

Town of Norman Wells Hazardous Waste Management Plan

August 22, 2018

Prepared for:

Town of Norman Wells

Prepared by:

Stantec Consulting Ltd.
Yellowknife, NT



Project Number:
144930099

Revision History and Conformity Table

[illegible]

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TOWN OF NORMAN WELLS HAZARDOUS WASTE MANAGEMENT PLAN

Introduction
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Executive Summary

Hazardous waste is waste that can be detrimental to the environment and/or public health because of its characteristics, quantity, or concentration if it is not handled, stored or disposed of properly (Mackenzie Valley Land and Water Board 2011). Various types of hazardous waste can be generated from the residential, commercial, and industrial sectors within a community.

This Hazardous Waste Management Plan is intended to provide a framework for staff at the Town of Norman Wells (Norman Wells) to operate and maintain its temporary hazardous waste containment areas within its Solid Waste Disposal Facility (SWDF) in a manner that will protect public health and prevent adverse environmental impacts.

The community of Norman Wells (65° 17' N and 126° 50' W) is located in the Sahtu region of the Northwest Territories (NT) on the east bank of the Mackenzie River. It is approximately 685 km northwest of Yellowknife, NT. The current population of Norman Wells is estimated at 803 residents (2016) and is expected to decrease over the next two decades.

In June 2018, Stantec Consulting Ltd. completed a visual inventory of the hazardous waste stored in the temporary hazardous waste sorting areas at the Norman Wells SWDF. This facility is located approximately 5 km northeast of the town centre. There are six sorting areas within the SWDF that contain hazardous waste: vehicles and scrap metal, ASTs and ATCO trailers, compressed gas cylinders, and three Temporary Hazardous Waste Containment Areas. Asbestos has also been buried in the active landfill cells with non-hazardous solid waste.

The Norman Wells SWDF currently accepts only two types of hazardous waste: asbestos and vehicles. Most of the hazardous waste stored at the Norman Wells SWDF has accumulated over time and is a legacy from unauthorized disposal from residents and local businesses.

The long-term management strategy for the hazardous waste currently stored at the SWDF is shipping it to an approved facility, by an approved waste carrier, for proper disposal.



**TOWN OF NORMAN WELLS
HAZARDOUS WASTE MANAGEMENT PLAN**

Introduction
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Glossary and Acronyms

ASTs	Above-Ground Storage Tanks
cm	centimetre
ENR	Environment and Natural Resources
GNWT	Government of the Northwest Territories
Hazardous Waste	<i>"a waste which, because of its quantity, concentration, or characteristics, may be harmful to human health or the environment when improperly treated, stored, transported, or disposed"</i> (MVLB 2011)
HDPE	High-Density Polyethylene
m ³	cubic metre
m ²	square metre
MVLWB	Mackenzie Valley Land and Water Board
NT	Northwest Territories
SLWB	Sahtu Land and Water Board
SWDF	Solid Waste Disposal Facility
THWCA	Temporary Hazardous Waste Containment Areas
Waste Carrier	An individual or business approved to transport waste, including hazardous waste
Waste Generator	The individual or business producing waste



TOWN OF NORMAN WELLS HAZARDOUS WASTE MANAGEMENT PLAN

Introduction
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1.0 INTRODUCTION

Hazardous waste is waste that can be detrimental to the environment and/or public health because of its characteristics, quantity, or concentration if it is not handled, stored or disposed of properly (Mackenzie Valley Land and Water Board [MVLWB] 2011). Various types of hazardous waste can be generated from the residential, commercial, and industrial sectors within a community. Definitions of specific hazardous waste items are available in Appendix A of this Hazardous Waste Management Plan (the Plan); these definitions are from the MVLWB (2018).

This Plan is intended to provide a framework for staff at the Town of Norman Wells (Norman Wells) to operate and maintain its temporary hazardous waste containment areas (THWCAs), within the Solid Waste Disposal Facility (SWDF), in a manner that will protect public health and prevent adverse environmental impacts.

This Plan has been developed for the operation of Norman Wells' THWCAs to comply with the mandatory requirements included in Water Licence, S07L3-002 (Part D, items 17 and 18), issued by the Sahtu Land and Water Board (SLWB). Table 1-1 presents a table which references where sections of the Water Licence requirements are addressed in this plan.

Table 1-1 Cross-reference between Norman Wells Water Licence, S07L3-002 (Part D, items 17 and 18) requirements and this Plan for the Norman Wells Hazardous Waste Management

Sections from the Water Licence, S07L3-002 (Part D, items 17 and 18)	Corresponding Sections in this Plan
Design of disposal site, including designation of areas for segregated waste	2.1
Methods of implementing reuse of hazardous waste	2.2
Detailed amounts and sources of hazardous waste that are/are not accepted	3.1 and 3.2
Methods of disposal of hazardous waste (including contaminated soil)	3.3
A hazardous waste manifest identifying all hazardous waste being stores in the Temporary Hazardous Waste Containment Area	1.0



TOWN OF NORMAN WELLS HAZARDOUS WASTE MANAGEMENT PLAN

Site Description
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2.0 SITE DESCRIPTION

The community of Norman Wells (65° 17' N and 126° 50' W) is located in the Sahtu region of the Northwest Territories (NT) on the east bank of the Mackenzie River (Figure 2-1). It is approximately 685 km northwest of Yellowknife, NT. Based on the 1981 to 2010 Canadian Climate Normals, the average annual precipitation in Norman Wells is 294.4 millimeters (mm), including 171.7 mm as rain and 161.5 centimetres (cm) as snow (Government of Canada 2018). As outlined in Table 2-1, the average daily temperature for January is -26.1°C (the coldest month) and July is 17.1°C (the warmest month; Government of Canada 2018).

Table 2-1 Climate for Norman Wells, NT (Government of Canada 2018)

Month	Average Daily Temperature (°C)	Precipitation (mm)
January	-26.1	15.6
February	-24.0	14.9
March	-18.4	10.7
April	-5.1	11.1
May	6.4	19.0
June	15.0	42.7
July	17.1	41.8
August	13.8	41.8
September	6.6	33.1
October	-4.7	26.7
November	-18.7	18.7
December	-23.4	18.2

In 2016, the population of Norman Wells was estimated at 803 residents and represented less than two percent of the population of the Northwest Territories (GNWT 2018). The population growth of Norman Wells was estimated at -0.3% per year between 2004 and 2016, and the decline is anticipated to continue through to 2035. The population projections for Norman Wells are presented Table 2-2.

Table 2-2 Population Projection for Norman Wells, NT (GNWT 2018)

Year	Population
2016	803
2020	803
2025	795
2030	795
2035	796



TOWN OF NORMAN WELLS HAZARDOUS WASTE MANAGEMENT PLAN

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The community of Norman Wells is located within the Norman Range low subarctic ecoregion of the Taiga Plains ecozone. As described for the ecoregion by the Ecological Classification Group (2009), the geology of this ecoregion consists of dolomite and limestone bedrock overlain by fine to medium textured tills. Brunisolic and Luvisolic soils are most common in the Norman Wells area. Vegetation is dominated by trembling aspen, paper birch and spruce (white and black). Norman Wells is also located in a zone of extensive discontinuous permafrost with 50 to 90% ice content (Natural Resources Canada 1993). The active layer thickness ranges from 0.5 to 2 metres (m) below ground surface (UMA Engineering Ltd 2008).





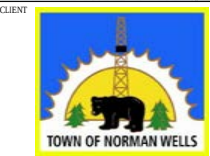
LEGEND:

— FACILITY LOCATION BOUNDARY

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METERS (m) UNLESS OTHERWISE SHOWN.
2. MAP WAS ACQUIRED FROM GOOGLE EARTH.
3. THIS MAP IS A USER GENERATED STATIC OUTPUT FROM AN INTERNET MAPPING SITE AND IS FOR REFERENCE ONLY.
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5. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

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Scale: 1: 10 000 (metres)



Solid Waste Disposal Facility Operation and Maintenance Plan					
NORMAN WELLS MUNICIPAL FACILITIES					
PROJECT No. 144930099	OFFICE YK	DES GM	CKD GM	REV 0	DRAWING FIGURE 2-1
DATE: JULY 2018	SHEET No. 2 of 2	DWN JN	APP -	STATUS 0	

TOWN OF NORMAN WELLS HAZARDOUS WASTE MANAGEMENT PLAN

Site Description
August 22, 2018

2.1 FACILITY DESCRIPTION

Some hazardous waste is currently stored at the Norman Wells SWDF. This facility is located approximately 5 km northeast of the town centre (Figure 2-1). The facility has been in use since 1997 and was converted to a modified landfill in 2008 using the landfill depression method as per Clark (2003). The conversion was completed to meet more recent guidelines and legislation (AECOM 2017). The SWDF is not licenced to dispose of hazardous waste under the *General Management of Hazardous Waste in the NWT* (GNWT 2017). The SWDF currently operates as a transfer facility, accepted hazardous wastes are transferred to a licenced disposal facility on a regular basis.

The Norman Wells SWDF currently accepts only two types of hazardous waste: asbestos and vehicles. Most of the hazardous waste stored at the Norman Wells SWDF has accumulated over time and is a legacy from unauthorized disposal from residents and local businesses. Hazardous waste at the SWDF is currently stored in sorting areas. Generators of hazardous waste are responsible for bringing it to the SWDF and disposing of it in the designated sorting area. There are six sorting areas that contain hazardous waste: vehicles and scrap metal, ASTs and ATCO trailers, compressed gas cylinders, and three THWCAs which contain lead-acid batteries, oily debris, waste antifreeze, paint, drums and used fuel oil (see Table 3-1 and Photo 1 to Photo 5, Appendix B). Asbestos has also been buried in the active landfill cells with non-hazardous solid waste. The three THWCAs are different sizes (approximately 1,258 m² [34 by 37 m]; 1,392 m² [29 by 48 m]; and, 522 m² [18 by 29 m]), and are bermed and lined with a high-density polyethylene (HDPE) liner (Figure 2-2 and Photo 6 to Photo 7, Appendix B).

The SWDF is surrounded by a chain link fence and an electric fence. There are two main entrances on the north side of the facility and an alternate gate in the south corner (Photo 8 to Photo 9, Appendix B). The two main entrances are never closed or locked while the alternate gate is always closed and locked. The SWDF is always open and the Landfill Operator position is currently vacant; however, the Public Works Foreman visits the SWDF daily. As a result, unauthorized disposal of hazardous and unacceptable waste may occur at the facility.

2.2 COLLECTION AND REUSE

Hazardous waste at the Norman Wells SWDF is managed in accordance with federal and territorial legislation. There is currently no program for collecting hazardous waste in Norman Wells. For accepted hazardous waste (i.e., asbestos and vehicles), generators are responsible for contacting Norman Wells for disposal approval. If approval is received, generators are responsible for bringing it to the SWDF and disposing of it in the designated sorting areas.

For unacceptable or unapproved hazardous waste, generators are responsible for coordinating the disposal of their hazardous waste at an approved, licensed facility and arranging for transportation via a licensed carrier.





Google earth

DRAFT

LEGEND

- | | |
|---|----------------------------|
| ① TIRES | ⑥ APPLIANCES |
| ② TEMPORARY HAZARDOUS AREA (LINED AND BERMED) - WOODEN CRATES OF UNKNOWN MATERIAL | ⑦ WOOD |
| ③ TEMPORARY HAZARDOUS AREA (LINED AND BERMED) - DRUMS, PAINT, SUSPECTED WASTE OIL TOTES | ⑧ COMPRESSED GAS CYLINDERS |
| ④ TEMPORARY HAZARDOUS AREA (LINED AND BERMED) - LEAD-ACID BATTERIES, DRUMS, UNKNOWN MATERIAL IN TOTES | ⑨ AST'S AND ATCO TRAILERS |
| ⑤ FURNITURE | ⑩ SCRAP METAL AND VEHICLES |

— BOUNDARY

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STAMP

CLIENT

Solid Waste Disposal Facility
Operation and Maintenance Plan

SORTING AREA AT THE
NORMAN WELLS SWDF



PROJECT No. 144930104	OFFICE YK	DES EB	CAD CH	REV 0	DRAWING FIGURE 2-2
DATE: JULY 2018	SHEET No. 1 of 1	DWN JN	APP -	STATUS 0	

**TOWN OF NORMAN WELLS
HAZARDOUS WASTE MANAGEMENT PLAN**

Waste Management
August 22, 2018

3.0 WASTE MANAGEMENT

3.1 ACCEPTED HAZARDOUS WASTE

The Norman Wells SWDF accepts only two types of hazardous waste: asbestos and vehicles. The only type of hazardous waste accepted from outside the community is asbestos-containing material and its acceptance is determined on a case-by-case basis. As discussed, other types of hazardous waste are currently stored at the SWDF: these are a legacy from unauthorized disposal from residents and local businesses. The types of hazardous waste accepted and/or currently stored at the SWDF are outlined in Table 3-1.

**Table 3-1 Hazardous Waste Accepted and Currently Stored at the SWDF
(as of June 2018)**

Materials	Accepted Sectors ¹			Present at the SWDF due to unauthorized dumping ¹	Containment	
	Residential	Commercial/Industrial	Outside the community		Primary	Secondary
Asbestos	✓	✓	✓	n/a	Buried in the active Phases of the SWDF	
Vehicles	✓	✓	x	n/a	None	None
Lead-acid batteries	x	x	x	✓	Wooden pallets, or plastic 1,000L tote	Bermed area lined with a HDPE liner (THWCAs)
Waste anti-freeze/glycols	x	x	x	✓	Drum or tote	
Oily debris	x	x	x	✓	Drum or tote	
Paint	x	x	x	✓	Wooden crates	
Drums	x	x	x	✓	Drums	
Used oil	x	x	x	✓	1,000L totes, or 205 L drums	
Waste fuel	x	x	x	✓	1,000L totes, or 205 L drums	
Hydrocarbon-contaminated soil, snow or water	x	x	x	—	n/a	n/a
Mercury-containing equipment	x	x	x	?	n/a	n/a



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Waste Management
August 22, 2018

**Table 3-1 Hazardous Waste Accepted and Currently Stored at the SWDF
(as of June 2018)**

Materials	Accepted Sectors ¹			Present at the SWDF due to unauthorized dumping ¹	Containment	
	Residential	Commercial/Industrial	Outside the community		Primary	Secondary
Ozone-depleting substances	x	x	x	?	Appliances	none
Compressed gas cylinders	x	x	x	✓	Cylinders	None
Residue fuel tanks	x	x	x	✓	Tanks and drums	None
NOTES: 1. ✓ = accepted, x = not accepted 2. ✓ = present, — = not present, ? = potentially present						

Specific measures have been implemented for certain types of hazardous waste. Fluorescent light bulbs are collected and stored by the Municipal Public Works department. They are broken down annually by Public Works staff, with a drum-top bulb-crusher owned by GNWT-ENR. Ozone-depleting substances (i.e., refrigerants) are drained by a third-party contractor who is retained by Norman Wells annually. Generators of vehicles are asked to remove hazardous materials, such as batteries, fluids, and mercury switches, prior to disposal.

Additional precautions should be implemented for the disposal of asbestos. Asbestos is currently buried in the active phase of the SWDF. Norman Wells' SWDF should become registered to receive asbestos waste and comply with the *GNWT Guidelines for the Management of Waste Asbestos* (2004). As per these guidelines, asbestos waste should be buried immediately upon receipt with 50 cm of cover material in an area(s) where it will not be disturbed.

3.2 UNACCEPTABLE HAZARDOUS WASTE

Unacceptable hazardous wastes include honey bags, biohazardous waste from the hospital, hazardous waste except for vehicles and asbestos, and any waste from outside the municipal boundaries of Norman Wells, except for asbestos-containing materials, as deemed appropriate by Norman Wells.

Unacceptable waste should not be stored at the SWDF and should be disposed of at an appropriate disposal facility in accordance with federal and territorial legislation.

Industrial, commercial, and institutional generators are required to transport their hazardous waste, via a licenced waste carrier, to registered receiving facilities consistent with the guideline for the *General Management of Hazardous Waste in the NWT* (GNWT 2017).



TOWN OF NORMAN WELLS HAZARDOUS WASTE MANAGEMENT PLAN

Waste Management
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As outlined in Table 3-2, the local GNWT-ENR office, or GNWT-ENR Environmental Protection division (1-867-873-7654), can assist in directing generators where to dispose of wastes not accepted at the Norman Wells SWDF.

Table 3-2 Assistance Contact Numbers

Resource	Contact
Local GNWT-ENR office	(867) 587-3500
	jeff_walker@gov.nt.ca
GNWT-ENR Environmental Protection Division	(867) 873-7654

3.3 METHODS OF DISPOSAL

Norman Wells has not identified a maximum quantity for hazardous waste stored on-site. The long-term management strategy for the hazardous waste currently stored at the SWDF is shipping it to an licenced facility by a licenced waste carrier.

Norman Wells hired KBL Environmental in 2018 to transport hazardous waste from the SWDF to its transfer facility in Yellowknife, NT. In March 2018, KBL removed approximately 30,000 L of hazardous waste from the Norman Wells SWDF. Another shipment of hazardous waste has been prepared (Photo 10, Appendix B) and its removal is planned for the winter road season of 2019. Norman Wells' long-term objective is to remove all unauthorized hazardous waste from the SWDF.

3.4 HAZARDOUS SUBSTANCE SPILLS

As outlined in Table 3-3, spills of hazardous substances are to be reported immediately to the NWT/NU 24-Hour Spill Report Line at (867) 920-8130, or by email at spills@gov.nt.ca. Spill report forms can also be completed by filling out an online form, available at <http://www.enr.gov.nt.ca/en/services/spills/reporting-spills>.

If a spill should occur, Norman Wells' Spill Contingency Plan should be activated. Canutec, the Canadian Transport Emergency Centre, can assist in emergencies involving dangerous goods, they can be contacted at (613) 996-6666 or *666 on a cellular phone.

Table 3-3 Emergency Contact Numbers

Resource	Name	Contact
Spill Notifications	NWT 24-Hour Spill Line	(867) 920-8130 or spills@gov.nt.ca
	Spill Form	http://www.enr.gov.nt.ca/en/services/spills/reporting-spills
Emergencies involving dangerous goods	Canutec	(613) 996-6666 or *666 on a cellular phone



**TOWN OF NORMAN WELLS
HAZARDOUS WASTE MANAGEMENT PLAN**

Hazardous Waste Manifest
August 22, 2018

4.0 HAZARDOUS WASTE MANIFEST

In June 2018, Stantec Consulting Ltd. completed an inventory of the hazardous waste stored at the Norman Wells SWDF. The inventory is based on a visual assessment and was non-intrusive. Quantities were estimated as best as possible. Table 4-1 summarizes the hazardous waste inventory.

Table 4-1 June 2018 Hazardous Waste Inventory

Materials	Estimated Quantity (m ³)	Containment		Comments
		Primary	Secondary	
Asbestos-containing material	Unknown	None		Buried in the active Phase of the SWDF
Vehicles/ASTs/Buildings	13,500	None	None	4,500 m ² of 3 m average height
ASTs and compressed gas cylinders	170	Cylinder	None	170 m ² of average 1 m height
Lead-acid batteries	6	Wooden pallets, or plastic 1000L tote	Bermed area lined with a HDPE liner (THWCAs)	14 pallets stacked with batteries and one 1,000 L tote approx. two-thirds full
Mixed oil, paint etc.	180	Pails, totes or drums		1.5 x 90 m ³ KBL containers and multiple full wooden crates
Mixed plastic and metal	400	205 L drums		200 m ² of average 2 m height
Paint cans	8	Wooden crates or KBL metal containers		8 x 1 m ³ wooden crates
Unknown	15	Wooden crates		15 wooden crates, approx. 1 m ³ each
Unknown liquids	3	Plastic tote		Two full totes and one 1/3 full



TOWN OF NORMAN WELLS HAZARDOUS WASTE MANAGEMENT PLAN

References
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5.0 REFERENCES

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- Ecosystem Classification Group. 2007 (rev. 2009). Ecological Regions of the Northwest Territories—Taiga Plains. Department of Environment and Natural Resources, Government of the Northwest Territories, Yellowknife, NT, Canada. viii + 173 pp. + folded insert map
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APPENDIX A

Hazardous Waste Definitions

Hazardous waste information

Asbestos: Exposed asbestos fibres from construction and demolition debris present a risk to human health. The risks to human health are lowered to safe levels when asbestos is properly packaged according to the conditions set by the Worker Safety and Compensation Commission. Once this has taken place, a hole must be dug in advance of acceptance and the asbestos needs to be buried immediately. The location needs to be documented to prevent future disturbance. Further details can be found in ENR's document *Guideline for the Management of Waste Asbestos*.

Lead-acid batteries are commonly found in vehicles. Both the lead and the acid are contaminants. Batteries in good condition can be stacked on pallets and banded or shrink-wrapped for transportation when enough have been collected to make shipping worthwhile. Store broken batteries in a pail or other container to prevent spills and avoid contact with battery acid. Further details can be found in ENR's document *Guideline for the Management of Waste Batteries*.

Glycols: Waste antifreeze (Ethylene Glycol) is generated from vehicle maintenance. Propylene glycol is more common to the industrial/commercial sector where it is used for heating larger buildings. Glycols can be stored in pails or drums until the quantity warrants shipping. Further details can be found in ENR's document *Guideline for the Management of Waste Antifreeze*.

Hydrocarbon-contaminated soil, snow, and water that result from spills or contaminated sites are managed as a hazardous waste in the NWT. Hydrocarbons include diesel, heating oil, gasoline, and other petroleum products. Communities wanting to store or treat contaminated soil, snow, or water may need to amend their water licence. Contact ENR for guidance on developing appropriate facilities.

Mercury is a severely toxic contaminant. Disposal needs to be reduced to levels as low as reasonably achievable. Thermostats, thermometers, mercury switches and fluorescent lamps all contain mercury. They can be safely stored in clearly marked pails. Drum-top crushing equipment can be used to remove the mercury from fluorescent bulbs. Other types of mercury-containing lights (i.e. street lamps or high intensity discharge lamps from the industrial/commercial sector) require specialized disposal methods and usually need to be transported to southern receiving facilities. For further information, see ENR's document *Guide to Recycling Mercury-Containing Lamps*.

Oily debris can consist of rags, sorbent material, or containers used to store or clean up oil. These materials are contaminants that cannot be added to a typical soil treatment facility, but need to be kept segregated from other waste.

Ozone depleting substances (ODS), also referred to as halocarbons, are chemicals mainly used in air conditioning and refrigeration equipment. The release of these substances depletes the ozone layer and is prohibited. Refrigerants need to be recovered by a trained technician prior to disposal of items containing refrigerants, including refrigerators, freezers and vehicles. Specific training is required for anyone servicing equipment containing ODSs and halocarbon alternatives. For more information, see ENR's document *Environmental Guideline for Ozone Depleting Substances (ODS's) and Halocarbon Alternatives*.

Paint: Paint can contain a number of hazardous chemicals, including lead. Whenever possible, paint should be used rather than disposed of. If it can't be used, the disposal method depends on the type of paint (check the label). Oil-based paint should be stored in approved 205 litre drums, ready for shipping. Latex paints can be landfilled after they are completely dried out (they can be spread out on a board or sheet to dry). Industrial/commercial paints usually need specialized treatment methods and should not be collected at the community SWDF. Check ENR's document *Guideline for the Management of Waste Lead and Lead Paint* for more information.

Propane tanks and aerosol cans are regulated as a dangerous good and are a potential explosion hazard at all times. Propane tanks can be returned to the retailer or supplier for safe storage and transport. Trained staff can safely evacuate the propane gas, making the tanks safe for scrap metal. Large propane tanks and other compressed gas canisters from the industrial/commercial sector should not be collected at the community SWDF.

Residue Fuel Tanks / Heating Oil Tanks / Residue Drums: Fuel storage tanks and drums often contain residue (e.g. sludge at the bottom), or may still contain flammable vapours. Tanks must be properly emptied prior to disposal as scrap metal. Empty drums need to be stored on their sides to prevent water from accumulating.

Used oil can be used as feedstock for a used oil furnace if the testing and other conditions in the *Used Oil and Waste Fuel Management Regulations Plain Language Guide* are met. Used oil can be stored in clearly labelled good quality tanks or drums. Do not let drums or pails be contaminated with glycol or solvents. Do not accept excessive volumes from the industrial/commercial sector.

Waste Fuel: Residents generate waste fuel from the use of gas-powered equipment and need a local disposal option. Waste fuel from residents can be bulked into UN-approved steel drums at Household Hazardous Waste collection events, or on a daily basis. The decision to accept waste fuel from residents on a daily basis requires appropriate screening methods to screen out incompatible materials from residents and excessive volumes of fuel or solvents from the industrial/commercial/institutional sector.

Vehicles: End-of-life vehicles contain antifreeze, batteries, fuel, mercury switches and other lubricating fluids that are considered hazardous waste and need to be removed. Once the hazardous materials are removed, the rest of the vehicle can be treated as scrap metal. Refrigerants from air conditioning systems will need to be removed by a trained technician.

APPENDIX B

Photo Log

Client:	Town of Norman Wells	Project:	144930099
Site Name:	Norman Wells Solid Waste Disposal Facility	Site Location:	Norman Wells, NT
Photograph ID: 1			
Photo Location: Solid Waste Disposal Facility - Norman Wells, NT			
Direction: E			
Survey Date: 6/6/2018			
Comments: Vehicles sorting area			
Photograph ID: 2			
Photo Location: Solid Waste Disposal Facility - Norman Wells, NT			
Direction: SW			
Survey Date: 6/6/2018			
Comments: Above ground storage tanks sorting area			

Client:	Town of Norman Wells	Project:	144930099
Site Name:	Norman Wells Solid Waste Disposal Facility	Site Location:	Norman Wells, NT
Photograph ID: 3			
Photo Location: Solid Waste Disposal Facility - Norman Wells, NT			
Direction: W			
Survey Date: 6/6/2018			
Comments: Compressed gas cylinders sorting area			
Photograph ID: 4			
Photo Location: Solid Waste Disposal Facility - Norman Wells, NT			
Direction: SW			
Survey Date: 6/6/2018			
Comments: Lead-acid batteries in a THWCA			

Client:	Town of Norman Wells	Project:	144930099
Site Name:	Norman Wells Solid Waste Disposal Facility	Site Location:	Norman Wells, NT
Photograph ID: 5			
Photo Location: Solid Waste Disposal Facility - Norman Wells, NT			
Direction: SE			
Survey Date: 6/6/2018			
Comments: 205 L drums in a THWCA with unknown contents			
Photograph ID: 6			
Photo Location: Solid Waste Disposal Facility - Norman Wells, NT			
Direction: N			
Survey Date: 6/6/2018			
Comments: Berm around a THWCA			

Client:	Town of Norman Wells	Project:	144930099
Site Name:	Norman Wells Solid Waste Disposal Facility	Site Location:	Norman Wells, NT
Photograph ID: 7			
Photo Location: Solid Waste Disposal Facility - Norman Wells, NT			
Direction: E			
Survey Date: 6/6/2018			
Comments: HDPE liner and berm in a THWCA			
Photograph ID: 8			
Photo Location: Solid Waste Disposal Facility - Norman Wells, NT			
Direction: SE			
Survey Date: 6/6/2018			
Comments: Fence along southern edge of the SWDF			

Client:	Town of Norman Wells	Project:	144930099
Site Name:	Norman Wells Solid Waste Disposal Facility	Site Location:	Norman Wells, NT
Photograph ID: 9			
Photo Location: Solid Waste Disposal Facility - Norman Wells, NT			
Direction: NW			
Survey Date: 6/6/2018			
Comments: One of the main entrances to the north of the SWDF			
Photograph ID: 10			
Photo Location: Solid Waste Disposal Facility - Norman Wells, NT			
Direction: S			
Survey Date: 6/6/2018			
Comments: A KBL container full and ready for shipping during the 2019 winter road			