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SOW Ref: 16.F.5.d

2018 ANNUAL NUNAVUT WATER BOARD

REPORT FOR CAM-3

FOR THE

North Warning System

Contract # W8485-100224/001/NX

SOW Ref: 16.F.5.d

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Prepared for
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EXECUTIVE SUMMARY IN ENGLISH FOLLOWS



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 (m^3) was drawn from the water supply lake. This is below the annual maximum of 1,440 m^3 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

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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		
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		

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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 Bermed Fuel Storage Facilities and Analysis of Berm Water**. All samples met the effluent requirements of the water licence, Part D.

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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.

A Generator / consignor Producteur / expéditeur		Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial	B Carrier / Transporteur	Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial	2539505-4													
Company name / Nom de l'entreprise DND Ctr Raytheon Canada Limited		Company name / Nom de l'entreprise NUGO00003		Movement Document / Manifest Reference No. N° de référence du document de mouvement/manifeste		2539506-2												
Mailing address / Adresse postale 22 Wing, Bldg 109 Hornell Heights ON P0H 1P4		Mailing address / Adresse postale City / Ville Province Postal code / Code postal		Receiving / consignee Récipiendaire / destinataire		Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial												
E-mail / Courrier électronique (705) 494-2011 ext 2840		E-mail / Courrier électronique Tel. No. / N° de tél. ()		Receiver / consignee information same as in Part A Les renseignements du récepteur / 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														
Shipping site address / Adresse du lieu de l'expédition NWS LRR CAM-3		Vehicle / Véhicule Trailer - Rail car No. 1 1' remorque - wagon		Registration No. / N° d'immatriculation	Prov.	24												
City / Ville Province Postal code / Code postal Shepherd Bay NL		Trailer - Rail car No. 2 2' remorque - wagon																
Intended Receiver / Consignee Récipiendaire / destinataire prévu Gikigtalaluk Environmental		Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial 7610-16-01-0345154	Port of entry Point d'entrée	Port of exit Point de sortie	International use only	25												
Mailing address / Adresse postale 2935 de l'Opéra Suite 200 Brossard QC J4T 3N4		Postal code / Code postal			International use only													
E-mail / Courrier électronique ()																		
Receiving site address / Adresse du lieu de l'expédition Veolia, 2630, boul Industrial		Year / Année	Month / Mois	Day / Jour	Signature :		26											
City / Ville Province Postal code / Code postal Chambly QC J3L 4V2																		
Prov. code Code prov.	Shipping name Appellation référencière	4 Class / Classe ⁵ Sub. classe(s) Classe(s) sub.	5 UN No. N°NU	6 Packing / risk gr. Gr. d'emballage/ de risque	7 Quantify shipped Quantité expédiée	8 Unit L or / ou Kg Unités	9 Packaging/Content Codes IRK-ext	10 Phys. state État phys.	30		31	32	33	34	35	36		
(i)	Waste Spills Containing Flammable Liquid, NOS Fuel/Aviation/Turbine Engine	4.1 UN3175	II	152	KG	3	01	S	Quantity received Quantité reçue		Units L or / ou Kg Unités	Comments Commentaires	Handle Code / Code de manutention	Shipment / Env. Accepted / Accepté	Refused / Refusé	Decont. / Pack. Cont. Veh.		
(ii)	Waste Fuel, Aviation Turbine Engine Mixture *	3 UN1863	III	360	L	2	01	L										
(iii)	Waste Fuel, Aviation, *	3 UN1863	III	160	L	1	01	L										
(iv)	Waste Batteries, Wet, Filled with Acid	8 UN3294		155	KG	1	07	S										
11	Notice No. N° de notification	Notice Line No. N° de ligne de la notification	12	Shipment Env.	13	14	15	16	17	National code in country / Code du pays	18	19	20	21	22	23		
(i)	* Flash Point 38°C																	
(i)	international use only																	
(i)	24 Hour Number : CANUTEC 613-996-6666 Use in case of Dangerous Goods Emergency																	
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.															Name of authorized person (print) Nom de l'agent autorisé (écriture d'imprime)			
Signature DAVID TRASSLER (705) 494-2011 ext 2840															Signature Richard St. Louis (705) 494-2011 ext 2840			
															Tel. No. / N° de tél. ()			
															Special handling / Manutention spéciale <input type="checkbox"/> Attached/Ci-joint. <input type="checkbox"/> As follows/Ci-contient :			
															21 Date shipped / Date d'expédition Year / Année Month / Mois Day / Jour <input type="checkbox"/> A.M. <input type="checkbox"/> P.M.			
															22 Time / Heure Year / Année Month / Mois Day / Jour <input type="checkbox"/> A.M. <input type="checkbox"/> P.M.			
															23 Scheduled arrival date / Date d'arrivée prévue Year / Année Month / Mois Day / Jour			
															18			

MOE 04-1917 (07/07)

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

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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.

A Generator / consignor Producteur / expéditeur		Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial	B Carrier / Transporteur		Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial			23 Reference No. of other movement document(s)/manifest(s) used / N° de référence des autres documents de mouvement/manifestes utilisés		27		
Company name / Nom de l'entreprise DND c/o Raytheon Canada Limited		Mailing address / Adresse postale		City / Ville	Province	Postal code / Code postal			2539505-4			
Mailing address / Adresse postale 22 Wing, Bldg 109, Hornell Heights ON P0A 1P4		E-mail / Courrier électronique (705) 494-3011 ext 2840		E-mail / Courrier électronique Tel. No. / N° de tél.		Tel. No. / N° de tél.						
Shipping site address / Adresse du lieu de l'expédition NWS LRR CAM-3		City / Ville		Province	Postal code / Code postal	Shepherd Bay						
Intended Receiver / consignee Récipient/destinataire prévu		2 Registration No. / Provincial ID No. N° d'immatriculation - d'id. provincial		30		24		25		28		
Qiktaaluk Environmental		7610-16-01-0349154		Mailing address / Adresse postale 9195 de Chateauguay Brossard QC J4E 3V4		Name of authorized person (print): Nom de l'agent autorisé (caractères d'impression):		Tel. No. / N° de tél.		Receiving site address / Adresse du lieu de destination		
Mailing address / Adresse postale Entrez 1, Suite 300, Brossard QC J4E 3V4		E-mail / Courrier électronique ()		E-mail / Courrier électronique Tel. No. / N° de tél.		()						
Receiving site address / Adresse du lieu de l'expédition Véolia, 2630, boul Industriel		City / Ville		Province	Postal code / Code postal	Chambly						
Shipping name Appellation réglementaire		3 Class / Classe Sub. classe(s) Classe(s) sub.	4 UN No. N° NNU	5	6	Packing mark or Gr. d'emballage/ Gr. de risque	7	8	9	10	11	
(i) Waste Batteries Wet, Non-Spillable		8	UN3800			417	KG	1	07	S	12	
(ii) Waste Paint *		3	UN1263	III		80	L	2	01	L	13	
(iii)											14	
(iv)											15	
11		12	13	14	15	16	17	18	19	20	21	
Notice No. N° de notification	Notice Line No. N° de ligne de la notice	Shipment Envoi	Off / De D or R code Code E ou R	C code Code C	Based Annex VIII or OECD Code Annexe VIII ou code ou Code OECD	H code Code H	Y code Code Y	Export Exportation	Import Importation	Customs code(s) Code(s) de douanes	Date shipped / Date d'expédition Year / Année	Date arrived / Date d'arrivée prévue Year / Année
(i) * Flashpoint 38°C											1/8	1/8
16 International use only												
24 Hour Number: CANUTEC 613-996-6666 Use in case of Dangerous Goods Emergency 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'impression): Signature: Tel. No. / N° de tél. R. Chard St. Louis (705) 494-3011 ext 2840												
25 Attestation du producteur / expéditeur: J'affirme que tous les renseignements à la partie A sont exacts et complets.												
26 Receiver / consignee certification: I certify that the information contained in Part C is correct and complete. Name of authorized person (print) Nom de l'agent autorisé (caractères d'impression): Signature: Tel. No. / N° de tél.												
27 If handling code "Other" (specify) Si code de manutention « autre » (soñez)												
28 Special handling / Manutention spéciale □ Attached C-point □ As follows/ Ci contre:												
29 Date received / Date de réception Year / Année Month / Mois Day / Jour Time / Heure 20 A.M. □ P.M.												
30 Date arrived / Date d'arrivée prévue Year / Année Month / Mois Day / Jour Time / Heure 21 A.M. □ P.M.												
31 Shipment / Envoi Accepted / Accepté Refused / Refusé 32 Handling / Code / Code de manutention Accepted / Accepté Refused / Refusé 33 Shipment / Envoi Accepted / Accepté Refused / Refusé 34 Deport / Veh Pack. / Veh Count / Veh												

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

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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: QIKIQTAAULK 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	762 KG		
QTY Order	Type Line Weight	Item	Description	WO or PO	B/Code or S/N	Remarks
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: QIKIQTAAULK 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	762 KG		
QTY Order	Type Line Weight	Item	Description	WO or PO	B/Code or S/N	Remarks
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: QIKIQTAALUK 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: Flight Fuels		Routing: SHIP TO CONSIGNEE		Waybill #:	Total Pcs.	Total Weight:	
QTY Order	Type	Line Weight	Item	Description	WO or PO	B/Code or S/N	Remarks
2	DRUMS	2002406	WASTE - OIL, 45 GAL		0.82 M3		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: QIKIQTAALUK 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: Flight Fuels		Routing: SHIP TO CONSIGNEE		Waybill #:	Total Pcs.	Total Weight:	
QTY Order	Type	Line Weight	Item	Description	WO or PO	B/Code or S/N	Remarks
3	DRUMS	2002406	WASTE - OIL, 45 GAL		1.60 M3		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: QIKIQTAALUK 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: Flight Fuels		Routing: SHIP TO CONSIGNEE	Waybill #: 1 PALLET	Total Pcs. 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: QIKIQTAALUK 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: Flight Fuels		Routing: SHIP TO CONSIGNEE	Waybill #: 1 PALLET	Total Weight: 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							
Filled By: AELLIOTT	Date: Aug 10, 2018, 5:06 PM						
TCN-38542							
Ship To: QIKIQTAALUK ENVIRONMENTAL (QE) C/O VEOLIA 2630, BOUL. INDUSTRIEL CHAMBLAY, 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: Flight Fuels	Routing: SHIP TO CONSIGNEE						
Waybill #:	Total Pcs. 1 CRATE						
Total Weight: 96 KG							
QTY Order	Type	Line Weight	Item	Description	WO or PO	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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SOW Ref: 16.F.5.d

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	386	1383638 Sewage
	pH	1.00		6.90	2018-08-22 CAM-3 Sewage Sample
Oil and Grease	Total Suspended Solids	2	mg/L	153	
	Oil & Grease - Mineral	1	mg/L	4	
	Oil & Grease - Non-mineral	1	mg/L	19	
	Oil & Grease - Total	1	mg/L	23	
	Visible Sheen		P/A	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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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

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

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

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