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VIA EMAIL: matthew.mcelwaine@pwgsc.gc.ca

Mr. Matthew McElwaine, P.Eng.
Environmnetal Engineer
Public Works and Governmnet Services Canada
Telus Tower North
5th Floor, 10025 Jasper Avenue
Edmonton, AB T5J 1S6

Dear Mr. McElwaine:

Re: Additional Assessment of CAM-D DEW Line Site, NU - Final

UMA Engineering Ltd. (UMA) was retained by Public Works and Government Services Canada (PWGSC), under the direction of Indian and Northern Affairs Canada (INAC), to conduct an additional assessment of contamination at the CAM-D DEW Line site. The site consists of a Main Station, Airstrip, Freshwater Lake area, Simpson Lake area and a Borrow Source area. Figure 1.0 presents the overall site layout. The majority of the infrastructure at the CAM-D site is located at the Main Station Area, shown in Figure 2.0. A detailed Phase III Environmental Site Assessment (ESA) and Waste Audit were conducted by Earth Tech Canada (February 2006). Some of the areas investigated at the Main Station were only partially delineated, and paint samples were only analyzed for total lead content. In order to enable the preparation of a more precise remedial design, additional assessment activity was required. The fieldwork for the assessment was conducted by UMA on September 6, 2007 during the PWGSC-organized contractors' pre-bid site visit. Activities were primarily limited to the Main Station Area due to time constraints.

The scope of additional assessment for CAM-D included:

- Collection of two sub-surface soil samples south and southeast of the garage area and submission to lab for benzene, toluene, ethylbenzene and xylenes (BTEX) and F1 - F4 petroleum hydrocarbons analysis. Collection of paint samples from the garage interior for leachable lead analysis by Toxicity Characteristic Leaching Procedure (TCLP).
- Collection of one sub-surface soil sample north of the electrical cabinet area for metals analysis.
- Collection of one sub-surface soil sample from south of the burn pit area for BTEX F1 - F4 analysis.
- Collection of five sub-surface soil samples around the POL area for the analysis of polycyclic aromatic hydrocarbons (PAHs). Collection of two sub-surface soil samples southeast of the POL tank area for BTEX F1 - F4 analysis. Collection of paint samples from the POL tank and pumphouse for analysis of TCLP leachable lead, total lead and polychlorinated biphenyls (PCBs) in paint.
- Collection of one sub-surface soil sample west of the pallet line and a water sample from the ponded surface water near the pallet line area. Submission of the soil sample for BTEX F1 - F4 analysis and the water sample for BTEX F1 - F2 analysis.
- Collection of a water sample from one barrel at the pallet line area for the analysis of dissolved metals.
- Collection of two sub-surface soil samples from north and south of the portable fuel tanks. Submission of the soil samples for the analysis of BTEX F1 - F4 and PAH analyses.

- Collection of water samples from the Freshwater Lake for routine potability (Canadian Drinking Water Quality Guidelines) and total metals analyses.
- Collection of paint samples from the antenna (main site), grader, and crane (near air strip) for TCLP leachable lead, total lead and PCBs in paint analyses.
- Review and comparison of the analytical test results with the applicable criteria.
- Presentation of the results of the additional assessment with their impact on the remedial design.

The following Earth Tech reports were consulted during the development of the additional assessment plan:

- CAM-D DEW Line Site, Phase III Environmental Site Assessment, Materials Audit and Geotechnical Investigation Final Report, Earth Tech Canada Inc. 2006.
- Remedial Action Plan CAM-D DEW Line Site Simpson Lake, Nunavut, Earth Tech Canada Inc. 2007.

UMA's additional assessment was focused on achieving more complete delineation of the contaminated soil plumes at the garage, electrical cabinet, POL tank, burn pit, palette line, and portable fuel tanks areas at the main site by collecting soil, and water samples. In order to confirm the quality of water in the Freshwater Lake as a potential drinking water source during remediation, water samples were collected. Paint samples were also obtained from a number of areas for assessment of their TCLP leachable lead concentrations and PCB content in order to more accurately identify waste disposal requirements. The results of the assessment at each location are discussed below:

Garage Area

Previous assessment of petroleum hydrocarbon contamination at the garage area had not fully delineated F3 contamination to the south of the structure. Two test pits were advanced south and southeast of the garage. These first locations exhibited signs of significant contamination at 0.60 - 0.75 metres below ground surface (mBGS). As the intent of the investigation was to achieve delineation, these locations were abandoned and two more test pits excavated approximately 5 metres further south. Soil samples (UMA1 @ 0.3 mBGS & UMA2 @ 0.3 mBGS) were collected at those locations as shown on Figure 3.0. The samples were tested for BTEX and F1-F4 Petroleum Hydrocarbons (PHC) and were found to be below the INAC Abandoned Military Sites Remediation Protocol (INAC AMSRP) Tier 1 Soil Ingestion criteria. Detailed results are provided in Table 1.0.

Paint samples were collected from the garage interior (*Garage Interior – Grey*) and garage deck (*Garage Deck – Grey*) and submitted for leachable lead analysis. The concentrations identified were below the CEPA 5 mg/L criteria. The results are provided in Table 8.0.

Electrical Cabinet Area

One soil sample (UMA3 @ 0.3 m) was collected for metals from north of the electrical cabinet (Figure 4.0). The location of the sample was constrained by a ponded surface water area. The concentrations for various metals were found below the INAC AMSRP Tier 1 and 2 criteria for metals in soil. The detailed results are provided in Table 2.0.

Burn Pit Area

One soil sample (UMA9 @ 1.0 mBGS) was collected southeast of the burn pit area and submitted for PHC analysis to delineate Earth Tech's identified F2, F3 and F4 plume. The results were found to be below the INAC AMSRP criteria. The detailed results are provided in Table 1.0. The location of UMA9 is shown on Figure 5.0.

POL Tank Area

Five sub-surface soil samples (UMA4 @ 1.0 mBGS, UMA5 @ 0.65 mBGS, UMA6 @ 1.0 mBGS, UMA7 @ 0.75 mBGS and UMA8 @ 0.75 mBGS) were collected from various locations around the POL Tank area as shown on Figure 6.0. The initial location for UMA4 was observed to exhibit hydrocarbons odours. However when stepped back 5 metres to the northeast, buried debris was encountered, making excavation to an appropriate sampling depth impossible. A sample was collected at the original location. A significant hydrocarbon odour was also encountered while excavating to delineate the west side of the plume. However, after stepping back 5 metres further west, no hydrocarbon indicators were identified and sample UMA8 was collected at 0.75 mBGS. PAHs and petroleum hydrocarbon concentrations for all soil samples collected at the POL tank area (with the exception of UMA4) were quantified below the applicable criteria. For UMA4, the concentration of naphthalene (26.4 mg/kg) significantly exceeded the CCME Soil Quality Guideline of 0.6 mg/kg. The results are provided in Tables 1.0 and 3.0.

Paint samples were collected (*POL Tank - Grey*) from the POL tank and analyzed for PCBs, leachable lead and total lead analysis. The results for all analyses were higher than the Transportation of Dangerous Goods based leachable lead criteria of 5.0 mg/L and the CEPA PCBs in Paint Guideline (50 μg/g). The results are provided in Tables 7.0, 8.0 and 9.0.

One paint sample was collected from the POL pumphouse (*Pumphouse – Grey*) for leachable lead. The result of 11.2 mg/L exceeds the CEPA guideline of 5.0 mg/L. However, rigorous protocol would require that the leachability test be carried out on a complete sample of the waste material (including the substrate and the paint) - this was not feasible given the timeframes and field conditions. UMA experience[1] has shown that when comparing leachable lead in paint alone to the leachable lead concentration generated by the paint and the substrate together (specifically for silver POL tank paint), there is typically an order of magnitude reduction. Therefore, the POL pumphouse is unlikely to exceed the 5.0 mg/L guideline when tested as a complete painted substrate.

Pallet Line Area

One soil sample (UMA10 @ 0.55 mBGS) was collected from the pallet line area and submitted for PHC analysis to confirm the delineation of F3 hydrocarbon contamination identified by Earth Tech. The results indicate that UMA's delineating sample is below relevant criteria. The detailed results are provided in Table 1.0 and the location for UMA10 is shown on Figure 7.0.

A surface water sample (UMAW1) was collected from the ponded surface water near the pallet line area and submitted for analysis of BTEX, F1 and F2. The results were below the CCME Freshwater Aquatic Life criteria. The detailed results are provided in Table 4.0.

[1] UMA Engineering Ltd., *DLCU Project, Lead-Based Paint Discussion Paper*, 2004, Submitted to INAC and DND-NTI Steering Committee.

Due to time constraints on-site, only one water sample (UMADRUM1) was collected from a barrel at the pallet line and submitted for dissolved metals analysis. Organics analyses were not conducted, as glycol or non-aqueous phase liquids (NAPL) were not observed, and the available sample volume and time were limited. For comparison purposes, cadmium, chromium and lead were compared against the DLCU Barrel Protocol, and were identified to be within the range allowable for disposal to ground. The results are provided in Table 5.0.

Portable Fuel Tanks

Two soil samples (UMA11 @ 1.0 mBGS and UMA12 @ 0.95 mBGS) were collected north and south of the portable fuel tanks area and submitted for PHC and PAH analyses. The results were found to be below the applicable criteria. The detailed results are provided in Tables 1.0 and 3.0. The locations for both the samples are shown on Figure 8.0.

Freshwater Lake

One water sample (UMA FW) was collected from the Freshwater Lake south of the Airstrip (see Figure 1.0) and submitted for routine potable and total metals analysis. The results were found to be below the CCME Guidelines for Canadian Drinking Water Quality. The results are provided in Table 6.0.

Antenna Paint Samples

Paint samples were collected from the antenna at the main site (*Antenna – Orange* and *Antenna – White*) and were submitted for leachable lead analysis. The results showed that the leachable lead concentrations were below the criteria. The detailed results are provided in Table 8.0.

Grader and Crane (Near Air Strip)

Yellow paint samples were collected from the grader (*Grader – Yellow*) for the analysis of PCBs and leachable lead. The results showed the PCB concentration to be below the criteria. For leachable lead, the analysis indicated concentrations of 6.44 mg/L, exceeding the CEPA criteria of 5.0 mg/L. However, the concentration is below that expected to produce concentrations exceeding the criteria when sampled as a combination of both the substrate and the paint. The results are provided in Tables 8.0 and 9.0.

A green paint sample was collected from the crane (*Crane – Green*) parked near the air strip and submitted for the analysis of PCBs and total lead in paint (insufficient paint was available to perform a leachable lead analysis). PCBs were not detected, and the total lead concentration in paint was 60500 mg/kg. This concentration is in the range that could yield leachable lead results exceeding 5.0 mg/L, based on UMA's experience[1]. The results are provided in Table 7.0.

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Main Findings and Recommendations for Remedial Design

Following are the main findings of the additional assessment conducted at the CAM-D site with recommendations for remedial design:

- Hydrocarbon contaminated soil extending beyond the previous delineation was identified at the garage area and the extent of the contamination was assessed by stepping further out until clean soil was identified. Figure 3.0 shows the extended boundaries of the F3 contaminated soil found during additional assessment. With the addition of the contaminated soil area found during the additional assessment, the total volume of the F3 contaminated soil at the garage area is approximately 550 m^3, using a 1.1 metre average depth of excavation. Earth Tech's suggested remediation protocols for the remediation of F3 contaminated soil will likely be followed.
- F2 and PAH contaminated soil was identified around the POL tank and pumphouse area exceeding the previous estimated boundary. Figure 6.0 shows the extent of the F2 and PAH contaminated soil. The total volume of the contaminated soil following additional assessment is approximately 1600 m^3, using Earth Tech's estimated average depth of 1.5 metres. Earth Tech's suggested remediation protocols for remediation of F2 and PAH contaminated soil will likely be followed.
- Concentrations of dissolved metals in the barrel water at the pallet line area were within the DLCU Barrel Protocol limits for disposal to ground following polishing with absorbent material. Assessment of individual batches of water in barrels at the pallet line area will be required prior to disposal. If elevated concentrations of metals are found in other barrels, the DLCU Barrel Protocol will dictate the appropriate disposal.
- The concentrations of major ions and total metals in the water sample from the Freshwater Lake were found to be below the CCME Guidelines for Canadian Drinking Water Quality. Additional testing would be required on an on-going basis for potable use during remediation.
- PCB amended paint was identified on the POL tank. Leachable lead was identified at concentrations likely to result in non-compliance with the TDG 5.0 mg/L criteria when applied to the total substrate and paint in the same POL tank paint, as well as potentially on the green crane (based on total lead). Based on the volumes for these items calculated by Earth Tech, the estimated non-hazardous debris volume is revised to 2350 cubic metres, and the hazardous PCB/lead painted materials volume is revised to 40 cubic metres. It is not expected that these changes will affect the remedial option selection. The following list identifies the status of the various tested painted materials.
    - Garage – Interior (Grey), Earth Tech Identified PCB, Hazardous
    - Garage – Deck (Grey), Earth Tech Identified PCB, Hazardous
    - Antenna (Orange), Non-Hazardous
    - Antenna (White), Non-Hazardous
    - Crane (Green), Potentially Hazardous (Pb), Confirm on-site
    - POL Tank (Grey), Known Hazardous (PCB), Likely Hazardous (Pb), Confirm on-site
    - Grader (Yellow), Unlikely Hazardous, Confirm on-site
    - Pumphouse (Grey), Unlikely Hazardous, Confirm on-site
- Delineation activities were limited to the Main Station Area due to time constraints while on-site. Additional delineation at more distant locations should be pursued during remediation.

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The findings of this assessment are considered preliminary at this time, pending the finalization of a complete Remedial Action Plan for the site. If you have any questions regarding the assessment or its findings, please do not hesitate to contact me at (780) 486-7057.

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Encl. Disclaimer and Copyright Sheet
Figures 1.0 - 8.0
Tables 1.0 - 9.0
Analytical Results

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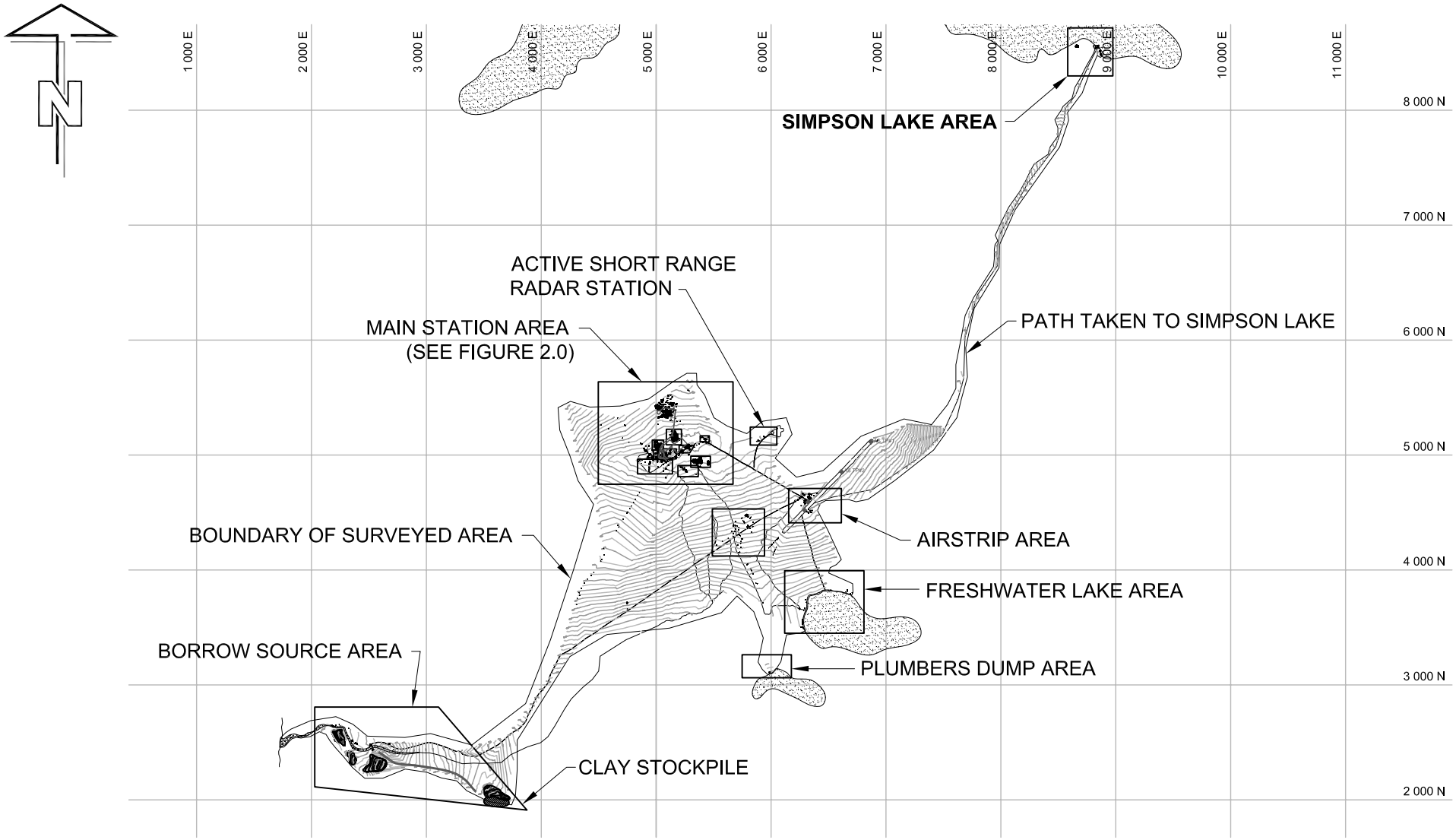

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Public Works and Government Services Canada
CAM-D Additional Investigation

Contaminated Soil Site Plan Figure 1.0

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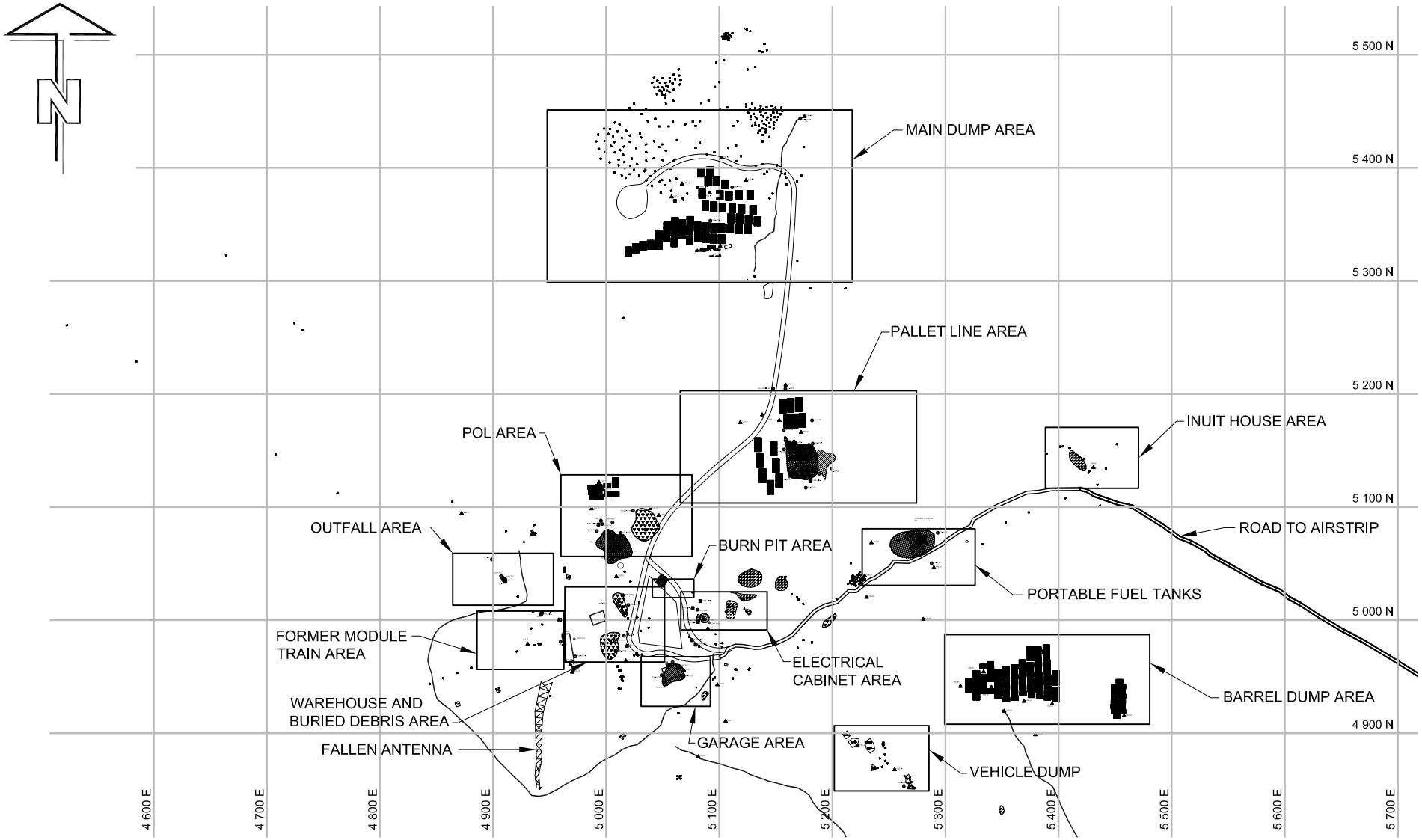

NOTE: REFERENCE BASE PROVIDED BY EARTH TECH

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Public Works and Government Services Canada
CAM-D Additional Investigation

Contaminated Soil
Main Station Area
Figure 2.0

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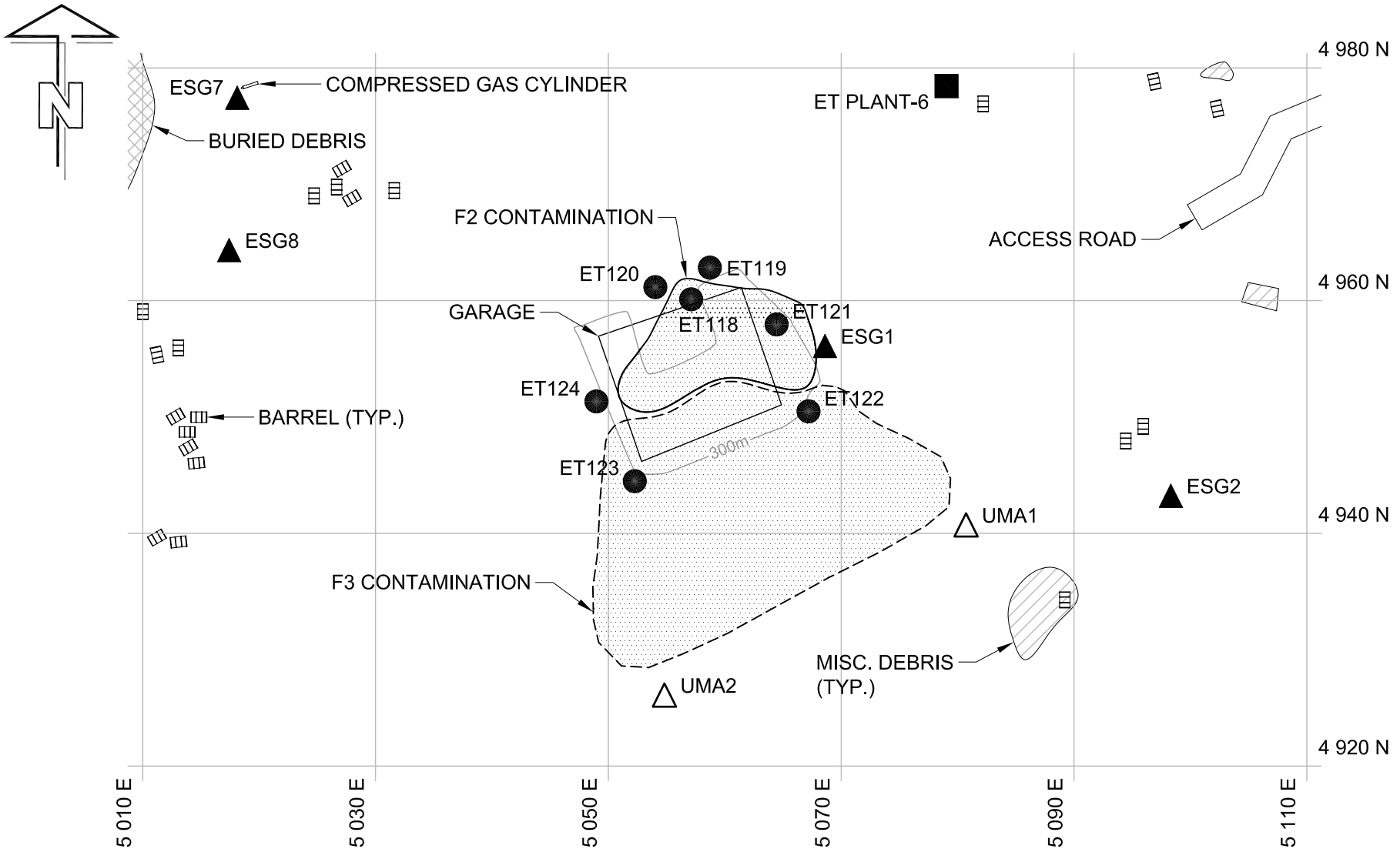

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Public Works and Government Services Canada
CAM-D Additional Investigation

Contaminated Soil
Garage Area
Figure 3.0

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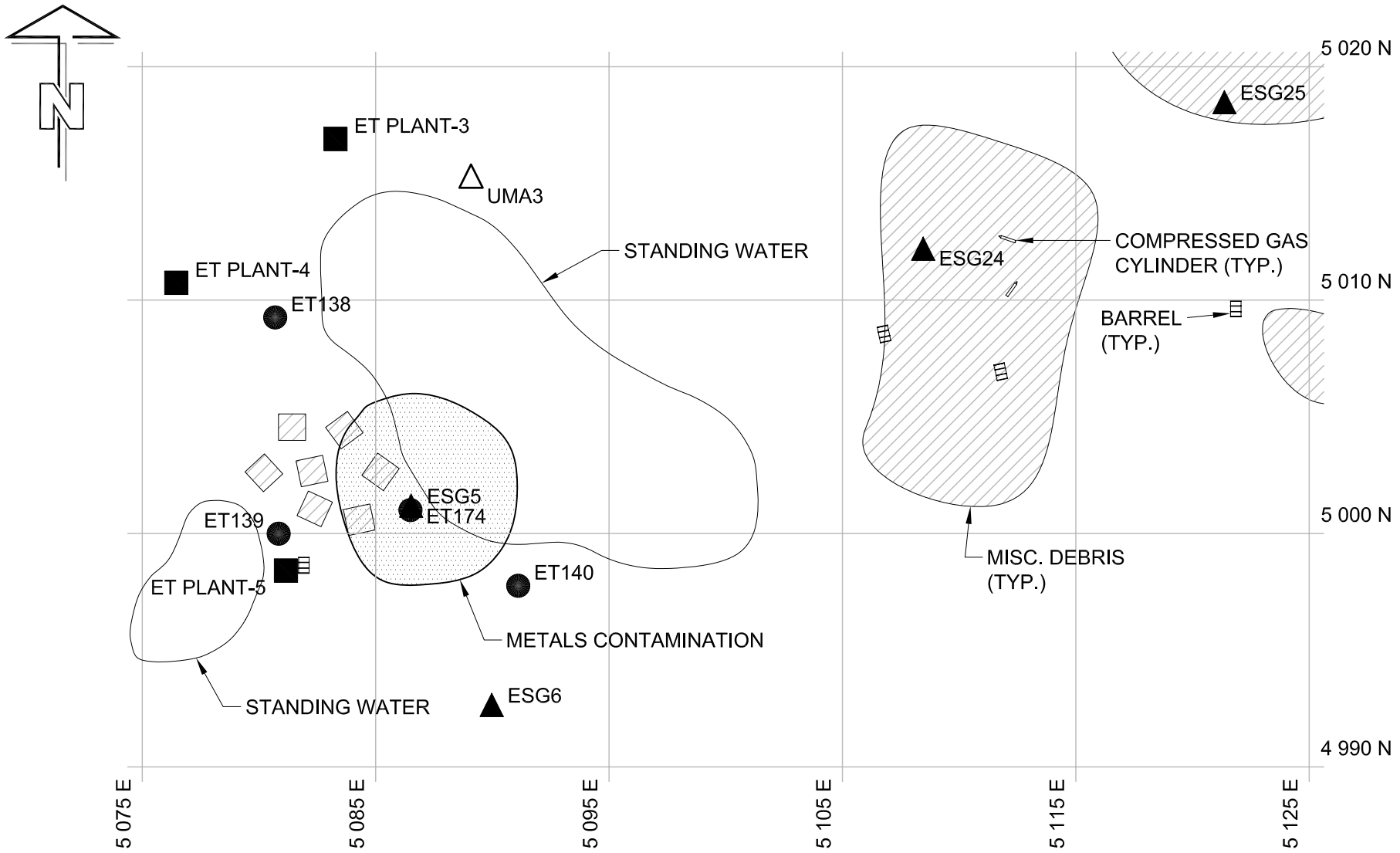

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Public Works and Government Services Canada
CAM-D Additional Investigation

Contaminated Soil Electrical Cabinet Area Figure 4.0

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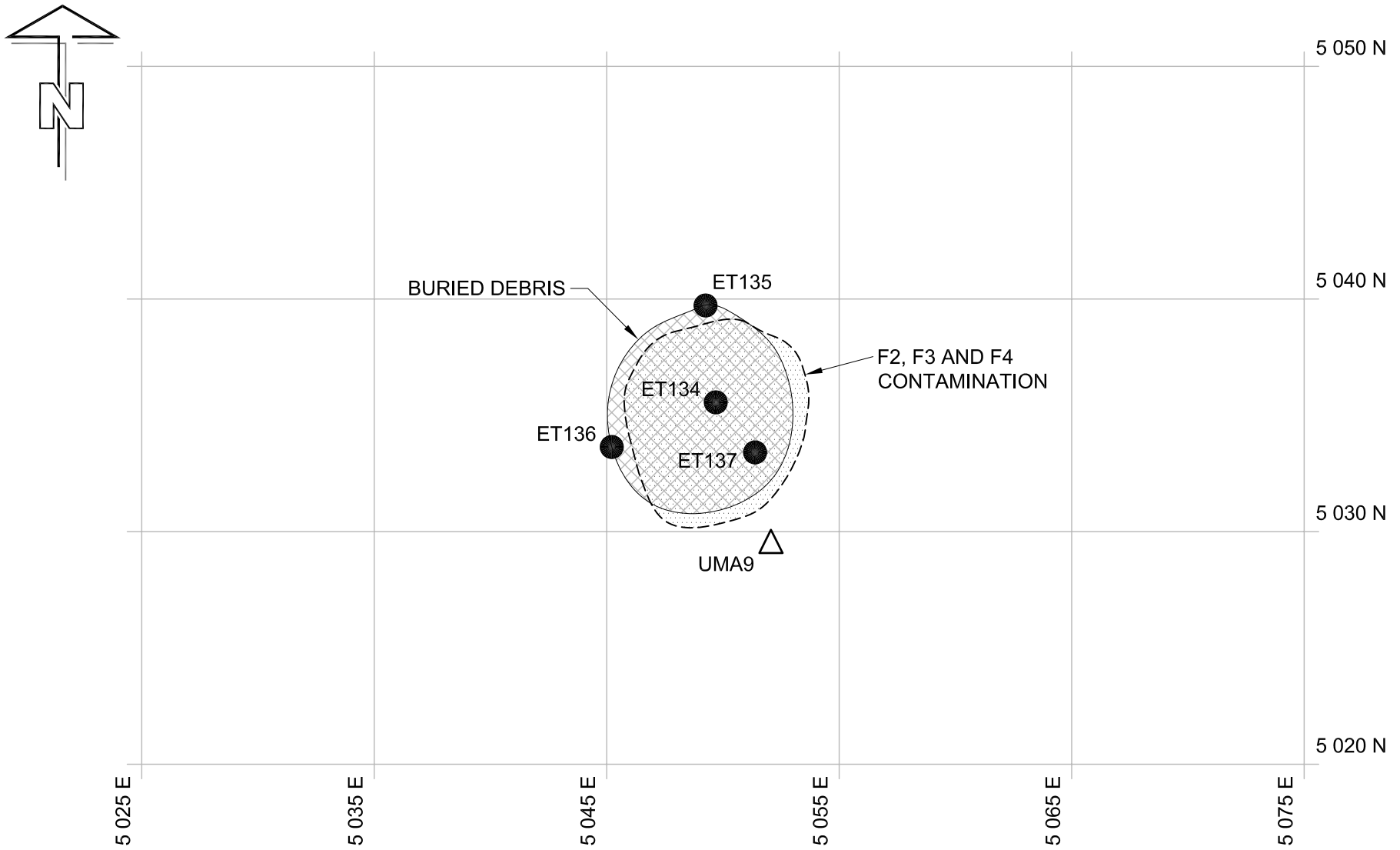

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CAM-D Additional Investigation

Contaminated Soil
Burn Pit Area
Figure 5.0

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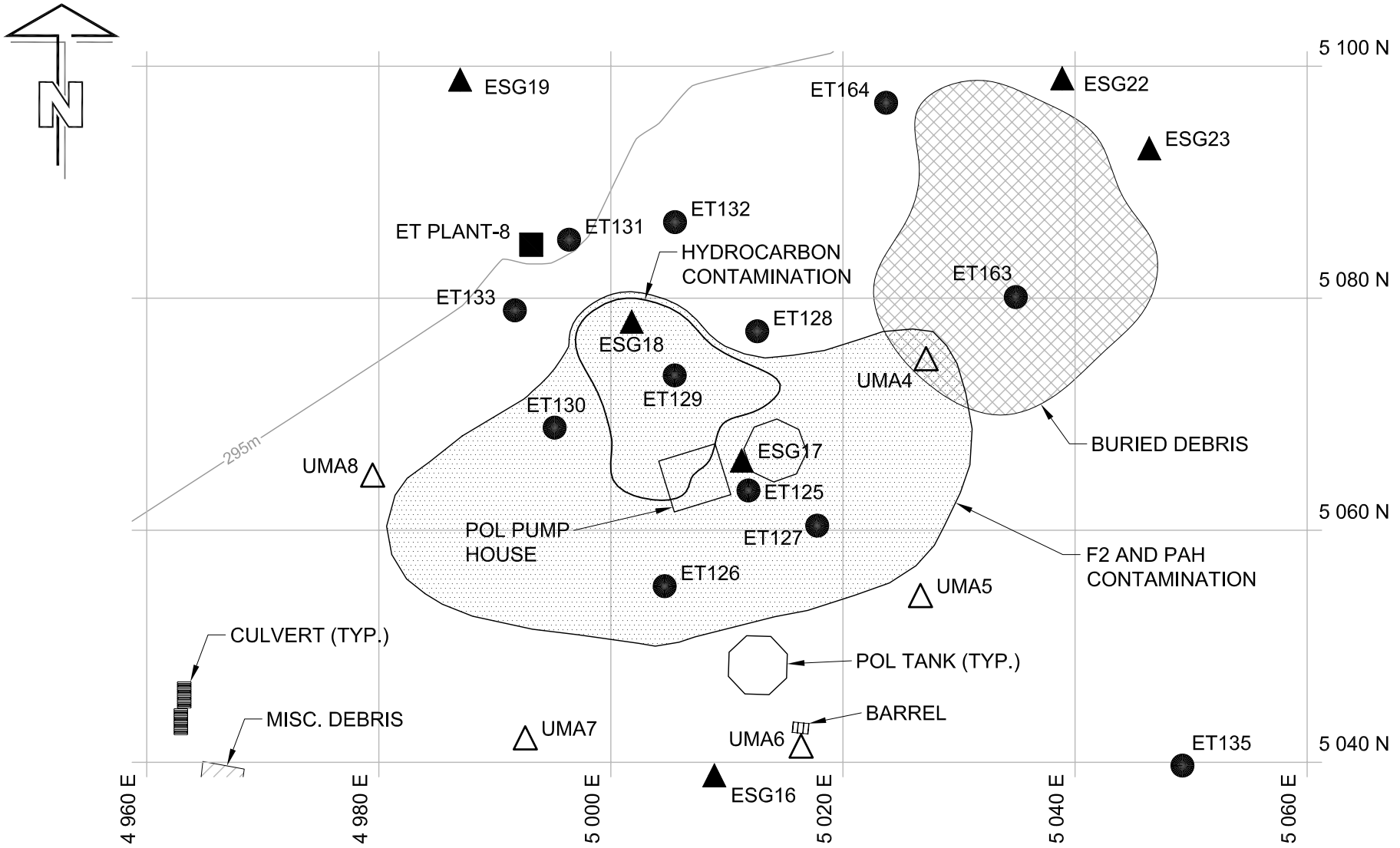

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CAM-D Additional Investigation

Contaminated Soil
POL Area
Figure 6.0

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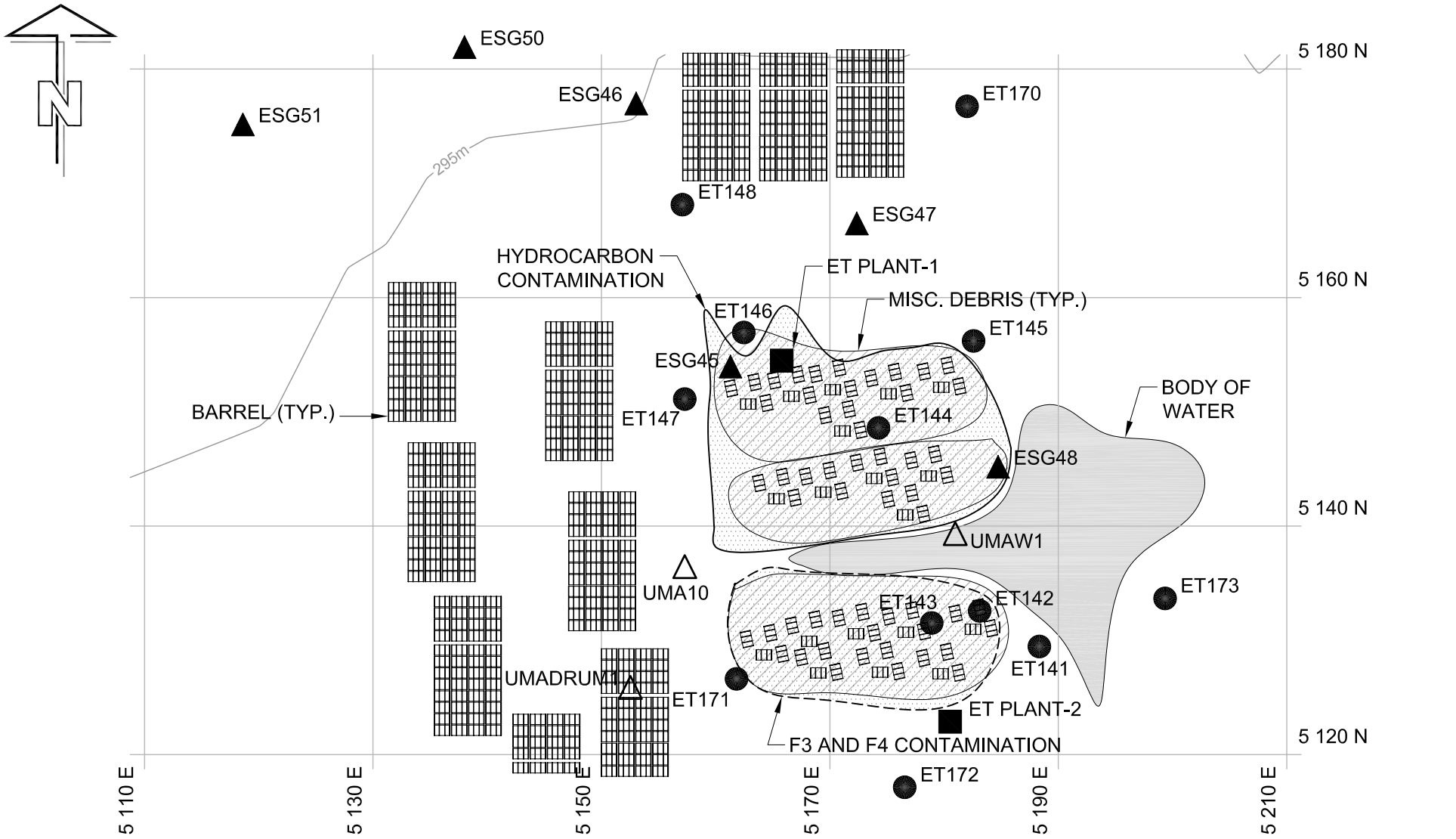

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CAM-D Additional Investigation

Contaminated Soil
Pallet Line Area
Figure 7.0

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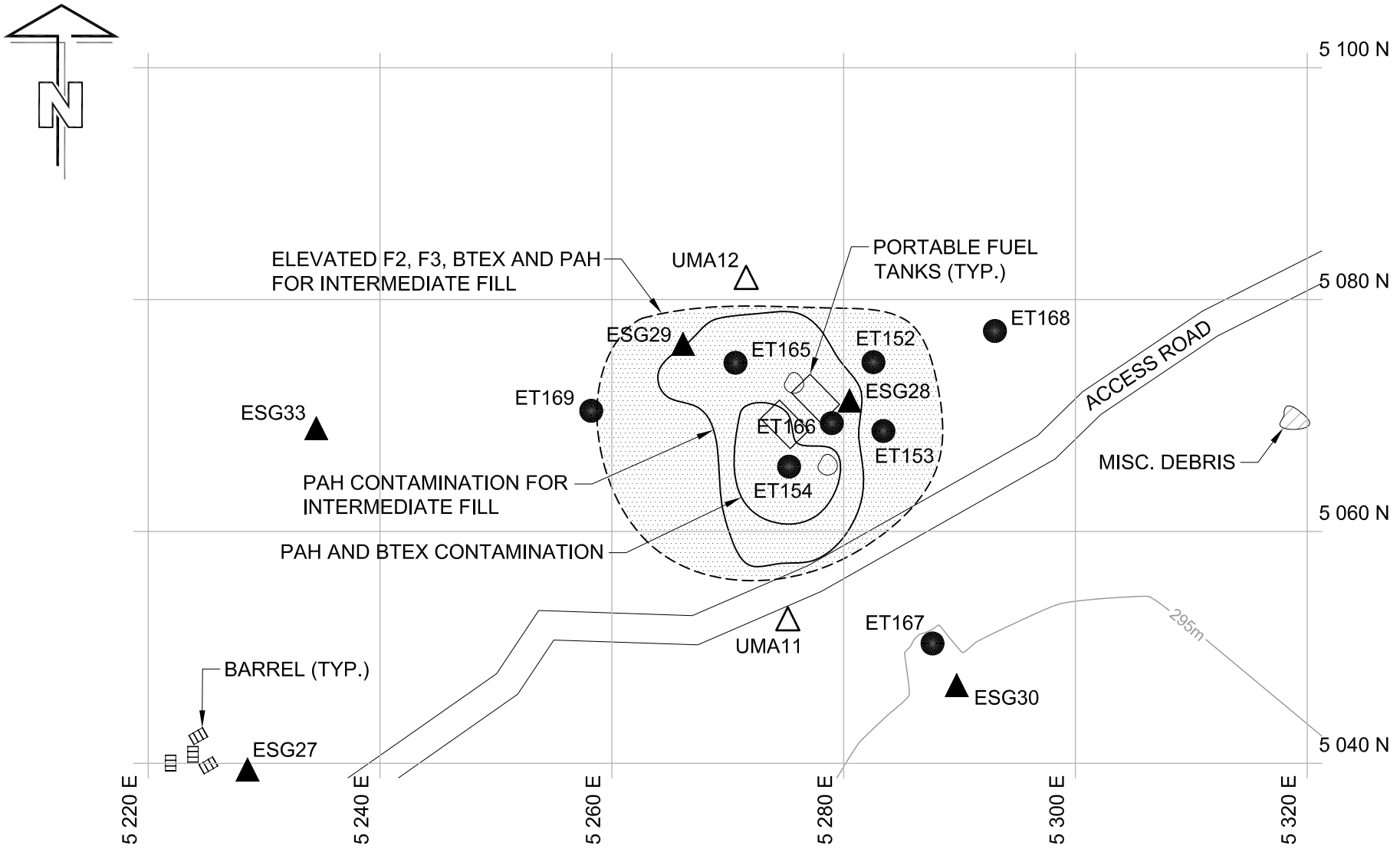

Public Works and Government Services Canada
CAM-D Additional Investigation

Contaminated Soil
Portable Fuel Tanks Area
Figure 8.0

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Table 1.0
CAM-D
Additional Assessment of CAM-D DEW Line Site, NU
CCME Petroleum Hydrocarbons in Soil (CWS)

Parameters	Units	Detection Limit	Criteria[1,2]	UMA1 @ 0.3 m	UMA2 @ 0.3 m	UMA5 @ 0.65 m	UMA6 @ 1.0 m	UMA9 @ 0.6 m	UMA10 @ 0.55 m	UMA11 @ 1.0 m	UMA12 @ 0.95 m
Benzene	mg/kg	0.01	0.0068	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Toluene	mg/kg	0.05	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	mg/kg	0.02	0.018	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Xylenes	mg/kg	0.05	2.4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F1 C6 - C10	mg/kg	10	15000	<10	<10	<10	<10	<10	<10	<10	<10
C6 - C10 (F1 minus BTEX)	mg/kg	10	-	<10	<10	<10	<10	<10	<10	<10	<10
F2 C10 - C16	mg/kg	10	8000	<10	24	33	<10	<10	<10	<10	<10
F3 C16 - C34	mg/kg	10	18000	342	201	<10	<10	<10	21	73	18
F4 C34 - C50	mg/kg	10	25000	42	59	<10	<10	<10	<10	21	12
Gravimetric Heavy Hydrocarbons	mg/kg	1000	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Moisture Content	%	1	-	12	12	12	13	11	14	9	12

Note 1: BTEX criteria based on CCME Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health for Residential/Parkland Land Use for Fine-Grained Surface Soils

Note 2: F1-F4 Criteria based on INAC Abandoned Military Site Remediation Protocol TIER 1 Soil Ingestion Pathway

Table 2.0
CAM-D
Additional Assessment of CAM-D DEW Line Site, NU
CCME Metals in Soil

Parameters	Units	Detection Limit	Criteria[1]		UMA3 @ 0.3 m
			TIER 1	TIER 2	
Antimony	mg/kg	0.026	-	-	0.12
Arsenic	mg/kg	0.079	-	30	1.01
Barium	mg/kg	0.1	-	-	43
Beryllium	mg/kg	0.4	-	-	<0.4
Cadmium	mg/kg	0.8	-	5	<0.8
Chromium	mg/kg	0.05	-	250	13.4
Cobalt	mg/kg	0.05	-	50	6.82
Copper	mg/kg	0.4	-	100	3.3
Lead	mg/kg	0.4	200	500	5.7
Mercury	mg/kg	0.05	-	2	<0.05
Molybdenum	mg/kg	0.014	-	-	0.435
Nickel	mg/kg	0.1	-	100	4.8
Selenium	mg/kg	0.176	-	-	<0.176
Silver	mg/kg	0.011	-	-	0.076
Thallium	mg/kg	0.005	-	-	0.171
Tin	mg/kg	0.051	-	-	0.863
Vanadium	mg/kg	0.05	-	-	28.9
Zinc	mg/kg	1	-	500	30

Note 1: Criteria is based on the DEW Line TIER 1 and TIER 2 Cleanup Criteria for Metals in Soils

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Table 3.0
CAM-D
Additional Assessment of CAM-D DEW Line Site, NU
Polyaromatic Hydrocarbon in Soil

Parameters	Units	Detection Limit	Criteria[1]	UMA4 @ 1.0 m	UMA5 @ 0.65 m	UMA6 @ 1.0 m	UMA7 @ 0.75 m	UMA8 @ 0.75 m	UMA11 @ 1.0 m	UMA12 @ 0.95 m
Naphthalene	mg/kg	0.05	0.6	**26.4**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Quinoline	mg/kg	0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-Methylnaphthalene	mg/kg	0.05	-	163	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	mg/kg	0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	mg/kg	0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	mg/kg	0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	mg/kg	0.05	5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	mg/kg	0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acridine	mg/kg	0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	mg/kg	0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	mg/kg	0.05	10	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene	mg/kg	0.05	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	mg/kg	0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	mg/kg	0.05	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	mg/kg	0.05	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	mg/kg	0.05	0.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenzo(ah)anthracene	mg/kg	0.05	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(ghi)perylene	mg/kg	0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Note 1: Criteria based on CCME Canadian Soil Quality Guidelines for the Protection of Environmental and Health for Residential/Parkland Land Use

Shading: Exceedance indicated with shading

Table 4.0
CAM-D
Additional Assessment of CAM-D DEW Line Site, NU
CCME Fractions 1-2 & BTEX in Water

Parameters	Units	Detection Limit	Criteria[1]	Water from Pond in Pallet Line (UMA W1)
Benzene	mg/L	0.0005	0.37	<0.0005
Toluene	mg/L	0.0005	0.002	<0.0005
Ethylbenzene	mg/L	0.0005	0.09	<0.0005
Xylenes	mg/L	0.0005	-	<0.0005
C6 - C10 (F1)	mg/L	0.1	-	<0.1
C6 - C10 (F1 minus BTEX)	mg/L	0.1	-	<0.1
C>10 - C16 (F2)	mg/L	0.1	-	<0.1

Note 1: Criteria are based on CCME Canadian Water Quality Guidelines for the Protection of Aquatic Life for Freshwater

Table 5.0
CAM-D
Additional Assessment of CAM-D DEW Line Site, NU
CCME Metals (Dissolved) in Barrel Water

Parameters	Units	Detection Limit	Criteria[1]	UMA Drum 1
Aluminum	mg/L	0.002		0.01
Antimony	mg/L	0.05		<0.05
Arsenic	mg/L	0.18		<0.18
Barium	mg/L	0.001		0.005
Boron	mg/L	0.11		<0.11
Cadmium	mg/L	0.0025	2	<0.0025
Calcium	mg/L	0.3		1.4
Chromium	mg/L	0.012	10	<0.012
Copper	mg/L	0.002		0.004
Iron	mg/L	0.001		6.55
Lead	mg/L	0.014	100	<0.014
Lithium	mg/L	0.001		0.001
Magnesium	mg/L	0.2		0.3
Manganese	mg/L	0.001		1.45
Mercury	mg/L	0.000025		<0.000025
Molybdenum	mg/L	0.003		<0.003
Nickel	mg/L	0.003		0.005
Phosphorus	mg/L	0.08		<0.08
Potassium	mg/L	0.6		<0.6
Selenium	mg/L	0.05		<0.05
Silicon	mg/L	0.008		0.024
Silver	mg/L	0.0005		0.0018
Sodium	mg/L	0.6		1.5
Strontium	mg/L	0.001		0.007
Sulphur	mg/L	0.3		7.6
Tin	mg/L	0.0025		0.004
Thallium	mg/L	0.006		<0.006
Uranium	mg/L	0.007		<0.007
Vanadium	mg/L	0.001		<0.001
Zinc	mg/L	0.001		0.013
Zirconium	mg/L	0.06		<0.06

Note 1: Criteria are based on DEW Line Clean Up Barrel Protocol, as Referenced in INAC AMSRP.
Shading: Exceedance indicated with shading

Table 6.0
CAM-D
Additional Assessment of CAM-D DEW Line Site, NU
Routine and Total Metals in Fresh Water Lake

Parameters	Units	Detection Limit	Criteria[1]	UMA Fresh Water (FW) Lake
Routine				
pH			6.5 - 8.5	7.02
p - Alkalinity		5	-	<5
T - Alkalinity (as CaCO3)	mg/L	5	-	8
Bicarbonate (as CaCO3)	mg/L	5	-	8
Carbonate (as CaCO3)	mg/L	5	-	<5
Hydroxide (as CaCO3)	mg/L	5	-	<5
Electrical Conductivity	uS/cm	1	-	32
Chloride	mg/L	0.03	≤250	1.45
Fluoride	mg/L	0.01	1.5	<0.01
Nitrate	mg/L	0.08	45	<0.08
Nitrite	mg/L	0.03	-	<0.03
Sulfate	mg/L	0.03	≤500	4.83
Calcium	mg/L	0.3	-	2.5
Magnesium	mg/L	0.2	-	1.3
Sodium	mg/L	0.6	≤200	1.6
Potassium	mg/L	0.6	-	0.7
Iron	mg/L	0.001	≤0.3	0.045
Manganese	mg/L	0.001	≤0.05	0.003
Nitrate+Nitrite - Nitrogen	mg/L	0.017	-	<0.017
Nitrate - Nitrogen	mg/L	0.017	-	<0.017
Nitrite - Nitrogen	mg/L	0.009	-	<0.009
% Difference Cation/Anion	%		-	7.86
Anion Sum (Water)	meq/L		-	0.273
Calculated Electrical Conductivity	uS/cm		-	30.5
Calculated TDS	mg/L		≤500	17.2
Cation Sum (Water)	meq/L		-	0.319
Total Hardness	mg/L		-	11.6
CCME Metals (Total)				
Total Aluminum	mg/L	0.002	-	0.073
Total Antimony	mg/L	0.0005	-	<0.0005
Total Arsenic	mg/L	0.0018	0.01	<0.0018
Total Barium	mg/L	0.001	1	0.004
Total Boron	mg/L	0.0011	5	0.0037
Total Cadmium	mg/L	0.000025	0.005	0.00008
Total Calcium	mg/L	0.3	-	2.2
Total Chromium	mg/L	0.00012	0.05	0.00053
Total Copper	mg/L	0.002	≤1	0.002
Total Iron	mg/L	0.001	≤0.3	0.094
Total Lead	mg/L	0.00014	0.01	0.00054
Total Lithium	mg/L	0.001	-	<0.001
Total Magnesium	mg/L	0.2	-	1.2
Total Manganese	mg/L	0.001	≤0.05	0.004
Total Mercury	mg/L	0.000025	0.001	<0.000025
Total Molybdenum	mg/L	0.003	-	<0.003
Total Nickel	mg/L	0.003	-	<0.003
Total Phosphorus (ICP)	mg/L	0.08	-	<0.08
Total Potassium	mg/L	0.6	-	0.7
Total Selenium	mg/L	0.0005	0.01	<0.0005
Total Silicon	mg/L	0.032	-	0.759
Total Silver	mg/L	0.000005	-	0.000114
Total Sodium	mg/L	0.6	≤200	1.4
Total Strontium	mg/L	0.001	-	0.01
Total Sulphur	mg/L	0.3	-	1.5
Total Thallium	mg/L	0.00006	-	0.00008
Total Tin	mg/L	0.000025	-	0.000378
Total Uranium	mg/L	0.00007	0.02	0.00029
Total Vanadium	mg/L	0.001	≤5.0	0.001
Total Zinc	mg/L	0.001	0.03	0.006
Total Zirconium	mg/L	0.01	-	<0.01

Note 1: Criteria are based on CCME Guidelines for Canadian Drinking Water Quality

Table 7.0
CAM-D
Additional Assessment of CAM-D DEW Line Site, NU
Total Lead in Paint

Parameters	Units	Detection Limit	Criteria[1]	Crane (Green)	POL Tank (Grey)
Lead in Paint	mg/kg	10	600	60500	428000

Note 1: NWT Guideline for the Management of Waste Lead and Lead Paint
Shading: Exceedance indicated with shading

Table 8.0
CAM-D
Additional Assessment of CAM-D DEW Line Site, NU
Lead Leachate in Paint

Parameters	Units	Detection Limit	Criteria[1]	Garage Deck (Grey)	Garage Interior (Grey)	Antenna (Orange)	Antenna (White)	Grader (Yellow)	POL Tank (Grey)	Pump house (Grey)
Lead - Leachate in Paint	mg/L	0.007	5	0.194	0.214	0.11	0.048	**6.44**	**50.7**	**11.2**

Note 1: Leachable lead criteria from TDG Regulation
Shading: Indicates probable exceedance of criteria when substrate included
Bolding: Exceeds the strict criteria

Table 9.0
CAM-D
Additional Assessment of CAM-D DEW Line Site, NU
Polychlorinated Biphenyls Analysis - Paint

Parameters	Units	Detection Limit	Criteria[1]	Grader (Yellow)	Crane (Green)	POL Tank (Grey)
Arochlor 1242	µg/g	0.005	50	<0.005	<0.005	3.37
Arochlor 1254	µg/g	0.005	50	<0.005	<0.005	134.00
Arochlor 1260	µg/g	0.005	50	<0.005	<0.005	1.78
Total PCBs	µg/g	0.005	50	<0.005	<0.005	139.00

Note 1: Criteria is based on CEPA Guidelines for PCBs in paint
Shading: Exceedance indicated with shading

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CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE
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EDMONTON, AB T5J4E2

ATTENTION TO: Matthew McElwaine

PROJECT NO: 2977-351-00

AGAT WORK ORDER: 07E240257

SOIL ANALYSIS REVIEWED BY: Loan Nguyen, Analyst

TRACE ORGANICS REVIEWED BY: Igor Volochtchik, Manager - R&D

DATE REPORTED: Sep 21, 2007

PAGES (INCLUDING COVER): 8

Should you require any information regarding this analysis please contact your client services representative at (403) 735-2005, or at 1-866-764-7554, or by email at env@agatlabs.com

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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Certificate of Analysis

AGAT WORK ORDER: 07E240257
PROJECT NO: 2977-351-00

CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

ATTENTION TO: Matthew McElwaine

CCME Metals [soil]

DATE SAMPLED: Sep 06, 2007 | DATE RECEIVED: Sep 11, 2007 | DATE REPORTED: Sep 21, 2007 | SAMPLE TYPE: Soil

	Unit	G / S	M.D.L	UMA3 793000
Antimony	mg/kg		0.026	0.120
Arsenic	mg/kg		0.079	1.01
Barium	mg/kg		0.1	43.0
Beryllium	mg/kg		0.4	<0.4
Cadmium	mg/kg		0.8	<0.8
Chromium	mg/kg		0.05	13.4
Cobalt	mg/kg		0.05	6.82
Copper	mg/kg		0.4	3.3
Lead	mg/kg		0.4	5.7
Mercury	mg/kg		0.05	<0.05
Molybdenum	mg/kg		0.014	0.435
Nickel	mg/kg		0.1	4.8
Selenium	mg/kg		0.176	<0.176
Silver	mg/kg		0.011	0.076
Thallium	mg/kg		0.005	0.171
Tin	mg/kg		0.051	0.863
Vanadium	mg/kg		0.05	28.9
Zinc	mg/kg		1	30

Comments: M.D.L - Method Detection Limit; G / S - Guideline / Standard
793000 Results are based on the dry weight of the sample.

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AGAT WORK ORDER: 07E240257
PROJECT NO: 2977-351-00

CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

ATTENTION TO: Matthew McElwaine

CCME Petroleum Hydrocarbons in Soil (CWS)

DATE SAMPLED: Sep 06, 2007 | DATE RECEIVED: Sep 11, 2007 | DATE REPORTED: Sep 21, 2007 | SAMPLE TYPE: Soil

	Unit	G / S	M.D.L	UMA1 792998	UMA2 792999	UMA5 793002	UMA6 793003	UMA9 793006	UMA10 793007	UMA11 793008	UMA12 793009
Benzene	mg/kg		0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Toluene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	mg/kg		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Xylenes	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
C6 - C10 (F1)	mg/kg		10	<10	<10	<10	<10	<10	<10	<10	<10
C6 - C10 (F1 minus BTEX)	mg/kg		10	<10	<10	<10	<10	<10	<10	<10	<10
C>10 - C16	mg/kg		10	<10	24	33	<10	<10	<10	<10	<10
C>16 - C34	mg/kg		10	342	201	<10	<10	<10	21	73	18
C>34 - C50	mg/kg		10	42	59	<10	<10	<10	<10	21	12
Gravimetric Heavy Hydrocarbons	mg/kg		1000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Moisture Content	%		1	12	12	12	13	11	14	9	12

Comments: M.D.L - Method Detection Limit; G / S - Guideline / Standard

792998-793009 Results are based on the dry weight of the sample.
The C6-C10 (F1) fraction is calculated using toluene response factor.
The C10 - C16 (F2), C16 - C34 (F3), and C34 - C50 (F4) fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons (F4g) are not included in and cannot be added to the Total C6-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
Total C6 - C50 results are corrected for BTEX and PAH contributions (if requested).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
The chromatogram has returned to baseline by the retention time of nC50.
Extraction and holding times were met for this sample.
The sample was method blank corrected.

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Certificate of Analysis

AGAT WORK ORDER: 07E240257
PROJECT NO: 2977-351-00

CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

ATTENTION TO: Matthew McElwaine

Polyaromatic Hydrocarbon Analysis - Soil

DATE SAMPLED: Sep 06, 2007 | DATE RECEIVED: Sep 11, 2007 | DATE REPORTED: Sep 21, 2007 | SAMPLE TYPE: Soil

	Unit	G / S	M.D.L	UMA4 793001	UMA5 793002	UMA6 793003	UMA7 793004	UMA8 793005	UMA11 793008	UMA12 793009
Naphthalene	mg/kg		0.05	26.4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Quinoline	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
2-Methylnaphthalene	mg/kg		0.05	163	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acridine	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)anthracene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenzo(ah)anthracene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(ghi)perylene	mg/kg		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Comments: M.D.L - Method Detection Limit; G / S - Guideline / Standard

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AGAT WORK ORDER: 07E240257

PROJECT NO: 2977-351-00

ATTENTION TO: Matthew McElwaine

Soil Analysis

RPT Date: Sep 21, 2007			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
CCME Metals [soil]															
Antimony (mg/kg)	724	793000	0.120	0.101	17.2%	< 0.026	117%	80%	120%				114%	80%	120%
Arsenic (mg/kg)	724	793000	1.008	0.920	9.1%	< 0.079	99%	90%	110%				102%	90%	110%
Barium (mg/kg)	5685				5.5%	< 0.1	99%	90%	110%				97%	90%	110%
Beryllium (mg/kg)	5685				0.0%	< 0.4	99%	90%	110%				96%	90%	110%
Cadmium (mg/kg)	5685				0.0%	< 0.8	98%	90%	110%				98%	90%	110%
Chromium (mg/kg)	5685				3.0%	< 0.05	98%	90%	110%				98%	90%	110%
Cobalt (mg/kg)	5685				0.4%	< 0.05	98%	90%	110%				98%	90%	110%
Copper (mg/kg)	5685				9.2%	< 0.4	99%	90%	110%				96%	90%	110%
Lead (mg/kg)	5685				3.5%	< 0.4	98%	90%	110%				98%	90%	110%
Mercury (mg/kg)	2539				1.9%	< 0.05	95%	90%	110%	100%	90%	110%	109%	90%	110%
Molybdenum (mg/kg)	724	793000	0.435	0.460	5.6%	< 0.014	105%	90%	110%				104%	90%	110%
Nickel (mg/kg)	5685				0.9%	< 0.1	98%	90%	110%				100%	90%	110%
Selenium (mg/kg)	724	793000	0.132	0.150	12.8%	< 0.176	117%	80%	120%				115%	80%	120%
Silver (mg/kg)	724	793000	0.076	0.065	15.6%	< 0.011	100%	90%	110%				97%	90%	110%
Thallium (mg/kg)	724	793000	0.171	0.176	2.9%	< 0.005	98%	90%	110%				101%	90%	110%
Tin (mg/kg)	724	793000	0.863	0.804	7.1%	< 0.051	109%	90%	110%				102%	90%	110%
Vanadium (mg/kg)	5685				4.2%	< 0.05	99%	90%	110%				99%	90%	110%
Zinc (mg/kg)	5685				7.2%	< 1	99%	90%	110%				98%	90%	110%

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PROJECT NO: 2977-351-00

ATTENTION TO: Matthew McElwaine

Trace Organics Analysis

RPT Date: Sep 21, 2007			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
CCME Petroleum Hydrocarbons in Soil (CWS)															
Benzene (mg/kg)	1855				0.0%	< 0.01	88%	70%	130%	88%	70%	130%	102%	60%	140%
Toluene (mg/kg)	1855				0.0%	< 0.05	89%	70%	130%	92%	70%	130%	108%	60%	140%
Ethylbenzene (mg/kg)	1855				156.0%	< 0.02	89%	70%	130%	95%	70%	130%	114%	60%	140%
Xylenes (mg/kg)	1855				0.0%	< 0.05	90%	70%	130%	99%	70%	130%	132%	60%	140%
C6 - C10 (F1) (mg/kg)	1855				0.0%	< 10	98%	70%	130%	111%	70%	130%	118%	60%	140%
C6 - C10 (F1 minus BTEX) (mg/kg)	1855					< 10		0%	0%		0%	0%		0%	0%
C>10 - C16 (mg/kg)	41				0.0%	< 10	100%	70%	130%	104%	70%	130%	113%	60%	140%
C>16 - C34 (mg/kg)	41				14.0%	< 10	100%	70%	130%	99%	70%	130%	104%	60%	140%
C>34 - C50 (mg/kg)	41				27.0%	< 10	100%	70%	130%	111%	70%	130%	121%	60%	140%
CCME Petroleum Hydrocarbons in Soil (CWS)															
C>10 - C16 (mg/kg)	41				0.0%	< 10	100%	70%	130%	104%	70%	130%	113%	60%	140%
C>16 - C34 (mg/kg)	41				14.0%	< 10	100%	70%	130%	99%	70%	130%	104%	60%	140%
C>34 - C50 (mg/kg)	41				27.0%	< 10	100%	70%	130%	111%	70%	130%	121%	60%	140%
Polyaromatic Hydrocarbon Analysis - Soil															
Naphthalene (mg/kg)	41				0.0%	< 0.05	98%	70%	130%	103%	70%	130%	99%	70%	130%
Quinoline (mg/kg)	41				0.0%	< 0.05	98%	70%	130%	101%	70%	130%	100%	70%	130%
2-Methylnaphthalene (mg/kg)	41				0.0%	< 0.05	104%	70%	130%	101%	70%	130%	105%	70%	130%
Acenaphthylene (mg/kg)	41				0.0%	< 0.05	92%	70%	130%	104%	70%	130%	109%	70%	130%
Acenaphthene (mg/kg)	41				0.0%	< 0.05	96%	70%	130%	101%	70%	130%	99%	70%	130%
Fluorene (mg/kg)	41				0.0%	< 0.05	98%	70%	130%	113%	70%	130%	119%	70%	130%
Phenanthrene (mg/kg)	41				0.0%	< 0.05	95%	70%	130%	100%	70%	130%	101%	70%	130%
Anthracene (mg/kg)	41				0.0%	< 0.05	100%	70%	130%	98%	70%	130%	99%	70%	130%
Acridine (mg/kg)	41				0.0%	< 0.05	97%	70%	130%		70%	130%	98%	70%	130%
Fluoranthene (mg/kg)	41				0.0%	< 0.05	96%	70%	130%	105%	70%	130%	109%	70%	130%
Pyrene (mg/kg)	41				0.0%	< 0.05	93%	70%	130%	104%	70%	130%	109%	70%	130%
Benzo(a)anthracene (mg/kg)	41				0.0%	< 0.05	84%	70%	130%	114%	70%	130%	117%	70%	130%
Chrysene (mg/kg)	41				0.0%	< 0.05	91%	70%	130%	102%	70%	130%	103%	70%	130%
Benzo(b)fluoranthene (mg/kg)	41				0.0%	< 0.05	81%	70%	130%	97%	70%	130%	105%	70%	130%
Benzo(k)fluoranthene (mg/kg)	41				0.0%	< 0.05	109%	70%	130%	96%	70%	130%	92%	70%	130%
Benzo(a)pyrene (mg/kg)	41				0.0%	< 0.05	99%	70%	130%	102%	70%	130%	107%	70%	130%
Indeno(1,2,3-cd)pyrene (mg/kg)	41				0.0%	< 0.05	93%	70%	130%	107%	70%	130%	120%	70%	130%
Dibenzo(ah)anthracene (mg/kg)	41				0.0%	< 0.05	86%	70%	130%	111%	70%	130%	111%	70%	130%
Benzo(ghi)perylene (mg/kg)	41				0.0%	< 0.05	94%	70%	130%	106%	70%	130%	114%	70%	130%

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Quality Assurance

CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

AGAT WORK ORDER: 07E240257

PROJECT NO: 2977-351-00

ATTENTION TO: Matthew McElwaine

Trace Organics Analysis (Continued)

RPT Date: Sep 21, 2007			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

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Method Summary

CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

AGAT WORK ORDER: 07E240257

PROJECT NO: 2977-351-00

ATTENTION TO: Matthew McElwaine

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	SOIL 390 & INS 0103	EPA SW 846-3050/6010	ICP/MS
Arsenic	SOIL 390 & INS 0103	EPA SW 846-3050/6010	ICP/MS
Barium	SOIL 390 & INS 0103	EPA SW 846-3050/6010	ICP/OES
Beryllium	SOIL 390 & INS 0103	EPA SW 846-3050/6010	ICP/OES
Cadmium	SOIL 390 & INS 0103	EPA SW 846-3050/6010	ICP/OES
Chromium	SOIL 390 & INS 0103	EPA SW 846-3050/6010	ICP/OES
Cobalt	SOIL 390 & INS 0103	EPA SW 846-3050/6010	ICP/OES
Copper	SOIL 390 & INS 0103	EPA SW 846-3050/6010	ICP/OES
Lead	SOIL 390 & INS 0103	EPA SW 846-3050/6010	ICP/OES
Mercury	SOIL 390 & INS 0401	EPA SW 846-3050/7470A	CV/AA
Molybdenum	SOIL 390 & INS 0103	EPA SW 846-3050/6010	ICP/MS
Nickel	SOIL 390 & INS 0103	EPA SW 846-3050/6010	ICP/OES
Selenium	SOIL 390 & INS 0304	EPA SW 846-3050/7740	ICP/MS
Silver	SOIL 390 & INS 0103	EPA SW 846-3050/6010	ICP/MS
Thallium	SOIL 390 & INS 0304	EPA SW 846-3050/7740	ICP/MS
Tin	SOIL 390 & INS 0103	EPA SW 846-3050/6010	ICP/MS
Vanadium	SOIL 390 & INS 0103	EPA SW 846-3050/6010	ICP/OES
Zinc	SOIL 390 & INS 0103	EPA SW 846-3050/6010	ICP/OES
Trace Organics Analysis			
Benzene	TO 0340	EPA SW-846 5035/8260	GC/MS
Toluene	TO 0340	EPA SW-846 5035/8260	GC/MS
Ethylbenzene	TO 0340	EPA SW-846 5035/8260	GC/MS
Xylenes	TO 0340	EPA SW-846 5035/8260	GC/MS
C6 - C10 (F1)	TO-0510	CCME Tier 1 Method	GC/FID
C6 - C10 (F1 minus BTEX)	TO 0510	CCME Tier 1 Method	GC/FID
C>10 - C16	TO-0510	CCME Tier 1 Method	GC/FID
C>16 - C34	TO-0510	CCME Tier 1 Method	GC/FID
C>34 - C50	TO-0510	CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons		CCME Tier 1 Method	GC/FID
Moisture Content			GRAVIMETRIC
Naphthalene	TO 0500	EPA SW-846 3545/8270	GC/MS
Quinoline	TO 0500	EPA SW-846 3545/8270	GC/MS
2-Methylnaphthalene	TO 0500	EPA SW-846 3545/8270	GC/MS
Acenaphthylene	TO 0500	EPA SW-846 3545/8270	GC/MS
Acenaphthene	TO 0500	EPA SW-846 3545/8270	GC/MS
Fluorene	TO 0500	EPA SW-846 3545/8270	GC/MS
Phenanthrene	TO 0500	EPA SW-846 3545/8270	GC/MS
Anthracene	TO 0500	EPA SW-846 3545/8270	GC/MS
Acridine	TO 0500	EPA SW-846 3545/8270	GC/MS
Fluoranthene	TO 0500	EPA SW-846 3545/8270	GC/MS
Pyrene	TO 0500	EPA SW-846 3545/8270	GC/MS
Benzo(a)anthracene	TO 0500	EPA SW-846 3545/8270	GC/MS
Chrysene	TO 0500	EPA SW-846 3545/8270	GC/MS
Benzo(b)fluoranthene	TO 0500	EPA SW-846 3545/8270	GC/MS
Benzo(k)fluoranthene	TO 0500	EPA SW-846 3545/8270	GC/MS
Benzo(a)pyrene	TO 0500	EPA SW-846 3545/8270	GC/MS
Indeno(1,2,3-cd)pyrene	TO 0500	EPA SW-846 3545/8270	GC/MS
Dibenzo(ah)anthracene	TO 0500	EPA SW-846 3545/8270	GC/MS
Benzo(ghi)perylene	TO 0500	EPA SW-846 3545/8270	GC/MS

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CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE
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EDMONTON, AB T5J4E2

ATTENTION TO: Matthew McElwaine

PROJECT NO: 2977-351-00

AGAT WORK ORDER: 07E240436

WATER ANALYSIS REVIEWED BY: Krystyna Krauze, Analyst

DATE REPORTED: Sep 18, 2007

PAGES (INCLUDING COVER): 8

Should you require any information regarding this analysis please contact your client services representative at (403) 735-2005, or at 1-866-764-7554, or by email at env@agatlabs.com

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

AGAT WORK ORDER: 07E240436

PROJECT NO: 2977-351-00

ATTENTION TO: Matthew McElwaine

CCME Metals (Total)

SAMPLE TYPE: Water | SAMPLE ID: 793691 | DATE RECEIVED: Sep 12, 2007

DATE SAMPLED: Sep 07, 2007 | DATE REPORTED: Sep 18, 2007

SAMPLE DESCRIPTION: UMA FW Lake

PARAMETER	RESULT	G / S	UNIT	M.D.L	DATE ANALYZED	INITIAL	DATE PREPARED
Total Aluminum	0.073		mg/L	0.002	Sep 17, 2007	MM	Sep 17, 2007
Total Antimony	<0.0005		mg/L	0.0005	Sep 17, 2007	SG	Sep 16, 2007
Total Arsenic	<0.0018	0.005	mg/L	0.0018	Sep 17, 2007	SG	Sep 16, 2007
Total Barium	0.004		mg/L	0.001	Sep 17, 2007	MM	Sep 17, 2007
Total Boron	0.0037		mg/L	0.0011	Sep 17, 2007	SG	Sep 16, 2007
Total Cadmium	0.000080	0.000017	mg/L	0.000025	Sep 17, 2007	SG	Sep 16, 2007
Total Calcium	2.2		mg/L	0.3	Sep 17, 2007	MM	Sep 17, 2007
Total Chromium	0.00053		mg/L	0.00012	Sep 17, 2007	SG	Sep 16, 2007
Total Copper	0.002	0.002	mg/L	0.002	Sep 17, 2007	MM	Sep 17, 2007
Total Iron	0.094	0.3	mg/L	0.001	Sep 17, 2007	MM	Sep 17, 2007
Total Lead	0.00054		mg/L	0.00014	Sep 17, 2007	SG	Sep 16, 2007
Total Lithium	<0.001		mg/L	0.001	Sep 17, 2007	MM	Sep 17, 2007
Total Magnesium	1.2		mg/L	0.2	Sep 17, 2007	MM	Sep 17, 2007
Total Manganese	0.004		mg/L	0.001	Sep 17, 2007	MM	Sep 17, 2007
Total Mercury	<0.000025	0.000026	mg/L	0.000025	Sep 18, 2007	AB	Sep 18, 2007
Total Molybdenum	<0.003	0.073	mg/L	0.003	Sep 17, 2007	MM	Sep 17, 2007
Total Nickel	<0.003	0.025	mg/L	0.003	Sep 17, 2007	MM	Sep 17, 2007
Total Phosphorus (ICP)	<0.08		mg/L	0.08	Sep 17, 2007	MM	Sep 17, 2007
Total Potassium	0.7		mg/L	0.6	Sep 17, 2007	MM	Sep 17, 2007
Total Selenium	<0.0005	0.001	mg/L	0.0005	Sep 17, 2007	SG	Sep 16, 2007
Total Silicon	0.759		mg/L	0.032	Sep 17, 2007	MM	Sep 17, 2007
Total Silver	0.000114	0.0001	mg/L	0.000005	Sep 17, 2007	SG	Sep 16, 2007
Total Sodium	1.4		mg/L	0.6	Sep 17, 2007	MM	Sep 17, 2007
Total Strontium	0.010		mg/L	0.001	Sep 17, 2007	MM	Sep 17, 2007
Total Sulphur	1.5		mg/L	0.3	Sep 17, 2007	MM	Sep 17, 2007
Total Thallium	0.00008	0.0008	mg/L	0.00006	Sep 17, 2007	SG	Sep 16, 2007
Total Tin	0.000378		mg/L	0.000025	Sep 17, 2007	SG	Sep 16, 2007
Total Uranium	0.00029		mg/L	0.00007	Sep 17, 2007	SG	Sep 16, 2007
Total Vanadium	0.001		mg/L	0.001	Sep 17, 2007	MM	Sep 17, 2007
Total Zinc	0.006	0.03	mg/L	0.001	Sep 17, 2007	MM	Sep 17, 2007
Total Zirconium	<0.01		mg/L	0.01	Sep 17, 2007	MM	Sep 17, 2007

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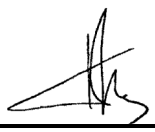

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CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

AGAT WORK ORDER: 07E240436

PROJECT NO: 2977-351-00

ATTENTION TO: Matthew McElwaine

CCME Metals (Total)

SAMPLE TYPE: Water

SAMPLE ID: 793691

DATE RECEIVED: Sep 12, 2007

DATE SAMPLED: Sep 07, 2007

DATE REPORTED: Sep 18, 2007

SAMPLE DESCRIPTION: UMA FW Lake

COMMENTS:

M.D.L - Method Detection Limit; G / S - Guideline / Standard: Refers to CCME FWAL
< - Values refer to Method Detection Limit.

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CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

AGAT WORK ORDER: 07E240436

PROJECT NO: 2977-351-00

ATTENTION TO: Matthew McElwaine

Routine Chemistry Water Analysis

SAMPLE TYPE: Water SAMPLE ID: 793691 DATE RECEIVED: Sep 12, 2007

DATE SAMPLED: Sep 07, 2007 DATE REPORTED: Sep 18, 2007

SAMPLE DESCRIPTION: UMA FW Lake

PARAMETER	RESULT	G / S	UNIT	M.D.L	DATE ANALYZED	INITIAL	DATE PREPARED
pH	7.02	6.5 - 8.5		NA	Sep 17, 2007	CG	Sep 17, 2007
p - Alkalinity	<5			5	Sep 17, 2007	CG	Sep 17, 2007
T - Alkalinity (as CaCO3)	8		mg/L	5	Sep 17, 2007	CG	Sep 17, 2007
Bicarbonate (as CaCO3)	8		mg/L	5	Sep 17, 2007	CG	Sep 17, 2007
Carbonate (as CaCO3)	<5		mg/L	5	Sep 17, 2007	CG	Sep 17, 2007
Hydroxide (as CaCO3)	<5		mg/L	5	Sep 17, 2007	CG	Sep 17, 2007
Electrical Conductivity	32		uS/cm	1	Sep 17, 2007	CG	Sep 17, 2007
Chloride	1.45	250	mg/L	0.03	Sep 17, 2007	LR	Sep 16, 2007
Fluoride	<0.01	1.5	mg/L	0.01	Sep 17, 2007	LR	Sep 16, 2007
Nitrate	<0.08	45	mg/L	0.08	Sep 17, 2007	LR	Sep 16, 2007
Nitrite	<0.03	3.2	mg/L	0.03	Sep 17, 2007	LR	Sep 16, 2007
Sulfate	4.83	500	mg/L	0.03	Sep 17, 2007	LR	Sep 16, 2007
Calcium	2.5		mg/L	0.3	Sep 17, 2007	MM	Sep 17, 2007
Magnesium	1.3		mg/L	0.2	Sep 17, 2007	MM	Sep 17, 2007
Sodium	1.6	200	mg/L	0.6	Sep 17, 2007	MM	Sep 17, 2007
Potassium	0.7		mg/L	0.6	Sep 17, 2007	MM	Sep 17, 2007
Iron	0.045	0.300	mg/L	0.001	Sep 17, 2007	MM	Sep 17, 2007
Manganese	0.003	0.050	mg/L	0.001	Sep 17, 2007	MM	Sep 17, 2007
Nitrate+Nitrite - Nitrogen	<0.017		mg/L	0.017	Sep 17, 2007	LR	Sep 16, 2007
Nitrate - Nitrogen	<0.017		mg/L	0.017	Sep 17, 2007	LR	Sep 16, 2007
Nitrite - Nitrogen	<0.009		mg/L	0.009	Sep 17, 2007	LR	Sep 16, 2007
% Difference Cation/Anion	7.86		%			SYS	
Anion Sum (Water)	0.273		meq/L			SYS	
Calculated Electrical Conductivity	30.5		uS/cm			SYS	
Calculated TDS	17.2		mg/L			SYS	
Cation Sum (Water)	0.319		meq/L			SYS	
Total Hardness	11.6		mg/L			SYS	

COMMENTS:

M.D.L - Method Detection Limit; G / S - Guideline / Standard
< - Values refer to Method Detection Limits.

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CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

AGAT WORK ORDER: 07E240436

PROJECT NO: 2977-351-00

ATTENTION TO: Matthew McElwaine

Water Analysis

RPT Date: Sep 18, 2007			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Routine Chemistry Water Analysis															
pH	904		8.18	8.19	0.1%		99%	90%	110%						
T - Alkalinity (as CaCO3) (mg/L)	904		96	96	0.0%	< 5	105%	90%	110%						
Electrical Conductivity (uS/cm)	904		209	208	0.5%	< 1	105%	1%	110%						
Chloride (mg/L)	170		3.80	3.57	6.2%	< 0.03	97%	90%	110%				89%	80%	120%
Fluoride (mg/L)	170		< 0.01	< 0.01	0.0%	< 0.01	103%	90%	110%				100%	90%	110%
Nitrate (mg/L)	170		< 0.08	< 0.08	0.0%	< 0.08	99%	90%	110%				92%	90%	110%
Nitrite (mg/L)	170		< 0.03	< 0.03	0.0%	< 0.03	101%	90%	110%				95%	90%	110%
Sulfate (mg/L)	170		43.0	40.0	7.2%	< 0.03	99%	90%	110%				96%	90%	110%
Calcium (mg/L)	279				0.4%	< 0.3	105%	90%	110%				101%	90%	110%
Magnesium (mg/L)	279				1.6%	< 0.2	104%	90%	110%				102%	90%	110%
Sodium (mg/L)	279				1.6%	< 0.6	105%	90%	110%				102%	90%	110%
Potassium (mg/L)	279				0.2%	< 0.6	105%	90%	110%				100%	90%	110%
Iron (mg/L)	279				2.1%	< 0.001	106%	90%	110%				101%	90%	110%
Manganese (mg/L)	279				2.4%	< 0.001	106%	90%	110%				101%	90%	110%
CCME Metals (Total)															
Total Aluminum (mg/L)	279				13.3%	< 0.002	103%	90%	110%				102%	90%	110%
Total Antimony (mg/L)	720	030	0.0006	0.0007	15.4%	< 0.0005	101%	90%	110%				100%	75%	125%
Total Arsenic (mg/L)	720	030	< 0.0018	< 0.0018	0.0%	< 0.0018	89%	80%	120%				90%	75%	125%
Total Barium (mg/L)	279				4.4%	< 0.001	104%	90%	110%				101%	90%	110%
Total Boron (mg/L)	720	030	0.0115	0.0118	2.6%	< 0.0011	94%	90%	110%				93%	75%	125%
Total Cadmium (mg/L)	720	030	0.000300	0.000276	8.3%	<	95%	80%	120%				99%	75%	125%
Total Calcium (mg/L)	279				0.4%	< 0.3	105%	90%	110%				101%	90%	110%
Total Chromium (mg/L)	720	030	0.00117	0.00149	24.1%	< 0.00012	89%	80%	120%				91%	90%	110%
Total Copper (mg/L)	279				0.0%	< 0.002	104%	90%	110%				99%	90%	110%
Total Iron (mg/L)	279				2.1%	< 0.001	106%	90%	110%				101%	90%	110%
Total Lead (mg/L)	720	030	0.00283	0.00314	10.4%	< 0.00014	86%	80%	120%				87%	75%	125%
Total Lithium (mg/L)	279				1.7%	< 0.001	104%	90%	110%				97%	90%	110%
Total Magnesium (mg/L)	279				1.6%	< 0.2	104%	90%	110%				102%	90%	110%
Total Manganese (mg/L)	279				2.4%	< 0.001	106%	90%	110%				101%	90%	110%
Total Mercury (mg/L)	2166				0.0%	<	99%	90%	110%	102%	85%	115%	99%	85%	115%
Total Molybdenum (mg/L)	279				0.0%	< 0.003	108%	90%	110%				104%	90%	110%
Total Nickel (mg/L)	279				0.0%	< 0.003	104%	90%	110%				96%	90%	110%
Total Phosphorus (ICP) (mg/L)	279				0.0%	< 0.08	105%	90%	110%				108%	90%	110%
Total Potassium (mg/L)	279				0.2%	< 0.6	105%	90%	110%				100%	90%	110%
Total Selenium (mg/L)	720	030	< 0.0005	< 0.0005	0.0%	< 0.0005	90%	90%	110%				94%	75%	125%

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CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

AGAT WORK ORDER: 07E240436

PROJECT NO: 2977-351-00

ATTENTION TO: Matthew McElwaine

Water Analysis (Continued)

RPT Date: Sep 18, 2007			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Total Silicon (mg/L)	279				1.7%	< 0.032	108%	90%	110%				101%	90%	110%
Total Silver (mg/L)	720	030	0.000089	0.000086	3.4%	<	96%	90%	110%				97%	75%	125%
Total Sodium (mg/L)	279				1.6%	< 0.6	105%	90%	110%				102%	90%	110%
Total Strontium (mg/L)	279				0.2%	< 0.001	108%	90%	110%				102%	90%	110%
Total Sulphur (mg/L)	279				2.1%	< 0.3	100%	90%	110%				97%	90%	110%
Total Thallium (mg/L)	720	030	0.00009	0.00008	11.8%	< 0.00006	84%	80%	120%				85%	80%	120%
Total Tin (mg/L)	720	030	0.000397	<0.00050	0.0%	<	87%	80%	120%				87%	75%	125%
Total Uranium (mg/L)	720	030	0.00007	0.00008	13.3%	< 0.00007	83%	80%	120%				82%	80%	120%
Total Vanadium (mg/L)	279				0.0%	< 0.001	108%	90%	110%				104%	90%	110%
Total Zinc (mg/L)	279				4.7%	< 0.001	104%	90%	110%				106%	90%	110%
Total Zirconium (mg/L)	279				0.0%	< 0.01	99%	90%	110%				98%	90%	110%

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Method Summary

CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

AGAT WORK ORDER: 07E240436

PROJECT NO: 2977-351-00

ATTENTION TO: Matthew McElwaine

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Total Aluminum	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Antimony	INS 0104	SM 3125	ICP/MS
Total Arsenic	INS 0104	SM 31125	ICP/MS
Total Barium	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Boron	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/MS
Total Cadmium	INS 0104	SM 3125	ICP/MS
Total Calcium	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Chromium	INS 0104	SM 3125	ICP/MS
Total Copper	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Iron	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Lead	INS 0104	SM 3125	ICP/MS
Total Lithium	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Magnesium	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Manganese	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Mercury	INS 0400	SM 3112 B	CV/AA
Total Molybdenum	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Nickel	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Phosphorus (ICP)	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Potassium	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Selenium	INS 0304	SM 3113 A	ICP/MS
Total Silicon	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Silver	INS 0104	SM 3125	ICP/MS
Total Sodium	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Strontium	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Sulphur	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Thallium	INS 0104	SM 3125	ICP/MS
Total Tin	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/MS
Total Uranium	INS 0104	SM 3125	ICP/MS
Total Vanadium	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Zinc	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
Total Zirconium	INS 0103	EPA SW 846-6010B, SM 3030E	ICP/OES
pH	WAT 0400	SM 4500 H+	pH METER
p - Alkalinity			TITRATION
T - Alkalinity (as CaCO3)	WAT 0300	SM 2320	TITRATION
Bicarbonate (as CaCO3)	WAT 0310	SM 2320 B	TITRATION
Carbonate (as CaCO3)	WAT 0310	SM 2320 B	TITRATION
Hydroxide (as CaCO3)	WAT 0310	SM 2320 B	TITRATION
Electrical Conductivity	WAT 0700	SM 2510 B	CONDUCTIVITY METER
Chloride	INS 0200	SM 4110 B	IC
Fluoride	INS 0204	SM 4500 F- C	IC
Nitrate	INS 0200	SM 4110 B	IC
Nitrite	INS 0200	SM 4110 B	IC
Sulfate	INS 0200	SM 4110 B	IC
Calcium			ICP/OES
Magnesium	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Sodium	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Potassium	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Iron	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Manganese	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES

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Method Summary

CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

AGAT WORK ORDER: 07E240436

PROJECT NO: 2977-351-00

ATTENTION TO: Matthew McElwaine

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Nitrate+Nitrite - Nitrogen		ENVIRODAT VMV 07105 628 METHOD 2359; SM 4500-NO3 F	
Nitrate - Nitrogen	INS 0200	SM 4110 B	IC
Nitrite - Nitrogen	INS 0200	SM 4110B	IC

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CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE
5TH FLOOR, 10025 JASPER AVE
EDMONTON, AB T5J4E2

ATTENTION TO: Nick Oke

PROJECT NO: 2977-351-00

AGAT WORK ORDER: 07E240467

WATER ANALYSIS REVIEWED BY: Krystyna Krauze, Analyst

SOIL ANALYSIS REVIEWED BY: Loan Nguyen, Analyst

TRACE ORGANICS REVIEWED BY: Ron Brockbank, Analyst

DATE REPORTED: Sep 24, 2007

PAGES (INCLUDING COVER): 12

Should you require any information regarding this analysis please contact your client services representative at (403) 735-2005, or at 1-866-764-7554, or by email at env@agatlabs.com

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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Certificate of Analysis

AGAT WORK ORDER: 07E240467

PROJECT NO: 2977-351-00

CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

ATTENTION TO: Nick Oke

Lead in Paint

DATE SAMPLED: Sep 06, 2007 | DATE RECEIVED: Sep 11, 2007 | DATE REPORTED: Sep 24, 2007 | SAMPLE TYPE: Paint

	Unit	G / S	M.D.L	Green Crane 793804	M.D.L	Poltank Grey 793807
Lead in Paint	mg/kg		10	60500	100	428000

Comments: M.D.L - Method Detection Limit; G / S - Guideline / Standard

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Certificate of Analysis

AGAT WORK ORDER: 07E240467
PROJECT NO: 2977-351-00

CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

ATTENTION TO: Nick Oke

Soil Analysis - Lead Leachate in Paint

DATE SAMPLED: Sep 06, 2007 | DATE RECEIVED: Sep 11, 2007 | DATE REPORTED: Sep 24, 2007 | SAMPLE TYPE: Paint

	Unit	G / S	M.D.L	Garage Grey Deck 793776	Garage Grey Interior 793785	Antenna Orange 793790	Antenna White 793792	Yellow Grader 793794	M.D.L	Poltank Grey 793807	Pumphouse Grey 793813
Lead - Leachate in Paint	mg/L	5.00	0.007	0.194	0.214	0.110	0.048	6.44	0.070	50.7	11.2

Comments: M.D.L - Method Detection Limit; G / S - Guideline / Standard: Refers to Class 2 Landfill
793785-793792 Note: Insufficient quantity of sample; therefore; used only 1g/20mL instead of 5g/100mL.
793807-793813 Note: Insufficient quantity of sample; therefore; used only 1g/20mL instead of 5g/100mL.

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AGAT WORK ORDER: 07E240467
PROJECT NO: 2977-351-00

CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

ATTENTION TO: Nick Oke

CCME Fractions 1-2 & BTEX in Water

DATE SAMPLED: Sep 06, 2007 | DATE RECEIVED: Sep 11, 2007 | DATE REPORTED: Sep 24, 2007 | SAMPLE TYPE: Water

	Unit	G / S	M.D.L	UMA W1 793773
Benzene	mg/L		0.0005	<0.0005
Toluene	mg/L		0.0005	<0.0005
Ethylbenzene	mg/L		0.0005	<0.0005
Xylenes	mg/L		0.0005	<0.0005
C6 - C10 (F1)	mg/L		0.1	<0.1
C6 - C10 (F1 minus BTEX)	mg/L		0.1	<0.1
C>10 - C16 (F2)	mg/L		0.1	<0.1

Comments: M.D.L - Method Detection Limit; G / S - Guideline / Standard

793773 Hydrocarbon fractions are determined by integrating all area counts from the end of the first n-alkane peak in the fraction, to the end of the last n-alkane peak in the fraction.
The C>6 - C10 fraction is calculated using the toluene response factor.
The C>10 - C16 fraction is calculated using the average response factor for n-C10.
BTEX has NOT been subtracted from Fraction 1.
Sample is blank corrected.

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AGAT WORK ORDER: 07E240467
PROJECT NO: 2977-351-00

CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

ATTENTION TO: Nick Oke

Polychlorinated Biphenyls Analysis - Solid

DATE SAMPLED: Sep 06, 2007 | DATE RECEIVED: Sep 11, 2007 | DATE REPORTED: Sep 24, 2007 | SAMPLE TYPE: Paint

	Unit	G / S	M.D.L	Yellow Grader 793794	Green Crane 793804	Poltank Grey 793807
Arochlor 1242	µg/g		0.005	<0.005	<0.005	3.37
Arochlor 1254	µg/g		0.005	<0.005	<0.005	134
Arochlor 1260	µg/g		0.005	<0.005	<0.005	1.78
Total PCB's	µg/g		0.005	<0.005	<0.005	139

Comments: M.D.L - Method Detection Limit; G / S - Guideline / Standard

793794 Recovery of decachlorobiphenyl surrogate added to sample prior to analysis: 98%
793804 Recovery of decachlorobiphenyl surrogate added to sample prior to analysis: 100%
793807 Recovery of decachlorobiphenyl surrogate added to sample prior to analysis: 96%

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AGAT WORK ORDER: 07E240467
PROJECT NO: 2977-351-00

CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

ATTENTION TO: Nick Oke

CCME Metals (Dissolved)

DATE SAMPLED: Sep 06, 2007 | DATE RECEIVED: Sep 11, 2007 | DATE REPORTED: Sep 24, 2007 | SAMPLE TYPE: Water

	Unit	G / S	M.D.L	UMA Drum 1 793775
Aluminum	mg/L		0.002	0.006
Antimony	mg/L		0.05	<0.05
Arsenic	mg/L		0.18	<0.18
Barium	mg/L		0.001	0.005
Boron	mg/L		0.11	<0.11
Cadmium	mg/L	0.000017	0.0025	<0.0025
Calcium	mg/L		0.3	1.4
Chromium	mg/L	0.05	0.012	<0.012
Copper	mg/L		0.002	0.004
Iron	mg/L	0.3	0.001	6.55
Lead	mg/L	.001	0.014	<0.014
Lithium	mg/L		0.001	0.001
Magnesium	mg/L		0.2	0.3
Manganese	mg/L		0.001	1.45
Mercury	mg/L	0.000026	0.000025	<0.000025
Molybdenum	mg/L		0.003	<0.003
Nickel	mg/L	.025	0.003	0.005
Phosphorus	mg/L		0.08	<0.08
Potassium	mg/L		0.6	<0.6
Selenium	mg/L		0.05	<0.05
Silicon	mg/L		0.008	0.024
Silver	mg/L	0.0001	0.0005	0.0018
Sodium	mg/L		0.6	1.5
Strontium	mg/L		0.001	0.007
Sulphur	mg/L		0.3	7.6
Tin	mg/L		0.0025	0.0040
Thallium	mg/L	0.0008	0.006	<0.006
Uranium	mg/L		0.007	<0.007
Vanadium	mg/L		0.001	<0.001
Zinc	mg/L		0.001	0.013
Zirconium	mg/L		0.06	<0.06

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CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

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CCME Metals (Dissolved)

DATE SAMPLED: Sep 06, 2007	DATE RECEIVED: Sep 11, 2007	DATE REPORTED: Sep 24, 2007	SAMPLE TYPE: Water

Comments: M.D.L - Method Detection Limit; G / S - Guideline / Standard: Refers to CCME Freshwater Aqua
793775 < - Values refer to Method Detection Limit.

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AGAT WORK ORDER: 07E240467

PROJECT NO: 2977-351-00

ATTENTION TO: Nick Oke

Soil Analysis

RPT Date: Sep 24, 2007			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Soil Analysis - Lead Leachate in Paint															
Lead - Leachate in Paint (mg/L)	280				0.0%	< 0.007	99%	90%	110%				97%	90%	110%
Lead in Paint															
Lead in Paint (mg/kg)	5683				1.4%	< 0.5	101%	90%	110%				102%	90%	110%
Soil Analysis - Lead Leachate in Paint															
Lead - Leachate in Paint (mg/L)	283				0.0%	< 0.007	103%	90%	110%				106%	90%	110%

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Trace Organics Analysis

RPT Date: Sep 24, 2007			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
CCME Fractions 1-2 & BTEX in Water															
Benzene (mg/L)	2236				0.0%	< 0.0005	88%	70%	130%	85%	70%	130%	83%	70%	130%
Toluene (mg/L)	2236				0.0%	< 0.0005	89%	70%	130%	85%	70%	130%	79%	70%	130%
Ethylbenzene (mg/L)	2236				1.0%	< 0.0005	94%	70%	130%	93%	70%	130%	81%	70%	130%
Xylenes (mg/L)	2236				0.0%	< 0.0005	98%	70%	130%	93%	70%	130%	83%	70%	130%
C6 - C10 (F1) (mg/L)	2236				0.0%	< 0.1	115%	70%	130%	112%	70%	130%	99%	70%	130%
C>10 - C16 (F2) (mg/L)	450				0.0%	< 0.1	113%	70%	130%	101%	70%	130%	97%	70%	130%
Polychlorinated Biphenyls Analysis - Solid															
Arochlor 1242 (µg/g)	1454				0.0%	< 0.005	84%	70%	130%	95%	70%	130%	96%	70%	130%
Arochlor 1254 (µg/g)	1454				14.0%	< 0.005	84%	70%	130%	84%	70%	130%	99%	70%	130%
Arochlor 1260 (µg/g)	1454				21.0%	< 0.005	86%	70%	130%	97%	70%	130%	102%	70%	130%
Total PCB's (µg/g)	1454				12.0%	< 0.005	85%	70%	130%	92%	70%	130%	99%	70%	130%

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Water Analysis

RPT Date: Sep 24, 2007			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
CCME Metals (Dissolved)															
Aluminum (mg/L)	277				8.0%	< 0.002	105%	90%	110%				102%	90%	110%
Antimony (mg/L)	720	793624	< 0.0005	< 0.0005	0.0%	< 0.0005	107%	90%	110%				95%	75%	125%
Arsenic (mg/L)	720	793624	0.0032	0.0034	6.1%	< 0.0018	92%	90%	110%				93%	75%	125%
Barium (mg/L)	277				0.0%	< 0.001	105%	90%	110%				99%	90%	110%
Boron (mg/L)	720	793624	0.0019	0.0022	14.6%	< 0.0011	90%	90%	110%				86%	75%	125%
Cadmium (mg/L)	720	793624	<	<	0.0%	<	89%	80%	120%				94%	90%	110%
Calcium (mg/L)	277				1.0%	< 0.3	104%	90%	110%				98%	90%	110%
Chromium (mg/L)	720	793624	0.00291	0.00314	7.6%	< 0.00012	80%	80%	120%				91%	90%	110%
Copper (mg/L)	277				0.0%	< 0.002	103%	90%	110%				102%	90%	110%
Iron (mg/L)	277				0.0%	< 0.001	103%	80%	120%				94%	75%	125%
Lead (mg/L)	720	793624	< 0.00014	< 0.00014	0.0%	< 0.00014	90%	90%	110%				97%	75%	125%
Lithium (mg/L)	277				0.8%	< 0.001	105%	90%	110%				92%	90%	110%
Magnesium (mg/L)	277				0.0%	< 0.2	105%	90%	110%				100%	90%	110%
Manganese (mg/L)	277				0.0%	< 0.001	104%	90%	110%				98%	90%	110%
Mercury (mg/L)	2166				0.0%	<	99%	90%	110%	102%	85%	115%	99%	85%	115%
Molybdenum (mg/L)	277				0.0%	< 0.003	106%	90%	110%				98%	90%	110%
Nickel (mg/L)	277				0.0%	< 0.003	102%	90%	110%				92%	90%	110%
Phosphorus (mg/L)	277				11.9%	< 0.08	102%	90%	110%				110%	90%	110%
Potassium (mg/L)	277				2.1%	< 0.6	107%	90%	110%				97%	90%	110%
Selenium (mg/L)	720	793624	0.0007	,0.00140	0.0%	< 0.0005	111%	80%	120%				97%	75%	125%
Silicon (mg/L)	277				0.1%	< 0.008	106%	90%	110%				100%	90%	110%
Silver (mg/L)	720	793624	<	<	0.0%	<	92%	90%	110%				95%	75%	125%
Sodium (mg/L)	277				1.1%	< 0.6	104%	90%	110%				99%	90%	110%
Strontium (mg/L)	277				4.2%	< 0.001	105%	90%	110%				98%	90%	110%
Sulphur (mg/L)	277				0.0%	< 0.3	97%	90%	110%				98%	90%	110%
Tin (mg/L)	720	793624	<	<	0.0%	<	99%	90%	110%				94%	75%	125%
Thallium (mg/L)	720	793624	< 0.00006	< 0.00006	0.0%	< 0.00006	89%	80%	120%				97%	75%	125%
Uranium (mg/L)	720	793624	0.00108	0.00110	1.8%	< 0.00007	88%	80%	120%				96%	75%	125%
Vanadium (mg/L)	277				0.0%	< 0.001	105%	90%	110%				101%	90%	110%
Zinc (mg/L)	277				0.0%	< 0.001	105%	90%	110%				96%	90%	110%
Zirconium (mg/L)	277				0.0%	< 0.06	99%	90%	110%				94%	90%	110%

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Quality Assurance

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AGAT WORK ORDER: 07E240467

PROJECT NO: 2977-351-00

ATTENTION TO: Nick Oke

Water Analysis (Continued)

RPT Date: Sep 24, 2007			DUPLICATE			REFERENCE MATERIAL				METHOD BLANK			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

Certified By:

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Method Summary

CLIENT NAME: PUBLIC WORKS AND GOVERNMENT SERVICE

AGAT WORK ORDER: 07E240467

PROJECT NO: 2977-351-00

ATTENTION TO: Nick Oke

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Lead in Paint	SOIL 390 & INS 0103	EPA SW 846-3050/6010	ICP/OES
Lead - Leachate in Paint	SOIL 420 & INS 0103	EPA SW 846-1311/6010	ICP/OES
Trace Organics Analysis			
Benzene	TO 0330	EPA 624 & SW-846 5030	GC/MS
Toluene	TO 0330	EPA 624 & SW-846 5030	GC/MS
Ethylbenzene	TO 0330	EPA 624 & SW-846 5030	GC/MS
Xylenes		EPA 8260B & EPA 5030B	GC/MS
C6 - C10 (F1)	TO-0530	EPA 624 & SW-846 3810	GC/FID
C6 - C10 (F1 minus BTEX)	TO 0540	epa sw-846 8260	GC/FID
C>10 - C16 (F2)	TO 0511	AEC 108.0, EPA SW-846 3510B	GC/FID
Arochlor 1242	TO 0110	EPA SW-846 3550 & 8080	GC/ECD
Arochlor 1254	TO 0110	EPA SW-846 3550 & 8080	GC/ECD
Arochlor 1260	TO 0110	EPA SW-846 3550 & 8080	GC/ECD
Total PCB's	TO 0110	EPA SW-846 3550 & 8080	GC/ECD
Water Analysis			
Aluminum	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Antimony	INS 0104	SM 3125	ICP/MS
Arsenic	INS 0104	SM 3125	ICP/MS
Barium	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Boron	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/MS
Cadmium	INS 0104	SM 3125	ICP/MS
Calcium			ICP/OES
Chromium	INS 0104	SM 3125	ICP/MS
Copper	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Iron	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Lead	INS 0104	SM 3125	ICP/MS
Lithium	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Magnesium	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Manganese	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Mercury	INS 0400	SM 3112 B	CV/AA
Molybdenum	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Nickel	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Phosphorus	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Potassium	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Selenium	INS 0104	SM 3125	ICP/MS
Silicon	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Silver	INS 0104	SM 3125	ICP/MS
Sodium	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Strontium	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Sulphur	INS 0103	SM 3120 B	ICP/OES
Tin	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/MS
Thallium	INS 0104	SM 3125	ICP/MS
Uranium	INS 0104	SM 3125	ICP/MS
Vanadium	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Zinc	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES
Zirconium	INS 0103	EPA SW 846-6010B, SM 3030B	ICP/OES