

Depth to groundwater at the M-336, M-136 and Rocky Point disposal units is on average around 300 feet. Soil borings were taken in the M-336 disposal unit in 2018 to a depth between 41.5 and 51.5 feet. Wet soils were only encountered from one of the four borings drilled. Further investigation determined the wet conditions at approximately 50 feet were likely related to a thin lens of perched groundwater than part of the regional water table. Therefore a disposal unit dug to the typical depth of 20 feet, or a maximum depth of 30 feet, ensures waste is at least 10 feet above ground water.

Historical Preservation Survey

The quitclaim deed between the Thiokol Corporation and U.S. Government requires protection and notification of Native American artifacts. The area was once occupied by the Northwestern Band of the Shoshone Nation. ATK Launch Systems, LLC maintains a close relationship with the Shoshone Nation and the Utah Statewide Archeological Society (USAS) to ensure preservation of known or newly discovered artifacts. Security measures around the Promontory plant help to facilitate preservation of artifacts from illegal scavenging. The facility has worked with the Shoshones and USAS to arrange site tours for limited archeological and historical purposes. The landfill disposal units are not known to be locations rich in artifacts. However, any discovery of artifacts or evidence that artifacts may exist will be communicated to representatives of Shoshone Nation and the USAS.

I.f Plan of Operations for All Class III Landfills

Description of on-site waste handling procedures and an example of the form that will be used to record the weights or volumes of waste received

All waste handling operations will be performed by trained heavy equipment operators, with knowledge and experience in waste identification. Operators are responsible for waste pickup, off-loading at a disposal unit, landfill cover, and inspections.

ATK Promontory will use its own front load garbage truck to collect waste from nearly 100 dumpsters located throughout the facility. Garbage runs typically occur twice per week depending on the manufacturing rate. Waste collected by the garbage truck is taken to the M-336 main disposal unit. Once there, the waste is dumped at the working face where it will ultimately be pushed into the cell and covered. Compaction is provided by running over the waste with the on-site bulldozer. Cover material is staged on the edges of the trench and pushed into the cell. Waste is covered daily with soil to minimize blowing, vectors, fires, odors and scavenging. The cover material is spread over the waste to achieve a 6" depth.

M-336 asbestos trenches are narrow trenches with steep sidewalls. Cover is staged on the edge of the trench. Asbestos containing materials and other dust generating wastes are

containerized and placed in the bottom of the trench. Cover material is placed as necessary to prevent container degradation by weather and dispersal from wind.

Ash and remnants from thermal treatment operations at M-136 are collected in “burn trays” and transported to the industrial waste trench. Burn residues are deposited at the edge of a steep working face and pushed over the sides of the cell. Material settles to the bottom of the cell and is covered as additional material is added. Soil is added as needed to maintain proper cover for materials that may become displaced by wind. However, the steep trench side-walls and working face provide substantial protection from wind transport.

Large components are off loaded on the south working face of the Rocky Point landfill for placement into the cell. Most components are large and must be specifically placed to utilize cell space. Cover is periodically applied to the cell once the volume has been strategically filled. Care is taken to ensure material disposed of in the Rocky Point landfill does not present a wind-blown hazard.

The volume of solid waste delivered to each disposal unit is directly recorded into the facility’s Environmental Management System (EMS). Tonnage is estimated using conversion factors from UDWRC, USEPA, and on-site factors developed from specific knowledge of the material.

Appendix 3 includes an example of an EMS load record and compiled waste report.

Schedule for conducting inspections and monitoring, and examples of the forms that will be used to record the results of the inspections and monitoring

Inspections are currently conducted once per quarter at the three disposal units. Inspections are recorded on form FQA-0235 (see Appendix 4). Inspection records are maintained in Environmental Service's central files for three years.

Form FOP-0614 is used to record visual load inspections. A current example of FOP-0614 is shown in Appendix 5. A minimum of one visual load inspection is recorded per operating day.

Contingency plans in the event of a fire or explosion

A fully staffed and equipped fire department is maintained at the facility 24/7. The fire department includes a hazardous materials response team with associated equipment. Landfill operations are part of the facility’s overall contingency plan for hazardous waste treatment, storage and disposal (TSD). The contingency plan part of the Promontory facility’s Emergency and Disaster Response Plan is maintained by the Plant Security and Fire Protection department. A copy of the contingency plan is on file with DWMRC as an appendix to ATK Launch Systems, LLC hazardous waste storage and operations Part B permit application.

Plan to control fugitive dust generated from roads, construction, general operations, and covering the waste

Primary landfill roads will be sprayed with a dust suppressant as needed to control dust generated from haul operations and equipment movements. A water truck equipped with a water cannon and forward, rear and side spray nozzles will be used to maintain sufficient moisture in areas that receive heavy operations traffic and have the potential to generate fugitive dust.

Plan for litter control and collection

Operators perform perimeter fence line inspections monthly to recover any wind-blown debris that escaped a landfill cell during dumping or compaction/cover operations. Debris is recovered, bagged and placed into the disposal cell to be covered.

Procedures for excluding the receipt of prohibited hazardous or PCB containing wastes

The Promontory facility is only accessible to badged employees, limited badged contractors, and a few escorted visitors. In addition, the landfill entrances are locked when operators are not present to control unauthorized access and dumping from manufacturing operations inside the plant.

Control is achieved in two manners. The first is preventative control at the source. The second is developing corrective actions upon knowledge that a prohibited material was bound for the landfill or discovered during a load inspection.

Preventative control is partially achieved by Environmental Coordinators that are assigned to specific manufacturing processes throughout the plant. These coordinators are extensively trained in solid and hazardous waste regulations, and have a good knowledge of what can, and cannot go into the on-site landfills. Environmental Coordinators serve as a knowledge base for other personnel in the work area to ensure wastes are directed to the appropriate disposal pathway.

Environmental Services and Environmental Operations personnel make periodic random inspections of plant dumpsters to look for prohibited waste that has been disposed of incorrectly. This provides a secondary layer of protection to prevent unauthorized waste from being transported to the landfill units.

Waste identification and load inspection training is a critical component to exclude prohibited wastes from being placed into the landfill units. Haulers of waste to the landfill must have a general understanding of waste identification to help identify potential prohibited waste before it arrives. Haulers are trained to question wastes that have an odor, appear to be in corroded containers, have containers that may hold liquids, have e-waste components, etc. Landfill operators are trained on how to properly conduct a load

inspection and identify prohibited wastes that may have slipped past preventative controls. If a prohibited waste is identified during a load inspection, the waste is segregated and directed to the proper disposal pathway. An investigation is then started to understand how the waste was able to get through the other controls. The investigation determines if waste generators/handlers need additional training or if landfill processes need to be updated.

Procedures for controlling disease vectors

The on-site cafeterias, medical clinic, and wastewater treatment operations are sources of organic waste that goes to the ATK Promontory landfill. This waste is placed in the M-336 main cell or asbestos trench where daily cover is applied to minimize contact with disease vectors and to control their populations.

A plan for alternative waste handling

The Promontory facility maintains a backup plan for waste operations in the event any equipment used for waste handling is unexpectedly out of service. If the garbage truck is out of service, waste collection will be performed by a contractor. The contractor may haul the waste to the M-336 landfill, or off-site for disposal. If landfill equipment is out of service, similar equipment from other on-site operations may be borrowed on loan, if available. If not available, equipment may be rented from local vendors until the normal equipment can be returned to service.

A general training plan for site operations

All landfill operators and plant personnel that dispose of waste in the landfill receive an annual training that covers basic landfill operation, waste load inspections, waste identification, and landfill safety procedures. Basic landfill operation training emphasizes which landfill unit can receive certain types of waste. Waste load inspection training provides guidance on what materials will and will not be accepted in the landfill cells. General waste identification training is intended to make operators and landfill users aware of wastes that may be hazardous or otherwise prohibited. Training on landfill safety procedures is designed to promote operator and user awareness of landfill risks and minimize accident potential.

Any recycling programs planned at the facility

The Promontory facility actively recycles paper, cardboard, scrap metal, wood, and plastic. The facility currently maintains a solid waste diversion rate of approximately 12 to 15%. Additional recycling initiatives are planned to support Northrop Grumman Corporation's company-wide sustainability goals.

Any other site-specific information pertaining to the plan of operation required by the Director

The landfill units are located within a fenced facility with roving 24 hour armed guards. Only authorized personnel are allowed within the facility. In addition to this security, the landfills are fenced with locked gates when operators are not present.

I.g Ground Water Monitoring for Class IIIa landfills

Ground Water Monitoring Plan

This application is for renewal of an existing Class IIIb landfill. No expansion or transition to the Class IIIa landfill type is requested in the application.

II. Facility Technical Information

II.a Maps for All Class III Landfills

Topographic maps for landfill units

Appendix 6 includes site drawings for each disposal unit and associated topographic contours.

The M-336 disposal unit is located on the Blue Creek Valley floor and is relatively flat throughout the existing permitted area.

The M-136 disposal unit is located at the base of a draw. The slope is moderate from east to west but steepens significantly from the north and south.

The Rocky Point disposal unit is located on the western tip of a ridge. The area has moderate relief to the west but has moderately steep terrain on the eastern edge.

Most recent U.S. Geological Survey topographic map

The most recent topographic map for the Lampo Junction Quadrangle can be found in Appendix 7. The yellow highlighted area shows the approximate boundaries for the Promontory plant. The general location for each disposal unit is outlined and identified.

II.b Geohydrological Assessment for Class IIIa Landfills

Local and regional geology and hydrology including faults, unstable slopes and subsidence areas on site

This application is for renewal of an existing Class IIIb landfill. No expansion or transition to the Class IIIa landfill type is requested in the application.

Evaluation of bedrock and soil types and properties including permeability rates

This application is for renewal of an existing Class IIIb landfill. No expansion or transition to the Class IIIa landfill type is requested in the application.

Depth to ground water

This application is for renewal of an existing Class IIIb landfill. No expansion or transition to the Class IIIa landfill type is requested in the application.

Quantity, location, and construction of any private or public wells on-site or within 2,000 feet of the facility boundary

This application is for renewal of an existing Class IIIb landfill. No expansion or transition to the Class IIIa landfill type is requested in the application.

Tabulation of all water rights for ground water and surface water on-site and within 2,000 feet of the facility boundary

This application is for renewal of an existing Class IIIb landfill. No expansion or transition to the Class IIIa landfill type is requested in the application.

Identification and description of all surface waters on-site and within one mile of the facility boundary

This application is for renewal of an existing Class IIIb landfill. No expansion or transition to the Class IIIa landfill type is requested in the application.

For an existing facility, identification of impacts upon the ground water and surface water from leachate discharges

This application is for renewal of an existing Class IIIb landfill. No expansion or transition to the Class IIIa landfill type is requested in the application.

Calculation of site water balance

This application is for renewal of an existing Class IIIb landfill. No expansion or transition to the Class IIIa landfill type is requested in the application.

II.c Engineering Report - Plans, Specifications, and Calculations for All Class III Landfills

Unit Design

Appendix 8 shows a typical longitudinal cross section of trench type cells for the M-336 and M-136 landfill unit, including clay liner and cover. Side-wall slopes will be cut at a maximum angle of 76 degrees to ensure trench stability during wet conditions.

Run-on and run-off control

Open cells at the M-336 disposal unit are flanked by trenches to prevent surface waters from running into the cell. The trenches divert water to flat areas adjacent to the cell where dispersion and evaporation can occur. A large trench runs north and south on the west side of M-336 and acts as a surface run-off control. The trench collects surface run-off before it can enter natural drainage channels that flow directly towards Blue Creek. The trench is lined and covered with rip-rap to serve as an evaporation area. The steep wall design of M-336 cells does not allow water to run out of the cell. Water in the cell is mainly from localized rainfall, snow melt, or subsurface seepage during wet conditions. The low infiltration rate of soils in the disposal unit keeps water contained in low areas of the cell until it evaporates as conditions dry.

The M-136 disposal unit is constructed in an upland area at the mouth of a draw that runs east to west. Drainage channels are maintained on the north and south sides of the draw. A gravel road is maintained in the center and is elevated to ensure water runs into the ditches. Excavation overburden from M-136 cells is typically piled on the uphill side and side facing the drainage channel to create a berm to further direct run-on water away from the open cell. Rainfall, snow melt, or seepage collected inside the bermed area stays within the cell, while all water outside the berm follows one of the drainage channels.

The Rocky Point disposal unit is constructed into the western most point of a gravelly, rocky ridge that runs east to west. Material from the ridge was used to create a large overburden berm on the north and west side of the cell. The large berm prevents water from entering or leaving the cell on those sides. Water cannot leave the east side of the cell since it abuts the ridge. Historical sand and gravel removal from the north and west sides of the ridge have created a primary drainage flow away from the cell. Additionally, the exposed sandy/gravelly surface material provides lower run off potential for rainfall and snowmelt.

II.d Engineering Report - Plans, Specifications, and Calculations for Class IIIa Landfills

Engineering reports required to meet the location standards

This application is for renewal of an existing Class IIIb landfill. No expansion or transition to the Class IIIa landfill type is requested in the application.

Anticipated facility life and the basis

This application is for renewal of an existing Class IIIb landfill. No expansion or transition to the Class IIIa landfill type is requested in the application.

Equipment requirements and availability

This application is for renewal of an existing Class IIIb landfill. No expansion or transition to the Class IIIa landfill type is requested in the application.

Identification of borrow sources for daily and final cover and for soil liners

This application is for renewal of an existing Class IIIb landfill. No expansion or transition to the Class IIIa landfill type is requested in the application.

Run-off treatment and disposal and documentation to show that any treatment system being used has been reviewed by the Division of Water Quality

This application is for renewal of an existing Class IIIb landfill. No expansion or transition to the Class IIIa landfill type is requested in the application.

II.e Closure Requirements for All Class III Landfills

Closure Plan

All landfill cells will be closed using the same process. When a cell is filled, it is capped with a total of 24 inches of native soil and compacted to at least 90% maximum density. The compaction is expected to achieve a hydraulic conductivity rate of approximately 1×10^{-5} cm/sec. The top layer of the cap will be 6 inches of top soil. The surface will be seeded using a mix of grasses similar to the native vegetation.

Closure Schedule

The M-336 disposal unit has approximately 4.5 acres of available space remaining within the currently permitted area. It is estimated that the disposal unit's capacity will be reached between 2035 to 2044 depending on waste generation rates and management practices.

The M-136 disposal unit has approximately 0.1 acres of available space remaining within the currently permitted area. It is estimated that the disposal unit's capacity will be reached between 2024 to 2026 depending on waste generation rates and management practices. ATK Promontory is evaluating potential areas for expansion of the disposal unit. An expansion permit application will be filed with DWMRC once this evaluation is completed.

The Rocky Point disposal unit has approximately 8 acres of available space remaining within the currently permitted area. The nature of the type of waste and the unusual cell construction type at Rocky Point presents a challenge for estimating capacity use rates. Manufacturing programs that create large scrap pieces can consume space relatively quickly. However, due to existing available space and the success of current management practices, it is anticipated that Rocky point will have enough capacity to receive waste beyond 25 years.

Design of Final Cover

The design for final cover is included on drawings M136-G-41 and M336-G-1 in Appendix 6. An expanded view is shown in Appendix 9.

Capacity of Site in Volume and Tonnage

The M-336 disposal unit has an existing asbestos trench recently opened in the fall of 2020. The trench has approximately 5,000 cubic yards remaining. The existing common trash trench has an estimated 12,000 cubic yards remaining. There is space for at least five new asbestos trenches and three new common trash trenches, or some combination based on waste management needs. The new asbestos trenches would provide about 40,500 cubic yards. New common trash trenches would provide 78,000 cubic yards. Therefore, the total disposal capacity remaining at M-336 is 45,500 cubic yards for asbestos trenches and 90,000 cubic yards for common trash trenches.

Part of the estimated capacity is consumed by soil used as cover. Assuming a 1:1 volume ratio of cover to waste, there is about 23,000 cubic yards remaining for waste placed in asbestos trenches. Using a 0.28 ton/cubic yard conversion factor, this equates to just under 6,500 tons of capacity. A 0.5 ton/cubic yard conversion factor for waste in common trash trenches equates to 22,500 tons remaining capacity.

The M-136 disposal unit has an existing cell with approximately 1300 cubic yards of space remaining. There is limited space for one new cell beyond the existing open cell. The new cell would provide an additional 800 to 1000 cubic yards. Cover requirements

for M-136 cells have traditionally required less material than at M-336. Therefore, assuming a 0.5:1 cover to waste ratio. The total waste capacity remaining is approximately 1500 cubic yards. Using a 1.1 tons/cubic yard conversion factor, there is just under 1700 tons remaining capacity.

As mentioned earlier, Rocky point is more challenging to estimate capacity due to the type of waste placed in the cell and the way the cell is oriented into the hillside. However, using a standard cell depth of 20 feet and the available area, there is an estimated 210,000 cubic yards of disposal volume available. The general inability to compact the pieces placed in the landfill creates a higher cover to waste ratio. A conservative estimate is 4:1. This leaves an available waste capacity of 42,000 cubic yards. Using a 1.52 tons/cubic yard conversion factor, there is just under 64,000 tons of remaining capacity.

Final Inspection by Regulatory Agencies

Within 30 days after completion of closure activities, the DWMRC will be contacted to conduct a final inspection. Any required modifications will be completed within 30 days, and a re-inspection requested. Post-closure care will begin once closure is completed to the satisfaction of the DWMRC.

II.f Post-Closure Care Requirements for All Class III Landfills

Post Closure Care Plan

Closed areas of each landfill unit will be inspected quarterly to assess the condition of the cell cap, vegetation growth, and erosion issues. Repairs to the cell cap will be made by adding additional soil as needed. Vegetation maintenance will occur as necessary if seeded or natural vegetation has not become established. Areas showing signs of erosion will be repaired and erosion potential corrected, if possible.

Changes to record of title, land use, and zoning restrictions

ATK Launch Systems, LLC notified DWMRC of becoming a wholly owned subsidiary of Northrop Grumman Corporation in March 2018. No land use or zoning restrictions have occurred since the current permit was issued. ATK Launch Systems, LLC will promptly notify the Division of any future changes in ownership or land use and zoning restrictions.

Maintenance

Routine maintenance at each disposal unit will focus on ground cover restoration, run-on/run-off controls, and access road integrity. Ground cover will be reseeded as necessary to ensure top soil stability and minimize fugitive dust generation. Run-on/run-off controls will be checked for bypass and sedimentation that could limit their effectiveness. Access roads will be constructed and maintained in a manner to ensure safe ingress and egress from each disposal unit. In addition, entry points will be constructed to minimize track-out during wet conditions. Inspections will be performed monthly and maintenance needs documented. Repairs will be prioritized and scheduled based on criticality and completed as soon as conditions allow.

Heavy equipment used at each disposal unit for waste spread and cover will be maintained through periodic preventative maintenance inspections. The garbage truck will also be maintained through periodic inspections. Inspections are conducted by qualified mechanics in the fleet maintenance department.

Contact for Post Closure Care

ATK Launch Systems, LLC
Environmental Services
PO Box 707 M/S 301
Brigham City, UT 84302-0707
(801)251-2166

II.g Financial Assurance Requirements for All Class III Landfills

Identification of closure costs including cost calculations

Appendix 10 provides a summary of activities needed to close the landfill and calculated costs.

Identification of the financial assurance mechanism

Closure, post-closure or corrective action is guaranteed by a performance bond with Westminster Fire Insurance Company of Philadelphia, PA. The bond is amended annually by a bond rider to account for increases in closure, post-closure, or corrective action costs due to inflation and/or other factors that may affect cost estimates.

Landfill Closure/Post-Closure Cost Estimate

M-136, M-336 and Rocky Point Closure

Item No.	Description	Means No./Source	Units	Est. Quan.	Unit Price	Total Price
M-136 Industrial Landfill						
1	Grade 18" common soil cover - local soil over 600 ft ² area	31-23-23.17-0020	CY	34	\$2.48	\$84
2	Compact graded soil	31-23-23.23-6000	CY	34	\$0.30	\$10
3	Haul topsoil to site (50-mile cycle)	31-23-23.20-1714	CY	12	\$20.54	\$246
4	Grade 6" topsoil	31-23-23.17-0170	CY	12	\$3.83	\$46
5	Hydroseed, with mulch & fertilizer	32-92-19.14-5400	MSF	0.6	\$111.04	\$67
	SUBTOTAL					\$453
M-336 Industrial Landfill						
6	Grade 18" common soil cover - local soil over 34,200 ft ² area	31-23-23.17-0020	CY	1,900	\$2.48	\$4,712
7	Compact graded soil	31-23-23.23-6000	CY	1,900	\$0.30	\$570
8	Place local soil as topsoil (6" deep)	31-23-23.17-0020	CY	635	\$2.48	\$1,575
9	Hydroseed, with mulch & fertilizer	32-92-19.14-5400	MSF	34	\$111.65	\$3,796
	SUBTOTAL					\$10,643
M-808 Industrial Landfill						
10	Grade 18" common soil cover - local soil over 21,000 ft ² area	31-23-23.17-0020	CY	1,170	\$2.48	\$2,902
11	Compact graded soil	31-23-23.23-6000	CY	1,170	\$0.30	\$351
12	Haul topsoil to site (50-mile cycle)	31-23-23.20-1714	CY	390	\$20.54	\$8,011
13	Grade 6" topsoil	31-23-23.17-0170	CY	390	\$3.83	\$1,494
14	Hydroseed, with mulch & fertilizer	32-92-19.14-5400	MSF	21	\$111.04	\$2,332
	SUBTOTAL					\$15,090
TOTAL DIRECT COST						\$26,186
Misc. costs as a percent of total direct cost:						
	Mob/demob			5 %		\$1,310
	Misc supplies/costs			5 %		\$1,310
	Engineering/permitting			10 %		\$2,620
	UDSHW oversight			10 %		\$2,620
	Contingency			10 %		\$2,620
TOTAL ESTIMATED CLOSURE COST						\$36,642

Assumed that local soil was sufficient as topsoil at M-336. Soil at the remaining locations contains sufficient gravel that it was assumed that it would be necessary to import topsoil for final site closure at those locations.

M-136, M-336 and Rocky Point Post-Closure

Item No.	Description	Means No./Source	Units	Est. Quan.	Unit Price	Total Price
Annual Costs						
1	Maintain caps, signs, etc.	Crew B-10B	days	0.5	\$2,468.60	\$1,234
2	Site inspection	01-31-13.20-0120	weeks	0.2	\$2,301.40	\$460
3	Inspection report	01-31-13.20-0120	weeks	0.1	\$2,301.40	\$230
4	UDSHW oversight	UDSHW estimate	hours	6.0	\$103.56	\$621
ANNUAL SUBTOTAL						\$2,545
Misc. Costs as a Percent of the Annual Subtotal:						
Mobilization/demobilization				5	%	\$127
Misc. supplies/costs				5	%	\$127
Contingency				10	%	\$254
TOTAL ESTIMATED ANNUAL COST						\$3,055
Assumed maintenance period:			30 years			
TOTAL ESTIMATED POST-CLOSURE COST:						\$91,661

Item No.	Discussion/Note
1	Site maintenance is anticipated to require a maximum of 2 days effort every 4 years. This effort was accounted for as 0.5 day per year.
2	This estimate is based on quarterly inspections. The individual units are easily accessible and can be inspected in no more than 0.5 hour per location. Allocating a half day per inspection for this site (2 days for the year) is considered sufficient even under unanticipated, abnormal conditions.
3	A full day is allocated to preparation of the annual report, allowing ample time for interaction with the regulatory agency if required.