Appendix A

Station Area Non-hazardous Waste Landfill

- A1 Site Condition/Visual Inspection Records
- A2 Geotechnical Inspection Photographic Records
- A3 Field Notes



A1. Station Area Non-hazardous Landfill

A1.1 Landfill Summary

The Station Area Non-Hazardous Waste Landfill is located on the Upper Site, approximately 500 m northeast of the main facilities area. The landfill contains non-hazardous wastes and debris generated and collected during clean up of the site. The landfill consists of perimeter berms and a cap of compacted granular fill. The location of the Station Area Non-Hazardous Waste Landfill is presented in Figure A-1.

For 2008, the monitoring requirements for the Station Area Non-Hazardous Waste Landfill included visual inspection only.

A1.2 Visual Monitoring

No significant erosion, settlement or indications of slope instability were observed at the Station Area Non-Hazardous Waste Landfill. Overall landfill performance is assessed as "acceptable". Appendix A1 presents a summary of the 2008 visual inspection results.

Minor erosion gullies were observed on the east slope that appear to be self-armouring (Photo SNH-8 in Appendix A2). An area of minor seepage and orange staining was observed on the lower half of the northeast slope (Photos SNH-7A and 7B in Appendix A2). Some minor drainage was observed along the road at the south toe (Photo SNH-10 in Appendix A2). No issues of concern that require immediate attention were identified.

A1.3 Soil Sampling

Soil sampling was not scheduled for the 2008 monitoring year.

A1.4 Groundwater Sampling

Groundwater sampling was not scheduled for the 2008 monitoring year.

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A1 – Site Condition/Visual Inspection Records

Visual Inspection Checklist Inspection Report – Page 1 of 2

SITE NAME:	CAM-4 - Pelly Bay
LANDFILL/AREA DESIGNATION:	Station Area Non-Hazardous Waste Landfill
DATE OF INSPECTION:	August 14, 2008
DATE OF PREVIOUS INSPECTION:	August 24 - 26, 2007
INSPECTED BY:	Darrin Johnson, P.Eng.
REPORT PREPARED BY:	Darrin Johnson, P.Eng.

The preparer represents to the best of the preparer's knowledge, the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

Preliminary Stability Assessment

Feature	Severity Rating	Extent		
Settlement	Not observed	None		
Erosion	Acceptable	Isolated		
Frost Action	Not observed	None		
Animal Burrows	Not observed	None		
Vegetation	Not observed	None		
Staining	Acceptable	Isolated		
Vegetation Stress	Not observed	None		
Seepage Points	Acceptable	Isolated		
Debris Exposed	Not observed	None		
Tension Crack	Not observed	None		
Overall Landfill				
Performance	Acceptable			

Station Area Non-Hazardous Waste Landfill - Inspection Report - Page 2 of 2

Checklist Item	Present Yes/No	Location	Dimensions (L x W) (m)	Depth (m)	Extent (%)	Description	Photographic Records (Photos referenced in photolog and in figures)	Additional Comments/ Preliminary Stability Assessment
Settlement	No							
Erosion	Minor	East slope	10m x 10m	0.1m	1%	Isoloated area of minor erosion that appears to be self-armouring.	SNH-8	Acceptable
Frost Action	No							
Animal Burrows	No							
Vegetation	No							
Staining	Yes	Northeast corner slope	10m x 10m	N/A	1%	Isolated area of minor orange staining.	SNH-7A and SNH-7B	Acceptable
Vegetation Stress	No							
Seepage Points	Yes	Northeast corner slope	10m x 10m	N/A	1%	Isolated area of minor seepage.	SNH-7A and SNH-7B	Acceptable
Debris Exposed	No							
Presence/ Condition of Monitoring Instruments	Good							
Other Features of Note.	Yes	South toe along road	50m x 5m	N/A	3%	Drainage along road at toe. No staining.	SNH-10	Acceptable
Additional Photos						General	SNH-1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B, 5, 6A, 6B, 9A, 9B	

Legend

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Figure A-1 Version 1



A2 – Geotechnical Inspection Photographic Records





Photograph SNH-1A. Southwest corner at the toe, facing northeast. ↑



Photograph SNH-1B. Southwest corner at the toe, facing north. •



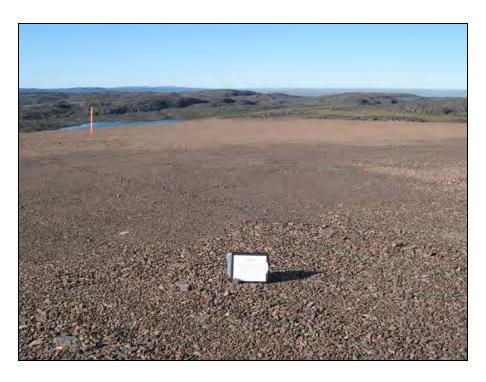


Photograph SNH-2A. Southwest corner at the crest facing northeast. Some tire tracks from a vehicle that tried to drive up onto the landfill near clipboard. **↑**



Photograph SNH-2B. Southwest corner at the crest, facing north. •



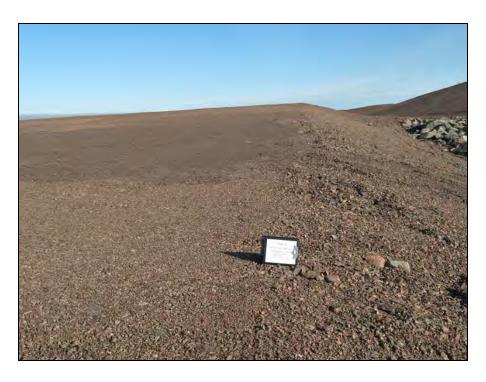


Photograph SNH-3A. Facing northeast over landfill surface. ↑



Photograph SNH-3B. Facing southeast over landfill top. ↑





Photograph SNH-4A. Northwest corner crest, facing south.



Photograph SNH-4B. Northwest corner crest, facing east. ↑





Photograph SNH-5. Panoramic of the north slope. ↑



Photograph SNH-6A. Northeast corner facing south. ↑





Photograph SNH-6B. Northeast corner facing west. ↑



Photograph SNH-7A. Facing slope. Some seepage and orange staining over 10m x 10m area on lower half of east slope, towards the northeast corner toe. ♠





Photograph SNH-7B. Toe of slope near northeast corner. Orange staingin and seepage discharging onto rocks at toe of landfill. Down-slope of photo SNH-12. ↑



Photograph SNH-8. East slope. Area of possible minor erosion with gullies about 0.5m wide and less than 0.1m deep that appear to be self healing with larger rock in cover fill. ↑





Photograph SNH-9A. Facing west along south crest. ↑



Photograph SNH-9B. Facing north along east crest. Some tire tracks but no damage. ↑





Photograph SNH-10. Panoramic of the south face. Some seepage and drainage along road at toe. No staining. ↑

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14	
	STATION ARCA NON-HAZ (PAGEZ)
	-PHOTO LOC, 4 (WAMPOINT 28)
*	-NORTHWEST CHENCE CREST
	- PHOTO 52 (FACING SOUTH)
	- PHOTO S3 (FACING EAST)
	- PHOTO SY (OCEAN IN DISTANCE)
-	- PHOTO LUC. 5 (WAYDOINT 29)
	- NORTH SLOPE
	- PHOTOS 55, 56 A ST (PANORAMIC)
	TRE IM DIA, ROCKS AT
	-NO SEEPAGE OBSERVED
- 2	- PHOTO LOC, 6 (WAY DOINT 30-NE CRUEN) - PHOTO 58 (FACING SOUTH)
	- PHOTO 58 (FACING SOUTH)
	- PHOTO SQ (FACING WET)
-	PHOTO LOC, 7 (WAYPHINT 3T)
	-PHOTO GO (FACING SLOPE)
	- SOME SURPAGE AND GRANGE
	STAINING OVER IOM X10m ARM
	TOWARDS NE CORNER TOE,

STATION ALUA NON-HAZ UP (PAGE 3) - PHOTO GI (TOU OF SLOPE NEAR NE CORNER - GRANGE STAINING AND SUPPAGE DISCHARGING ONTO ROCKS AT TOX OF LANDFILL - DOWNSCOPE OF PHOTO 60 -PHOTO 62 (EAST SWPE) -AREA OF POSSIBLE MINTOR GROSION WITH GULLOS ABOUT 0.5m WIDE AND CESS THAN O. IM DEEP. THAT MARCHAR TO BE SUF HEALING WITH LARGER PACK IN COVER FILL - PHOTO LOC. 9 WAYPOINT -PHOTO 63 (FARING WITT AVONG JOWTH CONST) - PHOTO GY (FACING NORTH ALONG WAST CANST) - SOME TIRE TRACKS -NO DAMAGE PHOTA LOC. IO (WAY POINT 34- SONTH FALE) -PHOTOS 65 664 67 (PANJORAMIC) / -SOME SUPPAGE AND PRAINABE ALONG RUAD AT TOE, NO STAINING

Appendix B

DCC Tier II Soil Disposal Facility

- B1 Site Condition/Visual Inspection Records
- B2 Geotechnical Inspection Photographic Records
- B3 Monitoring Photographic Records
- B4 Monitoring Well Sampling Records
- B5 Thermistor Maintenance Records
- B6 Thermistor Graphs
- B7 Field Notes



B1. Tier II Soil Disposal Facility

B1.1 Landfill Summary

The Tier II Soil Disposal Facility is located approximately 550 m west of the main facilities area. The landfill was constructed for disposal of Tier II soil excavated during the clean up. The location and plan of the Tier II Disposal Facility is presented in Figure B-1.

The landfill has a double containment system consisting of a geomembrane liner and placement of sufficient surface fill to promote permafrost aggradation through the landfill contents. The liner was placed across the bottom of the landfill, along the berms and over top of the landfilled material.

For 2008, the monitoring requirements for the Tier II Soil Disposal Facility included visual inspection, soil sampling, groundwater sampling and thermal monitoring.

B1.2 Visual Monitoring

No significant erosion, settlement or indications of slope instability were observed at the Tier II Soil Disposal Facility. Overall landfill performance is assessed as "acceptable". Appendix B1 presents a summary of the 2008 visual inspection results.

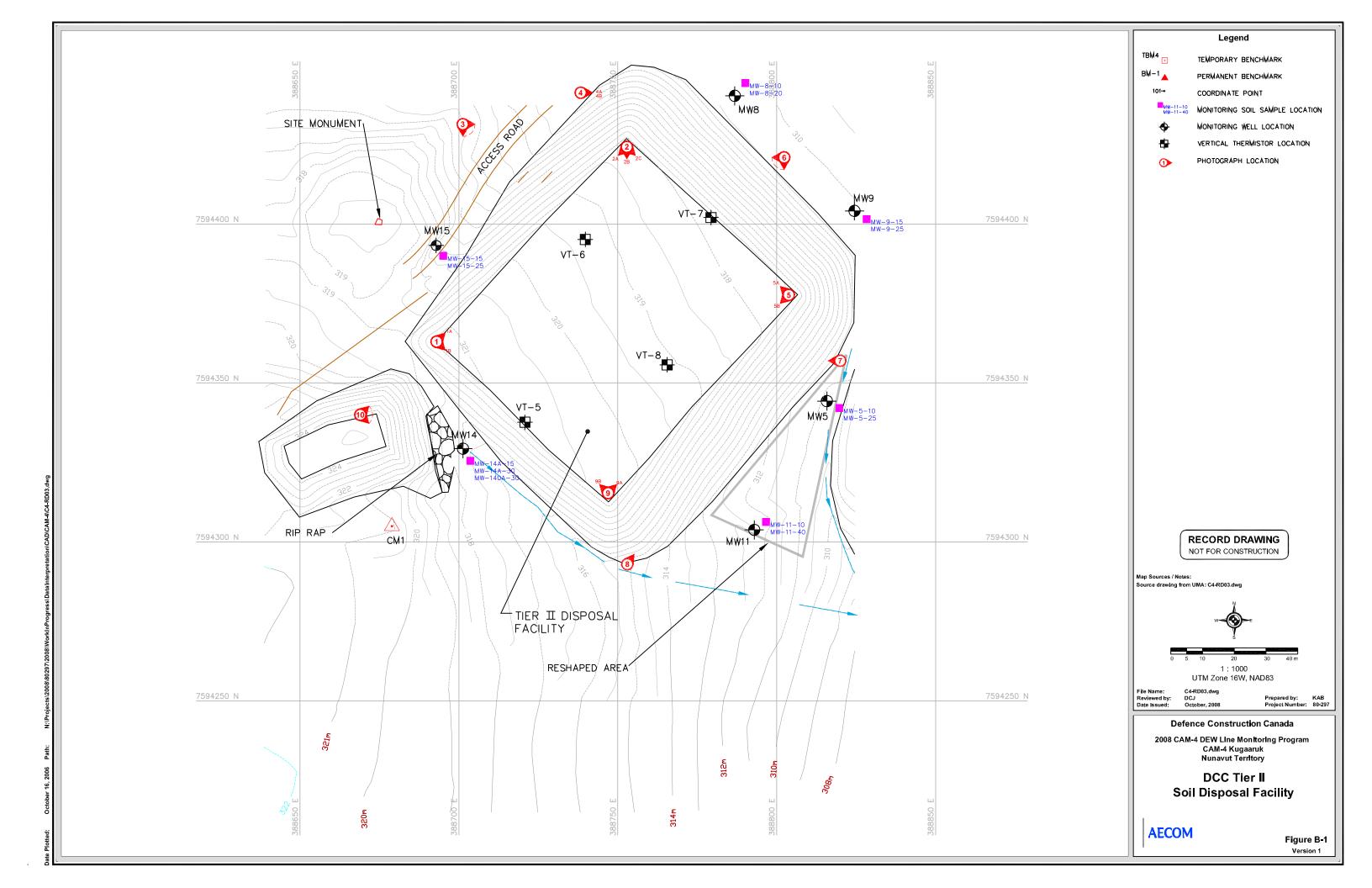
An area of minor orange staining was observed at the toe of the northeast slope (TII-4A in Appendix B2). Seepage was observed from the lower half of the northeast and southeast slopes (TII-6 and 7 in Appendix B2). No staining was observed on the slopes. Minor ponding of water and drainage was observed along the toes of the northwest, southeast and southwest slopes (TII-3, 9A and 10 in Appendix B2). No issues of concern that require immediate attention were identified.

B1.3 Soil Sampling

Soil samples were collected at the designated locations (BMW-3, MW-5, MW-8, MW-9, MW-14-A, MW-15 AND MW-16). Sampling locations are shown on Figure B-1. Two samples were collected at each station at depths of 0.10 - 0.15 m below ground surface and between 0.25 - 0.40 meters below ground surface. The photographs of each monitoring well and test pit location are included in Attachment B3.

No staining or free product was observed during the sampling event at the Tier II Soil Disposal Facility. There were no odours documented during the Tier II Disposal Facility sampling event, with the exception of one monitoring location, MW-16. An ambient hydrocarbon-like odour was detected during soil sampling at the MW-16 monitoring location.

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The laboratory analyses detected concentrations of TPH (C6-34) at monitoring locations MW-8, MW-9, MW-15 and MW-16. It is recommended that these results be evaluated in the context of the Landfill Monitoring Plan.

The analytical results and depths of samples are provided in Table B-1. The Laboratory Certificates of Analysis are provided in Appendix F.

B1.4 Groundwater Sampling

Groundwater measurements and monitoring system condition records were documented for observation wells BMW-3, MW-5, MW-8, MW-9, MW-14-A, MW-15 and MW-16. These records are provided in Attachment B4.

All groundwater monitoring wells slated for monitoring in 2008 at the Tier II Soil Disposal Facility contained sufficient volume for sampling. Samples were collected at a flow rate equal to the recharge rate of the monitoring well (and not exceeding 100mL/min). All monitors were sampled using a peristaltic pump and disposable LDPE tubing with the exception of BMW-3 and MW-16. The rechargeable battery provided with the peristaltic pump from the supplier proved to be faulty, thus monitors that were accessible by vehicle were sampled with the peristaltic pump runoff the vehicle battery. Monitors BMW-3 and MW-16 were not accessible by vehicle, therefore were purged and sampled using a disposable bailer.

Groundwater samples were not filtered and not preserved. Samples were analyzed for total concentration of inorganic metals, TPH (C6-C32) and PCB.

TPH (C6-C32) was detected in monitoring wells MW-5, MW-8, MW-9, MW-14-A, MW-15 and MW-16. The results should be evaluated in the context of the Landfill Monitoring Plan as well as compared with DCC internal standards.

The results are presented in Table B-2. The laboratory Certificates of Analysis are provided in Appendix F.

B1.5 Thermal Monitoring

All thermistors at the Tier II Soil Disposal Facility were in good condition. Thermistor data was downloaded on August 15, 2008, programming was checked and the data loggers were reset. The data logger clocks were adjusted to local (Standard Time). Battery charge was checked to ensure sufficient remaining charge and batteries were not changed in 2008.

Thermistor Maintenance Records were completed for all thermistors located at the Lower Landfill and are located in Appendix B5. Selected data has been plotted into graphs for each thermistor which are provided as Graphs B-1 through B-4 located in Appendix B6.

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Table B-1. CAM-4 Kugaaruk, Summary of 2008 Soil Analysis - Tier II Soil Disposal Facility

		Donth	Copper	Nickel	Cobalt	Cadmium	Lead	Zinc	Chromium	Arsenic	Mercury	PCB	F1	F2	F3	TPH
Sample Ident.	Sample Location	Depth	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	Total Aroclors	C6-C10	C10-C16	C16-C34	C6-34
		(m)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)						
Upgradient Sample																
BMW-3-15	BMW-3	0.15	13.9	15.7	8.5	<0.50	9.3	44.0	31.8	<5.0	< 0.0050	< 0.050	<10	<30	<50	0
BMW-3-40	BMW-3	0.40	16.8	17.5	9.0	<0.50	10.9	53.7	35.0	<5.0	0.0086	< 0.050	<10	<31	<51	0
BMW-30-40*	BMW-3	0.40	12.0	13.9	7.1	<0.50	8.0	38.3	28.4	<5.0	<0.0050	< 0.050	<10	<30	<50	0
MW-14-A-15	MW-14-A	0.15	11.0	13.3	6.2	<0.50	8.0	33.2	28.0	<5.0	<0.0050	< 0.050	<10	<30	<50	0
MW-14-A-30	MW-14-A	0.30	12.1	14.2	6.7	<0.50	8.3	35.8	28.1	<5.0	<0.0050	< 0.050	<10	<30	<50	0
MW-140-A-30*	MW-14-A	0.30	11.8	13.9	6.1	<0.50	8.0	33.8	27.4	<5.0	<0.0050	< 0.050	<10	<30	<50	0
MW-15-15	MW-15	0.15	9.8	9.4	6.5	< 0.50	8.0	41.3	17.1	<5.0	< 0.0050	< 0.050	<10	118	235	353
MW-15-25	MW-15	0.25	11.2	9.3	7.0	<0.50	7.4	43.9	17.9	<5.0	<0.0050	< 0.050	<10	119	302	421
MW-16-15	MW-16	0.15	14.2	16.0	7.8	<0.50	8.4	43.1	31.9	<5.0	< 0.0050	< 0.050	<10	286	133	419
MW-16-40	MW-16	0.40	12.3	15.2	7.8	<0.50	8.0	39.3	29.5	<5.0	< 0.0050	< 0.050	<10	49	<50	49
Downgradient Sam	ples													•		
MW-5-10	MW-5	0.10	11.5	9.4	6.6	<0.50	6.6	33.0	18.3	<5.0	< 0.0050	< 0.050	<10	<30	<50	0
MW-5-25	MW-5	0.25	11.6	9.0	6.3	<0.50	6.8	33.5	19.0	<5.0	0.0051	< 0.050	<10	<30	<50	0
MW-8-10	MW-8	0.10	11.9	10.6	6.8	<0.50	7.9	40.5	19.8	<5.0	<0.0050	< 0.050	<10	<30	<50	0
MW-8-20	MW-8	0.20	11.9	10.6	6.4	<0.50	13.5	38.6	22.5	<5.0	0.0066	< 0.050	<10	296	121	417
MW-9-15	MW-9	0.15	10.3	8.9	6.4	<0.50	11.6	35.6	18.1	<5.0	0.0070	< 0.050	<10	<30	69	69
MW-9-25	MW-9	0.25	10.4	7.9	6.2	<0.50	9.7	35.6	16.6	<5.0	0.0056	<0.050	<10	<30	<50	0

^{*} Denotes duplicate sample. (Further information located in Table 2 of main report,

Note: mg/kg = ug/g

TPH is represented as the total of F1, F2 and F3 as defined by CCME Tier I Method - Rev. 5 Analysis of Petroleum Hydrocarbons in Soil



Table B-2. CAM-4 Kugaaruk, Summary of 2008 Groundwater Analysis - Tier II Soil Disposal Facility

		Groundwater	Copper	Nickel	Cobalt	Cadmium	Lead	Zinc	Chromium	Arsenic	Mercury	PCB	F1	F2	F3	TPH
Sample Identification	Location	Elevation	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	Total Aroclors	C6-C10	C10-C16	C16-C34	C6-34
		(masl)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Upgradient Samples	3															
BMW-3	BMW-3	316.84	0.0155	0.0180	0.00817	0.000061	0.0091	0.0513	0.0437	0.00230	< 0.000020	<0.0010	<0.10	< 0.30	< 0.30	0
MW-14A	MW-14A	317.24	0.0146	0.0091	0.00135	0.000067	0.00112	2.41	0.0100	0.00067	< 0.000020	< 0.0010	<0.10	< 0.30	0.33	0.33
MW-15	MW-15	317.76	< 0.0020	0.0065	0.00216	< 0.000034	<0.0010	0.250	0.0024	0.0020	< 0.000020	<0.0010	0.35	5.98	1.65	7.98
MW-150*	MW-15	317.76	< 0.0020	0.0063	0.00208	< 0.000034	< 0.0010	0.239	< 0.0030	0.0020	< 0.000020	< 0.0010	0.33	5.15	1.40	6.88
MW-16	MW-16	312.96	0.0040	0.0120	0.00210	0.000082	0.00056	0.0149	0.0025	0.00076	< 0.000020	< 0.0010	2.23	76.7	8.01	86.94
Downgradient Samp	oles															
MW-5	MW-5	310.34	0.0043	0.0086	0.00030	0.000039	0.00142	0.0366	0.0051	< 0.00050	< 0.000020	< 0.0010	<0.10	< 0.30	0.33	0.33
MW-8	MW-8	310.20	0.0228	0.0268	0.0031	0.000170	< 0.0025	0.0391	< 0.0050	< 0.0025	< 0.000020	< 0.0010	2.89	8.17	1.84	12.9
MVV-9	MW-9	310.14	0.0071	0.0079	< 0.0015	< 0.000085	< 0.0025	0.0382	0.0183	< 0.0025	< 0.000020	<0.0010	<0.10	0.44	0.63	1.07

^{*} Denotes duplicate sample. (Further information located in Table 2 of main report,

Note: mg/L = 1000 ug/L





B1 – Site Condition/Visual Inspection Records

Visual Inspection Checklist Inspection Report – Page 1 of 2

SITE NAME:	CAM-4 - Pelly Bay
LANDFILL/AREA DESIGNATION:	DCC Tier II Soil Disposal Facility
DATE OF INSPECTION:	August 14, 2008
DATE OF PREVIOUS INSPECTION:	August 24 - 26, 2007
INSPECTED BY:	Darrin Johnson, P.Eng.
REPORT PREPARED BY:	Darrin Johnson, P.Eng.

The preparer represents to the best of the preparer's knowledge, the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

Preliminary Stability Assessment

Feature	Severity Rating	Extent			
Settlement	Not observed	None			
Erosion	Not observed	None			
Frost Action	Not observed	None			
Animal Burrows	Not observed	None			
Vegetation	Not observed	None			
Staining	Acceptable	Isolated			
Vegetation Stress	Not observed	None			
Seepage Points	Acceptable	Occasional			
Debris Exposed	Not observed	None			
Tension Crack	Not observed	None			
Overall Landfill					
Performance	Acceptable				

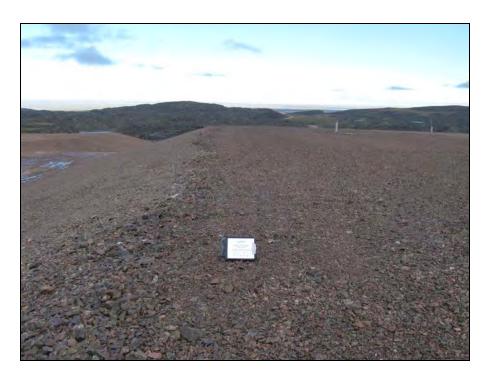
DCC Tier II Soil Disposal Facility - Inspection Report - Page 2 of 2

	Present		Dimensions	Depth	Extent		Photographic Records	
Checklist Item	Yes/No	Location	(L x W) (m)	(m)	(%)	Description	(Photos referenced in photolog and in figures)	Additional Comments/ Preliminary Stability Assessment
Settlement	No							
Erosion	No							
Frost Action	No							
Animal Burrows	No							
Vegetation	No							
Staining	Yes	Northeast toe	10 m x 10 m	N/A	1%	Orange staining at toe of slope.	TII-4A	Acceptable
Vegetation Stress	No							
Seepage Points	Yes	Lower half of northeast and southeast slopes.	60 m x 10 m	N/A	6%	Some seepage from lower half of slope. No staining on slopes observed.	TII-6 and TII-7	Acceptable
Debris Exposed	No							
Presence/ Condition of Monitoring Instruments	Good							
Other Features of Note.	Yes	Ponded water along toes of northwest, southeast and southwest slopes.	50m x 5m x3	N/A	8%	Minor ponding of water and drainage along toe.	TII-3, 9A, 10	Acceptable
Additional Photos							TII-1A, 1B, 2A, 2B, 2C, 4B, 5A, 5B, 8, 9B	



B2 – Geotechnical Inspection Photographic Records





Photograph TII-1A. Northwest corner of landfill facing east along crest. ↑



Photograph TII-1B. Northwest corner of landfill facing south along crest. ↑





Photograph TII-2A. Northeast corner of landfill facing west. ↑



Photograph TII-2B. Northeast corner of landfill facing southwest. ↑

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Photograph TII-2C. Northeast corner of landfill facing south. ↑



Photograph TII-3. Panoramic photo of the north slope. ↑



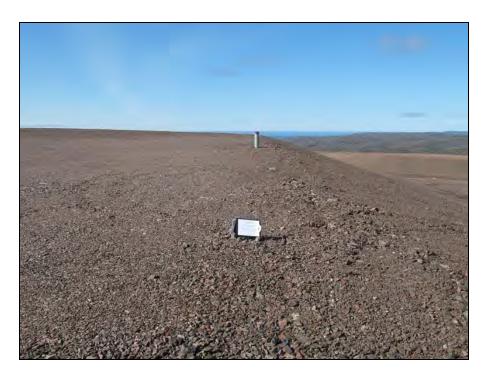


Photograph TII-4A. At the northeast toe. Some seepage with orange staining. Some water drainage along the road at the toe. ↑



Photograph TII-4B. Northeast corner and toe. ↑





Photograph TII-5A. Southeast crest facing north.



Photograph TII-5B. Southeast crest facing west. Some coarse rockfill along crest edge but there does not appear to be tension cracks. ↑

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Photograph TII-6. Panoramic photo of the southeast slope. Some water seeping out of slope face. No staining. ↑



Photograph TII-7. South slope from southeast toe facing west. Some seepage from south slope and minor ponding at toe. No staining. ↑

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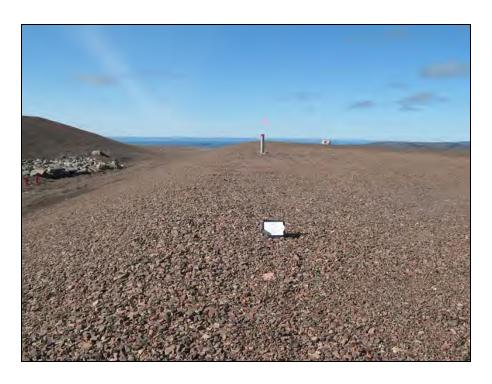


Photograph TII-8. South slope from southwest toe facing east. ↑



Photograph TII-9A. Facing east along crest from the southwest corner of the landfill. ↑





Photograph TII-9B. Facing north along crest from the southwest corner of the landfill. Some ponded water along toe. No staining. ↑



Photograph TII-10. Panoramic photo of Tier II landfill facing east from raised gravel pad. ↑

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B3 – Monitoring Photographic Records





Photograph 1. Monitoring Location BMW-3 (Upgradient) Facing South. ↑



Photograph 2. Monitoring Location MW-14-A (Upgradient). Facing North. •

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Photograph 3. Monitoring Location MW-15 (Upgradient). Facing East. ↑



Photograph 4. Monitoring Location MW-16 (Upgradient). Facing South. •

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Photograph 5. Monitoring Location MW-5 (Downgradient). Facing Northwest. ↑



Photograph 6. Monitoring Location MW-8 (Downgradient). Facing Northwest. •

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Photograph 7. Monitoring Location MW-9 (Downgradient). Facing North. ↑

(cam4-appb3-mwphotos.doc)



B4 – Monitoring Well Sampling Records

2008 Monitoring Well Sampling Log (BMW-3)

	Site name:	CAM-4				
	Date of sampling event:	14-17 Aug 2008				
	Names of samplers:	TFB				
	Monitoring well ID:	BMW-3				
	Facility:	Tier II Soil Disposa	I Facility			
		·	,			
			Known I	Data		
	Depth of installation* (m):	3.45	Tanouni	Julu		
	of screened section (m):	2.03				
		0.46				
Det	oth to top of screen* (m):	0.46				
				D-1-		
			Measured	Data		
	Condition of well:	1			Procedure/Equipment:	
	Procedure/Equipment:			Dep	oth to water surface (m):	0.92
Well h	eight above ground (m):	0.76			Depth to bottom (m):	2.25
	Diameter of well (m):	0.05		Free	product thickness (mm):	-
	Calculations				Notes	
	Depth of water (m):	1.33			Evidence of sludge:	-
V	Vell volume of water (L):	2.61		Evide	nce of freezing/siltation:	-
	Static water level* (m):	0.16			<u> </u>	
Length of scre	een collecting water (m):	1.03				
20119111 01 0011	2011 2011-2011-19 11-ato: ().		ent/Purai	ng Information		
	Equipment:	Disposable Bailer,		_		
	Equipment.	Disposable Baller,	1101104 0-22	<u>-</u>		
B	I 5	0			T 1111 (1711)	D 1 1 1 11 1
Date & Time	Volume Removed (L)	Temperature (°C)	pН	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
16-Aug-08	3	2.81	8.73	0.504	-	Silty, greyish brown, N/O
	Water Samplin	g			Soil Sampling	
	Date & Time Collected:	16-Aug-0)8	D	ate and Time Collected:	14-Aug-08
S	Sample Number - Water:	BMW-3			Sample Number - Soil:	BMW-3-15
						BMW-3-40
					Dup	BMW-30-40
	Sample Containers:	3 x 0.5L Amber Gla	ass		Sample Containers:	8 x 250mL Glass
	•	2 x VOC vials			·	
	Procedure/Equipment:	Disposable Bailer			Procedure/Equipment:	SS Trowel
	r rocedure/Equipment.	2.000000.0 200.			r rocedure/Equipment.	33 Howel
	Matan Danasintian	Silty, greyish browr	n N/O			O
	Water Description:	Janey, greyisii biowi	1, 14/		Soil Description:	Greyish brown silt till,
						some gravel.
Sampling Equipment	Decontamination (Y/N):	Υ		Sampling Equipment	Decontamination (Y/N):	Y
	Number Washes:	1			Number Washes:	2
	Number Rinses:	2			Number Rinses:	2

^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
LDPE=Low Density Polyethylene
SS=Stainless Steel

2008 Monitoring Well Sampling Log (MW-5)

	Site name:	CAM-4				
	Date of sampling event:	14-17 Aug 2008				
	Names of samplers:	TFB				
	Monitoring well ID:	MW-5				
	Facility:	Tier II Soil Disposa	I Facility			
	·	<u>'</u>				
			Known I	Data		
	Depth of installation* (m):	3.60	Tanouni	Julu		
	of screened section (m):	2.03				
		0.60				
Del	oth to top of screen* (m):	0.60				
				D 4		
			Measured	Data		
	Condition of well:				Procedure/Equipment:	
	Procedure/Equipment:			Dep	oth to water surface (m):	1.17
Well h	eight above ground (m):	0.60			Depth to bottom (m):	3.25
	Diameter of well (m):	0.05		Free	product thickness (mm):	-
	Calculations				Notes	
	Depth of water (m):	2.08			Evidence of sludge:	-
V	Vell volume of water (L):	4.08		Evide	nce of freezing/siltation:	-
	Static water level* (m):	0.57			<u> </u>	
Length of scre	een collecting water (m):	2.05				
Longin or core	bon concounty water (m).		ont/Durai	ng Information		
	Equipment:	-		with flow through cell, LD	DE	
	Equipment	renstattic rump, n	1011ba U-22	with now throught cen, LD	/r c	
D . 0 T	N. 1 B 141	- (0.5)		0 1 11 11 (0)	T LIP ALTIN	D ::: (W.)
Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
16-Aug-08	4.8	2.05	7.32	0.887	6.1	C&C,
						Slight chemical odour
	Water Samplin				Soil Sampling	
	Date & Time Collected:	15-Aug-0)8	D	ate and Time Collected:	14-Aug-08
5	Sample Number - Water:	MW-5			Sample Number - Soil:	MW-5-10
				Refusal @ 0.25 m		MW-5-25
	Sample Containers:	3 x 0.5L Amber Gla	ass		Sample Containers:	4 x 250mL Glass
		2 x VOC vials			·	
	Procedure/Equipment:	Peristaltic Pump, H	loriba U-22		Procedure/Equipment:	SS Trowel
	. 1000daro/Equipment.				. 1000daio/Equipment.	100 110001
	Water Description:	C&C, Slight chemic	cal odour		Soil Description	Gravish brown silt till
	water Description:		00001		Son Description:	Greyish brown silt till,
						some gravel.
					.	\ <u></u>
Sampling Equipment	Decontamination (Y/N):	Y		Sampling Equipment	Decontamination (Y/N):	Y
	Number Washes:	1			Number Washes:	2
	Number Rinses:	: 2			Number Rinses:	2

^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
LDPE=Low Density Polyethylene
SS=Stainless Steel

2008 Monitoring Well Sampling Log (MW-8)

Site na	me: CAM-4				
Date of sampling e	ent: 14-17 Aug 2008				
Names of samp	ers: TFB				
Monitoring we	I ID: MW-8				
Fa	ility: Tier II Soil Disposa	al Facility			
		Known I	Data		
Depth of installation*	(m): 4.08	1111011111	Julu		
Length of screened section	` '				
Depth to top of screen*	(111). 0.97				
			ID-1-		
		Measured	Data		
Condition of		1		Procedure/Equipment:	
	ent: Interface Meter		Dep	oth to water surface (m):	0.97
Well height above ground	(m): 0.97			Depth to bottom (m):	2.45
Diameter of well	(m): 0.05		Free	product thickness (mm):	-
Calculation	ns			Notes	
Depth of water	(m): 1.48			Evidence of sludge:	-
Well volume of water			Evide	nce of freezing/siltation:	-
Static water level*	` '				
Length of screen collecting water	` '				
Length of solder deliceting water	()	ont/Durai	ng Information		
Equipp	_		with flow through cell, LD	ADE	
Equipi	ent: Penstallic Pump, F	1011Da U-22	with flow through cell, LL	YPE	
	n 1		I =	I as	
Date & Time Volume Removed	. , ,		Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
16-Aug-08 3	3.7	7.01	1150	10.7	C&C
					Chemical odour
Water Sam	oling			Soil Sampling	
Date & Time Collection	ted: 16-Aug-0	08	D	ate and Time Collected:	14-Aug-08
Sample Number - W	ater: MW-8			Sample Number - Soil:	MW-8-10
					MW-8-20
			1		
Sample Contain	ers: 3 x 0.5L Amber Gl	ass		Sample Containers:	4 x 250mL Glass
Campie contain	2 x VOC vials			campio contamoro.	TX EGGINE Glaco
	Z X VOO VIGIS				
Dread dura / Carrier	ent: Peristaltic Pump, F	Inriha I I-22		Dropoduro/Estables	CC Trough
Procedure/Equipn	eni. ir enstallie r ump, r	101100 0-22		Procedure/Equipment:	33 Howel
	ion: C&C, Chemical Oc	Hour		0.11-	
Water Descrip	ion: C&C, Chemical O	loui		Soil Description:	Brown sandy silt till,
					some gravel.
Sampling Equipment Decontamination (/N): Y		Sampling Equipment	Decontamination (Y/N):	Υ
Number Was	nes: 1			Number Washes:	2
	ses: 2			Number Rinses:	3

^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
LDPE=Low Density Polyethylene
SS=Stainless Steel



2008 Monitoring Well Sampling Log (MW-9)

		Ī				
	Site name:	CAM-4				
	Date of sampling event:	14-17 Aug 2008				
	Names of samplers:	TFB				
	Monitoring well ID:	MW-9				
	Facility:	Tier II Soil Disposa	I Facility			
	•	· · · · · · · · · · · · · · · · · · ·				
			Known I	Data		
	Pepth of installation* (m):	3.32	Tanouni	Julu		
	of screened section (m):	2.01				
		0.40				
Del	oth to top of screen* (m):	0.40				
				D-1-		
		I	Measured	Data		
	Condition of well:				Procedure/Equipment:	
	Procedure/Equipment:			Dep	oth to water surface (m):	0.29
Well h	eight above ground (m):	0.33			Depth to bottom (m):	1.98
	Diameter of well (m):	0.05		Free	product thickness (mm):	-
	Calculations				Notes	
	Depth of water (m):	1.69			Evidence of sludge:	-
V	Vell volume of water (L):	3.32		Evide	nce of freezing/siltation:	-
	Static water level* (m):	-0.04			<u> </u>	
Length of scre	een collecting water (m):	1.25				
20119111 01 0011		ļ.	ent/Purai	ng Information		
	Equipment:	<u>-</u>		with flow through cell, LD	DE	
	Equipment	renstattic rump, n	1011ba 0-22	with now throught cen, LD	/r c	
D . 0 T	\(\(\text{1}\)	_ (0.5)		0 1 11 11 (0)	T LIP ALTIN	D : :: ()W.:
Date & Time	Volume Removed (L)	Temperature (°C)	pН	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
15-Aug-08	4	2.62	11.34	1060	41.3	C&C
						Chemical odour
	Water Samplin	ĭ .			Soil Sampling	
	Date & Time Collected:	16-Aug-0)8	D	ate and Time Collected:	14-Aug-08
5	Sample Number - Water:	MW-9			Sample Number - Soil:	MW-9-15
				Refusal @ 0.25 m		MW-9-25
	Sample Containers:	3 x 0.5L Amber Gla	ass		Sample Containers:	4 x 250mL Glass
	*	2 x VOC vials			-	
	Procedure/Equipment:	Peristaltic Pump, H	loriba U-22		Procedure/Equipment:	SS Trowel
	. 1000aaro/Equipment.				. 1000daio/Equipment.	
	Water Description:	C&C Chemical odd	our		Soil Description	Brown sandy silt till,
	water Description:	Sas Shannoa ouc			Soil Description:	, ,
						some gravel.
<u> </u>						
Sampling Equipment	Decontamination (Y/N):	Y		Sampling Equipment	Decontamination (Y/N):	Y
	Number Washes:	1			Number Washes:	2
	Number Rinses:	2			Number Rinses:	3

^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
LDPE=Low Density Polyethylene
SS=Stainless Steel



2008 Monitoring Well Sampling Log (MW-14-A)

	0''	0004							
	Site name:								
	Date of sampling event:	_							
	Names of samplers:	TFB							
	Monitoring well ID:								
	Facility:	Tier II Soil Disposa	l Facility						
			Known I	Data					
[Depth of installation* (m):	4.66							
Length	of screened section (m):	2.03							
De	oth to top of screen* (m):	1.67	1.67						
		<u> </u>	Measured	Data					
	Condition of well:	Good			Procedure/Equipment:	Interface Meter			
	Procedure/Equipment:	Interface Meter		Dep	oth to water surface (m):	1.07			
Well h	eight above ground (m):	0.51			Depth to bottom (m):	2.47			
	Diameter of well (m):	0.05		Free	product thickness (mm):	-			
	Calculations				Notes				
	Depth of water (m):	1.40			Evidence of sludge:	-			
\	Well volume of water (L):	2.75		Evide	nce of freezing/siltation:	-			
	Static water level* (m):	0.56							
Length of scr	een collecting water (m):	0.29							
		Developm	ent/Purgi	ng Information					
	Equipment:	Peristaltic Pump, H	loriba U-22	with flow through cell, LD	PE				
Date & Time	Volume Removed (L)	Temperature (°C)	pН	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water			
16-Aug-08	3	1.01	6.73	0.95	-	Grey, slightly cloudy			
						N/O			
	Water Samplin	g			Soil Sampling				
	Date & Time Collected:	16-Aug-0)8	Date and Time Collected:		14-Aug-08			
;	Sample Number - Water:				Sample Number - Soil:				
				Refusal @ 0.30 m	·	MW-14-A-30			
						MW-140-A-30			
					Σαρ				
	Sample Containers:	3 x 0.5L Amber Gla	ass		Sample Containers:	8 x 250ml Glass			
	Campio Contamors.	2 x VOC vials			Campio Containois.	o Econic Glaco			
	Procedure/Equipment:	Peristaltic Pump, H	loriba U-22		Procedure/Equipment:	SS Trowel			
	i 1006dure/Equipment.				i ioccuure, Equipment.	OS HOWEI			
	Water Description:	Grey, slightly cloud	ly, N/O		Soil Description:	Brown sandy silt till.			
	vvater Description.	,	,,		Joii Description.	Diown sandy siit tiii.			
Sampling Equipment	Decentermination (V/N):	Y		Sampling Equipment	Decentamination (V/N):	V			
Sampling Equipment	Decontamination (Y/N):			Sampling Equipment	Decontamination (Y/N):	Y			
	Number Washes:	2			Number Washes:	2			
	Number Rinses:	2			Number Rinses:	2			

^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
LDPE=Low Density Polyethylene
SS=Stainless Steel

2008 Monitoring Well Sampling Log (MW-15)

Site name:	CAM-4				
Date of sampling event:	14-17 Aug 2008				
Names of samplers:	TFB				
Monitoring well ID:	MW-15				
	Tier II Soil Disposa	l Facility			
, ,					
		Known I)ata		
Depth of installation* (m):	3.25	TAILOWII E	Julu		
Length of screened section (m):	1.97				
Depth to top of screen* (m):	0.33				
	1	Measured	Data		
Condition of well:				Procedure/Equipment:	Interface Meter
Procedure/Equipment:	Interface Meter		Dep	oth to water surface (m):	0.45
Well height above ground (m):	0.51			Depth to bottom (m):	2.45
Diameter of well (m):	0.05		Free	product thickness (mm):	-
Calculations				Notes	
Depth of water (m):	2.00			Evidence of sludge:	-
Well volume of water (L):	3.93		Evide	nce of freezing/siltation:	-
Static water level* (m):	-0.06				
Length of screen collecting water (m):	1.61				
Length of screen concerning water (iii).		ont/Durai	ng Information		
Equipment	·-		-	NDE	
Equipment	Pensiallic Pump, F	1011ba U-22	with flow through cell, LD	YPE	
				I as	
Date & Time Volume Removed (L)	Temperature (°C)	pН	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
16-Aug-08 4.5	2.08	6.31	0.846	13.5	Clear, slightly yellow
					Chemical odour
Water Samplin	g			Soil Sampling	
Date & Time Collected:	16-Aug-0)8	Date and Time Collected:		14-Aug-08
Sample Number - Water:	MW-15			Sample Number - Soil:	MW-15-15
Dup	MW-150		Refusal @ 0.25 m		MW-15-25
			1		
			1		
Sample Containers:	6 x 0.5L Amber gla	SS		Sample Containers:	4 x 250ml Glass
Campio Containoro.	4 x VOC vials		1	Campio Comanioro.	2002 0.000
2 x 1L Amber glass			1		
	Peristaltic Pump, H	loriha H-22		Procedure/Equipment	SS Trowol
Procedure/Equipment:	i onstanto rump, n	1011DG U-ZZ		Procedure/Equipment:	33 Howel
	Clear, slightly yello	\A/		0.11-	
Water Description:	chemical odour	w,		Soil Description:	Brown sandy silt till,
					some gravel.
Sampling Equipment Decontamination (Y/N):	Υ		Sampling Equipment	Decontamination (Y/N):	Υ
Number Washes:	2			Number Washes:	2
Number Rinses:	2			Number Rinses:	2

^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
LDPE=Low Density Polyethylene
SS=Stainless Steel



2008 Monitoring Well Sampling Log (MW-16)

	Site name:	CAM-4				
	Date of sampling event:	14-17 Aug 2008				
	Names of samplers:	TFB				
	Monitoring well ID:	MW-16				
			l Facility			
	,		,			
			Known I	nata		
F	Pepth of installation* (m):	Data not available	TXIIOWII I	Julu		
	of screened section (m):	Data not available				
Det	oth to top of screen* (m):					
			Measured	Data		
	Condition of well:				Procedure/Equipment:	
	Procedure/Equipment:	Interface Meter		Dep	oth to water surface (m):	1.34
Well h	eight above ground (m):	0.60			Depth to bottom (m):	3.00
	Diameter of well (m):	0.05		Free	product thickness (mm):	-
	Calculations				Notes	
	Depth of water (m):	1.66			Evidence of sludge:	-
V	Vell volume of water (L):	3.30		Evide	nce of freezing/siltation:	-
	Static water level* (m):	0.74			<u> </u>	
Length of scre	een collecting water (m):	 .				
Longiti of sort	ben conceaning water (iii).	Dovolonm	ont/Durai	ing Information		
	Equipment	Disposable Bailer,				
	Equipment:	Disposable Baller,	HOIDA U-Z	2		
				1		
Date & Time	Volume Removed (L)	Temperature (°C)	pН	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
16-Aug-08	4	1.7	6.9	0.544	54	C&C, sheen on surface
						Hydrocarbon odour
	Water Samplin	g			Soil Sampling	
	Date & Time Collected:	16-Aug-0)8	D	ate and Time Collected:	14-Aug-08
5	Sample Number - Water:	MW-16			Sample Number - Soil:	MW-16-15
				Refusal @ 0.40 m		MW-16-40
				1		
	Sample Containers:	3 x 0.5L Amber Gla	ass		Sample Containers:	4 x 250mL Glass
	,	2 x VOC vials		1		
				1		
	Procedure/Equipment:	Disposable Bailer			Procedure/Equipment:	SS Trowel
	i rocedure/Equipment.	Sp 222.0.0			i ioosaars/Equipment.	OO HOWEI
	Water Description	C&C, sheen on sur	face		Poil Docariations	Prown conducit till
	Water Description:	Hydrocarbon odou			Soil Description:	Brown, sandy silt till
		-				
Sampling Equipment	Decontamination (Y/N):	Y		Sampling Equipment	Decontamination (Y/N):	Y
	Number Washes:	2			Number Washes:	3
	Number Rinses:	3		l	Number Rinses:	3

^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
LDPE=Low Density Polyethylene
SS=Stainless Steel





B5 – Thermistor Maintenance Records

		ı remperatu		<u> </u>				
Contarctor Name:	AECOM			Inspe	ection Date:	: 15-Aug-	08	
Prepared By:	Darrin Johnsor	n						
Thermistor Information								
Site Name:	CAM-4		or Location		Tier II Disp	osal Facil	ity	
Thermistor Number:		Inclination			Vertical		- (15 1 00
Install Date: Coordinates and Elev	13-Aug-06	First Date	<u> Event</u>	E	27-Aug-υ	7 Last Date	e Event Elev	15-Aug-08 320.975
Length of Cable (m)		N Cable Lead Abo	ovo Ground (m)		Nodal Point	ot c	13	320.313
Datalogger Serial #	111092	Cable Load , to	JVE GIOGIA (III)		Cable Seria			1616
Code CAM-4VT05					<u>Cust</u>			
Thermistor Inspection	<u>ion</u>	0		N.	1 84-intend			
2		Good	_		ds Maintena	nce		
Casing		~						
Cover		V						
Data Logge	jer	~						
Cable		~						
Beads		~						
Battery Ins	stallation Date	Batteries	s not replaced in	<u> 1 2008.</u>				
Battery Lev	vels	Main	11.34 V			Aux	13.14 V	
						_		
Manual Ground Tem	nperature Readir	<u>ngs</u>	-	r				
Bead	ohms	Temp. (°C)]		Bead	ohms	Ten	np. (ºC)
1		8.4	_		9			-5.5
2		10.9	_		10			-6.4
3		3.4	_]	11			-7.1
4		1.4	_		12			-7.9
5		-0.5	_]	13			-8.0
6		-2.3	_]	<u> </u>			
7		-3.4	_		<u> </u>			
8		-4.4	_]				
Observations and P		na <u>nce</u>		_				
Lock lubri					•			

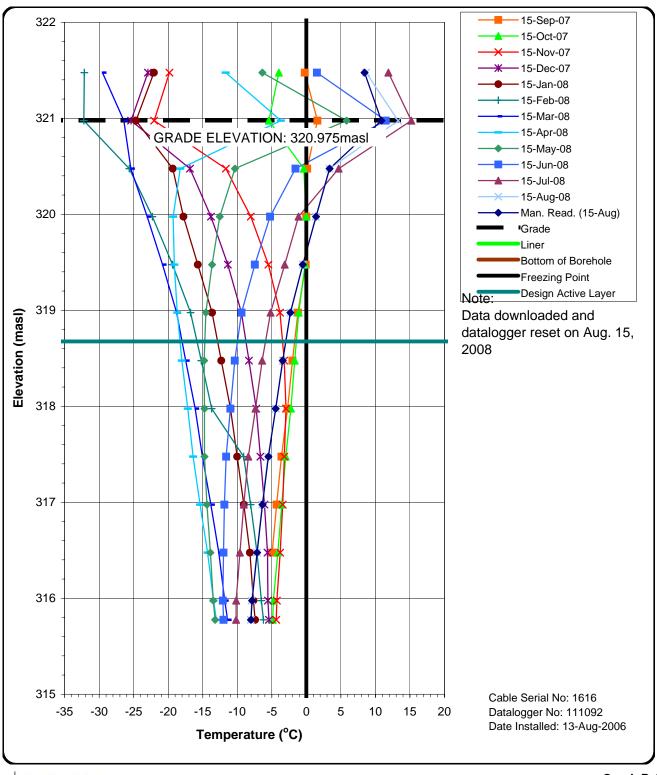
	Ground	Temperatu	re Annuai w	amu	Mance N	eport		
Contarctor Name:	AECOM			Insp	ection Date:	15-Aug-0	08	
Prepared By:	Darrin Johnson				-			
Thermistor Information Site Name:	CAM-4	Thormists	or Location		Tier II Disp	ocal Facil	14.7	
Thermistor Number:		Inclination			Vertical	osai Facii	ity	
Install Date:	13-Aug-06	First Date				7 Last Date	Event	15-Aug-08
Coordinates and Elev	ation N	١		Е			Elev	319.3
Length of Cable (m)		Cable Lead Abo	ve Ground (m)	1.2	Nodal Point		10	1000
Datalogger Serial #	111102				Cable Seria	il Number		1620
Code CAM-4VT06								
Thermistor Inspection	<u>on</u>							
	_	Good	=	Nee	ds Maintena	nce		
Casing		~						
Cover		V						
Data Logge	er	V						
Cable		V						
Beads		V						
Battery Ins	tallation Date	Batteries	not replaced in	2008	3.			
Battery Lev	vels	Main	11.43 V			Aux	13.02 V	
Ballory Lov	7010	Wall					10.02	
Manual Ground Tem	nperature Reading	qs						
Bead	ohms	Temp. (ºC)]		Bead	ohms	Tem	p. (°C)
1		9.9]		9			5.4
2		9.4			10		_	5.6
3		4.9						
4		3.1						
5		0.2						
6		-1.5						
7		-3.0			<u> </u>			
8		-4.3	j					
Observations and P		<u>ance</u>						
Lock lubri	cated.							

Contarctor Nam	ne: AE	СОМ			Inspection Date	: 15-Aug-08	3	
Prepared By:	Daı	rrin Johnson						
Thermistor Info	rmation	_	_					
Site Name:	CA	M-4		or Location		posal Facility	y	
Thermistor Nun	nber: VT		Inclination		Vertical			
nstall Date: Coordinates an	d Elovation	13-Aug-06 n N	First Date	Event	27-Aug-0 E	7 Last Date	Event Elev	15-Aug-0 317.82
Length of Cable				ove Ground (m)	1.5 Nodal Poir		<u>⊨iev</u> 16	311.02
Datalogger Ser		209067			Cable Seri	al Number		162
Code CAM-4V	/T07							
Thermistor Ins	pection							
			Good	-	Needs Maintena	ance		
Casir	ng		~					
Cove	r		~					
Data	Logger		•					
Cable	е		•					
Beac	łs		~					
	ds ery Installat	tion Date		not replaced in				
Batte		tion Date		not replaced in		Aux	13.14 V	
Batte	ery Installat	tion Date	Batteries			Aux	13.14 V	
Batte	ery Installat		Batteries Main			Aux	13.14 V	
Batte Batte Manual Groun	ery Installat		Batteries Main			Aux		p. (°C)
Batte Batte	ery Installat ery Levels d Tempera	ature Reading	Batteries Main		2008.		Tem	p. (°C) 7.4
Batte Batte Manual Ground Be	ery Installat ery Levels <u>d Tempera</u> ead	ature Reading	Batteries Main gs Temp. (°C)		2008. Bead		Tem -	
Batte Batte Manual Groun Be	ery Installatery Levels d Tempera ead	ature Reading	Batteries Main gs Temp. (°C) 4.6		Bead 9		Tem -	7.4
Batte Batte Manual Groun Be	ery Installatery Levels d Tempera ead 1	ature Reading	Batteries Main gs Temp. (°C) 4.6 2.4		Bead 9 10		Tem - -	7.4 8.1
Batte Batte	ery Installatery Levels d Tempera ead 1 2 3	ature Reading	Batteries Main gs Temp. (°C) 4.6 2.4 -0.4		Bead 9 10 11		Tem - - -	7.4 8.1 8.7
Batte Batte	ery Installatery Levels d Tempera ead 1 2 3 4	ature Reading	Batteries Main gs Temp. (°C) 4.6 2.4 -0.4 -2.0		Bead 9 10 11 12		Tem	7.4 8.1 8.7 9.3
Batte Batte Manual Groun Be	ery Installatery Levels d Temperated 1 2 3 4 5	ature Reading	Batteries Main gs Temp. (°C) 4.6 2.4 -0.4 -2.0 -3.3		Bead 9 10 11 12 13		Tem	7.4 8.1 8.7 9.3
Batte Batte Manual Groun Be	ery Installatery Levels d Tempera ead 1 2 3 4 5	ature Reading	Batteries Main gs Temp. (°C) 4.6 2.4 -0.4 -2.0 -3.3 -4.5		Bead 9 10 11 12 13 14		Tem	7.4 8.1 8.7 9.3 9.7

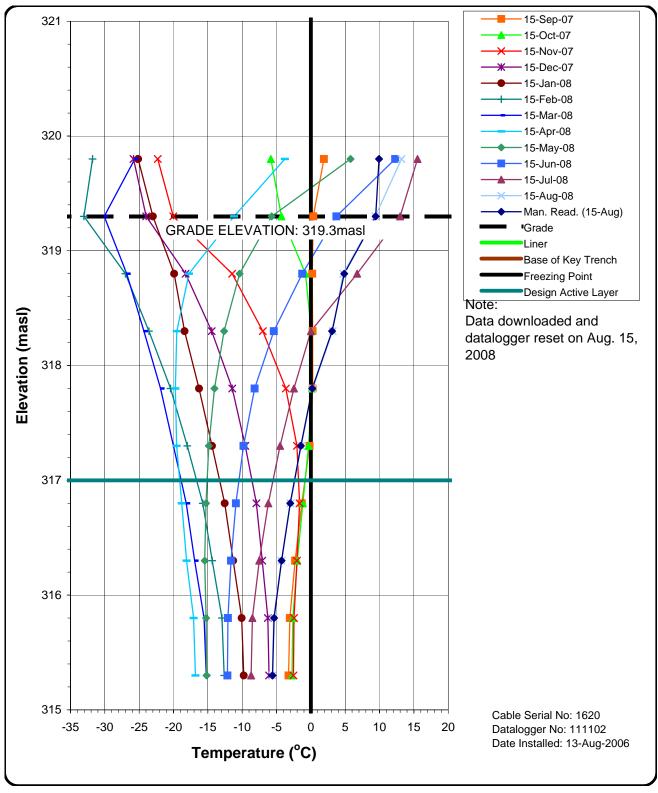
Contarctor Name:	AECOM			Inspe	ection Date	: 15-Aug-	08	
Prepared By:	Darrin Johnsor	1						
Thermistor Information	on.							
Site Name:	CAM-4	Thermisto	or Location		Tier II Disp	osal Faci	ity	
Thermistor Number:	VT08	Inclination			Vertical			
Install Date: Coordinates and Elev	13-Aug-06	First Date	Event	E	27-Aug-0	7 Last Dat	e Event Elev	15-Aug-08
Length of Cable (m)		Cable Lead Abo	ove Ground (m)		Nodal Poin	ts	10	319.18
Datalogger Serial #	108038	Cable Load 7 lbc	ovo Ground (m)		Cable Seria			1622
Code CAM-4VT08								
Thermistor Inspecti	on							
		Good	_	Need	ds Maintena	ance		
Casing		~						
Cover		V						
Data Logg	er	~						
Cable		V						
Beads		~						
	stallation Date		not replaced in	2008.				
Battery Le		Main	11.34 V			Aux	13.02 V	
Dattery Le	veis	Mairi	11.04 ¥				13.02 V	
Manual Ground Ten			1	ſ				
Bead	ohms	Temp. (°C)	_		Bead	ohms	Tem	p. (ºC)
1		11.3	-		9		-	5.7
2		9.4	4		10		-	6.6
3		4.9	1	ŀ				
4		3.2	1	ŀ				
5		0.2	1					
6		-1.8	_					
7		-3.6	_					
8		-4.8	_					
Observations and P	Proposed Mainter	nance						
Lock lubri		10.100						



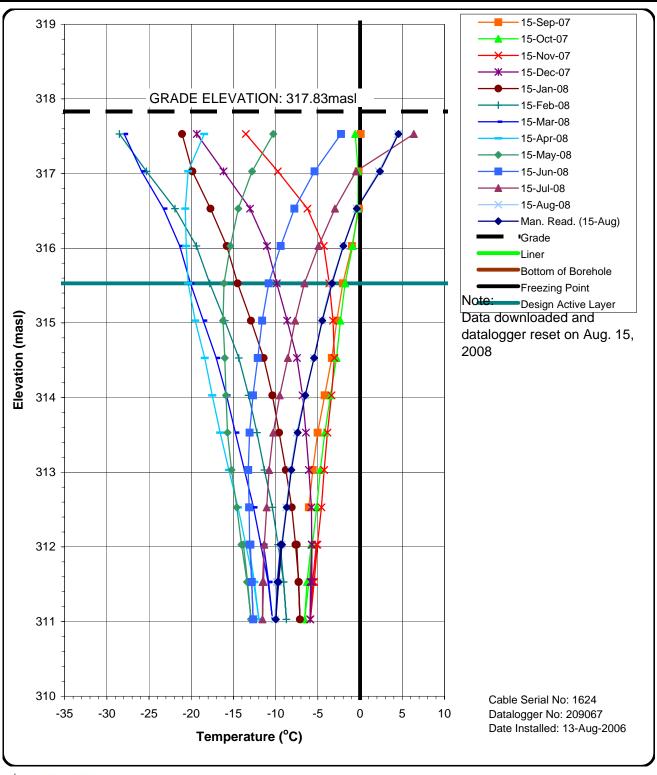
B6 – Thermistor Graphs



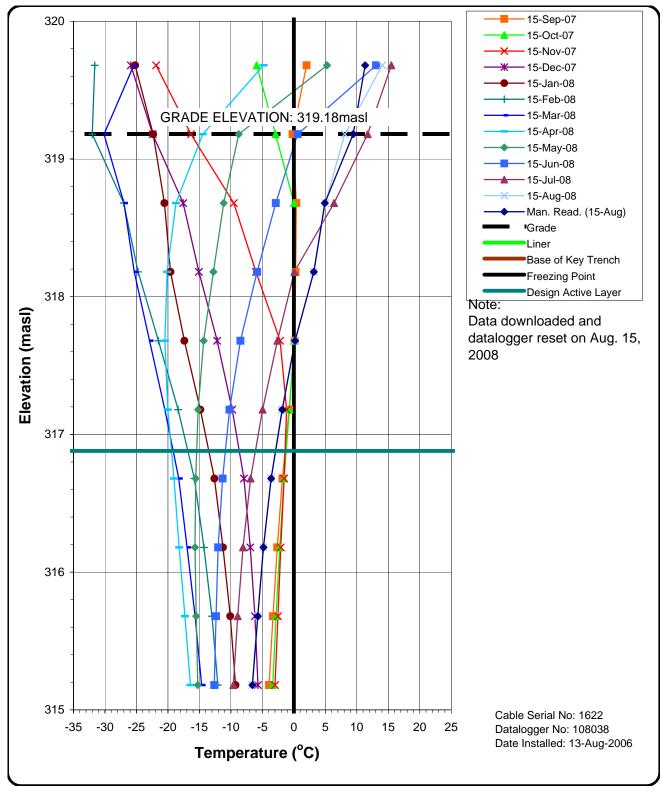
Graph B-1 Ground Temperature Profile Tier II Soil Disposal Facility Vertical GTC VT-5



Graph B-2 Ground Temperature Profile Tier II Soil Disposal Facility Vertical GTC VT-6



Graph B-3 Ground Temperature Profile Tier II Soil Disposal Facility Vertical GTC VT-7



Graph B-4 Ground Temperature Profile Tier II Soil Disposal Facility Vertical GTC VT-8 **B7 – Field Notes**

4 Ang. 14/08 - TEIR IT LANDFILL (TI) INSPECTION @ 12:30PM Cyran I PANORAMIC PHOTO OF TUR I RALIED GRAVER PAD (WP 3) WAMPONT 4 (NW CORNOR OF LF) -PHOTO 7 (FACING EAST ANNO - PHOTO 7 / FACING SONTH PHOTO LOC 1 - PHOTO 8 (FAUNG WEST)
- PHOTO 9 (FAUNG SW)
- PHOTO 10 (FAUNG SWIN)
- TETP II PHOTO LUC. 2) - WAYPOINT 6 (NORTH SUDE) 4 140 (TIER IT PHOTO LOC. 3)

- TIME II (PAGE 3) -WAYPOINT 8 (SONTH FACE FROM SETUE) - PHOTO 19 (FACING WEST) - SUM I SUUPAGE FRAM SONTH SLAPE AND MINOR PONDING AT TOO, NO STAININE (TIEN II PHOTA LOC 7) WAYPOINT II (SOWH FACE RAM OW TOE) - PHOTO 20 (FACING EAST) - WAYPOINT 12 (SW CARNOR CRAST) - PHOTO ZI (FACING HAST) - PHOTO 22 (FACING WORD) (THER II PHOTY LUC. 9) - SAME PONDER WATER ALDRE TOU - NO STAINING GASTRY FO OMEAN CANOFILL PERFORMANCE - ACCEPTABLE, NO SETTLEMENT, EROS NOW THATION CRACKS DBSVRUD - JOME SECRAGE WITH STAINING AT NORTHEAST TOE

2008 Monitoring Well Sampling Log (MW#___)

		· 0 .01	3 f				l	
	Site name:	CAM-	Carefy 1	10000				
L	Date of sampling event:	AUG - 1	7-16,	12600				
:	Names of samplers:	1FD						
	Monitoring well ID:	BMW-3	 					
	Facility:	. 44	TE					
		0.10001	. —					
			Known D)ata				
D€	epth of installation* (m):	3,45						
Length o	f screened section (m):	7,03	>					
Dept	h to top of screen* (m):	0.46)					
			Measured	Data				
	Condition of well:	GOOD			Procedure/Equipment:	INTERPACEME	EN	
	Procedure/Equipment:	INTERPACE	NETEL.	Dept	h to water surface (m):	042		
Well he	eight above ground (m):	0.76			Depth to bottom (m):	J. 25.		
7.	Diameter of well (m):	2 "		Free pr	roduct thickness (mm):	*** The contract of the contra		
	Calculations	15 /10	1 1 1		Notes	and the state of t		
	Depth of water (m):	0.41	140'		Evidence of sludge:	America N. Cop America (April Conference		
W	/ell volume of water (L):	7.60		Eviden	ice of freezing/siltation:	Contract of the contract of th		
	Static water level* (m):	<u> </u>	التحد ا	4 14000 1.03	₹.		ĺ	
Length of scre	en collecting water (m):	David same	- 1/D	1.3	<u> </u>			
	Faciliana anti			ng Information				
	Equipment:	12.4106						
Date & Time	Volume Removed (L)	Temperature (°C)	Hq	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water		
						- 1+1/ CROYIN	,	
16-40608	5.00	2.81	8.73	0.404	Bill you and see see see the	blan, 1	1/0	
	Water Samplin	g		Soil Sampling				
	Date & Time Collected:	16-100-	<i>0</i> 8	Da	te and Time Collected:	14-AUG 08		
S	ample Number - Water:	BMW-	3	00	Sample Number - Soil:	BM/W-3-15		
				700	·			
				BMW-30) = 70	15MW-3-40		
			1 1 1 7	**		1100		
	Sample Containers:		APRO	3	Sample Containers:	2/20mc		
		2 0003				Clear		
						PER SAME		
	Procedure/Equipment:	BAILER Silty, GO Brown, 1			Procedure/Equipment:	TRAVEL		
	Water Description:	< 1, /	A 3 , 3 4 2		Soil Description:	A	1	
	Water Besonption.	J114,6	u yırı			Grace G strell		
		130001 1	<i>4</i> 6			Gregish Brown		
Sampling Equipment	Decontamination (Y/N):	N/	·	Sampling Equipment [Decontamination (Y/N):	y	1	
, , , , , , , , , , , , ,	Number Washes:	1			Number Washes:	2	1	
	Number Rinses:	7	,	Number Rinses: 2				

n/a=not applicable
*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.

2008 Monitoring Well Sampling Log (MW #<u>)</u>

Site name:	CAM-4				
Date of sampling event:	AUG - 19-16	12008			
Names of samplers:	TFB	,			
Monitoring well ID:	MW-15				
Facility:	UPPER SITE				
	Known E	Data			
Depth of installation* (m):	5, 63				
Length of screened section (m):	0.22				
Depth to top of screen* (m):	0.32				
	Measured	Data			
Condition of well:	G00P		Procedure/Equipment:	INTERFACE WETE	Z.
Procedure/Equipment:	INTERPACE METER		h to water surface (m):	245	i
Well height above ground (m):	0, 31		Depth to bottom (m):	2.74	
Diameter of well (m):	7 11	Free p	roduct thickness (mm):	page production of the contract of the contrac	
					ĺ
Calculations	1		Notes		
Depth of water (m):	0.45		Evidence of sludge:	* Service securitarional	
Well volume of water (L):	4,00	Evider	ce of freezing/siltation:	~ constant seed	
Static water level* (m):	-0.06				
Length of screen collecting water (m):	1.61				ĺ
	Development/Purgi				
Equipment:	NORTHING 1	1UM			ł
Data 9 Time Valuma Damayad (I)	Temperature (°C) pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water	
Date & Time Volume Removed (L)	· · · · · · · · · · · · · · · · · · ·	.9. /			11
16-AUG-05 9.56	2.08 6.31	0.8%	13,9	Clear, Sligh	17
Water Samplin	g		Soil Sampling		ري ان ''ا
Date & Time Collected:	16 Ave .03	Da	ite and Time Collected:	14-AUG-68_	
Sample Number - Water:			Sample Number - Soil:	MW 15-15	
	MU-19		•	MU 15-25	
DOP>	MW-190	Refusal @ 2	6cm		
		Contract of the contract of th		7 10-03 1	
Sample Containers:	1 Jan Antes		Sample Containers:	4 Concent	1
A ah	4 Uses			Cler	1
GICHNIZERS	I METALS (GOMC)		·	MER SAMPLE	ł
Procedure/Equipment:	VECTORING IN		Procedure/Equipment:	TROVEL	
Water Description:	Clear, Slighty		Soil Description:	Silty Gravel	1
	Ye Now Chronical ocher		,	Till	
Sampling Equipment Decontamination (Y/N):		Sampling Equipment	Decontamination (Y/N):	7	1
Number Washes:		Camping Equipment	Number Washes:		1
Number Washes. Number Rinses.			Number Rinses:	Samuel Samuel	1
	W			<u></u>	4

n/a≃not applicable

^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.

2008 Monitoring Well Sampling Log (MW #///A)

Site nam	CAM-4					
Date of sampling ever		In O.				
Names of sampler		and the second second				
inames of sampler	1117	9.8				
Monitoring well II): MW-14-A					
Facilit	1111					
raciii	MICKOILE					
	Known	Data				
Depth of installation* (m	18 "1	Data				
Length of screened section (m						
Depth to top of screen* (m	:					
Deput to top of screen (ii)· \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\					
	Measured	I Data				
Condition of we		, Data	Procedure/Fauinment	INTERFACE METER		
Procedure/Equipmer	and the same of a secondary of	Den	th to water surface (m):	1.02		
Well height above ground (n		Вор	Depth to bottom (m):			
Diameter of well (n		Free n	product thickness (mm):	Parameter Company of the Company of		
Diameter of well (II). 	1.00 p				
				,		
Calculations			Notes			
Depth of water (n): 1,07		Evidence of sludge:			
Well volume of water (I	· • • • • • • • • • • • • • • • • • • •	Evidence of freezing/siltation:				
Static water level* (n	Alle Agreem of					
Length of screen collecting water (n	Ø /:1	 				
Longth of Golden contesting trace. (Development/Purg	ing Information				
Equipme	T 7/15 0 1/ 4 7/	UNIT				
_40.6	1100 1110	•				
Date & Time Volume Removed (.) Temperature (°C) pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water		
			WELL PREAD			
16-A110-4 3.0c	1.01 6.73	0.47	TO GOODLY & FU	STHROUGH CEIL		
Water Samp	ing		Soil Sampling			
Date & Time Collecte		Da	ate and Time Collected:	F-A6608		
Sample Number - Wat			Sample Number - Soil:			
·	MV-17-4			MU17A-30		
		100 . 1a	50.			
		Refugal @	JU CM	MW 140-A-201		
Sample Containe	s: 3 Tabral Amper	17/2001	Sample Containers:	2/200mC		
·	2406	1+4/0000	Sample Containers:	Clear		
		2/250M	Jer - E56.	PER SAMPLE		
Procedure/Equipme	nt: AJUMALTIC		Procedure/Equipment:			
	I'm punt					
Water Description	n: Sunhtly clead	1	Soil Description:	SA 204 SH		
· ·	7/1/1/11	3		Mary Later		
	[649, 4/D]			TW/W/ORL		
Sampling Equipment Decontamination (Y/I	1):	Sampling Equipment	Decontamination (Y/N):	/		
Number Wash	1		Number Washes:	Ź		
Number Rinse			Number Rinses:	hung.		

n/a≃not applicable

^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.

2008 Monitoring Well Sampling Log (MW #16)

Sit	e name:	CAM-	- 4			
Date of samplin	g event:	AUG-14	-16/	/ Z008		
Names of sa	mplers:	TFB				
		,				
Monitoring		Mw-16				
	Facility:	UPPER S	5176			
					3	
			Known [Data - OATA N	SOTAVALABLE	
Depth of installati						
Length of screened sec						
Depth to top of scre	en^ (m):					
			Measured	Data		
Condition	of well:	6000	vicasureu		Procedure/Equipment:	INTECHEE METER
Procedure/Equ		INTELFACE	METER		h to water surface (m):	1.5 2/
Well height above gro		(2.60	1.10101~		Depth to bottom (m):	2, 20
Diameter of		7.1		Free pi	roduct thickness (mm):	***
		Soot .		· · · · · · · · · · · · · · · · · · ·		
Calculation	าร		•		Notes	
Depth of w	ater (m):	1139	,		Evidence of sludge:	Constitution to the constitution of the consti
Well volume of w	ater (L):	330	•	Evidence of freezing/siltation:		*-epicalicouropalicas (#600) et MAS College Massillation (#500) et Massillation (#500) et Massillation (#500)
Static water le	vel* (m):	6.74				
Length of screen collecting w	ater (m):					
				ng Information		
· Eq	uipment:	BAILES				
		r	·			
Date & Time Volume Remo	oved (L)	Temperature (°C)	pН	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
16-406-08 4,00	and we'l	1,70	6.90	0.594	54.0	Hydroxarton odour
Water S	amplir	ıg			Soil Sampling	
Date & Time C	ollected:	16-AU6-C	9	Da	te and Time Collected:	14-AU6-08
Sample Number	- Water:	MW-16			Sample Number - Soil:	Mw 16-15
				. a 15 t		MW 19- 40
	,			Refusal@ 4	Dem .	
			4 20	Manager .		
Sample Co	ntainers:	3 Front	. AMBO		Sample Containers:	2/100mc
		20003				Clear
						VEC SANCE
Procedure/Eq	uipment:	BAILER			Procedure/Equipment:	TROWEL
Water Des	cription:	CIC, S	eel on		Soil Description:	Sardy SIL
		TOP OF WAR	TO .			Till Amo
		Hillocarbon	adar			31/12/2
Sampling Equipment Decontamination	on (Y/N):	y		Sampling Equipment [Decontamination (Y/N):	1
Number '	Washes:				Number Washes:	3
Number	Rinses:	3			Number Rinses:	3

n/a=not applicable

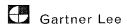


^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.

2008 Monitoring Well Sampling Log (MW # $\underline{\mathcal{S}}$)

	Site name:	CAM-	4				
	Date of sampling event:	AUG- 14	-16/	2008			
	Names of samplers:	TEB					
	Monitoring well ID:	MW-8			*		
	Facility:	UNGK SI	TE				

			Known I	Data			
D	epth of installation* (m):	4,08		·-···			
Length o	of screened section (m):	2.01					
Dep	th to top of screen* (m):	0,97					
			Measured			A	
	Condition of well:	6000				WIELFALE METER	
	Procedure/Equipment:	INTERPACE 1	NETER	Depti	n to water surface (m):	0,97	
Well h	eight above ground (m):	097			Depth to bottom (m):	Zu 45	
	Diameter of well (m):	211		Free pr	oduct thickness (mm):		
	Calculations				Notes		
	Depth of water (m):	0.47.	·		Evidence of sludge:	A CONTRACTOR OF THE PARTY OF TH	
V	Vell volume of water (L):	3.00	s .s	Evidence of freezing/siltation:			
	Static water level* (m):		\mathcal{W}				
Length of scre	een collecting water (m):	0.5	1				
		Developm	ent/Purgi	ng Information วับฟังิ			
	Equipment:	PERUTTAL	TIC 5	10M/2			
					·	·	
Date & Time	Volume Removed (L)	Temperature (°C)	pН	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water	
il Ma MA	3 01	320	201	1.15 min	10:7	CJC,	
16-100-08	1,00	3.10	701	111 100/6	19:7	HANG Che	
	Water Samplin		.1	W(* * * * * * * * * * * * * * * * * * *	Soil Sampling		
	Date & Time Collected:	10-AU6-0	<u>v</u>		te and Time Collected:	14-AUG-08	
S	Sample Number - Water:				Sample Number - Soil:	MUD 8-10	
		MW-0		NEW / factor		MU 8-20	
				Ist Sample @	, 10ch		
			·	Resusal @	ZOCA		
	Sample Containers:	3 500 M	Auhelb		Sample Containers:	2120ml	
		7.000				Clear	
						PELSAMILE	
	Procedure/Equipment:	PERLITA	LTIL		Procedure/Equipment:	TROWEL	
	Water Description:	CA1 -	Appendix		Soil Description:	Sandy slt	
		Extrans cle	mical			Till pro-	
		1 6 dos	•			OTPL. GRACE	
Sampling Equipment	Decontamination (Y/N):	17		Sampling Equipment D	Decontamination (Y/N):	y	
	Number Washes:	/ 1			Number Washes:	7	
	Number Rinses:	-9			Number Rinses	ζ	

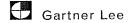


n/a=not applicable
*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.

2008 Monitoring Well Sampling Log (MW # $\frac{\mathscr{Q}}{}$)

			8 8		0.40	
'	Site name:	CAM-	4			
[Date of sampling event:	AUG- 14-	- 10/	2008		
	Names of samplers:	TFB_				
	Monitoring well ID:	MW-9				
	Facility:	UPPER SIT	E	, , , , , , , , , , , , , , , , , , , ,		
			Known [Data		
De	epth of installation* (m):	3,32				
Length o	of screened section (m):					
Dept	th to top of screen* (m):	0.40				
			Measured	Data		
	Condition of well:	6000			Procedure/Equipment:	INTELFACE METER
	Procedure/Equipment:	INTERFACE	VETER	Dept	h to water surface (m):	0.29
Well he	eight above ground (m):	(10) TO			Depth to bottom (m):	i. 39
	Diameter of well (m):	ス"		Free pr	oduct thickness (mm):	6-tan-one report the first house of
	Calculations				Notes	
	Depth of water (m):	0.151 m	4700		Evidence of sludge:	- Securitar securitar de la companya
W	Vell volume of water (L):			Eviden	ce of freezing/siltation:	Contractive and the second second second
	Static water level* (m):	-0.04				
Length of scre	en collecting water (m):	1,16				
			ent/Purgi	ng Information		
	Eguipment:	1 1 3 3 2 2 2 3 3		PUMY		
al	MUED O					
Date & Time	Volume Removed (L)	Temperature (°C)	рН	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
24.0 W. 11110	1 (2)	· · · ·			111 -2	CiC
17-146-18	LIKI C	2.62	11.34	1.06 ms/	71. 1	Charical ou
	Water Samplin	la l	<u> </u>		Soil Sampling	
	Date & Time Collected:	The Art Art) (K	Da	te and Time Collected:	19-16-18
	ample Number - Water:	 	87		Sample Number - Soil:	Muig-15
W 10-A	()/2-08	INW OF			·	Muls - 75
1	-A			La Fusala	and the second	, , , , , , , , , , , , , , , , , , , ,
1.01	my Toll			Letusa (0	2500	
	Sample Containers:	3 500 ML	ANHERS	Source	Sample Containers:	7-/100 ml
	Sample Containers.	000	1966		oumpro comamoro.	2/UN mc
		c ou c	7 (lef le .)			POR SAMPLE
11/11/16 N/ 5	/ Érocedure/Equipment:	VIEW LEAV	771		Procedure/Equipment:	Marin
PUMP,	e rocedure/Equipment.		+		1 Toccaulo/Equipment.	7,0000
	Water Description	1/2			Soil Description:	SANW E II
	Water Description:	CHL			Son Description.	SANDY Silt
		11 3211	dov			GOWN OT PL
0	D	- C - C - C	1000	Counties Environ 15	December 11 (1/41)	3 / 20 8
Sampling Equipment	Decontamination (Y/N):	-	<u> </u>	oampling Equipment L	Decontamination (Y/N):	-1
	Number Washes:	†			Number Washes:	7
1	Number Rinses:	1			Number Rinses:	· · · · · · · · · · · · · · · · · · ·

n/a=not applicable



^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.

2008 Monitoring Well Sampling Log (MW #<u></u><u></u>

	Site name:	CAM- L	F				
	Date of sampling event:	AUG-19-1	6/2c	ගරි			
	Names of samplers:	TFB		•			
		4					
	Monitoring well ID:	MW-5					
	Facility:	UMEIL SI	E				
			17	>-1-			
	11 6 ! 1 - 11 - 1! + () -	2/0	Known E	Jata			
	epth of installation* (m):	3.60 2.03			, ,		
	of screened section (m): th to top of screen* (m):	0.60					
Бер	tir to top or screen (iii).	0.00					
	*	ľ	Measured	Data			
	Condition of well:	6000			Procedure/Equipment:	NTERFACE METE	R
	Procedure/Equipment:	NTERFACE	METER		h to water surface (m):	117 MINE	
Well he	eight above ground (m):		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Depth to bottom (m):	7,25 M STEP	
	Diameter of well (m):	0.60		Free p	oduct thickness (mm):	Minuster conserver.	
		<u></u>					
	Calculations				Notes		
	Depth of water (m):	1.17 m 770?			of the second district and the		
V	Vell volume of water (L):	4.20		Eviden	ce of freezing/siltation:	Equation of the second	
	Static water level* (m):	0.57					1
Length of scre	een collecting water (m):	てのち					
		Developm	ent/Purgi	ng Information			
	Equipment:	PERIN	WILL	PUMP			
	T	1	1		T 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Date & Time	Volume Removed (L)	Temperature (°C)		Conductivity (µS/cm)	Turbidity (NTU)	Description of Water	1
115-AU6-08	4.80	2.09	7.32	0.887	6.	SIGHT Chamical	ale
	Water Samplin		<u> </u>	,	Soil Sampling	Dellisty Creaming	ove.
	Date & Time Collected:	15-AU6-0	, Q	Da	te and Time Collected:	14-A18-08	İ
	Sample Number - Water:		<u>~</u> ī		Sample Number - Soil:	144) 5-10	
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				Pa0 1	7	V	
				Refusal @	Lych		
	Sample Containers:	Z TOWAL	(مابعتداد			2/250ML	
			AUNV,	An Flore re	.11	C 8015	
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	Procedure/Equipment:	PEKITACT	ic pour	, d	Procedure/Equipment:	TROVEL	
	Water Description:	1.1			Soil Description:	SAUDY SILF	1
					•	TILL, GRAVENT	
		Slight chem	ad oilin			BOUND OTPL	
Sampling Equipment	Decontamination (Y/N):		٧	Sampling Equipment [Decontamination (Y/N):	У	
	Number Washes:		(Number Washes:	4	
	Number Rinses:	les de la constante de la cons	7		Number Rinses:	4	1

n/a=not applicable



^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.

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Appendix C

Upper Site Landfill

- C1 Site Condition/Visual Inspection Records
- C2 Geotechnical Inspection Photographic Records
- C3 Monitoring Photographic Records
- C4 Monitoring Well Sampling Records
- C5 Thermistor Maintenance Records
- C6 Thermistor Graphs
- C7 Field Notes



C1. Upper Site Landfill

C1.1 Landfill Summary

The Upper Site Landfill is located approximately 625 m east of the main facilities area. The original landfill consisted of three lobes (South, Central and North) that encompass an area of approximately 4,500 m². The location of the landfill is presented in Figure C-1.

A previous evaluation and geophysical survey determined landfilled material is continuous throughout the north and central lobes and more isolated in the south lobe. Tier I and Tier II contaminated soil was found downgradient of the central lobe, indicating contaminant migration from the landfill, thus, The Upper Site Landfill was classified as high potential environmental risk.

Remediation of the Upper Site Landfill involved complete excavation of the north lobe, partial excavation of the central lobe and installation of a leachate containment system in the central lobe and regrading of the south lobe.

Monitoring requirements for the 2008 monitoring year include visual inspection, soil sampling, groundwater sampling and thermal monitoring.

C1.2 Visual Monitoring

No significant erosion, settlement or indications of slope instability were observed at the Upper Site Landfill. Overall landfill performance is assessed as "acceptable". Appendix C1 presents a summary of the 2008 visual inspection results.

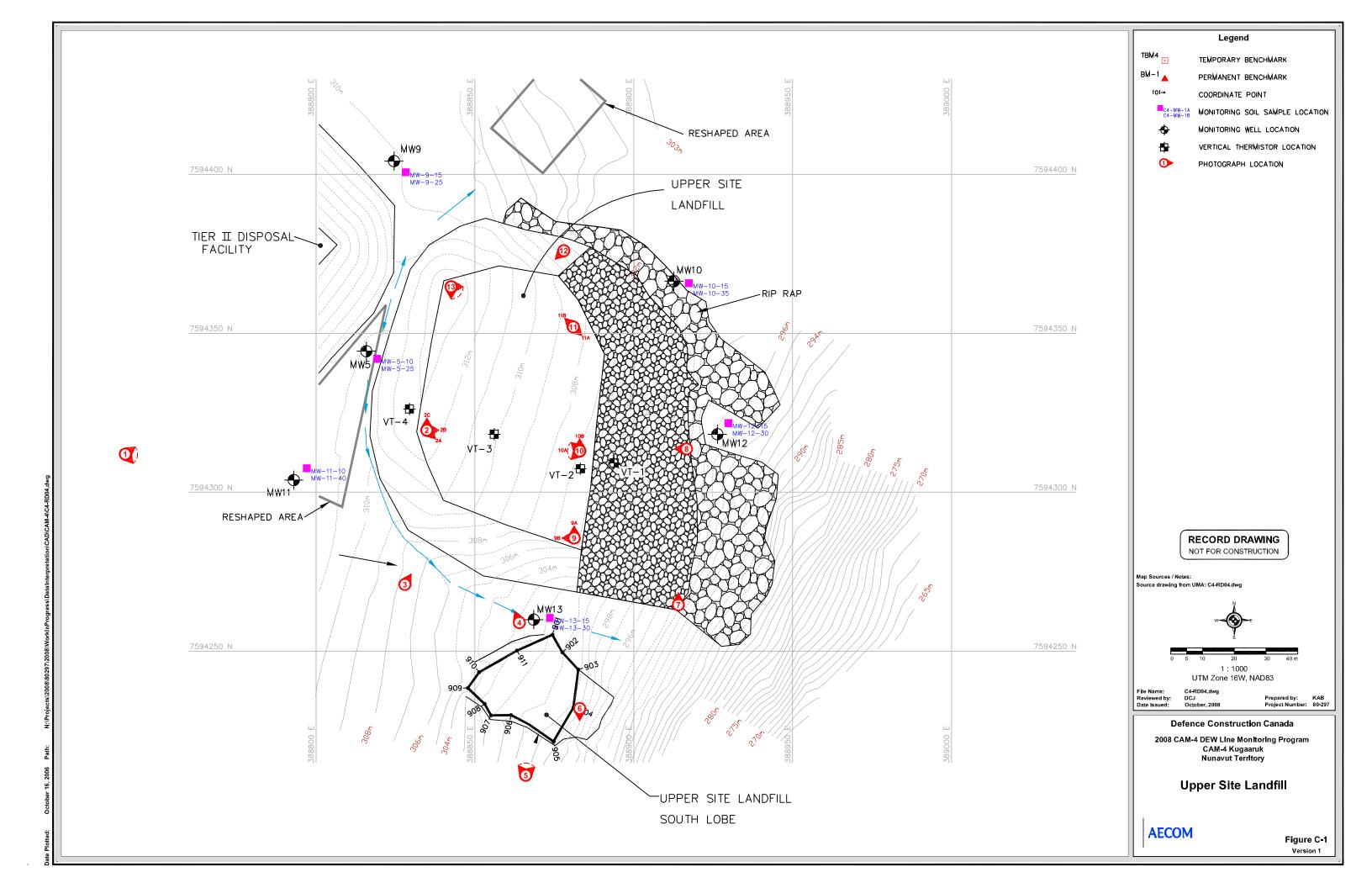
No issues of concern that require immediate attention were identified.

C1.3 Soil Sampling

Soil samples were collected at monitoring locations MW-10, MW-11, MW-12 and MW-13. The sampling locations are presented in Figure C-1. Two samples were collected at each monitoring location at depths of approximately 0.10 to 0.15 m and 0.30 to 0.40 m below ground surface. The photographs of each monitoring well and test pit location are included in Attachment C3.

No staining or free product was observed during the sampling event at the Upper Site Landfill. No odours were detected during the sampling event at the Upper Site Landfill.

(cam4-appc0-upperlfreport.doc)





Laboratory analysis detected concentrations of TPH (C6-34) at monitoring locations MW-11 and MW-13. It is recommended that these results be evaluated in the context of the Landfill Monitoring Plan. The soil sample at MW-10-35 (0.35 m depth) returned an arsenic concentration of 93.6 mg/kg. This value is presumed to be anomalously high, given the non-detection at the 0.15 m soil sample. At the time of issuing this draft report the results of the confirmatory analysis are awaited from ALS Laboratory Group.

The analytical results and depths of samples are provided in Table C-1. The Laboratory Certificates of Analysis are provided in Appendix F.

C1.4 Groundwater Sampling

Groundwater measurements and monitoring system condition records were documented for monitoring wells MW-10, MW-11, MW-12 and MW-13. These records are provided in attachment C4.

All groundwater monitoring wells slated for monitoring in 2008 at the Upper Site Landfill contained sufficient volume for sampling, with the exception of MW-10, which was completely dry. Samples were collected at a flow rate equal to the recharge rate of the monitoring well (and not exceeding 100mL/min). Monitor MW-11 was sampled using a peristaltic pump and disposable LDPE tubing. The rechargeable battery provided with the peristaltic pump from the supplier proved to be faulty, thus monitors that were accessible by vehicle were sampled with the peristaltic pump run off the vehicle battery. Monitors MW-12 and MW-13 were not accessible by vehicle, therefore were purged and sampled using a disposable bailer. It should be noted that monitoring well MW-12 was found to have a blockage in the well pipe at approximately 0.64 m below ground surface. Sand was discovered on the interface meter as well as the disposable bailer. The blockage in the well pipe may be attributed to a broken coupling, presumably allowing sand pack from the borehole annulus to enter the well.

Groundwater samples were not filtered and not preserved. Samples were analyzed for total concentration of inorganics, TPH (C6-C32) and PCB.

TPH (C6-C32) was detected in monitoring wells MW-11, MW-12 and MW-13. Elevated concentrations of Chromium and Lead were also reported for monitor MW-12. The results should be evaluated in the context of the Landfill Monitoring Plan as well as compared with DCC internal standards.

The results are presented in Table C-2. The laboratory Certificates of Analysis are provided in Appendix F.

C1.5 Thermal Monitoring

All thermistors at the Upper Site Landfill were in good condition. Thermistor data was downloaded on August 15, 2008, programming was checked and the data loggers were reset. The data logger clocks were adjusted to local (Standard Time). Battery charge was checked to ensure sufficient remaining charge and batteries were not changed in 2008.

Tabulated ground temperature data since the last download in August 2007 are included in Appendix C5. Graphs of ground temperature versus depth are presented in Appendix C6.

(cam4-appc0-upperlfreport.doc)

Table C-1. CAM-4 Kugaaruk, Summary of 2008 Soil Analysis - Upper Site Landfil

Sample Ident.	Sample Location	Depth	Copper Cu	Nickel Ni	Cobalt Co	Cadmium Cd	Lead Pb	Zinc Zn	Chromium Cr	Arsenic As	Mercury Hg	PCB Total Aroclors	F1 C6-C10	F2 C10-C16	F3 C16-C34	TPH C6-34
-		(m)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Upgradient Sample	s															
MW-11-10	MW-11	0.10	11.2	11.9	7.0	<0.50	19.1	43.9	27.7	<5.0	<0.0050	<0.050	<10	<30	1230	1230
MW-11-40	MW-11	0.40	10.0	11.6	6.5	<0.50	8.1	33.3	22.6	<5.0	<0.0050	<0.050	<10	<30	1150	1150
Downgradient Sam	ples															
MW-10-15	MW-10	0.15	6.5	10.5	5.0	<0.50	5.6	22.9	22.3	<5.0	<0.0050	< 0.050	<10	<30	<50	0
MW-10-35	MW-10	0.35	8.4	20.0	9.0	< 0.50	6.2	27.0	24.8	93.6	< 0.0050	< 0.050	<10	<30	<50	0
MW-12-15	MW-12	0.15	6.0	6.8	3.6	< 0.50	4.9	23.3	17.0	<5.0	< 0.0050	< 0.050	<10	<30	<50	0
MW-12-30	MW-12	0.30	5.4	6.9	3.8	< 0.50	4.9	21.0	15.4	<5.0	< 0.0050	< 0.050	<10	<30	<50	0
MW-13-15	MW-13	0.15	7.1	8.6	5.1	< 0.50	5.7	31.4	17.5	<5.0	0.0117	< 0.050	<10	<30	76	76
MW-13-30	MW-13	0.30	3.5	6.6	3.6	<0.50	3.7	17.2	14.9	<5.0	<0.0050	<0.050	<10	<30	<50	0

Note: mg/kg = ug/g

TPH is represented as the total of F1, F2 and F3 as defined by CCME Tier I Method - Rev. 5 Analysis of Petroleum Hydrocarbons in Soil



Table C-2. CAM-4 Kugaaruk, Summary of 2008 Groundwater Analysis - Upper Site Landfil

		Groundwater	Copper	Nickel	Cobalt	Cadmium	Lead	Zinc	Chromium	Arsenic	Mercury	РСВ	F1	F2	F3	TPH
Sample Identification	Location	Elevation	Cu	Ni	Co	Cd	Pb	Zn	Cr	As	Hg	Total Aroclors	C6-C10	C10-C16	C16-C34	C6-34
		(masl)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Upgradient Samples	3															
MW-11	MW-11	311.16	<0.0020	0.0026	0.00146	<0.000034	<0.0010	<0.0050	<0.0020	0.0011	<0.000020	<0.0010	<0.10	<0.30	0.47	0.47
Downgradient Samp	oles	•							,		•				•	
MW-10	MW-10	<299.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-12	MW-12	294.18	0.0433	0.0418	0.0156	0.000135	0.0158	0.208	0.0540	0.0051	<0.000020	<0.0012	<0.10	1.26	2.02	3.28
MW-13	MW-13	301.12	0.0288	0.0257	0.00978	0.000176	0.00725	0.0809	0.0205	0.00216	<0.000020	<0.0011	<0.10	<0.30	1.11	1.11

⁻ Denotes dry well; no sample obtained Note: mg/L = 1000 ug/L





C1 – Site Condition/Visual Inspection Records

Visual Inspection Checklist Inspection Report – Page 1 of 2

SITE NAME:	CAM-4 - Pelly Bay
LANDFILL/AREA DESIGNATION:	Upper Site Landfill
DATE OF INSPECTION:	August 14, 2008
DATE OF PREVIOUS INSPECTION:	August 24 - 26, 2007
INSPECTED BY:	Darrin Johnson, P.Eng.
REPORT PREPARED BY:	Darrin Johnson, P.Eng.

The preparer represents to the best of the preparer's knowledge, the following statements and observations are true and correct and to the best of the preparer's actual knowledge, no material facts have been suppressed or misstated.

Preliminary Stability Assessment

Feature	Severity Rating	Extent
Settlement	Not observed	None
Erosion	Not observed	None
Frost Action	Not observed	None
Animal Burrows	Not observed	None
Vegetation	Not observed	None
Staining	Not observed	None
Vegetation Stress	Not observed	None
Seepage Points	Not observed	None
Debris Exposed	Not observed	None
Tension Crack	Not observed	None
Overall Landfill		
Performance	Accer	otable

Upper Site Landfill - Inspection Report - Page 2 of 2

Checklist Item	Present Yes/No	Location	Dimensions (L x W) (m)	Depth (m)	Extent (%)	Description	Photographic Records (Photos referenced in photolog and in figures)	Additional Comments/ Preliminary Stability Assessment
Settlement	No		(,				processes and minguises,	
Erosion	No							
Frost Action	No							
Animal Burrows	No							
Vegetation	No							
Staining	No							
Vegetation Stress	No							
Seepage Points	No							
Debris Exposed	No							
Presence/ Condition of Monitoring Instruments	Good							
Other Features of Note.	No							
Additional Photos						General	USL-1, 2A, 2B, 2C, 3, 4, 5, 6, 7, 8, 9A, 9B, 10A, 10B, 11A, 11B, 12, 13	



C2 – Geotechnical Inspection Photographic Records



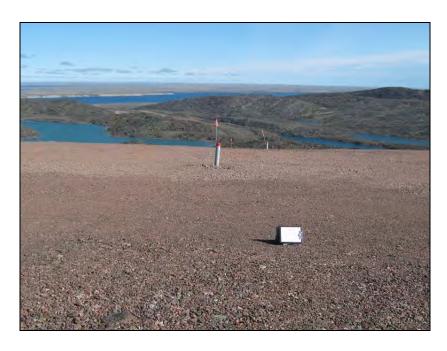


Photograph USL-1. Panoramic photo facing southeast towards west slope of Upper Site Landfill. ↑



Photograph USL-2A. Facing southeast along crest. ↑



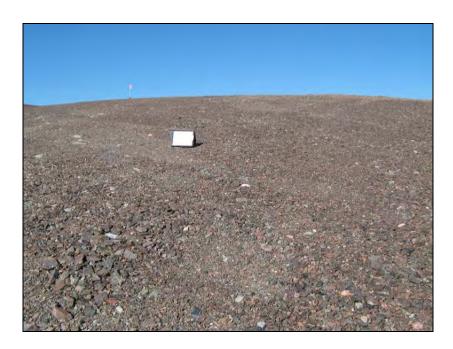


Photograph USL-2B. Facing east along line of thermistors. ↑



Photograph USL-2C. Facing north along west crest. ↑





Photograph USL-3. Facing south slope. ↑



Photograph USL-4. Facing west along south slope. ↑





Photograph USL-5. Panoramic photo from the southwest corner of south lobe. ↑



Photograph USL-6. Facing south along the south slope of the south lobe from the southeast corner. ↑





Photograph USL-7. Facing north from the southeast corner of the rip-rap. ↑



Photograph USL-8. Toe of rip-rap below thiermistors. ↑





Photograph USL-9A. Facing north along crest from southeast corner. \uparrow



Photograph USL-9B. Facing west along south crest from the southeast corner. ↑





Photograph USL-10A.

Panoramic photo of the top of the landfill facing west.



Photograph USL-10B. Facing north along crest. ↑





Photograph USL-11A.

Facing southeast.



Photograph USL-11B.

Facing northwest.





Photograph USL-12. North gravel slope. ↑



Photograph USL-13. Panoramic photo of the landfill top from the northwest corner. ↑



C3 – Monitoring Photographic Records





Photograph 1. Monitoring Location MW-11 (Upgradient) Facing Southeast. ↑



Photograph 2. Monitoring Location MW-10 (Downgradient). Facing North. ↑

(cam4-appc3-mwphotos.doc) -1 -





Photograph 3. Monitoring Location MW-12 (Downgradient). Facing North. ↑



Photograph 4. Monitoring Location MW-13 (Downgradient). Facing Northeast. ↑

(cam4-appc3-mwphotos.doc) - 2 -



C4 – Monitoring Well Sampling Records

2008 Monitoring Well Sampling Log (MW-10)

	Site name:	CAM-4				
	Date of sampling event:	14-17 Aug 2008				
	Names of samplers:	TFB				
	Monitoring well ID:	MW-10				
	Facility:	Upper Site Landfill				
			Known I	Data		
	Depth of installation* (m):	3.37				
Length	of screened section (m):	2.03				
De	epth to top of screen* (m):	0.38				
		N	Measured	l Data		
	Condition of well:	Good			Procedure/Equipment:	Interface Meter
	Procedure/Equipment:	Interface Meter		Dep	oth to water surface (m):	
Well	height above ground (m):	0.68			Depth to bottom (m):	2.38
	Diameter of well (m):	0.05		Free (product thickness (mm):	-
	Calculations				Notes	
	Depth of water (m):	Dry @ 2.38			Evidence of sludge:	-
Well volume of water (L): 0.00 Evidence of freezing/siltation:				-		
	Static water level* (m):					
Length of sc	reen collecting water (m):					
		Developm	ent/Purgi	ing Information		
	Equipment:					
Date & Time	Volume Removed (L)	Temperature (°C)	pН	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
16-Aug-08						
	Water Samplin	g			Soil Sampling	
	Date & Time Collected:			D	ate and Time Collected:	14-Aug-08
	Sample Number - Water:				Sample Number - Soil:	MW-10-15
						MW-10-35
	Sample Containers:				Sample Containers:	4 x 250mL Glass
	Procedure/Equipment:				Procedure/Equipment:	SS Trowel
	Water Description:				Soil Description:	Brown sandy silt till, some gravel.
Sampling Equipmen	nt Decontamination (Y/N):			Sampling Equipment	Decontamination (Y/N):	Y
	Number Washes:				Number Washes:	2
	Number Rinses:				Number Rinses:	2



^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
LDPE=Low Density Polyethylene
SS=Stainless Steel

2008 Monitoring Well Sampling Log (MW-11)

	Site name:	CAM-4				
	Date of sampling event:	14-17 Aug 2008				
	Names of samplers:	TFB				
	Monitoring well ID:	MW-11				
	<u>-</u>	Upper Site Landfill				
	,	-11				
			Known I)ata		
F	Depth of installation* (m):	3.85	TAILOWII I	Julu		
	of screened section (m):	2.03				
Det	oth to top of screen* (m):	0.86				
			<i>l</i> leasured	Data		
	Condition of well:	1			Procedure/Equipment:	
	Procedure/Equipment:	Interface Meter		Dep	oth to water surface (m): Depth to bottom (m):	1.97
Well h	eight above ground (m):	0.56			2.82	
	Diameter of well (m):	0.05		Free	product thickness (mm):	-
	Calculations				Notes	
	Depth of water (m):	0.85		Evidence of sludge:	-	
Well volume of water (L): 1.67				Evide	nce of freezing/siltation:	-
Static water level* (m): 1.41					<u> </u>	
Length of scre	een collecting water (m):	0.85				
Longin or sort	cerr conceding water (m).		ont/Durai	ng Information		
	Equipment				DE .	
	Equipment:	Pensiallic Pump, H	ioriba U-22	with flow through cell, LD	<u>''''</u>	
	I -					
Date & Time	Volume Removed (L)	Temperature (°C)	pН	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
15-Aug-08	2.5	2.71	6.62	0.97	2.3	C&C
						Chemical odour
	Water Samplin	g			Soil Sampling	
	Date & Time Collected:	15-Aug-0)8	D	ate and Time Collected:	14-Aug-08
	Sample Number - Water:	MW-11			Sample Number - Soil:	MW-11-10
				Refusal @ 0.40 m		MW-11-40
	Sample Containers:	3 x 0.5L Amber Gla	ass		Sample Containers:	4 x 250mL Glass
		2 x VOC vials				
	Procedure/Equipment:	Peristaltic Pump, H	loriba LI-22		Procedure/Equipment:	SS Trowol
	r rocedure/Equipment:	. chotalio i amp, ii			r rocedure/Equipment:	33 HOWEI
	Water Descript	C&C, Chemical odd	our		Call December	Drown cond 114 4111
	Water Description:	C&C, Chemical out	Jui		Soil Description:	Brown sandy silt till,
						some gravel.
Sampling Equipment	Decontamination (Y/N):	Υ		Sampling Equipment	Decontamination (Y/N):	Υ
	Number Washes:	1			Number Washes:	3
	Number Rinses:	2		1	Number Rinses:	3

^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
LDPE=Low Density Polyethylene
SS=Stainless Steel



2008 Monitoring Well Sampling Log (MW-12)

	Site name:					
	Date of sampling event:	_				
	Names of samplers:	TFB				
	Monitoring well ID:	MW-12				
	Facility:	Upper Site Landfill				
			Known D)ata		
D	epth of installation* (m):	3.67				
Length o	of screened section (m):	2.03				
Dep	th to top of screen* (m):	0.68		-	-	
			Measured	Data		
	Condition of well:	1			Procedure/Equipment:	Interface Meter
	Procedure/Equipment:			Der	oth to water surface (m):	1.53
\Mell ba	eight above ground (m):	0.66		Бер	Depth to bottom (m):	2.20
VVCIITIE	Diameter of well (m):	0.05		Eroo :	product thickness (mm):	-
Note Plackage in well a	()	l .	unling Cons	·	, ,	-
inote - blockage in well a	ipprox. 1.30 MBTOP. P0	ssible darnaged col	apiirig. Sand	d pack allowed to enter w	eli at damaged area.	
	O al a ula d'anna				Neter	
	Calculations				Notes	
	Depth of water (m): 0.67				Evidence of sludge:	-
W	Well volume of water (L): 1.32			Evide	nce of freezing/siltation:	-
	Static water level* (m):	0.87				
Length of scre	en collecting water (m):	0.67				
		_		ng Information		
	Equipment:	Disposable Bailer, I	Horiba U-22	<u>.</u>		
Date & Time	Volume Removed (L)	Temperature (°C)	рН	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
16-Aug-08	1.4		Insufficient	t volume for field paramet	ters	Grey, cloudy, silty
						Chemical odour
	Water Samplin	g			Soil Sampling	
	Date & Time Collected:	16-Aug-0)8	Da	ate and Time Collected:	14-Aug-08
S	ample Number - Water:	MW-12			Sample Number - Soil:	MW-12-15
				Refusal @ 0.32 m		MW-12-30
	Sample Containers:	3 x 0.5L Amber Gla	ass		Sample Containers:	4 x 250mL Glass
		2 x VOC vials				
	Procedure/Equipment:	Disposable Bailer			Procedure/Equipment:	SS Trowel
	r rocedure/Equipment.				i iocedule/Equipment.	33 Howel
	Water Description	Grev. cloudy silty	chemical		Soil Description	Brown sandy silt,
	Water Description: Grey, cloudy, silty, chemica odour				Soli Description:	
						some gravel.
						.,
Sampling Equipment	Decontamination (Y/N):	Y		Sampling Equipment	Decontamination (Y/N):	Y
I	Number Washes:	3	ľ	4	2	
	Number Rinses:	5			Number Washes: Number Rinses:	2

^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
LDPE=Low Density Polyethylene
SS=Stainless Steel



2008 Monitoring Well Sampling Log (MW-13)

	Site name:	CAM-4				
	Date of sampling event:	14-17 Aug 2008				
	Names of samplers:	TFB/DAJ				
	Monitoring well ID:	MW-13				
	Facility:	Upper Site Landfill				
	·					
			Known I	Data		
	Pepth of installation* (m):	3.18	1411011111	Juliu		
	of screened section (m):	1.90				
	oth to top of screen* (m):	0.20				
Det	our to top or screen (iii).	0.20				
				D-1-		
		I	<i>l</i> leasured	Data		
	Condition of well:				• • • • • • • • • • • • • • • • • • • •	Interface Meter
	Procedure/Equipment:			Dep	oth to water surface (m):	1.88
Well h	eight above ground (m):	0.64			Depth to bottom (m):	2.18
	Diameter of well (m):	0.05		Free p	product thickness (mm):	-
	Calculations				Notes	
	Depth of water (m):	0.30		Evidence of sludge:	-	
V	Well volume of water (L): 0.59				nce of freezing/siltation:	-
Static water level* (m): 1.24					<u> </u>	
Length of scre	een collecting water (m):	0.30				
Longin or core	bon concounty water (m).		ont/Durai	ng Information		
	Equipment:	Disposable Bailer,				
	Equipment	Disposable Baller,	11011ba 0-22	<u>-</u>		
B + 0 T	5				T 1111 (1711)	D 14 114 1
Date & Time	Volume Removed (L)	Temperature (°C)	pH	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
16-Aug-08	0.8	2.91	5.98	0.392	903	Grey, cloudy
						Chemical odour
	Water Samplin	g			Soil Sampling	
	Date & Time Collected:	16-Aug-0	18	Da	ate and Time Collected:	14-Aug-08
S	Sample Number - Water:	MW-13			Sample Number - Soil:	MW-13-15
				Refusal @ 0.30 m		MW-13-30
	Sample Containers:	2 x 0.5L Amber Gla	ass		Sample Containers:	4 x 250mL Glass
		2 x VOC vials				
	Procedure/Equipment:	Disposable Bailer			Procedure/Equipment:	SS Trowel
	r roocaare/Equipment.	.,			1 Toocdaro/Equipment.	OO TTOWCI
	Water Description:	Cloudy, grey, chem	nical odour		Soil Description:	Brown sandy silt till
	water Description:	2.300, 9.0, 0.1011				
				some grav		
					.	,,
Sampling Equipment	Decontamination (Y/N):	Y		Sampling Equipment	Decontamination (Y/N):	Y
	Number Washes:	2			Number Washes: Number Rinses:	2
	Number Rinses:	Number Rinses: 3				3

^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.
n/a=not applicable
LDPE=Low Density Polyethylene
SS=Stainless Steel



C5 – Thermistor Maintenance Records

Contarctor Name:	AECOM			Insp	ection Date:	15-Aug-	 08	
Prepared By:	Darrin Johnson	n						
Thermistor Information								
Site Name:	CAM-4	Thermisto	or Location		Upper Site	Landfill		
Thermistor Number:		Inclination			Vertical			
Install Date:	28-Sep-06	First Date			27-Aug-07	Last Date		15-Aug-08
Coordinates and Elev		N		E			Elev	304.43
Length of Cable (m)			ove Ground (m)	1.2	Nodal Point Cable Seria	S	13	1615
Datalogger Serial #	111071				Cable Sena	l Number		1615
Code CAM-4VT01								
Thermistor Inspecti	ion							
	<u> </u>	Good	_	Nee	eds Maintena	nce	_	
Casing		~	-					
_								
Cover		~						
Data Logg	jer	~						
Cable		<u>~</u>						
Beads		▼						
	stallation Date		not replaced in	2008	•			
-				1 400	<i>.</i>			
Battery Le	vels	Main	11.34 V			_Aux	12.29 V	
Manual Ground Ten	nperature Readii	ngs			<u> </u>			
Bead	ohms	Temp. (°C)]		Bead	ohms	Ten	np. (ºC)
1		10.1	1		9			-3.9
2		12.5	1		10			-5.2
3		5.6	1		11			-6.4
4		4.8	1		12			-5.9
5		4.5	1		13			-4.9
6		3.3	1					
7		-0.2]					
8		-2.4						
			4					
Observations and F		<u>nance</u>						
Lock lubr	icated.							

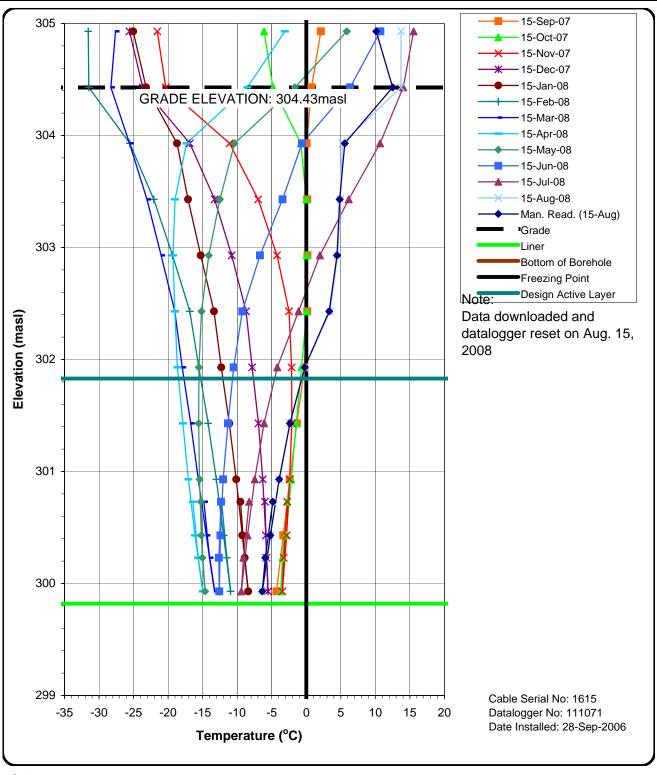
O - retorretor Nome	AECOM			Isanoo	tion Date:			
Contarctor Name:	AECOM Darrin Johnson			Inspec	tion Date.	: 15-Aug-0	18	
Prepared By:	Darrin Johnson	<u>I</u>						
Thermistor Informatio		· · · · · ·						
Site Name:	CAM-4		or Location		pper Site	Landfill		
Thermistor Number: Install Date:	VT02 28-Sep-06	Inclination First Date			ertical	7 Last Date	- Event	15-Aug-08
Coordinates and Elev		N First Date	EVEIIL	<u></u>	21-Aug-0	Lasi Daic	Elev	306.71
Length of Cable (m)		Cable Lead Abo	ove Ground (m)	1.2 N	odal Point	ts	11	
Datalogger Serial #	2020175			С	able Seria	al Number		1617
Code CAM-4VT02								
Thermistor Inspection	on							
Thermister mopesti	<u>511</u>	Good		Needs	Maintena	ınce		
Casing		<u> </u>	_					
Cover		~						
Data Logge	er	~						
Cable	<i>3</i> 1	.						
Beads								
	stallation Date	_	s not replaced in	 2008.				
Battery Lev		Main	11.34 V	1 2000.		Aux	12.77 V	
Dallery Lo.	7615	Mani	11.54 ¥			_^u^	12.11	
Ton	Deadin							
Manual Ground Tem	iperature Keadini	gs	7					
Bead	ohms	Temp. (°C)	_	L	Bead	ohms	Tem	np. (ºC)
1		11.2	_	L	9		<u>.</u>	-4.8
2		8.9	_	L	10		<u>.</u>	-6.2
3		5.3	_	L	11		<u> </u>	-7.6
4		4.0	_	L				
5		1.4	_	L				
6		-0.9	_	L				
7		-2.6	_	L				
8		-3.7		L				
Observations and P	roposed <u>Mainter</u>	nance						
Lock lubri		<u></u>						

Contarctor Name:	AECOM			Inspe	ection Date:	15-Aug-0	08	
Prepared By:	Darrin Johnson	l						
Thermistor Information	nn							
		Thermisto	or Location		Upper Site	Landfill		
Site Name: Thermistor Number:	VT03	Inclination			Vertical			
Install Date:	28-Sep-06	First Date	Event		27-Aug-06	Last Date	e Event	15-Aug-08
Coordinates and Elev	/ation N			E			Elev	310.09
Coordinates and Elev Length of Cable (m) Datalogger Serial #	7.2	Cable Lead Abo	ove Ground (m)	1.2	Nodal Point	S	12	4646
	111126				Cable Seria	i Number		1618
Code CAM-4VT03								
Thermistor Inspecti	on							
		Good		Need	ds Maintena	nce		
Cooing		<u> </u>	=					
Casing		V						
Cover		~						
Data Lagg	~ "							
Data Logg	ei	~		-				
Cable		~						
Beads		~						
	tallation Data			. 2000				
ballery ins	tallation Date	Datteries	not replaced in	2000	•			
Battery Lev	vels	Main	11.34 V			Aux	13.5 V	
Manual Ground Ten	nperature Readin	<u>igs</u>	7					
Bead	ohms	Temp. (°C)			Bead	ohms	Ten	np. (ºC)
1		14.2			9			-5.3
2		9.2	1	Ī	10			-6.7
3		4.1	1		11			-7.6
4		2.3	1	İ	12			-8.2
5		0.0	1					
6		-1.5	1					
7				l				
8		-2.8	1	ŀ				
0		-4.2	J	Ĺ				
Observations and P	roposed Mainter	nance						
Lock lubri								

Contarctor Name:	AECOM			Insp	ection Date	: 15-Aug-(08	
Prepared By:	Darrin Johnsor	1						
Thermistor Information	on							
Site Name:	CAM-4	Thermisto	or Location		Upper Site	Landfill		
Thermistor Number:		Inclination			Vertical			
Install Date:	26-Sep-06	First Date Event		27-Aug-07 Last Date				
Coordinates and Ele		N		Ε			Elev	312.8
Length of Cable (m)	6.2	Cable Lead Abo	ove Ground (m)	1.2	Nodal Poin		10	
Datalogger Serial #	207046				Cable Seria	al Number		1619
Code CAM-4VT04								
	_							
Thermistor Inspect	ion	0		NI	-l- M-:			
		Good	_	Nee	ds Maintena	ance		
Casing		~						
_								
Cover		~						
Data Logg	ıer	V						
Data Logg	JO1	1.						
Cable		~						
Beads		~						
Battery Ins	stallation Date	Batteries	not replaced ir	2008	3.			
Pottom Lovele		Main 11.34 V				Δ	42 C2 V	
Battery Le	eveis	Main	11.34 V			Aux	13.63 V	
Manual Ground Ter	mperature Readi	<u>ngs</u>	-					
Bead	ohms	Temp. (°C)			Bead	ohms	Ten	np. (ºC)
1		13.7	-		9			-5.2
2		9.6			10			-5.3
3		5.0						
4		3.4						
5		1.2						
6		-1.1						
7		-2.5						
8		-4.0						
Observations and I	Proposed Mainte	nance						
Lock lubr								
Lock lubi	.oatou.							

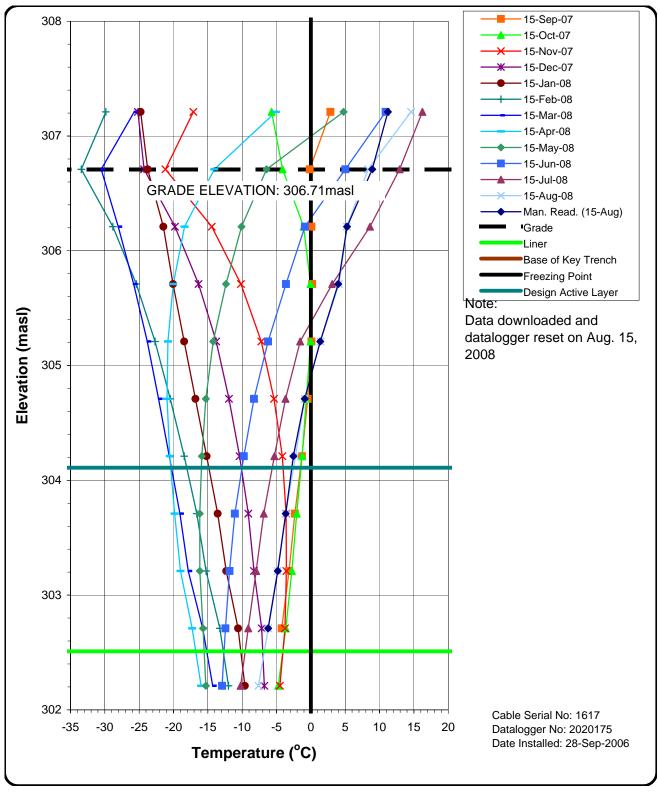


C6 – Thermistor Graphs



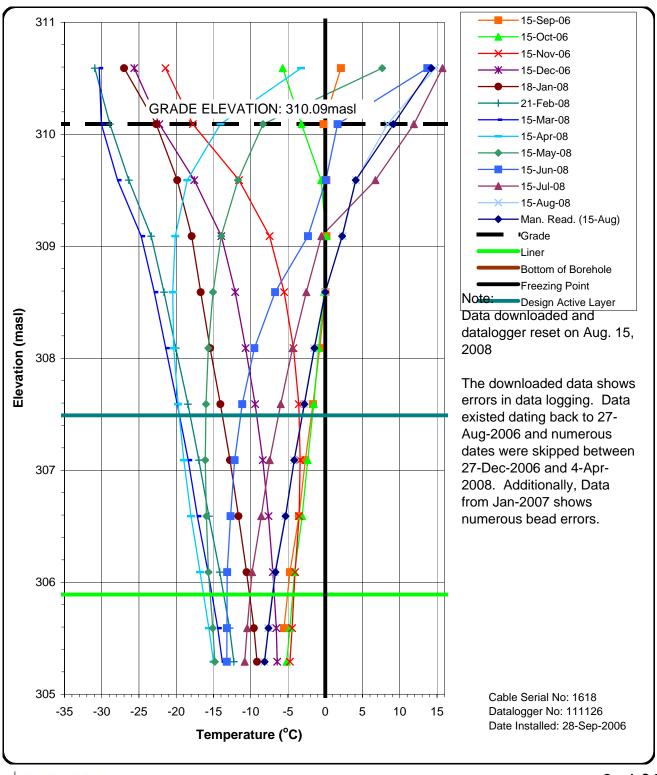
AECOM

Graph C-1 Ground Temperature Profile Upper Site Landfill Vertical GTC VT-1



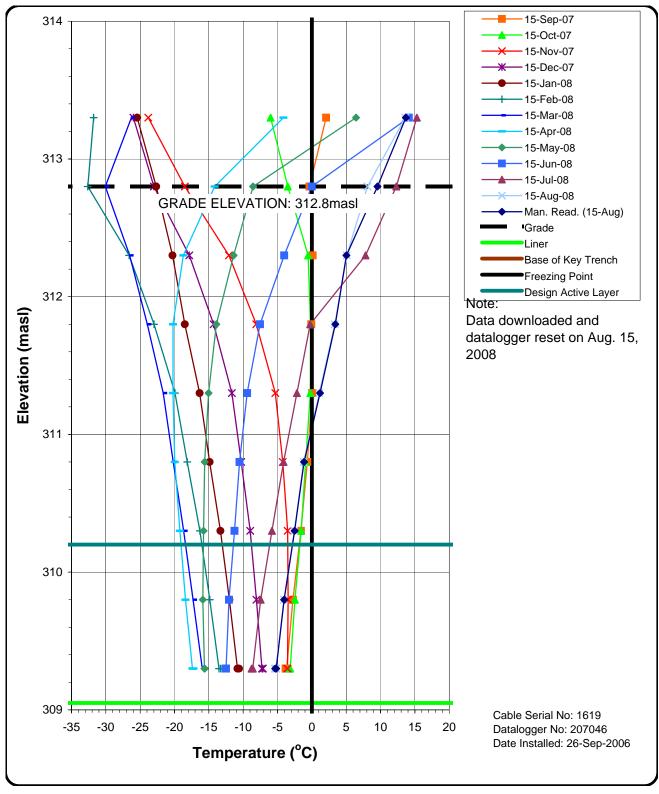
AECOM

Graph C-2 Ground Temperature Profile Upper Site Landfill Vertical GTC VT-2



AECOM

Graph C-3 Ground Temperature Profile Upper Site Landfill Vertical GTC VT-3

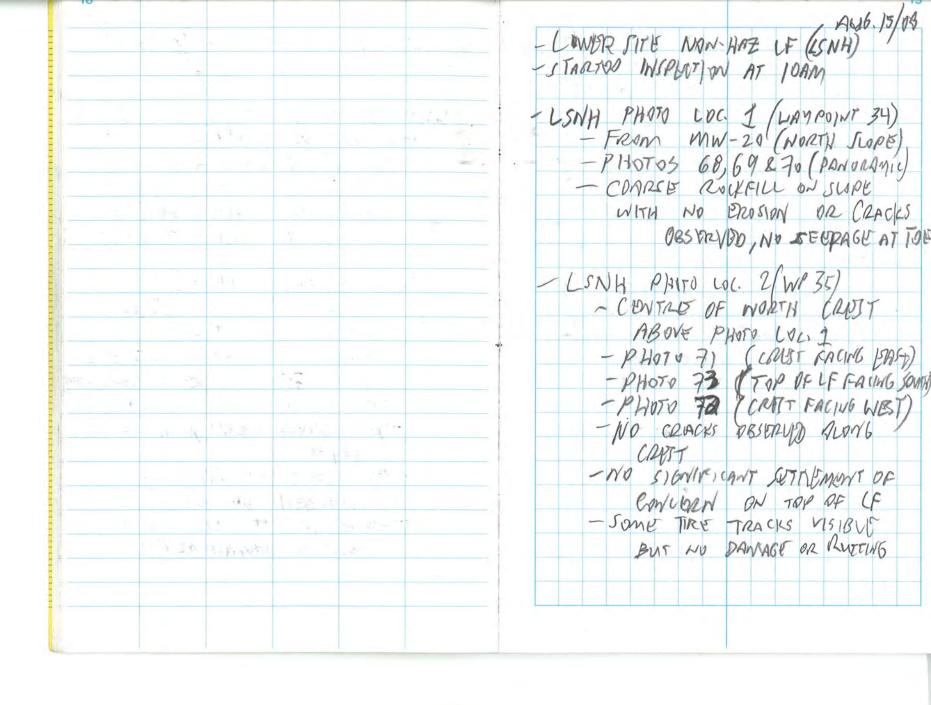


AECOM

Graph C-4
Ground Temperature Profile
Upper Site Landfill
Vertical GTC VT-4



C7 - Field Notes



2008 Monitoring Well Sampling Log (MW #___)

				* * ***** · * ************************		
	Site name:	CAM-	4			
	Date of sampling event:	AUG- 14-	16/20	න <u>හ</u>		
	Names of samplers:	TFB				
	Monitoring well ID:					
	Facility:	UNBLIST	E			
			Known E	Data		
De	epth of installation* (m):	3.85 2.03				
Length o	f screened section (m):	2.03				
Dept	h to top of screen* (m):	0,86				
į į						
		ł	Measured	Data		
	Condition of well:	GOOD			Procedure/Equipment:	INTEGREE MET
	Procedure/Equipment:	INTELFACE "	WETER		th to water surface (m):	1. 17 m500
Well he	eight above ground (m):	0,56			Depth to bottom (m):	2.82. My100
	Diameter of well (m):	7"		Free p	roduct thickness (mm):	* Society out and a second second second second second second second second second second second second second
				· .		
	Calculations				Notes	
	Depth of water (m):	1.47 00	410,7		Evidence of sludge:	Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence and Construence an
1/1	/ell volume of water (L):	4	7 70	Evider	Puring have proved brook accommon respecting to	
•	Static water level* (m):		41			
l angth of sare	en collecting water (m):	#1.40	1 • /1			• .
Length of scie	en collecting water (III).	L	ent/Durgi	ng Information		
	Equipment:	PEKLISTAC		Sid		
	Equipment.	1 CONTR	IIC V	20.3		
Data 9 Times	Valuma Damayad (I.)	T(80)		Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
Date & Time	Volume Removed (L)	Temperature (°C)		Conductivity (µ5/cm)	Turbidity (NTO)	Description of water
115-AU3-08	2,50	24	6,62	0.97	2.3	claminal cakes
	Water Samplin	ıg			Soil Sampling	
	Date & Time Collected:	- 400	R	Da	ate and Time Collected:	19-406-08
S	ample Number - Water:	Mu>-11			Sample Number - Soil:	MW (1-10
	•	12100				MU 11-40
				Refusal@	F1/i	
				Leansile i	40 cm	
	Sample Containers:	3 50 M	AMIDERS		7/250mC	
	1 VOL 1			Close		
			3 / 1 1	ZM FREINE	W	PER SAMPLE
	Procedure/Equipment:	PERMIALI	TIC AAD		TROVEL	
	Water Description:		1- 13		Soil Description:	CARONCIL
	water Description:	clerical			Con Description.	2407/2/2/2/
		Cleaning	S			MULTINGO ON
0	D	000	-	Compling Facilities	Decentamination (V/N)	Chen entire
Sampling Equipment	Decontamination (Y/N):			Sampling Equipment	Decontamination (Y/N):	-51
	Number Washes:	1			Number Washes:	+
I	Number Rinses:	1 L	ن		Number Rinses:	7

n/a=not applicable
*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.

2008 Monitoring Well Sampling Log (MW #<u>IS</u>)

	Site name:	CAM.	- land			
	Date of sampling event:	AUG- 19-	16/2	2008		
	Names of samplers:	TFB /1	クゴ (soil)		
	Monitoring well ID:					
	Facility:	UPPEL SI	175			
			·			
			Known D	Data		
	epth of installation* (m):	3.18				
	f screened section (m):	1.90				
Dept	th to top of screen* (m):	0.20				
				Doto		
	O-ndition of walls	600D '	Measured		Procedure/Equipment	NTOUTHE MEET
	Condition of well:	INTELLACE	MAEREN		h to water surface (m):	1.33
Mallha	Procedure/Equipment: eight above ground (m):	0.64	WICI CIC	Бері	Depth to bottom (m):	2.18
vveii ne	Diameter of well (m):	7"		Free n	roduct thickness (mm):	
	Diameter of well (III).			Поер	. saast anomioss (mill).	
	Calculations				Notes	
	Depth of water (m):	1.88			₩(S) No. (S) (SON AND AND AND AND AND AND AND AND AND AN	
V	Vell volume of water (L):	0.6 L		Evider	ce of freezing/siltation:	Marie Control of the
	Static water level* (m):	1.24				
Length of scre	een collecting water (m):	1.34				
		Developm	ent/Purgi	ng Information		
	Equipment:	MAILER				
		· · · · · · · · · · · · · · · · · · ·	,		TAGKANT	(WELL MY)
Date & Time	Volume Removed (L)	Temperature (°C)	pH [©]	Conductivity (µS/cm)	Turbidity (NTU)	Description of Water
16-AUG-08	0.86	2,41	5,98	0.392	907.0	Characal orlar
	Water Samplin	g			Soil Sampling	,
	Date & Time Collected:	· · · · · · · · · · · · · · · · · · ·	<u> ひ</u>	Da	ite and Time Collected:	
S	ample Number - Water:	MW-12,			Sample Number - Soil:	MW13-15
				relusace	300	My 15-20
					and the second	
	Sample Containers:				Sample Containers:	11 174
	7 100 >			4 125ac		
		2 500 M				CR.
	Procedure/Equipment:	13M1)	ich-		-0.11	
	BAILER	t We'		TROUEL		
	Water Description:	(lady 6	KEY		Soil Description:	SANNY SIT
		Clady, 6	01-			TIL 15100 CARUFUL MI
		Le-night	cur.			GRAUGU, 1/1
Sampling Equipment	Decontamination (Y/N):			Sampling Equipment	Decontamination (Y/N):	
	Number Washes:	· Zem			Number Washes:	har .
	Number Rinses:	3			7	

n/a=not applicable



^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.

2008 Monitoring Well Sampling Log (MW # <u>//</u>)

Site name:	CAM- L	<u> </u>					
Date of sampling event:	AUG- 14-16	ා පි					
Names of samplers:	TEB						
Monitoring well ID:	MW-10						
Facility:	UPPERSITE	gyroune- news					
]	Known D	ata				
Depth of installation* (m):	3.37						
Length of screened section (m):	て.03						
Depth to top of screen* (m):	2.05 0.38						
	М	easured		,			
Condition of well:	600D			Procedure/Equipment:	NERPAE METER		
Procedure/Equipment:		LETER	Dept	h to water surface (m):	0140 -		
Well height above ground (m):	0.68			Depth to bottom (m):	V10 6.1		
Diameter of well (m):	·Z"		Free pr	roduct thickness (mm):	* involversement		
Calculations				Notes			
Depth of water (m):	000001	10		Evidence of sludge:	* Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission of the Commission		
Well volume of water (L):	1170 G	7 U.	Eviden	ce of freezing/siltation:	Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Construction of the Constr		
Static water level* (m):	,						
Length of screen collecting water (m):	1.32						
Length of screen concerning water (m).		ent/Purai	ng Information				
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Water Samplir	\			Soil Sampling	· · · · · · · · · · · · · · · · · · ·		
Date & Time Collected:	T	-7	Date and Time Collected: \\ \(\frac{1}{40608} \)				
Sample Number - Water		-/-		MU10-15			
Sample Number - Water.				Sample Number - Soil:	MW 10-35		
					, , , , , , , , , , , , , , , , , , , ,		
Sample Contains				Sample Containers:	2/750 ml		
Sample Containers			1	Sample Containers.	C Caco		
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Procedure/Equipment	1 /		TROWEL				
			Soil Description:	Sauggy Suff			
Water Description				Soil Description:	ZAI AVELT		
					60 AVEL 1 BROYN 1711 -		
	1			D	31		
Sampling Equipment Decontamination (Y/N)			Sampling Equipment	Decontamination (Y/N):	<u> </u>		
Number Washes				Number Washes:	<u> </u>		
Number Rinses	:			Number Rinses:	4,		

n/a=not applicable
*From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.

2008 Monitoring Well Sampling Log (MW #12)

Site name:	CAM-4			
Date of sampling event:	AUG-195-16/	2008		
Names of samplers:	TFB			
Monitoring well ID:	MW-12			
Facility:	UPMERSITE			
	Known I	Data		
Depth of installation* (m):	3.67			
Length of screened section (m):	1.03			
Depth to top of screen* (m):	0.68			
	Measured	Data		
Condition of well:	GET MELOW			INTERPARE METER
Procedure/Equipment:	INTERFACE METER	Dept	th to water surface (m):	1,53
Well height above ground (m):	0.66		Depth to bottom (m):	2.20
Diameter of well (m):	*Z!"	Free p	roduct thickness (mm):	
			Nata	
Calculations	- American Company		Notes	
Depth of water (m):	1 (19)	Fiddos	Evidence of sludge:	
Well volume of water (L):	1.40	Evider	nce of freezing/siltation:	
Static water level* (m):	0,86			
Length of screen collecting water (m):	<u> </u>	na Information		
	Development/Purgi	ng information		
Equipment:	MAICEIC			
Data & Time Valuma Damayad (L)	T(90) pH	Conductivity (uS/cm)	Turbidity (NTU)	Description of Water
Date & Time Volume Removed (L)	Temperature (°C) pH	Conductivity (µS/cm)	Turbidity (NTU)	
16-AU6-00 900 1.40L	So FIELD	PARA SER	ME COLL	
Water Samplir	ıg		Soil Sampling	
Date & Time Collected:	16-A66-08	Da	ate and Time Collected:	14-A6-68
Sample Number - Water:			Sample Number - Soil:	MW12-19
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JAND PACE 6 CONTY	, , , , , , , , , , , , , , , , , , , ,	Met o Jose Ge	- Z C ! ' !	
Sample Containers:	3 520 X AMBY		Sample Containers:	2/20MC
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	2000			VEC SAMKE
Procedure/Equipment:	BAILEK		Procedure/Equipment:	Mower
Water Description:	Cloudy Carey		Soil Description:	54NNY 51 21
· ·	Closely GREY			Some Charles
	Eliverical odor			Papa Gelery
Sampling Equipment Decontamination (Y/N):		Sampling Equipment	Decontamination (Y/N):	y
Number Washes:	y-9		Number Washes:	Z
Number Rinses:	5		Number Rinses:	Z

n/a=not applicable

^{*}From ground surface. Unless this is stated, all measurments are assumed to be from the top of the casing.

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Appendix D

Lower Site Non-hazardous Waste Landfill

- D1 Site Condition/Visual Inspection Records
- D2 Geotechnical Inspection Photographic Records
- D3 Field Notes



D1 – Site Condition/Visual Inspection Records



D2 – Geotechnical Inspection Photographic Records



D3 - Field Notes

Appendix E

Lower Site Landfill

- E1 Site Condition/Visual Inspection Records
- E2 Geotechnical Inspection Photographic Records
- E3 Monitoring Photographic Records
- E4 Monitoring Well Sampling Records
- E5 Thermistor Maintenance Records
- E6 Thermistor Graphs
- E7 Field Notes



E1 – Site Condition/Visual Inspection Records



E2 – Geotechnical Inspection Photographic Records



E3 – Monitoring Photographic Records



E4 – Monitoring Well Sampling Records



E5 – Thermistor Maintenance Records



E6 – Thermistor Graphs

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Appendix F

Laboratory Reports

Appendix G

Quality Assurance/Quality Control

- Table G1 Soil Sampling QA/QC Results
- Table G2 Water Sampling QA/QC Results