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Early Action Scope, Goals, and Objectives

This chapter presents the removal action objectives (RAOs), applicable or relevant and appropriate requirements (ARARs), and the identification and screening of removal technologies and specific options to address the contaminated sediment observed along Red Devil Creek. The technologies and options developed in this document represent actions that can be implemented in the interim to address sediment that has been noted to be actively eroding and is anticipated to continue to erode within the Main Processing Area and migrate to the Kuskokwim River.

3.1 Early Action Scope

The early actions presented in this EE/CA are primarily related to mitigating the ongoing transport of contaminants that are sloughing from the banks of Red Devil Creek and then migrating into the Kuskokwim River. Alternatives developed involve removing contamination and mitigating the site conditions that may result in off-site contaminant migration that is anticipated to continue prior to the selected full-scale remediation. The early actions will comply with the ARARs to the extent practicable, as well as limit the number of restrictions for future use of the site.

Currently, contaminated sediment from mine tailings is being transported off site to the Kuskokwim River through surface water. The scope of the potential early action ranges from removal of contaminated sediment and local surface soils for on-site storage until the final remedial action for the RDM site is implemented, to lining the creek to prevent surface water exposure to contaminants. The proposed early actions have been developed to reduce potential impacts to human health and the environment from exposure to contaminated sediment (particularly those receptors identified off site) by preventing the further release of COCs, eliminating exposure pathways, and preventing contaminant migration to the Kuskokwim River. The design of all the early actions proposed under this EE/CA will also provide for unimpeded flow of Red Devil Creek so that no additional exposure pathways are created.

3.2 Objectives of the Early Action

The primary RAO selected for the site is to minimize those tailings within Red Devil Creek identified as containing the highest concentrations of antimony,

arsenic, and mercury, and reducing their potential to migrate into the Kuskokwim River. This RAO will aid in mitigating further off-site exposure of humans and ecological receptors to contamination from the site to the extent possible until the full-scale remedial action has been implemented. Secondary RAOs were also considered when developing the removal alternatives for the site and include the following:

- Provide adequate hydraulic conveyance of Red Devil Creek;
- Provide measures, as needed, to cover exposed waste excavated from Red Devil Creek and stored on site; and
- Provide measures to stabilize slopes of the stream banks of Red Devil Creek to reduce further erosion.

Risk-based cleanup levels (i.e., remedial goals) for the site based on RAOs were not developed as part of the design criteria for the early action due to the nature of these activities. The RAOs identified above must be achieved while attaining the ARARs to the extent practicable.

The early action alternatives evaluated in this EE/CA are presented in detail in Sections 4, 5, and 6. Generally, the alternatives fall into two broad categories: (1) diversion of surface water around contaminated media, and (2) removal of contaminated sediment from Red Devil Creek.

3.3 Applicable or Relevant and Appropriate Requirements

In addition to RAOs, potential ARARs have been screened to aid in technology and alternative evaluation. For the early action, on-site actions are intended to comply with the substantive requirements of any identified ARARs, to the extent practicable considering the needs of the situation. On-site actions do not have to comply with the corresponding procedural requirements such as permit applications, reporting, and recordkeeping.

ARARs are divided into the following categories:

- Chemical-specific requirements are health- or risk-based concentration limits or ranges in various environmental media for specific hazardous substances, pollutants, or contaminants.
- Action-specific requirements are controls or restrictions on particular types of activities, such as hazardous waste management or wastewater treatment.
- Location-specific requirements are restrictions on activities that are based on the characteristics of a site or its immediate environment.

Additionally, to-be-considered (TBC) materials are advisories, criteria, guidance or policy documents, and proposed standards that are not legally binding, but that

may provide useful information or recommended procedures relevant to a removal action.

Because the removal action alternatives are relatively limited in scope and are intended to mitigate ongoing transport of tailings/waste rock material into the Kuskokwim River, chemical-specific ARARs are not an effective criterion for evaluating removal options. Therefore, chemical-specific ARARs are not addressed further in this document. The location- and action-specific ARARs and TBC materials used for the evaluation of alternatives in this EE/CA are summarized in Appendix B.

BLM intends to evaluate chemical-specific ARARs for the final remedy in the project Feasibility Study.

3.4 Early Action Schedule

The BLM intends to construct the early action at RDM in 2014, subject to availability of funding. The construction season in southwest Alaska in general, and at RDM specifically, extends from early June to mid-September. Upon receipt of feedback from the community and local tribes during the public meeting, the BLM will select a contractor to execute the preferred alternative during the 2014 construction season.