



DELTA BACKHAUL
— COMPANY —

MAY 19, 2021



AKIAK LANDFILL ASSESSMENT

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Introduction

Delta Backhaul Company, (DBC) is a rural solid waste and capital projects improvement organization focused on assisting communities throughout Alaska with their solid waste and special project's needs. DBC works with local crews to ensure that projects are completed correctly and on time! We are bonded and our equipment is ensured. Landfill improvement projects and backhaul collection events remains the primary focus of the organization, but we are also available for special projects in rural Alaska.

- Landfill clean-up projects
- Household hazardous waste collection
- Scrap metals backhaul
- Heavy equipment rental
- Demolition projects
- Car/heavy equipment backhaul
- Hazardous waste inventory/backhaul
- Transportation logistics
- Project management
- Landfill fence installation
- Aerial image capture
- Heavy equipment repair & maintenance
- Landfill operator training
- Solid waste technical assistance

Project Scope

Akiak is located on the west bank of the Kuskokwim River, 42 air miles northeast of Bethel, on the Yukon-Kuskokwim Delta. There are no roads connecting Akiak to the road system in Alaska. Akiak airport has one runway with a gravel surface measuring 3,196 feet by 75 feet. Yute Air offers passenger flight service. Snow machines, ATVs and skiffs are used extensively for local transportation to nearby villages. There are no docking facilities. The Kuskokwim River is navigable by barge in the summer and is reported to be drivable in the winter on the ice.

Site Visit

On May 19, 2021, Doug Huntman, owner of Delta Backhaul Company traveled to Akiak on Yute Air for an assessment of the Akiak Class III landfill, assessing a possible liner leak on the northwest side of the Akiak Sewage lagoon and documenting a stretch of bank erosion on the eastern side of the village. Doug was hired by Joel Neimeyer for the purpose of evaluating three locations in Akiak and follow-up report on his findings. Doug worked for the Alaska Department of Environmental Conservation (ADEC) as an Environmental Specialist III from 2006-2016 and has been to Akiak on three previous inspection visits. Doug preformed the ADEC Class III landfill inspection in 2008 and 2016 and traveled to Akiak after a storm event to evaluate erosion in 2014.

Doug met with Ted Williams, IGAP Coordinator for the Native Village of Akiak. Ted showed Doug around the village and was able to provide local knowledge for each of the sites. Doug was in Akiak for approximately seven hours and was able to complete the assessment at each of the sites. Drone aerial imagery was gathered during the assessment at each of the sites and some of the photos are provided in this report.

Landfill Location

The Akiak Class III landfill is the primary disposal location for this community. The most recent ADEC Class III landfill inspection report in 2016 showed a score of 78%. Photos from the 2016 inspection show a

landfill with much less waste. The landfill perimeter fence measures 350' length, by 255' width with the overall size of the site at 2.7 acres of land. The landfill entrance gate is broken and left open, allowing for uncontrolled dumping by residents. The landfill does not have a landfill operator and only is managed in emergencies. Akiak has a waste collection program where residents pay to have their trash picked up.

Landfill Assessment

The landfill was evaluated by Delta Backhaul Company using the ADEC Community Waste Management Index. The score was waste index was completed through interviews with the IGAP program coordinators, City officials and trash hauler. The Akiak Class III landfill is operated as an area fill site and located on the east side of the community. The perimeter fence was measured, and the four corners walked using a measuring wheel. Photographs of the site were taken and drone imagery including video and stills were collected using a DJI Mavic Air quadcopter. The landfill received a total score of 76 points out of a possible 160 points, or 48%. Landfill operations have been drastically reduced over the past years leading to the dramatic drop in landfill score. The landfill received a score of 0 in Compaction, Vector & Nuisance Control, Slopes & Grading and Animal Carcasses. The landfill assessment field notes and detailed scoring are attached with this report.

Overall condition of the landfill was poor. Entrance signs provided only basic information and the front gate was broken in the open position. The landfill has minimal separation of waste with waste is spread throughout much of the site. There was no evidence of open burning at the site and a burn box used for reducing the volume of burnable waste had not been used for some time. There were no signs posted inside the landfill to provide information on segregating waste, or list prohibited items. The landfill does employ an operator and there is no dedicated heavy equipment for the landfill. Waste is only pushed back in emergencies and there was no working face at the landfill. The wall of waste inside the landfill was over 10 feet high during and had an almost 1:1 slope. No compaction, or landfill cover was observed, and the large footprint of waste was open to the element.

Litter was observed on the road to the landfill and around the site. There were no inactive areas in the landfill as waste was actively being placed all around the site. There were no plans for corrective action at the landfill and no equipment dedicated to improved management. While no leachate was observed, conditions were present for its formation. Stormwater controls were not present, and it was reported that water can rise during an ice dam event on the Kuskokwim and impact the landfill. There were no clear impacts to permafrost around the landfill, but there was a large amount of standing water in the site. Several dead dogs and two dead lynx were observed in the landfill. There is no separate area defined for dead animals and subsistence waste. There were no signs posted for household hazardous waste and several computers and televisions were in the site. Demolition debris from an old house was located near the landfill entrance. There are no controls to address RACM Asbestos and the C&D was not covered.

A defined salvage area was not present in the landfill. Metals and old vehicles were mixed with residential waste. Vehicles were in a separate area near the landfill entrance, but were mixed with trash mixed. It was not known if fluids and lead acid batteries had been removed. Appliances were in a separate area of the landfill near the perimeter, but there were no markings indicating that Freon had been removed. Lead acid batteries are regularly shipped out for backhaul.

The Akiak Class III landfill has a current ADEC permit (Permit # SW3A179-22) and expires 6/19/22. The landfill does not follow an operations plan and there is basic visual monitoring of the site. The Native Village of Akiak participated in the regional Kuskokwim HHW backhaul program and in 2019 collected and removed several hundred pounds of material through the event. Akiak is scheduled to participate in this

summer's regional backhaul collection event. Akiak also has a collection program for waste. A trash hauler collects household waste several times a week from residents for \$10 a month.

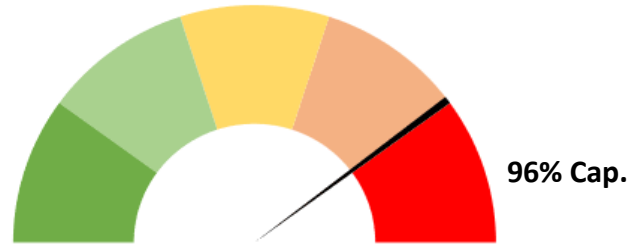
The landfill conditions reflect poor management, no landfill operator and no heavy equipment for handling waste. Waste reduction could be achieved through consolidation, compaction and cover, but it was reported that only basic operations at the landfill have been carried out over the past two years. The conditions at the site will now require a major clean-up, and/or closing of the site. Large piles of uncovered waste present health risks to the community. The proximity of the landfill to the nearest house (280 ft) also increases the potential impact the landfill has to the residents of Akiak.



Landfill Capacity

The Akiak landfill capacity was evaluated using a modified version of the ADEC landfill life expectancy calculator. Based on current population size of 420 residents and an estimated 2,900 lbs. of waste generated daily and poor operations, the landfill is nearing the end of its useful life. This relatively large volume of waste for the landfill footprint, combined with no consolidation and compaction of waste results in the landfills near capacity appraisal. It is estimated that the landfill capacity is at **96%** and has less than two years of useful life less. Doug observed during a 2013 landfill inspection for ADEC, that waste was being placed in a pit (filled with water) in the landfill. The 2021 revealed waste piled up to 10 feet high throughout the site. It is recommended that a new landfill location be sited, and funding secured to develop a new site. The new landfill should be constructed and opened prior to closing an old site, to ensure uninterrupted waste disposal service for the community. New landfills built in rural Alaska take an average of 2-4 years to site, construct and open and failing to plan ahead will result in nowhere for the approximately ton and a half of daily waste to go. Poor management practices from should be corrected and not transferred to the new site. A dedicated piece of landfill equipment and at least a part-time

landfill operator should be explored. The complete landfill life expectancy calculator has been attached with this report.



Sewage Lagoon

The Akiak Sewage system includes a gravity sewer main and manholes to connect the entire community to a lift station and the sewage lagoon. The community was hooked up to running water and sewer in 2012. The community maintains a honey bucket lagoon located next to the landfill to accommodate residents who are still on honey buckets. The main lagoon covers an area of approximately 11,500 sq.ft. and is located in a 7.25 acre fenced area. The site was flown with a drone and a large area of water was observed along the northeast side of the site. Ground investigation observed lush green vegetation and a faint odor. The ponding appeared to be permanent and not as a result of snow melt, or melting permafrost. A sample was collected and analyzed for fecal coliform. Unfortunately, the sample was contaminated with trace amounts of magnesium and iron and an analysis was not able to be performed.



Erosion

Erosion is an issue along the eastern bank of Akiak. The BIA lists the bank erosion along the shoreline at 4.1 feet per year. Erosion along the Kuskokwim is accelerated during breakup and fall flooding. In 2015 a particularly strong storm event eroded 20+ feet of shoreline. The banks of the Kuskokwim River are directly affecting the road and continues to threaten houses along the east banks of Akiak. Loose soil, possibly affected by the melting permafrost, come into direct contact with the quickly moving Kuskokwim River. In one location, a large whirlpool was observed near the bank. It is reported that this whirlpool serves to accelerate erosion in the vicinity. Several houses had recently been relocated in the village and several more are slated to be moved in the coming months.





Conclusion

There are many environmental and solid waste management challenges facing Akiak. Members of the community are concerned with both erosion and the landfill. Both issues are very visible and have the potential to impact residents. The landfill has reached its end-of-life capacity and plans to move the site should be started. Substantial funding resources along with dedicated effort from the community leaders is required to fund and eventually construct a new landfill. The erosion issue is an important one and will require substantial mitigation efforts. If not addressed, Akiak will continue to lose shoreline and will need to move additional houses and other infrastructure. The sewage lagoon issue needs to be researched further. The inconclusive sampling at the site does not conclusively show fecal coliform contamination. Visual and olfactory evidence, however, suggests that there is a leak in the lagoon liner lagoon and corrective action to repair the leak needs to be completed.

A handwritten signature in blue ink, appearing to read 'D. Huntman'.

Doug Huntman - Owner, Delta Backhaul Company



Landfill Life Expectancy Calculator - Area Fill, Undesigned

Current Landfill Conditions

Length of Landfill Footprint (feet)		350
Width of Landfill Footprint (feet)		255
Side Slope of Landfill (%)	2 to 1 Slope = 50%	
	3 to 1 Slope = 33%	
	4 to 1 Slope = 25%	50%
Current Height of Waste above Ground (feet)		10
Final Design Height for Landfill (feet)		12

One-Time Waste Disposal Impacts (polluted soil disposals or demolition debris disposals)

Waste Type:	Volume (cy):
Polluted Soil	0
Construction and Demolition Debris	100
Total (cy):	100

Waste Generation Estimates

What is Population of Community (average population)		420
Assumed Waste Generation Rate (pounds per person per day)	1 - 7 typical	6
Loose Waste Density (pre-disposal or processing) (pounds/cubic yard)	250 - 300 typical	300

Waste Volume Reduction

What Percentage of Waste Stream is Recycled or Backhauled (%)		5%
Percentage of Waste Stream Burned (%)		0%
Volume Reduction from Burning (%)		0%
Compaction Achieved at Landfill (%)		10%

Daily Waste Generation Calculations

Waste Generated Per Day (lbs):	2520
Waste Volume Generated per day (CY):	8.4
Recycled Volume (CY):	0.42
Non-Burnable Direct Dispose Volume (CY):	7.98
Volume of Ash (CY):	0.00
Volume Disposed Pre-Compaction (CY):	7.98
Final Volume After Compaction (CY):	7.18

Lifespan Calculations

Current Volume of Waste Disposed (CY):	28872
Total Capacity of Landfill (CY):	33555
Remaining Capacity (CY):	4683
Total Life Expectancy of Landfill (YR):	13
Remaining Life Expectance of Landfill (YR):	2

Community: Akiak

Date: May 19, 2021

Score: % & 0 Bonus Points

For Community Use

Inspector: Doug Huntman

Participants: Ted Williams

Each item should be scored from 0 to 5 based on your observations. To enter the score, click in the Score box beside the item you're scoring, then click on the small arrow that appears next to the box and select the score you want from the list that appears. NA will appear as an option where "not applicable" is appropriate. If you enter scores this way, the form will self-calculate the total score."

Landfill Site Control							COMMENTS	Score	
#	Category	0	1	2	3	4	5		
1	Landfill Road Maintenance	Landfill access and onsite roads under the operator's control must be kept passable and safe for vehicles during normal hours of operation. 18 AAC 60.220	Landfill not accessible for more than one month per year	Landfill usually accessible, roads barely passable, history of being inaccessible for more than one month	Landfill generally accessible year round, history of being inaccessible for less than one month	Landfill generally accessible year round, history of minor problems	Landfill accessible year round, roads to and in landfill occasionally maintained <input checked="" type="checkbox"/>	landfill accessible year round, roads to and in landfill actively maintained	Houses along L.F. road. Road open + accessible. <input type="text" value="4"/>
2	Signage	A clearly legible sign must be posted at the entrance to the landfill. The sign must prohibit disposal of regulated hazardous waste and polychlorinated biphenyl (PCB) waste . Signs should identify the owner or operator, hours of operation, and emergency contacts . Signs should also direct users where to dispose of special wastes. 18 AAC 60.240	No signs at the landfill	Signs in poor condition, unreadable	Basic information on where to dump waste and/or entrance sign	Basic information on where to dump waste and list of prohibited waste and/or entrance sign <input checked="" type="checkbox"/>	Direction where to dump waste, list of prohibited waste, entrance sign, and burning instructions (if applicable)	Detailed direction where to dump waste, list of prohibited waste, complete entrance sign, burning instructions, and alternative disposal methods	Limited signs at L.F. entrance. Prohibited items, contact info, No open burning, No honey buckets. <input type="text" value="3"/>
3	Access Control	Access to the landfill facility must be limited by the use of fencing, berms, or natural barriers to control public access to the site. This should prevent unauthorized traffic or dumping. 18 AAC 60.220	No fence/barriers, open access, no restrictions	Barriers in poor condition, open access	Barriers in repairable condition, open access	Functional barriers, but open gates, open access <input checked="" type="checkbox"/>	Functional barriers, locking gate, restricted hours	Functional barriers, locking gates, restricted hours, monitored	Fence in good condition. Gate broken and propped open. <input type="text" value="3"/>
								Section Total	10 0 47 0.0%

350' - Rt side of landfill
255' - back side of landfill

#	Category	Burning					COMMENTS	Score	
		0	1	2	3	4			5
1	Waste Separation	Burning of plastics, asphalts, rubber, tars, oily wastes, or other materials in a way that gives off black smoke is prohibited. 18 AAC 50.065(b)					c+d, vehicles, appliances separated and disposed of in site. Large volume of waste not separated. Evidence of e-waste, dead animals in general waste area	2	
		No separation waste	Minimal separation of waste	Some separation of waste x	Most wastes separated	Most wastes separated, separated waste properly disposed			All wastes separated & strictly monitored, all separated waste properly disposed
2	Burn Management	Burning must be contained and controlled and managed to minimize adverse environmental effects and limit the amount of smoke generated. 18 AAC 60.233, 18 AAC 60.355, 18 AAC 50.065(b)					operator lights burn unit (not done in some time). Only burn when conditions are right. No signs around burn unit. No covering of Ash.	4	
		No management of burning - evidence of large fires throughout the landfill	No burn management - evidence of small fires in the landfill	Burn unit or trench loaded by users, lit by users	Burn unit or trench loaded by users, lit by operator	Burn unit loaded and lit only by operator in appropriate weather x			Complete management: waste kept dry; burn unit loaded, lit & monitored only by operator in appropriate weather
3	Burn Unit Used	Uncontained burning of municipal waste on the ground is not allowed at Class III landfills. Burning may be conducted in a burn box, burn cage, or other device where burning is contained and controlled. 18 AAC 60.233, 18 AAC 60.355					Shortys burn unit for cardboard only. Not used in a while. Too small for burning volume of waste at site.	1	
		No burn unit	Burn unit onsite - limited functionality or use. x	Functioning burn box or burning in a trench	Burn cage	Enclosed burn unit with smoke stack			Incinerator with mechanical burner and air source
4	Burning Trash on the Ground	Uncontained, Uncontrolled burning of waste on the ground is not allowed in the landfill.					No evidence of open burning. Report of individual lighting landfill years ago. Was reported	Section Total	
		Is there ANY evidence or does the community report uncontained, uncontrolled burning on the ground at the landfill?			<input checked="" type="radio"/> Yes	<input type="radio"/> No			Section %
							7	0.96	0.0%

Landfill Operations								COMMENTS	Score
#	Category	0	1	2	3	4	5		
1	Operator	An operator is one of three elements for a successful landfill program. RALO						No L.F. operator. Trash hauler only. Site occasionally pushed back. No one to operate burn unit	1
		No operator	Managed as emergency only <input checked="" type="checkbox"/>	Managed periodically	Managed periodically by assigned personnel	Operator assigned to landfill, not allocated enough hours	Operator assigned to landfill, allocated enough hours		
2	Equipment	Properly sized and maintained equipment is one of three elements for a successful landfill program. RALO						City equipment used on an "as needed" basis.	2
		No equipment	Broken but repairable equipment	Equipment borrowed - emergency only <input checked="" type="checkbox"/>	Equipment borrowed - regular schedule	Appropriate landfill equipment available as needed - not properly stored or maintained	Appropriate landfill equipment available as needed - properly stored & maintained		
3	Working Face	The working face must be kept as small as practical. 18 AAC 60.345						Some separation of waste. Most of site covered in trash. Litter mixed in w/ separated waste.	1
		No designated working face, waste spread over entire landfill	Some attempt to keep waste to a specific area <input checked="" type="checkbox"/>	Waste mostly in one area of the landfill	Dumping area identified, most waste limited to large dumping area	Dumping area identified, most waste limited to reasonably sized dumping area	Clearly identified dumping area, working face kept as small as practical		
4	Compaction	Compaction of waste will reduce the volume and extend the useable life of the landfill, and will reduce infiltration of water that can create leachate.						No compaction. Pile of waste is 10' high.	0
		No effort to compact waste, uncontrolled waste <input checked="" type="checkbox"/>	No effort to compact waste, equipment available	Compaction of waste, with poor results	Compaction of waste 1 - 4 times per year	Compaction of waste more than 4 times per year	Compaction of waste more than 4x/year with 4-6 passes of large tracked vehicle, waste is well compacted		
5	Cover	Waste must be covered by 6 inches of soil or an approved alternative cover as necessary to control disease vectors, fire, odor, blowing litter, and scavenging. 18 AAC 60.345						Cover Available locally. No cover applied.	1
		No cover applied, no cover available	No cover applied, cover available <input checked="" type="checkbox"/>	Cover applied periodically, does not control issues, not stockpiled at landfill	Cover applied periodically, does not control issues, stockpiled at landfill	Cover applied as needed to control issues, cover not stockpiled at landfill	Cover applied as needed to control issues, cover stockpiled at landfill		

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Landfill Operations

#	Category	0	1	2	3	4	5	COMMENTS	Score	
6	Slopes & Grading	The landfill should be graded and sloped to preserve the stability of the landfill and reduce ponding and erosion. 18 AAC 60.390, 18 AAC 60.243						Trash slopes almost 1:1. Ponding in the landfill. No corrective Action	0	
		Slopes unstable and ponds at the landfill, no efforts to correct	Slopes unstable and ponds at the landfill, some efforts to correct	Minor issues with instability, ponding, or erosion, no efforts to grade landfill	Minor issues with instability, ponding, or erosion, some efforts to grade landfill	Landfill graded, no ponding, erosion, or instability evident, inadequate run-on or run-off controls	Landfill graded to ensure stability, protect from erosion, prevent run-on, & promote run-off of storm & surface water			
7	Vector & Nuisance Control	Dust, odor, noise, traffic, other effects from the landfill, and disease vectors, including wildlife and domestic animals, must be controlled so that the public health, safety, or welfare are not endangered or they create a nuisance. 18 AAC 60.230, 18 AAC 60.233						No cover. Waste exposed. Ravens observed at the site.	0	
		Waste exposed to elements - flies, animals, humans, and vehicles track through waste	Few issues controlled, vector or health issues, and nuisance issues present	Some issues controlled, minor vector or health issues, and nuisance issues present	Most issues controlled, minor nuisance issues present	Issues controlled - public allowed in landfill	Issues controlled - only operator allowed in landfill			
8	Litter (in and around landfill)	Litter must be controlled so that it does not become a nuisance or hazard. 18 AAC 60.233, 18 AAC 60.345						Litter present outside the L.F. perimeter fence. Plastic bags + trash scattered in the woods	0	
		Litter everywhere, no clean-up efforts	Annual litter clean-up, uncontrolled rest of the year	Litter issues, picked up intermittently throughout the year	Some litter issues inside & outside lf, litter picked up regularly	No litter issues outside lf, litter picked up as needed	No litter issues inside or outside lf, litter picked up as needed			
9	Maintenance & Corrective Action	The landfill must maintain structures and components of the facility, and repair any structural changes or damage to the facility. 18 AAC 60.815						Fence in good shape Gate was damaged Burn unit in workable condition.	3	
		Significant damage that may impact health, safety or the environment, no plan for corrective action	Significant damage that may impact health, safety or the environment, corrective action planned	Significant damage that may impact health, safety or the environment, corrective action underway	Minor damage at the facility, no plan for corrective action	Minor damage at the facility, corrective action planned	No structural damage			
10	Inactive Areas	Areas that have not received waste for more than 90 days, but have not yet reached the final capacity or elevation, must receive an intermediate cover. The area must be covered with 12 inches of soil and graded to prevent ponding and erosion. 18 AAC 60.243 Note, this is not closure. If an area is closed or should be under a closure plan, it should have 24" of soil cover and be revegetated.						Active cell separate from C+D, metals + burnable cardboard. All waste uncovered	1	
		No distinction between active & inactive areas	Inactive area separate from working face - uncovered	Inactive areas separate from working face - partially covered	Inactive areas separate from working face - covered with less than 12"	Inactive areas separate from working face - fully covered with 12", not graded to prevent ponding or erosion	Inactive areas separate from working face - fully covered with 12", graded to prevent ponding and erosion			
									Section Total	Section %
									0	0.0%
									4	16%

Landfill Water Impacts							COMMENTS	Score		
#	Category	0	1	2	3	4		5	Total	Section %
1	Leachate	Leachate means liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from the wastes. Leachate seeps must be prevented, or contained and controlled. 18 AAC 60.225					Walked the L.F Perimeter. No Signs of leachate. Waste uncovered Conditions Present to generate leachate		2	
		Leachate seeps present, no effort to contain or control	Leachate seeps present, some effort to contain or control	No leachate seeps observed, conditions likely to cause leachate, no effort to contain leachate	No leachate seeps observed, conditions likely to cause leachate, some effort to contain leachate	No leachate seeps observed, conditions likely to cause leachate, efforts to contain and prevent leachate	No leachate seeps observed, efforts in place to prevent leachate			
2	Surface & Storm Water Controls	A landfill must be constructed and operated so that seasonal flooding is temporary in duration. Waste may not be placed in surface water. The landfill must minimize contact between storm water and waste. Pondered water must be removed within 30 days. 18 AAC 60.225					Landfill has been known to flood during high water events. No storm or surface water controls.		1	
		Waste disposed into water body	Waste in contact with water regularly, no surface and storm water controls	Waste in contact with water, some surface and storm water controls, not effective	Some waste in contact with water, surface and storm water controls, ponding not removed within 30 days	Evidence of waste in water or ponding at the landfill, surface and storm water controls, ponding removed within 30 days	No evidence of waste in water or ponding at the landfill, berms, ditches and other controls are in place and are effective			
3	Impact to Permafrost or Wetlands (only for facilities built on permafrost or wetlands)	If the landfill is located on permafrost, it must be designed and operated so that the permafrost remains frozen. If the landfill settles and water is pooling, the operator must take corrective action. 18 AAC 60.227 If the landfill is located in or near a wetland, it may not cause or contribute to significant degradation of the wetlands. 18 AAC 60.315					No clear impacts Around L.F. Some Ponding in the site.		4	
		Permafrost appears to be melting around landfill; or wetland plants around landfill are clearly impacted - no corrective action plan	Permafrost or wetlands impacted - corrective action plan under development	Permafrost or wetlands impacted - corrective action underway but no evidence of improvement	Permafrost or wetlands impacted - corrective action in place has shown improvement	No clear impacts to permafrost or wetlands, but some indicators (small ponds, leachate, etc.) present	No indicators or impact to permafrost or wetlands are evident			
4	Water Monitoring (if required)	If groundwater or surface water monitoring is required the facility must follow all regulations under 18 AAC 60.820 and 18 AAC 60.810 respectively. Note: This section is scored as "Not Applicable" if the landfill is not required by ADEC to do any water monitoring.					Landfill monitoring not required.		n/A	
		Landfill is not monitoring any of the required locations as required by Monitoring Plan. No reports submitted	Landfill is not monitoring all required locations and/or following schedule. Locations are not identified correctly, or well not in good condition	Landfill is not monitoring all of the required locations and/or following schedule. Locations are identified correctly, or well is in good condition	All monitoring locations are sampled as required by the Monitoring Plan, monitoring reports are not submitted	All monitoring locations are sampled as required by the Monitoring Plan. Incomplete monitoring reports are submitted	All monitoring locations are sampled as required by the Monitoring Plan. Complete monitoring reports are submitted on time			
								0	0.0%	
								7	46%	

Special Waste Management

#	Category	0	1	2	3	4	5	COMMENTS	Score
1	Septage including Honeybucket Waste	The landfill may accept septage or honey bucket waste if it is deposited into separate trenches, less than 4' in depth, and the trench is maintained not to overflow. Hydrated lime must added to a pH of 12(30 min.) on a regular basis. 18 AAC 60.365						Honey buckets disposed of in separate lagoon.	N/A
		Septage co-mingled with MSW	Septage disposed in separate area of landfill	Septage in separate trench no lime added	Septage in properly constructed trench, lime added infrequently	Septage in properly constructed trench, lime added on a regular basis	Septage in properly constructed trench, lime added and pH tested		
2	Animal Carcasses including Subsistence Waste	Animal carcasses must be disposed in a manner that does not cause an animal attraction and protects the public health. 18 AAC 60.010						Evidence of dogs + subsistence waste mixed with household waste.	0
		Animal carcasses co-mingled with MSW	Animal carcasses are disposed of in a separate area from MSW, no cover or lime added	Animal carcasses burned in the burn unit along with municipal waste	Animal carcasses in separate area, periodic lime added OR periodic cover added - does not control issues	Animal carcasses in separate area, lime AND sufficient cover added to control issues	Animal carcasses incinerated or disposed in separate area, lime added, and sufficient cover applied after each disposal		
3	Household Hazardous Waste (HHW)	Separating HHW, such as chemicals, e-waste, batteries, and fluorescent bulbs, out of the waste disposed at the landfill will help keep chemicals out of the landfill and reduce risks to human health and the environment. HHW can be reused within the community or shipped out for proper disposal.						A few TVs + computers observed in the site. Most collected by the IGAP program for backhaul	3
		No HHW separation	No HHW separation, regularly covered	HHW collection program available, accessible, but not well used	HHW collection program available, accessible, most HHW diverted from landfill	Clear options for HHW reuse or collection program, well run, most HHW diverted from landfill	Clear options for HHW reuse or collection program, well run, most HHW diverted from landfill, shipped out as needed		
4	Liquid Waste	Liquid waste, including kitchen grease, may not be disposed at the landfill, with the exception of small quantities (1 gallon or less) of containerized waste. 18 AAC 60.360						No evidence of liquid waste. No signs prohibiting liquids.	1
		Non-household liquids over 1 gallon containers disposed in landfill	Free liquids not prohibited, but limited to less than 1 gallon container	Free liquids prohibited at landfill, alternatives not well identified	Free liquids prohibited at landfill, alternatives identified, not well used	Free liquids prohibited at landfill, alternatives identified, generally used	Free liquids prohibited and enforced, alternatives identified, and widely used		
5	Construction & Demolition Debris (C&D) non-RACM	C&D is regulated based on local laws and ordinances. However, all construction/demolition projects should submit a building survey to ensure that all hazardous & asbestos waste are removed prior to disposal. Non-RACM waste must be handled so that it does not become friable and be covered within 24 hours without compaction to prevent the release of asbestos fibers. 18 AAC 60.450						Small pile of material from house demo. No signs posted for asbestos.	3
		No controls for C&D, indiscriminately disposed, no requirements for identifying or managing non-RACM	C&D disposed at working face, no awareness or management of non-RACM	C&D disposed at working face or separate cell, awareness of non-RACM, not covering	C&D disposed at working face or in separate cell, not well managed - large pile. Aware of non-RACM, usually covered in 24 hrs	C&D well managed, limited compaction. Contractors required to identify non-RACM - not allowed or properly managed and covered in 24 hrs	C&D well managed and compacted regularly - small face. Contractors required to identify non-RACM - not allowed or properly managed & covered at the end of day		

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7/35%

Special Waste Management							COMMENTS	Score
#	Category	0	1	2	3	4		
6	Salvage Area	Public salvaging, if allowed, must be limited to an area that does not hinder facility operation, create a safety hazard, or cause pollution. 18 AAC 60.220					Household waste mixed with salvage material. Some separation	2
		Uncontrolled salvaging allowed at working face	Salvaging at working face only when operator present	Separate salvage area, no apparent organization or management	Separate salvage area, some organization or management.	Salvage area has defined locations for different items, fluids are drained or contained (liner), operated safely		
7	Used Oil	Separating used oil out of the waste disposed at the landfill will help keep petroleum products out of the landfill and the environment, and can be reused as an energy resource for the community.					Used oil collected and shipped out periodically	4
		Used oil not managed - disposed at the landfill	Some used oil collected, not stored safely, no plan for disposal or energy recovery	Some used oil collected, not stored safely, burned without energy recovery	Used oil collected, stored safely. Burned without energy recovery	Used oil collected and safely stored. Burned for energy recovery or shipped out		
8	Vehicles	Vehicles may not be disposed at the landfill unless all fluids and batteries have been removed. If undrained vehicles are stored at the landfill for later disposal or recycling, they must be managed to prevent release of fluids. 18 AAC 60.035, 18 AAC 60.010					Vehicles staged at L.F. Not known if fluids/batteries removed.	1
		Uncontrolled disposal - Vehicles disposed in landfill, fluids & batteries not removed	Vehicles stored in separate area of landfill, no fluids or batteries removed. No containment for leaks. No plans for disposal or recycling	Vehicles stored in separate area of landfill, some fluids or batteries removed. No containment for leaks. Plans for disposal or recycling	Vehicles stored in separate area of landfill, some fluids or batteries removed. Containment for leaks. Plans for disposal or recycling	All batteries and fluids removed prior to proper disposal or recycling		
9	Freezers & Refrigerators CFCs	Chlorofluorocarbon (CFCs) must be removed from appliances by a certified technician with certified equipment prior to disposal at any landfill. No CFCs may be vented to the environment. 40 CFR 81.154-162					Refrigerators! Freezers occasionally pulled to manage CFCs. Freon machine borrowed from AUCP	3
		Disposed of with general waste, CFCs intentionally vented to the environment	Disposed of with general waste, no CFCs removed	Some units segregated, no CFCs removed and no plan	Some units segregated, some CFCs removed but no documentation or marking	Units segregated, CFCs sporadically removed by certified tech & documented, properly disposed or recycled		
10	Lead Acid Batteries	Prohibiting disposal of lead acid batteries from the landfill will reduce the risks of environmental contamination. Batteries should be stored in a lined, covered container or area, and managed to prevent any release to the environment.					Batteries staged + regularly shipped out.	5
		Lead acid batteries disposed in landfill	Some lead acid batteries segregated but poorly stored at landfill	Most lead acid batteries segregated but poorly stored	Most lead acid batteries segregated and stored to prevent leaks, but not covered	All lead acid batteries segregated, properly stored		
							Section Total	0
							Section %	0.0%

15 / 60%

Administration								COMMENTS	Score
#	Category	0	1	2	3	4	5		
1	Permit	A landfill is required to have a permit; a copy of the permit application and current permit must be kept in the landfill files. 18 AAC 60.200, 18 AAC 60.235							5
		No effort to permit the landfill at any time	Permit expired, no effort to renew	Permit expired more than 1 year ago, some effort to renew	Permit expired less than 1 year ago OR current efforts to renew or obtain new permit	Permit is current but no documentation in landfill files	Landfill has current permit, permit & application in landfill files		
2	Monthly Visual Monitoring	Visual monitoring must be performed at least monthly and recorded on a form approved by ADEC. Records must be maintained for at least 5 years. 18 AAC 60.800							1
		No visual monitoring	Visual monitoring reported, but no written record	Visual monitoring reported, but incomplete records	Visual monitoring recorded at least 4 times a year placed in landfill files	Monthly visual monitoring recorded in landfill files	Monthly visual monitoring recorded on appropriate form, in landfill files, and maintained for 5 years		
3	Operations Plan	The operations plan should be used as a guide for day to day operation and seasonal issues at the landfill . A copy must be kept in the operating record. 18 AAC 60.210, 18 AAC 60.235							2
		No operations plan	Operations plan incomplete for day-to-day operations	Operations plan covers general landfill operations, not used for day-to-day operations	Operations plan covers general landfill operations, is partially used for day-to-day operations, and is accessible	Operations plan covers current landfill operations, used for day-to-day operations, and is accessible	Operations plan covers current landfill operations, used for day-to-day operations, is accessible, reviewed annually and updated as needed		
4	Facility Location	Waste may not be placed within 50' of property boundary, 500' of a drinking water source, or 10' ft. of groundwater (unless built on a 2' pad) and the landfill may not pose a bird hazard to aircraft. 18 AAC 60.233, 18 AAC 60.217, 18 AAC 60.040, 18 AAC 60.305							5
		Landfill design does not comply with any location criteria	Landfill design complies with 1 location criteria	Landfill design complies with 2 location criteria	Landfill design complies with 3 location criteria	Landfill design complies with all 4 location criteria	Landfill design complies with all 4 location criteria and is documented		
								Section Total	Section %
								0	0.0%

13 65%

Waste Management Improvement Programs							COMMENTS	Bonus	
#	Category	0	1	2	3	4		5	Score
1	Backhaul Program	Items that are prohibited in the landfill must be reused or removed from the community for recycling or proper disposal. Material to be removed should be staged and removed from the community at least annually. This section does not apply to previously addressed wastes from the Special Waste section.						Active participants in the Donlin regional backhaul Program.	3
		No effort to backhaul or recycle	Collection of limited materials, minimal effort to divert from landfill, poorly managed storage	Backhaul of limited materials, effort to divert from landfill and managed segregation	Backhaul of materials and recyclables, well managed storage, not staged	Backhaul of materials and recyclables, well managed storage, staged more than 1 year	Backhaul of materials and recyclables, required diversion, well managed storage, staged less than 1 year		
2	Collection Program	A properly managed collection program is one of three elements for a successful landfill. RALO						Trash hauler collects several times a week. door to door	4
		No collection/self haul	Self haul, collect elders trash	75% self haul, 25% collection	50% self haul, 50% collection	25% self haul, 75% collection	> 75% collection		
3	Fees	Fee collection for waste disposal will provide a fund to pay for operations and maintenance of the landfill.						\$10 a month for trash haul. No LF fees.	0
		No collection of fees	< 10% collection rate	10% - 25% collection rate	25% - 50% collection rate	50% - 90% collection rate	> 90% collection rate		
4	Landfill Operator Training	A rural landfill operator should receive RALO or equivalent training to operate and maintain the landfill and to recognize hazardous waste.						No landfill operator	0
		No landfill operator training	Operator or administrator scheduled for RALO or equivalent training	Landfill operator or administrator have RALO(eq), recognition of hazardous waste, or backhaul training	Landfill operator & administrator have RALO(eq), recognition of hazardous waste, or backhaul training	Landfill operator or administrator have RALO(eq), recognition of hazardous waste, & backhaul training	Landfill operator & administrator have RALO(eq), recognition of hazardous waste, & backhaul training		
5	Community Education & Outreach	Involving the community in safe and healthy waste practices improves landfill operations and the overall health and safety impacts of the landfill. This can be accomplished through announcements, posters, student involvement, and a variety of other creative methods.						Posters observed in the bingo hall.	1
		No community education/outreach program for solid waste or recycling issues	Posters related to solid waste and/or recycling in office	Solid waste or recycling posters around town, occasional public announcement	Solid waste or recycling posters around town and school, regular public announcement	Solid waste or recycling posters around town and school, regular public announcement via multiple sources of information (social media)	Community education program in place and effects visible in community		
							Bonus Total	8 0	

SCORE	0.0%
BONUS	0

68 points
 160 possible points
 +8 bonus points

 76/160 = 48%