



Bureau of Remediation Technical Services Long Term Groundwater Sampling Plan

Portland Bangor Waste Oil Facility Casco, Maine

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Historical Summary

The Portland Bangor Waste Oil (PBWO) site located on Tenney Hill Road in Casco was a formerly licensed waste oil facility that accepted various petroleum products and solvents for disposal and/or storage in above ground storage tanks. Subsequent investigations by the MEDEP and EPA in the late 1990's found soil and groundwater contaminated with chlorinated solvents such as TCE, PCE, 1,1,1-TCA and waste oils as indicated by elevated levels of diesel range organics (DRO). Actions taken by MEDEP in 2003 to remove contaminated soil at the site helped reduce the risk of exposure, and eliminated source materials that were continuing to contaminate groundwater in overburden materials and granitic bedrock. Subsequent analysis of site monitoring wells in 2005, 2007, 2008, 2009, and 2012 showed attenuation of chlorinated solvents and waste oil in groundwater, resulting in the elimination of some groundwater monitoring points and the reduction of groundwater sampling requirements to once every five years.

Long Term Monitoring Plan

Sampling events are to be completed every 5 years beginning in 2017. The recommended time of year to complete the sampling is late fall (October or November) when vegetation is not as overgrown and restrictive of access to the monitoring wells.

At least two weeks prior to the scheduled sampling event, DEP staff should contact Hancock Lumber and conduct a site visit to verify the existence and locations of monitoring wells, as well as collect depth-to-water measurements from all site monitoring wells. DEP staff should bring bolt-cutters and lubricant in case monitoring well padlocks have rusted or become inoperable since the previous sampling event. Please note groundwater in MW-10B and MW-13B is of **very low conductivity**, so be sure to bring various depth-to-water meters when measuring these wells!

Each sampling event includes a total of 16 sample locations (5 overburden wells, 6 shallow bedrock wells, 3 deep bedrock wells, and 2 supply wells at Hancock Lumber). Refer to **Figure 1** for an overall layout of the site and sampling locations. **Table 1** provides a summary of monitoring well information and lab analyses/QC for each sample location. Trip blanks must be provided for each

cooler containing VOC samples and included on the chain of custody for analysis. Sample containers will be provided by Katahdin Analytical Services or comparable Maine DEP pre-qualified analytical laboratory and tested for VOCs by EPA 8260 with reporting limits for Site COCs (TCE, PCE, cis-1,2-DCE, and 1,1,1-TCA) not to exceed 1.0 ppb.

Table 1: PBWO Casco LTM Groundwater Sampling					
Groundwater Sample Points	Geologic Unit	Well Dia. (inches)	Screen Int (ft BGS)	2012 TCE	Sample Analyses
				(ppb)	EPA 8260 VOCs
GP-33	OvB	1	1-4	1.8	X
HL-1B		2	5-10	ND	X
MW-19C		2	8-13	18	X
MW-13B		2	6.5-16.5	590	X
MW-10B		2	9-19	ND	X
HL-1A	Shal-Brx	2	18-28	ND	X
MW-13A		1	24-34	26	X
MW-16B		1	23-33	3.3	X
MW-17B		1	22-32	20	X
MW-19B		2	21-31	100	X + DUP
MW-20B		2	20-25	11	X
MW-16A	Deep-Brx	1	55-65	2.2	X
MW-17A		1	77-87	3.4	X
MW-19A		2	58-68	18	X
Hancock PW	Brx	6		ND	X
Hancock DW	Brx	6		ND	X

Groundwater monitoring wells will be sampled using modified low flow protocols with a peristaltic pump in accordance with MEDEP SOP RWM-DR-003. Field parameters such as dissolved oxygen (DO), pH, specific conductivity, oxidation reduction potential (ORP), temperature, and turbidity must be recorded during purging. Supply well “Hancock DW” will be collected from the bathroom sink inside the main office building, and “Hancock PW” will be collected from the pump house spigot. Both supply wells will be sampled in accordance with MEDEP SOP RWM-DR-001.

Sampling Event Equipment List

VOA vials supply wells (6 plus trip blank)
VOA vials site wells (48 plus field duplicate)
Sample labels
Sample coolers and ice
Chain of custody
Monitoring well sample forms
Gloves
Spigot adapters
Decon bottles
Depth to water meter(s)
Peristaltic pump(s)
Deep cycle batteries
YSI 556MPS multi meter(s) (*rent from Pine Environmental*)
Turbidity meter(s)
Graduated cylinders (flow rate)
PE and silicone tubing
Knife or tubing cutter
Bolt cutters
Master padlock keys
Machete or brush clearing tools
Clamps
Plastic table(s)
Bright orange safety clothing

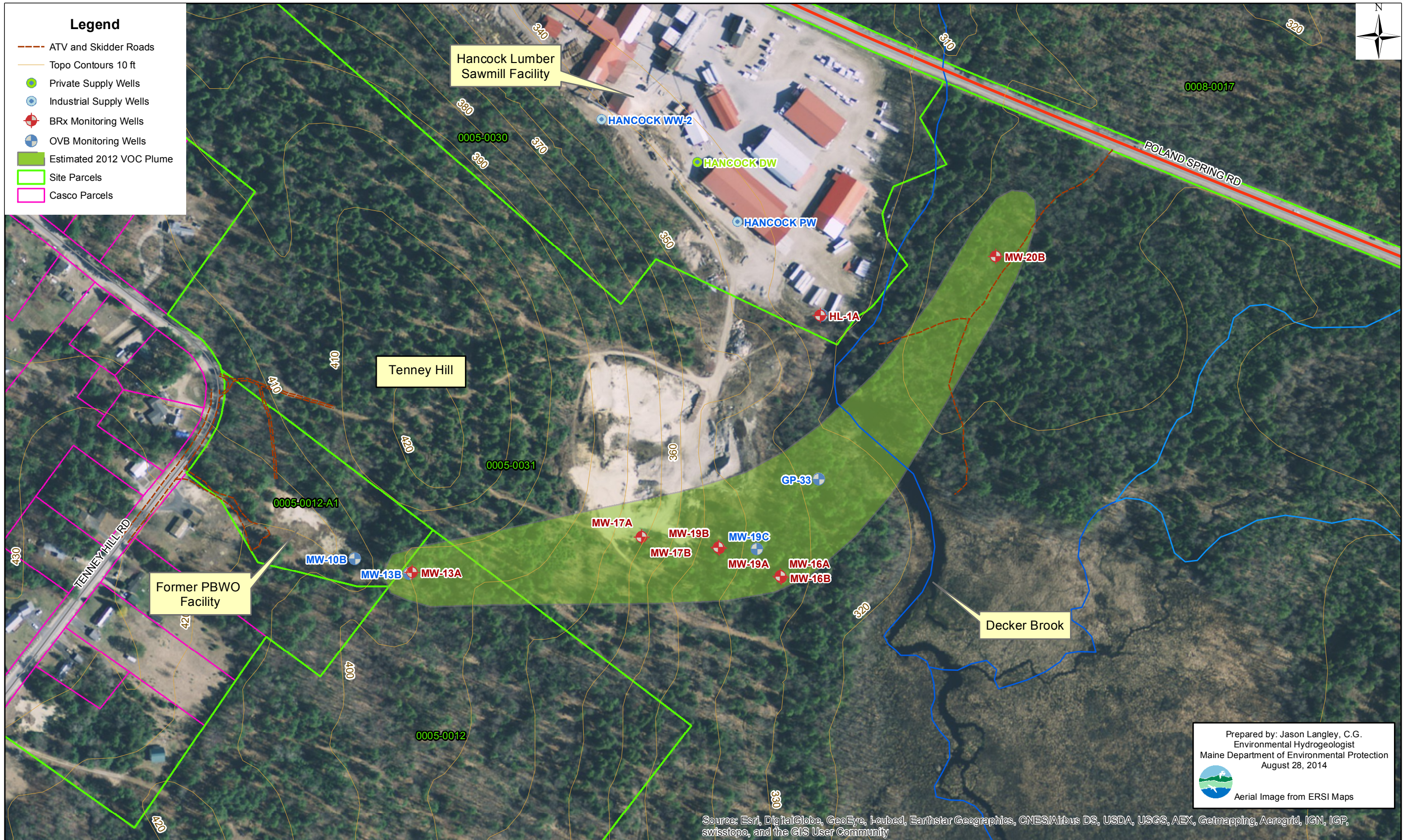
TAMS Information

General Fund, PTLD BANGOR WASTE OIL, CASCO, REM00487

Phone Numbers

Contact	Office	Cell
Shelley Brown (Katahdin)	874-2400	749-5711
Pine Environmental	885-9100	
Wayne York (H. Lumber)	627-7676	318-4075
Jason Langley (MDEP)	287-6829	263-8957
Nicholas Mayhew (MDEP)		215-9619

**Figure 1: Portland Bangor Waste Oil Casco
Long Term Monitoring Site Plan**



Legend

- ATV and Skidder Roads
- Topo Contours 10 ft
- Private Supply Wells
- Industrial Supply Wells
- + BRx Monitoring Wells
- + OVB Monitoring Wells
- Estimated 2012 VOC Plume
- Site Parcels
- Casco Parcels

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Aerial Image from ERSI Maps

Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

