
To: Ms. Mary Beth Marks – On Scene Coordinator/COR, Custer Gallatin National Forest

From: Shane Matolyak – Environmental Scientist/Project Manager, Tetra Tech

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Subject: 2016 Annual Activities Report (Contract AG-0343-B-12-0001, AG-0343-K-16-0020)

Introduction

The New World Mining District Response and Restoration Project entered into a long-term (20-year) operations and maintenance phase in 2012. Activities that will occur during this phase of the project are described in detail in the Long-Term Operations and Maintenance Plan (Tetra Tech, 2012) and are summarized below;

- Annual high flow (June) surface water monitoring,
- Annual low flow (September) surface water monitoring,
- Annual groundwater monitoring (July),
- Aquatics / biological monitoring (2013, 2014, and 2015),
- Area-wide reclamation / revegetation monitoring (5-year intervals beginning in 2016),
- Maintenance and erosion control (as needed),
- Preparation of an annual water resources monitoring report, and
- Preparation of an annual activities report.

Operations and maintenance activities for the 2016 project year are complete. This Annual Activities Report summarizes project activities completed during the year and activities that will occur during the 2017 project year.

Water Resources Monitoring

Surface water and groundwater monitoring activities were completed at the same locations and schedule described in the Long-Term Operations and Maintenance Plan with the exception that certain groundwater wells were sampled earlier in the year to ensure that water levels were sufficient to allow sample collection. Water resource monitoring will continue in 2017. Total recoverable and dissolved arsenic were added to the list of analyses for 2014 surface water samples in order to evaluate whether changing redox and pH conditions mobilize arsenic in area streams based on discussion with the Board of Environmental Review. Arsenic analysis may continue in 2017.

Water Resources Monitoring Report

The final 2016 water resources monitoring report was submitted to USFS in May 2017 (Tetra Tech, 2017). Data presented in the report show that 2016 monitoring results are similar to previous post-response action results and that water quality improvements have been maintained post-response. These data are discussed in greater detail in the annual water resources monitoring report.

Aquatics / Biological Monitoring

The third and final of three annual aquatic macroinvertebrate and periphyton monitoring events was completed in 2015. Results of these monitoring events were provided in a summary memo prepared by Confluence Consulting (2016) and submitted to Montana DEQ in early 2016.

No additional aquatic macroinvertebrate and periphyton monitoring are planned.

Reclamation / Revegetation Monitoring

Formal monitoring of revegetated areas were completed in 2016 and the final report is attached to this memo (Attachment 1).

No areas of erosion were observed however two areas of failed plant establishment on reclaimed / revegetated areas were documented. One of these areas is in a location that is typically covered by a persistent snow bank that had melted in 2016.

Maintenance and Erosion Control

No erosion or major maintenance issues were observed in 2016 and no maintenance was performed.

Two data-logging water level monitors were removed from waste rock water monitoring wells in the McLaren Pit. It was decided that continuous water level data for these wells are no longer necessary and the water level monitors may be useful as spares in the event they are needed to replace similar equipment currently monitoring water levels in and near the Selective Source Repository.

Repository Sump Treatment Alternatives

A bid-specification package was submitted for construction of a passive water disposal system (i.e. drain field) to dispose of water that accumulate in the Selective Source Repository sump. Construction of this system is planned for completion during summer 2017 and will eliminate the need for annual pumping and off-site disposal of sump fluid.

References

Tetra Tech. 2012. Long-Term Operations and Maintenance Plan. New World Mining District Response and Restoration Project. June.

Tetra Tech. 2017. 2016 Surface Water and Groundwater Monitoring Report. New World Mining District Response and Restoration Project. May.

Attachment 1

2016 New World Vegetation Monitoring Report