limit (MDL) of 17 micrograms per kilogram (µg/kg) in various locations to 3,580,000 µg/kg in Test Pit 12 (Table 2).

The PCP observations can be roughly grouped into two areas, the south central portion of the PCP treatment area where a lagoon and/or underground storage tank removal took place, and the north central portion of the PCP treatment area where the former retort tank, work and product tanks, and concrete vault are located. In the southern area, the contaminated zone is approximately 1,600 square feet, and contamination appears to extend to approximately 3 feet bgs. In the northern area the contaminated zone is approximately 6,400 square feet, and in some areas contamination is anticipated to extend beyond the maximum excavation depth of 14 feet. Square footage was calculated by estimating the boundaries of contamination based on observations in test pits and sample results and is an estimate for illustrative purposes only.

In addition to PCP, four other SVOC analytes were detected above the EPA RSL for industrial soil including benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, and dibenzo(a,h)anthracene. These analytes belong to a category of compounds called Polycyclic Aromatic Hydrocarbons (PAHs). PAHs are a byproduct of fuel burning and may be the result of combustion of diesel fuel or a biomass burn pit. All PAH exceedances were observed in Test Pit 12 (Table 2).

In the four test pit samples submitted for VOC analysis, one analyte, tetrachloroethylene (PCE), was detected above the MDL at one location in Test Pit 12. PCE was below the

EPA RSL for industrial soil, but above the Wyoming VRP Migration to Groundwater standard (Table 3).

6.1.2 Groundwater Samples

Three samples, CTGW01_042513, CTGW02_042413, and CTGW03-042413, were collected from groundwater monitoring wells on site. One sample, CTDW01-042513 was collected from a residential groundwater well adjacent to and downgradient of the site. While collecting groundwater samples CTGW02_042413 and CTGW03-042413, START personnel observed a sheen on purge water and noticed strong odors. The sheen and odors were more pronounced in CTGW02_042413. Also, when water from CTGW02 and CTGW03 was acidified with hydrochloric acid (HCl) for preservation, a white waxy precipitate formed. It is suspected that the precipitate may be the formation of PCP from PCP breakdown products in the water acquiring a chlorine from the HCl.

Based on the presumed southwesterly groundwater flow direction, CTGW02 and CTGW03 are located downgradient of the northern contaminated area.

All groundwater monitoring well samples were analyzed for SVOCs. Twelve SVOC analytes were detected above the MDLs. Three of these analytes were detected at concentrations exceeding the Wyoming VRP groundwater cleanup levels. Analytes and samples above the cleanup levels are summarized below and presented in Table 4. Concentrations of PCP ranged from 29.7 micrograms per liter (µg/L) to 107,000 µg/L.

- Pentachlorophenol (CTGW01_042513, CTGW02_042413, and CTGW03-042413)
- 2,4,6-Trichlorophenol (CTGW02_042413)
- 2-Methylnaphthalene (CTGW02_042413 and CTGW03-042413)

The drinking water sample was analyzed for SVOCs and no analytes were detected above the MDLs.

One groundwater sample was analyzed for VOCs (CTGW02_042413). Seven analytes were detected above the MDLs, but all concentrations were less than the Wyoming VRP groundwater cleanup levels. Water VOC results are displayed in Table 5.

6.1.3 Surface Water Samples

Two surface water samples, CTSW01_042513 and CTSW01-042513, were collected from water collected in concrete structures on site. In addition to water, the structures contained debris and organic material and the water was a dark brown to black color. Both surface water samples were analyzed for SVOCs. Twenty eight SVOC analytes were detected above the MDLs.

Surface water samples were compared to the Wyoming VRP groundwater cleanup level based on the assumption that collected surface water has potential to reach groundwater. Six of these analytes were detected at concentrations exceeding the Wyoming VRP groundwater cleanup levels. Analytes and samples above the cleanup levels are summarized below and presented in Table 4.

- Pentachlorophenol (CTSW01_042513and CTSW02-042513)
- 3,3'-Dichlorobenzidine (CTSW01_042513)
- bis(2-Ethylhexyl)phthalate (CTSW02_042513)
- Hexachloroethane (CTSW01_042513)
- N-Nitrosodiphenylamine (CTSW01_042513)
- N-Nitroso-di-n-propylamine (CTSW01_042513)

6.1.4 Container Samples

START sampled and classified 38 containers on the Cowboy Timber Site. All containers on site were either non-classified at the conclusion of the hazard classification procedure (considered DOT toxic until laboratory analysis proves otherwise) or were classified as combustible or oxidizer. Detailed results of hazard classification are presented in Table 6. The hazard classifications present on site are summarized in Table B below.

TABLE B
Hazards Present On Site

Hazard	Number of Containers	Approximate Volume (gallons)
Combustible	23	455
Oxidizers	1	5
Non Classified	14	109

6.1.5 Quality Assurance

Quality Assurance (QA) sampling during this sampling event consisted of the following:

- Collection of one soil sample matrix spike/matrix spike duplicate (MS/MSD),
- Collection of one water sample MS/MSD,
- Collection of two soil sample duplicates,
- Collection of one water sample duplicate,
- Collection of two soil sample splits (to provide comparison between Accutest and ESAT analytical data), and
- Inclusion of trip blanks in each cooler containing samples for VOC analysis (two).

In addition, quality assurance was provided for by adherence to TSOPs for sampling procedures, adherence to field and laboratory quality assurance/quality control (QA/QC) procedures, and selection of appropriate sample material.

No VOC analytes were observed in the trip blanks, indicating that there was no cross-contamination of volatiles during transport.

Relative percent difference (RPD) was calculated for duplicate soil samples. A duplicate drinking water sample was collected, but RPD was not calculated because all results were non-detect. RPD results for duplicate soil samples are displayed in Table 7. Average RPD for duplicate soil samples was 28.44 percent. RPD of 35 percent for soils is considered acceptable, and all analytes were below this threshold with the exception of phenanthrene (EPA CLP 2008).

In addition, RPD was calculated for split samples, comparing the results of Accutest and ESAT analysis for PCP only. RPD results for split soil samples are displayed in Table 8. The RPD for split soil samples was 47.9 percent, based on one sample only because the other sample was non-detect for PCP. The RPD is above the 35 percent considered acceptable for duplicate soil samples (EPA CLP 2008). The difference in sample results is most likely due to differing extraction methods used at the laboratories. START does not anticipate that this will affect data usability because characterization for this site will be based on the action limit of 2,700 µg/kg, and while the detection limits for the non-detect samples were not consistent, they provided similar results.

A review of analytical data by a START chemist has confirmed that the quality of the data is sufficient for decision-making on this site.

7.0 CONCLUSIONS

The results of the initial surface soil investigation and this investigation have revealed the presence of PCP and other SVOCs in surface and subsurface soil on the Cowboy Timber site in areas of the property where wood treatment and associated activities historically took place. The area of contaminated soil may include approximately 8,000 square feet with a depth ranging from 3 feet to greater than 14 feet bgs.

In addition, this investigation has concluded that PCP is present in the groundwater, likely migrating in a southwesterly direction. PCP in groundwater does not appear to have migrated south of County Road 49 ½, where residential properties are located.

Containers of unknown materials are present on site including combustibles, oxidizers, and non-classified substances. These containers have been marked indicating their hazard classification and were left in place.

8.0 LIST OF REFERENCES

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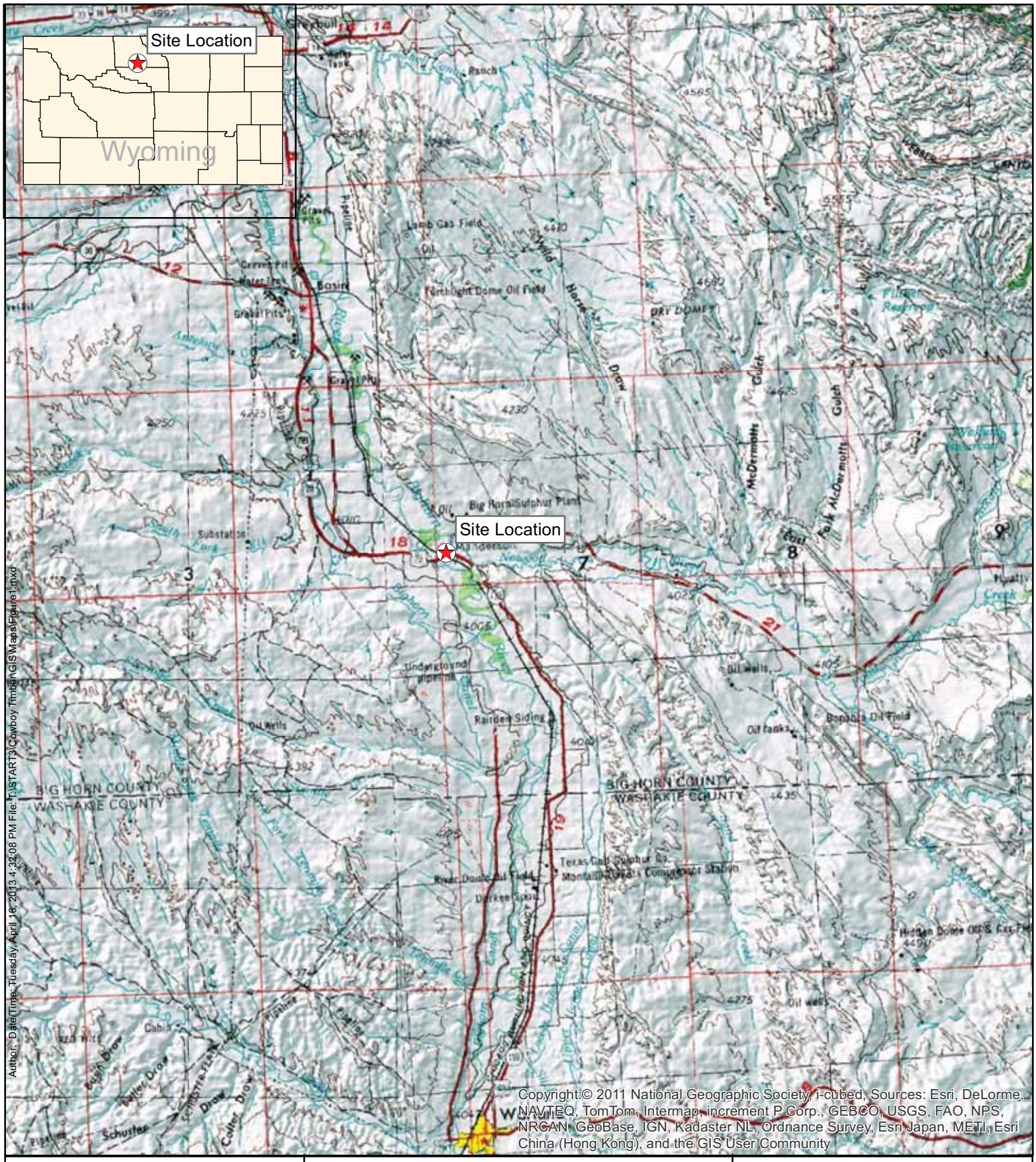

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TDD Title: **Cowboy Timber**

Figure: 1

Figure Title: Site Location Map

TDD County: Big Horn

TDD State: WY

TDD: 1303-03

Date: 04/2013

Sources:
US Topo

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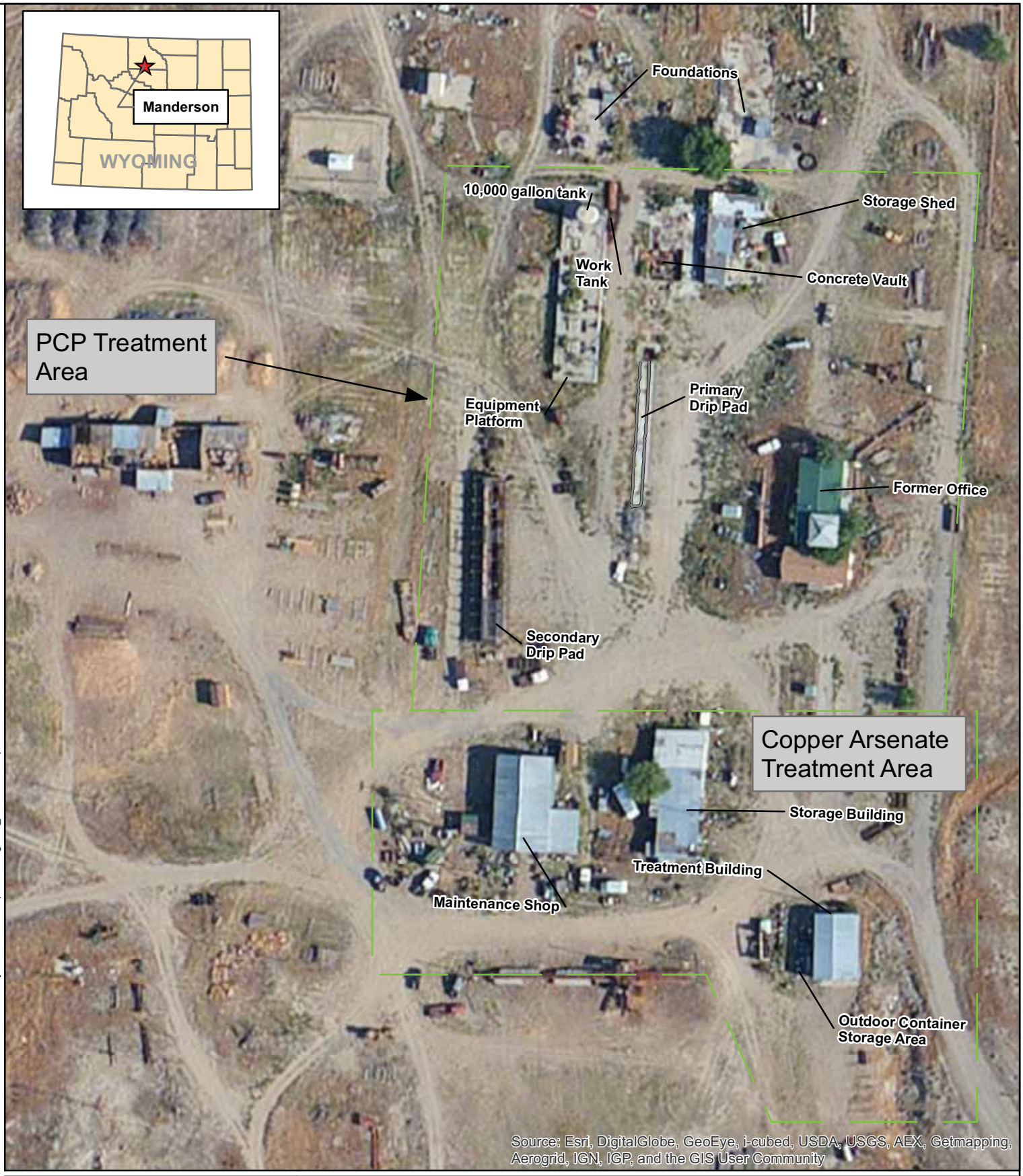

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Projection System:
NAD 1983 UTM Zone 13N

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Feet

TDD Title: **Cowboy Timber**
Figure: 2
Figure Title: Site Detail Map

TDD County: Big Horn
TDD State: WY
TDD: 1303-03
Date: 06/2013

Page Size: 8.5 x 11

NORTH

URS OPERATING SERVICES

Projection System:
GCS North American 1983

Page Size: 8.5 x 11

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TDD Title: **Cowboy Timber**
Figure: 3
Figure Title: Test Pit Location Map
TDD County: Big Horn
TDD State: WY
TDD: 1303-03
Date: 05/2013

Sources:
Bing Maps

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Author: Date/Time: Friday, May 31, 2013 10:48:35 AM File: T:\START3\Cowboy Timber\GIS\Maps\SAR\Figure3_TestPitLoc.mxd

Projection System:
GCS North American 1983

Page Size: 8.5 x 11

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TDD Title: **Cowboy Timber**
Figure: 4
Figure Title: Water Sample Location Map

TDD County: Big Horn
TDD State: WY

TDD: 1303-03
Date: 05/2013

Sources:
Bing Maps

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0 25 50 100 150 Feet

TDD Title: **Cowboy Timber**

Figure: 5

Figure Title: Container Sample Location Map

TDD County: Big Horn

TDD State: WY

TDD: 1303-03

Date: 05/2013

Sources:
Bing Maps

NORTH

URS OPERATING SERVICES

TABLE 1
Test Pit Depths and Observations

Test Pit	Total Depth	Depth	Observations	Sample ID and Location	Result Above EPA RSL?
Test Pit 01	3 ft. bgs	0-3 ft. bgs	No staining or odors observed.	N/A	N/A
Test Pit 02	3 ft. bgs	0-3 ft. bgs	No staining or odors observed.	N/A	N/A
Test Pit 03	3 ft. bgs	Surface	Staining and PCP odor observed in near surface soil	N/A	N/A
		0-1.5 ft. bgs	Staining and PCP odor observed	CTTP03-003 (6 in. bgs, west side of trench)	Yes
				CTTP03-006 (6 in. bgs, east side of trench)	Yes
		1.5-2 ft. bgs	Contamination waning	CTTP03-002 (2 ft. bgs, west side of trench)	Yes
				CTTP03-005 (2 ft. bgs, east side of trench)	No
		2-3 ft. bgs	No staining or odors observed.	CTTP03-001 (3 ft. bgs, west side of trench)	Yes
				CTTP03-004 (3 ft. bgs, east side of trench)	No
				CTTP03-007 (3 ft. bgs, composite along bottom of entire trench)	No
Test Pit 04	3 ft. bgs	0-1 ft. bgs	Staining and PCP odor observed only in the south end of the test pit	CTTP04-001 (6 in. bgs, central)	Yes
		1-3 in. bgs	No staining or odors observed.	CTTP04-002 (3 ft. bgs, central)	No
Test Pit 05	3 ft. bgs	0-1 ft. bgs	No staining or odors observed.	N/A	N/A
		1-1.5 ft. bgs	Thin layer of stained soil	N/A	N/A
		1.5-3 ft. bgs	No staining or odors observed.	N/A	N/A
Test Pit 06	3 ft. bgs	0-6 in. bgs	Localized contamination at the south end of the trench	CTTP06-001 (6 in. bgs north end of trench)	No
		6 in.-2 ft. bgs	No staining or odors observed.	N/A	N/A
		2-3 ft. bgs	No staining or odors observed.	CTTP06-002 (3 ft. bgs, north end of trench)	No

TABLE 1, cont.
Test Pit Depths and Observations

Test Pit	Total Depth	Depth	Observations	Sample ID and Location	Result Above EPA RSL?
Test Pit 07	3 ft. bgs	0-1.5 ft. bgs	Staining and PCP odor observed in south half of trench	CTTP07-001 (6 in. bgs, south end of trench)	Yes
				CTTP07-003 (6 in. bgs at north end of trench)	No
		1.5-3 ft. bgs	No staining or odors observed.	CTTP07-002 (3 ft. bgs, south end of trench)	No
				CTTP07-004 (3 ft. bgs at north end of trench)	No
Test Pit 08	9 ft. bgs	0-1 ft. bgs	Staining presumed to be related to PCP operation	N/A	N/A
		1-6 ft. bgs	Minor staining	N/A	N/A
		6-9 ft. bgs	Strong hydrocarbon odors	CTTP08-001 (6 ft. bgs)	Yes
		9 ft. bgs	Moderate hydrocarbon odors	CTTP08-002 (9 ft. bgs)	Yes
Test Pit 09	7 ft. bgs	0-1 ft. bgs	Moderate staining, no odors	N/A	N/A
		1-2 ft. bgs	No staining or odors observed. Pipe runs through the excavation in east-west direction at approx. 2 ft. bgs	N/A	N/A
		2-4 ft. bgs	No staining or odors observed. Pipe runs through the excavation in north-south direction at approx. 4 ft. bgs	CTTP09-001 (4 ft. bgs)	Yes
		4-7 ft. bgs	No staining or odors observed.	CTTP09-002 (7 ft. bgs)	No
Test Pit 10	9.5 ft. bgs	0-5.5 ft. bgs	Staining observed, particularly in two areas of black fine grained soil.	N/A	N/A

TABLE 1, cont.
Test Pit Depths and Observations

Test Pit	Total Depth	Depth	Observations	Sample ID and Location	Result Above EPA RSL?
		5.5-9.5 ft. bgs	Sand gravel and rock have a shiny gray appearance with significant odor. Soils have an oily feeling. Contamination presumed to extend below TD of 9.5 ft. bgs	CTTP10-001 (7 ft. bgs in saturated soil)	Yes
Test Pit 11	9 ft. bgs	0-1 ft. bgs	Soil (sand, gravel, and rock) stained with black and rust colors. No odor.	CTTP11-001 (1 ft. bgs)	No
		1-6.5 ft. bgs	Finer grained material with no staining or odor observed. A pipe runs through the south end of the excavation in east-west direction at approx. 3 ft. bgs	N/A	N/A
		6.9-9 ft. bgs	Coarse sand, gravel and rocks with no staining or odor observed	CTTP11-002 (9 ft. bgs)	No
Test Pit 12	9.5 ft. bgs	0-2 ft. bgs	A concrete basin is located at 1.5 ft. bgs. Soil is stained black.	CTTP12-001 (2 ft. bgs)	Yes
		2-5 ft. bgs	Soil is gray colored with hydrocarbon odor. A pipe runs through the excavation in east-west direction at approx. 3 ft. bgs	CTTP12-002 (5 ft. bgs)	Yes
		5-9.5 ft. bgs	Odor and staining present, presumed to continue below TD of 9.5 ft.	CTTP12-003 (9.5 ft. bgs)	Yes
Test Pit 13	9 ft. bgs	0-6 ft. bgs	Fine grained material. No staining or odor observed	CTTP13-001 (4 ft. bgs, southeast corner of test pit)	No
		6-9 ft. bgs	Coarse sand, gravel and rocks with no staining or odor observed	CTTP13-002 (9 ft. bgs)	No
Test Pit 14	10 ft. bgs	0-4 ft. bgs	Dark stained gravel. Strong odor.	CTTP14-001 (3.5 ft. bgs)	Yes
		4-10 ft. bgs	Staining and PCP odor noted.	CTTP14-002 (10 ft. bgs)	Yes

TABLE 1, cont.
Test Pit Depths and Observations

Test Pit	Total Depth	Depth	Observations	Sample ID and Location	Result Above EPA RSL?
Test Pit 15	9 ft. bgs	0-9 ft. bgs	Staining and odor present in entire extent of test pit and presumed to continue below TD of 9 ft. bgs	CTTP15-001 (9 ft. bgs)	Yes
Test Pit 16	10 ft. bgs	0-9 ft. bgs	Staining and odor present, more pronounced in the west half of the test pit (adjacent to drip pad). Pipe runs through excavation in north south direction at approx. 6 ft. bgs.	CTTP16-001 (9 ft. bgs, east end of test pit)	No
		9-10 ft. bgs	Staining and odor present in west half of test pit, tapering off towards east end.	CTTP16-002 (10 ft. bgs, east end of test pit)	No
Test Pit 17	12 ft. bgs	0-6.5 ft. bgs	Fine grained material. No staining or odor observed	N/A	N/A
		6.5-11 ft. bgs	Sand gravel and rock with significant odor. Pipe runs through excavation in north south direction at approx. 6 ft. bgs.	CTTP17-001 (10.5 ft. bgs, west end of test pit)	No
				CTTP17-002 (11 ft. bgs)	Yes
		11-12 ft. bgs	Staining and odor present in west half of trench. No odor or staining observed in the east edge.	CTTP17-003 (12 ft. bgs, east end of test pit)	No
Test Pit 18	13 ft. bgs	0-13 ft. bgs	Sand, gravel, and rocks with no indications of contamination	CTTP18-001 (13 ft. bgs)	No
Test Pit 19	11 ft. bgs	0-3 ft. bgs	Fine grained material. No staining or odor observed	N/A	N/A
		3-11 ft. bgs	Sand gravel and rocks with no staining or odor observed	CTTP19-001 (11 ft. bgs)	No
Test Pit 20	10 ft. bgs	0-5 ft. bgs	Fine grained material. No staining or odor observed	CTTP20-002 (5 ft. bgs)	No

TABLE 1, cont.
Test Pit Depths and Observations

Test Pit	Total Depth	Depth	Observations	Sample ID and Location	Result Above EPA RSL?
		5-10 ft. bgs	Sand gravel and rocks with no staining or odor observed	CTTP20-001 (10 ft. bgs)	No
Test Pit 21	14 ft. bgs	0-7 ft. bgs	Fine grained material. No staining or odor observed	N/A	N/A
		7-10 ft. bgs	Sand gravel and rocks with no staining or odor observed	N/A	N/A
		10-14 ft. bgs	Sand gravel and rocks with slight PCP odor	CTTP21-001 (14 ft. bgs)	No
Test Pit 22	13 ft. bgs	0-6 ft. bgs	Fine grained material. No staining or odor observed	N/A	N/A
		6-13 ft. bgs	Sand gravel and rocks with no staining or odor observed	CTTP22-001 (13 ft. bgs)	No
Test Pit 23	5 ft. bgs	0-4.5 ft. bgs	Fine grained material. No staining or odor observed	CTTP23-001 (6 in. bgs)	No
		4.5-5 ft. bgs	Sand gravel and rocks with no staining or odor observed	CTTP23-002 (5 ft. bgs)	No

bgs Below ground surface
ft. feet
in. inches
N/A Not applicable

TABLE 2
Soil Semivolatile Organic Compounds Analytical Summary

Analyte	Wyoming VRP Migration to Groundwater Standard (µg/Kg)	EPA RSL Industrial Soil (µg/Kg)	Sample ID and Concentration (µg/Kg)												
			CTSO015	CTTP03_001	CTTP03_002	CTTP03_003	CTTP03_004	CTTP03_005	CTTP03_006	CTTP03_007	CTTP04_001	CTTP04_002	CTTP06_001	CTTP06_002	CTTP07_001
Acenaphthene	27,000	33,000,000	20 U	--	--	--	17 U	--	--	--	--	--	--	--	--
Acenaphthylene	NA	NA	20 U	--	--	--	17 U	--	--	--	--	--	--	--	--
Anthracene	450,000	170,000,000	30.6 J	--	--	--	17 U	--	--	--	--	--	--	--	--
Benzo(a)anthracene	14	2,100	34.8 J	--	--	--	17 U	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	47	2,100	39.6 J	--	--	--	17 U	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	460	21,000	20 U	--	--	--	17 U	--	--	--	--	--	--	--	--
Benzoic Acid	33,000	2,500,000,000	300 U	--	--	--	250 U	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	NA	NA	29.0 J	--	--	--	17 U	--	--	--	--	--	--	--	--
Benzo(a)pyrene	4.60	210	37.0 J	--	--	--	17 U	--	--	--	--	--	--	--	--
Chrysene	1,400	210,000	115 J	--	--	--	17 U	--	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	15	210	20 U	--	--	--	17 U	--	--	--	--	--	--	--	--
Dibenzofuran	NA	1,000,000	20 U	--	--	--	17 U	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	34	620,000	20 U	--	--	--	17 U	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	1,600	120,000	91.2 J	--	--	--	17 U	--	--	--	--	--	--	--	--
Fluoranthene	210,000	22,000,000	74.4 J	--	--	--	17 U	--	--	--	--	--	--	--	--
Fluorene	33,000	22,000,000	20 U	--	--	--	17 U	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	NA	NA	21.8 J	--	--	--	17 U	--	--	--	--	--	--	--	--
2-Methylnaphthalene	900	4,100,000	40 U	--	--	--	34 U	--	--	--	--	--	--	--	--
Pentachlorophenol	3.90	2,700	4,720	1,535,820	6,060	4,140	17 U	2,610	327,350	2,000 U	5,970	2,000 U	2,000 U	2,000 U	655,350
Phenanthrene	NA	NA	73.2 J	--	--	--	17 U	--	--	--	--	--	--	--	
Pyrene	150,000	17,000,000	127 J	--	--	--	17 U	--	--	--	--	--	--	--	--

Bold outline	Analyte was detected above the Wyoming Migration to Groundwater Standard
Gray Shaded	Analyte was detected above the Wyoming Migration to Groundwater Standard and EPA RSL for Industrial Soil
VRP	Wyoming Voluntary Remediation Program
RSL	Regional Screening Level
µg/Kg	micrograms per kilogram
U	Compound was analyzed for but not detected.
J	The result is an estimated value because the result is less that the reporting limit but greater than zero.

TABLE 2, cont.
Soil Semivolatile Organic Compounds Analytical Summary

Analyte	Wyoming VRP Migration to Groundwater Standard (µg/Kg)	EPA RSL Industrial Soil (µg/Kg)	Sample ID and Concentration (µg/Kg)											
			CTTP07_002	CTTP07_003	CTTP07_004	CTTP08_001	CTTP08_002	CTTP09_001	CTTP09_002	CTTP10_001	CTTP11_001	CTTP11_002	CTTP12_001	CTTP12_002	CTTP12_003
Acenaphthene	27,000	33,000,000	--	--	19 U	969	20.9 J	--	--	--	--	--	1,000 U	6,740	5,930
Acenaphthylene	NA	NA	--	--	19 U	271 J	22.9 J	--	--	--	--	--	1,000 U	2,070	1,410
Anthracene	450,000	170,000,000	--	--	19 U	96 U	17 U	--	--	--	--	--	1,000 U	100 U	93 U
Benzo(a)anthracene	14	2,100	--	--	19 U	96 U	17 U	--	--	--	--	--	5,250 J	927 J	811 J
Benzo(b)fluoranthene	47	2,100	--	--	19 U	96 U	17 U	--	--	--	--	--	5,620 J	347 J	467 J
Benzo(k)fluoranthene	460	21,000	--	--	19 U	96 U	17 U	--	--	--	--	--	1,000 U	100 U	93 U
Benzoic Acid	33,000	2,500,000,000	--	--	290 U	1400 U	260 U	--	--	--	--	--	16,000 U	1,500 U	1,400 U
Benzo(g,h,i)perylene	NA	NA	--	--	19 U	96 U	17 U	--	--	--	--	--	3,170 J	193 J	239 J
Benzo(a)pyrene	4.60	210	--	--	19 U	96 U	17 U	--	--	--	--	--	7,740 J	453 J	689 J
Chrysene	1,400	210,000	--	--	19 U	251 J	17 U	--	--	--	--	--	23,200	2,390	2530
Dibenzo(a,h)anthracene	15	210	--	--	19 U	96 U	17 U	--	--	--	--	--	1,580 J	100 U	148 J
Dibenzofuran	NA	1,000,000	--	--	19 U	260 J	17 U	--	--	--	--	--	1,000 U	1290	93 U
2,6-Dinitrotoluene	34	620,000	--	--	19 U	96 U	17 U	--	--	--	--	--	1,000 U	100 U	93 U
bis(2-Ethylhexyl)phthalate	1,600	120,000	--	--	19 U	288 J	17 U	--	--	--	--	--	1,200 J	100 U	93 U
Fluoranthene	210,000	22,000,000	--	--	19 U	96 U	17 U	--	--	--	--	--	4,560 J	1,260	1730
Fluorene	33,000	22,000,000	--	--	19 U	805 J	17 U	--	--	--	--	--	1,000 U	9,450	4,860
Indeno(1,2,3-cd)pyrene	NA	NA	--	--	19 U	96 U	17 U	--	--	--	--	--	1,000 U	100 U	93 U
2-Methylnaphthalene	900	4,100,000	--	--	38 U	4350	35 U	--	--	--	--	--	2,100 U	1,800	2,850
Pentachlorophenol	3.90	2,700	2,000 U	2,000 U	19 U	9,700	12,500	3,240	2,000 U	235,840	2,000 U	2,300	3,580,000	563,000	905,000
Phenanthrene	NA	NA	--	--	19 U	2120	17 U	--	--	--	--	--	1,000 U	41,100	23,200
Pyrene	150,000	17,000,000	--	--	19 U	656 J	17 U	--	--	--	--	--	50,500	4,090	7,400

Bold outline	Analyte was detected above the Wyoming Migration to Groundwater Standard
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µg/Kg	micrograms per kilogram
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TABLE 2, cont.
Soil Semivolatile Organic Compounds Analytical Summary

Analyte	Wyoming VRP Migration to Groundwater Standard (µg/Kg)	EPA RSL Industrial Soil (µg/Kg)	Sample ID and Concentration (µg/Kg)												
			CTTP13_001	CTTP13_002	CTTP14_001	CTTP14_002	CTTP15_001	CTTP16_001	CTTP16_002	CTTP17_001	CTTP17_002	CTTP17_003	CTTP18_001	CTTP19_001	CTTP20_001
Acenaphthene	27,000	33,000,000	18 U	--	--	--	304	--	19 U	20 U	312	20 U	--	17 U	17 U
Acenaphthylene	NA	NA	18 U	--	--	--	91.7 J	--	19 U	20 U	20 U	20 U	--	17 U	17 U
Anthracene	450,000	170,000,000	18 U	--	--	--	19 U	--	19 U	20 U	20 U	20 U	--	17 U	17 U
Benzo(a)anthracene	14	2,100	18 U	--	--	--	41.6 J	--	19 U	20 U	155 J	20 U	--	17 U	17 U
Benzo(b)fluoranthene	47	2,100	18 U	--	--	--	19 U	--	19 U	20 U	52.4 J	20 U	--	17 U	17 U
Benzo(k)fluoranthene	460	21,000	18 U	--	--	--	19 U	--	19 U	20 U	20 U	20 U	--	17 U	17 U
Benzoic Acid	33,000	2,500,000,000	270 U	--	--	--	290 U	--	280 U	300 U	300 U	290 U	--	260 U	260 U
Benzo(g,h,i)perylene	NA	NA	18 U	--	--	--	19 U	--	19 U	20 U	26.6 J	20 U	--	17 U	17 U
Benzo(a)pyrene	4.60	210	18 U	--	--	--	19 U	--	19 U	20 U	69.2 J	20 U	--	17 U	17 U
Chrysene	1,400	210,000	18 U	--	--	--	92.7 J	--	19 U	20 U	356	20 U	--	17 U	17 U
Dibenzo(a,h)anthracene	15	210	18 U	--	--	--	19 U	--	19 U	20 U	20 U	20 U	--	17 U	17 U
Dibenzofuran	NA	1,000,000	18 U	--	--	--	19 U	--	19 U	20 U	150 J	20 U	--	17 U	17 U
2,6-Dinitrotoluene	34	620,000	18 U	--	--	--	304	--	19 U	20 U	20 U	20 U	--	17 U	17 U
bis(2-Ethylhexyl)phthalate	1,600	120,000	20.8 J	--	--	--	19 U	--	19 U	20 U	20 U	20 U	--	17 U	17 U
Fluoranthene	210,000	22,000,000	18 U	--	--	--	154 J	--	19 U	20 U	225	20 U	--	17 U	17 U
Fluorene	33,000	22,000,000	18 U	--	--	--	19 U	--	19 U	20 U	20 U	20 U	--	17 U	17 U
Indeno(1,2,3-cd)pyrene	NA	NA	18 U	--	--	--	19 U	--	19 U	20 U	20 U	20 U	--	17 U	17 U
2-Methylnaphthalene	900	4,100,000	36 U	--	--	--	38 U	--	38 U	40 U	40 U	39 U	--	35 U	34 U
Pentachlorophenol	3.90	2,700	729	2,000 U	380,230	83,270	48,900	2,000 U	19 U	20 U	69,800	20 U	2,000 U	684	17 U
Phenanthrene	NA	NA	70.7 J	--	--	--	696	--	19 U	20 U	605	20 U	--	17 U	17 U
Pyrene	150,000	17,000,000	18 U	--	--	--	385	--	19 U	20 U	861	20 U	--	17 U	17 U

Bold outline	Analyte was detected above the Wyoming Migration to Groundwater Standard
Gray Shaded	Analyte was detected above the Wyoming Migration to Groundwater Standard and EPA RSL for Industrial Soil
VRP	Wyoming Voluntary Remediation Program
RSL	Regional Screening Level
µg/Kg	micrograms per kilogram
U	Compound was analyzed for but not detected.
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TABLE 2, cont.
Soil Semivolatile Organic Compounds Analytical Summary

Analyte	Wyoming VRP Migration to Groundwater Standard (µg/Kg)	EPA RSL Industrial Soil (µg/Kg)	Sample ID and Concentration (µg/Kg)					
			CTTP20_002	CTTP20_003	CTTP21_001	CTTP22_001	CTTP23_001	CTTP23_002
Acenaphthene	27,000	33,000,000	17 U	--	--	17 U	--	--
Acenaphthylene	NA	NA	17 U	--	--	17 U	--	--
Anthracene	450,000	170,000,000	17 U	--	--	17 U	--	--
Benzo(a)anthracene	14	2,100	17 U	--	--	17 U	--	--
Benzo(b)fluoranthene	47	2,100	17 U	--	--	17 U	--	--
Benzo(k)fluoranthene	460	21,000	17 U	--	--	17 U	--	--
Benzoic Acid	33,000	2,500,000,000	250 U	--	--	260 U	--	--
Benzo(g,h,i)perylene	NA	NA	17 U	--	--	17 U	--	--
Benzo(a)pyrene	4.60	210	17 U	--	--	17 U	--	--
Chrysene	1,400	210,000	17 U	--	--	17 U	--	--
Dibenzo(a,h)anthracene	15	210	17 U	--	--	17 U	--	--
Dibenzofuran	NA	1,000,000	17 U	--	--	17 U	--	--
2,6-Dinitrotoluene	34	620,000	17 U	--	--	17 U	--	--
bis(2-Ethylhexyl)phthalate	1,600	120,000	17 U	--	--	17 U	--	--
Fluoranthene	210,000	22,000,000	17 U	--	--	17 U	--	--
Fluorene	33,000	22,000,000	17 U	--	--	17 U	--	--
Indeno(1,2,3-cd)pyrene	NA	NA	17 U	--	--	17 U	--	--
2-Methylnaphthalene	900	4,100,000	34 U	--	--	34 U	--	--
Pentachlorophenol	3.90	2,700	17 U	2,000 U	2,000 U	17 U	2,000 U	2,000 U
Phenanthrene	NA	NA	17 U	--	--	17 U	--	--
Pyrene	150,000	17,000,000	17 U	--	--	17 U	--	--

Bold outline	Analyte was detected above the Wyoming Migration to Groundwater Standard
Gray Shaded	Analyte was detected above the Wyoming Migration to Groundwater Standard and EPA RSL for Industrial Soil
VRP	Wyoming Voluntary Remediation Program
RSL	Regional Screening Level
µg/Kg	micrograms per kilogram
U	Compound was analyzed for but not detected.
J	The result is an estimated value because the result is less that the reporting limit but greater than zero.

TABLE 3
Soil Volatile Organic Compounds Analytical Summary

Analyte	Wyoming VRP Migration to Groundwater Standard (µg/Kg)	EPA Region 8 RSL for Industrial Soil (µg/Kg)	Sample ID and Concentration (µg/Kg)			
			CTTP08-001	CTTP08-002	CTTP12-002	CTTP12-003
Tetrachloroethylene	0.052	2,600	25 U	20 U	27 U	91.3 J

Bold outline	Analyte was detected above the Wyoming Migration to Groundwater Standard
VRP	Wyoming Voluntary Remediation Program
RSL	Regional Screening Level
µg/Kg	micrograms per kilogram
U	Compound was analyzed for but not detected.
J	The result is an estimated value because the result is less that the reporting limit but greater than zero.

TABLE 4
Water Semivolatile Organic Compounds Analytical Summary

Analyte	Wyoming VRP Water Cleanup Levels (µg/L)	Sample ID and Concentration (µg/L)					
		CTDW01_042513	CTGW01_042513	CTGW02_042413	CTGW03_042413	CTSW01_042513	CTSW02_042513
Benzoic Acid	146,000	9.5 U	10 U	95 U	9.7 U	374	150 U
4-Methylphenol	182	0.48 U	0.50 U	4.8 U	0.49 U	40.0 J	7.3 U
4-Nitrophenol	NA	0.48 U	0.50 U	4.8 U	0.49 U	813	7.3 U
Pentachlorophenol	1	0.48 U	29.7	107,000	18,700	10,600	1,010
Phenol	10,900	0.48 U	0.50 U	15.6 J	0.49 U	9.6 U	7.3 U
2,4,6-Trichlorophenol	7.73	0.50 U	0.52 U	17.9 J	0.50 U	10 U	7.6 U
Acenaphthene	2,190	0.49 U	0.51 U	34.7 J	19	9.8 U	7.5 U
Acenaphthylene	NA	0.48 U	0.50 U	14.3 J	7.9	73.7 J	7.3 U
Anthracene	10,900	0.48 U	0.50 U	4.8 U	0.49 U	18.2 J	7.3 U
Butyl benzyl phthalate	7,290	0.48 U	0.50 U	4.8 U	0.49 U	9.6 U	31.4 J
bis(2-Chloroisopropyl)ether	1,400	0.53 U	0.56 U	5.3 U	0.54 U	11.9 J	8.2 U
2-Chloronaphthalene	2,920	0.48 U	0.50 U	4.8 U	0.49 U	11.5 J	7.3 U
Dibenzofuran	NA	0.48 U	0.50 U	29.1 J	0.49 U	9.6 U	7.3 U
Di-n-butyl phthalate	3,650	0.66 U	0.69 U	6.6 U	0.67 U	13 U	15.2 J
3,3 ft.-Dichlorobenzidine	0.01	0.48 U	0.50 U	4.8 U	0.49 U	35.0 J	7.3 U
Diethyl phthalate	29,200	0.48 U	0.50 U	4.8 U	2.9 J	148	32.4 J
Dimethyl phthalate	270,000	0.48 U	0.50 U	4.8 U	0.49 U	10.6 J	7.3 U
2,4-Dinitrotoluene	72.90	0.48 U	0.50 U	4.8 U	0.49 U	29.2 J	7.3 U
2,6-Dinitrotoluene	36.50	0.53 U	0.56 U	5.3 U	0.54 U	24.8 J	8.2 U
Di-n-octyl phthalate	NA	0.48 U	0.50 U	4.8 U	0.49 U	9.6 U	936
bis(2-Ethylhexyl)phthalate	6	1.0 U	1.1 U	10 U	1.1 U	21 U	319
Fluorene	1,460	0.48 U	0.50 U	41.3 J	20.8	35.4 J	7.3 U
Hexachloroethane	6.08	0.54 U	0.57 U	0.54 U	0.55 U	24.8 J	8.3 U
Isophorone	89.50	0.48 U	0.50 U	4.8 U	0.49 U	24.7 J	7.3 U
2-Methylnaphthalene	146	0.48 U	0.50 U	1,060	155	44.4 J	7.3 U
Naphthalene	729	0.48 U	0.50 U	162	15.1	10.1 J	7.3 U
2-Nitroaniline	NA	0.55 U	0.58 U	5.5 U	0.56 U	29.4 J	8.5 U
3-Nitroaniline	NA	0.88 U	0.92 U	8.8 U	0.89 U	19.9 J	13 U
N-Nitrosodiphenylamine	17.40	0.48 U	0.50 U	4.8 U	0.49 U	15.5 J	7.3 U

TABLE 4, cont.
Water Semivolatile Organic Compounds Analytical Summary

Analyte	Wyoming VRP Water Cleanup Levels (µg/L)	Sample ID and Concentration (µg/L)					
		CTDW01_042513	CTGW01_042513	CTGW02_042413	CTGW03_042413	CTSW01_042513	CTSW02_042513
N-Nitroso-di-n-propylamine	0.01	0.70 U	0.73 U	7.0 U	0.71 U	50.0 J	11 U
Phenanthrene	NA	0.48 U	0.50 U	113	48.8	61.8 J	42.3 J
Pyrene	1,090	0.48 U	0.50 U	7.4 J	2.2 J	9.7 J	7.3 U

Bold outline	Analyte was detected above the Wyoming VRP Water Cleanup Levels
VRP	Wyoming Voluntary Remediation Program
µg/L	micrograms per liter
U	Compound was analyzed for but not detected.
J	The result is an estimated value because the result is less that the reporting limit but greater than zero.

TABLE 5
Water Volatile Organic Compounds Analytical Summary

Analyte	Wyoming VRP Water Cleanup Levels (µg/L)	Sample ID and Concentration (µg/L)
		CTGW02
Acetone	32,800	24
Benzene	5.00	0.55 J
Ethylbenzene	700	2.2
2-Hexanone	NA	1.2 J
4-Methyl-2-pentanone	NA	5.2 J
Toluene	1,000	6.2
Xylene (total)	72,900	22.9

VRP Wyoming Voluntary Remediation Program
µg/L micrograms per liter
U Compound was analyzed for but not detected.
J The result is an estimated value because the result is less that the reporting limit but greater than zero.

TABLE 6
Container Reconnaissance Data

Container ID	Container Size	Container Size Units	Percent Full	Container Condition	Container Material	Container	Container Opening	Contents Matrix	Volume Contents (gallons)	HazClass Result
CTDM001	55	Gallon	100	Fair	Metal	Drum	Ring	Liquid	55	Combustible
CTDM002	55	Gallon	50	Fair	Metal	Drum	Ring	Liquid	27.5	Combustible
CTDM003	55	Gallon	10	Fair	Metal	Drum	Open top	Liquid	5.5	Combustible
CTDM004	55	Gallon	50	Fair	Metal	Drum	Ring	Liquid	27.5	Combustible
CTDM005	55	Gallon	10	Fair	Metal	Drum	Open top	Liquid	5.5	Combustible
CTDM006	55	Gallon	45	Fair	Metal	Drum	Open top	Liquid	24.75	Combustible
CTDM007	55	Gallon	5	Fair	Metal	Drum	Open top	Liquid	2.75	Combustible
CTDM008	55	Gallon	25	Fair	Metal	Drum	Open top	Liquid	13.75	Combustible
CTDM009	55	Gallon	10	Fair	Metal	Drum	Open top	Liquid	5.5	Combustible
CTDM010	55	Gallon	50	Fair	Metal	Drum	Ring	Sludge	27.5	Combustible
CTDM011	55	Gallon	40	Fair	Metal	Drum	Ring	Solid	22	Combustible
CTDM012	55	Gallon	100	Fair	Metal	Drum	Ring	Solid	55	Combustible
CTDM013	55	Gallon	75	Fair	Metal	Drum	Open top	Liquid	41.25	Combustible
CTDM014	55	Gallon	75	Fair	Metal	Drum	Ring	Liquid	41.25	Combustible
CTDM015	55	Gallon	30	Fair	Metal	Drum	Bung	Sludge	16.5	Non Classified
CTDM016	55	Gallon	95	Fair	Metal	Drum	Bung	Liquid	52.25	Non Classified
CTTK017	100	Gallon	5	Fair	Metal	Tank	Bung	Liquid	5	Combustible
CTPL018	5	Gallon	100	Fair	Plastic	Bucket	Bung	Liquid	5	Non Classified

TABLE 6
Container Reconnaissance Data

Container ID	Container Size	Container Size Units	Percent Full	Container Condition	Container Material	Container	Container Opening	Contents Matrix	Volume Contents (gallons)	HazClass Result
CTPL019	5	Gallon	100	Fair	Plastic	Bucket	Bung	Liquid	5	Non Classified
CTPL020	5	Gallon	100	Fair	Plastic	Bucket	Bung	Liquid	5	Combustible
CTPL021	5	Gallon	100	Fair	Plastic	Bucket	Bung	Liquid	5	Non Classified
CTPL022	5	Gallon	100	Fair	Plastic	Bucket	Bung	Liquid	5	Non Classified
CTPL023	5	Gallon	100	Fair	Plastic	Bucket	Bung	Liquid	5	Combustible
CTPL024	5	Gallon	50	Fair	Plastic	Bucket	Bung	Sludge	2.5	Combustible
CTPL025	5	Gallon	100	Fair	Plastic	Bucket	Bung	Liquid	5	Non Classified
CTPL026	5	Gallon	50	Fair	Plastic	Bucket	Bung	Sludge	2.5	Non Classified
CTDM027	20	Gallon	10	Fair	Metal	Tank	Open top	Liquid	2	Non Classified
CTPL028	5	Gallon	50	Fair	Plastic	Bucket	Closed Lid	Solid	2.5	Non Classified
CTPL029	5	Gallon	100	Fair	Plastic	Bucket	Closed Lid	Liquid	5	Oxidizer
CTPL030	5	Gallon	100	Fair	Plastic	Bucket	Closed Lid	Liquid	5	Combustible
CTPL031	5	Gallon	100	Fair	Plastic	Bucket	Closed Lid	Sludge	5	Combustible
CTPL032	5	Gallon	30	Fair	Plastic	Bucket	Closed Lid	Liquid	1.5	Combustible
CTPL033	5	Gallon	50	Fair	Plastic	Bucket	Closed Lid	Liquid	2.5	Combustible

TABLE 6
Container Reconnaissance Data

Container ID	Container Size	Container Size Units	Percent Full	Container Condition	Container Material	Container	Container Opening	Contents Matrix	Volume Contents (gallons)	HazClass Result
CTPL034	5	Gallon	50	Fair	Plastic	Bucket	Closed Lid	Solid	2.5	Non Classified
CTPL035	5	Gallon	50	Fair	Plastic	Bucket	Closed Lid	Solid	2.5	Non Classified
CTDM036	55	Gallon	30	Fair	Metal	Drum	Bung	Liquid	16.5	Combustible
CTDM037	55	Gallon	95	Fair	Metal	Drum	Bung	Solid	52.25	Combustible
CTDM038	55	Gallon	5	Fair	Metal	Drum	Bung	Liquid	2.75	Non Classified

TABLE 7
Hazard Classification Results

Container ID	HazClassID	Phase	Total Phases	Matrix	Viscosity	Color	Description	Odor	Endo-thermic	Exo-thermic	Effervesces	Solubility	Floats/ Sinks	pH	Oxidizer	Sulfide	Cyanide	Flammability	Chlorine	Classification
CTPL026	CTPL026-01	1	2	Liquid	Water-like	Yellow	Clear yellow watery liquid	NA	No	No	No	Yes	NA	4.5	No	NA	NA	Non-Flammable	No	Not Classified
CTPL026	CTPL026-02	2	2	Sludge	Very thick	Brown	Mixture of wood chips in oily brown sludge	NA	No	No	No	No	NA	NA	NA	NA	NA	Non-Flammable	No	Not Classified
CTDM027	CTDM027	1	1	Sludge	Very thick	Dark brown	Brown sludge with water droplets	NA	No	No	No	No	Floats	NA	NA	NA	NA	Non-Flammable	No	Not Classified
CTPL028	CTPL028	1	1	Solid	NA	Black	Black solid	Hydro-carbon	No	No	No	No	Sinks	NA	NA	NA	NA	Non-Flammable	No	Not Classified
CTPL029	CTPL029	1	1	Liquid	Coats	Green	Neon green liquid (antifreeze)	NA	No	No	No	Yes	NA	9	Yes	NA	NA	NA	No	Oxidizer
CTPL030	CTPL030	1	1	Liquid	Thick	Pale yellow	Pale yellow oily liquid	NA	No	No	No	No	Floats	NA	NA	NA	NA	Combustible	No	Combustible
CTPL031	CTPL031	1	1	Solid	NA	Dark brown	Dark brown thick grease	NA	No	No	No	No	NA	NA	NA	NA	NA	Combustible	No	Combustible
CTPL032	CTPL032	1	1	Liquid	Water-like	Pale brown	Pale brown oily liquid	NA	No	No	No	No	NA	NA	NA	NA	NA	Combustible	No	Combustible
CTPL033	CTPL033	1	1	Liquid	Thick	Dark brown	Dark brown oily liquid	NA	No	No	No	No	NA	NA	NA	NA	NA	Combustible	No	Combustible
CTPL034	CTPL034	1	1	Solid	NA	Black	Black granular solid	NA	No	No	No	No	Sinks	NA	NA	NA	NA	Non-Flammable	No	Not Classified
CTPL035	CTPL035	1	1	Solid	NA	Black	Black granular solid	NA	No	No	No	No	Sinks	NA	NA	NA	NA	Non-Flammable	No	Not Classified
CTDM001	CTDM001	1	1	Sludge	Very thick	Black	Black sludge with particulate (wood)	NA	No	No	No	No	Floats	NA	NA	NA	NA	Combustible	No	Combustible
CTDM002	CTDM002	1	1	Liquid	Coats	Dark red-brown	Dark reddish brown thick liquid	NA	No	No	No	No	Floats	NA	NA	NA	NA	Combustible	No	Combustible
CTDM003	CTDM003	1	1	Liquid	Thick	Black	Black sticky liquid with oily glossy appearance	NA	No	No	No	No	NA	NA	NA	NA	NA	Combustible	No	Combustible
CTDM004	CTDM004	1	1	Liquid	Coats	Dark red-brown	Dark reddish brown thick liquid	NA	No	No	No	No	Floats	NA	NA	NA	NA	Combustible	No	Combustible
DTDM005	DTDM005	1	1	Liquid	Coats	Dark red-brown	Dark reddish brown thick liquid	NA	No	No	No	No	Floats	NA	NA	NA	NA	Combustible	No	Combustible

TABLE 7
Hazard Classification Results

Container ID	HazClassID	Phase	Total Phases	Matrix	Viscosity	Color	Description	Odor	Endo-thermic	Exo-thermic	Effervesces	Solubility	Floats/ Sinks	pH	Oxidizer	Sulfide	Cyanide	Flammability	Chlorine	Classification
CTDM006	CTDM006	1	1	Liquid	Coats	Dark red-brown	Dark reddish brown thick liquid	NA	No	No	No	No	Floats	NA	NA	NA	NA	Combustible	No	Combustible
CTDM007	CTDM007	1	1	Solid	NA	Black	Ashy wood/ fibrous material particulate	NA	No	No	No	No	NA	NA	NA	NA	NA	Combustible	No	Combustible
CTDM008	CTDM008	1	1	Liquid	Water-like	Clear brown	Clear liquid with some brown particulate	NA	No	No	No	Yes	NA	5	NA	NA	NA	Non-Flammable	No	Not Classified
CTDM009	CTDM009	1	1	Liquid	Coats	Orange/ brown	Orange liquid with brown particulate	NA	No	No	No	No	Floats	NA	NA	NA	NA	Combustible	No	Combustible
CTDM010	CTDM010	1	1	Solid	NA	Black	Glossy black solid with wood chips	NA	No	No	No	No	NA	NA	NA	NA	NA	Combustible	No	Combustible
CTDM011	CTDM011	1	1	Solid	NA	Black	Oily black solid with wood chips	NA	No	No	No	No	NA	NA	NA	NA	NA	Combustible	No	Combustible
CTDM012	CTDM012	1	1	Solid	NA	Brown/ red	Brownish red granular solid	NA	No	No	No	No	Sinks	NA	NA	NA	NA	Combustible	No	Combustible
CTDM013	CTDM013-01	1	2	Liquid	Coats	Clear	Clear liquid	NA	No	No	No	Yes	NA	7	NA	NA	NA	Non-Flammable	No	Not Classified
CTDM013	CTDM013-02	2	2	Liquid	Coats	Black	Black thick liquid	NA	No	No	No	No	Floats	NA	NA	NA	NA	Combustible	No	Combustible
CTDM014	CTDM014	1	1	Liquid	Coats	Brown	Oily brown liquid	NA	No	No	No	No	Floats	NA	NA	NA	NA	Combustible	No	Combustible
CTDM015	CTDM015	1	1	Solid	NA	Orange	Orange rubbery/ stretchy solid	NA	No	No	No	Slightly	NA	4	NA	NA	NA	Non-Flammable	No	Not Classified
CTDM016	CTDM016	1	1	Liquid	Coats	Clear	Clear liquid	NA	No	No	No	No	Floats	NA	NA	NA	NA	Non-Flammable	No	Not Classified
CTTK017	CTTK017	1	1	Sludge	Coats	Black/ green	Black/ green liquid	Strong hydro-carbon	No	No	No	No	Floats	NA	NA	NA	NA	Combustible	No	Combustible
CTPL018	CTPL018	1	1	Liquid	Water-like	Clear/ black	Clear liquid with black droplets	NA	No	No	No	Yes	NA	7	NA	NA	NA	Non-Flammable	No	Not Classified
CTPL019	CTPL019	1	1	Liquid	Water-like	Clear	Clear liquid	NA	No	No	No	Yes	NA	4	NA	NA	NA	Non-Flammable	No	Not Classified
CTPL020	CTPL020	1	1	Liquid	Coats	Clear orange	Clear orange oily liquid with water droplets	NA	No	No	No	No	Floats	NA	NA	NA	NA	Combustible	No	Combustible
CTPL021	CTPL021	1	1	Liquid	Water-like	Clear	Clear liquid with black particulate	NA	No	No	No	Yes	NA	7	NA	NA	NA	Non-Flammable	No	Not Classified
CTPL022	CTPL022	1	1	Liquid	Water-like	Clear	Clear liquid	NA	No	No	No	Yes	NA	7	NA	NA	NA	Non-Flammable	No	Not Classified

TABLE 7
Hazard Classification Results

Container ID	HazClassID	Phase	Total Phases	Matrix	Viscosity	Color	Description	Odor	Endo-thermic	Exo-thermic	Effervesces	Solubility	Floats/ Sinks	pH	Oxidizer	Sulfide	Cyanide	Flammability	Chlorine	Classification
CTPL023	CTPL023	1	1	Liquid	Coats	Black	Black oily liquid	NA	No	No	No	No	Floats	NA	NA	NA	NA	Combustible	No	Combustible
CTPL024	CTPL024	1	1	Sludge	Thick	Black/ green	Black/ green sludge with some wood particles	NA	No	No	No	No	Floats	NA	NA	NA	NA	Combustible	No	Combustible
CTPL025	CTPL025	1	1	Liquid	Water-like	Clear/ Black	Clear liquid with black particulate	NA	No	No	No	Yes	NA	7	NA	NA	NA	Non-Flammable	No	Not Classified
CTDM036	CTDM036	1	1	Liquid	Coats	Red/ Brown	Thin reddish brown oily liquid	NA	No	No	No	No	Floats	NA	NA	NA	NA	Combustible	No	Combustible
CTDM037	CTDM037	1	1	Solid	NA	Brown/ Black	Brownish black wood chips and sawdust	Strong hydro-carbon	No	No	No	No	Floats	NA	NA	NA	NA	Combustible	No	Combustible
CTDM038	CTDM038	1	1	Liquid	Water-like	Clear brown	Clear brown liquid	NA	No	No	No	Yes	NA	7	NA	NA	NA	Non-Flammable	No	Not Classified

NA Not applicable

TABLE 8
Duplicate Soil Sample Relative Percent Difference

Analyte	Sample ID and Concentration (µg/Kg)					
	CTTP15_001	CTTP15_001D	RPD	CTTP20_001	CTTP20_001D	RPD
Acenaphthene	304	269	12.22	17 U	19 U	NA
Acenaphthylene	91.7 J	69.8 J	27.12	17 U	19 U	NA
Anthracene	19 U	19 U	NA	17 U	19 U	NA
Benzo(a)anthracene	41.6 J	59.3 J	35.08	17 U	19 U	NA
Benzo(b)fluoranthene	19 U	19.6 J	NA	17 U	19 U	NA
Benzoic Acid	290 U	290 U	NA	260 U	280 U	NA
Chrysene	92.7 J	113 J	19.74	17 U	19 U	NA
2,6-Dinitrotoluene	304	19 U	NA	17 U	19 U	NA
bis(2-Ethylhexyl)phthalate	19 U	19 U	NA	17 U	19 U	NA
Fluoranthene	154 J	190	20.93	17 U	19 U	NA
2-Methylnaphthalene	38 U	106 J	NA	34 U	37 U	NA
Pentachlorophenol	48,900	59,900	20.22	17 U	19 U	NA
Phenanthrene	696	371	60.92	17 U	19 U	NA
Phenol	21 U	22 U	NA	19 U	21 U	NA
Pyrene	385	528	31.33	17 U	19 U	NA
Average RPD			28.44			NA

RPD Relative Percent Difference
Formula $\frac{|x_1-x_2|}{(x_1+x_2)/2} * 100$ = Relative Percent Difference
µg/L micrograms per liter
U Compound was analyzed for but not detected.
J The result is an estimated value because the result is less that the reporting limit but greater than zero.
NA Not applicable

TABLE 9
Split Soil Sample Relative Percent Difference

Sample ID	Laboratory and Concentration (µg/Kg)		
	ESAT Laboratory Sample Result	Accutest Sample Result	RPD
CTTP15_001	79,700	48,900	47.90
CTTP20_002	2,000 U	17 U	NA

APPENDIX A

Photolog

PHOTO 1
Test Pit 02: Near surface, no staining observed

PHOTO 2
Test Pit 02: Near surface debris

PHOTO 3
Test Pit 03: Facing east

PHOTO 4
Test Pit 03: Near surface staining

PHOTO 5
Test Pit 03: Facing west

PHOTO 6
Test Pit 03: Clean soil in test pit bottom

PHOTO 7
Test Pit 05: Thin layer of stained soil

PHOTO 8
Test Pit 05: View of entire test pit

PHOTO 9
Test Pits 05 (foreground) and 06 (background)

PHOTO 10
Test Pit 06: View of entire test pit

PHOTO 11
Test Pit 06: Staining in the south side of test pit

PHOTO 12
Test Pit 07: Staining in the south half of test pit

PHOTO 13
Test Pit 07: Facing north

PHOTO 14
Interior of concrete vault with two tanks in background, facing northwest

PHOTO 15
Test Pit 08: view of entire test pit

PHOTO 16
Test Pit 08: Near surface staining

PHOTO 17
Test Pit 08: Staining and debris

PHOTO 18
Test Pit 09: Subsurface piping through test pit

PHOTO 19
Test Pit 09: Subsurface piping through test pit

PHOTO 20
Test Pit 10: Staining in areas of black fine grained soil

PHOTO 21
Test Pit 10: Oily stained sand, gravel and rock

PHOTO 22
Test Pit 11: Entire depth, with no staining or odor observed at the bottom

PHOTO 23
Test Pit 11: Subsurface piping in test pit and rust colored staining near surface

PHOTO 24
Test Pit 12: Illustrating test pit location

PHOTO 25
Test Pit 12: Subsurface concrete basin exposed during excavation

PHOTO 26
Test Pit 13: Close up of pipe in test pit

PHOTO 27
Test Pit 13: View of entire test pit

PHOTO 28
Test Pit 14: Stained soil – foundation for drip pad adjacent to test pit

PHOTO 29
Test Pit 14: Stained sand and gravel

PHOTO 30
Test Pit 12: Stained soil below removed concrete basin

PHOTO 31
Test Pit 12: Pipe running through test pit below removed concrete basin

PHOTO 32
Test Pit 15: View of entire test pit

PHOTO 33
Test Pit 15: Staining visible on the walls of the test pit

PHOTO 34
Test Pit 16: Staining in the west half of the test pit

PHOTO 35
Test Pit 16: Pipe running through excavation

PHOTO 36
Test Pit 17: START member Bosco measures test pit depth

PHOTO 37
Test Pit 17: View of entire test pit and pipe running through excavation

PHOTO 38
Test Pit 18: Sand and gravel at the bottom of the test pit, no indications of staining

PHOTO 39
Test Pit 19: START member Bosco collects sample CTTP19-001

PHOTO 40
Test Pit 19: View of entire test pit

PHOTO 41
Test Pit 19: View of test pit in relation to equipment platform

PHOTO 42
Test Pit 20: No indications of contamination

PHOTO 43
Test Pit 21: View of entire test pit

PHOTO 44
Test Pit 22: No indications of contamination

PHOTO 45
Test Pit 22: No indications of contamination

PHOTO 46
Test Pit 23: No indications of contamination

PHOTO 47
Location of sample CTSO015

PHOTO 48
START members Bosco and Patureau dress out for container sampling

PHOTO 49
START member Patureau screens CTDM001

PHOTO 50
START member Bosco collects sample from CTDM002

PHOTO 51
START members Bosco and Patureau collect sample from CTDM003

PHOTO 52
START members Bosco and Patureau collect sample from CTDM004

PHOTO 53
START members Bosco and Patureau collect sample from CTDM005

PHOTO 54
START members Bosco and Patureau collect sample from CTDM006

PHOTO 55
START members Bosco and Patureau collect sample from CTDM007

PHOTO 56
START members Bosco and Patureau collect sample from CTDM008

PHOTO 57
START members Bosco and Patureau collect sample from CTDM009

PHOTO 58
Area containing CTDM001-CTDM008

PHOTO 59
START member Patureau collects sample from CTDM010

PHOTO 60
Contents of CTDM011

PHOTO 61
Containers CTDM010 and CTDM011

PHOTO 62
START member Patureau screens CTDM012

PHOTO 63
START members Bosco and Patureau collect sample from CTDM013

PHOTO 64
START members Bosco and Patureau collect sample from CTDM014

PHOTO 65
START member Patureau collects sample from CTDM015

PHOTO 66
START members Bosco and Patureau collect sample from CTDM016

PHOTO 67
START member Patureau screens CTTK017

PHOTO 68
START member Patureau collects sample from CTTK017

PHOTO 69
START member Patureau collects sample from CTPL019

PHOTO 70
START member Patureau collects sample from CTPL020

PHOTO 71
START member Patureau collects sample from CTPL021

PHOTO 72
START member Patureau collects sample from CTPL023

PHOTO 73
START member Patureau collects sample from CTPL024

PHOTO 74
START member Patureau collects sample from CTPL025

PHOTO 75
START member Patureau collects sample from CTDM027

PHOTO 76
Containers CTPL028, CTPL029, and CTPL030

PHOTO 77
Containers CTPL031 through CTPL035

PHOTO 78
Hazard Classification test area

PHOTO 79
START member Patureau collects CTDM036

PHOTO 80
START member Patureau collects CTDM037

PHOTO 81
START member Patureau collects CTDM038

PHOTO 82
START member Patureau conducts hazard classification

PHOTO 83
Location of CTGW01, facing southeast

PHOTO 84
Location of CTGW01, facing north

PHOTO 85
Location of CTGW03, facing east

PHOTO 86
White precipitate formed when water from CTGW02 was acidified

PHOTO 87
White precipitate formed when water from CTGW03 was acidified

PHOTO 88
Spigot where CTDW01 was collected

PHOTO 89
Location of sample CTSW01

PHOTO 90
START member Patureau collects CTSW02

PHOTO 91
Sign for Cowboy Timber business

APPENDIX B
Laboratory Analytical Data
(on CD)

APPENDIX C
Hazard Classification Field Forms and Hazard Classification Flow Chart (on CD)