PHASE II ENVIRONMENTAL SITE ASSESSMENT SUMMARY REPORT

Forster Mill
581 Depot Street
Wilton, Maine

Prepared for:

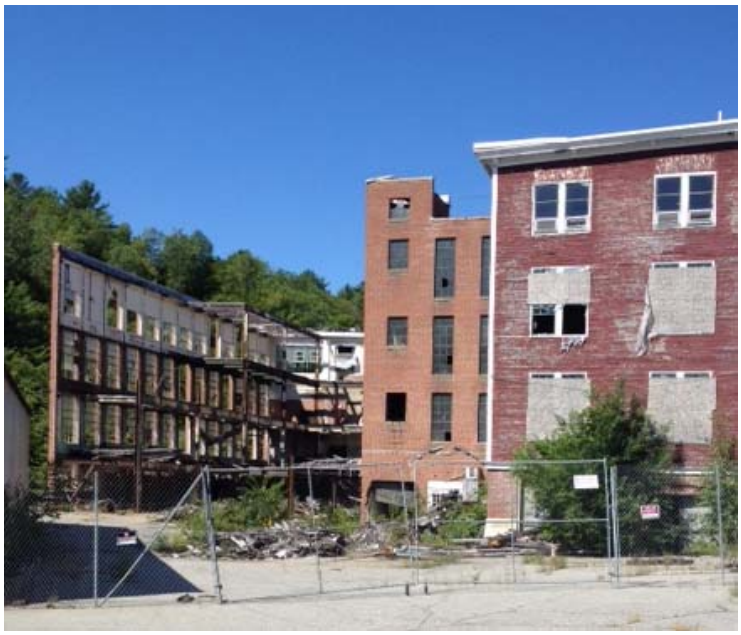
Town of Wilton
158 Weld Road
Wilton, Maine 04294

On Behalf of:

Maine Department of Environmental Protection Bureau of Remediation and Waste Management
17 State House Station,
Augusta, ME 04333

Prepared by:

TRC Environmental Corporation
6 Ashley Drive
Scarborough, Maine 04074
(207) 879-1930



December 2015

PHASE II ENVIRONMENTAL SITE ASSESSMENT SUMMARY REPORT

Forster Mill
581 Depot Street
Wilton, Maine

December 2015

Prepared for:

Maine Department of Environmental
Protection Bureau of Remediation
and Waste Management
17 State House Station,
Augusta, ME 04333

Prepared by:

JOEL PRELLWITZ
PROJECT HYDROGEOLOGIST

CHARLES SPRINGER, CG, CHMM
PROJECT MANAGER

STATE OF MAINE
CHARLES D. SPRINGER GE524
GEOLOGIST

TRC Environmental Corporation
6 Ashley Drive
Scarborough, Maine 04074
(207) 897-1930

EXECUTIVE SUMMARY

TRC Environmental Corporation (TRC) performed a Phase II Environmental Site Assessment (ESA) for the Forster Mill at 581 Depot Street, in the Town of Wilton, Franklin County, Maine (collectively referred to as the "Site"). This Phase II ESA was performed for the Town of Wilton, ME on behalf of the Maine Department of Environmental Protection (MEDEP) through their Brownfields Program funded by the United States Environmental Protection Agency (EPA).

This Phase II ESA was performed to evaluate the recognized environmental conditions (RECs) identified in the American Society for Testing and Materials (ASTM) Phase I ESA completed by Ransom Consulting, Inc. for the Site in June 2015 (RCI, 2015) and assess Site conditions which may impact future redevelopment plans for the Site.

The Town of Wilton is planning on redeveloping the Site into a commercial and/or industrial property. To facilitate this plan, the Town is considering demolition of the mill buildings.

TRC conducted the Phase II ESA activities from September 21 to October 7, 2015 in accordance with the EPA approved Quality Assurance Project Plan (QAPP) (TRC, 2015). This technical approach was developed by the MEDEP to meet the specified objectives. This Phase II ESA was not intended to be a comprehensive Site evaluation, rather an order of magnitude assessment of whether the Site has been impacted by historical use and to provide information on whether or not additional assessment and/or remedial activities may be necessary. TRC executed the Phase II ESA scope of work on behalf of the MEDEP.

Please note that a Hazardous Building Materials Survey (conducted by Ransom Consulting, Inc., 2015) addresses potential hazardous building materials (asbestos, lead-based paint, PCB containing materials, etc.) at the Site. Hazardous building materials were excluded from TRC scope of work.

The following conclusions are based on TRC's Phase II ESA:

Based on the results of this Phase II ESA, the following conclusions are made:

- **Site Safety** – TRC's scope of work did not include a safety or stability assessment of the mill building. However, we feel it is important to note that there is a four story unsupported exterior masonry/brick wall onsite which is creating an unsafe or hazardous condition for workers and trespassers. This unsafe condition should be addressed quickly, likely through the removal of this unsupported wall.

- **Observed Site Conditions** – TRC observed similar Site conditions as described in the Phase I ESA.
    - The specific locations of ASTs and USTs (other than the 100,000-gal bunker oil UST) are not known;
    - TRC observed relatively small quantities of presumed hazardous wastes and/or petroleum products throughout the structures but concentrated on the

basement/first floors. Staining or other evidence of release was observed in some areas (see Hazardous Waste Inventory).
- Ash-like material was observed in the area around the smokestack (area of surficial soil sample S-4).
- Floor drains, sumps, and open penstocks were observed in the basement of the building with standing water, sediment and debris located within the structures. At some locations, evidence of staining and odors were observed (see drain sediment samples).
- Pipes and drains were observed on the bank of Wilson Stream (see sediment samples). Under the Mill building, black staining was observed on rocks (location of Sed-3).
- Staining was observed on the floors throughout the site building on the floors, ceilings and walls (locations of PCB wipe samples);

- **Overburden Geology** – The Site is currently covered in asphalt, buildings, concrete, and grassy/overgrown areas, which are immediately underlain by till.

- **Groundwater Flow Direction and Depth** – Groundwater flow beneath the Site is estimated to be in a southern to eastern direction, towards the Wilson Stream. Groundwater depths at the Site ranged from 4.65 to approximately 14.5 feet below grade. Non aqueous phase liquids (NAPL) were not encountered in the on-site monitoring wells.

- **Geophysical Survey Results –** A geophysical survey was conducted to locate existing on-site utilities, screen boring locations, and trace pipes/drains. Drains were detected in the subsurface that were oriented from north to south. While the terminus of each drain was not located, it is assumed that most ultimately end in the subsurface underneath the building or at Wilson Stream. The Site is not (and to our knowledge has not been) connected to a process water system. The Site was connected to the Town sanitary sewer system in 1978.

- **Soil Field Screening Results –** Soil samples were screened in the field during soil boring activities using the MEDEP bag headspace method, according to standard operating procedure No. TS004, for the presence of VOCs with a PID. PID screening results from the soil collected during drilling activities ranged from non-detect to 31.1 parts per million (ppm), which was the maximum concentration at MW-1 between 1 and 3 feet below ground), indicating VOC presence in a small portion of the Site soils located in close proximity to the former UST.

- **Soil Analytical Results** – Relatively low concentrations of SVOC compounds and metals in soil are generally distributed across the entire Site and found at similar concentrations to the background soil samples. It is likely that SVOC compounds and metals in soil exceeding Commercial Worker RAGs and/or Construction Worker RAGs originated from historical operations at the Site.

  Low concentration petroleum compounds, EPH carbon chain C11-C22 Aromatics, and certain PAHs and dibenzofuran were detected above RAGs, and appear to be localized in

the area around soil boing MW-1 and SB-7. It is likely that petroleum based EPH compounds at soil boring MW-1 originated from the 100,000-gal concrete UST bunker (northwest portion of the Site).

- **Groundwater Analytical Results** – One VOC, one SVOC, and one metal were detected in the groundwater samples at concentrations below the Residential and/or Construction Worker RAGs. No other constituents were detected. Based on the collected samples and applicable RAGs, groundwater does not appear to be impacted at the Site.

- **Sub-Slab Soil Gas Analytical Results** – APH and TO-15 constituents were detected in soil gas samples below the Commercial Worker RAGs. There does not appear to be a correlation between the low level detections and the specific location in the mill building. Based on the collected samples, soil gas does not appear to be impacted at the Site.

- **Streambed Sediment Analytical Results** – Five SVOC compounds were detected above Park User and/or Construction Worker Scenario RAGs. Location Sed-3 (collected from under the mill building) does contain SVOC compounds that are slightly more elevated in comparison to the other three sample locations. Generally speaking, the four sediment samples (one upstream, one downstream, and two adjacent) have similar relative concentration of EPH, SVOC, and metal constituents. It is likely that historical Site operations had some effect on sediment quality but the extent is not known and/or if impacts are from an upstream source. Several drains from the mill buildings appear to discharge into Wilson Stream however specific historical processes were not directly linked to SVOC compounds in sediment.

  Dibenzofurans were detected in onsite stream sediment as part of this assessment and in 1992.

- **Drain Sediment Analytical Results** – Two EPH and two metals were detected above the Commercial Worker and/or Construction Worker Scenario RAGs. Petroleum compounds and metals identified in material removed from drains indicate hazardous materials and petroleum products were used in the mill building and that impacted material does exist in Site drains. Drains are assumed to discharge to the subsurface underneath the building or to Wilson Stream.

- **Hazardous Waste Inventory** – TRC conducted a hazardous waste inventory on September 23, 2015 of safely accessible rooms/areas on each floor of the mill building, as well as the exterior metal shed, former sawdust shed, and photo shed. A total of fifteen types of potentially hazardous materials were identified including the following: paints, adhesives, silica gel desiccant, possible gasoline, propane, oxygen, and acetylene tanks, photo-development liquids, light ballasts, hydraulic oil, and unidentified liquids.

Recommendations

Based on the results of this Phase II ESA, the following recommendations are made:

- Stabilize or remove the four story unsupported exterior masonry/brick wall as soon as possible to mitigate the safety hazard to site workers and trespassers. This wall should be stabilized or removed before winter conditions further degrade it;

- Secure both interior and exterior areas of the Site from potential trespassers which may vandalize and release petroleum and/or hazardous materials from the numerous containers within the buildings;

- Apply to the MEDEP's Voluntary Response Action Program (VRAP) to gain the liability protections afforded under the program and work with the Department to undertake possible additional assessment and/or remedial actions to mitigate human health exposure and ecological risk;

- Safely package for transport and dispose of all petroleum and/or hazardous materials containers offsite;

- Demolish the Site buildings and remove debris from the Site for offsite disposal. During demolition, consider the following:
    - Presence of possible hazardous building materials;
    - Presence of drain lines containing petroleum and/or hazardous materials;
    - Presence of petroleum and/or hazardous materials containers; and
    - Proximity of buildings to Wilson Stream.

- Once the Site buildings have been raised and debris removed from the Site, assess the most effective remedial action to mitigate human health exposure and ecological risk due to impacted soil (hotspot removal, clean cover capping, etc.); and

- Place a deed restriction on the Site limiting future redevelopment to commercial and/or industrial activity (unless additional assessment work is conducted to allow for residential and park user uses).

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

TRC Environmental Corporation (TRC) performed a Phase II Environmental Site Assessment (ESA) for the Forster Mill at 581 Depot Street, in the Town of Wilton, Franklin County, Maine (the "Site"). This Phase II ESA was performed for the Town of Wilton on behalf of the Maine Department of Environmental Protection (MEDEP) through their Brownfields Program funded by the United States Environmental Protection Agency (EPA).

1.1 Objective

This Phase II ESA was performed to evaluate the recognized environmental conditions (RECs) identified in the American Society for Testing and Materials (ASTM) Phase I ESAs completed by Ransom Consulting, Inc. for the Site in June 2015 (RCI, 2015) and assess Site conditions which may impact future redevelopment plans for the Site. The Phase I ESA identified ten RECs associated in connection with the Site. Further discussion of these RECs is provided in Section 2.2.

Note that TRC's scope of work did not include a safety or stability determination of the mill building. However, we feel it is important to note that there is a four story unsupported exterior brick wall which is creating an unsafe or hazardous condition onsite. This unsafe condition should be addressed quickly, likely through the removal of this unsupported wall. Additionally, several areas of flooring, on all floors, within the mill contained large holes which are potentially unsafe.

1.2 Site Location and Surrounding Area Description

The Site is located at 581 Depot Street in the Town of Wilton, Maine (Figure 1) between generally down-sloping topography which leads towards Wilson Stream. The Site is located on the southern side of Depot Street, and is abutted to east, south, and west by Wilson Stream. The tax assessor parcel no. is Map 5, Lot 094. The Site is a portion of a larger parcel of land, encompassing 17.65 acres, which is located on both the northern and southern sides of Wilson Stream, between Depot Street and Village View Street. For the purposes of this report, portions of the property (Map 5, Lot 094) located on the southern side of Wilson Stream (undeveloped wooded areas) are considered off-Site and adjacent.

1.3 Geologic and Hydrologic Conditions

1.3.1 Soils/Geology

Soils in the vicinity of the Site have been identified by TRC personnel as a heterogeneous unit of glacially-derived till. The till is comprised of silty sand containing gravel and cobbles. A copy of the soil borings is included in Appendix B. Soil identification is confirmed by the 1985 Surficial Geologic Map of Maine, in which soils at the Site are identified as till. According to the 1985 Bedrock Geologic Map of Maine, bedrock in the Site vicinity (is the) Mount Blue and Day Mountain member. Bedrock outcrops were not observed on Site during any of TRC's phase II efforts.

1.3.2 Surface Water Bodies/Floodplains

The Site is bounded to the east, south and west by the Wilson Stream.

According to Ransom's Phase I ESA, no wetlands are present at the Site (based on the United States Fish and Wildlife Service National Wetland Inventory online wetlands mapper).

According to Ransom's Phase I ESA, the Site is not within the 100-year flood zone (based on the Franklin County, Maine National Flood Insurance Program Map Community Panel Number FM2300630010B). The Phase I ESA does note "*that because the Site is bounded to the east, south, and west by the Wilson Stream, there are limited areas on the stream banks which are considered flood areas.*"

The Site is not located on a mapped sand and gravel aquifer (based on the Maine Geologic Survey Significant Sand and Gravel Aquifer Map (Open File No. 00-38-2000).

1.3.3 Hydrogeology

It is anticipated that regional groundwater flow at the Site travels in a southerly to easterly direction towards the Wilson Stream. Groundwater was observed in temporary monitoring wells at depths ranging from 4.65 to 14.3 feet below ground surface (bgs) across the Site.

Permanent monitoring wells were not installed at the request of Maine DEP. As such a groundwater elevation survey was not performed. In addition, TRC personnel were unable to obtain a satellite signal of sufficient strength to locate sample locations via GPS due to surrounding buildings/topography (see Section 3.2.10). However, a relative gauging round was completed.

As stated in the Phase I ESA, "*Shallow groundwater flow may also be influenced by underground utilities, heterogeneous subsurface soil strata, and/or other subsurface structures, which may act as preferred pathways of flow.*"

2.0 SITE HISTORY

A Phase I ESA report was prepared by Ransom Consulting, Inc. (Ransom) of Portland, Maine in June 2015. Much of the Site history presented below has been taken from this document. Directly-quoted text is in *italics*.

2.1 Historic Site Use

As stated in the Phase I ESA "*The four-story manufacturing building was constructed in 1902, and was operated as a woolen mill until the late 1950's, at which time the Forster Manufacturing Company purchased the property and began manufacturing croquet sets, turnings, and clothespins. In 1955, Diamond Brands purchased the Site and began manufacturing toothpicks. In the early 2000's, the main manufacturing building was used as a printing press/box cutting/packaging facility. A metal storage building, constructed sometime between 1940 and 1962, is located in the eastern portion of the Site. This building was historically used for storage of materials, and circa 1998, as an automobile storage facility for a local towing company.*

Currently, the Site is occupied by a 232,000 square-foot, four-story manufacturing building. The (former) *Site owners began conducting demolition activities in the southeastern portion of this building; however, due to the identified presence of asbestos-containing building materials (ACM) and a lack of funds, the demolition was not completed. The main manufacturing building is currently unheated, and is not provided with running water or electricity. The Site has been vacant/unused since circa 2010."*

2.2 Previous Environmental Site Investigations

2.2.1 Phase I Environmental Site Assessment - Ransom Consulting, Inc., 2015

Ransom's Phase I ESA report listed ten RECs associated with the Site. These RECs are directly-quoted in *italics* below. Please see the Phase I ESA for additional information.

1. *The main manufacturing building has been used for industrial purposes since 1902, including a woolen mill; a manufacturer of croquet sets, clothespins, and toothpicks; and a printing/packaging facility. The historical industrial use of the Site building has the potential to have impacted soil, groundwater, sediments, pore water, and soil vapor at the site.*

2. *The main manufacturing building has been historically heated by coal, wood and oil-fired boilers. The Site formerly maintained a 1,000-gallon gasoline UST which was removed in 1986, and a concrete 100,000-gallon No. 6 fuel oil UST, which was abandoned-in-place in 1992. The exact location of the 1,000-gallon UST is unknown. As part of the abandonment-in-place of the 100,000-gallon UST, no soil samples were collected for laboratory analysis. Additionally, a 12,000-gallon No. 4 fuel oil AST was historically located inside the 100,000-gallon concrete vault; and in 2002, Shield observed the presence of four 275-gallon and one 250-gallon No. 6 fuel oil ASTs at the Site. The exact location of these ASTs is unknown.*

3. *The Site is currently identified as a RCRA SQG, and prior to 1997, the Site was classified as a RCRA LQG. The facility formerly used and generated hazardous wastes including: spent cleaning solvents and hazardous flammable substances (methyl ethyl ketone, alcohol, acetone, toluene, and butyl acetate); VOC-based paint, lacquer, and spray booth-related hazardous wastes; dyes and inks; PCB-contaminated material (transformers, capacitors, switches and ballasts); and two Safety-Keen parts cleaners with 35-gallon and 5-gallon reservoirs containing spent solvents. Hazardous wastes were stored onsite in the finishing department on the second floor of the main manufacturing building, the paint/spray booth area and a former maintenance shop on the first floor of the main manufacturing building, the hazardous waste storage area and the machine shop area located in the basement of the main manufacturing building, in the "motor and electrical equipment storage area at ground floor level at the rear of the mill complex," and a "wood-framed building adjacent to the warehouse shipping area" (presumed Photo Shed).*

4. *The Site formerly maintained air emission licenses, and MEDEP correspondence indicates that the facility formerly burned solvent wastes (lacquer thinner, acetone, methyl ethyl ketone, butyl acetate, ethyl acetate and toluene), waste engine oil, and garbage in the wood- fired boiler. The MEDEP also documented historical violations associated with smokestack opacity limits, smokestack height, and downwash conditions. Potentially contaminated ash remains onsite beneath the concrete pads in the northern portion of the Site which formerly supported two historical stacks.*

5. *Floor drains, sumps, and open penstocks were observed throughout the basement of the main manufacturing building. Widespread staining, drums and containers, and evidence of dumping were observed in the general vicinity of theses drains. It is likely that all of these drains discharged directly to Wilson Stream. Additionally, based on conversations with the Wilton wastewater department, it is known that the facility formerly discharged process water, condensate and cooling water, and pre-1978 sewer discharges directly to Wilson Stream. Ransom observed dozens of pipes and drains which currently/historically discharged from the building into Wilson Stream. Black staining was observed on the banks of Wilson Stream, beneath this portion of the building, which suggest that hazardous materials may have been discharged historically onto the banks of the stream, or into the stream itself. Historical environmental assessments, conducted by GZA is 1992, identified elevated concentrations of PAHs and dibenzofurans in onsite stream sediments.*

6. *According to Code Enforcement Office files, during the partial demolition of the main manufacturing building in 2011, the MEDEP permitted that construction and demolition debris from the building could be disposed onsite within a "cellar hole." The demolition was later stopped due to friable asbestos being co-mingled with demolition debris. Abatement Professionals subsequently completed a partial asbestos abatement of exterior portions of the Site; however, it is likely that asbestos containing materials remain onsite in the main manufacturing building, and in onsite soils. The ACM present in the main manufacturing building has been address in the Hazardous Building Materials Survey,*

which was conducted by Ransom concurrently with this ESA. However, there is the potential that ACM was disposed in the "cellar hole" onsite. The exact location of this "cellar hole" is unknown.

7. *During Ransom's Site reconnaissance, 55-gallon drums, 5-gallon buckets, miscellaneous containers, and hazardous materials were observed throughout the Site buildings, in locations including: the metal storage building; the Photo Shed; the main manufacturing building basement; and the boiler room. Many of these containers contained unknown liquids, were unlabeled, or were in poor condition (rusted, leaking, etc.). Widespread staining was observed on the floors throughout the main manufacturing building, potentially in connection with these containers.*

8. *Extensive black oily staining, assumed to be related to historical Site operations processes, was observed throughout the main manufacturing building, on the floors, ceilings and walls. Based on the age of the building, there is the potential that hydraulic oil used as part of historical Site operations contained PCBs.*

9. *Three open-top dumpsters/roll-off containers onsite were observed at the Site. Two were filled with construction and demolition debris and general solid waste, and one had asbestos placarding and contained apparent ACM waste. The asbestos dumpster has reportedly been removed as of the date of this report. Staining on the ground beneath these dumpsters suggests that stormwater which is trapped in these containers eventually discharges overland towards Wilson Stream.*

10. *Stormwater at the Site is expected to flow overland towards Wilson Stream, or into one of several onsite catch basins which discharge directly to Wilson Stream, or directly into one of the penstocks/tail races which run beneath the main manufacturing building. Roof drains also discharged directly to Wilson Stream. No provisions for pre-treatment of stormwater runoff were observed or historically noted at the Site.*

3.0 SITE INVESTIGATION

The following sections summarize activities performed as part of TRC's Phase II ESA.

In September of 2015, prior to implementing the Phase II ESA, TRC prepared a MEDEP-approved Brownfields Program Site Specific Quality Assurance Project Plan, Forster Manufacturing, Town of Wilton, 581 Depot Street, Wilton, Maine (TRC, 2015) which documented the Phase II ESA technical approach.

This approach was developed by the MEDEP to meet the objectives specified below. This Phase II ESA was not intended to be a comprehensive Site evaluation, rather an order of magnitude assessment of whether the Site has been impacted by historical use and to provide information on whether or not additional assessment and/or remedial activities may be necessary. TRC executed the Phase II ESA scope of work on behalf of the MEDEP.

Please note that a Hazardous Building Materials Survey (conducted by others) addresses potential hazardous building materials (asbestos, lead-based paint, PCB containing materials, etc.) at the Site. Hazardous building materials were excluded from TRC scope of work.

A Site Plan depicting pertinent Site features is provided as Figure 2.

3.1 Objective

The objective of this project is to assess the RECs identified in the Phase I ESA and Site conditions which may impact future redevelopment plans for the Site. The specific tasks are listed below.

- Geophysical Survey
- Soil Borings and Soil Sampling
- Surficial Soil Background Sampling
- Monitoring Wells and Groundwater Sampling
- Streambed Sediment Sampling
- Sub-Slab Soil Gas Sampling
- Drain Soil/Sediment Sampling
- Building Interior PCB Wipe Samples
- Waste Oil Characterization

Data will be used to evaluate Site conditions and draft an Analysis of Brownfield Cleanup Alternatives (ABCA) preparing the Site for potential redevelopment.

3.2 Technical Approach

This technical approach from the approved Brownfields Program Site Specific Quality Assurance Project Plan is summarized below.

3.2.1 Geophysical Survey

A geophysical survey was conducted by DigSmart to locate existing on-site utilities, screen ten boring locations, and trace pipes/drains. The geophysical survey was conducted using a Radio-detection RD8000PDL Multifunction Precision Locator, TX-10 Transmitter (Radio Locator), and a ground penetrating radar (GPR) (MALÅ Easy Locator HDR).

Attempts were made to trace identified drains using geophysical techniques in the former printing room, machine shop, manufacturing area, tool room, and penstocks area. Many of the drains were discovered to have blockages or were otherwise not traceable (do to construction material and/or physical impasse). Drains that were traceable, generally flow in a southerly direction beneath the building and toward Wilson Stream. While the terminus of each drain was not located, it is assumed that most ultimately end at Wilson Stream. The Site is not (and to our knowledge has not been) connected to a process water system. The Site was connected to the Town sanitary sewer system in 1978. Please note that the integrity of the drain lines were not evaluated as part of this assessment.

MEDEP observed drain tracing activities and agreed with the above assumption.

3.2.2 Soil Boring Installation and Sampling

TRC installed ten soil borings (MW-1 through MW-6 and SB-7 through SB-10) on September 28 and 29, 2015 using direct push (Geoprobe® 6620 DT track rig) drilling techniques provided by Environmental Projects, Inc. of Auburn, Maine. Soil borings were completed to depths ranging from 8 to 20 feet below grade, depending on where groundwater was observed.

Continuous soil samples were collected during drilling activities using four-foot long, tube-in-tube samplers with a 1-inch diameter acetate liner. Soil samples were visually examined by TRC and screened in the field for VOCs using the MEDEP bag headspace method. Immediately upon collecting the sample, TRC passed a photoionization detector (PID) over the surface of the sample and noted organic vapor readings above background.

Analytical samples were collected as described in the QAPP and submitted to Con-Test Analytical Laboratories (Con-Test) of East Longmeadow, Massachusetts.

- One surficial soil sample was collected from each of the ten soil boring locations and analyzed for; volatile petroleum hydrocarbons (VPH – carbon chains only), volatile organic compounds (VOCs – high and low), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), extractable petroleum hydrocarbons (EPH – carbon chains only), and RCRA 8 metals. Please note that soil samples were generally collected from the 0 to 2-foot interval however the depth included in the sample name is in reference to the overall zone of sample collection.

- One soil sample was collected from each of the ten soil boring locations at a biased depth interval corresponding to the highest PID headspace reading and/or visual/olfactory evidence of contamination. If no visual, olfactory, and/or PID screening observations

indicated evidence of soil contamination, then samples were collected at the groundwater interface. These samples were analyzed for; VPH (carbon chains only), VOCs (high and low), SVOCs, PCBs, EPH (carbon chains only), and RCRA 8 metals.

The locations of the newly installed soil borings are depicted on Figure 3. A summary of soil boring depths, PID response and summary of soil sample analyses are provided on Table 1. Soil boring logs are presented in Appendix B.

3.2.3 Temporary Groundwater Monitoring Well Installation and Sampling

TRC installed six 1-inch diameter PVC temporary monitoring wells (MW-1 through MW-6) at depths ranging from 12 to 20 feet below grade. Monitoring well depths were determined based on the observed depth to water. Ten feet of 1-inch screen was installed straddling the water table, and the open borehole was backfilled with a #2 sand pack to approximately 2 feet above the screen. A 2-foot bentonite seal was put in place above the sand pack to seal off the screened interval from the rest of the upper soil formation. Following installation, the wells were purged of three times their volume via peristaltic pump.

Although the QAPP specified installation of 2-inch diameter monitoring wells, cobbles in the subsurface did not allow for penetration of the larger diameter casing. An attempt to drive casing for 2-inch diameter wells was made at MW-1 and MW-2 and was met with refusal. At that point, TRC recommended, and MEDEP approved, the decision to install 1-inch diameter monitoring wells.

After a seven day equilibration time period, TRC collected groundwater samples as specified in the QAPP (according to EPA Region 1 low-flow guidelines). Groundwater samples were analyzed for; VPH (carbon chains only), VOCs, SVOCs, EPH (carbon chains only), and dissolved RCRA 8 metals. Groundwater sampling forms are included in Appendix C.

Prior to sampling, wells were gauged for the presence of non-aqueous phase liquid (NAPL) and depth to groundwater. A water interface was detected by the probe and no odor or staining (petroleum) was observed on the probe at the time of gauging. Depth to groundwater ranged from 4.65 to 14.3 bgs.

A summary of monitoring well construction, gauging data and sample analyses is provided in Table 2.

All temporary monitoring wells were decommissioned on October 7, 2015 in accordance with Maine Department of Environmental Protection's Guidance for Well and Boring Abandonment (DEP, 2009b). Where possible, PVC well screen and riser were removed from the ground and the void space was backfilled with sand and/or natural cave-in. For wells which were unable to be pulled from the ground, the screened interval was filled with bentonite pellets to at least 2 feet above the top of screen, and then with sand to the surface. The surface at each location was patched with asphalt.

3.2.4 Temporary Sub-Slab Soil Gas Point Installation and Sampling

TRC installed four sub-slab soil gas sample points (see figure 4) with a portable hammer drill. Using a 1-inch bit, TRC cored down through the concrete approximately one inch, switched to a 3/8-inch bit and proceeded to core through the remaining three to seven inches of concrete. The bottom of the slab was found using a thin wire hook, and the thickness was measured so that sample tubing could be appropriately positioned flush with the underside of the concrete slab. Each point had approximately two feet of tubing above grade, which was connected, purged of all ambient air, and allowed to equilibrate until the following morning (in accordance with Maine DEP SOP DR027 and TRC SOPs). The borehole annuli were sealed with a sealant compound (as seen in the Appendix A – Photo Log).

Four sub-slab soil gas samples were collected in pre-cleaned, evacuated, passivated stainless steel canisters and analyzed for air-phase petroleum hydrocarbons (APH) and for VOCs by EPA method TO-15.

3.2.5 Surficial Soil and Background Sampling

Three surficial soil background samples (S-1 through S-3) were collected from adjacent properties up-gradient and side-gradient to the Site as instructed by MEDEP. Samples were obtained from the 0 to 2-foot interval. Collected samples were analyzed for: EPH with target PAH's, and RCRA 8 Metals.

Surficial soil sample S-4 was collected from the area adjacent to the former stacks to address REC #4, as outlined in the QAPP. Sample S-4 was analyzed for SVOC's and RCRA 8 Metals.

Sample locations are depicted on Figure 3. A summary of the surficial soil sampling program is included as part of Table 1.

3.2.6 Streambed Sediment Sampling

Four streambed sediment samples (Sed-1 through Sed-4) were collected along Wilson Stream. Samples were obtained from the 0- to 6-inch interval. Collected samples were analyzed for: VOCs, VPH (carbon chains only), SVOCs, EPH (carbon chains only), PCBs, and RCRA 8 Metals. Sample locations are depicted on Figure 3. A summary of the sediment sampling program is included as part of Table 1.

3.2.7 Drain Soil/Sediment Sampling

Three drain samples (Drain-1 through Drain-3) were collected from the locations described below.

- Drain-1 was collected from a sump about 4-feet deep, containing approximately 1-foot of stagnant water. Material in the drain was wet and staining was observed.

- Drain-2 was collected from a floor drain approximately 1-foot deep, covered with a metal grate. Material in the drain was damp, but no standing water was present. Staining was observed.
- Drain-3 was collected from a floor drain approximately 4-feet deep, covered with a metal grate. Material in the drain was damp, but no standing water was present. No obvious signs of staining or odors was observed

Collected samples were analyzed for: VOCs, VPH (carbon chains only), SVOCs, EPH (carbon chains only), PCBs, and RCRA 8 Metals. Sample locations are depicted on Figure 4. A summary is provided in Table 1.

3.2.8 Waste Oil Characterization

Six waste oil characterization samples (Waste-1 through Waste-6) were collected from the locations described below.

- Waste-1 was sampled from a plastic jug from within the former Photo Shed, which contained an unknown dark liquid (as seen in Photo No. 5 in Appendix A [Photo Log]).
- Waste-2 was sampled from an opaque plastic container from within the former Photo Shed, which contained a yellowish/clear substance (as seen in Photo No. 6 in Appendix A [Photo Log]).
- Waste-3 was sampled from an open 5-gallon bucket that appeared to be filled with an oil like product, or petroleum like product, within the metal exterior shed (as seen in Photo No. 8 located in Appendix A [Photo Log]).
- Waste-4 was sampled from a partially used jug from within the metal exterior shed.
- Waste-5 was sampled from a metal container appeared to be filled with an oil like product, or petroleum-like product. The label was illegible, but appeared to be an old 1L metal gas can.
- Waste-6 was sampled from an unmarked plastic drum, containing a sticky green substance.

All six collected samples were submitted to the laboratory. During sample login/prep, the laboratory determined that five of the six "Waste" samples were not petroleum based and therefore could not be run for waste oil characterization. These samples (Waste-1, 2, 3, 4 and 6) were disposed of by the laboratory, without further analysis.

Sample Waste-5 was analyzed for total halogens, metals, PCBs, and flashpoint. Waste sample locations are depicted on Figure 3 and 4. A summary of the waste oil characterization sampling program is included as part of Table 1 and tabulated in Appendix F.

3.2.9 PCB Wipe Sampling

Ten PCB wipe samples (PCB-1 through PCB-10) were collected where there was dripping oil, very heavy staining, or other relevant observations. As specified in the QAPP and as discussed during the Site walk with MEDEP, at least one wipe sample was collected from a representative area on each of the floors of the main manufacturing building.

- PCB-1 was sampled off a wall in the basement excreting a petroleum like substance.
- PCB-2 was sampled off a wall in the basement excreting a petroleum like substance (as seen in Photo No. 10 located in Appendix A [Photo Log]).
- PCB-3 was sampled off the floor in the penstocks.
- PCB-4 was sampled off the floor in the former manufacturing area on the second floor.
- PCB-5 was sampled off a discolored wall on the third floor (as seen in Photo No. 18 located in Appendix A [Photo Log]).
- PCB-6 was sampled off the discolored floor on the first floor.
- PCB-7 was sampled off the floor on the first floor (as seen in Photo No. 19 located in Appendix A [Photo Log]).
- PCB-8 was sampled off the floor in the former manufacturing area.
- PCB-9 was sampled off the floor in the metal shed, in and amongst the tank and oil cans.
- PCB-10 was sampled off the wall in the basement, behind the former tool room.

Collected samples were analyzed for PCBs. Sample locations are depicted on Figures 3-7. A summary of the PCB wipe sampling program is included as part of Table 1.

3.2.10 GPS Survey

TRC personnel were unable to obtain a significant satellite signal to locate sample locations via GPS, likely due to the proximity of the building structure, tall vegetation/trees, and the general location being situated in a valley. As such, sample locations were measured in the field using swing ties and recorded in the field notebook to allow for proper placement on an aerial base map. All exploration locations are shown on Figures 3 thorough 7.

3.2.11 Hazardous Waste Inventory

TRC performed a hazardous waste inventory of the Site. This assessment was done visually for quantitative, not qualitative purposes. Potentially hazardous materials were identified (Haz-_) and are depicted on Figures 3, 4, and 6 as well as in the Appendix F table.

3.3 Applicable Soil and Groundwater Regulatory Standards/Criteria

Data generated during this Phase II ESA will be compared to the following criteria.

Soil - Maine Remedial Action Guidelines (RAGs) (Revised; May 8, 2013)

- Table 1: Maine Remedial Action Guidelines for the Soil Exposure Pathway
    - Commercial Worker Scenario
    - Construction Worker Scenario

Sediment - Maine Remedial Action Guidelines (RAGs) (Revised; May 8, 2013)

- Table 1: Maine Remedial Action Guidelines for the Soil Exposure Pathway
    - Park User Scenario
    - Construction Worker Scenario

Maine does not have sediment specific guidance values. Therefore sediment data will be compared to the Soil Exposure Pathway RAGs.

Soil Gas - Maine Remedial Action Guidelines (RAGs) (Revised; May 8, 2013)

- Table 2: Maine Remedial Action Guidelines for the Soil Gas Exposure Pathway
  - Commercial Scenario

Maine RAGs for the Soil Gas Commercial Exposure Pathway were calculated by applying an attenuation factor of 10x to the Indoor Air Commercial Scenario RAGs as per Maine Remedial Action Guidelines, May 8, 2013.

Groundwater - Maine Remedial Action Guidelines (RAGs) (Revised; May 8, 2013)

- Table 3: Maine Remedial Action Guidelines for the Groundwater Exposure Pathway
  - Residential Scenario
  - Construction Worker Scenario

Waste Oil - Maine Regulations Chapter 860, Waste Oil Management Rules

- Section 4: Identification of Waste Oil
  - Specification Waste Oil
  - Off-Specification Waste Oil

PCB Wipe - EPA 40 CFR, Part 761.123, Toxic Substances and Control Act (TSCA)

- A specific criteria will not be used for PCB Wipe data as the purpose of this sampling effort is to identify the presence or absence of PCBs in stained areas of the structure. If PCBs are identified, impacted building materials would likely be disposed of as Remediation Waste under TSCA.

4.0 ANALYTICAL RESULTS

A summary of analytical samples collected and the analyses performed are provided in Table 1. A summary of the laboratory analytical results are provided in Tables 3 through 10. Copies of laboratory data packages are provided in Appendix D. The Data Usability Assessment is included in Appendix E.

4.1 Soil Field Screening Results

PID screening results from the soil collected during drilling activities ranged from non-detect to 31.1 parts per million (ppm), the maximum concentration observed onsite, at MW-1 (between 0 and 4 feet below ground), indicating VOC presence in a small portion of the Site soils located in close proximity of the former (abandoned-in-place) 100,000-gallon concrete UST bunker. A sulfur/petroleum-like odor was noted in boring MW-1 from a depth of approximately one to nine feet. A summary of soil screening results is included on Table 1 and on the boring logs in Appendix B.

4.2 Soil Analytical Results

Soil sample results were compared to the applicable 2013 MEDEP RAGs for Commercial Worker and Construction Worker Scenarios. A summary of the soil analytical results is presented below and in Table 3. A copy of the associated laboratory data package has been included in Appendix D.

4.2.1 Volatile Organic Compounds (VOC)

No VOCs were detected in the soil at a concentration above the MEDEP Commercial and Construction Worker Scenario RAGs. Several VOCs were detected in the soil at location MW-1 at concentrations below the applicable RAGs; most likely attributable to the proximity to the abandoned in place UST.

4.2.2 Volatile Petroleum Hydrocarbons (VPH)

No VPHs were detected in the soil at a concentration above the MEDEP Commercial and Construction Worker Scenario RAGs. One VPH was detected in the soil at location MW-1 at concentrations below the applicable RAGs; most likely attributable to the proximity to the abandoned in place UST.

4.2.3 Extractable Petroleum Hydrocarbons (EPH)

One EPH was detected in the soil at a concentration above the MEDEP Commercial Scenario RAG. The C11-C22 aromatics at MW-1 (1-2 feet below ground surface (bgs)) were encountered at 7,700 mg/kg.

No EPHs were detected in the soil at a concentration above the MEDEP Construction Worker Scenario RAGs.

4.2.4 Semi-Volatile Organic Compounds (SVOC)

One SVOC was detected in the soil at a concentration above the MEDEP Commercial Worker Scenario RAGs in three samples. This SVOC, Benzo(a)pyrene was detected in MW-2 (from depths of 0-2 feet) at a concentration of 4.3 mg/kg, at location SB-7 (from depths of 0-2 feet) at a concentration of 11 mg/kg, and at SB-10 (depth of 0.5-4 feet) at 4.9 mg/kg.

No SVOCs were detected in the soil at a concentration above the MEDEP Construction Worker Scenario RAGs. It should be noted that numerous SVOC compounds (including numerous PAHs and dibenzofuran) were detected (including some above the Rural Maine Developed Background value) but, again, below the applicable RAGs (Table 3).

4.2.5 Polychlorinated Biphenyls (PCB)

No PCBs were detected in the soil above method detection limits and, therefore, below the MEDEP Commercial and Construction Worker Scenario RAGs at nine of the ten locations. At location SB-10, PCB aroclors 248 and 260 were detected at concentrations below the MEDEP Commercial and Construction Worker Scenario RAGs.

4.2.6 Metals – Total

One metal, arsenic was detected in the soil at boring SB-8 (depth of 0-2 feet) at a concentration of 36 mg/kg which is above the MEDEP Commercial Worker Scenario RAG.

Lead was detected in the soil at location SB-10 (depth 0.5-4 feet) at a concentration of 990 mg/kg which is above the MEDEP Construction Worker Scenario RAG.

4.3 Groundwater Analytical Results

Groundwater sample results were compared to the applicable 2013 MEDEP RAGs for the Residential and Construction Worker Scenarios. A summary of the groundwater analytical results is presented below and in Table 4. A copy of the associated laboratory data package has been included in Appendix D.

The groundwater results indicate groundwater quality is fairly consistent across the site. There were no detections of VPH, EPH, and only one VOC (toluene at 1.1 ug/l) and only one SVOC (Phenanthrene at MW-2 and MW-3 up to 0.093 ug/l) were detected. The only detection for metals in groundwater was for Barium at MW-3 (up to 74 ug/l). None of these detections exceeded either a Residential or Construction Worker Scenario RAG.

4.4 Soil Gas Analytical Results

Soil gas sample results were compared to the applicable 2013 MEDEP RAGs for commercial exposure with a 10x factor applied as per Section E of the May 8, 2013 RAGs. A summary of the soil gas analytical results is presented below and in Table 5. A copy of the associated

laboratory data package has been included in Appendix D. Several APH and TO-15 constituents (including chlorinated solvents and petroleum constituents) were detected above laboratory reporting limits but below their applicable MEDEP RAGs.

4.5 Surficial Soil and Background Analytical Results

Surficial soil sample results were compared to the applicable 2013 MEDEP RAGs for the Commercial Worker and Construction Worker Scenarios. A summary of the surficial soil analytical results is presented below and in Table 6. A copy of the associated laboratory data package has been included in Appendix D.

Two types of surface soil samples were collected as part of this Phase II ESA; background samples (S-1, S-2, and S-3) and a targeted surface soil sample (S-4). Sample S-4 was collected in the area of the former stacks to assess possible ash in surface soils.

Several EPH and metal constituents were detected above laboratory reporting limits but below their applicable MEDEP RAGs for the three background samples. Most of the EPH detections were PAHs. Benzo(a)pyrene was detected at 19 mg/kg at location S-1 and was the only EPH above the Commercial Worker Scenario RAG. Seven of the eight metals included in the analysis were detected in surface soils. However, only arsenic was detected in the background surficial soil sample S-2 at a concentration (5.2 mg/kg) above the MEDEP Commercial Worker Scenario RAGs;

Several SVOC and metal constituents were detected above laboratory reporting limits but below their applicable MEDEP RAGs for the targeted S-1 sample. Most of the SVOC detections were for PAHs below the Commercial Worker Scenario RAG. Seven of the eight metals included in the analysis were detected in surface soils. However, only arsenic was detected in the surficial soil samples (S-2 and S-4) at a concentration (up to 8.4 mg/kg) above the MEDEP Commercial Worker Scenario RAGs;

4.6 Streambed Sediment Analytical Results

Maine does not have sediment specific guidance values, therefore sediment data were compared to the Soil Exposure Pathway RAGs for the Park User and Construction Worker Scenarios. A summary of the sediment analytical results is presented below and in Table 7. A copy of the associated laboratory data package has been included in Appendix D.

Results for VOC, VPH and PCB analyses indicate no detections for these compounds. Several EPH, SVOC, and metal constituents were detected above laboratory reporting limits but below their applicable MEDEP RAGs.

Five SVOCs were detected in the sediment at a concentration above the MEDEP Park User Scenario RAGs, but below the Construction Worker RAGs;

- Benzo(a)anthracene at Sed-3 (0-0.5) (11 mg/kg), and DUP-4 (0-0.5) (5.2 mg/kg).
- Benzo(a)pyrene at Sed-1 (0-0.5) (1.0 mg/kg), Sed-2 (0-0.5) (0.54 mg/kg), Sed-3 (0-0.5) (7.6 mg/kg), DUP-4 (0-0.5) (3.9 mg/kg), and Sed-4 (0-0.5) (0.55 mg/kg).

- Benzo(a)fluoranthene at Sed-3 (0-0.5) (10 mg/kg), and DUP-4(0-0.5) (4.5 mg/kg).
- Dibenz(a,h)anthracene at Sed-3 (0-0.5) (1.4 mg/kg), and DUP-4 (0-0.5) (0.65mg/kg).
- Indeno(1,2,3-cd)pyrene at Sed-3 (0-0.5) (4.7 mg/kg).

Please note, black staining was observed on rocks at the location of Sed-3.

4.7 Drain/Catch Basin/Sump Sediment Analytical Results

Drain/catch basin/sump sample results were compared to the applicable 2013 MEDEP RAGs for the Commercial Worker and Construction Worker Scenarios. A summary of the drain sediment analytical results is presented below and in Table 8. A copy of the associated laboratory data package has been included in Appendix D.

Results for VOC, VPH, SVOC and PCB analysis indicate no detections for these compounds above the MEDEP Commercial Worker and Construction Worker Scenario RAGs.

EPH compound C11-C22 aromatics was detected at a concentration above the MEDEP Commercial Worker Scenario RAGs at Drain-1 (6,800 mg/kg) and Drain-2 (5,800 mg/kg). EPH compound C19-C36 aliphatics was detected in the drain samples at a concentration above the MEDEP Commercial Worker and Construction Worker Scenario RAGs at Drain-1 (28,000 mg/kg), Drain-2 (26,000 mg/kg);

Arsenic was detected in the drain samples at a concentration above the MEDEP Commercial Worker Scenario RAGs at Drain-2 (14 mg/kg) and Drain-3 (7.0 mg/kg). Cadmium was detected in the drain samples at a concentration above the MEDEP Construction Worker Scenario RAGs at Drain-1 (23 mg/kg).

4.8 PCB Wipe Samples

The purpose of this sampling effort was to identify the presence or absence of PCBs in stained areas of the structure, therefore a specific regulatory criteria is not applicable. A summary of the PCB wipe analytical results is presented below and in Table 9. A copy of the associated laboratory data package has been included in Appendix D.

Low level PCBs were detected in five of the ten locations (PCB-1, PCB-2, PCB-6, PCB-8, and PCB-9). Total PCB concentrations ranged from non-detect (<0.20) to 0.97 µg/100cm².

4.9 Waste Oil Characterization

Waste oil characterization sample results were compared to Maine Regulations Chapter 860, Waste Oil Management Rules for specification and off-specification waste oil. A summary of the waste oil analytical results is presented below and in Table 10. A copy of the associated laboratory data package has been included in Appendix D.

All six collected samples were submitted to the laboratory. During sample login/prep, the laboratory determined that five of the six "Waste" samples were not petroleum based and

therefore could not be run for waste oil characterization. These samples were disposed of by the laboratory, without further analysis.

Sample Waste-5 was analyzed for total halogens, metals, PCBs, and flashpoint. Waste sample locations are depicted on Figure 3 and 4. A summary of the waste oil characterization sampling program is included as part of Table 1.

Results for sample Waste-5 indicate that it meets the requirements for both specification and off-specification waste oil.

4.10 Data Usability Assessment

The data associated with the following samples and associated collection dates were reviewed:

- Wipe samples collected on September 23 and 24, 2015,
- A waste oil sample collected on September 23, 2015,
- Surface soil, drain, sediment, and soil gas samples collected on September 24, 2015,
- Soil samples collected on September 28 and 29, 2015, and
- Groundwater samples collected on October 7, 2015

In general, data are usable for project decisions based on a review of accuracy, precision, and sensitivity of the data. Although there were select quality control (QC) nonconformances, the data are valid as reported and may be used for decision-making purposes with the following cautions and limitations.

- The non-detect results for benzidine in samples MW-2(0-4), Sed-3, and S-4 cannot be used to achieve project objectives due to significantly low recoveries (<10%) in the MS/MSD.

- The non-detect results for benzoic acid in all groundwater samples cannot be used to achieve project objectives due to significantly low recoveries (<10%) in the LCS and LCS Duplicate.

- Results for arsenic in sediment samples, cadmium in waste oil, and select VOCs, SVOCs, and metals in groundwater samples cannot be used to verify the achievement of the project action levels as the quantitation limits for these analytes are above these project action levels (i.e., nondetect results exhibited QLs above the applicable Maine DEP RAGs, Residential and Construction Worker scenarios). Please see page 2 of the full data usability assessment in Appendix E for more details.

- Caution should be used with the SVOC results in sample Sed-3 due to field duplicate variability. The original sample results for SVOCs in this sample are consistently higher than the field duplicate sample and in one case (indeno[1,2,3-cd]pyrene), the original sample result exceeds the project action level when the result in the field duplicate

sample falls below the project action levels. In order to remain conservative, the SVOC results from the original sample should be used at this location.

- Caution should be used with the benzo(a)pyrene result in sample MW-2(0-4) due to field duplicate variability. The original sample result for benzo(a)pyrene in this sample is higher than the field duplicate sample and also exceeds the project action level when the result in the field duplicate sample falls below the project action level. In order to remain conservative, the benzo(a)pyrene result from the original sample should be used at this location.

The full data usability assessment is provided in Appendix E.

5.0 HAZARDOUS WASTE INVENTORY

TRC conducted a hazardous waste inventory on September 23, 2015 of safely accessible rooms/areas on each floor of the mill building, as well as the exterior metal shed, former sawdust shed, and photo shed.

TRC observed relatively small quantities of presumed hazardous wastes and/or petroleum products throughout the structures but concentrated on the basement/first floors. Staining or other evidence of release was observed in some areas. A total of fifteen types of potentially hazardous materials were identified including the following:

- Paints
- Adhesives
- Silica Gel Desiccant
- Possible gasoline
- Propane, Oxygen, and Acetylene tanks
- Photo-Development Liquids
- Light Ballasts
- Hydraulic Oil
- Unidentified Liquids in various containers

When presumed waste oil was encountered, a sample was collected and submitted to Con-Test Analytical Laboratories of East Longmeadow, MA (see Section 4.9 for additional information). Analytical results for waste oil characterization samples are available in Table 10.

The full results of this hazardous waste inventory are documented in the Hazardous Waste Inventory Table in Appendix F. The general locations of waste oil characterization samples and/or other potential hazards are provided on Figures 3 through 7. A photo-log is provided in Appendix A containing select photographs of items included in the hazardous waste inventory.

6.0 CONCEPTUAL SITE MODEL

The following section provides a current Conceptual Site Model (CSM) for the Site. This CSM represents TRC's current understanding based on existing data. The CSM may evolve over time as additional information becomes available.

6.1 Historical Site Information

As stated in the Phase I ESA, "*The four-story manufacturing building was constructed in 1902, and was operated as a woolen mill until the late 1950's, at which time the Forster Manufacturing Company purchased the property and began manufacturing croquet sets, turnings, and clothespins. In 1955, Diamond Brands purchased the Site and began manufacturing toothpicks. In the early 2000's, the main manufacturing building was used as a printing press/box cutting/packaging facility. A metal storage building, constructed sometime between 1940 and 1962, is located in the eastern portion of the Site. This building was historically used for storage of materials, and circa 1998, as an automobile storage facility for a local towing company.*"

The Site's previous owners began conducting demolition activities in the southeastern portion of the building; however, due to the identified and mishandling of asbestos-containing building materials (ACM) and a lack of funds, the demolition was not completed.

The Site has been vacant/unused since circa 2010.

6.2 Current Site Use

Currently, the Town owned Site is occupied by a vacant 232,000 square-foot, four-story manufacturing building which is unheated and is not provided with running water or electricity. Portions of the structure have been demolished. Many of the windows and doors have been broken/removed.

The Site structure is secured on the northern side by a chain link fence along Depot Street. The southern side, along Wilson Stream, is not secure. In an effort to secure the building, the Town installed plywood over many of the windows and doors along Depot Street.

The Site is located in a predominately rural and residential area. The Site is bounded by the Wilson Stream on the east, south, and west. To the north are three residential lots. The immediate surrounding area is mostly wooded.

6.3 Anticipated Future Site Use

The Town of Wilton is planning on redeveloping the Site into a commercial and/or industrial property. To facilitate this plan, the Town is considering demolition of the mill buildings.

6.4 Geologic and Hydrogeologic Conditions

Nearly the entire Site is currently covered in asphalt, concrete, buildings, demolition debris, which are immediately underlain by silty sand with gravel and cobbles (till). Bedrock was not encountered during drilling activities.

Groundwater at the Site is presumed to flow in a southern to eastern direction, towards Wilson Stream. Groundwater was observed in temporary monitoring wells at depth ranging from 4.65 to 14.3 feet bgs across the Site.

6.5 Areas of Concern (AOCs)

Four Areas of concern were identified in the June 2015 Phase I ESA by Ransom. These AOCs have been updated based on the results of this Phase II ESA and are discussed further in this Section. For additional details regarding the original AOCs, please see the Phase I ESA or the QAPP.

- AOC-1: Historical Use and Operations at the Site
- AOC-2: Hazardous Materials and Petroleum Products within/part of the Structure
- AOC-3: 100,000-gallon Abandoned-in-Place Underground Storage Tank (UST)
- AOC-3: Floor Drains, Sumps, and Wilson Stream Sediment

6.6 Nature and Extent of Impacts

6.6.1 Soil (AOC-1 & AOC-3)

One EPH carbon chain, one SVOC compound, and two metals were detected above Commercial and/or Construction Worker RAGs. Several VOC, VPH, EPH, SVOC, PCB and metal constituents were detected in soil samples below applicable RAGs.

Relatively low levels of SVOC compounds and metals in surface soil are generally distributed across the entire Site and found at similar levels to the background soil samples. SVOC compounds and metals in subsurface soils generally appear at lower levels then in surface soil indicating that industrial activity around the Mill is the likely source (AOC-1).

Benzo(a)pyrene was detected above applicable RAGs at MW-2, SB-7, SB-10, and S-1. Arsenic was detected above applicable RAGs at SB-8, S-2 and S-4. Arsenic detections at location S-4 may be related to the ash and material from the former stack (see Figures 2 and 3). However, there does not appear to be a correlation between the locations of other elevated benzo(a)pyrene and/or arsenic detections, and any specific portion of the building/Site based on known historical site use (AOC-1).

Lead was detected at SB-10 at 990 mg/kg. This elevated lead concentration was identified downgradient from the building identified as the Photo Shop (AOC-1).

Low level petroleum compounds and the EPH carbon chain C11-C22 Aromatics above RAGs appear to be localized in the area around soil boing MW-1. Location MW-1 is in proximity to the 100,000-gal concrete UST bunker (northwest portion of the Site) (AOC-3).

6.6.2 Building Drains (AOC-4)

Two EPH and two metals were detected above the Commercial Worker and/or Construction Worker Scenario RAGs. Several VOC, VPH, EPH, SVOC, PCB and metal constituents were detected in the drain samples below applicable RAGs.

Petroleum compounds (C11-C22 Aromatics and C19-C36 Aliphatics) and metals (Arsenic and Cadmium) detected above applicable RAGs were identified in material removed from drains which indicate hazardous materials and petroleum products were used in the mill building and were likely washed down the drains over time (AOC-4).

Based on the results of the geophysical survey, drains are assumed to discharge to Wilson Stream.

6.6.3 Interior Staining (AOC-2)

Low level PCBs were detected in five of the ten PCB wipe sample locations. Total PCB concentrations ranged from non-detect (<0.20) to 0.97 ug/100cm^2. The presence of low level PCBs in stained areas supports assumption that PCB oils have been used at the Site at some point throughout the operational history (AOC-2).

There does not appear to be a correlation between location in the mill building and the detection of PCBs in stained areas.

6.6.4 Sediment (AOC-4)

Several EPH, SVOC, and metal constituents were detected in the streambed sediment samples (AOC-4).

Location Sed-3 (collected from under the mill building) does contain SVOC compounds that are slightly more elevated in comparison to the other three sample locations. However, all samples fall below the RAGs for the construction worker scenario. Black staining was observed on rocks at the location of Sed-3. Dibenzofuran was also detected below applicable criteria. Generally speaking, all four sediment samples (one upstream, one downstream, and two adjacent) have similar relative concentration of EPH, SVOC, and metal constituents.

Historical environmental assessments, conducted by GZA is 1992, identified elevated concentrations of PAHs and dibenzofurans in onsite stream sediments.

6.6.5 Groundwater

One VOC, one SVOC, and one metal were detected in the groundwater samples below the Residential and/or Construction Worker RAGs. No other constituents were detected.

Based on the collected samples and applicable RAGs, groundwater does not appear to be impacted at the Site.

6.6.6 Soil Gas

APH and TO-15 constituents were detected in soil gas samples below the Commercial Worker RAGs. There does not appear to be a correlation between the low level detections and location in the mill building.

Based on the collected samples, soil gas does not appear to be impacted at the Site.

6.7 Potential Sources of Impacts

6.7.1 Soil

It is likely that SVOC compounds and metals in soil originated from historical operations at the Site. Generality speaking, these SVOC compounds and metals are spread across the Site and do not appear to originate from a point source (or a few point sources) (AOC-1). It is possible that the arsenic detection at location S-4 may be related to the ash and material from the former stack (AOC-1). The detection of lead at SB-10 (990 mg/kg) that is above the construction worker scenario RAGs is likely from a historical release at the upgradient building identified as the Photo Shop (AOC-1).

It is likely that petroleum based EPH compounds at soil boring MW-1 originated from the 100,000-gal concrete UST bunker (northwest portion of the Site) (AOC-3).

6.7.2 Building Drains

It is likely that SVOC compounds and metals identified in material removed from building drains originated from historical operations at the Site. Therefore, it is also possible that impacted material exists along the entire length of the drain and at its discharge point, Wilson Stream (AOC-4).

6.7.3 Interior Staining

It is likely that low level PCBs identified in stained interior areas of the building originated from historical operations at the Site (AOC-2).

6.7.4 Sediment

SVOC compounds in sediment exceed Park User RAGs in all four sediment samples. It is likely that historical Site operations affected sediment quality (AOC-4). However, it is not known if impacts are solely form the Site or could be also impacted from an unknown upstream source.

Drains from the mill buildings appear to have discharge into Wilson Stream in the past.

6.8 Conceptual Site Model Summary

Based the Phase I ESA, HBMI, and the results of this Phase II ESA, the Conceptual Site Model is summarized below:

Groundwater and Soil Gas

- Given the existing data, groundwater and soil gas appear to be free of constituents above applicable criteria.
- No further activities are necessary.

Surficial Soil (AOC-1 & AOC-3)

- Despite the Site's long industrial history and visible staining, only benzo(a)pyrene, C11-C22 aromatics, arsenic, and lead were detected above applicable RAGs in surficial soils.
- Benzo(a)pyrene and arsenic appear across the Site.
- Lead was detected above the construction worker scenario RAGS adjacent to the Photo Shop (and possibly down gradient).
- Concentrations of C11-C22 Aromatics are located in proximity to the 100,000-gal concrete UST bunker;
- Possible Risk mitigation measures:
    - Delineate extent
    - Risk Assessment / Calculate Site Specific EPCs
    - Soil hot spot removal
    - Exposure barrier (soil cap, etc.)

Subsurface Soil

- Subsurface soils surrounding the structure are, generally, free of constituents elevated above applicable criteria.
- Subsurface soils underneath the structure were not accessed due to safety/vibration concerns while drilling thru the slab. The condition of the subsurface below the structure is not known.
- Possible Risk mitigation measures:
    - Assess subsurface soils underneath the structure once the soils are accessible.

Drains and Drain Sediment (AOC-4)

- The condition of drains and sumps in the building vary from dry/clear to full of standing water and clogged with sediment, large objects, and other debris.

- Attempts to trace drains revealed that most follow a north/south path toward Wilson Stream. The terminus of the drains was not identified from within the building however, multiple pipes were observed along the northern bank of Wilson Stream.
- While the terminus of each drain was not located, it is assumed that most ultimately end in the subsurface underneath the building or at Wilson Stream.
- The integrity of the drains is not known and the possibility exists for releases from drains to the environment to have occurred. The condition of the subsurface below the structure is not known.
- It is not believed that the Site's process water is (or has been) connected to an offsite wastewater treatment plant (with the exception of municipal sanitary sewer after 1978).
- EPH compounds, arsenic and cadmium were detected above applicable RAGs in material removed from drains. The detection of these compounds indicate that hazardous materials and petroleum products may currently exist in the drains and were likely washed down the drains over time.
- Possible Risk mitigation measures:
    - Remove impacted material from onsite drains
    - Abandon onsite drains to stop the potential continuing release of contaminants into Wilson Stream.
    - Assess subsurface soils underneath the structure once the soils are accessible.

Streambed Sediment (AOC-4)

- Multiple pipes and drains were observed in the northern bank of Wilson Stream and are believed to be connected to drains and sumps in the Mill Building;
- Benzo(a)pyrene was detected at all four locations above park user RAGs. Additional SVOCs that are elevated in comparison to construction worker scenario RAGs were detected at location Sed-3.
- Dibenzofurans were detected at Sed-3 in onsite stream sediment as part of this assessment and in a historical investigation in 1992.
- At location Sed-3, black staining was observed on rocks.
- It is likely that historical Site operations affected sediment quality.
- Possible Risk mitigation measures:
    - Assess if an ecological risk assessment is necessary to determine if impacted sediment poses a risk to the environment

Impacted Building Materials (AOC-2)

- Staining was observed throughout the site building on the floors, ceilings and walls. Low level PCBs (non-detect (<0.20) to 0.97 ug/100cm^2) were detected in five of the ten wipe samples from representative areas of staining.
- Based on the 2015 HBMI, asbestos, lead based paint, hazardous building fixtures possibly containing PCBs and heavy metals were identified.
- Possible Risk mitigation measures:
    - Abate asbestos, lead-based paint, and potentially hazardous building fixtures from the buildings.
    - If/when the building are renovated/demolished, care should be taken in handling disposing of building materials exhibiting staining.

Hazardous Waste Inventory (AOC-2)

- TRC observed relatively small quantities of presumed hazardous wastes and/or petroleum products throughout the structures but concentrated on the basement/first floors.
- Staining or other evidence of release was observed in some areas
- Possible Risk mitigation measures:
    - Manage and dispose of all potentially hazardous wastes on the Site

7.0 CONCLUSIONS

Based on the results of this Phase II ESA, the following conclusions are made:

- **Site Safety** – TRC's scope of work did not include a safety or stability assessment of the mill building. However, we feel it is important to note that there is a four story unsupported exterior masonry/brick wall onsite which is creating an unsafe or hazardous condition for workers and trespassers. This unsafe condition should be addressed quickly, likely through the removal of this unsupported wall.

- **Observed Site Conditions** – TRC observed similar Site conditions as described in the Phase I ESA.
    - The specific locations of ASTs and USTs (other than the 100,000-gal bunker oil UST) are not known;
    - TRC observed relatively small quantities of presumed hazardous wastes and/or petroleum products throughout the structures but concentrated on the basement/first floors. Staining or other evidence of release was observed in some areas (see Hazardous Waste Inventory).
    - Ash-like material was observed in the area around the smokestack (area of surficial soil sample S-4).
    - Floor drains, sumps, and open penstocks were observed in the basement of the building with standing water, sediment and debris located within the structures. At some locations, evidence of staining and odors were observed (see drain sediment samples).
    - Pipes and drains were observed on the bank of Wilson Stream (see sediment samples). Under the Mill building, black staining was observed on rocks (location of Sed-3).
    - Staining was observed throughout the site building on the floors, ceilings and walls (locations of PCB wipe samples);

- **Overburden Geology** – The Site is currently covered in asphalt, buildings, concrete, and grassy/overgrown areas, which are immediately underlain by till.

- **Groundwater Flow Direction and Depth** – Groundwater flow beneath the Site is estimated to be in a southern to eastern direction, towards the Wilson Stream. Groundwater depths at the Site ranged from 4.65 to approximately 14.5-feet below grade. Non aqueous phase liquids (NAPL) were not encountered in the on-site monitoring wells.

- **Geophysical Survey Results –** A geophysical survey was conducted to locate existing on-site utilities, screen boring locations, and trace pipes/drains. Drains were detected in the subsurface that were oriented from north to south. While the terminus of each drain was not located, it is assumed that most ultimately end in the subsurface underneath the building or at Wilson Stream. The Site is not (and to our knowledge has not been) connected to a process water system. The Site was connected to the Town sanitary sewer system in 1978.

- **Soil Field Screening Results –** Soil samples were screened in the field during soil boring activities using the MEDEP bag headspace method, according to standard operating procedure No. TS004, for the presence of VOCs with a PID. PID screening results from the soil collected during drilling activities ranged from non-detect to 31.1 parts per million (ppm), which was the maximum concentration at MW-1 between 1 and 3 feet below ground), indicating VOC presence in a small portion of the Site soils located in close proximity to the former UST.

- **Soil Analytical Results** – Relatively low concentrations of SVOC compounds and metals in soil are generally distributed across the entire Site and found at similar concentrations to the background soil samples. It is likely that SVOC compounds and metals in soil exceeding Commercial Worker RAGs and/or Construction Worker RAGs originated from historical operations at the Site.

  Low concentration petroleum compounds, EPH carbon chain C11-C22 Aromatics, and certain PAHs and dibenzofuran were detected above RAGs, and appear to be localized in the area around soil boing MW-1 and SB-7. It is likely that petroleum based EPH compounds at soil boring MW-1 originated from the 100,000-gal concrete UST bunker (northwest portion of the Site).

- **Groundwater Analytical Results** – One VOC, one SVOC, and one metal were detected in the groundwater samples at concentrations below the Residential and/or Construction Worker RAGs. No other constituents were detected. Based on the collected samples and applicable RAGs, groundwater does not appear to be impacted at the Site.

- **Sub-Slab Soil Gas Analytical Results** – APH and TO-15 constituents were detected in soil gas samples below the Commercial Worker RAGs. There does not appear to be a correlation between the low level detections and the specific location in the mill building. Based on the collected samples, soil gas does not appear to be impacted at the Site.

- **Streambed Sediment Analytical Results** – Five SVOC compounds were detected above Park User and/or Construction Worker Scenario RAGs. Location Sed-3 (collected from under the mill building) does contain SVOC compounds that are slightly more elevated in comparison to the other three sample locations. Generally speaking, the four sediment samples (one upstream, one downstream, and two adjacent) have similar relative concentration of EPH, SVOC, and metal constituents. It is likely that historical Site operations had some effect on sediment quality but the extent is not known and/or if impacts are from an upstream source. Several drains from the mill buildings appear to discharge into Wilson Stream however specific historical processes were not directly linked to SVOC compounds in sediment.

  Dibenzofurans were detected in onsite stream sediment as part of this assessment and in 1992.

- **Drain Sediment Analytical Results** – Two EPH and two metals were detected above the Commercial Worker and/or Construction Worker Scenario RAGs. Petroleum compounds

and metals identified in material removed from drains indicate hazardous materials and petroleum products were used in the mill building and that impacted material does exist in Site drains. Drains are assumed to discharge to the subsurface underneath the building or to Wilson Stream.

- **Hazardous Waste Inventory** – TRC conducted a hazardous waste inventory on September 23, 2015 of safely accessible rooms/areas on each floor of the mill building, as well as the exterior metal shed, former sawdust shed, and photo shed. A total of fifteen types of potentially hazardous materials were identified including the following: paints, adhesives, silica gel desiccant, possible gasoline, propane, oxygen, and acetylene tanks, photo-development liquids, light ballasts, hydraulic oil, and unidentified liquids.

8.0 RECOMMENDATIONS

Based on the results of this Phase II ESA, the following recommendations are made:

- Stabilize or remove the four story unsupported exterior masonry/brick wall as soon as possible to mitigate the safety hazard to site workers and trespassers. This wall should be stabilized or removed before winter conditions further degrade it;

- Secure both interior and exterior areas of the Site from potential trespassers which may release petroleum and/or hazardous materials from the numerous containers within the buildings;

- Apply to the MEDEP's Voluntary Response Action Program (VRAP) to gain the liability protections afforded under the program and work with the Department to undertake possible additional assessment and/or remedial actions to mitigate human health exposure and ecological risk;

- Safely package for transport and dispose of all petroleum and/or hazardous materials containers offsite;

- Demolish the Site buildings and remove debris from the Site for offsite disposal. During demolition, consider the following:
    - Presence of possible hazardous building materials;
    - Presence of drain lines containing petroleum and/or hazardous materials;
    - Presence of petroleum and/or hazardous materials containers; and
    - Proximity of buildings to Wilson Stream.

- Once the Site buildings have been raised and debris removed from the Site, assess the most effective remedial action to mitigate human health exposure and ecological risk due to impacted soil (hotspot removal, clean cover capping, etc.); and

- Place a deed restriction on the Site limiting future redevelopment to commercial and/or industrial activity (unless additional assessment work is conducted to allow for residential and park user uses).

9.0 LIMITATIONS

1. TRC's study was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area, and TRC observed that degree of care and skill was generally exercised by other consultants under similar circumstances and conditions. TRC's findings and conclusions must be considered not as scientific certainties, but rather as professional opinion concerning the significance of the limited data gathered during the course of the study. No other warranty, express or implied, is made. Specifically, TRC does not and cannot represent that the subject property contains no hazardous material, oil, or other latent condition beyond that observed by TRC during its study. Additionally, TRC makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by an EPA or MEDEP audit.

2. This study and report have been prepared on behalf of and for the exclusive use of the the Client**,** solely for use in a Phase II ESA for the Forster Mill located at 581 Depot Street in Wilton, Maine (subject property). This submittal and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party in whole or in part, without the prior written consent of TRC or the Client.

3. The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by Client. The work described in this report was carried out in accordance with the Terms and Conditions referenced in our proposal to the Client.

4. In the event that the Client or others authorized to use this report obtain information on environmental or hazardous waste issues at the subject property not contained in this report, such information shall be brought to TRC's attention forthwith. TRC will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.

5. The purpose of this report was to evaluate the REC identified in Ransom Consulting, Inc.'s Phase I ESA performed for the subject property. No specific attempt was made to check on the compliance of present or past owners or operators of the Site with federal, state, or local laws and regulations, environmental or otherwise.

10.0 REFERENCES

DEP, 2013 Maine Department of Environmental Protection, *Maine Remedial Action Guidelines (RAGs) for Sites Contaminated with Hazardous Substances;* Revision Date May 8, 2013. http://www.maine.gov/dep/spills/publications/guidance/rags/final_5-8-2013/2%20ME-RAGS_Final_5-8-2013b.pdf

DEP, 2009a Maine Department of Environmental Protection, *Remediation Guidelines for Petroleum Contaminated Sites in Maine;* Revision Date December 1, 2009. http://www.maine.gov/dep/spills/petroleum/documents/111809finalpetroremguidelines.pdf

DEP, 2009b Maine Department of Environmental Protection, *Guidance for Well and Boring Abandonment;* Revision Date January 7, 2009. http://www.maine.gov/dep/spills/publications/guidance/documents/dep_well_abandonment_guidance.pdf

MGS, 2003 Maine Geological Survey, *Surficial Geology of the Farmington 1:24,000 Quadrangle, Maine,* Open-File No. 03-51, dated 2003.

MGS, 2000 Maine Geological Survey, *Significant Sand and Gravel Aquifers of the Wilton 1:24,000 Quadrangle, Maine,* Open-File No. 00-38, dated 2000.

MGS, 1978 Maine Geological Survey, *Bedrock Geology of the Farmington 1:62,500 Quadrangle, Maine,* Open-File No. 78-16, dated 1978.

SCS, 2003 U.S. Department of Agriculture, Soil Conservation Service State Soil Geographic (STATSGO), *Soil Survey of Franklin County Area and Part of Somerset County, Maine. Dated 2003.*

RCI, 2015 Ransom Consulting, Inc., *ASTM Phase I Environmental Site Assessment,* Forster Manufacturing, 81 Depot Street, Wilton, ME Revision 1. June 29, 2015.

TRC, 2015 TRC Environmental Corporation, *Brownfields Program Site Specific Quality Assurance Project Plan, 581 Depot Street, Wilton Maine,* dated September 2015.

TABLES

FIGURES

APPENDIX A

PHOTO LOG

APPENDIX B

SOIL BORING LOGS

APPENDIX C

FIELD FORMS

APPENDIX D

LABORATORY DATA PACKAGES

APPENDIX E

DATA USABILITY ASSESSMENT

APPENDIX F

HAZARDOUS WASTE INVENTORY