State of Maine Department of Environmental Protection Bureau of Remediation and Waste Management Division of Technical Services

TO: Nick Mayhew, Uncontrolled Sites Project Manager

FROM: Sean Dougherty, Senior Environmental Hydrogeologist

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SUBJECT: Summary of PCB Soil Sample Results Collected December 2019 C. Smith Property, Meddybemps

On December 19th, 2019 the Maine DEP (Nick Mayhew, Andrew Newcomb and Sean Dougherty) collected soil samples at the C. Smith property, located along Main Street (Rt. 191), in Meddybemps. The purpose of this sampling event was to delineate PCB contaminated soils identified in 2015, located between the house and the barn. A direct push drilling rig, operated by EPI, Inc., was used to recover the soil samples.

The Charlotte Smith Property was the residence of the former owner of the Eastern Surplus Superfund site; the property is currently unoccupied. The site is a large flat parcel that is bounded by Main Street (Route 191) to the south, by the Dennys River to the north and west, and by Lombard Road to the east. The area surrounding the subject property is primarily residential.

As part of investigation efforts conducted in June 2015, surface soil samples were collected from four locations between the house and the barn located on the subject property and two were collected from the dirt floor within the barn (labeled SS locations on the attached figure). All surface soil samples were tested for VOCs, SVOCs and PCBs. Low level VOCs and SVOCs, primarily PAHs and bis(2-ethylhexyl) phthalate, were detected in the soil samples, all below the associated RAG values. PCBs were detected at three locations (SS-101, SS-103, SS-104) above the residential RAG value.

On December 19th, 2019, further investigation was conducted at the C. Smith site with the purpose of delineating the area of PCB contaminated soil between the house and the barn. Soil samples were collected from a total of thirteen investigation locations (labeled SB locations on the attached figure). Shallow soils at each location were generally sandy-gravelly fill material, becoming fairly dense, finer grained material at depths ranging from 2 to 6 feet. Relatively loose shallow fill materials, with void spaces at several locations,

resulted in poor sample recovery. The dense silty material observed at depth is interpreted to be a limiting layer for contaminant migration over much of the area. Table 1 lists the observed approximate depth to the fines layer at each investigation location along with the general material description.

Investigation Location	Depth to Fines Layer (ft)	Fines Layer Material	
SB-101	>5 Not Encountered		
SB-102	3	Silt-Clay, Dense, Dry	
SB-103	5.5	Silt-Clay, Dense, Dry	
SB-104	5.5	Silt-Fine Sand, Mod. Dense, Moist	
SB-105	>5 Not Encountered		
SB-106	2	Silt-Fine Sand, Dense, Dry	
SB-107	5	Silt-Clay, Dense, Moist	
SB-108	>5 Not Encountered		
SB-109	>5 Not Encountered		
SB-110	5.5	Silt-Fine Sand, Mod. Dense, Moist to Wet @~6 ft.	
SB-111	5	Silt-Fine Sand, Loose, Moist to Wet @`6 ft.	
SB-112	2.5	Silt-Fine Sand, Mod. Dense, Moist	
SB-113	6	Silt-Clay, Dense, Dry	

 Table 1: Fine Materials Observations, C. Smith, Meddybemps

Soils at each location were containerized in sealable foil bags and were field screened with a PID. PID screening results ranged from 0 to 0.3 ppm. Twelve of the soil samples were screened for PCBs using Chlor-n-Soil test kits. Two of the PCB screening kit results indicated the potential for PCBs in soil at concentrations greater than 50 ppm. Thirteen soil samples were submitted to Alpha Analytical Lab to be tested for PCBs; ten surficial soil samples and two deeper samples. The analytical data quality is acceptable for project decision making purposes. Results of the investigation are summarized in the following table.

Investigation Location	Sample Interval	Soil Material	PCB Field Test Result (ppm)	Total PCB Lab Result (mg/kg)
SB-101	0-2'	Silty Sand and Gravel	<50	0.274
SB-102	0-2'	Silty Sand and Gravel	<50	Not Tested
SB-103	0-2'	Silty Sand and Gravel	<50	0.081
SB-104	0-2'	Silty Sand and Gravel	>50	1.03
SB-104	5-7'	Silty Fine Sand	<50	ND
SB-105	0-2'	Silty Sand and Gravel	<50	6.55
SB-106	0-2'	Sand and Gravel	<50	1.28
SB-107	0-2'	Sand and Gravel	<50	1.56
SB-109	0-1'	Silty Sand and Gravel	Not Tested	0.092
SB-110	0-2'	Silty Sand and Gravel	<50	0.077
SB-111	0-3'	Sand and Gravel	>50	0.050
SB-111	5-7'	Silty Fine Sand	Not Tested	ND
SB-112	0-2'	Silty Sand and Gravel	<50	3.47
SB-113	0-2'	Sand and Gravel	<50	0.068

Table 2: Soil Sample Investigation Results, C. Smith Site, Meddybemps

None of the soil analytical results for total PCBs were greater than 50 ppm; therefore, the contaminated soil would not be considered PCB Remediation Waste under TSCA. The current Maine Residential RAG for total PCBs in soil is 3.1 mg/kg. Using a site-specific risk assessment approach, ProUCL was used to determine the 95% UCL on the mean of the shallow soil sample results. This yielded a recommended UCL of 4.1 mg/kg, which exceeds the residential RAG. The attached figure includes a red oval enclosing the likely area of PCB contaminated soil exceeding the residential RAG. This area is approximately 90 square yards. Assuming an average excavation depth of 5 feet, the removal estimate is approximately 150 cyds of material.

Cc. Brian Beneski, MEDEP Andrew Newcomb, MEDEP

