



U.S. Department of the Interior
Bureau of Land Management

Red Devil Mine

Proposed Plan– February 2020





Red Devil Mine

What We Found

Processed Tailings are Primary Source of Contamination

Contaminants of Concern

Mercury

Arsenic

Antimony

Affected Media

Tailings/Soil/Red Devil Creek Sediment

Groundwater

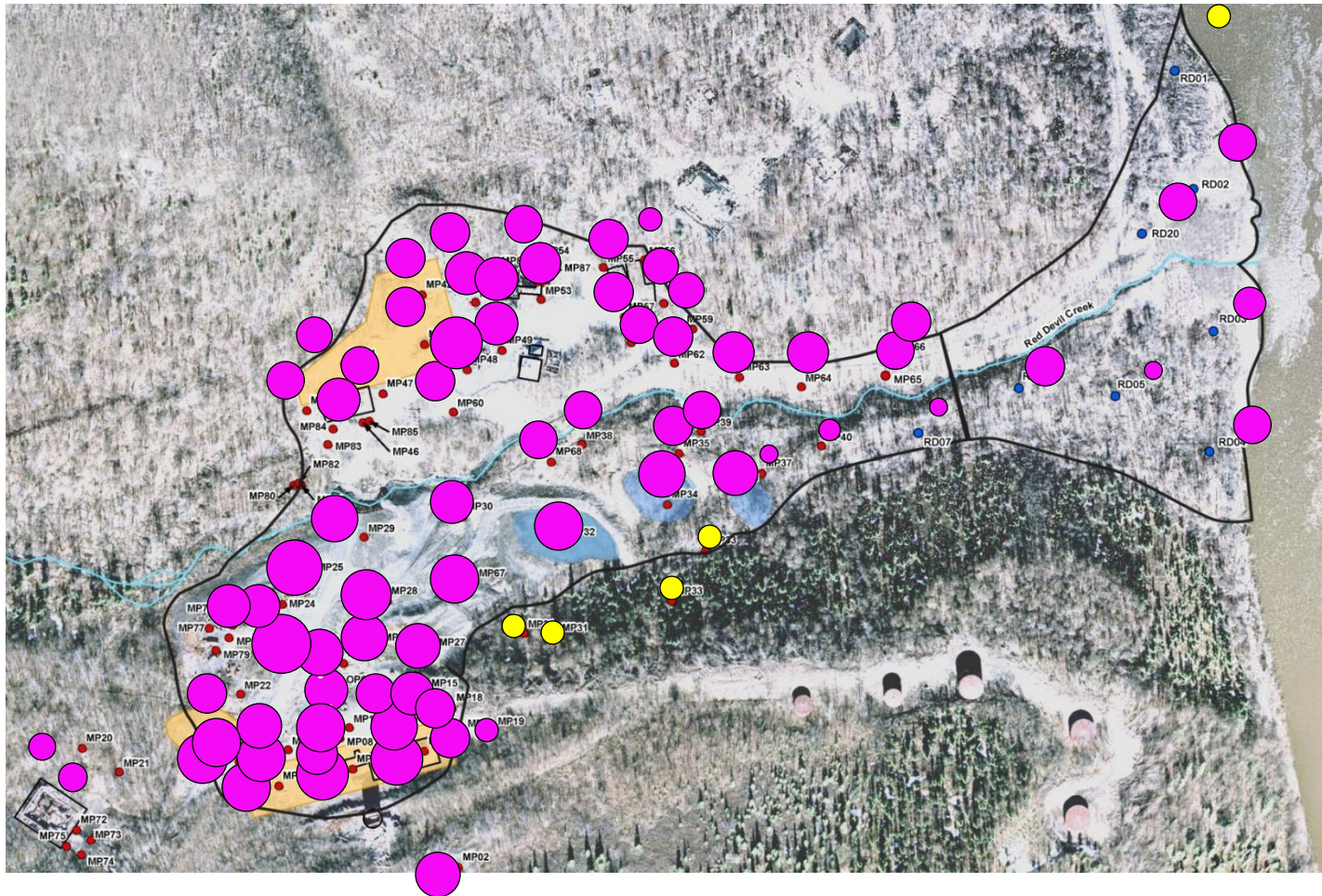
Kuskokwim River Sediment

Basis for Action

Contaminants moving offsite (early action)

Elevated risk to humans/wildlife

Red Devil Mine Soil Concentrations

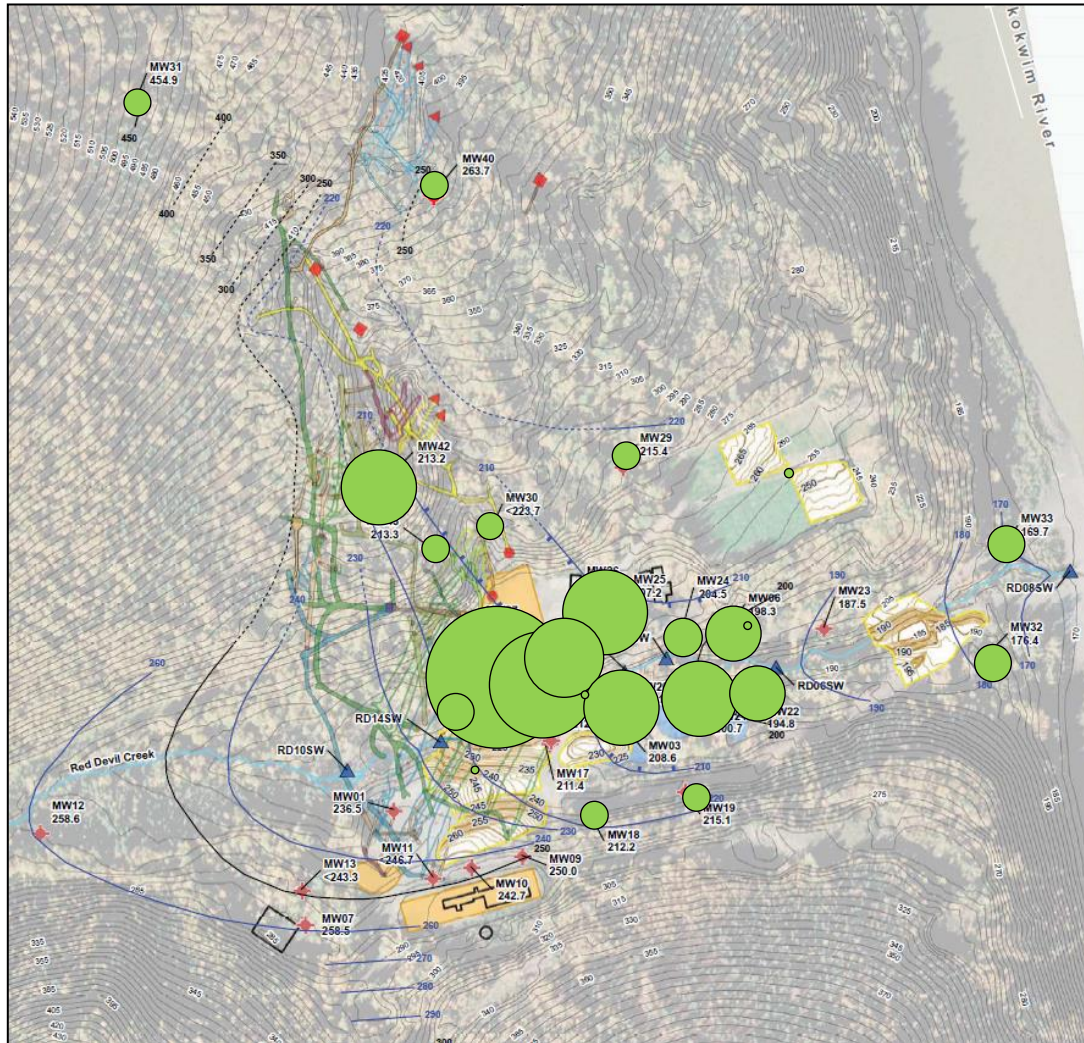


Red Devil Mine

Red Devil Creek Water Concentrations



Red Devil Mine Remedial Investigation Groundwater Concentrations

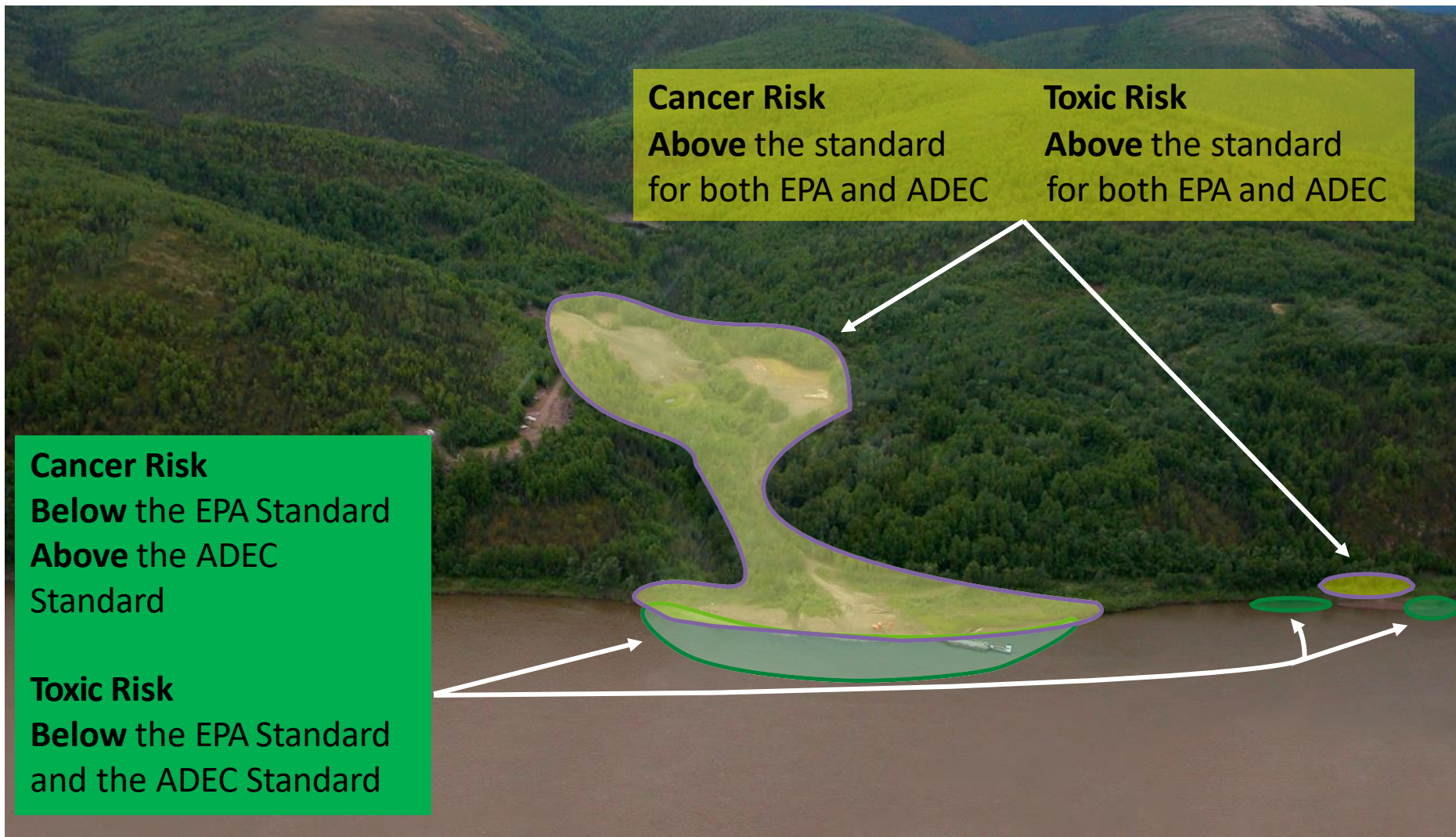


- Groundwater flows toward Red Devil Creek
- Underground Mine tunnels affect flow pattern
- Groundwater concentrations affected by natural ore in the rock

Size of green dots represent levels of concentration. Larger the dot equals larger the concentration



Red Devil Mine Risk Assessment Findings





Red Devil Mine Cleanup Objectives

Reduce Risk to Below EPA and ADEC Levels

- Prevent Direct and Indirect Human Contact with **Tailings, Soil, and Sediment**
- Eliminate Impacts of Tailings to **Red Devil Creek**
- Eliminate Current/Future Impacts to **Groundwater**
- **Monitor to Verify that Action is Effective**



Red Devil Mine Site Cleanup Options

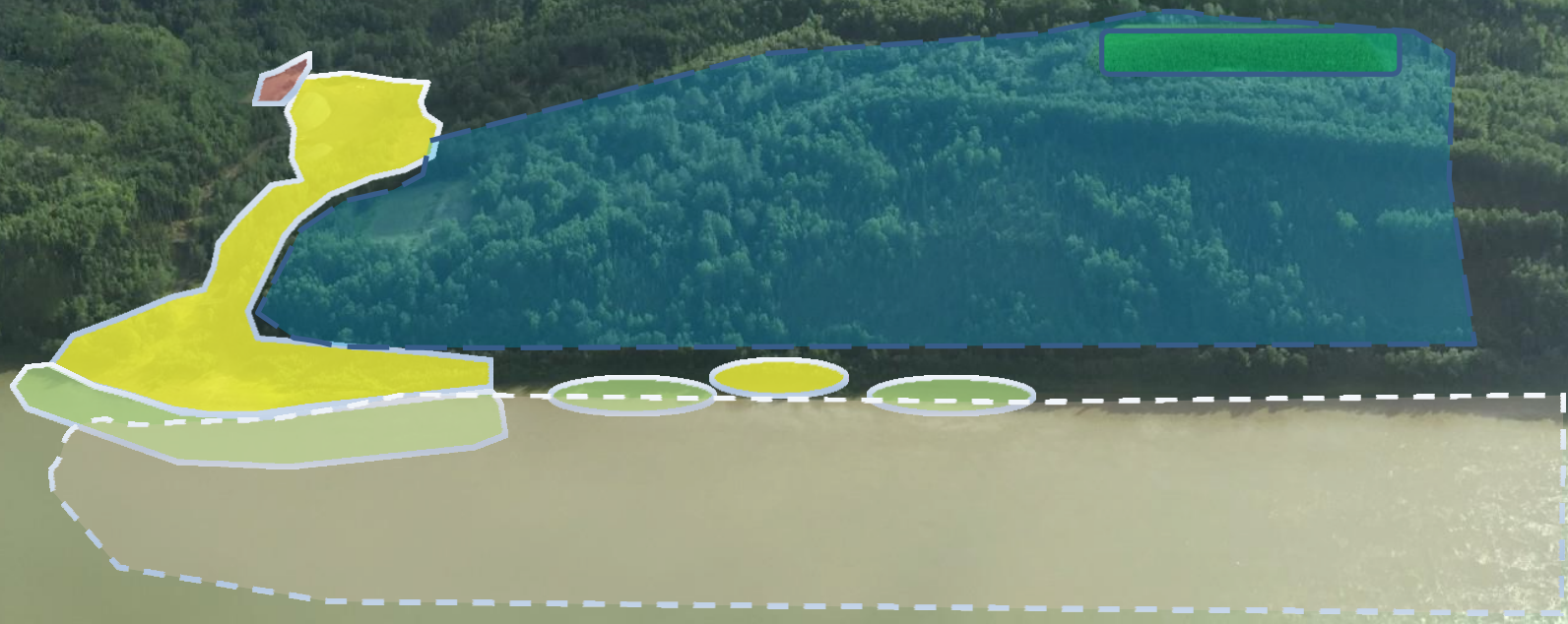
Site Wide Clean-up Alternatives		Estimated Cost
SW1	No Action	\$0
SW2	Encircle the site with a 12-foot fence	\$816K
SW3	Excavate - Onsite Disposal - Monitoring	\$26.4M - \$32.7M
SW4	Excavate - Offsite Disposal – Reduced Monitoring	\$198.7M



Red Devil Mine Cleanup Alternatives SW3 & SW4

Legend

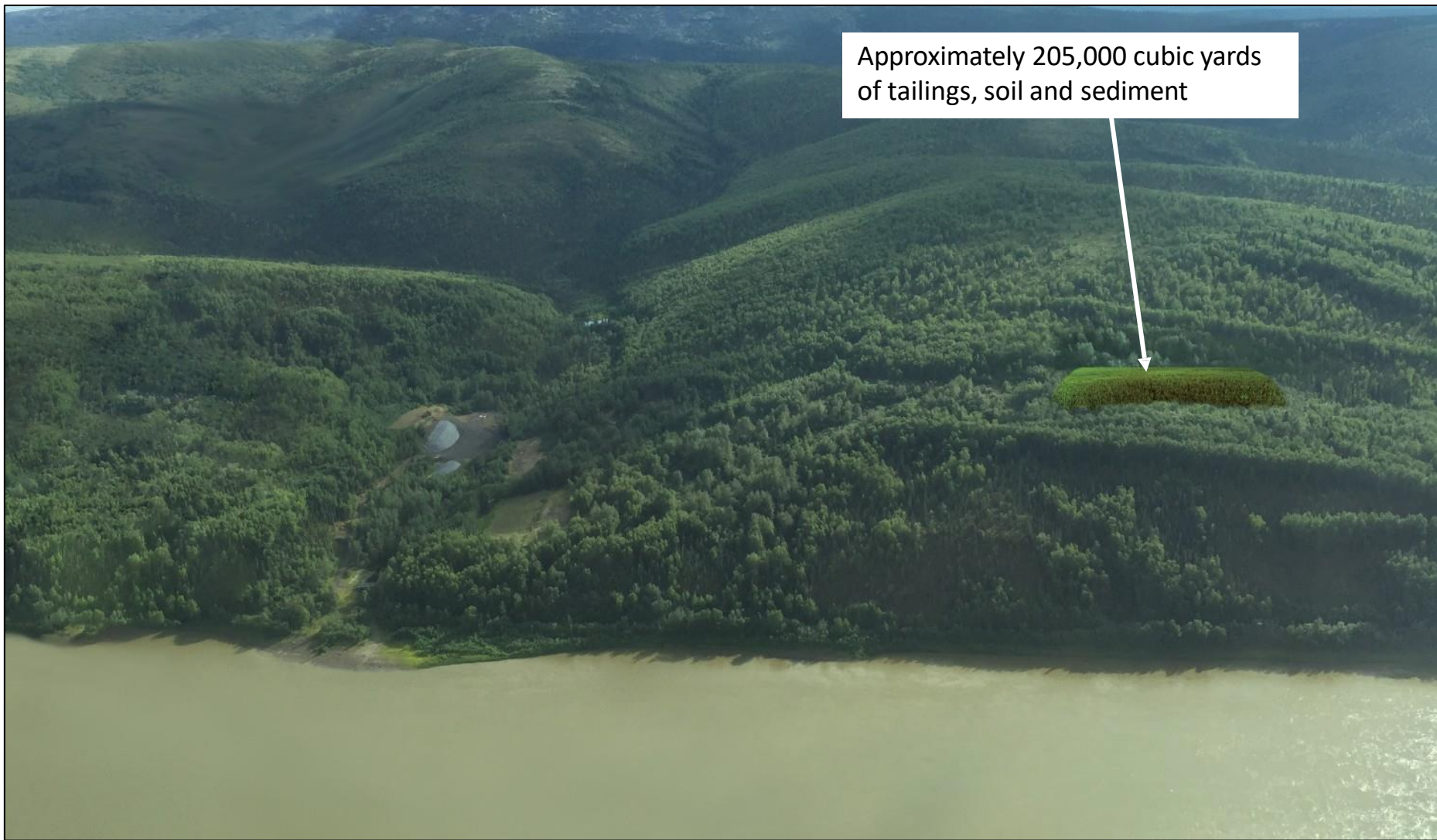
- Excavation Area
- Monofill 2
- Proposed Repository
- Sediment Excavation
- Groundwater monitoring
- River Sediment Monitoring





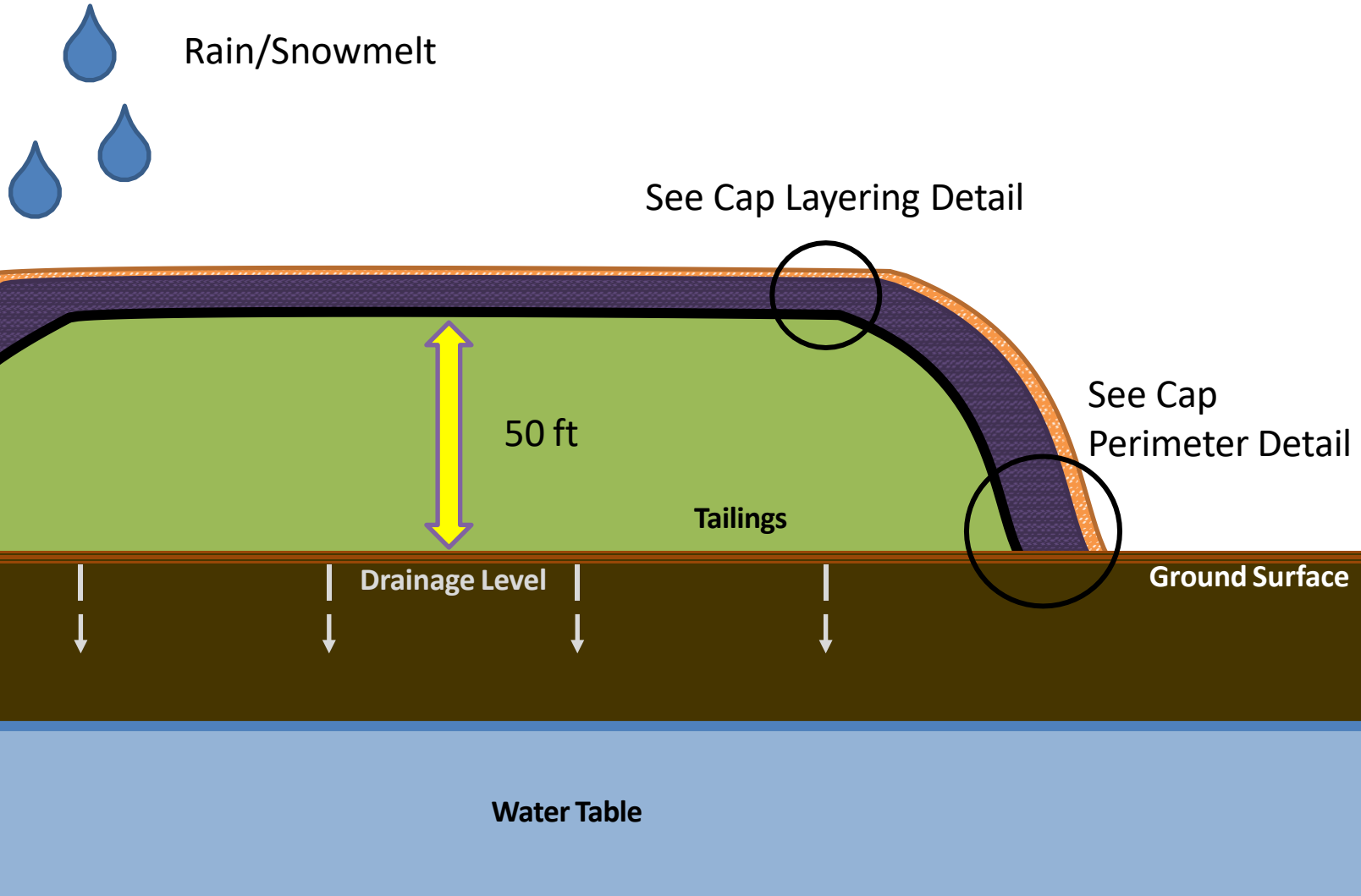
Red Devil Mine Proposed Repository

Approximately 205,000 cubic yards
of tailings, soil and sediment



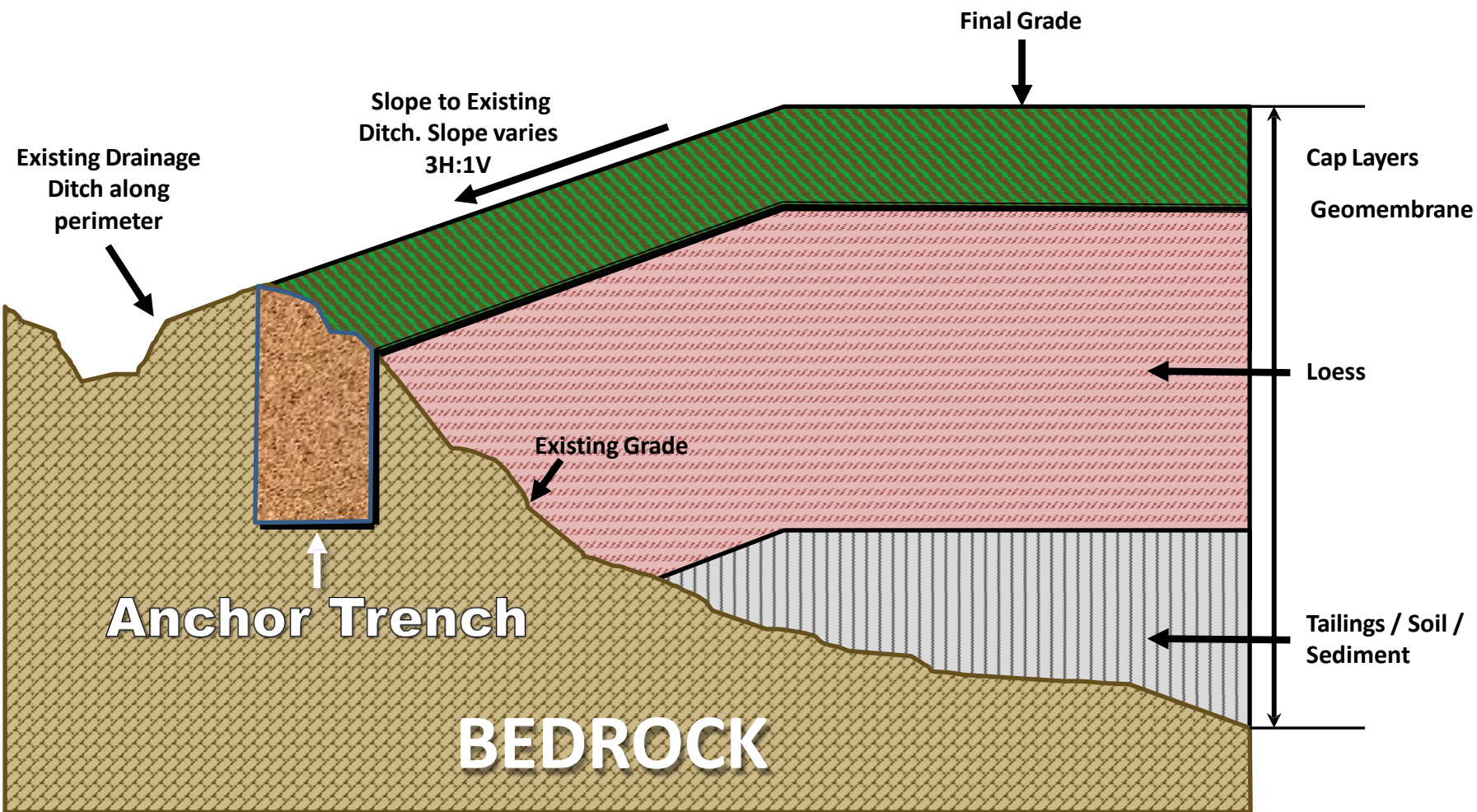


Red Devil Mine Proposed Repository Profile



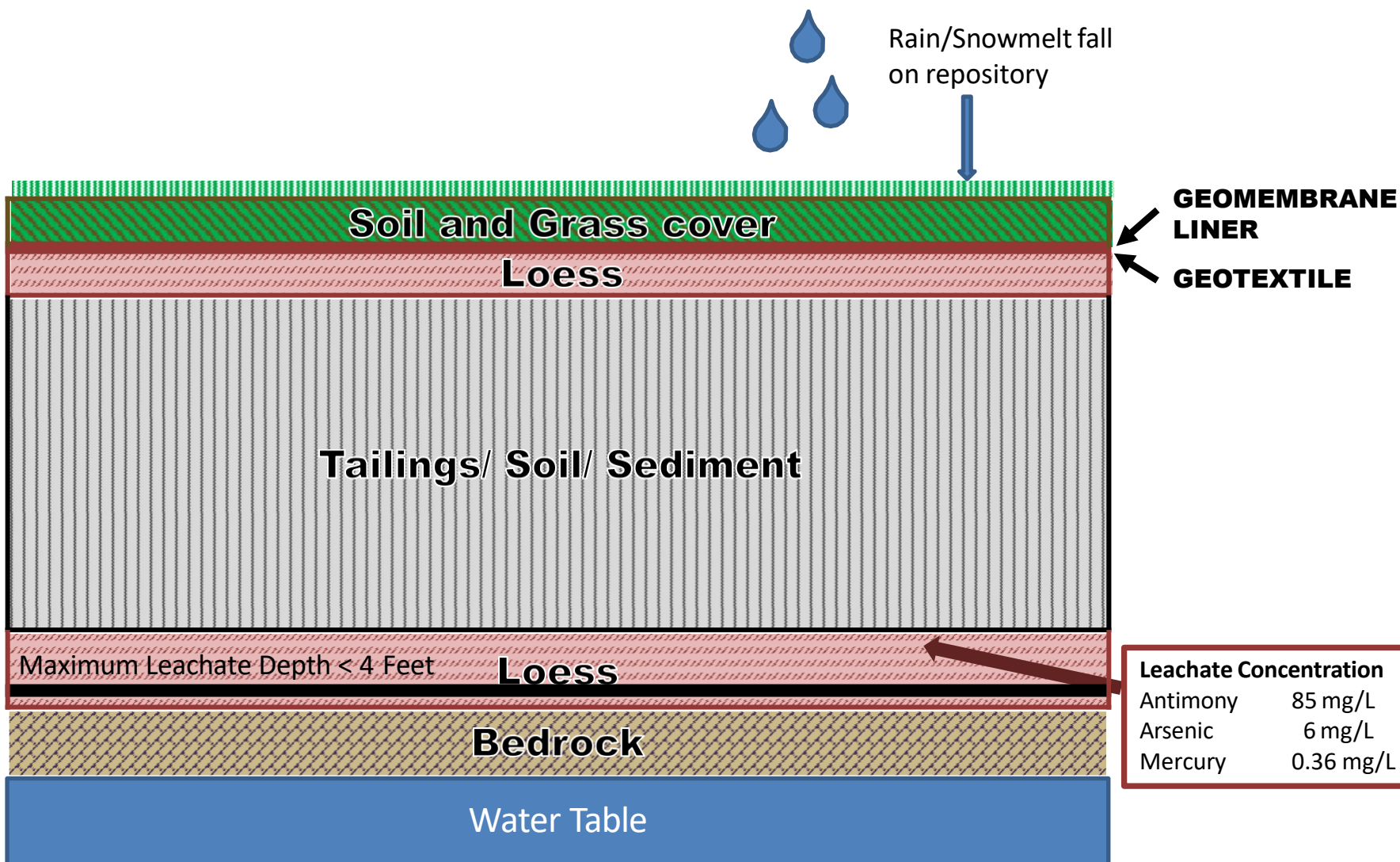


Red Devil Mine Cap Perimeter Detail





Red Devil Mine Cap Layering Detail & Hydrologic Analysis





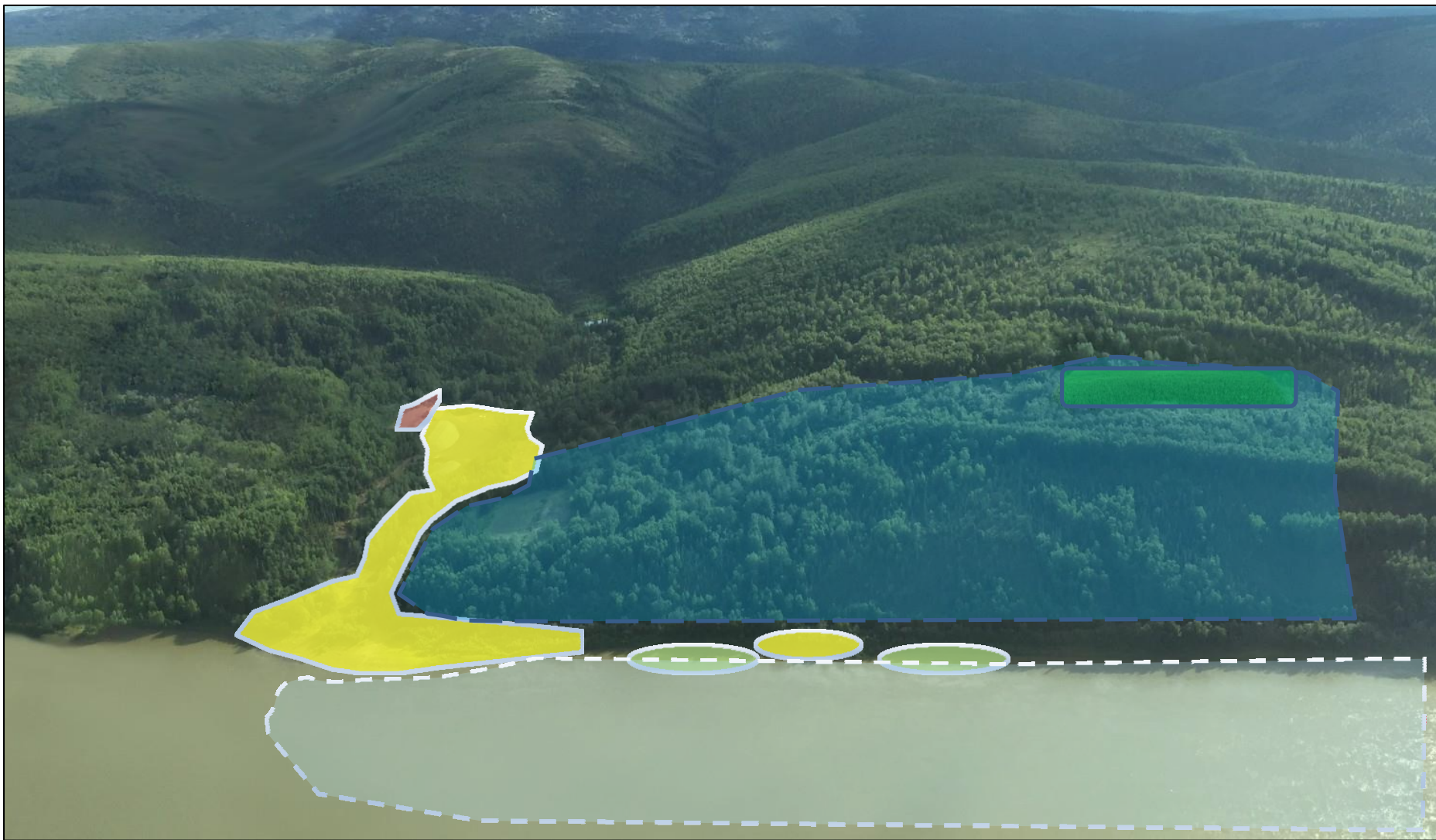
Red Devil Mine Hydrologic Analysis

All contaminant concentrations meet ADEC Drinking Water Standards at depths of less than 4 feet below repository

Contaminant	Initial Leachate Concentration (mg/L)	ADEC Drinking Water Standard (mg/L)	Maximum Depth of Leachate Below Repository (ft)
Antimony	85.40	0.006	3.15 - 3.55
Arsenic	6.118	0.010	0.65 - 0.75
Mercury	0.357	0.002	0.05 - 0.15



Red Devil Mine Preferred Cleanup Alternative





Red Devil Mine

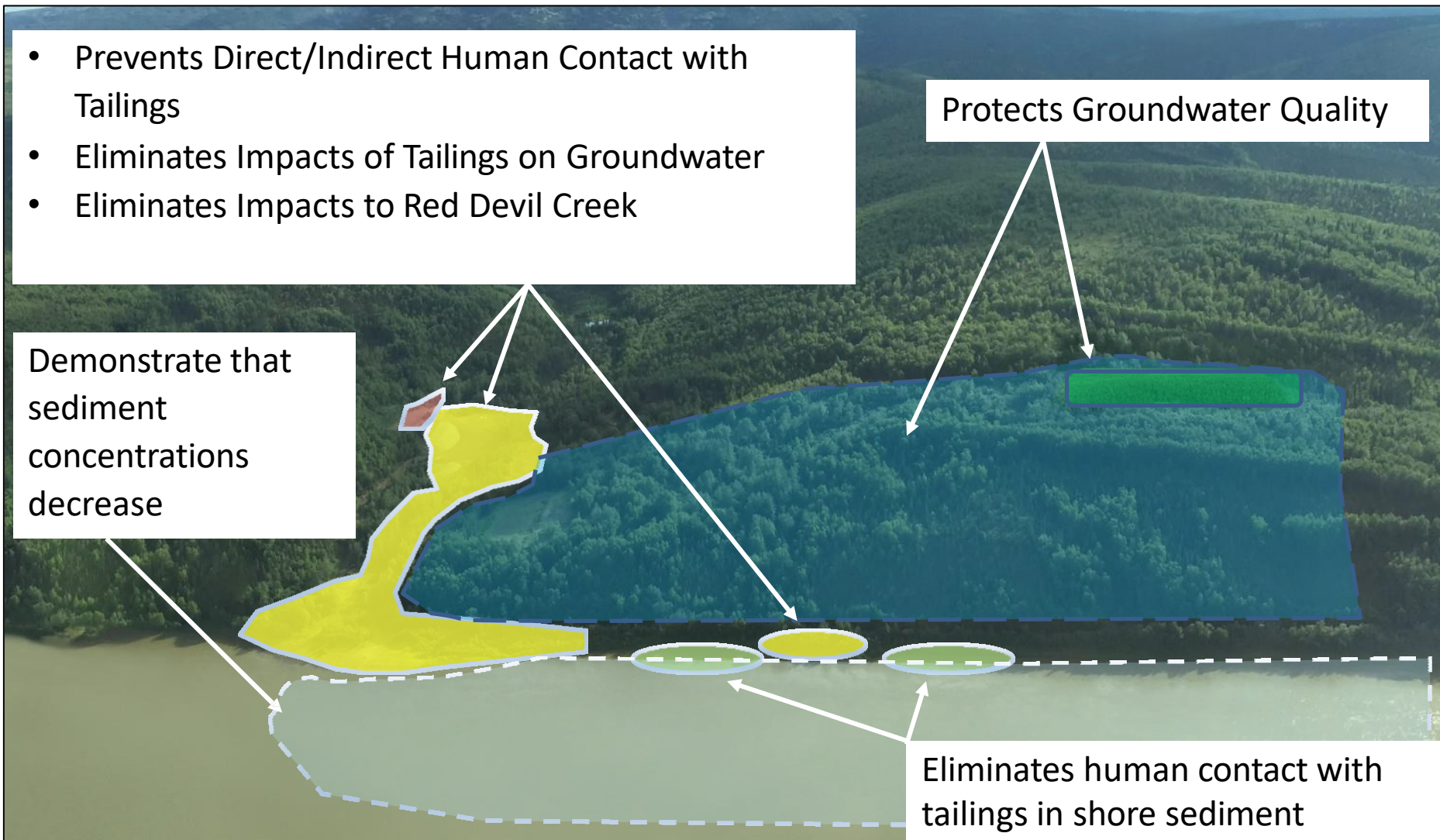
Preferred Alternative Meets Cleanup Objectives

- Prevents Direct/Indirect Human Contact with Tailings
- Eliminates Impacts of Tailings on Groundwater
- Eliminates Impacts to Red Devil Creek

Protects Groundwater Quality

Demonstrate that sediment concentrations decrease

Eliminates human contact with tailings in shore sediment





Contact Information

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All documents are available in the project administrative record available on the BLM Alaska website: <https://www.blm.gov/alaska>

Access the Red Devil Mine Proposed Plan and Administrative Record of documents by:

1. Clicking on *Popular Links*
2. Clicking on *Red Devil Mine Project*
3. Clicking on *Administrative Record* or *the Proposed Plan* under Quick Links

Comments can be emailed to blm_ak_reddevil@blm.gov or mailed to BLM Anchorage Field Office, Attn: Red Devil Mine Clean up, 4700 BLM Road Anchorage, AK 99507