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1.0 Introduction

IPM is submitting this Closure and Post-Closure Plan in accordance with the State of Utah, Division of Solid and Hazardous Waste's (DSHW) R315-304-5 rules with this document.

1.1 Site Description and Background

IPM owns and operates a salt and potash mine located approximately 15 miles south on Highway 279, Moab, Utah. The two cells are located up-gradient and to the southeast of the existing tailings pond. See Figure 1 for a map of the landfill location.

The landfill is an industrial solid waste landfill that meets the classification of a Class IIIb Landfill. It is not accessible to the public and will accept only non-hazardous debris that is generated onsite. The landfill is not located on public lands or near public drinking water supplies. The landfill is not located in a subsidence area, flood zone, near designated wetlands, or above an underground mine. There are no surface bodies of water, residential dwellings, or incompatible structures within ¼ mile of the landfill. The coordinates of the landfill are as follows:

SE1/4 of NW1/4 Section 25, Range 20 East Township 26 South

2.0 Statement of Closure Plan

IPM is required to submit Closure and Post-Closure Plans in a way that "minimizes the need for further maintenance and minimizes the post-closure formation and releases of leachate and explosive gases to the air, groundwater or surface water to the extent necessary to protect the public health and welfare and prevent any nuisance." This document represents IPM's compliance with R315-302-3 (2).

3.0 Closure Plan

3.1 Methods, Procedures, and Processes

All materials disposed of within the Class IIIb landfill will comply with acceptable waste constituents of an industrial non-hazardous landfill. The landfill will accept only non-hazardous waste that is generated at the mine site. The waste will consist of obsolete equipment, pallets and other debris generated during demolition/renovation activities, plant operations, and other industrial debris. Special wastes include Galbestos® sheeting for demolition and renovation activities and small amounts of thermal system insulation generated while conducting routine Operation and Maintenance (O&M) of the mine site's ACM. No other wastes are accepted; therefore, this landfill will not be a commercial landfill and no other areas will be served. On average, approximately 10 cubic yards per day of this waste is disposed at the landfill.

3.1.1 Maintenance and Control (R315-310-4 (2)(e)(iii))

Access to the facility is restricted through mine security and property fencing. Signs are posted indicating authorized personnel only are allowed on the access roads leading into the mine. Wind dispersal of landfill litter will be minimized by the application of cover.

After cessation of operations at the mine, the landfill will be closed with an application of the intermediate cover and a complete inspection of the surface will be performed. Cleanup of the site will be performed concurrently. All remaining visible litter and debris in the immediate vicinity will be placed in the final lift of the landfill unit. At that time, the final cover will be applied. A thorough closure inspection shall consist of observations for erosion, sloping, drainage, surface leachate, and run-on. Areas requiring repairs/modifications will be documented on the Landfill Inspection Form in the Appendix. Necessary modifications will be made using appropriate materials and compacted, as required.

3.1.1.1 Escape of Air Pollutants/Gases

The contents of this industrial waste landfill have little or no amounts of putrescible materials and the decomposition of the organic wastes are minimal. The U.S. EPA reports that methane is generated from “municipal” solid waste only when the moisture content exceeds 40% (U.S. EPA, 1994). Due to the limited moisture at the site and the absence of putrescible wastes contained in the heap, methane gas generation is not anticipated. Vector, dust, and odors are effectively controlled so they are not a nuisance or hazard to health, safety or property. None of the waste is flammable, but combustible waste may exist; however, a fire or explosion in the landfill area is highly unlikely. The area is served by the local fire department, and equipment is located onsite to move soil for fire suppression, if necessary.

3.1.1.2 Control of Run-off

Runoff from the landfill is not expected to occur due to the design of the tailings pond. After closure, the absorption and evapotranspiration by the vegetation layer and the absence of any appreciable run-on will ensure the control of runoff. Once the vegetation layer growth is established, most storm events will not result in significant direct run-off from the landfill surface area. Nonetheless, significant percolation through the cover layer is unlikely, thus leachate or seepage from the heap is minimal.

3.1.2 Final Facility Topography

Figure 2 shows the final facility topography.

3.1.3 Drainage Plan

Most surface water run-off will be contained in pre-existing drainage channels and will be routed around the landfill by naturally occurring topography. IPM has constructed a small

berm directly to the southeast of the landfill from native soils and rocks to divert any possible storm water run-off from the area to the southeast.

3.1.4 Composition of Cover (R315-310 –4(2)(c)(iii))

The final cover system will be made of the intermediate compacted cover, compacted soil layer, and vegetation layer. The material used for final cover will be placed on the graded, compacted, intermediate cover layer (12 inches of intermediate cover). The soil layer material will be compacted and will be composed of clayey silt-sand mixture with a low permeability. The soil layer will be no less than 6 inches of compacted soil and will come from onsite sources. These two layers total 18 inches of compacted soil, which will serve to minimize infiltration. A vegetation layer of no less than 6 inches will then be applied. The vegetation layer will be of an organic composition that will support native or compatible plant life. The final cover depth will be no less than 24 inches.

3.1.4.1 Sloping

The final cap will be contoured such that the grade is greater than 2 percent and less than 33 percent and will be revegetated with native vegetation or a suitable alternative approved by the Executive Secretary for other similar operations. Any deviation from this plan will be submitted in advance to the Executive Secretary and the Division of Solid and Hazardous Waste for consideration and approval.

3.1.4.2 Landscaping

The waste will be leveled to the extent practicable, covered with a minimum of two feet of soil and the cover contoured as described above. No vegetation, other than local introduced and native grasses and woody species identified in this plan will be placed on the landfill.

3.1.4.3 Vegetation

The vegetation layer provides the base for native plants to grow. The layer will be of enough organic content and volume such that the landfill's approved seed mixes will have the ability to prosper. Approved seed species are listed in the following table:

Common Name	Scientific Name	Application rate/acre
Galleta	<i>Hilaria jamesii</i>	3.0 lbs
Alkali Sacaton	<i>Sporobolus airoidies</i>	3.0 lbs
Three-awn	<i>Aristida purpurea</i>	2.0 lbs
Inland Saltgrass	<i>Distichlis stricta</i>	2.0 lb
Indian Ricegrass	<i>Oryzopsis hymenoides</i>	2.0 lbs
Sand Dropseed	<i>Sporobolus cryptandrus</i>	2.0 lbs
Scarlet Mallow	<i>Sphaeralcea coccinea</i>	2.0 lbs
Gooseberry-leaf Mallow	<i>Sphaeralcea grossulariaefolia</i>	2.0 lbs

The final seed mix will be a combination of the above-mentioned seeds and planted by the drilling method. Approximately 4 acres will be seeded during closure at a density of approximately 18 pounds per acre.

3.1.5 Description of Monitoring and Maintenance

Qualified personnel will be located near or around the landfill to supervise continued activities during closure. The closure of the landfill will be concurrent with the landfill's final development. Landfill operations will proceed in a manner that will minimize the working area of the landfill. Once the final intermediate cover is placed and graded, landfill inspections will commence. The Post-Closure Landfill Inspection Form in the appendix will be used for the final closure inspection.

3.1.6 Contact Personnel (R315-310-4 (2)(e)(vi))

The following positions and personnel represent IPM's contact list of responsible officials as they pertain to the landfill.

Landfill Owner: Intrepid Mining LLC

Operator: Rick York
General Manager

Address: P.O. Box 1208
Moab, Utah 84532

Contact Person: Chad Harris, PE
Environmental Manager

Phone: 435-259-1282

3.2 Maximum Portion of Operation

The cell method of land filling will be used at the landfill, within the tailings pond system. Thus, the working face will be limited to the smallest area practical in order to confine the amount of exposed waste without interfering with effective operation. The maximum working face (surface area) open at any one time will be approximately 150 square feet, a total maximum height of 5 feet and horizontal spatial distance of approximately 10 feet.

3.3 Maximum Inventory and Estimated Life (R315-310-4 (2)(d)(ii))

Based on the final closure design, original topography, and volume of the final cover, the maximum inventory for the landfill will be approximately 50,000 cubic yards. The total volume (including final cover) is estimated to be 63,000 cubic yards. The average volume loading of waste to the landfill is estimated to be approximately 96.30 cubic yards (~27 tons) per year. The estimated life of the landfill, based on the above volumes and an existing waste volume of 50,000 cubic yards, is approximately 19.2 years from the time of this submittal.

3.4 Schedule for Completion (R315-310-4 (2)(d)(i) and R315-310-4 (2)(d)(iii))

The cell has been completed and has been inspected by the DSHW. The initial permit was issued on November 15, 2004 and was given permit number 0401. Closure activities will commence within 30 days after receipt of the final volume of waste, and will be completed within 180 days of the start time. IPM will notify the DSHW upon completion of closure to schedule the final inspection by regulatory agencies.

3.5 Notification and Review (R315-310-4 (2)(e)(ii))

Within 60 days of certification of closure of the landfill, IPM will make the proper notification and submittals to the Grand County recorder and, upon doing so, file proof of title filing with the Executive Secretary. With respect to the requirement at R315-302-2(6)(b) for public access to records containing information about solid waste amounts, location, and periods of operation,

IPM will file annual reports to the Division of Solid and Hazardous Waste, as required. These documents are public records and may be obtained by local zoning authorities from either the Division or IPM, upon request.

3.6 Closure Activity Notification

IPM will begin closure activities of the landfill in accordance with the approved Closure Plan no later than 30 days following the final receipt of waste at the landfill.

Closure activities shall be completed within 180 days from their starting time, however, IPM reserves the right for extensions of the deadline for beginning and concluding closure activity. The Executive Secretary will be given written justification for any extension requests. If necessary, fences will be erected to limit service and signs will be posted at conspicuous locations indicating closure activities have begun. Alternative disposal site locations will be indicated on the closure notice signs.

4.0 Post-Closure Plan (R315-310-3(1)(h))

After the Closure Plan has been executed, completed, and certified, the following post-closure and end use plan will be implemented. Following closure of the landfill, IPM will conduct the appropriate industrial landfill post-closure care.

4.1 Maintenance of Final Cover

Facility maintenance and monitoring of applicable gases, land, and water constituents will be conducted for a period of 30 years after closure. The landfill cover and surrounding areas will be inspected and repaired by IPM or IPM contractor on a quarterly basis for the first year, then semi-annually for 29 years thereafter. The Post-Closure Inspection Form is shown in the appendix.

4.1.1 Repairs

During landfill inspections, if any settlements, subsidence or erosion areas are found on the cover, they will be promptly backfilled with onsite compatible (similar permeability) soil. After final grading, the area will be re-vegetated with the prescribed native seed mix. If there are areas of inherent erosion it will be documented on the Landfill Inspection Form and addressed by re-grading and placement of appropriate cover material. To prevent integrity breaks in the cover due to mechanical agitation, notices will be posted, and access will be limited to inspection, maintenance, and monitoring personnel. Repairs will be made promptly with the appropriate soil, rip rap, or other necessary materials that will be compatible to the immediate environmental factors that cause breaches in the cover integrity.

4.1.2 Prevention of Run-On and Run-Off

Because the landfill is part of the tailings pond system that is completely raised and enclosed, there is no potential for run-on from a 25-year storm event and there is more than adequate capacity to contain any run-off from a 25-year storm event.

4.1.3 Maintenance and Operation of Leachate Collection System

Given the topographical area and expected rainfall, no leachate collection system is recommended for this site.

4.1.4 Monitoring of Surface and Groundwater

Groundwater monitoring for Class III(b) landfills is exempt by R315-304-5(4)(c). Surface water monitoring is not required.

4.1.5 Monitoring of Gases

Due to low moisture content and minimal putrescible waste, generation of gases is not expected, and thus monitoring of gases is not applicable.

4.2 Post-Closure Care Statement

IPM will conduct post-closure monitoring and maintenance care as necessary or as directed by the Executive Secretary for a period of 30 years from date of closure. Reduction or extension of the 30-year monitoring and maintenance care period may be negotiated between the Executive Secretary and IPM management.

4.3 Post-Closure Use Statement

Post-Closure use is anticipated to be very minimal. Post-Closure use will not increase the foreseeable threat to public health.

4.4 Post-Closure Certification

IPM will submit written verification following the closure of a landfill unit and following the completion of post-closure care of a landfill unit. This verification will state the completed activities are in accordance with the requirements of R315-302-3(7)(b).

5.0 Submittal Statement

The Closure Plan, Post-Closure Plan, and other necessary documents were prepared and submitted to the Division of Solid and Hazardous Waste.

No subsequent modification to the Closure and Post-Closure Plan will be made without the approval of Executive Secretary. IPM reserves the right to petition to amend the Post-Closure Plan.

IPM will keep a copy of the most recent approved Closure Plan and Post-Closure Plan at the Mine Offices.