TETRA TECH

MEMO

To:	Ms. Mary Beth Marks – On Scene Coordinator/COR, Custer Gallatin National Forest
From:	Shane Matolyak – Environmental Scientist/Project Manager, Tetra Tech
Date:	April 9, 2020
Subject:	2019 Annual Activities Report (Contract GS-00F-168CA/12034318A0012, Order: 12034318F0599)

Introduction

The New World Mining District Response and Restoration Project entered 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 2019 project year are complete. This Annual Activities Report summarizes project activities completed during the year and activities that will occur during the 2020 project year.

Maintenance and Erosion Control

No major maintenance issues were observed in 2019 and no maintenance was performed.

Erosion was noted on a steep section of the road connecting the McLaren Pit area to Lake Abundance. While passable by off-road vehicles and capable four-wheel drive trucks, continued erosion may necessitate foot travel or off-road vehicle use during future surface water monitoring events.

Repository Sump Drain Field Performance

A passive water disposal system (i.e. drain field) to dispose of water that accumulates in the Selective Source Repository sump was constructed in August 2017. This system eliminates the need for annual pumping and off-site disposal of sump fluid. Details of the system and its construction are provided in the Final Construction Completion Report submitted to USFS in April 2018 (Tetra Tech, 2018a).

Data from a data-logging water level meter installed within the Repository sump shows that water began accumulating in the sump shortly after the drain field was constructed. The water level rose to a depth of 20 inches in January 2018 at which point the water began discharging to the drain field. The water level has remained static through the 2019 monitoring season which indicates that the drain field is functioning as designed.

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Water Resources Monitoring

Surface water monitoring activities were completed at the same locations and schedule described in the Long-Term Operations and Maintenance Plan. A portion of the high-flow monitoring event which typically occurs in late June was postponed until July due to a persistent snowpack which hindered access to some locations. This was the second year in a row that persistent snow pack hindered the monitoring event. Low-flow monitoring was completed as scheduled in late September.

Groundwater monitoring activities were completed at the same locations described in the Long-Term Operations and Maintenance Plan although the monitoring schedule was postponed due to site conditions. Wells SBGW-107, -107T, and Tracer 5 were monitored in June to ensure that water levels were sufficient to allow sample collection since these wells tend to go dry in early July. The Repository Sump was also monitored in June. The remaining wells were sampled in July as normally scheduled.

Surface water monitoring will continue in 2020 in accordance with the updated Long-Term Operations and Maintenance Plan (Tetra Tech, 2020a).

Water Resources Monitoring Report

The final 2019 water resources monitoring report was submitted to USFS in April 2020 (Tetra Tech, 2020b). Data presented in the report show that 2019 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.

Additional and Upcoming Work

Future Groundwater Monitoring and Well Abandonment

Groundwater monitoring will be discontinued at the majority of locations as most groundwater monitoring wells will be abandoned in 2020. Monitoring of wells SBGW-107 and -107T and the Repository Sump will continue per DEQ's request made in conjunction with their approval of the Repository Sump drain field construction.

Monitoring well FCGW-100, located near the Como Basin and completed within the backfilled and plugged Glengarry Adit, will be retained although monitoring of this well will not continue as part of the World Mining District Response and Restoration Project. This well provides a unique opportunity to assess groundwater quality changes in response to adit plugging and therefore may be useful for future scientific evaluations but is not needed to support the New World project.

McLaren Adit Drain System Inspection

Closure of the McLaren Adit in 2010 included construction of a drain field and associated pipeline to convey adit seepage to the drain field. The pipeline includes a buried manhole and access to inspect the pipeline and, if necessary, flush the system using pressurized water. The manhole will be excavated and the system inspected to ensure proper drainage is occurring in 2020. It is anticipated that this work will occur during the well abandonment work described above.

Updated Long-Term Operations and Maintenance Plan

The Long-Term Operations and Maintenance Plan describing annual activities to monitor the status of reclaimed sites and water quality responses to reclamation was previously updated in 2012 (Tetra Tech, 2012). The plan was

updated again in 2020 to incorporate changes to the monitoring plan (i.e. well abandonment and revised analytical suite) (Tetra Tech, 2020a).

References

Montana Department of Environmental Quality (MDEQ). 2018. Email from Myla Kelly to Mary Beth Marks: Groundwater memo for DEQ. January.

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

Tetra Tech. 2018a. Construction Completion Report. New World Repository Sump Drain Field. April.

Tetra Tech. 2020a. Long-Term Operations and Maintenance Plan. New World Mining District Response and Restoration Project. April.

Tetra Tech. 2020b. 2019 Surface Water and Groundwater Monitoring Report. New World Mining District Response and Restoration Project. April.