Interim Management Plan Narrative

1. Background

The Frank Sam mine is located in Mono County 7 miles south of Mono Lake (see **Figure 1** for site location). Industrial and decorative Pumice has been harvested from this site since 1945 and the mine is a vested operation. Mining at the site is conducted per approved reclamation plan #34-89-01. The current operator is United States Pumice Company.

2. Regional Setting

The mine is located at the southern end of the Mono Craters that rise from near the south end of Mono Lake and extend approximately 8 miles terminating just east of the intersection of Highway 395 and the June Lake Loop. The climate is typical of a high desert / alpine location, characterized by cold winters and hot, dry summers. The entry gate, which marks the lowest elevation at the site, is at an elevation of 8,402 feet with the highest point of the mine at 8,800 feet. Annual average precipitation in the area, as recorded at the Mono Lake weather station is approximately 14 inches, with most falling as snow between November and February.

The site is located at the top of the South Coulee, a large pumice / obsidian dome. The material being quarried is industrial pumice of various grades. The deposit is mapped as Late Pleistocene in age (less than 40,000 years old). The area is considered to be volcanically active and will probably experience future eruptive episodes.

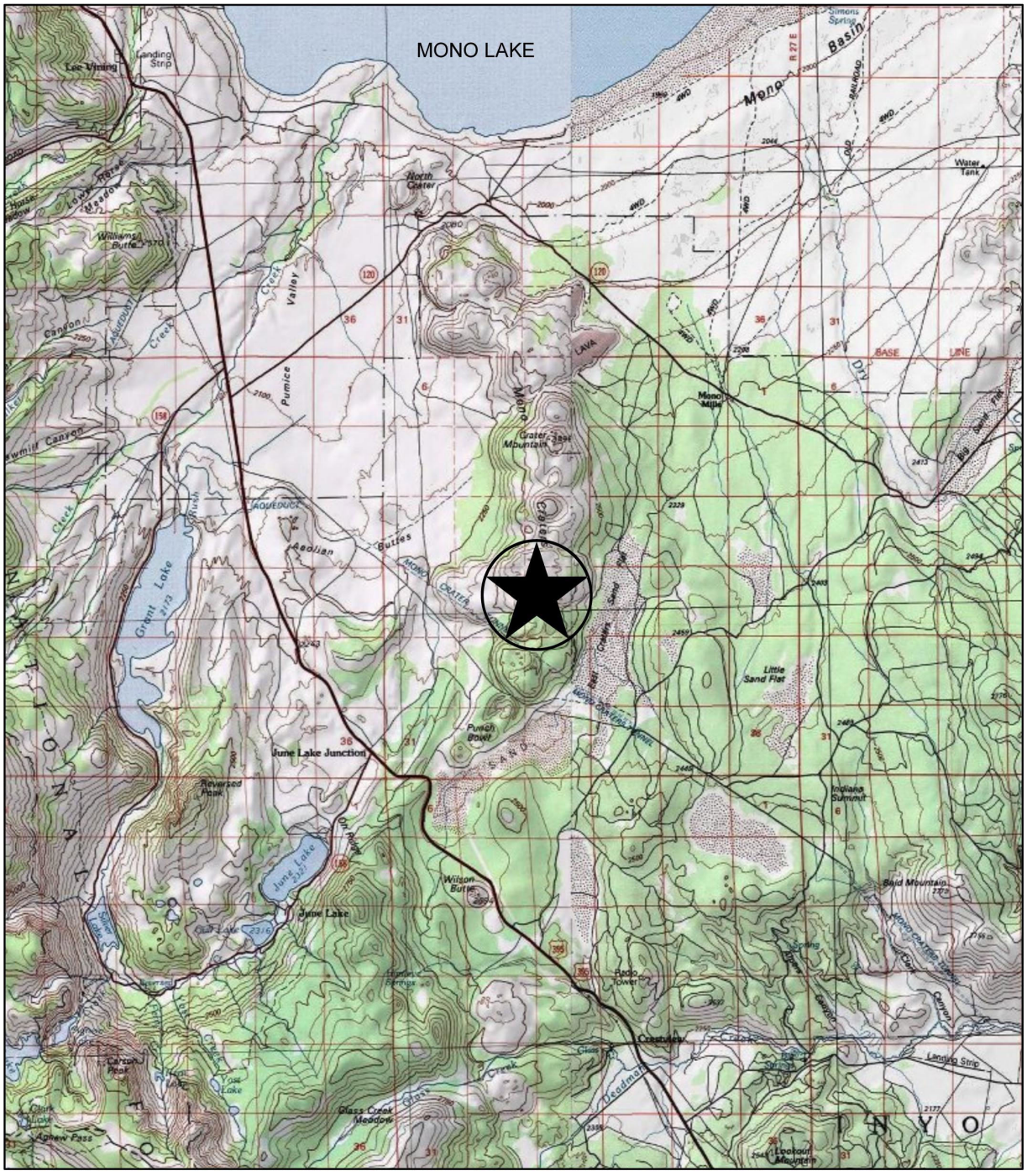
This location is remote, being accessed via a dirt road off Highway 395. The site is accessible only via a locked gate and gravel access road. The sides of the coulee are naturally very steep and unstable which makes access from other points extremely difficult. There is no other access to the quarry, and it is not readily visible from any local vantage points.

All surrounding land is owned by the Forest Service. The nearest populated area is June Lake, five miles to the southwest.

3. Vegetation

Vegetation in the lower reaches of the southern craters consists of scattered areas of Jeffrey Pine with very sparse shrub cover, including Sagebrush, Mountain Mahogany along with Indian Ricegrass and Junegrass. The majority of the craters area, particularly at the higher elevations is bare pumice and ash desert, inhospitable to vegetation. Extensive efforts to introduce native vegetation within the mine area were conducted during the early 1990's. All attempts met with complete failure as documented in the report "***U.S. Pumice CO. Frank Sam Mine, Summary Report of Reclamation Procedures for Reclamation Plan of November, 1989 April 1990 through November 1991***" prepared by Michael W Skenfield, Biological Consultant. It was eventually agreed that revegetation was not possible at this site, and in fact was not consistent with the original pre-mining conditions.

Figure 1 - Location Map

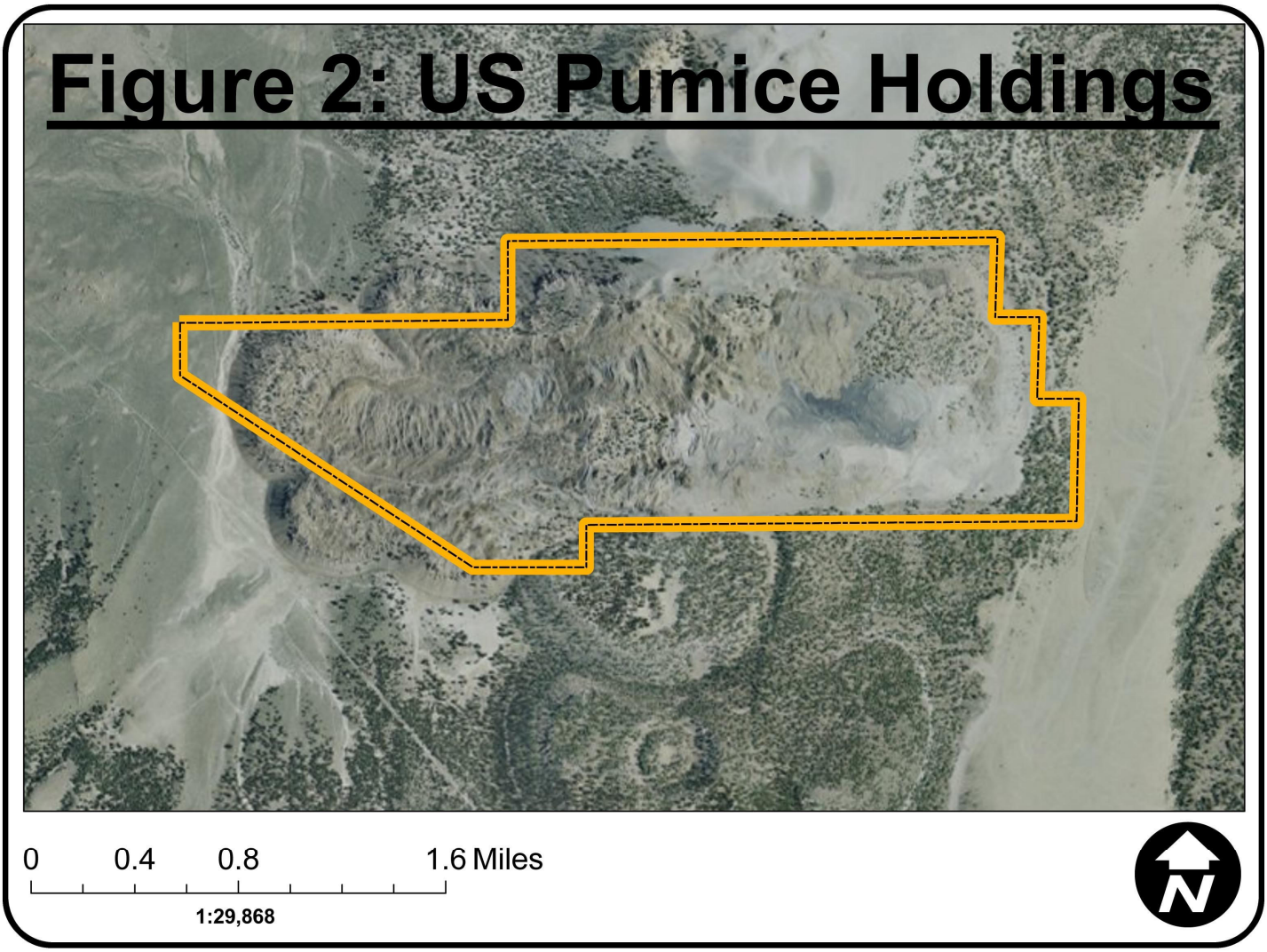


4. Wildlife

The site is unsuitable for use by wildlife due to the absence of vegetation, surface water and the extreme topography.

5. Land Use

The existing land use at the site is mining. There is no beneficial post-mining use other than open space. The California Department of Conservation has not conducted a mineral resource classification for Mono County; however, the site has vast reserves of pumice, which may continue to be of economic interest in the future. **Figure 2** shows the relation of the property controlled by U.S. Pumice to the surrounding lands.



6. Description of surface mining activities

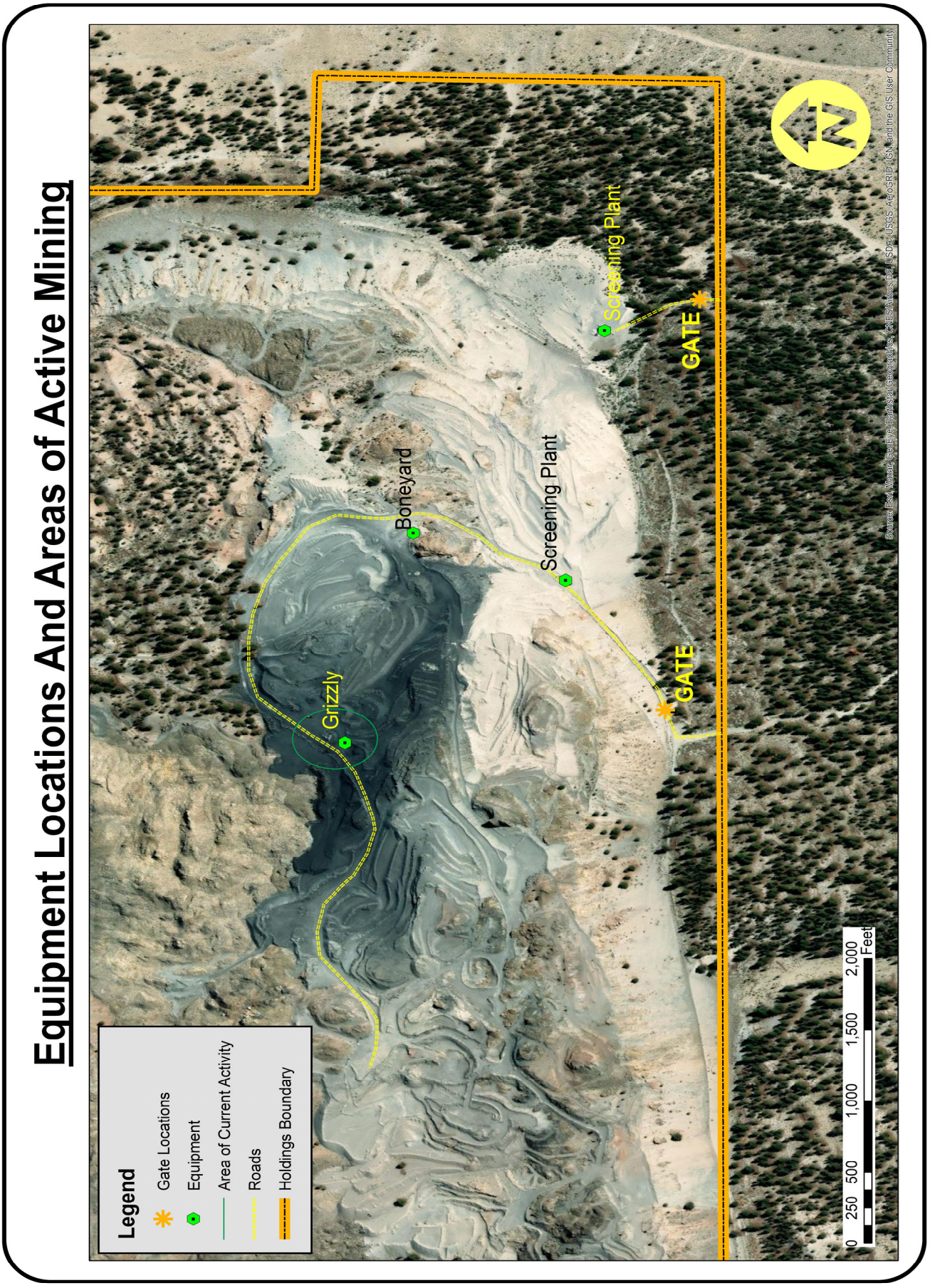
The Frank Sam mine is a seasonal rock source that operates exclusively in the warm, dry months because the site is at very high altitude and is inaccessible when snow is present. The operation involves the quarrying of pumice materials using ripping techniques. The material is trucked offsite to be processed at the U.S. Pumice yard in the nearby town of Lee Vining. Over the life of the mine, activities have ranged over a large area, but current disturbance is limited to a few small locations whose unreclaimed area is less than one acre. See **Figure 3** for details.

Mining operations have been curtailed due to a downturn in the economy. During the 5-year scope of this plan, the site will alternately experience periods of low or no activity. Given that the market forecast over the next five years predicts little demand, this document is intended to serve the full five years from its approval and may require an extension if activity remains low for a prolonged period.

The site is free from erosion and there are no signs of encroachment by noxious weed species, or any other vegetation.

The site will be assessed by the operator a minimum of twice per year. The assessment will be conducted to assess the overall condition of the site with particular attention given to the following factors:

1. Erosion control
2. Propagation of noxious weeds.
3. Slope stability.
4. Public safety


Equipment Locations And Areas of Active Mining
Legend
Gate Locations
Equipment
Area of Current Activity
Roads
Holdings Boundary
Grizzly
Boneyard
Screening Plant
Screening Plant
GATE
GATE
N
0 250 500 1,000 1,500 2,000
Feet
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

7. Erosion Control Plan

The site currently operating under an industrial stormwater SWPPP. The extreme porosity of the pumice formation virtually precludes runoff, spring melt merely infiltrates into the ground.

As previously noted, the mine is in an area of minimal rainfall. The low rainfall and incredibly porous nature of the unweathered pumice have prevented the establishment of any visible drainage patterns within the quarry. There are no known surface discharges originating from this site. An aerial analyses of the Mono Craters as a whole, shows virtually no signs of erosion from concentrated runoff despite the fact that these features are tens of thousands of years old. There are no indications of sediment leaving the site as of the date of this plan. If a risk of significant erosion is identified the following measures will be taken:

1. Maintain haul road to prevent discharge of concentrated flows that might cause over-the-bank erosion. This can be achieved by armoring discharge points to reduce runoff velocity.

2. Grade active quarry benches to facilitate stormwater retention to the maximum extent feasible.

3. The following standards will be utilized to determine when erosion control measures will be employed at the mine site:

    a. Roads with significant erosion rills will have those rills filled in with rock.
    b. Ditches that have experienced significant gullying or deepening due to erosion will have riprap placed in them.
    c. Culverts that have scouring greater than six inches in depth at the inlet or outlet will have riprap placed in the scour area.

4. Install a rock check dam / fiber roll or water bar along idle haul roads if there is potential of erosion from concentrated flow.

5. Store materials such as batteries, lubricants, etc, off the ground and protected from precipitation. Maintain bone yards / scrap metal storage areas in good order and away from areas of concentrated runoff. Ensure prompt cleanup and disposal of any debris. Schedule regular pickup of refuse containers.

6. Install perimeter berms at outer edge of finished benches to prevent unwanted over-the-bank flow. Finished grading of benches should allow runoff to flow toward highwall and then laterally to slope drain areas.

7. Install stabilized discharge points where there is concentrated runoff.

8. Locate equipment parking and maintenance areas away from drainages. Conduct maintenance and fueling of vehicles and equipment offsite to the maximum extent possible. Use pans to prevent oil from leaking onto ground.

8. Revegetation Plan

As mentioned previously, this site is extremely hostile to plant establishment and no revegetation will be attempted. Weeds will be controlled if they increase beyond the natural background levels for the area, which is zero.

Noxious weeds shall be managed:
1. When they threaten the success of the proposed revegetation.
2. To eliminate fire hazard.

9. Public Safety

The site is located on private property in an extremely remote area. There are no residences near the mine and the site is not easily visible from the public roadway. The nearest populated area is five miles from the site. The area does not attract significant numbers of people, beyond a few off-road enthusiasts that utilize Forest Service roads to the south.

The site is at the top of a very steep mountain and is accessed only by one heavy locked gate. For these reasons there do not appear to be any significant safety issues.

10. Monitoring and Maintenance

The responsibility for determining if the site complies with this document rests with Mono County, the lead agency. Section 2774(b) of the *Surface Mining and Reclamation Act* requires the lead agency to inspect the mine operation at least once a year. The yearly inspection will determine if the operator is complying with the policies listed in the approved Interim Management Plan.

The site is currently stable and very little equipment is kept onsite. None of this equipment is leaking oils or other hazardous chemicals so no special protection is required. The operator is responsible for the regular inspection of the site and maintenance of any erosion control measures. During periods of active mining, inspections will occur immediately before and after all precipitation events capable of delivering ½ inch or more of rainfall[1]. Erosion control success of the site will be by visually inspecting for the presence of bare areas, gullies, and/or rill erosion. Identified erosion will be remedied as described in this document. Each situation will be judged based on the specific conditions at the site and controls will be applied as required. Whenever operations are to be shut down for extended periods, the site will be inspected prior to closure to ensure that all reasonable steps have been taken to secure the site.

The attached inspection checklist will be used to note site conditions and to indicate where additional measures are needed.

[1] Inspection will not occur if personal safety is a factor or during non-work hours or during periods of winter site closure or holidays.

12. Site Photographs

Photo 1: Shot of typical bench and face at the Frank Sam Mine. This section has been reclaimed with the waste pushed up against the wall.

Photo 2: Locked gate at mine entrance. Note the steepness of the hillside to left of gate; this is typical of the topography surrounding the mine.

Photo 3: Looking south over the Charcoal Pit areas. The pumice coulee is naturally devoid of vegetation at the top and all efforts to establish plants at the site have failed.