ADDITIONAL ASSESSMENT AND ESTIMATE OF HAZARDOUS BUILDING MATERIAL REMEDIATION COSTS FOR ACME POWER PLANT 165 ACME ROAD SHERIDAN, SHERIDAN COUNTY, WYOMING

Prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY
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March 2018

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Mark Blanchard, P.G.
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LIST OF ACRONYMS

ACM	asbestos-containing material
ASTM	ASTM, International
BTV	background threshold value
COC	contaminant of concern
DEQ	Department of Environmental Quality
DQO	Data Quality Objective
DRO	diesel range organics
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
GRO	gasoline range organics
HWRR	Hazardous Waste Rules and Regulations
LBP	lead-based paint
LF	linear feet
mg/cm^2	milligrams per square centimeter
mg/L	milligrams per liter
ORO	oil range organics
PAH	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PEC	Probable Effect Concentration
SHWD	Solid and Hazardous Waste Division
sq. ft.	square feet
START	Superfund Technical Assessment and Response Team
TBA	Targeted Brownfields Assessment
TEC	Threshold Effect Concentration
TCLP	Toxicity Characteristic Leaching Procedure
TDD	Technical Direction Document
TEM	transmission electron microscopy
VRP	Voluntary Remediation Program
WESTON	Weston Solutions, Inc.
WY	Wyoming
XRF	X-ray fluorescence

1.0 INTRODUCTION AND PURPOSE

The United States Environmental Protection Agency (EPA) tasked the Weston Solutions, Inc. (WESTON) Superfund Technical Assessment and Response Team (START) to assist the EPA in conducting a Phase II Environmental Site Assessment (ESA) and additional assessment with cost estimate for cleanup at the Acme Power Plant located at 165 Acme Road in Sheridan, Sheridan County, Wyoming (WY) (Site) (Figure 1). The Phase II ESA reports, *Phase II Environmental Site Assessment for Acme Power Plant, 165 Acme Road, Sheridan, Sheridan County, Wyoming* (WESTON, 2017a) and *Phase II Environmental Site Assessment for Acme Power Plant Hazardous Building Materials, 165 Acme Road, Sheridan, Sheridan County, Wyoming* (WESTON, 2017b), detail the work performed, methods used, information and data acquired, and evaluation and interpretation of results as part of the Phase II ESA. This additional assessment and estimate of hazardous building material remediation costs report is based upon the information presented in the Phase II ESA reports.

1.1 Summary of Phase II ESA Results

The Phase II ESA was conducted in accordance with Technical Direction Document (TDD) 0003/1609-07 (EPA, 2016) and ASTM, International (ASTM) E1903-11 – *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process*. Results of the Phase II ESA have confirmed the presence of contaminants of concern (COCs) at the Site. The following list is a summary of the results and conclusions regarding COCs and associated media identified by START at the Site (see the Phase II ESA reports for the comprehensive results and conclusions including figures and tables).

Scope of Soil and Groundwater Investigation: A general investigative approach to characterize potential contaminants in soil and groundwater across the Site was implemented since no previous environmental sampling had been conducted. Due to the number of samples collected and analyses conducted, the following explanations detail how soil investigation results were evaluated and presented in the Targeted Brownfields Assessment (TBA) Phase II ESA soil and groundwater report.

- Due to the number of exceedances, COCs were categorized as primary or secondary COCs based on a high concentration of contaminant(s) and/or relative presence throughout area(s) across the Site.
- Results in soil samples for total petroleum hydrocarbon (TPH) ranges, volatile organic compound (VOC), semi-volatile organic compound (SVOC), and polychlorinated biphenyl (PCB) concentrations that only exceed the Migration to Groundwater Cleanup Levels are only discussed if the analyte is detected in groundwater samples above EPA maximum Contaminant levels (MCLs) and/or Wyoming DEQ Water Cleanup Levels.
- Every soil sample collected has multiple metal analytes with results reported that only exceed the WDEQ Migration to Groundwater Cleanup Level. While all instances are noted

on the tables, individual metal analyte results which only exceed this benchmark are not discussed in the following sections due to the number of exceedances.

Note: If the Site is to enter the Wyoming Department of Environmental Quality (DEQ) Voluntary Remediation Program (VRP), analyte exceedances of any cleanup level will need to be addressed. It is recommended that both site-specific metal background threshold values (BTVs) and site-specific Migration to Groundwater Cleanup Levels be calculated for use as cleanup levels during future assessment and/or remediation activities conducted at the Site.

Surface Soils: Contamination was identified in surface soils (0 – 1 ft bgs) across the Site. The following conclusions were reached based upon the results of the surface soil sampling conducted:

- The primary COCs identified in surface soils across the Site are diesel range organics (DRO), oil range organics (ORO), PCB Aroclor 1260, lead, benzo(a)pyrene, and benzo(b)fluoranthene.
- The secondary COCs identified in surface soils include five (5) metals (arsenic, antimony, copper, iron, and manganese), four (4) Polycyclic Aromatic Hydrocarbon (PAHs) (benzo[a]anthracene, bis[2-ethylhexyl]phthalate, dibenzo[a,h]anthracene, and indeno[1,2,3-cd]pyrene), two (2) VOCs (benzene, and tetrachloroethene [PCE]), and one (1) SVOC (pentachlorophenol).
- Broken battery debris was identified in multiple areas west of the Power Plant where elevated lead concentrations were reported. This is the likely place where previous battery recycling operations and/or car crushing activities occurred.

Sub-surface Soils: Review of the sub-surface soil data collected indicates the vertical extent of contamination identified in the surface soil samples above EPA and Wyoming DEQ standards is limited to the top few feet, in general. The following conclusions were reached based upon the results of the sub-surface soil sampling conducted:

- Of the analytes which exceed benchmarks in sub-surface soil, only iron and PCE are considered primary COCs since they are the only analytes which are also detected above regulatory standards in groundwater samples.
- Benzo(a)pyrene, benzo(b)fluoranthene, and benzene are considered secondary COCs. Benzo(a)pyrene and benzo(b)fluoranthene were vertically delineated above the smear zone and are not leaching to groundwater based on groundwater samples collected. Though benzene results were reported above DEQ Migration to GW standard in multiple borings directly above the smear zone, benzene was not detected in any of the groundwater samples collected indicating it is not leaching into groundwater.
- Of the five (5) PCE detections above DEQ Migration to GW standards, all were identified in borings APP-BH04 and APP-BH05 located west of the Power Plant at the depths of 4 – 5 ft bgs and 8 – 10 ft bgs. The 8 – 10 ft bgs interval samples are located directly above the smear zone.
- Iron results exceed the DEQ Migration to GW standard in all sub-surface soil samples collected; however, sample APP-BH08-0608 is significantly higher than other samples.

The iron exceedance reported in APP-BH08 was collected at the soil-groundwater interface from 6 – 8 ft bgs.

Groundwater: Impacts to groundwater were identified at the Site; however, not all the contaminant sources were identified. The exceedances for PCE are considered to be the primary concern to groundwater. The following conclusions were reached based upon the results of the groundwater sampling conducted:

- PCE, hexachlorobenzene, and six metals (aluminum, arsenic, cobalt, iron, lead, and manganese) were determined to be COCs in relation to groundwater at the Site; however, hexachlorobenzene, aluminum, and cobalt were not detected at elevated concentrations in soils at the Site.
- Of the ten (10) samples collected, only three (3) of the locations exceed for COCs other than metals. These locations were the groundwater samples collected from boring APP-BH03, which reported an exceedance for hexachlorobenzene, and from borings APP-BH12 and APP-BH13, both samples reported exceedances for PCE.
- Manganese was detected above the DEQ Water Cleanup Level in eight (8) of the ten (10) samples collected. For five (5) of these eight (8) samples, manganese was the only COC which exceeded.
- Of the six metals which exceed regulatory benchmarks (aluminum, arsenic, cobalt, iron, lead, and manganese), only arsenic and lead have EPA Maximum Contaminant Level (MCLs).

Tongue River Sediment: As no regulatory standards have been established for sediment samples by the EPA or WDEQ, START is using the Consensus-based Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) values (D.D. MacDonald, C.G. Ingersoll, T.A. Berger, 2000) along with three times (3x) the up-gradient sample concentrations for screening benchmark comparison purposes to evaluate sediment sample results. The following conclusions were reached based upon the results of the sediment sampling conducted:

- Sample APP-SED01 was selected as the up-gradient sample based on upstream location relative to the Power Plant and Coal Ash Pile and used to determine the 3x up-gradient sample concentration comparison values.
- Evaluation of the sediment results against the comparison criteria used and in relation to source samples collected has identified DRO, ORO, and four (4) metal analytes (arsenic, copper, lead, and nickel) as primary COCs potentially sourced from the Power Plant or Coal Ash Pile.
- Concentrations for gasoline range organics (GRO), DRO, and/or ORO exceeding 3x the up-gradient levels were reported in all sediment samples collected; however, with the exception of APP-SED02 and duplicate sample APP-SED02D, all values are low level concentrations.
- **South Bank:** The majority of impacts reported were identified at the APP-SED02 location adjacent to the Power Plant. Of particular interest are the elevated DRO and ORO concentrations along with the five (5) metal analytes which exceed TEC concentrations (arsenic, copper, lead, nickel, and mercury).

- **North Bank:** For the three samples collected from the north bank, the only analyte of particular concern is for nickel (which exceeds its TEC) in APP-SED05 location. When compared to sample concentrations collected directly from the Coal Ash Pile, it is possible the elevated nickel is sourced from the Coal Ash Pile.

Coal Ash Pile: The following conclusions were reached based upon the results of the Coal Ash Pile sampling conducted:

- No EPA or DEQ residential benchmarks were exceeded by results in any of the samples.
- Though the DEQ Migration to Groundwater standards were exceeded by eight (8) metal analytes total in all the samples collected of the coal ash pile, results of the SPLP analysis did not report any exceedances above groundwater EPA MCLs or DEQ Cleanup Levels.
- When comparing coal ash pile APP-CA02 results to sediment sample APP-SED05 results along the north bank, the nickel concentrations in both samples appear to be elevated. Based on close proximity, it is possible that material from the coal ash pile is the source of nickel impacts in sediment.

Building Sediment: Building sediment samples were collected as a general indicator of potential contaminants previously used within the Power Plant. The following conclusions were reached based upon the results of the building sediment sampling conducted:

- DRO, ORO, PCBs, PAHs, and four metals (arsenic, cadmium, copper, and lead) are considered primary COCs associated with the Site that are sourced from within the Power Plant.
- The elevated concentrations for DRO, ORO, and PAHs are likely attributed to fuel, lubricants, and oil used in equipment and machinery at the Power Plant.
- The elevated levels of PCBs (Aroclor 1260) are likely sourced from PCB-containing oil used in equipment and machinery at the Power Plant such as in the pad transformers observed in the basement, compressors, fuel systems, hydraulic systems, turbines, etc.
- While not an exceedance, the detection for PCE is of note as it indicates the possibility of PCE used during Power Plant operations such as in cleaning solvents equipment/parts washing fluids.

Drum Hazard Classification: Results of the hazard classification conducted indicates:

- Four (4) waste streams could be generated.
- Results for thirty (30) of the thirty-three (33) drums accessible to be screened by START indicated used oil was the drum content material.
- Multiple drums remain on-site that were unable to be assessed by START.
- While none of the drums sampled contained chlorinated/halogenated compounds, it is possible that PCE compounds and/or other waste streams not identified by START are present in the other drums not sampled or had been contained, but subsequently released, by the empty drums at the Site.

Asbestos-Containing Material (ACM): Five buildings were assessed for ACM: Power Plant, Shop, Little House, Trailer, and Barn. In addition, exterior surface soil samples were collected to determine if asbestos fibers from within the Power Plant have migrated. Of the 111 samples submitted for laboratory analysis, 75 samples were "positive" (>1% asbestos) for asbestos (Table 1). The following table indicates the locations and estimated extents of ACM at the Site.

Power Plant		
ACM	**Estimated Extent**	**Location**
Boiler Insulation	150 sq. ft.	Detroit Stoker
Brick Caulk	50 LF	Heine Boiler
Brick Plaster	1,000 sq. ft.	Heine Boiler
Door Insulation	5 sq. ft.	Steam Boiler Unit
Electrical Panel	1 panel	South Turbine Room
Equipment Jackets	4,330 sq. ft.	Throughout Building
Fiberboard	1,500 sq. ft.	South Rooms
Fire Brick	10 sq. ft.	2nd Level Catwalk
Fire Doors	3 Doors	South Rooms
Furnace Bricks and Cement	6,000 sq. ft.	Boilers
Insulation Debris	1,380 cu. ft.	Throughout Building
Pipe Flange Gaskets	200 Gaskets	Throughout Building
Pipe Insulation	1,420 LF	Throughout Building
Pipe Joints	356 Joints	Throughout Building
Plaster[1]	5,850 sq. ft.	Main Turbine Rooms
Roofing Material – Silver Coating	13,500 sq. ft.	Roof
Wire Insulation	50 LF	5th Level Catwalk
Barn		
ACM	**Estimated Extent**	**Location**
Fiberboard	80 sq. ft.	Loft
Manhole Gasket	14 rolls	Main Level
Pipe Insulation	2 boxes	Main Level and Loft
Shop		
ACM	**Estimated Extent**	**Location**
Asbestoline and Fireite	2 gallons	Loft
Brake Pad	3 pads	Main Level
Covering	5 LF	Main Level

Packing/Gasket	8 rolls and 3 gaskets	Main Level
Roofing Material - Tar	110 LF	Roof
Little House		
ACM	**Estimated Extent**	**Location**
Linoleum	80 sq. ft.	Main Level

Notes:
[1] = insulation debris attached to the plaster was found to be ACM
cu. ft. = cubic feet
LF = linear feet
sq. ft. = square feet

Exterior Soils		
Sample ID	**Asbestos Type (% Composition)**	**Location**
APP-SO01-ACM	Chrysotile (Trace)	Beneath pipe insulation debris tote
APP-SO02-ACM	Chrysotile (Trace)	Northwest door
APP-SO03-ACM	Chrysotile (Trace)	Southeast door
APP-SO04-ACM	Chrysotile (Trace)	Northeast door

Based on the results of the ACM survey, asbestos is present throughout the Power Plant as well as in the Barn, Shop, and Little House. The presence of trace amounts of asbestos in exterior surface soils located outside the door of the Power Plant indicates friable asbestos fibers are migrating beyond the walls of the Power Plant building. ACM is considered to be a COC in relation to the Site.

Lead-Based Paint (LBP): Five buildings were assessed for LBP: Power Plant, Shop, Little House, Trailer, and Barn. Of the 96 X-ray fluorescence (XRF) readings collected, 31 readings were "positive" (>1 milligrams per square centimeter [mg/cm^2]) for lead (Table 2). The following table indicates the location, current surface paint color, and estimated extents of LBP.

Power Plant		
Location	**Current Surface Paint Color**	**Estimated Extent**
Exterior		
Door	Green	170 sq. ft.
Door Frame	Green	100 LF
Window Sash	Green	2,350 LF
Interior		
Door	Brown	50 sq. ft.
	Dark Brown	100 sq. ft.

Power Plant		
Location	**Current Surface Paint Color**	**Estimated Extent**
	Green	25 sq. ft.
	White	25 sq. ft.
Wall	Cream	1,200 sq. ft.
	Dark Brown	650 sq. ft.
	White	3,000 sq. ft.
Window Frame	White	1,000 LF
Barn		
Location	**Current Surface Paint Color**	**Estimated Extent**
Exterior		
Door	Green	150 sq. ft.
Door Jamb	Green	30 LF
Interior		
Door	Green	230 sq. ft.
Shop		
Location	**Current Surface Paint Color**	**Estimated Extent**
Exterior		
Door	Green	150 sq. ft.
Trim	Green	60 LF
Window Sash	Green	720 LF
Interior		
Door	Green	230 sq. ft.
Trailer		
Location	**Current Surface Paint Color**	**Estimated Extent**
Exterior		
Wall	Dark Brown	60 sq. ft.
Little House		
Location	**Current Surface Paint Color**	**Estimated Extent**
Exterior		
Wall	White	150 sq. ft.

Notes:

LF = linear feet
sq. ft. = square feet

Based on the XRF results, elevated lead concentrations are present on door components, window components, walls, and/or trim in all five buildings at the Site (Figures 3 – 14). Although there were positive readings on building exterior surfaces, no bare soils were present around the locations of the readings. Therefore, lead impacts to surface soil were not evaluated. LBP is considered to be a COC at the Site.

Polychlorinated biphenyls (PCBs), Mercury, and Mold

Visual inspections were conducted to identify possible polychlorinated biphenyl (PCB)-containing equipment, mercury-containing equipment, and mold**.** A summary of the observations regarding the visual inspections conducted are presented below:

- Of the light ballasts observed, potential PCB-containing ballasts were only identified in the Barn and Maintenance Shop. None of the light fixtures observed in the buildings appeared to be leaking fluids. Additionally, five transformers which are currently or have previously leaked in the past, are believed to have PCBs present as indicated in building sediment sample results (WESTON, 2017c). PCBs are also assumed to be present in lubrication oils and grease of the coal delivery system, compressed air lines, boilers, ash handling systems, and switch gears (GEI, 2000). PCBs are considered COCs in relation to the Site.
- One mercury thermostat switch was observed in the Trailer at the Site. Mercury is considered a COC in relation to the Site.

Mold was encountered throughout the Power Plant and in the Barn at the Site. Mold is considered a COC in relation to the Site.

1.2 Proposed Future Use of Site

Exact redevelopment plans are not known at this time, but the Sheridan County Conservation District (SCCD) is interested in cleaning up the property as part of water quality improvement efforts in the Tongue River Watershed.

2.0 VOLUNTARY REMEDIATION PROGRAM

2.1 Site Enrollment in VRP

Wyoming's Voluntary Remediation Program (VRP) allows participants to voluntarily investigate possible contamination at their site and clean it up, if necessary. The process established under the VRP provides a system for negotiating and establishing appropriate cleanup activities for a given piece of property, resulting in an assurance from the Wyoming Department of Environmental Quality (DEQ) about the extent of liability for environmental cleanup at the property.

Once DEQ confirms the Site is eligible for the VRP, the voluntary remediation process would begin. At most sites, the first step in the cleanup process is to publish an initial public notice to notify people about your site and to determine if there is significant public interest. Based on the amount of public interest, if necessary, you will develop a site-specific public participation plan. The next step, generally, is to negotiate a preliminary remediation agreement (PRA) with DEQ. The PRA will establish the specific activities needed to investigate and characterize contamination at the site and, if necessary, to evaluate potential remediation alternatives. The scope of the PRA will likely build upon the results of the TBA Phase II ESA; however, additional assessment activities beyond the scope of work and recommendations of the TBA Phase II ESA will be required based upon the site-specific Data Quality Objectives (DQOs) developed to further investigate the Site. Additional DEQ requirements after enrollment may include:

- Petition of the local government for a Use Control Area designation then determining if site-specific industrial standards for soil and groundwater are to be used as cleanup levels.
- Evaluation of remedy alternatives in accordance with VRP process. VRP requires that remedies be evaluated for residential cleanup for comparison purposes prior to development and site-specific cleanup levels, especially if a Use Control Area designation will be pursued.
- An ecological exclusion/screening assessment.
- Installation of a permanent groundwater monitoring well network to further assess groundwater impacts.
- Evaluation of potential residential exposure to contaminants and comparison of water results to Wyoming DEQ drinking water standards.
- Further investigation to better define extents of contamination found in composite grid samples such as discrete sampling to define "hot spot" areas.
- Additional evaluation of sub-surface soils at the Site.

- Additional Tongue River sediment sample collection.
- Additional sampling of surrounding and up-gradient locations to assess potential off-site sources of contamination and establish native background levels (e.g., site-specific metal background threshold values [BTVs])
- Additional sampling to address data gaps as required by the WDEQ VRP (to be determined after enrollment).
- Additional assessment of the drums including collection of samples for laboratory analysis. Samples will be required from the waste disposal contractor in order to remove the drums from the Site during cleanup stage of redevelopment.
- Lead paint chip samples and/or Toxicity Characteristic Leaching Procedure (TCLP) samples to confirm XRF results for cleanup decisions.
- Transmission electron microscopy (TEM) sample analysis to confirm asbestos results.
- Confirmation of the absence of PCBs in light ballasts prior to disposal.
- Coordination with Wyoming DEQ Asbestos Program to determine remediation options and develop plan to address ACM and asbestos in soils.

Specific action items (e.g., future assessment and remediation activities) will be determined and coordinated directly with the State after enrollment and acceptance in the VRP. Action items may or may not concur with the recommendations provided in the TBA Phase II ESA report.

As the scope of site-specific requirements are not determined prior to acceptance in the VRP, estimation of costs cannot be determined at this time. Under the VRP, Volunteers pay DEQ oversight costs. An initial $550 application fee is required when submitting the application. The $550 application fee will cover the first ten hours of DEQ oversight. Additional DEQ oversight will be billed at a rate of $55 per hour and will be invoiced monthly. Additional information and the VRP application form can be found in **FACT SHEET # 3 Application for the Voluntary Remediation Program** (Attachment A).

2.2 Site Path Forward without VRP Enrollment

If the Site is not enrolled in the VRP, the Site must meet the protective cleanup standards established under Wyoming statutes and regulations (i.e., residential standards). Cleanup standards are addressed in **FACT SHEET #21 Remedy Selection**. Information about the cleanup levels necessary to meet those standards is included in several fact sheets, including **FACT SHEET #12 Soil Cleanup Levels, FACT SHEET #13 Groundwater Cleanup Levels**, and the supporting technical memoranda that accompany **FACT SHEET #19 Ecological Risk Assessment - Steps 3 & 4**. Calculation of site-specific cleanup levels are only available under the VRP. Fact sheets can be found on DEQ's website (http://deq.wyoming.gov/shwd/voluntary-remediation-program/resources/fact-sheets/).

The TBA Phase II ESA compared Site surface soil results against both EPA and DEQ residential and industrial standards. Comparison of results against the industrial standards would not be accepted. In addition, all soil sample results had several metals, VOCs, and/or SVOCs with results reported that only exceed the DEQ Migration to Groundwater Cleanup Levels. Though concentrations for some COCs may be within site-specific background levels (e.g., metals) and/or COCs are not in contact with or leaching to groundwater, cleanup level of soils to Migration to Groundwater Cleanup Levels would be required.

2.3 Recommendation

Pending future site use, cleanup to residential standards including migration to groundwater levels may not be feasible or cost-effective. Considering the sample results reported in the TBA Phase II ESA, development of site-specific cleanup levels (e.g., background threshold values [BTVs], industrial soil and groundwater cleanup levels, migration to groundwater levels) may be necessary to efficiently and cost-effectively achieve site closure. For these reasons, enrollment in the VRP is recommended to establish appropriate cleanup activities to ensure the extent of liability for environmental cleanup at the property.

3.0 HAZARDOUS BUILDING MATERIAL COST ESTIMATES FOR CLEANUP

Presented below are the conceptual costs (not intended for budgetary estimates) to remediate hazardous building materials identified at the Site. Conceptual costs were determined based upon information obtained from *RS Means Building Construction Cost Data 2017* (RS Means, 2017). Actual bids from companies to perform the work may vary from this estimate depending on local conditions and other factors outside of the assessor's knowledge. Final design specifications, features, and cost of the actual remedy will need to be developed by a certified contractor prior to beginning cleanup and may differ from the conceptual design presented.

Remediation methods selected for COCs used to estimate these conceptual costs are: 1) abatement and disposal of all ACM; and 2) removal and disposal of LBP as building demolition debris. Additional remediation options may be available as a result of discussion with DEQ.

3.1 ACM Remediation

Prior to any asbestos work conducted at the Site, the Wyoming DEQ Asbestos Program must be contacted. Additional requirements beyond those identified in this cost estimate may be required. After coordination with the DEQ Asbestos Program to determine the remedial actions appropriate, START recommends contracting accredited remediation companies to conduct site-specific remediation planning and implementation to address ACM at the Site during the cleanup phase of redevelopment. The following table summarizes the estimated conceptual costs to abate and dispose of the ACM in order to mitigate current and/or future exposure risk. A detailed cost estimate breakdown is presented on Table 4.

Contaminant Remediation Tasks	Remediation Cost
ACM Abatement and Disposal	$364,341.26
20% Contingency	$72,868.25
Total	**$437,209.51**

Assumptions made when creating the cost estimate include:

- All ACM will be removed and disposed of from the Site (none will be left in place).
- For ACM identified on the exterior, it is not anticipated that polyethylene sheeting or separation barriers are necessary.
- ACM debris would be hauled to an asbestos landfill in Casper, WY.

3.2 LBP Remediation

Prior to any LBP work conducted at the Site, the Wyoming DEQ Solid and Hazardous Waste Division (SHWD) must be contacted. LBP waste at the Site is subject to the State Hazardous

Waste Rules and Regulations (HWRR). Additional requirements beyond those identified in this cost estimate may be required. After coordination with DEQ SHWD to determine the remedial actions appropriate, START recommends contracting accredited remediation companies to conduct site-specific remediation planning and implementation to address LBP at the Site during the cleanup phase of redevelopment. It is recommended that LBP procedures and regulations applicable to remediation project design and implementation in the DEQ SHWD Lead-Based Paint Waste Management Guide (Attachment B) be followed, as applicable. An EPA Lead-Safe certified firm would be recommended. The following table summarizes the estimated conceptual costs to conduct TCLP testing for LBP disposal associated with the five (5) buildings at the Site. A detailed breakdown is presented in Table 4.

Contaminant Remediation Tasks	Remediation Cost
TCLP Samples (Estimated 10 Samples)	$1,500.00
20% Contingency	$300.00
Total	**$1,800.00**

Assumptions made when creating the cost estimate include:

- TCLP samples of demolition debris will be collected from all five (5) buildings where LBP was identified.
- Results of the TCLP samples will indicate waste leachate extract contains less than 5.0 milligrams per liter (mg/L) non-hazardous waste disposal is acceptable.

3.3 Hazardous Building Material Cost Estimate for Cleanup Total

Actual bids from companies to perform the work may vary from this estimate depending on state requirements, local conditions, and other factors outside of the assessor's knowledge. Final design specifications, features, and cost of the actual remedy may differ from the conceptual design presented. The following table summarizes the total estimated conceptual costs to remove and dispose of all ACM and conduct LBP testing for disposal at the Site.

Task Description	Estimated Cost
ACM Abatement and Disposal	$437,209.51
TCLP Samples (Estimated 10 Samples)	$1,800.00
Total Estimated Cost for All Buildings	**$439,009.51**

4.0 REFERENCES

D.D. MacDonald, C.G. Ingersoll, T.A. Berger, 2000. Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems. January 2000.

Citation	Reference Type	Assessment Factor				
		Soundness	Applicability and Utility	Clarity and Completeness	Uncertainty and Variability	Evaluation and Review
D.D. MacDonald, C.G. Ingersoll, T.A. Berger, 2017	Document	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

EPA, 2017. Technical Direction Document (TDD) 0003/1609-07.

Citation	Reference Type	Assessment Factor				
		Soundness	Applicability and Utility	Clarity and Completeness	Uncertainty and Variability	Evaluation and Review
EPA, 2016	Guidance	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

RS Means, 2017. *Building Construction Cost Data 75th Annual Edition.* Norwell, Massachusetts.

Citation	Reference Type	Assessment Factor				
		Soundness	Applicability and Utility	Clarity and Completeness	Uncertainty and Variability	Evaluation and Review
RS Means, 2017	Guidance	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

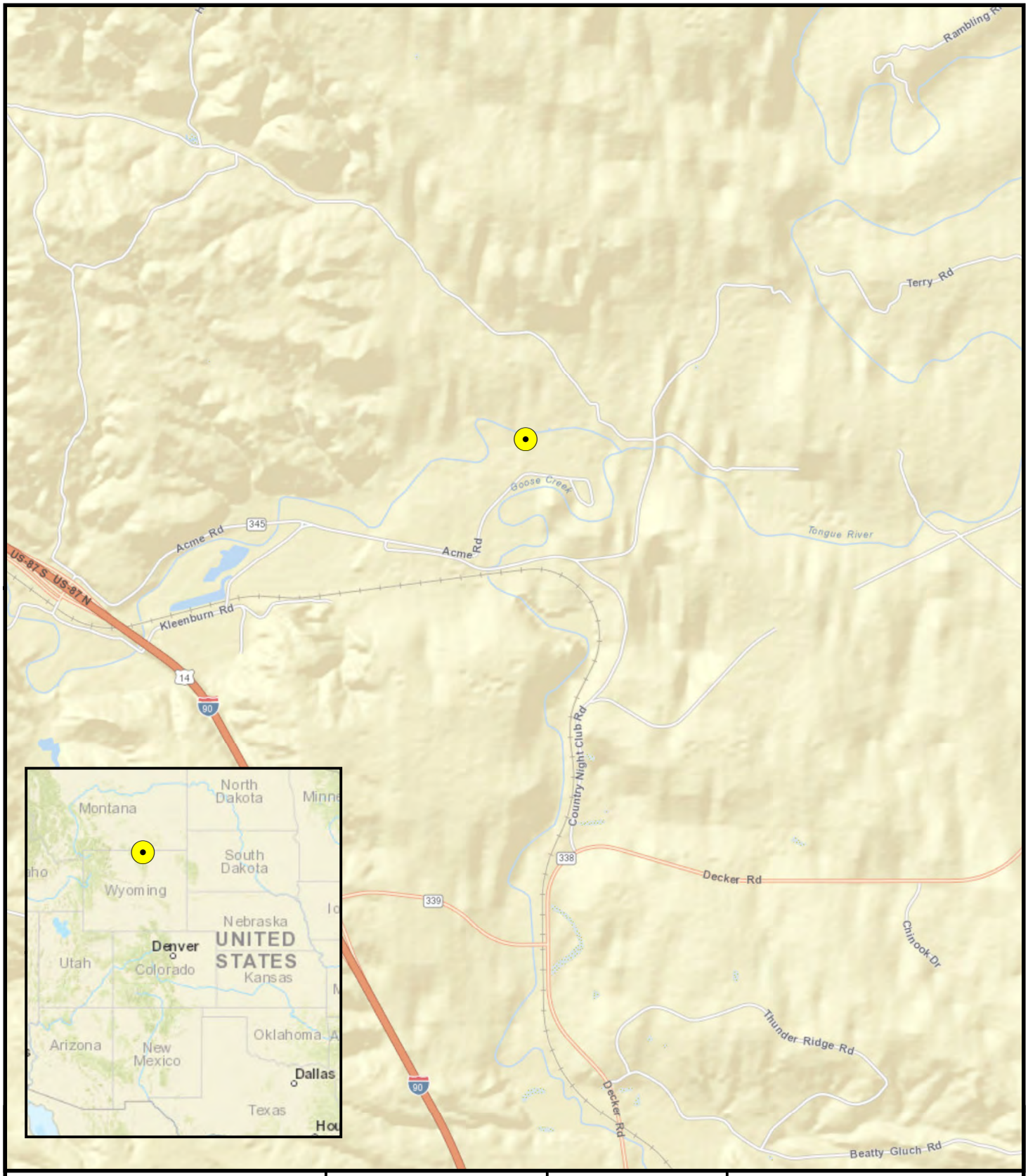
WESTON, 2017a. *Phase II Environmental Site Assessment for Acme Power Plant, 165 Acme Road, Sheridan, Sheridan County, Wyoming.* October 2017.

Citation	Reference Type	Assessment Factor				
		Soundness	Applicability and Utility	Clarity and Completeness	Uncertainty and Variability	Evaluation and Review
WESTON, 2017a	Document	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

WESTON, 2017b. *Phase II Environmental Site Assessment for Acme Power Plant Hazardous Building Materials, 165 Acme Road, Sheridan, Sheridan County, Wyoming.* October 2017.

Citation	Reference Type	Assessment Factor				
		Soundness	Applicability and Utility	Clarity and Completeness	Uncertainty and Variability	Evaluation and Review
WESTON, 2017b	Document	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable

FIGURES



Legend

Site Location

0 0.275 0.55 1.1 Miles

N

Prepared for:
U.S. EPA Region 8

Contract No.:
EP-S8-13-01

TDD:
1609-07

TO:
0003

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START IV

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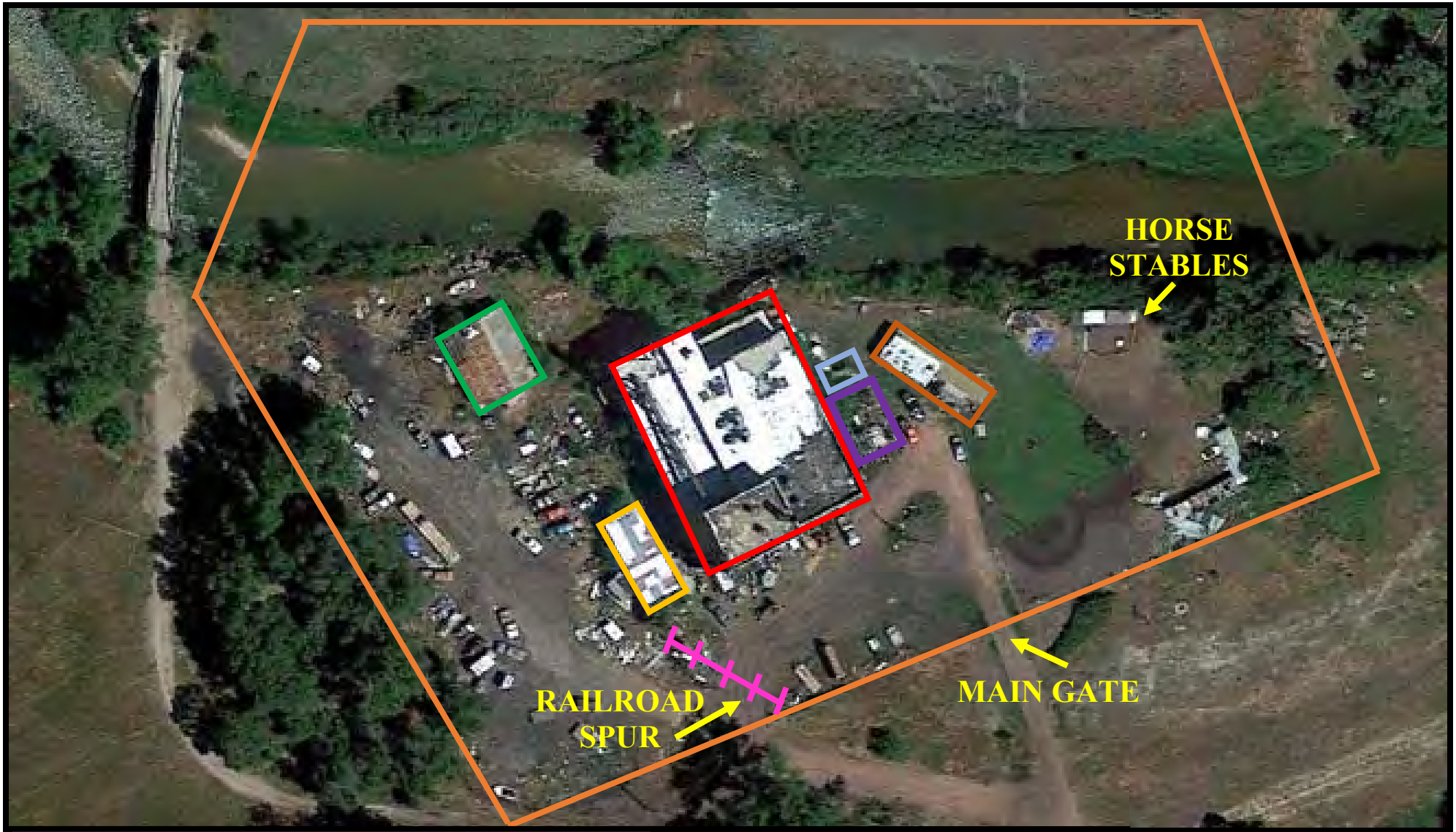
Lakewood, CO 80215

FIGURE 1
SITE LOCATION MAP
ACME POWER PLANT
SHERIDAN, WYOMING

Date: 12/21/2016



Legend

- Site Boundary
- Power Plant
- Transformer Pad
- Maintenance Shop
- Barn
- Trailer Home
- Little House

Scale: 0 50 100 Feet

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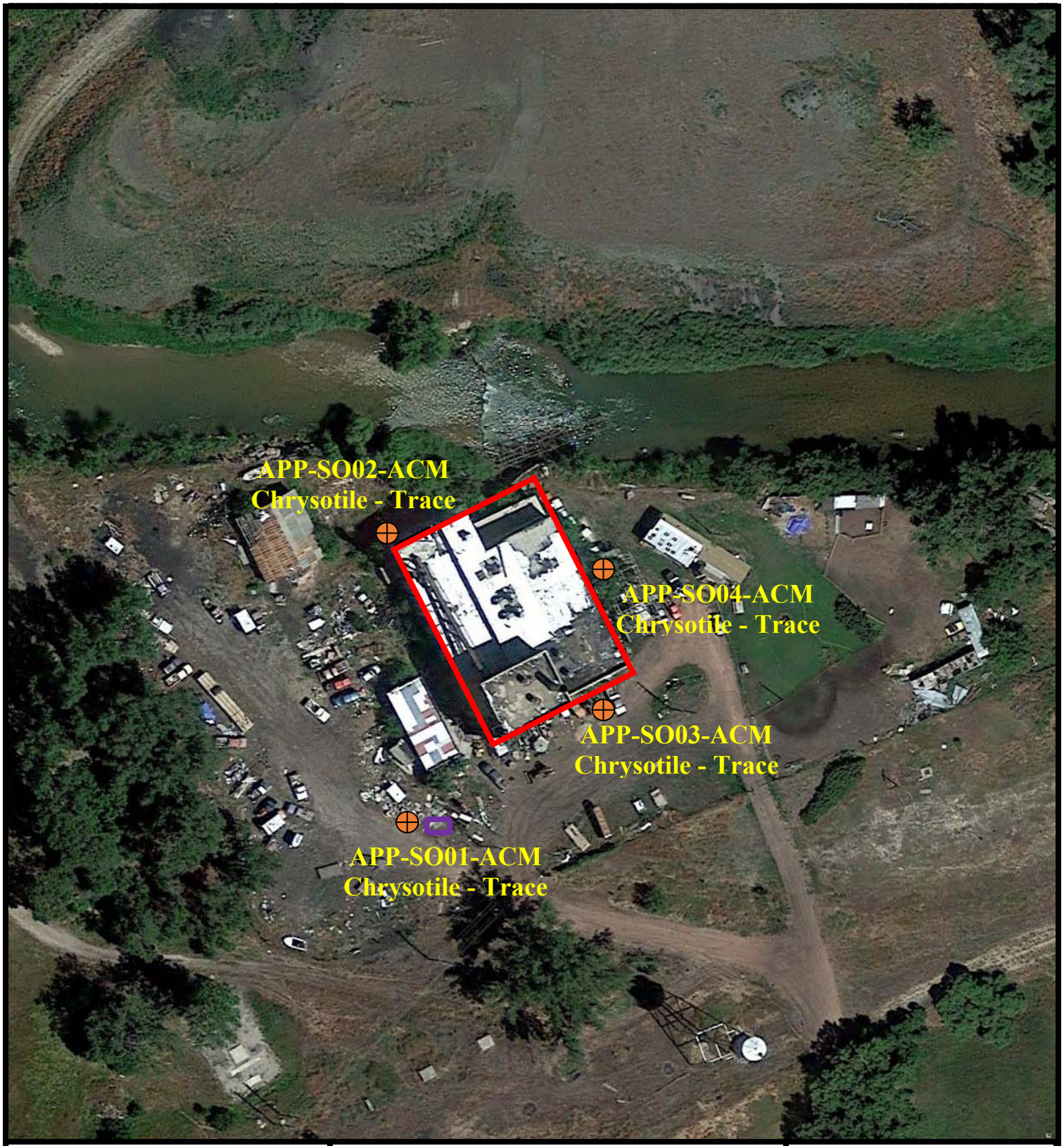
FIGURE 2
SITE FEATURES MAP
ACME POWER PLANT
SHERIDAN COUNTY, WYOMING

DATE: 4/17/2017



Legend

- Power Plant
- Asbestos Soil Sample
- Pipe Insulation Debris

0 50 100 Feet

N

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Contract No.:
EP-S8-13-01

TDD:
1609-07

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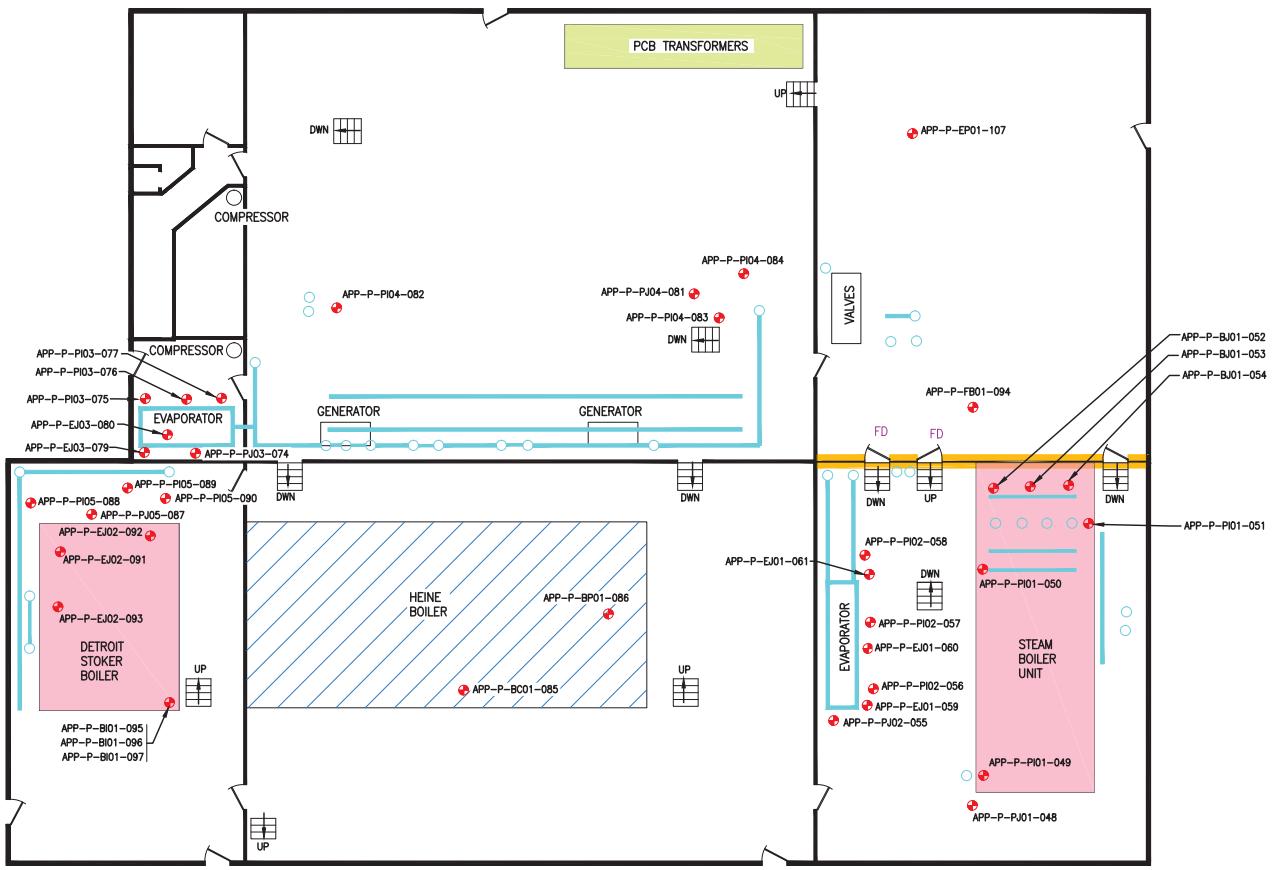
Lakewood, CO 80215

FIGURE 3
ACM SOIL SAMPLE MAP
ACME POWER PLANT
SHERIDAN COUNTY, WYOMING

DATE: 6/23/2017



Contract No.:
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TDD: 1609-07
TO: 0003

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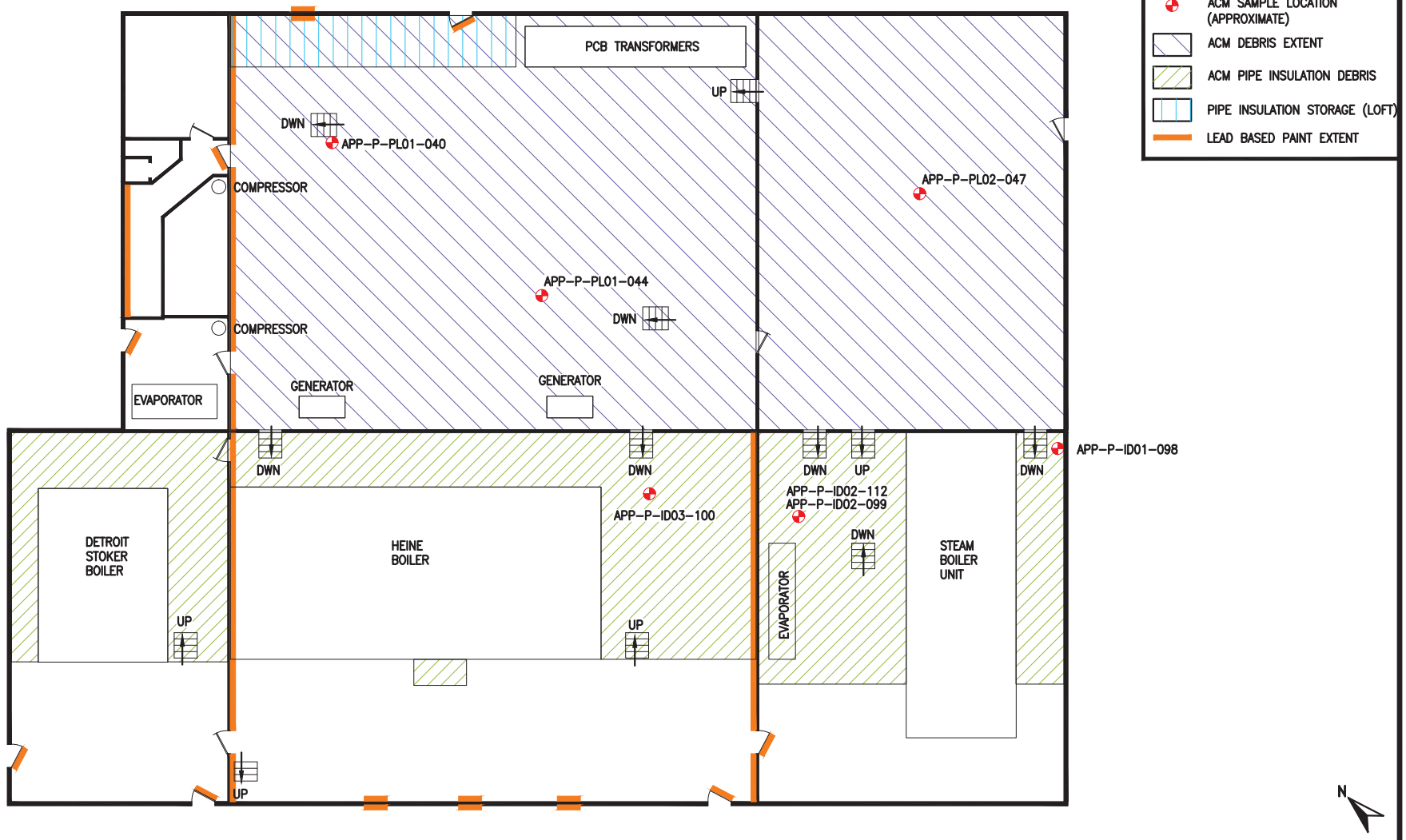
ACM SAMPLE LOCATION AND EXTENT MAP
ACME POWER PLANT
MAIN LEVEL
HAZARDOUS BUILDING MATERIAL SURVEY

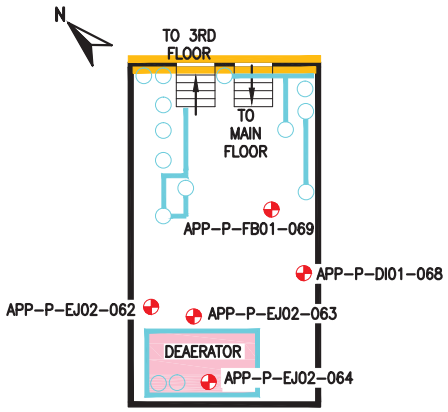
DATE: 06/26/17

SCALE: 1"=15'

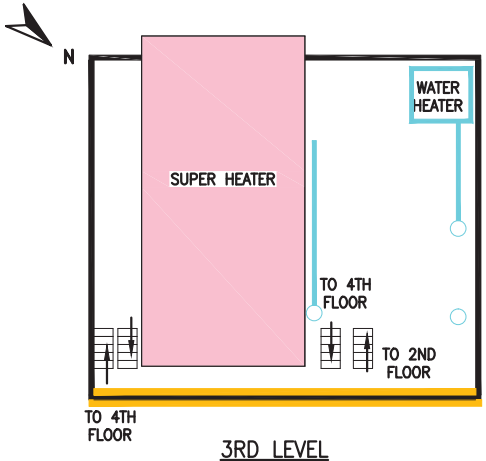
Figure 4



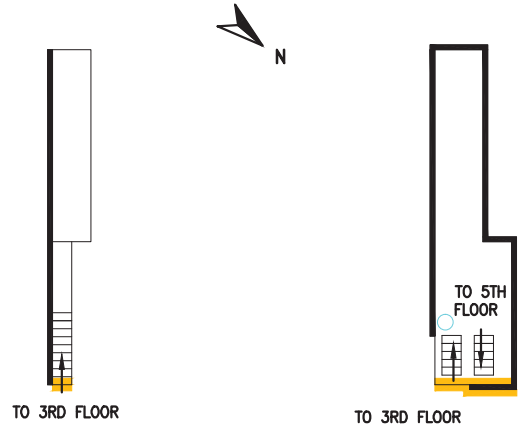
Contract No.: EP-S8-13-01 TDD: 1609-07 TO: 0003	Prepared By: Weston Solutions, Inc. START IV Suite 100 1435 Garrison Street Lakewood, CO 80215	ACM AND LBP SAMPLE LOCATION AND EXTENT MAP ACME POWER PLANT MAIN LEVEL HAZARDOUS BUILDING MATERIAL SURVEY	DATE: 06/26/17 SCALE: 1"= 20'	Figure 5



2ND LEVEL



3RD LEVEL



4TH LEVEL

LEGEND:

ACM	ASBESTOS CONTAINING MATERIAL
	ACM SAMPLE LOCATION (APPROXIMATE)
	ACM GENERATOR, BOILER OR WATER HEATER JACKET.
	ACM FIBERBOARD EXTENT
	ACM HORIZONTAL PIPE RUNS (APPROXIMATE)
	ACM VERTICAL PIPE RUN (APPROXIMATE)

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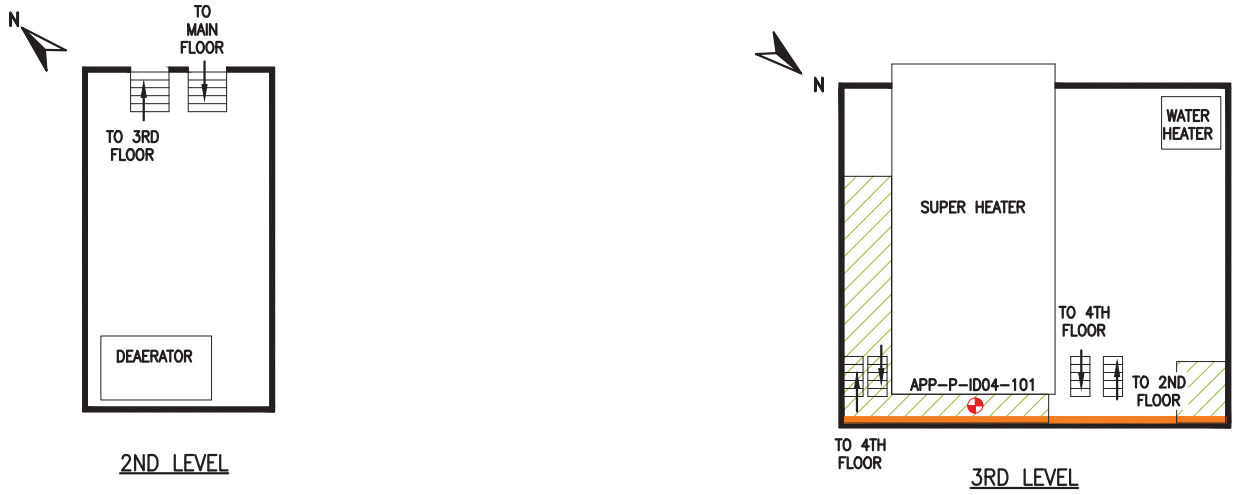
Lakewood, CO 80215

ACM SAMPLE LOCATION AND EXTENT MAP
ACME POWER PLANT
CATWALKS
HAZARDOUS BUILDING MATERIAL SURVEY

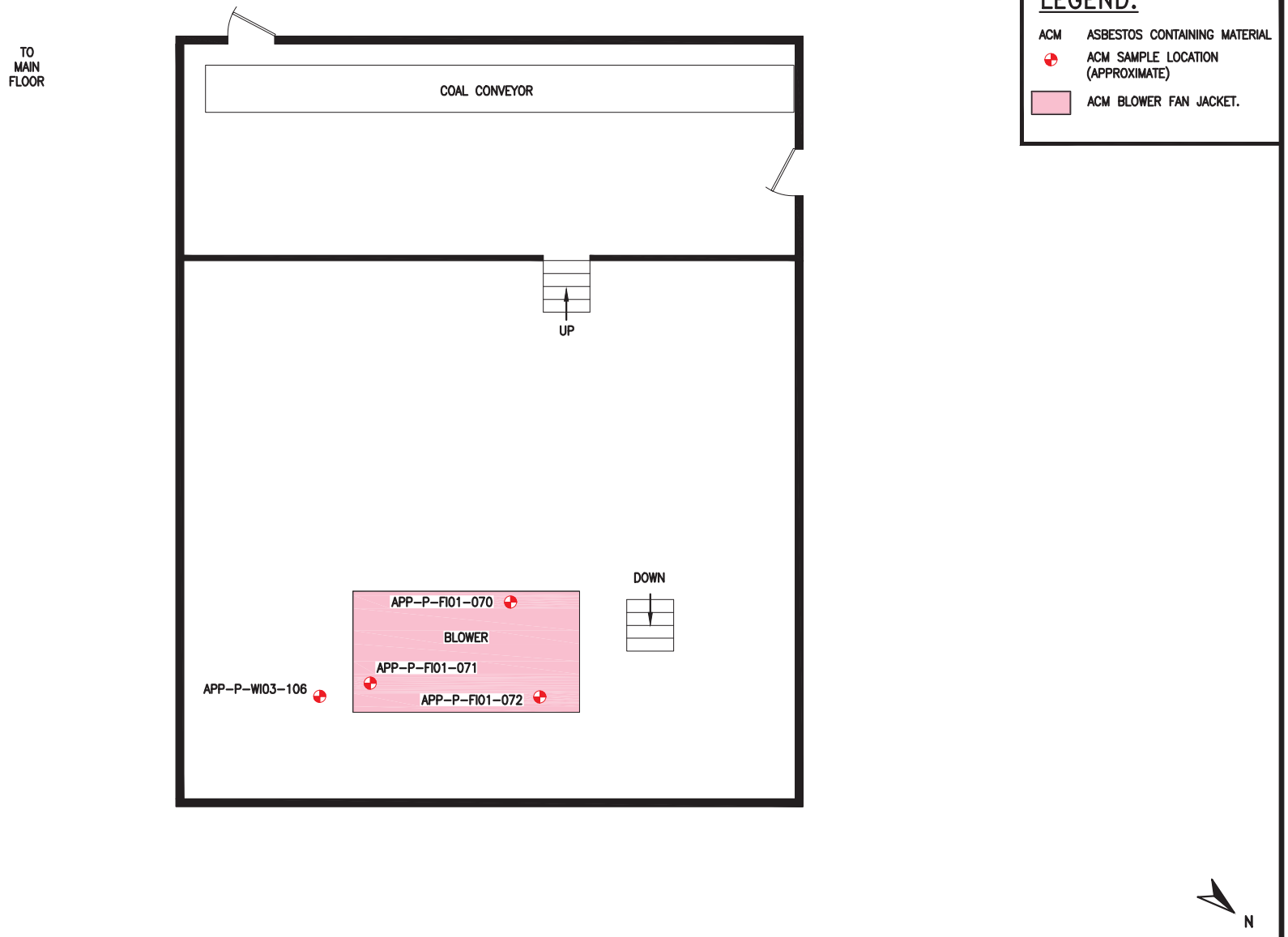
DATE: 06/26/17

SCALE: 1"= 20'

Figure 6



Contract No.: EP-S8-13-01 TDD: 1609-07 TO: 0003	Prepared By: Weston Solutions, Inc. START IV Suite 100 1435 Garrison Street Lakewood, CO 80215	ACM AND LBP SAMPLE LOCATION AND EXTENT MAP ACME POWER PLANT CATWALKS HAZARDOUS BUILDING MATERIAL SURVEY	DATE: 06/26/17 SCALE: 1"= 20'	Figure 7



Contract No.: EP-S8-13-01 TDD: 1609-07 TO: 0003	Prepared By: Weston Solutions, Inc. START IV Suite 100 1435 Garrison Street Lakewood, CO 80215	ACM SAMPLE LOCATION AND EXTENT MAP ACME POWER PLANT 5TH LEVEL HAZARDOUS BUILDING MATERIAL SURVEY	DATE: 06/26/17 SCALE: 1"= 10'	Figure 8

LEGEND:

ACM	ASBESTOS CONTAINING MATERIAL
	ACM SAMPLE LOCATION (APPROXIMATE)
	ACM ROOFING MATERIAL EXTENT

N

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Prepared By:
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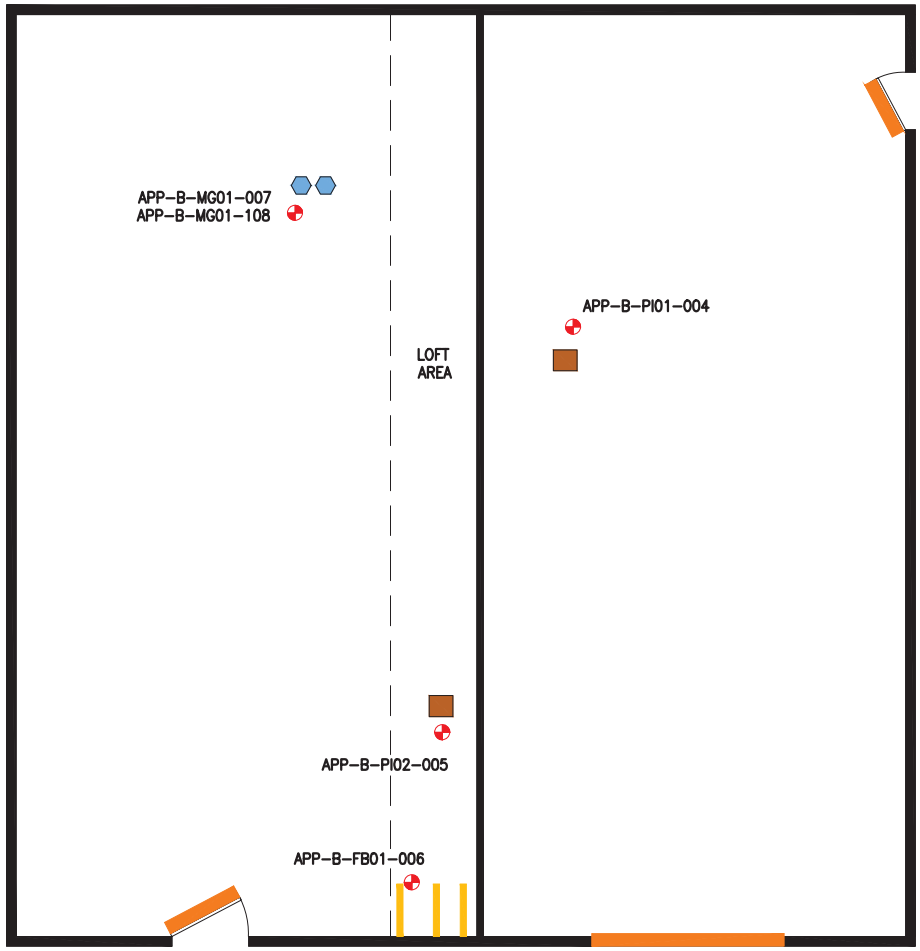
Lakewood, CO 80215

ACM SAMPLE LOCATION AND EXTENT MAP
ACME POWER PLANT
ROOF
HAZARDOUS BUILDING MATERIAL SURVEY

DATE:
06/26/17

SCALE:
1"= 20'

Figure
9



LEGEND:

ACM	ASBESTOS CONTAINING MATERIAL
LBP	LEAD BASED PAINT
	ACM SAMPLE LOCATION (APPROXIMATE)
	BOX OF ACM PIPE INSULATION
	ACM MANHOLE GASKET
	ACM FIBERBOARD
	LEAD BASED PAINT EXTENT

N

Contract No.:
EP-S8-13-01
TDD: 1609-07
TO: 0003

Prepared By:
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1435 Garrison Street
Lakewood, CO 80215

ACM AND LBP SAMPLE LOCATION AND EXTENT MAP
ACME POWER PLANT
BARN
HAZARDOUS BUILDING MATERIAL SURVEY

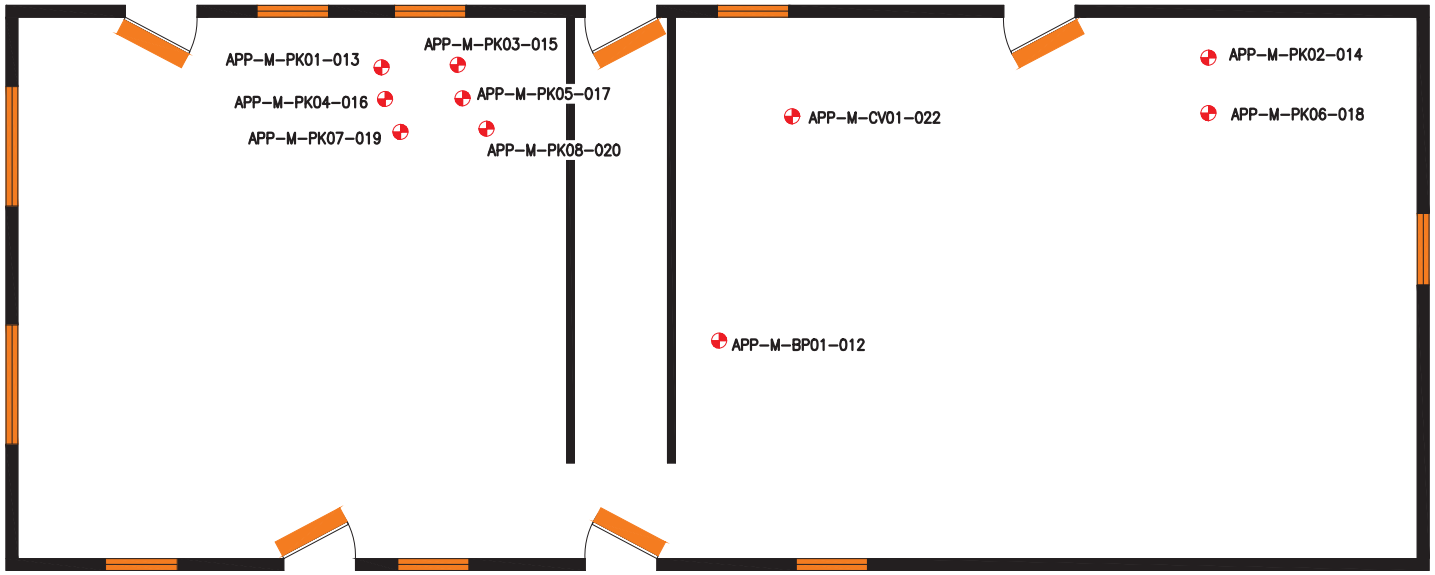
DATE:
06/26/17

SCALE:
1"=10'

Figure
10

LEGEND:

ACM	ASBESTOS CONTAINING MATERIAL
LBP	LEAD BASED PAINT
⊕	ACM SAMPLE LOCATION (APPROXIMATE)
▬	LEAD BASED PAINT EXTENT



N

Contract No.:
EP-S8-13-01
TDD: 1609-07
TO: 0003

Prepared By:
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START IV
Suite 100
1435 Garrison Street
Lakewood, CO 80215

ACM AND LBP SAMPLE LOCATION AND EXTENT MAP
ACME POWER PLANT
SHOP
HAZARDOUS BUILDING MATERIAL SURVEY

DATE: 06/26/17

SCALE: 1"= 8'

Figure 11

LEGEND:

ACM	ASBESTOS CONTAINING MATERIAL
LBP	LEAD BASED PAINT
	ACM SAMPLE LOCATION (APPROXIMATE)
	ACM ROOFING TAR
	LEAD BASED PAINT TRIM EXTENT

N

Contract No.:
EP-S8-13-01
TDD: 1609-07
TO: 0003

Prepared By:
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START IV
Suite 100
1435 Garrison Street
Lakewood, CO 80215

ACM AND LBP SAMPLE LOCATION AND EXTENT MAP
ACME POWER PLANT
SHOP – ROOF
HAZARDOUS BUILDING MATERIAL SURVEY

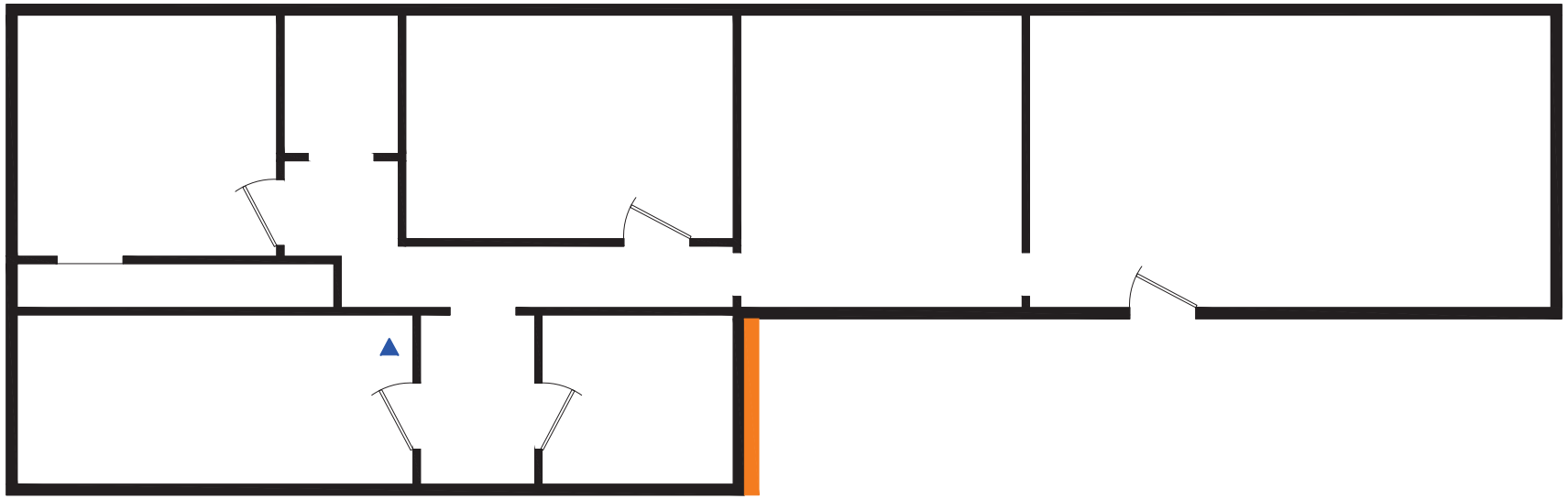
DATE: 06/26/17

SCALE: 1"= 8'

Figure 12

LEGEND:

LBP	LEAD BASED PAINT
	LEAD BASED PAINT EXTENT
▲	MERCURY CONTAINING THERMOSTAT



N

Contract No.:
EP-S8-13-01
TDD: 1609-07
TO: 0003

Prepared By:
Weston Solutions, Inc.
START IV
Suite 100
1435 Garrison Street
Lakewood, CO 80215

LBP SAMPLE LOCATION AND EXTENT MAP
ACME POWER PLANT
TRAILER
HAZARDOUS BUILDING MATERIAL SURVEY

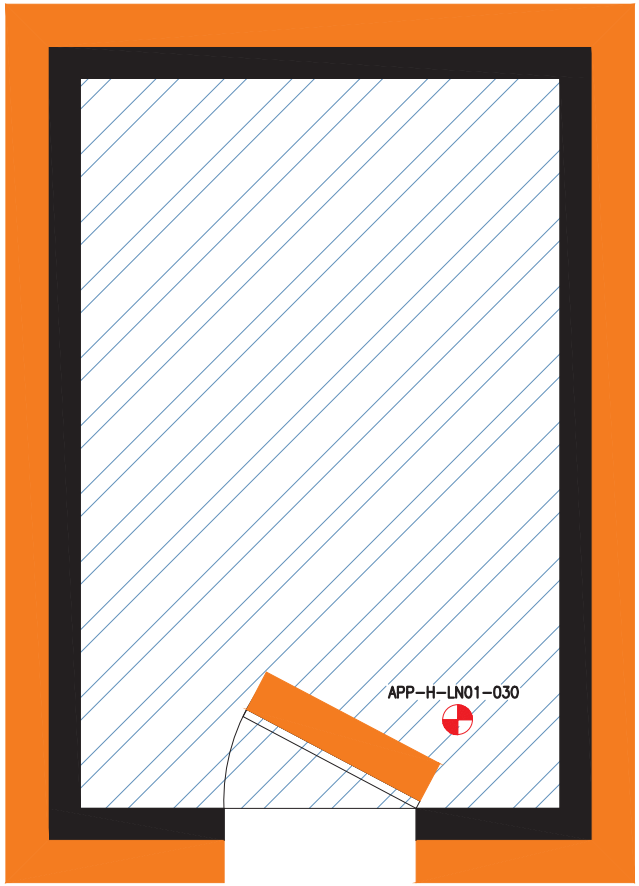
DATE:
06/26/17

SCALE:
1"= 8'

Figure
13

LEGEND:

ACM	ASBESTOS CONTAINING MATERIAL
LBP	LEAD BASED PAINT
	ACM SAMPLE LOCATION (APPROXIMATE)
	ACM LINOLEUM EXTENT
	LEAD BASED PAINT (ASSUMED)



N

Contract No.:
EP-S8-13-01
TDD: 1609-07
TO: 0003

Prepared By:
Weston Solutions, Inc.
START IV
Suite 100
1435 Garrison Street
Lakewood, CO 80215

ACM AND LBP SAMPLE LOCATION AND EXTENT MAP
ACME POWER PLANT
HOUSE
HAZARDOUS BUILDING MATERIAL SURVEY

DATE: 06/26/17

SCALE: 1"= 3'

Figure 14

TABLES

Table 1
ACM Sample Results and Estimated Volumes

Sample ID	Physical Description	ACM Layer	Asbestos Type and Percent Composition (by PLM Method)	Point Count Method Result	Estimated Volume
Barn					
APP-B-PI01-004	Pipe Insulation	A - Light pink/off white fibrous plaster	Amosite 13%	--	1 box
APP-B-PI02-005	Pipe Insulation	A - White fibrous plaster w/ black debris	Chrysotile 8% and Amosite 5%	--	1 box
APP-B-FB01-006	Fiberboard	A - Tan fibrous material w/ black adhesive	Chrysotile Trace	--	80 sq. ft.
		B - Gray fibrous cementitious material	Chrysotile 12%	--	
APP-B-MG01-007	Manhole gasket	A - Blue/off white fibrous material	Chrysotile 80%	--	14 rolls
APP-B-MG01-108	Manhole gasket	A - Blue fibrous material	Chrysotile 70%	--	
Shop					
APP-M-RM01-009	Roofing Material	A - Black tar	Chrysotile 3%	--	110 LF
		B - Black tar	Chrysotile 12%	--	
APP-M-BP01-012	Brake Pad	A - Grayish-tan/black fibrous cementitious material w/ silver metallic material	Chrysotile 12%	--	3 pads
APP-M-PK01-013	Packing/Gasket	A - Silver fibrous material w/ black fibrous woven material	Chrysotile 65%	--	1 roll
APP-M-PK02-014	Packing/Gasket	A - White fibrous resinous material	Chrysotile 25%	--	3 units
APP-M-PK03-015	Packing/Gasket	A - White fibrous material w/ silver debris	Chrysotile 60%	--	1 roll
APP-M-PK04-016	Packing/Gasket	A - White fibrous resinous material w/ white fibrous woven material	Chrysotile 45%	--	1 roll
APP-M-PK05-017	Packing/Gasket	A - White fibrous resinous material	Chrysotile 55%	--	1 roll
APP-M-PK06-018	Packing/Gasket	A - Off white fibrous material w/ silver debris	Chrysotile 75%	--	2 rolls
APP-M-PK07-019	Packing/Gasket	A - Black fibrous resinous material	Chrysotile 40%	--	1 roll
APP-M-PK08-020	Packing/Gasket	A - Dark silver fibrous resinous material	Chrysotile 65%	--	1 roll
APP-M-CV01-022	Covering	A - White/off white fibrous material w/ gray debris	Chrysotile 40%	--	5 LF
Little House					
APP-H-LN01-030	Linoleum	B - Orange sheet vinyl w/ off white fibrous backing material	Chrysotile 25%	--	80 sq. ft.
Power Plant					
APP-P-PL01-040	Plaster	A - Brown fibrous debris	Chrysotile 40%	--	3,700 sq. ft.
APP-P-PL01-044	Plaster	A - Light pink fibrous plaster	Chrysotile 12% and Amosite 5%	--	
APP-P-PL02-047	Plaster	A - White/green fibrous debris	Chrysotile 65% and Amosite 15%	--	2,150 sq. ft.
APP-P-PJ01-048	Pipe Joint	A - White fibrous plaster w/ brown debris	Chrysotile 10% and Amosite 8%	--	80 joints
APP-P-PI01-049	Pipe Insulation	B - White fibrous plaster	Chrysotile 7% and Amosite Trace	--	310 LF
APP-P-PI01-050	Pipe Insulation	B - White fibrous plaster	Chrysotile 12% and Amosite 5%	--	
APP-P-PI01-051	Pipe Insulation	B - White fibrous plaster	Chrysotile 12% and Amosite 8%	--	
APP-P-BJ01-052	Boiler Jacket	B - Off white fibrous plaster	Chrysotile 12% and Amosite 8%	--	2,800 sq. ft.
APP-P-BJ01-053	Boiler Jacket	A - Off white fibrous plaster	Chrysotile 12% and Amosite 8%	--	
APP-P-BJ01-054	Boiler Jacket	B - Off white fibrous plaster	Chrysotile 12% and Amosite 8%	--	
		C - White fibrous plaster	Chrysotile 10% and Amosite 5%	--	
APP-P-PJ02-055	Pipe Joint	B - White fibrous plaster	Chrysotile 12% and Amosite 8%	--	120 joints
APP-P-PI02-056	Pipe Insulation	B - White fibrous plaster	Chrysotile 10% and Amosite 5%	--	400 LF
APP-P-PI02-057	Pipe Insulation	B - White fibrous plaster	Chrysotile 10% and Amosite 5%	--	
APP-P-PI02-058	Pipe Insulation	B - White fibrous plaster	Chrysotile 10% and Amosite 10%	--	
APP-P-EJ01-059	Evaporator Jacket	B - Light gray fibrous plaster	Chrysotile 15% and Amosite 5%	--	110 sq. ft.
APP-P-EJ01-060	Evaporator Jacket	B - Light gray fibrous plaster	Chrysotile 15% and Amosite 5%	--	
APP-P-EJ01-061	Evaporator Jacket	A - Light gray fibrous plaster	Chrysotile 15% and Amosite 5%	--	
APP-P-EJ02-062	Evaporator Jacket	A - White fibrous plaster	Chrysotile 15% and Amosite 5%	--	250 sq. ft.
		B - Brown fibrous material	Chrysotile 60%	--	
APP-P-EJ02-063	Evaporator Jacket	A - Brown fibrous material	Chrysotile 60%	--	
		B - White fibrous plaster	Chrysotile 3% and Amosite 15%	--	
APP-P-EJ02-064	Evaporator Jacket	A - White fibrous plaster	Chrysotile 3% and Amosite 15%	--	
		B - Gray fibrous material	Chrysotile 60%	--	
APP-P-DI01-068	Door Insulation	A - White fibrous woven material w/ brown/white coating	Chrysotile 75%	--	5 sq. ft.
APP-P-FB01-069	Fire Brick	A - Gray fibrous material	Chrysotile 50% and Amosite 3%	--	10 sq. ft.
		B - Pink fibrous plaster	Chrysotile 4% and Amosite 12%	--	

Table 1
ACM Sample Results and Estimated Volumes

Sample ID	Physical Description	ACM Layer	Asbestos Type and Percent Composition (by PLM Method)	Point Count Method Result	Estimated Volume
Power Plant					
APP-P-FI01-070	Fan Insulation	A - Gray fibrous material	Chrysotile 60%	--	380 sq. ft.
		B - White fibrous plaster	Chrysotile 7% and Amosite 13%	--	
APP-P-FI01-071	Fan Insulation	A - Gray fibrous material	Chrysotile 60%	--	
		B - White fibrous plaster	Chrysotile 3% and Amosite 27%	--	
APP-P-FI01-072	Fan Insulation	A - White fibrous plaster	Chrysotile 3% and Amosite 30%	--	
		B - Dark gray/black fibrous material	Chrysotile 10%	--	
		C - Gray fibrous material	Chrysotile 60%	--	
APP-P-RM01-073	Roofing Material	A - Silver resinous material	Chrysotile 2%	0.75	13,500 sq. ft.
		C - Black tar	Chrysotile 3%	2.25	
APP-P-PJ03-074	Pipe Joint	B - Gray fibrous material	Chrysotile 70%	--	100 joints
		C - White fibrous plaster	Chrysotile 3% and Amosite 15%	--	
APP-P-PI03-075	Pipe Insulation	B - Gray fibrous material	Chrysotile 65%	--	450 LF
		C - Pink fibrous plaster	Chrysotile 10% and Amosite 6%	--	
APP-P-PI03-076	Pipe Insulation	B - White fibrous plaster	Chrysotile 10% and Amosite 7%	--	
APP-P-PI03-077	Pipe Insulation	B - White fibrous plaster	Chrysotile 10% and Amosite 7%	--	
APP-P-EJ03-079	Evaporator Jacket	B - Gray fibrous material	Chrysotile 45%	--	130 sq. ft.
		C - White fibrous plaster	Chrysotile 10% and Amosite 7%	--	
APP-P-EJO3-080	Evaporator Jacket	B - Gray fibrous material	Chrysotile 70%	--	
		C - White fibrous plaster	Chrysotile 10% and Amosite 10%	--	
		D - Gray fibrous material	Chrysotile 45%	--	
APP-P-PJ04-081	Pipe Joint	A - White fibrous material w/ colorless adhesive	Chrysotile 75%	--	50 Joints
APP-P-PI04-082	Pipe Insulation	A - White/tan fibrous plaster	Chrysotile 8% and Amosite 10%	--	200 LF
APP-P-PI04-083	Pipe Insulation	B - Brown/off white fibrous material	Chrysotile 75%	--	
		C - Off white fibrous plaster	Chrysotile 45%	--	
APP-P-PI04-084	Pipe Insulation	B - White/tan fibrous material w/ colorless adhesive	Chrysotile 75%	--	
APP-P-BC01-085	Brick Caulk	A - Black fibrous resinous material	Chrysotile 15%	--	50 LF
APP-P-BP01-086	Brick Plaster	A - Tan granular micaceous plaster	Chrysotile 3%	1.75	1,000 sq. ft.
APP-P-PJ05-087	Pipe Joint	A - White fibrous plaster	Chrysotile 10% and Amosite 8%	--	6 joints
APP-P-PI05-088	Pipe Insulation	A - White fibrous plaster	Chrysotile 4% and Amosite 12%	--	60 sq. ft.
APP-P-PI05-089	Pipe Insulation	A - White fibrous plaster	Chrysotile 12% and Amosite 4%	--	
APP-P-PI05-090	Pipe Insulation	A - White fibrous plaster	Chrysotile 12% and Amosite 4%	--	
APP-P-BJ02-091	Boiler Jacket	A - White fibrous plaster	Chrysotile 15% and Amosite 3%	--	660 sq. ft.
APP-P-BJ02-092	Boiler Jacket	A - Dark gray/black fibrous material	Chrysotile 7%	--	
		B - White fibrous plaster	Chrysotile 15% and Amosite 3%	--	
APP-P-BJ02-093	Boiler Jacket	A - Gray fibrous material	Chrysotile 45%	--	
		B - Dark gray/black fibrous material	Chrysotile 8%	--	
		C - White fibrous plaster	Chrysotile 15% and Amosite 3%	--	
APP-P-FB01-094	Fiberboard	A - Black tar	Chrysotile Trace	--	1,500 sq. ft.
		C - Gray fibrous cementitious material w/ tan/silver paint	Chrysotile 13%	--	
APP-P-BI01-095	Boiler Insulation	A - Brown/tan fibrous plaster	Chrysotile 7% and Amosite 3%	--	150 sq. ft.
APP-P-BI01-096	Boiler Insulation	A - Brown/tan fibrous plaster	Chrysotile 7% and Amosite 3%	--	
APP-P-BI01-097	Boiler Insulation	A - Brown/tan fibrous plaster	Chrysotile 8% and Amosite 2%	--	
APP-P-ID01-098	Insulation Debris	A - Gray/white fibrous material	Chrysotile 20% and Amosite 35%	--	20 cu. ft.
APP-P-ID02-099	Insulation Debris	A - White fibrous plaster w/ brown debris	Chrysotile 6% and Amosite 14%	--	5 cu. ft.
APP-P-ID02-112	Insulation Debris	A - Brown fibrous material	Chrysotile 55% and Amosite 5%	--	
		B - White fibrous plaster	Chrysotile 12% and Amosite 8%	--	
APP-P-ID03-100	Insulation Debris	A - White fibrous plaster	Chrysotile 20% and Amosite 3%	--	1,200 cu. ft.
APP-P-ID04-101	Insulation Debris	A - White fibrous plaster	Chrysotile 8% and Amosite 10%	--	75 cu. ft.
APP-P-ID05-102	Insulation Debris	A - Pink fibrous plaster w/ green paint	Chrysotile 5% and Amosite 12%	--	40 cu. ft.
APP-P-ID06-103	Insulation Debris	A - White fibrous plaster	Chrysotile 8% and Amosite 10%	--	40 cu. ft.
APP-P-WI03-106	Wire Insulation	A - Black/multi-colored wire insulation	Chrysotile 25%	--	50 LF
APP-P-EP01-107	Electrical Panel	A - Gray fibrous cementitious material	Chrysotile 10%	--	1 panel

Table 2
Asbestos in Soil Results

Sample ID	Physical Description	Asbestos Type and Percent Composition (by PLM Method)
APP-SO01-ACM	A - Dark brown/black soil	Chrysotile Trace
APP-SO02-ACM	A - Dark brown/black soil	Chrysotile Trace
APP-SO03-ACM	A - Dark brown/black soil	Chrysotile Trace
APP-SO04-ACM	A - Dark brown/black soil	Chrysotile Trace

Table 3
Lead-Based Paint Screening Results

Reading	Date	Time	Location	Room	Component	Substrate	Color	Lead mg/cm^2	(+/-) Error
XRF - Calibration Checks									
Day 1									
13	5/31/2017	10:14:04	Acme Power Plant	N/A	N/A	SRM 2570	WHITE	0	0
14	5/31/2017	10:14:43	Acme Power Plant	N/A	N/A	SRM 2571	YELLOW	3.33	0.32
15	5/31/2017	10:15:34	Acme Power Plant	N/A	N/A	SRM 2572	ORANGE	1.77	0.18
16	5/31/2017	10:16:01	Acme Power Plant	N/A	N/A	SRM 2573	RED	1.11	0.05
17	5/31/2017	10:17:02	Acme Power Plant	N/A	N/A	SRM 2574	GOLD	0.74	0.06
18	5/31/2017	10:17:41	Acme Power Plant	N/A	N/A	SRM 2575	GREEN	0.36	0.03
33	5/31/2017	13:57:43	Acme Power Plant	N/A	N/A	SRM 2570	WHITE	0	0
34	5/31/2017	13:58:45	Acme Power Plant	N/A	N/A	SRM 2571	YELLOW	3.41	0.32
35	5/31/2017	13:59:52	Acme Power Plant	N/A	N/A	SRM 2572	ORANGE	1.84	0.19
36	5/31/2017	14:00:21	Acme Power Plant	N/A	N/A	SRM 2573	RED	1.07	0.05
37	5/31/2017	14:01:30	Acme Power Plant	N/A	N/A	SRM 2574	GOLD	0.65	0.05
38	5/31/2017	14:02:18	Acme Power Plant	N/A	N/A	SRM 2575	GREEN	0.34	0.06
56	5/31/2017	15:33:54	Acme Power Plant	N/A	N/A	SRM 2570	WHITE	0	0
57	5/31/2017	15:34:31	Acme Power Plant	N/A	N/A	SRM 2571	YELLOW	3.92	0.37
58	5/31/2017	15:35:18	Acme Power Plant	N/A	N/A	SRM 2572	ORANGE	1.75	0.16
59	5/31/2017	15:35:52	Acme Power Plant	N/A	N/A	SRM 2573	RED	0.95	0.05
60	5/31/2017	15:37:00	Acme Power Plant	N/A	N/A	SRM 2574	GOLD	0.69	0.04
61	5/31/2017	15:38:03	Acme Power Plant	N/A	N/A	SRM 2575	GREEN	0.31	0.03
Day 2									
2	6/2/2017	8:43:43	Acme Power Plant	N/A	N/A	SRM 2570	WHITE	0	0
3	6/2/2017	8:44:30	Acme Power Plant	N/A	N/A	SRM 2571	YELLOW	3.53	0.33
4	6/2/2017	8:45:10	Acme Power Plant	N/A	N/A	SRM 2572	ORANGE	1.52	0.14
5	6/2/2017	8:46:28	Acme Power Plant	N/A	N/A	SRM 2573	RED	1.18	0.09
6	6/2/2017	8:47:21	Acme Power Plant	N/A	N/A	SRM 2574	GOLD	0.63	0.09
7	6/2/2017	8:47:50	Acme Power Plant	N/A	N/A	SRM 2575	GREEN	0.32	0.03
74	6/2/2017	11:35:26	Acme Power Plant	N/A	N/A	SRM 2570	WHITE	0	0
78	6/2/2017	11:39:08	Acme Power Plant	N/A	N/A	SRM 2571	YELLOW	3.73	0.35
79	6/2/2017	11:39:39	Acme Power Plant	N/A	N/A	SRM 2572	ORANGE	1.46	0.14
80	6/2/2017	11:40:12	Acme Power Plant	N/A	N/A	SRM 2573	RED	1	0.05
81	6/2/2017	11:41:12	Acme Power Plant	N/A	N/A	SRM 2574	GOLD	0.68	0.09
82	6/2/2017	11:41:44	Acme Power Plant	N/A	N/A	SRM 2575	GREEN	0.39	0.04
Screening Results									
Day 1									
19	**5/31/2017**	**10:20:23**	**Barn**	**Exterior**	**N/A**	**DOOR JAMB**	**METAL**	**GREEN**	**1.03**	**0.04**
20	**5/31/2017**	**10:22:34**	**Barn**	**Exterior**	**N/A**	**DOOR**	**WOOD**	**GREEN**	**4.59**	**0.38**
21	**5/31/2017**	**10:25:10**	**Barn**	**Exterior**	**N/A**	**DOOR**	**WOOD**	**GREEN**	**2.22**	**0.2**
22	**5/31/2017**	**10:27:15**	**Barn**	**Exterior**	**N/A**	**DOOR**	**WOOD**	**GREEN**	**2.05**	**0.19**
23	**5/31/2017**	**10:28:39**	**Barn**	**Interior**	**N/A**	**DOOR**	**WOOD**	**GREEN**	**4.96**	**0.45**
24	5/31/2017	10:32:04	Barn	Interior	N/A	WINDOW SASH	WOOD	GREEN	0.26	0.03
25	5/31/2017	10:35:00	Barn	Interior	N/A	CEILING	WOOD	GRAY	0	0
26	**5/31/2017**	**11:37:38**	**Shop**	**Exterior**	**N/A**	**DOOR**	**WOOD**	**GREEN**	**2.52**	**0.23**
27	**5/31/2017**	**11:38:45**	**Shop**	**Exterior**	**N/A**	**WINDOW SASH**	**WOOD**	**GREEN**	**1.76**	**0.16**
28	**5/31/2017**	**11:39:11**	**Shop**	**Exterior**	**N/A**	**DOOR**	**WOOD**	**GREEN**	**2.58**	**0.22**
29	**5/31/2017**	**11:44:13**	**Shop**	**Exterior**	**N/A**	**TRIM**	**WOOD**	**GREEN**	**3.52**	**0.3**
30	5/31/2017	12:08:33	Shop	Interior	N/A	WALL	BRICK	GREEN	0.2	0.02
31	**5/31/2017**	**12:12:25**	**Shop**	**Interior**	**N/A**	**DOOR**	**WOOD**	**GREEN**	**1.99**	**0.19**
32	5/31/2017	12:53:06	Shop	Interior	N/A	CEILING	WOOD	LT GRAY	0.04	0.02
39	5/31/2017	14:46:54	Trailer	Exterior	N/A	WALL	WOOD	YELLOW	0	0
41	**5/31/2017**	**14:51:37**	**Trailer**	**Exterior**	**N/A**	**WALL**	**METAL**	**DK BROWN**	**1**	**0.03**
42	5/31/2017	14:52:22	Trailer	Exterior	N/A	WALL	WOOD	DK BROWN	0	0
43	5/31/2017	14:53:13	Trailer	Exterior	N/A	TRIM	WOOD	BROWN	0	0
44	5/31/2017	14:53:48	Trailer	Exterior	N/A	TRIM	WOOD	LT GRAY	0	0
45	5/31/2017	14:55:35	Trailer	Interior	N/A	CEILING	WOOD	WHITE	0	0
46	5/31/2017	14:56:03	Trailer	Interior	N/A	WALL	WOOD	WHITE	0.04	0.04
47	5/31/2017	14:56:38	Trailer	Interior	N/A	WALL	DRYWALL	WHITE	0	0
48	5/31/2017	14:56:55	Trailer	Interior	N/A	WALL	DRYWALL	WHITE	0	0
49	5/31/2017	14:57:28	Trailer	Interior	N/A	WALL	WOOD	LT BLUE	0.04	0.03
50	5/31/2017	14:57:58	Trailer	Interior	N/A	WALL	WOOD	LT BLUE	0	0
51	5/31/2017	14:58:21	Trailer	Interior	N/A	WALL	WOOD	LT BLUE	0	0
52	5/31/2017	14:58:44	Trailer	Interior	N/A	WALL	WOOD	GREEN	0	0
53	5/31/2017	14:59:11	Trailer	Interior	N/A	WALL	WOOD	PINK	0	0
54	5/31/2017	14:59:56	Trailer	Interior	N/A	WALL	WOOD	WHITE	0.07	0.03
55	5/31/2017	15:13:11	Trailer	Exterior	N/A	TRIM	METAL	RED	0.19	0.03

Table 3
Lead-Based Paint Screening Results

Reading	Date	Time	Location		Room	Component	Substrate	Color	Lead mg/cm^2	(+/-) Error
Day 2										
8	6/2/2017	8:51:41	Power Plant	Exterior	N/A	DOOR	METAL	GREEN	0.31	0.04
9	**6/2/2017**	**8:52:34**	**Power Plant**	**Exterior**	**N/A**	**DOOR**	**WOOD**	**GREEN**	**2.3**	**0.21**
10	**6/2/2017**	**8:53:23**	**Power Plant**	**Exterior**	**N/A**	**DOOR FRAME**	**CONCRETE**	**GREEN**	**1.19**	**0.08**
11	**6/2/2017**	**8:54:09**	**Power Plant**	**Exterior**	**N/A**	**WINDOW SASH**	**WOOD**	**GREEN**	**3.37**	**0.28**
12	**6/2/2017**	**8:55:51**	**Power Plant**	**Exterior**	**N/A**	**DOOR**	**WOOD**	**GREEN**	**3.63**	**0.29**
13	**6/2/2017**	**9:04:46**	**Power Plant**	**Exterior**	**N/A**	**DOOR**	**WOOD**	**GREEN**	**4.99**	**0.42**
14	6/2/2017	9:13:42	Power Plant	Exterior	N/A	WINDOW SASH	METAL	GREEN	0.59	0.06
15	6/2/2017	9:14:01	Power Plant	Exterior	N/A	WINDOW SASH	METAL	GREEN	0.94	0.04
16	6/2/2017	9:14:50	Power Plant	Exterior	N/A	WINDOW SASH	METAL	GREEN	0.56	0.06
17	6/2/2017	9:15:56	Power Plant	Exterior	N/A	WINDOW SASH	METAL	GREEN	0.76	0.07
18	6/2/2017	9:18:09	Power Plant	Exterior	N/A	WINDOW SASH	METAL	GREEN	0.66	0.07
19	6/2/2017	9:20:32	Power Plant	Interior	room A	DOOR	METAL	LT GRAY	0.1	0.06
20	6/2/2017	9:21:15	Power Plant	Interior	room A	WALL	BRICK	LT GRAY	0.47	0.09
21	6/2/2017	9:22:02	Power Plant	Interior	room A	WALL	BRICK	LT GRAY	0.2	0.04
22	6/2/2017	9:23:03	Power Plant	Interior	room A	WALL	BRICK	WHITE	0.06	0.02
23	6/2/2017	9:23:39	Power Plant	Interior	room A	WALL	BRICK	WHITE	0.16	0.04
24	6/2/2017	9:26:59	Power Plant	Interior	room B	WALL	BRICK	WHITE	0.21	0.07
25	6/2/2017	9:27:43	Power Plant	Interior	room B	WALL	BRICK	WHITE	0.23	0.07
26	**6/2/2017**	**9:28:17**	**Power Plant**	**Interior**	**room B**	**WALL**	**BRICK**	**DK BROWN**	**1**	**0.06**
27	6/2/2017	9:29:05	Power Plant	Interior	room B	WALL	BRICK	DK BROWN	0.23	0.04
28	6/2/2017	9:29:35	Power Plant	Interior	room B	WALL	BRICK	DK BROWN	0.34	0.07
29	**6/2/2017**	**9:30:39**	**Power Plant**	**Interior**	**room B**	**DOOR**	**WOOD**	**DK BROWN**	**3.64**	**0.37**
30	**6/2/2017**	**9:31:05**	**Power Plant**	**Interior**	**room B**	**DOOR**	**WOOD**	**WHITE**	**5**	**0.45**
31	6/2/2017	9:33:49	Power Plant	Interior	room B	CEILING	PLASTER	WHITE	0	0
32	**6/2/2017**	**9:34:47**	**Power Plant**	**Interior**	**room B**	**WINDOW FRAME**	**WOOD**	**WHITE**	**3.81**	**0.62**
33	6/2/2017	9:38:30	Power Plant	Interior	room C	WINDOW SILL	WOOD	WHITE	0.1	0.04
34	6/2/2017	9:38:53	Power Plant	Interior	room C	WINDOW FRAME	WOOD	WHITE	0.14	0.05
35	6/2/2017	9:39:36	Power Plant	Interior	room C	DOOR FRAME	WOOD	WHITE	0.12	0.05
36	6/2/2017	9:40:10	Power Plant	Interior	room C	DOOR JAMB	WOOD	WHITE	0.08	0.03
37	6/2/2017	9:40:34	Power Plant	Interior	room C	DOOR	WOOD	WHITE	0.11	0.04
38	6/2/2017	9:41:32	Power Plant	Interior	room D	WALL	DRYWALL	CREAM	0.02	0.02
39	6/2/2017	9:41:54	Power Plant	Interior	room D	WALL	DRYWALL	DK BROWN	0	0
40	**6/2/2017**	**9:42:22**	**Power Plant**	**Interior**	**room D**	**WALL**	**BRICK**	**DK BROWN**	**1**	**0.09**
41	6/2/2017	9:43:01	Power Plant	Interior	room D	WALL	BRICK	WHITE	0.29	0.08
42	**6/2/2017**	**9:43:34**	**Power Plant**	**Interior**	**room D**	**WALL**	**BRICK**	**WHITE**	**1**	**0.04**
43	**6/2/2017**	**10:05:51**	**Power Plant**	**Interior**	**room E**	**DOOR**	**WOOD**	**DK BROWN**	**3.67**	**0.5**
44	6/2/2017	10:06:11	Power Plant	Interior	room E	DOOR FRAME	WOOD	DK BROWN	0.47	0.06
45	6/2/2017	10:06:38	Power Plant	Interior	room E	WALL	BRICK	DK BROWN	0.35	0.07
46	6/2/2017	10:07:25	Power Plant	Interior	room E	WALL	BRICK	WHITE	0.34	0.08
47	6/2/2017	10:07:53	Power Plant	Interior	room E	WALL	BRICK	WHITE	0.21	0.04
48	**6/2/2017**	**10:16:02**	**Power Plant**	**Interior**	**room F**	**DOOR**	**WOOD**	**GREEN**	**2.88**	**0.26**
49	**6/2/2017**	**10:16:58**	**Power Plant**	**Interior**	**room F**	**DOOR**	**WOOD**	**BROWN**	**2.28**	**0.24**
50	6/2/2017	10:17:29	Power Plant	Interior	room F	WALL	BRICK	BROWN	0.31	0.05
51	6/2/2017	10:17:55	Power Plant	Interior	room F	WALL	BRICK	BROWN	0.28	0.04
52	6/2/2017	10:18:17	Power Plant	Interior	room F	WALL	CONCRETE	BROWN	0.24	0.04
53	6/2/2017	10:18:43	Power Plant	Interior	room F	WALL	BRICK	WHITE	0.11	0.04
54	6/2/2017	10:19:10	Power Plant	Interior	room F	WALL	BRICK	WHITE	0.11	0.02
55	**6/2/2017**	**10:21:25**	**Power Plant**	**Interior**	**room G**	**WALL**	**BRICK**	**WHITE**	**1**	**0.08**
56	6/2/2017	10:21:54	Power Plant	Interior	room G	WALL	BRICK	WHITE	0.11	0.03
57	**6/2/2017**	**10:23:41**	**Power Plant**	**Interior**	**room G**	**WALL**	**BRICK**	**WHITE**	**1**	**0.08**
58	**6/2/2017**	**10:24:59**	**Power Plant**	**Interior**	**room G**	**DOOR**	**WOOD**	**DK BROWN**	**1.11**	**0.06**
59	**6/2/2017**	**10:26:54**	**Power Plant**	**Interior**	**room G**	**WINDOW FRAME**	**WOOD**	**WHITE**	**3.82**	**0.36**
60	**6/2/2017**	**10:28:23**	**Power Plant**	**Interior**	**room G**	**WALL**	**BRICK**	**DK BROWN**	**1.13**	**0.06**
61	6/2/2017	10:29:44	Power Plant	Interior	room H	WALL	BRICK	DK BROWN	0.32	0.05
62	6/2/2017	10:30:22	Power Plant	Interior	room H	WALL	BRICK	DK BROWN	0.21	0.04
63	6/2/2017	10:30:51	Power Plant	Interior	room H	WALL	BRICK	DK BROWN	0.29	0.05
64	6/2/2017	10:31:17	Power Plant	Interior	room H	WALL	BRICK	WHITE	0.13	0.04
65	6/2/2017	10:31:46	Power Plant	Interior	room H	WALL	BRICK	WHITE	0.06	0.02
66	6/2/2017	10:32:21	Power Plant	Interior	room H	WALL	BRICK	WHITE	0.07	0.01
67	6/2/2017	10:33:44	Power Plant	Interior	room H	DOOR	METAL	DK BROWN	0.14	0.03
68	6/2/2017	10:36:38	Power Plant	Interior	Catwalk	WALL	BRICK	WHITE	0.06	0.02
69	6/2/2017	10:39:02	Power Plant	Interior	Catwalk	WALL	BRICK	WHITE	0.07	0.01
70	**6/2/2017**	**10:40:14**	**Power Plant**	**Interior**	**Catwalk**	**WALL**	**CONCRETE**	**CREAM**	**1**	**0.04**
71	6/2/2017	10:45:07	Power Plant	Interior	Catwalk	BUILT-IN	METAL	BLACK	0.03	0.02
72	6/2/2017	10:47:49	Power Plant	Interior	Catwalk	DOOR	METAL	BLACK	0.05	0.02
73	6/2/2017	10:49:13	Power Plant	Roof	N/A	FLOOR	TAR	LT GRAY	0	0

Cost Estimate:
Remediation of All ACM and LBP Testing for Disposal

Line Item (RS Means)	Item Description	Quantity	Unit	Crew	Daily Output	Hours	Factor	Unit Costs In Dollars			Total	Total with O&P	Item Total
								Mtrls	Labor	Equip			
ACM Removal and Disposal													
02.82.13.39.0200	Asbestos Abatement Remediation Plan	1	EA	--	--	--	1	--	--	--	1350	1475	$1,475.00
02.82.13.41.2000	Worker PPE for Hazardous Material (Body/Head) (4 in Crew/70 Days)	4	EA/Day	A-9	--	--	70	9	--	--	9	9.9	$2,772.00
02.82.13.41.2500	Worker PPE for Hazardous Material (Respirator)(4 in Crew)	4	EA	--	--	--	1	25.5	--	--	25.5	28.5	$114.00
02.82.13.41.2550	Worker PPE for Hazardous Material (Respirator Cart.)(4 in Crew/70 Days)	4	EA/Day	--	--	--	70	4.98	--	--	4.98	5.5	$1,540.00
02.82.13.41.1750	Vacuum cleaner, HEPA, 16 gal., stainless steel, wet/dry	1	EA	--	--	--	1	440	--	--	440	485	$485.00
02.82.13.41.0250	Large Volume Air Sampling Pump, minimum (Per Day)	1	EA	--	--	--	70	335	-	--	335	370	$25,900.00
02.82.13.41.6500	Negative air machine	1	EA	--	--	--	1	805	--	--	805	885	$885.00
02.82.13.42.0900	Setup Negative Air Machine	1	EA	1 Asbestos	4.3	1.86	1	--	102	--	102	159	$159.00
02.82.13.42.0100	Pre-cleaning, HEPA vacuum and wet wipe, flat surfaces	55000	SF	A-9	12000	0.005	1	0.02	0.29	--	0.31	0.48	$26,400.00
02.82.13.42.0300	Separation Barrier (8 feet high)	200	SF	2 Carp	400	0.04	1	2.59	1.97	--	4.56	5.85	$1,170.00
02.82.13.42.0561	Cover surfaces with polyethylene sheeting (walls, 4 mil)	40000	SF	A-9	7000	0.009	1	0.03	0.5	--	0.53	0.81	$32,400.00
02.82.13.43.5100	Bulk Asbestos Removal (Linoleum and Mastic from Floor by machine) - 1 Layer	80	SF	A-11	4800	0.013	1	0.04	0.73	0.01	0.78	1.19	$95.20
02.82.13.44.0200	Demolition of asbestos brick plaster	1000	SF	A-9	2100	0.03	1	0.09	1.68	--	1.77	2.71	$2,710.00
02.82.13.43.0620	Bulk Asbestos Removal (Pipe insulation, air cell type, 10"-12" diameter pipe)	1420	LF	A-9	700	0.091	1	0.26	5.05	--	5.31	8.15	$11,573.00
02.82.13.43.1110	Bulk Asbestos Removal (Pipe fitting insulation, up to 10"-12" diameter pipe)	356	EA	A-9	192	0.333	1	0.96	18.35	--	19.31	29.5	$10,502.00
02.82.13.43.8000	Bulk Asbestos Removal (cement wall board)	1500	SF	2 Asbestos	1000	0.016	1	0.16	0.88	--	1.04	1.54	$2,310.00
02.82.13.43.0210	Bulk Asbestos Removal (Boiler insulation and lath)	4330	SF	A-9	480	0.133	1	0.45	7.35	--	7.8	17.85	$77,290.50
02.82.13.43.8250	Bulk Asbestos Removal (Built-up roofing, non-friable)	13500	SF	B-2	1400	0.029	1	0.08	1.13	--	1.21	1.82	$24,570.00
08.05.05.10.0500	Selective Demolition Doors (Interior)	3	EA	1 Clab	20	0.4	1	--	15.65	--	1.21	24	$72.00
23.05.05.10.0370	HVAC Demolition (Boilers)	3	EA	Q-7	0.3	106	1	--	6325	--	6325	9550	$28,650.00
31.23.16.13.1400	Debris removal with a shovel	69	CY	1 Clab	8	1	1	--	39	--	39	60	$4,140.00
Estimation	3rd Party Oversight for Asbestos Cleanup (1 Inspector / 1 Day)	8	Hour	1 Inspector	10	1	1	--	150	--	150	200	$1,600.00
02.82.13.45.1110	PCM air sample analysis, NIOSH 7400, maximum	1	Each	1 Asbestos	4	2	2	2.22	110	--	112.22	173	$346.00
02.82.13.47.0100	Collect and Bag Bulk Material, 3 C.F. bags, by Hand	1223	EA	A-9	400	0.16	1	0.85	8.8	--	9.65	14.65	$17,916.95
02.82.13.47.1000	Double Bag and Decontaminant	1223	EA	A-9	960	0.067	1	0.85	3.67	--	4.52	6.65	$8,132.95
02.82.13.47.3000	Cart Bags 50' to Dumpster	1223	EA	2 Asbestos	400	0.04	1	--	2.2	--	2.2	3.42	$4,182.66
02.82.13.47.5020	Disposal ACM, maximum	136	CY	--	--	--	1	--	--	--	355	395	$53,720.00
02.81.20.10.1270*	Hazardous Waste Hauling Costs (25 CY maximum)	1800	Miles	--	--	--	1	--	--	--	7.25	7.35	$13,230.00
N/A	Miscellaneous (additional plans, equip, preparations, testing, permitting, etc.)												$10,000.00
01.21.16.50.0020	Contingency (20%)												$72,868.25
	ACM Removal and Disposal												**$437,209.51**
LBP Testing for Disposal													
Estimate	Toxicity Characteristic Leach Procedure (TCLP) Sample	1	EA	--	--	--	10	--	--	--	--	150	$1,500.00
01.21.16.50.0020	Contingency (20%)												$300.00
	LBP Testing for Disposal												**$1,800.00**
REMEDIATION TOTAL													**$439,009.51**

Notes:
Source: RS Means Building Construction Cost Data 2017. 75th Annual Edition. Catalog # 60017
Disclaimer: This is only an estimate, actual costs may vary

ACM	Asbestos Containing Materials
CF	Cubic feet
CY	Cubic yards
EA	Each
Equip	Equipment
LF	Linear feet
Mtrls	Materials
N/A, --	Non-Applicable
O&P	Overhead and Profit
SF	Square feet
*	Converted Cost Per Mile to Cost per CY using factor (Based on 300 mile round trip)

ATTACHMENTS

Voluntary Remediation Program (VRP) | (307) 777-7752 | http://deq.wyoming.gov/shwd/voluntary-remediation-program/

Application for the Voluntary Remediation Program

In its 2000 session, the Wyoming Legislature created new opportunities, procedures, and standards for voluntary remediation of contaminated sites. These provisions, enacted as Articles 16, 17, and 18 of the Wyoming Environmental Quality Act and implemented by the Wyoming Department of Environmental Quality (DEQ), will govern future environmental cleanups in Wyoming.

This Fact Sheet provides information on how to apply to the Voluntary Remediation Program (VRP).

1. What types of sites are eligible to participate in the VRP?

Under §35-11-1602, owners, operators and prospective purchasers of most contaminated sites in Wyoming are eligible for the VRP. Eligible sites include:

- Sites where contamination occurred before the effective date of the VRP (March 10, 2000), unless the site or portion of a site was subject to permit requirements of the Environmental Quality Act at the time of the release and the site or portion of the site subject to permit requirements is still owned and/or operated by the same person as defined under §35-11-103(a)(vi). Subsequent owners, operators, or prospective purchasers must be able to demonstrate that they had no knowledge of the existence of an area or unit at the site that should have had or now needs a permit.
- Sites where contamination occurred after March 10, 2000 provided the site owner or operator is implementing a pollution prevention plan consistent with rules promulgated by DEQ.
- Releases from permitted waste management or disposal units if DEQ determines that it is not technically practicable to clean up the release in accordance with permit requirements.

Sites that are not eligible to participate in the Program include:

- Sites that are listed on the Federal National Priorities List under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund).
- Commercial waste incineration or disposal facilities.
- Sites regulated under the Leaking Above and Underground Storage Tank Program (Article 14 of the Environmental Quality Act, §35-11-1414 through 1428) except contamination from a release that does not originate from the regulated tanks is eligible for the VRP provided other eligibility criteria are met.
- Radioactive waste storage facilities.

- Sites regulated under the Abandoned Mine Lands Program (Article 12 of the Environmental Quality Act, §35-11-1201 through 1209).
- Sites where contamination is the result of continuous or repeated violation of any law, rule, regulation or order under the Wyoming Environmental Quality Act.

In addition, as discussed in §35-11-1601(b), sites are not eligible for the VRP if remediation is required by order (except for orders on consent) of DEQ, council or by any court, or required by an administrative or judicial order to which the U.S. Environmental Protection Agency is a party.

2. Do I have to own the contaminated site to apply to participate in the VRP?

No. Any person can apply to participate in the VRP. Under §35-11-103(a)(vi), person is broadly defined to include individuals, companies, cities, partnerships, and others.

Although any person can apply to participate in the VRP, the Program does not grant people rights of access or other rights with respect to contaminated property. If you are applying to participate in the VRP for property that you do not own (e.g., for property you plan to purchase or property that you lease), you must make your own arrangements with the property owner to ensure access for completion of cleanup activities. All VRP applications must identify the owner or owners of the subject property and, if the application is not made by the property owner, explain the relationship of the applicant to the property owner and describe access provisions. This includes consideration of Wyo. Stat. Ann. § 6-3-414, and by signing this application, the Volunteer and property owner grant access to the property for the purposes stated above, and will not pursue any trespass actions against DEQ or its contractors.

3. Can I clean up the contamination on my property even if I am an innocent landowner?

Yes, but you must meet the protective cleanup standards established under Wyoming statutes and regulations. The expectations for what a cleanup must achieve are not modified because you are not responsible for the contamination. Cleanup standards are addressed in Fact Sheet #21 *Remedy Selection*. Information about the cleanup levels necessary to meet those standards is included in several fact sheets, including Fact Sheet #12 *Soil Cleanup Levels*, Fact Sheet #13 *Groundwater Cleanup Levels*, and the supporting technical memoranda that accompany Fact Sheet #19 *Ecological Risk Assessment—Steps 3 & 4*. Please keep in mind that site specific cleanup levels also are available under the VRP.

4. Why participate in the VRP if I am an innocent owner?

Wyoming's Voluntary Remediation Program allows a property owner or prospective owner to voluntarily investigate possible contamination and clean it up if necessary. The process established under the VRP provides a system for negotiating and establishing appropriate cleanup activities for a given piece of property, resulting in an assurance from DEQ about the extent of liability for environmental cleanup at the property.

Increasingly, buyers, sellers, and lending institutions require information about the possibility of environmental contamination at properties during property transactions. Potential buyers must determine if there is environmental contamination prior to purchase in order to be eligible for innocent owner status. Potential sellers may find it helpful to sell a piece property if they can demonstrate that there is no contamination.

Whether you are a buyer or a seller, if you have reason to suspect that contamination is present at a property you own or are interested in owning, DEQ strongly encourages participation in the VRP as early as possible in the investigation and cleanup process to ensure that any activities undertaken (e.g., Phase I assessment) will meet the specific standards established under Wyoming statutes. Otherwise, you run the risk that DEQ will require additional work, including additional sampling and analysis, in order to make a decision about the issuance of a liability assurance for your property.

The decision about whether or not any person or persons should purchase any particular property is not one that can be made by DEQ. These decisions should be made by the prospective purchaser and will vary depending on the risk associated with any property as well as the prospective purchaser's willingness to assume the risk associated with the contamination present at the property. The DEQ highly recommends that all prospective purchasers work with their legal counsel to determine risks associated with the purchase of a specific property with known contamination.

5. How do I apply to participate in the VRP?

If you believe you are eligible for the VRP, you may apply by completing the attached application form and sending it, with supporting information and a $550 application fee, to DEQ at the address below. The information on the application form is the information DEQ needs to confirm your eligibility for the VRP and to begin to work with you to cleanup your contaminated site.

Information requested in the VRP application includes:

- Your name and address.
- The name and address of your site.
- A map showing the location of your site and the names, addresses and locations of all contiguous and adjacent land owners.
- A description of the site-specific conditions you believe satisfy one or more of the eligibility criteria outlined above and fully described in §35-11-1602.
- A description of your site, the types of contamination you believe are present, the nature and extent of the contamination, and the cause of the contamination.
- A description of any site investigation or remediation activities that have already occurred.
- A list of all environmental permits, licenses or other authorizations currently held for the site.

- Identification of all site owner(s) and operator(s) and, if you are not the site owner, an explanation of your relationship to the site owner and your rights of access to the site.

The application form is available as an on-line form, and can be completed then printed from the VRP website at http://deq.wyoming.gov/shwd/voluntary-remediation-program/. The DEQ is investigating how to provide applicants the ability to transmit the application and application fee over the Internet. Please check the website for up-to-date details.
Two copies of your application, supporting information and your $550 application fee (payable to Wyoming Department of Environmental Quality) should be sent to:

Wyoming Department of Environmental Quality
Voluntary Remediation Program Application
Attention: Jerry Breed
200 W. 17th Street, 2nd Floor
Cheyenne, WY 82002

6. Why do I have to pay an application fee?

Under the VRP, Volunteers pay DEQ oversight costs. Currently, the $550 application fee covers the first ten hours of DEQ oversight. Additional DEQ oversight will be billed at a rate of $55 per hour and will be invoiced monthly. If a Volunteer is found to be ineligible for the VRP, the application fee will be refunded in full; however, if oversight takes fewer than ten hours, a partial refund will not be given. DEQ may reevaluate and change the fee structure based on actual costs incurred by the VRP and of DEQ oversight. Information on the most current fee structure and oversight rates can be found at the VRP website: http://deq.wyoming.gov/shwd/voluntary-remediation-program/ .

In addition, in cases of extraordinary complexity, where DEQ believes that support from a technical contractor is needed, Volunteers must reimburse DEQ for technical contractor costs. These cases will be unusual, and DEQ will discuss technical support needs with the Volunteer prior to securing a contractor.

7. How quickly will DEQ review my application?

Upon receipt of your application, DEQ may request additional information to help make an eligibility determination for your site. Once DEQ has all the information it needs to make a decision, it will review your application and give you written notice of its decision about eligibility within 45 days.

8. How is the VRP complying with the Governor's Executive Order regarding Greater Sage-Grouse Core Area Protection?

In order for the VRP to comply with the Wyoming Governor's Executive Order (Order 2011-5) regarding Greater Sage-Grouse Core Area Protection, VRP staff will conduct a GIS search to determine whether your site is in proximity to a sage grouse core area or lek. If your site is eligible

for the VRP, all of the necessary findings and instructions related to the proximity of your site to Core Areas or occupied leks will be explained in the eligibility letter you will receive from the VRP.

9. What happens if DEQ determines my site is eligible to participate?

Once DEQ confirms your site is eligible for the VRP, you will begin the voluntary remediation process. At most sites, the first step in the cleanup process is to publish an initial public notice to notify people about your site and to determine if there is significant public interest. Based on the amount of public interest, if necessary, you will develop a site-specific public participation plan. The next step, generally, is to negotiate a preliminary remediation agreement (PRA) with DEQ. The PRA will establish the specific activities needed to investigate and characterize contamination at the site and, if necessary, to evaluate potential remediation alternatives.

DEQ will automatically send you instructions on how to complete your initial public notice and guidance on PRAs if they determine your site is eligible to participate in the VRP. This guidance is also available on the VRP website in Fact Sheet #2 at http://deq.wyoming.gov/shwd/voluntary-remediation-program/. In addition, a simple Ecological Exclusion Assessment checklist (see Fact Sheet #14 *Ecological Risk Assessment*) must be submitted, either with the application or as a part of the data and information submitted through the PRA process. The Ecological Exclusion Assessment checklist is designed to identify sites where ecological receptors are unlikely to be affected.

10. I have a simple cleanup, is there any way I can expedite the process?

Yes. In general, DEQ believes that all cleanups under the VRP will be fast and efficient. In addition, DEQ has developed a streamlined administrative process, called the Independent Cleanup Process (ICP), for cleanups that are not technically complex.

The ICP recognizes that some types of sites pose fewer challenges and risks during cleanup than other types of sites. It establishes a way for Volunteers with sites that are not technically complex to carry out certain types of cleanups with reduced DEQ oversight and without using PRAs or remedy agreements (RAs). The ICP is designed to allow Volunteers with simple sites to move quickly through the VRP and qualify for a certificate of completion or other liability assurance.

Participation in the ICP is limited to simple sites. If you have a site with only soil contamination and you intend to clean up the site by excavating all contaminated soil to achieve concentrations that are appropriate for unrestricted site uses (generally, residential cleanup levels), you may be eligible for the ICP. For more information, contact DEQ at (307) 777-7752 or see Fact Sheet #6 *Independent Cleanup.*

11. May I obtain a liability assurance if I can demonstrate that no releases of contaminants have occurred at my site?

In general, the VRP is utilized to provide cleanup and redevelopment incentives for contaminated sites with known or documented releases of pollutants. However, under certain circumstances, DEQ may issue a liability assurance (most typically a certificate of completion) if a Volunteer has entered the site into the VRP and has demonstrated that investigation activities (including Phase 1 and 2 environmental site assessments) are adequate to confirm that no releases have occurred or that contamination doesn't exist at the site. DEQ generally believes it will be difficult to reach conclusions about the appropriateness of issuing a liability assurance based solely on a Phase 1 site assessment, and that additional investigation work may be necessary. For a Phase 2 site assessment, the Volunteer must demonstrate that the site assessment work is generally consistent with work required pursuant to an approved preliminary remediation agreement.

DEQ strongly encourages you to volunteer as early in the site assessment process as possible (e.g., before completing a Phase 1 or 2 environmental site assessment) so that you can work with the Department to ensure that investigation activities will be adequate for DEQ to evaluate whether a liability assurance can be issued.

12. What happens if DEQ determines my site is not eligible to participate in the VRP?

If your site is not eligible for the VRP, DEQ will evaluate the risk posed by your site to determine if it is a high priority for remediation under the Department's authority to order cleanup (see W.S. 35-11-1613) or, if applicable, under another environmental program, such as the Abandoned Mine Lands program. DEQ will also refund your application fee.

13. Is there a way for me to appeal DEQ's eligibility determination if I disagree?

Yes. If you disagree with DEQ's eligibility determination, you can appeal the decision to the Environmental Quality Council as outlined in the DEQ Rules of Practice and Procedure. Appeals to the Environmental Quality Council must be made within 60 days of receipt of DEQ's written notice that your site is not eligible. As with appeals of other types of DEQ decisions, you must file two copies of a written petition directed to and served upon both the Chairman of the Environmental Quality Council and the Director of DEQ. Based on your petition, the Environmental Quality Council will determine if an appeals hearing will be held and will notify you of their determination.

14. What if I am already doing remediation at my site?

If you are already carrying out cleanup at a contaminated site under a DEQ program that pre-dates the VRP or under a Federal remediation program and you want to continue under that program, you do not need to do anything. The VRP is voluntary – it does not require anyone to participate. You should be aware, however, that cleanups completed under DEQ programs that

pre-date the VRP generally are not eligible for certificates of completion or other liability assurances established by the VRP. If you would like to switch to the VRP, and your site is eligible to participate in the Program, you should contact your DEQ project manager. If you do not know who your project manager is, you may contact DEQ at (307) 777-7752.

To ensure consistency among cleanups and equal protection of humans and the environment throughout the State, DEQ will, as a matter of policy, apply the cleanup standards established by the VRP to all DEQ overseen cleanups in Wyoming. The VRP cleanup standards are established at §35-11-1605(a) and are consistent with standards generally used under Federal cleanup programs and with standards that have been used under DEQ cleanup programs that pre-date the VRP.

15. What if remediation at my site is already complete? May I still apply for the program and receive a certificate of completion or other liability assurances?

Volunteers may apply for the VRP after completing cleanup, but you should be aware that DEQ may determine that additional investigation or cleanup is needed, particularly if the cleanup was carried out with no oversight by appropriate agencies (e.g., local ,state, or federal). In order for DEQ to issue a determination that cleanup is complete, you will need to submit an appropriate level of information to document the cleanup actions taken. This will include information typically obtained through implementation of an approved preliminary remediation agreement.

16. What if I apply for the VRP and later decide I don't want to clean up the site?

Volunteers can decide to leave the Program at any time before they have entered into a RA. Once a RA is established, the requirements of the agreement are permanent except for specific circumstances under which an agreement can be reopened or terminated.

In addition, even if a Volunteer decides to leave the Program before a RA is in place, DEQ is not precluded from requiring remediation under their authorities to order cleanup at §35-11-1613 or under other applicable environmental programs or authorities.

17. Would I need to submit a whole new VRP application in order to expand the boundary of my VRP Site?

DEQ will allow existing Volunteers to expand a VRP site boundary on a one-time basis as long as the expansion area is less than 5% of the total acreage identified in the original application and is adjacent to the existing VRP site boundary. In this case no public notice or adjacent landowner notification is required.

If the expansion of the boundary is greater than 5% of the total acres identified in the original application and is adjacent to the existing VRP site boundary, the Volunteer would have to notify

any newly effected adjacent landowners to the expansion area and satisfy the public notice requirements in accordance with § 35-11-1604.

Under either scenario, the Volunteer must submit a written request to the VRP which explains the purpose of the expansion, the number of acres associated with the original application, the number of acres in the expansion and includes a map depicting the original VRP site boundary and the expansion area. Please note that if the expansion is the result of a new or newly identified release or spill, the expansion area may be subject to the Pollution Prevention Plan Rule requirements.

18. How can I apply for Brownfields Assistance from the VRP?

Municipalities or other governmental entities can apply for Brownfields Assistance (BA) from the VRP. BA can include: a Phase I environmental site assessment, a Phase II environmental site assessment, an evaluation of cleanup options and costs, and some limited site cleanup. Properties eligible to receive BA must meet the definition of a "brownfield site" (as defined by the U.S. EPA)[1] and must be eligible to participate in the VRP. In addition to those properties *ineligible* to participate in the VRP (e.g. sites that are listed on the National Priorities List,), other properties that are not eligible to receive BA include sites that are subject to the jurisdiction, custody or control of a department, agency or instrumentality of the United States or the State of Wyoming, or land held in trust by the United States for an Indian Tribe. To request more information or an application package for BA, please contact DEQ at the number below.

19. How can I get more information about the VRP?

To learn about VRP sites that may exist in your community, obtain copies of other VRP Fact Sheets/guidance documents, get answers to your questions, or volunteer for the program, contact DEQ at (307) 777-5617 or through the VRP website at: http://deq.wyoming.gov/shwd/voluntary-remediation-program/.

The VRP website includes all of the Fact Sheets and other guidance documents for the VRP. This website is updated frequently and includes the latest information about DEQ's progress in developing guidance, policy, and other supporting documents for the VRP.

[1] With certain legal exclusions and additions, the term `brownfield site' means real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Source: Public Law 107-118 (H.R. 2869) - *Small Business Liability Relief and Brownfields Revitalization Act,* signed into law January 11, 2002.

Voluntary Remediation Program (VRP) Application

The information provided in this application will be used to determine the eligibility of the Volunteer and the property for the Wyoming Department of Environmental Quality's (DEQ) Voluntary Remediation Program, as provided for under Articles 16, 17, and 18 of the Wyoming Environmental Quality Act.

Every Volunteer must completely answer Questions 1-31 and provide all enclosures. Volunteers interested in the Independent Cleanup Process within the Voluntary Remediation Program must answer the additional questions in the Independent Cleanup Process section of the application, and those applicants interested in the Brownfields Assistance Program must also answer questions 34 through 43. In some cases, additional space will be needed. Attach supplemental answers to the application. For questions, please contact Wyoming DEQ at (307) 777-7752.

SITE INFORMATION			
1. Site Name			
2. Site Address			
3. County	4. Size of Site (Acres)	5. Township, Range, Section, Subsection	
6a. Latitude (Decimal Degrees)	6b. Longitude (Decimal Degrees)	6c. Lat/Long Reference Point (e.g., center of parcel, source area)	
7. Please describe any previous Site Investigations, and/or any previous site remediation activities.			
8. Please list all Site environmental permits, licenses, or 0ther authorizations			

VRP VOLUNTEER INFORMATION

9. Volunteer Name	9a. Company Name (If applicable)	
10. EIN# (for businesses) or SSN# (for individuals)	11. Address	
12. Phone	13. Fax	14. E-Mail

PROPERTY OWNER INFORMATION **(Only complete Questions 15-18 if Volunteer is NOT owner)**

☐ Yes ☐ No — Does the Volunteer or company identified in question #9 own the property described in questions #1-8?

If yes, please proceed to question #19
If no, please proceed to question #15

15. Property Owner Name (If the property has more than one owner, please provide appropriate information for all owners)

16. Property Owner address and phone number

17. Volunteer's Relationship to Owner

18. Detail Volunteer's Right-of-Access to Site. This includes consideration of Wyo. Stat. Ann. § 6-3-414, and by signing this application, the Volunteer and property owner grant access to the property for the purposes stated above, and will not pursue any trespass actions against DEQ or its contractors**.**

ELIGIBILITY CRITERIA

☐ Yes ☐ No ☐ Unknown — 19. Do current site conditions constitute an imminent and substantial threat to public health or the environment?

☐ Yes ☐ No ☐ Unknown — 20. Is the release from a permitted waste management or disposal unit?

21. When did the contaminant release occur?
Please enter the date or date range: _____

☐ Yes ☐ No — 22. Did the contamination occur **after** March 10, 2000?
If **YES**, skip to #23 below and continue from there.
If **NO**, continue with #22a, 22b and 22c then skip to #24 and continue.

☐ Yes ☐ No ☐ Unknown — 22a. Was the site or a portion of the site where the release occurred subject to the permit requirements of the Environmental Quality Act at the time of the release?

☐ Yes ☐ No ☐ Unknown — 22b. If the answer to Question 22a is YES, is the site or portion of the site subject to the permit requirements still owned and/or operated by the same person who was responsible for having the permit?

	If the answer to Question 22b is NO, the current owner and/or operator must demonstrate that s/he had no knowledge of the need for a permit.
☐ Yes ☐ No ☐ Unknown	22c. Is the site covered by a consent order of the department, council, or by any court and entered into with the consent of the person or entity?
☐ Yes ☐ No	23. Your site's eligibility for the VRP is subject to the Pollution Prevention Plan (P2 Plan) requirements of the program. Have you read the pollution prevention (P2) plan rule, determined which P2 plan you are required to implement, and are you implementing the P2 plan in accordance with the rule? 23a. Which type of P2 Plan are you implementing at this site (check one)? ☐ Written P2 Plan ☐ Alternative Minimum P2 Operating Standards
☐ Yes ☐ No ☐ Unknown	24. Are there any radioactive waste storage facilities at this site?
☐ Yes ☐ No ☐ Unknown	25. Has the site, or any part thereof, been listed on the *Superfund National Priorities List?*
☐ Yes ☐ No ☐ Unknown	26. Is or was the site, or any part thereof, the subject of an enforcement action under the Wyoming Environmental Quality Act (for example, if the release at the site resulted from continuous or repeated violations of any applicable law, rule, regulation, or order)? List type of enforcement action (e.g., NOVs, LOVS, orders, issuing agency, unilateral order, consent order)
☐ Yes ☐ No ☐ Unknown	27. Is or was the site, or any part thereof, regulated under the *Leaking Above and Underground Storage Tank Program*, *Abandoned Mine Land Program*, or any other Federal or State environmental law or statute? If YES, and you are still interested in applying to the VRP, please contact DEQ at (307) 777-5617 for further information about eligibility requirements.
☐ Yes ☐ No ☐ Unknown	28. Are there commercial solid waste management facilities, waste incinerators, or disposal facilities on the site?
REQUIRED DOCUMENTATION AND ENCLOSURES Please enclose the following with this signed application:	
☐ Yes ☐ No	29. **$550.00 application fee**. Make checks payable to Wyoming Department of Environmental Quality. The application fee is fully refundable if participants are not accepted into the program. Once in the program, the application fee covers the first ten hours of DEQ oversight. Additional hours of oversight are billed at $55/hr and participants will receive invoices monthly. Participants are not eligible for a partial refund of the application fee if less than ten hours of oversight are needed.
☐ Yes ☐ No	30. A **narrative statement** that describes all known or suspected contaminant types, and the nature, extent, and cause of all known or suspected contaminant(s).
☐ Yes ☐ No	31. **Site Map –** Showing the location of your site, the estimated boundaries of the contamination and the names, full mailing addresses, and location of all contiguous and adjacent land owners.

ADDITIONAL ENCLOSURES AND INSTRUCTIONS

- **Any additional information** to supplement your answers above, for example, additional information on previous remediation activities, such as copies of plans and reports or explanation of extenuating circumstance (e.g., did not own property when site should have had a permit).
- **If applying for the Independent Cleanup Process** please provide answers to the supplemental questions (Questions 32-33) and a required signature.
- **If applying for Brownfields Assistance** from DEQ, please provide answers to the supplemental questions (Questions 34-43)
- If you plan to use a contractor and/or consultant, please include their contact information

20. INTENT TO PARTICIPATE

With this application, the Volunteer intends to enter into the Voluntary Remediation Program. However, neither DEQ nor the Volunteer will be bound to proceed unless the Volunteer receives written notice from DEQ that the subject site is eligible for participation in the Voluntary Remediation Program and a remedy agreement is signed. With this application, the Volunteer does not admit or assume liability for investigation or cleanup of the site. The Volunteer may terminate participation in the Voluntary Remediation Program at any time before a Remedy Agreement is signed.

Unless the Volunteer is accepted into the Independent Cleanup Process, upon receiving the notice of eligibility, the Volunteer intends to negotiate, in good faith, a Preliminary Remedy Agreement and a Remedy Agreement to provide technical and regulatory oversight during investigation and cleanup of the site.

SIGNATURES

I certify that I am familiar with the information contained in this application and that to the best of my knowledge and belief, such information is true, complete, and accurate. I also certify that I am fully authorized to execute this agreement on behalf of the parties I represent.

Section 35-11-901 of Wyoming Statutes provides that:
Any person who knowingly makes any false statement, representation, or certification in any application ... shall upon conviction be fined not more than $10,000 or imprisoned for not more than one year, or both.

Volunteer's Signature	Print Name	Date

Please submit **TWO (2)** copies of this completed and signed application, along with the above required documentation and application fee to:

Wyoming Department of Environmental Quality
Voluntary Remediation Program Application
Attn: Jerry Breed
200 W. 17th Street, 2nd Floor
Cheyenne, WY 82002

On receipt of your application, DEQ may request additional information to help make an eligibility determination for your site. Once DEQ has received a complete application, they will review the application and give you written notice of their decision about eligibility within 45 days. If you are not accepted into the VRP, your application fee will be refunded in full.

INDEPENDENT CLEANUP PROCESS (ICP)

(This section is only for Volunteers who want to participate in the Independent Cleanup Process)

32. Please enclose the additional information with this application

- A narrative statement explaining why contamination is believed to be limited to soil.
- A completed Ecological Exclusion Assessment form-Parts 1 through 4 (available in Fact Sheet #14, which may be downloaded at: http://deq.wyoming.gov/shwd/voluntary-remediation-program/.

☐ Yes ☐ No	33. Do you plan to have the cleanup completed within six months from the application date?	
Property Owner's Signature (Necessary for ICP sites only and if property owner is different than the aforementioned Volunteer. If there are additional owners, please include their signatures and printed names in the spaces provided below.)	Print Name	Date
Additional Property Owner's Signature	Print Name	Date
Additional Property Owner's Signature	Print Name	Date

BROWNFIELDS ASSISTANCE (BA)

(This section is only for Volunteers that are requesting BA assistance from the DEQ)

34. Type of BA assistance requested (Phase I ESA, Phase II ESA, Evaluation of clean options and costs, limited site cleanup)

35. Describe historical uses of the property (include dates, if known) and any hazardous substances, pollutants or contaminants that are known or suspected to be present.

36. Size of potentially-impacted area (acres), if different than property acreage.
37. Is there any indication that the applicant/Volunteer or the property owner caused or contributed to any contamination on the property? If YES, explain.
38. Describe the current zoning and use of the property.
39. Describe existing or proposed plans to reuse or redevelop the property and the associated benefit to the public. If the property is privately-owned, include a copy of any written agreements between the property owner and the applicant/Volunteer.
40. Describe committed or proposed resources (e.g., matching funding or in-kind services) and/or financial incentives that will be used to encourage cleanup or redevelopment.
41. Describe existing or proposed efforts to involve the public in site cleanup or redevelopment plans, as well as any known public opposition.
42. Describe why DEQ assistance is crucial to the redevelopment or reuse of the property.
43. Describe any relevant extenuating circumstances (e.g., redevelopment schedule, access limitations, and pending actions by other state or federal agencies).

Wyoming Department of Environmental Quality
Solid and Hazardous Waste Division
Lead-Based Paint Waste Management Guide

Introduction

The purpose of this guidance is to provide information concerning the proper management of lead-based paint (LBP) waste generated during housing demolition projects. Inhalation of dust and fumes, ingestion of lead contaminated items, and potential ground and surface water contamination from the improper storage and disposal of lead contaminated materials, can cause harm to humans.

Waste Types

There are basically two main types of LBP waste. **Household LBP waste** is generated by individuals on the premises of the household. The waste can be generated by a homeowner or contractor. LBP waste resulting from a residential homeowner is exempt from the state hazardous waste requirements, regardless of whether it is generated by the homeowner or a contractor. LBP waste generated from the renovation or demolition of multi-family, rental or lease housing units, would **not** meet the household LBP waste exclusion.

All other, non-household LBP waste is subject to the State Hazardous Waste Rules and Regulations (HWRR) and must be properly characterized to determine whether it is classified as hazardous. Samples of the waste must be taken and analyzed using the Toxicity Characteristic Leach Procedure (TCLP) to determine if the waste leachate extract contains 5.0 mg/l or greater lead. If so, the waste would be classified as hazardous. The TCLP is designed to mimic the leaching of chemicals from landfills and the concentration limits in the extract are based on drinking water standards. Since the TCLP is a waste dilution test, a total waste analysis can also be performed and if the total amount of lead in the sample is greater than 100 mg/kg lead, it would more than likely fail the TCLP and the waste would be classified as hazardous. Total waste tests are usually much cheaper to perform than the TCLP.

Waste Management Requirements

Household LBP waste can be disposed as municipal solid waste at state permitted municipal landfills.

Non-household or business/commercial wastes - If the total amount of hazardous waste generated including the **LBP hazardous waste,** is less than 100 kg/month (220 lbs/month), the **LBP hazardous waste** is defined as conditionally exempt small quantity generator (CESQG) hazardous waste. CESQG waste can be disposed at state permitted landfills provided prior disposal authorization is obtained from the landfill owner/operator.

If the total amount of hazardous waste generated including the **LBP hazardous waste** is greater than 100 kg/month, the **LBP hazardous waste** is regulated hazardous waste and must be properly packaged, shipped and disposed at a commercial hazardous waste management facility.

The State HWRR allow hazardous waste generators to treat LBP hazardous waste in the original container to render the waste no longer hazardous. This can be accomplished by mixing the LBP with a pozziolanic agent such as concrete or fly ash, and if a sample of the treated and solidified waste does not fail the TCLP for lead, the treated wastes can be disposed at a state permitted landfill with prior disposal authorization. If the hazardous wastes are treated in their original container to render the wastes nonhazardous, the following requirements must be followed:

1) The container must be in good condition and must be compatible with the wastes being stored;

2) The container holding the LBP hazardous waste must always be closed during storage, except when it is necessary to add or remove waste;

3) The container holding the waste must not be opened, handled, or stored in a manner that may cause the container to rupture or leak;

4) The owner/operator must inspect areas where containers are stored, at least weekly, looking for leaks or deterioration;

5) LBP hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material (see appendix V, Chapter 11, HWRR for examples). An example here would be a container previously holding a corrosive material.

If water is used as part of the activity it must be collected and tested to confirm it is not hazardous before it can be disposed of through storm or sanitary sewers.

If LBP hazardous waste is generated above the approximately 220 lb per month threshold previously discussed for CESQGs, you must comply with the following requirements:

1) Use required hazardous waste containers and labels;

2) Mark the waste accumulation start date (date wastes are first placed in container) on each waste container;

3) Inspect the waste containers at least weekly for leaks/corrosion and keep a record of the inspections;

4) The maximum amount of waste that can be stored onsite is 6000 kilograms of LBP hazardous waste;

5) The maximum on-site storage time is:

a) Large quantity LBP hazardous waste generators (LQG) (generate 1,000 kilograms or more LBP hazardous waste/month) - 90 days;

b) Small quantity LBP hazardous waste generators (SQG) (generate > 100 kilograms but < 1,000 kilograms/month) - 180 days when transportation to waste management facility is < 200 miles;

c) SQG - 270 days allowed when transportation to waste management facility is >200 miles.

Although this section refers to LQGs and SQG, please keep in mind, CESQGs also have a storage threshold of 2,200 lbs at any time.

6) Copies of hazardous waste manifests, exception reports, test results, waste analyses, and Biennial Reports for LQGs, must be maintained for 3 years. LQGs must keep LDR records for 5 years. SQGs are required to keep manifests and waste test results for 3 years and LDR records for 5 years.

7) SQGs must have in their possession basic safety information that can be used during an emergency. LQGs must have a written emergency plan. **For a complete listing of all State HW requirements, please go to the following web site to obtain a copy of the State HW generator checklist:http://deq.state.wy.us/shwd/I&C/Downloads/compliance.asp**

8) SQGs must ensure their employees are familiar with emergency spill and accident procedures. LQGs must have an established training program that includes the identification or availability of the following:

a) waste handling procedures;

b) emergency response actions/contingency plans;

c) emergency contacts and equipment;

d) medical treatment and supplies;

e) a designated emergency coordinator.

If shipping LBP hazardous waste offsite for management, generators should investigate the answers to the following questions about facilities under consideration:

#1 Do they have any EPA ID number?

#2 Have they successfully completed similar jobs?

#3 Can they supply references? How do the references describe their service?

#4 How long have they been in business?

#5 Has the firm been cited by EPA or State agencies for any environmental violations?

#6 How much waste are they capable of handling over a given period of time?

#7 Can they handle both solid and hazardous waste?

#8 Are they willing and able to perform special management actions (such as covering vehicles during transport)?

#9 Do they have experience dealing with RCRA land disposal restrictions?

#10 Do they have insurance?

Recommendations For Handling Household LBP Waste

The following best management practices are recommended for the proper handling and disposal of **Household LBP Waste:**

1) Collect paint chips and dust, and dirt and rubble in plastic trash bags for disposal (the main goal is to minimize emissions of dust or debris from the work area or waste containers).

2) Store larger **Household LBP** architectural debris pieces in containers until ready for disposal.

3) Consider using a covered mobile dumpster (such as a roll-off container) for storage of **Household LBP** debris until the job is done.

4) Contact local municipalities or county solid waste offices to determine where and how **Household LBP** can be disposed.

Further Information

Further information can be obtained from the following Solid and Hazardous Waste Division offices. Comments and suggestions for improvements are always appreciated.

Casper : (307) 473-3450
Cheyenne : (307) 777-7752
Lander : (307) 332-6924
Sheridan: (307) 673-9337