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2019 ANNUAL NUNAVUT WATER BOARD

REPORT FOR BAF-3

FOR THE

North Warning System

Contract # W8485-100224/001/NX

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Prepared for
North Warning System & Assoc. Projects
Aerospace Equipment Program Directorate
455 Blvd de la Carrière
11th Floor
Gatineau, Québec
K1A 0K2

Prepared by

Raytheon
Canada Limited

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

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ENGLISH EXECUTIVE SUMMARY FOLLOWS

2012-2015. 8BC-BAF1929.

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મુફ્ત કાર્યાલય નામનું 2015 Jet A1 દાખલાં થાયા હતાં 2019-નું.



EXECUTIVE SUMMARY

This 2019 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 Part B "General Conditions", paragraph 1 of its licence. Water licence 3BC-BAF0919 was in effect from 01 January until it was replaced with licence 8BC-BAF1929 on 01-Sep-2019. This report covers 01 January to 31 December 2019.

RCL is the Operation and Maintenance Contractor for the North Warning System (NWS), including BAF-3, the unattended (unmanned) North Warning System radar site located on Brevoort Island, Nunavut. The site is visited quarterly by RCL staff based out of Iqaluit, Nunavut for preventive maintenance inspections and as required for other work.

A total of 838.5 cubic meters was drawn from the water supply lake. This is below the annual maximum of 1,750 cubic meters allowed by the current licence.

Fuel tanks within the berms were demolished in 2012 and 2013, and the berms were intentionally breached in 2012 and 2015. No effluent (berm water) samples were taken in 2019. This monitoring point was discontinued in licence 8BC-BAF1929.

Hazardous waste, including waste oil, was 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. The hazardous waste shipped from BAF-3 in 2019 consisted of 50 drums and 4 crates of waste batteries

Non-hazardous domestic solid waste was flown out to the Logistics Support Site in Iqaluit and disposed of at Iqaluit's landfill. RCL has documented authorization from the community for receiving the waste.

One outdoor spill occurred at BAF-3 in 2019. NT-NU Report Number 19-399. On 26-Sep-2019, while offloading a genie lift from a barge, the lift fell on the shore tipping on its side and spilling approximately 2 L of hydraulic fluid. The genie lift was set upright and removed from the beach. Staff scraped up the oil impacted sand from the beach, placing it in a bucket for disposal off site.

The Spill Contingency Plan was updated on 29-Mar-2019.

Groundwater monitoring activities of the 2015 Jet A1 spill continued in 2019.

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1.0 INTRODUCTION

This 2019 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 Part B "General Conditions", paragraph 1 of its licence. Water licence 3BC-BAF0919 was in effect from 01 January until it was replaced with licence 8BC-BAF1929 on 01-Sep-2019. This report covers 01 January to 31 December 2019.

RCL is the Operations and Maintenance Contractor for the North Warning System (NWS), including BAF-3, the unattended (unmanned) North Warning System radar site located on Brevoort Island, Nunavut. The site is visited quarterly by RCL staff based in Iqaluit for preventive maintenance inspections and as required for other work.

1.1 Report Details

Licensee: Department of National Defence, Government of Canada
Licence: 3BC-BAF0919 – Type "B" from 01-Jan-2019 until it was replaced on 01-Sep-2019 with 8BC-BAF1929 – Type "B"
Location: BAF-3 North Warning System Site, Brevoort Island, Qikiqtani Region, Nunavut
Report Prepared by: Raytheon Canada Limited, 18-Mar-2020
Time period covered: 01 January to 31 December 2019

2.0 WATER USE

A total of 838.5 cubic meters was drawn from the water supply lake. This is below the annual maximum of 1,750 cubic meters allowed by the current licence. See Table 2-1 for the volume of water drawn at BAF-3 in 2019.

Table 2-1: Monthly Raw Water Usage at BAF-3 in 2019

Month	Raw water usage (m ³)
January	0
February	0
March	0
April	0
May	0
June	0
July	0
August	838.5
September	0
October	0
November	0
December	0
TOTAL	838.5

3.0 HAZARDOUS WASTE AND WASTE OIL DISPOSAL

Hazardous waste, including waste oil, from BAF-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. See Table 3-1 for the list of items sent for disposal.

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See Annex A for the shipping document 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 BAF-3 in 2019 consisted of 50 drums and 4 crates of waste batteries.

Table 3-1: Hazardous Waste and Waste Oil Sent for Disposal from BAF-3 in 2019

Description, TDG shipping name	Quantity	Movement Document or Manifest #
Waste batteries, wet, filled with acid	1 Crate	Movement Document 2539187-1
Waste batteries, wet, non-spillable	3 Crates	Movement Document 2539187-1
Waste Jet A1 fuel soaked sorbent	9 Drums	Movement Document 2539187-1
Waste solids containing flammable liquids, n.o.s (fuel, aviation, turbine engine)		
Waste Jet A1 fuel soaked rags	1 Drum	Movement Document 2539187-1
Waste solids containing flammable liquids, n.o.s (fuel, aviation, turbine engine)		
Waste Jet A1 fuel and water mixture	33 Drums	Movement Document 2539188-9
Waste fuel, aviation, turbine engine mixture		
Waste contaminated soil - Non-regulated	2 Drums	Movement Document 2539188-9
Not TDG Regulated		
Waste activated carbon, water mix	1 Drum	Movement Document 2539188-9
Waste Activated Carbon Mixture		
Waste oil	3 Drums	NWS Manifest TCN40363
Not TDG regulated		
Waste cooking oil	1 Drum	NWS Manifest TCN40363
Not TDG Regulated		

4.0 NON-HAZARDOUS SOLID WASTE DISPOSAL

Non-hazardous domestic solid waste was flown out to the Logistics Support Site in Iqaluit and disposed of at Iqaluit's 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 BAF-3 in 2019

Month	Waste Generated (kg)
January	36
February	91
March	0
April	340
May	136
June	295
July	227

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Month	Waste Generated (kg)
August	680
September	204
October	145
November	0
December	0
TOTAL	2,154

5.0 MONITORING PROGRAM

In 2019, a monitoring program was implemented at BAF-3 as required by the water licence, Part J. The monitoring program included the following:

1. Volume of raw water drawn from the water Supply Lake (BAF-1). The information gathered from this requirement 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 (BAF-2). The location of the sewage effluent outfall is shown in **Annex C: Sewage Effluent Outfall (BAF-2) Location with Coordinates**. A sump for the sewage outfall was constructed in 2010. The sewage outfall sump was not sampled in 2019 because the sewage sump was not pumped out. **Annex D: Analysis of Discharged Sewage Effluent** has been left blank.
3. Final Discharge Point from the Landfarm Facility (BAF-3). No samples were taken in 2019.
4. Final Discharge Point of the Bulk Fuel Storage Facility (BAF-4). Fuel tanks within the berms were demolished in 2012 and 2013, and the berms were intentionally breached in 2012 and 2015. As there are no intact berms, sampling location BAF-4 has been discontinued in licence 8BC-BAF1929. **Annex E: Analysis of Berm Water** has been left blank.
5. Groundwater monitoring activities (BAF-5) of the 2007 Jet A1 spill ended in 2015 as per the recommendation by Stantec Consulting Ltd. Groundwater monitoring of the 2015 Jet A1 spill continued in 2018. A summary of the work completed in 2019 is included in **Annex F: Monitoring Activities**.

6.0 SPILLS (UNAUTHORIZED DISCHARGES)

Table 6-1: Unauthorized Discharges at BAF-3 in 2019

Date, NT-NU Spill #	Product	Quantity	Cause and follow-up action	On-site location
26-Sep-2019, Spill # 19-399	Hydraulic fluid	2 L	On 26-Sep-2019, while the barge operator was offloading a genie lift from a barge, the lift tipped over falling approximately 3 feet from the ramps to the beach. The lift fell on the shore tipping on its side and spilling approximately 2 L of hydraulic fluid. The genie lift was set upright and removed from the beach. Staff scraped up the oil impacted sand from the beach, placing it in a bucket for disposal off site.	Beach (63°19'09.6"N 64°08'24.7"W)

7.0 REVISIONS TO THE SPILL CONTINGENCY PLAN

The Spill Contingency Plan was updated on 29-Mar-2019. An updated copy of the Spill Contingency Plan has been submitted to the NWB with this annual report.

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8.0 PROGRESSIVE RECLAMATION WORK UNDERTAKEN

2019 was the fifth year of clean-up following the 19-Mar-2015 fuel spill. Environmental staff mobilized to the site from 17-Aug-2019 to 22-Aug-2019. A summary of the work completed in 2019 is included in **Annex F: Monitoring Activities**.

9.0 ACRONYMS

Table 9-1: Acronyms

Acronym	Definition
MW	Monitoring Well
NAPL	Non-Aqueous Phase Liquids
NWB	Nunavut Water Board
NWS	North Warning System
NWSO	North Warning System Office
PHC	Petroleum Hydrocarbons
RCL	Raytheon Canada Limited
RW	Recovery Well
SVE	Soil Vapor Extraction
TDGR	Transportation of Dangerous Goods Regulations
TPH	Total Petroleum Hydrocarbons
VOC	Volatile Organic Compounds

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ANNEX A: HAZARDOUS WASTE AND WASTE OIL DISPOSAL IN 2019

The 2019 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 laws and regulations.
Ce document de mouvement/manifeste est conforme aux législations fédérale et provinciale sur l'environnement et le transport.

A Generator / consignor Producteur / expéditeur		B Carrier / Transporteur		23 Reference No. of other movement document(s)/manifest(s) used / N° de référence des autres documents de mouvement/manifestes utilisés	
Company name / Nom de l'entreprise Defence Natural Defense Inc./DC/RCI		Company name / Nom de l'entreprise Defence Natural Defense Inc./DC/RCI		Registration No. / Provincial ID No. N° d'immatriculation - d'td. provincial NUG 100003	
Mailing address / Adresse postale 22 King Bldg 109 Burnell Heights Rd. 10 Email / Courrier électronique 705-494-2011		Mailing address / Adresse postale 10		Registration No. / Provincial ID No. N° d'immatriculation - d'td. provincial 10	
Shipping site address / Adresse du lieu de l'expédition NWS LSS Igloolik (Brevbst Island) Baffin City/Ville Province 10630 Baffin Industrial X0A 0H0		Shipping site address / Adresse du lieu de l'expédition City/Ville Province 10630 Baffin Industrial X0A 0H0		Registration No. / N° de M. Tel. No. / N° de tél. ()	
Intended Receiver / destinataire Recipient name / Nom du destinataire Qikiqtaaluk Environmental 034815440169 Mailing address/adresse postale City/Ville Province Email / Courrier électronique Tel. No. / N° de tél. ()		Intended Receiver / destinataire Recipient name / Nom du destinataire Qikiqtaaluk Environmental 034815440169 Mailing address/adresse postale City/Ville Province Email / Courrier électronique Tel. No. / N° de tél. ()		Port of entry / Point d'entrée International via sea only Port of exit / Point de sortie International via sea only Chambly QC	
City/Ville Province Postal code / Code postal Chambly QC		City/Ville Province Postal code / Code postal Chambly QC		Port of entry / Point d'entrée International via sea only Port of exit / Point de sortie International via sea only Chambly QC	
Prov. code / Code prov. Q		Prov. code / Code prov. Q		25 Carrier Certification : I certify that I have received waste or recyclable material from the generator/ consignor for delivery to the recipient / destinataire as set out in Part A and that the information contained in Part B is correct and complete. I also declare that the contents of containers expeditors in Part A are in accordance with the instructions for transport. Attention : Je déclare que les contenants expéditeurs en A sont conformes aux instructions de transport. Attention : tous les renseignements inscrits à la partie B sont exacts et complets. Name of authorized person (print) Nom de l'agent autorisé (caractère d'imprimé) Pauline Sla	
3. Shipping name / Appellation réglementaire Waste batteries wet filled with acid		4. Class / Classe Sub. classe(s)/ Classe(s) sub. 8		5. UN No. NNU 2794	
(i) Waste batteries wet non-spillable		6. Packing / réfr. gr. Gr. d'emballage/ de réf. III		7. Quantity shipped Quantité expédiée 227	
(ii) Waste, solid, containing flammable liquid (inc./fuel additives)		8. UN No. NNU 2800		9. Unit(s) of L'unité ou Kg Kg	
(iii) Waste fuel, duration turbine engine mixtures		10. Packaging Content / Codes Int.-ext. 1350		11. Phys. state / Etat phys. 1	
(iv) FLASH POINT 38°C		12. Date shipped / Date d'expédition 1/9/1021		13. National code in country of / Code du pays of Consignment Basel Annex VIII or CIECC Code Annexe VIII de Bâle ou Code CIECC	
(v) 24 Hour Emergency Number Use in case of dangerous goods emergency		14. H code Code H Y		15. Y code Code Y Export Expédition	
(vi) Information national use only		16. Import Importation		17. Customs code(s) Code(s) de douanes Customs	
(vii) Information national use only		18. 19.		20. 21.	
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 (caractère d'imprimé) Pauline Sla		Signature Pauline Sla	
Notice No. N° de notification FLASH POINT 38°C		C code C Code C Y		Comments Si code de manutention = autre = (spécifier)	
Notice Line No. N° de ligne de l'information 24 Hour Emergency Number Use in case of dangerous goods emergency		D or R code Code E ou R III		22. Receiver / consignee certification: I certify that the information contained in Part C is correct and complete. Attestation du récepteur / destinataire : J'atteste que tous les renseignements à la partie C sont exacts et complets.	
(viii) Information national use only		E code Code E Y		Signature Pauline Sla	
(ix) Information national use only		F code Code F Y		Comments Si code de manutention = autre = (spécifier)	
(x) Information national use only		G code Code G Y		23. Shipment / Env. Code / Code de manutention Accepted Accepté	
(xi) Information national use only		H code Code H Y		24. Return / Retour Code / Code de manutention Rejected Refusé	
(xii) Information national use only		I code Code I Y		25. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xiii) Information national use only		J code Code J Y		26. If handling code "Other" (specify) Si code de manutention = autre = (spécifier)	
(xiv) Information national use only		K code Code K Y		27. Receiver / consignee certification: I certify that the information contained in Part C is correct and complete. Attestation du récepteur / destinataire : J'atteste que tous les renseignements à la partie C sont exacts et complets.	
(xv) Information national use only		L code Code L Y		28. Signature Pauline Sla	
(xvi) Information national use only		M code Code M Y		29. Special handling / Manutention spéciale <input type="checkbox"/> Attached/Coint. <input type="checkbox"/> As follows/C-contré	
(xvii) Information national use only		N code Code N Y		30. Date shipped / Date d'expédition Year / Année Month / Mois Day / Jour 1/9/1021	
(xviii) Information national use only		O code Code O Y		31. Time / Heure Year / Année Month / Mois Day / Jour 10:00 AM	
(xix) Information national use only		P code Code P Y		32. Scheduled arrival date / Date d'arrivée prévue Year / Année Month / Mois Day / Jour 1/10/1021	
(xx) Information national use only		Q code Code Q Y		33. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxi) Information national use only		R code Code R Y		34. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxii) Information national use only		S code Code S Y		35. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxiii) Information national use only		T code Code T Y		36. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxiv) Information national use only		U code Code U Y		37. Receiver / consignee certification: I certify that the information contained in Part C is correct and complete. Attestation du récepteur / destinataire : J'atteste que tous les renseignements à la partie C sont exacts et complets.	
(xxv) Information national use only		V code Code V Y		38. Signature Pauline Sla	
(xxvi) Information national use only		W code Code W Y		39. Special handling / Manutention spéciale <input type="checkbox"/> Attached/Coint. <input type="checkbox"/> As follows/C-contré	
(xxvii) Information national use only		X code Code X Y		40. Date shipped / Date d'expédition Year / Année Month / Mois Day / Jour 1/9/1021	
(xxviii) Information national use only		Y code Code Y Y		41. Time / Heure Year / Année Month / Mois Day / Jour 10:00 AM	
(xxix) Information national use only		Z code Code Z Y		42. Scheduled arrival date / Date d'arrivée prévue Year / Année Month / Mois Day / Jour 1/10/1021	
(xxx) Information national use only		AA code Code AA Y		43. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		BB code Code BB Y		44. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxii) Information national use only		CC code Code CC Y		45. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxiii) Information national use only		DD code Code DD Y		46. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxiv) Information national use only		EE code Code EE Y		47. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxv) Information national use only		FF code Code FF Y		48. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxvi) Information national use only		GG code Code GG Y		49. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxvii) Information national use only		HH code Code HH Y		50. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxviii) Information national use only		II code Code II Y		51. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxix) Information national use only		JJ code Code JJ Y		52. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		KK code Code KK Y		53. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		LL code Code LL Y		54. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		MM code Code MM Y		55. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		NN code Code NN Y		56. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		OO code Code OO Y		57. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		PP code Code PP Y		58. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		QQ code Code QQ Y		59. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		RR code Code RR Y		60. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		SS code Code SS Y		61. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		TT code Code TT Y		62. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		UU code Code UU Y		63. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		VV code Code VV Y		64. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		WW code Code WW Y		65. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		XX code Code XX Y		66. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		YY code Code YY Y		67. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		ZZ code Code ZZ Y		68. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		AA code Code AA Y		69. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		BB code Code BB Y		70. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		CC code Code CC Y		71. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		DD code Code DD Y		72. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		EE code Code EE Y		73. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		FF code Code FF Y		74. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
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(xxxi) Information national use only		HH code Code HH Y		76. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		II code Code II Y		77. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		JJ code Code JJ Y		78. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		KK code Code KK Y		79. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		LL code Code LL Y		80. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		MM code Code MM Y		81. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		NN code Code NN Y		82. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		OO code Code OO Y		83. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		PP code Code PP Y		84. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		QQ code Code QQ Y		85. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		RR code Code RR Y		86. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		SS code Code SS Y		87. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		TT code Code TT Y		88. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		UU code Code UU Y		89. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		VV code Code VV Y		90. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		XX code Code XX Y		91. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		YY code Code YY Y		92. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		ZZ code Code ZZ Y		93. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		AA code Code AA Y		94. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		BB code Code BB Y		95. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		CC code Code CC Y		96. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		DD code Code DD Y		97. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		EE code Code EE Y		98. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		FF code Code FF Y		99. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		GG code Code GG Y		100. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		HH code Code HH Y		101. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		II code Code II Y		102. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		JJ code Code JJ Y		103. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		KK code Code KK Y		104. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		LL code Code LL Y		105. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		MM code Code MM Y		106. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		NN code Code NN Y		107. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		OO code Code OO Y		108. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		PP code Code PP Y		109. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		QQ code Code QQ Y		110. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		RR code Code RR Y		111. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		SS code Code SS Y		112. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		TT code Code TT Y		113. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		UU code Code UU Y		114. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		VV code Code VV Y		115. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		XX code Code XX Y		116. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only		YY code Code YY Y		117. Discard / Pack. / Ven. Code / Code de manutention Discard Discard	
(xxxi) Information national use only</					



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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 fédérales et provinciales sur l'environnement et le transport.

2539188-9

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		25 Reference No. of other movement document(s)/malet(s) used / N° de référence des autres documents de mouvement/malettes utilisés													
Company name / Nom de l'entreprise Nug 100003		Mailing address / Adresse postale 2211 1/2 Bldg 109 Hornell Highway P.O. 100 City/Ville Province Postal code / Code postal 705-494-2211 Tel. No. / N° de tel. (686)		Company name / Nom de l'entreprise Dent of National Defense c/o RCL		Mailing address / Adresse postale 105-494-2211 Tel. No. / N° de tel. (686)															
Shipping site address / Adresse du lieu de l'expédition 105-494-2211 Galuitt (Brent Island) BAF3		City/Ville Province Postal code / Code postal Galuitt Is. Province Postal code / Code postal		Shipping site address / Adresse du lieu de l'expédition 105-494-2211 Galuitt (Brent Island) BAF3		City/Ville Province Postal code / Code postal Galuitt Is. Province Postal code / Code postal															
Intended Receiver / consignee Récipient/destinataire prévu Qikiatuluk Environments 105-494-2211		2 Registered office / Provincial ID No. N° d'immatriculation - d'ID, provincial 105-494-2211 Tel. No. / N° de tel.		Vehicle / Véhicule Train - Rail car no. 1 1*remorque - wagon		Registration No. / N° d'immatriculation Train - Rail car no. 2 2*remorque - wagon		Prov. / Prov.													
Shipping address / Adresse de l'expédition City/Ville Province Postal code / Code postal 105-494-2211 J3L4V2		E-mail / Courrier électronique [REDACTED]		Point of entry Point d'entrée		Point of exit Point d'écoulement		International use only International use only													
Receiving site address / Adresse du lieu de l'expédition City/Ville Province Postal code / Code postal Chambly - QC		E-mail / Courrier électronique [REDACTED]		Carrier Declaration / Compte Rail / have received notice of responsibility for the transport of dangerous goods Cartier déclaration / Compte Rail / j'ai reçu la notice de responsabilité pour le transport de marchandises dangereuses Attention du transporteur : J'atteste avoir reçu les échantillons ou modèles envoyés par le producteur / expéditeur en vue de leur évaluation au récepteur / destinataire, lesquels figurent à la partie A et que les renseignements inscrits à la partie B sont exacts et complets.		Tel. No. / N° de tel. Nom de l'agent autorisé (parciale d'imprimé): [REDACTED]		Tel. No. / N° de tel. Nom de l'agent autorisé (parciale d'imprimé): [REDACTED]													
Receiving site address / Adresse du lieu de l'expédition City/Ville Province Postal code / Code postal Chambly - QC		Year / Année Month / Mois Day / Jour Signature : 19/10/21 <i>Claudia</i>		Year / Année Month / Mois Day / Jour		Signature : 19/10/21 <i>Claudia</i>		Time / Heure 29 Year / Année Month / Mois Day / Jour Time / Heure A.M. P.M.													
Prev. code Appellation réglementaire		4 Class / Classe Sub-classification Classification sub.		5 Packing / réc. / Gr. de réc. Gr. de réc. / Réf. de gr. Réf. de gr.		6 Quant. shipped Unité Lor / kg kg		7 Pading/Overwrap Unité Lor / kg kg													
(i) Waste contaminated soil non-regulated drum		4.2		N/A N/A 454 kg 2 01 S		8 Phyt. state Stat. phyt.		9 If waste or recyclable material to be transferred, specify intended company name Si les déchets ou matières recyclables doivent être transférés, précisez le nom du destinataire													
(ii) waste cooking oil		4.2		N/A N/A 221 kg 1 01 L				10 Registration No./Provincial ID No. N° d'immatriculation / d'ID, provincial													
(iii) waste oil		4.2		N/A N/A 315 kg 7 01 L																	
(iv) waste activated carbon soil (water) mixture		4.2		1362 3 227 kg 1 01 L																	
Notice No. N° de notification		11 Line N° d'igne de la notification		12 Shipment End		13 Of / De Code E.u.R		14 C code Code C		15 Base Annex VII or OECD Code Annexe VII du Bâle ou Code OECD		16 H code Code H		17 Y code Code Y		18 National code in country of / Code du pays		19 Customs code(s) Code(s) de douanes		20 If handling code "Other" (specify) Si code de manutention « autre » (spécifiez)	
(i) Flashpoint		38°C																		21 Receiver / consignee confirmation / certify that the information contained in Part C is correct and complete. / Attestation du récepteur / destinataire : J'atteste que tous les renseignements à la partie C sont exacts et complets.	
(ii) 24 hour Emergency Number		613-996-6666																		Name of authorized person (print) Nom de l'agent autorisé (parciale d'imprimé)	
(iii) Use in case of Dangerous Goods Emergency		Emergency Number Use in case of Dangerous Goods Emergency																		Signature [REDACTED]	
Generator / consignor certification / certify that the information contained in Part A is correct and complets.		Name of authorized person (print) Nom de l'agent autorisé (parciale d'imprimé)		Signature [REDACTED]		Signature [REDACTED]		Signature [REDACTED]		Signature [REDACTED]		Signature [REDACTED]		Signature [REDACTED]		Signature [REDACTED]		Special handling / Manutention spéciale Attached/C joint / As follows C-contre :			
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 (parciale d'imprimé)		Signature [REDACTED]		Signature [REDACTED]		Signature [REDACTED]		Signature [REDACTED]		Signature [REDACTED]		Signature [REDACTED]		Signature [REDACTED]		22 Scheduled arrival date / Date d'arrivée prévue Year / Année Month / Mois Day / Jour Time / Heure A.M. P.M.			
Bailey (B) (REDACTED) (REDACTED) (REDACTED)		Signature [REDACTED]		Signature [REDACTED]		Signature [REDACTED]		Signature [REDACTED]		Signature [REDACTED]		Signature [REDACTED]		Signature [REDACTED]		Signature [REDACTED]		23 Date shipped / Date d'expédition Year / Année Month / Mois Day / Jour Time / Heure A.M. P.M.			

MOE 04-1917 (07/07)

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

Copy / Copie 2 (green / verte)

Figure 2: Movement Document 2539188-9



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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: MMCLAREN	Date: Sep 3, 2019, 11:11 AM	TCN-40363					
Ship To: QIKIQTAALUK ENVIRONMENTAL (QE) C/O VEOLIA 2630, BOUL. INDUSTRIEL CHAMBLY, QC, J3L 4V2 1-866-634-6367		From: BAF-3, BREVOORT ISLAND, DND Storeroom Raytheon Canada Limited, NWS LSS Iqaluit, P.O. Box 1089 Iqaluit, NU, X0A 0H0 867-979-4818	Priority 0				
Attention:		Attention:					
Carrier: NEAS	Routing: Sealift	Waybill #:	Total Pcs. 4	Total Weight: 908 kg			
QTY Order	Type	Line Weight	Item	Description	WO or PO	B/Code or S/N	Remarks
1	227 kg	3006485	WASTE - COOKING OIL				ASSET #351732 WASTE COOKING OIL
1	227 kg	2002406	WASTE - OIL, 45 GAL				ASSET #350996 WASTE OIL
1	227 kg	2002406	WASTE - OIL, 45 GAL				ASSET #351760 WASTE OIL
1	227 kg	2002406	WASTE - OIL, 45 GAL				ASSET #351729 WASTE OIL

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-40363

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ANNEX B: LOCATION OF LANDFILL WITH COORDINATES



Coordinates of Landfill Location: 63° 20' 30.00"N, 64° 10' 02.00"W

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ANNEX C: SEWAGE EFFLUENT OUTFALL (BAF-2) LOCATION WITH COORDINATES



Coordinates of Sewage Outfall Location (BAF-2): 63° 20' 21.40"N, 64° 09' 26.63"W

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ANNEX D: ANALYSIS OF DISCHARGED SEWAGE EFFLUENT

The sewage outfall sump was not sampled in 2019 and this annex has been left blank.

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ANNEX E: ANALYSIS OF BERM WATER¹

Fuel tanks within the berms were demolished in 2012 and 2013, and the berms were intentionally breached in 2012 and 2015. As there are no intact berms, no effluent (berm water) samples (BAF-4) were taken in 2019 and this section has been left blank.

Sampling location BAF-4 was discontinued in licence 8BC-BAF1929.

¹ Effluent from bermed fuel storage facilities.

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ANNEX F: MONITORING ACTIVITIES

A Jet A1 fuel release was discovered at the North Warning System BAF-3 radar station (Site) located on Brevoort Island, Nunavut, Canada on 19-Mar-2015. The tank involved in the release was immediately isolated by closing valves, an investigation was conducted to determine the extent of the release, and plans to address the release were prepared. Over the subsequent four summer field seasons of 2015 through 2019, extensive actions were taken to recover the released fuel, define the nature and extent of the release and remediate subsurface impacts.

Overall progress made to date has achieved several goals, including:

1. Completing an extensive additional soil, soil vapor, and water investigation to define the nature and extent of petroleum hydrocarbon impacts; this included establishing and completing on-site laboratory testing and analyses;
2. Ensuring minimal migration of non-aqueous phase liquid (NAPL) using engineering controls and booms in drainages;
3. Construction and operation of soil vapor extraction (SVE) systems in two distinct areas of the release;
4. Maximizing NAPL/fuel recovery, treatment, and analysis of recovered NAPL for reuse on-Site;
5. Conducting soil treatment pilot testing, treatment evaluations, and construction of the soil treatment pile; and
6. Construction, operation, and maintenance of a water treatment system to enable extracting subsurface water to mitigate potential fuel migration of fuel and enhance recovery while maintaining compliance of discharge limits in the Site Water License. To date, over 11,200 liters (L) of NAPL has been recovered and collection and over 2,410,678 L of petroleum hydrocarbon contaminated water has been collected and treated.

Progress made during the 2019 field season achieved several goals and bolstered the pathway to Site closure, including but not limited to:

- Completing soil and water monitoring to confirm continued attenuation of residual impacts and confirm the effectiveness of remediation programs implemented since the release in 2015;
- The deployment and application of additional hydrogen peroxide solutions in the RW-1 area, southern drainage, and northern drainage areas to remediate PHCs in place. An approximate volume of 6,000 L of hydrogen peroxide solution were injected and applied during the 2019 field season;
- Continued use of on-Site laboratory testing and analyses of soil allowing for real time delineation and monitoring of remediation programs; and
- Continued mitigation of potential NAPL migration using engineering controls and booms in drainages.

The findings of the work completed during the 2019 field season and documented in previous BAF-3 Summary Reports confirm the effectiveness of remediation programs implemented since the 2015 at reducing PHC concentrations. Significant gains have been made towards addressing closure pathway and molding future site activities towards monitoring operations geared towards site closure. The preliminary scope of activities for 2020 include continued monitoring of surface and sub-surface soil and water and application of remaining hydrogen peroxide stock at the site.

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