

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL & HAZARDOUS MATERIALS REPORT

Spill Number: P-541-2011

Report Status: Final Report

MCD Town: LEWISTON
Local Name: LEWISTON
Primary Responder: STEPHEN G BREZINSKI
Primary Product: #6 Fuel Oil {06} - 500 gals. ESTIMATE
Subject/Owner: CMP - LEWISTON STEAM PLANT SUBSTATION - -

I. EVENT

Spill Info

Type Oil Incident {O}
Source Storage Unit - Underground Storage Tank {TU}
Cause Other - Known Cause {30}

Spill Date/Time

Date and Time Unknown

Reporter Type/Detection Method

Type Contractor/Consultant {6}
Method Site Assessment {O}

Reported Date/Time

07/14/2011 09:00

Subject/Spiller (Potential Responsible Party)

Contact --CMP - LEWISTON STEAM PLANT SUBSTATION
10 MILL STREET
LEWISTON ME 04240 USA

Comment Attn Gerry Mirabile @ 626-9557

Reporter

Contact --DRUMLIN ENVIRONMENTAL LLC
PO BOX 392
PORTLAND ME 04112-0392 USA
207-771-5546

Comment Matt Reynolds, cell @ 242-2812

Other Contact (Potential Responsible Party)

Contact --CENTRAL MAINE POWER
83 EDISON DR
AUGUSTA ME 04336 USA
207-623-9557

Comment Attn Gerry Mirabile

Other Contact (Potential Responsible Party)

Contact STANLEY SCLAR--FRANKLIN CORPORATION (FRANKLIN ENTERPRISES)

ME USA
207-784-3509

Comment Property owner of Mill Street.

Primary Responder and Other Employees

STEPHEN G BREZINSKI (Primary Responder)
MARK R WOODRUFF
BRIAN A BENESKI

II. SITE

Location

Location Type Business - Industrial {ID}
Name CMP STEAM PLANT, SUBSTATION 426
Street Address 10 MILL & MAIN STREETS
MCD Town LEWISTON
Local Name LEWISTON
State/Province ME

Spill Point

UTM North 4,883,516.000000
UTM East 402,348.150000

Wells and Media Affected

Wells Affected 0 Wells Impacted / 0 Wells At Risk
Media Affected None{N}

Tanks Involved

Underground Tank(s) Involved-7797
Above Ground Tank(s) Involved-Tank Inside
Underground Tank(s) Involved-21727

III. CLEANUP**Product Reported**

#6 Fuel Oil {06}

Cleanup DTREE**Products Found/Amount Spilled**

#6 Fuel Oil {06}/ - 500 gals. ESTIMATE (Primary Product)
#2 Fuel Oil {02}/ - 50 gals. ESTIMATE

Material Recovered

None {NO} - 0 gals. ESTIMATE

Recovery/Treatment Method:

None {K}

Disposal Information

n/a

IV. NARRATIVE

SUMMARY

As part of the investigation into the source of a mystery discharge of #6 oil into the Androscoggin River (see P-534-2011), the Maine Department of Environmental Protection (MDEP), Division of Response Services, under Stephen Brezinski, initiated an investigation for potential sources at this and other nearby locations. Also involved were MDEP geologists Mark Woodruff and Troy Smith, and Brian Beneski of the Brownfields Program.

The contacts with facility owner Central Maine Power (CMP) were Gerry Mirabile and Roy Koster. CMP's environmental consultant involved was Drumlin Environmental under Matt Reynolds. John Cressey of Summit Env. was involved representing the city of Lewiston. See reports of MDEP Technical Services and from Summit Env. and Drumlin Env. for further information.

LOCATION ASSESSMENT

The facility at this time was a large electrical substation. The area is dense commercial use, formerly industrial use and is served by municipal water and sewer. In the past the building had been a steam powered generator plant with a 147,000-gallon three-compartment, underground storage tank (UST) for #6 oil dating from the 1940s. Sometime prior to 1979 a 10,000-gallon #2 oil UST was installed within one of the chambers of the older tank and it is presumed the 147,000-gallon UST was removed from service. The 10,000-gallon UST appears to have been removed about 1988 and replaced by a 4000-gallon #2 oil aboveground storage tank (AST) presently active and within the building (photo 6).

At the time of this investigation in July 2011 it was not known if the 147,000 and 10,000-gallon USTs were still there and whether they had been emptied and cleaned. There was no remaining visual evidence of their existence except for unused fuel and return lines within the building. Drumlin Environmental had performed a Phase-1 Assessment for this facility pending planned sale for redevelopment and Drumlin discusses these tanks in greater detail.

A set of pipes downgrade of this UST facility protrudes from a retaining wall below Mill Street; old black oil appears to have seeped out of this pipe (photo 8 and 9). Drumlin uncovered information that this pipe was part of an offset fill pipe that ran from the former railroad yard on Main Street and fed both the CMP UST and the Libbey Mill UST facility (see P-561-2011).

DISCHARGE INVESTIGATION & ASSESSMENT

Because of the unknown status of these USTs, evidence of oil seeps downgrade of the facility, and possible travel through buried utilities and drains to the river: MDEP required CMP investigate the UST status and we agreed to test pitting the tank and test pits outside the tank to check for discharges. Bedrock is exposed east of the tank and appears to have been blasted to allow installation of the 147,000-gallon UST. Much of the area is built up non-native fill.

Monday 8/1/11: test pits TP-1, TP-4 and TP-5 within the three compartments of the 147,000-gallon tank found the concrete tank had been mostly cleaned out, filled with uncompacted sand and the concrete top broken into the tank as fill. Old fuel and return piping was still within the tank in (photos 11 & 12) and leaked some oil into fill and water below when accidentally broken.

Blobs of black oil were noted on the water in the northwest compartment from the pipe leak (TP-1) where the 10,000-gallon tank was located. At the bottom of the tank compartment was gray (not black), wet, oil-contaminated soil with odor of anaerobic degraded oil. I noted no remaining contamination in TP-4 and TP-5. I believe this oil contaminated soil was from the 10,000-gallon #2 oil UST.

TP-2 was on the west exterior of the concrete tank. Coal ash, sand fill and bricks were found during excavation with native Preumpscott Formation silt/clay soil. At approximately 7.5 feet below grade we encountered black oil-stained rocks and weathered, anoxic oil-smelling soil that tested to be saturated with black, #6 oil (see photo-16). This confirmed a discharge from the tank. An old north-south 20 inch water pipe was

found on the west side of TP-2. Soil sample SS-2 (a.k.a sample 11-294-3) was taken of this soil for fingerprint comparison.

TP-2 was extended south until we encountered the east-west running 15" clay pipe with the 8' iron pipe within (photos 8 and 18). No oil was found within the pipe which was several feet above the oil contaminated zone. A 20" old water pipe was found to the west (photo 17).

TP-3 was located by Mill St. and the edge of the Libbey Mill property, and on the west side of the 20" water pipe. We noted bricks, granite cobbles and stones but no oil contamination was found.

9/19/11: A bedrock monitoring well was installed and found black oil contamination above the silt-clay layer, an oil-saturated layer below the silt-clay and above bedrock. The oil saturated layer below the clay was a possible pathway for oil to the river.

10/17/11: Test Borings TB-25, TB-26 and TB-27 advanced to bedrock and located west of BR-2 found no free oil plume. Maine DEP did not get permission from owner Stanley Sclar to place borings in Mill Street to check for a free product plume migrating toward the river. Confirming a free product plume under Mill St. would have confirmed a contribution of the CMP #6 oil discharge to the oil plume found moving west across the Columbia Mill site (see P-561-2011 and P-534-2011).

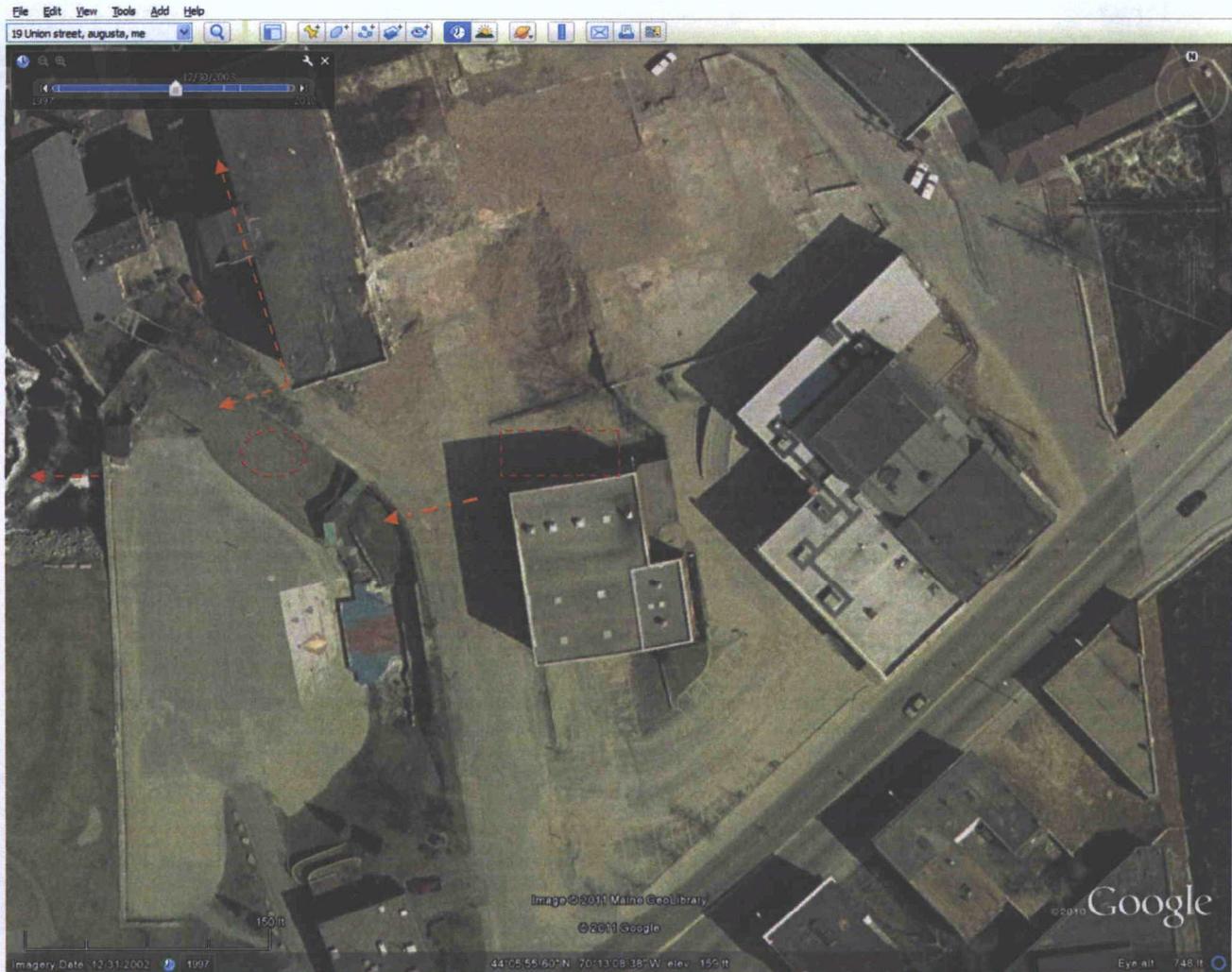
CONCLUSION & RECOMMENDATIONS

- 1) At this time, #6 oil discharges with oil-saturated soil have been confirmed outside the UST facility and apparently associated with the 147,000-gallon #6 oil UST facility. The exact cause of the oil discharges(s) and volume of oil lost is unknown at present. This discharge dates from the period the unregistered #6-oil UST was active before 1979.
- 2) At this time no remediation of the confirmed #6 oil contamination has been initiated. I recommend that in the spring of 2012 at the latest this soil be removed to stop or prevent further migration of oil contamination to the river.
- 3) On 8/1/11 MDEP approved abandonment-in-place of the 147,000-gallon UST facility. EPI drained and removed the old steel piping on 8/1/11. Non-oil-saturated #2-oil contaminated soil and water remains within the concrete UST but I judged not to be cost effective to remove at the time.
- 4) The 10,000-gallon oil tank understood to have been installed within a compartment of the larger UST has apparently been previously removed.
- 5) This spill report shall not be used as or construed to be an environmental site assessment, nor to indicate that the property is clean to original or pristine condition.

S Brezinski
MDEP, BRWM

V. ATTACHMENTS

<u>Attachment Type</u>	<u>Description</u>	<u>File Name</u>
Paper Attach	MDEP photos	
Paper Attach	Response spill location maps	
Paper Attach	Drumlin LLC substation map & information	
Paper Attach	Lewiston Steam Plant fuel oil tank plan	
Paper Attach	Abandonment In Place approval form 8/1/11	
Paper Attach	MDEP Field Notes/email	



1.
 - a) Aerial view of the CMP LEWISTON STEAM PLANT building in center, now a CMP transformer substation. Directly above is the former WS Libbey Mill location at the time mostly gone except for the Mill No. 1 building left of upper left. All the mill buildings are now gone. At right is a former CMP administration building that had a registered motor fuel UST.
 - b) At upper left is the smaller former Cowan Mill which burned about 2009 and underwent a UST abandonment in July 2011 [MDEP spill report P-537-11].
 - c) Left of the CMP building the orange dashed line denotes the steel pipe with black oil leaking around (see Photos 7 – 9 below). North of the CMP Steam Plant is the location of the 147,000-gallon concrete #6 oil UST [P-541-11].
 - d) At far left is a red arrow showing the location of the #6-oil discharge out the retaining wall into the Androscoggin River [P-534-11]. This is the area of the former Columbia Mill buildings, now known as Heritage Park.
 - e) At upper left is an orange arrow denoting a set of underground #6 oil and steam pipes remaining from abandonment-by-removal of a 12,000-gallon #6 oil UST in year 2000, associated with the former Libbey Mill. The Libbey Mill UST location is marked by the red circle.



2.

Thurs.

7/14/11: looking east over the location of the 147,000-gallon concrete #6-oil UST, and a later 10,000-gallon UST on the north side of the CMP substation building. The evidence of new pavement at right is perhaps from former uncovering of or work on one or both of the USTs.



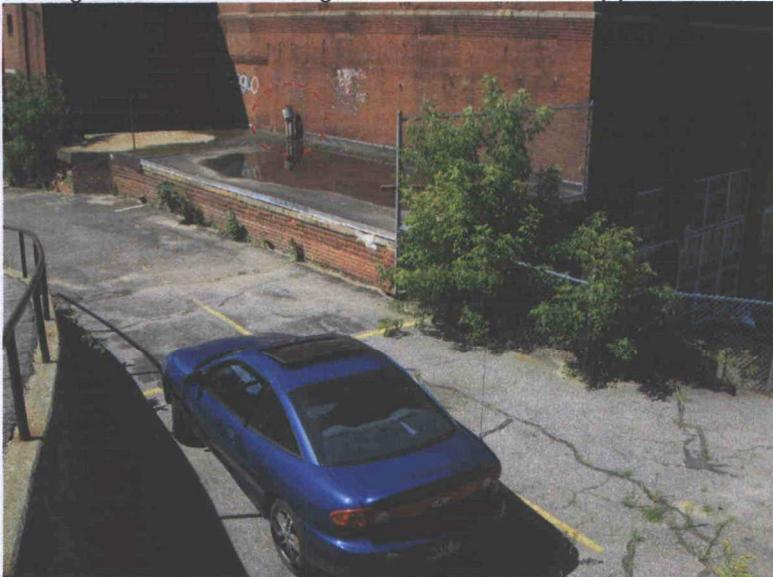
3.

Thurs. 7/14/11:

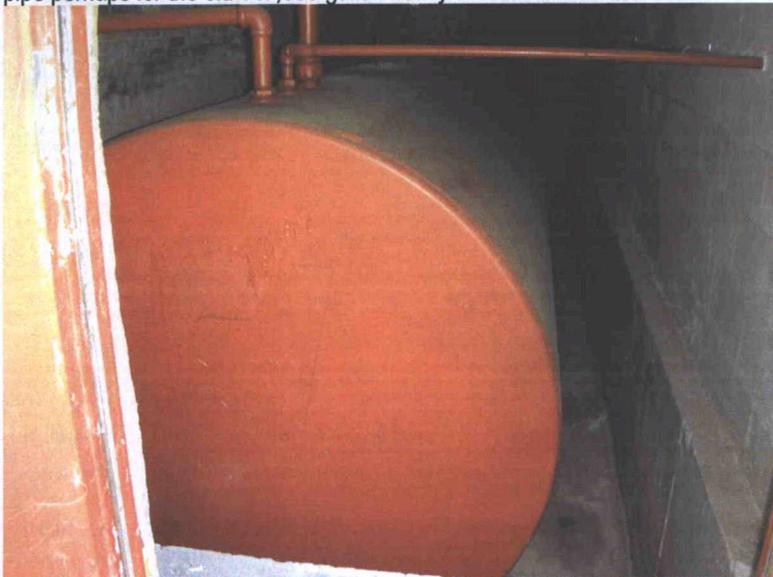
Looking west towards the Androscoggin River and down on the UST location behind the building. No UST vent or fill pipes were noted at this time.



4. Thurs. 7/14/11: Rear, north side, of the substation showing the doors into the 4000-gallon #2-oil AST and a vent pipe on the side of the building above the door [see Photo-6 below].



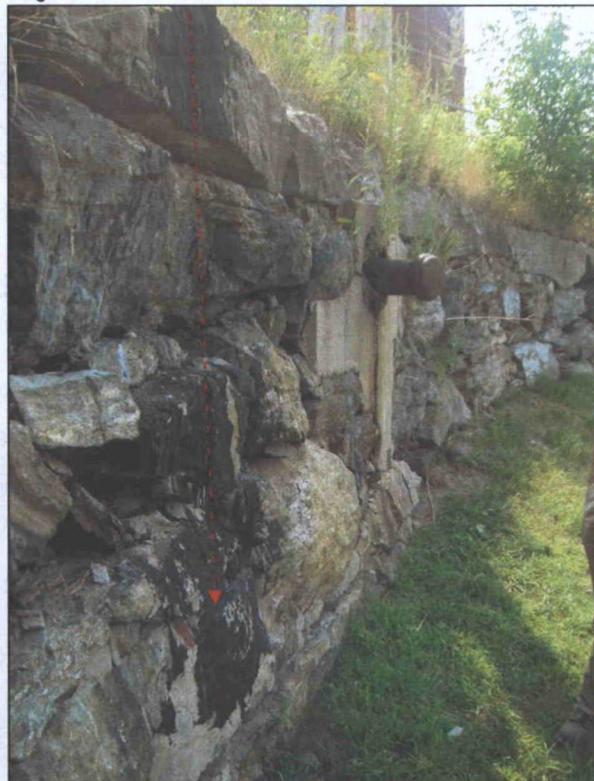
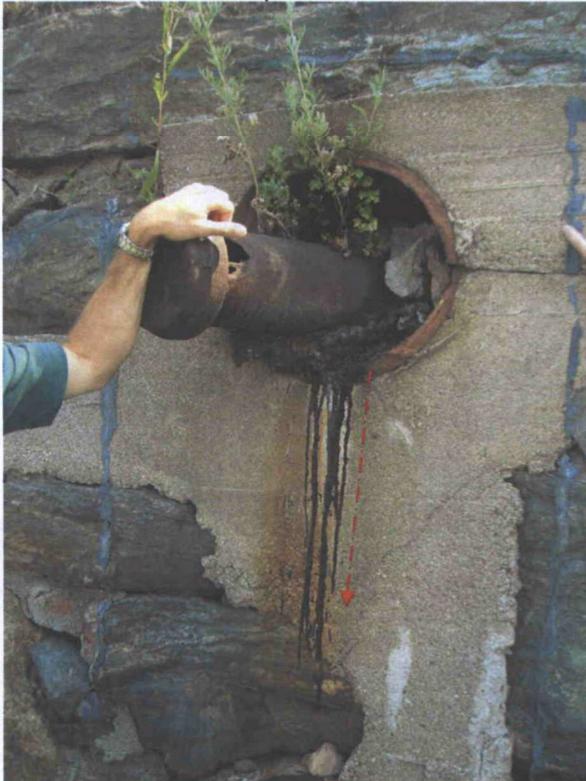
5. Thurs. 7/14/11: East side of the CMP building showing the active AST area under the roofed area. Protruding from the roof are two pipes (circled) which look to be large diameter fill and vent pipe perhaps for the old 147,000-gallon heavy oil UST.



6. Thurs. 7/14/11: Inside view of the active 4000-gallon #2-oil AST with a product line going right into building and fill & vent left out to east side of building. No evidence of leaks.



7. Wed. 7/20/11: From the Heritage Park parking lot looking east at the CMP Lewiston Steam Plant building and the 147,000-gallon #6-oil UST location just to the left (north) of the building. In the photo center is a pipe circled in red that looks to be coming from the corner of the CMP building and UST location. This wall used to be part of the former Columbia Mill building.



8. Wed. 7/20/11, above left: Close-up photo of the approx. 15" clay drain pipe with an 8" diameter steel pipe that was circled above in Photo-7. An old, black oil leak is visible coming out of the clay pipe and running down the stone wall. Cutting into the black stain we found it too not viscous enough to be asphalt at this day's ambient temperature. This pipe within a pipe was traced across Mill St. to the CMP UST facility. Drumlin Env. found information that this pipe was an offset fill pipe from Main Street that fed both the CMP UST and the Libbey Mill UST.
9. Wed. 7/20/11 above right: Looking south east at the pipe and leak, and another, larger oil discharge down the side of the retaining wall in the foreground. This larger spill appears to perhaps be a surface spill from the top of the wall and could be unrelated to the leak out the pipe.



10.

Mon. 8/1/11: **Test Pit TP-1** in the north chamber of the CMP 147,000-gallon UST where the later 10,000-gallon steel UST was located. EPI excavated under Drumlin Environmental for CMP. We found the 10,000-gal. UST had been removed, the concrete tank-top had been broken in.



11.

Mon. 8/1/11: Exposed in TP-1 old product, return lines and electrical conduit for the former 10,000-gal. UST exposed; one line is leaking what appears to be black oil similar to #4 oil (circled). At bottom left are two pieces of broken concrete tank top. At upper left is the wall separating the east compartment and upper right is the wall separating the south compartment. Soil was loose and slumped making excavation difficult.



12.

Mon. 8/1/11: TP-1, another view of the remaining piping.



13. Mon. 8/1/11: In TP-1, water in the tank with a discontinuous layer of black oil. The concrete tank's walls appeared reasonable well cleaned. Gray oil-contaminated soil but not oil-saturated soil was found within the bottom several feet depth of the concrete tank (Soil sample SS-1).



14. Mon. 8/1/11: **Test Pit TP-2** located just outside the west tank wall with black-oil saturated soil below the footer for the concrete UST (circled) on the silt/clay soil layer.



15. Mon. 8/1/11: Another view into oil-saturated soil at the north end of TP-2 @ about 7.5' below grade. At lower left is the concrete footer for the UST.



16.

Mon. 8/1/11: Black 6-oil saturated soil excavated from about 7.5' bg in TP-2. Goopy oil on the cobbles and an oil-saturation test confirmed saturated soil 1.5' to 2' thick. Oil saturated soil and free product was later confirmed in a soil layer under the clay layer and above bedrock.



17. Mon. 8/1/11 Left Photo: Looking east down TP-2 toward the outer wall the concrete tank. Soil here was compacted and competent (the location of an old Libbey Mill building?). A branch of TP-2 also extends south (right) toward the building. The arrow near the bottom marks a 20" diameter old water pipe into the substation building basement.

18. Mon. 8/1/11 Right Photo: Looking south along the leg of TP-2 exposing the 15" clay pipe with the 8" iron pipe inside (see Photo-8 above). No oil was found in the pipe. These pipes may have been a perimeter drain for the concrete UST and/or the building, but information indicates an offset fillpipe from main St. feeding the CMP and Libbey Mill USTs. Black oil-saturated soil was found below the pipe.



19. Mon. 8/1/11: Looking down into south end of TP-2 over the 15" clay pipe with the 8" iron (offset fill) pipe exposed. That goes west under Mill Street to the location of the Libbey Mill UST facility (see P-561-2011).



20. Mon. 8/1/11: Excavation of **Test Pit TP-4** within the smaller, south concrete tank compartment. Water was found within the compartment with no evidence of oil saturated soil of free product. In the center is what appears to be a buried 55-gallon drum that may have been a manway.



21.

Mon. 8/1/11: Looking

down into a CMP brick constructed vault under Mill Street and north of the CMP UST facility; visible along the SW wall of the vault are the live power lines to the substation. Below is a layer of water and on the water are what appear to be possible sporadic blobs of black and brown oil. Depth to the vault bottom I estimate at 8' to 10', within the range of groundwater depth based on TP-2.



22.

Mon. 8/1/11: The NW

corner and NE wall of the vault. More brown blobs of what appeared to be oil I noted at this end but the lighting does not show them well. We noted no inlet or outlet pipes to the vault; the water may be groundwater or surface water that leaked in.



23.

9/19/11 (Photo by Troy

Smith): To check for the possibility of free product oil migrating through the bedrock the bedrock monitoring well BR-2 was drilled just west of the CMP tank. In addition to oil-saturated soil above the silt/clay layer, an oil-saturated layer was found below the clay and above the bedrock. As seen above free product black oil was brought up with the drilling water.



24.

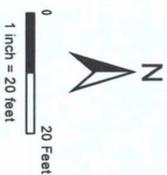
10/17/11: Northern Test

Boring advancing drilling overburden test borings TB-25, TB-26 and TB-27 down to bedrock to check on migration of the oil in BR-2 further west. TB-25 and TB-27 had no evidence of oil contamination; TB-26 had soil with an oil odor but no oil-saturation or staining. Geologist Troy Smith stands to the right of the drill rig. MDEP was not permitted to drill under Mill St. As of 11/30/11, TP-11 showed oil sheen but no free product coming from under Mill St. that could be attributed to the CMP UST (or the offset fill pipe to the Libbey Mill UST denoted by the orange dashed arrow, see Photo 8).

Location Map P-541-11



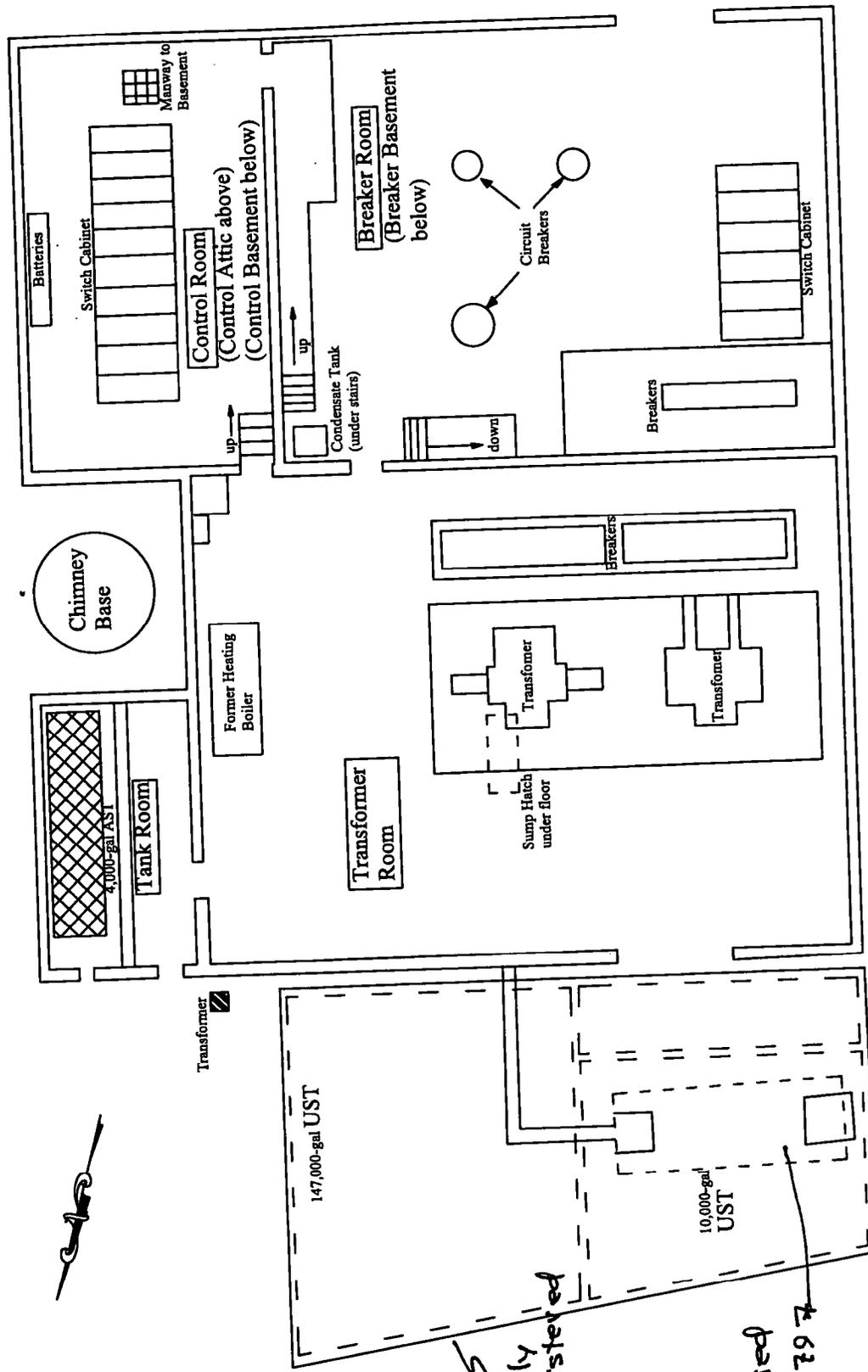
P-541-2011
**UNDERGROUND STORAGE
 TANK INVESTIGATION**
 Central Maine Power Substation
 Mill Street, Lewiston



- ⊕ CATCH BASIN
- HYDRANT
- Ⓜ MANHOLE
- ⊖ FUEL OIL LINE
- UTILITY POLE
- Ⓢ VALVE
- FENCE
- OVERHEAD ELECTRICAL
- UNDERGROUND ELECTRICAL
- UNDERGROUND FUEL LINE
- WATER LINE

Prepared by Mark Woodruff
 Maine Certified Geologist, GE503
 Division of Technical Services
 Bureau of Remediation & Waste Management
 Maine Department of Environmental Protection

P-541-11 1 of 2



Previously unregistered
 Registered under 7297

LAYOUT OF
 LEWISTON STEAM SUBSTATION



Layout of Building and Equipment Compiled from CMP Drawings and Plans and Drumlin Observations

Underground Oil Storage. Drumlin's review of drawings in the CMP archive identified three oil storage tanks at Lewiston Steam site (shown on attached site layout figure). Information about these tanks based on the drawings and information provided by CMP Substation representatives is as follows.

- **4,000-Gallon Above Ground Storage Tank.** There is a 4,000-gallon above ground storage tank located in the northeast corner of the building. CMP drawing 167-182 (attached), dated 1988 shows details of the installation of this tank. During a visit to the site, Drumlin toured the room containing this tank. The floor and lower 3 feet of the walls of this room are poured concrete and form a secondary containment dike for the tank. During Drumlin's site visit, no indication of a significant release from this tank was noted (e.g., oily concrete or odors).
- **10,000-gallon Underground Storage Tank.** CMP drawing 167-134 (attached) shows a 10,000-gallon underground storage tank beneath the open area on the north side of the building. CMP drawing 167-135 includes a note that the 10,000-gallon tank was added to the drawing in 1979. Based on this, it appears likely that this tank was installed in the 1970s and taken out of service in 1988 +/- when the 4,000-gallon above ground tank was installed. CMP Substation employees said that they understood the 10,000-gallon tank to be concrete. They indicated that it may have been used to store several grades of fuel oil over the years (e.g., #6, #4 and #2).
- **147,000-gallon Underground Storage Tank.** Drawings dating back to the 1940s show that there was a large, multi-compartment concrete oil storage tank buried in the open area on the north side of the building. CMP drawing 167-139 (attached), dated 1973, includes detailed dimensions and volume calculations for this tank. According to this drawing, the tank is approximately 60 feet long, 35 feet wide and 10 feet deep. The eastern chamber is estimated to have a capacity of approximately 80,000 gallons. The two western chambers have estimated capacities of approximately 51,600 and 15,700 gallons. CMP Substation employees understood this tank to have been used to store Bunker C and #6 fuel oil, but indicated that it may have also been used to store lighter weight fuel as well.

CMP staff familiar with the facility was not aware that either the 10,000-gallon tank or the 147,000-gallon tank had been cleaned or removed when they were taken out of service. They were also not aware that any assessment had been conducted to determine if there were historical releases from the tanks. (CMP drawing 167-138 dated 1972 includes a note that the drain hole in the gutter around the transformers is connected to the "unused oil tank". The pipe to this unused oil tank is drawn along the same alignment as the pipes to these underground tanks, but there is no additional information about the condition or use of the tanks.)

P-541-2011
2 of 2
Drumlin Facility
Info.

Abandonment of (an) Underground Tank(s) in Place

S Breyush (signature), on 8/1/11 (date) of the Department of Environmental Protection has determined that the following underground tank(s) at facility

Facility name Lewiston Steam plant Phone # _____

Address Mill St Town Lewiston

Owner's name Central Maine Power Phone # _____

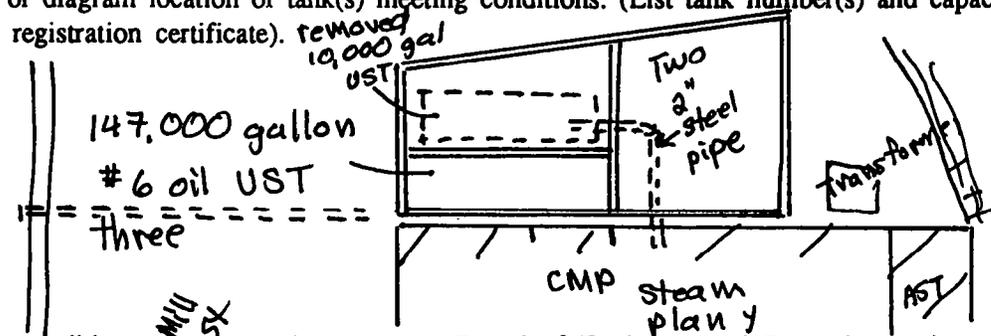
Address 83 Edison Dr. Town Augusta 04336

Facility Registration # ~~7797~~ 21727

meets the following condition for abandonment in place - (abandonment in place is permitted by regulation) (check conditions applicable).

- a. Located beneath a building or other permanent structure which cannot be practically replaced;
- b. Of a size and type of construction that it cannot be removed;
- c. Inaccessible to heavy equipment necessary for removal; or
- d. Positioned in such a manner that removal would endanger the structural integrity of nearby tanks.

Describe or diagram location of tank(s) meeting conditions. (List tank number(s) and capacity (capacities) as listed on registration certificate).



_____ conditions above not demonstrated, Board of Environmental Protection variance required or tank must be removed (see notes)

DO NOT PROCEED WITH ABANDONMENT IN PLACE UNTIL AND UNLESS A BOARD VARIANCE IS GRANTED

Describe or diagram location of tank(s) requiring a variance.

P-541-11

Note: A facility or tank owner may apply to the Board of Environmental Protection for a variance to abandon a facility or tank in place rather than abandon the tank or facility by removal. The Board may grant such a variance request if it finds that:

- a. Abandonment by removal is not possible or practical due to circumstances other than those listed in paragraph 1 above;
- b. The procedures outlined in Appendix K for abandonment in place will be followed in sequence; and
- c. The granting of a variance shall not pose a threat to a private or public drinking water supply or the quality of ground water, and is consistent with the intent of this rule.

Please contact the Licensing Unit of the Bureau of Oil and Hazardous Materials Control at (207) 287-2651 for further details.



- ① 7/14/11, Thurs : Called Gerry L. w/ CMP, he will contact me about CMP staff to let me in, referred me to Matt Reynolds of Drumlin Env. who assessed prop. which is for sale. I explained mystery oil leak to river.
- ② Matt R. stated a vaulted AST in bldg, likely for #2 oil. At N end is underground 140,000 gal. tank w/ chambers, a 10K tank later installed inside tank changer.
- ③ 1045: CMP worker showed me bldg, no issues, AST okay, no leaks. Matt R. will send me info. on tanks and site visit.

Brezinski, Stephen G

From: Paradis, Wayne M
Sent: Thursday, July 14, 2011 10:54 AM
To: Brezinski, Stephen G
Subject: Lewiston Substation

Steve - registration # 7797, 134 Main Street, Lewiston, owned by CMP listed two steel, asphalt-coated UST tanks removed in late 1980's. Tank 1 - 10,120gal #2 fuel and Tank 2 - 4,000gal unleaded gas. No spill numbers associated with the registration. No other info listed. Wayne

Wayne Paradis
Environmental Specialist in the Underground Oil Storage Facilities Program
Maine Department of Environmental Protection
207-287-8112 (desk) | 207-446-0628 (cell)
wayne.m.paradis@maine.gov

7/27/11 Wed.

Onsite 0930 w/ Mark Woodruff, Fred Hagan. Took GPS points from Dig Smart findings on Tues.

P-541-11

Nextera (FPL), sub co. of FPL running hydro dams. 629-1800 Hollowell



**CENTRAL MAINE
POWER**

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gerry.mirabile@cmpco.com

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Hydrogeologic and Engineering Consultants

Matthew Reynolds, P.E., C.G.
Senior Member

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