

January 4, 2011

TF1012730

Christa Simmons, P. Eng. Pollution Prevention Division Department of Environment and Conservation 4th Floor, West Block, Confederation Building St. John's, NL A1B 4J6

Dear Ms. Simmons:

Re: Removal of PCB-Impacted Material, Upper Trinity South Waste Disposal Facility, New Harbour, NL

1.0 INTRODUCTION

AMEC Earth and Environmental, a division of AMEC Americas Limited, AMEC, was retained by the Newfoundland and Labrador Department of Environment and Conservation (ENVC) to provide environmental consulting services at the Upper Trinity South (New Harbour) Waste Disposal Site, located east of the community of New Harbour, Newfoundland and Labrador (NL), herein referred to as "the Site". The activities to be undertaken include:

- Complete a file review in order to gain a better understanding of all environmental work completed at the Site;
- Prepare tender documents (including a pre-tender estimate) and supervise the excavation of PCB-impacted material for proper transportation and disposal at an approved soil treatment facility;
- Complete inspection of monitor wells and leachate control systems;
- Complete one groundwater, surface water and sediment monitoring event;
- Complete one background sampling event (sediment, groundwater and surface water), similar to March 2010 program;
- Compare all sediment samples collected from the leachate collection pond, interception ditches and all down gradient stream to all existing Site data, and provide interpretation of the results;
- Compare the background sampling analytical results (sediment, groundwater and surface water) to all existing Site data, and provide interpretation of the results;
- Prepare two reports, including an excavation summary report and an annual report of activities; and
- Deliver a public presentation summarizing the work completed in 2010/2011.

This report provides an overview of the activities undertaken to prepare tender documents and supervise and direct the excavation of PCB-impacted material for proper transportation and disposal at an approved soil treatment facility.



2.0 BACKGROUND INFORMATION

2.1 SITE DESCRIPTION

The Upper Trinity South (New Harbour) Waste Disposal Site operated from the early 1970's to November 2009. When it was operational, it accepted domestic waste from the communities of Blaketown, Dildo, Green's Harbour, Hopeall, Markland, New Harbour, Old Shop and South Dildo, NL. The Site also historically accepted waste from the Towns of Bay Roberts and Cupids.

When the Site was in operation it was operated by a local contractor (Cliff Cooper Construction) who also collected waste from residents and businesses in the area. Waste was typically disposed at the facility by placing it in excavated cells or pits. Waste delivered to the facility by private individuals and businesses was often placed on the ground and left in the open. There was an area at the facility for metals storage, including car wrecks and bulk items. The facility was also used by a local seal processing plant to dispose of fat, seal pelt trim, sawdust and sludge.

2.2 PREVIOUS PCB IN SOIL INVESTIGATIONS / REMEDIATION PROGRAMS

2.2.1 1992 – 1995

During the period of 1992 through 1995, ENVC undertook a polychlorinated biphenyl (PCB) remediation program at a nearby scrap yard, located in the community of Makinsons, NL. During this program, low-level PCB-impacted scrap metal and transformer casings were transported to the Site and buried on-Site. Previous soil sampling programs carried out at the Site revealed levels of PCBs in soil at the Site that exceeded the Canadian Council of Ministers of the Environment (CCME) Canadian Soil Quality Guideline (CSQG) of 33 mg/kg for PCBs in soil at commercial/industrial sites.

2.2.2 AMEC 2008

In 2008, AMEC prepared an invitation to tender (ITT) for a PCB remediation program at the Site. The ITT specification included the excavation and removal of PCB-impacted material consisting of soil and debris (scrap metal and solid municipal waste) from the area of buried transformer casings at the Site for storage, treatment, and final disposal at an approved disposal/treatment facility.

The 2008 PCB remediation program was carried out in two phases (i.e., Phase I and Phase II). Phase I was carried out on September 9 and 10, 2008 in accordance with the original ITT specification and involved the removal of PCB-impacted material from two locations (i.e., Locations A and B). Phase II was carried out on October 25, 2009 and involved the removal of additional PCB-impacted material from Location A. In total, 120.25 tonnes of PCB-impacted material were removed Locations A and B of the Site by Edward Collins Contracting Limited and transported to the Universal Environmental Services Inc. (UESI) soil treatment facility located in Sunnyside, NL.

Phase I – PCB Remediation Program

As part of the Phase I PCB remediation program, a total of 43.57 tonnes of PCB-impacted material was removed from Locations A and B and delivered to an approved PCB-impacted soil and debris disposal and treatment facility operated by Universal Environmental Services Inc. (UESI) in Sunnyside, NL. PCB concentrations for all of the confirmatory and stockpile soil samples associated with Location A exceeded the applicable CCME-CSQG of 33 mg/kg. Based



on the confirmatory soil sample results, ENVC requested to have an additional 75 to 80 tonnes of PCB-impacted material removed from Location A for disposal and treatment at the Sunnyside facility (i.e., Phase II). PCB concentrations for all of the confirmatory and stockpile soil samples associated with Location B were below the applicable CCME-CSQG of 33 mg/kg. Location B was backfilled with non PCB-impacted material from the adjacent stockpile and surrounding overburden.

Phase II – PCB Remediation Program

As part of the Phase II PCB remediation program, an additional 76.78 tonnes of PCB-impacted material was removed from Location A. Numerous transformer casings and scrap metal were observed within the remediation excavation area. Confirmatory soil samples collected from the northeast floor section and east and south walls of the remediation excavation at Location A contained PCB concentrations above the CCME-CSQG of 33 mg/kg. PCB concentrations for overburden samples collected adjacent to Location A were below the CCME-CSQG of 33 mg/kg.

At the request of ENVC, Location A was partially backfilled with PCB-impacted material including material that was initially excavated and stockpiled from Location A during the Phase I remediation program. The excavation was lined with 6 mil polyethylene sheeting to mark the boundary of the excavation extents, for future excavation and removal of the material. The PCB-impacted material was placed on top of the polyethylene sheeting then covered by a layer of polyethylene sheeting and oriented stand boards (OSBs). Surrounding overburden was then placed on top of the polyethylene sheeting and OSBs and the excavation was backfilled to match surrounding grade. The purpose of placing a layer of polyethylene sheeting and OSBs between the PCB-impacted material and overburden material was to mark the boundary and restrict contact between PCB-impacted material and overburden material.

Supplemental Soil Sampling Program - Trenching

A supplementary PCB soil sampling program was carried out on January 12 and 13, 2009. The program included the excavation of five trenches (Trench 1 to Trench 5) adjacent to Location A and the collection of representative soil samples from each of the trenches. A total of 44 soil samples were submitted to an accredited laboratory for PCB analysis. Soil samples collected from trenches located southeast and south of the former remediation excavation Location A (Trench 2 and Trench 3) contained PCB concentrations that exceeded the CCME-CSQG of 33 mg/kg. Numerous transformer casings and scrap metal were also observed in some of the trenches.

2.1.3 SNC 2009

In 2009, SNC-Lavalin Inc. (SNC) prepared tender documents for the excavation, removal and treatment of the PCB-impacted material from the Site. Only one tender was received, and the project bid price was significantly higher than original budget estimates. Therefore, the additional PCB removal work was postponed. SNC also developed specifications and drawings for Site access restriction through the use of concrete barriers and improvements to the fencing at the main gate area. Signs indicating closure of the Site and access prohibition were stipulated both for the entrance of the Site and at various locations around the perimeter. SNC supervised the successful contractor, Clifford Cooper Construction, during completion of the physical closure work.



3.0 REMOVAL OF PCB-IMPACTED MATERIAL TENDER DOCUMENTS

AMEC prepared an ITT for the excavation and removal of 120 tonnes of PCB-impacted material (i.e. soil and debris) from an area of buried transformer casings at Location A of the Site for treatment and final disposal at an approved disposal/treatment facility (refer to Figure 1, Appendix A). The PCB-impacted material to be excavated and removed from the Site, as part of the current remedial program, included the material that was initially excavated and stockpiled from Location A during the Phase I of the previous PCB soil remediation program (AMEC 2008) and re-positioned within the remediation excavation at Location A (refer to Section 2.2.2).

The ITT was prepared using the Department of Municipal Affairs (MA) Capital Works Tender Specifications. Additional sections were added to the MA tender specifications which specified requirements for the successful bidder to remove, treat and dispose of PCB-impacted material from the Site. These specific requirements included:

- The amount of material to be removed and treated;
- Health and safety requirements to be established at the Site during excavation;
- Security requirements to be implemented during excavation; and
- Transportation, treatment and disposal criteria.

AMEC provided ENVC with a draft version of the ITT for review prior to submitting it for public tender. The tender documents were then finalized and forwarded to ENVC for issue. The Tender was issued on October 9th, 2010 and closed October 27th, 2010. An addendum was issues on October 15, 2010 providing contact information for potential bidders and additional background information on the Site.

Two bidders submitted completed tender forms for the work. Bidders that submitted tender forms were:

- Sanexen Environmental Services Inc.; and
- Newalta Industrial Services Inc.

Following a complete review of the tender form and associated documents of the lowest Bidder, a contract to remove the PCB-impacted material was awarded to Sanexen Environmental Services Inc (Sanexen).

Sanexen used the following sub-contractors to complete the work:

- Horizon Environment Inc., located in Grand-Piles, Quebec, for the decontamination and destruction of the PCB-impacted material;
- Laidlaw Carriers Bulk Gp Inc., located in Woodstock, Ontario, for the transportation of the PCB-impacted material; and
- Professional Grading and Contracting Ltd., located in Gander, NL, for the mass excavation.



4.0 REMOVAL OF PCB-IMPACTED MATERIAL SITE MANAGEMENT

AMEC provided support to ENVC for the duration of the PCB-impacted material removal program to ensure that work was being conducted in accordance with the Contract Documents and to provide the necessary on-Site inspection and monitoring to ensure compliance. AMEC provided an intermediate environmental technician to supervise the on-Site work. AMEC identified the boundaries of the remediation excavation to the contractor prior to the start of excavating the material. The material was excavated and loaded into the trucks (B-Trains) using an excavator. AMEC's only method of tracking the tonnage of material removed from the Site was to use the B-Trains onboard cell weighing system. It was requested that they load one B-Train and weigh it on permanent scales, but the B-Trains refused to leave the Site until all four were loaded. This made it impossible to track the exact tonnage removed while on-Site, as the tonnage in each B-Train was unknown until completion of the excavation program. AMEC confirmed that the PCB-impacted material area was completely removed as per the Contract Document's boundaries (Refer to Figure 1, Appendix A).

AMEC/ENVC collected manifests for the PCB-impacted material being transported off-Site to the soil treatment facility for decontamination and destruction. There were four B-Trains used for transporting the PCB-impacted material and the material was bagged and double tarped to ensure the loads were water tight. The manifests showed an estimate of 33,000 kg per B-Train load and are included in Appendix B. Original copies of the certificates will be provided to the ENVC Project Manager upon completion of the remedial program. It was verbally communicated to ENVC that 136 tonnes of PCB-impacted material was excavated and removed.

The following people were present for the removal of the PCB-impacted material:

- Christa Simmons, P. Eng., ENVC
- Dan Michielsen, M.A.Sc., ENVC
- Craig Taylor, CET, AMEC
- Gary Kennell, Environment Canada

Upon completion of the PCB-impacted material removal, the excavation area was reinstated using off-Site (imported) backfill. The fill material used to backfill the excavation was sampled (Fill-1) and tested by Maxxam Analytics Services Laboratory located in Bedford, Nova Scotia (a Canadian Association for Laboratory Accreditations Inc. accredited laboratory) for PCBs and the result was non-detect (<0.05 mg/kg) for PCBs (refer to Appendix C). It is noted that no confirmatory soil samples for PCB analyses were collected from the walls and/or floor of the remediation excavation at Location A as part of the current PCB remediation program. The purpose of the current program was to removed the PCB-impacted material that was used to partially backfill the remediation excavation at Location A during Phase II of the 2008 PCB remediation program, and not to further assess PCB concentrations in soil at that area of the Site. Supplemental soil sampling, outside the boundaries of the remediation excavation at Location A, was previously completed at the Site by AMEC in 2008 (refer to Section 2.2.2: Supplemental Soil Sampling Program – Trenching).

Areas of the heavy equipment that came into possible/actual contact with the PCB-impacted material (i.e. bucket and tracks of the excavator) were decontaminated (i.e. scrubbed and washed with brake cleaner by Mario Leathead, the Project Manager with Sanexen Environmental Services Inc.

Removal of PCB-Impacted Material – Completion Report Upper Trinity South Waste Disposal Facility, New Harbour, NL January 4, 2011



AMEC collected four swab samples (SWAB-1 to SWAB-4) from the equipment used during remedial activity to determine that the equipment was sufficiently decontaminated prior to leaving the Site. The surface swab/wet wipe test sampling methodology followed the methodology outlined in the CCME document, "PCB Transformer Decontamination Standards and Protocols, PN1205." The swab samples were submitted to the Maxxam Analytics Services Laboratory for rush (24 hour) PCB analyses. The swab analytical results all reported non-detect concentrations (<5 ug) for PCBs and the equipment was cleared to demobilize the Site (Refer to Appendix D). All excavation equipment (i.e., excavator) demobilized from the Site on December 8, 2010.

5.0 CLOSURE

This report was prepared for the exclusive use of ENVC. The work performed in this report was carried out in accordance with our contract. The conclusions presented herein are based solely upon the scope of services and time and budgetary limitations described in our contract. The report has been prepared in accordance with generally accepted environmental study and/or engineering practices. No other warranties, either expressed or implied, are made as to the professional services provided under the terms of our contract and included in this report. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. AMEC Earth & Environmental accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report. The limitations of this work are attached (Refer to Appendix E).

I trust we have provided what you require. Should you have any concerns or questions please contact the undersigned.

Sincerely, AMEC Earth and Environmental, A Division of AMEC Americas Limited

Prepared by:

Clifford G. Smith, P. Eng. Project Manager

ATTACHMENTS

- Appendix A Figure
- Appendix B Manifests
- Appendix C Certificate of Analysis Fill Material
- Appendix D Certificate of Analysis Swab Tests
- Appendix E Limitations

Reviewed by:

Gary Warren, M.A.Sc. Senior Reviewer

Appendix A

Figure



Appendix B

Manifests

This Movement document/manifest conforms to all federal and provincial transport and environmental legislation. Ce document de mouvement/manifeste est conforme aux législations fédérale et provinciale sur l'environnement et le transport. HY20048-1

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MOE 04-1917 (07/07)

Instructions for completion and distribution on reverse / Instructions pour compléter et distribuer au verso

Copy / Copie 1 (white / blanche)

This Movement document/manifest conforms to all federal and provincial transport and environmental legislation. Ce document de mouvement/manifeste est conforme aux législations

fédérale et provinciale sur l'environnement et le transport.

HY20049-9

Movement Document / Manifest Reference No. N° de référence du document de mouvement/manifeste

A Generator / consignor Producteur / expéditeur	B Carrier Transporteur Registration No. / Provincial ID No. 23 N ^o d'immatriculation - d'id. provincial WMS08-01-015	Reference Nos. of other movement document(s)/manifest(s) used / 27 N° de référence des autres documents de mouvement/manifestes utilisés 27 Receiver / consignee Registration No. / Provincial ID No. 21			
Company name / Nom del rentreprise Upper Tinnity Waste Disposal Site (N(CAN))	Laidiaw Carriers Bulk Gp Inc.	Réceptionnaire / destinataire N° d'immatriculation - d'id. provincial			
Mailing address / Adresse postale City / Vile Province Postal code / Code postal	Mailing address / Adresse postale City / Ville Province Postal code / Code postal 1179 Ridgeway Road Woodstock Ontario N4S 8P6	Receiver / consignee information same as in Part A Les renseignements du réceptionnaire / destinataire est la même qu'à la Partie A			
E-mail / Courier electronique Tel. No. / N° de tel.	E-grail / Cougler électronique Tel. No. / Nº de tél.	Yes / Oui No, complete the box below / Non, rempiir la case c-dessous Company name / Nom de l'entreprise			
Shipping site address / Adresse du lieu de l'expédition	Vehicle / Véhicule Registration No. / N° d'immatriculation Prov. 24	Halling addresse / Advesse scettele			
Cay / Ville New Harbour NE ^{Province} Postal code / Code postal Postal code / Code postal	1 th remorque - wegon CTDTA ONT Trailer - Rail car No. 2 2 th remorque - wegon ONT	City / Ville Province Postal onle / Code postal			
Intended Receiver / consignee 2 Registration No. / Provincial ID No.	Port of entry Point d'entrée International use only 25 Point d'eortie	E mail (Pourse Alestroginus			
Réceptionnaire / destinataire prévu Honzon Environnement inc 7610-1166038	Carrier Certification : I certify that I have received waste or recyclable material from the generator I consignor for 26 delivery to the receiver I consignee as set out in Part A and that the information contained in Part B is complete and correct.	Tel. No. / N° de tél.			
Mailing address / Adresse postale City / Ville Province Postal code / Code post	Attestation du transporteur : J'atteste avoir reçu les déchets ou matières recyclables du producteur / expéditeur en vue de leur livraison au réceptionnaire / destinataire, tels qu'its figurent à la partie A et que les renseignements inscrits à la partie Recet exercise d complete.	Receiving site address / Adresse du lieu de destination			
E-mail / Courrier électronique Tel. No. / Nº de tél.	Name of authorized person (print): Nom de fageri autorité (caractères d'imprimerie) : Tel. No. / N° de tél.	Date received / Date de réception Time / Heure 29 Year / Année Month / Mois Day / Jour			
Receiving site address / Adresse du lieu de l'expédition	NORMAN KOS 700,3633336	If weets or resultable material to be transforred exectly intended. 30 Resistration No (Provincial ID No.			
City/VGrandes-Piles PQUébec GOX01H0postal	Year/Année Month/Mois Day/Jour Signature:	I maste on recycladie intachadio de utalisense, specinj mieriodu de la contractica d			
Prov.code 3 Shipping name 4 Class Sub.c	Iasse 5 6 Packing / risk gr. 7 Units Packaging/Contenant 9 10 (s(es) UN No. Gr. d'embailage/ Guantity shipped Lor / ou lkg No. / N° Codes Phys. state	Quantity received Units 31 Comments 32 Handling 33 Shipment / Envoi 34 Decont 32 Pack Veh.			
N/A Polychlorinated Biphenyls Soils>33 nom	UN 2315 II 33000 kg 02 03 Solid	de mainuerisori Accepte Retuse Cont. Veh			
(i)					
(ii)					
(v)					
11 12 13 14	15 16 17 National code in 18 19	If handling code "Other" (specify) 36			
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N° de notification la notification Envoi Of / De Code E ou R Code C Ou (i)	ode OCDE Code H Code Y Exportation Importation Code(s) de douanes	Name or autrorzeo person (print) Name or autrorzeo person (print) Attestation du réceptionnaire / destinataire : J'atteste que tous les renseignements à la partie C sont exacts et complete. /			
(i)		Signah ra			
Internation	al use only	()			
(M)	4 P	Special handling / Manutention speciale 22 Attached /Ci-joint: A so follows/ Ci-contr Compresence 24 /24 acards Class 9 UN2315 Camutec 613-996-66666			
Generator I consignor certification: I certify that the information contained in Part A is correct and complete. Attestation du producteur I expéditeur: J'atteste que lous les renseignements à la partie A sont exacts et complets.	rized person (print) autorisé (caractère d'imprimerie) Signature Tel. No. / N° de tél. 20 70% 7D92648	21 Date shipped / Date d'expédition Time / Heure Scheduled arrival date / Date d'arrivée prévue Year / Année Month / Mois Day / Jour AM. PM Year / Année Month / Mois Day / Jour Image: Comparison of the com			

MOE 04-1917 (07/07)

Instructions for completion and distribution on reverse / Instructions pour compléter et distribuer au verso

Copy / Copie 1 (white / blanche)

This Movement document/manifest conforms to all federal and provincial transport and environmental legislation. Ce document de mouvement/manifeste est conforme aux législations fédérale et provinciale sur l'environnement et le transport.

HY20054-9

Movement Document / Manifest Reference No. Nº de référence du document de mouvement/manifeste

A Generator / consignor Producteur / expéditeur NG 000 416 A	sial ID No. 1 I. provincial	B Carrier Transporteu	r Registration N N° d'immatric	lo. / Provincial IC culation - d'id. g	DNo. provincial WMS08-	01-015	5	23	Reference Nos. of othe Nº de référence des au Receiver , Pécoption	r movement doc tres documents consignee	ument(s)/manifest(s) used de mouvement/manifestes tipataire	/ utilisés Registration No	. / Provincial I	ID No.	27 28
Upper Timity Waste Disposal Site (NL	SOV.)	Laidlaw (arriers B	ulk Gp	Inc.				 Reception 	maire / uesi	unadire	N° d'immatrici	ulation - d'id.	provincial	
Mailing address / Adresse postale City / Ville Province Posta 444 F.C. CovFCA 13L&g . Box 5700 St-Diu NS; NL	code / Code postal	Mailing address / Adress 1179 Ridge	e postale way Road	Ville Woods	tock Onta	rio N4	Postal code / Co	ode postal	Receiver Les rens	/ consignee in eignements du Yes / Qui	formation same as in Pa réceptionnaire / destina	art A ataire est la même (e box below / Non.	qu'à la Partie / remplir la cas	A se ci-dessous	
E-mail/Courrier électronique	de tél.	E-mail / Courrier électroi	go.ca			Tel. No	o. / Nº de tél.		Company name	Nom de l'entre	eprise				
Shipping site address / Adresse du lieu de l'expédition	1.0046	Vehicle / Véhicule	hind's	Registration	No. / Nº d'immatr	culation	, 	n Prov. 24							
City/Ville	I code / Code postal	1 ^e remorque - wagon Trailer - Rail car No. 2		F13	14A			UNI Dub	Mailing address /	Adresse posta	le				
NEW Hardour NL		2 ^e remorque - wagon	E	650	18D			PNV	City / Ville	2		Province	Pos	stal code / Co	de postal
Intended Receiver / consignee 2 Registration No. / P	rovincial ID No.	Port of entry Point d'entrée	itemational use only	(Port of exit Point de sortie	Internationa	al use only	25	E-mail / Courrier	électronique			Tel. No. / I	N° de tél.	
Horizon Environmement inc 7610-11	66038	Carrier Certification : I delivery to the receiver	certify that I have re- consignee as set of	ceived waste or i it in Part A and t	recyclable material that the information	rom the gene contained in P	erator / consigno Part B is comple	or for 26 te and correct	Peopitipa site as	dross / Admos	e du lieu de destination		()	111.0	
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Grandes-Piles Quebec GO.	X IHV	101	20	2 1	Martin	lente	ee	Too Doo selection	transférés, précise	r le nom du de	estinataire				
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N/A Polychlorinated Biphenyls	Classe(s) si	UN 2315		2200	kg	00	nt ext.	Solid	₫ ³	Unitos		de mandention	Accepte	Reluse	Cont. Ven
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N° de notification N° de ligne de Shipment Of / De Code É ou R (0 0	Code C ou Cod	/III de Bâle H coo e OCDE Code	le Y code H Code Y	Export Exportation	Import	Cox	de(s) de douan	es	information contain Attestation du réc	ed in Part C is eptionnaire / conements à la	correct and complete. I destinataire : J'atteste nartie C sont evacts et	Name of aut Nom de l'age	norized persor ent autorisé (ca	n (print) aractère d'imp	primerie)
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	l New Coll 1						100.00	4,P	acards C	ass 9 T	JN2315 Ca	mutec	613	-996-	6666
Generator i consignor certification: i certify that the information contained in Part A is correct and complete. Attestation du producteur i expéditeur; J'atteste que tous les renseignements à la partie A sont	Nom de l'agent a	ed person (print) utorisé (caractère d'imp	imerie) Sigr	ature	~	Tel. M	No. / Nº de tél.	3/117	Date shipper Year / Année M	d / Date d'expé onth / Mois	dition Time Day / Jour	/Heure Sche Vear	duled arrival o / Année Mo	date / Date d' onth / Mois	arrivée prévue Day / Jour
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MOE 04-1917 (07/07)

Instructions for completion and distribution on reverse / Instructions pour compléter et distribuer au verso

Appendix C

Certificate of Analysis – Fill Material



Your Project #: TF1012730 Site: RCB REMEDIATIONS NEW HR Your C.O.C. #: 29045

Attention: Gary Warren

AMEC Earth & Environmental Ltd PO Box 13216 133 Crosbie Rd/ Suite 202 St. John's, NL A1B 4A5

Report Date: 2010/12/09

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0H5231 Received: 2010/12/04, 10:54

Sample Matrix: Soil # Samples Received: 1

	Date	Date	Method
Quantity	Extracted	Analyzed Laboratory Metho	d Reference
1	N/A	2010/12/06 ATL SOP 00001 F	R3 MOE Handbook 1983
1	2010/12/08	2010/12/09 ATL SOP 00106 F	R4 Based on EPA8082
	Quantity 1 1	DateQuantityExtracted1N/A12010/12/08	Date Date Quantity Extracted Analyzed Laboratory Metho 1 N/A 2010/12/06 ATL SOP 00001 1 2010/12/08 2010/12/09 ATL SOP 00106

Sample Matrix: Swab # Samples Received: 4

		Date	Date		Method
Analyses	Quantity	Extracted	Analyzed	Laboratory Method	Reference
PCBs on swabs by GC/ECD	4	2010/12/06	2010/12/07	ATL SOP 00109 R2	Based on EPA8082

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

* Results relate only to the items tested.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

MICHELLE HILL, Project Manager Email: MHill@maxxam.ca Phone# (902) 420-0203

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

Page 1 of 4

This document is in electronic format, hard copy is available on request.

Maxxam Analytics International Corporation o/a Maxxam Analytics 200 Bluewater Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel:902-420-0203 Toll-free:800-565-7227 Fax:902-420-8612 www.maxxamanalytics.com



Maxxam Job #: B0H5231 Report Date: 2010/12/09 AMEC Earth & Environmental Ltd Client Project #: TF1012730 Project name: RCB REMEDIATIONS NEW HR

RESULTS OF ANALYSES OF SOIL

Maxxam ID		IB3007		
Sampling Date		2010/12/03		
	Units	Fill-1	RDL	QC Batch
Inorganics	-		-	-
Moisture	%	8	1	2350268

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Maxxam ID		IB3007										
Sampling Date		2010/12/03										
	Units	Fill-1	RDL	QC Batch								
PCBs												
Total PCB	ug/g	ND	0.05	2353512								
Surrogate Recovery (%)												
Decachlorobiphenyl	%	92		2353512								

POLYCHLORINATED BIPHENYLS BY GC-ECD (SWAB)

Maxxam ID		IB3001	IB3003	IB3004	IB3005		
Sampling Date		2010/12/02	2010/12/02	2010/12/02	2010/12/02		
	Units	SWAB-1	SWAB-2	SWAB-3	SWAB-4	RDL	QC Batch
PCBs		_		_			
Total PCB	ug	ND	ND	ND	ND	5	2350265
Surrogate Recovery (%)							
Decachlorobiphenyl	%	97	95	78	97		2350265



Maxxam Job #: B0H5231 Report Date: 2010/12/09 AMEC Earth & Environmental Ltd Client Project #: TF1012730 Project name: RCB REMEDIATIONS NEW HR

QUALITY ASSURANCE REPORT

		Matrix S	Spike	Spiked	Blank	Method B	lank	RPD		
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
2350265	Decachlorobiphenyl	2010/12/07			110	30 - 130	105	%		
2350265	Total PCB	2010/12/07			112	30 - 130	ND, RDL=5	ug		
2353512	Decachlorobiphenyl	2010/12/09	84	30 - 130	87	30 - 130	90	%		
2353512	Total PCB	2010/12/09	86	70 - 130	116	70 - 130	ND, RDL=0.05	ug/g	NC	50

N/A = Not Applicable

RDL = Reportable Detection Limit

RPD = Relative Percent Difference

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Page 3 of 4



Validation Signature Page

Maxxam Job #: B0H5231

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

TEWART, Scientific Specialist (Organics)

ROBIN

Page 4 of 4

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Appendix D

Certificate of Analysis – Swab Tests



Your Project #: TF1012730 Site: RCB REMEDIATIONS NEW HR Your C.O.C. #: 29045

Attention: Gary Warren

AMEC Earth & Environmental Ltd PO Box 13216 133 Crosbie Rd/ Suite 202 St. John's, NL A1B 4A5

Report Date: 2010/12/07

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0H5231 Received: 2010/12/04, 10:54

Sample Matrix: Swab # Samples Received: 4

		Date	Date		Method
Analyses	Quantity	Extracted	Analyzed	Laboratory Method	Reference
PCBs on swabs by GC/ECD	4	2010/12/06	2010/12/07	ATL SOP 00109 R2	Based on EPA8082

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

* Results relate only to the items tested.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

MICHELLE HILL, Project Manager Email: MHill@maxxam.ca Phone# (902) 420-0203

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

Page 1 of 4

This document is in electronic format, hard copy is available on request.

Maxxam Analytics International Corporation o/a Maxxam Analytics 200 Bluewater Rd, Suite 105, Bedford, Nova Scotia Canada B4B 1G9 Tel: 902-420-0203 Toll-free: 800-565-7227 Fax: 902-420-8612 www.maxxamanalytics.com



Maxxam Job #: B0H5231 Report Date: 2010/12/07 AMEC Earth & Environmental Ltd Client Project #: TF1012730 Project name: RCB REMEDIATIONS NEW HR

POLYCHLORINATED BIPHENYLS BY GC-ECD (SWAB)

Maxxam ID		IB3001	IB3003	IB3004	IB3005		
Sampling Date		2010/12/02	2010/12/02	2010/12/02	2010/12/02		
	Units	SWAB-1	SWAB-2	SWAB-3	SWAB-4	RDL	QC Batch
PCBs							
Total PCB	ug	ND	ND	ND	ND	5	2350265
Surrogate Recovery (%)							
Decachlorobiphenyl	%	97	95	78	97		2350265



Maxxam Job #: B0H5231 Report Date: 2010/12/07

AMEC Earth & Environmental Ltd Client Project #: TF1012730 Project name: RCB REMEDIATIONS NEW HR

QUALITY ASSURANCE REPORT

			Spiked Blank		Method Blank	
QC Batch	Parameter	Date	% Recovery	QC Limits	Value	Units
2350265	Decachlorobiphenyl	2010/12/07	110	30 - 130	105	%
2350265	Total PCB	2010/12/07	112	30 - 130	ND, RDL=5	ug

N/A = Not Applicable

RDL = Reportable Detection Limit

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

Page 3 of 4



Validation Signature Page

Maxxam Job #: B0H5231

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

mith austrong ROBIN SMITH,

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Appendix E

Limitations



LIMITATIONS

- 1. The work performed in this report was carried out in accordance with the Standard Terms of Conditions made part of our contract. The conclusions presented herein are based solely upon the scope of services and time and budgetary limitations described in our contract.
- The report was prepared in accordance with generally accepted environmental study and/or engineering practices for the exclusive use of the client. No other warranties, either expressed or implied, are made as to the professional services provided under the terms of our contract and included in this report.
- 3. Third party information reviewed and used to develop the opinions and conclusions contained in this report is assumed to be complete and correct. This information was used in good faith and AMEC does not accept any responsibility for deficiencies, misinterpretation or incompleteness of the information contained in documents prepared by third parties.
- 4. The services performed and outlined in this report were based, in part, upon visual observations of the site and attendant structures. Our opinion cannot be extended to portions of the site which were unavailable for direct observation, reasonably beyond our control.
- 5. The objective of this report was to assess environmental conditions at the site, within the context of our contract and existing environmental regulations within the applicable jurisdiction. Evaluating compliance of past or future owners with applicable local, provincial and federal government laws and regulations was not included in our contract for services.
- 6. Our observations relating to the condition of environmental media at the site are described in this report. It should be noted that compounds or materials other than those described could be present in the site environment.
- 7. The findings and conclusions presented in this report are based exclusively on the field parameters measured at specific locations. It should be recognized that subsurface conditions between and beyond the field screening and sampling locations may vary. AMEC cannot expressly guarantee that subsurface conditions between and beyond the sample locations do not vary from the results determined at the sample locations. Notwithstanding these limitations, this report is believed to provide a reasonable representation of site conditions at the date of issue.
- 8. The contents of this report are based on the information collected during the soil remediation activities, our understanding of the actual site conditions, and our professional opinion according to the information available at the time of preparation of this report. This report gives a professional opinion and, by consequence, no guarantee is attached to the conclusions or expert advice depicted in this report. This report does not provide a legal opinion in regards to Regulations and applicable Laws.
- 9. Any use of this report by a third party and any decision made based on the information contained in this report by the third party is the sole responsibility of the third party. AMEC will not accept any responsibility for damages resulting from a decision or an action made by a third party based on the information contained in this report.