



MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

McLaren Tailings
Project Update
July 16, 2015

Tom Henderson

Montana Department of Environmental Quality

thenderson@mt.gov

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

Repository – Final Cover



August 2014

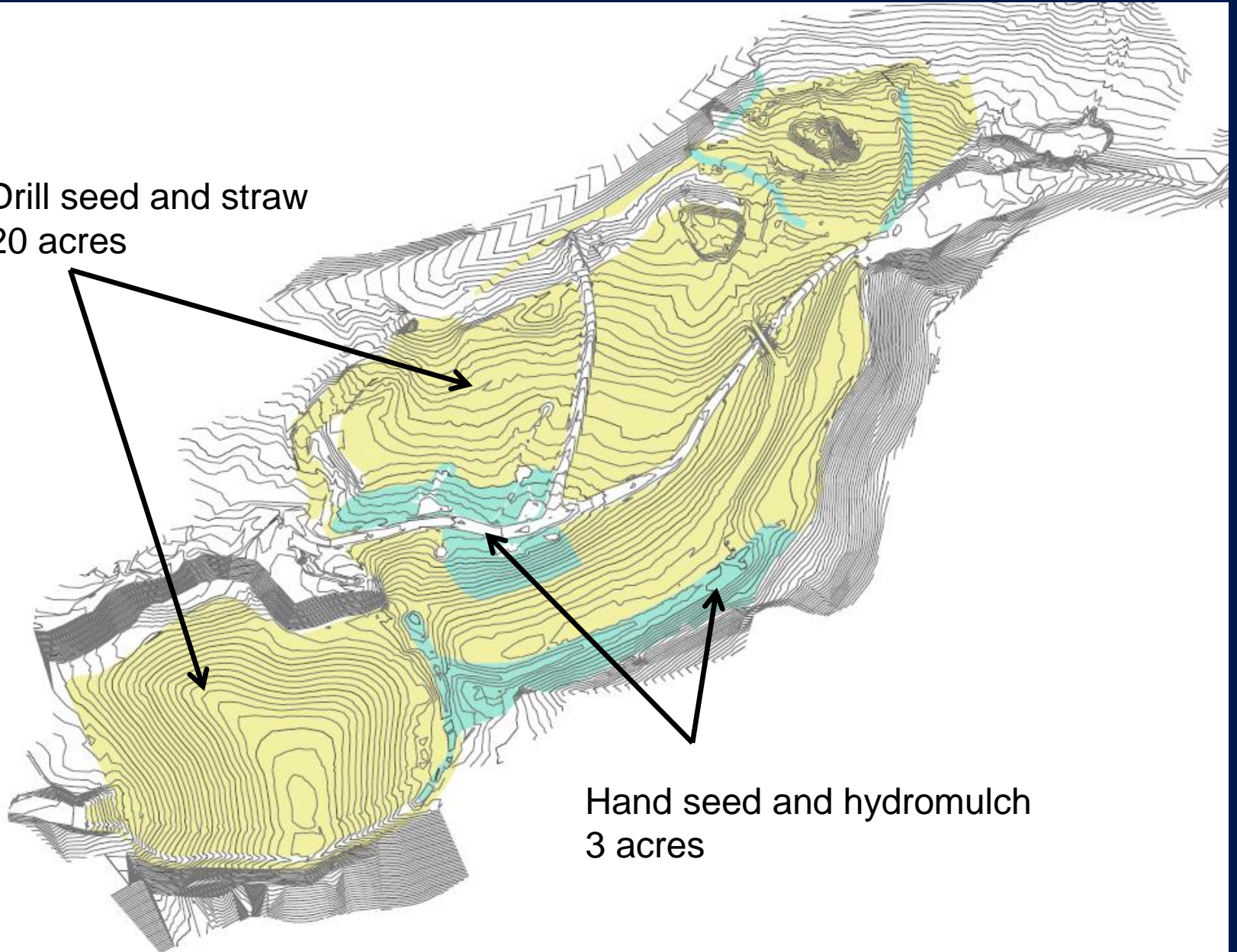
Cover Soils – Amendment and Spreading



August 2014

2014 Project Seeding

Drill seed and straw
20 acres



Hand seed and hydromulch
3 acres



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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

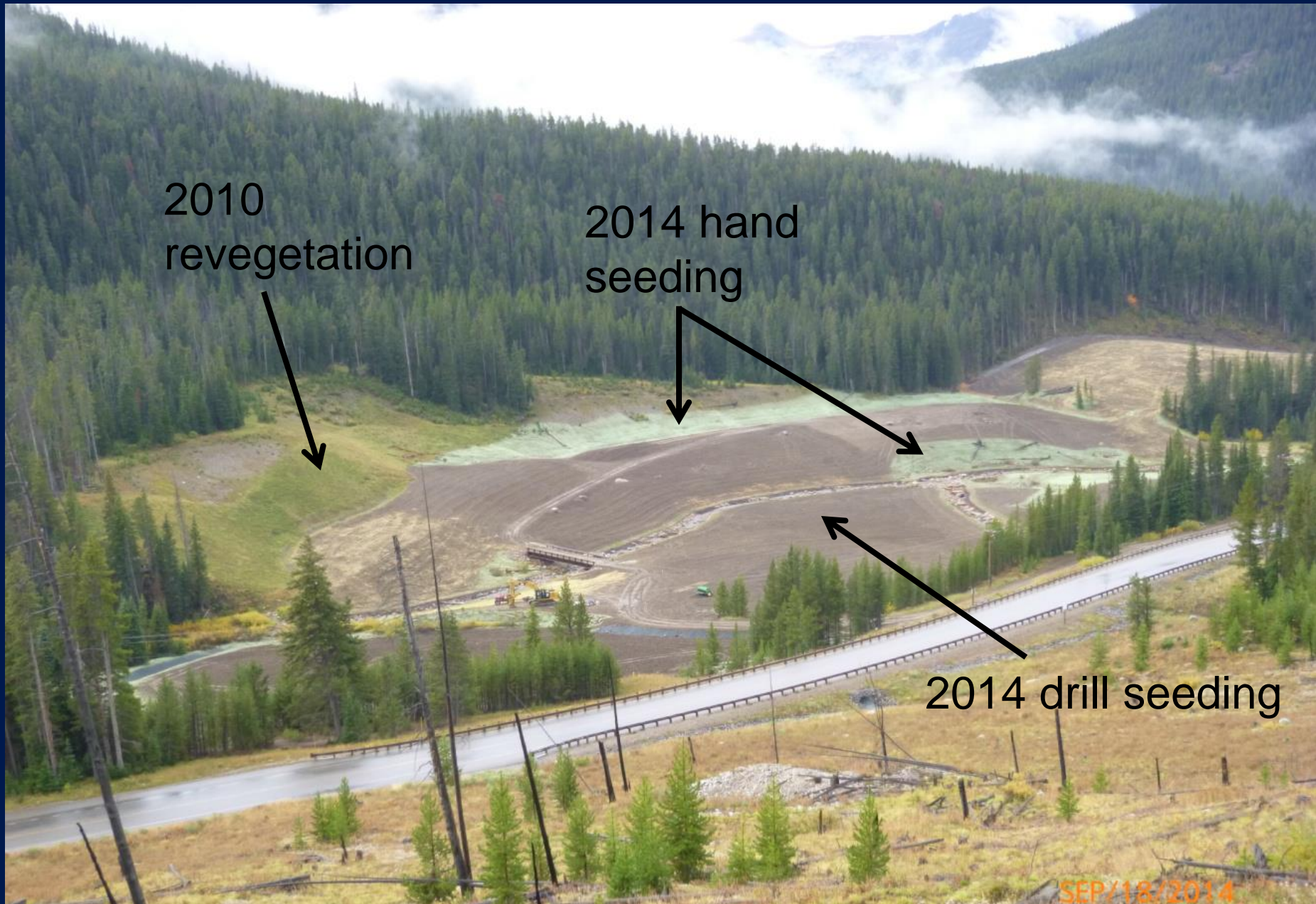
Project Revegetation

2010
revegetation

2014 hand
seeding

2014 drill seeding

SEP/18/2014



Final Straw Mulch Cover



September 2014

2014 Tree Planting

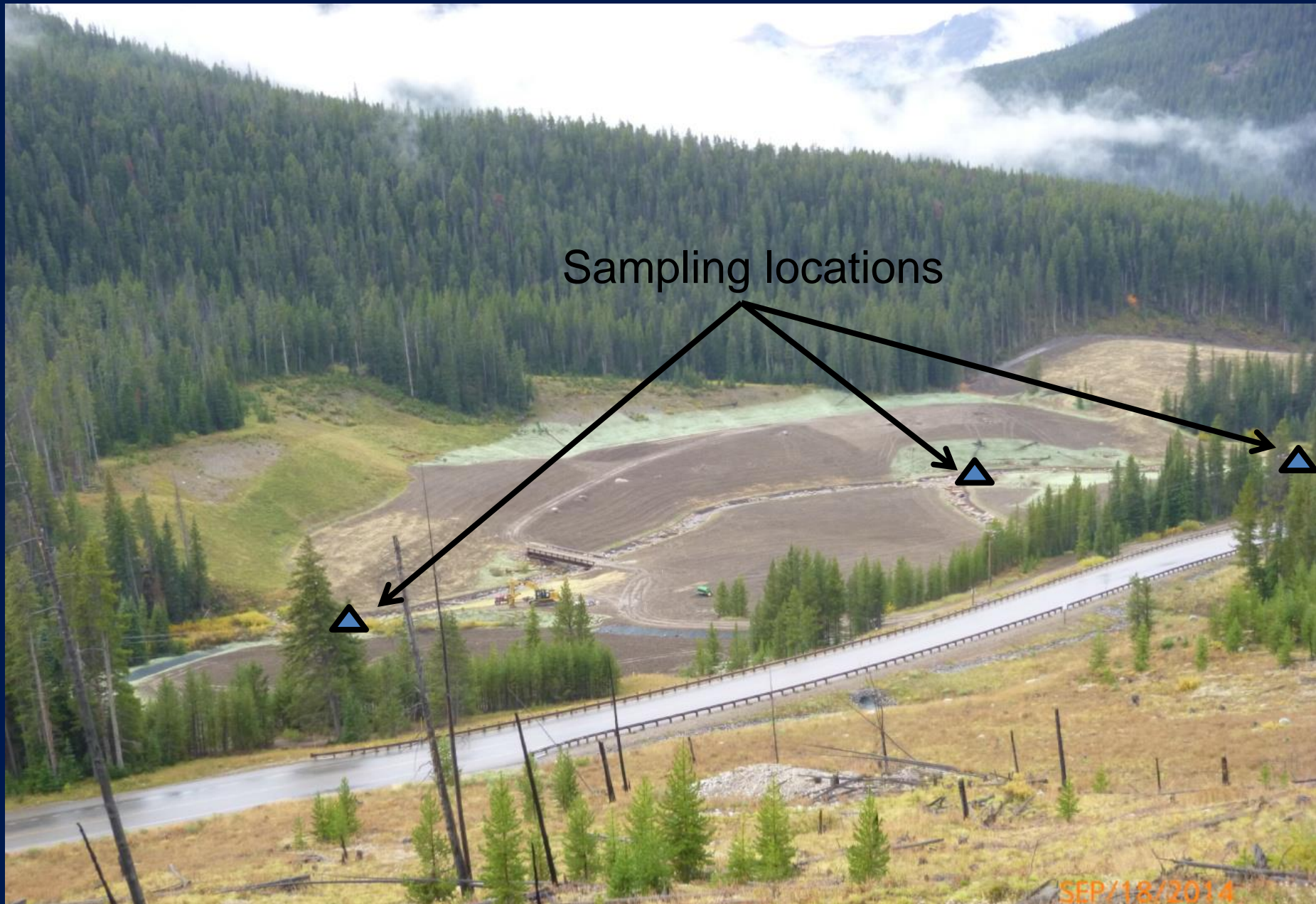


September 2014

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

2014 Water Quality Sampling



October 2014 - Season End



Site Conditions Spring 2015



May 2015

Site Conditions Spring 2015



May 2015

Site Conditions Summer 2015

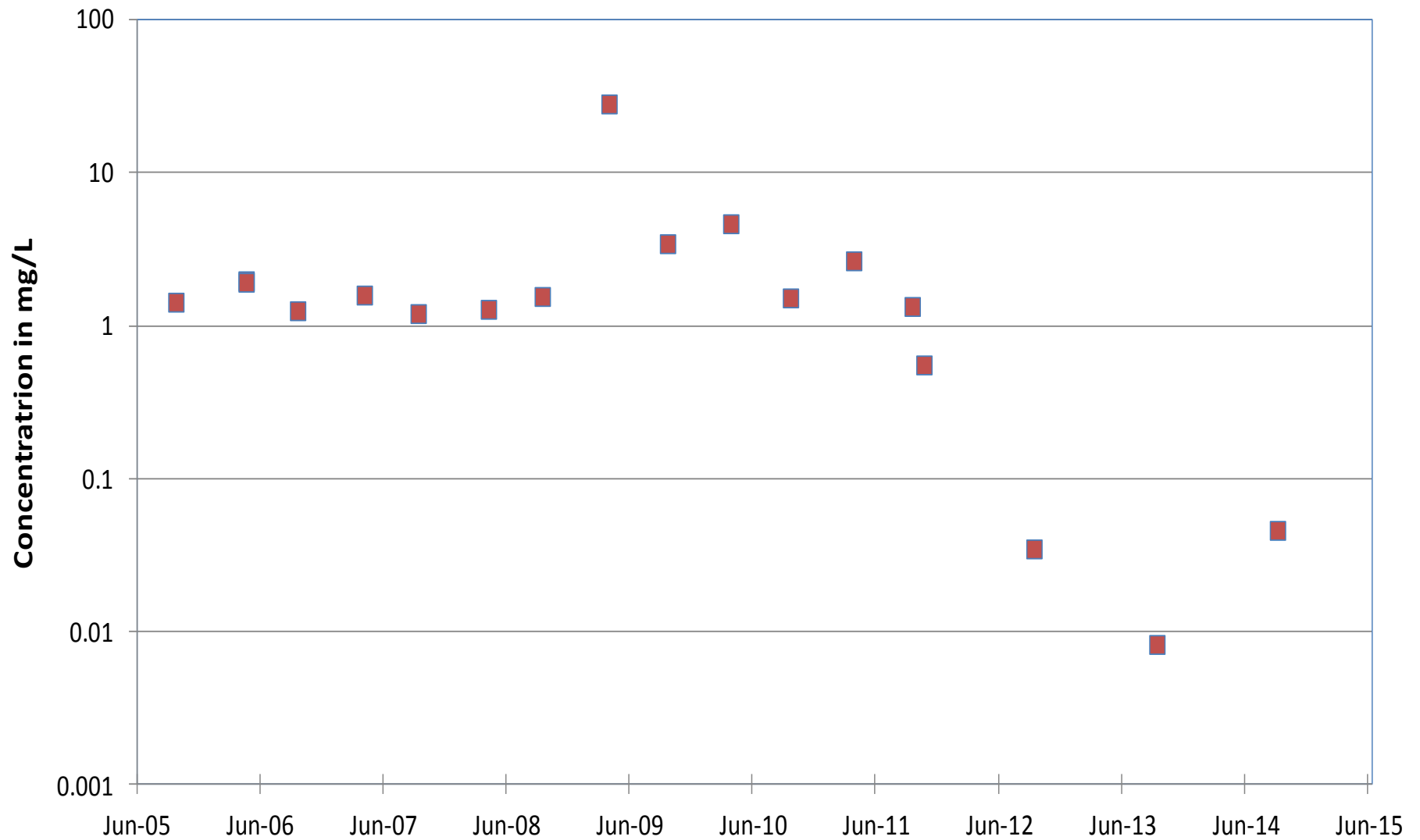


July 2015

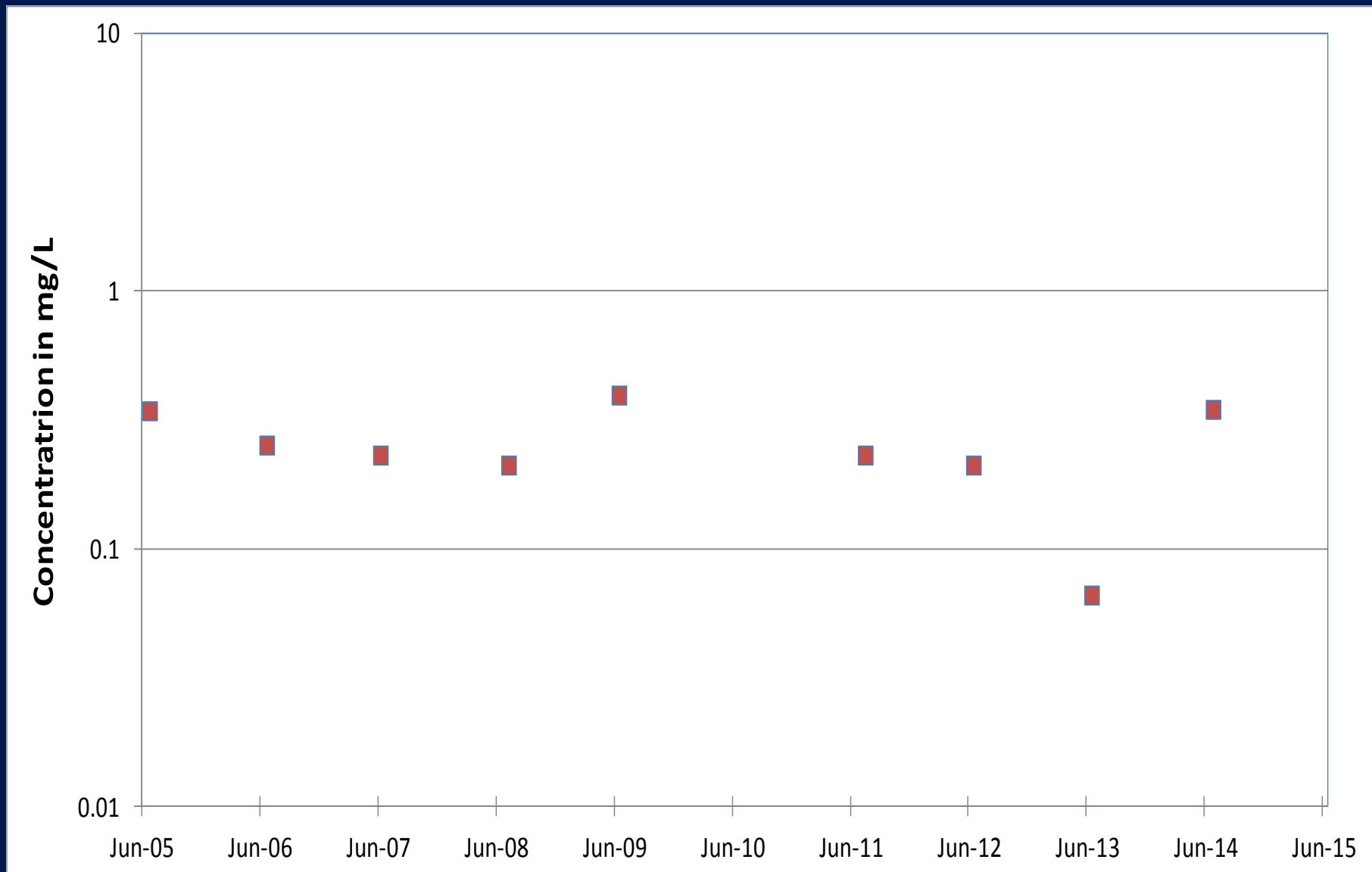
2015 Look Ahead

- 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



Total Recoverable Iron at SBC-2 USFS Summer Sampling



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

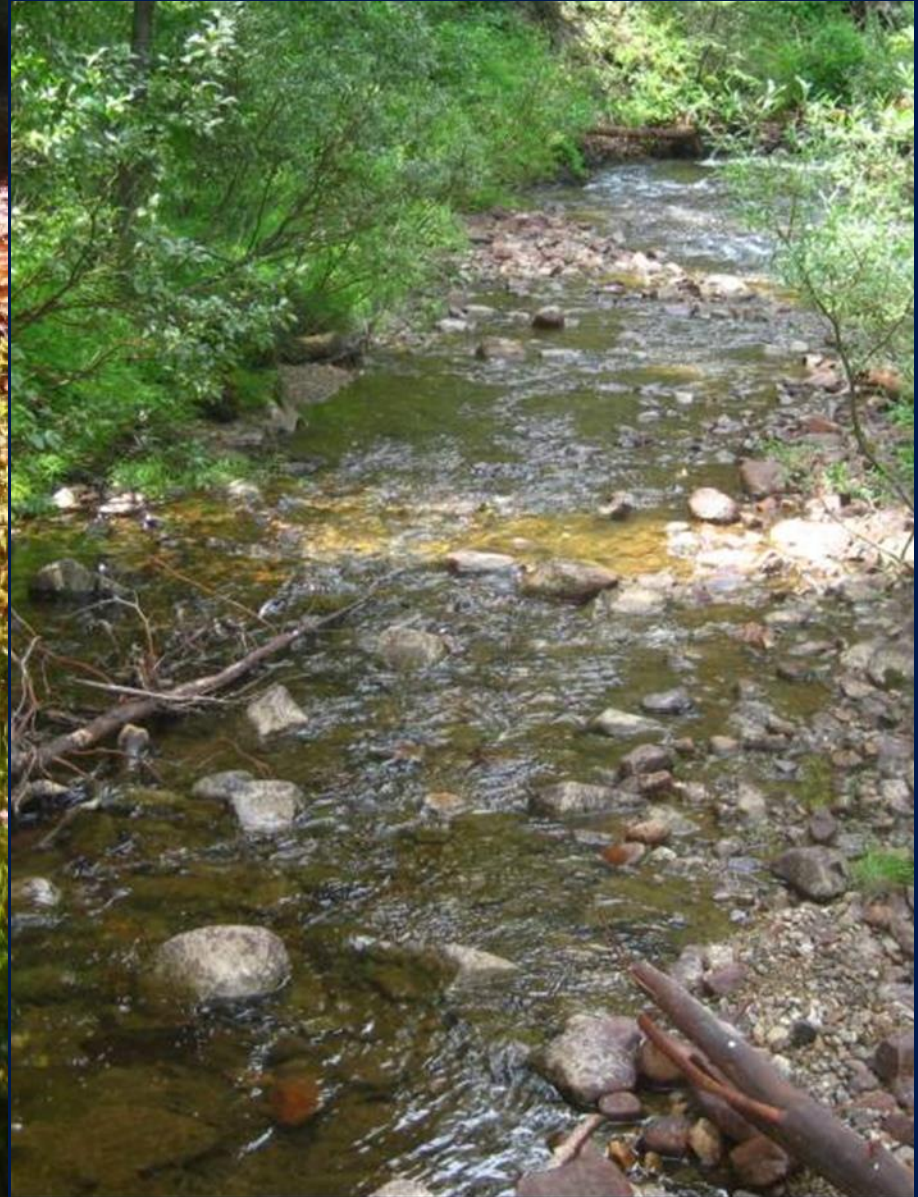
Cd 0.06 mg/L



Soda Butte Creek - Response to Project



2008



2013

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Reclamation Awards



- National Recognition Award from American Council of Engineering Companies



- Montana Contractors Construction Excellence Award
 - Overall Excellence Award
 - Special Recognition – Water Quality



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Questions?

Contact:
Tom Henderson
Montana DEQ
thenderson@mt.gov
(406) 444-6492

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