



2015 ANNUAL NUNAVUT WATER BOARD REPORT FOR CAM-3

FOR THE

North Warning System

Contract # W8485-100224/001/NX
CDRL 16.F.5.d

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Prepared for

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CHANGE HISTORY

This sheet is a record of each issue of this document. When the revised document is issued, the previous issue is automatically superseded.

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1	17-Mar-2016	-	-	Initial Document Release.
Document Title: 2015 Annual Report Nunavut Water Board for CAM-3				Document Number: FM-EHS-13

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EXECUTIVE SUMMARY

This 2015 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 2015.

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 for preventive maintenance inspections and as required for other work by RCL staff from CAM-M, Cambridge Bay, Nunavut.

In 2015, a total of 67.9 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.

The berm water was not pumped out therefore no samples were taken for laboratory analysis. When staff arrived on-site for the summer 2015 preventive maintenance trip in August 2015 there was no water in the summit or beach 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 waste was sent to Clean Harbors, P.O. Box 390, Ryley, AB, T0B 4A0. The waste receiver number for Clean Harbors is ABR1092. The hazardous waste consisted of 39 drums of assorted waste (oil, fuel, glycol, 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 spills occurred at CAM-3 in 2015.



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დავით ბაქრაძე^ა და ^ბ CAM-3-^გ 2015^დ.

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1.0 INTRODUCTION

This 2015 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 2015.

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, Cambridge Bay, Kitikmeot Region, Nunavut
Report prepared by:	Raytheon Canada Limited, 16-Mar-2016
Time Period Covered:	01 January to 31 December 2015

2.0 WATER USE

A total of 67.9 cubic meters was drawn from the water supply lake. This is below the annual maximum of 1,440 cubic meters allowed by the licence. See Table 2-1 for the volume of raw water drawn at CAM-3 in 2015.

**Table 2-1 Monthly Raw Water Usage at CAM-3 in 2015**

Month	Raw water usage in cubic metres (m ³)
January	0
February	0
March	0
April	9.8
May	5.1
June	0
July	28.0
August	25.0
September	0
October	0
November	0
December	0
TOTAL	67.9

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 waste was sent to Clean Harbors, P.O. Box 390, Ryley, AB, T0B 4A0. The waste receiver number for Clean Harbors is ABR1092.

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. A total of 40 drums of waste HAZMAT were shipped from CAM-3 in 2015.

Table 3-1 Hazardous Waste and Waste Oil Sent for Disposal from CAM-3 in 2015

Site	Description, TDG shipping name	Quantity	Movement Document or Manifest #
CAM-3	Waste Glycol Not TDG Regulated	3 Drums	NWS Shipping Manifest 34393
CAM-3	Waste Oil Not TDG Regulated	23 Drums	NWS Shipping Manifest 34415, 34417, 34418, 34419, 34420, 34421
CAM-3	Waste Oil Filters Not TDG Regulated	1 Drum	NWS Shipping Manifest 34423
CAM-3	Waste Jet A1 Fuel Waste Fuel, Aviation, Turbine Engine	4 Drums	Movement Document 2581511-9

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Site	Description, TDG shipping name	Quantity	Movement Document or Manifest #
CAM-3	Waste Jet A1 Fuel Mixture Waste Fuel, Aviation, Turbine Engine Mixture	2 drums	Movement Document 2581511-9
CAM-3	Waste Jet A1 Fuel Impacted Soil/ Waste Jet A1 Fuel Soaked Sorbents Waste Solids Containing Flammable Liquid, N.O.S. (Fuel, Aviation, Turbine Engine)	7 Drums	Movement Document 2581511-9

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 2015

Month	Waste Generated (kg)
January	0
February	0
March	0
April	522
May	318
June	454
July	0
August	0
September	181
October	0
November	0
December	0
Total	1474

5.0 MONITORING PROGRAM

See **Annex B** for the location of the sewage effluent outfall, SHE-2, with co-ordinates. A sump for the sewage outfall was built in 2010.

Annex C is blank. The sump for the sewage outfall was not pumped out therefore no samples were taken for laboratory analysis.

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See **Annex D** for the list of bermed fuel storage facilities, SHE-3, with coordinates.

Annex E is blank. The berm water was not pumped out therefore no samples were taken for laboratory analysis. When staff arrived on-site for the summer 2015 preventive maintenance trip in August 2015 there was no water in the summit or beach berms.

6.0 SPILLS (UNAUTHORIZED DISCHARGES)

Table 6-1 Outdoor Spills Reported at CAM-3 in 2015

Date, Spill #	Product	Quantity	Cause and follow-up action	Location at CAM-3
No outdoor spills occurred at CAM-3 in 2015.				

7.0 REVISIONS TO THE SPILL CONTINGENCY PLAN

There were no revisions to the Spill Contingency Plan in 2015.

8.0 PROGRESSIVE RECLAMATION WORK UNDERTAKEN

None undertaken.



9.0 ACRONYMS

Acronym	Definition
CC&C	Care, Custody, and Control
DEG	Diesel Engine Generator
DND	Department of National Defence
NWB	Nunavut Water Board
NWS	North Warning System
NWSO	North Warning System Office
O&M	Operations and Maintenance
PCB	Polychlorinated Biphenyl
RCL	Raytheon Canada Limited
TDGR	Transportation of Dangerous Goods Regulations



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SHIPPING MANIFEST						
Suite 3000, 400 Cooper Street, Ottawa, ON K2P 2H8					NON NEGOTIABLE	
Filed By: PSHEPPARD		Date: Aug 6, 2015 9:59 AM		TCN-34393		
Ship To: CLEAN HARBORS CANADA INC. PO BOX 390 RILEY, AB, T0B 4A0 CA 780-663-3828		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:				
Carrier: NTCL		Routing:		Waybill #:	Total Pcs. 3	Total Weight:
QTY Order	Type	Line Weight	Item	Description	WO or PO	B/Code or S/N
3			2002344	WASTE - GLYCOL (DRUM)		Asset# 328604, 328603, 321784
NOTE: All claims related to this shipment have to be filled with Raytheon within 45 hours of receipt.						
Received By:				Date		
Received By:				Date		

SHIPPING MANIFEST						
Suite 3000, 400 Cooper Street, Ottawa, ON K2P 2H8					NON NEGOTIABLE	
Filed By: TSHAW		Date: Aug 7, 2015 2:19 PM		TCN-34415		
Ship To: CLEAN HARBORS CANADA INC. PO BOX 390 RILEY, AB, T0B 4A0 CA 780-663-3828		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:				
Carrier: NTCL		Routing:		Waybill #:	Total Pcs. 4	Total Weight:
QTY Order	Type	Line Weight	Item	Description	WO or PO	B/Code or S/N
4			2002406	WASTE - OIL (45 GALLON DRUM)		Asset# 331139, 331756, 331186, 322894
NOTE: All claims related to this shipment have to be filled with Raytheon within 45 hours of receipt.						
Received By:				Date		
Received By:				Date		

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SHIPPING MANIFEST							
Suite 3000, 400 Cooper Street, Ottawa, ON K2P 2H8						NON NEGOTIABLE	
Filled By: TSHAW		Date: Aug 7, 2015 2:31 PM		TCN-34417			
Ship To:		CLEAN HARBORS CANADA INC. PO BOX 390 RYLEY, AB, T0B 4A0 CA 780-663-3828		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	
Attention:				Attention:		Priority 0	
Carrier:		Routing:		Waybill #:		Total Pcs.	
NTCL						4	
Total Weight:							
QTY	Type	Line	Item	Description	WO or PO	B/Code or S/N	Remarks
4			2002406	WASTE - OIL (45 GALLON DRUM)			Asset# 331637, 331638, 331189, 329712
NOTE: All claims related to this shipment have to be filled with Raytheon within 45 hours of receipt.							
Received By:						Date	
Received By:						Date	

SHIPPING MANIFEST							
Suite 3000, 400 Cooper Street, Ottawa, ON K2P 2H8						NON NEGOTIABLE	
Filled By: TSHAW		Date: Aug 7, 2015 2:39 PM		TCN-34418			
Ship To:		CLEAN HARBORS CANADA INC. PO BOX 390 RYLEY, AB, T0B 4A0 CA 780-663-3828		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	
Attention:				Attention:		Priority 0	
Carrier:		Routing:		Waybill #:		Total Pcs.	
NTCL						4	
Total Weight:							
QTY	Type	Line	Item	Description	WO or PO	B/Code or S/N	Remarks
4			2002406	WASTE - OIL (45 GALLON DRUM)			Asset# 331185, 331184, 326470, 330016
NOTE: All claims related to this shipment have to be filled with Raytheon within 45 hours of receipt.							
Received By:						Date	
Received By:						Date	

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SHIPPING MANIFEST							
Suite 3000, 400 Cooper Street, Ottawa, ON K2P 2H8						NON NEGOTIABLE	
Filed By: TSHAW		Date: Aug 7, 2015 2:42 PM		TCN-34419			
Ship To: CLEAN HARBORS CANADA INC. PO BOX 390 RILEY, AB, T0B 4A0 CA 780-663-3828		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:			
Carrier: NTCL		Routing:		Waybill #:	Total Pcs. 3	Total Weight:	
QTY Order	Type	Line Weight	Item	Description	WO or PO	B/Code or S/N	Remarks
3			2002406	WASTE - OIL (45 GALLON DRUM)			Asset# 332533, 329713
NOTE: All claims related to this shipment have to be filled with Raytheon within 45 hours of receipt.							
				Received By:		Date	
				Received By:		Date	

¹See note below.

SHIPPING MANIFEST							
Suite 3000, 400 Cooper Street, Ottawa, ON K2P 2H8						NON NEGOTIABLE	
Filed By: TSHAW		Date: Aug 7, 2015 2:45 PM		TCN-34420			
Ship To: CLEAN HARBORS CANADA INC. PO BOX 390 RILEY, AB, T0B 4A0 CA 780-663-3828		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:			
Carrier: NTCL		Routing:		Waybill #:	Total Pcs. 4	Total Weight:	
QTY Order	Type	Line Weight	Item	Description	WO or PO	B/Code or S/N	Remarks
4			2002406	WASTE - OIL (45 GALLON DRUM)			Asset# 329714, 326444, 331186, 331187
NOTE: All claims related to this shipment have to be filled with Raytheon within 45 hours of receipt.							
				Received By:		Date	
				Received By:		Date	

¹ Note: TCN 34419 was the NWS Shipping Manifest for 3 drums. The asset numbers of the drums were 332533, 329713, and 331186. Asset number 331186 is not shown on the attached NWS Shipping Manifest.

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SHIPPING MANIFEST							
Suite 3000, 400 Cooper Street, Ottawa, ON K2P 2H8						NON NEGOTIABLE	
Filed By: TSHAW		Date: Aug 7, 2015 2:48 PM		TCN-34421			
Ship To: CLEAN HARBORS CANADA INC. PO BOX 390 RILEY, AB, T0B 4A0 CA 780-663-3828		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:			
Carrier: NTCL		Routing:		Waybill #:	Total Pcs. 4	Total Weight:	
QTY Order	Type	Line Weight	Item	Description	WO or PO	BI Code or S/N	Remarks
4			2002406	WASTE - OIL (45 GALLON DRUM)			Asset# 332526, 332527, 332040, 331639
NOTE: All claims related to this shipment have to be filled with Raytheon within 45 hours of receipt.							
Received By:				Date			
Received By:				Date			

SHIPPING MANIFEST							
Suite 3000, 400 Cooper Street, Ottawa, ON K2P 2H8						NON NEGOTIABLE	
Filed By: TSHAW		Date: Aug 7, 2015 3:25 PM		TCN-34423			
Ship To: CLEAN HARBORS CANADA INC. PO BOX 390 RILEY, AB, T0B 4A0 CA 780-663-3828		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:			
Carrier: NTCL		Routing:		Waybill #:	Total Pcs. 3	Total Weight:	
QTY Order	Type	Line Weight	Item	Description	WO or PO	BI Code or S/N	Remarks
1			2002356	WASTE - OIL FILTERS (DRUM)			Asset# 326503,
1			2003635	WASTE - FUEL FILTERS (DRUM)			Asset# 326504
NOTE: All claims related to this shipment have to be filled with Raytheon within 45 hours of receipt.							
Received By:				Date			
Received By:				Date			

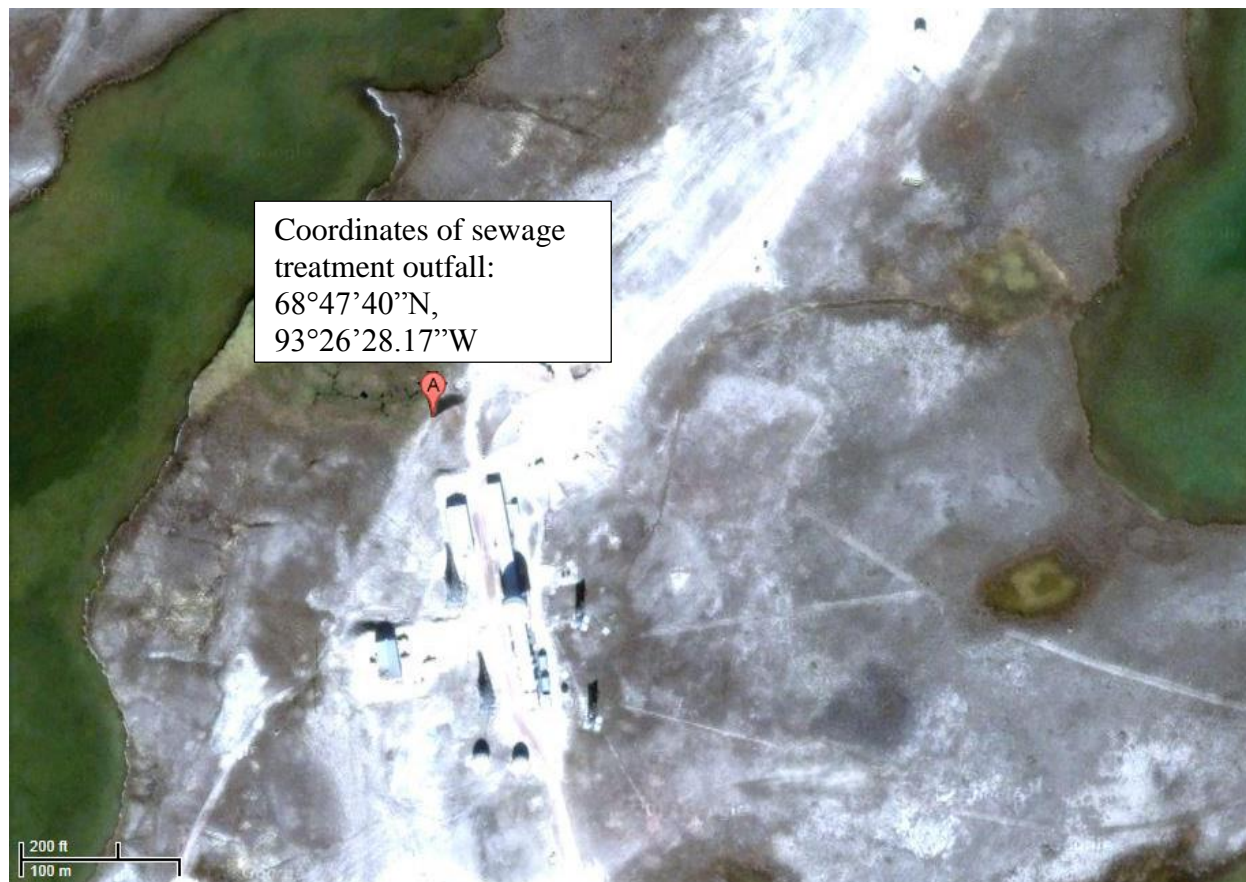
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ANNEX B - CAM-3 - SEWAGE EFFLUENT OUTFALL (CDL-2) LOCATION WITH COORDINATES



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

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ANNEX C - CAM-3 - ANALYSIS OF SEWAGE EFFLUENT

The sump of the sewage outfall was not pumped out therefore no samples were taken for laboratory analysis. This Annex has been left blank because there are no results to report.



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ANNEX D - CAM-3 - LOCATION OF BERMED FUEL STORAGE FACILITIES WITH COORDINATES

Licence	Location	Monitoring Station # (Final discharge point of bermed fuel storage facility)	Berm's location on-site	Berm's coordinates
3BC- SHE0919 Type "B"	CAM-3 North Warning System Site, Cambridge Bay, Kitikmeot Region, Nunavut	SHE-3	Summit, berm of tank W22A	68° 47' 42" N 93° 26' 20" W
			Beach, berm of tanks W22C and W22D	68° 48' 07" N 93° 36' 50" W

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ANNEX E - CAM-3 - ANALYSIS OF BERM WATER (EFFLUENT FROM BERMED FUEL STORAGE FACILITIES)

The berm water was not pumped out therefore no samples were taken for laboratory analysis. When staff arrived on-site for the summer 2015 preventive maintenance trip in August 2015 there was no water in the summit or beach berms. This Annex has been left blank because there are no results to report.