North Slope Borough
Community of Atqasuk
Hazardous Waste Management Facility
Closure Plan
EPA ID No. AKR000206888

Prepared for: North Slope Borough, Department of Public Works
PO Box 350
Utqiaġvik, Alaska 99723

Prepared by: Jacobs Technology Inc.

Jacobs

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Version 1, Revision 4

April 2024

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Acronyms and Abbreviations

µg/L	microgram(s) per liter
ºF	degree(s) Fahrenheit
AAC	Alaska Administrative Code
ATQ	Atqasuk
bgs	below ground surface
Borough	North Slope Borough
CD	Consent Decree
CFR	Code of Federal Regulations
CoC	chain-of-custody
CPI	Consumer Price Index
DEC	Alaska Department of Environmental Conservation
DOT	U.S. Department of Transportation
DPW	Department of Public Works
EPA	U.S. Environmental Protection Agency
HEMF	Heavy Equipment Maintenance Facility
HWMF	hazardous waste management facility
HWMU	hazardous waste management unit
IATA	International Airport Transportation Association
IBC	intermediate bulk container
ID	identification
IDW	investigation-derived waste
LDR	Land Disposal Restriction
mg/kg	milligram(s) per kilogram
mL	milliliter(s)
No.	number
O&M	operations and maintenance
OWS	oil-water separator(s)
oz	ounce
PCB	polychlorinated biphenyl

pH	potential of hydrogen
PID	photoionization detector
PPE	personal protective equipment
PSL	project screening level
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RSL	Regional Screening Level
SDS	Safety Data Sheet
SSL	soil screening level
SVOC	semivolatile organic compound
SWMU	solid waste management unit
TCLP	Toxic Characteristic Leaching Procedure
TSDF	treatment, storage, and disposal facility
USDW	Unified School District Warehouse
VOC	volatile organic compound

Record of Revisions

Version/Revision	Date of Revision	Revision Summary
Version 1, Revision 0	June 2023	Plan Development
Version 1, Revision 1	August 2023	Chemistry revisions
Version 1, Revision 2	December 2023	Response to Sundance Environmental Comments
Version 1, Revision 3	January 2024	Submission to EPA
Version 1, Revision 4	April 2024	Response to EPA Comments

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1. General Information

1.1 Introduction

This Hazardous Waste Management Facility (HWMF) Closure Plan, including the closure cost estimates, is prepared to satisfy requirements of 40 Code of Federal Regulations (CFR) 265, Subpart G and Section V.E, and Paragraph 24 of the Consent Decree (CD) in Case Number 3:22-cv-00059-JWS (CD). The CD was made between the United States of America, represented by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Justice, and the North Slope Borough (Borough). This CD specifies procedures for the closure of hazardous waste management units (HWMUs) within each HWMF owned and operated by the Borough.

This plan has been developed for HWMU closure within six HWMFs in the Community of Atqasuk, Alaska which were identified during a waste site investigation conducted in 2022, the results of which are presented in the Borough's *Hazardous Waste Management Facility Inventory* report (Borough DPW 2022b). The six HWMFs identified during the 2022 inventory include the Department of Public Works (DPW) Heavy Equipment Maintenance Facility (HEMF) and Operations and Maintenance (O&M), Landfill Accumulation Area, Power Plant, Sewage Treatment Plant, Unified School District Warehouse (USDW), and Utility Tank Farm. The locations of these facilities are shown on the community map (Figure ATQ-1).

Records review for each HWMU and SWMU within the six HWMFs found that no documentation exists related to length of time hazardous waste and solid waste were generated and/or received and managed at each HWMU and SWMU. Other than a spill within Utility Tank Farm secondary containment for HWMU-4, records review for all other HWMUs and SWMUs within the six HWMFs found that no documentation exists regarding any releases, including spills of hazardous waste and solid waste. Records review for each HWMU and SWMU within the six HWMFs found that no documentation exists related to any dates when hazardous waste was generated or received at the site. Appendix A provides the date when all stored hazardous waste was removed from DPW HEMF and O&M HWMF. Stored hazardous waste associated with the remaining HWMFs is still stored at those sites.

1.1.1 Closure Plan Outline

The outline for this plan, along with descriptions of content of each section, is as follows:

- Section 1.0 General Information: Identifies the community and facilities to which the Closure Plan applies, outlines the contents of the plan, describes the community, provides historical background about the community, describes regional features, and presents the objectives of the Closure Plan.
- Section 2.0 Partial or Phased Closure of a Facility: Defines a partial or phased closure of a facility.

- Section 3.0 Final Closure of a Facility: Describes HWMU categories, provides maximum inventories of waste, and presents closure procedures for each HWMU category, including notification requirements, inventory removal, decontamination procedures, and confirmation sampling.
- Section 4.0 Plan Amendments: Lists events that may require a plan amendment and describes requirements for an amendment to an existing approved plan.
- Section 5.0 Closure Schedule: Presents the general timeframe over which required elements of the Closure Plan must be implemented and describes procedures for obtaining an extension of a proposed closure schedule if necessary.
- Section 6.0 Closure Cost Estimate: Discusses the contents and rule governing the development of cost estimates for an HWMF and refers the reader to appendices to obtain specific HWMF cost estimates.
- Section 7.0 Financial Assurance Mechanism: Provides documentation demonstrating that financial assurance for closure has been established for each HWMU within the HWMF. Table 6-1 provides a summary of total costs for all HWMUs in Atqasuk. For each facility, Table 4 in the appendices provides an estimated cost for each facility based on the HWMUs within that facility. Individual HWMU's costs were estimated based on waste inventory, area of storage locations for soil and water sampling, and decontamination costs for HWMU.
- Section 8.0 Liability Requirements: Presents the documentation of compliance with liability requirements for closure of a HWMF.
- Section 9.0 References: Provides references used to develop the Closure Plan.
- Appendices A through F Present HWMF-specific Closure Plan details, including a facility description, HWMF history, a list and description of HWMUs present at the HWMF, closure procedures specific to each HWMU, and figures displaying the layout of each HWMF. Appendices A through F correspond to the DPW HEMF/O&M, Landfill Accumulation Area, Power Plant, Sewage Treatment Plant, USDW, and Utility Tank Farm, respectively. Appendix G includes the signature pages.

1.1.2 Closure Plan Cross Reference Table

The plan includes all required content outlined in the CD, the EPA Closure Plan Guidance documentation found at Closure Plan Guidance (epa.gov) and 40CFR Part 265, subpart G. For ease of navigation to specific elements required for a closure plan in accordance with the EPA guidance, Table 1-1 has been developed to identify the section of the Closure Plan in which each required element is located, as well as the regulatory reference from which the requirement was obtained.

Table 1-1. Closure Plan Sections and Regulatory or CD Reference

Section Number/Section Title	Regulatory or CD Reference
Closure Certification	CD, Paragraph 25d(1); CD, Appendix C, Section 3.7 (“Certification of Closure”)
Professional Engineer Certification	CD, Paragraph 25d(2)
Section 1.1 Introduction	CD, Appendix C, Section 1.0
Section 1.2 Community Description and Regional Features	None
Section 1.3 Purpose of Plan	CD, Appendix C, Section 1.0
Section 1.4 Facility Descriptions	CD, Appendix C, Section 2.0
Section 1.5 Regional Features	None
Section 1.6 Closure Plan Objectives	CD, Appendix C, Section 3.1 (Closure Performance Standard) 40 CFR 265.111
Section 2.0 Partial or Phased Closure	CD, Appendix C, Section 3.2 (“Phased Closure”)
Section 3.0 Final Closure of a Facility	None
Section 3.1 Closure Unit Categorization and Descriptions	CD, Appendix C, Section 2
Section 3.2 Maximum Inventory of Wastes	CD, Appendix C, Section 3.3 (“Maximum Waste Inventory”) 40 CFR 265.112(b)(3)
Section 3.3 Closure Procedures	40 CFR 265.111
Section 3.3.1 Notification	CD, Paragraph 25d
Section 3.3.2 Inventory Removal	CD, Appendix C, Section 3.4 (“Inventory Removal and Disposal”)
Section 3.3.3 Decontamination	CD, Appendix C, Section 3.5 (“Waste Residue Removal and Decontamination”)
Section 3.3.4 Management of Decontamination Wastes	CD, Appendix C, Section 3.5 (“Waste Residue Removal and Decontamination”)

Table 1-1. Closure Plan Sections and Regulatory or CD Reference

Section Number/Section Title	Regulatory or CD Reference
Section 3.3.5 Confirmation Sampling	CD, Appendix C, Section 3.5 (“Waste Residue Removal and Decontamination”)
Section 3.4 Sample Handling	None
Section 3.5 Field Documentation	None
Section 3.6 Sampling and Analysis	CD, Appendix C, Section 3.5 (“Waste Residue Removal and Decontamination”) 40 CFR 265.112(b)(4)
Section 3.7 Waste Containers	CD, Appendix C, Section 3.5 (“Waste Residue Removal and Decontamination”)
Section 3.8 Nonapplicable Requirements	No equivalent regulatory or CD reference. The purpose of this section is to show what is not included in the Closure Plan.
Section 3.9 Closure Certification	CD, Appendix C, Section 3.7 (“Certification of Closure”) 40 CFR 265.115
Section 3.10 Post-Closure Care	Paragraph 25f; CD, Appendix C, Section 4.0 (“Post-Closure Plan”)
4.0 Plan Amendments	40 CFR 265.112(c)
5.1 Notification of Final Closure	40 CFR 265.119
5.2 Closure Schedule	CD, Appendix C, Section 3.6 (“Schedule for Closure”) 40 CFR 265.113
6.0 Closure Cost Estimate	CD, Appendix C, Section 5.0 (“Closure Cost Estimate”) 40 CFR 265.143
7.0 Financial Assurance Mechanism	CD, Appendix C, Section 6.0 (“Financial Assurance Mechanism for Closure”)
8.0 Liability Requirements	CD, Appendix C, Section 7.0 (“Financial Assurance Mechanism for Closure”) 40 CFR 265.147 and 270.14(b)(17)

1.2 Community Description and Regional Features

Atqasuk is located on the Meade River, 60 miles south of Utqiaġvik, at latitude 70°28'N and longitude 143°40'W. Atqasuk's location inland from the Beaufort and Chukchi Seas gives it the environmental and climate characteristics of both the coastal and interior Arctic. The landscape is generally flat, except for some steep river banks, and is generally comprised of treeless tundra and shallow lakes. It is only accessible year-round by air. During the winter, the village may be accessed by ice roads commonly referred to as the Community Winter Access Trail. Atqasuk has one airport, Atqasuk Edward Burnell Sr. Memorial Airport, which is uncontrolled and has a single runway.

Waste streams within the Community of Atqasuk are minimal and consist primarily of those created by residential and commercial operations and are disposed of at the community landfill. However, hazardous wastes considered in this Closure Plan refer to the primary wastes generated at the six HWMF (i.e., the DPW HEMF/O&M, Landfill, Power Plant, Sewage Treatment Plant, USDW, and Utility Tank Farm,). Regularly produced wastes generated at the six HWMF vary based on facility type but generally consist of products used in heating and repairs and vehicle maintenance and are petroleum-, oil-, and lubricants-based.

Waste generated from heating system repairs and operations include heat transfer fluids that, due to the cold Arctic climate, consist of propylene and ethylene glycol. These are mixed with water for use. The supply of glycols is typically received in pallets of 55-gallon drums during a single annual delivery. Repairs conducted at the HWMF also involve the use of products in aerosol containers, as well as paints and cleaning chemicals. Vehicle O&M produces waste in the form of used product and often stored in drums, (motor oil, diesel exhaust fluid, antifreeze containing glycol, and other oils and lubricants), which can be found stored at the HWMFs where vehicle maintenance takes place.

1.3 Purpose of Plan

This HWMF Closure Plan has been drafted to provide guidance for closure of Borough-owned facilities that are currently generating, managing, or storing hazardous wastes. All HWMFs within Atqasuk must eventually cease their treatment, storage, or disposal activities. When such operations cease, the Borough must close the facility in a way that ensures it will not pose a future threat to human health and the environment. The Resource Conservation and Recovery Act (RCRA) closure and post-closure regulations in 40 CFR Parts 264 and 265, Subpart G, are designed to achieve this goal. Final closure of a HWMF is complete when all HWMUs are closed in accordance with all applicable requirements to that hazardous waste management activities are no longer conducted at the facility. This document provides procedures for treatment, storage, and disposal operations the Borough will perform to dispose of or decontaminate equipment, structures, and soils to meet closure requirements.

1.4 Facility Descriptions

The Community of Atqasuk is categorized as a large quantity generator of hazardous waste. Atqasuk's EPA Generator ID Number is AKR000206888. The Borough owns and operates several

facilities in Atqasuk, six of which have been identified as generators of hazardous waste and storage facilities for hazardous waste. The HWMFs identified in Atqasuk include the following:

a) DPW HEMF and O&M
b) Landfill Accumulation Area
c) Power Plant
d) Sewage Treatment Plant
e) USDW
f) Utility Tank Farm

Within each HWMF is at least one HWMU. Table 1-2 lists the HWMFs and the corresponding HWMUs covered by this Closure Plan.

Table 1-2. HWMFs and HWMUs Covered by this Closure Plan

Facility Name	Unit Type and #	Facility		Parcel ID
		Latitude	Longitude	
DPW HEMF and O&M	HWMU-1	70.478	-157.417	R-007-131-01-1
	HWMU-2			
	HWMU-3			
Landfill Accumulation Area	HWMU-1	70.504	-157.455	R-007-181-01
	SWMU-2[a]			
Power Plant	HWMU-1	70.483	-157.425	R-007-171-53
	HWMU-2			
	SWMU-3			
Sewage Treatment Plant	SWMU-1	70.489	-157.43	R-007-011-37
	HWMU-2			
USDW	HWMU-1	70.482	-157.418	R-007-161-01
	SWMU-2			
	HWMU-3			
Utility Tank Farm	HWMU-4	70.483	-157.425	R-007-171-53

Notes:

[a] Landfills within Borough communities are permitted and regulated by DEC under 18 AAC 60 (DEC 2022b). Borough landfills are not permitted to dispose of hazardous waste. In the event a hazardous waste accumulation area is located within the landfill boundaries, the area will be designated as an HWSU and included in the HWMU Closure Plans. This landfill does not contain an HWMU and is not subject to the HWMU Closure Plan requirements. In the future, the Borough will follow DEC Site Closure in accordance with 18 AAC 60.395 for Class I or II landfills and 18 AAC 60.395 for Class III landfills.

Although not covered in this plan, solid waste management units (SWMUs) are listed for the HWMFs in this Closure Plan.

Waste management units were numbered concurrently to identify each unit within a facility.

DEC = Alaska Department of Environmental Conservation

Facility-specific descriptions of hazardous and solid waste generation and management at each HWMF, including information regarding any releases such as spills, are available in Appendices A through F. The locations of these facilities are shown on the community map (Figure ATQ-1).

1.5 Regional Features

Atqasuk is located within the National Petroleum Reserve of Alaska at the southernmost extent of the Arctic Coastal Plain, between Imaġruag Lake and the Meade River. This environment is characterized by flat tundra with thaw lakes, drained lake basins, polygonal land patterns, pingos, and tussocky vegetation overlaying permafrost (CAVM Team 2003). Atqasuk is located near a historical bituminous coal mine that provided fuel for government and private facilities in Utqiaġvik during and after World War II. The current village site lies on a stabilized sand dune flat with a thickness between 10–20 feet underlain by permafrost. Vegetation is dominated by sedges, grasses, and mosses and includes dwarf shrubs. The actual vegetation types within developed areas are considered a disturbed landscape due to the construction of gravel roads and building pads that alter the natural function of the tundra and wetlands (Borough Assembly 2017).

Winds at Atqasuk usually prevail from the east. Winds are strongest in the winter and spring. Combined with the average winter temperature, the wind can create extreme wind chills.

1.6 Closure Plan Objectives

This Closure Plan was prepared to comply with RCRA requirements for the "clean closure" of a hazardous waste container storage unit in the regulations; specifically, 40 CFR 265.111-265.115. This Closure Plan describes the actions to be taken by the Borough to minimize the need for further maintenance of the Borough-owned and operated HWMFs in Atqasuk, and to control, minimize, and eliminate, to the extent necessary to protect human health and the environment, the post-closure potential for releases or escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the surface soil, surface waters, or to the atmosphere.

1.6.1 Closure Procedures

This Closure Plan provides procedures to be implemented during the closure process to remove all hazardous waste and to decontaminate and remove hazardous waste residue from the HWMFs and HWMUs, if present, so the closure performance standards are met. The sequence of actions for closure for all units will be:

- Notify EPA Region 10 of intent to close the unit or facility
- Accept no more hazardous waste to the unit for the facility
- Remove remaining inventory of hazardous waste
- Decontaminate equipment and structures

- Confirm no contamination remains on equipment and structures by comparing analytical results to the closure performance standards (detailed in the following subsection)
- Repeat decontamination and confirmation sampling until analytical results are no longer above screening levels, or a decision is made to complete the closure with a post-closure plan

Once the HWMF/HWMU has an EPA-approved closure plan, the closure plan is implemented; closure of the HWMF/HWMU is certified by an independent, registered Alaska Professional Engineer; and EPA approves the closure, it will no longer be designated as a regulated HWMU and will be released to the Borough for other uses without any land use restrictions or institutional controls. This plan also contains requirements for amending this Closure Plan or adding a post-closure plan (to protect against exposure to contaminants if clean closure standards are unable to be met) if changes are necessary. The Closure Plan also presents a proposed schedule for closing an HWMF or HWMU once the facility or unit is slated for closure and provides an estimate of closure costs.

1.6.2 Sampling Protocol and Closure Performance Standards

Samples will be collected according to the procedures outlined in Section 3.3.5 (Confirmation Sampling) of this Closure Plan. The Borough Quality Assurance Project Plan (QAPP) presents the general procedures that will be used to perform analytical testing (Section 2: Measurement Performance Criteria) and data validation (Section 7: Data Validation Procedures). The Borough QAPP is provided as a standalone document for reference. The document presents the general procedures that will be used to perform analytical testing and data validation, and provides programmatic guidance for selecting the appropriate analytical methods and laboratories that will provide data that satisfy overall project data quality objectives. Evaluation of project action limits and project quantitation goals against the laboratory detection limits, limit of detections, and limit of quantitation is required so that the project data quality objectives are met. Laboratory limits of detections will be evaluated on the project action limits, cleanup levels, and screening criteria to decide whether the sensitivity of the data will be sufficient for its intended use. Using alternative or additional laboratory analyses to obtain the lowest possible limit of detection for particular analyte(s) will be evaluated on a case-by-case basis. For purposes of this Closure Plan, which is for the future closure of all Borough-owned and operated HWMFs within Atqasuk, Alaska.

Maximum contaminant levels under the Safe Drinking Water Act will be used as the closure performance standard for decontamination waters (Table 1-3). These values are established, protective, and risk-based levels.

Soil cleanup levels based on Method Two in the DEC *Procedures for Calculating Cleanup Levels*, (DEC 2018) and for the Arctic Zone will be used for the soil closure performance standard (Table 1-4). The closure performance standard for lead will be 200 parts per million, based on EPA's *Updated Residential Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action* memorandum (EPA 2024a). These levels have been selected because they are based on residential land use, risk-based, established, and protective.

Groundwater monitoring will be addressed through a closure plan amendment, in the event that soil closure performance standard cannot be obtained.

Table 1-3. Liquid Closure Performance Standards

Method	Analyte	Chemical Abstracts Service Number	Units	Closure Performance Standard
SW6020	Antimony	7440-36-0	µg/L	6
SW6020	Arsenic	7440-38-2	µg/L	10
SW6020	Barium	7440-39-3	µg/L	2
SW6020	Beryllium	7440-41-7	µg/L	4
SW6020	Cadmium	7440-43-9	µg/L	5
SW6020	Chromium	7440-47-3	µg/L	100
SW6020	Copper	7440-50-8	µg/L	1300
SW6020	Lead	7439-92-1	µg/L	15
SW6020	Mercury	7439-97-6	µg/L	2
SW6020	Selenium	7782-49-2	µg/L	50
SW6020	Silver	7440-22-4	µg/L	--
SW6020	Thallium	7440-28-0	µg/L	2
SW8082	Aroclor-1016	12674-11-2	µg/L	0.5
SW8082	Aroclor-1221	11104-28-2	µg/L	0.5
SW8082	Aroclor-1232	11141-16-5	µg/L	0.5
SW8082	Aroclor-1242	53469-21-9	µg/L	0.5
SW8082	Aroclor-1248	12672-29-6	µg/L	0.5
SW8082	Aroclor-1254	11097-69-1	µg/L	0.5
SW8082	Aroclor-1260	11096-82-5	µg/L	0.5
SW8260D	1,1,1,2-Tetrachloroethane	630-20-6	µg/L	--
SW8260D	1,1,1-Trichloroethane	71-55-6	µg/L	5
SW8260D	1,1,2,2-Tetrachloroethane	79-34-5	µg/L	--
SW8260D	1,1,2-Trichloroethane	79-00-5	µg/L	5
SW8260D	1,1-Dichloroethane	75-34-3	µg/L	--
SW8260D	1,1-Dichloroethene	75-35-4	µg/L	7
SW8260D	1,1-Dichloropropene	563-58-6	µg/L	--
SW8260D	1,2,3-Trichlorobenzene	87-61-6	µg/L	--
SW8260D	1,2,3-Trichloropropane	96-18-4	µg/L	--

Table 1-3. Liquid Closure Performance Standards

Method	Analyte	Chemical Abstracts Service Number	Units	Closure Performance Standard
SW8260D	1,2,4-Trichlorobenzene	120-82-1	µg/L	70
SW8260D	1,2,4-Trimethylbenzene	95-63-6	µg/L	--
SW8260D	1,2-Dibromo-3-chloropropane	35407	µg/L	0.2
SW8260D	1,2-Dibromoethane	106-93-4	µg/L	0.05
SW8260D	1,2-Dichlorobenzene	95-50-1	µg/L	--
SW8260D	1,2-Dichloroethane	-654726	µg/L	5
SW8260D	1,2-Dichloropropane	78-87-5	µg/L	5
SW8260D	1,3,5-Trimethylbenzene	108-67-8	µg/L	--
SW8260D	1,3-Dichlorobenzene	541-73-1	µg/L	600
SW8260D	1,3-Dichloropropane	142-28-9	µg/L	--
SW8260D	1,4-Dichlorobenzene	106-46-7	µg/L	75
SW8260D	1-Chlorohexane	-494989	µg/L	--
SW8260D	2,2-Dichloropropane	594-20-7	µg/L	--
SW8260D	2-Butanone (MEK)	78-93-3	µg/L	--
SW8260D	2-Chloroethyl Vinyl Ether	110-75-8	µg/L	--
SW8260D	2-Chlorotoluene	95-49-8	µg/L	--
SW8260D	2-Hexanone	591-78-6	µg/L	--
SW8260D	4-Chlorotoluene	106-43-4	µg/L	--
SW8260D	4-Isopropyltoluene	99-87-6	µg/L	--
SW8260D	4-Methyl-2-pentanone (MIBK)	-654239	µg/L	--
SW8260D	Acetone	67-64-1	µg/L	--
SW8260D	Acrylonitrile	107-13-1	µg/L	--
SW8260D	Benzene	71-43-2	µg/L	5
SW8260D	Bromobenzene	108-86-1	µg/L	--
SW8260D	Bromochloromethane	74-97-5	µg/L	--
SW8260D	Bromodichloromethane	75-27-4	µg/L	--
SW8260D	Bromoform	75-25-2	µg/L	--
SW8260D	Bromomethane	74-83-9	µg/L	--
SW8260D	Carbon disulfide	75-15-0	µg/L	--
SW8260D	Carbon tetrachloride	56-23-5	µg/L	5

Table 1-3. Liquid Closure Performance Standards

Method	Analyte	Chemical Abstracts Service Number	Units	Closure Performance Standard
SW8260D	Chlorobenzene	108-90-7	µg/L	100
SW8260D	Chloroethane	75-00-3	µg/L	--
SW8260D	Chloroform	67-66-3	µg/L	--
SW8260D	Chloromethane	74-87-3	µg/L	--
SW8260D	cis-1,2-Dichloroethene	156-59-2	µg/L	70
SW8260D	cis-1,3-Dichloropropene	10061-01-5	µg/L	--
SW8260D	Cyclohexane	110-82-7	µg/L	--
SW8260D	Dibromochloromethane	124-48-1	µg/L	--
SW8260D	Dibromomethane	74-95-3	µg/L	--
SW8260D	Dichlorodifluoromethane	75-71-8	µg/L	--
SW8260D	Ethylbenzene	100-41-4	µg/L	700
SW8260D	Freon-113 (Dichlorodifluoromethane)	76-13-1	µg/L	--
SW8260D	Hexachlorobutadiene	87-68-3	µg/L	--
SW8260D	Isopropylbenzene (Cumene)	98-82-8	µg/L	--
SW8260D	Methyl iodide	74-88-4	µg/L	--
SW8260D	Methylene chloride	27639	µg/L	5
SW8260D	Methyl-t-butyl ether	-97059	µg/L	--
SW8260D	Naphthalene	91-20-3	µg/L	--
SW8260D	n-Butylbenzene	104-51-8	µg/L	--
SW8260D	n-hexane	110-54-3	µg/L	--
SW8260D	n-Propylbenzene	103-65-1	µg/L	--
SW8260D	o-Xylene	95-47-6	µg/L	--
SW8260D	P & M -Xylene	P & M -Xylene	µg/L	--
SW8260D	sec-Butylbenzene	135-98-8	µg/L	--
SW8260D	Styrene	100-42-5	µg/L	100
SW8260D	tert-Butylbenzene	35952	µg/L	--
SW8260D	Tetrachloroethene	127-18-4	µg/L	5
SW8260D	Toluene	108-88-3	µg/L	1000
SW8260D	trans 1,4-Dichloro-2-Butene	110-57-6	µg/L	--
SW8260D	trans-1,2-Dichloroethene	156-60-5	µg/L	100

Table 1-3. Liquid Closure Performance Standards

Method	Analyte	Chemical Abstracts Service Number	Units	Closure Performance Standard
SW8260D	trans-1,3-Dichloropropene	10061-02-6	µg/L	--
SW8260D	Trichloroethene	28861	µg/L	5
SW8260D	Trichlorofluoromethane	75-69-4	µg/L	--
SW8260D	Vinyl acetate	-654389	µg/L	--
SW8260D	Vinyl chloride	27398	µg/L	2
SW8260D	Xylenes (total)	1330-20-7	µg/L	10000
SW8260D SIM	1,2,3-Trichloropropane	96-18-4	µg/L	--
SW8260D SIM	1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.2
SW8260D SIM	1,2-Dibromoethane	106-93-4	µg/L	0.05
SW8260D SIM	1,4 Dioxane	123-91-1	µg/L	--
SW8270D	1,2,4-Trichlorobenzene	120-82-1	µg/L	70
SW8270D	1,2-Dichlorobenzene	95-50-1	µg/L	--
SW8270D	1,3-Dichlorobenzene	541-73-1	µg/L	600
SW8270D	1,4-Dichlorobenzene	106-46-7	µg/L	75
SW8270D	1-Chloronaphthalene	90-13-1	µg/L	--
SW8270D	1-Methylnaphthalene	90-12-0	µg/L	--
SW8270D	2,4,5-Trichlorophenol	95-95-4	µg/L	--
SW8270D	2,4,6-Trichlorophenol	88-06-2	µg/L	--
SW8270D	2,4-Dichlorophenol	120-83-2	µg/L	--
SW8270D	2,4-Dimethylphenol	105-67-9	µg/L	--
SW8270D	2,4-Dinitrophenol	51-28-5	µg/L	--
SW8270D	2,4-Dinitrotoluene	121-14-2	µg/L	--
SW8270D	2,6-Dichlorophenol	87-65-0	µg/L	--
SW8270D	2,6-Dinitrotoluene	606-20-2	µg/L	--
SW8270D	2-Chloronaphthalene	91-58-7	µg/L	--
SW8270D	2-Chlorophenol	95-57-8	µg/L	--
SW8270D	2-Methyl-4,6-dinitrophenol	534-52-1	µg/L	--
SW8270D	2-Methylnaphthalene	91-57-6	µg/L	--
SW8270D	2-Methylphenol (o-Cresol)	95-48-7	µg/L	--
SW8270D	2-Nitroaniline	88-74-4	µg/L	--

Table 1-3. Liquid Closure Performance Standards

Method	Analyte	Chemical Abstracts Service Number	Units	Closure Performance Standard
SW8270D	2-Nitrophenol	88-75-5	µg/L	--
SW8270D	3&4-Methylphenol (p&m-Cresol)	3&4-Methylphen.	µg/L	--
SW8270D	3,3-Dichlorobenzidine	91-94-1	µg/L	--
SW8270D	3-Nitroaniline	99-09-2	µg/L	--
SW8270D	4-Bromophenyl-phenylether	101-55-3	µg/L	--
SW8270D	4-Chloro-3-methylphenol	59-50-7	µg/L	--
SW8270D	4-Chloroaniline	106-47-8	µg/L	--
SW8270D	4-Chlorophenyl-phenylether	7005-72-3	µg/L	--
SW8270D	4-Nitroaniline	100-01-6	µg/L	--
SW8270D	4-Nitrophenol	100-102-7	µg/L	--
SW8270D	Acenaphthene	83-32-9	µg/L	--
SW8270D	Acenaphthylene	208-96-8	µg/L	--
SW8270D	Aniline	62-53-3	µg/L	--
SW8270D	Anthracene	120-12-7	µg/L	--
SW8270D	Azobenzene	103-33-3	µg/L	--
SW8270D	Benzo(a)Anthracene	56-55-3	µg/L	--
SW8270D	Benzo[a]pyrene	50-32-8	µg/L	0.2
SW8270D	Benzo[b]Fluoranthene	205-99-2	µg/L	--
SW8270D	Benzo[g,h,i]perylene	191-24-2	µg/L	--
SW8270D	Benzo[k]fluoranthene	207-08-9	µg/L	--
SW8270D	Benzoic acid	65-85-0	µg/L	--
SW8270D	Benzyl alcohol	100-51-6	µg/L	--
SW8270D	Bis(2chloro1methylethyl) ether	108-60-1	µg/L	--
SW8270D	Bis(2-Chloroethoxy)methane	111-91-1	µg/L	--
SW8270D	Bis(2-Chloroethyl)ether	111-44-4	µg/L	--
SW8270D	bis(2-Ethylhexyl)phthalate	117-81-7	µg/L	6
SW8270D	Butylbenzylphthalate	85-68-7	µg/L	--
SW8270D	Carbazole	86-74-8	µg/L	--
SW8270D	Chrysene	218-01-9	µg/L	--
SW8270D	Dibenzo[a,h]anthracene	53-70-3	µg/L	--

Table 1-3. Liquid Closure Performance Standards

Method	Analyte	Chemical Abstracts Service Number	Units	Closure Performance Standard
SW8270D	Dibenzofuran	132-64-9	µg/L	--
SW8270D	Diethylphthalate	84-66-2	µg/L	--
SW8270D	Dimethylphthalate	131-11-3	µg/L	--
SW8270D	Di-n-butylphthalate	84-74-2	µg/L	--
SW8270D	di-n-Octylphthalate	117-84-0	µg/L	--
SW8270D	Fluoranthene	206-44-0	µg/L	--
SW8270D	Fluorene	86-73-7	µg/L	--
SW8270D	Hexachlorobenzene	118-74-1	µg/L	1
SW8270D	Hexachlorobutadiene	87-68-3	µg/L	--
SW8270D	Hexachlorocyclopentadiene	77-47-4	µg/L	50
SW8270D	Hexachloroethane	67-72-1	µg/L	--
SW8270D	Indeno[1,2,3-c,d] pyrene	193-39-5	µg/L	--
SW8270D	Isophorone	78-59-1	µg/L	--
SW8270D	Naphthalene	91-20-3	µg/L	--
SW8270D	Nitrobenzene	98-95-3	µg/L	--
SW8270D	N-Nitrosodimethylamine	62-75-9	µg/L	--
SW8270D	N-Nitroso-di-n-propylamine	621-64-7	µg/L	--
SW8270D	N-Nitrosodiphenylamine	86-30-6	µg/L	--
SW8270D	Pentachlorophenol	87-86-5	µg/L	1
SW8270D	Phenanthrene	85-01-8	µg/L	--
SW8270D	Phenol	108-95-2	µg/L	--
SW8270D	Pyrene	129-00-0	µg/L	--
SW8270D	Pyridine	110-86-1	µg/L	--

Notes:

[a] EPA Maximum Contaminant Levels (EPA 2009) for analytes in the proposed SW846 methods.

µg/L = microgram(s) per liter

Table 1-4. Soil Closure Performance Standards

Method	Analyte	Chemical Abstracts Service Number	Units	Soil Closure Performance Standard
SW6020	Arsenic	7440-38-2	mg/kg	12
SW6020	Barium	7440-39-3	mg/kg	25000
SW6020	Cadmium	7440-43-9	mg/kg	120
SW6020	Chromium	7440-47-3	mg/kg	100000
SW6020	Lead	7439-92-1	mg/kg	200
SW6020	Mercury	7439-97-6	mg/kg	3.1
SW6020	Selenium	7782-49-2	mg/kg	680
SW6020	Silver	7440-22-4	mg/kg	680
SW8082	PCB-1016	12674-11-2	mg/kg	1
SW8082	PCB-1221	11104-28-2	mg/kg	1
SW8082	PCB-1232	11141-16-5	mg/kg	1
SW8082	PCB-1242	53469-21-9	mg/kg	1
SW8082	PCB-1248	12672-29-6	mg/kg	1
SW8082	PCB-1254	11097-69-1	mg/kg	1
SW8082	PCB-1260	11096-82-5	mg/kg	1
SW8260D (MeOH)	1,1,1,2-Tetrachloroethane	630-20-6	mg/kg	30
SW8260D (MeOH)	1,1,1-Trichloroethane	71-55-6	mg/kg	360
SW8260D (MeOH)	1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	8.8
SW8260D (MeOH)	1,1,2-Trichloroethane	79-00-5	mg/kg	2.3
SW8260D (MeOH)	1,1-Dichloroethane	75-34-3	mg/kg	67
SW8260D (MeOH)	1,1-Dichloroethene	75-35-4	mg/kg	480
SW8260D (MeOH)	1,1-Dichloropropene	563-58-6	mg/kg	--
SW8260D (MeOH)	1,2,3-Trichlorobenzene	87-61-6	mg/kg	110
SW8260D (MeOH)	1,2,3-Trichloropropane	96-18-4	mg/kg	0.089
SW8260D (MeOH)	1,2,4-Trichlorobenzene	120-82-1	mg/kg	66
SW8260D (MeOH)	1,2,4-Trimethylbenzene	95-63-6	mg/kg	43
SW8260D (MeOH)	1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	--
SW8260D (MeOH)	1,2-Dibromoethane	106-93-4	mg/kg	0.62
SW8260D (MeOH)	1,2-Dichlorobenzene	95-50-1	mg/kg	78
SW8260D (MeOH)	1,2-Dichloroethane	107-06-2	mg/kg	8

Table 1-4. Soil Closure Performance Standards

Method	Analyte	Chemical Abstracts Service Number	Units	Soil Closure Performance Standard
SW8260D (MeOH)	1,2-Dichloropropane	78-87-5	mg/kg	25
SW8260D (MeOH)	1,3,5-Trimethylbenzene	108-67-8	mg/kg	37
SW8260D (MeOH)	1,3-Dichlorobenzene	541-73-1	mg/kg	62
SW8260D (MeOH)	1,3-Dichloropropane	142-28-9	mg/kg	--
SW8260D (MeOH)	1,4-Dichlorobenzene	106-46-7	mg/kg	31
SW8260D (MeOH)	2,2-Dichloropropane	594-20-7	mg/kg	--
SW8260D (MeOH)	2-Butanone (MEK)	78-93-3	mg/kg	23000
SW8260D (MeOH)	2-Chlorotoluene	95-49-8	mg/kg	--
SW8260D (MeOH)	2-Hexanone	591-78-6	mg/kg	380
SW8260D (MeOH)	4-Chlorotoluene	106-43-4	mg/kg	--
SW8260D (MeOH)	4-Isopropyltoluene	99-87-6	mg/kg	--
SW8260D (MeOH)	4-Methyl-2-pentanone (MIBK)	108-10-1	mg/kg	2200
SW8260D (MeOH)	Acetone	67-64-1	mg/kg	100000
SW8260D (MeOH)	Benzene	71-43-2	mg/kg	16
SW8260D (MeOH)	Bromobenzene	108-86-1	mg/kg	160
SW8260D (MeOH)	Bromochloromethane	74-97-5	mg/kg	--
SW8260D (MeOH)	Bromodichloromethane	75-27-4	mg/kg	5.3
SW8260D (MeOH)	Bromoform	75-25-2	mg/kg	340
SW8260D (MeOH)	Bromomethane	74-83-9	mg/kg	15
SW8260D (MeOH)	Carbon disulfide	75-15-0	mg/kg	500
SW8260D (MeOH)	Carbon tetrachloride	56-23-5	mg/kg	13
SW8260D (MeOH)	Chlorobenzene	108-90-7	mg/kg	180
SW8260D (MeOH)	Chloroethane	75-00-3	mg/kg	1400
SW8260D (MeOH)	Chloroform	67-66-3	mg/kg	5.8
SW8260D (MeOH)	Chloromethane	74-87-3	mg/kg	250
SW8260D (MeOH)	cis-1,2-Dichloroethene	156-59-2	mg/kg	270
SW8260D (MeOH)	cis-1,3-Dichloropropene	10061-01-5	mg/kg	--
SW8260D (MeOH)	Cyclohexane	110-82-7	mg/kg	--
SW8260D (MeOH)	Dibromochloromethane	124-48-1	mg/kg	140
SW8260D (MeOH)	Dibromomethane	74-95-3	mg/kg	45

Table 1-4. Soil Closure Performance Standards

Method	Analyte	Chemical Abstracts Service Number	Units	Soil Closure Performance Standard
SW8260D (MeOH)	Dichlorodifluoromethane	75-71-8	mg/kg	220
SW8260D (MeOH)	Ethylbenzene	100-41-4	mg/kg	72
SW8260D (MeOH)	Freon-113 (Dichlorodifluoromethane)	76-13-1	mg/kg	--
SW8260D (MeOH)	Hexachlorobutadiene	87-68-3	mg/kg	3.3
SW8260D (MeOH)	Isopropylbenzene (Cumene)	98-82-8	mg/kg	54
SW8260D (MeOH)	Methylene chloride	75-09-2	mg/kg	630
SW8260D (MeOH)	Methyl-t-butyl ether	1634-04-4	mg/kg	970
SW8260D (MeOH)	Naphthalene	91-20-3	mg/kg	42
SW8260D (MeOH)	n-Butylbenzene	104-51-8	mg/kg	20
SW8260D (MeOH)	n-hexane	110-54-3	mg/kg	--
SW8260D (MeOH)	n-Propylbenzene	103-65-1	mg/kg	52
SW8260D (MeOH)	o-Xylene	95-47-6	mg/kg	--
SW8260D (MeOH)	Xylenes (total)	1330-20-7	mg/kg	57
SW8260D (MeOH)	sec-Butylbenzene	135-98-8	mg/kg	28
SW8260D (MeOH)	Styrene	100-42-5	mg/kg	180
SW8260D (MeOH)	tert-Butylbenzene	98-06-6	mg/kg	36
SW8260D (MeOH)	Tetrachloroethene	127-18-4	mg/kg	68
SW8260D (MeOH)	Toluene	108-88-3	mg/kg	200
SW8260D (MeOH)	trans-1,2-Dichloroethene	156-60-5	mg/kg	960
SW8260D (MeOH)	trans-1,3-Dichloropropene	10061-02-6	mg/kg	--
SW8260D (MeOH)	Trichloroethene	79-01-6	mg/kg	7.1
SW8260D (MeOH)	Trichlorofluoromethane	75-69-4	mg/kg	980
SW8260D (MeOH)	Vinyl acetate	108-05-4	mg/kg	--
SW8260D (MeOH)	Vinyl chloride	75-01-4	mg/kg	0.69
SW8260D (MeOH)	Xylenes (total)	1330-20-7	mg/kg	57
SW8260D-SIM (MeOH)	1,2,3-Trichloropropane	96-18-4	mg/kg	0.089
SW8260D-SIM (MeOH)	1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	--
SW8260D-SIM (MeOH)	1,2-Dibromoethane	106-93-4	mg/kg	0.62
SW8260D-SIM (MeOH)	1,4 Dioxane	123-91-1	mg/kg	73
SW8270D	1,2,4-Trichlorobenzene	120-82-1	mg/kg	66

Table 1-4. Soil Closure Performance Standards

Method	Analyte	Chemical Abstracts Service Number	Units	Soil Closure Performance Standard
SW8270D	1,2-Dichlorobenzene	95-50-1	mg/kg	78
SW8270D	1,3-Dichlorobenzene	541-73-1	mg/kg	62
SW8270D	1,4-Dichlorobenzene	106-46-7	mg/kg	31
SW8270D	1-Chloronaphthalene	90-13-1	mg/kg	--
SW8270D	1-Methylnaphthalene	90-12-0	mg/kg	68
SW8270D	2,4,5-Trichlorophenol	95-95-4	mg/kg	8200
SW8270D	2,4,6-Trichlorophenol	88-06-2	mg/kg	82
SW8270D	2,4-Dichlorophenol	120-83-2	mg/kg	250
SW8270D	2,4-Dimethylphenol	105-67-9	mg/kg	1600
SW8270D	2,4-Dinitrophenol	51-28-5	mg/kg	--
SW8270D	2,4-Dinitrotoluene	121-14-2	mg/kg	--
SW8270D	2,6-Dichlorophenol	87-65-0	mg/kg	--
SW8270D	2,6-Dinitrotoluene	606-20-2	mg/kg	--
SW8270D	2-Chloronaphthalene	91-58-7	mg/kg	6200
SW8270D	2-Chlorophenol	95-57-8	mg/kg	510
SW8270D	2-Methyl-4,6-dinitrophenol	534-52-1	mg/kg	--
SW8270D	2-Methylnaphthalene	91-57-6	mg/kg	420
SW8270D	2-Methylphenol (o-Cresol)	95-48-7	mg/kg	4100
SW8270D	2-Nitroaniline	88-74-4	mg/kg	--
SW8270D	2-Nitrophenol	88-75-5	mg/kg	--
SW8270D	3&4-Methylphenol (p&m-Cresol)	3&4-Methylphen.	mg/kg	4100
SW8270D	3,3-Dichlorobenzidine	91-94-1	mg/kg	16
SW8270D	3-Nitroaniline	99-09-2	mg/kg	--
SW8270D	4-Bromophenyl-phenylether	101-55-3	mg/kg	--
SW8270D	4-Chloro-3-methylphenol	59-50-7	mg/kg	--
SW8270D	4-Chloroaniline	106-47-8	mg/kg	35
SW8270D	4-Chlorophenyl-phenylether	7005-72-3	mg/kg	--
SW8270D	4-Nitroaniline	100-01-6	mg/kg	--
SW8270D	4-Nitrophenol	100-102-7	mg/kg	--
SW8270D	Acenaphthene	83-32-9	mg/kg	6300

Table 1-4. Soil Closure Performance Standards

Method	Analyte	Chemical Abstracts Service Number	Units	Soil Closure Performance Standard
SW8270D	Acenaphthylene	208-96-8	mg/kg	3100
SW8270D	Aniline	62-53-3	mg/kg	--
SW8270D	Anthracene	120-12-7	mg/kg	31000
SW8270D	Azobenzene	103-33-3	mg/kg	--
SW8270D	Benzo(a)Anthracene	56-55-3	mg/kg	20
SW8270D	Benzo[a]pyrene	50-32-8	mg/kg	2
SW8270D	Benzo[b]Fluoranthene	205-99-2	mg/kg	20
SW8270D	Benzo[g,h,i]perylene	191-24-2	mg/kg	3100
SW8270D	Benzo[k]fluoranthene	207-08-9	mg/kg	200
SW8270D	Benzoic acid	65-85-0	mg/kg	100000
SW8270D	Benzyl alcohol	100-51-6	mg/kg	8200
SW8270D	Bis(2chloro1methylethyl) ether	108-60-1	mg/kg	--
SW8270D	Bis(2-Chloroethoxy)methane	111-91-1	mg/kg	--
SW8270D	Bis(2-Chloroethyl)ether	111-44-4	mg/kg	2.8
SW8270D	bis(2-Ethylhexyl)phthalate	117-81-7	mg/kg	500
SW8270D	Butylbenzylphthalate	85-68-7	mg/kg	3700
SW8270D	Carbazole	86-74-8	mg/kg	--
SW8270D	Chrysene	218-01-9	mg/kg	2000
SW8270D	Dibenzo[a,h]anthracene	53-70-3	mg/kg	2
SW8270D	Dibenzofuran	132-64-9	mg/kg	--
SW8270D	Diethylphthalate	84-66-2	mg/kg	66000
SW8270D	Dimethylphthalate	131-11-3	mg/kg	66000
SW8270D	Di-n-butylphthalate	84-74-2	mg/kg	8200
SW8270D	di-n-Octylphthalate	117-84-0	mg/kg	820
SW8270D	Fluoranthene	206-44-0	mg/kg	4200
SW8270D	Fluorene	86-73-7	mg/kg	4200
SW8270D	Hexachlorobenzene	118-74-1	mg/kg	2
SW8270D	Hexachlorobutadiene	87-68-3	mg/kg	3.3
SW8270D	Hexachlorocyclopentadiene	77-47-4	mg/kg	1.4
SW8270D	Hexachloroethane	67-72-1	mg/kg	17

Table 1-4. Soil Closure Performance Standards

Method	Analyte	Chemical Abstracts Service Number	Units	Soil Closure Performance Standard
SW8270D	Indeno[1,2,3-c,d] pyrene	193-39-5	mg/kg	20
SW8270D	Isophorone	78-59-1	mg/kg	7400
SW8270D	Naphthalene	91-20-3	mg/kg	42
SW8270D	Nitrobenzene	98-95-3	mg/kg	--
SW8270D	N-Nitrosodimethylamine	62-75-9	mg/kg	0.026
SW8270D	N-Nitroso-di-n-propylamine	621-64-7	mg/kg	1
SW8270D	N-Nitrosodiphenylamine	86-30-6	mg/kg	1400
SW8270D	Pentachlorophenol	87-86-5	mg/kg	13
SW8270D	Phenanthrene	85-01-8	mg/kg	3100
SW8270D	Phenol	108-95-2	mg/kg	25000
SW8270D	Pyrene	129-00-0	mg/kg	3100
SW8270D	Pyridine	110-86-1	mg/kg	--

Notes:
Levels based on Method Two in *Procedures for Calculating Cleanup Levels* (DEC 2018) and for the Arctic Zone
mg/kg = milligram(s) per kilogram

At HWMUs where transformers or other equipment suspected of containing polychlorinated biphenyls (PCBs) exist, PCBs will be included in the analytical suite for samples collected from the HWMU. The closure performance standard for PCBs will be a screening level of less than or equal to 10 micrograms per 100 square centimeters for confirmation wipe samples of applicable indoor nonporous surfaces within the HWMU. Screening levels are consistent with EPA policy in 40 CFR Part 761.61. The closure performance standard for wipe samples represents a conservative value for high-contact indoor nonporous surfaces. The closure performance standard for PCBs will be a screen level of less than or equal to 1 part per million for applicable porous surfaces within the HWMU. For soil, concrete, and other porous surfaces, bulk sampling is required with an unrestricted use cleanup level of less than or equal to 1 part per million PCBs.

1.7 Items Not Addressed in this Closure Plan

This Closure Plan is intended to provide procedural instructions for the successful closure of HWMFs and/or HWMUs within the Community of Atqasuk and is not intended to be referenced for other regulated activities, such as tank closure or closure of DEC contaminated sites.

1.7.1 Tank Decommissioning

Tanks at the HWMFs do not and have not stored hazardous waste; therefore, tanks and associated systems are not included in this Closure Plan.

1.7.2 Contaminated Sites and Spill Sites

Contaminated sites, regulated by the DEC Contaminated Sites Program, are known to exist within the Community of Atqasuk. Closure or investigation of contaminated sites will occur in an effort separate from this Closure Plan and in accordance with 18 AAC 75 (DEC 2023). Investigation and closure of contaminated sites will require communication with DEC, work plan development, analytical testing for chemicals of concern as determined by the release that occurred, and final reporting.

In cases where an DEC contaminated site or spill site is colocated with an HWMU, the HWMU may be unable to close until the contaminated site is closed. At the time of writing this plan, there is only one active DEC Contaminated Site in Atqasuk, which is not colocated with any of these HWMFs. Other than a spill within Utility Tank Farm secondary containment for HWMU-4, records review for all other HWMUs and SWMUs within the six HWMFs found that no documentation exists regarding any releases, including spills of hazardous waste and solid waste.

1.7.3 Environmental Investigation-Derived Waste

In cases where contaminated sites or spill sites are colocated with HWMUs, containers with investigation-derived waste (IDW) soil or water may be present. IDW containers may include drums, buckets, or Super Sacks that are labeled as IDW. IDW derived from a DEC Contaminated Sites Program site that is within the HWMU must also be characterized for RCRA hazardous waste, and it must be cleaned up and disposed of as part of the HWMU closure.

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2. Phased Closure of a Facility

Partial or phased closure of an HWMF will be performed where an HWMF has a mixture of active and inactive HWMUs. This is not expected for the community of Atqasuk.

The current plan is for decontamination and waste removal at each of the HWMU sand SWMUs to be completed during the summer of 2024. Decontamination water and soil sampling is also planned for the same time frame. If soil excavation or groundwater monitoring is needed, this will be conducted the summer of 2025. Each unit will be considered closed once a Certificate of Closure is issued by the EPA, releasing the Borough from financial assurance specific to closure of the unit.

No HWMUs are planned to be kept open and active during phased closure.

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3. Final Closure of a Facility

3.1 Closure Unit Categorization and Descriptions

Although the number of HWMUs present at each HWMF varies, three types of HWMUs are generally present at Borough-owned and operated HWMFs throughout the Community of Atqasuk. These include indoor storage areas, which are fully contained within the walls of the HWMF buildings; designated outdoor storage areas, which are located outside the walls of the HWMF buildings, typically within constructed containment cells; and storage connexes, which are covered and protected storage areas staged within the HWMF yards. Hazardous waste stored in each type of HWMU is typically containerized in 55-gallon steel drums, although some hazardous waste may be found in smaller drums, plastic containers, or totes. Transformers are also commonly stored on pallets in the outdoor storage areas. A list and detailed description of the HWMUs present at each HWMF is presented in Section 1.2 of the associated appendix.

3.2 Maximum Inventory of Wastes

The inventory of hazardous waste within the Community of Atqasuk HWMFs is the quantity expected when all facilities are at maximum capacity. Records review for each HWMU within the six HWMFs found that no documentation exists related to any dates when hazardous waste was generated or received at the site. Maximum capacity was determined using field observations from 2021 and 2022. Maximum quantities of hazardous waste for indoor units is based off the typical waste generation of that building over the course of a year. Outdoor facility maximums are based off the maximum observed quantities during the 2022 waste site inspections. Hazardous wastes were grouped into categories based on the types of disposal each would require at a Treatment, Storage, and Disposal Facility (TSDF).

The maximum inventoried waste at the individual Borough HWMFs in Atqasuk are presented in the appendix associated with each facility. Actual waste types and amounts present in each unit at time of closure will be documented and included in the information reviewed for closure certification.

3.3 Closure Procedures

This section presents procedures required for final closure of any Borough-owned and operated HWMF or HWMU within the Community of Atqasuk. Once EPA approval of the Closure Plan is received, closure procedures will be initiated. Required procedures for final closure include submittal of notification of intent to begin closure procedures at an HWMF to regulatory agencies, followed by removal of hazardous waste, decontamination, and sampling to confirm meeting the closure performance standards. Closure performance standards are presented in Section 1.6.2.

Note that confirmation of any existing spills will be assessed during container removal in the field. Decontamination will follow decontamination processes detailed in the Closure Plan. Waste characterization will follow the processes for unknown materials.

3.3.1 Notification

The Borough will send regulatory agencies written notification of intent for final closure of the first HWMU within each HWMF at least 60 days before the Borough plans to commence closure procedures presented herein. Written notification of the intent to close an HWMF or HWMU will be sent to EPA Region 10 as well as the applicable EPA contact referenced within the CD.

The Borough acknowledges that contamination of soil or groundwater, if found during closure activities, could render an HWMF or HWMU unable to close within the originally scheduled timeframe. In such cases, the Borough will notify the EPA of the change in closure schedule and amend the schedule accordingly. Plan amendment procedures are discussed in Section 4.0.

3.3.2 Waste Inventory Removal

3.3.2.1 Waste Characterization

Once notification to close an HWMU or HWMF has been filed with EPA, no additional hazardous waste, nonhazardous waste, or hazardous materials will be accepted for storage at the HWMU or HWMF slated for closure. Waste removal will be completed no later than 90 days after the final known volume of waste is accepted at the HWMU or HWMF slated for closure, in accordance with 40 CFR 265.113.

Estimated maximum hazardous waste inventories for each HWMU are in the appendices. An inventory of the wastes present at the HWMU or HWMF at the time of the final waste acceptance cutoff date will be conducted by a contracted certified waste management, transport, and disposal company consistent with the *North Slope Borough Comprehensive Hazardous Material, Solid Waste, Hazardous Waste, and Used Oil Management Plan* (Borough DPW 2022a).

The responsibility for hazardous waste identification lies with the generator, the Borough. In accordance with 40 CFR 261.2, the Borough must make an accurate determination as to whether the solid waste is a hazardous waste to ensure wastes are properly managed according to applicable RCRA regulations. The steps for making a hazardous waste determination are outlined throughout Section 3.

Characterization (generator's knowledge and analytical data) of waste is required per U.S. Department of Transportation (DOT) requirements for transport out of the communities, with waste profiles being recorded on appropriate manifests prior to transport out of the community. Profiles and sampling data are used to ship the waste out of each community.

The waste management contractor will assist the Borough with characterization of any hazardous wastes stored at the HWMU/HWMF and removing them in keeping with the Off-Slope Disposal Requirements listed in the *North Slope Borough Comprehensive Hazardous Material, Solid Waste, Hazardous Waste, and Used Oil Management Plan* (Borough DPW 2022a); 40 CFR 262.11; DOT waste transport requirements, as well as their own specific waste removal protocols. The waste

contractor will also be responsible for the preparation of a final offsite shipment. Characterization of hazardous waste should include assigning one or more of the following EPA hazard codes:

- Ignitability (D001)
- Corrosivity (D002)
- Reactivity (D003)
- Toxicity (D004 through D043)
- Hazardous Wastes from non-specific sources (F001 through F039)
- Hazardous Wastes from specific sources (K001 through K181)
- Acute Hazardous Wastes (P001 through P205)
- Toxic (Non-Acute) Hazardous Wastes (U001 through U411)

Although the contracted waste management company hired to perform waste characterization and final offsite shipment will have their own sampling procedures for waste characterization, waste characterization sampling will be conducted generally using the guidelines and rationale presented in the following paragraphs.

Because the majority of HWMUs within the Community of Atqasuk store the same types of waste (e.g., waste oil, fuels, lubricants, coolants, and other vehicle maintenance or heating fuel/oil waste, universal waste, aerosols), all hazardous waste types listed in the bulleted list are applicable to all HWMUs. Proper characterization of waste streams may require data from several sources. The principal source of published data on hazardous wastes to be stored at each HWMF are Safety Data Sheets (SDSs).

The primary analysis method for waste involves a field characterization approach. Field characterization methods involve visual observations for color, viscosity, and layering/separation; 5-gas meter for reading volatiles coming off the drum(s); field flash test using a watch glass and wooden matches; potential of hydrogen (pH) testing using pH paper; and Halogen Hawk testing for suspected halogenated or chlorinated solvents. Field characterization is appropriate for the waste streams managed in each HWMF. Field characterization is the only feasible testing method for waste shipment from communities during the snow bound months. Non-snow bound months where temperatures are above freezing are typically restricted to mid-June through mid-September. Sample collection is not to occur on partially frozen waste. Any laboratory sample collected needs to be flown from the communities to certified labs located in Anchorage or Fairbanks, Alaska. Sample processing times are extensive enough to limit the ability of sampling, mobilizing of appropriate transportation means/vehicles, and conducting waste transport activities out of a community during non-snow bound months.

Laboratory analysis of wastes to be transported out of the HWMFs is performed only when existing published information or field characterization methods are insufficient to characterize the waste stream. These waste characterization methods will be used to determine the contents' hazardous waste characteristics and segregate the drums and containers into categories for shipment to offsite recycling or disposal facilities. In the event that laboratory samples are required, the Borough will follow the analytical procedures as presented in the QAPP. Characterization of waste is required per International Airport Transportation Association (IATA) and DOT requirements for transport

out of the communities, with waste profiles being recorded on appropriate manifests prior to transport out of the communities.

For purposes of the closure cost estimate, each HWMF and HWMU are assumed to have a maximum working inventory of waste corresponding to roughly a year of accumulation at each facility. Maximum inventories at each HWMF and the HWMUs therein are presented in the individual appendices corresponding to each HWMF.

For most substances and materials, preliminary identification is made using labels or other markings in lieu of sampling. Because most of these items are discarded unused commercial chemical products, reagents, or chemicals of known physical and chemical constituents, it is appropriate to rely on user knowledge. Table 3-1 indicates required sampler for those wastes that cannot be evaluated using either acceptable knowledge or field characterization methods. In other instances, containers of waste may be encountered for which little or nothing is known regarding waste composition. Specific analytical methods are outlined with the QAPP.

For known waste streams, process knowledge is the most important means of determining what tests are necessary to characterize it as hazardous or nonhazardous. The degree of hazard associated with a known waste can often be ascertained by referencing safety literature for each of the chemical constituents of the waste. If the waste is identified as hazardous, the appropriate hazardous waste regulations are reviewed to determine whether the wastes are specifically listed in 40 CFR 261 Subpart D. A determination as to the specific hazardous waste listing is made based on knowledge of the process or processes that generated the waste. Field characterization and analytical testing for the determination of hazardous waste characteristics may also be performed. These types of determinations are the responsibility of the Borough, with support of their waste management contractor.

The rational for analysis for known waste streams is as follows:

- For hazardous wastes destined for offsite treatment or disposal outside of Alaska, the appropriate permitted facility's waste characterization form will be used to determine the parameters to be analyzed.
- Additional tests to initially characterize a waste and follow-up tests to determine whether the waste composition has changed significantly are waste-specific. Table 3-1 is a list of historical hazardous wastes produced at Borough communities showing analytical parameters and rationale for each.

Table 3-1. Waste Stream Analytic Parameters and Rationale

Waste	Analytic Parameter	Rationale
Battery acid, batteries	pH	Solution has a pH ≤2.0 and is corrosive; solutions may contain a TCLP level of lead based on SDS.
Cleaning solvents (nonchlorinated)	Flash point	These paint cleaners have flash points between 0ºF and 140ºF and are ignitable.
12.5% bleach	pH	Material has a pH ≥12.5 and is corrosive.
Methanol	Flash point	MEK has a flash point of 22ºF and is listed (F005).
Mineral Spirits	Flash point	Flash point is 105ºF.
Paint remover	pH	Paint removing (stripping) compounds are acidic with pH ≤2.0.
Paints	Flash point	Most paint materials are solvent-based with flash points varying from 40ºF to 140ºF and are ignitable.
Paint related materials	Flash point	Most paint materials are solvent-based with flash points varying from 40ºF to 140ºF and are ignitable.
Spill Cleanup – Liquids	Flash point and pH	Solutions and solvents used by the community have known flash point ranging from 0ºF and 145ºF. Solutions used by the community have pH ranges consisting of both <2.0 and >12.5.
Spill Cleanup – Solids[a]	TCLP Test Method 1311	Determine if waste contains any of the contaminants listed in Table 1 of 40 CFR 261.24 at a concentration equal to or greater than the respective value given in that table.
Solvents (mixed)	Flash point	The solvents used in the community have a flash point ranging from 60ºF to 145ºF.
Sodium hydroxide (descaling compound)	pH	Material has a pH ≥12.5 and is corrosive.
Sulfuric Acid	pH	Material has a pH ≤2.0 and is corrosive.

Notes:

[a] Spills into soils will be characterized using process knowledge of material that was released. If required, additional characterization will be completed via laboratory analysis using the methods listed in Table 3-1.

ºF = degree(s) Fahrenheit

TCLP = Toxic Characteristic Leaching Procedure

For most of the substances and materials, preliminary identification is made using labels or other markings in lieu of sampling. Because most of these items are discarded unused commercial chemical products, reagents, or chemicals of known physical and chemical constituents, it is appropriate to rely on user knowledge.

For wastes determined to be hazardous, the identified chemicals comprising the wastes will be compared to the treatment standards specified in the Land Disposal Restrictions (LDRs) as promulgated in 40 CFR 268. No restricted waste will be landfilled. The Borough is responsible for reviewing waste analyses for compliance with the LDR.

The rationale for analysis of unknown waste streams is as follows:

- If nothing is known about a particular waste, it will be handled as extremely hazardous until tests prove otherwise.
- The waste material will be tested via a field characterization approach for possible hazard due to ignitability, corrosivity, and reactivity. The Borough is responsible for specifying and having appropriate tests conducted.
- Field characterization approach will be conducted on the unknown waste. The field approach will, at a minimum, consist of the following:
  - Container will be opened using an appropriate tool and checked for off-gassing, temperature change, new leaks, any other signs of change or reaction.
  - Small amount of material will be removed from the container using the proper tool for the media. Liquids will be extracted using a Coliwasa tube or similar. Solids will be removed with clean sample spoons.
  - The removed material will be placed into a new plastic sample cup and visually inspected for layering and separation, color, viscosity, and any other visual clues to assist with characterization of the material.
  - A 5-gas meter will be used to record volatiles coming off the containers. If volatiles reading is appropriate, then a field flash test will be completed using a watch glass and wooden matches.
  - The material will be checked for water or oil miscibility. If the material is water miscible, then pH will be obtained using pH paper.
  - A Halogen Hawk will be used to test for halogenated or chlorinated solvents. Any material above the Halogen Hawk threshold would be sent to a laboratory for analysis.
  - A check for reactivity with water will be conducted by placing a small amount of water in the sample cup and observing for a reaction.
  - If findings are appropriate, then an oxidizer test or organic peroxide test will be performed on the material in the sample cup.
- If field characterization is unable to provide sufficient results for proper characterization, then the waste material will be sampled and tested at a laboratory for possible hazard due to ignitability, corrosivity, reactivity, and toxicity. The Borough is responsible for specifying and having appropriate tests conducted (refer to Table B-2 of the QAPP).
- If the unknown waste is determined to be hazardous, the waste will be analyzed for compliance with the LDR standards for the corresponding EPA waste code. No restricted waste will be landfilled. The Borough is responsible for reviewing waste analyses for compliance with the LDR.
- For containers that contain less than 1 inch of residue, the analytical protocol will consist of two parts: (1) a gas chromatograph/mass spectrometer or high-pressure liquid chromatography

test for chemicals listed in 40 CFR 261.33(e) and (2) a check for DOT hazardous material definitions (flammability, corrosivity, poison, etc.).

- For containers that contain more than 1 inch of residue, the analytical protocol will have three parts: (1) a test for the four characteristics of hazardous waste (ignitability, corrosivity, reactivity, and TCLP); (2) a gas chromatograph/mass spectrometer or high-pressure liquid chromatography test for chemicals listed in 40 CFR 261.33(a)-(f); and (3) a test for DOT hazardous material definitions.
- It is possible that additional tests may be required on some containers. For instance, a check for PCBs by an accredited laboratory may be necessary on oily wastes prior to disposal.

3.3.2.2 Waste Packaging

Once the waste has been characterized, compatible liquid and solid wastes will be consolidated into bulk containers for shipment. In general, liquid wastes will be consolidated as mixed glycol, mixed fuel, used oil, and petroleum/oil lubricants. Compatible liquid wastes will be consolidated into intermediate bulk containers (IBCs). IBC totes will be filled in compliance with DOT regulations. Liquid transfer from the drums to the IBCs will be conducted using an air compressor-powered pump and filter attachment. The pump, capped hoses, and filter will be placed in a duckpond during waste consolidation activities and storage. All hose connections and tank inlets will be monitored during liquid transfer operations. Waste consolidation activities will be assessed for hazards and potential spills.

Compatible solid wastes will be consolidated into overpack drums or cubic yard boxes. In general, solid wastes will be classified and consolidated as absorbents, aerosols, petroleum grease, sludge, and paint-related material. Intact lead-acid batteries will be inspected and packaged into fish totes or banded between pallets in compliance with DOT regulations. Damaged lead-acid batteries will be packaged into 55-gallon drums in compliance with DOT regulations.

3.3.2.3 Waste Container Decontamination

Following consolidation of drummed waste, the emptied drums will be decontaminated and crushed for disposal at the Atqasuk Landfill. A designated decontamination area will be constructed within a 20-foot container lined along the base and walls with a 20-mil polyethylene liner. The liner will extend outside the container to create a staging/personnel decontamination area. The extents of the container will be lined with absorbent booms. Drum decontamination operations will consist of placing the emptied drums on a rack above a plastic storage tote, spraying the inside of the drums with a detergent solution, and rinsing the drums using a pressure washer. In accordance with 40 CFR § 261.7(b)(1), the container will be cleaned such that either no more than 1 inch of residue remains in the container (preferred), or no more than 3% by weight of the total capacity of the container remains. The RCRA empty drums will then be moved to a designated drum-crushing area. The drums will be crushed and loaded for transport to the Atqasuk Landfill for final disposal.

3.3.2.4 Waste Transportation and Documentation

Prior to transportation offsite, all solid wastes will be marked and labeled with the appropriate generator information and packaged contents, and all hazardous waste containers will be marked and labeled in accordance with 40 CFR 262.17 and 49 CFR 172.304. In addition, the waste contractor will prepare RCRA hazardous waste manifests (EPA Form 8700-22A) in accordance with 40 CFR 262, Subpart B for transport and disposal of hazardous waste. The generator's and designated facility's EPA identification number, name, and address in the manifests will be verified as correct to meet EPA compliance requirements and will be provided in the waste report submitted to the Borough.

The Borough manages spent lead-acid batteries destined for reclamation under 40 CFR 266.80. As such, manifest requirements in 40 CFR 262.20 do not apply. A bill of lading will be used as the shipping paper for transporting these batteries to the recycling facility.

Prior to transportation offsite, all solid wastes will be marked and labeled with the appropriate generator information and packaged contents, and all hazardous waste containers will be marked and labeled in accordance with 40 CFR 262.17 and 49 CFR 172.304. In addition, the waste contractor will prepare RCRA hazardous waste manifests (EPA Form 8700-22A) in accordance with 40 CFR 262, Subpart B for transport and disposal of hazardous waste. The generator's and designated facility's EPA identification number, name, and address in the manifests will be verified as correct to meet EPA compliance requirements and will be provided in the waste report submitted to the Borough.

The Borough manages spent lead-acid batteries destined for reclamation under 40 CFR 266.80. As such, manifest requirements in 40 CFR 262.20 do not apply. A bill of lading will be used as the shipping paper for transporting these batteries to the recycling facility.

3.3.3 Facility Decontamination

Once all containers of hazardous waste, universal waste, and nonhazardous solid waste have been removed from the HWMF or HWMU, decontamination of equipment and the inside surfaces of the HWMF building will be performed by appropriately trained personnel. Equipment that was used to store, contain, or handle hazardous waste that will not be discarded will be decontaminated. Such equipment and all areas of the facility, including storage areas, floors, containment structures and equipment (e.g., drum spill pallets, dollies, and basins) and building walls will be decontaminated to the levels presented in Section 1.6.2. Decontamination procedures will include the activities described in the following sections for each type of storage area, and the equipment or surfaces used for storage of hazardous waste.

3.3.3.1 Interior Building Storage Areas

The following procedures apply to decontamination and confirmation sampling of equipment and building surfaces, including secondary containment structures, at interior building HWMUs.

Equipment

The first step in the decontamination process will be decontamination of equipment used to handle, store, or transfer hazardous waste or materials. This may include hoses, nozzles, funnels, mobile containment devices (e.g., drum dollies, spill pallets, duck ponds), or flammables cabinets. Procedures for decontamination of equipment is as follows:

- A station equipped with temporary berms and/or temporary wash basins will be established for decontamination in an area suitable and convenient for conducting equipment decontamination and collecting wastewater.
- Transfer hoses used to transfer or handle hazardous waste and/or hazardous material will be placed in a container and characterized for offsite disposal.
- Equipment other than hoses used to handle hazardous waste and/or hazardous materials will be decontaminated. This may include flammables cabinets, secondary containment devices, transfer nozzles, and funnels. Containment devices may include drum basins, dollies, duck ponds, and spill pallets.
- Equipment will be decontaminated by means of manually scrubbing, washing, or spraying equipment with detergent solutions, steam, or high-pressure water until a visually clean appearance is achieved, except for residual staining consisting of light shadows, slight streaks, or minor discolorations.
- Decontaminated equipment will be rinsed with tap water using a squeeze bottle or pressure washer, as appropriate based on the piece of equipment being rinsed, until all detergent and other residue are removed.
- All spraying and steam cleaning will be conducted to minimize overspray and thus the potential to spread constituents in the wastewater. The temporary berms or basins used for decontamination will be used to help with this process.
- Decontaminated equipment will be placed in a clean area to air dry.
- Any equipment used in the decontamination procedures (e.g., brushes, wet vacuum) will be either properly disposed of or decontaminated by rinsing, flushing, or steam cleaning. Steam cleaning will be conducted in a manner to minimize overspray and to keep from spreading the contamination that may be in the wastewater. The decontamination water will be containerized.
- Equipment that cannot be sufficiently decontaminated by rinsing or steam cleaning to meet closure performance standards will be characterized and disposed of in accordance with applicable requirements at the time of closure.
- Decontamination wastewater from all decontamination activities will be collected and consolidated into one or more 55-gallon steel drum(s), or other appropriate container(s), and labeled “Decontamination Wastewater.” Decontamination wastewater will be transported offsite for disposal.

Oil-water Separators and Oil Burners

Oil-water separators (OWS), oil burners, and their associated piping, and ancillary equipment will be decontaminated as follows:

- For OWS, any remaining oily wastewater or solid material, including filters, will be drained or removed from the OWS. Wastewater will be containerized into drums and filters will be segregated from the wastewater and placed in a separate drum.
- For oil burners, waste oil will be drained and containerized in drums labeled "Waste Oil," for disposal. Oil filters will be removed and placed in their own drum labeled, "Waste Oil Filters," for disposal.
- The inside of OWS and oil burners will be pressure washed with a surfactant cleaning solution and rinsed with clean water to a visually clean appearance.
- Pressure washing will be conducted to minimize overspray and thus the potential to spread constituents in the wastewater. The temporary berms or basins used for decontamination, and plastic sheeting or similar may be hung from the ceiling to contain spray.
- Rinse water from decontamination of the inside of the OWS and oil burners will be containerized in drums labeled "Decontamination Wastewater." The OWS and oil burner rinse water may be comingled in the same drum.
- Residual rinse water will be removed such that OWS or oil burner tanks are free of rinsate and debris using a wet vacuum or similar. The vacuumed rinse water and debris will be added to decontamination wastewater drum(s). Residual staining, consisting of light shadows, slight streaks, or minor discolorations, and soil and waste in cracks, crevices, and pits may be present and are considered acceptable after pressure washing.
- Ancillary equipment including piping and pumps will be drained, rinsed, and scrapped. Rinse water from piping and pumps will be containerized in the drum(s) containing the rinsate produced from decontamination of the OWS and oil burner.

Building Floors, Walls, Containment Structures, and Ceilings

Once equipment is decontaminated, building floors, interior walls, and structural secondary containment (e.g., concrete dikes and slabs that are a part of the building) will be decontaminated. The procedures for building decontamination are as follows:

- The area of operation inside the facility will be swept free of dirt and debris. The dirt and debris will be added to a drum of IDW or personal protective equipment (PPE) for offsite disposal.
- Areas of visible staining, areas of known spills, and any other areas for which there is a concern for residual contamination will be manually scrubbed and wiped clean.
- Decontamination will begin with construction of temporary berms, where possible, to contain rinsate within the zone being contaminated first.
- The floor and interior walls of the first zone of decontamination in the HWMF/HWMU will be decontaminated using pressure washing with hot water or steam and an anionic surfactant.

Rinsing will be started at the highest point, with work progressing down towards the floor. To minimize the chance of spreading any potential contaminants, rinsing will be aimed away from areas that have already been decontaminated.

- A wet vacuum will then be used to vacuum the rinsate until the zone is dry, which will be placed in a drum labeled "Decontamination Wastewater."
- Temporary berms will then be decontaminated using a hot water spray or pressure wash, being careful to aim the sprayer into movable containment basins or tubs before being relocated to the next zone of decontamination. Careful consideration will be made to not recontaminate already decontaminated areas.
- If the HWMF/HWMU contains a trench drain or sump, the trench drain or sump would also need to be decontaminated by first pumping or vacuuming out the sludge and liquid into a drum for later testing or disposal. Decontamination would follow with manual scrubbing, pressure washing with a surfactant, then vacuuming of any residual rinsate until the area is dry. Any rags or rinsate wastewater generated during the decontamination process would be containerized for future sampling and disposal.
- Concrete containment dikes and slabs will be pressure washed to a visually clean appearance to facilitate inspection, with the exception that residual staining consisting of light shadows, slight streaks, or minor discolorations, and soil and waste in cracks, crevices, and pits may be present.
- Containment slab cracks, if any, will be taken down to intact concrete to confirm that the concrete containment is intact.
- Ceilings will be cleaned if there are records of a release that may have contaminated the ceiling, or if stained areas are visually observable.

3.3.3.2 Exterior Storage Areas

HWMUs located exterior to the HWMF buildings are stored on or in secondary containment. The secondary containment type can vary from a bermed containment cell constructed with polypropylene liner large enough to store all drums in the HWMU, to individual or a few drums placed on spill pallets, drum basins, duck ponds, or similar devices. Decontamination at outdoor drum storage HWMUs will include decontamination of each containment cell or device for reuse or disposal. Decontamination procedures for containment cells constructed with a liner and for drums storage areas using other containment devices are described in the following paragraphs.

Containment Cells with Liners

- The containment liner will be inspected for integrity, and debris and gravel will be removed from the liner. Debris and gravel will be containerized for characterization.
- If the containment liner is determined to be intact and slated for reuse, the liner will be washed with a surfactant cleaning solution and rinsed with clean water to a visually clean appearance.
- Residual rinse water will be removed with a wet shop vacuum or similar, or dried with rags, such that the liner is free of rinsate. The rinsate and rags used to clean the containment area

will be containerized to await sampling results, which will inform disposal methodology. The liner will be removed for confirmation sampling.

- If the containment liner is determined to be compromised or torn, the liner will be brushed or swept with a broom to remove any debris, and the liner will be removed for disposal at the Borough landfill.
- Any debris accumulated from the cleaning activities will be containerized for characterization and the soil beneath the containment cell will be sampled and analyzed for constituents of concern to confirm their presence or absence and inform remedial activities as discussed in Section 3.3.5.

Containment Devices

Procedures for decontamination of outdoor drum containment devices will be as follows:

- Each containment device will be cleared of any debris, residual sludge, or solids. Debris and residual solids will be placed in a drum or bucket for further characterization to inform disposal requirements.
- The surface of the containment cell liner or device will be sprayed with a surfactant cleaning solution and then rinsed with clean water until a visually clean appearance is achieved.
- Decontamination wastewater generated from the rinsing and cleaning operation will be containerized in 55-gallon steel drums or another appropriate container. Wastewater will be stored separately from sludge and solids.
- Residual rinse water will be removed from the containment device such that it is free of liquids using a wet shop vacuum, or rags. If rags are used, they will be containerized for later disposal in accordance with contaminants detected in waste. If a vacuum is used, any rinse water present in the shop vacuum will be added to the decontamination wastewater drum for characterization and the shop vacuum will be decontaminated after use.

Connex Units

Connex units that previously stored hazardous waste will be decontaminated in a similar fashion to interior building storage areas. Procedures for connex decontamination will be as follows:

- The connex floor, interior walls, and ceiling will be decontaminated after all waste inventory and equipment are removed.
- The connex interior operating area will be swept free of dirt and debris, which will be containerized in a drum for further characterization.
- Ceilings will not be cleaned unless a spill occurred that could have contaminated the ceiling, or if stained areas are visually observable.
- Areas of visible staining, any known areas where spills or leaks have occurred, and areas that for other reasons there is a concern of residual chemical contamination will be scrubbed and wiped cleaned with water and a surfactant cleaning solution.

- The floor and interior walls of the connex will be decontaminated using a pressure washer with hot water or steam and a surfactant cleaning solution.
- Pressure washing will be started at the highest point, with work progressing down towards the floor of the connex.
- To minimize the chance of spreading any potential contaminants, rinsing will be aimed away from areas that have already been decontaminated.
- Temporary berms may be installed at the door to the connex, or at any areas with cracks or holes to the outside, to isolate and contain rinsate within the connex. Careful consideration will be made to not recontaminate already decontaminated areas.
- The rinsate will be vacuumed out until the connex is dry and containerized for sampling and disposal.

3.3.4 Management of Decontamination Wastes

Decontamination waste and rinse water from within a single HWMU will be consolidated into one drum. However, waste generated from separate HWMUs will be segregated into separate drums (for wastewater) or containers (for PPE, rags, etc.). Drummed decontamination wastewater will be sampled to determine if waste meets hazardous waste criteria.

A representative sample of each decontamination waste stream will be collected at a rate of one sample per 55-gallon drum (for wastewater) or other appropriate container (for PPE, rags, or similar) and analyzed for the constituents of concern listed in Table B-1 (for solids) and B-2 (for liquids) of the QAPP. Should more than one phase (i.e., water, solids, or sludge) be present in the wastewater drum, a sample from each phase will be collected. The analytical results of the samples will be used to profile the waste stream (and other similar waste streams) for disposal in accordance with applicable requirements based on characterization results. The decontaminated equipment will then either be reused onsite or be removed from the site for disposal at a permitted facility in accordance with applicable requirements or reuse within the community.

Laboratory analysis will be requested from the lab on a 3-day rush turnaround time to ensure analytical results are received within a reasonable timeframe.[1] This will allow time to characterize the waste based on the analytical results, inform proper transport and disposal procedures, and ultimately haul the waste offsite and obtain closure. While waiting for laboratory results to be reported, drums will be labeled as “Pending Analysis” and an accumulation start date will be applied. Once laboratory results have been reported, labeling will be updated based on the results of the characterization sampling. Drums with waste deemed hazardous based on sample characterization will be labeled with the following information:

- Words “Hazardous Waste”
- Accumulation start date

[1] The Borough recognizes that even though a rush will be requested, the laboratory may not be able to accommodate that request.

- Hazardous Characteristic marked (Ignitable, Reactive, Corrosive, or Toxic)
- Generator's name, address, and telephone number
- EPA Waste Code(s)
- Contents

Drums with waste deemed nonhazardous based on sample characterization will be labeled with the following information:

- Words "Nonhazardous Waste"
- Accumulation Start Date
- Generator's name, address, and telephone number
- Contents

The waste management contractor will manage removal, transport, and disposal of the decontamination waste in accordance with RCRA, IATA, and DOT waste removal and manifesting requirements. The waste will be treated, stored, or disposed of at an appropriately permitted offsite treatment, storage, or disposal facility.

Uniform Hazardous Waste Manifests will be completed for each hazardous waste shipment removed from the site. Once the waste shipment reaches its final destination for treatment, storage, disposal, or recycling, a signed copy will be returned to the originator and kept on file for 5 years from the date the Consent Decree is terminated.

Solid waste materials generated during the decontamination process (e.g., used rags, PPE, and other disposable equipment) will be collected for appropriate offsite disposal depending on which contaminants were present in the associated rinsate.

3.3.5 Confirmation Sampling

Following decontamination, confirmation sampling will be conducted to confirm that equipment, structures, building surfaces, and storage yards (i.e., soil and groundwater) are not contaminated by constituents of concern as a result of storage and handling of hazardous waste. Confirmation sampling will also confirm that any equipment, structures, building surfaces, or soil that were previously contaminated or in direct contact with the hazardous waste were properly decontaminated.

Confirmation sampling will include wipe sampling, bulk concrete sampling, and soil sampling. Wipe sampling will target PCBs and will be performed on nonporous, smooth surfaces, such as metal OWS tanks, oil burners, or metal containment dikes or basins. Bulk concrete sampling will occur inside HWMF buildings and will target concrete walls and floors where HWMUs previously existed and where decontamination has occurred. Soil sampling will occur at exterior drum storage HWMUs, which primarily exist on unlined gravel pads. The following subsections describe wipe, concrete, and soil sampling procedures and discuss target analytical groups.

3.3.5.1 Wipe Sampling (Metal Flooring, OWS, Oil Burners, Sumps, Trench Drains, Containment Dikes)

Nonporous metal surfaces that previously contacted hazardous waste or were used as containment structures for hazardous waste will be sampled for PCBs using wipe sampling techniques to confirm decontamination procedures have left behind no contamination. Though most surfaces at indoor HWMUs are concrete and metal surfaces are anticipated to be uncommon, examples of surfaces that will be sampled using wipe sampling include metal paneling lining floors at the HWMUs, OWS, sumps with metal encasements, trench drains, containment dikes, and oil burners. Wipe sampling will be conducted in general accordance with 40 CFR 761.243 for PCBs. Note that wipe samples for PCBs will occur in separate and distinct locations following the steps outlined herein. Samples will be analyzed as described in Section 3.6, Sampling and Analysis.

Representative waste stream sampling frequency will be as follows:

- For sumps, OWS, and containment dikes with a square or rectangle shape, sample frequency will be one sample from at least one wall and one sample from the bottom surface of the equipment or structure.
- For tanks with curved surfaces or a cylindrical shape, at least one sample will be collected from a selected location on the curved surface and one will be collected from a flat sidewall. If no flat surfaces exist, professional judgment will be used to select at least two locations on the curved surfaces from which to sample.
- For metal-paneled or other impermeable flooring, one sample will be taken every 100 square feet for a minimum of 2 samples and a maximum of 10 samples per HWMU.
- For trench drains, samples will be collected at a rate of one per 6 feet along the length of the drain.

Before sampling begins, disposable templates constructed with a solid flat sheet of Teflon or inert plastic (i.e., polyvinyl chloride or polyethylene), with a square opening of 10 by 10 centimeters, will be firmly pressed against the surface being sampled using a gloved hand. If the surface is curved, care will be taken to firmly press the flexible template against the area being sampled, or, if this cannot be accomplished, a 10- by 10-centimeter area will be measured.

Wipe samples will be collected as follows:

- New PPE (e.g., gloves) will be donned before starting sample collection.
- All the wipe sample kits will be verified as new and properly prepared.
- Container and sample-specific data sheets will be labeled, if applicable.
- The condition of the area to wipe sample will be digitally photographed.
- All particulate matter will be removed from the surface.
- New PPE (e.g., gloves) will be donned after surface cleaning.

- Each sample location will be approached with a wipe sample template, a prepared laboratory-provided sample container, and the required gloves and other PPE.
- The wipe sample template will be held firmly against the surface to be sampled with one gloved hand. Sufficient pressure should be maintained throughout the sampling process.
- The gauze wipe will be removed from the jar using gloved hands or disposable forceps.
- The sample media will be folded in half or in quarters. Sufficient solvent should be present to premoisten the wipe; excess solvent should be discarded.
- With the sampling media in the other gloved hand, the sample location will be thoroughly wiped in one direction (e.g., left to right) using S-strokes covering the entire surface from edge to edge.
- While continuing to hold the template in the same location, the sampling media will be refolded to expose unused surface and the sampling location will be wiped thoroughly using single strokes covering the entire surface from edge to edge again, this time at right angles to the first wipe (e.g., top to bottom).
- The sampling media will be placed into the sample container and the cap secured.
- Samples will be placed upright in a cooler immediately after sample collection for transportation to the field office until packaged for shipping.
- The sample identifications, the area wiped, any discoloration or odor, and other pertinent details will be recorded in the field logbook.
- Gloves will be removed and discarded before handling the next the sampling media or container and between sampling locations.
- The sample container will be handled as described in Section 3.4, Sample Handling.
- Coordinates of each piece of equipment from which a wipe sample is collected will be taken by global positioning system and recorded in the field notebook.
- Wipe samples will be submitted for analytical testing of PCBs using the methods specified in Table 4-1 of the QAPP. Results will be evaluated using the project screening levels (PSLs) described in Section 3.2 of the QAPP.
- If waste-related contaminants of concern are detected in the wipe samples, and not detected in the blank samples, the equipment or structures sampled will be decontaminated a second time, followed by collection of a second set of wipe samples and field quality control samples.

Sample locations will be documented in field notes (Section 3.5) and on appropriately scaled building diagrams, and photographs will be taken to both document the sampling process and sample location. Additionally, two background wipe samples will be collected from areas that are not within the HWMU storage area to determine background levels of PCBs. The background sample locations will also be photo-documented with locations specified in field notes and on diagrams.

3.3.5.2 Bulk Concrete Sampling (Building Floors, Ceiling, Walls, and Secondary Containment)

Confirmation concrete sampling will target the floors, ceilings, walls, and secondary containment structures at each HWMU. This sampling protocol will also be followed for floors where linoleum is lain over concrete. Analytical groups for which bulk concrete samples will be tested include volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals, and PCBs. A minimum of 2 and a maximum of 10 concrete samples will be collected from the floors and walls at each HWMU.

For areas where known releases or leaks have occurred, focused sampling will be performed using the following procedures:

- Floor (including secondary containment structures, where applicable) and wall sampling will be performed in a focused manner where releases are known to have occurred.
- Samples will be collected from locations targeting the floor and walls believed to be directly impacted by the release, based on visual examination or expert knowledge.
- Concrete sample locations will target areas of staining, if present. If more than one area of staining in the HWMU exists, the rate may increase based on the sampler's judgment.
- If no visual evidence or expert knowledge of the spill area exists, a grid will be created over the known spill area and on the wall immediately adjacent to the spill area, and samples will be collected from random locations within the grid.

If no known releases have occurred within the building, samples will be collected from the floor immediately beneath the former hazardous waste consolidation area and from the walls, however many there are, immediately adjacent to the waste consolidation area at approximately 1 foot, and approximately 3 feet from the floor. Samples targeting areas that had visible staining prior to decontamination should also be collected. The quantity of confirmation concrete samples collected will depend on the size of the HWMU being closed. In general, samples will be collected at a rate of 2 analytical samples per 50 square feet of hazardous waste consolidation area at an HWMU, with additional samples being collected that target staining. If the area exceeds 250 square feet, the most visually clean areas may be excluded from sampling so that the maximum number of concrete samples collected is 10 per unit. Two background bulk concrete composite samples will also be collected from clean floor areas outside the HWMU storage area.

Concrete samples will be collected using the following general guidelines, which will be adjusted at the time of closure to meet the selected laboratory's requirements for sample quantities and preservation:

- New nitrile gloves, a dust mask, and safety glasses will be donned before starting sample collection.
- The condition of the area of interest will be digitally photographed.
- All particulate matter will be removed from the surface with a clean brush or cloth.

- For easy identification, sample locations may be premarked using a marker or paint. Note: the actual drilling point must not be marked.
- A clean 1-inch diameter carbide drill bit in a rotary impact hammer drill (or similar) will be used to retrieve the sample.
- A piece of clean aluminum foil will be used to prevent the powdered sample from escaping.
- The sampler will place the drill tip at the sample location and apply light steady pressure to avoid overheating and premature dulling of the drill bit. In general, the sampler will drill to reach a depth of 0.5–1 inch, but may go deeper if staining is observed and stain continues to beyond 1 inch deep. Maximum depth will be noted in the field notebook or on sampling forms.
- The drill will produce a finely ground powder, which will be transferred to the sample container with a clean Scoopula®.
- Multiple holes located closely adjacent to one another may be needed to generate sufficient sample volumes for analysis.
- Two decontamination buckets will be assembled. The first will contain a detergent such as Alconox mixed with potable water. All used drill bits and utensils will be placed in the detergent bucket and then scrubbed thoroughly with a scrub brush before being removed and held over the rinsate bucket for rinsing with either deionized water or Type II water from a spray bottle. Any rinsate will be managed as decontamination waste.
- Gloves will be removed and discarded before handling the media or container for the next sample location.
- The sample container will be handled as described in Section 3.4, Sample Handling.
- Concrete samples will be submitted for analytical testing of SVOCs, PCBs, and metals as a solid, using the methods specified in Table 4-1 of the QAPP. Results will be evaluated using the PSLs described in Section 3.2 of the QAPP.

All sample locations will be documented in field notes (Section 3.5) and on appropriately scaled building diagrams, and photographs will be taken to both document the sampling process and sample location. The background sample locations will also be photo-documented and locations specified in field notes and on diagrams.

3.3.5.3 Soil and Gravel Pad Confirmation Sampling (Outdoor Drum Storage Areas)

Soil confirmation sampling will occur at outdoor HWMUs where any hazardous waste drums were stored and will include collection of both heated-headspace and analytical samples. Sampling will be performed in general accordance with the DEC Field Sampling Guidance (DEC 2022a). Confirmation sampling will commence with gridding of the area beneath the containment liner or area encompassing all containment devices. The size of each grid cell will be determined by the size of the storage area, with grid cell size not to exceed 6 feet wide by 6 feet long. Next, each grid cell will be inspected to identify evidence of contamination that has penetrated liner or devices, such as odor or visual staining. Heated-headspace samples will be collected at a rate of one per grid cell, with focus placed on sampling those areas where contamination is suspected based on

visual or olfactory evidence, and on areas where waste drums were previously most densely staged on the liner. A clean hand auger will be used to drill to a maximum depth of 2 feet below ground surface (bgs) and the heated-headspace sample will be collected from the recovered core. A photoionization detector (PID) will be used to field-screen the heated-headspace samples to identify areas where volatiles may have reached the ground surface.

Analytical soil samples will generally be collected at a rate of roughly 2 samples per 50-square-foot area, with sample locations corresponding to location where the greatest PID reading was obtained from the heated-headspace sample. Should visual or olfactory evidence suggest a release or leak, an analytical sample will be collected from these locations as well. At each analytical sample location, soil from the top 2 feet will be included. If no visual or olfactory evidence is encountered, and if no PID readings register a result, an analytical sample will be collected from the area immediately beneath the liner where drums were formerly most densely packed. Additional samples will be collected from grid cells selected at random or at locations where professional judgment suggests contamination is most likely to exist (e.g., in low points). A minimum of 2 samples and a maximum of 20 samples will be taken per HWMU. If the HWMU size exceeds 500 square feet, the State of Alaska recognized Qualified Environmental Professional will determine whether the cleanest areas can be excluded from sampling, or if additional samples must be taken. The procedure for collecting soil confirmation samples is as follows:

- New nitrile gloves, dust mask, and safety glasses will be donned before starting sample collection.
- The sample location will be digitally photographed and documented on an appropriately scaled map of the facility.
- A clean hand auger or clean hand trowel will be used to collect soil from up to 0.5 foot bgs.
- Decontamination will take place over a bucket or other catchment to retain rinsate for proper disposal.
- Reused equipment such as the hand auger or trowel will be decontaminated first using a mixture of a detergent such as Alconox mixed with potable water. The equipment will be scrubbed thoroughly with a scrub brush before being removed and rinsed with either deionized or Type II water from a spray bottle.
- Gloves will be removed and discarded before handling the media or container for the next sample location.
- The sample container will be handled as described in Section 3.4, Sample Handling.
- Soil samples will be submitted for analytical testing of VOCs, SVOCs, PCBs, and metals as solids using the methods specified in Table 4-1 of the QAPP. Results will be evaluated using the PSLs described in Section 3.2 of the QAPP.

3.3.5.4 Groundwater Sampling

Groundwater will only be sampled if soil confirmation sample results detect contamination at levels above the soil closure performance standards. If groundwater sampling is needed, this

Closure Plan will be amended with sampling locations and analytes. Sampling activities will be conducted by two DEC-qualified environmental samplers using low-flow sample collection techniques consistent with DEC Field Sampling Guidance (DEC 2022a), and results will be evaluated using the PSLs in Table B-2 of the QAPP. Prior to sampling, an in-line flow-through cell and multi-parameter water quality meter will be used to measure water quality parameters, including temperature, pH, specific conductance, dissolved oxygen, and oxidation-reduction potential.

3.3.5.5 Remediation

Should remediation be required at any HWMU based on results of confirmation sampling, an amendment to this Closure Plan and the schedule herein will be drafted for submittal and approval to EPA Region 10, and applicable EPA CD recipients. Remediation may include excavation of surface soil, further characterization or groundwater sampling at outdoor HWMUs, decontamination of interior building walls or structures at indoor HWMUs, demolition of heavily contaminated surface within the HWMF, or other remediation efforts that cannot be completed within the 90-day closure timeframe.

3.3.5.6 Quality Control

For quality control, field duplicate samples will be collected for each of the required analytical methods, sample types, and matrices being sampled during confirmation sampling. Field duplicates will be collected at a rate of 10 percent of samples of the same type, matrix, and analytical method. One trip blank will be included for analysis of volatiles for soil. For wipe samples, a field blank will be collected at a rate of 5 percent of samples. In addition, one trip blank will be carried in each cooler containing volatiles samples, and will be submitted to the laboratory for analysis of volatile constituents of concern listed in Table B-1 (for solids) or B-2 (for liquids) of the QAPP.

3.4 Sample Handling

3.4.1 Sample Naming

Samples will be given a unique identifier reflecting the sample location, sample medium or type, and sample year. Sample containers will be labeled to match the chain-of-custody (CoC) records. At the time of sampling, appropriate sample numbers will be recorded in the field logbook. An alphanumeric sample identification system will be used and will consist of the following elements:

- Two-digit code for the sampling year (23 for 2023).
- Three-character code for the material source community (ATQ for Atqasuk).
- A four-character code identifying the HWMF (three letters) and HWMU (one number):
  - USD for USDW/HEMF
  - BUL for Bulk Tank Farm
  - DIS for Dispensing Station
  - FIR for Fire Station

  - POW for Power Plant
  - WAT for Water Treatment Plant
  - 1 for HWMU-1
  - 2 for HWMU-2
  - 3 for HWMU-3
- A three-character code for the equipment or structure from which the sample originated:
  - OWS for oil-water separator
  - OIL for oil burner
  - FLO for floor
  - WAL for wall
  - CEI for ceiling
  - TRE for trench drain
  - SUM for sump
  - CON for connex
  - PAD for gravel pad
  - GR1 for grid cell 1 (for outdoor soil sampling only)
  - DR1 for drum 1 (for decontamination waste characterization samples only)
- Two-character code for the sample type: WC for waste characterization or CS for confirmation sample.
- Sample location depth in feet, only included for soil or gravel pad sampling (1 for samples collected at less than or equal to 1 foot bgs, 2 for samples collected between 1 and 2 feet bgs).
- Four-character code for matrix type and sample type number:
  - Soil (SO01 for soil sample No. 1)
  - Wastewater (WW01 for wastewater sample No. 1)
  - Wipe (WI01 for wipe sample No. 1)
  - Concrete (CO01 for concrete sample No. 1)
- Duplicate marker (if applicable): add an ‘A’ to the end of the sample name to denote duplicate

A variation on this naming structure may be used, so long as it identifies the community, facility, location, sample type (waste characterization or confirmation sample), depth, matrix, and applicable quality control for that sample. Any alternative sample naming structure will be described in the facility-specific closure report. Example sample names using the proposed naming structure are presented in Table 3-2.

Table 3-2. Example Sample Names

Facility	HWMU	Equipment/ Structure	Sample Type	Depth	Primary Sample ID	Duplicate Sample ID
USDW/HEMF	HWMU-1	OWS	Wipe	N/A	23ATQ-USD1-OWS-CS-WI01	23ATQ-USD1-OWS-CS-WI01A
USDW/HEMF	HWMU-2	Soil grid cell 1	Soil	0 to 1 foot bgs	23ATQ-USD2-GR1-CS-1-SO01	23ATQ-USD2-GR1-CS-1-SO01A
Power Plant	HWMU-1	Decontaminati on water	Water	N/A	23ATQ-POW1-DR1-WC-WW01	23ATQ-POW1-DR1-WC-WW01A
Dispensing Station	HWMU-4	Gravel pad	Soil/ Gravel	1 to 2 feet bgs	23ATQ-DIS4-PAD-CS-2-SO01	23ATQ-DIS4-PAD-2-CS-SO01A

3.4.2 Chain-of-custody Procedures

Possession and handling of samples from the time of collection through analysis and final disposition are traced through the CoC procedures. Samples will remain in the custody of the field team that collected the samples until shipment to the DEC-certified analytical laboratory. Each CoC form will be prepared following the procedures and contain the following information:

- Each CoC submitted to the laboratory will be assigned an ID number (e.g., 23USDH101).
- The first two digits define the sampling year (2023 = 23).
- The next three characters define the HWMF (e.g., USD).
- The next two characters define the HWMU within the HWMF (e.g., HWMU-1 = H1).
- The next two digits are incremented sequentially per the CoC (01, 02, etc.).
- A separate CoC form will be completed for each cooler.
- The cooler will be given a unique name or number, which will be recorded on the CoC form.
- The CoC form will be signed by the person transferring custody at any stage of shipment.
- The original signed CoC form will be placed in a plastic bag and taped to the inside lid of the cooler.

3.4.3 Packaging

In preparation for sample shipment, the following steps will be followed:

- Store primary samples, quality control samples, temperature blanks, and trip blanks together in a cooler or refrigerator until ready for packaging.
- Check that all lids are on tight.
- Match printed labels to information on jar lids, wipe off condensation, apply labels, and secure with clear packing tape.

- Individually package jars in bubble wrap or original packaging.
- Place absorbent and cushioning material in the bottom of the cooler.
- Line cooler with garbage or contractor bag.
- Stack samples, temperature blank, trip blank, and a minimum of six frozen gel packs inside, taking care to pack samples upright and securely. Fill excess space with bubble wrap.
- The same procedure should be followed for low-level VOC samples, but the samples should be stored and shipped frozen. The samples should be transported with dry ice.

3.5 Field Documentation

Accurate and comprehensive recordkeeping, including records of daily closure activities and CoC records, is critical to demonstrating consistency with the approved Closure Plan and documenting sample custody. The field logbook will be the primary tool for capturing information collected during the field effort. Details of daily activities, including inventory removal, decontamination, and collection of confirmation and characterization samples, will be recorded in a bound, sequentially paginated field logbook. All field notes will be entered in permanent ink. If any changes are made to the field record, the original notation will be crossed out with a single line, initialed, and dated by the person making the correction. The field logbook will contain all information required to recreate the closure activity or sampling event. At a minimum, field logbooks will contain the following information:

- Project name and number
- Date and time of work
- Name and location of site
- Names of field personnel
- Topics and attendees of daily tailgate meetings
- Name of personnel onsite and their representative companies
- Summary of equipment preparation procedures
- Description and sketch of work area
- Weather conditions
- Field observations (drum conditions, presence of staining, etc.)
- Decontamination information
- References to field monitoring forms as necessary
- Daily field instrument calibration information (e.g., PID)
- Field screening locations and results
- Sample locations (include in sketches)

- Date and time of each sample collection event
- Sample ID number, location, matrix, and depth
- Explanation of any deviations from the Closure Plan or QAPP, including rationale for deviation
- Activities that are scheduled for the day, including a notation as to whether they have been completed on that day
- Waste shipment information
- Unusual site or schedule conditions, including issues that delay closure activities
- Communications to and from oversight Borough representatives and EPA or other appropriate regulatory agencies

Photographs may be taken to document certain activities when appropriate. A photograph log or other list of the photographs taken will be completed as the photographs are taken to record the identity of the photographer(s), date, time, location, and a brief description of photograph subject, including reason for the photograph and the facing in which the camera was pointed. Photographs taken during closure activities will be maintained as part of the closure records.

3.6 Sampling and Analysis

Field characterization methods are the primary means for waste characterization and can be used in conjunction with process knowledge and published data (e.g., SDS). If field characterization methods have been found inadequate to characterize the waste, then additional samples will be collected and shipped for laboratory analysis. An EPA certified laboratory conducts analytical tests in accordance with the protocols specified in *Test Methods for Evaluating Solid Waste; Physical/Chemical Methods (SW 846)* (EPA 2024b), the most current EPA approved version; *Methods for Chemical Analysis of Water and Wastes* (EPA 1983); or an equivalent method approved by the Regional Administrator. The apparatus, reagents, calibration methods, quality controls, analytical procedures, and calculation methods specified in these protocols are incorporated into the QAPP. The most current EPA-approved test methodology will be used for waste analyses.

In order for the tests to accurately indicate the waste material's degree of hazard as well as for the test results to be acceptable to the federal and state agencies, the proper test methods must be used. The properties in the following subsections are to be considered and the appropriate test methods are to be used.

3.6.1 Ignitability

A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

- The waste is a liquid, other than an aqueous solution containing less than 24% alcohol by volume, and has a flash point less than 140°F as determined by a Pensky-Martens Closed Cup

Tester using ASTM International Standard D-93-79 or D-93-80 or a Setaflash Closed Cup Tester using ASTM International Standard D-3278-78.

- The waste is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.
- The waste is an ignitable compressed gas as defined in 49 CFR 173.300.
- The waste is an oxidizer as defined in 49 CFR 173.151.

3.6.2 Corrosivity

A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

- The waste is aqueous and has a pH of ≤ 2.0 or ≥ 12.5, as determined by a pH meter using the EPA test method specified as Method 9045A in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846* (EPA 2024b) most current EPA approved version.
- The waste is a liquid and corrodes steel (SAE 1020) at a rate >0.250 inches per year at a test temperature of 130ºF as determined by the test method specified in National Association of Corrosion Engineers Standard TM-01-69 as standardized in *Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods-SW-846* (EPA 2024b) most current EPA approved version.

3.6.3 Reactivity

A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

- The waste is normally unstable and readily undergoes violent change without detonating.
- The waste reacts violently with water.
- The waste forms potentially explosive mixtures with water.
- When mixed with water, the waste generates toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment.
- The waste is cyanide or sulfide bearing and can generate, when exposed to pH conditions between 2.0 and 12.5, toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment.

3.6.4 Toxicity

A solid waste exhibits the characteristic of toxicity if, using TCLP Test Method 1311 in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846* (EPA 2024b), or equivalent methods approved by EPA under the procedures set forth in 40 CFR 260.20 and 260.21, the extract from a representative sample of the waste contains any of the contaminants listed in Table 1 of 40 CFR 261.24 at a concentration equal to or greater than the respective value given in

that table. Where the waste contains <0.5% filterable solids, the waste itself, after filtering using the methodology outlined in 40 CFR 261 (or equivalent), is considered to be the extract.

The waste is considered to be restricted from being landfilled if the waste exceeds any level or conditions established in 40 CFR 268 as promulgated at the time of waste disposal. Approved test methods will be used as promulgated in state and federal waste management regulations at the time of waste analysis.

The analytical groups and methods for which waste characterization and confirmation samples will be tested, with a detailed list of analytes presented in Table B-1 (for solids) and Table B-2 (for liquids) of the QAPP. Samples will be collected during closure activities, including:

- Waste characterization samples of unknown hazardous materials remaining at the HWMF at the commencement of closure activities, which will be tested for the constituents of concern presented in Table B-1 (for solids) and B-2 (for liquids) of the QAPP to make a hazardous waste determination.
- Wipe samples of any nonporous metal surfaces that previously contacted hazardous waste or were used as containment structures for hazardous waste, to confirm decontamination.
- Confirmation concrete sampling targeting the floors, walls, and secondary containment structures at each HWMU, to confirm decontamination.
- Soil confirmation sampling from outdoor HWMUs where any hazardous waste drums were stored within a constructed containment cell or on containment devices.
- Rinsate and solid waste resulting from decontamination operations, to make a hazardous waste determination.

In general, the list of analytes for which samples will be tested will align with the types of hazardous and nonhazardous waste and materials used and stored at the facility. The analytical methods used for analysis, sample handling procedures, and the rationale for analyses are summarized in Section 3.3.2 for characterization, and Section 3.3.5 for confirmation samples.

The laboratory selected to perform analysis of the samples will use the most recent EPA-approved methods at that time, adhere to quality assurance and quality control programs, will be certified by state or federal agencies where applicable, and will make their best effort to observe sample holding times. Results will be reported in standard units (e.g., µg/L or milligrams per liter for aqueous and TCLP samples; micrograms per kilograms or mg/kg for solid/soil samples; or micrograms per wipe or milligrams per wipe for the wipe samples). Full laboratory results, including laboratory reporting limit, will be included in closure reporting.

3.7 Waste Containers

The removal of containers of hazardous waste that were stored at the HWMF or generated during closure activities will be confirmed and documented by an independent registered professional engineer. Containers will be sealed and labeled prior to shipment in compliance with RCRA and DOT regulatory requirements. Uniform Hazardous Waste Manifests will be prepared for all offsite

shipments of hazardous waste, and the Borough will maintain copies of the manifests as required in regulations. The Borough does not currently have a contract in place for hazardous waste transportation and disposal services. However, price estimates for these actions are included in closure cost estimates summarized in Section 6.0.

There are currently no permitted commercial RCRA TSDFs in Alaska; therefore, hazardous waste from Borough facilities will ultimately be manifested to permitted facilities out of state. The Borough does not currently have a contract with a permitted offsite commercial TSDF; however, a TSDF will be selected and contracted prior to commencing closure activities. The Borough does not consider adherence to the Closure Plan to be contingent on an existing contract with a TSDF. The selected TSDF will either manage the hazardous waste in permitted and regulated units at their facilities, or will manage the transfer of hazardous waste to another RCRA permitted TSDF, accompanied by another manifest for further hazardous waste management.

Transportation of waste for disposal is anticipated to run though Deadhorse where waste will then be transported to their approved TSDF. Any packaging of waste and containerization will maintain compliance with DOT regulations. It is expected that hazardous wastes will be transported from Atqasuk to Deadhorse by arctic grade and approved vehicles (e.g., piston bullseye, Rolligon) during winter activities along the Coastal Winter Access Trail, which is a groomed and compacted snow trail that is permitted and authorized each year for construction and operation between Deadhorse and select Borough communities otherwise not connected to any year-round State of Alaska road network. There are no roads from the Borough communities to Deadhorse during summer. Hazardous waste shipment will use RCRA Hazardous Waste manifests (EPA Form 8700-22A) in accordance with 40 CFR 262, Subpart B for transport and disposal of Hazardous Waste.

3.8 Nonapplicable Requirements

As discussed in Section 1.7, nonapplicable requirements include tank decommissioning and closure because these tanks do not and have not held hazardous wastes.

3.9 Closure Certification

A certification that the HWMF has been closed in accordance with the specifications in the approved Closure Plan will be submitted by registered mail within 60 days of completion of closure to the EPA. The certification will be signed by a representative of the Borough and by an independent registered professional engineer. Accompanying this certification will be documentation supporting the independent registered professional engineer's certification. The Borough will identify the independent registered professional engineer for EPA in the advance notice of closure.

The engineer will certify the facility closure using the template found in Appendix G, after reviewing the following documents to confirm completion of closure activities:

- Operation logs and reports from decontamination and sampling
- Confirmation wipe sample analyses and verify compliance with closure performance standards

- Manifest and hazardous wastes shipment documentation for departure from the RCRA storage facility, and receipt by designated waste disposal destination
- Historical logs of past spills and releases from the unit that may have entered the environment

Additionally, the engineer will inspect the facility to confirm waste removal and lack of staining or other evidence of incomplete waste removal.

The closure report will include written documentation, which was completed during closure, that these activities have been completed. The closure report will include, at a minimum:

- Documentation of all closure activities
- Summary of all analytical data, including raw laboratory data and quality assurance/quality control data, produced by closure activity sampling
- Field documentation, including description and rationale for departures from the Closure Plan
- Verification sample results and comparison to closure performance standards
- Drawings and/or photograph log documentation for sampling locations and other relevant onsite activities and visual observations during closure activities
- Written confirmation by the Borough and the independent registered engineer certifying completion of closure activities, including the signature page found in Appendix G.

3.10 Post-Closure Care

It is expected that each HWMU within the HWMF will be closed in a manner that will meet "clean closure" standards. The HWMF will be decontaminated and all hazardous waste and hazardous waste residues will be removed at the time of closure. If clean closure standards are unable to be met, and the EPA Region 10 Administrator determines that the unit must be closed as a landfill subject to the requirements of 40 CRF 65.117-265.120, the Borough will prepare a post-closure plan at that time. The post-closure plan will be submitted to the Region 10 Administrator within 90 days from receipt of the notice.

4. Plan Amendments

This plan shall be reviewed for potential changes requiring a plan amendment in accordance with 40 CFR 265.112(c) and Section VII of the CD. Revisions shall be submitted to the EPA as required by Section XVI of the CD. If no changes are required, the annual review shall be noted on the Record of Revisions. Revisions shall be submitted within 30 days whenever there is an amendment including:

- Changes to the HWMF building configuration due to planned construction activities resulting in relocation of HWMUs.
- Changes to the HWMF configuration due to disasters (e.g., fire, building collapse) resulting in relocation of HWMUs.
- Detection during closure, of contamination at a HWMU that would require remediation and therefore an update to the closure schedule.

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5. Schedule

5.1 Community Closure Schedule

Table 5-1 presents the schedule for implementing HWMU closures over the next 3 years. Work is anticipated to occur on a community-by-community basis to optimize the level of effort to mobilize staff and equipment to each community.

Table 5-1. Community Closure Schedule

Commencement of Closure Activities	Community
2024	Atqasuk, Nuiqsut
2025	Point Hope, Point Lay, Wainwright, Anaktuvuk Pass
2026	Utqiaġvik, Kaktovik

5.2 Notification of Final Closure

The EPA and DEC will be notified of the Borough's intent to close any facility at a minimum 60 days before beginning closure activities, and a written notification will be submitted to EPA Region 10. If contamination renders an HWMF or HWMU unable to be closed within the originally scheduled timeframe, the Borough will notify the EPA of the change in closure schedule using plan amendment procedures outlined in Section 4.0.

5.3 Closure Schedule

For each closure that takes place, the planned schedule presented in Table 5-2 will be followed. Dates are written on the basis that initiation of closure activities commences on Day 0.

Table 5-2. Planned Closure Schedule

Date (2024)	Regulatory Day	Activity
April 15	Day -60	Written notification of closure sent to EPA Region 10 Administrator and DEC.
June 15	Day 0	Commence closure activities. No new waste or hazardous materials are accepted to the HWMU or HWMF.
July 30	Day 90	All hazardous wastes are shipped offsite, and decontamination is complete. HEMF and O&M: June 15–23 Landfill: June 15–20 Power Plant: June 24 – July 8 Sewage Treatment Plant: June 21 – July 12 USDW: July 10–20 Utility Tank Farm: July 15–30
August 15	Day 120	Closure activities complete, confirmation samples collected.
September 30		Sample results received.

Table 5-2. Planned Closure Schedule

Date (2024)	Regulatory Day	Activity
October 15		Sample data reviewed and initial results reported to EPA.
	Day 150	Request for extension sent by this date at the latest, if needed.
	Day 180	Closure certification received.

If the Borough chooses to, the Borough may begin removing hazardous waste and decontaminating or dismantling equipment before or after notification of final closure, prior to Day 0.

If an extension is needed because closure cannot be completed within 180 days or final receipt of hazardous waste, a request will be filed at least 30 days prior to the expiration of the initial 180-day period. The notice will include details explaining delays outside of the Borough's control, and will confirm the steps taken to prevent any risk to human health and the environment from the HWMU or HWMF.

6. Closure Cost Estimate

An estimate of the costs associated with closure of HWMF is provided in Appendices A through F and Table 6-1. The Borough will satisfy the financial requirements of 40 CFR 265.143 (c) through an established closure trust fund, as described in Section 7.

The cost estimate is based on the Borough hiring a third party to close the HWMF storage unit at maximum inventory of waste resulting in a highest cost scenario. Waste categories within the cost estimate are based on historical waste generated at each facility. A standard assumption was made that equipment and materials removed would have no salvage value. This closure cost estimate also includes a 30% contingency to account for variation in the actual inventory of waste stored and ensuing difference in cost of their distinct transportation and disposal costs, as well as variation in decontamination and removal technique, sampling and analysis methodology and technique, the volume of decontaminated or contaminated equipment and other solid waste that is generated as a result of closure activities, and variation in personnel or labor rates.

During the active life of the facility, the closure cost estimate will be updated for inflation within 60 days prior to the anniversary date of the establishment of the financial resources and will be submitted alongside the annual updated financial assurance documentation to the EPA Region 10 Regional Administrator required in 40 CFR 265.143. This will ensure submission of the update within 30 days after the close of the Borough's fiscal year on July 1. In addition, if this plan is modified during the active life of the facility, a revised closure cost estimate will be submitted with the modified closure plan, if the change in the closure plan increases the cost of closure [40 CFR 265.142(c)].A copy of the latest adjusted closure cost estimate will be kept at the facility as required in 40 CFR 265.142(d).

6.1 Anticipated Inflation

Closure cost estimates will be updated annually according to inflation. Inflation rate will be adjusted annually by using the Consumer Price Index (CPI) generated by the Bureau of Labor Statistics. The statistic used will be the CPI-U population coverage for the United States city average, all items, for the past year. The information may be accessed at the Bureau of Labor Statistics CPI data webpage.

Table 6-1. Closure Cost Estimate

Task No.	Task	Rate	Units	No.	Ext. Cost
Task 1 Record Review					
1.1	Closure Plan Review, QAPP and HSE Plan Prep, Agency Meetings	$ 175.00	hour	720	$ 126,000.00
Task 2 Characterization					
2.0	Set up Activities				
	Pre-mobilization	$ 120.00	hour	90	$ 10,800.00
	Onsite set up	$ 120.00	hour	90	$ 10,800.00
2.1	Waste Characterization, Pkg, Labeling	$ 80.00	hour	723	$ 57,840.00
Task 3 Shipping and Disposal					
3.1	Disposal				
	Flammable Solvent	$ 240.00	drum	3	$ 720.00
	Oil/Fuel/Water Mix	$ 151.00	drum	365	$ 55,115.00
	Used Glycol	$ 314.00	drum	355	$ 111,470.00
	Crushed Fluorescent Light Tubes	$ 225.25	drum	0	$ -
	Lead-acid Batteries	$ 1,687.50	tote	23	$ 38,812.50
	Flammable Paint-related Materials	$ 476.80	drum	5	$ 2,384.00
	Corrosive Loosepack	$ 347.76	drum	32	$ 11,128.32
	AFFF	$ 129.00	drum	0	$ -
	Freon	$ 121.75	5 lbs	2	$ 243.50
	PCB-containing Fluids	$ 2,155.70	drum	0	$ -
	PCB Ballasts	$ 75.25	5-gal drum	2	$ 150.50
	Compressed Gas Cylinders	$ 40.00	cylinder	54	$ 2,160.00
3.2	Shipping to Prudhoe Bay via air cargo	$ 988.00	drum	764	$ 754,832.00
		$ 5,555.00	tote	23	$ 127,765.00
3.3	Shipping from Prudhoe to Anchorage	$ 201.00	drum	764	$ 153,564.00
		$ 588.00	tote	23	$ 13,524.00
3.4	Shipping from Anchorage to Seattle (TSDF)	$ 405.00	drum	764	$ 309,420.00
Task 4 Facility Decontamination/Removal					
4.1	Dismantle and clean equipment				
	Field Labor/person	$ 70.00	hour	480	$ 33,600.00
	Heavy Equipment	$ 350.00	hour	240	$ 84,000.00
Task 5 Sampling and Analysis					
5.1	Sample Collection				
	Labor, Technician	$ 120.00	hour	310	$ 37,200.00
	Consumables	$ 10.00	sample	188	$ 1,880.00
5.2	Analytical Testing				
	Wipe Samples	$ 485.00	sample	20	$ 9,700.00
	Concrete Samples	$ 1,125.00	sample	46	$ 51,750.00
	Soil/Gravel Samples	$ 1,125.00	sample	122	$ 137,250.00
5.3	Analysis Evaluation/Recommendations	$ 120.00	hour	600	$ 72,000.00
Task 6 Disposal of Decontamination Wastes					
6.1	Decontamination Solids Disposal	$ 225.00	drum	6	$ 1,350.00
6.2	Decontamination Rinsate Disposal	$ 180.00	drum	41	$ 7,380.00
6.3	Drum Profiling, Pkg, Labeling, Technician	$ 80.00	hour	41	$ 3,280.00
6.4	Shipping from Atqasuk to Seattle	$ 1,436.00	drum	47	$ 67,492.00
6.5	Site Take-Down Activities			0	
	Onsite Tear Down	$ 120.00	hour	60	$ 7,200.00
	Post-field Logistics	$ 120.00	hour	60	$ 7,200.00
Task 7 Closure Certification by Engineer					
		$ 175.00	hour	120	$ 21,000.00
Tasks 1-7 Contractor Travel and Per Diem					
	Travel: r/t Anchorage-Utqiagvik-Atqasuk	$ 574.00	person	48	$ 27,552.00
	Per Diem: Atqasuk	$ 113.00	night	270	$ 30,510.00
	Lodging in Atqasuk	$ 550.00	night	270	$ 148,500.00
				Sub-total Estimated Closure Costs	$ 2,535,572.82
				Task 8 30% Contingency	$ 760,671.85
				Total Estimated Closure Costs	$ 3,296,244.67

Notes:
AFFF = aqueous film forming foam
gal = gallon(s)
HSE = health, safety, and environment
lbs = pound(s)
PCB = polychlorinated biphenyl
QAPP = quality assurance project plan
r/t = round trip
TSDF = Treatment, Storage, and Disposal Facility

7. Financial Assurance Mechanism

The Borough is prepared to meet the financial requirements of 40 CFR 265.143 (c) and have executed a Trust Agreement with an initial deposit of $15,201.004 on December 29, 2023. The EPA (Brett Dugan) provided email confirmation on January 2, 2024 that the Trust Agreement was received. For Atqasuk, there has been $3,296,244.67 allocated for closure (Appendix H).

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8. Liability Requirements

In accordance with 40 CFR 265.147 and 270.14(b)(17), the Borough has provided a copy of the insurance policy documenting compliance with the liability requirements (Appendix I).

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9. References

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EPA. 2024b (8 February). *Test Methods for Evaluating Solid Waste; Physical/Chemical Methods (SW 846)*. https://www.epa.gov/hw-sw846.

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Figure

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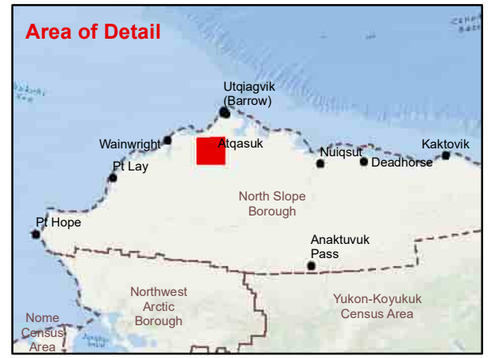
Area of Detail



- Alaska DEC Contaminated Site - Active
- Alaska DEC Contaminated Site - Cleanup Complete
- Hazardous Waste Management Unit
- Solid Waste Management Unit
- Contour - 1ft
- Index Contour - 5ft
- Target Parcel
- Land Parcel

1 inch = 1,500 feet

0 750 1,500 2,250 3,000

Feet

N

GCS NAD 1983 2011 UTM Zone 04W (Calculated)

HAZARDOUS WASTE CLOSURE REPORT
ATQASUK
COMMUNITY MAP

ATQASUK, ALASKA

DATE:	PROJECT MANAGER:	FIGURE NO:
29 MAR 2024	G. WADE	ATQ-1

\\dc1vs01\GISProj\AVAK_North\SlopeBorough\MapFiles\NSB_HazWaste_ClosurePlan_NSB_HazWasteClosure_2023_ATQ_CommunityMap.mxd beatycj

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Appendix A
DPW HEMF and O&M

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Subject:	**Appendix A. DPW HEMF and O&M, Community of Atqasuk**
Project Name:	North Slope Borough
Prepared For:	North Slope Borough, Department of Public Works PO Box 350 Utqiaġvik, Alaska 99723
Prepared By:	Jacobs Engineering Group Inc.
Date:	April 2024

Version/Revision: Version 1, Revision 4 **Date of Revision:** April 2024 **Revision Summary:** Plan Development

1. Introduction

This appendix is a supplement to the Community of Atqasuk Hazardous Waste Management Facility (HWMF) Closure Plan, which is prepared to satisfy requirements of Title 40 of the Code of Federal Regulations (CFR) Part 265, Subpart G and Section V, Paragraph E of the North Slope Borough (Borough) Consent Decree #3:22-cv-00058-JWS with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Justice.

This appendix has been developed for the closure of the Community of Atqasuk Department of Public Works (DPW) Heavy Equipment Maintenance Facility (HEMF) and Operations and Maintenance Shop (O&M) and the hazardous waste management units (HWMUs) therein. Closure of the HWMF/HWMU through implementation of this Closure Plan includes all HWMUs located in Parcel R-007-131-01-1 (Figures ATQ-1A and ATQ-2A).

1.1 Facility Description and History

The DPW HEMF and O&M Shop are located on the southern edge of Atqasuk, next to the Bulk Tank Farm. The two buildings are separate structures connected by an enclosed and heated corridor. The HEMF facility acts as a workspace for routine maintenance of Borough vehicles and equipment; warm storage for waste, tools, and equipment; and cold storage for waste and equipment. The facility receives used oil from other facilities within the community for use in waste oil burners. This facility also serves as an accumulation point for lead-acid battery disposal by residents of the community. The building address is 2406 Tikiluk Street, Atqasuk, AK 99791 and geographic coordinates are 70°28'39.9882"N 157°25'02.5070"W.

The EPA Generator ID for Atqasuk is AKR000206888. The DPW HEMF and O&M Shop along with all other facilities in the community are together classified as a large quantity generator. Table 1A provides the waste management units located at the DPW HEMF and O&M Shop. Records of historical wastes generated or received do not exist for this facility. Table 2A provides the most recent inventory of wastes managed at this facility. Records review for each HWMU

within the HWMF found that no documentation exists related to length of time hazardous waste and solid waste were generated and/or received and managed at each HWMU. Records review for the HWMUs within the HWMF found that no documentation exists regarding any releases, including spills of hazardous waste and solid waste. Records review for each HWMU within the HWMF found that no documentation exists related any dates when hazardous waste was generated or received at the site.

Table 1A. Waste Management Units

Unit Name	Indoor/Outdoor/Connex	Flooring Substrate[a]	Dimensions (feet)[b]
HWMU-1	Indoor	Concrete	28×28
HWMU-2	Outdoor	Gravel	150×178
HWMU-3	Outdoor	Gravel	12×6

[a] Multiple flooring types are possible within each unit. All types are listed in this table.

[b] Total area within which materials may be stored. Non-storage areas within the physical boundaries of the facility, such as offices, kitchens, and bathrooms, are not included in this area, as they will not be included in closure activities.

Additional details about waste management unit locations are provided in Section 1.2 and shown on Figure ATQ-2A. Hazardous wastes at the DPW HEMF and O&M Shop include the following types:

- Flammable solvent
- Oil/fuel/water mix
- Used glycol
- Lead-acid batteries
- Flammable paint-related materials
- Compressed gas
- Unknown

1.2 HWMU Descriptions and Maximum Inventory of Wastes [40 CFR 265.112(b)(3)]

The maximum volume of liquid hazardous waste inventoried onsite at the HEMF and O&M HWMF was 683 drums (55-gallon), which translates to roughly 37,565 gallons. Table 2A lists the total quantities of compressed gas cylinders and lead-acid batteries. Waste codes associated with hazardous waste managed at each HWMU (past and present) consist of the following: D001, D002, D003, D004, and U154. Waste codes have been assigned using generator's knowledge, and, in some instances, analytical data. The waste storage is split into three management units described as follows:

- HWMU-1 contains both the HEMF and O&M shops and is at the northeast portion of the facility land parcel. There are several waste accumulation points in these buildings, but generally waste is kept in the garage bays, where it is generated in the course of equipment maintenance. Records review for this HWMU within the HWMF found that no documentation exists related to length of time hazardous waste and solid waste were generated and/or received and managed at this HWMU. Records review for this HWMU within the HWMF found that no documentation exists related to these storage locations being managed as either a 40 CFR 262.15 or a 40 CFR 262.17 accumulation area. At the time of inspection, the parts washer was

not in operation. The HWMU is a large covered and insulated building with a concrete floor throughout. Doors and windows are kept closed when active operations are not occurring. No documentation exists pertaining to protective coatings being applied to concrete floor.

- HWMU-2 is an extensive drum storage area on the southern portion of the facility, which follows the fence line of the Bulk Tank Farm. This unit includes several drum accumulation areas, transformers, lead-acid batteries, and the historical Clean Lands Partnership storage locker (the sign has been removed). Records review for this HWMU within the HWMF found that no documentation exists related to length of time hazardous waste and solid waste were generated and/or received and managed at this HWMU. Records review for this HWMU within the HWMF found that no documentation exists related to these storage locations being managed as either a 40 CFR 262.15 or a 40 CFR 262.17 accumulation area. The drum storage area is located on unpaved dirt/tundra with no historical documentation of protective materials ever being applied. Drums are staged on wood pallets. There is a single waste storage trailer that is totally enclosed and equipped with built-in containment that stored primarily paints and compressed gas cylinders. The area also contains a heavy equipment staging area, which does not appear to contain hazardous waste. There is no historical documentation of waste storage in this area. Sampling of the heavy equipment staging area within the HWMU is not required due to no evidence of hazardous waste being placed or evidence of a significant likelihood of mixing of hazardous constituents in this area existing.
- HWMU-3 is a storage area located to the north of the O&M Shop, at the northern portion of the facility directly in front of the O&M Shop garage doors. It is a drop-off point for residents to leave hazardous waste for Borough disposal. A Clean Lands Partnership sign lists the types of waste accepted. At the time of inspection, drums and used lead-acid batteries were staged within this unit. The area consists of unpaved dirt/tundra with no historical documentation of protective materials ever being applied or equipment used.

Table 2A presents the maximum inventory of hazardous wastes onsite over the active life of the HWMUs within the HWMF, estimated from site visits conducted during summers of 2021 and 2022.

Table 2A. Maximum Waste Inventory

Type of Waste	HWMU-1	HWMU-2	HWMU-3	Facility Total
Flammable Solvent	1 drum			1 drum
Oil/Fuel/Water Mix	15 drums			15 drums
Used Glycol	2 drums			2 drums
Lead-acid Batteries	2 totes	20 totes	2 batteries	22 totes and 2 batteries
Flammable Paint-related Materials		5 drums		5 drums
Compressed Gas		4 cylinders		4 cylinders
Unknown	26 drums	630 drums	4 drums	660 drums

2. Site-specific Closure Performance Standards [40 CFR 265.111]

Performance standards for clean closure of the HWMF are specified in Section 1.6 of the Community Closure Plan. If soil closure performance standards cannot be attained, an amendment to the Closure Plan will be made to address groundwater sampling. If clean closure standards are unable to be met, a post-closure plan for the HWMF will be developed as outlined in Section 4 of this appendix.

3. Closure and Sampling Procedures

Table 3A identifies which portions of the Community Closure Plan will apply to the HWMUs at the HWMF.

Table 3A. Closure Procedures for each HWMU

Closure Actions	HWMU-1	HWMU-2	HWMU-3
Notification	X	X	X
Decontamination			
Equipment in the HWMU (listed)	Waste oil burner Bulb crusher	-	-
Interior floors and walls	X	-	-
Containment devices or cells with liners	-	-	-
Connex units	-	X	-
Confirmation Sampling			
Wipe sampling (metal surfaces)	-	-	-
Concrete sampling	X	-	
Soil and gravel pad sampling	-	X	X

Notes:

- = Absence of a need for those closure actions at that HWMU.
X = Closure actions are relevant to that HWMU.

3.1 Phased Closure

Phased closure is not expected for this HWMF.

3.2 Inventory Removal and Disposal

Inventory removal for the HWMUs will comply with the standards outlined in Section 3.3.2 of the Community Closure Plan.

3.3 Waste Residue Removal and Decontamination

Removal of waste contamination from the ground surface, walls, and equipment within the HWMUs will comply with the standards outlined in Section 3.3.3 of the Community Closure Plan.

It is estimated that the following quantities of waste will be generated at HWMU-1:

- Five drums of rinsate from decontamination of the building.
- One drum of rinsate for each piece of equipment (two total).
- A small quantity of investigation-derived waste (IDW) from concrete sampling, which will be kept in a 5-gallon bucket or similar.

It is estimated that the following quantities of waste will be generated at HWMU-2:

- Two drums of rinsate from decontamination of the connex unit (waste storage trailer). No equipment present associated with waste storage.
- A small quantity of IDW from soil and gravel sampling, which will be kept in a 5-gallon bucket or large.

It is estimated that the following quantities of waste will be generated at HWMU-3:

- No decontamination required due to no containment lining being present where waste storage occurred. No equipment present associated with waste storage.
- A small quantity of IDW from soil and gravel sampling, which will be kept in a 5-gallon bucket or larger.

Liquids will be put in secondary containment to prevent the need for additional decontamination. If a new area outside of the current HWMU areas is used for storage, a professional engineer will certify the new storage area for IDW and decontamination waste meets the present standards for accumulation or storage of hazardous waste.

3.4 Schedule for Closure

A schedule built in accordance with 40 CFR § 265.112(b)(6) is provided in Section 5.3 of the Community Closure Plan.

3.5 Certification of Closure

Completion of closure activities will be documented and submitted as outlined in Section 3.9 of the Community Closure Plan.

4. Post-Closure Plan

It is expected the HWMUs within the HWMF will be closed in a manner that will meet “clean closure” standards, rendering a post-closure plan irrelevant. Additional details are available in Section 3.10 of the Community Closure Plan.

5. Closure Cost Estimate

The closure cost for this HWMF is estimated based on observed quantities of waste from 2021 and 2022 (Table 4A). Assumptions are made about drums of unknown fluids and the quantity of IDW generated during closure activities are as described in Section 6 of the Community Closure Plan.

6. Financial Assurance Mechanism for Closure

Financial assurance for closure of this HWMF is described in Section 7.0 of the Community Closure Plan.

7. Liability Requirements

A description of the insurance in place to satisfy liability requirements for this HWMF is described in Section 8.0 of the Community Closure Plan.

Table 4A. Closure Cost Estimate

Task No.	Task	Rate	Units	No.	Ext. Cost
Task 1 Record Review					
1.1	Closure Plan Review, QAPP and HSE Plan Prep, Agency Meetings	$ 175.00	hour	120	$ 21,000.00
Task 2 Characterization					
2.0	Set up Activities				
	Pre-mobilization	$ 120.00	hour	15	$ 1,800.00
	Onsite set up	$ 120.00	hour	15	$ 1,800.00
2.1	Waste Characterization, Pkg, Labeling	$ 80.00	hour	676	$ 54,080.00
Task 3 Shipping and Disposal					
3.1	Disposal				
	Flammable Solvent	$ 240.00	drum	3	$ 720.00
	Oil/Fuel/Water Mix	$ 151.00	drum	343	$ 51,793.00
	Used Glycol	$ 314.00	drum	330	$ 103,620.00
	Crushed Fluorescent Light Tubes	$ 225.25	drum	0	$ -
	Lead-acid Batteries	$ 1,687.50	tote	22	$ 37,125.00
	Flammable Paint-related Materials	$ 476.80	drum	5	$ 2,384.00
	Corrosive Loosepack	$ 347.76	drum	2	$ 695.52
	AFFF	$ 129.00	drum	0	$ -
	Freon	$ 121.75	5 lbs	0	$ -
	PCB-containing Fluids	$ 2,155.70	drum	0	$ -
	PCB Ballasts	$ 75.25	5-gal drum	0	$ -
	Compressed Gas Cylinders	$ 40.00	cylinder	4	$ 160.00
3.2	Shipping to Prudhoe Bay via air cargo	$ 988.00	drum	683	$ 674,804.00
		$ 5,555.00	tote	22	$ 122,210.00
3.3	Shipping from Prudhoe to Anchorage	$ 201.00	drum	683	$ 137,283.00
		$ 588.00	tote	22	$ 12,936.00
3.4	Shipping from Anchorage to Seattle (TSDF)	$ 405.00	drum	683	$ 276,615.00
Task 4 Facility Decontamination/Removal					
4.1	Dismantle and clean equipment				
	Field Labor/person	$ 70.00	hour	80	$ 5,600.00
	Heavy Equipment	$ 350.00	hour	40	$ 14,000.00
Task 5 Sampling and Analysis					
5.1	Sample Collection				
	Labor, Technician	$ 120.00	hour	64	$ 7,680.00
	Consumables	$ 10.00	sample	42	$ 420.00
5.2	Analytical Testing				
	Wipe Samples	$ 485.00	sample	4	$ 1,940.00
	Concrete Samples	$ 1,125.00	sample	16	$ 18,000.00
	Soil/Gravel Samples	$ 1,125.00	sample	22	$ 24,750.00
5.3	Analysis Evaluation/Recommendations	$ 120.00	hour	100	$ 12,000.00
Task 6 Disposal of Decontamination Wastes					
6.1	Decontamination Solids Disposal	$ 225.00	drum	1	$ 225.00
6.2	Decontamination Rinsate Disposal	$ 180.00	drum	9	$ 1,620.00
6.3	Drum Profiling, Pkg, Labeling, Technician	$ 80.00	hour	9	$ 720.00
6.4	Shipping from Atqasuk to Seattle	$ 1,436.00	drum	10	$ 14,360.00
6.5	Site Take-Down Activities				
	Onsite Tear Down	$ 120.00	hour	10	$ 1,200.00
	Post-field Logistics	$ 120.00	hour	10	$ 1,200.00
Task 7 Closure Certification by Engineer					
		$ 175.00	hour	20	$ 3,500.00
Tasks 1-7 Contractor Travel and Per Diem					
	Travel: r/t Anchorage-Utqiagvik-Atqasuk	$ 574.00	person	8	$ 4,592.00
	Per Diem: Atqasuk	$ 113.00	night	45	$ 5,085.00
	Lodging in Atqasuk	$ 550.00	night	45	$ 24,750.00
				Sub-total Estimated Closure Costs	$ 1,640,667.52
				Task 8 30% Contingency	$ 492,200.26
				Total Estimated Closure Costs	$ 2,132,867.78

Notes:
AFFF = aqueous film forming foam
gal = gallon(s)
HSE = health, safety, and environment
lbs = pound(s)
PCB = polychlorinated biphenyl
QAPP = quality assurance project plan
r/t = round trip
TSDF = Treatment, Storage, and Disposal Facility

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Figures

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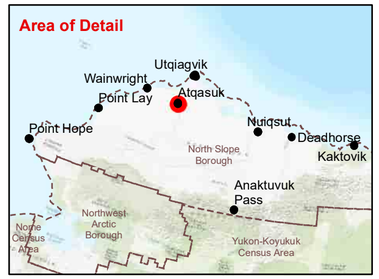
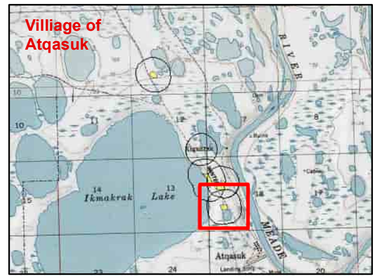
157°25'30"W
157°25'0"W
157°24'30"W
70°29'0"N
70°28'30"N

Meade River Store
U.S. Post Office
Quglaq Street
Warehouse
Meade River School
Ikmakrak Lake
Della Hoya Bakery
Kippi Street
NSBSD Housing
Tauqsigvik Store
NSB Teleconfrence Office
Eskoff Street
Singaik Street
Atqasuk Chapel
Nashaktarik Street
ASTAC
Titalik Street
Akpik Street
Village Corp. Camp
Corporation Warm Storage
DPW HEMF and O&M
Tank Farm Access Road
Gas Station
NSB Warm Storage
Tank Farm
Tiniuk Street
Puayuraq Street

Area of Detail



Villiage of Atqasuk



Legend

- Active ADEC Contaminated Site
- Cleanup Complete
- Cleanup Complete - Institutional Controls
- Informational
- Culverts
- Village Fence
- Contour - 1ft
- Index Contour - 5ft
- 1.000 ft Facility Buffer
- Target Parcel
- Right of Way
- North Slope Borough Land Owner
- Other Land Owner

Current Land Use

- Commercial
- Education
- Medical
- Mixed Use
- Religious
- Residential
- Utility
- Vacant
- Lake or Pond

Sources

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
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1 inch = 200 feet
0 100 200 300 400
Feet

N

WGS 1984 UTM Zone 4N

HAZARDOUS WASTE CLOSURE REPORT
DPW HEMF and O&M

ATQASUK, ALASKA

DATE:	PROJECT MANAGER:	FIGURE NO:
04 APR 2024	G. WADE	ATQ-1A

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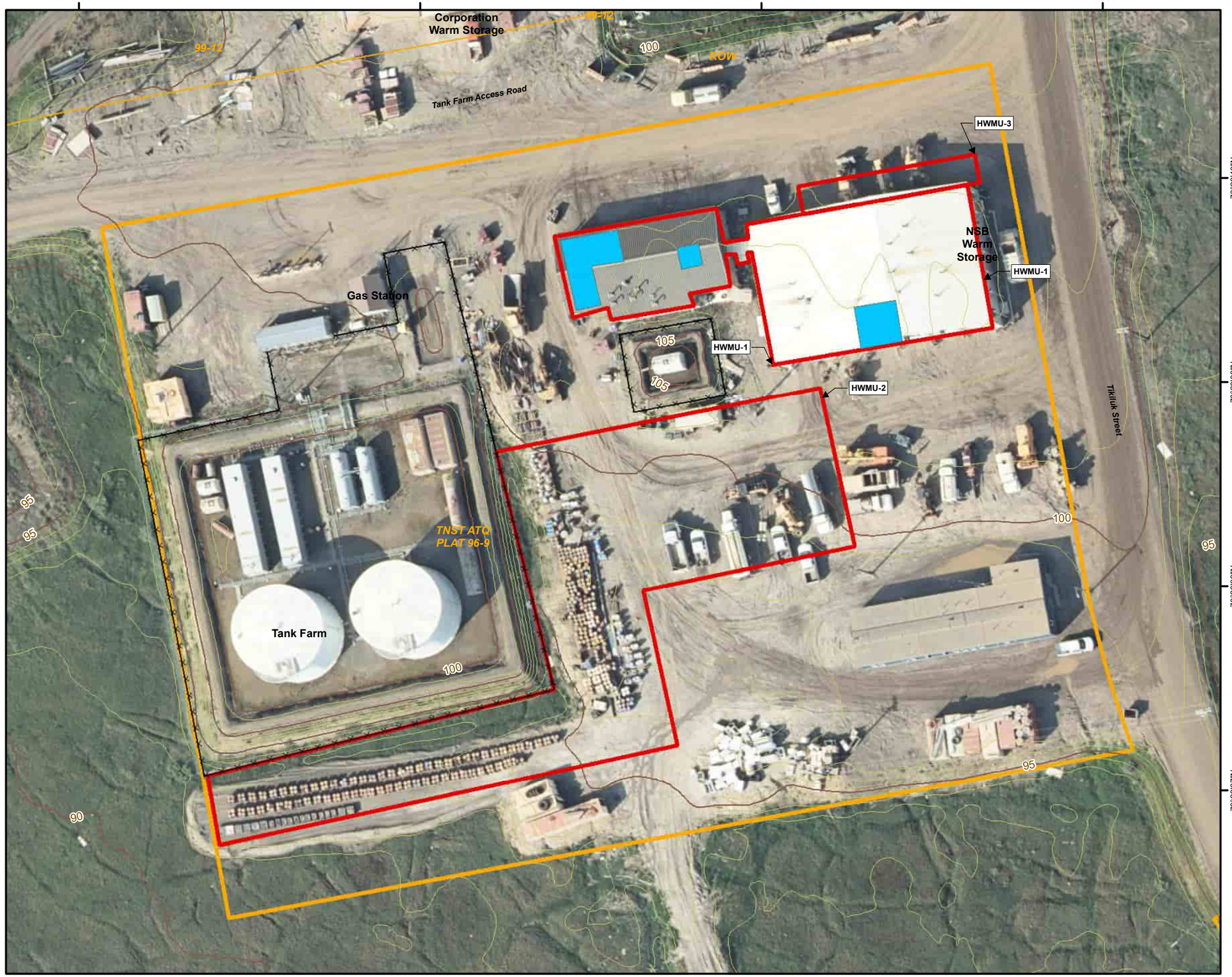
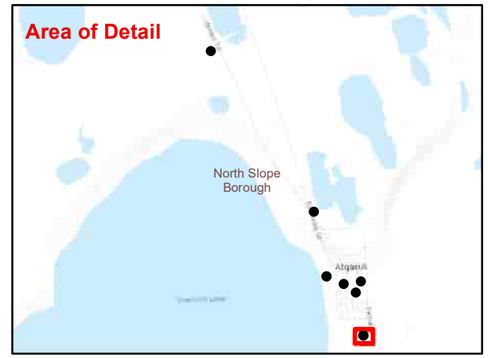


Area of Detail



- Waste Accumulation within Building
- Village Fence
- Contour - 1ft
- Index Contour - 5ft
- Culverts
- North Slope Borough Land Owner
- Other Land Owner
- Hazardous Waste Management Unit

Sources
GIS Data: North Slope Borough, AK
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

1 inch = 50 feet

0 25 50 75 100

Feet

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WGS 1984 UTM Zone 4N

HAZARDOUS WASTE CLOSURE REPORT
DPW HEMF and O&M

ATQASUK, ALASKA

DATE:	PROJECT MANAGER:	FIGURE NO:
29 MAR 2024	G. WADE	ATQ-2A

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Attachment 1A
Photograph Log

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Appendix A Photograph Log. DPW – HWMF and O&M, Community of Atqasuk
Hazardous Waste Management Facility and Hazardous Waste Management Unit Closure Plan

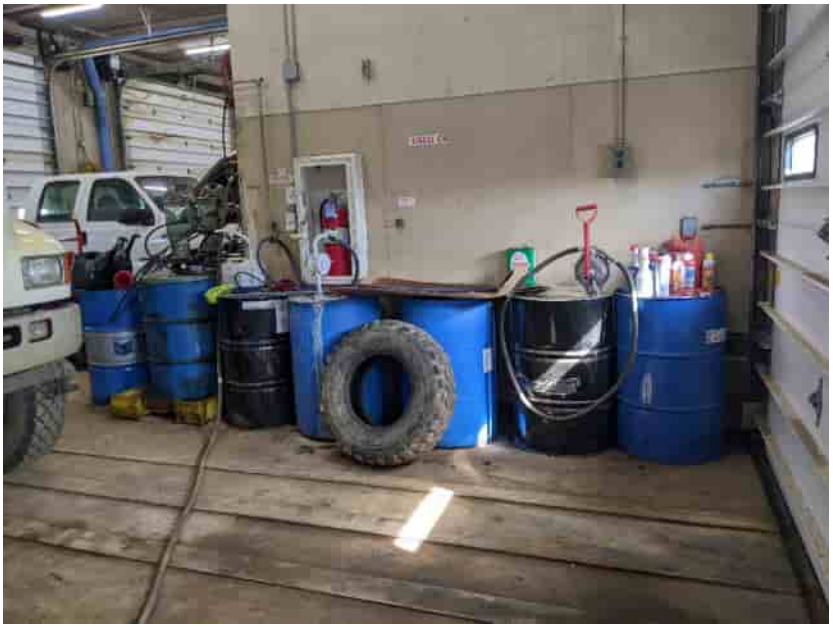

Photo No. 1 – Used oil storage in the HEMF building on the east side of the garage bay (HWMU-1).
21 June 2022

Photo No. 2 – Used glycol, oil, and petroleum, oil, and lubricants (POL) storage on containment on the west side of the garage bay of the HEMF building (HWMU-1).
21 June 2022

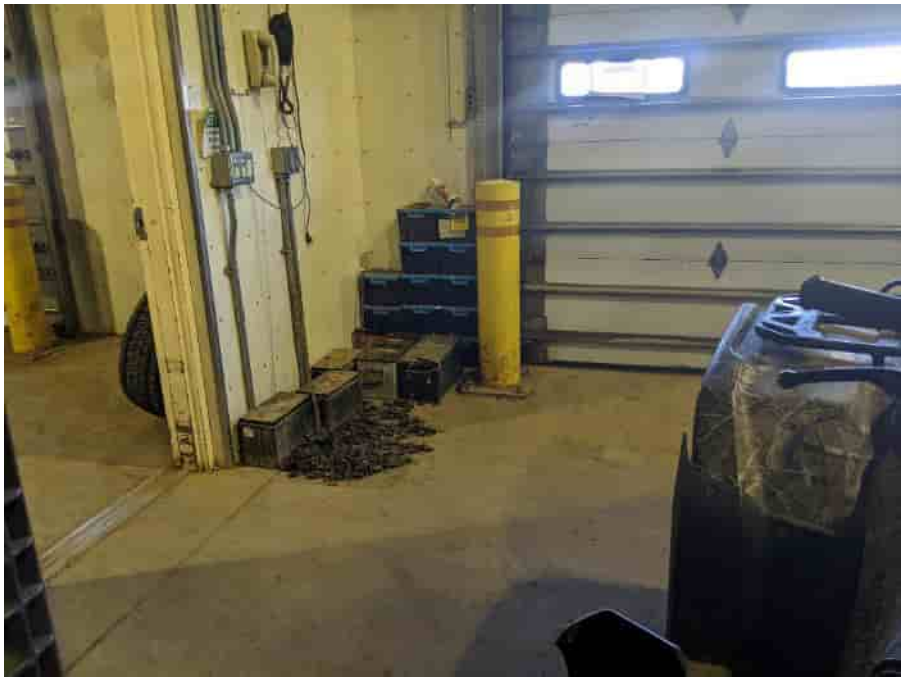

Photo No. 3 – Used batteries stored in the corner of the O&M Shop garage bays (HWMU-1).
21 June 2022

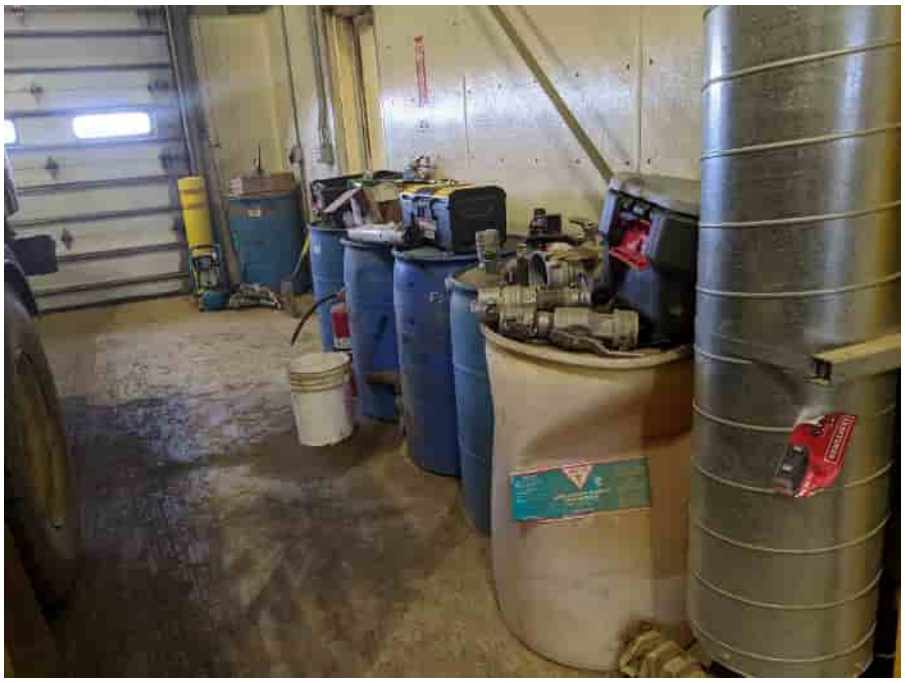

Photo No. 4 – Waste and product storage on the east side of the O&M Shop garage (HWMU-1).
21 June 2022

Photo No. 5 – Overview of the drum storage area south of the HEMF and O&M building, which follows the eastern edge of the Bulk Tank Farm fencing and wraps around to the tank farm's southern edge (HWMU-2).
21 June 2022

Photo No. 6 – View of the southern section of the drum storage area, including drums on pallets and batteries in plastic totes with lids. Photograph taken from the west (HWMU-2).
21 June 2022

Photo No. 7 – Drums of unused product stored in HWMU-2.
21 June 2022

Photo No. 8 – Clean Lands Partnership waste storage trailer. The trailer contains mostly paints and compressed gas cylinders, with some POL waste as well (HWMU-2).
17 July 2021

Photo No. 9 – Interior of the Clean Lands Partnership Trailer, showing contents (HWMU-2).
17 July 2021

Photo No. 10 – Used battery accumulation area in front of the O&M Shop garage doors. The Clean Lands Partnership sign is hung here, advertising the types of waste that may be dropped off by members of the community for disposal (HWMU-3).
21 June 2022

Photo No. 11 – Drums stored south of the hallway connecting the HEMF and O&M buildings (HWMU-3).
21 June 2022

Appendix B
Landfill Accumulation Area

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Hazardous Waste Management Facility and Hazardous Waste Management Unit Closure Plan

Subject: **Appendix B. Landfill Accumulation Area, Community of Atqasuk**

Project Name: North Slope Borough

Prepared For: North Slope Borough, Department of Public Works
PO Box 350
Utqiaġvik, Alaska 99723

Prepared By: Jacobs Engineering Group Inc.

Date: April 2024

Version/Revision: Version 1, Revision 4 **Date of Revision:** April 2024 **Revision Summary:** Plan Development

1. Introduction

This appendix is a supplement to the Community of Atqasuk Hazardous Waste Management Facility (HWMF) Closure Plan, which is prepared to satisfy requirements of Title 40 of the Code of Federal Regulations (CFR) Part 265, Subpart G and Section V, Paragraph E of the North Slope Borough (Borough) Consent Decree #3:22-cv-00058-JWS with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Justice.

This appendix has been developed for the closure of the Community of Atqasuk Department of Public Works (DPW) Landfill Accumulation Area and the hazardous waste management unit (HWMU) therein. Closure of the HWMF/HWMU through implementation of this closure plan includes HWMU-1 located in Parcel R-007-181-01 (Figures ATQ-1B and ATQ-2B). A photograph log of the HWMU is included as Attachment 1B to this appendix.

1.1 Facility Description and History

The Atqasuk Landfill Accumulation Area is located to the north of the residential portion of the village, just under 2 miles from the northern edge of town. The facility is surrounded by a gate that is typically locked when the landfill is not open for residential access. There is no building address; however, the facility is located on Ekosik Street and the coordinates at the front gate are 70°30'9.70"N 157°27'12.18"W. The fence contains 14.46 acres of landfill area, but only the portion with unburied waste in the southwest area is considered part of the HWMU.

The EPA Generator ID for Atqasuk is AKR000206888. The Landfill Accumulation Area facility and all other facilities in the community are together classified as a large quantity generator. Table 1B lists the waste management unit located at the Landfill Accumulation Area HWMF. Records of historical wastes generated or received do not exist for this facility. Table 2B provides the most recent inventory of wastes managed at this facility. Records review for each HWMU and SWMU within the HWMF found that no documentation exists related to length of time hazardous waste and solid waste were generated and/or received and managed at each HWMU and SWMU.

Records review for the HWMU and SWMU within the HWMF found that no documentation exists regarding any releases, including spills of hazardous waste and solid waste. Records review for each HWMU and SWMU within the HWMF found that no documentation exists related any dates when hazardous waste was generated or received at the site.

Table 1B. Waste Management Units

Unit Name	Indoor/Outdoor/Connex	Flooring Substrate[a]	Dimensions (feet)[b]
HWMU-1	Outdoor	On Grade	200×300
SWMU-2[c]	Outdoor	None	700×1000[d]

[a] Multiple flooring types are possible within each unit. All are listed in this table.

[b] Total area within which materials may be stored. Non-storage areas within the physical boundaries of the facility, such as offices, kitchens, and bathrooms, are not included in this area, as they will not be included in closure activities.

[C] Landfills within Borough communities are permitted and regulated by DEC under 18 AAC 60 (DEC 2022b). Borough landfills are not permitted to dispose of hazardous waste. In the event a hazardous waste accumulation area is located within the landfill boundaries, the area will be designated as an HWSU and included in the HWMU Closure Plans. This landfill does not contain an HWMU and is not subject to the HWMU Closure Plan requirements. In the future, the Borough will follow DEC Site Closure in accordance with 18 AAC 60.395 for Class I or II landfills and 18 AAC 60.395 for Class III landfills.

[d] Area is estimated from satellite imagery.

AAC = Alaska Administrative Code

DEC = Alaska Department of Environmental Conservation

Additional details about waste management unit locations are provided in Section 1.2 and shown on Figure ATQ-2B. Expected hazardous wastes at the Atqasuk Landfill Accumulation Area include the following types:

- Freon
- Polychlorinated biphenyl (PCB) ballasts

1.2 HWMU Descriptions and Maximum Inventory of Wastes [40 CFR 265.112(b)(3)]

The maximum volume of hazardous waste inventoried onsite at the Landfill Accumulation Area HWMF was the equivalent of four 55-gallon drums, which translates to roughly 220 gallons. Waste codes associated with hazardous waste managed at each HWMU (past and present) consist of the following: D001, D002, D003, D004, and U154. Waste codes have been assigned using generator's knowledge, and in some instances, analytical data.

The waste storage area is considered to be one management unit described as follows: HWMU-1 encloses the accumulation area in the southcentral portion of the Atqasuk Landfill that is unburied. This area includes old tanks, appliances, and equipment. Because solid waste may be disposed of at this landfill, closure estimates include disposal of any equipment components suspected to contain Freon or PCBs. The area consists of unpaved dirt/tundra with no historical documentation of protective materials ever being applied.

Table 2B presents the maximum inventory of hazardous wastes onsite over the active life of HWMU-1 within the HWMF, estimated from site visits conducted during summers of 2021 and 2022. The waste is still present at the HWMF.

Table 2B. Maximum Waste Inventory

Type of Waste	HWMU-1
Freon	2 drums
PCB ballasts	2 drums

2. Site-specific Closure Performance Standards [40 CFR 265.111]

Performance standards for clean closure of the HWMF are specified in Section 1.6 of the Community Closure Plan. If soil closure performance standards cannot be attained, an amendment to the Closure Plan will be made to address groundwater sampling. If clean closure standards are unable to be met, a post-closure plan for the HWMF will be developed as outlined in Section 4 of this appendix.

3. Closure and Sampling Procedures

Table 3B identifies which portions of the Community Closure Plan will apply to HWMU-1 at the HWMF.

Table 3B. Closure Procedures for HWMU-1

Closure Actions	HWMU-1
Notification	X
Decontamination	
Equipment in the HWMU (listed)	Estimated 8 pieces of discarded equipment
Interior floors and walls	-
Containment devices or cells with liners	-
Connex units	-
Confirmation Sampling	
Wipe sampling (metal surfaces)	-
Concrete sampling	-
Soil and gravel pad sampling	X

Notes:

- = Absence of a need for those closure actions at that HWMU.
X = Closure actions are relevant to that HWMU.

3.1 Phased Closure

As there is only one HWMU at this facility, a phased closure is not possible here.

3.2 Inventory Removal and Disposal

Inventory removal for HWMU-1 will comply with the standards outlined in Section 3.3.2 of the Community Closure Plan.

3.3 Waste Residue Removal and Decontamination

Removal of waste contamination from the ground surface and equipment within HWMU-1 will comply with the standards outlined in Section 3.3.3 of the Community Closure Plan.

It is estimated that the following quantities of waste will be generated at HWMU-1:

- Two drums of rinsate from decontamination of the containment lining
- A small quantity of investigation-derived waste (IDW) from soil and gravel sampling, which will be kept in a 5-gallon bucket or similar

Liquids will be put in secondary containment to prevent the need for additional decontamination. If a new area outside of the current HWMU areas is used for storage, a professional engineer will certify the new storage area for IDW and decontamination waste meets the present standards for accumulation or storage of hazardous waste.

3.4 Schedule for Closure

A schedule built in accordance with 40 CFR § 265.112(b)(6) is provided in Section 5.3 of the Community Closure Plan.

3.5 Certification of Closure

Completion of closure activities will be documented and submitted as outlined in Section 3.9 of the Community Closure Plan.

4. Post-Closure Plan

It is expected HWMU-1 within the HWMF will be closed in a manner that will meet “clean closure” standards, rendering a post-closure plan irrelevant. Additional details are available in Section 3.10 of the Community Closure Plan.

5. Closure Cost Estimate

The closure cost for this HWMF is estimated based on observed quantities of waste from 2021 and 2022 (Table 4B). Assumptions are made about drums of unknown fluids and the quantity of IDW generated during closure activities are as described in Section 6 of the Community Closure Plan.

6. Financial Assurance Mechanism for Closure

Financial assurance for closure of this HWMF is described in Section 7.0 of the Community Closure Plan.

7. Liability Requirements

A description of the insurance in place to satisfy liability requirements for this HWMF is described in Section 8.0 of the Community Closure Plan.

Table 4B. Closure Cost Estimate

Task No.	Task	Rate	Units	No.	Ext. Cost
Task 1 Record Review					
1.1	Closure Plan Review, QAPP and HSE Plan Prep, Agency Meetings	$ 175.00	hour	120	$ 21,000.00
Task 2 Characterization					
2.0	Set up Activities				
	Pre-mobilization	$ 120.00	hour	15	$ 1,800.00
	Onsite set up	$ 120.00	hour	15	$ 1,800.00
2.1	Waste Characterization, Pkg, Labeling	$ 80.00	hour	0	$ -
Task 3 Shipping and Disposal					
3.1	Disposal				
	Flammable Solvent	$ 240.00	drum	0	$ -
	Oil/Fuel/Water Mix	$ 151.00	drum	0	$ -
	Used Glycol	$ 314.00	drum	0	$ -
	Crushed Fluorescent Light Tubes	$ 225.25	drum	0	$ -
	Lead-acid Batteries	$ 1,687.50	tote	0	$ -
	Flammable Paint-related Materials	$ 476.80	drum	0	$ -
	Corrosive Loosepack	$ 347.76	drum	0	$ -
	AFFF	$ 129.00	drum	0	$ -
	Freon	$ 121.75	5 lbs	2	$ 243.50
	PCB-containing Fluids	$ 2,155.70	drum	0	$ -
	PCB Ballasts	$ 75.25	5-gal drum	2	$ 150.50
	Compressed Gas Cylinders	$ 40.00	cylinder	0	$ -
3.2	Shipping to Prudhoe Bay via air cargo	$ 988.00	drum	4	$ 3,952.00
		$ 5,555.00	tote	0	$ -
3.3	Shipping from Prudhoe to Anchorage	$ 201.00	drum	4	$ 804.00
		$ 588.00	tote	0	$ -
3.4	Shipping from Anchorage to Seattle (TSDF)	$ 405.00	drum	4	$ 1,620.00
Task 4 Facility Decontamination/Removal					
4.1	Dismantle and clean equipment				
	Field Labor/person	$ 70.00	hour	80	$ 5,600.00
	Heavy Equipment	$ 350.00	hour	40	$ 14,000.00
Task 5 Sampling and Analysis					
5.1	Sample Collection				
	Labor, Technician	$ 120.00	hour	56	$ 6,720.00
	Consumables	$ 10.00	sample	36	$ 360.00
5.2	Analytical Testing				
	Wipe Samples	$ 485.00	sample	16	$ 7,760.00
	Concrete Samples	$ 1,125.00	sample	0	$ -
	Soil/Gravel Samples	$ 1,125.00	sample	20	$ 22,500.00
5.3	Analysis Evaluation/Recommendations	$ 120.00	hour	100	$ 12,000.00
Task 6 Disposal of Decontamination Wastes					
6.1	Decontamination Solids Disposal	$ 225.00	drum	1	$ 225.00
6.2	Decontamination Rinsate Disposal	$ 180.00	drum	10	$ 1,800.00
6.3	Drum Profiling, Pkg, Labeling, Technician	$ 80.00	hour	10	$ 800.00
6.4	Shipping from Atqasuk to Seattle	$ 1,436.00	drum	11	$ 15,796.00
6.5	Site Take-Down Activities				
	Onsite Tear Down	$ 120.00	hour	10	$ 1,200.00
	Post-field Logistics	$ 120.00	hour	10	$ 1,200.00
Task 7 Closure Certification by Engineer					
		$ 175.00	hour	20	$ 3,500.00
Tasks 1-7 Contractor Travel and Per Diem					
	Travel: r/t Anchorage-Utqiagvik-Atqasuk	$ 574.00	person	8	$ 4,592.00
	Per Diem: Atqasuk	$ 113.00	night	45	$ 5,085.00
	Lodging in Atqasuk	$ 550.00	night	45	$ 24,750.00
				Sub-total Estimated Closure Costs	$ 159,258.00
				Task 8 30% Contingency	$ 47,777.40
				Total Estimated Closure Costs	$ 207,035.40

Notes:
AFFF = aqueous film forming foam
gal = gallon(s)
HSE = health, safety, and environment
lbs = pound(s)
PCB = polychlorinated biphenyl
QAPP = quality assurance project plan
r/t = round trip
TSDF = Treatment, Storage, and Disposal Facility

Figures

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157°28'0"W

157°27'30"W

157°27'0"W

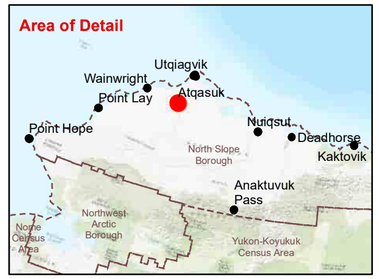
70°30'15"N

70°30'0"N

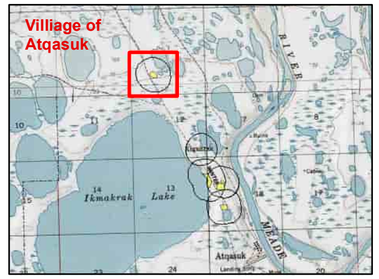
HWMF Atqasuk Landfill Accumulation Area

Landfill Access Road

Area of Detail



Villiage of Atqasuk



Legend

- Active ADEC Contaminated Site
- Cleanup Complete
- Cleanup Complete - Institutional Controls
- Informational
- Culverts
- Contour - 1ft
- Index Contour - 5ft
- 1.000 ft Facility Buffer
- Target Parcel
- Right of Way
- Other Land Owner

Current Land Use

- Vacant
- Lake or Pond

Sources

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Copyright:© 2013 National Geographic Society, i-cubed

1 inch = 200 feet

0 100 200 300 400

Feet

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WGS 1984 UTM Zone 4N

HAZARDOUS WASTE CLOSURE REPORT
HWMF Atqasuk Landfill Accumulation Area

ATQASUK, ALASKA

DATE:	PROJECT MANAGER:	FIGURE NO:
04 APR 2024	G. WADE	ATQ-1B

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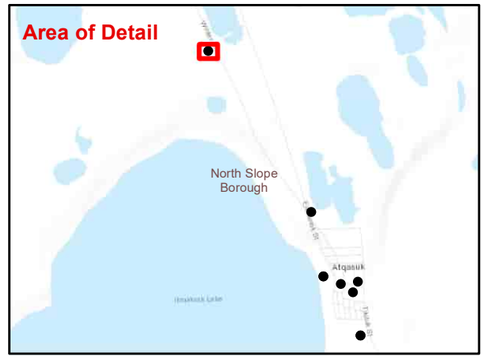
157°27'30"W
157°27'25"W
157°27'20"W
157°27'15"W
70°30'14"N
70°30'13"N
70°30'12"N
70°30'11"N
70°30'10"N

70
75
75
80
TNST ATQ
PLAT 83-10
HWMU-1

Area of Detail



- Contour - 1ft
- Index Contour - 5ft
- Culverts
- Other Land Owner
- Waste Management Unit

Notes

Sources
Imagery:
GIS Data:
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

1 inch = 50 feet
0 25 50 75 100
Feet
WGS 1984 UTM Zone 4N

N

HAZARDOUS WASTE CLOSURE REPORT
HWMF Landfill Accumulation Area

ATQASUK, ALASKA

DATE:	PROJECT MANAGER:	FIGURE NO:
DEC 2023	G. WADE	ATQ-2B

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Attachment 1B
Photograph Log

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Appendix B Photograph Log. Landfill Accumulation Area, Community of Atqasuk
Hazardous Waste Management Facility and Hazardous Waste Management Unit Closure Plan

Photo No. 1 – Sewage lagoon in the eastern portion of the fenced-in landfill area, which is not part of a waste management unit.
22 June 2022

Photo No. 2 – Debris and the tops of tanks are visible in this southwest facing photograph of the landfill from the access road (HWMU-1).
22 June 2022

Photo No. 3 – Photograph of landfill accumulation area's northern edge, taken facing west (HWMU-1). 22 June 2022

Appendix C
Power Plant

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Hazardous Waste Management Facility and Hazardous Waste Management Unit Closure Plan

Subject: **Appendix C. Power Plant, Community of Atqasuk**

Project Name: North Slope Borough

Prepared For: North Slope Borough, Department of Public Works
PO Box 350
Utqiaġvik, Alaska 99723

Prepared By: Jacobs Engineering Group Inc.

Date: April 2024

Version/Revision: Version 1, Revision 4 **Date of Revision:** April 2024 **Revision Summary:** Plan Development

1. Introduction

This appendix is a supplement to the Community of Atqasuk Hazardous Waste Management Facility (HWMF) Closure Plan, which is prepared to satisfy requirements of Title 40 of the Code of Federal Regulations (CFR) Part 265, Subpart G and Section V, Paragraph E of the North Slope Borough (Borough) Consent Decree #3:22-cv-00058-JWS with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Justice.

This appendix has been developed for the closure of the Community of Atqasuk Department of Public Works (DPW) Power Plant and the hazardous waste management units (HWMUs) therein. Closure of the HWMF/HWMUs through implementation of this closure plan includes all HWMUs located in Parcel R-007-171-53 (Figures ATQ-1C and ATQ-2C). A photograph log of the HWMUs and solid waste management unit (SWMU) is included as Attachment 1C.

1.1 Facility Description and History

The Power Plant and Water Treatment buildings are located on the northwest side of the community, and next to Ikmakrak Lake. The buildings are connected by a corridor and are treated as a single hazardous waste management unit. The nearest navigable water is Ikmakrak Lake, 500 feet to the west. Ikmakrak Lake is the community's freshwater supply. The Power Plant houses generators that burn fuel to supply power to the community. Regularly generated waste consists of the used oil removed during maintenance of the power generators. The building address is 106 Ekosik Street, Atqasuk, AK 99791 and the geographic coordinates are 70°28'57.7332"N and 157°25'29.0029"W.

The EPA Generator ID for Atqasuk is AKR000206888. The Power Plant facility and all other facilities in the community are together classified as a large quantity generator. Table 1C provides the waste management units located at the Power Plant HWMF. Records of historical wastes generated or received do not exist for this facility. Table 2C provides the most recent inventory of wastes managed at this facility. Records review for each HWMU and SWMU within the HWMF

found that no documentation exists related to length of time hazardous waste and solid waste were generated and/or received and managed at each HWMU and SWMU. Records review for the HWMUs and SWMU within the HWMF found that no documentation exists regarding any releases, including spills of hazardous waste and solid waste. Records review for each HWMU and SWMU within the HWMF found that no documentation exists related any dates when hazardous waste was generated or received at the site.

Table 1C. Waste Management Units

Unit Name	Indoor/Outdoor/Connex	Flooring Substrate[a]	Dimensions (feet)[b]
HWMU-1	Indoor	Concrete	25×280
HWMU-2	Outdoor	Gravel	20×112
SWMU-3	Indoor	Linoleum, concrete	60×66

[a] Multiple flooring types are possible within each unit. All are listed in this table.

[b] Total area within which materials may be stored. Non-storage areas within the physical boundaries of the facility, such as offices, kitchens, and bathrooms, are not included in this area, as they will not be included in closure activities.

Additional details about waste management unit locations are provided in Section 1.2 and shown on Figure ATQ-2C. Hazardous wastes at the Atqasuk Power Plant include the following types:

- Oil/fuel/water mix
- Used glycol
- Unknown

1.2 HWMU Descriptions and Maximum Inventory of Wastes [40 CFR 265.112(b)(3)]

The maximum volume of hazardous waste inventoried onsite at the Power Plant and Water Treatment HWMF was the equivalent of twenty 55-gallon drums, which translates to roughly 1,100 gallons. Waste codes associated with hazardous waste managed at each HWMU (past and present) consist of the following: D001, D002, D003, D004, and U154. Waste codes have been assigned using generator's knowledge, and in some instances, analytical data. The waste storage is broken down into three management units described as follows:

- HWMU-1 includes the Power Plant and Water Utility Building. These two buildings are connected by a corridor. The Power Plant contains several generators from which waste oil is frequently generated in the course of normal operation. The HWMU is a large covered and insulated building with a concrete floor throughout. Doors and windows are kept closed when active operations are not occurring. No documentation exists pertaining to protective coatings being applied to concrete floor.
- HWMU-2 includes the storage area directly northwest and northeast of the Power Plant. The unit wraps around the corner of the building and contains drums of waste oil or unused product from Power Plant operations. The area consists of unpaved dirt/tundra with no historical documentation of protective materials ever being applied.
- SWMU-3 includes the Water Treatment Plant, which is southwest of the Power Plant and west of the Water Utility Building. This unit does not contain hazardous materials but is included in this unit list as it is on the same land parcel as an HWMF.

Table 2C presents the maximum inventory of hazardous wastes onsite over the active life of the HWMUs within the HWMF, estimated from site visits conducted during summers of 2021 and 2022. The waste is still present at the HWMF.

Table 2C. Maximum Waste Inventory

Type of Waste	HWMU-1	HWMU-2	Facility Total
Oil/Fuel/Water Mix	2 drums	3 drums	5 drums
Used Glycol	12 drums		12 drums
Unknown		3 drums	3 drums

2. Site-specific Closure Performance Standards [40 CFR 265.111]

Performance standards for clean closure of the HWMF are specified in Section 1.6 of the Community Closure Plan. If soil closure performance standards cannot be attained, an amendment to the Closure Plan will be made to address groundwater sampling. If clean closure standards are unable to be met, a post-closure plan for the HWMF will be developed as outlined in Section 4 of this appendix.

3. Closure and Sampling Procedures

Table 3C identifies which portions of the Community Closure Plan will apply to HWMU-2 at the HWMF.

Table 3C. Closure Procedures for each HWMU

Closure Actions	HWMU-1	HWMU-2
Notification	X	X
Decontamination		
Equipment in the HWMU (listed)	-	-
Interior floors and walls	X	-
Containment devices or cells with liners	-	-
Connex units	-	-
Confirmation Sampling		
Wipe sampling (metal surfaces)	-	-
Concrete sampling	X	-
Soil and gravel pad sampling	-	X

Notes:

- = Absence of a need for those closure actions at that HWMU.
X = Closure actions are relevant to that HWMU.

3.1 Phased Closure

Phased closure is not expected for this HWMF.

3.2 Inventory Removal and Disposal

Inventory removal for the HWMUs will comply with the standards outlined in Section 3.3.2 of the Community Closure Plan.

3.3 Waste Residue Removal and Decontamination

Removal of waste contamination from the ground surface, walls, and equipment within the HWMUs will comply with the standards outlined in Section 3.3.3 of the Community Closure Plan. Records of historical equipment use to handle wastes do not exist for this facility.

It is estimated that the following quantities of waste will be generated at HWMU-1:

- Five drums of rinsate from initial decontamination procedures of the building and decontamination of sampling equipment during confirmation sampling
- One additional drum of rinsate from decontamination of each piece of equipment (four drums total)
- A small quantity of concrete investigation-derived waste (IDW) from sampling, which will be kept in a 5-gallon bucket or similar

It is estimated that the following quantities of waste will be generated at HWMU-2:

- Two drums of rinsate from decontamination of the containment lining
- A small quantity of IDW from soil and gravel sampling, which will be kept in a 5-gallon bucket or similar

Liquids will be put in secondary containment to prevent the need for additional decontamination. If a new area outside of the current HWMU areas is used for storage, a professional engineer will certify the new storage area for IDW and decontamination waste meets the present standards for accumulation or storage of hazardous waste.

3.4 Schedule for Closure

A schedule built in accordance with 40 CFR § 265.112(b)(6) is provided in Section 5.3 of the Community Closure Plan.

3.5 Certification of Closure

Completion of closure activities will be documented and submitted as outlined in Section 3.9 of the Community Closure Plan.

4. Post-Closure Plan

It is expected the HWMUs within the HWMF will be closed in a manner that will meet "clean closure" standards, rendering a post-closure plan irrelevant. Additional details are available in Section 3.10 of the Community Closure Plan.

5. Closure Cost Estimate

The closure cost for this HWMF is estimated based on observed quantities of waste from 2021 and 2022 (Table 4C). Assumptions are made about drums of unknown fluids and the quantity of IDW generated during closure activities are as described in Section 6 of the Community Closure Plan.

6. Financial Assurance Mechanism for Closure

Financial assurance for closure of this HWMF is described in Section 7.0 of the Community Closure Plan.

7. Liability Requirements

A description of the insurance in place to satisfy liability requirements for this HWMF is described in Section 8.0 of the Community Closure Plan.

Table 4C. Closure Cost Estimate

Task No.	Task	Rate	Units	No.	Ext. Cost
Task 1 Record Review					
1.1	Closure Plan Review, QAPP and HSE Plan Prep, Agency Meetings	$ 175.00	hour	120	$ 21,000.00
Task 2 Characterization					
2.0	Set up Activities				
	Pre-mobilization	$ 120.00	hour	15	$ 1,800.00
	Onsite set up	$ 120.00	hour	15	$ 1,800.00
2.1	Waste Characterization, Pkg, Labeling	$ 80.00	hour	20	$ 1,600.00
Task 3 Shipping and Disposal					
3.1	Disposal				
	Flammable Solvent	$ 240.00	drum	0	$ -
	Oil/Fuel/Water Mix	$ 151.00	drum	7	$ 1,057.00
	Used Glycol	$ 314.00	drum	13	$ 4,082.00
	Crushed Fluorescent Light Tubes	$ 225.25	drum	0	$ -
	Lead-acid Batteries	$ 1,687.50	tote	0	$ -
	Flammable Paint-related Materials	$ 476.80	drum	0	$ -
	Corrosive Loosepack	$ 347.76	drum	0	$ -
	AFFF	$ 129.00	drum	0	$ -
	Freon	$ 121.75	5 lbs	0	$ -
	PCB-containing Fluids	$ 2,155.70	drum	0	$ -
	PCB Ballasts	$ 75.25	5-gal drum	0	$ -
	Compressed Gas Cylinders	$ 40.00	cylinder	0	$ -
3.2	Shipping to Prudhoe Bay via air cargo	$ 988.00	drum	20	$ 19,760.00
		$ 5,555.00	tote	0	$ -
3.3	Shipping from Prudhoe to Anchorage	$ 201.00	drum	20	$ 4,020.00
		$ 588.00	tote	0	$ -
3.4	Shipping from Anchorage to Seattle (TSDF)	$ 405.00	drum	20	$ 8,100.00
Task 4 Facility Decontamination/Removal					
4.1	Dismantle and clean equipment				
	Field Labor/person	$ 70.00	hour	80	$ 5,600.00
	Heavy Equipment	$ 350.00	hour	40	$ 14,000.00
Task 5 Sampling and Analysis					
5.1	Sample Collection				
	Labor, Technician	$ 120.00	hour	60	$ 7,200.00
	Consumables	$ 10.00	sample	40	$ 400.00
5.2	Analytical Testing				
	Wipe Samples	$ 485.00	sample	0	$ -
	Concrete Samples	$ 1,125.00	sample	20	$ 22,500.00
	Soil/Gravel Samples	$ 1,125.00	sample	20	$ 22,500.00
5.3	Analysis Evaluation/Recommendations	$ 120.00	hour	100	$ 12,000.00
Task 6 Disposal of Decontamination Wastes					
6.1	Decontamination Solids Disposal	$ 225.00	drum	1	$ 225.00
6.2	Decontamination Rinsate Disposal	$ 180.00	drum	7	$ 1,260.00
6.3	Drum Profiling, Pkg, Labeling, Technician	$ 80.00	hour	7	$ 560.00
6.4	Shipping from Atqasuk to Seattle	$ 1,436.00	drum	8	$ 11,488.00
6.5	Site Take-Down Activities				
	Onsite Tear Down	$ 120.00	hour	10	$ 1,200.00
	Post-field Logistics	$ 120.00	hour	10	$ 1,200.00
Task 7 Closure Certification by Engineer					
		$ 175.00	hour	20	$ 3,500.00
Tasks 1-7 Contractor Travel and Per Diem					
	Travel: r/t Anchorage-Utqiagvik-Atqasuk	$ 574.00	person	8	$ 4,592.00
	Per Diem: Atqasuk	$ 113.00	night	45	$ 5,085.00
	Lodging in Atqasuk	$ 550.00	night	45	$ 24,750.00
				Sub-total Estimated Closure Costs	$ 201,279.00
				Task 8 30% Contingency	$ 60,383.70
				Total Estimated Closure Costs	$ 261,662.70

[a] Including drums of contaminated soil to be removed from site.

Notes:

AFFF = aqueous film forming foam
gal = gallon(s)
HSE = health, safety, and environment
lbs = pound(s)
PCB = polychlorinated biphenyl
QAPP = quality assurance project plan
r/t = round trip
TSDF = Treatment, Storage, and Disposal Facility

Figures

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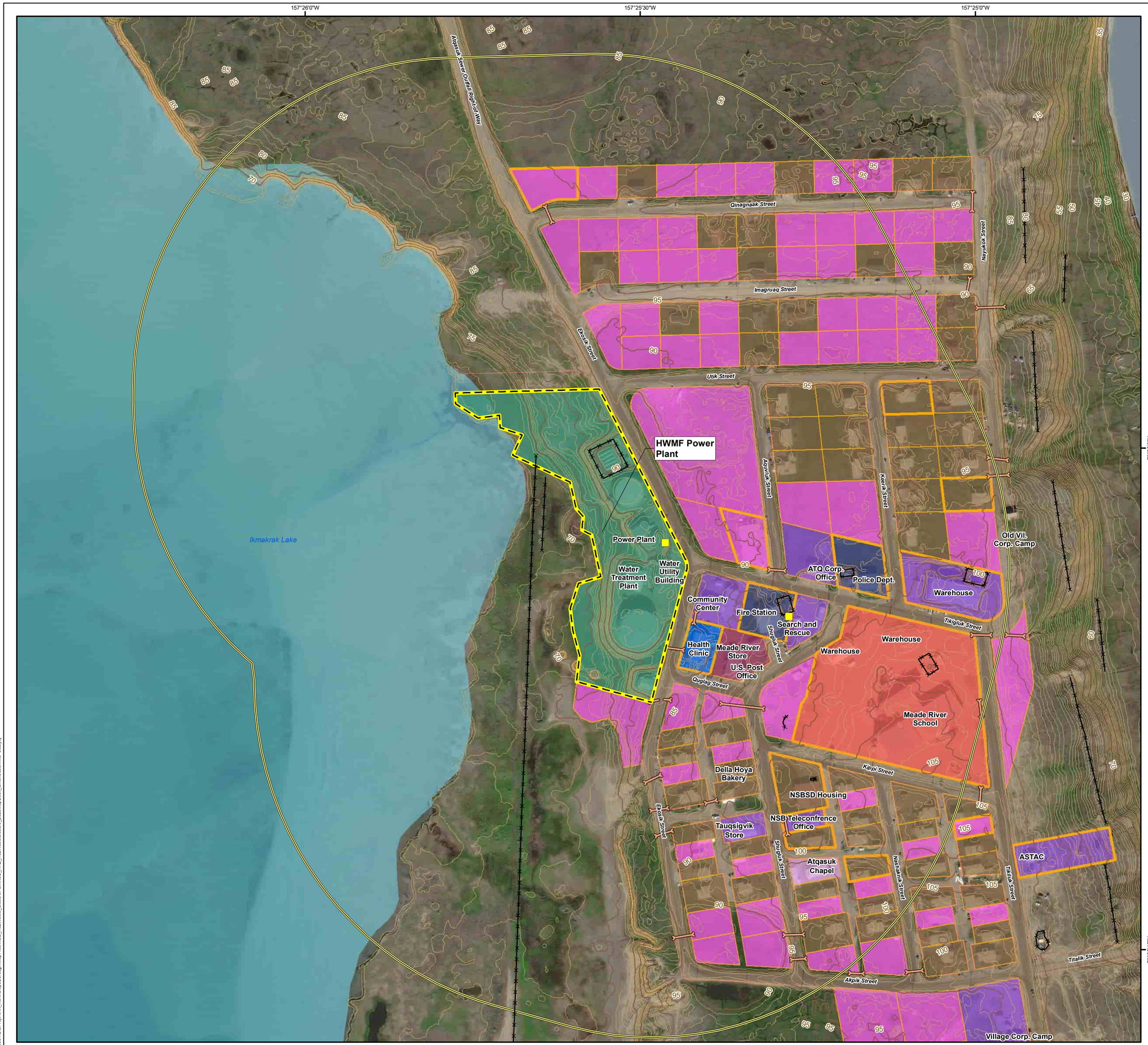

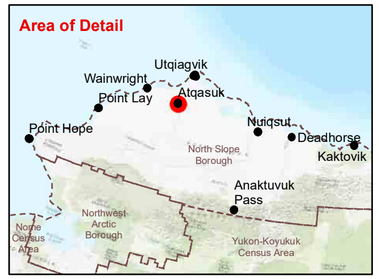

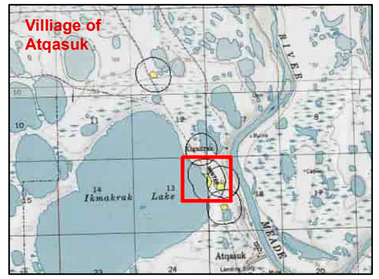

Legend

- Active ADEC Contaminated Site
- Cleanup Complete
- Cleanup Complete - Institutional Controls
- Informational
- Culverts
- Village Fence
- Contour - 1ft
- Index Contour - 5ft
- 1.000 ft Facility Buffer
- Target Parcel
- Right of Way
- North Slope Borough Land Owner
- Other Land Owner

Current Land Use

- Commercial
- Education
- Medical
- Mixed Use
- Public Safety
- Religious
- Residential
- Utility
- Vacant
- Lake or Pond

Sources

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
Copyright:© 2013 National Geographic Society, i-cubed

1 inch = 200 feet

0 100 200 300 400

Feet

N

WGS 1984 UTM Zone 4N

HAZARDOUS WASTE CLOSURE REPORT
HWMF Power Plant

ATQASUK, ALASKA

DATE:	PROJECT MANAGER:	FIGURE NO:
04 APR 2024	G. WADE	ATQ-1C

\\dct1vs01\GIS\Proj\AAK_NorthSlopeBorough\MapFiles\NSB_HazWaste_ClosurePlan\NSB_ATQ_HazWasteClosure_2024\MapBook_SmallScale.mxd beelyc]

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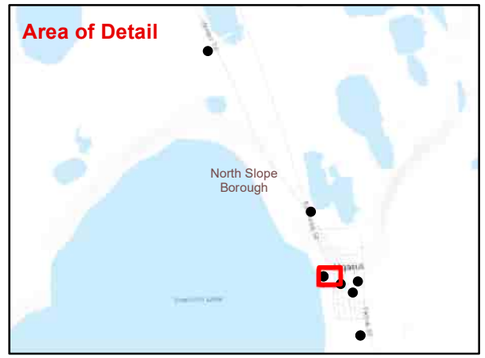
157°25'40"W
157°25'35"W
157°25'30"W
157°25'25"W
70°29'1"N
70°29'0"N
70°28'59"N
70°28'58"N
70°28'57"N
70°28'56"N

HWMU-2
HWMU-1
390.38.002
SWMU-3
98-11
Power Plant
Water Treatment Plant
Water Utility Building
Community Center
Fire Station
Ekosik Street ROW
Tikigluk Street
TNST ATQ ADD 2 PLAT 83-4
TNST ATQ PLAT 82-9
90
95
70
75
80
85

Area of Detail



- Waste Accumulation within Building
- Cleanup Complete
- Village Fence
- Contour - 1ft
- Index Contour - 5ft
- Culverts
- North Slope Borough Land Owner
- Other Land Owner
- Hazardous Waste Management Unit
- Solid Waste Management Unit

Sources
GIS Data: North Slope Borough, AK
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

1 inch = 60 feet
0 30 60 90 120
Feet
WGS 1984 UTM Zone 4N
N

HAZARDOUS WASTE CLOSURE REPORT
HWMF Power Plant

ATQASUK, ALASKA

DATE:	PROJECT MANAGER:	FIGURE NO:
29 MAR 2024	G. WADE	ATQ-2C

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Attachment 1C
Photograph Log

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Appendix C Photograph Log. Power Plant, Community of Atqasuk Hazardous Waste Management Facility and Hazardous Waste Management Unit Closure Plan

Photo No. 1 – Drums stored inside the boiler room of the water utility portion of the building (HWMU-1).
22 June 2022

Photo No. 2 – Used oil tank and drum accumulation area within the generator room of the Power Plant. Drums are stored along the wall and under the walking platform (HWMU-1).
22 June 2022

Photo No. 3 – Used oil storage drum located in a room within the Power Plant.
22 June 2022

Photo No. 4 – Drums of mixed ethylene glycol in a room within the Power Plant (HWMU-1).
22 June 2022

Photo No. 5 – Additional view of drum storage within the Power Plant generator room (HWMU-1).
22 June 2022

Photo No. 6 – A southwest facing photograph of the waste accumulation area north of the Power Plant.
22 June 2022

Photo No. 7 – A north facing photograph of HWMU-2, showing the portion closest to Ekosik Street. Pictured here are drums of expired product and a used battery.
22 June 2022

Appendix D
Sewage Treatment Plant

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Subject:	**Appendix D. Sewage Treatment Plant, Community of Atqasuk**
Project Name:	North Slope Borough
Prepared For:	North Slope Borough, Department of Public Works PO Box 350 Utqiaġvik, Alaska 99723
Prepared By:	Jacobs Engineering Group Inc.
Date:	April 2024

Version/Revision: Version 1, Revision 4 **Date of Revision:** April 2024 **Revision Summary:** Plan Development

1. Introduction

This appendix is a supplement to the Community of Atqasuk Hazardous Waste Management Facility (HWMF) Closure Plan, which is prepared to satisfy requirements of Title 40 of the Code of Federal Regulations (CFR) Part 265, Subpart G and Section V, Paragraph E of the North Slope Borough (Borough) Consent Decree #3:22-cv-00058-JWS with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Justice.

This appendix has been developed for the closure of the Community of Atqasuk Department of Public Works (DPW) Sewage Treatment Plant and the hazardous waste management units (HWMUs) therein. Closure of the HWMF/HWMUs through implementation of this closure plan includes all HWMUs located in Parcel R-007-011-37 (Figures ATQ-1D and ATQ-2D). A photograph log of the HWMU and solid waste management unit (SWMU) is included as Attachment 1D to this appendix.

1.1 Facility Description and History

The Sewage Treatment Plant is located 0.25 mile north of the community of Atqasuk. The Sewage Treatment Plant receives wastewater from the community and treats the components for liquids to be safely released back into the environment and for solids to be safely placed in landfill. The facility stores treatment products in a chemical storage closet indoors. The bulk of the building is taken up by the wastewater treatment tank. The sewage lagoon is 150 feet northeast of the building. The building address is 1500 Ekosik Street, Atqasuk, AK 99791 and geographic coordinates are 70°29'19.4085"N and 157°25'49.3190"W.

The EPA Generator ID for Atqasuk is AKR000206888. The Sewage Treatment Plant facility and all other facilities in the community are together classified as a large quantity generator. Table 1D provides the waste management units located at the Sewage Treatment Plant HWMF. Records of historical wastes generated or received do not exist for this facility. Table 2D provides the most recent inventory of wastes managed at this facility. Records review for each SWMU and HWMU

within the HWMF found that no documentation exists related to length of time hazardous waste and solid waste were generated and/or received and managed at each SWMU and HWMU. Records review for the SWMU and HWMU within the HWMF found that no documentation exists regarding any releases, including spills of hazardous waste and solid waste. Records review for each SWMU and HWMU within the HWMF found that no documentation exists related any dates when hazardous waste was generated or received at the site.

Table 1D. Waste Management Units

Unit Name	Indoor/Outdoor/Connex	Flooring Substrate[a]	Dimensions (feet)[b]
SWMU-1	Indoor	Concrete	55x80
HWMU-2	Outdoor	Gravel	32.5x40

[a] Multiple flooring types are possible within each unit. All are listed in this table.

[b] Total area within which materials may be stored. Non-storage areas within the physical boundaries of the facility, such as offices, kitchens, and bathrooms, are not included in this area, as they will not be included in closure activities.

[c] Area is estimated from satellite imagery.

Additional details about waste management unit locations are provided in Section 1.2 and shown on Figure ATQ-2D. Hazardous wastes at the Atqasuk Sewage Treatment Plant include the following types:

- Oil/fuel/water mix
- Corrosives
- Unknown

1.2 HWMU Descriptions and Maximum Inventory of Wastes [40 CFR 265.112(b)(3)]

The maximum volume of hazardous waste inventoried onsite at the Sewage Treatment Plant HWMF was the equivalent of thirty-five 55-gallon drums, which translates to roughly 1,925 gallons. Waste codes associated with hazardous waste managed at each HWMU (past and present) consist of the following: D001, D002, D003, D004, and U154. Waste codes have been assigned using generator's knowledge, and, in some instances, analytical data. The waste storage is broken down into two management units described as follows:

- SWMU-1 includes the interior of the Sewage Treatment Plant. This unit does not contain hazardous materials but is included in this unit list as it is part of a HWMF. Records review for this HWMU within the HWMF found that no documentation exists related to length of time hazardous waste and solid waste were generated and/or received and managed at this HWMU. Records review for this HWMU within the HWMF found that no documentation exists related to these storage locations being managed as either a 40 CFR 262.15 or a 40 CFR 262.17 accumulation area. The HWMU is a large covered and insulated building with a concrete floor throughout. Doors and windows are kept closed when active operations are not occurring. No documentation exists pertaining to protective coatings being applied to concrete floor.
- HWMU-2 is an outdoor storage area that can be reached via the road that connects Ekosik Street to the Sewage Plant and the lagoon beyond. The storage area is located to the northeast of the sewage plant buildings, approximately 140 feet away, and is 40 feet from the edge of the lagoon where treated wastewater is discharged. The waste in this unit is stored in drums,

in fish totes, and on pallets and contains unusable product such as powdered bagged sodium metabisulfite. Records review for this HWMU within the HWMF found that no documentation exists related to length of time hazardous waste and solid waste were generated and/or received and managed at this HWMU. Records review for this HWMU within the HWMF found that no documentation exists related to these storage locations being managed as either a 40 CFR 262.15 or a 40 CFR 262.17 accumulation area. The area consists of unpaved dirt/tundra with no historical documentation of protective materials ever being applied.

Table 2D presents the maximum inventory of hazardous wastes onsite over the active life of HWMU-2 within the HWMF, estimated from site visits conducted during summers of 2021 and 2022.

Table 2D. Maximum Waste Inventory

Type of Waste	HWMU-2
Oil/Fuel/Water Mix	1 drum
Corrosives	5 totes (30 drums)
Unknown	4 drums

2. Site-specific Closure Performance Standards [40 CFR 265.111]

Performance standards for clean closure of the HWMF are specified in Section 1.6 of the Community Closure Plan. If soil closure performance standards cannot be attained, an amendment to the Closure Plan will be made to address groundwater sampling. If clean closure standards are unable to be met, a post-closure plan for the HWMF will be developed as outlined in Section 4 of this appendix.

3. Closure and Sampling Procedures

Table 3D identifies which portions of the Community Closure Plan will apply to HWMU-2 at the HWMF.

Table 3D. Closure Procedures for HWMU-2

Closure Actions	HWMU-2
Notification	X
Decontamination	
Equipment in the HWMU (listed)	X
Interior floors and walls	-
Containment devices or cells with liners	X
Connex units	-
Confirmation Sampling	
Wipe sampling (metal surfaces)	-

Table 3D. Closure Procedures for HWMU-2

Closure Actions	HWMU-2
Concrete sampling	-
Soil and gravel pad sampling	X

Notes:

- = Absence of a need for those closure actions at that HWMU.
X = Closure actions are relevant to that HWMU.

3.1 Phased Closure

As there is only one HWMU at this facility, a phased closure is not possible here.

3.2 Inventory Removal and Disposal

Inventory removal for HWMU-2 will comply with the standards outlined in Section 3.3.2 of the Community Closure Plan.

3.3 Waste Residue Removal and Decontamination

Removal of waste contamination from the ground surface and liners within HWMU-2 will comply with the standards outlined in Section 3.3.3 of the Community Closure Plan.

It is estimated that the following quantities of waste will be generated at HWMU-2:

- Two drums of rinsate from decontamination of the containment lining
- A small quantity of investigation-derived waste (IDW) from soil and gravel sampling, which will be kept in a 5-gallon bucket or similar

Liquids will be put in secondary containment to prevent the need for additional decontamination. If a new area outside of the current HWMU areas is used for storage, a professional engineer will certify the new storage area for IDW and decontamination waste meets the present standards for accumulation or storage of hazardous waste.

3.4 Schedule for Closure

A schedule built in accordance with 40 CFR § 265.112(b)(6) is provided in Section 5.3 of the Community Closure Plan.

3.5 Certification of Closure

Completion of closure activities will be documented and submitted as outlined in Section 3.9 of the Community Closure Plan.

4. Post-Closure Plan

It is expected HWMU-2 within the HWMF will be closed in a manner that will meet "clean closure" standards, rendering a post-closure plan irrelevant. Additional details are available in Section 3.10 of the Community Closure Plan.

5. Closure Cost Estimate

The closure cost for this HWMF is estimated based on observed quantities of waste from 2021 and 2022 (Table 4D). Assumptions are made about drums of unknown fluids and the quantity of IDW generated during closure activities are as described in Section 6 of the Community Closure Plan.

6. Financial Assurance Mechanism for Closure

Financial assurance for closure of this HWMF is described in Section 7.0 of the Community Closure Plan.

7. Liability Requirements

A description of the insurance in place to satisfy liability requirements for this HWMF is described in Section 8.0 of the Community Closure Plan.

Table 4D. Closure Cost Estimate

Task No.	Task	Rate	Units	No.	Ext. Cost
Task 1 Record Review					
1.1	Closure Plan Review, QAPP and HSE Plan Prep, Agency Meetings	$ 175.00	hour	120	$ 21,000.00
Task 2 Characterization					
2.0	Set up Activities				
	Pre-mobilization	$ 120.00	hour	15	$ 1,800.00
	Onsite set up	$ 120.00	hour	15	$ 1,800.00
2.1	Waste Characterization, Pkg, Labeling	$ 80.00	hour	5	$ 400.00
Task 3 Shipping and Disposal					
3.1	Disposal				
	Flammable Solvent	$ 240.00	drum	0	$ -
	Oil/Fuel/Water Mix	$ 151.00	drum	3	$ 453.00
	Used Glycol	$ 314.00	drum	2	$ 628.00
	Crushed Fluorescent Light Tubes	$ 225.25	drum	0	$ -
	Lead-acid Batteries	$ 1,687.50	tote	0	$ -
	Flammable Paint-related Materials	$ 476.80	drum	0	$ -
	Corrosive Loosepack	$ 347.76	drum	30	$ 10,432.80
	AFFF	$ 129.00	drum	0	$ -
	Freon	$ 121.75	5 lbs	0	$ -
	PCB-containing Fluids	$ 2,155.70	drum	0	$ -
	PCB Ballasts	$ 75.25	5-gal drum	0	$ -
	Compressed Gas Cylinders	$ 40.00	cylinder	0	$ -
3.2	Shipping to Prudhoe Bay via air cargo	$ 988.00	drum	35	$ 34,580.00
		$ 5,555.00	tote	0	$ -
3.3	Shipping from Prudhoe to Anchorage	$ 201.00	drum	35	$ 7,035.00
		$ 588.00	tote	0	$ -
3.4	Shipping from Anchorage to Seattle (TSDF)	$ 405.00	drum	35	$ 14,175.00
Task 4 Facility Decontamination/Removal					
4.1	Dismantle and clean equipment				
	Field Labor/person	$ 70.00	hour	80	$ 5,600.00
	Heavy Equipment	$ 350.00	hour	40	$ 14,000.00
Task 5 Sampling and Analysis					
5.1	Sample Collection				
	Labor, Technician	$ 120.00	hour	40	$ 4,800.00
	Consumables	$ 10.00	sample	20	$ 200.00
5.2	Analytical Testing				
	Wipe Samples	$ 485.00	sample	0	$ -
	Concrete Samples	$ 1,125.00	sample	0	$ -
	Soil/Gravel Samples	$ 1,125.00	sample	20	$ 22,500.00
5.3	Analysis Evaluation/Recommendations	$ 120.00	hour	100	$ 12,000.00
Task 6 Disposal of Decontamination Wastes					
6.1	Decontamination Solids Disposal	$ 225.00	drum	1	$ 225.00
6.2	Decontamination Rinsate Disposal	$ 180.00	drum	9	$ 1,620.00
6.3	Drum Profiling, Pkg, Labeling, Technician	$ 80.00	hour	9	$ 720.00
6.4	Shipping from Atqasuk to Seattle	$ 1,436.00	drum	10	$ 14,360.00
6.5	Site Take-Down Activities				
	Onsite Tear Down	$ 120.00	hour	10	$ 1,200.00
	Post-field Logistics	$ 120.00	hour	10	$ 1,200.00
Task 7 Closure Certification by Engineer					
		$ 175.00	hour	20	$ 3,500.00
Tasks 1-7 Contractor Travel and Per Diem					
	Travel: r/t Anchorage-Utqiagvik-Atqasuk	$ 574.00	person	8	$ 4,592.00
	Per Diem: Atqasuk	$ 113.00	night	45	$ 5,085.00
	Lodging in Atqasuk	$ 550.00	night	45	$ 24,750.00
				Sub-total Estimated Closure Costs	$ 208,655.80
				Task 8 30% Contingency	$ 62,596.74
				Total Estimated Closure Costs	$ 271,252.54

Notes:
AFFF = aqueous film forming foam
gal = gallon(s)
HSE = health, safety, and environment
lbs = pound(s)
PCB = polychlorinated biphenyl
QAPP = quality assurance project plan
r/t = round trip
TSDF = Treatment, Storage, and Disposal Facility

Figures

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157°26'30"W 157°26'0"W 157°25'30"W 157°25'0"W

70°29'30"N

70°29'0"N

HWMF Sewage Treatment Plant

Sewage Treatment Plant

Landfill Access Road

Atqasuk Sewer Outfall Right-of-Way

Ikmakrak Lake

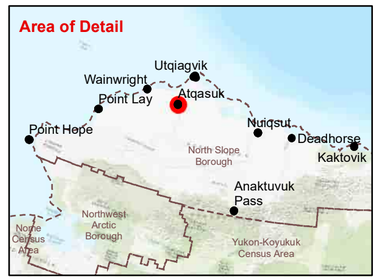
Qinagnaak Street

Imagruaq Street

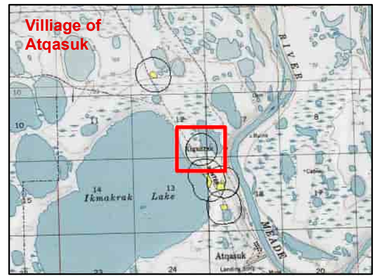
Eneglk Street

Nayuluk Street

Area of Detail



Villiage of Atqasuk



Legend

- Active ADEC Contaminated Site
- Cleanup Complete
- Cleanup Complete - Institutional Controls
- Informational
- Culverts
- Contour - 1ft
- Index Contour - 5ft
- 1.000 ft Facility Buffer
- Target Parcel
- Right of Way
- North Slope Borough Land Owner
- Other Land Owner

Current Land Use

- Industrial
- Residential
- Utility
- Vacant
- Lake or Pond

Sources

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
Copyright:© 2013 National Geographic Society, i-cubed

1 inch = 200 feet

0 100 200 300 400

Feet

N

WGS 1984 UTM Zone 4N

HAZARDOUS WASTE CLOSURE REPORT
HWMF Sewage Treatment Plant

ATQASUK, ALASKA

DATE:	PROJECT MANAGER:	FIGURE NO:
04 APR 2024	G. WADE	ATQ-1D

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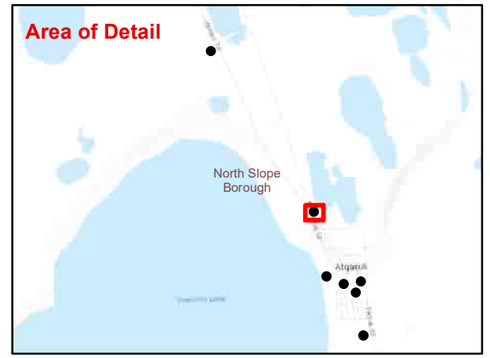

Contour - 1ft
Index Contour - 5ft
Culverts
North Slope Borough Land Owner
Other Land Owner
Hazardous Waste Management Unit
Solid Waste Management Unit

Sources
GIS Data: North Slope Borough, AK
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

1 inch = 50 feet
0 25 50 75 100
Feet
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WGS 1984 UTM Zone 4N

HAZARDOUS WASTE CLOSURE REPORT
HWMF Sewage Treatment Plant

ATQASUK, ALASKA

DATE:	PROJECT MANAGER:	FIGURE NO:
29 MAR 2024	G. WADE	ATQ-2D

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Attachment 1D
Photograph Log

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Appendix D Photograph Log. Sewage Treatment Plant, Community of Atqasuk
Hazardous Waste Management Facility and Hazardous Waste Management Unit Closure Plan

Photo No. 1 – Solid waste storage within plastic totes in the center of the Sewage Treatment Plant building (SWMU-1).
23 June 2022

Photo No. 2 – Hazardous product storage in the northwest corner of the Sewage Treatment Plant building (SWMU-1).
23 June 2022

Photo No. 3 – Plastic totes and carboard drums storing expired product in HWMU-2, facing northeast.
23 June 2022

Appendix E
USDW

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Hazardous Waste Management Facility and
Hazardous Waste Management Unit Closure Plan

Subject:	**Appendix E. USDW, Community of Atqasuk**
Project Name:	North Slope Borough
Prepared For:	North Slope Borough, Department of Public Works PO Box 350 Utqiaġvik, Alaska 99723
Prepared By:	Jacobs Engineering Group Inc.
Date:	April 2024

Version/Revision: Version 1, Revision 4 **Date of Revision:** April 2024 **Revision Summary:** Plan Development

1. Introduction

This appendix is a supplement to the Community of Atqasuk Hazardous Waste Management Facility (HWMF) Closure Plan, which is prepared to satisfy requirements of Title 40 of the Code of Federal Regulations (CFR) Part 265, Subpart G and Section V, Paragraph E of the North Slope Borough (Borough) Consent Decree #3:22-cv-00058-JWS with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Justice.

This appendix has been developed for the closure of the Community of Atqasuk Department of Public Works (DPW) Unified School District Warehouse (USDW) and the hazardous waste management units (HWMUs) therein. Closure of the HWMF/HWMUs through implementation of this closure plan includes all HWMUs located in Parcel R-007-161-01 (Figures ATQ-1E and ATQ-2E). A photograph log of the HWMUs and solid waste management unit (SWMU) is included as Attachment 1E to this appendix

1.1 Facility Description and History

The USDW building is located approximately 100 feet north of the school. The building houses DPW offices and equipment and products used to maintain Borough buildings. There are also several garage bays available for light duty vehicle upkeep. The building is midway between two bodies of navigable water: Ikmakrak Lake, 900 feet to the west, and the Meade River, 900 feet to the east. The building address is 801 Tikigluk Street, Atqasuk, AK 99791. The geographic coordinates of this facility are 70°28'55.333"N, 157°25'03.2408"W.

The EPA Generator ID for Atqasuk is AKR000206888. The USDW building and all other facilities in the community are together classified as a large quantity generator. Table 1E provides the waste management units located at the USDW building HWMF. Records of historical wastes generated or received do not exist for this facility. Table 2E provides the most recent inventory of wastes managed at this facility. Records review for each HWMU and SWMU within the HWMF found that no documentation exists related to length of time hazardous waste and solid waste were

generated and/or received and managed at each HWMU and SWMU. Records review for the HWMUs and SWMU within the HWMF found that no documentation exists regarding any releases, including spills of hazardous waste and solid waste. Records review for each HWMU and SWMU within the HWMF found that no documentation exists related any dates when hazardous waste was generated or received at the site.

Table 1E. Waste Management Units

Unit Name	Indoor/Outdoor/Connex	Flooring Substrate[a]	Dimensions (feet)[b]
HWMU-1	Indoor	Concrete	18×27
SWMU-2	Outdoor	Gravel	4×8
HWMU-3	Outdoor	Gravel	31×45

[a] Multiple flooring types are possible within each unit. All are listed in this table.

[b] Total area within which materials may be stored. Non-storage areas within the physical boundaries of the facility, such as offices, kitchens, and bathrooms, are not included in this area, as they will not be included in closure activities.

[c] Area is estimated from satellite imagery.

Additional details about waste management unit locations are provided in Section 1.2 and shown on Figure ATQ-2E. Hazardous wastes at the Atqasuk USDW building includes the following types:

- Oil/fuel/water mix
- Used glycol
- Lead-acid batteries
- Compressed gas
- Unknown

1.2 HWMU Descriptions and Maximum Inventory of Wastes [40 CFR 265.112(b)(3)]

The maximum volume of liquid hazardous waste inventoried onsite at the USDW HWMF was the equivalent of twenty-one 55-gallon drums, which translates to roughly 1,155 gallons. The waste storage is broken down into three management units described as follows:

- HWMU-1 includes the storage contained within the USDW building. Items are stored here that are related to the upkeep of machinery that is serviced in these garage bays. Records review for this HWMU within the HWMF found that no documentation exists related to length of time hazardous waste and solid waste were generated and/or received and managed at this HWMU. Records review for this HWMU within the HWMF found that no documentation exists related to these storage locations being managed as either a 40 CFR 262.15 or a 40 CFR 262.17 accumulation area. The HWMU is a large covered and insulated building with a concrete floor throughout. Doors and windows are kept closed when active operations are not occurring. No documentation exists pertaining to protective coatings being applied to concrete floor.
- SWMU-2 is located south of the USDW building, north of Tikigluk Street. It is a drum storage area; however, this unit does not contain hazardous materials. It is included in this unit list because it is a solid waste management unit that is part of an HWMF. Records review for this HWMU within the HWMF found that no documentation exists related to length of time hazardous waste and solid waste were generated and/or received and managed at this HWMU.

Records review for this HWMU within the HWMF found that no documentation exists related to these storage locations being managed as either a 40 CFR 262.15 or a 40 CFR 262.17 accumulation area. There is no historical documentation of waste storage in this area. The area consists of unpaved dirt/tundra with no historical documentation of protective materials ever being applied or equipment used

- HWMU-3 is located to the north of the USDW building. Drums are occasionally stored here, west of the fuel storage tank that supplies the building. Records review for this HWMU within the HWMF found that no documentation exists related to length of time hazardous waste and solid waste were generated and/or received and managed at this HWMU. Records review for this HWMU within the HWMF found that no documentation exists related to these storage locations being managed as either a 40 CFR 262.15 or a 40 CFR 262.17 accumulation area. There is no historical documentation of waste storage in this area. The area consists of unpaved dirt/tundra with no historical documentation of protective materials ever being applied or equipment used.

Table 2E presents the maximum inventory of hazardous wastes onsite over the active life of HWMUs within the HWMF, estimated from site visits conducted during summers of 2021 and 2022.

Table 2E. Maximum Waste Inventory

Type of Waste	HWMU-1	HWMU-3	Facility Total
Oil/Fuel/Water Mix	2 drums	7 drums	9 drums
Used Glycol	1 drum	8 drums	9 drums
Lead-acid Batteries	1 tote		1 tote
Compressed Gas	50 cylinders		50 cylinders
Unknown	2 drums		2 drums

2. Site-specific Closure Performance Standards [40 CFR 265.111]

Performance standards for clean closure of the HWMF are specified in Section 1.6 of the Community Closure Plan. If soil closure performance standards cannot be attained, an amendment to the Closure Plan will be made to address groundwater sampling. If clean closure standards are unable to be met, a post-closure plan for the HWMF will be developed as outlined in Section 4 of this appendix.

3. Closure and Sampling Procedures

Table 3E identifies which portions of the Community Closure Plan will apply to HWMU-2 at the HWMF.

Table 3E. Closure Procedures for each HWMU

Closure Actions	HWMU-1	HWMU-3
Notification	X	X
Decontamination		
Equipment in the HWMU (listed)	-	X
Interior floors and walls	X	-
Containment devices or cells with liners	-	X
Connex units	-	-
Confirmation Sampling		
Wipe sampling (metal surfaces)	-	-
Concrete sampling	X	-
Soil and gravel pad sampling	-	X

Notes:

- = Absence of a need for those closure actions at that HWMU.
X = Closure actions are relevant to that HWMU.

3.1 Phased Closure

Phased closure is not expected for this HWMF.

3.2 Inventory Removal and Disposal

Inventory removal for the HWMUs will comply with the standards outlined in Section 3.3.2 of the Community Closure Plan.

3.3 Waste Residue Removal and Decontamination

Removal of waste contamination from the ground surface, walls, and equipment within the HWMUs will comply with the standards outlined in Section 3.3.3 of the Community Closure Plan.

It is estimated that the following quantities of waste will be generated at HWMU-1:

- Five drums of rinsate from initial decontamination procedures of the building and decontamination of sampling equipment during confirmation sampling
- A small quantity of concrete investigation-derived waste (IDW) from sampling, which will be kept in a 5-gallon bucket or similar.

It is estimated that the following quantities of waste will be generated at HWMU-3:

- Two drums of rinsate from decontamination of the containment lining
- A small quantity of IDW from soil and gravel sampling, which will be kept in a 5-gallon bucket or similar.

Liquids will be put in secondary containment to prevent the need for additional decontamination. If a new area outside of the current HWMU areas is used for storage, a professional engineer will certify the new storage area for IDW and decontamination waste meets the present standards for accumulation or storage of hazardous waste.

3.4 Schedule for Closure

A schedule built in accordance with 40 CFR § 265.112(b)(6) is provided in Section 5.3 of the Community Closure Plan.

3.5 Certification of Closure

Completion of closure activities will be documented and submitted as outlined in Section 3.9 of the Community Closure Plan.

4. Post-Closure Plan

It is expected the HWMUs within the HWMF will be closed in a manner that will meet "clean closure" standards, rendering a post-closure plan irrelevant. Additional details are available in Section 3.10 of the Community Closure Plan.

5. Closure Cost Estimate

The closure cost for this HWMF is estimated based on observed quantities of waste from 2021 and 2022 (Table 4E). Assumptions are made about drums of unknown fluids and the quantity of IDW generated during closure activities are as described in Section 6 of the Community Closure Plan.

6. Financial Assurance Mechanism for Closure

Financial assurance for closure of this HWMF is described in Section 7.0 of the Community Closure Plan.

7. Liability Requirements

A description of the insurance in place to satisfy liability requirements for this HWMF is described in Section 8.0 of the Community Closure Plan.

Table 4E. Closure Cost Estimate

Task No.	Task	Rate	Units	No.	Ext. Cost
Task 1 Record Review					
1.1	Closure Plan Review, QAPP and HSE Plan Prep, Agency Meetings	$ 175.00	hour	120	$ 21,000.00
Task 2 Characterization					
2.0	Set up Activities				
	Pre-mobilization	$ 120.00	hour	15	$ 1,800.00
	Onsite set up	$ 120.00	hour	15	$ 1,800.00
2.1	Waste Characterization, Pkg, Labeling	$ 80.00	hour	20	$ 1,600.00
Task 3 Shipping and Disposal					
3.1	Disposal				
	Flammable Solvent	$ 240.00	drum	0	$ -
	Oil/Fuel/Water Mix	$ 151.00	drum	10	$ 1,510.00
	Used Glycol	$ 314.00	drum	10	$ 3,140.00
	Crushed Fluorescent Light Tubes	$ 225.25	drum	0	$ -
	Lead-acid Batteries	$ 1,687.50	tote	1	$ 1,687.50
	Flammable Paint-related Materials	$ 476.80	drum	0	$ -
	Corrosive Loosepack	$ 347.76	drum	0	$ -
	AFFF	$ 129.00	drum	0	$ -
	Freon	$ 121.75	5 lbs	0	$ -
	PCB-containing Fluids	$ 2,155.70	drum	0	$ -
	PCB Ballasts	$ 75.25	5-gal drum	0	$ -
	Compressed Gas Cylinders	$ 40.00	cylinder	50	$ 2,000.00
3.2	Shipping to Prudhoe Bay via air cargo	$ 988.00	drum	20	$ 19,760.00
		$ 5,555.00	tote	1	$ 5,555.00
3.3	Shipping from Prudhoe to Anchorage	$ 201.00	drum	20	$ 4,020.00
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3.4	Shipping from Anchorage to Seattle (TSDF)	$ 405.00	drum	20	$ 8,100.00
Task 4 Facility Decontamination/Removal					
4.1	Dismantle and clean equipment				
	Field Labor/person	$ 70.00	hour	80	$ 5,600.00
	Heavy Equipment	$ 350.00	hour	40	$ 14,000.00
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5.1	Sample Collection				
	Labor, Technician	$ 120.00	hour	50	$ 6,000.00
	Consumables	$ 10.00	sample	30	$ 300.00
5.2	Analytical Testing				
	Wipe Samples	$ 485.00	sample	0	$ -
	Concrete Samples	$ 1,125.00	sample	10	$ 11,250.00
	Soil/Gravel Samples	$ 1,125.00	sample	20	$ 22,500.00
5.3	Analysis Evaluation/Recommendations	$ 120.00	hour	100	$ 12,000.00
Task 6 Disposal of Decontamination Wastes					
6.1	Decontamination Solids Disposal	$ 225.00	drum	1	$ 225.00
6.2	Decontamination Rinsate Disposal	$ 180.00	drum	4	$ 720.00
6.3	Drum Profiling, Pkg, Labeling, Technician	$ 80.00	hour	4	$ 320.00
6.4	Shipping from Atqasuk to Seattle	$ 1,436.00	drum	5	$ 7,180.00
6.5	Site Take-Down Activities				
	Onsite Tear Down	$ 120.00	hour	10	$ 1,200.00
	Post-field Logistics	$ 120.00	hour	10	$ 1,200.00
Task 7 Closure Certification by Engineer					
		$ 175.00	hour	20	$ 3,500.00
Tasks 1-7 Contractor Travel and Per Diem					
	Travel: r/t Anchorage-Utqiagvik-Atqasuk	$ 574.00	person	8	$ 4,592.00
	Per Diem: Atqasuk	$ 113.00	night	45	$ 5,085.00
	Lodging in Atqasuk	$ 550.00	night	45	$ 24,750.00
				Sub-total Estimated Closure Costs	$ 192,982.50
				Task 8 30% Contingency	$ 57,894.75
				Total Estimated Closure Costs	$ 250,877.25

Notes:
AFFF = aqueous film forming foam
gal = gallon(s)
HSE = health, safety, and environment
lbs = pound(s)
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TSDF = Treatment, Storage, and Disposal Facility

Figures

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157°25'30"W

157°25'0"W

157°24'30"W

70°28'0"N

70°27'30"N

Atqasuk Sewer Outfall Right-of-Way

Qinagnaak Street

Imagruaq Street

Utik Street

Ekorik Street

Nayukok Street

Agnutik Street

Kearik Street

Tikigluk Street

Shugluk Street

Quglag Street

Kippi Street

Akpik Street

Titalik Street

Nasiksrak Street

Ikmakrak Lake

Power Plant

Water Treatment Plant

Water Utility Building

Community Center

Fire Station

Search and Rescue

Health Clinic

Meade River Store

U.S. Post Office

ATQ Corp. Office

Police Dept.

HWMF USDW

Old Vil. Corp. Camp

Warehouse

Warehouse

Meade River School

Della Hoya Bakery

NSBSD Housing

NSB Teleconfrence Office

Tauqsigvik Store

Atqasuk Chapel

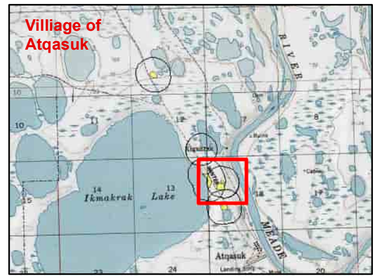
ASTAC

Village Corp. Camp

Corporation Warm Storage

Area of Detail

Villiage of Atqasuk



Legend

- Active ADEC Contaminated Site
- Cleanup Complete
- Cleanup Complete - Institutional Controls
- Informational
- Culverts
- Village Fence
- Contour - 1ft
- Index Contour - 5ft
- 1.000 ft Facility Buffer
- Target Parcel
- Right of Way
- North Slope Borough Land Owner
- Other Land Owner

Current Land Use

- Commercial
- Education
- Medical
- Mixed Use
- Public Safety
- Religious
- Residential
- Utility
- Vacant
- Lake or Pond

Sources

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
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1 inch = 200 feet

0 100 200 300 400

Feet

WGS 1984 UTM Zone 4N

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HAZARDOUS WASTE CLOSURE REPORT
HWMF USDW

ATQASUK, ALASKA

DATE:	PROJECT MANAGER:	FIGURE NO:
04 APR 2024	G. WADE	ATQ-1E

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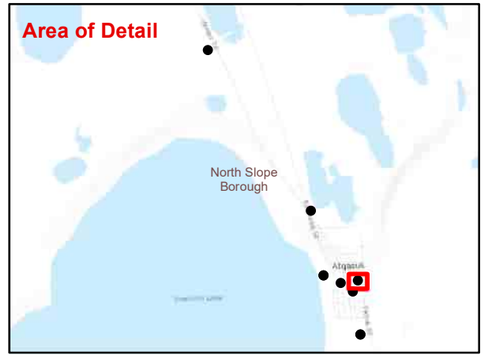

- Waste Accumulation within Building
- Village Fence
- Contour - 1ft
- Index Contour - 5ft
- Culverts
- North Slope Borough Land Owner
- Other Land Owner
- Hazardous Waste Management Unit
- Solid Waste Management Unit

Sources
GIS Data: North Slope Borough, AK
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

1 inch = 50 feet
0 25 50 75 100
Feet
WGS 1984 UTM Zone 4N

N

HAZARDOUS WASTE CLOSURE REPORT HWMF USDW

ATQASUK, ALASKA

DATE:	PROJECT MANAGER:	FIGURE NO:
29 MAR 2024	G. WADE	ATQ-2E

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Attachment 1E
Photograph Log

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Appendix E Photograph Log. USDW, Community of Atqasuk Hazardous Waste Management Facility and Hazardous Waste Management Unit Closure Plan

Photo No. 1 – Two drums of waste materials stored on the mezzanine of the USDW building, in containment, above the garage bays (HWMU-1).
22 June 2022

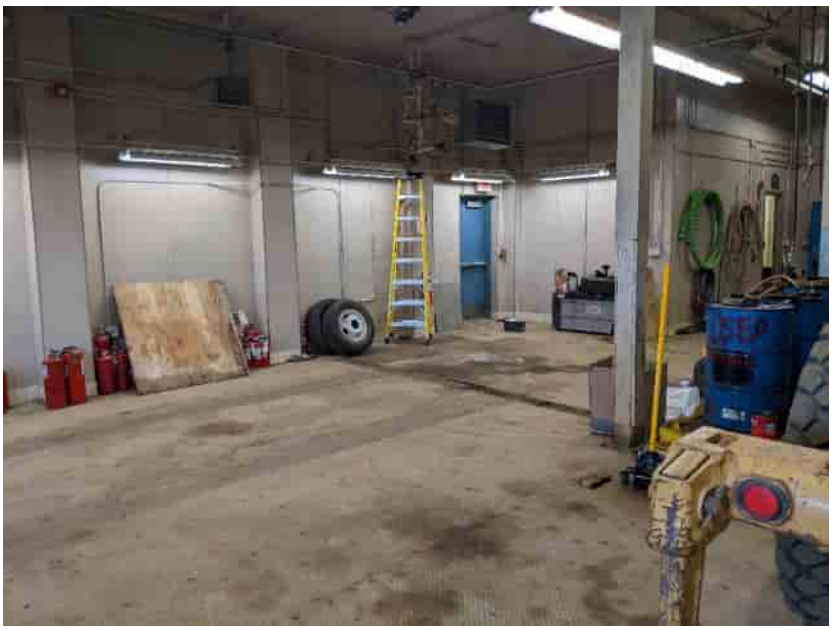

Photo No. 2 – Waste accumulation in the spaces around vehicle parking spots in the garage portion of the building. Fire extinguishers have been collected on the left side of the photograph, and drums are visible in containment on the right (HWMU-1).
22 June 2022

Photo No. 3 – Another view of the drum storage on a containment pallet within the garage portion of the building (HWMU-1).
22 June 2022

Photo No. 4 – Connex and several drums stored at SWMU-2.
22 June 2022

Photo No. 5 – Approximately 15 drums of waste oil and glycol stored at HWMU-3.
22 June 2022

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Appendix F
Utility Tank Farm

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Hazardous Waste Management Facility and
Hazardous Waste Management Unit Closure Plan

Subject:	**Appendix F. Utility Tank Farm, Community of Atqasuk**
Project Name:	North Slope Borough
Prepared For:	North Slope Borough, Department of Public Works PO Box 350 Utqiaġvik, Alaska 99723
Prepared By:	Jacobs Engineering Group Inc.
Date:	April 2024

Version/Revision: Version 1, Revision 4 **Date of Revision:** April 2024 **Revision Summary:** Plan Development

1. Introduction

This appendix is a supplement to the Community of Atqasuk Hazardous Waste Management Facility (HWMF) Closure Plan, which is prepared to satisfy requirements of Title 40 of the Code of Federal Regulations (CFR) Part 265, Subpart G and Section V, Paragraph E of the North Slope Borough (Borough) Consent Decree #3:22-cv-00058-JWS with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Justice.

This appendix has been developed for the closure of the Community of Atqasuk Department of Public Works Utility Tank Farm and the hazardous waste management unit (HWMU) therein. Closure of the HWMF/HWMU through implementation of this closure plan includes the HWMU located in Parcel R-007-171-53 (Figures ATQ-1F and ATQ-2F). A photograph log of HWMU-4 is included as Attachment 1F to this appendix.

1.1 Facility Description and History

The community of Atqasuk has a five-tank Utility Tank Farm that exclusively supplies diesel to the Power Plant and Water Treatment Plant for the community. It is located 200 feet north of the edge of the Power Plant building. These tanks are used for the storage of diesel, which is supplied to the power generators inside the buildings via an aboveground pipe. The Utility Tank Farm building address is 106 Ekosik Street, Atqasuk, AK 99791. The geographic coordinates are 70°28'57.85"N, 157°25'32.79"W.

The EPA Generator ID for Atqasuk is AKR000206888. The Utility Tank Farm facility and all other facilities in the community are together classified as a large quantity generator. Table 1F provides the waste management units located at the Utility Tank Farm HWMF. Records of historical wastes generated or received do not exist for this facility. Table 2F provides the most recent inventory of wastes managed at this facility. Records review for the HWMU within the HWMF found that no documentation exists related to length of time hazardous waste and solid waste were generated and/or received and managed at the HWMU. Other than a spill within Utility

Tank Farm secondary containment, records review for the HWMU within the HWMF found that no documentation exists regarding any releases, including spills of hazardous waste and solid waste. Records review for the HWMU within the HWMF found that no documentation exists related any dates when hazardous waste was generated or received at the site.

Table 1F. Waste Management Unit

Unit Name	Indoor/Outdoor/Connex	Flooring Substrate[a]	Dimensions (feet)[b]
HWMU-4	Outdoor	Gravel	75×82

[a] Multiple flooring types are possible within each unit. All are listed in this table.

[b] Total area within which materials may be stored. Non-storage areas within the physical boundaries of the facility, such as offices, kitchens, and bathrooms, are not included in this area, as they will not be included in closure activities.

[c] Area is estimated from satellite imagery.

Additional details about waste management unit locations are provided in Section 1.2 and shown on Figure ATQ-2F. Hazardous wastes at the Atqasuk Utility Tank Farm include oil/fuel/water mix.

1.2 HWMU Descriptions and Maximum Inventory of Wastes [40 CFR 265.112(b)(3)]

The maximum volume of hazardous waste inventoried onsite at the Utility Tank Farm HWMF was the equivalent of two 55-gallon drums, which translates to roughly 110 gallons. Waste codes associated with hazardous waste managed at each HWMU (past and present) consist of the following: D001, D002, D003, D004, and U154. Waste codes have been assigned using generator's knowledge, and, in some instances, analytical data.

The waste storage is broken down into one management unit, HWMU-4, a utility tank farm composed of the area surrounding five tanks. These tanks store diesel used in the Power Plant generators, and to fuel the water utility building. Occasionally, the containment on which these tanks sit is used to temporarily store hazardous materials. Records review for this HWMU within the HWMF found that no documentation exists related to length of time hazardous waste and solid waste were generated and/or received and managed at this HWMU. Records review for this HWMU within the HWMF found that no documentation exists related to these storage locations being managed as either a 40 CFR 262.15 or a 40 CFR 262.17 accumulation area. There is no historical documentation of waste storage in this area or when the secondary containment might have been used. The area consists of unpaved dirt/tundra with no historical documentation of protective materials ever being applied or equipment used.

The number assigned to this HWMU is a continuation of the sequence begun at the Power Plant, Water Utility Building, and Water Treatment Plant described in Appendix C.

Table 2F presents the maximum inventory of hazardous wastes onsite over the active life of HWMU-4 within the HWMF, estimated from site visits conducted during summers of 2021 and 2022.

Table 2F. Maximum Waste Inventory

Type of Waste	HWMU-4
Oil/Fuel/Water Mix	2 drums

2. Site-specific Closure Performance Standards [40 CFR 265.111]

Performance standards for clean closure of the HWMF are specified in Section 1.6 of the Community Closure Plan. If soil closure performance standards cannot be attained, an amendment to the closure plan will be made to address groundwater sampling. If clean closure standards are unable to be met, a post-closure plan for the HWMF will be developed as outlined in Section 4 of this appendix.

3. Closure and Sampling Procedures

Table 3F identifies which portions of the Community Closure Plan will apply to HWMU-4 at the HWMF.

Table 3F. Closure Procedures for HWMU-4

Closure Actions	HWMU-4
Notification	X
Decontamination	
Equipment in the HWMU (listed)	X
Interior floors and walls	-
Containment devices or cells with liners	X
Connex units	-
Confirmation Sampling	
Wipe sampling (metal surfaces)	-
Concrete sampling	-
Soil and gravel pad sampling	X

Notes:

- = Absence of a need for those closure actions at that HWMU.
X = Closure actions are relevant to that HWMU.

3.1 Phased Closure

As there is only one HWMU at this facility, a phased closure is not possible here.

3.2 Inventory Removal and Disposal

Inventory removal for HWMU-4 will comply with the standards outlined in Section 3.3.2 of the Community Closure Plan.

3.3 Waste Residue Removal and Decontamination

Removal of waste contamination from the ground surface and liners within HWMU-4 will comply with the standards outlined in Section 3.3.3 of the Community Closure Plan.

It is estimated that the following quantities of waste will be generated at HWMU-4:

- Two drums of rinsate from decontamination of the containment lining
- A small quantity of investigation-derived waste (IDW) from soil and gravel sampling, which will be kept in a 5-gallon bucket or similar

Liquids will be put in secondary containment to prevent the need for additional decontamination. If a new area outside of the current HWMU areas is used for storage, a professional engineer will certify the new storage area for IDW and decontamination waste meets the present standards for accumulation or storage of hazardous waste.

3.4 Schedule for Closure

A schedule built in accordance with 40 CFR § 265.112(b)(6) is provided in Section 5.3 of the Community Closure Plan.

3.5 Certification of Closure

Completion of closure activities will be documented and submitted as outlined in Section 3.9 of the Community Closure Plan.

4. Post-Closure Plan

It is expected HWMU-4 within the HWMF will be closed in a manner that will meet "clean closure" standards, rendering a post-closure plan irrelevant. Additional details are available in Section 3.10 of the Community Closure Plan.

5. Closure Cost Estimate

The closure cost for this HWMF is estimated based on observed quantities of waste from 2021 and 2022 (Table 4F). Assumptions are made about drums of unknown fluids and the quantity of IDW generated during closure activities are as described in Section 6 of the Community Closure Plan.

6. Financial Assurance Mechanism for Closure

Financial assurance for closure of this HWMF is described in Section 7.0 of the Community Closure Plan.

7. Liability Requirements

A description of the insurance in place to satisfy liability requirements for this HWMF is described in Section 8.0 of the Community Closure Plan.

Table 4F. Closure Cost Estimate

Task No.	Task	Rate	Units	No.	Ext. Cost
Task 1 Record Review					
1.1	Closure Plan Review, QAPP and HSE Plan Prep, Agency Meetings	$ 175.00	hour	120	$ 21,000.00
Task 2 Characterization					
2.0	Set up Activities				
	Pre-mobilization	$ 120.00	hour	15	$ 1,800.00
	Onsite set up	$ 120.00	hour	15	$ 1,800.00
2.1	Waste Characterization, Pkg, Labeling	$ 80.00	hour	2	$ 160.00
Task 3 Shipping and Disposal					
3.1	Disposal				
	Flammable Solvent	$ 240.00	drum	0	$ -
	Oil/Fuel/Water Mix	$ 151.00	drum	2	$ 302.00
	Used Glycol	$ 314.00	drum	0	$ -
	Crushed Fluorescent Light Tubes	$ 225.25	drum	0	$ -
	Lead-acid Batteries	$ 1,687.50	tote	0	$ -
	Flammable Paint-related Materials	$ 476.80	drum	0	$ -
	Corrosive Loosepack	$ 347.76	drum	0	$ -
	AFFF	$ 129.00	drum	0	$ -
	Freon	$ 121.75	5 lbs	0	$ -
	PCB-containing Fluids	$ 2,155.70	drum	0	$ -
	PCB Ballasts	$ 75.25	5-gal drum	0	$ -
	Compressed Gas Cylinders	$ 40.00	cylinder	0	$ -
3.2	Shipping to Prudhoe Bay via air cargo	$ 988.00	drum	2	$ 1,976.00
		$ 5,555.00	tote	0	$ -
3.3	Shipping from Prudhoe to Anchorage	$ 201.00	drum	2	$ 402.00
		$ 588.00	tote	0	$ -
3.4	Shipping from Anchorage to Seattle (TSDF)	$ 405.00	drum	2	$ 810.00
Task 4 Facility Decontamination/Removal					
4.1	Dismantle and clean equipment				
	Field Labor/person	$ 70.00	hour	80	$ 5,600.00
	Heavy Equipment	$ 350.00	hour	40	$ 14,000.00
Task 5 Sampling and Analysis					
5.1	Sample Collection				
	Labor, Technician	$ 120.00	hour	40	$ 4,800.00
	Consumables	$ 10.00	sample	20	$ 200.00
5.2	Analytical Testing				
	Wipe Samples	$ 485.00	sample	0	$ -
	Concrete Samples	$ 1,125.00	sample	0	$ -
	Soil/Gravel Samples	$ 1,125.00	sample	20	$ 22,500.00
5.3	Analysis Evaluation/Recommendations	$ 120.00	hour	100	$ 12,000.00
Task 6 Disposal of Decontamination Wastes					
6.1	Decontamination Solids Disposal	$ 225.00	drum	1	$ 225.00
6.2	Decontamination Rinsate Disposal	$ 180.00	drum	2	$ 360.00
6.3	Drum Profiling, Pkg, Labeling, Technician	$ 80.00	hour	2	$ 160.00
6.4	Shipping from Atqasuk to Seattle	$ 1,436.00	drum	3	$ 4,308.00
6.5	Site Take-Down Activities				
	Onsite Tear Down	$ 120.00	hour	10	$ 1,200.00
	Post-field Logistics	$ 120.00	hour	10	$ 1,200.00
Task 7 Closure Certification by Engineer					
		$ 175.00	hour	20	$ 3,500.00
Tasks 1-7 Contractor Travel and Per Diem					
	Travel: r/t Anchorage-Utqiagvik-Atqasuk	$ 574.00	person	8	$ 4,592.00
	Per Diem: Atqasuk	$ 113.00	night	45	$ 5,085.00
	Lodging in Atqasuk	$ 550.00	night	45	$ 24,750.00
				Sub-total Estimated Closure Costs	$ 132,730.00
				Task 8 30% Contingency	$ 39,819.00
				Total Estimated Closure Costs	$ 172,549.00

Notes:
AFFF = aqueous film forming foam
gal = gallon(s)
HSE = health, safety, and environment
lbs = pound(s)
PCB = polychlorinated biphenyl
QAPP = quality assurance project plan
r/t = round trip
TSDF = Treatment, Storage, and Disposal Facility

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Figures

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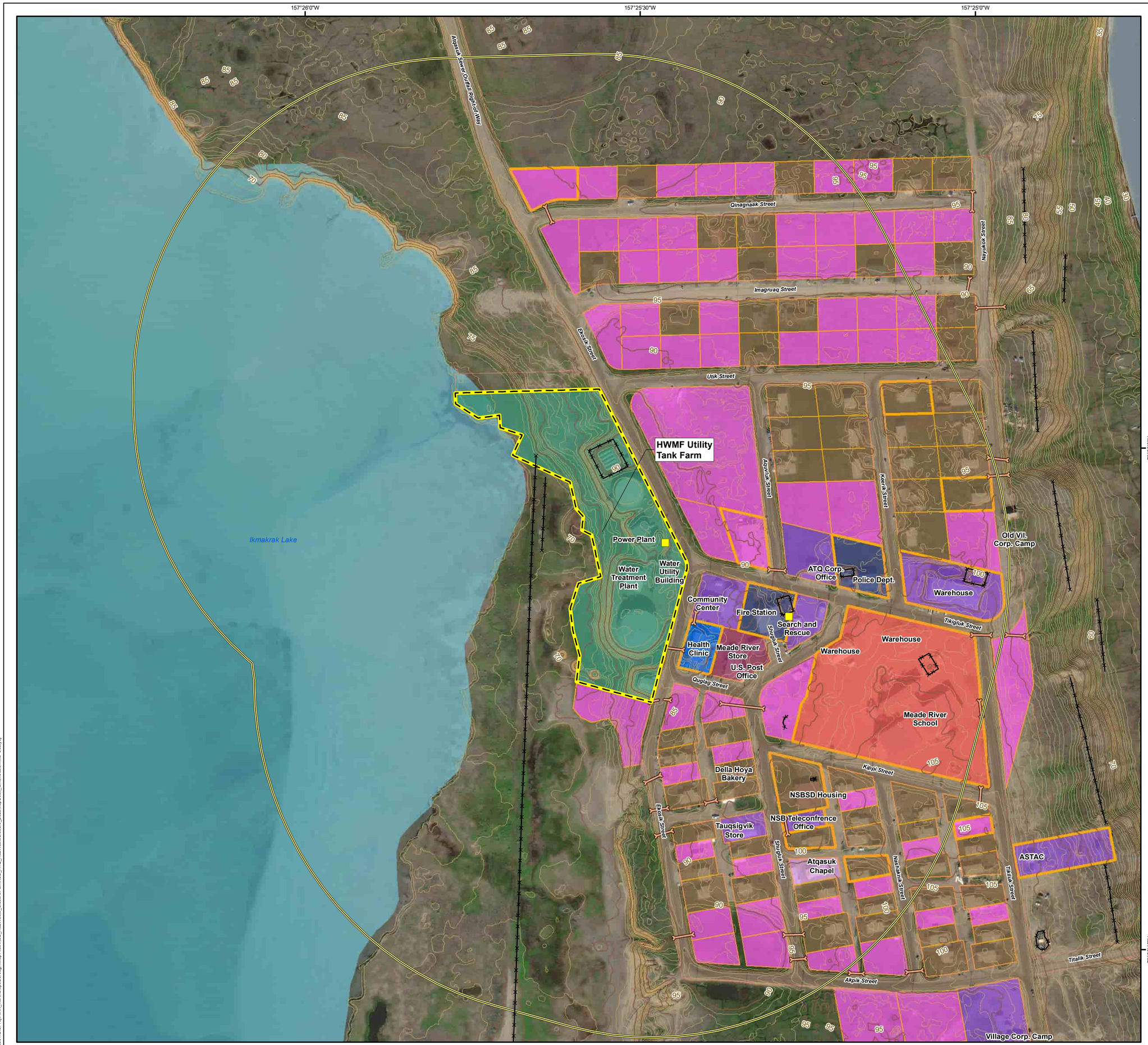
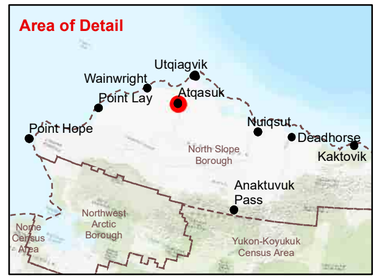
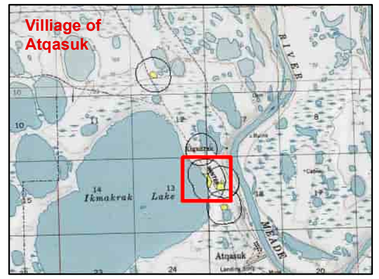


Area of Detail



Villiage of Atqasuk



Legend

- Active ADEC Contaminated Site
- Cleanup Complete
- Cleanup Complete - Institutional Controls
- Informational
- Culverts
- Village Fence
- Contour - 1ft
- Index Contour - 5ft
- 1.000 ft Facility Buffer
- Target Parcel
- Right of Way
- North Slope Borough Land Owner
- Other Land Owner

Current Land Use

- Commercial
- Education
- Medical
- Mixed Use
- Public Safety
- Religious
- Residential
- Utility
- Vacant
- Lake or Pond

Sources

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community
Copyright:© 2013 National Geographic Society, i-cubed

1 inch = 200 feet

0 100 200 300 400

Feet

N

WGS 1984 UTM Zone 4N

HAZARDOUS WASTE CLOSURE REPORT
HWMF Utility Tank Farm

ATQASUK, ALASKA

DATE:	PROJECT MANAGER:	FIGURE NO:
04 APR 2024	G. WADE	ATQ-1F

\\dct1vs01\GIS\Proj\AWK_NorthSlopeBorough\MapFiles\NSB_HazWaste_ClosurePlan\NSB_ATQ_HazWasteClosure_2024\MapBook_SmallScale.mxd beelyc]

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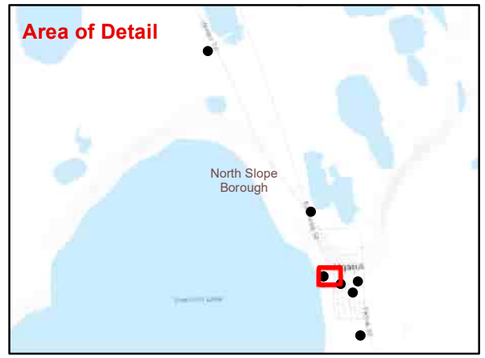
157°25'40"W
157°25'35"W
157°25'30"W
157°25'25"W
70°29'1"N
70°29'0"N
70°28'59"N
70°28'58"N
70°28'57"N
70°28'56"N

HMWU-4
90
95
70
75
80
85
TNST ATQ ADD
2 PLAT 83-4
98-12
Eksek Street
ROW
Power Plant
390.38.002
Water
Treatment
Plant
Water Utility
Building
Tikigluk Street
TNST ATQ
PLAT 82-9
Community
Center
Fire Station

Area of Detail



- Waste Accumulation within Building
- Cleanup Complete
- Village Fence
- Contour - 1ft
- Index Contour - 5ft
- Culverts
- North Slope Borough Land Owner
- Other Land Owner
- Hazardous Waste Management Unit

Sources
GIS Data: North Slope Borough, AK
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

1 inch = 60 feet
0 30 60 90 120
Feet
WGS 1984 UTM Zone 4N

N

HAZARDOUS WASTE CLOSURE REPORT
HWMF Utility Tank Farm

ATQASUK, ALASKA

DATE:	PROJECT MANAGER:	FIGURE NO:
29 MAR 2024	G. WADE	ATQ-2F

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Attachment 1F
Photograph Log

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Appendix F Photograph Log. Utility Tank Farm, Community of Atqasuk Hazardous Waste Management Facility and Hazardous Waste Management Unit Closure Plan

Photo No. 1 – Spill response equipment placed within the fenced area of the Utility Tank Farm (HWMU-4).
22 June 2022

Photo No. 2 – Waste oil/water mixture staged temporarily on the east edge of the Utility Tank Farm outside the fence line. This photograph was taken during cleanup of a fuel spill within the Utility Tanks' secondary containment (HWMU-4).
22 June 2022

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Appendix G
Closure Certifications

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Closure Certification

I, the undersigned, representing the North Slope Borough, the owner/operator of the _____, hereby certify under penalty of law that I
Atqasuk Hazardous Waste Management Facility
have reviewed the approved Closure Plan for the _____
Name of Hazardous Waste Management Unit/Facility
and, to the best of my knowledge, information, and belief, all closure activities were performed in accordance with the specifications identified in the approved Closure Plan.

_____
Signature

_____
Name: Borough Representative or an authorized representative of Borough

_____
Director of Public Works

North Slope Borough
Department of Public Works
P.O. Box 350, Utqiaġvik, Alaska 99723

I, the undersigned, a qualified professional engineer, hereby certify under penalty of law that I have reviewed the approved Closure Plan for the _____
Name of Hazardous Waste Management Unit/Facility
and, to the best of my knowledge, information, and belief, all closure activities were performed in accordance with the specifications identified in the approved Closure Plan. The certification shall also include the professional engineer's license number, business address, and telephone number.

_____
Signature

_____
Name: Registered Professional Engineer

Engineers Stamp

_____
Registered Professional Engineer

License Number.: _____
License Number

Business Address: _____
Address Line 1

_____
Address Line 2

Telephone Number: _____
Telephone Number

Appendix H
Financial Assurance Documentation

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(c) Pollution Remediation Obligations

In 2022, the U.S. Department of Justice and the Borough entered into a Consent Decree in connection with Borough-wide fuel spills that resulted in violations under the Resource Conservation and Recovery and Clean Water Acts. Also, in connection with the fuel spills, the Borough entered into a Compliance Order by Consent (COBC) with the State of Alaska Department of Environmental Conservation. Under the Consent Decree and COBC, the Borough is required to conduct environmental remediation activities for all identified fuel spills.

The Consent Decree requires that the Borough establish a trust fund, held in escrow by a third party, and fund it with the initial amount of the estimated lability of $26,413,802. The trust was established subsequent to year-end and the proposed funding schedule is as follows:

Year ending June 30:	
2024	$ 15,201,004
2025	9,147,673
2026	2,065,125
	$ 26,413,802

The Borough's estimate of its obligation under the Consent Decree will be revised annually for inflation and changes in scope or technology. The Borough will be reimbursed from the trust fund as each certification of closure is submitted in accordance with 40 CFR 265.115.

The Borough has not recognized an obligation under the COBC as that amount is not reasonably estimable as of June 30, 2023. The Borough has open contract amounts of $1,652,088 for activities under the COBC during Fiscal Year 2024.

Activity under the Consent Decree and COBC during the year ended June 30, 2023 was as follows:

	Consent Decree	COBC	Total
Obligation, July 1, 2022	$ —	—	—
Additions	26,413,802	5,353,202	31,767,004
Reductions	(3,273,879)	(5,353,202)	(8,627,081)
Obligation, June 30, 2023	$ 23,139,923	—	23,139,923

(12) Related Parties

In the normal course of business, the Borough may contract for goods or services from vendors whose shareholders, officers, or employees may also be associated with the Borough as an official, assembly member, or employee. Such purchases during 2023 in aggregate was $122,795,535. Additionally, the aggregate balance of amounts payable to the associated parties as of June 30, 2023 was $10,802,205.

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Appendix I
Liability Insurance

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Effective date of this Endorsement: 01-Jan-2024
This Endorsement is attached to and forms a part of Policy Number: W36820240101
Syndicate 3623 at Lloyd's referred to in this endorsement as either the "Insurer" or the "Underwriters"

ENDORSEMENT OF INSURANCE TO DEMONSTRATE FINANCIAL RESPONSIBILITY FOR HAZARDOUS WASTE FACILITIES (FEDERAL LAW VERSION)

This endorsement modifies insurance provided under the following:

BEAZLEY ECLIPSE

In consideration of the premium charged for the Policy, it is hereby understood and agreed that:

Facility Name:

See below

Address:

See below

Policy Number:

W36820240101

Period of Coverage:

01-Jan-2024 to 01-Jul-2024

Name of Insurer:

Syndicate 3623 at Lloyd's

Address of Insurer:

30 Batterson Park Road
Farmington, CT 06032

Name of Insured:

North Slope Borough

Address of Insured:

PO Box 69
Utqiagvik, AK 99723

1. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance covering bodily injury and property damage in connection with the insured's obligation to demonstrate financial responsibility under 40 CFR 264.147 or 265.147. The coverage applies at:

EPA Generator ID	Community	Name	Lattitude	Longitude	Parcel ID
AKR000004226	Anaktuvuk Pass	Airport Apron	68,137	-151,742	R-043-211-01
AKR000004226	Anaktuvuk Pass	Bulk Tank Farm	68.136	-151,744	R-043-201-04
AKR000004226	Anaktuvuk Pass	DPW HEMF	68.139	-151.737	R-043-141-17
AKR000004226	Anaktuvuk Pass	Fire Station and SAR	68.138	-151.739	R-043-201-01
AKR000004226	Anaktuvuk Pass	Former USDW	68.137	-151.74	R-043-201-02
AKR000004226	Anaktuvuk Pass	Power Plant	68.138	-151.741	R-043-201-12
AKR000004226	Anaktuvuk Pass	Sewage Treatment Plant	68.137	-151.742	R-043-201-I3
AKR000004226	Anaktuvuk Pass	Warm Storage	68.137	-151.743	R-043-201-13
AKR000206888	Atqasuk	DPW HEMF and O&M	70.478	-157.417	R-007-131-01-1
AKR000206888	Atqasuk	Landfill Accumulation Area	70,504	-157.455	R-007-181-01
AKR000206888	Atqasuk	Power Plant	70.483	-157.425	R-007-171-53
AKR000206888	Atqasuk	Sewage Treatment Plant	70.489	-157.43	R-007-011-37
AKR000206888	Atqasuk	USDW	70.482	-157.418	R-007-161-01
AKR000206888	Atqasuk	Utility Tank Farm	70.483	-157.425	R-007-171-53
AKD983 076480	Kaktovik	Bulk Tank Farm	70.132	-143.6	R-011-191-50
AKD983 076480	Kaktovik	Dispensing Station	70.129	-143.6	R-011-01I-03
AKD983076480	Kaktovik	DPW USDW/HEMF	70.127	-143,6	R-011-171-06
AKD983 076480	Kaktovik	Fire Station	70.126	-143.6	R-011-171-04
AKD983076480	Kaktovik	Power Plant	70.126	-143.6	R-011-171-15
AKD983076480	Kaktovik	Water Treatment Plant	70 125	-143.6	R-011-171-16
AK0000000430	Nuiqsut	DPW USDW/I TEMP	70.214	-150.988	R-009-291-06
AK0000000430	Nuiqsut	Fire Station	70 217	-150	R-009-201-08
AK0000000430	Nuiqsut	Power Plant	70.221	-150.994	R-009-251-01
AK0000000430	Nuiqsut	School	70.219	-150.994	R-009-251-01
AK0000000430	Nuiqsut	Sewage Treatment Plant	70.225	-150.007	R-009-191-12
AK0000000430	Nuiqsut	Vacuum Building	70.217	-151).997	R-009-191-05
AK0000000430	Nuiqsut	Warm Storage	70.22	-150.995	R-009-251-01
AK0000000430	Nuiqsut	Water Treatment Plant	70,221	-150,995	R-009-251-02
AKR000206235	Point Hope	Bulk Tank Farm	68.349	-166.767	R-037-011-02
AKR000206235	Point Hope	DPW HEMP	68.347	-166.742	R-037-101-I8
AKR000206235	Point Hope	Fire Station	68.349	-166.732	R-037-081-07-1
AKR000206235	Point Hope	Power Plant	68.348	-166.737	R-037-091-17-1
AKR000206235	Point Hope	School	68.35	-166.736	R-037-091-19-1
AKR000206235	Point Hope	USDW	68 348	-166.743	R-037-201-02-I
AKR000206235	Point Hope	Warm Storage	68.348	-166.744	R-037-201-02 and R-037-201-01

AKR000206003	Point Lay	DPW Heavy Equip Maint Facility	69.741	-163.001	R-012-231-06
AKR000206003	Point Lay	Power Plant	69.741	-163.006	R-012-231-10
AKR000206003	Point Lay	School	69.743	-163.009	R-012-201-27
AKR000206003	Point Lay	Sewage Treatment Plant	69 74	-163.006	R-012-151-02
AKR000206003	Point Lay	Warm Storage	69.739	-163.007	R-012-151-02
AKR000206003	Point Lay	Water Treatment Plant	69.741	-163 008	R-012-231-11
AKR000206623	Utqiagvik	Bulk Tank Farm	71 278	-156.796	R-001-010-04
AKR000206623	Utqiagvik	Fire Station 1	71.29	-156.788	R-001-061-51
AKR000206623	Utqiagvik	High School	71.29	-156.768	R-001-311-04
AKR000206623	Utqittgvik	DPW Transit Shop	71.288	-156.768	R-001-291-02
AKR000206623	Utqiagvik	Search and Rescue	71.287	-156.754	R-001-451-03
AKR000206623	Utqiagvik	Shop I	71.304	-156.756	R-001-181-27
AKR000206623	Utqiagvik	Shop 2	71.303	-156.757	R-001-181-27
AKR000206623	Utqiagvik	Shop 3	71.315	-156.721	R-001-481-31
AKR000205229	Utqiagvik	South Pad	71 273	-156.812	R-001-501-03
AKD983076472	Wainwright	DPW Temp Vehicle Maint. Shop	70.642	-160.018	R-002-091-18
AKD983076472	Wainwright	DPW Temp Office	70.637	-160.028	R-002-141-03
AKD983076472	Wainwright	Old B1A School Laydown Yard	70 64	-160.031	R-002-051-33
AKD983076472	Wainwright	Power Plant	70,643	-16002	R-002-091-18
AKD983076472	Wainwright	Sewage Treatment Plant	70.644	-160.022	R-002-091-17
AKD983076472	Wainwright	Water Treatment Plant	70.637	-160.03	R-002-131-05

for sudden accidental occurrences, nonsudden accidental occurrences, or sudden and nonsudden accidental occurrences. The limits of liability are $4,000,000 each occurrence and $8,000,000 annual aggregate, exclusive of legal defense costs.

2. The insurance afforded with respect to such occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions of the policy inconsistent with subsections (a) through (e) of this Paragraph 2 are hereby amended to conform with subsections (a) through (e):

   (a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy to which this endorsement is attached.

   (b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in 40 CFR 264.147(f) or 265.147(f).

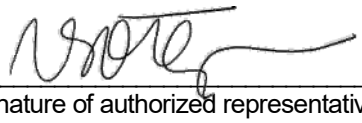
   (c) Whenever requested by a Regional Administrator of the U.S. Environmental Protection Agency (EPA), the Insurer agrees to furnish to the Regional Administrator a signed duplicate original of the policy and all endorsements.

(d) Cancellation of this endorsement, whether by the Insurer, the insured, or a parent corporation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the Director.

(e) Any other termination of this endorsement will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Regional Administrator of the EPA Region in which the facilities are located.

Attached to and forming part of policy no. W36820240101 issued by Syndicate 3623 at Lloyd's, herein called the Insurer, of 30 Batterson Park Road, Farmington, CT 06032 to North Slope Borough of PO Box 69, Utqiagvik, AK 99723 this first day of January, 2024. The effective date of said policy is 01-Jan-2024.

I hereby certify that the wording of this endorsement is identical to the wording in 40 CFR 264.151(i) as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.



Signature of authorized representative of Insurer
Vanessa Ortega
Group Head of Operations, Authorized Representative of Beazley
30 Batterson Park Road, Farmington, CT 06032