

**CONCEPTUAL SITE MODEL  
FOR  
FARWELL MILL OIL RECOVERY  
SITE  
LISBON, MAINE  
ANDROSCOGGIN COUNTY**

**PREPARED FOR:  
MILLER INDUSTRIES, INC.  
LISBON FALLS, MAINE**

**MARCH 2009**

*SME*

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*Waste Management and Hydrogeologic Consultants*  
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**CONCEPTUAL SITE MODEL  
FARWELL MILL OIL RECOVERY SITE  
LISBON, MAINE**

**1.0 INTRODUCTION**

On behalf of Miller Industries, Inc, Sevee & Maher Engineers, Inc. (SME) has developed this Conceptual Site Model (CSM) for the Farwell Mill Oil Recovery Site (hereinafter referred to as the "site") located on the Farwell Mill property in Lisbon, Maine. The purpose of the CSM is to provide an understanding of how contaminants enter the site system, how they are transported within the site system, and where routes of exposure to organisms and humans potentially occur, with the goal that this document can be reviewed and used for decision making.

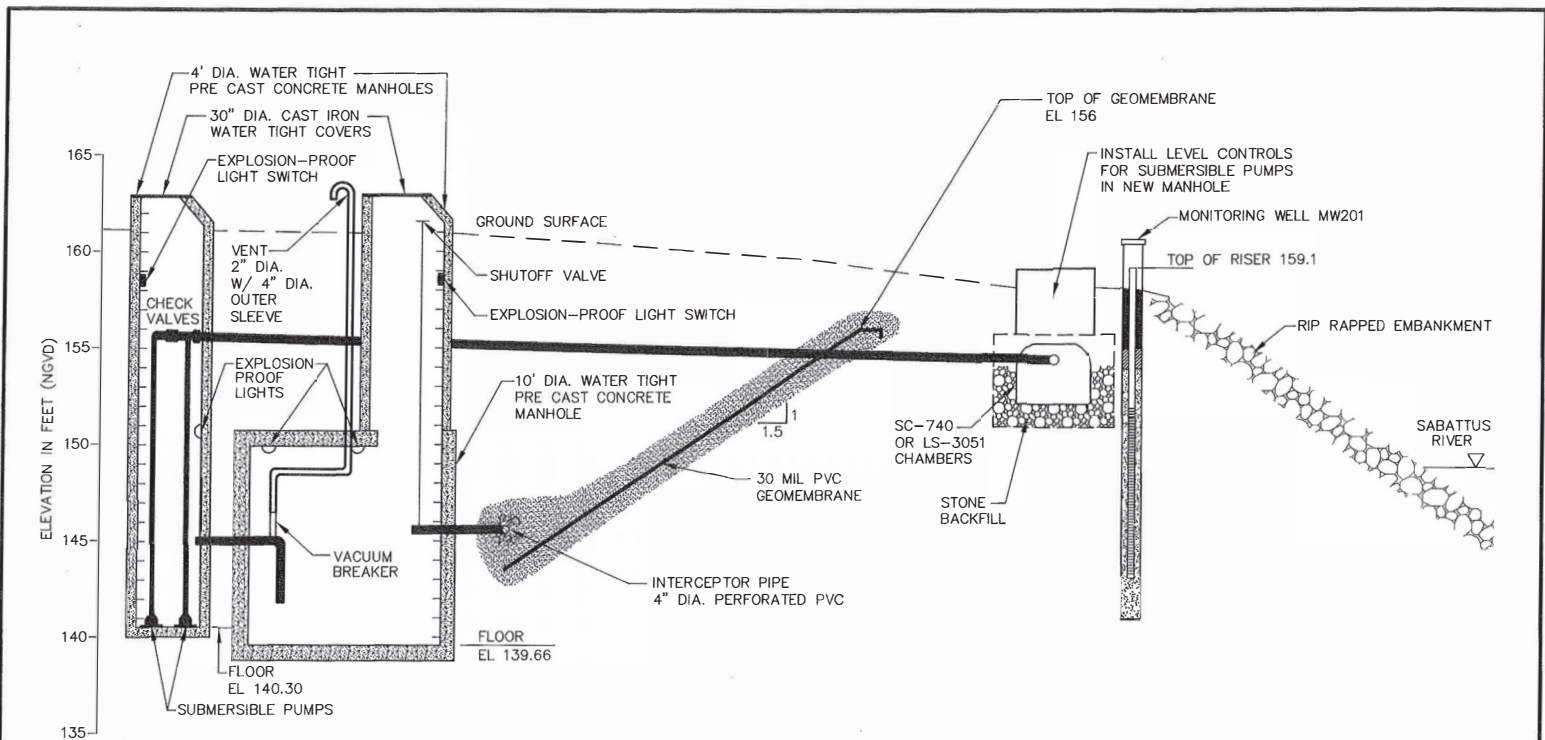
This CSM has been structured to follow the American Society of Testing Material's (ASTM) Standard Guide for Developing Conceptual Site Models for Contaminated Sites (E 1689-95, Reapproved 2008); with a focus on the site from the time of the site's subsurface oil recovery system design and construction by Haley & Aldrich, Inc. (H&A) in 1990, to after the systems shut down in 2007. SME reviewed the Remedial Response Implementation Plan (H&A, 1990), As-Built Configuration and Monitoring Report (H&A, 1990), Operation and Maintenance Plan (H&A, 1991), and selected other historic correspondences for the subsurface oil recovery system in preparing this CSM.

**2.0 SITE LOCATION AND DESCRIPTION**

**2.1 Site Location**

The Farwell Mill property occupies approximately 4.5 acres southeast of the intersection of the Lisbon Road (Route 196) and Grandview Street in the Town of Lisbon, Androscoggin County, Maine. Figure 1 illustrates the property setting on a portion of USGS 7.5-minute topographic





**NOTES:**

1. POSITION OF MANHOLES IS SCHEMATICALLY SHOWN.
2. WATER LEVEL INFORMATION FROM INVESTIGATIONS 1985 TO 1991.
3. HISTORIC HIGH WATER PRIOR TO 1990 151 FT MSL.
4. HISTORIC LOW WATER PRIOR TO 1990 147 FT MSL.
5. AVERAGE WATER TABLE PRIOR TO INSTALLATION OF LINER AND EXTRACTION SYSTEM 148-149 FT MSL.

FIGURE 1  
 CROSS SECTION OF PROPOSED  
 RETROFIT 10 FOOT DIAMETER VAULT  
 FARWELL MILL OIL RECOVERY SYSTEM  
 MILLER INDUSTRIES, INC.  
 LISBON, MAINE



Sevee & Maher Engineers, Inc.

quadrangle map (USGS, 1979). The site is positioned on the southeast side of the Farwell Mill property and is bordered to the north by the Farwell Mill building, to the south by an undeveloped lot, to the east by the Sabattus River, and to the west by paved parking lots and Route 196. The site topography slopes gently towards the Sabattus River to the east. An aerial photograph (dated April 2001), provided as Figure 2, identifies site surroundings and features.


## 2.2 Site Description and History

Investigation activities began at the Farwell Mill property in 1987, when the 4.5-acre property was under renovations to be converted from a mill to residential units. A number of contamination sources were identified for the property and an administrative order of consent (AOC, 1987) was issued by the Maine Department of Environmental Protection (MEDEP), followed by remediation actions as a result of the investigation. These remediation actions included removal and disposal of containers in the mill, floor waste in the mill, asbestos within the mill, electrical transformers with Polychlorinated Biphenyls (PCBs), six underground storage tanks (USTs), and an area of improper stabilization along the Sabattus River.

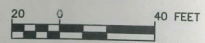
Of the six USTs that were removed in 1987, four contained gasoline, and the remaining two USTs contained No. 6 oil. One of the two USTs (a buried railcar) containing No. 6 oil leaked significantly into the surrounding soils, with oil migrating and discharging into the Sabattus River. The USTs containing No. 6 oil were located in the southern parking lot area as shown on Figure 2. Approximately 100 cubic yards of oil-contaminated soil were removed from the site with the tank excavation and removal in 1987; however some residual oil entrapped within the interstices of the undisturbed soil material was not removed. To comply with the conditions of the 1987 AOC and address the remaining residual oil, a design for a subsurface oil recovery system was submitted to the MEDEP in 1988 by Acheron, Inc. The design was revised and finalized by H&A and approved by MEDEP in 1990. The subsurface oil recovery system was constructed during the fall of 1990 and started on December 17, 1990 to contain, collect, and




DWG: AerialPhoto LMN: TP-LOC CTB: HPSTD REV: 1/15/09

  
 NOTE: AERIAL PHOTO FROM MAINE  
 GIS AERIAL PHOTOGRAPHY  
 DATE OF PHOTO-APRIL 2001

**LEGEND**  
 ◆ PROPOSED WELL LOCATION

  
 20 0 40 FEET

**FIGURE 2**  
 SITE PLAN  
 MILLER INDUSTRIES  
 FARWELL MILL  
 LISBON, MAINE

  
**SME**  
 Sevee & Maher Engineers, Inc.

remove the residual petroleum contamination in the groundwater at the site. Details of the site's subsurface oil recovery system are provided in Subsection 2.3.

The system that was designed and implemented in 1990 performed fairly well for the first few years of operation, with historic oil recovery rates dropping after 1998. Table 1 provides a summary of historic oil collection volumes.

**TABLE 1  
HISTORIC VOLUMES OF NO. 6 FUEL OIL RECOVERED**

YEAR	GALLONS
1991	2,008
1992	1,912
1993	1,760
1994	1,600
1995	1,206
1996	733
1997	624
1998	300
1999	276
2000	311
2001	235
2002	219
2003	200
2004	358
2005	228
2006	438.5
2007	204.5
<b>TOTAL RECOVERED</b>	<b>12,733</b>

In April of 2007, the system was shut down with MEDEP approval. The shutdown occurred because a sheen was observed on the Sabattus River due to the oil recovery system malfunctioning, causing a direct discharge of oil-contaminated water. Miller Industries subsequently contacted the MEDEP and initiated a series of investigations and evaluations to determine which portions of the system were malfunctioning, why, and what should be done to continue to comply with the AOC. The investigations and evaluations of the system completed by SME in 2007 through 2008 concluded that the oil recovery system is no longer functioning as intended, that the oil recovery and groundwater infiltration systems would need significant retrofit, and that even with the retrofits, there appears to be little potential to recover the remaining residual free No. 6 oil (Appendix A).

### 2.3 Subsurface Oil Recovery System

The subsurface oil recovery system constructed in 1990 was designed to cut off and intercept oil migrating through the subsurface soils toward the Sabattus River on the groundwater table.

From 1990 to 2007, groundwater and No. 6 oil were collected in a 320-foot long interceptor system consisting of horizontal perforated collection pipe (4-inch PVC) placed below the water table and oriented perpendicular to the groundwater path/oil flow pathway. The collection pipe is installed in a sand and crushed stone-lined trench that is lined on the downgradient wall with an impermeable, oil resistant synthetic geomembrane (30-mil PVC). The intent of the geomembrane is to act as a flow barrier to prevent migration of groundwater and oil past the collection pipe to the river. During operation, groundwater and oil collected in the collection pipe would flow by gravity to an oil/water separator located within a 10-foot diameter manhole. Oil which collected in the top of the oil/water separator was periodically pumped off and disposed of. Water from the oil/water separator was piped to a 4-foot diameter manhole and pumped to an infiltration gallery located downgradient of the impermeable geomembrane. The infiltration gallery consists of a distribution box attached to approximately 180 feet of 4-inch perforated PVC pipe buried beneath the constructed riprap-lined embankment of the Sabattus River. A monitoring well (MW-201) is located downgradient of the infiltration gallery to evaluate groundwater quality.

The following construction details for the system are important to note (Ref. H&A, As-built Configuration and Monitoring of Oil Recovery System, 1990):

- Bedrock was encountered in the interceptor trench excavation from Sta. 0+00 to Sta. 0+30 at El. 145.5 ft. MSL. Attachment of the PVC geomembrane to the Farwell Mill building was not possible, so a compacted clay barrier was installed from the southeast corner of the Farwell Mill Building southward to



approximately Sta. 0+15. The clay barrier was built up to a maximum elevation of approximately El. 160 ft. MSL. The geomembrane was embedded within the clay barrier from approximately Sta. 0+10 to Sta. 0+15. Sealing of the geomembrane within the clay barrier was accomplished by excavating one-half of the width of the barrier for approximately 5 ft., hanging the geomembrane edge along the vertical cut face, and then backfilling behind the geomembrane with compacted clay. The location of the clay barrier on the north side of the recovery system is shown on Figure 2.

- During interceptor trench excavation, oil contaminated soils were noted at depths down to El. 144 ft. MSL at approximately Sta. 0+50. To minimize the possibility of oil flowing under the geomembrane, the elevation of the geomembrane bottom was lowered to El. 143 ft. MSL from approximately Sta. 0+35 to Sta. 1+15.
- Between Sta. 1+15 and the interceptor trench "angle point" at approximately Sta. 2+10, the geomembrane bottom was placed at El. 139 and keyed into the naturally deposited gray silty clay encountered at approximately El. 140 in response to oil contamination observed on top of the clay stratum.
- No significant oil contamination was noted during interceptor trench excavation from the angle point to the south end of the trench, and the geomembrane bottom was placed at approximately El. 144 from the angle point to the south end of the trench.

To prevent oil from passing below the collection pipe, the invert elevation of the collection pipe (which varies from El. 146.6 to El. 145.3) was placed below the anticipated year-to-year low water table (El. 147), and approximately 3 ft. below normal water table levels of the site. Additionally, the geomembrane was keyed into the native marine clay as noted above. The top of the geomembrane is anchored approximately at El. 156 (2.5 to 3 feet below the current ground surface).

### 3.0 CONTAMINANT AND SOURCE CHARACTERIZATION

#### 3.1 Identification of Known Contaminants

Prior investigations and removal activities (test pits and removal excavations) at the site completed in the 1980s have documented evidence that the known contaminant at the site is No. 6 oil. No. 6 oil (also referred to as "Bunker C") is a dense, high-viscosity fuel oil produced by blending heavy residual oils with a lighter oil (often No. 2 fuel oil), and is used mostly as a boiler fuel in commercial and industrial heating. It requires preheating for mobility in most systems and the specific gravity of a particular No. 6 oil can vary from 0.95 to greater than 1.03. Thus, spilled No. 6 oil can float, suspend, or sink in the water column. At the Farwell Mill Site, observations during SME's 2007 investigation showed the No. 6 fuel oil has a specific gravity of approximately 0.98, based on water/oil collected from the interceptor trench inlet to the oil-water separator. Characteristically, No. 6 oil has very low volatility/evaporation characteristics, low solubility in water, and is slow to biodegrade or migrate in soils (Ref. NOAA Fact sheet – No. 6 fuel oil).

In addition to the presence of No. 6 fuel oil, Solid Waste including vinyl and asbestos tiles, and masonry was historically disposed of in the general vicinity of the site. Observations of the solid waste were noted during installation of the oil recovery system in 1990. The areas of solid waste disposal were capped by installation of the parking lot in accordance with an administrative solid waste order (See Appendix B) and a deed restriction was recorded for the property (See Appendix C). Also, residuals from the four gasoline USTs removed in 1987 may be present in the immediate vicinity of the ASTs, but no historic documentation identifies issues related to releases from these ASTs.

### 3.2 Identification and Characterization of the Source of Contaminants

As noted in Subsection 2.2, the source of the No. 6 oil contamination was from one of two former USTs located in the southern parking lot. An estimated 7,000 gallons of No. 6 oil was released from the leaking USTs sometime between the time when they were installed in the 1950's or 1960's and 1987, when the tank were removed (Ref. Miller Industries and H&A). Historical oil seeps along the Sabattus riverbank indicated migration of the No. 6 oil over a distance of about 120 feet. The horizontal boundaries of the product plume in the 1980's were defined based on test trenches (E.C. Jordan Co., 1985), which identified a primary plume traveling from the source in an east-southeast direction to the Sabattus River (see Figure 2).

During installation of the oil recovery system in 1990, an extensive plume of heavy oil was observed within the Sabattus riverbed. The plume was excavated from the riverbed back toward the location of the former leaking USTs. Approximately 1,500 cubic yards of No. 6 oil-containing sediments from excavation of the Sabattus riverbed and embankment were backfilled in "lifts" just upgradient of the system's geomembrane barrier in the area shown on Figure 2. Each lift of oily soil was separated by clean sand to expedite the flow of oil into the collection pipe, and then into the system's oil-water separator. (Ref. H&A, As-built Configuration and Monitoring of Oil Recovery System, November 7 through 9, 1990). A three-foot thick sand cover was placed over the entire area backfilled with contaminated soils (See Figure 2 for backfill area).

During the 1990 excavation of contaminated oil from the riverbed, some contaminated soils were inaccessible and subsequently left in place. It was noted by MEDEP personnel present on-site during the removal that not all of the oil contamination was removed because the water level fluctuations and difficulties of heavy equipment working in and near the river made it impossible to excavate all of the oil from the riverbed (Ref. MEDEP, Final Site Inspection Prioritization Report, October 25, 1995 and August 29, 1991 memorandum). A copy of the MEDEP spill



report for the oil within the Sabattus Riverbed is provided in Appendix D. The extent and quantity of No. 6 oil remaining in the Sabattus riverbed following the 1990 removal is unknown.

From construction in 1990 until the system was shut down in 2007, the subsurface oil recovery system recovered approximately 12,733 gallons of oil (Appendix A).

Test pitting investigations of the infiltration trench were completed by SME following the shut down in 2007. The coarse backfill under the infiltration trench contained visible No. 6 staining and concentrations of DRO above MEDEP Baseline 2 standards of 50 to 100 mg/kg. Observations of the fine silty sand under the coarse backfill did not contain any visible staining of No. 6 suggesting that the No. 6 fuel oil in the coarse backfill is not mobile and was not the cause of the sheen in the River on April 25, 2007 (Ref. Ref. SME, Revised Recommendations to Address Oil Recovery System Issues Memorandum, August 5, 2008)

#### **4.0 ESTABLISHMENT OF BACKGROUND AREAS OF CONTAMINANTS**

No. 6 oil is not a natural occurrence in the environment or at the site. Establishment of background concentrations of contaminants is not applicable to this CSM.

#### **5.0 DELINEATION OF POTENTIAL MIGRATION PATHWAYS**

##### **5.1 Groundwater Pathway**

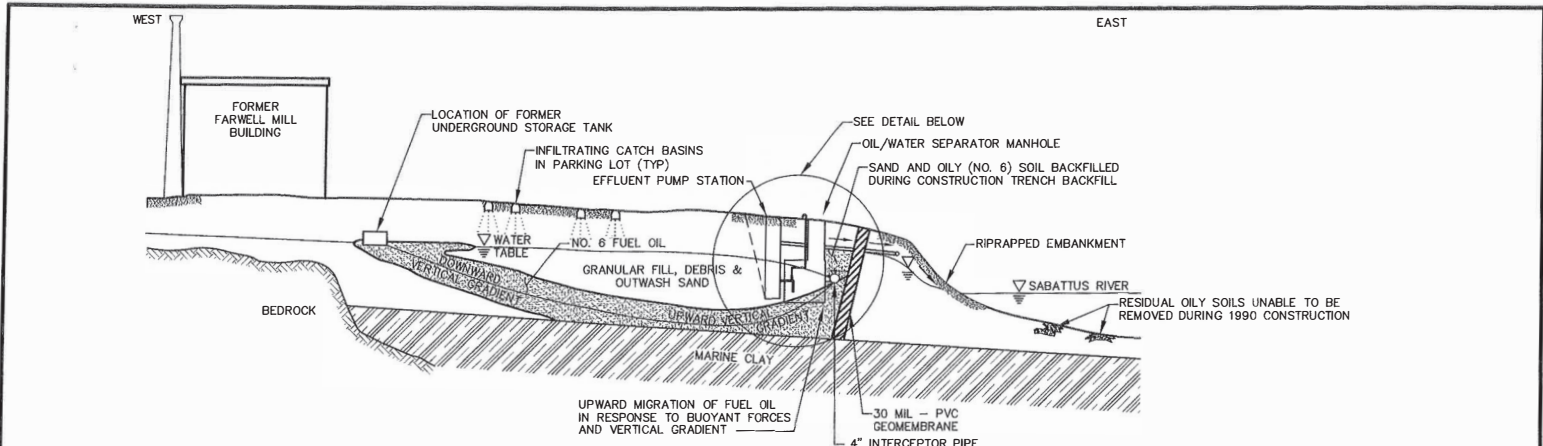
**Hydrogeology.** Surficial geology underlying the area is comprised of Presumpscot Formation deposits. Deposits of glacial till, sand, gravel, and marine clay have also been mapped within a one-mile radius of the property. The shallow aquifer at the site is composed of glacial outwash sand overlain by miscellaneous fill that thickens eastward towards the Sabattus River. Soil permeability of this layer was estimated to be  $8 \times 10^{-3}$  cm/sec, based on sieve analysis of test pits completed (H&A, 1990). The aquifer is locally underlain by marine clays that constitute a

vertical groundwater flow barrier (Prescott, 1968). Bedrock outcrops in the Sabattus River east of the site were encountered at depths less than 10 feet below ground surface near the mill building (E.C. Jordan Co., 1985).

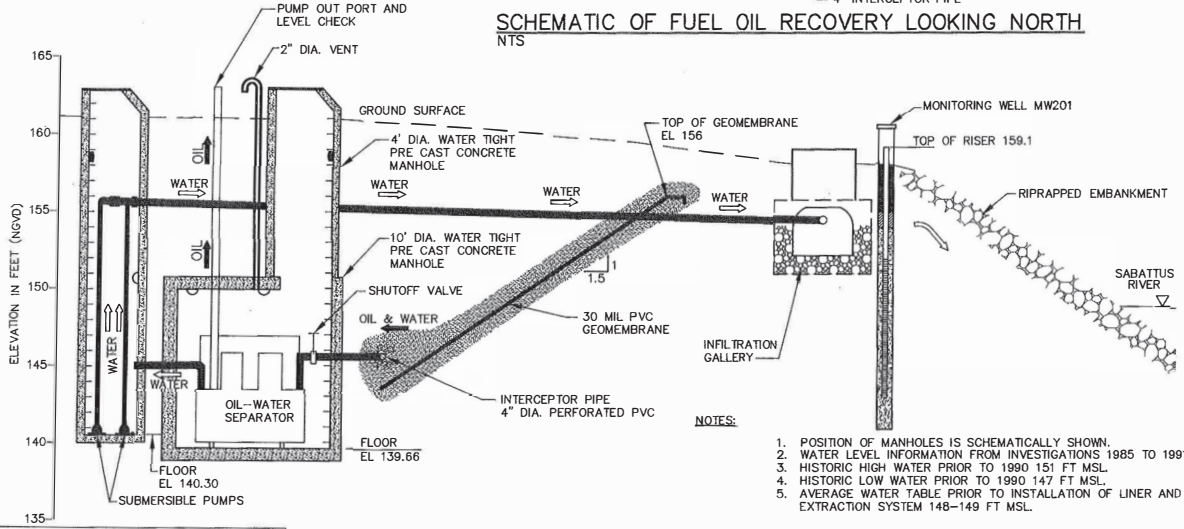
Groundwater flows east-southeast from the site toward the Sabattus River. Upgradient from the river, the shallow aquifer is likely recharged by infiltration of precipitation through the surficial fill materials. Infiltrating catch basins in the parking lot of the site provide additional recharge. The catch basins have an overflow that connects to a stormwater outfall on the south edge of the site. Groundwater recharge zones are characterized by downward vertical flow gradients. The Sabattus River is likely a groundwater discharge zone characterized by upward vertical flow gradients. Discharge of groundwater to the river is evident by historic seepage of No. 6 oil into the river bed.

Water levels in the Sabattus River have historically fluctuated between El. 145 and El. 152. Water levels in the river are controlled, in part, by flood gates in dams up river from the site. Groundwater levels at the site typically range from about 1 to 3 feet higher in elevation than the river.

System Groundwater Model. During the subsurface oil recovery system operations from 1990 until 2007, the groundwater flow rate through the system (from the effluent discharge of the oil-water separator) ranged from 20 gallons per minute (gpm) at the start up of the system to approximately 11 gpm during 2006 and 2007. The direction of flow appears to be controlled by groundwater flow and the topography of the bedrock. The presence of the 30-mil PVC geomembrane prevents oil migration to the Sabattus River to the east and the presence of a native marine clay base or a bedrock base prevents oil migration vertically. Annual sampling and testing results for DRO from the downgradient groundwater monitoring well (MW-201) during the system's operation from 1991 through 2007 were well below the MEDEP limit of 15 ppm. Figure 3 provides a cross-section schematic of the site hydrogeology and the subsurface oil recovery system in operation from 1990 until 2007.



**SCHEMATIC OF FUEL OIL RECOVERY LOOKING NORTH**  
NTS



- NOTES:
1. POSITION OF MANHOLES IS SCHEMATICALLY SHOWN.
  2. WATER LEVEL INFORMATION FROM INVESTIGATIONS 1985 TO 1991.
  3. HISTORIC HIGH WATER PRIOR TO 1990 151 FT MSL.
  4. HISTORIC LOW WATER PRIOR TO 1990 147 FT MSL.
  5. AVERAGE WATER TABLE PRIOR TO INSTALLATION OF LINER AND EXTRACTION SYSTEM 148-149 FT MSL.

FIGURE 3  
SYSTEM CROSS SECTION  
SCHEMATIC (1999 - 2007)  
FARWELL MILL PROPERTY  
LISBON, MAINE

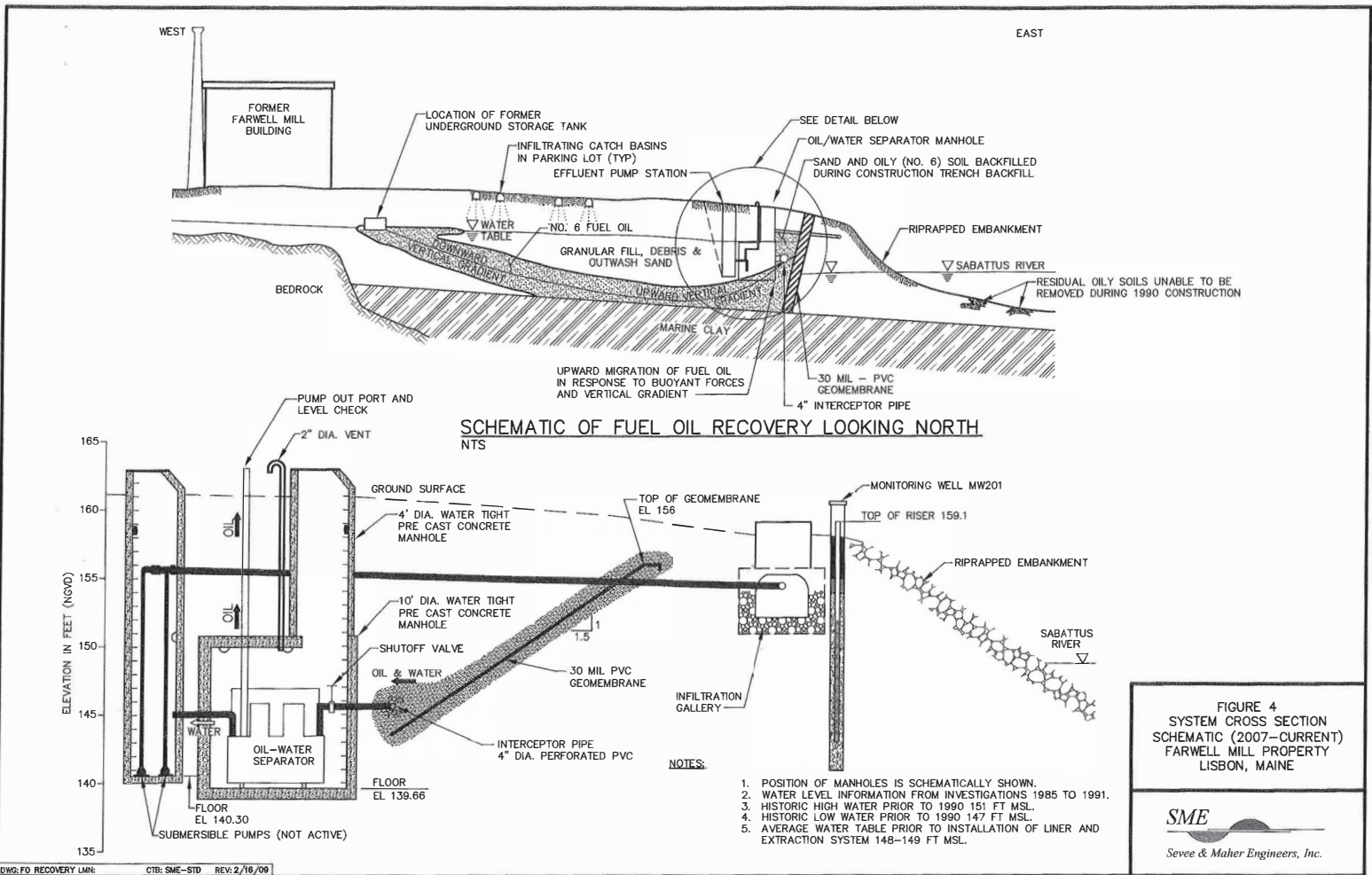


From the time of the shutdown in 2007, no groundwater has flowed from the effluent discharge of the oil-water separator. As described above, the presence of the 30-mil PVC geomembrane and the presence of native marine clays and bedrock base contains to limit the passage of oil migration laterally and vertically. Although groundwater levels fluctuate with river levels and precipitation, the water table measured behind the geomembrane (within the oil recovery structures) has remained more than two feet lower than the top of the geomembrane (El. 156). Annual sampling and testing results from DRO of the downgradient groundwater monitoring well (MW-201) since the shutdown in 2007 have ranged from 0.55 ppm to 2.2 ppm which are within historic ranges and well below the MEDEP limit of 15 ppm. Figure 4 provides a cross section schematic of the site hydrogeology and the subsurface oil recovery system from the shut down in 2007 to the present.

The close proximity of the Sabattus River as a groundwater discharge zone suggests that any downgradient groundwater exposure pathways are insignificant. If the No. 6 fuel oil migrates around the PVC liner, if infiltrating surface water causes groundwater to overtop the liner, if there are perforations through the liner, or if the clay barrier/geomembrane interface is not intact, No. 6 may potentially be transported to the Sabattus River, causing a surface water and/or sediment exposure pathway. As evidenced by the historic sampling of MW-201, these pathways are likely not active.

#### 5.2 Surface Water and Sediment Pathway

The Sabattus River forms the property's eastern boundary. Topography on-site is generally level, except for the easternmost portion, which slopes toward the river. The western portion of the site is paved with a stormwater collection system consisting of a series of catch basin structures that allow surface water to infiltrate to the subsurface to promote flushing through the contaminated soils to the interceptor trench. East of the parking lot, stormwater surface runoff flows overland through gravel and grassed areas where it discharges to the Sabattus River. The probable point of entry from the eastern runoff into the Sabattus spans the eastern site boundary.



The vegetated surface soils that are exposed on the site consist of clean fill soils placed and graded during the 1990 construction, which have no evidence of oil contamination.

Because it is known that sediments contaminated with No. 6 oil remain in the Sabattus riverbed (see Subsection 3.1), there is a surface water and sediment pathway for No. 6 oil in the Sabattus River. Sheens and oil product droplets having historically been observed rising to the surface of the river from the riverbed and carried downstream with the current, but these are likely not a result of contamination present upgradient of the PVC liner.

#### 5.3 Air Pathway

The No. 6 oil contamination is buried several feet below surface grade and effectively prevented from reaching the air pathway. The site is also covered by vegetation or asphalt pavement, which can act as a cap and prevent dust from becoming airborne. Based on the low-volatility characteristics of No. 6 oil and the items mentioned above, there is no indication that vapor or dust contaminated with No. 6 oil can enter the air pathway.

#### 5.4 Soil Contact Pathway

Although people are known to live and work in the adjacent Farwell Mill Building and access to the site is not restricted, the contaminant source areas have been removed, and remaining contamination exist several feet below surface grade. The vegetated surface soils that are exposed on the site consist of clean fill soils placed (3 feet thick) and graded during the 1990 construction, which have no evidence of oil contamination. No evidence of burrowing animals have been identified on the site during inspections and site visits completed by SME or Miller Industries. There is no indication that direct contact with soils containing No. 6 oil by humans or animals is occurring at the site. In addition, a deed restriction prohibiting excavation has been filed with the Androscoggin County Registry of Deeds for the property (See Appendix C).

## 6.0 IDENTIFICATION AND CHARACTERIZATION OF POTENTIAL ENVIRONMENTAL RECEPTORS

The following evaluation of potential environmental receptors reflects the current site conditions, which identified that the only exposure pathways are the surface water and sediments from the residual No. 6 fuel oil in the Sabattus Riverbed and any No. 6 that might reach the Sabattus River by either overtopping the PVC liner or migrating around the PVC liner. It should be noted the current site conditions reflect a non-pumping condition.

### 6.1 Human Receptors

Human receptors are exposed if No. 6 oil reaches the ground surface, or the ambient environment. The system is buried several feet below surface, and unauthorized access to the oil recovery structures is prevented by the use of locks. In addition, the deed restriction at the site limits human contact through excavation.

Although people are known to live and work in the adjacent Farwell Mill Building, the surficial aquifer is not used as a source of drinking water by the residents, and the groundwater flow is toward the east-southeast, away from the building. There is no evidence of any threat to human receptors.

### 6.2 Ecological Receptors

Ecological receptors are exposed by No. 6 oil reaching the Sabattus River from the contaminated riverbed sediments and include potential for sheens and oil product in the river, oil coating vegetation, or affecting aquatic species through oil coating or through ingestion. The Sabattus River and the downstream Androscoggin River are designated high value fisheries by the Maine Department of Inland Fisheries and Wildlife. No federally listed or proposed threatened or

endangered species are known to inhabit the site; however, within 15 miles of the site, the peregrine falcon are federally listed or proposed threatened or endangered species.

#### **7.0 DETERMINATION OF THE LIMITS OF THE SITE**

Because it is known that sediments contaminated with No. 6 oil remain in the Sabattus riverbed (see Subsection 3.1), there is a surface water and sediment pathway for No. 6 oil in the Sabattus River. Sheens and oil product droplets having historically been observed rising to the surface of the river from the riverbed. The extent or quantity of No. 6 oil remaining in the Sabattus River bed following the 1990 partial removal is unknown.

Groundwater flows have the potential to pass by the membrane barrier to the Sabattus River by the following means:

- Through holes or penetrations in the geomembrane;
- Through the clay barrier or clay barrier/geomembrane interface along the north end of the system;
- Over the geomembrane barrier;
- Around the geomembrane to the south.

Historic monitoring of MW-201 suggests these pathways are not active.

Additionally, No. 6 fuel oil has limited potential to be mobilized to the Sabattus River through these pathways, because it is likely that most of the mobile No. 6 fuel oil has been recovered. Long-term monitoring to ensure the pathways do not become active would be prudent.



#### REFERENCES

- H&A, 1990. As-Built Configuration and Monitoring Report.
- MEDEP, 1991. Field Activities Memorandum for 8/15 & 16/91, August 29, 1991.
- MEDEP, 1992. Solid Waste Order – Closing Plan, Transfer of License and Amendment
- MEDEP, 1995. Final Site Inspection Prioritization Report, October 25, 1995.
- Miller Industries. Historic Volumes Recovery Records, 1991-2007
- NOAA Fact sheet – No. 6 fuel oil.
- SME, 2008. Revised Recommendations to Address Oil Recovery System Issues Memorandum, August 5, 2008.

**APPENDIX A**  
**SME INVESTIGATION SUMMARIES 2007 – 2008**

07078  
20070625.doc

TO: David Robinson, Miller Industries  
FROM: Kristie ~~Rabasca~~<sup>Le</sup> and Guy Cote <sup>Kelley</sup>  
CC: Larry Nadeau, Miller Industries  
Kathy Howatt, Maine DEP  
Harrison Bispham, Maine DEP  
DATE: June 25, 2007  
SUBJECT: **SUMMARY OF FINDINGS AND RECOMMENDATIONS  
FROM MAY 22, 2007 TEST PITTING  
FARWELL MILL OIL RECOVERY SYSTEM, LISBON MAINE**

On May 22, 2007 Sevee & Maher Engineers, Inc. (SME) performed test pitting along the infiltration trench of the Farwell Mill Oil Recovery System to evaluate the condition of the groundwater infiltration portion of the Oil Recovery System. The test pitting was recommended by SME in a May 14, 2007 memorandum to Miller Industries to assist in determining the cause of an overflow at the distribution box on April 27, 2007 and a seep of oil that was observed on the River on the same date. The May 14, 2007 memorandum provides project background information including a description of the Oil Recovery System. This memorandum provides a summary of the test pitting activities, findings and our recommendations.

**SUMMARY OF ACTIVITIES**

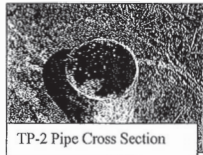
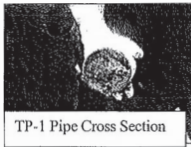
SME performed three test pits as shown in Figure 1 (Attachment 1). Each test pit was excavated to approximately 5 to 7 feet below ground surface. Kathy Howatt and Harrison Bispham of Maine Department of Environmental Protection (MEDEP) were on site to observe the test pitting, and Miller Industries personnel (Larry Nadeau and Dutch Ducharme) were present to assist. Test pitting was completed by Randy Tibbets Aggregate of Monmouth, Maine. SME test pit logs are included as Attachment 2 to this memorandum.

### SUMMARY OF FINDINGS

All three test pits (designated as TP-1, TP-2 and TP-3) showed the presence of No. 6 fuel oil in the coarse backfill material under the 4-inch perforated PVC infiltration pipe. Within all three test pits, No. 6 fuel oil was not observed in the natural soil (a silty fine sand) under the coarse backfill, adjacent to the coarse backfill, or in the fine sand above the coarse backfill. Although the coarse backfill was visibly stained with No. 6 fuel oil, it was loose and appeared to be porous.

A sample of the coarse backfill from TP-3 was collected for analysis to determine Diesel Range Organic (DRO) concentration (MEDEP Method 4.1.25). DRO was detected at 6,900 milligrams per kilogram (mg/kg). The analytical results are included as Attachment 3.

Within each test pit, a cross section of infiltration pipe was cut out for inspection, and the remaining pipe was repaired with a coupling. The pipe on the west side of the distribution box appeared to be Schedule 35 PVC, and the pipe on the east side of the distribution box appeared to be Schedule 40 PVC. Both pipes contained circular 1/2-inch diameter perforations on the bottom of the pipe spaced approximately 6 inches apart. The cross section of pipe extracted from TP-1 was completely filled with silty sand. The cross sections of pipe from TP-2 and TP-3 were clear (no silt, or sand were present), and the 1/2-inch perforations on the bottom of the pipe were open. Both sections from TP-2 and TP-3 showed evidence of No. 6 fuel oil and some orange (presumably iron) deposits on the interior of the pipe. Photos of the pipe cross sections from TP-1 and TP-2 are shown below:



### RECOMMENDATIONS

Although the concentration detected in the coarse aggregate backfill exceeds the MEDEP Baseline 2 standard for DRO (50 to 100 mg/kg), the observations of the soils surrounding the coarse backfill suggest the No. 6 fuel oil in the coarse backfill is not mobile, and was not the cause of the sheen on the River on April 27, 2007. More likely, the cause of the sheen on the river was the No. 6 fuel oil that was pumped from the sump into the distribution box in combination with the high water levels, causing an overflow at the distribution box.

Based on the observations during test pitting, SME recommends the following be conducted:

1. Because the western portion of the infiltration pipe is filled with silty sand, hire an environmental contractor to clean the interior of the infiltration trench piping (using a jetting tool) and the interior of the distribution box.
2. After the infiltration system is cleaned, conduct a clean water test of the infiltration system to determine if future operations would cause overflow of the distribution box to the Sabattus River. This test would consist of discharging approximately 300 gallons of clean water into the distribution box at a rate similar to the rate the sump pump's discharge rate (10 to 15 gpm), and observing the on-site monitoring well and the banks of the river to see if any seeps break out through the rip rap.

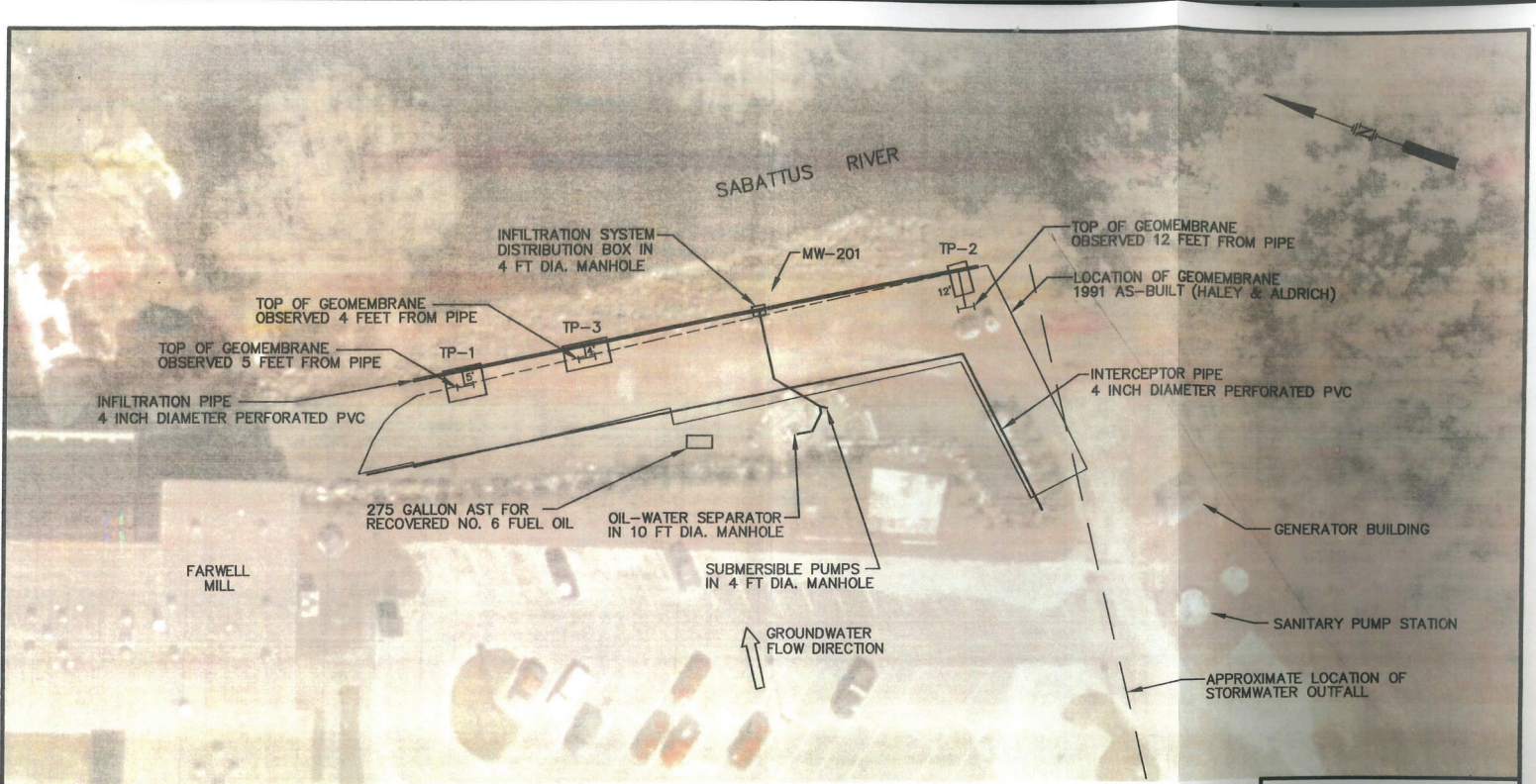
#### **ADDITIONAL ACTIVITIES PLANNED**

A cleaning and inspection of the oil/water separator, tanks, and discharge sump is scheduled to occur on Monday June 25, 2007. This cleaning and inspection will be used to determine why No. 6 fuel oil was discharged to the infiltration trench.

We will attempt to conduct the jetting and clean water test after the cleaning if time and equipment permit. Should you have any questions or comments regarding the test pitting program findings or recommendations, please call us at 207.829.5016.

#### **Attachments:**

- Attachment 1 – Figure 1
- Attachment 2 - Test Pit logs
- Attachment 3 – DRO Analysis



NOTE: AERIAL PHOTO FROM MAINE GIS AERIAL PHOTOGRAPHY  
 DATE OF PHOTO-APRIL 2001

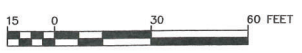


FIGURE 1  
 TEST PIT LOCATIONS  
 MAY 22, 2007  
 MILLER INDUSTRIES  
 FARWELL MILL  
 LISBON, MAINE





# TEST PIT LOG

TEST PIT NO.:

TP-1

**PROJECT:**

FARWELL MILL OIL RECOVERY SYSTEM EVALUATION

**LOCATION:**

LISBON, MAINE

**DATE:**

22-May-07

**CONTRACTOR:**

RANDY TIBBITS AGGREGATE (RTA), MONMOUTH, MAINE

**EXCAVATION METHOD:**

BACKHOE & SHOVEL

**JOB NO.:**

07078.00

**SURFACE SIZE (FT):**

12 L x 10 W

**COMPLETION DEPTH (FT):**

6.6

**GROUND EL. (FT):**

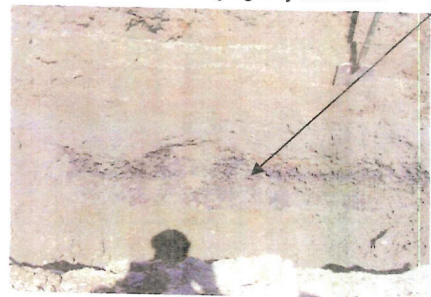

NOT SURVEYED

**GROUNDWATER DEPTH (FT):**

NOT ENCOUNTERED

**LOGGED BY:**

WCM

DEPTH (FT)	SAMPLE NO.	GRAPHIC LOG	MATERIAL DESCRIPTION AND CLASSIFICATION	WATER DATA	REMARKS, LAB TEST RESULTS, PHOTOGRAPHS
2			Brown silty sand with pieces of bricks and metal  (EXCAVATED SOIL FILL)		<p>Encountered 30 mil geomembrane liner at a depth of 3 feet below ground surface, and offset about 5 feet southwest from the PVC infiltration pipe.</p> <p>Infiltration gallery with 4-inch SCH 35 perforated PVC pipe encountered at 5 feet below ground surface</p> <p>Photo 2. No. 6 fuel oil presence in the infiltration gallery appears limited to the coarse aggregate beneath the perforated PVC pipe, and did not penetrate into the underlying silty fine sand</p> 
4			<p>3.5' Tan fine sand</p> <p>4' Crushed coarse aggregate, stained black with No. 6 fuel oil and oxidized iron (AGGREGATE BACKFILL)</p>		
6		○	5.5' Brown silty fine sand (SAND)		
8			6.6' Bottom of test pit		
			<p>Photo 1: The interior of a section of the infiltration pipe where flow is restricted.</p> 		

# TEST PIT LOG

TEST PIT NO.: TP-2

**PROJECT:**  
FARWELL MILL OIL RECOVERY SYSTEM EVALUATION

**LOCATION:**  
LISBON, MAINE

**DATE:**  
22-May-07

**CONTRACTOR:**  
RANDY TIBBITS AGGREGATE (RTA), MONMOUTH, MAINE

**EXCAVATION METHOD:**  
BACKHOE & SHOVEL

**JOB NO.:**  
07078.00

**SURFACE SIZE (FT):**  
10 L x 6 W

**COMPLETION DEPTH (FT):**  
5.7

**GROUND EL. (FT):**  
NOT SURVEYED

**GROUNDWATER DEPTH (FT):**  
5.7

**LOGGED BY:**  
WCM


DEPTH (FT)	SAMPLE NO.	GRAPHIC LOG	MATERIAL DESCRIPTION AND CLASSIFICATION	WATER DATA	REMARKS, LAB TEST RESULTS, PHOTOGRAPHS
2			Brown silty sand with gravel and pieces of brick  (EXCAVATED SOIL FILL)		Encountered 30 mil geomembrane liner at a depth of 2.5 feet below ground surface, and offset about 12 feet southwest from the PVC infiltration pipe.  Infiltration gallery with 4-inch SCH 35 perforated PVC pipe encountered at 4 feet below ground surface
4		○	\ 3' Tan fine sand \ 3.6' --- Crushed coarse aggregate, stained black with No. 6 fuel oil and oxidized iron (AGGREGATE BACKFILL)		
6			\ 5.3' Gray silty fine sand with some clay (SAND)		
8			\ 5.7' Bottom of test pit		



Photo 1. Infiltration pipe in test pits TP-2 and TP-3 not blocked.



# TEST PIT LOG

TEST PIT NO.: TP-3

**PROJECT:**

FARWELL MILL OIL RECOVERY SYSTEM EVALUATION

**LOCATION:**

LISBON, MAINE

**DATE:**

22-May-07

**CONTRACTOR:**

RANDY TIBBITS AGGREGATE (RTA), MONMOUTH, MAINE

**EXCAVATION METHOD:**

BACKHOE & SHOVEL

**JOB NO.:**

07078.00

**SURFACE SIZE (FT):**

14 L x 8 W

**COMPLETION DEPTH (FT):**

7.5

**GROUND EL. (FT):**

NOT SURVEYED

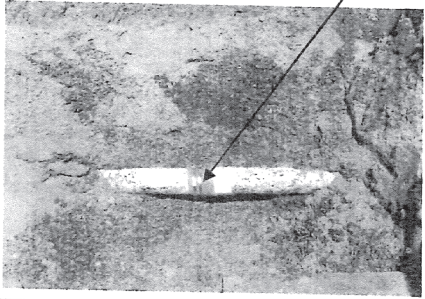
**GROUNDWATER DEPTH (FT):**

NOT ENCOUNTERED

**LOGGED BY:**

WCM

DEPTH (FT)	SAMPLE NO.	GRAPHIC LOG	MATERIAL DESCRIPTION AND CLASSIFICATION	WATER DATA	REMARKS, LAB TEST RESULTS, PHOTOGRAPHS
2	DRO Sample Collected	○	Brown silty sand with gravel and cobbles, and pieces of brick  (EXCAVATED SOIL FILL)		Encountered 30 mil geomembrane liner at a depth of 2.5 feet below ground surface, and offset about 4 feet southwest from the PVC infiltration pipe.  Infiltration gallery with 4-inch SCH 35 perforated PVC pipe encountered at 5 feet below ground surface  Photo 1. Repair to section of infiltration pipe removed for evaluation
4			3.7' Tan fine sand		
6			4.8' Crushed coarse aggregate, stained black with No. 6 fuel oil and oxidized iron  (AGGREGATE BACKFILL)		
8			7' Gray silty fine sand (SAND)		
			7.5' Bottom of test pit		





June 7, 2007

Ms. Kristie Rabasca  
Sevee & Maher  
4 Blanchard Road  
P.O. Box 85A  
Cumberland Center, ME 04021



RE: Katahdin Lab Number: SA2490  
Project ID: MH Farwell Mill  
Project Manager: Mrs. Andrea Colby  
Sample Receipt Date(s): May 23, 2007

Dear Ms. Rabasca:

Please find enclosed the following information:

- Report of Analysis (Analytical and/or Field)
- Quality Control Data Summary
- Chain of Custody (COC)
- Login Report

A copy of the Chain of Custody is included in the paginated report. The original COC is attached as an addendum to this report.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Sincerely,

KATAHDIN ANALYTICAL SERVICES

Authorized Signature

06/07/2007  
Date



## TECHNICAL NARRATIVE

### Organics Analysis

The samples of work order SA2490 were analyzed in accordance with "Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods." SW-846. 2nd edition, 1982 (revised 1984), 3rd edition, 1986, and Updates I, II, IIA, and III 1996, Office of Solid Waste and Emergency Response, U.S. EPA and/or Maine HETL, Method 4.1.25, Modified Method for the Determination of DROs, 9/95, for the specific method listed below or on the Report of Analysis. Some manual integrations may have been performed due to split peaks and/or corrected baselines. All have been flagged with a "M" (software-generated) on the pertinent quantitation reports.

### MEDEP4.1.25-Extended Analysis

DRO was detected in the laboratory method blank, WG39234-1, at a concentration of 21 mg/Kg, which is above the PQL of 5.0 mg/Kg. Since the associated sample had a DRO concentration which was more than 10 times the DRO concentration in the method blank, any contribution from the method blank is considered negligible. Therefore, the sample was not reextracted.

There were no other protocol deviations or observations noted by the organics laboratory staff.

DATA QUALIFIERS

- U Indicates the compound was analyzed for but not detected above the laboratory Practical Quantitation Limit.
- \* Compound recovery outside of quality control limits.
- D Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.
- E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.
- J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Limit (PQL), but above the Method Detection Limit (MDL).
- B Organics- Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.  
Metals- Indicates the analyte was detected in the sample at a concentration greater than the instrument detection limit, but less than the laboratory's Practical Quantitation Level.
- N Presumptive evidence of a compound based on a mass spectral library search.
- A Indicates that a tentatively identified compound is a suspected aldol-condensation product.
- P Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns.
- MCL Maximum Contaminant Level
- NL No limit
- NFL No Free Liquid Present
- FLP Free Liquid Present
- NOD No Odor Detected

Report of Analytical Results

Client: Sevee & Maher  
Project: MII Farwell Mill  
PO No:  
Sample Date: 05/22/07  
Received Date: 05/23/07  
Extraction Date: 05/24/07  
Analysis Date: 05-JUN-2007 23:52  
Report Date: 06/06/2007  
Matrix: SOIL  
% Solids: 84.6

Lab ID: SA2490-1DL2  
Client ID: TP-3  
SDD: SA2490  
Extracted by: GW  
Extraction Method: SWE46 3550  
Analyst: HC  
Analysis Method: MEDEP 4.1.25  
Lab Prep Batch: WQ39234  
Units: mg/Kgdrywt

Compound	Flags	Results	DF	PQL	Adj.PQL
Diesel Range Organics		6900	100	5.0	590
o-Terphenyl		D			

Page 01 of 01 AHF1063.d

**Report of Analytical Results**

Client: Kristie Rabasca  
Seves & Maher  
4 Blanchard Road  
Cumberland Center, ME 04021

Lab Sample ID: SA2490-1  
Report Date: 30-MAY-07  
Client PO: 07078  
Project: Mill Farwell Mill  
SDG: SA2490

<u>Sample Description</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Date Received</u>
TP-3	SL	22-MAY-07	23-MAY-07

<u>Parameter</u>	<u>Result</u>	<u>Adj PQL</u>	<u>Anal. Method</u>	<u>QC Batch</u>	<u>Anal. Date</u>	<u>Prep. Method</u>	<u>Prep. Date</u>	<u>Analyst</u>	<u>Footnotes</u>
Total Solids	85. %	1	CLP SOW 788	WG39395	29-MAY-07 09:14:00	CLP SOW 788	25-MAY-07	JF	

SEMIVOLATILE METHOD BLANK SUMMARY

WG39234-BLANK

Lab Name: KATAHDIN ANALYTICAL SERVICES Lab Code: KAS  
 Project: MII FARWELL MILL SDG No.: SA2490  
 Lab File ID: AAE1182A Lab Sample ID: WG39234-1  
 Instrument ID: GC10 Date Extracted: 05/24/07  
 Matrix: (soil/water) SOIL Date Analyzed: 05/24/07  
 Level: (low/med) LOW Time Analyzed: 1635

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01 WG39234-LCS	WG39234-2	AAE1183A	05/24/07	1722
02 WG39234-LCSD	WG39234-3	AAE1184A	05/24/07	1810
03 TP-3	SA2490-1DL2	AAF1063	06/05/07	2352
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

Report of Analytical Results

Client: Lab ID: W339234-1  
Project: MII Farwell Mill Client ID: W339234-Blank  
PO No: SDG: SA2490  
Sample Date: Extracted by: GN  
Received Date: Extraction Method: SW846 3550  
Extraction Date: 05/24/07 Analyst: TR  
Analysis Date: 24-MAY-2007 16:35 Analysis Method: M8DEP 4.1.25  
Report Date: 06/06/2007 Lab Prep Batch: W339234  
Matrix: SOIL Units: mg/kgdrywt  
% Solids: 100

Compound	Flags	Results	DF	PQL	Adj.PQL
Diesel Range Organics		21	1.0	5.0	5.0
O-Terphenyl		86%			

Page 01 of 01 AAE1182a.d



KATAHDIN ANALYTICAL SERVICES  
LAB CONTROL SAMPLE

Client:	Lab ID: W039234-2 & W039234-3
Project: Mill Farwell Mill	Client ID: W039234-LCS & W039234-LCSD
PO No:	SDG: SA2490
Sample Date:	Extracted by: GN
Received Date:	Extraction Method: SW846 3550
Extraction Date: 05/24/07	Analyst: TR
Analysis Date: 05/24/07	Analysis Method: MBDEP 4.1.25
Report Date: 06/06/2007	Lab Prep Batch: W039234
Matrix: SOIL	Units: mg/Kgdrywt

COMPOUND	LCS SPIKE	LCSD SPIKE	SAMPLE CONC.	LCS CONC.	LCSD CONC.	LCS %REC.	LCSD %REC.	%RPD	LIMIT	QC LIMITS
Diesel Range Organics	17	17	NA	15	15	88	89	0.7	50	56-125

Quality Control Report  
Blank Sample Summary Report

*Total Solids*

<u>Samp. Type</u>	<u>QC Batch</u>	<u>Anal. Method</u>	<u>Anal. Date</u>	<u>Prep. Date</u>	<u>Result</u>	<u>PQL</u>
MBLANK	WG39395	CLP SOW 788	29-MAY-07	25-MAY-07	U 1 %	1 %

Quality Control Report  
Laboratory Control Sample Summary Report

Total Solids

Lab Sample Id	Sample Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG39395-2	LCS	WG39395	29-MAY-07	25-MAY-07	%	90	88	98	80-120	

Sample Receipt Condition Report

Client: <u>Sawyer + Meher</u>	KAS PM: <u>AJC</u>	Sampled By: <u>Client</u>
Project:	KIMS Entry By: <u>JD</u>	Delivered By: <u>Client</u>
KAS Work Order#: <u>SA2490</u>	KIMS Review By: <u>AC</u>	Received By: <u>JD</u>
SDG #:	Cooler: <u>1</u> of <u>1</u>	Date/Time Rec.: <u>032307 1130</u>

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?		X			
2. Chain of Custody present in cooler?	X				
3. Chain of Custody signed by client?	X				
4. Chain of Custody matches samples?	X				
5. Temperature Blanks present?	X				Temp (°C): <u>3.3</u>
6. Samples received at < 6 °C w/o freezing? (CO <sub>2</sub> or ice packs present? <input checked="" type="radio"/> or N)	X				Cooler temp. (°C): (if no temp blank)
7. Volatiles free of headspace?				X	
Aqueous: No bubble larger than a pea				X	
Soil/Sediment:				X	
Received in airtight container?				X	
Received in methanol?				X	
Methanol covering soil?				X	
8. Trip Blank present in cooler?				X	
9. Proper sample containers and volume?	X				
10. Samples within hold time upon receipt?	X				
11. Aqueous samples properly preserved? Metals, COD, NH <sub>3</sub> , TKN, O/G, phenol, TPO <sub>4</sub> , N+N, TOC, DBO, TPH - pH <2 Sulfide - >9 Cyanide - pH >12				X	
				X	
				X	
12. Corrective Action Report Filed?				✓	

\* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments





Katahdin Analytical Services  
 Login Chain of Custody Report (Ino1)  
 May 23, 2007  
 05:04 PM

Login Number: SA2490

Account: SEVEEM01  
 Sevee & Maher

NoWeb

Login Information

ANALYSIS INSTRUCTIONS : Sample may have high levels of #6 Fuel Oil.  
 CHECK NO. :  
 CLIENT POW : 07078  
 COOLER TEMPERATURE : 3.3  
 DELIVERY SERVICES : Client  
 EDD FORMAT : KAS064-TXT  
 MAIL DATE :  
 PM : AJC  
 PROJECT NAME : Mill Farwell Mill  
 QC LEVEL : II  
 REGULATORY LIST :  
 REPORT INSTRUCTIONS : Merge results for EDD.  
 SDG ID :  
 SDG STATUS :

Primary Report Address:  
 Kristlo Rabasca  
 Sevee & Maher  
 4 Blanchard Road  
 P.O. Box 85A  
 Cumberland Center, ME 04021

Primary Invoice Address:  
 Accounts Payable  
 Sevee & Maher  
 4 Blanchard Road  
 P.O. Box 85A  
 Cumberland Center, ME 04021

Report CC Addresses:

Invoice CC Addresses:

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Comments
SA2490-1	TP-3	22-MAY-07 14:15	23-MAY-07			05-JUN-07	
Matr	Product	Hold Date (shortest)	Bottle Type			Bottle Count	
Solid	S IMEDP4.1.25-EXTENDED	05-JUN-07				1	
Solid	S TS	21-JUN-07					

Total Samples: 1      Total Analyses: 2

**ADDENDUM**  
**ORIGINAL CHAIN OF CUSTODY**





ATTACHMENT A

## ATTACHMENT A

### SUMMARY OF OIL RECOVERY SYSTEM INVESTIGATIONS

#### A. Project Background:

The Farwell Mill Oil Recovery System was installed in order to recover No. 6 fuel oil from a former underground storage tank leak in accordance with an AOC dated 1987. The Oil Recovery System has been operated and maintained since installation in 1990. The system consists of a 250-foot interceptor system that collects groundwater containing No. 6 fuel oil for treatment by an oil/water separator. The treated water from the oil/water separator is discharged to a vault for pumping to a distribution box that feeds a groundwater infiltration trench. A 30-mil PVC geomembrane is keyed into a naturally occurring clay barrier and separates the oil saturated soil and interceptor trench from the treated water and infiltration trench. A monitoring well (MW-201) is located downgradient of the infiltration trench. The monitoring well and discharge effluent are sampled annually and analyzed for Diesel Range Organics (DRO). Figure 1 shows the general layout of the Oil Recovery System.

In May 1991, an oil pumping system was installed to remove oil from the oil/water separator and collect it in a 275-gallon aboveground storage tank located in a small trailer on the ground surface. This system reduced the maintenance needed on the subsurface oil/water separator. The Oil Recovery System is checked on a weekly basis to assure proper operation. The oil/water separator and vaults for the distribution box and sump pump station are cleaned on an annual basis, and oil accumulated in the oil/water separator is pumped to the surface tank approximately every two weeks.

A Memorandum of Agreement dated July 27, 1992 identifies that Miller Industries' responsibility for operation and maintenance of the system will end when no free oil product is discernible in the groundwater influent to the oil recovery system. In addition, the Memorandum of Agreement requires that the effluent from the oil recovery system and the groundwater in MW-201 be sampled annually to confirm that concentrations at both locations are 15 mg/L or less. Schedule 1 provides a summary of the approximate volume of oil recovered since operation began in 1991.

Schedule 1 Historic Volumes of No. 6 Fuel Oil Recovered Farwell Mill, Lisbon, Maine	
YEAR	GALLONS
1991	2,008
1992	1,912
1993	1,760
1994	1,600
1995	1,206
1996	733
1997	624
1998	300
1999	276
2000	311
2001	235
2002	219
2003	200
2004	358
2005	228
2006	438.5
2007	204.5
Total Recovered	12,733

Observation of Sheen. A sheen was observed and reported to the MEDEP on Friday April 27, 2007. Sevee & Maher Engineers, Inc. (SME) recommended shutting down the Oil Recovery System to prevent further discharge to the river. The presence of the 30-mil PVC geomembrane prevents groundwater migration to the river. MEDEP agreed to the shut down, and the system operator observed that the sheen on the Sabattus River disappeared approximately 10 minutes after the shut down.

SME Assessment. SME reviewed the Remedial Response Implementation Plan (H&A, 1990), As Built Configuration and Monitoring Report (H&A, 1990), Operation and Maintenance Plan (H&A, 1991), and selected other correspondence for the Oil Recovery System to assist in identifying the cause of the observed sheen. Our May 14, 2007 Memorandum to the MEDEP provided the following assessment and recommendations.

1. May 2007 observations of oil and dirt residue within the sump pump vault (the discharge location for the treated water exiting the oil/water separator) and in the distribution box suggest the oil/water separator is not functioning properly and is allowing some discharge of No. 6 fuel oil through the infiltration trench.
2. Observations of oil were also made in the vault that contains the oil/water separator, suggesting that either the oil/water separator was leaking, there was a problem with the sump pump for the oil/water separator vault, or the oil/water separator vault was allowing infiltration of No. 6 fuel oil contaminated groundwater.
3. In addition, May 2007 observations of overflows of the distribution box that feed the infiltration pipes, suggest the infiltration trench is clogged.

To address the first two issues (the malfunctioning oil/water separator, and the oil in the oil/water separator's vault), SME recommended conducting an inspection of the vault and oil/water separator during annual maintenance, and began working to identify retrofit and replacement options for the oil/water separator. To address the third issue, SME completed test pitting to evaluate the condition of the infiltration trench backfill and pipe, and a clean water test to assess the infiltration capacity.

The following is a summary of: (1) The maintenance and inspection work completed for the oil/water separator; and (2) The investigations completed to date related to the infiltration system.

1. Oil/water separator maintenance and inspections. The annual maintenance and cleaning was completed over a four day period from June 25 to June 28, 2007 by Clean Harbors. The entire system was shut down for the maintenance and inspection. The inspections showed:
  - a. The integrity of vault appears to be good – a small hole on the north side of the vault near the access manway was plugged with silicon caulking (See Photos A and B in Attachment C, Photo Log).
  - b. No leaks were observed in the seal around the inlet pipe to the vault or the seal on the outlet to the clean water discharge vault.

- c. The integrity of oil/water separator tank appears to be good. No significant leak from the tank was observed during the cleaning and inspection. However, there are a number of leaks associated with the piping and controls to and from the oil/water separator. There are plumbing leaks associated with the oil pumps that pump the oil to the ground surface. The inlet shutoff valve is broken (and the valve is frozen in the ½ open position). One of the heaters on the manway where the oil is stored is not functioning. There is also some broken piping in the clean water sump that needs to be replaced. To prevent groundwater from the interceptor trench from entering the system during cleaning of the oil water separator, the shut off valve was cut out of the inlet piping and a plug was installed.
  - d. The condition of the coalescing plates was difficult to determine, but even after cleaning with a diesel wash and heated water power wash, the plates appear to be rusted, pitted, and coated with a significant amount of No. 6 fuel oil. It should be noted that it was quite difficult to access for cleaning, and inspection. A camera was lowered into the access manway for photos. This annual maintenance took four days whereas a typical cleaning only takes one day. Because of the access issues, it would not be cost effective to replace either the coalescing plates or the entire coalescing plate pack.
  - e. The sump pump in the oil/water separator vault is not functioning.
2. Infiltration System Inspections: SME completed test pitting at three locations along the infiltration system. The test pitting results were summarized in our June 25, 2007 memorandum to Miller Industries. SME also completed the clean water infiltration test on August 17, 2007. The following is a summary of the findings of these two investigations:

- a. Figure 1 shows the locations of the three test pits completed on May 22, 2007. Test Pit 1 revealed that the northwest end of the infiltration pipe was filled with a silty sediment. Test Pits 2 and 3 showed no sediment in the infiltration pipe, and showed the perforations in the bottom were open. The coarse backfill under the infiltration trench contained visible No. 6 staining and concentrations of DRO above MEDEP Baseline 2 standards of 50 to 100 mg/kg. Observations of the fine silty sand under the coarse backfill did not contain any visible staining of No. 6 suggesting that the No. 6 fuel oil in the coarse backfill is not mobile and was not the cause of the sheen on the River on April 25, 2007.
- b. The clean water test was conducted on August 17, 2007. Clean water was obtained from the hydrant at the entrance to the lower parking lot for Farwell Mill. Flow rates were adjusted using a ball valve and measured continuously using a rod guided flow meter. Water was introduced into the infiltration system distribution box through a garden hose. Water levels were monitored at the distribution box and in MW-201 to assess the impact on groundwater fluctuation. The 4-foot diameter and 10-foot diameter vaults were also monitored to ensure no water was flushing back through the check valves into the vaults. Attachment D contains summaries of the data collected. Water was introduced to the infiltration system at a rate of 12 gpm for approximately two hours. The water level in the distribution box and in MW-201 was constant for 1 hour and 10 minutes. For the remaining 50 minutes of discharge at this flow rate, the water level in MW-201 increased by 2.2 feet, suggesting the pore spaces had been saturated. During this initial flow rate, (1 hour and 49 minutes in the test) a steady seep emerged from the riprap on the embankment, indicating a preferential pathway for groundwater flow was present. The infiltration flow rate was decreased to 6 gpm, and the water levels in MW-201 stabilized, but the seep on the embankment continued for the duration of the test (an additional 4.5 hours). A dye test was conducted by

introducing dye into the distribution box 4 hours and 5 minutes into the test. The dye was never observed at the seep.

The persistence of the seep and the rapid rise of the water table after 1.5 hours of infiltration at 12 gpm (as indicated by MW-201 elevation changes) indicate that a new infiltration trench will be needed to accommodate the current flow rate.

Based on the investigations completed to date, the oil/water separator and clean water infiltration systems are no longer functioning as designed. To assist Miller Industries in identifying options for replacement or retrofit of the systems, SME evaluated a variety of options. For the oil/water separator side, SME considered replacement of the oil/water separator or replacement of the coalescing plates. Several manufacturers of the oil water separator advertise that the use of coalescing plates can enhance separation of heavier oils. However, the manufacturers only warranty their products for oils with specific gravity of 0.91 or lower. SME estimates the specific gravity of the oil at Farwell Mill to be between 0.95 and 0.99 (based on field observations in July 2007). The combination of high specific gravity and high viscosity suggest that a traditional oil/water separator would not function well for very long. SME and Miller also considered heating the oil, however, heating of No. 6 creates sulfuric acid that would more rapidly degrade an oil/water separator system.

Completing minor retrofitting of the existing vault for use as a simple oil/water separator (as shown in Figure 2) would likely be as effective as purchasing and installing a new oil water separator. Retrofitting the existing vault would provide significant capacity for oil storage, and minimize the potential for overflow into the clean water side of the system because the 10-foot diameter vault has a capacity of 600 gallons per vertical foot. This system would be more amenable overall to simple maintenance from the surface, avoiding the necessity for confined space entry.

It should be noted that any future attempt at recovery of No. 6 fuel oil will likely not be any more productive than the last few years have been because the majority of the free phase No. 6 fuel oil has likely been recovered. Although SME was unable to identify a historic prediction of the total volume of No. 6 that was spilled, it is likely that the majority of the recoverable No. 6 has been recovered. Incidental estimates from Miller Industries personnel report that an estimated 7,000 gallons was released, and historic documents show that over 12,000 gallons have been recovered, although a portion of this volume may have been water incidentally recovered with the No. 6 fuel oil.



**ATTACHMENT C**

**PHOTO LOG**

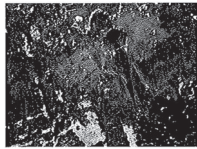


Photo A  
Hole in side wall of Oil/ Water separator vault

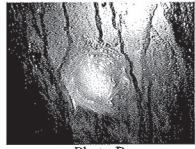


Photo B  
Silicon repair of hole



Photo C  
Overall view of the oil/water separator side of the system



Photo D  
View of employee after annual cleaning of vault

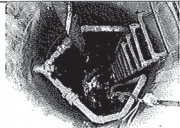


Photo E  
View of interior of clean water sump

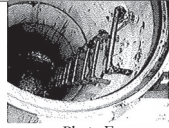


Photo F  
View of interior of oil/water separator vault

ATTACHMENT D

CLEAN WATER INFILTRATION TRENCH TEST

Farwell Mill Clean Water Test #1

17-Aug-07

Flow Rate	Time	Time	MW-201	MW-201	D-Box	Manhole	4' Vault	10' Vault	Total	Notes
(gpm)	Actual	minutes elapsed	from riser	Elev	Depth fr. Rim	Depth	Thickness of fluid	Thickness of fluid	volume water	
			(ft)	(ft)	(ft)	(ft)	(inches)	(inches)	(gallons)	
12	8:40	0	13.3	145.8	4.95	0	2"	0.125	0.00	4' Vault Measurement is approximate
12	8:42	2			4.55				24.00	
12	8:44	4							48.00	
11	8:46	6			4.55				70.00	
10	8:47	7							80.00	
14	8:48	8			4.5	0	3"		94.00	4' vault measurement is approximate
12	8:51	11	13.35	145.75			4.25		130.00	
12	8:53	13			4.5				154.00	
12	9:00	20			4.5	0			238.00	
12	9:02	22	13.35	145.75					262.00	
12	9:15	35	13.35	145.75	4.5	0	4		418.00	
12	9:30	50	13.35	145.75	4.5	0	4.25		598.00	
10	9:45	65				0	4.25		748.00	
12	9:50	70	13.35	145.75	4.55	0	4.25		808.00	
12	10:15	95	12.7	146.4		0			1108.00	
12	10:29	109	11.9	147.2	4.5	0			1276.00	Seep on embankment begins
12	10:45	125	11.1	148	4.5	0	4.25		1468.00	

MW-201 Riser Elev            159.1  
 Infiltration Trench Invert    154  
 Infiltration Trench Rim       158.4  
 4' Vault Rim                    161.35  
 10' Vault Rim                  161.3  
 Average Water levels:       159.5

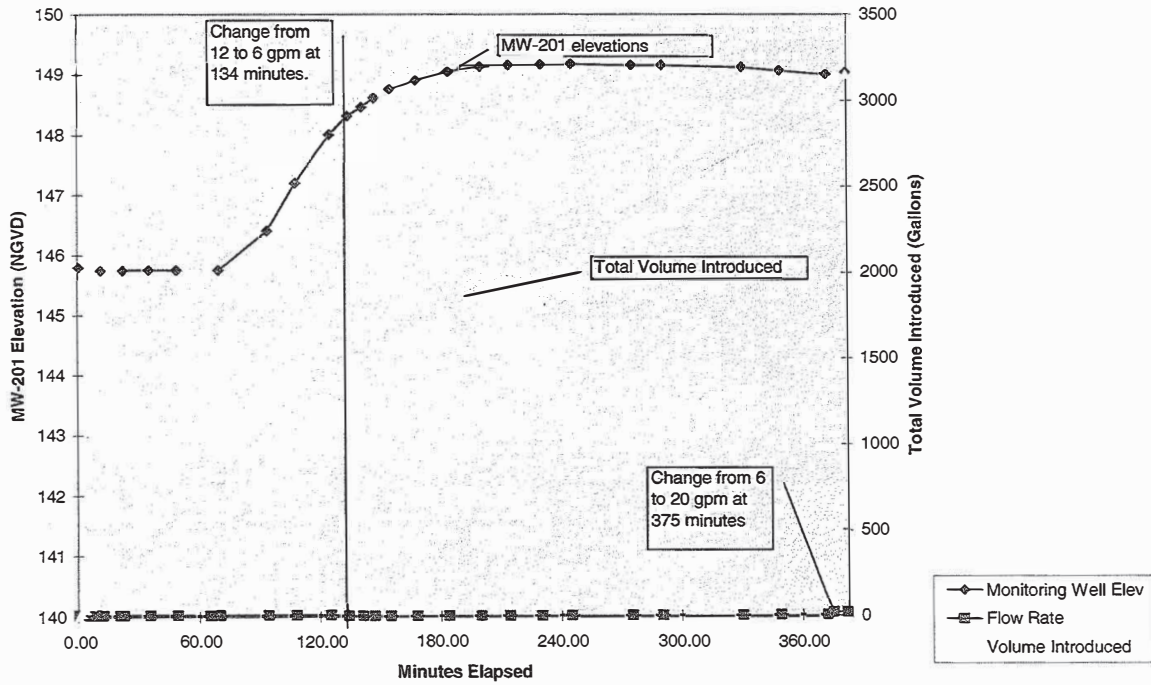
Farwell Mill Clean Water Test #2

17-Aug-07

Flow Rate	Time	Time	MW-201	MW-201	D-Box	Manhole	4' Vault	10' Vault	Total	Notes
(gpm)	Actual	minutes elapsed	ft from riser	Elev (ft)	Depth fr. Rim (ft)	Depth (ft)	Thickness of fluid (inches)	Thickness of fluid (inches)	volume water (gallons)	
6	10:54	134.00	10.8	148.3	4.65	0	4.25	0.125	1522	
6	11:02	142.00	10.65	148.45					1570	
6	11:07	147.00	10.5	148.6	4.65				1600	Embankment still seeping
6	11:08	148.00			4.65	0	4 1/4"	0.125	1606	
6	11:15	155.00	10.35	148.75					1648	
6	11:29	169.00	10.2	148.9	4.65	0	4 1/4"		1732	Embankment still seeping
6	11:45	185.00	10.05	149.05	4.65	0	4 1/4"		1828	
6	12:00	200.00	9.98	149.12	4.65	0	4 1/4"		1918	
6	12:15	215.00	9.95	149.15	4.65	0	4 1/4"		2008	
6	12:30	230.00	9.93	149.17	4.65	0	4 1/4"		2098	
6	12:45	245.00	9.93	149.17	4.65	0			2188	Dye tested D-box
6	13:15	275.00	9.95	149.15	4.65	0	4 1/4"		2368	
6	13:30	290.00	9.95	149.15	4.65	0			2458	
6	14:10	330.00	9.98	149.12	4.65	0			2698	Embankment seeping, no dye at seep
6	14:30	350.00	10.04	149.06	4.65	0			2818	
6	14:52	372.00	10.1	149	4.65	0			2950	Embankment seeping, no dye at seep
20	14:55	375.00				0			3010	
20	15:02	382.00	10.06	149.04		0			3150	

MW-201 Riser Elev                    159.1  
 Infiltration Trench Invert            154  
 Infiltration Trench Rim                158.4  
 4' Vault Rim                            161.35  
 10' Vault Rim                           161.3  
 Average Water levels:                159.5

# Farwell Mill Infiltration Test



\\Aserver\cfs\MII\Farwell\Xis\water test sheet.xls

**APPENDIX B**

**MEDEP SOLID WASTE ORDER – CLOSING PLAN, TRANSFER OF  
LICENSE AND AMENDMENT, 1992**



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

10/50/78

IN THE MATTER OF

TOWN OF LISBON	)	SOLID WASTE ORDER
LISBON, ANDROSCOGGIN COUNTY, MAINE	)	CLOSING PLAN
SOLID WASTE LANDFILL	)	TRANSFER OF LICENSE AND
S-14598-WR-B-N	)	AMENDMENT

Pursuant to the provisions of 38 M.R.S.A., Section 1301 et seq., 06-096 CMR Chapter 1.11 the Administrative Regulations (effective date February 13, 1989) and 06-096 CMR Chapter 401.7, the Solid Waste Management Regulations, (effective date May 24, 1989) hereinafter referred to as "the regulations", the Department of Environmental Protection has considered the application of the TOWN OF LISBON with its supportive data, staff summary, and other related materials on file and finds the following facts:

1. APPLICATION SUMMARY

- a. Application. The applicant has applied for transfer of Department Order #L-014598-07-A-M, dated October 24, 1988 and proposed significant changes to that license. This license is currently held by Farwell Mill Limited Partnership and is the approval of a closure plan to close out a waste disposal area on the Farwell Mill property.
- b. History.
  - (1) Farwell Mill was established in 1889 for the purpose of manufacturing textiles. In 1935, it was converted into a facility for the manufacture of vinyl asbestos floor tile. Farwell Mill ceased manufacturing operations in 1970. An unknown but extremely large quantity of waste vinyl asbestos floor tile was used as solid fill at numerous locations in downtown Lisbon. An area of approximately two acres located northwesterly of Farwell Mill between Route 196 and the Sabattus River was used for the disposal of vinyl asbestos floor tile, coal ash, demolition debris and other wastes.
  - (2) In 1986, Merrymeeting Developers Inc. initiated a project which intended to convert the Farwell Mill to residential and commercial use. In February of 1988, Merrymeeting Developers Inc. submitted a closing plan for the two acre solid waste disposal area located northwesterly of the Farewell Mill.









SOLID WASTE LICENSE STANDARD CONDITIONS

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL. VIOLATIONS OF THE CONDITIONS UNDER WHICH A LICENSE IS ISSUED SHALL CONSTITUTE A VIOLATION OF THAT LICENSE, AGAINST WHICH ENFORCEMENT ACTION MAY BE TAKEN, INCLUDING REVOCATION.

1. This order is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from the plans, proposals and supporting documents is subject to the review and approval of the Board or the Commissioner prior to implementation.
2. The applicant shall secure and comply with all applicable Federal, State and local licenses, permits, authorizations, conditions, agreements, and orders, prior to or during construction and operation as appropriate.
3. The applicant shall submit all reports and information requested by the Board or Department demonstrating that the applicant has complied or will comply with all conditions of this approval. All preconstruction terms and conditions must be met before construction begins.
4. Advertising relating to matters included in this application shall refer to this approval only if it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.
5. No person shall transfer a license for a solid waste disposal facility without first obtaining Board approval for the transfer of the ownership of the solid waste disposal facility. For a solid waste disposal facility, the Board, at its discretion, may require that the proposed new owner of the facility apply for a new license or may approve the transfer of the existing license upon a satisfactory showing that the new owner can abide by its terms and conditions and comply with the provisions of 38 M.R.S.A. Section 1310-Q. Public notice shall be provided in accordance with Chapter 400.4.D of the Solid Waste Management Rules.
6. If the construction or operation of the activity is not begun within two years, this approval shall lapse and the applicant shall reapply to the Board for a new approval. The applicant may not begin construction or operation of the development until a new approval is granted. Reapplications for approval shall state the reasons why the development was not begun within two years from the granting of the initial approval and the reasons why the applicant will be able to begin the activity within two years from the granting of a new approval, if granted. Reapplications for approval may include information submitted in the initial application by reference.

7. If the approved development is not completed within five years from the date of the granting of approval, the Board may reexamine its approval and impose additional terms or conditions or prescribe other necessary corrective action to respond to significant changes in circumstances which may have occurred during the five-year period.
8. A copy of this approval must be included in or attached to all contract bid specifications for the development.
9. Work done by a contractor pursuant to this approval shall not begin before the contractor has been shown by the developer a copy of this approval.
10. All solid waste disposal facilities are required to accept only solid waste which is subject to recycling and source reduction programs at least as effective as those imposed by State law.
11. No solid waste facility licensee shall knowingly hire as an officer, director or key employee, or knowingly allow to acquire as equity interest or debt liability interest, any person having been found guilty of a felony or of a violation of environmental law or rules without first obtaining the approval of the Board.
12. Whenever any lot of land for solid waste disposal facilities is transferred by deed, the following shall be expressly stated in the deed:
  - a. The type of facility located on the lot and the dates of its establishment and closure.
  - b. A description of the location and the composition, extent, and depth of the waste deposited.

If asbestos-containing waste or asbestos-contaminated waste has been disposed on a site, the location coordinates must be identified (refer to Chapter 405).

APPENDIX C

PROPERTY DEED RESTRICTION AND ASSOCIATED MEDEP  
CORRESPONDENCES, 1994



STATE OF MAINE

DEPARTMENT OF ENVIRONMENTAL PROTECTION

54 5/24/94

JOHN R. McKERNAN, JR.  
GOVERNOR

DEAN C. MARRIOTT  
COMMISSIONER

DEBRAH RICHARD  
DEPUTY COMMISSIONER

May 24, 1994

Curtis H. Lunt, Town Manager  
Town of Lisbon  
P.O. Box 8  
Lisbon Falls, Maine 04252

RE: Farwell Mill Landfill Closure, Lisbon  
DEP License #S-14598-WR-B-N  
Special Conditions #2,3,4,5 and 6

Dear Mr. Lunt:

The Bureau of Hazardous Materials and Solid Waste Control has reviewed the information you have submitted in accordance with Special Conditions 2,3,4,5 and 6 of Department Order #S-14590-WR-B-N, dated October 30, 1992, and issued pursuant to Title 38 M.R.S.A. Section 1301 et seq.

Condition #2 reads as follows:

"Within thirty (30) days of the effective date of this order, the applicant shall submit to the Department for review and approval, draft deed restrictions which will protect the integrity of the oil/water collection and separation system and the closed landfill."

In response to this condition you have submitted draft deed restrictions which upon modification were approved by the Department.

Condition #3 reads as follows:

"Within ten (10) days of the Department's approval of the draft deed restrictions, the applicant shall record them in the Androscoggin County Registry of Deeds and provide the Department with a certified copy of the restrictions."

In response to this condition you have submitted a notarized copy of approved deed restrictions which were recorded in the Androscoggin County Registry of Deeds at Book 3218, Page 328 on February 24, 1994.

**Condition #4 reads as follows:**

"In that area of the parcel located southeasterly of the Farwell Mill building, excluding the utility trench planned for along the parcel's boundary, the following activities are prohibited unless specifically approved by the Department:

- A. Excavation or other disturbance (such as driving objects into the ground);
- B. Placing of structures or materials (such as stockpiles);
- C. Removal of material from or otherwise disturbing the stone riprap which has been placed on and adjacent to the riverbank;
- D. Disturbance of the boulders which have been placed to protect components of the oil/water collection and separation system; and
- E. Disturbance, destruction of or otherwise tampering with the pipes, manholes, and electrical equipment which are components of the oil/water collection and separation system."

In response to this condition you have submitted a letter dated March 31, 1994 from Curtis H. Lunt, Town Manager, which commits the Town of Lisbon to refrain from these activities unless specifically approved by the Department. Further, these prohibitions have been incorporated into the Deed Restrictions referenced in Special Condition #3.

**Condition #5 reads as follows:**

"In the event that Leda Associates Inc. discontinues groundwater monitoring at the site, the applicant shall, within 90 days of said discontinuation submit to the Department a proposal for a post-closure groundwater monitoring program."

In response to this condition you have submitted a letter dated March 31, 1994 from Curtis H. Lunt, Town Manager, which commits the Town of Lisbon to submit a proposal for a post-closure groundwater monitoring program in the event that Leda Associates Inc. discontinues groundwater monitoring at the site.

**Condition #6 reads as follows:**

"Within 30 days of the conclusion of closure activities at the site, the applicant shall submit a report prepared by a licensed professional engineer verifying that the closure was conducted as proposed by the applicant."



Page 3

In response to this condition you have submitted a final project report dated July 9, 1993 by William J. Dawson, P.E.

As the result of its review, the Department has found that the submissions satisfactorily address the requirements of Conditions #2, 3, 4, 5 and 6.

Based upon the above referenced review, the Department concludes that the Town of Lisbon has complied with Conditions #2,3,4,5 and 6 of Department Order #S-14598-WR-B-N. If you have further questions regarding this matter please contact Terry A. McGovern, project manager, at 287-2651.

Sincerely,



Paula M. Clark, Director  
Division of Solid Waste Facilities Regulation  
Bureau of Hazardous Materials and Solid Waste Control

pc: Terry McGovern, DEP

OTMLUNT/djp

LICENSE REVIEW ROUTING SHEET

PROJECT MANAGER	McGovern	DATE SUBMITTED	5-10-94
-----------------	----------	----------------	---------

ORDER TYPE (AIS CODE)			
ORIGINAL ORDER (N)			AFTER-THE FACT
RENEWAL (R)			APPEAL/RECONSIDERATION (Z)
TRANSFER (T)			PERMIT/LICENSE BY RULE (P)
MINOR REVISION (M)		X	OTHER: COND COMPL
AMENDMENT (A)			

APPLICANT	Town of Lisbon	ADDRESS	PO Box 8 Lisbon Falls ME 04252
PROJECT LOCATION	Lisbon	PROJECT #	S-14598-WR-B-N
APPLICATION TYPE	Transfer and amend		
ISSUES/COMMENTS	None		

ENFORCEMENT STATUS:			
<input checked="" type="checkbox"/>	NO ENFORCEMENT ACTION ASSOCIATED WITH THIS APPLICATION		
<input type="checkbox"/>	ENFORCEMENT ACTION BEING PURSUED		
<input type="checkbox"/>	ORDER/AGREEMENT IN EFFECT		
ENFORCEMENT STAFF		OK DATE	
COMMENTS			
COMPLIANCE STATUS (if available)			

REVIEWED BY:					
SUPERVISOR	J.Glasgow	RETURNED FOR REDRAFT		OK DATE	5/10/94
COMMENTS					
as noted					
DIVISION DIRECTOR		RETURNED FOR REDRAFT		OK DATE	
COMMENTS					
BUREAU DIRECTOR		RETURNED FOR REDRAFT		OK DATE	
COMMENTS					

T O W N O F L I S B O N

BOARD OF SELECTMEN  
Lise Tancrede  
Edward Hall  
Robert A. Berube  
David Bowie  
J. Michael Huston  
TOWN MANAGER  
Curtis Lunt

P. O. BOX 8, LISBON FALLS, MAINE 04252  
LISBON, LISBON CENTER, AND LISBON FALLS  
TEL. 207-353-3000  
FAX 207-353-3007

Settled in 1628  
Incorporated  
June 22, 1799

March 31, 1994

Mr. Terry McGovern  
State of Maine  
Department of Environmental Protection  
State House Station #17  
Augusta, ME 04333

RECEIVED  
DEPARTMENT OF  
ENVIRONMENTAL  
PROTECTION  
MAY 11 1994  
10:56 AM

RE: Condition Compliance Letter (Lic #L-01458-07-AM)

Dear Terry:

It is the request of the Town of Lisbon to receive from the Maine DEP a letter of condition compliance. As you are aware, the Town of Lisbon has cooperated with the Maine DEP to resolve all the issues that were inherited by the Town since its takeover of the property. We appreciate the response and professional manner you and your department have shown us in this endeavor. Summary of condition compliance conditions:

1. Original license #L-01458-07-AM
2. Copy of recorded deed restrictions are hereby attached as Town Exhibit 1 (BK 3218 pg 328) of Androscoggin Registry of Deeds.
3. See Exhibit 1 attached
4. The Town is in agreement to the following:

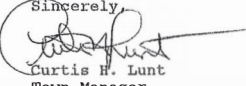
In that area of the parcel located southeasterly of the Farwell Mill building, excluding the utility trench planned for along the parcel's boundary, the following activities are prohibited unless specifically approved by the Department:

- A. Excavation or other disturbance such as driving objects into the ground
- B. Placing of structures or materials (such as stockpiles)

Mr. Terry McGovern  
Page 2  
March 31, 1994

- C. Removal of materials from or otherwise disturbing the stone rip rap which has been placed on and adjacent to the riverbank
  - D. Disturbance of the boulders which have been placed to protect components of the oil/water collection and separation system, and
  - E. Disturbance, destruction of or otherwise tampering with the pipes, manholes, and electrical equipment which are components of the oil/water collection and separation system
5. In the event Leda Associates Inc. discontinues groundwater monitors at the site in violation of the Departments Administrative order or because of insolvency of Leda Associates Inc. the Town will submit a proposal for a post closure groundwater monitoring program within 90 days.
6. Whitman & Howard Associates has submitted to the DEP written confirmation verifying the closure was conducted as proposed by the Town.

Sincerely,



Curtis H. Lunt  
Town Manager

CHL:tlt

Enclosure

PS: Enclosed is the check for \$50.00 (check #020951) as you requested.

Settled in 1628  
Incorporated  
June 22, 1799

## TOWN OF LISBON

"Maine's Most Industrialized Town"  
Lisbon, Lisbon Center and Lisbon Falls

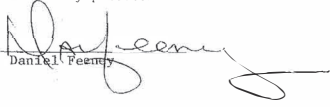
Town Office  
Box 8  
Lisbon Falls, Maine 04252

Twila Lycette, GMC  
Municipal Clerk  
353-3000

### AFFIDAVIT

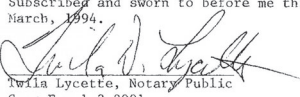
I, Daniel Feeney, do swear that this is a true  
copy of the original document in my possession.

03.31.94  
Date

  
Daniel Feeney

State of Maine  
Androscoggin, ss

Subscribed and sworn to before me this 31st,  
March, 1994.

  
Twila Lycette, Notary Public  
Comm Exp 1-3-2001

FARWELL MILL  
LISBON, MAINE

PROPERTY USE RESTRICTIONS

TO WHOM IT MAY CONCERN:

Subject Property:

The Property is that known as the Farwell Mill, located on Route 196, Lisbon, Maine, Androscoggin County. The property is further described in a Deed recorded in the Androscoggin County Registry of Deeds Book 2310, Page 181 and on the tax maps of the Town of Lisbon, Map U-16, Lot 56. The Town of Lisbon foreclosed on the property in January, 1992, for non-payment of taxes.

Background Information

Actions have been taken at the subject property at the direction of the Maine Department of Environmental Protection (DEP), to minimize the threat to the public health, safety, or to the environment, from toxic substances, solid waste and petroleum products which were or are now at the site. These actions consisted of:

- (1) DEP approval of a closure plan for a solid waste disposal area,
- (2) Removal of hazardous substances from the buildings to off-site licensed disposal facilities,
- (3) Removal of underground petroleum fuel storage tanks,
- (4) Removal of electrical power transformers containing polychlorinated biphenols (PCBs),
- (5) Construction of a concrete "cap" to confine PCBs in the sub-basement of the building known as the "dungeon",
- (6) Stabilization of the riverbank, and
- (7) Construction of civil works and mechanical systems to remove petroleum products from the soil and groundwater.

Action (1) is more fully described in DEP Order #L-014598-07-A-M, signed October 24, 1988 as amended by DEP Order #S-14598-WR-B-N, signed October 30, 1992. Actions (2) through (7) are more fully described in an Administrative Order by Consent between LEDA (a previous owner) and the DEP, signed January 13, 1987. These two documents as well as an "as-built" drawing of the systems installed for cleanup of petroleum products are on file at the Department of Environmental Protection, Augusta, Maine, and at the Lisbon Town Office.

On June 10, 1988, Merrymeeting Developers Inc. (owner at that time), in cooperation with the DEP, imposed restrictions on the use of the property to avoid disturbing the integrity of the concrete "cap" in the "dungeon". The "cap" is intended to prevent exposure of, and human contact with, toxic waste containing chemicals called polychlorinated biphenols (PCBs), complete removal of which was impractical. A "Declaration of Covenants" describing these restrictions is recorded in the Androscoggin County Registry of Deeds, at Book 2263, Page 012.

Property Use Restrictions Imposed by This Document

To protect the public health, safety, and the environment, and to prevent damage to the above described systems from activities which otherwise might occur on the property, the DEP requires that certain activities on the subject property be restricted, until and unless these restrictions are modified in writing or removed by the DEP (or a successor organization). The DEP shall have the right to enforce the restrictions imposed by this document.

The following paragraph defines the area on the Property outside the Farwell Mill Main building which is restricted:

Beginning at a point where the dam on the Sabattus River meets the Farwell Mill Building, and further defined as being at the mean low water mark (MLW) on the downstream side of said dam, thence approximately 300 feet southeasterly along the MLW mark of the west bank of the Sabattus River to the fence at the property line, thence southwesterly along the property line to State Route 196, thence northwesterly along Route 196 to the Farwell Mill building, thence northeasterly along the Mill building to the southeast corner of the building, thence northwest along the building to the point of beginning.

The Plot Plan, attached to and made a part of this document, further describes the restricted area, which is divided into two zones A, and B, as follows:

**Zone A**

Zone A comprises the portion of the restricted area lying generally between the Sabattus River and a line located approximately ten feet west of the line of boulders. An underground Oil-Water Collection and Separation System is located in Zone A. The system consists of a plastic barrier (i.e. a polyvinyl chloride "geomembrane"), underground piping and electrical conduits, concrete manholes, and an oil-water separator tank. The system is designed to collect groundwater contaminated with petroleum products, and remove and collect the petroleum for disposal.

**Zone B**

Zone B comprises the remainder of the restricted area. Zone B is the location of buried solid waste. Zone B also constitutes a groundwater "recharge area" which is required for the effective operation of the underground oil-water collection and separation system.

The following activities are prohibited in Zones A and B unless previously approved in writing by the Commissioner of the Department of Environmental Protection:

1. Excavation or other disturbance (such as driving objects into the ground).
2. Placing of structures or materials such as stockpiles except for snow moved within the restricted area.
3. Removal of material from or otherwise disturbing the stone riprap which has been placed on and adjacent to the riverbank.
4. Disturbance of the boulders which are placed parallel to the river just west of the two four foot concrete manholes.

- 5. Disturbance, destruction of or otherwise tampering with the pipes, manholes, and electrical equipment within and in the vicinity of Zone A.

Owner of Record: Town of Lisbon, Androscoggin County, Maine

      1/19/94  
 Town Manager      Date

Department of Environmental Protection:

      2/7/94  
 D. C. Marriott, Commissioner      Date

OABDEED2/djp

FOR RECORDING PURPOSES:

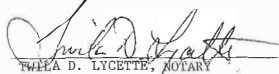
OWNER OF RECORD: TOWN OF LISBON, ANDROSCOGGIN COUNTY, MAINE

      2/22/94  
 TOWN MANAGER      DATE

STATE OF MAINE  
ANDROSCOGGIN, ss

FEBRUARY 22, 1994

PERSONALLY APPEARED BEFORE ME, CURTIS LUNT, WHO ACKNOWLEDGED THE FOREGOING INSTRUMENT UNDER OATH TO BE HIS FREE ACT AND DEED.

  
 WILMA D. LYCETTE, NOTARY  
 COMMISSION EXPIRES-- 1-3-2001

-OVER-



BK 328 PG 331

FARWELL MILL

SABATTUS RIVER

ZONE B

ZONE A

zone boundary

approximate curb line

approximate location of concrete wall

WET WELL

RECEIVED  
ANDROSCOGGIN S.S.

94 FEB 23 AM 11:25

ATTEST:

*Jeanne B. Rogers*

Farwell Mill Site  
Lisbon, Maine

February 23, 1994

**APPENDIX D**

**MEDEP SPILL REPORT INFORMATION FOR REMOVAL OF SOIL  
CONTAINING OIL ALONG SABATTUS RIVERBED, AUGUST 1991**

Copy for Farwell Mill, Lisbon Project files

HS copy

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OIL & HAZARDOUS MATERIALS REPORT FORM

Spill Number P - 551 - 90

SUBJECT / OWNER OR OPERATOR

Name (Last, First, MI): LEDA ASSOCIATES  
Mailing Address: P. O. BOX 97 Town: LISBON FALLS  
State: ME Zip: 04252-0097 Telephone: (207) 846-3991  
Comments: CONTACT BEARL S. KEITH

LOCATION / FACILITY INFORMATION

Spill Location: FARWELL MILL  
Address: ROUTE 196 Location ID: 23415  
Minor Civil Division: LISBON Zip: 04252-0097  
Latitude N: / / Longitude W: / /

SPILL / EVENT INFORMATION

Spill Type: A (Table A) Amount Spilled: 50.99 G (Gals, Yds<sup>3</sup>, Lbs or Bbls)  
Product Reported Spilled: 06 (Table B) Product Actually Found: 06 (Table B)  
Date Of Spill: Time Of Spill: (Military)  
Date Reported: Aug. 27, 1990 Time Reported: (Military)  
Cause Of Spill: 17 (Table C) Detection Method: 4 I (Table D)  
Incident Code: A-ID-P- (Table E)  
DEP response time involved: 0 Wells At Risk: 0 Wells Impacted: 0  
Investigators' names: FULLER, GORDON  
BINGHAM, ALLEN  
CYR, SCOTT

PERSON REPORTING EVENT

Name (Last, First, MI): MAINE DEPT. OF ENVIRONMENTAL PROTECTION  
Address: 17 STATE HOUSE STATION Town: AUGUSTA  
State: ME Zip Code: 04333 Telephone: (207) 287-2651

**CLEAN-UP INFORMATION**

Spill Number P - 551 - 90

Total Product Recovered : 10,000.99 G (Gals, Yds3, Lbs, Tons or Bbls)

Method of Recovery : J

Non Recyclable : (Gals, Tons or Bbls)

Solids Combustible : (Yds3 or Tons)

Solids Non Combustible : Yds3

Recyclable : (Gals, Yds3, Lbs, Tons or Bbls)

Number Filters Installed : 0

Number Aerators Installed : 0

Disposal Information : Site under investigation by Uncontrolled Sites. See Parwell Mill, Lisbon project file in Augusta.

**OTHER ACTIONS**

Expenditure (s) - From Surface Water Fund N ( Y or N )  
From Ground Water Fund N ( Y or N )  
From Haz Waste Fund N ( Y or N )  
Third Party Damage Claim Expected N ( Y or N )  
Enforcement Referral N ( Y or N )  
Insurance Fund Claim N ( Y or N )  
Tech Services Referral N ( Y or N )

**UNDERGROUND TANKS INFORMATION**

<u>UNO/UST</u>	<u>Tank</u>	<u>Size Of</u>	<u>Tank</u>	<u>Tank</u>	<u>Piping</u>	<u>Tank</u>
<u>Site Number</u>	<u>Number</u>	<u>Tank</u>	<u>Material</u>	<u>Age</u>	<u>Material</u>	<u>Status</u>

Please use separate sheets of paper, as needed, for your detailed Recommendations and Spill Narrative. Remember to include/attach directions to find spill site (with a map if possible), all observations made, clean up actions performed and photos (if taken). Include known chemical names when report is about Hazardous Materials. Please, document your information carefully. It may be needed for future reference or legal action.

P-551-90, Lisbon

MEMORANDUM

DATE: August 29, 1991  
TO: Farwell Mill Site/Lisbon File  
From: Gordon Miller, DEP, Site Investigation and Remediation (SIR) Division, OHMS II  
RE: Field Activities Conducted 8/15 & 16/91 Spill # P-551-90

Travelled to Farwell Mill Site in Lisbon to meet Al Bingham on 8/15/91. Al had called and requested some assistance with the cleanup of oil which had been encountered during rip rap/coffer dam removal operations along the Sabattus River bank. Al requested that I bring several bails of sorbents and personal protective equipment for he and I to conduct the cleanup activities.

I arrived on site just before noon, looked around, and conferred with Al as to the appropriate actions to take. We decided to attempt some cleanup of the problem, and therefore donned PPE and began cleanup using the sorbents. Unfortunately, the sorbents were only marginally effective for cleaning up #6 oil and soon we realized that we would not have enough to complete the job. We discussed the problem at hand, and concluded that we needed further assistance and that we should attempt to gain approval to hire a contractor. Therefore I contacted Mike Barden, discussed the matter with him, and convinced him that we needed to hire a contractor. He gave me the ok to use a spill number and to go ahead and hire a contractor. I then contacted Clean Harbors in South Portland and requested that a crew be sent as soon as possible to clean up a #6 oil spill. A crew arrived shortly after 1:00 pm and worked until nearly 6:00 pm. Reinforcements arrived periodically throughout the afternoon to assist with cleanup activities. (Al departed the site in mid afternoon as he had other commitments in Augusta). Basically my afternoon consisted of oversight activities and the cleanup of waste materials from the river bank area. With some help from two Clean Harbors men, we removed three very old and badly deteriorated 55 gallon steel drums. At about 6:00 pm I locked the gate and departed the site.

On August 16, 1991 I returned to the site with Nick Hodgkins to provide contractor oversight and perform some additional river bank/bed cleanup. Upon arrival at the site, we observed Pinette removing more coffer dam and

releasing considerably more oil in the process. While the oil was somewhat contained by a berm, it nevertheless posed a significant concern. Therefore, I once again contacted Clean Harbors and asked them to send a truck and three men for the afternoon to cleanup the area. I felt such action was once again necessary since the weekend was beginning and rain was in the forecast. I was concerned that a large release to the river might occur between Friday and Monday if cleanup activities were not undertaken. Nick and I departed the site before noon and returned to Augusta. Upon arrival in Augusta, I briefed Scott Cyr as to the situation and requested that he go to the site for the afternoon to oversee all activities and direct Clean Harbors personnel as necessary.

cc: Al Bingham

P-551-90 Listen

MEMORANDUM

TO: Farwell Mill File  
FROM: Scott R. Cyr, OHMS SAC  
DATE: August 27, 1991  
SUBJECT: Work performed at the Farwell Mill by Clean Harbors Inc. 8/23/91

\*\*\*\*\*

Ongoing remedial work at the Mill (i.e. rip rap of shoreline) unearthed an oily seep into the Sabbatus river. This prompted the need for environmental services to contain the oil and clean up the seep. The OHMS unit of SIR Division responded to the scene and determined the need for additional assistance. Therefore Clean Harbors Inc. was hired to do the clean up with State oversight.

Upon arrival at Farwell three Clean Harbors staff were in the coffer dam area using sorbet pads and oil snares to remove oil from the contained water. Site Manager Peter McCusker (CH) informed me that a vacc truck had been called for and should be there soon, meanwhile the crew would continue work by hand.

At approximately 2:30 two additional men showed up and delivered a note to me to call Gordon. In talking with Gordon, he wanted to fill/plug any identifiable source of oil leaking into the river. Unfortunately there was no one identifiable source to fill. It seemed that the whole bank was undercut with oil.

The Clean Harbors crew continued to hand sorb the oil until 4:00. At this time most of the collectable oil had been sorbed. The vacc truck arrived and was refused at the gate by Peter (CH). The crew finished about 4:30 leaving the water satisfactorily oil free, as best they could by hand. Packing and final completion was at 5:00. I took some documentation photos and exited the site, locking the gate.

cc: Al Bingham, Project Manager  
Gordon Fuller, OHMS II  
Debra Hanley, ES IV

SOUTH PORTLAND, ME 04106  
207-799-8111



3142 BOSTON, MA 02241-3442  
(617) 849-1800

JOB DESC:

MAINE STATE OF  
DEPT OF ENVIRONMENTAL PROTECT  
STATION 17  
AUGUSTA, ME 04333  
JIM CAMPBELL

RESPOND TO OIL SPILL

\*\*ATT: A. BINGHAM/G. FULLER  
FARWELL HILL  
LISBON, ME 04250

JOB SITE:

10-7-91  
5677868

TOMER	JOB NO.	PURCHASE ORDER NO.	DATE WORK PERFORMED	TERMS	INVOICE DATE	INVOICE NO.
M 1920	M0806	P-551-90	SEE TOTAL PAGE	NET 30 *	08/30/91	ME10747

QUANTITY	ITEM I.D.	DESCRIPTION	PRICE	UM	AMOUNT
*- COST CATEGORY TOTALS -*					
		LABOR			2,621.50
		PER DIEM			0.00
		EQUIPMENT			1,580.00
		MATERIAL			1,340.00
		ANALYSIS			0.00
		TRANSPORTATION			0.00
		DISPOSAL			530.00
		SECURITY			0.00
		MISC. & OTHER			0.00
		DRUM STORAGE			0.00

APPROVED FOR PAYMENT  
VCE 042884164 docid# PVOGA 001882  
ind 018 egov 006A org 0241 subdrg app 482  
MATERIAL actv obj 4225 subobjt revsrc  
ANALYSIS subrev job 76617094 rptcat  
TRANSPORTATION bsacct amount 5071.50  
AUTHORIZED SIGNATURE

5 BILL NUMBER  
CHARGE P. 551.90  
ACCT# 018-061-0247-442-7661-7694  
OK to pay  
G. Fullers

RECEIVED  
DEPARTMENT OF  
ENVIRONMENTAL  
PROTECTION  
SEP 9 10 27 AM '91  
BUSINESS &  
ADMINISTRATIVE  
SERVICES

JOB TOTAL:	INVOICE TOTAL	5,071.50
State Fee-	TAX	0.00
	TRANSPORTATION	0.00
	PREPAID	0.00
	<b>INVOICE TOTAL</b>	<b>5,071.50</b>

TERMS:  
30 FROM LAST DAY OF WORK ON THIS INVOICE (08/16/91)



