Project Overview

• 2014 Reclamation Work
  – Repository liner system covered with two feet of soil
  – One foot of compost-amended soil spread over project
  – Seeding, mulching and tree plantings conducted in September 2014

• Project Completion
  – Substantial Completion Inspection on October 8, 2014
  – Final Inspection on June 24, 2015
  – One year warranty period through June 24, 2016
Repository – Initial Two Foot Soil Cover

July 2014
Cover Soils – Amendment and Spreading

August 2014
2014 Project Seeding

Drill seed and straw
20 acres

Hand seed and hydromulch
3 acres
2014 Grass Seeding and Tree Planting

- Mix of Mountain Brome, Alpine Bluegrass, Slender Wheatgrass, Bluebunch Wheatgrass, Western Wheatgrass, and Triticale
- Purity and Viability analysis performed by Montana State Seed Lab
- Applied at 72 pounds pure live seed per acre with drill seeder, doubled in hand broadcast areas
- 400 Douglas Fir, 360 Aspen, 60 Thimbleberry planted
Project Revegetation

2010 revegetation

2014 hand seeding

2014 drill seeding
Final Straw Mulch Cover

September 2014
2014 Tree Planting

September 2014
Soda Butte Creek Sampling

- Two sampling events in 2014: August 6 and September 14.
- Sampled at three locations: upstream end, center, and downstream end of reclamation project.
- Barium, iron, and manganese detected at 0.06, 0.04, and 0.006 mg/L: no DEQ-7 exceedances
- Remaining metals below laboratory detection limits
2015 Look Ahead

- Coordination with Greater Yellowstone Network for sampling Soda Butte Creek water quality
- Monitor site reclamation through and beyond contract warranty period
- Additional willow and tree plantings
- Evaluate alternatives for property management
Total Recoverable Iron at SBC-2
USFS Spring and Fall Sampling

Concentration in mg/L
Total Recoverable Iron at SBC-2
USFS Summer Sampling

Concentration in mg/L

Jun-05 to Jun-15
2015 Look Back

- 5 years for EPA-DOJ Agreement
- 5 construction seasons
- Approximately one-half million tons (one billion pounds) of tailings excavated and mixed with lime
- Approximately 100 million gallons of contaminated groundwater treated
- 2400 feet of Soda Butte and Miller Creek reconstructed in approximate pre-mining locations
Soda Butte Creek
Fall 2008

Tailings Discharges (USGS):
Fe  418 mg/L
Al  122 mg/L
Cu  6 mg/L
Pb  0.6 mg/L
Cd  0.06 mg/L
Soda Butte Creek - Response to Project

2008

2013
• National Recognition Award from American Council of Engineering Companies

• Montana Contractors Construction Excellence Award
  – Overall Excellence Award
  – Special Recognition – Water Quality
Questions?

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