

**TITLE AND APPROVAL PAGE**

**DRAFT SITE-SPECIFIC QUALITY ASSURANCE PROJECT PLAN  
(SSQAPP) ADDENDUM NO. 2, REV. 0, TO GENERIC QAPP RFA#  
08165;**

**Project:**

Town of Pittsfield, Maine Brownfields Cleanup Program  
10 Eelweir Road Site (8 Mount Road)  
Pittsfield, Maine

Revision 0

**Prepared By:**

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April 2, 2009

Below is a listing of the names, titles, signatures and signature dates of officials approving this Site-Specific Quality Assurance Project Plan (SSQAPP):

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USEPA New England Project Manager

Date

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Nora J. Conlon, Ph.D.  
USEPA QA Chemist

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## **SITE-SPECIFIC QUALITY ASSURANCE PROJECT PLAN (SSQAPP) ADDENDUM NO. 2, REV. 0.0, TO GENERIC QAPP RFA# 08165;**

### **INTRODUCTION**

The Town of Pittsfield has received a United States Environmental Protection Agency (EPA) Brownfields Cleanup Grant to conduct environmental cleanup at the 10 Eelweir Road (8 Mount Road) property in Pittsfield, Maine. The location of the project is depicted on **Figure 1**. This document is a Site-Specific Quality Assurance Project Plan (SSQAPP) for the 10 Eelweir Road property in Pittsfield, Maine (the site). This SSQAPP details the project background as well as the cleanup and sampling strategy, anticipated sample locations, and analytical methods to be conducted at the site. This SSQAPP has been prepared in accordance with Credere Associates, LLC's (Credere's) June 5, 2008 Generic Quality Assurance Project Plan (QAPP) Rev. 1. The quality assurance and quality control (QA/QC) outlined in Credere's QAPP will be followed for this investigation program including sample collection, handling, and analysis, chain of custody, data management and documentation, data validation, and data usability assessments.

### **SITE DESCRIPTION**

The 10 Eelweir Road site is located at 8 Mount Road in Pittsfield, Maine and is a 0.87-acre property located in a Corridor Development Overlay District targeted for growth. The site contains a vacant, wood-framed building, portions of which have collapsed and are unsafe. The building was constructed in 1950 which was used as a retail furniture showroom between 1955 and approximately 1986. In the late 1980s, the site was occupied by a tanning bed manufacturer and retailer. From the late 1980s through the early to mid-1990s, the site was occupied by a printing company. Prior to 1981, the site parcel was larger and encompassed the abutting residential lot to the west. In 1981 the lot was divided, thereby creating two separate parcels.

### **PREVIOUS ENVIRONMENTAL INVESTIGATIONS**

Based on information provided by the town, two prior environmental assessments were completed for the subject property under the Kennebec Valley Council of Governments (KVCOG) Brownfields Assessment Program. Both assessments are summarized below.

#### *Phase I Environmental Site Assessment, Weston & Sampson Engineers, January 2007*

Weston & Sampson Engineers, Inc. (WSE) completed a Phase I Environmental Site Assessment (ESA) for the 10 Eelweir Road site in January 2007. The Phase I ESA identified several *recognized environment conditions* (RECs) at the property that warranted further investigation that include:

1. The historic use of the site as a printing company may have impacted groundwater, soil, sediment, and surface water at the site.

2. Oil and hazardous materials containers stored on the site and the lack of disposal documentation may have impacted groundwater, soil, sediment, and surface water at the site.
3. The presence of a subsurface disposal system (the old leach field) may have impacted groundwater and soil at the site.
4. A floor drain located in the building with an unknown terminus location may have impacted groundwater, soil, sediment, and surface water at the site.

*Phase II Environmental Site Investigation, Weston & Sampson Engineers, December 2007*

To address the RECs identified in the January 2007 Phase I ESA, WSE conducted Phase II ESA investigation activities at the site between September 2007 and December 2007. As part of the Phase II ESA, WSE performed the following tasks at the site:

1. Performed an asbestos and hazardous materials survey (including universal wastes).
2. Located the former septic system (the old leach field).
3. Evaluated the existing floor drain.
4. Evaluated the aboveground storage tank (AST) area.
5. Advanced soil borings and installed groundwater monitoring wells at the site.
6. Collected and analyzed groundwater, soil, sediment, and surface water samples.

Based on the results of the Phase II ESA investigation and sampling activities, WSE determined that the following areas of the site required further evaluation and/or remedial measures:

1. Asbestos-containing materials, universal wastes, and drums within the building require removal/abatement and proper disposal.
2. Petroleum contaminated soil was noted in the vicinity of the AST and fill pipe that exceed Maine Department of Environmental Protection (DEP) remediation goals require removal.
3. Arsenic contaminated soil in the vicinity of the old leach field that exceed Maine DEP Remedial Action Guidelines (RAGs) that require further evaluation and may require removal.
4. Metals contaminated groundwater was quantified in the vicinity of the old leach field near the water supply well field requiring further evaluation.
5. WSE determined that the existing floor drain requires further evaluation after building demolition to identify terminus and evaluate conditions around it.

## **CONCEPTUAL SITE MODEL**

The site is located in a rural residential area of Pittsfield, Maine that has been targeted for growth by the town. Areas of the site not occupied by the building and parking areas are lightly wooded and undeveloped. The site is located approximately 1,000-feet northwest of the Sebasticook River and several areas of ponded surface water are located adjacent (east) of the site. Groundwater at the site was observed in monitoring wells at less than 10 feet below ground surface (bgs) and groundwater is perceived to flow east towards the wet area. Based on the Phase II ESA results and site conditions, the potential contaminants of concern, migration pathways, exposure pathways, and potential receptors at the site are described below.

### **Contaminants of Concern**

Based on information contained in the previous Phase I ESA, the former tenants of the subject property included: a furniture retailer, a tanning bed manufacturer and retailer, and a printing company. Contaminants of concern associated with the former uses and previously identified at the site include petroleum based products (i.e. fuel oils, and waste materials), volatile organic compounds (VOCs), metals, asbestos, and other potentially hazardous materials.

Based on the results of the previous Phase II Investigation, soil and groundwater in the vicinity of the old leach field are contaminated with metals (arsenic, chromium and lead, but may be attributed to background concentrations in soil and excess turbidity in groundwater), and soil in the vicinity of the AST have been contaminated with petroleum products. In addition, asbestos, universal wastes and hazardous wastes (drums) were identified within the building.

### **Migration Pathways**

The migration pathway for contaminants in soil would involve physical transport as concentrations that are sorbed to soil particles. The particles would travel downgradient with stormwater runoff towards the adjacent wet area. Additional migration pathways for soil contamination would be physical transport as dust particles distributed by dry, windy conditions. Contaminants leaching from soil during stormwater events may also transport contaminants into area drinking water.

### **Exposure Pathways Assessment**

The following exposure pathways were identified for the site:

Potential exposure through inhalation of dust contaminated with asbestos at this site. *As part of this remediation project, this potential exposure pathway will be addressed through removal of asbestos containing materials prior to building demolition. In addition, all universal wastes and hazardous wastes will also be removed prior to demolition.*

Potential exposure to soil contamination in vicinity of the fuel oil AST could result from dermal contact with petroleum contaminated soils, ingestion of particles via dirty hands, or from inhalation of airborne soil or dust particles under dry, or windy conditions as well as ingestion of contaminated groundwater. *As part of this remediation project, this potential exposure pathway will be addressed through the excavation of contaminated soils in this area and offsite disposal.*

Potential exposure to metals contaminated soil in the vicinity of the old leach field could result from dermal contact with contaminated soils, ingestion of particles via dirty hands, or from inhalation of airborne soil or dust particles under dry, or windy conditions as well as ingestion of contaminated groundwater. *Please note that the arsenic concentrations detected in this area (10 to 23 mg/kg) are consistent with background concentrations in Maine and therefore active remediation of this area will not be completed.*

The floor drain located within the building represents a potential exposure pathway by allowing petroleum and hazardous materials to be discharged to subsurface soil, groundwater and the adjacent wet area. *As part of this remediation the building will be demolished and the floor drain will be traced. This exposure pathway will be confirmed or dismissed through the collection of a soil sample at the floor drain terminus. Please note that if contamination in exceedance of state standards is detected, then additional investigations will be required.*

Potential exposure to contaminated groundwater is primarily through ingestion. Because the area receives its drinking water from private residential wells, exposure to potential contaminants in drinking water is a concern at the site. Based on previous sampling results, the metals detected in groundwater were attributed to turbidity contained in the samples collected. *As part of this remediation project, Credere plans to sample the onsite monitoring wells and adjacent residential water supply well for dissolved metals to confirm or dismiss this exposure pathway.*

### **Potential Receptors**

Potential receptors of contamination include humans and the environment. Potential human receptors include future site workers, residents, trespassers, and transient site visitors. *The potential adverse impacts to human receptors as well as the recommended methods for protecting this receptor are presented in the exposure pathway assessment above.*

The primary potential environmental receptor is the wet area along the eastern property boundary. This receptor can be adversely impacted by contaminated groundwater discharging into surface water, runoff from erosion of surface soils as well as hazardous

material discharges through the floor drain located within the building. *The potential adverse impacts to environmental receptors as well as the recommended methods for protecting this receptor are presented in the exposure pathway assessment above.*

## **SAMPLING DESIGN**

Based on the conclusions and recommendations for remediation at the site that were included in the previous Phase II Investigation report, as well as the Conceptual Site Model developed above, Credere plans to perform the following sampling tasks as part of the 10 Eelweir Road property cleanup. The data collected from these activities will serve as the basis for determining if any additional subsurface investigation and/or remedial actions are necessary during cleanup activities. **Figure 2** identifies the proposed post cleanup sampling locations to be collected. **Table 1** presents a summary of the sampling and laboratory analyses planned for the site. Sampling will be conducted in accordance with the standard operating procedures (SOPs) included in our June 2008 Generic QAPP and specified on **Table 1**. Samples will be submitted to Maine Environmental Laboratory (MEL) and/or Analytics Environmental Laboratory (AEL) for analysis. Additionally, requirements relative to Chain of Custody, Data Management and Documentation, Data Validation, and Data Usability Assessments contained in the QAPP will be followed.

The following details the media that will be sampled during cleanup:

### **Asbestos Abatement/Removal Confirmation Sampling**

Asbestos containing materials (ACMs) previously identified within the building will be abated/removed in accordance with Maine DEP Chapter 425 Asbestos Management Regulations. Following removal, air clearance sampling will be conducted by an approved abatement contractor in accordance with Maine DEP rules and regulations and the Air Monitoring Protocol. Per the Air Monitoring Protocol, both visual evaluation and clearance air sampling will be conducted. The number of air clearance samples for the abatement activities is provided in the Air Monitoring Protocol. Air clearance evaluation and monitoring will be conducted by a certified asbestos inspector. If additional building materials require sampling, samples will be placed in plastic bags, labeled, and delivered to the laboratory under a chain of custody. Air clearance and any necessary bulk material samples will be submitted to a state approved laboratory for asbestos analysis by polarized light microscopy by EPA Method 600/R-93/116. It is anticipated that bulk material and/or air filter samples will be required to obtain building clearances. **Table 1** contains pertinent details regarding the asbestos sampling and pertinent sampling methods. No sample numbers are noted for the asbestos sampling because this is dependent on amount and type of materials present.

In addition, universal wastes and hazardous waste identified within the building will be consolidated, removed from the site and property disposed. No analytical sampling will be required for this task.

### **Background Soil Sampling**

The Phase II Investigation identified arsenic contamination in the vicinity of the leach field and recommended that the old septic system be removed and the surface and subsurface soil be further characterized for arsenic during removal. To determine if arsenic contamination is the result of historical operations at the site and the result of contaminant discharges through the leach field, or if arsenic at the site is naturally occurring, background soil samples will be collected at the site and analyzed with an XRF to obtain a range of site-specific background concentration of metals prior to leach field excavation activities. Soil will be field screened with an XRF for metals in accordance with Maine DEP SOP DR#025. Each soil sample will be collected in accordance with Maine DEP SOP DR#006 be submitted for offsite laboratory analysis of arsenic. XRF field screening results will then be compared to laboratory analytical results to establish background arsenic concentrations for the site, and field screening comparisons for use during any necessary remediation. The proposed site specific background concentrations will be presented to the Maine DEP prior to implementing excavation activities so that site-specific cleanup goals can be established. Specific details regarding soil sampling including the anticipated number of samples, the number and type of bottles required, and preservation method can be found in **Table 1**.

### **AST Area Soil Excavation**

The Phase II Investigation report recommended that diesel range organics (DRO) contaminated soils detected along the AST fill pipe in exceedance of the Maine DEP Remediation Goal of 10 mg/kg be excavated and removed. Prior to excavation, Credere will request that the Maine DEP establish a site-specific remediation goal based on field screening including the field polybag headspace screening and visual and olfactory evidence of contamination. This will allow for field decisions to be made for determining the extent of soil to be excavated at the site without relying on laboratory analysis. Following excavation of soils based on field screening delineation, confirmatory soil samples will be collected in accordance with Maine DEP SOP DR#006 for offsite laboratory analysis to document the quality of soils at the limits of excavation and to confirm that the Maine DEP established remediation goal has been met. Specific details regarding soil sampling including the anticipated number of samples, the number and type of bottles required, and preservation method can be found in **Table 1**.

### **Groundwater Sampling**

The Phase II investigation indicated the presence of metals contamination in groundwater in the vicinity of the old leach field. High turbidity (suspended solids) readings in the groundwater samples analyzed may have biased laboratory analytical results. As a result, Credere will collect post-remediation confirmatory groundwater samples from the four (4) existing monitoring wells at the site using standard low-flow sampling techniques in accordance with Maine DEP SOP DR#003. Each sample will be laboratory analyzed for dissolved RCRA-8 metals to eliminate potential suspended solids analytical bias. In addition, one (1) sample will be collected from a residential well located on the adjacent property in accordance with Maine DEP SOP DR#001. The residential well sample will also be laboratory analyzed for dissolved RCRA-8 metals to determine if activities at the 10 Eelweir Road site have impacted area drinking water. Specific details regarding the post-remediation groundwater sampling including the number of samples,

the number and type of bottles required, and preservation method can be found on attached **Table 1**.

### **Floor Drain Characterization**

The Phase II investigation indicated an unknown discharge location for the floor drain observed in the building. During site remediation and/or building demolition, Credere will conduct additional characterization of soil along the floor drain piping and at the discharge location of the floor drain. Once located, one soil sample will be collected from beneath the floor drain terminus in accordance with Maine DEP SOP DR#006 for laboratory analysis of DRO, VOCs, and RCRA-8 metals. The soil sample will also be field screened for VOCs with a photoionization detector and for metals with an XRF to determine if additional sampling may be necessary in the area to delineate potential contamination. In addition, one surface water sample and one sediment sample will be collected within the wet area at the eastern property boundary and submitted for offsite laboratory analysis of RCRA-8 metals. Specific details regarding the characterization including the number of samples, the number and type of bottles required, and preservation method can be found on attached **Table 1**.

### **REGULATORY STANDARDS**

Because the site is located in a residential area and will likely be used for residential/commercial purposes in the future, field screening and laboratory results will be compared to the Maine DEP's RAGs for Residential use scenarios. Where RAGs are not available, soil concentrations will be compared to other appropriate regulatory standards and guidelines (e.g., EPA Region 9 Preliminary Remediation Goals (PRGs) for soil, and/or published background soil concentrations). If standards or guidelines do not exist, action levels will be triggered if the sample analytical results are above background levels or above naturally occurring ambient conditions.

Petroleum contamination associated with the tank will be compared to the Maine DEP's "Procedural Guidelines for Establishing Action Levels and Remediation Goals for the Remediation of Oil Contaminated Soil and Ground Water in Maine" (March 2000). Based on this "Decision Tree" approach, and the fact that drinking water wells are located in the vicinity of the subject property, petroleum contamination identified on the properties analytical results will be compared to Stringent Clean-up Goals for petroleum impacted sites. According to the Maine DEP guidelines, petroleum impacted soil identified above 5 mg/kg for gasoline and above 10 mg/kg for DRO based on laboratory analytical must be removed and groundwater containing more than 50 micrograms per liter (ug/L) of gasoline or fuel oil must be remediated at Stringent sites. Soil and groundwater containing free product must be remediated.

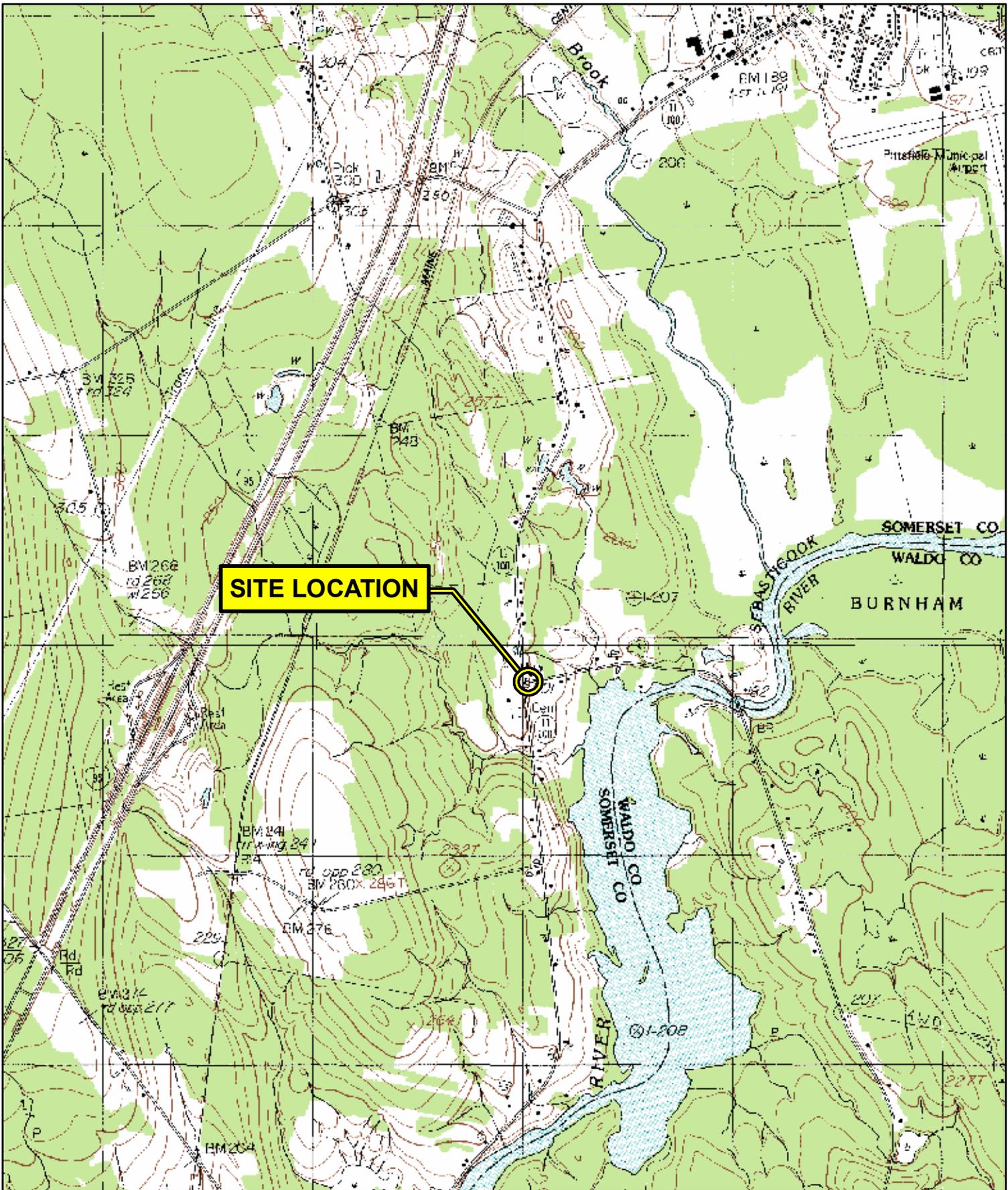
As part of this project, Credere will work with the Maine DEP to establish site specific cleanup goals for contaminants based on identified background concentrations and available laboratory analytical data.

**TABLE 1**  
**Summary of Sampling During Cleanup for 10 Eelweir Road (8 Mount Road)**  
**Pittsfield, Maine**

Task	Investigation Type	Media	Field SOPs	Sample IDs	Sample Depth (ft bgs)	Field Analysis/Observations	Rationale	Minimum No. of Samples for Analysis	No. of Field Duplicates	No. of Trip Blanks	Sample Container information & Preservative (per location)	Analytical Parameter(s)	Analytical Method	Laboratory SOPs
<b>ACM Cleanup Verification</b>	ACM Sampling	ACMs	According to Maine DEP Chapter 425	TBD	Air	Air Sampling, Visual Inspection, and Bulk Sampling	Determine the presence of Asbestos	According to Maine DEP Chapter 425	According to Maine DEP Chapter 425	NA	Air Filters, Plastic bags, labeled (no preservation)	Asbestos	Polarized Light Microscopy EPA 600/R-93/116	Included in SSQAPP Addendum No. 1, Rev. 2 (RFA 08252)
<b>Soil Excavation AST Area</b>	Soil Sampling	Soil	DR#006 DR#011 DR#012 DR#013	SS-1 through SS-20	TBD	Visual & Olfactory PID Headspace	Progressively delineate extent of petroleum contaminated soil during excavation	2	1	0	<b>DRO</b> - One 4 oz. glass jar with Teflon-lined cap per location (Chilled to 4°C)	DRO	ME 4.1.25	QA-T014 QA-T018
<b>Background Soil Sampling</b>	Soil Sampling	Soil	DR#006 DR#013 DR#015 DR#024 DR#025	Background-1 through Background-3	0 – 0.5' 2' (Approx.)	Visual XRF Screening	Analyze background soil for metals	6	1	NA	Poly-bag	Arsenic	7000 Series	As7060A 3050B
<b>Groundwater Sampling</b>	Groundwater Sampling	Water	DR#003 DR#012 DR#013 Crederc-001 Crederc-004	MW-1 through MW-5	NA	Visual & Olfactory Field Parameters: Temperature, pH, Dissolved Oxygen, Turbidity, Conductivity, Oxidation-Reduction Potential	Determine the presence and nature of metals in groundwater	5	1	0	<b>RCRA Metals</b> – 500 ml HDPE plastic Nitric preserved to pH <2 (Chilled to 4°C)	RCRA-8 Metals	7000 Series	Hg7470A As7060A Se7740 Ag7760A Ag7761A 7000A 3005A 3020A 3050B
<b>Residential Well Sampling</b>	Groundwater Sampling	Water	DR#001 DR#012 DR#013 Crederc-001 Crederc-004	DW-1	NA	Visual & Olfactory Field Parameters: Temperature, pH, Dissolved Oxygen, Turbidity, Conductivity, Oxidation-Reduction Potential	Determine the presence and nature of metals in groundwater	1	0	0	<b>RCRA Metals</b> – 500 ml HDPE plastic Nitric preserved to pH <2 (Chilled to 4°C)	RCRA Metals	7000 Series	Hg7470A As7060A Se7740 Ag7760A Ag7761A 7000A 3005A 3020A 3050B
<b>Floor Drain Terminus Investigation</b>	Soil Sampling	Soil	DR#006 DR#011 DR#012 DR#013 DR#015 DR#024 DR#025	Drain-1	Beneath Terminus	Visual & Olfactory PID Headspace XRF Screening	Determine if floor drain discharges impacted site soil	1	1	1	<b>DRO</b> - One 4 oz. glass jar with Teflon-lined cap per location (Chilled to 4°C) <b>VOCs</b> - (1) 40 ml VOA w/5 ml methanol, (1) 40 ml VOA for % solids <b>RCRA Metals</b> – One 4 oz. glass jar with Teflon-lined cap per location (Chilled to 4°C)	DRO VOCs RCRA Metals	ME 4.1.25 8260B 7000 Series	QA-T014 QA-T018 Hg7470A As7060A Se7740 Ag7760A Ag7761A 7000A 3005A 3020A 3050B QA-V005

<b>Floor Drain Investigation</b>	Surface Water Sampling	Surface Water	DR#004 DR#012 DR#013	SW-4	NA	Visual & Olfactory	Determine the presence of metals at the property boundary.	1	1	0	<b>RCRA Metals</b> – One 500 ml plastic bottle preserved with nitric acid. (Chilled to 4°C)	RCRA Metals	7000 Series	Hg7470A As7060A Se7740 Ag7760A Ag7761A 7000A 3005A 3020A 3050B
<b>Floor Drain Investigation</b>	Sediment Sampling	Sediment	DR#004 DR#012 DR#013	SED-4	NA	Visual & Olfactory	Determine the presence of metals at the property boundary.	1	1	0	<b>RCRA Metals</b> – One 4 oz. glass jar with Teflon-lined cap per location (Chilled to 4°C)	RCRA Metals	7000 Series	Hg7470A As7060A Se7740 Ag7760A Ag7761A 7000A 3005A 3020A 3050B

**Notes:** ACM – Asbestos-containing material      TBD – To be determined      NA – Not applicable      bgs – Below ground surface



DRAWN BY: AKL	DATE: 2/5/2009
CHECKED BY: RSV	PROJECT: 09001046

## Figure 1 Site Location Map

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