

SEDIMENT CORE LOG: SC-01 Contaminated Harbour Sediment Core

LOCATION / WATERBODY: Hamilton Harbour, Ontario
CLIENT: Harbour Remediation Authority
SAMPLING CONTRACTOR: AquaCore Environmental Services Ltd.

PROJECT: Hamilton Harbour Sediment Characterization
PROJECT NO.: ENV-2026-135
CORING METHOD: Vibracore

CORE DATE: 2026-08-27
WATER DEPTH: 10.6 ft
WATER / SEDIMENT DATUM: Core depth referenced to sediment-water interface

Core Depth (ft)	Graphic Log	Sediment Description	Core Run / Tube	Recovery (%)	Compression (%)	Sample ID	Sample Section / Type	Redox / Colour / Odour / Sheen	Field Parameters	Laboratory Results	Criteria / Status	Core Photo	
0.0		Sediment-Water Interface	SC-01-R1	88	8	SC01-0-1	SED	Olive-grey; oxidized surface; organic detritus; no sheen	pH 6.8; Eh -185 mV; sulfide 42 mg/kg	Lead 185 mg/kg; total PAHs 8.4 mg/kg; PCBs ND	Exceeds lead and PAH sediment criteria		
1.0		OLIVE-GREY SILT; very soft, water-saturated, oxidized brown surface film, fine roots and organic detritus. Olive-grey Organic				SC01-1-2	SED	Black, anoxic; strong H2S odour; gas bubbles; iridescent sheen		Mercury 1.2 mg/kg; total PAHs 36 mg/kg; PCBs 0.42 mg/kg	Exceeds mercury, PAH and PCB sediment criteria		
2.0		BLACK ORGANIC SILT; very soft, sulfidic, abundant decomposed organics, gas bubbles, strong hydrogen-sulfide odour and iridescent sheen. Black Strong hydrogen sulfide	SC-01-R2	92	5	SC01-2-4	SED	Dark grey; black sulfide mottles; slight sulfur odour; no sheen	pH 7.0; Eh -120 mV; sulfide 18 mg/kg	Lead 95 mg/kg; total PAHs 12.5 mg/kg; PCBs ND	Exceeds PAH sediment criterion		
3.0		DARK-GREY SILTY CLAY; soft, laminated, occasional shell fragments and black sulfide mottles. Dark grey Slight sulfur											
4.0		GREY CLAYEY SILT; soft to firm, thin sand partings, trace wood fragments, slight petroleum odour from 4.0 to 5.5 ft. Grey Slight petroleum	SC-01-R3	85	9				pH 7.2; Eh -65 mV; sulfide 7 mg/kg				
5.0													

CORE EQUIPMENT / LINER: Portable vibracore; 12 ft x 3.5 in clear polycarbonate liner; stainless-steel core catcher

CORE RECOVERY / COMPRESSION: Five continuous 2 ft runs; recovery 76-92%; compression assessed from penetration versus recovered length

SAMPLE SEGMENTATION / PRESERVATION: Core photographed and sectioned in 0-1, 1-2, 2-4, 4-7 and 7-10 ft intervals; samples cooled to 4 C

FIELD OBSERVATIONS / REDOX: Surface oxidation grades to anoxic black sediment below 0.5 ft; H2S odour, gas bubbles and sheen recorded

LABORATORY / ANALYTICAL METHOD: Samples analyzed for metals, PAHs and PCBs using accredited laboratory methods; dry-weight results

DECONTAMINATION / DISPOSAL / NOTES: Reusable tools detergent-washed and rinsed between stations; residual sediment containerized pending disposal

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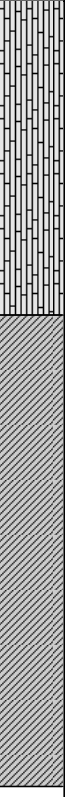
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6.0		BLUE-GREY GLACIAL CLAY; firm to stiff, massive, low plasticity, no odour or visible impact. Blue-grey None	SC-01-R3	85	9	SC01-4-7	SED	Grey; slight petroleum odour from 4.0-5.5 ft; trace wood; no free product	pH 7.2; Eh -65 mV; sulfide 7 mg/kg	Metals, PAHs and PCBs below criteria	Meets applicable sediment criteria	
7.0			SC-01-R4	80	12	SC01-7-10	SED	Blue-grey; no odour, staining or sheen	pH 7.4; Eh +15 mV; sulfide 2 mg/kg			
9.0			SC-01-R5	76	15				pH 7.5; Eh +55 mV; sulfide 11 mg/kg	Metals, PAHs and PCBs at background levels	Meets applicable sediment criteria	
10.0												

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