

# GENERAL CAPABILITIES STATEMENT



## Credero Associates, LLC

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## Credere Associates, LLC

Credere is Italian for “to believe” and at Credere Associates, LLC (Credere) we believe that the path to true prosperity is realized when community revitalization, economic development, environmental remediation, and engineering are combined. Credere was formed in 2007 by Theresa and Rip Patten as an environmental and geotechnical engineering and consulting firm specializing in assessing, managing and resolving environmental challenges that complicate remediation, construction, and redevelopment projects.

Our work helps to resolve significant, complex environmental issues at federal government, Department of Defense (DoD), Formerly Utilized Defense Sites (FUDS), Superfund, and EPA-funded Brownfields properties being investigated or remediated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), and Toxics Substances Control Act (TSCA).

Throughout our 15+ year history, Credere has established a proven track record for:

- Reliably executing high quality work in accordance with contract performance standards
- Performing work in remote areas, extreme weather conditions, and in high-risk environments
- Strict adherence to safety and quality control procedures
- Consistently meeting budgets and schedules

### SMALL BUSINESS INFORMATION

Credere is an SBA certified 8(a) disadvantaged small business as well as a certified Woman Owned Small Business (WOSB).

Credere is a small business under the following NAICS Codes:

238910	Site Preparation Contractors
541330	Engineering Services
541350	Building Inspection Services
541620	Environmental Consulting Services
541690	Other Scientific and Technical Consulting Services
541715	Research and Development in the Physical, Engineering, and Life Sciences
541990	All Other Professional, Scientific, and Technical Services
562910	Remediation Services

GSA Contract #: 47QRAA18D005L (00CORP)  
 UEI: XSL5LUMQL6U5;  
 CAGE #53PS6

## TECHNICAL SERVICES

Credere's services include:

- CERCLA/RCRA Remedial Investigations
- Hazardous Building Material Surveys (asbestos, PCBs, lead-based paint, universal wastes, mold)
- Building Abatement and Demolition (JV w/ EnviroVantage)
- Natural Resource Inventories
- Wetlands Delineation & Permitting
- NEPA Compliance
- R&D Support / Staff Augmentation
- TSCA-Regulated PCB Remediation
- Brownfields Assessments and Cleanups
- Environmental General Contracting
- Cleanup Oversight, Documentation, and Closure
- Environmental Site Assessments
- Long-term Groundwater Monitoring, Optimization & Reporting
- Treatment System Operation & Maintenance (O&M)
- Geotechnical Evaluations/Engineering



Gould Island RI/FS

## REPRESENTATIVE PROJECT EXPERIENCE

Credere Associates, LLC has extensive experience working for various federal, state, local, and private clients and as Prime contractor for US Army Corps of Engineers, NAVFAC, US Coast Guard, and US Department of Transportation. Representative services and associated projects include the following:

### CONSTRUCTION, REMEDIATION, AND O&M

**NAVFAC PWD-Maine 5-Year Environmental Construction IDIQ (Credere JV with EnviroVantage, Inc.)** - Since 2020, Credere EnviroVantage, LLC (a JV between Credere and EnviroVantage, CEV) has been executing a \$4 million IDIQ contract to self-perform environmental construction services at Portsmouth Naval Shipyard (PNSY) and facilities within the remaining PWD-Maine Area of Responsibility (AOR). To date, we have executed 11 Task Orders. Example projects include:

**NSA Cutler Transformer House PCB Abatement** - **Removal of PCB caulking** from roofline of 24 separate transformer houses at NSA Cutler including work plan and Accident Prevention Plan preparation, caulking characterization, caulking removal, transport and disposal (T&D) of waste, post-removal confirmatory sampling, and remediation summary report preparation.



**PNSY B151 Abatement and Demolition** - **Demolition of former manufacturing building** within the Controlled Industrial Area (CIA) of PNSY. Work included utility disconnection, abatement of HBM (asbestos, lead paint, and PCBs) prior to demolition, building removal, and T&D of waste. Site restoration included electrical utility relocation and replacement, repaving of impacted areas, and concrete slab preparation for reuse.

**PNSY B44 and B29 Mold Abatement** - **Removal of mold-impacted building materials** including wall board and insulation, cleaning and sealing remaining mold-impacted impervious surfaces, replacement of removed building materials, and restoration of office areas. Work was performed within containment enclosures with negative air pressure. Work also included pre- and post-abatement air monitoring.

**PNSY B75 and B96 Lead Paint Abatement** - **Chemical removal of lead-based paint and manual removal of loose and flaking lead-containing paint** from these industrial buildings in the CIA of PNSY. Work was performed within negative air containment enclosures and included pre, post, and daily perimeter air monitoring and daily exterior wipe sampling, along with site restoration after abatement activities.

**NAVFAC NSA Cutler Site 7 South Helix House PCB Soil Remediation (Credere Sub to IO Environmental)** - IO Environmental & Infrastructure (IOEI) was awarded a contract by the U.S. Navy to perform **PCB Remediation at the Navy's Cutler, Maine, communications facility**. IOEI subcontracted Credere to provide project planning, management, field support, and reporting for the project. During the early to mid-1980s, an estimated 40 to 50 gallons of PCB-laden dielectric oil spilled onto the floor and walls from an electrical transformer switch located within a transformer room. The spill traveled through the doorway and along a wall of the building. Historical data indicated the oil migrated downward through the soil to varying depths and was also tracked horizontally across the ground surface to the east and south away from the spill area. Soil sampling occurred between 1996 and 2011 that indicated the presence of PCB Aroclor-1260 at varying depths throughout the vicinity of the transformer room. In 2016/2017, a Remediation Investigation/Feasibility Study and Design Basis/Remedial Action Work Plan were developed that specified that surface soil would be excavated to up to 3 feet throughout the area and a cover system would be installed to maintain the integrity of the Site's grounding mat while protecting the health of Site workers from contaminants remaining below the mat.

Credere prepared all appropriate health and safety, quality control, and work plans to implement the project, providing local project management and field support, including oversight of cleanup environmental contractors, and daily and final reporting to the Navy. Credere directed the appropriate preparation of the Site including the installation of erosion and sedimentation controls, construction of work zones, baseline, progress, and final surveys, oversight of soil excavation using non-invasive vacuum excavation techniques to protect Site infrastructure, as well as performed ongoing air monitoring for dust. Approximately 540 tons of PCB-contaminated soil was excavated and shipped offsite for disposal at an appropriately



licensed landfill. Following excavation, Credere performed the collection of over 150 confirmatory soil samples using incremental sampling methodology (ISM).

**Soil Remediation at Former Air Force Station FUDS, St. Albans, VT** - Credere served as the Prime Contractor to USACE CENAE for its \$2.8 million Remedial Action and Project Closeout Activities originally including removal of up to 10,000 tons of coal ash-contaminated soil from the former boiler house area. Work included implementing a **Pre-Design Investigation** to fully characterize the horizontal and vertical extent of coal ash impacted soil for removal and disposal.



Credere finalized the UFP QAPP, Field Sampling Plan (FSP), and APP, and completed field work for the Pre-Design Investigation in December 2017. Using the analytical results for PAHs, a benzo(a)pyrene toxicity equivalent (BaP-TE) was calculated for each sample for comparison to the previously established Remedial Goal (RG). Updated human health risk assessment screening values were used by Tetra Tech to recalculate the RG to better reflect currently published values. The recalculation indicated the RG for BaP-TE would be substantially higher and for arsenic would be slightly higher, resulting in no further action for soil removal to meet the RGs. Credere prepared a Pre-Design Investigation report recommending no soil removal which was accepted by USACE and VTDEC. **Our work resulted in over \$2 million in cost savings to USACE and the site was formally closed out of the FUDS program.**

**Performance Assessment and Remedial Treatment System O&M, Callahan Mine Superfund Site, Brooksville, ME** - Credere

was contracted by USACE CENAE on behalf of the USEPA to perform monthly **O&M and environmental monitoring and sampling and performance assessment** of the mine tailings impoundment underdrain and constructed wetlands treatment system. Credere completed the site safety and health plan (SSHP), and sampling and analysis plan/quality assurance project plan (SAP/QAPP). Field operations included monthly summary reports produced for each event. Results and recommendations from this contract have been used by USACE/EPA to evaluate the final **remedial design** alternative, which is currently being implemented. The site is receiving \$21 MM in funding under the Infrastructure bill.



Callahan Mine Superfund Site  
Brooksville, Maine



**Brunswick Naval Air Station Jet Fuel Pipeline Removal Oversight, Harpswell & Brunswick, ME**



**Navy Jet Fuel Pipeline Removal  
Harpswell & Brunswick, ME**

**(Credere Sub to Charter Contracting)** As a subcontractor to Charter Environmental, Credere provided a **Certified Geologist, full time field engineering oversight, and environmental management services** for the removal of a 7.26-mile Jet Fuel pipeline from Casco Bay in Harpswell to Brunswick Naval Air Station. This included environmental sampling, investigation, and remediation oversight of releases from piping in addition to asbestos abatement. Credere also provided environmental management oversight and documentation as the project involved 14 stream crossings, 3 acres of wetland, 1 acre of

significant freshwater wetland, and 20 vernal pool crossings, in addition to private landowner relations.

**Brunswick Naval Air Station Site 17 Soil Remediation Oversight, Brunswick, ME (Credere Sub to Charter Contracting)**

- As a subcontractor to Charter Contracting, Credere provided **soil removal oversight and confirmatory soil sampling** for the removal of approximately 600 tons of pesticide-contaminated soil from Site 17. Work included documentation of soil removal, waste characterization, and post excavation confirmatory soil sampling. Credere also provided support for environmental reporting and QC review by one of our Maine Certified Geologists.

**Portsmouth Naval Shipyard 12-Month Daily COVID Cleaning Contract (Credere JV with EnviroVantage, Inc.)**

- From September 2020 to August 2021, CEV completed daily (once per shift) **COVID cleaning of high touch surfaces** within the common areas of all 85 buildings within PNSY including 4 buildings with 2 daily shifts and weekend work. CEV utilized EPA-approved COVID disinfectants to manually wipe down high touch surfaces (door handles, light switches, elevator buttons, stairway handrails, cabinet drawers, counter tops, sink/refrigerator handles, etc.) within each of the buildings, performed weekly QC inspections, as well as completed monthly reporting.

**ENVIRONMENTAL INVESTIGATIONS & ENGINEERING**

**USACE AE HTRW Contract: Gould Island Navy FUDS RI/FS, Narragansett Bay, RI**

- Under Credere's \$3 million AE HTRW contract with USACE CENAE, Credere is implementing a **Remedial Investigation/Feasibility Study (RI/FS)** at the Former Gould Island FUDS Navy torpedo testing facility in Narragansett Bay. The RI/FS includes investigation of more than 50 Areas of Concern (AOCs) to determine the nature and extent of contaminants (primarily cPAHs, dioxins, metals, PCBs, EPH/VPH, VOCs and SVOCs. AOCs include an incinerator and waste disposal area, electrical assets comprising the transformer pen, switch gear buildings, stationary high voltage transformers at major facility buildings, UST and other tank areas, releases associated with the Torpedo Storage, Degaussing, Fire Station, Maintenance, and



Power Plant buildings, and coal storage areas. Credere completed the initial data gap analysis and field reconnaissance, and UFP Quality Assurance Project Plan (QAPP). In 2018, Credere commenced implementing the field program with installation of five bedrock groundwater monitoring wells; advancement of approximately 75 direct-push soil borings, installation of 9 overburden groundwater monitoring wells, and collection of concrete samples throughout the island to support possible TSCA PCB assessment requirements. ISM sampling has been used extensively (over 100 samples) to establish both background and contaminant exposure point concentrations. More than 300 discrete subsurface samples have been acquired by direct-push and hand tooling for confirmation of vertical depth of soil impacts. Approximately 65 subtidal and intertidal sediment samples have been collected by dive operations to establish background and assess fate and transport of metals, PAHs, PCBs and dioxins from incinerator waste and debris eroding into intertidal waters along the western shoreline. Test pits and surface geophysics were used to assess thickness and depth of these wastes and debris along the shoreline. RI delineation progress was measured with an iterative and comprehensive data gap assessment process to close all data gaps prior to formal development of the RI report.



Gould Island RI, Narraganset Bay, RI

Credere with support from Tetra Tech as lead risk assessors also conducted a preliminary risk assessment that identified several areas that will pose no significant risk as well as some areas with additional data gaps requiring further investigation to determine the nature and extent of contamination. Tetra Tech also completed a preliminary evaluation of biota sediment accumulation factors (BSAF) for prediction of body burdens and background comparisons of important bioaccumulating chemicals (IBACs) in tissues of representative marine invertebrate species. Additional data gap sampling was conducted in Spring 2022 and the Risk Assessment and Draft RI report will be drafted in Q1 2023 and Q2 2023, respectively.

As part of its \$4.3 million **Building Demolition and Debris Removal (BDDR)** contract with USACE, in Spring 2019 and Fall 2021, Credere abated and removed six large buildings that presented safety concerns hindering further assessment, along with one dilapidated pier, and removed two Underground Storage Tank (USTs). Due to scheduling constraints, as the Island is a bird sanctuary which prohibits work during the active nesting season (April through August), Credere successfully submitted work plans and an Accident Prevention Plan (APP) and began executing the work within 2 months of receiving contract notice to proceed, and completing work on schedule and under budget. Work was executed using crane barges and large landing craft vessels to move equipment and debris to and from the island. **Credere received a “Challenge Coin” from the CENAE Geo-environmental Section for “recognizing outstanding achievements” for our “dedication and perseverance” for executing this project. Credere was the FIRST contractor partner to receive this coin from this Section.**

#### **Remediation Design and Cleanup Oversight, Callahan Mine Superfund Site, Brooksville, ME -**

As a subcontractor to Charter Environmental, Credere completed the **final design** for the cleanup of mine waste including PCB contaminated soil removal, onsite disposal and capping of waste ore piles, and contaminated residential soils, as well as geotechnical evaluation including stability analyses, and stormwater management planning for the final grading and capping of



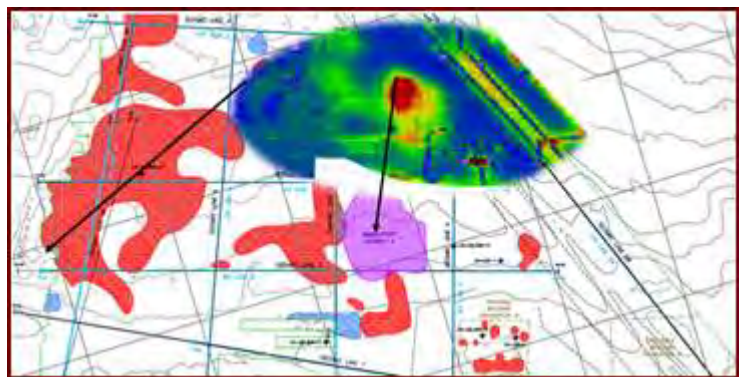
the tailings impoundment. Credere also provided **oversight, environmental monitoring and sampling, and remediation documentation** during onsite cleanup activities.

**Loring Air Force Base FUDS Remedial Investigations / Risk Assessments** - Credere was contracted by USACE CENAE in 2015 to perform **remedial investigation (RI) and risk assessment** activities for the Loring Air Force Base FUDS Laundry Annex, Communication Annex, and LO-13 Launch and Control sites in Presque Isle, Perham, and Caswell, Maine. Credere prepared cumulative summaries of the Sites' environmental histories, performed risk assessment screenings, and identified data gaps. Credere completed the RI and Tetra Tech completed the risk assessment on the Communication Annex with a conclusion of no actionable risk. **This site is in the process of being closed out from the FUDS program.** Credere also designed a scope of work, SSHP, and SAP/QAPP for the remaining sites to fill the identified data gaps (soil, groundwater, soil vapor) required to complete the risk assessment for remediation or site closure.



Communication Annex RI/RA

**Former Dow Air Force Base Salvage Yard FUDS RI/FS, Bangor, Maine** - Credere is the prime contractor for USACE CENAE for performing a comprehensive Remedial Investigation and Feasibility Study (RI/FS) at this FUDS site associated with the former Dow Air Force Base. Preparatory activities for the RI included Site clearing, performance of EM-31 electromagnetic, magnetic, and seismic refraction geophysical surveys to map subsurface debris and bedrock structure (topography and low resistivity zones), wetland delineations and surveys, and a Munitions and Explosives of Concern (MEC) Avoidance Survey by EA Technology. To date, approximately 250 analytical samples have been collected for VOCs/SVOCs, PAHs, metals, hexavalent Cr, VPH/EPH, and natural attenuation parameters to characterize 14 Incremental Sampling Methodology (ISM) Decision Units (DUs), test pits, soil borings, discrete surface soil locations, background soil locations, surface water/sediment/porewater and overburden groundwater. Initial baseline human health risk characterization of soils, surface water, and sediment has been completed by Tetra Tech and a bedrock characterization program is underway. Bedrock characterization includes a 3-D ERT survey to refine the EM 31 anomaly, an integrated bedrock fractured fracture analysis combining a LiDAR photolineament analysis bedrock outcrop mapping. Up to five, 300-foot deep air hammered bedrock borings are currently being drilled (Jan/Feb 2023) and geophysically logged (standard caliper and electric logs, acoustic televiewer (ATV), bore hole image processing (digital logs) and heat pulse flow meter (HPFM) logging under ambient and stressed conditions) to assess bedrock structure and groundwater hydrophysical characteristics. FACT liners will be used to locate TCE/VOCs in fractures and rock matrix, followed by transmissivity



Geophysical Investigations to Delineate Disposal Areas and Bedrock Surface





profiling. These data will be evaluated to design and install FLUTE multilevel sampling port systems and support HHRA for groundwater.

**Caswell Air Force Station FUDS CERCLA Remedial Investigation, Caswell ME** - The former Caswell Air Force Station (AFS) is in northeastern Aroostook County, Maine, approximately 3 miles northeast of Loring Air Force Base (LAFB), Limestone, Maine. In the 1950s and 1960s, the AFS comprised 46 buildings including five (5) radar buildings/towers, power and heating plants, warehouses, motor pool, water and sewage treatment plants, barracks, family housing and other support buildings. Throughout the years, the AFS operated Army-Navy (AN) Fire Control, Radar and Search and Fixed Permanent land-based, Radar and Search (FPS; AN/FPS-10, AN/FPS-6, AN/FPS-7, and AN/FPS-26) and later became part of the Tactical Air Command (TAC) in 1979. USACE contracted Credere to conduct a CERCLA Remedial Investigation and Human Health Risk Assessment and Ecological Screening. Historical operations, which included use and storage of oil in numerous USTs associated with heating and power generation, as well as hazardous materials associated with electrical operations and transmission, equipment cleaning, and maintenance, resulted in the release of chlorinated solvents, principally trichloroethylene (TCE). Alleged repeat dumping of transformer oils containing PCBs, VPH/EPH, metals, and other VOCs/SVOCs also occurred. Operations also included storage of coal and potential disposal of coal ash, resulting in the presence of carcinogenic polyaromatic hydrocarbons (cPAHs) as well as treatment of facility, storm and sanitary waste waters that were discharged to a central leach field.



To date, 16 Areas of Concern (AOCs) have been investigated to determine the nature and extent of contaminants in surface soil, subsurface soil, and fractured bedrock groundwater. ISM sampling has been used with hand tools to the maximum extent

possible where surface conditions were suitable (38 samples) to establish both background and contaminant exposure point concentrations for nature and extent and risk assessments. ISM Decision Units and Sample Units (DUs/SUs) were adjusted as necessary based on observed site conditions or were abandoned entirely if found to be unfeasible and are planned for further collection using drilling equipment where soil conditions were prohibitive of ISM sampling by hand tools. A total of 114 discrete subsurface soil samples have been acquired by direct-push and hand tooling methods for confirmation of vertical depth of shallow and deep soil impacts. Six bedrock wells were installed to the first water bearing fracture zone to evaluate groundwater impacts downgradient of the principal AOCs. The bedrock wells were positioned based on an assumption of radial groundwater flow, which was confirmed by potentiometric water level measurements that indicated the initial proposed well locations were appropriate to characterize impacts.

During investigation of FPS 26, soil samples retrieved from a 20 to 25-foot depth at the contact zone of the shallow and deeper till were associated with immediate onset of physical worker exposure symptoms (including but not limited to tingling and numbness of extremities, respiratory irritation) and work was immediately halted. An investigation of the area in Fall 2020,



with workers in Level B supplied air respirators, did not determine the source but eliminated radiation. Subsequent investigation of an adjacent downgradient area in Spring 2021 encountered similar exposure symptoms and a toxicological review of the symptoms, peer reviewed by Tetra Tech and EA Engineering, narrowed the analytical list for analysis of the soil sample that had previously been collected and frozen. Based on that data, to date, the chemical responsible for exposure symptoms has not been determined and the remainder of the RI is on hold due to safety considerations until the path forward is resolved with the USACE project team.

**Long Term Monitoring, Former Air Force Radar Tracking and Ground to Air Transmitter/Receiver Sites, Bucks Harbor/Machiasport and Glenburn, Maine** - As a prime contractor to USACE and formerly as a subcontractor to Absolute Resource Associates (ARA) of Portsmouth, NH, Credere provides on-site field sampling scientists, Maine Certified Geologist support, and reporting for the **long-term monitoring** projects at the former Air Force facilities located in Bucks Harbor and Glenburn, ME. Credere staff perform annual and biannual sampling at approximately 30 groundwater locations and 30 residences per site, in addition to evaluating monitored natural attenuation parameters and coordinating the logistics of performing sampling in remote and some rugged terrain areas. An evaluation for vapor intrusion potential is being conducted.

## **HAZARDOUS BUILDING MATERIALS ASSESSMENT AND ABATEMENT**

**PWD-Maine 5-Year General Environmental Services IDIQ Contract** - Since 2020, Credere has been executing a 5-year General Environmental Services contract with PWD-Maine that includes **monthly drinking water sampling, pre-renovation hazardous building materials (HBM) sampling** for asbestos, lead and RCRA 8 metals, and minor HBM abatement at Portsmouth Naval Shipyard (PNSY) as well as 4 other Naval Support Activity (NSA) locations in Maine.

**Portsmouth Naval Shipyard Paint Blast Rubber Building Consolidation Hazardous Building Materials Survey and Abatement Engineering, Kittery, ME (Credere Sub to Colby Co)** - Credere



Portsmouth Naval Shipyard  
Kittery, Maine

was contracted by Colby Co. Engineering (Colby) to conduct **hazardous building material surveys** for eight (8) buildings at the Portsmouth Naval Shipyard (PNSY) as part of the consolidation of the Paint, Blast, and Rubber facility. These surveys targeted asbestos-containing material (ACM), lead-based paint, TSCA-regulated PCB-containing materials, and universal and demolition waste stream inventories, and were performed by our State-certified inspectors. Credere also provided assistance with the technical specifications for abatement in SpecsIntact for the contractor bid package.

**Portsmouth Naval Shipyard Building 158 & 159 Hazardous Building Materials Services, Kittery, ME (Credere Sub to Watermark)** - Credere provided **hazardous building material assessment and abatement oversight services** as part of the renovation of one building and demolition of a second building. Prior to renovation and demolition, Credere prepared a Sampling and



Analysis Plan detailing sampling and analysis methods for Navy approval. Credere then conducted assessment and characterization of building materials in these buildings including lead-paint screening; a universal and regulated waste inventory; sampling of ACM, sampling of PCB-containing materials; sampling of settled dust for lead, mercury, and asbestos, and visual inspection and sampling assessment of mold and guano. Finally, Credere provided abatement oversight and post abatement air clearance testing as part of the implementation of the construction project.

**MaineGeneral Thayer Hospital Asbestos Abatement, Waterville, ME** - For this project, Credere performed phased **asbestos abatement** over 9 months as part of a redesign and remodeling of significant portions of this active and occupied hospital. Credere coordinated with the client and general contractor to complete abatement as each area became available and to keep the overall redevelopment on schedule. Because of unknown quantities of asbestos prior to starting the project, Credere worked on a time & materials basis, but was able to complete the original scope of work as well as a number of additional areas outside the original scope, and still remained within our original contracted budget.



MGMC Thayer Unit  
Waterville, Maine

## GEOTECHNICAL ENGINEERING

**Skyhaven Airport Taxiway Reconstruction** - Credere conducted a **geotechnical investigation** to support Jacobs Engineering in the design of the taxiway expansion and drainage improvements at the Skyhaven Airport in Rochester, NH. Field work including the advancement of 16 soil borings to determine the condition and thickness of asphalt around the hangars and soil conditions throughout the area to facilitate the expansion of an existing taxiway, other taxiway repairs, and/or hangar demolition/construction. Each soil boring was advanced using hollow-stem auger techniques. Standard Geotechnical testing was also conducted including gradation tests (ASTM D-1140) and two (2) plasticity tests (ASTM D-4318). Results of the geotechnical soil evaluation including detailed soil boring logs, analytical laboratory reports, and site photographs were documented in a written report. The final report was provided to the client within nine (9) days of implementation of the field program.



### **Callahan Mine Superfund Site Tailings Impoundment Geotechnical Investigation and Evaluation**

Credere conducted an extensive **geotechnical investigation** of the tailings impoundment that including the characterization and evaluation of the subsurface soil properties throughout the tailings impoundment, specifically determining the thickness and strength parameters of the basal glaciomarine silt-clay deposit and the tailings; locating the transition, extent, thickness of sand-tailings to mixed-tailings to slimes; determining the hydrological conditions throughout the



impoundment; defining the geometric configuration and geotechnical properties of the perimeter berm material; determining the existing static and seismic stability of the tailings impoundment using Geo-Studio Slope/W modeling software, and evaluating the feasibility of relocating residential and/or ore pad material to the impoundment as part of OU-1 remedial action. The field investigation program included the excavation of 22 test pits, 28 soil borings, the installation and monitoring of 13 overburden monitoring wells and 3 bedrock wells, installation and monitoring of 11 vibrating wire piezometers, and the collection of data from 33 seismic/piezcone penetrometer tests (SCPT/CPTs). This work was performed by Credere to support the relocation of PCB contaminated soil to the tailings impoundment as well as future remedial actions at the tailings impoundment area. EPA completed installation of a buttress along the toe of the Tailings Dam in August 2020 and cover system with a low permeability geomembrane and geocomposite drainage layer in 2021.

**Other Miscellaneous Geotechnical Engineering Projects** - Credere has comprehensive experience in **geotechnical evaluations** at numerous sites encompassing a wide range of subsurface conditions from deep deposits of sensitive soft clay to bony till. Field work has

comprised of completing test boring and test pit programs including logging subsurface conditions, classifying soils, conducting in-situ field vanes, collecting undisturbed Shelby tubes and/or bedrock core samples, installing piezometers, inclinometers, and settlement plates associated with settlement monitoring programs. Credere has evaluated subsurface conditions; estimated anticipated settlement based on consolidation test; evaluating clay strength and stability of embankments; calculated the allowable bearing capacity of the soil; and developed recommendations for shallow and deep foundations, retaining walls, pavement sections, reuse of on-site soil materials, and earthwork construction. Credere has provided construction quality control, coordination of soils laboratory testing, performed field moisture-density test of compacted fill, and prepared daily field reports summarizing the contractor's activities, results of field density test, and any additional field recommendations.



Projects include:

- Manchester Boston Airport, Manchester, NH
- Needham Airport, Needham, MA
- Route 25, Gorham, ME
- State School, Brewer, ME
- Eastern Fine Paper, Brewer, ME
- Keene Airport, Keene, NH
- Nantucket Airport, Nantucket, MA
- Plymouth Airport, Plymouth, NH



## NATURAL RESOURCES / WETLANDS / NEPA

Credere has comprehensive experience in a wide range of natural resource related experience including the collection and evaluation of sediment samples for dredge material disposal permitting; water and biological sampling in freshwater and riverine environments, identifying plants, wildlife, and benthic infauna from terrestrial and freshwater environments, identifying wetland vegetation and soil types, and utilizing linear discriminate analysis to simulate project conditions.

**Brunswick NAS BRAC Picnic Pond Sediment Sampling (Credere Sub to Tetra Tech)** - In 2019, Credere supported Tetra Tech's remedial design project for sediment excavation at Picnic Pond at the Former Naval Air Station in Brunswick, Maine. For the work, Credere retrofitted an inflatable pontoon boat that could be deployed within the steeply embanked pond without a boat launching access area. Sediment coring was conducted along transects perpendicular to the pond axis using 3-inch diameter polycarbonate core barrels 48 inches in length and fitted with an aluminum core catcher to enhance recovery and provide sufficient sample volume. All cores were collected with a Specialty Devices Inc (SDI) VibeCore-Mini sampling device. In addition, separate transects were conducted for depth measurement and creation of bathymetric profiles to confirm prior depth profile information.

Credere worked cooperatively with Tetra Tech collecting cores, transporting them to a central processing area and extruding the core for classification and lithologic logging. TetraTech was responsible for sediment subsampling, homogenization and placing samples in containers for off-site analysis. Excess sediment and decontamination fluids were containerized for disposal. The project was completed within one week.

**NAVFAC Newport Gould Island Sediment Sampling Support (Credere Sub to Tetra Tech)** - As part of Tetra Tech's sediment remediation project on the NAVFAC-owned portion of Gould Island, Credere supported Tetra Tech in **completing post-dredge sediment sampling** on the north side of the island. Work included sediment testing over a 2-week period using barge-supported hollow stem auger sampling, sediment logging, sediment processing, and sediment packaging for laboratory analysis.

**Miscellaneous NEPA Evaluations** - Credere has extensive experience performing **NEPA Evaluations** for projects which aim to receive US Department of Housing and Urban Development (HUD) funding. This includes performing research and gathering information about the Site's environmental history, flood insurance rate maps, wetlands, endangered species, air quality attainment, historical preservation, local hydrology, potential economic impacts of the project, etc. Credere has performed NEPA Environmental Assessments at various Sites including:

- Former Allied Leather Penacook Brownfields Redevelopment, Concord, NH
- Seton Towers, Waterville, Maine
- Colonial Theatre, Laconia, New Hampshire



- 165 Lambert Street, Portland, Maine
- Academy Street, Monmouth, Maine
- 780 Stevens Ave, Portland, Maine
- Rumford Fire Station, Rumford, Maine

**Various Wetlands Delineations** - Credere has extensive experience in water and biological sampling in freshwater and riverine environments, identifying plants, wildlife, and benthic infauna from terrestrial and freshwater environments, identifying wetland vegetation and hydric soil types, and utilizing GPS/GIS to perform spatial analysis. Utilizing the US Army Corps **Wetland Delineator Methods**, Credere has performed the following wetland delineations including:



- Former Dow Air Force Base Salvage Yard, Bangor, Maine
- 48 School Street, Kennebunkport, Maine
- Map 91, Lot 4, Kennebunk, Maine
- Map R-70, Lot 12, Berwick, Maine
- Map U-4, Lot 133, Berwick, Maine

## CREDERE REFERENCES

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Portsmouth Naval Shipyard, Kittery, Maine

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