

Uncontrolled Hazardous Substance Decision Document

Decision Document for: Portland Bangor Waste Oil, Casco
Date prepared: January 14, 2009
Prepared by: Kathy Howatt, Project Manager

Purpose: to document rationale and decisions made regarding remedial activities, cleanup standards, and other related relevant activities. This is not intended to be a comprehensive report on the subject site; for more detailed information refer to the project file.

I. Site Name, Location and Description of Site

The Portland Bangor Waste Oil, Casco Site (herein after referred to as the Site) is located at Tenny Hill Road, in Casco, Maine. The site is located approximately ¼ mile southeast from Route 11. The 4.58-acre Site is identified on the Town of Casco Tax Assessor's Map No. 5 as Lot. 12A-1. The geographic coordinates for the approximate center of the property are 43°58'50.9" North Latitude and 70°33'0.6" West Longitude. The Site is bounded on the east and north by a forested parcel owned by Hancock Land Leasing, on the west by Tenny Hill Road, and on the south by residential property. The Site location is depicted on Figure 1 and Figure 2. (see attached)

The Site contains no on-site structures, and is comprised of a sand and gravel pit bordered by forest.

The Site is located in a primarily rural residential area. Homes on Tenny Hill Road and Route 11 are served by private wells. The closest residential well is located on the now-adjacent property (formerly part of the site, the residential portion of the property was subdivided in 1997 as lot 12A-2).

Since 1980 the site has been unused.

The Site is located on a topographic high. Drainage from the Site is to the east away from residences on Tenny Hill Road and toward Decker Brook. The Site is within the Crooked River watershed which eventually drains to Sebago Lake.

The overburden Site soil is sand over sandy till. The bedrock is fractured granite. Don-site depth to bedrock is approximately thirty (30) feet.

II. Brief Site History (include enforcement related activities)

Portland Bangor Waste Oil (PBWO) operated waste oil facilities at several Maine locations. Facility operations included waste oil transfer, storage, processing, and disposal. PBWO operated the Casco waste oil facility.

George West Jr. (now deceased) owned and operated PBWO and owned the Site while it was operating as a waste oil facility. The town of Casco is the current owner of the property. The property was acquired through a tax lien.

Based on information available to the department, including records and interviews, the Site was operated as a waste oil transfer, storage, and disposal facility from 1969-1980; the site was undeveloped prior to 1969. The Site was a satellite to the PBWO, Wells site and had a reported capacity of 150,000 gallons. The Site was used when the Wells facility was at or approaching capacity. During the time of operation, liquid wastes, including waste oils, were placed in above-ground tanks and drums at the site. Some of that liquid came to be spilled, leaked, or otherwise deposited onto the ground.

In 1983, the Site was identified to DEP by the Town of Casco.

III. Brief Summary of Site Actions to date

In the early 1990s, a Preliminary Assessment and subsequent Site Inspection investigation identified chemicals released at site.

1996-1997 - A DEP investigation detected elevated levels of petroleum compounds and solvents in site soil and groundwater.

1998 - DEP sampled on-site monitoring wells

2001 - DEP contracted Drumlin to conduct a formal Remedial Investigation (RI).

2002 - 2003 - Drumlin conducted additional studies to better define the nature and extent of on-site, local, and regional groundwater conditions.

2002 - 2003 - DEP contracted GALLC/EER to remove heavily contaminated soils from the Site that were leading to groundwater contamination (source removal).

2004 to Present - DEP continued to monitor groundwater contamination levels at the Site.

2008 - On August 21, 2008 DEP designated the Site as an Uncontrolled Hazardous Substance Site under the State of Maine's Uncontrolled Hazardous Substance Sites Law (38 M.R.S.A., Sections 1361 - 1371).

IV. Remedial Investigation - Findings & Conclusions

The RI included the following components:

- 1) Sampled and analyzed environmental media (including: source area soil, groundwater, surface Water, and sediment;
- 2) developed a Conceptual Site Model (see figure 2);
- 3) determined the extent of source material requiring removal;
- 4) drew conclusions regarding the nature and extent of off-site migration, and
- 5) presented recommendations to control off-site migration.

The findings of the RI were:

- 1) There are two distinct sources of on-site contamination;
- 2) off-site groundwater flows north - northeast away from nearby residential wells towards Decker Brook; and
- 3) there was no indication of impact to on-site or neighboring residential drinking water wells.

Based on these findings, the RI concluded:

- 1) There was no risk of impact to existing Tenny Hill neighborhood water supplies,
- 2) Surficial and bedrock water supplies on and off the Site are contaminated above drinking water standards. Further investigation of plume was needed to determine downgradient extent,
- 3) waste oil and a low level concentration of solvents were present in on-site sediments,
- 4) no chemical contamination was detected in off-site wetland sediments,

5) further delineation of source areas was needed to better estimate the source volume, and

6) source removal was necessary to eliminate future direct contact with contaminated materials and to remove the on-going contribution to groundwater contamination.

V. Selected Remedial Action(s)

On-Site Soil (Source Material)

Given the estimated amount of contaminated soil (1800 yd³) and the conditions at the Site, DEP determined that excavation with off-site disposal was the appropriate remedial alternative.

Groundwater On-Site

DEP determined that it was not technically practical to cleanup the contaminated groundwater, but the removal of the Site source material would result in decreased levels of contamination in on-site groundwater over time.

Necessary remedial measures were determined to be continued monitoring of on-site groundwater on a routine basis and implementation of land use restrictions that included a prohibition on extraction of on-site groundwater unless approved by DEP.

Groundwater Off-Site

DEP determined that off-site groundwater is impacted by contaminants released from the Site. The groundwater beneath the Hancock Lumber Company, located downgradient of the Site, is known to be contaminated. It is possible that any water well installed within the off-site plume would be contaminated. DEP determined it was not technically practical to cleanup the contaminated groundwater, but that removal of the Site source material would result in decreased levels of contamination in off-site groundwater over time.

Necessary remedial measures were determined to be monitored natural attenuation of the contamination in the off-site plume combined with the implementation of land use restrictions that included a prohibition on extraction of groundwater from the off-site plume unless approved by DEP.

VI. Remedial Action - Source Removal

A request for proposal (RFP) to conduct excavation with off-site removal was prepared and advertised in June 2002. In

response to the RFP, DEP received bids from seven companies. The team of Guerin Associates, LLC and Environmental Engineering and Remediation (GALLC/EER) was awarded the contract based on GALLC/EER's technical ability and costs.

GALLC/EER was contracted in October 2002 to remove the contaminated soil for off-site disposal. Between October and November 2341 tons of heavily contaminated soil were trucked to Stablex, a Hazardous Waste landfill and treatment facility, in Quebec, Canada. Additionally, 1531 tons of less contaminated soil were trucked to the Pine Tree Special Waste Landfill in Hampden. Due to weather conditions and funding considerations the site closed for the winter months.

In the spring of 2003, DEP completed the removal of soil contaminated with waste oil containing solvents, lead and PCBs. Eventually, 4,507 tons of contaminated soil were disposed as non-hazardous special waste at Pine Tree Landfill and 2,379 tons of contaminated soil were disposed of as hazardous waste at Stablex.

The total volume of soils excavated and taken off-site was greater than originally estimated because additional soil samples collected at the Site during the initial removal action (prior to mobilization) identified elevated levels of polychlorinated biphenyls (PCBs) and lead in site soils. It was also determined that the contamination existed deeper within the soil (there was increased vertical distribution) than originally estimated.

Supplemental investigation of the off-site groundwater plume was also completed. This investigation determined that the plume extended towards Decker Brook, but did not likely extend past the brook.

VII. Clean Up standard(s) and how determined

The compounds of concern (CoC) originally identified for the removal action were tetrachloroethene or perchloroethene (PCE) and trichloroethene (TCE). Maine Remedial Action Guidelines (MeRAGs) values for contaminated soil were consulted. Residential exposure was identified as the future use scenario. The identified MeRAGs were:

- 3.0 mg/kg PCE
- 19 mg/kg TCE

In addition to these COCs there were additional volatile organic compounds (VOCs) and petroleum compounds at the Site at relatively low concentrations. However, to account for these additional compounds and to mitigate release of PCE and TCE to ground water, the Target Clean up Levels (TCL) were established at:

- 1.0 mg/kg PCE
- 1.0 mg/kg TCE

During the initial testing for waste disposal characterization in 2002 by GALLC/EER, elevated levels of lead and polychlorinated biphenyls (PCBs) were discovered in the on-site soil. The TCL for these compounds, established by the MeRAGs as well, were:

- 375 mg/kg lead
- 2.2 mg/kg PCB

VIII. Exposure Considerations and Future Use

Remaining on-site soil - soils remaining at the site have contamination levels below the MeRAGs and are buried under backfill.

Groundwater (drinking water)- no residential water wells exist in the plume area. The water used by the Hancock Lumber Mill shows levels of contamination; however, it is not a source for potable water. Bottled water is provided by Hancock Lumber for consumption

Surface water- currently the only potential risk from surface water exposure is associated with ingestion during swimming; however, surface water is only intermittently available and it is unlikely that there would be a swimming risk in the site's wetland.

Sediment - currently, exposure to the onsite wetland is unlikely

Future Uses - Institutional Controls should be used to limit future exposure to residual levels of contamination. These should include 1) no groundwater extraction for drinking and 2) no use or contact with water/sediments in wetland area.

IX. Other relevant determinations (e.g., natural resources damages)

Site Management Plan

1. Document Remediation Effectiveness - With the source removed residual site contamination will decrease over

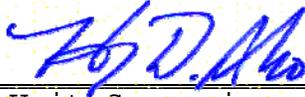
2. Groundwater TCL - Site impacted groundwater will be monitored (sampled routinely) until concentration levels for CoCs are shown to be under the action level (one-half the MEG or MCL) for a period of three consecutive years. If it is demonstrated that an asymptotic state has been achieved which is between the action level and the MEG or MCL the sampling plan may be modified by the department. [Note: An asymptotic state will be defined to have been reached when concentrations of CoCs have been stable or show decline for a period of three consecutive years and do not exceed the MEG or MCL.]
3. Groundwater Use Restrictions - Until groundwater meets the TCL identified in 2. above, activities within the contaminated plume shall be restricted, unless approved by DEP, as follows:
 - a. No development
 - b. No excavation
 - c. No water extraction
 - d. No water recharge
4. The PBWO Casco Site Use Restrictions (to be developed)- Due to groundwater contamination and the possibility of remaining residual contamination within on-site soils, activities at the Site shall be restricted, unless approved by DEP, as follows:
 - a. No development
 - b. No excavation
 - c. No water extraction
 - d. No water recharge
5. UECA - The restrictions identified in 3. and 4. above shall be memorialized as required by the Uniform Environmental Covenant Act.
6. The Town of Casco, owner of the Site, and DEP shall develop and implement a land use management plan for the Site.

Natural Resources Damage Assessment (NRDA)

Contamination of an identified natural resource, groundwater, has been documented. Damages to other natural resources, such as wetlands and surface water may also have

occurred. An NRDA is necessary to assess the injury and determine damages.

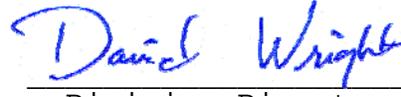
Seen and reviewed by:



Unit Supervisor

/1/14/09

date



Division Director

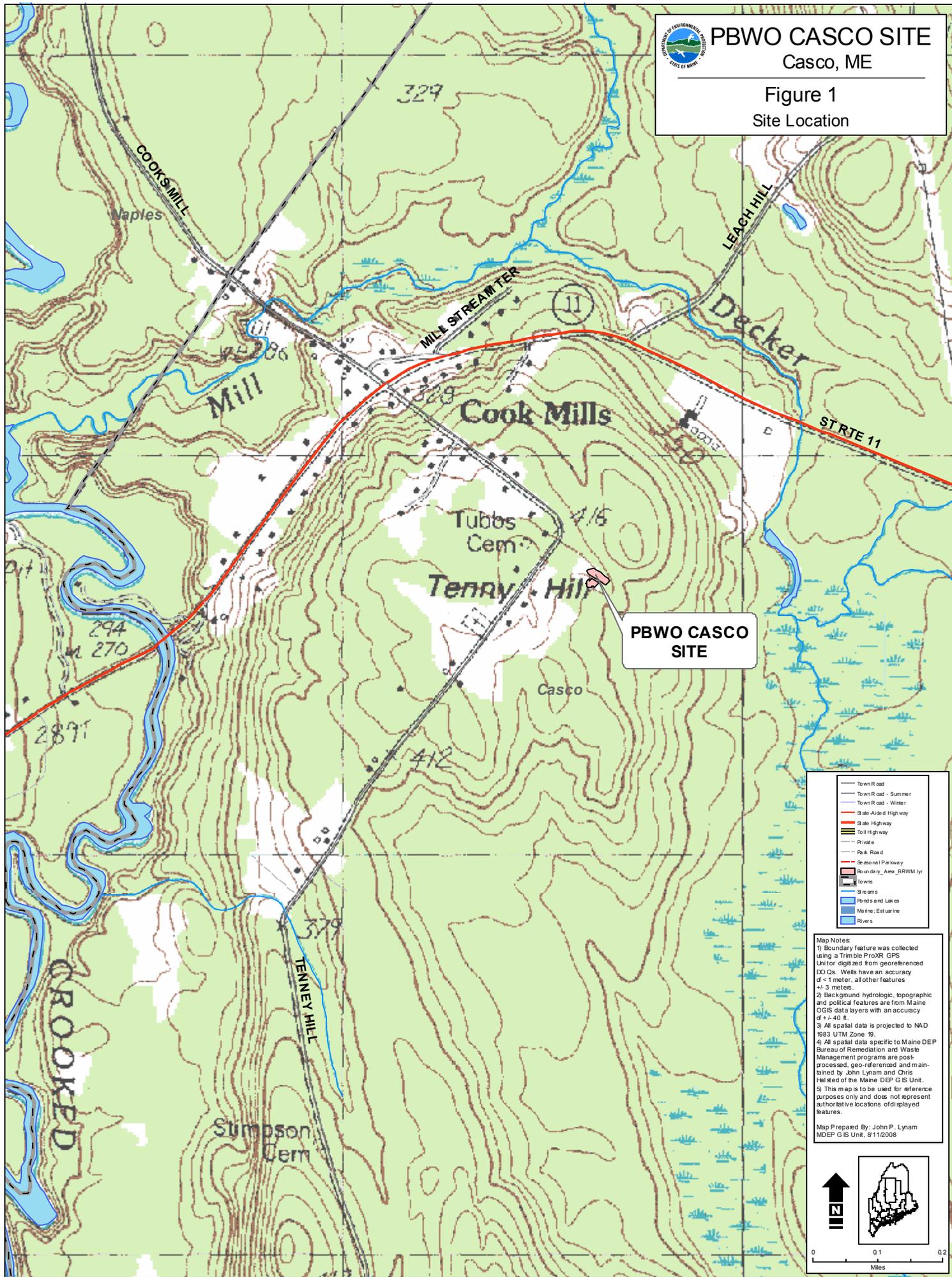
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PBWO CASCO SITE
Casco, ME

Figure 1
Site Location



PBWO CASCO SITE

	To wn Road
	To wn Road - Summer
	To wn Road - Winter
	State Aided Highway
	State Highway
	Toll Highway
	Road
	Rail Road
	Seasonal Parkway
	Boundary_Area_BRWM.yr
	Towns
	Streams
	Ponds and Lakes
	Marine - Estuarine
	Rivers

Map Notes:
 1) Boundary feature was collected using a Trimble ProXR GPS Unit or digitized from georeferenced DO Os. Wells have an accuracy of < 1 meter, all other features +/- 3 meters.
 2) Background hydrologic, topographic and political features are from Maine OGIS data layers with an accuracy of +/- 40 ft.
 3) All spatial data is projected to NAD 1983 UTM Zone 18.
 4) All spatial data specific to Maine DEP Bureau of Remediation and Waste Management programs are post-processed, geo-referenced and maintained by John Lynam and Chris Halsted of the Maine DEP GIS Unit.
 5) This map is to be used for reference purposes only and does not represent authoritative locations of displayed features.

Map Prepared By: John P. Lynam
 MDEP GIS Unit, 8/11/2008

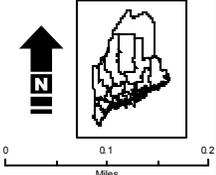
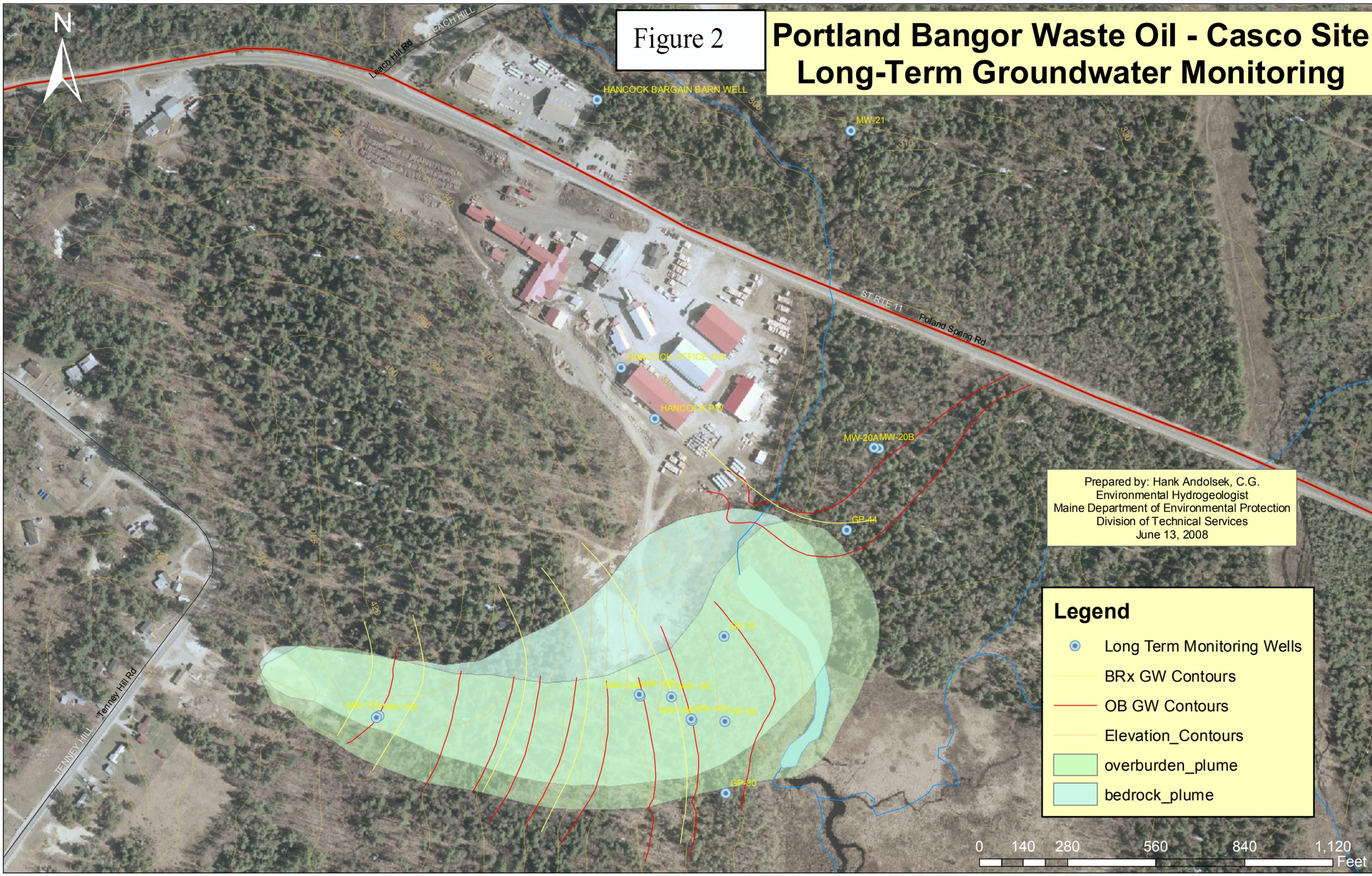


Figure 2

Portland Bangor Waste Oil - Casco Site Long-Term Groundwater Monitoring



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 Maine Department of Environmental Protection
 Division of Technical Services
 June 13, 2008

Legend

- Long Term Monitoring Wells
- BRx GW Contours
- OB GW Contours
- Elevation_Contours
- overburden_plume
- bedrock_plume