

ATTACHMENT A

PROCESS MATERIAL PIPELINE SPILL PREVENTION, MINIMIZATION, AND RESPONSE PLAN

1.0 Introduction

The Process Material Pipeline Spill Prevention, Minimization, and Response Plan describes inspections, maintenance, replacement, spill avoidance measures, spill response, and reporting requirements for process water, tailings slurry, and mineral concentrate slurry pipelines, which are managed by KUC Tailings and Water Services and Copperton Concentrator.

This Plan applies to certain pipelines on KUC property but outside of the KUC plant fence lines, specifically:

- Process Water pipelines from Pump Station 1 and Pump Station 4 to the Magna Reservoir; and process water pipeline from Pump Station 3A to the Copperton Reservoir.
- Tailings line between the Copperton Concentrator fence line and the northern terminus of the tailing pipeline bridge over Highway SR201.
- Concentrate pipeline from the Copperton Concentrator fence line to the MAP and Smelter fence lines.

Figure 1 illustrates the pipeline locations.

1.1. Process Water Pipelines

Process water from the Smelter and Refinery reports to Pump Station 4 located on the southwest corner of the Tailings Impoundment. The pump station moves water from its location underneath Highway SR-201 to the Magna Reservoir System.

Process water from the Tailings clarification canal is conveyed from the south margin of the Tailings Impoundment via Pump Station 1 to the Magna Reservoir System.

A process water return line conveys water from the Magna Reservoir System to the Copperton Concentrator Reservoir System via a buried 48 inch HDPE line. The line runs primarily along the same pipeline corridor as the tailings slurry line and uses two pump stations to move water from north to south, the first located at the Magna Reservoir (Pump Station 3A) and the second located midway along the corridor (Pump Station 3B).

1.2 Tailings Pipeline

Mill tailings are conveyed from the Copperton Concentrator to the Tailings Impoundment in two concrete pipelines via gravity flow. The lines operate in tandem and are 60 and 48 inches in diameter and are reinforced concrete or rubber-lined carbon steel. The lines are located primarily above ground in the tailings pipeline corridor and adjacent to the tailings line inspection road. The pipelines utilize a series of drop boxes to dissipate energy.

1.3 Concentrate Pipeline

A pair of six inch concentrate lines convey copper concentrate from the Copperton Concentrator to the filter plant at the Smelter and the Molybdenum Autoclave Plant (MAP). The lines are made of HDPE and are buried.

1.2 Standard Operating Procedure

KUC maintains a Standard Operating Procedure (SOP) that addresses spill prevention and management (TASOP300.0206). The SOP outlines KUC responsibilities, Health, Safety and Environmental aspects, reference documents, facility description, and procedures related to activities, Monitoring Procedures and record keeping, and reporting requirements. The critical pipeline inventory details pipe type, location, length, substance conveyed, type of leak detection system and potential environmental risk if a spill occurred.

2.0 Spill Prevention

2.1 Pipeline Design

Pipelines are designed, by qualified engineers applying current engineering practices, to minimize the potential for spills. This design considers the following primary factors:

- **Location:** Facilitate operation and maintenance; consideration of surrounding land use to minimize public access and impacts to neighboring lands and the environment in the event of a spill event.
- **Material:** Compatibility of pipeline with substances conveyed, flow rate and pressure.
- **Protection:** Pipelines exposed to potential traffic damage are adequately protected; buried pipeline appropriately protected from corrosion; and supports are designed to minimize abrasion and corrosion and allow for expansion and contraction.

2.2 Monitoring and Inspection

Key pipelines are monitored on a real-time basis from Copperton Concentrator and the Tailings control rooms. Monitored aspects include pump operating status, flow rates, and levels in tanks, sumps, and drop boxes. Alarms are programmed to sound when an operating condition is outside of an expected range, and control room personnel are trained to respond to alarm conditions.

Above ground pipelines, buried pipeline corridors and associated pumps, valves and sumps are visually inspected at least twice per day. The assigned operators or inspectors are responsible for correcting any problems discovered in a timely manner. Maintenance and repairs are initiated in response to inspection results or according to preventive maintenance (PM) schedules. If remote monitoring or a visual inspection detects a condition that, in the inspector's opinion, may result in a spill, the condition is investigated and addressed promptly. A standard inspection protocol is followed for each inspection conducted. An inspection report form is completed and signed by the inspector as well as reviewed and signed by the supervisor. The operational status of each structure

is noted along with any needed corrective actions or maintenance items. Copies of each inspection performed are maintained on file.

2.3 Preventive Maintenance and Repairs

Preventative maintenance (PM) schedules are tracked with a maintenance planning software. Based upon operator inspections and preset maintenance intervals, this program assists in scheduling and planning PMs. Standard Operating Procedures (SOP) are used by the employee or group of employees assigned the responsibility for completing the PM. After the PM is completed, a signed PM checklist is returned to the maintenance planner. The maintenance planner notes any items identified during the inspection that require additional repair. A work order is then written and the additional work scheduled. The work-order tracking system is intended to ensure that proper and complete implementation of required repairs occurs in a timely fashion. The system continues to remind maintenance planners periodically until the work-order job is completed and closed out.

Routine repairs are typically completed within 45 days of the date the issue is identified. Work orders for repairs are also tracked through the maintenance planning software. In the event an imminent breach is identified or a pipeline failure has occurred, maintenance and repairs are completed according to the spill response process outlined below in section 3.3.

2.4 Spill Avoidance Measures

Spill avoidance is achieved through systematic monitoring, timely reporting and repair of deficiencies and a preventative maintenance program. The monitoring program is comprised of frequent visual inspections, electronic monitoring from the Tailing control room and Copperton Concentrator control room, as well as subsequent documentation. In addition, the following measures are employed to minimize the likelihood of process water spills:

- Periodic pressure testing or wall thickness measurements;
- Sections of the tailings pipeline are visually inspected during shutdowns;
- Tailings pipelines are regularly cleaned to remove scale; and

3.0 Spill Management

This section discusses actions KUC will take in the event a pipeline or associated structure releases process materials.

3.1 Spill Detection

Spills as a result of pipeline releases will be identified by one or more of the following measures:

1. Visual observation by roving operators or area personnel. The frequency of visual inspections as outlined in Section 2.2 may influence the detection time.
2. Tailings or Copperton Concentrator control room monitoring of pump status, flow metering, sump levels, and pipeline pressures (for pressured lines). Abnormal readings will be investigated to determine cause and consequence.

3.2 Spill Minimization

Upon identification of a leak, KUC operations personnel will de-energize and isolate the compromised piping for repair in an orderly fashion and in a manner designed to minimize additional spilled material as well as not compound spill potential. Pipelines of any capacity, once isolated, will inherently have associated drain down time. In some cases, a lag time may be associated with the observation of spilled or spilling material, time required to report the spill to an area supervisor and the isolation and potential drain down of the pipeline in question. The control room and/or area supervisor is responsible for taking steps to minimize and contain spilled material to the immediate area if and when it is safe to do so. Spill containment may consist of one or more of the following activities: dedication of manpower and equipment, construction of earthen berms and evacuation of sumps and containments.

3.3 Spill Response

After a spill has been identified and not before a spill area has been determined to be safe to enter through isolation and HSE monitoring, it will be the duty of the area supervisor to access the spill area and assemble the appropriate spill management team including notification to the facility environmental engineer. The spill response team will be responsible for determining the spill source, cause, constituents of the spill, volume and pathway. The area supervisor will coordinate clean-up efforts (if required) and liaison with the environmental department regarding proper handling and disposal. If cleanup efforts are required, any associated handling, transportation, reclamation or disposal of any spill material shall comply with applicable laws and regulations. The facility environmental engineer assigned to the spill will coordinate sample collection, reportable quantities calculations and reporting to regulatory agencies.

3.4 Spill Reporting

Spills will be evaluated by KUC Environmental on a case by case basis to determine reporting requirements. The occurrence of a spill may require prompt reporting to regulatory authorities.

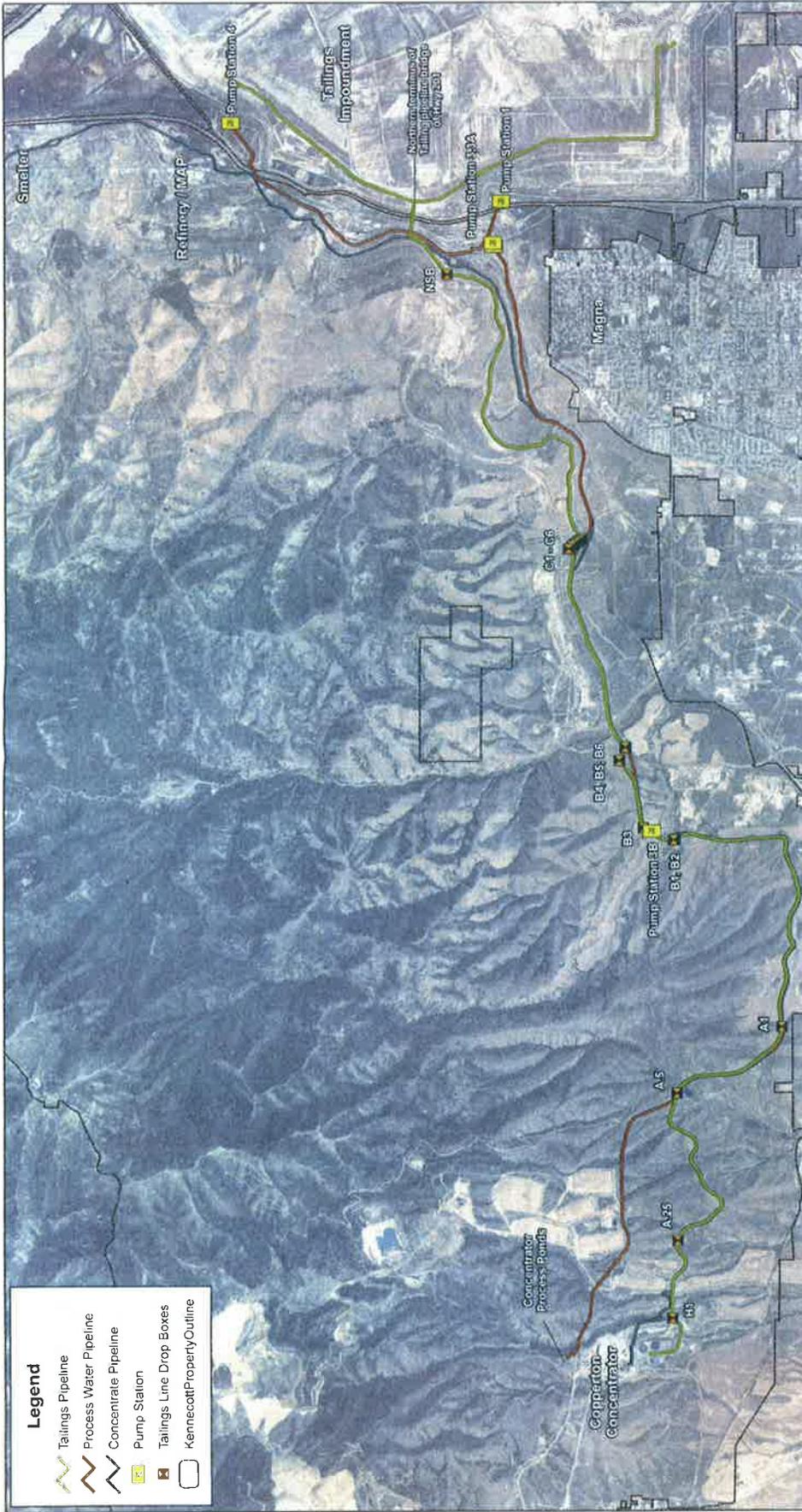
Under state groundwater protection rules, the pipelines subject to this spill response plan are "permitted by rule" (R317-6-6.2.A). Facilities that are permitted by rule cannot "cause ground water to exceed ground water quality standards or the applicable class TDS limits" (R317-6-6.2.B) or cause an increase above background if the background concentration exceeds the ground water quality standards (R317-6-6.2B). These regulations require KUC to report a spill that "may cause pollution to groundwater" to the Division of Water Quality within 24 hours of the spill and submit a written notification to DWQ within five days.

KUC environmental professionals will utilize available data, which may be limited within the first 24 hours of a spill, and best professional judgment to determine if a spill "may cause pollution to groundwater". Criteria that may be considered in this assessment include:

- Volume of liquid portion of spill
- Area where liquid was release and could potentially infiltrate

- Geologic materials underlying the release area
- Depth to groundwater, if known or can be estimated
- Aqueous chemical constituent concentrations
- Background groundwater quality for the chemical constituents, if known or can be estimated

If KUC's environmental professionals determine that a release may cause groundwater to exceed water quality standards or applicable TDS class limits, KUC will initiate reporting to the DWQ Groundwater Protection Section. To the extent that a release also triggers a reporting obligation under other laws or regulations, KUC's environmental professional will initiate reporting to the appropriate agency. If within 24 hours of a spill, KUC is unable to reasonably determine the likelihood that a release may cause pollution to groundwater, KUC may elect to initiate reporting to DWQ pending finalization of the assessment of potential groundwater impacts. Upon finalization of the potential groundwater impact assessment, KUC may revise the initial reporting to reflect the final assessment.



Legend

- Tailings Pipeline
- Process Water Pipeline
- Concentrate Pipeline
- Pump Station
- Tailings Line Drop Boxes
- Kennebecott Property Outline

Note: Both Process and Concentrate pipelines are primarily along the Tailings Pipeline corridor, and therefore may not be shown on this map at all times. Both Process and Concentrate lines leave tailings corridor near the C1-C6 drop box area.

| ENVIRONMENTAL RESTORATION GROUP | | Date: |
|---------------------------------|----|-------|
| Name: | JJ | |
| Number: | 26 | |
| Project: | ZK | |

| | |
|-------------------------|--|
| KENNEBECOTT UTAH COPPER | |
| FIGURE 1 | |
| PIPELINE LOCATION MAP | |