



2018 ANNUAL NUNAVUT WATER BOARD REPORT FOR CAM-3 FOR THE North Warning System

Contract # W8485-100224/001/NX
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EXECUTIVE SUMMARY

This 2018 Annual Report for the Nunavut Water Board (NWB) has been prepared by Raytheon Canada Limited (RCL) for the Department of National Defence in order to meet the requirements of the licence issued 10 September 2009 3BC-SHE0919 – Type “B”, Part B “General Conditions”, paragraph 1. This report covers the period from 01 January to 31 December 2018.

RCL is the Operations and Maintenance (O&M) Contractor for the North Warning System (NWS) including CAM-3. CAM-3 is the unattended (unmanned) NWS radar site located at Shepherd Bay, Nunavut. The site is visited quarterly by RCL staff from CAM-M, Cambridge Bay, Nunavut to complete preventive maintenance and as required for other work.

In 2018, a total of 71 cubic meters was drawn from the water supply lake at CAM-3. This is below the annual maximum of 1,440 cubic meters allowed by the licence.

Samples of the water contained in the berms of fuel storage facilities was sent for laboratory analysis and confirmed to be within effluent quality limits of the NWB licence 3BC-SHE0919, Part D, item 10 before the water was pumped out of the berms.

Hazardous waste and waste oil from CAM-3 were sent to an approved hazardous waste disposal facility outside of Nunavut as required by the licence. The hazardous waste was shipped to Qikiqtaaluk Environmental, through their subcontractor Veolia. The hazardous waste shipped from CAM-3 in 2018 consisted of 2 crates of batteries, 1 crate of pails of waste oil, and 24 drums of assorted waste (oil, Jet A1 fuel and water mixture, etc.).

Non-hazardous domestic solid waste was disposed of through a contract with the Hamlet of Cambridge Bay at the local landfill. RCL has documented authorization from the community for receiving the waste.

No unauthorized discharges to the environment at CAM-3 in 2018.

The Spill Contingency Plan was updated on 29-Mar-2018.



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1.0 INTRODUCTION

This 2018 Annual Report for the Nunavut Water Board (NWB) has been prepared by Raytheon Canada Limited (RCL) for the Department of National Defence in order to meet the requirements of the licence issued 10 September 2009 3BC-SHE0919 – Type “B”, Part B “General Conditions”, paragraph 1. This report covers the period from 01 January to 31 December 2018.

RCL is the Operations and Maintenance (O&M) Contractor for the North Warning System (NWS) including CAM-3. CAM-3 is an unattended (unmanned) North Warning System radar site located at Shepherd Bay, Nunavut. The site is visited quarterly for preventive maintenance inspections and as required for other work by RCL staff from CAM-M, Cambridge Bay, Nunavut.

1.1 Report Details

Licensee: Department of National Defence, Government of Canada
Licence: 3BC-SHE0919 – Type “B”
Location: CAM-3 North Warning System Site, Shepherd Bay, Kitikmeot Region, Nunavut
Report Prepared by: Raytheon Canada Limited, 05-Feb-2019
Time period covered: 01 January to 31 December 2018

2.0 WATER USE

A total of 71 cubic meters (m³) was drawn from the water supply lake. This is below the annual maximum of 1,440 m³ allowed by the licence. See Table 2-1 for the volume of raw water drawn at CAM-3 in 2018.

Table 2-1: Monthly Raw Water Usage at CAM-3 in 2018

Month	Raw water usage (m ³)
January	0
February	0
March	0
April	0
May	0
June	14.6
July	0
August	23.3
September	0
October	0
November	33.1
December	0
TOTAL	71.0



3.0 HAZARDOUS WASTE AND WASTE OIL DISPOSAL

Hazardous waste and waste oil were sent to an approved hazardous waste disposal facility outside of Nunavut as required by the licence. The hazardous waste was shipped to Qikiqtaaluk Environmental, through their subcontractor Veolia, 2630, boul. Industriel, Chambly, QC J3L 4V2.

See Table 3-1 for the list of items sent for disposal.

See Annex A for the shipping documents including the completed movement documents for waste regulated under the Transportation of Dangerous Goods Regulations (TDGR) and NWS Manifests for non-regulated waste. The hazardous waste shipped from CAM-3 in 2018 consisted of 2 crates of batteries, 1 crate of pails of waste oil, and 24 drums of assorted waste (oil, Jet A1 fuel and water mixture, etc.).

Table 3-1: Hazardous Waste and Waste Oil Sent for Disposal from CAM-3 in 2018

Description, TDG shipping name	Quantity	Movement Document or Manifest #
Waste batteries, wet, filled with acid	1 Crate	Movement Document 2539505-4
Waste batteries, wet, non-spillable	1 Crate	Movement Document 2539506-2
Waste Jet A1 fuel	1 Drum	Movement Document 2539505-4
Waste fuel, aviation, turbine engine		
Waste Jet A1 fuel and water mixture	2 Drums	Movement Document 2539505-4
Waste fuel, aviation, turbine engine mixture		
Waste oily rags	3 Drums	Movement Document 2539505-4
Waste solids containing flammable liquids, n.o.s (fuel, aviation, turbine engine)		
Waste oil	13 Drums	NWS Manifest TCN38525, TCN38523, TCN38524, TCN38541
Not TDG regulated		
Waste oil pails	1 Crate	NWS Manifest TCN38542
Not TDG regulated		
Waste oil contaminated soil	1 Drum	NWS Manifest TCN38540
Not TDG regulated		
Waste oil filters	2 Drums	NWS Manifest TCN38526
Not TDG regulated		



4.0 NON-HAZARDOUS SOLID WASTE DISPOSAL

Non-hazardous domestic solid waste was flown from CAM-3 to CAM-M and disposed of through a contract with the Municipality of Cambridge Bay at the local landfill. RCL has documented authorization from the community for receiving the waste.

See Table 4-1 for the quantity of waste generated.

Table 4-1: Non-hazardous Domestic Solid Waste Sent for Disposal from CAM-3 in 2018

Month	Waste Generated (kg)
January	0
February	0
March	0
April	0
May	0
June	531
July	430
August	303
September	83
October	23
November	39
December	0
TOTAL	1,409

5.0 MONITORING PROGRAM

In 2018, a monitoring program was implemented at CAM-3 as required by the water licence, Part I. The monitoring program included the following:

1. Volume of raw water drawn from the water Supply Lake (SHE-1). The raw water monitoring information is shown in **Section 2.0 Water Use**. The volume of water drawn was within the limit stated in the water licence.
2. Quality of sewage discharged from the final discharge point of the sewage disposal facility (SHE-2). The location of the sewage effluent outfall is shown in **Annex B**, including coordinates. A sump for the sewage outfall was constructed in 2010.

The sewage outfall sump was sampled once in 2018. The results are shown in Error! Reference source not found..

3. Quality of the water contained in the berms of fuel storage facilities prior to discharge (SHE-3) was analyzed and confirmed within the effluent quality limits listed in the water licence, Part D. The coordinates and the results of the analysis are shown in **Annex D: Location of Bermmed Fuel Storage Facilities and Analysis of Berm Water**. All samples met the effluent requirements of the water licence, Part D.



6.0 SPILLS (UNAUTHORIZED DISCHARGES)

Date, NT-NU Spill #	Product	Quantity	Cause and follow-up action	On-site location
No unauthorized discharges to the environment at CAM-3 in 2018.				

7.0 REVISIONS TO THE SPILL CONTINGENCY PLAN

The Spill Contingency Plan was updated on 29-Mar-2018. An updated copy of the Spill Contingency Plan was submitted to the NWB with the application for water licence renewal.

8.0 PROGRESSIVE RECLAMATION WORK UNDERTAKEN

No progressive reclamation work was undertaken in 2018.

9.0 ACRONYMS

Table 9-1: Acronyms

Acronym	Definition
n.o.s.	Not Otherwise Specified
NWB	Nunavut Water Board
NWS	North Warning System
O&M	Operations and Maintenance
PCB	Polychlorinated Biphenyl
RCL	Raytheon Canada Limited
TDGR	Transportation of Dangerous Goods Regulations



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ANNEX A: HAZARDOUS WASTE AND WASTE OIL DISPOSAL IN 2018

The 2018 Movement Documents for TDG Regulated waste and NWS Manifests for non-TDG Regulated waste described in Table 3-1 are below.

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.

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

2539505-4

A Generator / consigneur Producteur / expéditeur Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial NULG00003		B Carrier Transporteur Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial		C Receiver / consignee Réceptionnaire / destinataire Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial 2539506-2																													
Company name / Nom de l'entreprise DND 410 Raytheon Canada Limited Mailing address / Adresse postale 22 Wing Bldg 109 Hornell Heights ON POH 1P4 E-mail / Courriel électronique (705) 494-2011 ext 2840		Company name / Nom de l'entreprise Mailing address / Adresse postale City / Ville Province Postal code / Code postal E-mail / Courriel électronique Tel. No. / N° de tél. ()		Receiver / consignee information same as in Part A Les renseignements du réceptionnaire / destinataire est la même qu'à la Partie A <input type="checkbox"/> Yes / Oui <input type="checkbox"/> No, complete the box below / Non, remplir la case ci-dessous Company name / Nom de l'entreprise Mailing address / Adresse postale City / Ville Province Postal code / Code postal E-mail / Courriel électronique Tel. No. / N° de tél. ()																													
Shipping site address / Adresse du lieu de l'expédition NWS LRR CAM-3 City / Ville Shepherd Bay Province NU Postal code / Code postal		Vehicle / Véhicule Trailer - Rail car No. 1 1 ^{re} remorque - wagon Trailer - Rail car No. 2 2 ^e remorque - wagon Registration No. / N° d'immatriculation Prov. 24		Port of entry / Port d'entrée International use only Port of exit / Port de sortie International use only																													
Intended Receiver / consignee Gikigtaaluk Environmental Mailing address / Adresse postale 1610-16-01-2348154 101614000 City / Ville Brossard QC Province J4Z 3J4 Postal code / Code postal E-mail / Courriel électronique ()		Carrier Certification: I certify that I have received waste or recyclable material from the generator / consigneur for delivery to the receiver / consignee as set out in Part A and that the information contained in Part B is complete and correct. 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'ils figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets. Name of authorized person (print): Nom de l'agent autorisé (caractères d'imprimerie): Tel. No. / N° de tél. ()		Date received / Date de réception Year / Année Month / Mois Day / Jour Time / Heure A.M. <input type="checkbox"/> P.M. <input type="checkbox"/>																													
Receiving site address / Adresse du lieu de réception Veolia 2630, boul Industriel City / Ville Chamblé Province QC Postal code / Code postal J3L 4V2		Year / Année Month / Mois Day / Jour Signature:		If waste or recyclable material 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.		Shipping name Appellation réglementaire		Class / Classe Sub. class(es) Classes(s) sub.		UN No. N° UN		Packing / rle gr. Gr. d'emballage / de risque		Quantity shipped Quantité expédiée		Units L or / ou Kg Unités		No. / N°		Packing / Contenant Codes Int.-nat.		Phys. state État phys.		Quantity received Quantité reçue		Units L or / ou Kg Unités		Comments Commentaires		Handling Code / Code de manipulation		Shipment / Envoi Accepted / Refused Accepté / Refusé		Decont. Pick. Cont. Veh. Vah.			
(i)		Waste Spills Containing Flammable Liquid, NOS Fuel Aviation Turbine Engine		4.1 UN3125 II		152 KG		3		01 S																							
(ii)		Waste Fuel, Aviation, * Turbine Engine Mixture		3 UN1823 III		360 L		2		01 L																							
(iii)		Waste Fuel, Aviation, * Turbine Engine		3 UN1823 III		160 L		1		01 L																							
(iv)		Waste Butteries, Wet, Filled with Acid		8 UN2794		155 KG		1		07 S																							
Notion No. N° de notification		Notice Line No. N° de ligne de la notification		Shipment Envoi		C or R Code C ou R		D or R Code D ou R		C code Code C		Basel Annex VIII or OECD Code Annexe VIII de Bâle ou Code OCDE		H code Code H		Y code Code Y		National code in country of / Code du pays		Export Exportation		Import Importation		Customs code(s) Code(s) de douanes		If handling code "Other" (specify) Si code de manipulation « autre » (spécifier)		Receiver / consignee certification: I certify that the information contained in Part C is correct and complete. Attestation du réceptionnaire / destinataire: J'atteste que tous les renseignements à la partie C sont exacts et complets.		Name of authorized person (print) Nom de l'agent autorisé (caractères d'imprimerie)		Tel. No. / N° de tél. ()	
(i) * Flash Point 38°C																																	
(ii)																																	
(iii)																																	
(iv)																																	
24 Hour Number: CANUTEC 613-996-6666 Use in case of Dangerous Goods Emergency																																	
Generator / consigneur 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.																																	
Name of authorized person (print) Nom de l'agent autorisé (caractères d'imprimerie)																																	
Signature																																	
Tel. No. / N° de tél. (705) 494-2011 ext 2840																																	
Date shipped / Date d'expédition Year / Année Month / Mois Day / Jour																																	
18																																	
Time / Heure A.M. <input type="checkbox"/> P.M. <input type="checkbox"/>																																	
18																																	
Scheduled arrival date / Date d'arrivée prévue Year / Année Month / Mois Day / Jour																																	

MOE 04-1917 (07/07)

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

Copy / Copie 1 (white / blanche)

Figure 1: Movement Document 2539505-4

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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.

2539506-2

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

A Generator / consigneur Producteur / expéditeur Registration No. / Provincial ID No. N° d'immatriculation - d'Id. provincial NUG100003 Company name / Nom de l'entreprise DND 4/c Raytheon Canada Limited Mailing address / Adresse postale 22 Wing, Bldg 109, Hornell Heights ON P0H 1P4 City / Ville Hornell Heights Province ON Postal code / Code postal P0H 1P4 E-mail / Courriel électronique (705) 494-2011 ext 2840 Shipping site address / Adresse du lieu de l'expédition NWS LRR CAM-3 City / Ville Shepherd Pt Province NU Postal code / Code postal J3L 4V2		B Carrier Transporteur Registration No. / Provincial ID No. N° d'immatriculation - d'Id. provincial Company name / Nom de l'entreprise Mailing address / Adresse postale City / Ville Province Postal code / Code postal E-mail / Courriel électronique Tel. No. / N° de tél. Vehicle / Véhicule Trailer - Rail car No. 1 Trailer - Rail car No. 2 2" remorque - wagon Registration No. / N° d'immatriculation Prov. Port of entry / Point d'entrée International use only Port of exit / Point de sortie International use only Carrier Certification: I certify that I have received waste or recyclable material from the generator / consigneur for delivery to the receiver / consignee as set out in Part A and that the information contained in Part B is complete and correct. 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'ils figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets. Name of authorized person (print) Nom de l'agent autorisé (caractères d'imprimerie): Year / Année Month / Mois Day / Jour Signature:		C Receiver / consignee Réceptionnaire / destinataire Registration No. / Provincial ID No. N° d'immatriculation - d'Id. provincial Company name / Nom de l'entreprise Mailing address / Adresse postale City / Ville Province Postal code / Code postal E-mail / Courriel électronique Tel. No. / N° de tél. Receiving site address / Adresse du lieu de destination Date received / Date de réception Year / Année Month / Mois Day / Jour Time / Heure A.M. P.M. If waste or recyclable material to be transferred, specify intended company name / Si les déchets ou matières recyclables doivent être transférés, préciser le nom du destinataire Registration No. / Provincial ID No. N° d'immatriculation - d'Id. provincial Quantity received / Quantité reçue Units / Unités Comments / Commentaires Handling / Code de manutention Shipment / Envoi Accepted / Refusé Decom. / Démantèlement If handling code "Other" (specify) Si code de manutention « autre » (spécifier) Receiver / consignee certification: I certify that the information contained in Part C is correct and complete. Attestation du réceptionnaire / destinataire: J'atteste que tous les renseignements à la partie C sont exacts et complets. Name of authorized person (print) Nom de l'agent autorisé (caractères d'imprimerie): Tel. No. / N° de tél. Signature: Special handling / Manutention spéciale Attached to joint: <input type="checkbox"/> As follows / Ci-contre: 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																									
Prox. code Code prov.		Shipping name Appellation réglementaire		Class / Classe Sub. class(es) Class(es) sub.		UN No. N° UN		Packing / rsk gr. Gr. d'emballage / de risque		Quantity shipped Quantité expédiée		Units L or / ou Kg Unités		Packaging/Container Codes N° / N°		Phys. state État phys.		Quantity received Quantité reçue		Units L or / ou Kg Unités		Comments Commentaires		Handling Code de manutention		Shipment / Envoi Accepted / Refusé		Decom. Démantèlement	
(i)		Waste Batteries Wet, Non-Spillable		3		UN2800				417		KG		1		07		S											
(ii)		Waste Paint *		3		UN1263		III		80		L		2		01		L											
(iii)																													
(iv)																													
Notice No. N° de notification		Notice Line No. N° de ligne de la notification		Shipment Envoi		D or R code Code D ou R		C code Code C		Brevet Annex VIII or Annexe VIII de Bâle ou Code OCDE		H code Code H		Y code Code Y		National code in country of / Code du pays		Customs code(s) Code(s) de douanes		Receiver / consignee certification: I certify that the information contained in Part C is correct and complete. Attestation du réceptionnaire / destinataire: J'atteste que tous les renseignements à la partie C sont exacts et complets. Name of authorized person (print) Nom de l'agent autorisé (caractères d'imprimerie): Tel. No. / N° de tél. Signature:									
(i) * Flashpoint 38°C																													
(ii)																													
(iv)																													
24 Hour Number: CANUTEC 613-996-6666 Use in case of Dangerous Goods Emergency																													
Generator / consigneur 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.																													
Name of authorized person (print) Nom de l'agent autorisé (caractères d'imprimerie): Signature: Richard St. Louis (705) 494-2011 ext 2840																													

MOE 04-1917 (07/07)

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

Copy / Copie 1 (white / blanc)

Figure 2: Movement Document 2539506-2

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SHIPPING MANIFEST							
Suite 3000, 400 Cooper Street, Ottawa, ON K2P 2H8						NON NEGOTIABLE	
Filled By: AELLIOTT		Date: Aug 9, 2018, 5:27 PM		TCN-38523			
Ship To: QIKIQTAAALUK ENVIRONMENTAL (QE) C/O VEOLIA 2630, BOUL. INDUSTRIEL CHAMBLY, QC, J3L 4V2 1-866-634-6367		From: CAM-3, SHEPHERD BAY, DND Storeroom Raytheon Canada Limited, NWS LSS Cambridge Bay, P.O. Bag 1050 Cambridge Bay, NU, X0B 0C0 867-983-2112			Priority 0		
Attention:				Attention:		AELLIOTT	
Carrier:		Routing:		Waybill #:		Total Pcs.	
Flight Fuels		SHIP TO CONSIGNEE				1 PALLET	
Total Weight:		762 KG					
QTY	Type	Line	Item	Description	WO or PO	B/Code or S/N	Remarks
Order		Weight					
4	DRUMS		2002406	WASTE - OIL, 45 GAL	1.60 M3		NON-REGULATED WASTE...4 DRUMS ON 1 PALLET: ASSETS: 339418 343311 347484 339417
NOTE: All claims related to this shipment have to be filled with Raytheon within 45 hours of receipt.				Received By:		Date	
				Received By:		Date	

Figure 3: NWS Shipping Manifest TCN-38523

SHIPPING MANIFEST							
Suite 3000, 400 Cooper Street, Ottawa, ON K2P 2H8						NON NEGOTIABLE	
Filled By: AELLIOTT		Date: Aug 9, 2018, 5:42 PM		TCN-38524			
Ship To: QIKIQTAAALUK ENVIRONMENTAL (QE) C/O VEOLIA 2630, BOUL. INDUSTRIEL CHAMBLY, QC, J3L 4V2 1-866-634-6367		From: CAM-3, SHEPHERD BAY, DND Storeroom Raytheon Canada Limited, NWS LSS Cambridge Bay, P.O. Bag 1050 Cambridge Bay, NU, X0B 0C0 867-983-2112			Priority 0		
Attention:				Attention:		AELLIOTT	
Carrier:		Routing:		Waybill #:		Total Pcs.	
Flight Fuels		SHIP TO CONSIGNEE				1 PALLET	
Total Weight:		762 KG					
QTY	Type	Line	Item	Description	WO or PO	B/Code or S/N	Remarks
Order		Weight					
4	DRUMS		2002406	WASTE - OIL, 45 GAL	1.60 M3		NON-REGULATED WASTE...4 DRUMS ON 1 PALLET: ASSETS: 342816 332558 340724 340962
NOTE: All claims related to this shipment have to be filled with Raytheon within 45 hours of receipt.				Received By:		Date	
				Received By:		Date	

Figure 4: NWS Shipping Manifest TCN-38524

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SHIPPING MANIFEST

Suite 3000, 400 Cooper Street, Ottawa, ON K2P 2H8

NON NEGOTIABLE

Filled By: AELLIOTT		Date: Aug 9, 2018, 5:51 PM		TCN-38525	
Ship To: QIKIQTAAALUK ENVIRONMENTAL (QE) C/O VEOLIA 2630, BOUL. INDUSTRIEL CHAMBLY, QC, J3L 4V2 1-866-634-6367		From: CAM-3, SHEPHERD BAY, DND Storeroom Raytheon Canada Limited, NWS LSS Cambridge Bay, P.O. Bag 1050 Cambridge Bay, NU, X0B 0C0 867-983-2112		Priority 0	
Attention:		Attention:		AELLIOTT	
Carrier:		Routing:		Waybill #:	
Flight Fuels		SHIP TO CONSIGNEE		Total Pcs. 1 PALLET	
				Total Weight: 391 KG	
QTY	Type	Line	Item	Description	WO or PO
2	DRUMS		2002406	WASTE - OIL, 45 GAL	0.82 M3
				Remarks: NON-REGULATED WASTE...2 DRUMS ON 1 PALLET. ASSETS: 342233 347485	
NOTE: All claims related to this shipment have to be filled with Raytheon within 45 hours of receipt.					
Received By:				Date	
Received By:				Date	

Figure 5: NWS Shipping Manifest TCN-38525



SHIPPING MANIFEST

Suite 3000, 400 Cooper Street, Ottawa, ON K2P 2H8

NON NEGOTIABLE

Filled By: AELLIOTT		Date: Aug 10, 2018, 4:52 PM		TCN-38541	
Ship To: QIKIQTAAALUK ENVIRONMENTAL (QE) C/O VEOLIA 2630, BOUL. INDUSTRIEL CHAMBLY, QC, J3L 4V2 1-866-634-6367		From: CAM-3, SHEPHERD BAY, DND Storeroom Raytheon Canada Limited, NWS LSS Cambridge Bay, P.O. Bag 1050 Cambridge Bay, NU, X0B 0C0 867-983-2112		Priority 0	
Attention:		Attention:		AELLIOTT	
Carrier:		Routing:		Waybill #:	
Flight Fuels		SHIP TO CONSIGNEE		Total Pcs. 1 PALLET	
				Total Weight: 602 KG	
QTY	Type	Line	Item	Description	WO or PO
3	DRUMS		2002406	WASTE - OIL, 45 GAL	1.60 M3
				Remarks: NON-REGULATED WASTE...3 DRUMS ON 1 PALLET. ASSETS: 343879 345814 347601	
NOTE: All claims related to this shipment have to be filled with Raytheon within 45 hours of receipt.					
Received By:				Date	
Received By:				Date	

Figure 6: NWS Shipping Manifest TCN-38541

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SOW Ref: 16.F.5.d



SHIPPING MANIFEST

Suite 3000, 400 Cooper Street, Ottawa, ON K2P 2H8

NON NEGOTIABLE

Filled By: AELLIOTT		Date: Aug 9, 2018, 5:56 PM		TCN-38526	
Ship To: QIKIQTAAALUK ENVIRONMENTAL (QE) C/O VEOLIA 2630, BOUL. INDUSTRIEL CHAMBLY, QC, J3L 4V2 1-866-634-6367		From: CAM-3, SHEPHERD BAY, DND Storeroom Raytheon Canada Limited, NWS LSS Cambridge Bay, P.O. Bag 1050 Cambridge Bay, NU, X0B 0C0 867-983-2112		Priority 0	
Attention:		Attention:		AELLIOTT	
Carrier:		Routing:		Waybill #: Total Pcs. Total Weight:	
Flight Fuels		SHIP TO CONSIGNEE		1 PALLET 189 KG	
QTY Order	Type	Line Weight	Item	Description	WO or PO B/Code or S/N Remarks
2	DRUMS		2002356	WASTE - OIL FILTERS	1.7 M3 NON-REGULATED WASTE...2 DRUMS ON 1 PALLET. ASSETS: 340725 345778
NOTE: All claims related to this shipment have to be filled with Raytheon within 45 hours of receipt.					
Received By:				Date	
Received By:				Date	

Figure 7: NWS Shipping Manifest TCN-38526



SHIPPING MANIFEST

Suite 3000, 400 Cooper Street, Ottawa, ON K2P 2H8

NON NEGOTIABLE

Filled By: AELLIOTT		Date: Aug 10, 2018, 4:46 PM		TCN-38540	
Ship To: QIKIQTAAALUK ENVIRONMENTAL (QE) C/O VEOLIA 2630, BOUL. INDUSTRIEL CHAMBLY, QC, J3L 4V2 1-866-634-6367		From: CAM-3, SHEPHERD BAY, DND Storeroom Raytheon Canada Limited, NWS LSS Cambridge Bay, P.O. Bag 1050 Cambridge Bay, NU, X0B 0C0 867-983-2112		Priority 0	
Attention:		Attention:		AELLIOTT	
Carrier:		Routing:		Waybill #: Total Pcs. Total Weight:	
Flight Fuels		SHIP TO CONSIGNEE		1 PALLET 386 KG	
QTY Order	Type	Line Weight	Item	Description	WO or PO B/Code or S/N Remarks
1	DRUM		2008310	WASTE - OIL CONTAMINATED SOIL	0.55 M3 NON-REGULATED WASTE...1 DRUMS ON 1 PALLET. ASSETS: 339957
NOTE: All claims related to this shipment have to be filled with Raytheon within 45 hours of receipt.					
Received By:				Date	
Received By:				Date	

Figure 8: NWS Shipping Manifest TCN-38540

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UNCLASSIFIED

SOW Ref: 16.F.5.d



SHIPPING MANIFEST

Suite 3000, 400 Cooper Street, Ottawa, ON K2P 2H8

NON NEGOTIABLE

Filed By: AELLIOTT		Date: Aug 10, 2018, 5:06 PM		TCN-38542	
Ship To: QIKIQTAAALUK ENVIRONMENTAL (QE) C/O VEOLIA 2630, BOUL. INDUSTRIEL CHAMBLY, QC, J3L 4V2 1-866-634-6367		From: CAM-3, SHEPHERD BAY, DND Storeroom Raytheon Canada Limited, NWS LSS Cambridge Bay, P.O. Bag 1050 Cambridge Bay, NU, X0B 0C0 867-983-2112		Priority 0	
Attention:		Attention: AELLIOTT			
Carrier:		Routing:		Waybill #:	
Flight Fuels		SHIP TO CONSIGNEE		Total Pcs.	
				1 CRATE	
				Total Weight:	
				96 KG	
QTY	Type	Line	Item	Description	WO or PO
Order	Weight				B/Code or S/N
					Remarks
0					1 CRATE CONTAINING PAILS OF OIL
1	CRATE	2003658		WASTE - OIL (5 GALLON PAIL)	0.30 M3
					NON-REGULATED WASTE... ASSET: 339419
NOTE: All claims related to this shipment have to be filled with Raytheon within 45 hours of receipt.					
				Received By:	Date
				Received By:	Date

Figure 9: NWS Shipping Manifest TCN-38542

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SOW Ref: 16.F.5.d

ANNEX B: SEWAGE EFFLUENT OUTFALL (CDL-2) LOCATION WITH COORDINATES



Coordinates of sewage outfall: 68°47'40"N, 93°26'28.17"W

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ANNEX C: ANALYSIS OF DISCHARGED SEWAGE EFFLUENT

The sewage outfall sump was sampled on 22-Aug-2018. The samples were analysed for the parameters listed in the water licence Part I, Item 3.

Table D-1: Summary of Analysis of Discharged Sewage Effluent at CAM-3 in 2018

Sample Date	Parameter				
	pH	Oil and Grease (Present - P / Absent - A)	Biological Oxygen Demand (mg/L)	Total Suspended Solids (mg/L)	Faecal Coliforms
22-Aug-2018	6.9	A	386	153	310,000



Environment Testing

Certificate of Analysis

Client: Raytheon Canada Limited Ottawa
400 Cooper St.
Ottawa, ON
K2P 2H8
Attention: Mr. Will Wyman
PO#: 002160-OT
Invoice to: Raytheon Canada Limited Ottawa

Report Number: 1815412
Date Submitted: 2018-08-28
Date Reported: 2018-09-06
Project: CAM-3
COC #: 835152

Group	Analyte	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.
General Chemistry	BOD5	1	mg/L		1383638 Sewage
	pH	1.00			2018-08-22 CAM-3 Sewage Sample
	Total Suspended Solids	2	mg/L		
Oil and Grease	Oil & Grease - Mineral	1	mg/L		
	Oil & Grease - Non-mineral	1	mg/L		
	Oil & Grease - Total	1	mg/L		
	Visible Sheen		P/A		

Guideline =

* = Guideline Exceedence

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Figure 10: 22-Aug-2018 Sewage Effluent Results, Page 1 of 2

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UNCLASSIFIED

SOW Ref: 16.F.5.d



Environment Testing

Certificate of Analysis

Client: Raytheon Canada Limited Ottawa
400 Cooper St.
Ottawa, ON
K2P 2H8
Attention: Mr. Will Wyman
PO#: 002160-OT
Invoice to: Raytheon Canada Limited Ottawa

Report Number: 1815467
Date Submitted: 2018-08-28
Date Reported: 2018-08-29
Project: CAM-3
COC #: 835152

Group		Analyte	MRL	Units	Guideline
Others		Faecal Coliforms	0	ct/100mL	

Lab I.D. 1383772
Sample Matrix Sewage
Sample Type
Sampling Date 2018-08-22
Sample I.D. CAM-3 Sewage
Sample

310000

Guideline =

* = Guideline Exceedence

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

Analytical Method: AMBCOLM1

additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

146 Colonnade Rd. Unit 8, Ottawa, ON K2E 7Y1

Page 2 of 2

Figure 11:: 22-Aug-2018 Sewage Effluent Results, Page 2 of 2

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ANNEX D: LOCATION OF BERMED FUEL STORAGE FACILITIES AND ANALYSIS OF BERM WATER¹

The berm water was not pumped out therefore no samples were taken for laboratory analysis. When staff arrived on-site for the summer 2018 preventive maintenance trip in June 2018 there was no water in the summit or beach berms. This Annex has been left blank because there are no results to report.

¹ Effluent from bermed fuel storage facilities.