



**2013 Annual Report
to the
Nunavut Water Board**

**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: Nasittuq Corporation,
21 March 2014**

2013 Annual Report to the Nunavut Water Board

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Shepherd Bay, Kitikmeot Region, Nunavut

Report prepared by: Nasittuq Corporation,
21 March 2014

Executive Summary

This 2013 Annual Report to the Nunavut Water Board (NWB) is submitted as required by the licence issued 10 September 2009 3BC-SHE0919 – Type “B”, Part B. General Conditions, paragraph 1.

CAM-3 is an unattended (unmanned) North Warning System radar site at Shepherd Bay, Nunavut. The site is visited quarterly for preventive maintenance inspections and as required for other work by Nasittuq staff from CAM-M, Cambridge Bay, Nunavut.

The annual water usage was 90.8 cubic meters. This is well below the 1,440 cubic meters annually allowed by the licence.

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

Hazardous waste was removed from the site for disposal outside of Nunavut. The waste went to Clean Harbors, P.O. Box 390, Ryley, AB, T0B 4A0. The waste was 23 drums of assorted waste (fuel, fuel filters, oil, oily rags, oil filters, fuel contaminated soil) and 1 crate of batteries.

Nonhazardous domestic solid waste was flown out to CAM-M and disposed of through a contract with the Hamlet of Cambridge Bay at the local landfill. Nasittuq has documented authorization from the community for receiving the waste.

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



Two outdoor spills occurred. The spills were:

- a. NT-NU Spill Line Report # 13-245. 2 litres of Jet A1 fuel were discovered at the helicopter dry break near tank W20D on 08 July 2013. Contaminated soil was placed in a container for future disposal at a licensed hazardous waste disposal facility outside of Nunavut.
- b. NT-NU Spill Line Report # 13-249. 1 litre of Jet A-1 was discovered near tank W22J on 09 July 2013. The tank was inspected and no leaks were found. Contaminated soil was placed in a container for future disposal at a licensed hazardous waste disposal facility outside of Nunavut.

The Spill Contingency Plan was revised. The Spill Response Flow Chart and the Emergency Contacts List were updated.

Introduction

This 2013 Annual Report to the Nunavut Water Board (NWB) is submitted as required, by the licence issued 10 September 2009 3BC-SHE0919 – Type “B”, Part B. General Conditions, paragraph 1.

CAM-3 is an unattended (unmanned) North Warning System radar site at Shepherd Bay, Nunavut. The site is visited quarterly for preventive maintenance inspections and as required for other work by Nasittuq staff from CAM-M, Cambridge Bay, Nunavut.

Water Drawn from SHE-1

A total of 90.8 cubic meters was drawn from the water supply lake. This is well below the 1,440 cubic meters annually allowed by the licence. See Table 1 below for the volume of raw water drawn.

Table 1. Monthly and annual raw water drawn at CAM-3.

Month	Raw water drawn in cubic meters (m³)
January	0
February	0
March	0
April	0
May	0
June	9.6
July	53.2
August	23.2
September	0
October	4.9
November	0
December	0
TOTAL	90.8

Hazardous Waste and Waste Oil Disposal

Hazardous waste and waste oil were sent to an approved hazardous waste disposal site outside of Nunavut as required by the licence. The waste was sent to Clean Harbors, P.O. Box 390, Ryley, AB, T0B 4A0. The waste receiver number for Clean Harbors is ABR1092.

See Table 2 below for the list of items sent for disposal.

See **Annex A** for the shipping documents: the completed movement documents for waste regulated under the Transportation of Dangerous goods Regulations (TDGR) and Nasittuq manifests for nonregulated wastes.

Table 2. Summary of waste sent for disposal from CAM-3.

Site	Description, TDG shipping name	Quantity	Movement Document or Nasittuq Manifest #
CAM-3	Waste fuel Waste fuel, aviation, turbine engine	2 drums	Mov. Doc. 2464750-5
CAM-3	Waste fuel filters Waste solids containing flammable liquids n.o.s. (fuel, aviation, turbine engine)	1 drum	Mov. Doc. 2464750-5
CAM-3	Waste fuel contaminated soil Waste solids containing flammable liquids n.o.s. (fuel, aviation, turbine engine)	1 drum	Mov. Doc. 2464750-5
CAM-3	Waste oily rags Waste solids containing flammable liquid, n.o.s. (fuel, aviation, turbine engine)	2 drums	Mov. Doc. 2464750-5
CAM-3	Waste batteries, wet, filled with acid	1 crate	Mov. Doc. 2464750-5
CAM-3	Waste oil	16 drums	Nas. Man. 31418, 31421, 31422, 31464
CAM-3	Waste oil filters	1 drum	Nas. Man. 31430

Nonhazardous Solid Waste Disposal

Nonhazardous domestic solid waste was flown out to CAM-M and disposed of through a contract with the Hamlet of Cambridge Bay at the local landfill. Nasittuq has documented authorization from the community for receiving the waste. See Table 3 below for the quantity of waste generated.

Table 3. Monthly and annual nonhazardous domestic solid waste sent for disposal from CAM-3.

Month	Waste generated (kg)
January	0
February	0
March	0
April	0
May	0
June	0
July	1,864
August	2,223
September	0
October	0
November	0
December	278
TOTAL	4,365

Monitoring Program

See **Annex B** for the location of the sewage effluent outfall, SHE-2, with GPS 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.

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

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

Spills (Unauthorized Discharges)

Two outdoor spills occurred. They are listed in Table 4 below.

Table 4. Outdoor spills at CAM-3.

Date, Spill #	Product	Quantity	Cause and follow-up action	Location at CAM-3
08 Jul 2013, Spill # 13-245	Jet A1 fuel	2 litres	Site personnel discovered fuel contaminated soil around the helicopter dry break, as well as a mix of fuel and water in a drip tray. The dry break was examined and no leaks were found. The spill is believed to have occurred the last time the dry break was used. Contaminated soil was placed in a container for future disposal at a licensed hazardous waste disposal facility outside of Nunavut.	At helicopter dry break, near tank W20D
09 Jul 2013, Spill # 13-249	Jet A1 fuel	1 litre	A patch of fuel contaminated soil was found near bulk fuel tank W22J during an inspection. The cause of the spill is unknown. The tank was inspected, and no leaks were found. Contaminated soil was placed in a container for future disposal at a licensed hazardous waste disposal facility outside of Nunavut.	Near tank W22J

Revisions to the Spill Contingency Plan

The Spill Contingency Plan was revised. The changes were:

- minor formatting changes;
- the Spill Response Flow Chart was updated; and
- the Emergency Contacts List was updated.

Progressive reclamation work undertaken

None undertaken.



Annex A

2013 Movement document for regulated waste and Nasittuq manifests for non-regulated waste



MOVEMENT DOCUMENT / MANIFEST
DOCUMENT DE MOUVEMENT / MANIFESTE

Le Mouvement documenté n'est conforme à la législation fédérale et provinciale en matière de transport et d'environnement.

1:NAFSL1Q01-1 2:NAFSL002 3:CH403227

10P, 1D/

7C8255022-002

2464750-5

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MOE 04-1917 (07/02)

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



NASITTUQ MANIFEST

Suite 400, 160 Elgin Street, Ottawa, ON K2P 2P7

NON NEGOTIABLE

Filled By: DTRUSSLER	Date: 2013-07-24 8:24 AM	TCN-31418					
Ship To: CLEAN HARBORS CANADA INC. PO BOX 390 RYLEY, AB, T0B 4A0 CA 780-663-3828	From: CAM-3, SHEPHERD BAY, DND Storeroom Nasittuq Corporation, NWS LSS Cambridge Bay, P.O. Bag 1050 Cambridge Bay, NU, X0B 0C0 867-983-2112	Priority 0					
Attention:	Attention:	DTRUSSLER					
Carrier: NTCL	Routing: 1.63 M3	Waybill #:	Total Pcs. 1	Total Weight: 844-KGS			
QTY Order	Type	Line Weight	Item	Description	WO or PO	B/Code or S/N	Remarks
4.0	PALLET	844-KGS	2002406	WASTE - OIL (45 GALLON DRUM)	NON-REGULATED/ ASSET'S: 325827 / 325826 / 321085 / 323281		
NOTE: All claims related to this shipment have to be filled with Nasittuq within 45 hours of receipt.					Received By:	Date	
					Received By:	Date	



NASITTUQ MANIFEST

Suite 400, 160 Elgin Street, Ottawa, ON K2P 2P7

NON NEGOTIABLE

Filled By: DTRUSSLER	Date: 2013-07-24 9:45 AM	TCN-31421					
Ship To: CLEAN HARBORS CANADA INC. PO BOX 390 RYLEY, AB, T0B 4A0 CA 780-663-3828	From: CAM-3, SHEPHERD BAY, DND Storeroom Nasittuq Corporation, NWS LSS Cambridge Bay, P.O. Bag 1050 Cambridge Bay, NU, X0B 0C0 867-983-2112	Priority 0					
Attention:	Attention:	DTRUSSLER					
Carrier: NTCL	Routing: 1.63 M3	Waybill #:	Total Pcs. 1	Total Weight: 844-KGS			
QTY Order	Type	Line Weight	Item	Description	WO or PO	B/Code or S/N	Remarks
4.0	PALLET	844-KGS	2002406	WASTE - OIL (45 GALLON DRUM)	NON-REGULATED / ASSET'S: 321056 / 320279 / 324815 / 318335		
NOTE: All claims related to this shipment have to be filled with Nasittuq within 45 hours of receipt.					Received By:	Date	
					Received By:	Date	



NASITTUQ MANIFEST

Suite 400, 160 Elgin Street, Ottawa, ON K2P 2P7

NON NEGOTIABLE

Filled By: DTRUSSLER	Date: 2013-07-24 9:54 AM	TCN-31422					
Ship To: CLEAN HARBORS CANADA INC. PO BOX 390 RYLEY, AB, T0B 4A0 CA 780-663-3828	From: CAM-3, SHEPHERD BAY, DND Storeroom Nasittuq Corporation, NWS LSS Cambridge Bay, P.O. Bag 1050 Cambridge Bay, NU, X0B 0C0 867-983-2112	Priority 0					
Attention:	Attention:	DTRUSSLER					
Carrier: NTCL	Routing: 1.63 M3	Waybill #:	Total Pcs. 1	Total Weight: 844-KGS			
QTY Order	Type	Line Weight	Item	Description	WO or PO	B/Code or S/N	Remarks
4.0	PALLET	844-KGS	2002406	WASTE - OIL (45 GALLON DRUM)	NON REGULATED / ASSET'S: 325564 / 324824 / 325992 / 323336		
NOTE: All claims related to this shipment have to be filled with Nasittuq within 45 hours of receipt.					Received By:	Date	
					Received By:	Date	



NASITTUQ MANIFEST

Suite 400, 160 Elgin Street, Ottawa, ON K2P 2P7

NON NEGOTIABLE

Filled By: DTRUSSLER	Date: 2013-07-24 5:34 PM	TCN-31430					
Ship To: CLEAN HARBORS CANADA INC. PO BOX 390 RYLEY, AB, T0B 4A0 CA 780-663-3828	From: CAM-3, SHEPHERD BAY, DND Storeroom Nasittuq Corporation, NWS LSS Cambridge Bay, P.O. Bag 1050 Cambridge Bay, NU, X0B 0C0 867-983-2112	Priority 0					
Attention:	Attention:	DTRUSSLER					
Carrier: NTCL	Routing: 0.65 M3	Waybill #:	Total Pcs. 1	Total Weight: 113-KGS			
QTY Order	Type	Line Weight	Item	Description	WO or PO	B/Code or S/N	Remarks
1.0	PALLET	113-KGS	2002356	WASTE - OIL FILTERS (DRUM)	NON-REGULATED / ASSET: 323434 / 1 DRUM ON PALLET		
NOTE: All claims related to this shipment have to be filled with Nasittuq within 45 hours of receipt.					Received By:	Date	
					Received By:	Date	



NASITTUQ MANIFEST

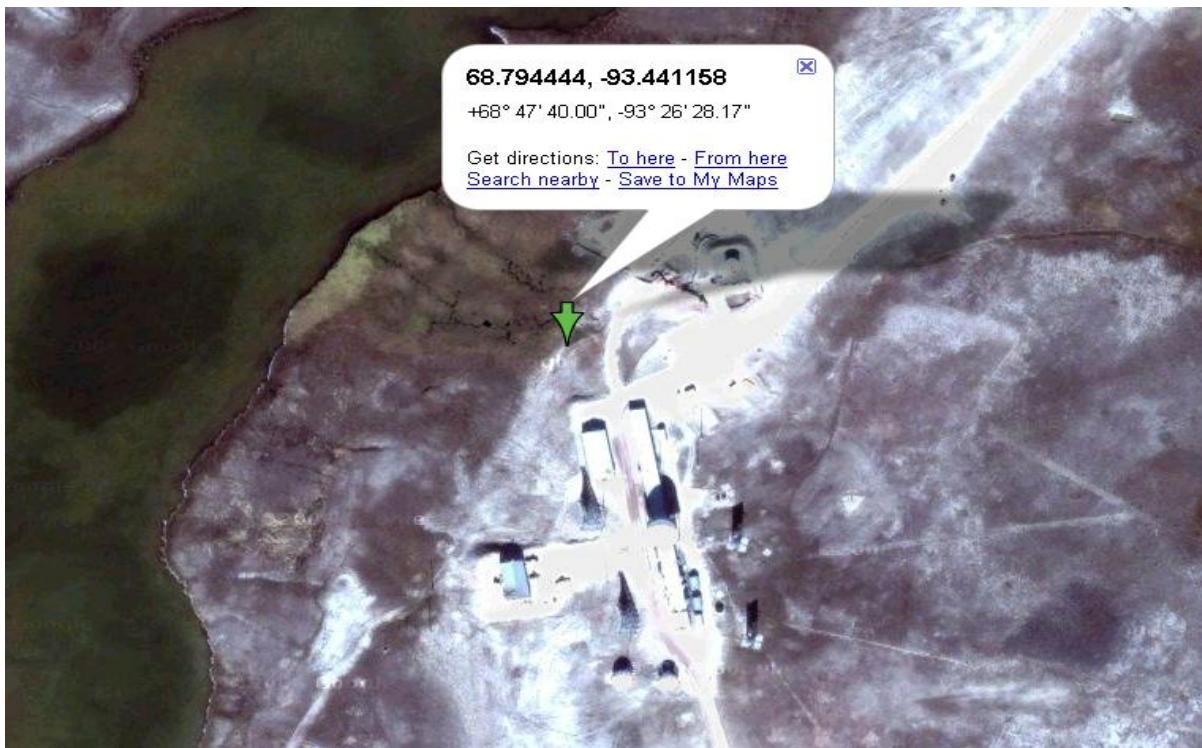
Suite 400, 160 Elgin Street, Ottawa, ON K2P 2P7

NON NEGOTIABLE

Filled By: DTRUSSLER	Date: 2013-07-28 4:33 PM	TCN-31464					
Ship To: CLEAN HARBORS CANADA INC. PO BOX 390 RYLEY, AB, T0B 4A0 CA 780-663-3828	From: CAM-3, SHEPHERD BAY, DND Storeroom Nasittuq Corporation, NWS LSS Cambridge Bay, P.O. Bag 1050 Cambridge Bay, NU, X0B 0C0 867-983-2112	Priority 0					
Attention:	Attention:	DTRUSSLER					
Carrier: NTCL	Routing: 1.63 M3	Waybill #:	Total Pcs. 1				
QTY Type Line Item Description		WO or PO	B/Code or S/N				
Order 4.0 Pallet 844- KGS 2002406 WASTE - OIL (45 GALLON DRUM)		Remarks NON REGULATED / ASSET'S: 326471 / 321126 / 326472 / 322652					
<p>NOTE: All claims related to this shipment have to be filed with Nasittuq within 45 hours of receipt.</p> <table border="1"> <tr> <td>Received By:</td> <td>Date</td> </tr> <tr> <td>Received By:</td> <td>Date</td> </tr> </table>				Received By:	Date	Received By:	Date
Received By:	Date						
Received By:	Date						

Annex B

CAM-3 - Sewage Outfall Location (SHE-2) with GPS Co-ordinates





Annex C

**This Annex has been left blank intentionally.
(The sump of the sewage outfall was not pumped out therefore no samples were
taken for laboratory analysis.)**



Annex D

CAM-3 - Bermed Fuel Storage Facilities with GPS Co-ordinates

Licence	Location	Monitoring Station # (Final Discharge Point of Bermed Fuel Storage Facility)	Berm's Location On- site	Berm's GPS co-ordinates
3BC-SHE0919 Type "B"	CAM-3 North Warning System Site, Shepherd Bay, Kitikmeot Region, Nunavut	SHE-3	<ul style="list-style-type: none">- Summit (near helipad)- Berm of tank W22A	68° 47' 42" N 93° 26' 20" W
			<ul style="list-style-type: none">- Beach- Berm of tanks W22C and W22D	68° 48' 07" N 93° 36' 50" W



Annex E

CAM-3 - Analysis of Berm Water (Effluent from Bermed Fuel Storage Facilities)

15 June 2013
Summit, Berm of tank W22A
 Page 1 of 2

EXOVA OTTAWA

Certificate of Analysis

Exova 

Client: Nasituq Corp. (Ottawa)
 160 Elgin Street, Suite 400
 Ottawa, ON
 K2P 2C4
 Attention: Ms. Barb Thomson
 PO#:
 Invoice to: Nasituq Corp. (Ottawa)

Report Number: 1312440
 Date Submitted: 2013-06-22
 Date Reported: 2013-06-28
 Project: CAM-3
 COC #: 114152

Group	Analyte	MRL	Units	Lab I.D. Sample Matrix Sample Type Sampling Date Sample ID.	Guideline
Metals	Cd	0.0001	mg/L		0.0001
	Co	0.0002	mg/L		<0.0002
	Cr	0.001	mg/L		0.001
	Cu	0.001	mg/L		0.010
	Ni	0.005	mg/L		<0.005
	Pb	0.001	mg/L		<0.001

Guideline = * = Guideline Exceedence
 ** = Analysis completed at Mississauga, Ontario.
 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

15 June 2013
Summit, Berm of tank W22A
Page 2 of 2

EXOVA OTTAWA

Certificate of Analysis



Client: Nasittuq Corp. (Ottawa)
160 Elgin Street, Suite 400
Ottawa, ON
K2P 2C4
Attention: Ms. Barb Thomson
PO#:
Invoice to: Nasittuq Corp. (Ottawa)

Report Number: 1312439
Date Submitted: 2013-06-22
Date Reported: 2013-07-02
Project: CAM-3
COC #: 114152

Group	Analyte	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1035657 Water
General Chemistry	pH	1.00				7.60
Metals	Aqua-Regia Digest		mg/L			y
	As	0.02	mg/L			<0.02
	Zn	0.04	mg/L			<0.04
Nutrients	Phenols	0.001	mg/L			<0.001
Oil & Grease	Oil & Grease - Total	1	mg/L			<1
PCBs	Polychlorinated Biphenyls (PCBs)	0.1	ug/L			<0.1
Subcontract	Hg	0.0001	mg/L			<0.0001
VOCS	Benzene	0.5	ug/L			<0.5
	Ethylbenzene	0.5	ug/L			<0.5
	Toluene	0.5	ug/L			<0.5
	Toluene-d8	1	%			113

Guideline = * = Guideline Exceedance
** = Analysis completed at Mississauga, Ontario.
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



15 June 2013
Beach, Berm of tanks W22C and W22D
Page 1 of 2

EXOVA OTTAWA

Certificate of Analysis

Exova

Client: Nasittuq Corp. (Ottawa)
160 Elgin Street, Suite 400
Ottawa, ON
K2P 2C4
Attention: Ms. Barb Thomson
PO#:
Invoice to: Nasittuq Corp. (Ottawa)

Report Number: 1312438
Date Submitted: 2013-06-22
Date Reported: 2013-06-28
Project: CAM-3
COC #: 115440

Group	Analyte	MRL	Units	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D. Guideline	1035658 Water 2013-06-15 Beach CAM-3 W22C - Dis
Metals	Cd	0.0001	mg/L	<0.0001	
	Co	0.0002	mg/L	<0.0002	
	Cr	0.001	mg/L	0.001	
	Cu	0.001	mg/L	0.001	
	Ni	0.005	mg/L	<0.005	
	Pb	0.001	mg/L	<0.001	

Guideline = * = Guideline Exceedence

** = Analysis completed at Mississauga, Ontario.

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



15 June 2013
Beach, Berm of tanks W22C and W22D
Page 2 of 2

EXOVA OTTAWA

Certificate of Analysis



Client: Nasittuq Corp. (Ottawa)
160 Elgin Street, Suite 400
Ottawa, ON
K2P 2C4
Attention: Ms. Barb Thomson
PO#:
Invoice to: Nasittuq Corp. (Ottawa)

Report Number: 1312437
Date Submitted: 2013-06-22
Date Reported: 2013-07-02
Project: CAM-3
COC #: 115440

Group	Analyte	MRL	Units	Guideline	
General Chemistry	pH	1.00			7.28
Metals	Aqua-Regia Digest		mg/L		y
	As	0.02	mg/L		<0.02
	Zn	0.04	mg/L		<0.04
Nutrients	Phenols	0.001	mg/L		<0.001
Oil & Grease	Oil & Grease - Total	1	mg/L		<1
PCBs	Polychlorinated Biphenyls (PCBs)	0.1	ug/L		<0.1
Subcontract	Hg	0.0001	mg/L		<0.0001
VOCs	Benzene	0.5	ug/L		<0.5
	Ethylbenzene	0.5	ug/L		<0.5
	Toluene	0.5	ug/L		<0.5
	Toluene-d8	1	%		110

Guideline = * = Guideline Exceedence
** = Analysis completed at Mississauga, Ontario.
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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