



**2010 Annual Report  
to the  
Nunavut Water Board**

**Licensee: Department of National Defence,  
Government of Canada**

**Licence: 3BC-BAF0919 – Type “B”**

**Location: BAF-3 North Warning System Site,  
Brevoort Island, Qikiqtani Region, Nunavut**

**Report prepared by: Nasittuq Corporation,  
25 March 2011**



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### **Executive Summary**

This 2010 Annual Report to the Nunavut Water Board (NWB) is submitted as required by the licence issued 10 September 2009 3BC-BAF0919 – Type "B", Part B. General Conditions, paragraph 1.

BAF-3 is an unattended (unmanned) North Warning System radar site on Brevoort Island, Nunavut. The site is visited quarterly for preventive maintenance inspections and as required for other work by Nasittuq staff based out of the Logistics Support Site - Iqaluit (LSS-Q), Iqaluit, Nunavut. The site was temporarily attended (manned) due to project activity from June to November. One main project was the clean-up and remediation of a fuel spill that occurred in 2007; this was the fourth year of this work.

The annual water usage was 802.9 cubic meters. This is below the 1,750 cubic meters annual maximum allowed by the current licence.

The water contained in the berms of fuel storage facilities was sent for laboratory analysis and confirmed to be within effluent quality limits before the water was pumped out of the berms.

Hazardous waste was removed from the site for disposal outside of Nunavut. The waste went to Recyclex Inc, 8381 Place Marien, Montreal, QC, H1B 5W6. The waste was 235 drums of assorted waste (fuel, fuel soaked absorbent, oil, glycol, etc.) and 3 crates of batteries. Most of the drums were from the fuel spill clean-up.

Nonhazardous domestic solid waste was flown out to LSS-Q and disposed of at Iqaluit's landfill.



The sewage effluent was sent for laboratory analysis. A sump for the sewage outfall was built as described in the submitted Sewage Disposal Update.

One outdoor spill (2 liters Jet A1 fuel) occurred and was cleaned up immediately. It is NT-NU Spill Line # 10-325.

The Spill Contingency Plan was not revised.

2010 was Year 4 of the on-going clean-up and remediation of the January 2007 Jet A1 fuel spill (reported in the 2007 Annual Report). From 2011 onward, monitoring will be the main activity.

## **Introduction**

This 2010 Annual Report to the Nunavut Water Board (NWB) is submitted as required by the licence issued 10 September 2009 3BC-BAF0919 – Type “B”, Part B. General Conditions, paragraph 1.

BAF-3 is an unattended (unmanned) North Warning System radar site on Brevoort Island, Nunavut. The site is visited quarterly for preventive maintenance inspections and as required for other work by Nasittuq staff based out of the Logistics Support Site - Iqaluit (LSS-Q), Iqaluit, Nunavut. The site was temporarily attended (manned) due to project activity from June to November. One main project was the clean-up and remediation of a fuel spill that occurred in 2007; this was the fourth year of this work.

## **Water Drawn from BAF-1**

The annual water usage was 802.9 cubic meters. This is below the 1,750 cubic meters annual maximum allowed by the current licence.

**Table 1. Monthly and annual raw water drawn in 2010.**

<b>Month</b>	<b>Raw water drawn in cubic meters (m<sup>3</sup>)</b>
January	0
February	0
March	0
April	0
May	0
June	0
July	166.5
August	0
September	49.0
October	512.0
November	75.4
December	0
<b>TOTAL</b>	<b>802.9</b>

## **Hazardous Waste and Waste Oil Disposal**

Hazardous waste and waste oil were sent to an approved hazardous waste disposal site outside of Nunavut as required by the licence. The waste was sent to Recyclex, 8381 Place Marien, Montreal-Est, QC, H1B 5W6. The waste receiver number for Recyclex is 7610-06-01-01723111-40086392.

See Annex A for 2010 shipping documents: the completed movement documents for waste regulated under the Transportation of Dangerous Goods Regulations (TDGR) and Nasittuq Manifests for non-regulated waste.

Table 2 below lists the items sent for disposal.

**Table 2. Summary of waste sent for disposal in 2010.**

Site	Description, TDG shipping name	Quantity	Movement Document or Nasittuq Manifest #
BAF-3	Waste gasoline	2 drums	Mov. Doc. 2464234-0
BAF-3	Waste fuel contaminated soil  Waste solids containing flammable liquid, n.o.s. (fuel, aviation, turbine engine)	2 drums	Mov. Doc. 2464234-0
BAF-3	Waste batteries, wet, filled with acid	2 crates	Mov. Doc. 2464234-0
BAF-3	Waste batteries, wet, non-spillable	1 crate	Mov. Doc. 2464234-0
BAF-3	Waste POL soaked absorbent  Waste solids containing flammable liquid, n.o.s. (fuel, aviation, turbine engine)	36 drums	Mov. Doc. 2464245-6
BAF-3	Waste fuel  Waste fuel, aviation, turbine engine	182 drums	Mov. Doc. 2464245-6
BAF-3	Waste oily rags  Waste solids containing flammable liquid, n.o.s. (fuel, aviation, turbine engine)	1 drum	Mov. Doc. 2464246-4
BAF-3	Waste oil	10 drums	Nas. Man. 23617, 23620, 23621
BAF-3	Waste glycol	2 drums	Nas. Man. 23620

### **Nonhazardous Solid Waste Disposal**

Nonhazardous domestic solid waste was flown out to LSS-Q and disposed of at Iqaluit's landfill. July waste included 726 kg of waste wood. The BAF-3 landfill still exists (see Annex F).

**Table 3. Monthly and annual nonhazardous domestic solid waste sent for disposal in 2010.**

<b>Month</b>	<b>Waste generated (kg)</b>
January	280
February	90
March	141
April	0
May	179
June	653
July	2,848
August	30
September	0
October	110
November	20
December	0
<b>TOTAL</b>	<b>4,351</b>

### **Monitoring Program**

See Annex B for the location of the sewage effluent outfall, BAF-2. A sump for the sewage outfall was built as described in the submitted Sewage Disposal Update.

See Annex C for analysis of the treated sewage effluent.

See Annex D for the list of bermed fuel storage facilities with GPS coordinates.

See Annex E for analysis of berm water (water contained in the berms of fuel storage facilities). The results were confirmed to be within effluent quality limits before the water was pumped out of the berms.

## **Spills (Unauthorized Discharges)**

One outdoor spill occurred. It is listed in Table 4 below.

**Table 4. Outdoor spill in 2010.**

<b>Date, Spill #</b>	<b>Product</b>	<b>Quantity</b>	<b>Cause and follow-up action</b>	<b>Location at BAF-3</b>
30 Jul 2010, Spill # 10-325	Jet A1 fuel	2 liters	Faulty dry break coupling at helipad refueller.  Replaced faulty dry break coupling. Impacted soil was removed and placed into a drum for retrograde.	Helipad refueller

\* Drums are retrograded to a licensed waste disposal company outside of Nunavut.

## **Revisions to the Spill Contingency Plan**

The Spill Contingency Plan was not revised.

## **Progressive reclamation work undertaken**

2010 was Year 4 of the on-going clean-up and remediation of the January 2007 Jet A1 fuel spill (reported in the 2007 Annual Report). From 2011 onward, monitoring will be the main activity. Annex G contains the 2010 field results and the plan for 2011.



## **Annex A**

### **2010 Movement documents for regulated waste and Nasittuq manifests for non-regulated waste.**

Note: On some completed movement documents (i.e. Parts A, B, and C completed), the shipping names in Part A are too faint to read. In such cases, another copy of the movement document with a legible Part A has been included.



**MOVEMENT DOCUMENT / MANIFEST  
DOCUMENT DE MOUVEMENT / MANIFESTE**

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 territoire.

fédérale et provinciale sur l'environnement et le transport.

THE JOURNAL OF CLIMATE

<b>A</b> Generator / consignor Producteur / expéditeur			Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial			<b>B</b> Carrier Transporteur			Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial		
Company name / Nom de l'entreprise <i>NOG</i>			Mailing address / Adresse postale <i>10000 1234567890</i>			Company name / Nom de l'entreprise <i>Numavut Esker Interceptor Transport</i>			Mailing address / Adresse postale <i>10000 1234567890</i>		
City / Ville		Province	Postal code / Code postal		City / Ville		Province	Postal code / Code postal			
E-mail / Courier électronique <i>NOG 4772011</i>			Tel. No. / N° de tél. <i>4773737373</i>			E-mail / Courier électronique <i>NOG 4772011</i>			Tel. No. / N° de tél. <i>4773737373</i>		
Shipping site address / Adresse du lieu de l'expédition <i>10000 1234567890</i>						Vehicle / Véhicule Trailer - Rail Car No. 1 1 <sup>er</sup> remorque - wagon					
City / Ville <i>NOG 4772011</i>						Registration No. / N° d'immatriculation <i>AX 4772011</i>					
Intended Receiver / consignee Récepteur/destinataire prévu <i>NOG 4772011</i>						Trailer - Rail Car No. 2 2 <sup>nd</sup> remorque - wagon					
Mailing address / Adresse postale <i>10000 1234567890</i>						Port of entry Point d'entrée International use only					
City / Ville <i>NOG 4772011</i>						Port of exit Point de sortie International use only					
E-mail / Courier électronique <i>NOG 4772011</i>						Carrier Certification : I certify that I have received waste or recyclable material from the generator / consignor for delivery to the receiver / consignee as set out in Part A and that the information contained in Part B is complete and correct.					
Receiving site address / Adresse du lieu de destination <i>5411355-4752</i>						Attention of the transporter : Please advise my recycling facility to accept the materials recyclable from the product(s) / expéditeur(s) in view of their version to the receiver / destinataire, tell me what figure to the part A and that the arrangements inserted in the part B are correct of complete.					
City / Ville <i>NOG 4772011</i>						Name of authorized person (print) Nom de l'agent autorisé (caractère d'imprimé) : <i>LUC NADER</i>					
E-mail / Courier électronique <i>NOG 4772011</i>						Tel. No. / N° de tél. <i>4773737373</i>					
Receiving site address / Adresse du lieu de l'expédition <i>5411355-4752</i>						Date received / Date de réception Year / Année Month / Mois Day / Jour Time / Heure					
City / Ville <i>NOG 4772011</i>						10 09 14 1630 00 A.M. <input checked="" type="checkbox"/>					
E-mail / Courier électronique <i>NOG 4772011</i>						If waste or recyclable material is to be transferred, specify intended company name. Si les déchets ou matières recyclables doivent être transférés, préciser le nom du destinataire					
Prov. code Code prov.						Registration No. / Provincial ID No. N° d'immatriculation / id. provincial					
Shipping name Appellation réglementaire						Year / Année Month / Mois Day / Jour Signature 2016 11 13 <i>Luc Nader</i>					
Class / Classe Sub class(es) Classe(s) sub.						Packing / risq. gr. Gr. d'enveloppe Gr. de risque					
UN No. NNU No.						Quantity shipped Quantité expédiée					
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20						Unit Ltr / kg Unités					
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20						Unit No. / N° Codes Int. ext.					
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20						Phys. state Etat phys.					
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20						Quantity received Quantité reçue					
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20						Units pt Unités pt kg / kg					
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20						Comments Commentaires					
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20						Handling Code / Code de manutention					
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20						Shipment / Envoi Accepted / Accepté Rejected / Refusé Refused / Refusé					
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20						Decont. / Pack. / Veh. / Véhic.					
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20						If handling code "Other" (specify) Si code de manutention « autre » (spécifier)					
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20						Receiver / consignee certification : I certify that the information contained in Part C is correct and complete. Attention to the recycling facility / destinataire : Indiquez que tous les renseignements à la partie C sont précis et complets.					
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20						Name of authorized person (print) Nom de l'agent autorisé (caractère d'imprimé) <i>LUC NADER</i>					
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20						Signature <i>NOG 4772011</i>					
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20						Special handling / Manutention spéciale <input type="checkbox"/> Attached/Cjoint : <input type="checkbox"/> As follows/C contre :					
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20						Date shipped / Date d'expédition Year / Année Month / Mois Day / Jour Time / Heure 10 09 13 00 A.M. <input checked="" type="checkbox"/>					
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20						Scheduled arrival date / Date d'arrivée prévue Year / Année Month / Mois Day / Jour 10 09 13 00 A.M. <input checked="" type="checkbox"/>					

**Mailed by Consignee to Consignor - Postée par le destinataire à l'expéditeur**

**Copy / Copie 6 (brown / brun)**



## MOVEMENT DOCUMENT / MANIFEST DOCUMENT DE MOUVEMENT / MANIFESTE

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.

**2464234-0**

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

<b>A</b> Generator / consignor Producteur / expéditeur		Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial		<b>B</b> Carrier Transporteur		Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial		23 Reference Nos. of other movement document(s)/manifest(s) used N° de référence des autres documents de mouvement/manifestes utilisés		24													
Company name / Nom de l'entreprise <b>NUG</b> / 10003		Mailing address / Adresse postale City/Ville Province Postal code / Code postal		Company name / Nom de l'entreprise		Mailing address / Adresse postale City/Ville Province Postal code / Code postal		25		26													
Mailing address / Adresse postale <b>DND / C/O NASITTUQ CORP.</b> 22 King St. Bldg 101, Hornell Heights, ON, P0N 1P0 Tel. No. / N° de tél. ( )		Email / Courrier électronique Tel. No. / N° de tél. ( )		Email / Courrier électronique Tel. No. / N° de tél. ( )		Email / Courrier électronique Tel. No. / N° de tél. ( )		27		28													
Shipping site address / Adresse du lieu de l'expédition <b>NEWS LRR BAF-3</b> City/Ville Province Postal code / Code postal		Vehicle / Véhicule Trailer - Rail car No. 1 1 <sup>re</sup> remorque - wagon		Registration No. / N° d'immatriculation		Prov. / Prov.		29		30													
Intended Receiver / consignee Récipiendaire / destinataire prévu <b>RECYCLEX INC.</b> Mailing address / Adresse postale City/Ville Province Postal code / Code postal		Trailer - Rail car No. 2 2 <sup>de</sup> remorque - wagon		Post of entry Point d'entrée		International uses only Point de sortie		31 International uses only		32													
Name of authorized person (print) Nom de l'agent autorisé (caractères d'imprimerie)		Carrier Certification : I certify that I have received waste or recyclable material from the generator / consignor for delivery to the receiver / consignee as set out in Part A and that the information contained in Part B is complete and correct.		33		34		35		36													
Name of authorized person (print) Nom de l'agent autorisé (caractères d'imprimerie)		Attestation du transporteur : J'atteste avoir reçu les déchets ou matières recyclables du producteur / expéditeur en vue de leur livraison au réceptiendaire / destinataire, tel(s) qu'il(s) figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets.		37		38		39		40													
Receiving site address / Adresse du lieu de destination <b>RECYCLEX INC.</b> Province Postal code / Code postal		Name of authorized person (print) Nom de l'agent autorisé (caractères d'imprimerie)		Tel. No. / N° de tél. ( )		Year / Année		Date received / Date de réception Year / Année Month / Mois Day / Jour		Time / Heure Year / Année Month / Mois Day / Jour													
8381 PLACE MARIEN, MONTREAL, PQ, H1B 5M1 Email / Courrier électronique Tel. No. / N° de tél. ( )		Signature :		Year / Année Month / Mois Day / Jour		Signature :		Year / Année Month / Mois Day / Jour		Time / Heure Year / Année Month / Mois Day / Jour													
41		42		43		44		45		46													
Prov. code Code prov.		Shipping name Appellation réglementaire		4 Class / Classe Sub. classe(s) Classe(s) sub.		5 UN No. N'NU		6 Packing risk gr. Gr. d'emballage de risque		7 Quantity shipped Quantité expédiée		8 Units Lor / kg Unités		9 Packaging/Content Codes Int.-ext.		10 Phys. state État phys.							
(i) WASTE GASOLINE		(ii) WASTE SOLVENTS, CONTAINERS, FLAMMABLE LIQUID, MISC. FLAMMABLE LIQUID, MISC.		3 1203		II		300		L		2 01		L		11							
(iii) WASTE BAHERIE WET, *		(iv) FILLER WITH ACID		4.1 3175		II		350 Kg		2		01		5		12							
(v) WASTE BAHERIES, wet, *		(vi) FILLER WITH ACID		8 2290		III		450 Kg		2		07		5		13							
(vii) WASTE BAHERIES, wet, *		(viii) FILLER WITH ACID		8 2800		III		425 Kg		1		07		5		14							
15		16		17		18		19		20		21		22		23							
Notice No. N° de notification		Notice Line No. N° de ligne de la notification		Shipment Envoy		D or R code Code E ou R		C code Code C		Basel Annex VIII or OECD Code Annexe VIII de Bâle ou Code OECD		H code Code H		Y code Code Y		Export Expédition		Import Importation		24 National code in country / Code du pays		25 Customs code(s), Code(s) de douanes	
(i) * DANGEROUS goods CERTIFICATE NO. SU8074-BY ROAD OR RAILWAY VEHICLE OR BY SHIP OR Domestic voyage - EXPIRY DATE JUNE 30 2012		(ii) 24 HR NUMBER: 613-996-6666 COLLECT USE IN CASE OF DANGEROUS goods EMERGENCY		(iii) 25		(iv) 26		(v) 27		(vi) 28		(vii) 29		(viii) 30		(ix) 31		(x) 32		(xi) 33			
Generator / consignor certification: I certify that the information contained in Part A is correct and complete.		Name of authorized person (print) Nom de l'agent autorisé (caractères d'imprimerie)		Signature		Tel. No. / N° de tél.		Signature		Tel. No. / N° de tél.		Signature		Tel. No. / N° de tél.		Signature		Tel. No. / N° de tél.		Signature			
Attestation du producteur / expéditeur : J'atteste que tous les renseignements à la partie A sont exacts et complets.		Attestation du réceptiendaire / destinataire : J'atteste que tous les renseignements à la partie C sont exacts et complets.		Attestation du transporteur : J'atteste que tous les renseignements à la partie B sont exacts et complets.		Attestation du réceptiendaire / destinataire : J'atteste que tous les renseignements à la partie C sont exacts et complets.		Attestation du transporteur : J'atteste que tous les renseignements à la partie B sont exacts et complets.		Attestation du réceptiendaire / destinataire : J'atteste que tous les renseignements à la partie C sont exacts et complets.		Attestation du transporteur : J'atteste que tous les renseignements à la partie B sont exacts et complets.		Attestation du réceptiendaire / destinataire : J'atteste que tous les renseignements à la partie C sont exacts et complets.		Attestation du transporteur : J'atteste que tous les renseignements à la partie B sont exacts et complets.		Attestation du réceptiendaire / destinataire : J'atteste que tous les renseignements à la partie C sont exacts et complets.		Attestation du transporteur : J'atteste que tous les renseignements à la partie B sont exacts et complets.			
20 Generator / consignor certification: I certify that the information contained in Part A is correct and complete.		21 Name of authorized person (print) Nom de l'agent autorisé (caractères d'imprimerie)		22 Signature		23 Tel. No. / N° de tél.		24 Signature		25 Tel. No. / N° de tél.		26 Signature		27 Tel. No. / N° de tél.		28 Signature		29 Tel. No. / N° de tél.		30 Signature			
20		21		22		23		24		25		26		27		28		29		30			
MOE 04-1917 (07/07)		Retained by Consignor (Generator) - Gardée par l'expéditeur		Copy / Copie 2 (green / vert)																			





**MOVEMENT DOCUMENT / MANIFEST  
DOCUMENT DE MOUVEMENT / MANIFESTE**

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.

For more information, contact the National Institute of Child Health and Human Development (NICHD) at 301-435-0911 or visit the NICHD website at [www.nichd.nih.gov](http://www.nichd.nih.gov).

**Generator / consignor certification:** I certify that the information contained in Part A is correct and complete.  
**Attestation du producteur / expéditeur:** J'atteste que tous les renseignements à la partie A sont exacts et complets.

nd Name of authorized person (print)

et Nom de l'agent autorisé (caractère chiffré)

PAT. GAVYELU

• 100 •

Retained by Consignor

Retained by Consignor

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MOE 04-1917 (07/07)

Retained by Consignor (Generator) - Gardée par l'expéditeur

### Copy / Copie 2 (green / vert)



## MOVEMENT DOCUMENT / MANIFEST DOCUMENT DE MOUVEMENT / MANIFESTE

Ce Movement document/manifeste conforme 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.

2464246-4

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

<b>A</b> Generator / consignor Producteur / expéditeur		Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial		<b>B</b> Carrier Transporteur		Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial		<b>C</b> Receiver / consignee Réceptionnaire / destinataire		Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial									
Company name / Nom de l'entreprise <i>D&amp;D</i>		Mailing address / Adresse postale <i>1111 3rd Street, P.O. Box 1111, Baffin Island, NU</i>		Company name / Nom de l'entreprise <i>Qinnuavut Eastern Arctic Shipping</i>		Mailing address / Adresse postale <i>750 Blvd Terrell, Laramie, WY 82040, USA</i>		Company name / Nom de l'entreprise <i>Luc Nadeau</i>		Mailing address / Adresse postale <i>1111 3rd Street, P.O. Box 1111, Baffin Island, NU</i>									
City / Ville		Province		Postal code / Code postal		City / Ville		Province		Postal code / Code postal									
E-mail / Courrier électronique <i>info@dd.ca</i>		Tel. No. / N° de tél. <i>867-471-2111</i>		Email / Courrier électronique <i>750 Blvd Terrell, Laramie, WY 82040, USA</i>		Tel. No. / N° de tél. <i>207-655-1234</i>		Email / Courrier électronique <i>luc.nadeau@easternarctic.ca</i>		Tel. No. / N° de tél. <i>( )</i>									
Shipping site address / Adresse du lieu de l'expédition <i>City: Baffin Island, NU</i>		City / Ville		Province		Shipping site address / Adresse du lieu de l'expédition <i>City: Baffin Island, NU</i>		City / Ville		Province									
Intended Receiver / consignee Réceptionnaire / destinataire prévu		Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial		Port of entry Point d'entrée		International use only Point de sortie		Port of exit Point de sortie		International use only Point de sortie									
Mailing address / Adresse postale <i>City: Baffin Island, NU</i>		City / Ville		Province		Mailing address / Adresse postale <i>City: Baffin Island, NU</i>		City / Ville		Province									
Email / Courrier électronique <i>luc.nadeau@easternarctic.ca</i>		Tel. No. / N° de tél. <i>486-375-3377</i>		Year / Année		Month / Mois		Day / Jour		Signature									
Receiving site address / Adresse du lieu de destination <i>City: Baffin Island, NU</i>		Year / Année		Month / Mois		Day / Jour		Signature		Date received / Date de réception Year / Année Month / Mois Day / Jour Time / Heure									
Prov. code Code prov.		Shipping name Appellation réglementaire		Class / Classes Sub. class(es) Classe(s) sub.		UN No. NU		Packing / rése gr. Gr d'emballage/ Gr de risque		Quantity shipped Quantité expédiée		Units Lor / Kg Unités		Packaging/Container No. / N° Codes Int.-ext.		Phys. stat. État phys.			
(i)		<i>44 HHS NUMBER : CAN/Ref. 613-776-6000 1000</i>		<i>44-1 375</i>		<i>II</i>		<i>150 kg</i>		<i>1 01 3</i>		<i>150 kg</i>		<i>10 09 14</i>		<i>16:30 A.M. P.M.</i>			
(ii)																			
(iii)																			
(iv)																			
Notice No. N° de notification		Notice Line No. N° de ligne de la notification		Shipment Envoy		Off / De Or R.R. Code E ou R		Code Code C		Bassel Annex VIII or OECC Code Annexe VIII de Bâle ou Code OECC		H code Code H		Y code Code Y		Export Expédition		Import Importation	
(i)																			
(ii)																			
(iii)																			
(iv)																			
I, consignor certification: I certify that the information contained in Part A is correct and Producteur / expéditeur: J'atteste que tous les renseignements à la partie A sont		Name of authorized person (print) Nom de l'agent autorisé (signature d'imprimante)		Signature <i>Pat Gravelle</i>		Tel. No. / N° de tél. <i>175-3-2944</i>		20		Comments Commentaires		Handling Code de manutention		Shipment / Envoy Accepted / Accepté		Decom. 36 Pack. / Veh. Coat.			
I, consignee certification: I certify that the information contained in Part C is correct and Receiver / consignee certification: J'atteste que tous les renseignements à la partie C sont exacts et complets.		Name of authorized person (print) Nom de l'agent autorisé (signature d'imprimante)		Signature <i>S</i>		Tel. No. / N° de tél. <i>( )</i>		21		Comments Commentaires		Handling Code de manutention		Shipment / Envoy Accepted / Accepté		Decom. 36 Pack. / Veh. Coat.			
Special handling / Manutention spéciale		<input type="checkbox"/> Attached to joint: <input type="checkbox"/> As follows/ Ci-contre:		22		Date shipped / Date d'expédition Year / Année Month / Mois Day / Jour		Time / Heure A.M. P.M.		Scheduled arrival date / Date d'arrivée prévue Year / Année Month / Mois Day / Jour									

Mailed by Consignee to Consignor - Postée par le destinataire à l'expéditeur

Copy / Copie 6 (brown / brun)



**MOVEMENT DOCUMENT / MANIFEST  
DOCUMENT DE MOUVEMENT / MANIFESTE**

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.

MOE 04-1917 (07/07)

Retained by Consignor (Generator) - Gardée par l'expéditeur

Copy / Copie 2 (green / vert)



## NASITTUQ MANIFEST

Suite 100, 170 Laurier Avenue W., Ottawa, ON K1P 5V5

NON NEGOTIABLE

Filed By: PGRAVELLE	Date: 08-Jul-10	TCN-23617
Ship To RECYCLEX INC. 8381 PLACE MARIEN  MONTREAL QC H1B 5W6 514-355-4150	From BAF-3, BREVOORT ISLAND, DND Storeroom Nasittuq Corporation, NWS LSS Iqaluit, P.O. Box 1089 Iqaluit NU X0A 0H0 867-979-4818	Priority

Attention:		Attention:			
Carrier: NEAS	Routing: 1.5 m3	Waybill #:	Type: PALLET	Total Pcs.	Total Weight: 844 KG

QTY	Line	Item	Description	WO or PO	B/Code or S/N	Remarks
4		2002406	WASTE - OIL (45 GALLON DRUM)	304262,309192,308144 304264		PALLET #4

NOTE: All claims related to this shipment have to be filed with Nasittuq within 45 hours of receipt.

Received By	Date
Received By	Date



## NASITTUQ MANIFEST

Suite 100, 170 Laurier Avenue W., Ottawa, ON K1P 5V5

NON NEGOTIABLE

Shipped By: <b>PGRAVELLE</b>	Date: <b>08-Jul-10</b>	<b>TCN-23620</b>	
Ship To RECYCLEX INC. 8381 PLACE MARIEN  MONTREAL QC H1B 5W6 514-355-4150	From BAF-3, BREVOORT ISLAND, DND Storeroom Nasittuq Corporation, NWS LSS Iqaluit, P.O. Box 1089 Iqaluit NU X0A 0H0 867-979-4918	Priority	

Attention:	Attention:				
Carrier: NEAS	Routing: 1.5 m3	Waybill #:	Type: PALLET	Total Pcs. 1	Total Weight: 844 KG

QTY	Line Item Order	Description	WO or PO	B/Code or S/N	Remarks
2	2002344	WASTE - GLYCOL (DRUM)	EIN 308960,308145		PALLET # 5
2	2002406	WASTE - OIL (45 GALLON DRUM)	EIN 302716,304266		PALLET # 5

NOTE: All claims related to this shipment have to be filed with Nasittuq within 45 hours of receipt.

Received By	Date
Received By	Date



## NASITTUQ MANIFEST

Suite 100, 170 Laurier Avenue W., Ottawa, ON K1P 5V5

NON NEGOTIABLE

Filed By: PGRAVELLE	Date: 08-Jul-10			TCN-23621
Ship To RECYCLEX INC. 8381 PLACE MARIEN  MONTREAL QC H1B 5W6 514-355-4150	From BAF-3, BREVOORT ISLAND, DND Storeroom Nasittuq Corporation, NWS LSS Iqaluit, P.O. Box 1089 Iqaluit NU X0A 0H0 867-979-4818		Priority	

Attention:		Attention:		
Carrier: NEAS	Routing: 1.5 m3	Waybill #:	Type: PALLET	Total Pcs. Total Weight: 1 844 KG

QTY	Line Order	Item	Description	WO or PO	B/Code or S/N	Remarks
4		2002406	WASTE - OIL (45 GALLON DRUM)	306949,306948,309191 ,301509		PALLET # 6

NOTE: All claims related to this shipment have to be filed with Nasittuq within 45 hours of receipt.

Received By	Date
Received By	Date

## Annex B

### BAF-3 Sewage Outfall Location (BAF-2) with GPS Co-ordinates





## **Annex C**

### **Analysis of Sewage Effluent in 2010**



August 2010 – page 1 of 3

**EXOVA ACCUTEST**

**REPORT OF ANALYSIS**

**Exova**

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5

Attention: Ms. Barb Thomson

Report Number: 1018882  
Date: 2010-08-11  
Date Submitted: 2010-08-10

Project: FOX-X

P.O. Number:  
Matrix: Sewage

Chain of Custody Number: 735772

LAB ID:	818557	Sample Date:	2010-08-04	Sample ID:	BAF-3 Sewage Outfall	TYPE	LIMIT	UNITS
PARAMETER	UNITS	MRL						
Faecal Coliforms	CFU/100mL	240000						

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL: \_\_\_\_\_  
Jennifer Mitchell  
Microbiology Lab Supervisor

8-146 Colonnade Road, Ottawa, ON, K2E 7Y1

1 of 1

Results relate only to the parameters tested on the samples submitted.



August 2010 – page 2 of 3

**EXOVA ACCUTEST**

**REPORT OF ANALYSIS**

**Exova**  
Accutest

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5  
Attention: Ms. Barb Thomson

Report Number: 1018885  
Date: 2010-08-31  
Date Submitted: 2010-08-10  
Project: FOX-3

Chain of Custody Number: 735772

P.O. Number:  
Matrix: Sewage

PARAMETER	UNITS	MRL	LAB ID: 818674 Sample Date: 2010-08-04 Sample ID: BAF-3 Sewage Outfall	GUIDELINE		
				TYPE	LIMIT	UNITS
Oil & Grease	mg/L	1	8			
Oil & Grease - Mineral	mg/L	1	130			
Oil & Grease - Non-mineral	mg/L	1	138			
Oil & Grease - Total						

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Charlie Qu  
Organic Lab Team Leader

8-146 Colonnade Road, Ottawa, ON, K2E 7Y1

1 of 1

Results relate only to the parameters listed on the samples submitted.



August 2010 – page 3 of 3

**EXOVA ACCUTEST**

**REPORT OF ANALYSIS**

**Exova**

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5

Attention: Ms. Barb Thomson

Report Number: 1016885  
Date: 2010-08-31  
Date Submitted: 2010-08-10

Project: FOX-3

P.O. Number: **Sewage**  
Matrix: **GUIDELINE**

Chain of Custody Number: 735772

PARAMETER	UNITS	MRL	LAB ID:	818674	Sample Date:	2010-08-04	Sample ID:	BAF-3 Sewage Outfall	TYPE	LIMIT	UNITS
Biochemical Oxygen Demand	mg/L	1	260								
Conductivity	µS/cm	5	820								
N-NH3 (Ammonia)	mg/L	2	53.4								
NO2 + NO3 as N	mg/L	0.1	<0.10								
pH			7.04								
Phenols	mg/L	0.001	1.06								
Sulphate	mg/L	1	17								
Total Suspended Solids	mg/L	2	138								
Calcium	mg/L	1	6								
Magnesium	mg/L	1	2								
Potassium	mg/L	1	24								
Sodium	mg/L	2	98								
Arsenic	mg/L	0.05	<0.05								
Cadmium	mg/L	0.01	<0.01								
Chromium	mg/L	0.05	<0.05								
Copper	mg/L	0.01	1.43								
Iron	mg/L	0.1	1.8								
Lead	mg/L	0.01	0.06								
Mercury	mg/L	0.0001	<0.0001								
Nickel	mg/L	0.01	0.01								
Zinc	mg/L	0.05	0.48								

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

818674: Metals analysis performed on aqua-regia digest of sample. Mercury was analysed at Exova Pointe Claire.

**APPROVAL:**

Ewan McRobbie  
Inorganic Lab Supervisor

8-146 Colonnade Road, Ottawa, ON, K2E 7Y1

1 of 1

Results relate only to the parameters tested on the samples submitted.



## Annex D

### BAF-3 - Bermed Fuel Storage Facilities with GPS Coordinates

<b>Licence</b>	<b>Location</b>	<b>Monitoring Station # (Final Discharge Point of Bermed Fuel Storage Facility)</b>	<b>Berm's Location On- site</b>	<b>Berm's GPS co-ordinates</b>
3BC-BAF0919 Type "B"	BAF-3 North Warning System Site, Brevoort Island, Qikiqtani Region, Nunavut	BAF-4	<ul style="list-style-type: none"><li>- Summit</li><li>- Berm of tanks W22A and W22B</li><li>- Beach</li><li>- Berm of tanks W22C and W22D</li></ul>	<ul style="list-style-type: none"><li>63° 20' 23" N</li><li>64° 09' 18" W</li><li>63° 19' 52" N</li><li>64° 10' 40" W</li></ul>



## Annex E

### **BAF-3 - Analysis of Berm Water (Effluent from Bermed Fuel Storage Facilities)**



**28 June 2010**  
**Summit, Berm of tank W22A and W22B**  
**Page 1 of 4**

**EXOVA ACCUTEST**

**REPORT OF ANALYSIS**

**Exova**  
Accutest

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5  
Attention: Ms. Barb Thomson

Report Number: 1015483  
Date: 2010-07-13  
Date Submitted: 2010-07-08  
Project: Brevoort (B-3)

Chain of Custody Number: 122612

P.O. Number:  
Matrix: Water

PARAMETER	UNITS	MRL	GUIDELINE						TYPE	LIMIT	UNITS			
			LAB ID:	Sample Date:	Sample ID:	OG								
						2010-06-29	BRE-W22 AB-1							
Polychlorinated Biphenyls - PCBs	ug/L	0.1												
Polychlorinated Biphenyls (PCBs)														

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

APPROVAL:

Mina Nasirai  
Organic Lab Supervisor



**28 June 2010**  
**Summit, Berm of tank W22A and W22B**  
**Page 2 of 4**

**EXOVA ACCUTEST**

**REPORT OF ANALYSIS**

**Exova**  
Accutest

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5  
Attention: Ms. Barb Thomson

Report Number: 1015483  
Date: 2010-07-13  
Date Submitted: 2010-07-06  
Project: Brevoort (B-3)

Chain of Custody Number: 122612

PARAMETER	UNITS	MRL	LAB ID:	810307					GUIDELINE	TYPE	LIMIT	UNITS
			Sample Date:	2010-06-29								
			Sample ID:	BRE-W22 AB-1								
pH												
Phenols	mg/L	0.001		7.40								
Arsenic	mg/L	0.05		<0.001								
Mercury	mg/L	0.0001		<0.05								
Zinc	mg/L	0.05		<0.0001								
				0.08								

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

810307: Metals analysis performed on aqua-regia digest of sample material.

**APPROVAL:**

Ewan McRobbie  
Inorganic Lab Supervisor



**28 June 2010**  
**Summit, Berm of tank W22A and W22B**  
**Page 3 of 4**

**EXOVA ACCUTEST**

**REPORT OF ANALYSIS**

**Exova**  
Accutest

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5

Attention: Ms. Barb Thomson

Report Number: 1015483  
Date: 2010-07-13  
Date Submitted: 2010-07-06

Project: Brevoort (B-3)

Chain of Custody Number: 122612

PARAMETER	UNITS	MRL	LAB ID:	810307					P.O. Number: Matrix: Water	GUIDELINE
			Sample Date:	2010-06-29						
			Sample ID:	BRE-W22 AB-1						
VOLATILE ORGANIC COMPOUNDS - VOCs										
Benzene	ug/L	0.5		<0.5						
Ethylbenzene	ug/L	0.5		<0.5						
Toluene	ug/L	0.5		<0.5						
VOC SURROGATES										
Toluene-d8	%			85						
Oil & Grease										
Oil & Grease - Total	mg/L	1		<1						

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration  
Comment:

**APPROVAL:**

Mina Nasirai  
Organic Lab Supervisor



28 June 2010  
Summit, Berm of tank W22A and W22B  
Page 4 of 4

EXOVA ACCUTEST

REPORT OF ANALYSIS

Exova  
Accutest

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5

Attention: Ms. Barb Thomson

Report Number: 1015484  
Date: 2010-07-08  
Date Submitted: 2010-07-08  
Project: Brevoort (B-3)

Chain of Custody Number: 122612

LAB ID: 810308  
Sample Date: 2010-07-08  
Sample ID: BRE-W22 AB-1

P.O. Number:  
Matrix: Water

GUIDELINE

PARAMETER	UNITS	MRL							TYPE	LIMIT	UNITS
Cadmium	mg/L	0.0001	<0.0001								
Chromium	mg/L	0.001	<0.001								
Cobalt	mg/L	0.0002	<0.0002								
Copper	mg/L	0.001	0.002								
Lead	mg/L	0.001	<0.001								
Nickel	mg/L	0.005	<0.005								

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration  
Comment:  
810308: Sample was filtered prior to Metals analysis.

APPROVAL:

Ewan McRobbie  
Inorganic Lab Supervisor



**29 June 2010**  
**Beach, Berms of tanks W22C and W22D**  
**Page 1 of 4**

**EXOVA ACCUTEST**

**REPORT OF ANALYSIS**

**Exova**  
Accutest

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5  
Attention: Ms. Barb Thomson

Report Number: 1015486  
Date: 2010-07-13  
Date Submitted: 2010-07-06  
Project: Brevoort (B-3)

Chain of Custody Number: 122611

P.O. Number:  
Matrix: Water  
GUIDELINE

PARAMETER	UNITS	MRL	LAB ID:	810309					TYPE	LIMIT	UNITS
			Sample Date:	2010-06-29							
			Sample ID:	BRE-W22 CD-1							
Polychlorinated Biphenyls - PCBs Polychlorinated Biphenyls (PCBs)	ug/L	0.1	<0.1								

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration  
Comment:

**APPROVAL:**

Mina Nasirai  
Organic Lab Supervisor



**29 June 2010**  
**Beach, Berms of tanks W22C and W22D**  
**Page 2 of 4**

**EXOVA ACCUTEST**

**REPORT OF ANALYSIS**

**Exova**  
Accutest

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5

Attention: Ms. Barb Thomson

Report Number: 1015486  
Date: 2010-07-13  
Date Submitted: 2010-07-06

Project: Brevoort (B-3)

P.O. Number: Matrix: Water

Chain of Custody Number: 122611

LAB ID:	810309	Sample Date:	2010-06-29	Sample ID:	BRE-W22 CD-1	GUIDELINE		
PARAMETER	UNITS	MRL				TYPE	LIMIT	UNITS
pH			7.19					
Phenols	mg/L	0.001	<0.001					
Arsenic	mg/L	0.05	<0.05					
Mercury	mg/L	0.0001	<0.0001					
Zinc	mg/L	0.05	0.08					

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

810309: Metals analysis performed on aqua-regia digest of sample material.

**APPROVAL:**

Ewan McRobbie  
Inorganic Lab Supervisor



**29 June 2010**  
**Beach, Berms of tanks W22C and W22D**  
**Page 3 of 4**

**EXOVA ACCUTEST**

**REPORT OF ANALYSIS**

**Exova**  
Accutest

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5

Attention: Ms. Barb Thomson

Report Number: 1015486  
Date: 2010-07-13  
Date Submitted: 2010-07-06

Project: Brevoort (B-3)

P.O. Number:  
Matrix: Water  
GUIDELINE

Chain of Custody Number: 122611

PARAMETER	UNITS	MRL	LAB ID:	810309					TYPE	LIMIT	UNITS
			Sample Date:	2010-06-29							
			Sample ID:	BRE-W22 CD-1							
<b>VOLATILE ORGANIC COMPOUNDS - VOCs</b>											
Benzene	ug/L	0.5		<0.5							
Ethylbenzene	ug/L	0.5		<0.5							
Toluene	ug/L	0.5		<0.5							
<b>VOC SURROGATES</b>											
Toluene-d8	%			81							
Oil & Grease											
Oil & Grease - Total	mg/L	1		<1							

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration  
Comment:

**APPROVAL:**

Mina Nasirai  
Organic Lab Supervisor



**29 June 2010**  
**Beach, Berms of tanks W22C and W22D**  
**Page 4 of 4**

**EXOVA ACCUTEST**

**REPORT OF ANALYSIS**

**Exova**  
Accutest

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5  
Attention: Ms. Barb Thomson

Report Number: 1015486  
Date: 2010-07-13  
Date Submitted: 2010-07-08

Project: Brevoort (B-3)

P.O. Number:  
Matrix: Water

Chain of Custody Number: 122611

PARAMETER	UNITS	MRL	LAB ID:	810310					GUIDELINE	TYPE	LIMIT	UNITS
			Sample Date:	2010-06-29								
			Sample ID:	BRE-W22 CD-1								
Cadmium	mg/L	0.0001	<0.0001									
Chromium	mg/L	0.001	<0.001									
Cobalt	mg/L	0.0002	<0.0002									
Copper	mg/L	0.001	0.001									
Lead	mg/L	0.001	0.002									
Nickel	mg/L	0.005	<0.005									

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

810310: Sample was filtered prior to Metals analysis.

**APPROVAL:**

Ewan McRobbie  
Inorganic Lab Supervisor



**01 September 2010**  
**Summit, Berms of tanks W22A and W22B**  
**Page 1 of 3**

**EXOVA ACCUTEST**

**REPORT OF ANALYSIS**

**Exova**  
Accutest

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5  
Attention: Ms. Barb Thomson

Report Number: 1021354  
Date: 2010-09-13  
Date Submitted: 2010-09-03  
Project: BAF 3

Chain of Custody Number: 115446

P.O. Number:  
Matrix: Water

PARAMETER	UNITS	MRL	LAB ID:	825957					GUIDELINE
			Sample Date:	2010-09-01					
			Sample ID:	W22A W22B					
Benzene	ug/L	0.5	<0.5						
Ethylbenzene	ug/L	0.5	<0.5						
Toluene	ug/L	0.5	<0.5						
Toluene-d8	%	1	97						
Polychlorinated Biphenyls (PCBs)	ug/L	0.1	<0.1						
Oil & Grease - Total	mg/L	1	2						

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

**APPROVAL:**

Mina Nasirai  
Organic Lab Supervisor



01 September 2010  
Summit, Berms of tanks W22A and W22B  
Page 2 of 3

EXOVA ACCUTEST

REPORT OF ANALYSIS

Exova  
Accutest

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5  
Attention: Ms. Barb Thomson

Report Number: 1021354  
Date: 2010-09-13  
Date Submitted: 2010-09-03  
Project: BAF 3

Chain of Custody Number: 115446

P.O. Number:  
Matrix: Water

PARAMETER	UNITS	MRL	LAB ID:	825057					GUIDELINE
			Sample Date:	2010-09-01					
			Sample ID:	W22A W22B					
pH				7.50					
Phenols	mg/L	0.001		<0.001					
Arsenic	mg/L	0.05		<0.05					
Mercury	mg/L	0.0001		<0.0001					
Zinc	mg/L	0.05		0.08					

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

825057: Arsenic and Zinc analysis performed on aqua-regia digest of sample material.

APPROVAL:

Ewan McRobbie  
Inorganic Lab Supervisor



01 September 2010  
Summit, Berms of tanks W22A and W22B  
Page 3 of 3

EXOVA ACCUTEST

REPORT OF ANALYSIS

Exova  
Accutest

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5  
Attention: Ms. Barb Thomson

Report Number: 1021352  
Date: 2010-09-13  
Date Submitted: 2010-09-03  
Project: BAF 3

Chain of Custody Number: 115439

P.O. Number:  
Matrix: Water

PARAMETER	UNITS	MRL					GUIDELINE		
							TYPE	LIMIT	UNITS
Cadmium	mg/L	0.0001	<0.0001						
Chromium	mg/L	0.001	<0.001						
Cobalt	mg/L	0.0002	<0.0002						
Copper	mg/L	0.001	0.002						
Lead	mg/L	0.001	<0.001						
Nickel	mg/L	0.005	<0.005						

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration  
Comment:

APPROVAL:

Ewan McRobbie  
Inorganic Lab Supervisor



**01 September 2010**  
**Beach, Berms of tanks W22C and W22D**  
**Page 1 of 3**

EXOVA ACCUTEST

## REPORT OF ANALYSIS



Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5

Attention: Ms. Barb Thomson

Attention: Ms. Barb Thomson

Report Number: 1021355  
Date: 2010-09-13  
Date Submitted: 2010-09-03

Project: BAF 3

Chain of Custody Number: 115446

			LAB ID:	825958				Matrix:	Water	
			Sample Date:	2010-09-01				GUIDELINE		
			Sample ID:	W22C W22D						
PARAMETER	UNITS	MRL						TYPE	LIMIT	UNITS
Benzene	ug/L	0.5	<0.5							
Ethylbenzene	ug/L	0.5	<0.5							
Toluene	ug/L	0.5	<0.5							
Toluene-d8	%	1	112							
Polychlorinated Biphenyls (PCBs)	ug/L	0.1	<0.1							
Oil & Grease - Total	mg/L	1	3							

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration  
Comment:

APPROVAL: \_\_\_\_\_

8-146 Colonnade Road, Ottawa, ON K2E 7Y1

1 of 1

Results relate only to the parameters tested on the samples submitted



**01 September 2010**  
**Beach, Berms of tanks W22C and W22D**  
**Page 2 of 3**

**EXOVA ACCUTEST**

**REPORT OF ANALYSIS**

**Exova**

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5

Attention: Ms. Barb Thomson

Report Number: 1021355  
Date: 2010-09-13  
Date Submitted: 2010-09-03

Project: BAF 3

P.O. Number:  
Matrix: Water

Chain of Custody Number: 115446

PARAMETER	UNITS	MRL	LAB ID:	825958					GUIDELINE
			Sample Date:	2010-09-01					
			Sample ID:	W22C W22D					
pH									
Phenols	mg/L	0.001		0.012					
Arsenic	mg/L	0.05		<0.05					
Mercury	mg/L	0.0001		<0.0001					
Zinc	mg/L	0.05		0.06					

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

825958: Arsenic and Zinc analysis performed on aqua-regia digest of sample material.

**APPROVAL:**

Ewan McRobbie  
Inorganic Lab Supervisor



**01 September 2010**  
**Beach, Berms of tanks W22C and W22D**  
**Page 3 of 3**

**EXOVA ACCUTEST**

**REPORT OF ANALYSIS**

**Exova**

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5

Attention: Ms. Barb Thomson

Report Number: 1021353  
Date: 2010-09-13  
Date Submitted: 2010-09-03

Project: BAF 3

Chain of Custody Number: 115446

PARAMETER	UNITS	MRL	LAB ID:	825956					GUIDELINE
			Sample Date:	2010-09-01					
			Sample ID:	W22C W22D					
Cadmium	mg/L	0.0001	<0.0001						
Chromium	mg/L	0.001	<0.001						
Cobalt	mg/L	0.0002	<0.0002						
Copper	mg/L	0.001	0.006						
Lead	mg/L	0.001	0.006						
Nickel	mg/L	0.005	<0.005						

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

**APPROVAL:**

Ewan McRobbie  
Inorganic Lab Supervisor



**28 October 2010**  
**Beach, Berms of tanks W22C and W22D**  
**Page 1 of 3**

**EXOVA ACCUTEST**

**REPORT OF ANALYSIS**

**Exova**  
Accutest

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5  
Attention: Ms. Barb Thomson

Report Number: 1026921  
Date: 2010-11-10  
Date Submitted: 2010-11-01  
Project: BAF 3

Chain of Custody Number: 127321

P.O. Number:  
Matrix: Water

PARAMETER	UNITS	MRL	LAB ID:	841516					GUIDELINE
			Sample Date:	2010-10-28					
			Sample ID:	BAF 3 W22C + 22D					
Benzene	ug/L	0.5	<0.5						
Ethylbenzene	ug/L	0.5	<0.5						
Toluene	ug/L	0.5	<0.5						
Toluene-d8	%	1	116						
Polychlorinated Biphenyls (PCBs)	ug/L	0.1	<0.1						
Oil & Grease - Total	mg/L	1	<1						

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration  
Comment:

**APPROVAL:**

Mina Nasirai  
Organic Lab Supervisor

Methods references and/or additional QA/QC information available on request.

8-146 Colonnade Road, Ottawa, ON, K2E 7Y1

1 of 1

Results relate only to the parameters tested on the samples submitted.



**28 October 2010**  
**Beach, Berms of tanks W22C and W22D**  
**Page 2 of 3**

**EXOVA ACCUTEST**

**REPORT OF ANALYSIS**

**Exova**  
Accutest

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5

Attention: Ms. Barb Thomson

Report Number: 1026921  
Date: 2010-11-10  
Date Submitted: 2010-11-01

Project: BAF 3

P.O. Number: Water

Matrix: Water

Chain of Custody Number: 127321

PARAMETER	UNITS	MRL	LAB ID:	841516					GUIDELINE
			Sample Date:	2010-10-28					
			Sample ID:	BAF 3 W22C + 22D					
pH				7.04					
Phenols	mg/L	0.001		<0.001					
Arsenic	mg/L	0.05		<0.05					
Mercury	mg/L	0.0001		<0.0001					
Zinc	mg/L	0.05		0.08					

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration

Comment:

841516: Metals analysis performed on aqua-regia digest of sample material.

**APPROVAL:**

Ewan McRobbie  
Inorganic Lab Supervisor

Methods references and/or additional QA/QC information available on request.

8-146 Colonnade Road, Ottawa, ON, K2E 7Y1

1 of 1

Results relate only to the parameters tested on the samples submitted.



**28 October 2010**  
**Beach, Berms of tanks W22C and W22D**  
**Page 3 of 3**

**EXOVA ACCUTEST**

**REPORT OF ANALYSIS**

**Exova**  
Accutest

Client: Nasittuq Corp. (Ottawa)  
100-170 Laurier Ave. West  
Ottawa, ON  
K1P 5V5  
Attention: Ms. Barb Thomson

Report Number: 1026922  
Date: 2010-11-03  
Date Submitted: 2010-11-01  
Project: BAF 3

Chain of Custody Number: 127321

P.O. Number:  
Matrix: Water

PARAMETER	UNITS	MRL	GUIDELINE		
			LAB ID:	841517	
			Sample Date:	2010-10-28	
Cadmium	mg/L	0.0001	<0.0001		
Chromium	mg/L	0.001	<0.001		
Cobalt	mg/L	0.0002	<0.0002		
Copper	mg/L	0.001	0.002		
Lead	mg/L	0.001	0.001		
Nickel	mg/L	0.005	<0.005		

MRL = Method Reporting Limit INC = Incomplete AO = Aesthetic Objective OG = Operational Guideline MAC = Maximum Allowable Concentration IMAC = Interim Maximum Allowable Concentration  
Comment:

APPROVAL:

Ewan McRobbie  
Inorganic Lab Supervisor

Methods references and/or additional QA/QC information available on request.

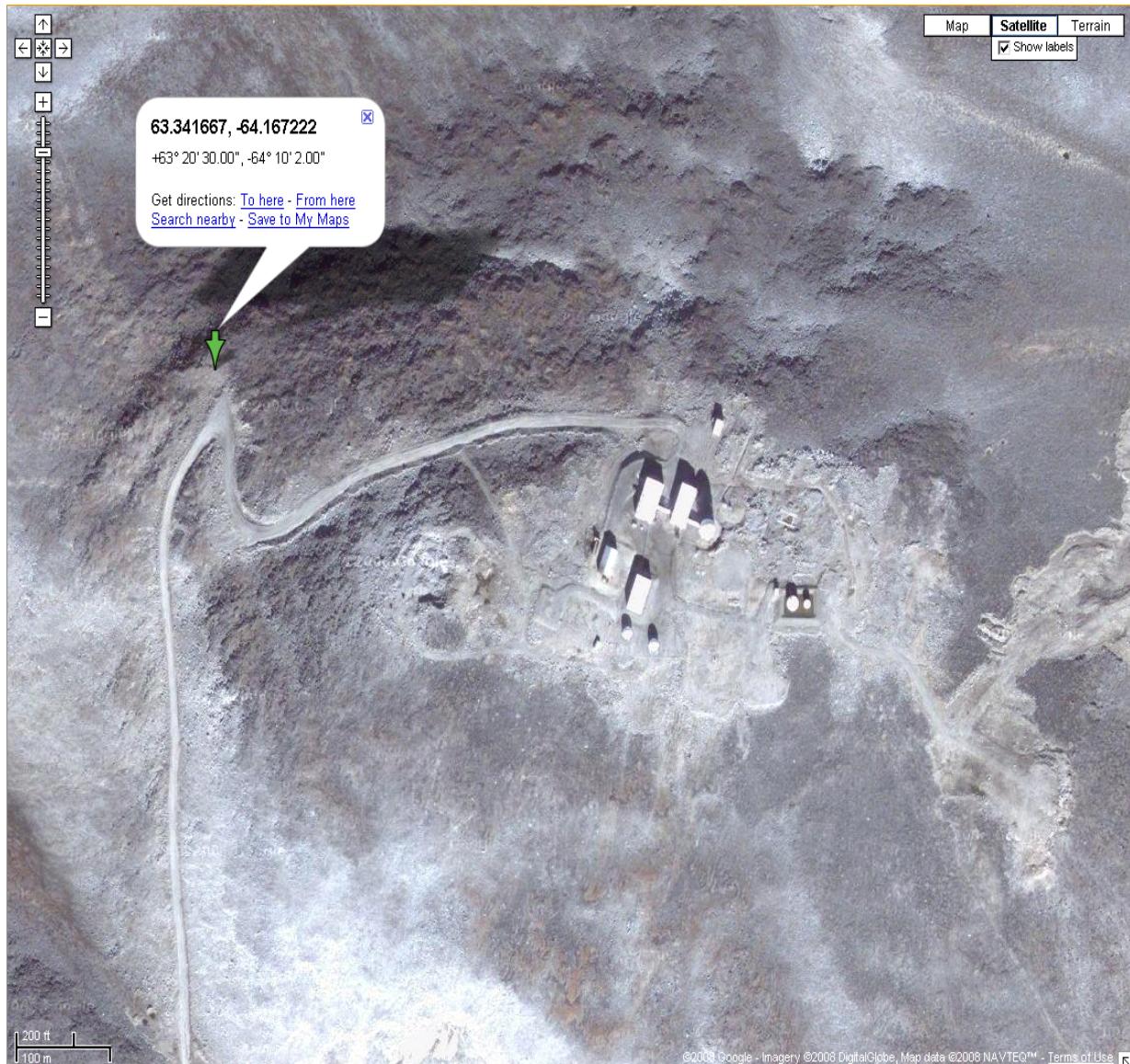
8-146 Colonnade Road, Ottawa, ON, K2E 7Y1

1 of 1

Results relate only to the parameters tested on the samples submitted.

## Annex F

### Location of Landfill at BAF-3 with GPS Co-ordinates



## Annex G

### **2010 (Year 4) Clean-up and Remediation Activities of 2007 Jet A1 Fuel Spill**

#### Outline of Presentation

- 2010 Field Program Results
  - Control and Mitigation – Snow Clearing
  - Control and Mitigation – Monitoring Free Product
  - Water Treatment
  - APECs 1 & 2
  - APEC 3
  - Engineered Biopiles
- Proposed way ahead
  - APEC Summary
  - Engineered Biopiles
  - Product Recovery/Disposal
  - Logistics

BAF-3



December 16, 2010

2010 Results and  
Proposed Way Ahead

2011-2013



# 2010 Field Program Results

- 0.76 million litres of water treated by WTS
- North Tank reinstated\*
- Biopile additions and reinstatement:
  - Additional 884 m<sup>3</sup> soil from summit hauled to biopiles
  - 2,000 m<sup>3</sup> returned to summit
  - New total of 2,800 m<sup>3</sup> soil
- Completion of APEC 3 excavation and groundwater collection/treatment
- 42 drums and 4 crates of liner/tarp waste remain on site for retrograde

\* Subject to confirmatory sampling



# 2010 Results: Control and Mitigation – Snow Clearing

- Reduced program: 1 week preemptive visit in late May to check and mark control structures (CS)
- Returned after melt (late June)



# 2010 Results: Control and Mitigation – Monitoring for Free Product

- Monitored for free product in CS: minor sheen early season, PHC absorbent booms and pads used
- Rebuilt CS (APEC 2 ‘bowl’), completed CS north of road



# 2010 Results: Water Treatment

- North Tank reinstated
- WTS fed through Flex tanks
- Collected and treated impacted water from APEC 3 excavations
- WTS emptied and left in place at end-season

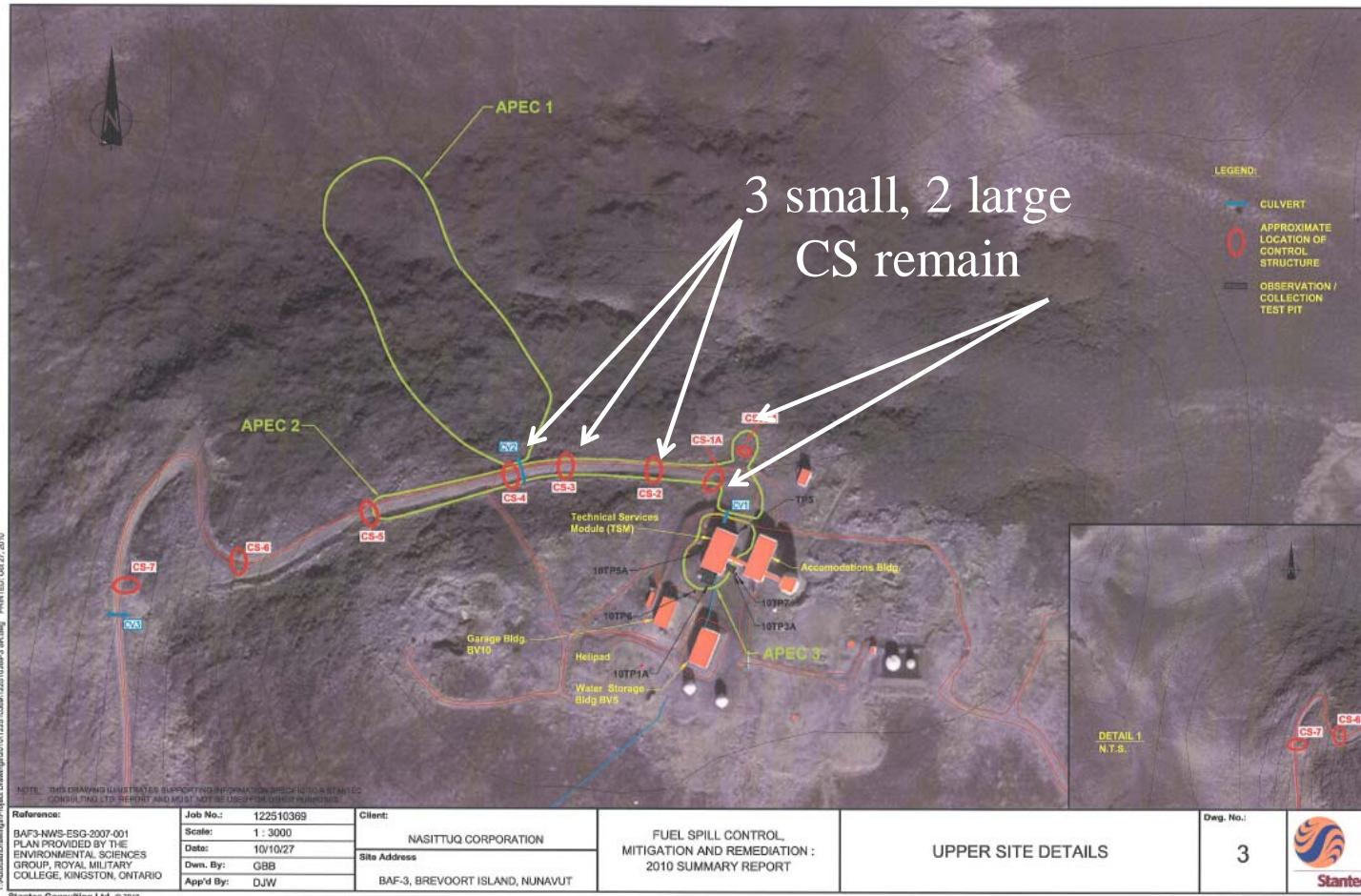


# 2010 Results: APECs 1 & 2

- No change from 2009:  
visual monitoring showed  
no sign of impacts



# 2010 Results: APECs 1 & 2



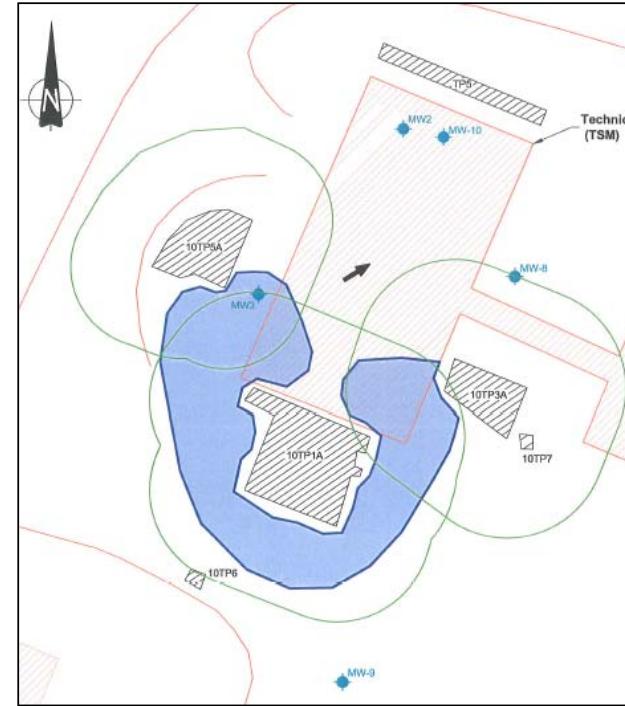
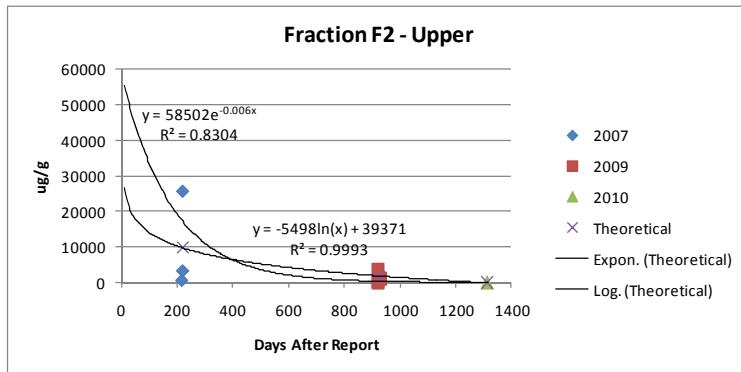
# 2010 Results: APEC 3

- Primary focus of 2010 program
- Open pits/trenches south of TSM
- Collected free phase product (3,224 L)
- Pumped and treated impacted groundwater
- Hauled 140 m<sup>3</sup> soil to biopiles



# 2010 Results: APEC 3

- Solid case to cease active remediation at upper site



“Fuel concentrations within APEC 3 soils have shown marked drop-offs since the spill, with average concentrations in upper levels two orders of magnitude below initial concentrations”

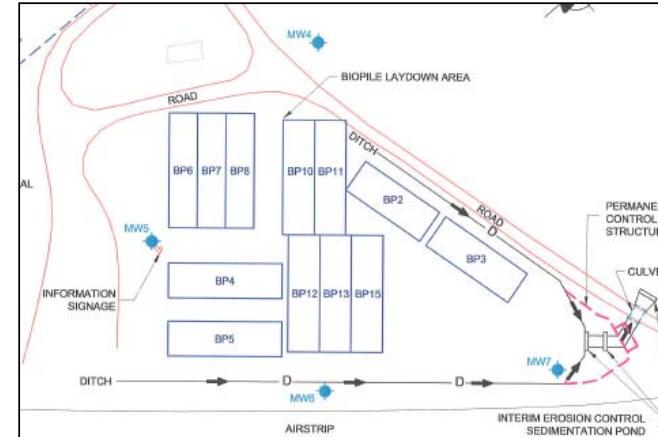
**ESTIMATED BOUNDARIES OF TPH IMPACTED SOILS > 2500 ppm**



# 2010 Results: Engineered Biopiles

- Continued good functionality
- 12 biopiles: 10 now below DLCU Criteria\*
- Hold 2,800 m<sup>3</sup>
- Decommissioned 2 biopiles: ahead of plan

\* Excluding bottom 1 m



# Proposed Way Ahead

- Monitoring phase 2011-2013
- Plan to conclude reinstatement activities by 2012, 2013 as a spill over (risk mitigating) year
- Subject to length of 2011 & 2012 field seasons



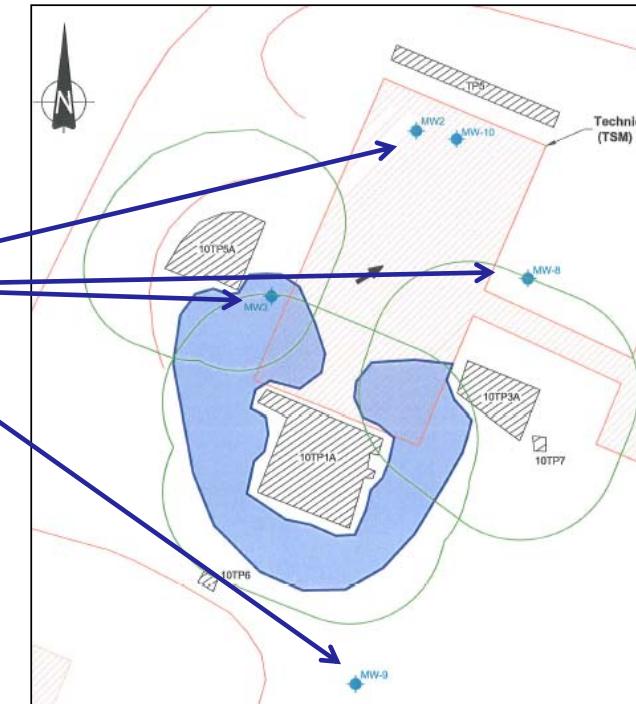
# Proposed Way-ahead: APEC Summary

- In summary:
  - APEC 1: no further action except visual monitoring
  - APEC 2: no further action except visual monitoring
  - APEC 3: no further action except visual and groundwater monitoring
- Action in response to ‘issue’ during monitoring:
  - Sheen observed: install booms & pads, trace to source, establish duration
  - If continuous or worsening, revisit RAP as appropriate
- Monitoring duration: 2 years (2011-2012) if no issues



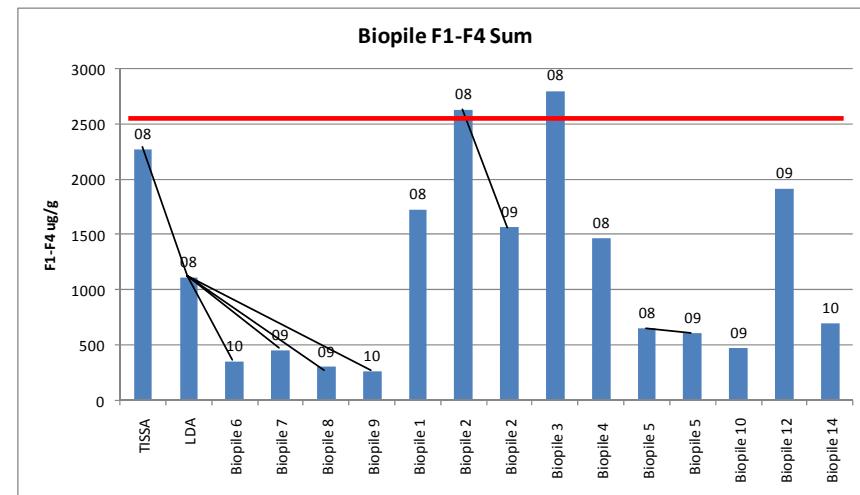
# Proposed Way-ahead: APECs 1-3

- Monitoring for signs of free product post-melt
- Ensure proper functioning of CS
- Sampling of MWs
- WTS kept available should its use become necessary
- Retrograde 42 drums



# Proposed Way-ahead: Engineered Biopiles

- Maintenance: cover/uncover, aeration, repairs
- Monitoring: berm water management/treatment
- Formally include water license monitoring
- Reinstatement: aim for 60% return to upper site in 2011



# Proposed Way-ahead: Product Recovery/Disposal

- Solids:
  - Retrograde
  - 12 drums booms/pads
  - 4 crates liner/tarp waste
- Liquids:
  - Same; 5 drums
- Sludge
  - Same; 25 drums



# Proposed Way-ahead: Logistics

- New material for 2011:
  - Lumber for crates for decommissioned liners/tarps: need approx. 8 crates for 2011
  - No. 2 silica sand (2 pallets), granular activated carbon, clay/carbon and Zeosorb (1 pallet ea.) at season start plus similar amount mid-season
  - Salvage drums and overpacks (10 ea.)
- Equipment now surplus:
  - Compressor
- Assuming 3<sup>rd</sup> ATV to be returned to site

