RIO GRANDE RESOURCES CORPORATION

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June 16, 2019

Ms. Amber Rheubottom
New Mexico Environment Department
Ground Water Quality Bureau – Water Protection Division
Mining Environmental Compliance Section
Harold Runnels Building
1190 Saint Francis Drive
Santa Fe, NM 87502

Subject: Monthly Construction Update, May 2019, in Partial Fulfilment of item #4, "Request for Additional Information and Conditional Approval of Construction Quality Management Plan Phase I Construction, Mt. Taylor Mine Reactivation Rev. 0, 6/15/2018 for Conditions 31 and 32 of Discharge Permit 61"

Dear Ms. Rheubottom,

Rio Grande Resources is pleased to submit the May 2019 Monthly Construction Update, attached with this letter. This Monthly Construction Update is sent as requested in item #4 of the NMED letter dated 9/11/18: Request for Additional Information and Conditional Approval of Construction Quality Management Plan Phase 1 Construction Mt Taylor Mine Reactivation Rev. O, 6/15/2018 for Conditions 31 and 32 of Discharge Permit 61.

If you have any questions, please contact me at (505) 287-7971 or by email at bruce.norquist@ga.com. A hard-copy of this document is also being sent by regular mail.

Sincerely,

Bruce Norquist
Facilities Manager, Mt. Taylor Mine
Rio Grande Resources Corporation

CC: David Ohori, NMMMD (via email)

Construction Update Report | For Period Ending: | May 31, 2019
Mt Taylor Mine | Rio Grande Resources | Date: 6/16/19
Existing Mining Operation

This construction update report provides details of construction activities that occurred in May, 2019. It is being prepared and sent as partial fulfillment of the 9/11/18 letter from NMED, "Request for Additional Information and Conditional Approval of Construction Quality Management Plan Phase I Construction Mt Taylor Mine Reactivation Rev 0, 6/15/2018 for Conditions 31 and 32 of Discharge Permit 61." It provides an update of ongoing activities, forecast of future activities and discusses schedule delays and proposed plan changes.

Milestones to the Beginning of May 2019:

1) Construction Design Package – Completed 1/18/18
2) Contract Bid Award – Awarded 4/11/18, Contractor Selected and Notified
3) RGR Preparation Work on the MWTU ponds (1, 2, 3, 4, 5, 6, 7 and 8) – May and June, 2018
4) Construction Contractor Mobilization to Site – Began 5/8/18
5) Reshaping of Waste Rock Pile – Began 5/14/18, Completed 7/12/18
6) Delivery of HDPE Liner Materials to Site – Completed 6/7/18
7) Disposal Cell Floor Clay Liner Construction –
    - Began construction of the clay floor liner by 7/13/18
    - Initial liner floor area 80% completed by 8/1/18
        - Task completion delayed because original clay source was exhausted
    - Initial liner floor area construction completed 10/22/18
    - The disposal cell clay liner remains open and uncompleted because of the need for expansion
    - By end of February 2019, plan details were developed to expand the disposal cell floor eastward to accommodate the greater amount of contaminated materials expected to be excavated from the remaining 7 MWTU ponds, ore pad and ore pad runoff pond
    - By April 2019, most of the capacity of the disposal cell was consumed and expansion of the cell became necessary
        - To date contaminated soils being excavated from the MWTU ponds has been nearly 4 times the amount originally estimated
        - The final configuration of the disposal cell cannot be determined until the full extent of remaining contaminated soils is known
8) Contaminated Sediment and Soil Placement in Disposal Cell – Began 8/15/18, in-progress
    - This task could not start until a suitable amount of disposal cell floor had been constructed
    - Resumed placement of contaminated materials in disposal cell on 3/12/19
        - Warmer weather set in; sufficiently warm for compaction activities at that time
    - Continued placing contaminated sediments and soils into the disposal cell from MWTU Ponds 2 and 8 in April
        - By end of April, the working bench was approximately 4 and a half feet below the berm crest
        - Haulage delays and a slowing of placement work occurred in April due to haul route changes resulting from the start of work on the storm drainage system south alignment
9) South Stormwater Pond Excavation - Excavation began 8/2/18
    - Excavation was 40% complete by 8/13/18

- The task was stopped at that time in order to prioritize excavation work of MWTU Pond No.3 and the need to control stormwater runoff during the monsoon season
- Excavation was 100% complete by 10/20/18
  - Completion of the task was delayed due to difficulties in ripping a persistent sandstone lens
  - Completion of the task was also delayed due to the radiological scanning and cleanup verification process
    - Radium soil sampling and analysis required 9 days of time for return of results before work could continue

10) South Stormwater Pond Concrete Structures – 100% complete
- Run-down chute base, wing walls and South Force Main concrete structures – Started 8/20/18, Completed 10/4/18

11) South Stormwater Pond – Clay Liner and Protective Soil Cover – 100% Complete
- Construction of 2-ft Clay Liner – began 10/24/18 and completed by 11/19/18
  - Pre-clay liner radiation cleanup verified complete by 10/22/18
- Placement of 6-inch protective soil cover began 11/19/18 and completed by 11/27/18
- The SSWP was made functional and ready to receive and store stormwater runoff by 12/5/18

12) South Stormwater Pond (SSWP) – Other Construction Completed
- Placement of rip-rap at toe of run-down chute completed by 11/26/18
- Installation of overflow structure started 11/29/18, finished by 12/21/18
- Installation of the concrete cloth (in rundown channel of the SSWP) completed 4/22/19
  - Installation was delayed because of continued freezing weather conditions

13) New Septic System - Started 7/11/18, 100% Completed 8/7/18

14) Service Road Fill – 100% Completed 8/13/18

15) Waste Rock Pile - Placement of Clay Cover Soil on Outer-Slopes – 100% complete
- Began 8/15/18
- 90% complete by 9/7/18
  - At that time, all of the exposed WRP material on the slope had been covered with clay.
  - Work stopped 9/7/18 to prioritize excavation and construction of the MWTU Pond 3
- 99% complete by 11/20/18
  - Started placing remaining 1-ft cover (2nd lift) on the north nose of the WRP on 11/15/18
  - Completed placement of all clay cover soil on the WRP (2-foot thick) by 11/20/18
- Final compaction of all clay cover soil on the out-slopes completed 12/5/18
  - Stopped at end of November to work on sub-grade preparation of the MWTU Pond 3

16) MWTU Pond No. 3 Excavation – Began 9/10/18, 100% Complete by 10/5/18
- Lining of this pond was significantly delayed (1 month +) due to the need to excavate excessive quantities of contaminated soils below the existing pond floor
  - Original estimate of 2,500 cu. yds.; Actually excavated 9,000+ cu. yds. (4 times greater)
  - Final excavation took longer than anticipated because of the need for radium soil sampling and analysis during cleanup instead of reliance on correlated gamma scanning
    - 3 stages of cleanup; each stage of radium soil sampling required a minimum of 9 days for return of results of analyses

- Correlated gamma scanning results at low radiological levels were not reliable due to area shine effects

17) MWTU Pond No. 3 – Backfilling with clean fill material to design grade – 100% completed
- High Priority Task: Started 10/29/18, completed 11/6/18
- The backfilling process contributed to a delay in the liner installation task because of the greater amount of fill needed to reach design grade than previously planned. This fill required more time for compaction. In turn, this delayed start of work on the hydraulic structures, which could not begin until the fill was completed.
- Radiation cleanup verified complete, approval to backfill received on 10/24/18

18) MWTU Pond No. 3 – Repair and Upgrade of Concrete Hydraulic Structures 100% Completed
- All four of the hydraulic structures of Pond 3 were completed by 12/12/18.
- This date was time-critical because slippage would have increased the risk that the clay sub-liner would not be ready for liner installation (scheduled for 12/17/18).
- The design for the new concrete structure upgrades was complicated. Each required specialized forming, pouring of concrete and cure time
  - The curbs required imaginative and skilled forming to achieve the design shapes. Form-work was tedious and time-consuming. Water stop materials were sole-sourced and had a long lead time.
  - On average, each piece required 3 to 4 days of work. For the 3 structures, a total of 9 pours was required, amounting to around 32 days of work.

19) MWTU Pond 3 - Placement of the 6-inch Clay Sub-liner began 11/27/18; Completed by 12/6/18

20) MWTU Pond 3 – Liner Installation – Installation of Liner 100% Completed by 12/26/18
- Finish grading of the 6-inch clay sub-liner began 12/6/18; 100% Completed by 12/14/18
  - Winter weather conditions slowed the progress of work
- The liner installer arrived on 12/17/18
  - No liner work was performed on the first day due to site safety training requirements
- RGR's QA/QC inspector arrived on 12/17/18
- The leak locating contractor arrived 12/18/18 to perform leak detecting services
- Actual liner installation work began 12/18/18
  - By end of 12/18/18, one-third of the secondary liner had been installed
- High winds on 12/19/18 prevented the liner installer from safely installing liner materials
  - Liner installer assisted the primary contractor with installation of the sump and LDCS piping
- Liner installation proceeded smoothly on 12/20/18
  - By end of the day, the secondary liner was 100% installed
  - About 1/3 of the geonet was also installed
  - The finished secondary liner passed the leak detection testing (12/21/18)
- Installation of the geonet had been completed 100% by 12/21/18
- Installation of the primary liner was about 15% complete by 12/21/18
  - The primary earthwork contractor left the site for the holiday and did not plan to return until 12/26/18
- Nearly 75% of the primary liner had been installed by the end of 12/22/18
  - Cold and windy weather slowed work on 12/22/18
- The primary liner was 100% installed by 12/23/18
  - The liner installer left the site for the Christmas holiday

- The liner installer returned 12/26/18 to finish some minor welding, install vents and instruct the primary contractor on proper backfilling methods of the anchor trenches
- The liner installer demobilized on 12/27/18

21) MWTU Pond 3 – Backfilling of Liner Trench – 100% Completed

- Anchor trench backfilling started 1/9/19; completed 1/15/19
- Work delayed from December due to cold weather and associated compaction issues

22) MWTU Pond No. 3 Water Filling for Leak Location Survey of Primary Liner

- RGR crews began work on the clean-water delivery system on 12/4/18
- RGR crews completed the first water delivery system 12/20/18
- "Notice to Discharge" was sent to NMED 12/21/18
- RGR began filling of MWTU Pond No.3 on 1/17/19
  - Could not start until after the anchor trench backfilling had been completed
- By 1/21/19 approximately 300,000 gallons of water had been placed in Pond No.3 from the site water tank
- By 1/22/19 a new delivery pipe was constructed to deliver water from well 8 (Point Lookout well) to Pond No.3
  - A water meter was placed in this delivery pipe system
- Pumping from well 8 began 1/24/19; approximate pumping rate: 35 gpm
- Water from well 6 was sampled for water quality on 1/22/19
- Water from well 8 was sampled for water quality on 1/30/19
- RGR crews completed filling of MWTU Pond No. 3 on 2/19/19 for the final leak test
- Filling was completed approximately 2 weeks ahead of forecast; the leak test was completed approximately 1 week ahead of forecast
- The leak test for the primary liner was performed on 2/26/19; no leaks were detected
- A sump pump was placed in the LDCS by 2/28/19
- The liner was considered fully commissioned for water storage by 2/28/19
- Installed power for the LDCS pump system (sump) in early March 2019

23) MWTU Pond No. 2 Excavation of Contaminated Sediments – Began 9/19/18; in progress

- Excavation of pond sediments completed by 10/19/18
- Task was halted due to extremely wet material and the need to line MWTU Pond No.3
- Restarted excavating and hauling contaminated soil from MWTU Pond 2 on 3/12/19
- By the end of April all side slopes of MWTU Pond 2 had been cleaned up
- Excavation of contaminated soils in the floor began at the end of May
  - Anticipate at least 4 feet of contaminated soils in the floor to be removed
- By the end of April, the 48-inch diameter concrete pipe leading to Pond 2 was excavated and removed to the design location
  - This pipe formerly delivered storm water to Pond 2, prior to construction of the storm drainage system north alignment
  - The remining section of this pipe will become a new utility access conduit for future pipe and electrical needs

24) Stormwater Drainage System – North Alignment

- Began excavation 10/30/18
- This task was significantly delayed because of a lack of availability of materials
  - Several of the primary manholes had long procurement lead-times

- North Alignment started with placement of the first Manhole on 10/30/18
- By 11/6/18, 200 ft of pipe and catch basin CB32 had been installed
- By 11/19/18, 200 ft of pipe and manhole MH25 had been installed
- By 12/13/18, 270 feet of pipe and manhole MH26 was set in place
  - This manhole tied into the existing site drainage system from the south and was fully connected for drainage to the SSWP by 12/18/18
- By 12/27/18, work had advanced to within 10 feet of manhole MH27
- By 1/21/19, manhole MH28 had been installed
- By 1/23/19 the north alignment drainage system was connected and fully functional
- Trench backfilling completed 1/25/19
- North alignment commissioned in January 2019; stormwater now flows to the SSWP
- By 3/31/19 a new concrete rundown for manhole 27 was completed
- By 3/31/19 the concrete aprons for manholes 24, 25 and 26 were completed
- By 4/3/19 a new rundown above manhole 28 was completed

25) Stormwater Drainage System – South Alignment

- A contractor was awarded the bid-work by the end of March 2019
- Manhole structures were fabricated and delivered on site by the end of March
- Contractor arrived on site 4/8/19 and completed site training
- Job mobilization was completed by 4/9/19 and excavation work began by 4/10/19
  - A delay (2 days) occurred almost immediately when it was discovered the existing drainage pipe for connection was not at the expected grade
  - Snow and rain caused additional delays
- By 4/16/19, the first manhole structure was excavated and the first 60 feet of trench was excavated
- Another delay occurred as several unknown utility lines were encountered during excavation work
  - Rain and snow caused additional delays
- By 4/19/19, the base for the first manhole was poured
- A delay occurred due to the severing of an unknown power cable
  - Work stopped until an electrician could check to see if it was de-energized
- By 4/24/19, trenching continued to just short of manhole 22
- By 4/26/19, the first barrel of manhole 23 was placed and 40 feet of pipe installed
- By 4/30/19 connection was made to the existing storm drain

26) Ore Stockpile Removal

- Thickness and volume definition of the cover soil was completed in 2018
- RGR began contract negotiations with a licensed receiving facility in 2019
- Contract was written and in review by early 2019
- Discussed shipping procedures and handling practices with officials at the licensed receiving facility in early 2019
- Talked to ore haulers and issued requests for bid proposals in February 2019
- By 3/5/19 a bid for hauling ore was awarded
- Contracts were still in legal review at the end of March 2019
- By end of April preparation of the ore pile for hauling began
  - Approximately 1 foot of cover soil had been stripped from most the ore pile

- By the end of April, RGR completed legal reviews of the milling and hauling agreements and forwarded them to the respective milling and hauling contractors

27) Phase II Reactivation Projects
- Surface piping upgrades - A contractor was selected to perform integrity testing of the MWTU facility piping in February 2019
  - RGR had difficulty in finding a qualified contractor to conduct the permit-specified testing using the API Recommended Practice 1110
- Consultants for revising the Water Treatment Plant (WTP) design were contacted in February 2019
  - Discussions are ongoing regarding the selection of the most appropriate treatment process
  - RGR's WTP engineering group informed RGR about a major design changed required for the previously submitted WTP plan
    - The adsorptive media process technology is not currently viable; the technology vendor is insolvent and no other vendors are providing this technology
  - NMED informed RGR to wait to submit any new water treatment designs until the application for DP-61 renewal is made
- RGR contacted a hoist engineering consultant for a study of the existing hoisting facility

28) Connection to Surface Water Drains (DP-61 Abatement Plan)
- A holding tank was installed for WP5 by end of March 2019
- Plans were being formalized to plumb delivery piping, run power and acquire a pump for the WP5 well in April

29) MWTU Pond No.8
- Excavation of the side slope sediments began in April
- By the end of April, all of the sediments residing on the side slopes of the pond had been removed

<u>May 2019 Milestones</u>

1) MWTU Pond No.2

By the end of May, all remaining contaminated soils had been excavated from MWTU Pond No.2. By 5/29/19 confirmatory soil samples were collected and sent for laboratory analysis for Ra226. Cleanup efforts resulted in a much deeper pond than planned. As-built surveys indicated the floor was approximately 10 feet deeper than the planned finished grade. It is estimated that around 9,000 cu. yds. of contaminated sediment and soil have been removed. This is more than 4 times the amount originally planned for in the excavation phase and has contributed to a large delay in the completion of the excavation work.

Using experience from MWTU Pond 3, excavation work focused on removing contaminated sediment and soils from the side slopes first. This approach created safer working conditions for the operators and reduced the potential to cross contaminate previously cleaned areas.

Once the side slopes were cleaned, work would focus on excavating the floor. From experiences in MWTU Pond No.3, this approach led to increased job efficiency.

Excavation work began with the use of an excavator to scrape contaminated materials down from the crest toward the center of the pond in 2-foot cuts. Once stockpiles became large enough, a front-end loader and a fleet of trucks then hauled the material to the disposal cell.

After each 2-foot cut, a gamma survey was performed to determine if the remaining surface met background contamination criteria. If not, the excavation sequence would be repeated until the final surface was at or below background level.

This same process of excavation and haulage was repeated for the floor soils. The side slopes required around 4 cycles of excavation. The floor required approximately 5 cycles of cleanup.

Results of the confirming soil samples are expected by the end of June. If the confirming soil samples show that cleanup efforts have been successful, then plans will be implemented to begin backfilling to final design grade.

In April, sections of the 48-inch diameter concrete pipe were excavated and removed from the MWTU Pond No. 2 area. In May, a new manhole structure (manhole 29) was poured at the open end of the pipe. Manhole 29 now completes the planned construction work on the pipe. This pipe and manhole will serve as a utility access conduit for future electrical and piping needs.

2) Other MWTU Ponds

Besides MWTU Pond No.2, excavation of sediments and contaminated soils from Ponds 8, 4 and 5 occurred in May. The side slopes of Pond 8 were excavated to just above background. By the end of the month, another round of cleanup was planned. Approximately 5 feet of sediments and soil had been removed from the side-slopes of Pond 8.

The sediments residing on the slopes of Pond 4 were fully removed. The first stage of cleanup of the side slopes of Pond 4 had just begun at month end. Similarly, the sediments on the side slopes of Pond 5 had been excavated and were awaiting removal to the disposal cell. Ponds 4, 5 and 8 were worked simultaneously to improve efficiency of the excavation operations. While the excavator worked in one pond, the loader and trucks worked in another.

3) Ore Pile Removal

By the end of May, final draft agreements had been sent to the milling and haulage contractors for their final review and signatures. A final agreement with the haulage contractor was ready by 5/23/19 but will not be executed until the final agreement with the milling contractor is executed. By 5/31/19 the milling contractor sent back a final version of the agreement. RGR was reviewing it and is expected to execute it at the beginning of June. Delays in finalizing these agreements have been due to legal review process and negotiations between the parties. The planned haulage route has not changed.

Preparatory work was performed on the ore pile and associated work areas. A "clean" road was prepared with gravel. This road starts at the ore pad, runs southward to the main production headframe where truck washing and decontamination will occur. The concrete pad and sump will serve to collect wash water. From there, the loaded trucks will continue on the "clean" road until they leave the site.

Truck decontamination will be performed at the wash-bay area adjacent to the production shaft. Contamination surveys will be conducted at this location as well. The "clean" road serves to keep

the trucks off of possible site contamination during travel from the ore pad and will enable the decontamination process to be more efficient.

RGR completed the removal of the cover soil from a small portion of the ore pile in anticipation of the imminent project start. This area will serve as the starting point for truck load-out operations.

4) Stormwater Drainage System - South Alignment

By the end of the month, all pipe trenching had been completed, all of the 36-inch pipe had been laid and all 4 of the manhole structures had been installed. Remaining work includes laying the 12-inch pipe to catch basin 31, pouring the catch basin structure in place and completing the backfilling of the trenches. Trench backfilling was approximately 70% complete.

Delays during May included weather (several days of snow and rain) and a slow-down of work due to more unknown utilities being encountered.

5) Waste Rock Pile – Disposal Cell

Excavation of contaminated soils and sediments from the MWTU ponds accounted for most of the placement work performed in the disposal cell. The "postage stamp" area, the north-east quarter of the cell, was nearly filled to the same elevation as the primary working bench of the disposal cell by month end. Disposal cell capacity was at nearly 90% of full. By month end, there remained approximately 3 and a half feet of capacity available for contaminated material placement. Delays in filling the disposal cell in May included weather (rain and snow) as well the need to construct and maintain safety berms. Some minor equipment mechanical breakdowns occurred.

At this time, expansion (eastward) of the disposal cell has become necessary to accommodate the large volume of contaminated soils being excavated from the MWTU ponds. Planned expansion will occur eastward in two 100-foot wide stages. The second expansion stage will only be constructed when needed. A plan and design drawing were created for the disposal cell expansion. Plan details were still being finalized by the end of May.

Initially, the disposal cell was planned to be expanded upwards, forming a pyramid shape at final buildout. The current eastward expansion design involves constructing a mesa-like top rather than a pyramid top. This plan is preferable because it avoids the long slope faces that would be susceptible to erosion and provides a top surface that is easy to construct.

It is anticipated that the first stage of the disposal cell expansion plan will be implemented in June, beginning with the construction of the cell floor liner. Contaminated materials will then be placed on the expanded cell floor liner after the existing Phase I disposal cell footprint area is filled.

6) Waste Rock Pile Vegetation Test Plot Plan

A radon flux test of the out-slope cap layer was conducted on 4/25/19. At this time, the only completed portions of the Waste Rock Pile (WRP) cap are the south and west out-slopes. The WRP out-slope cap is a compacted 2-foot thick layer of clay-rich material placed to cover the underlying waste rock material. The same capping system will be used on the disposal cell when filling is completed.

Results of the Radon Flux test were reported by Environmental Restoration Group Inc. (ERG) on 5/7/19. ERG is an independent contractor hired by RGR to monitor, record and report on radiological components of the ongoing construction work. Reported results showed that the average flux rate was 1.23 pCi/m2s. Maximum flux rate was 3.12 pCi/m2s, and occurred on the center-north part of the west out-slope, adjacent to the top of the berm crest and close to the exposed materials in the disposal cell. The maximum flux rate was well below the permitted level of 20.0 pCi/m2s. The radon flux rate measurement test was conducted according to the EPA's Method 115 protocols.

Erosion blankets and straw waddles were placed on the south and west out-slopes for protection against erosion. The south out-slope was completely covered with erosion blankets in early May. Erosion blanket placement on the west out-slope is ongoing. By the end of May, approximately two-thirds of the west out-slope had been covered. More erosion blankets have been ordered and are expected to arrive on site by early June. Delivery of erosion blankets to the site has been slow.

RGR formulated a sampling plan for the west and south out-slope cap materials as well as for new borrow areas. Sampling of the soil below each of the radon flux canisters was requested by MMD and NMED in a comment letter sent 3/12/19 regarding the Vegetation Test Plot Plan. RGR sampled soils at each of the radon flux canister locations on the WRP out-slopes in May. Soil samples were sent for analyses of physical properties and chemical data.

7) Borrow Areas

Stripping of the top surface of borrow area A began in May. The stripped material is being stockpiled for possible future use as growth media. No material was taken from borrow area B. Borrow area B will only be used when no other source of clay-rich materials is available to construct earthen liners.

Soil sampling of borrow area A is in progress. A sampling plan was formulated, along with a materials handling plan. Borrow area A is known to have stratified sequences of clay-rich and sand-rich materials. Previous test work (2018) showed that a clay-rich lens occurs at approximately 3 feet below the surface. To segregate the soil layers, extensive excavation and stockpiling will be needed. This complex excavation sequencing will cause delays in subsequent construction activities.

8) Phase II Activities

Phase II activities are dominated by design work. Initial designs have been completed for the MWTU Ponds, WRP reshaping, ore pad, surface piping, electrical and mechanical components and the WTP.

Designs are complete for the WRP reshaping. Final designs for the ore pad and runoff pond cannot be completed until the ore pile is fully removed. Completion of final designs for the MWTU ponds, surface piping and electrical and mechanical elements is dependent on the completion of the WTP design and regulatory approval.

In the original Phase I construction sequence, the low-grade ore pile material was to be temporarily stored in the disposal cell. Under this scenario, the ore would have been removed in a short time, allowing final design of the ore pad to be completed in a timely manner. In July 2018, MMD and NMED required RGR to remove the ore pile material offsite. Final designs for construction of the ore pad will be delayed at least a year, when the ore removal is anticipated to be completed.

In February of 2019, RGR contacted its primary WTP engineering group to learn the status of the approved WTP design and begin construction planning. RGR believed the WTP design was near final completion and ready to implement. At that time, the WTP engineering group informed RGR that the WTP process, as designed, was no longer viable. The adsorptive media process identified for removing molybdenum and selenium was no longer a viable option. The original vendor was insolvent and no other industry providers presently support the technology.

RGR's WTP engineering group has produced a concept drawing and proposed a process stream that fully utilizes proven IX technology to treat uranium, molybdenum and selenium. RGR is also in contact with other WTP engineering groups regarding alternative process options for water treatment at the site. NMED has stated to RGR to wait to present any WTP design changes until application for the discharge permit renewal is submitted. Should approvals become delayed, mine dewatering activities could be impacted.

Phase II construction activities are dominated by reshaping the Waste Rock Pile (WRP) and constructing covers on the WRP and disposal cell. Reshaping of the WRP was completed in 2018 before construction of the disposal cell. This occurred as part of a logical sequence in the construction process.

Construction of the WRP cover over the reshaped WRP material was mostly completed in 2018 according to design. There is a small portion of the WRP west berm that remains uncovered. This portion is the eastern side of the north most section of the berm. This area was intentionally left uncovered because of the possible future need for northward expansion of the disposal cell.

Construction of the disposal cell cap is planned to occur in stages. In the first stage, the as-built Phase I disposal cell footprint area will be capped once it is filled. This is anticipated to begin in July of 2019. Contract bidding has begun.

The second stage of disposal cell capping will occur after the first phase of the disposal cell expansion is filled. Completion of the cap for the disposal cell at full expansion buildout will be delayed for at least a year because of the offsite ore haulage project. The contaminated materials from the ore pad and runoff pond cannot be excavated until all of the ore is removed offsite. Before the cap can be completed, all of these sediments and soils must be placed in the disposal cell.

9) WP5 Well Connections

Currently, the WP5 well is actively being pumped into a truck and disposed of in MWTU Pond No.3. Construction of the long-term pumping system is moving forward and is anticipated to be completed concurrently with installation and commissioning of the north and south force mains.

By the end of May, the electrical power panel had been constructed. The pump piping and electrical wiring still remain to be pulled and connected. These are scheduled to be completed in June as other high priority tasks are completed.

<u>Forecasted Activities</u>

1) Stormwater Water Drainage System
    - South Alignment
        - Anticipated to finish mid-June 2019

- Remaining work involves laying the 12-inch pipe, pouring a catch basin (CB31) and finishing all backfill and compaction of the installed pipeline
- Weather and site delays have accounted for approximately 1 week of delay time
- Pouring of the catch basin has been delayed because of other priority work of the concrete contractor

2) South Stormwater Pond
   - Installation of the South Force Main (SFM) will begin in mid-June and be completed by the end of June
   - This activity will start once the south alignment of the storm water drainage system is completed.

3) Disposal Cell Expansion and Continued Filling
   - Plans are in place for the expansion of the disposal cell
   - Construction of additional disposal cell liner will occur as needed, but before the existing disposal cell becomes full
   - First stage expansion work is anticipated to start in mid- to late-June

4) MWTU Pond No. 2 Excavation, Reshaping and Liner Installation
   - Anticipate test results of final cleanup verification to be available by late June 2019
     - Verification testing performed by soil sampling
     - Results for radium analysis require a 3 to 4-week duration
   - Backfilling and reshaping to commence in early July 2019
   - Upgrades to concrete structures anticipated to commence in late July 2019
   - Geosynthetic liner installation anticipated to commence in mid- to late-August 2019

5) Removal of Contaminated Sediments from MWTU Ponds 1 and 4 through 8
   - In progress, anticipate completion of all excavations by late 3rd quarter of 2019
     - 1st stage final cleanup excavation of contaminated materials from the side slopes of MWTU Pond No. 8 has nearly been completed
     - Initial excavation of contaminated sediments has begun in MWTU Pond No.4 and 5

6) Ore Pile Removal – Anticipated Start 2nd Quarter 2019
   - This task is scheduled to proceed in 2nd quarter 2019
     - Agreements are anticipated to be executed by early June
     - Hauling is anticipated to start mid to late June, depending on personnel training, completion of all preparations and execution of all agreements

7) Connection to Surface Water Drains (Stage 2 Abatement Plan, connection to South Force Main)
   - Installation of connecting piping and power for WP5 is in progress
     - Anticipate completing in June 2019
     - As a temporary measure, all pumped well water is being trucked to MWTU Pond No.3

8) Vegetation Test Plot Plan
   - Working on approval of the plan
   - Anticipate starting to place growth media soil on the south and west out-slopes of the WRP cover layer by late July 2019
   - Anticipating the start of planting by late August

Critical Path Items

1) Completion of Storm Drainage System – South Alignment
2) Reshaping and lining of MWTU Pond No. 2
3) Expansion of the disposal cell (construct additional floor clay liner)

Plan Changes

While the expansion of the disposal cell has always been recognized as necessary, a design change has been implemented to expand the disposal cell eastward rather than upwards.

To accommodate this expansion, the south alignment of the stormwater drainage system has also been changed. It has been shortened.

No new variances issued in May 2019

Drawing Variances

VARIANCE #	Drawing			Variance Subject	Date
	Sheet #	Drawing #	Title		
2018-5	ST2, 5,7, 9, 10, 11	See Tables 2018-5.1 and -5.2. GS00-GC130, 132, 133, 134	Storm Manholes	Constructibility issues of the reinforced concrete storm manholes - design diameters not large enough to accept drain pipe sizes. STMH20-23, 27, 28, 29; MH01-04	7/23/18
2018-6	ST19A	GS00-GC119-02	Force Main North Plan View	concrete valve vault, elbow, and coordinates	9/14/18
	ST19B	GS00-GC120-02		concrete valve vault, elbow, coordinates, elevati	
	ST20	GS00-GC121-02		elbow, elevations	
2018-8	SW00	GSSW-GC01-01	South Storm Water Pond and Waste Rock Pile-Cover Sheet and Key Drawing	deletion of reference to ore storage	9/19/18
	SW02	GSSW-CS504-01	Waste Rock Pile and Disposal Cell Survey Layout and Control Points	deletion of reference to ore storage	
	SW03	GSSW-CB101-01	South Storm Water Pond and Waste Rock Pile-Site Plan	deletion of reference to ore storage	
	SW06A	GSSW-CB104-01	South Storm Water Pond and Waste Rock Pile-Site Plan	deletion of reference to ore storage	
	SW06B	GSSW-CB105-01	Waste Rock Pile and Disposal Cell Earthwork and Grading Plan - South	deletion of reference to ore storage	
2018-11	MW02	MW00-CX501-00	Pond Liner Details	Delete seaming of geomembranes edges in the anchor trench, extend geomembrane to the top of the outer trench wall.	12/21/2018

Construction Specification Variances

VARIANCE #	Specification		Section		Approval	
	Number	Title	Number	Title	By	Date
2018-1	MW-CB01-00	EARTHWORK FOR POND CONSTRUCTION	2.2.1	Waste Pile Slopes	A.K. Kuhn	6/7/2018
2018-2	MW-CB01-00	EARTHWORK FOR POND CONSTRUCTION	2.2.2	Mine Debris Pit	A.K. Kuhn	6/7/2018
2018-3	MW-CB01-00	EARTHWORK FOR POND CONSTRUCTION	2.2.3	Disposal Cell on the Waste Pile	A.K. Kuhn	6/8/2018
2018-4	MW-CB01-00	EARTHWORK FOR POND CONSTRUCTION	2.2.4 (new)	Shaft Muck Excavation, Placement and Compaction	A.K. Kuhn	6/8/2018
2018-7	GS-GC02-00	DRAINAGE AND HYDRAULIC CONTROL STRUCTURES, Rev	2.7	Manholes, Catch Basins, and Vaults	A.K. Kuhn	9/14/18
2018-9	MW-CB01-00	EARTHWORK FOR POND CONSTRUCTION	2.2.3	Disposal Cell on the Waste Pile	A.K. Kuhn	10/15/2018
2018-10	MW-CX01-00	INSTALLATION OF GEOMEMBRANE POND LINERS	2.5	Mechanical Connections	A. K. Kuhn	11/21/2018
			3.11	Rub Sheets at Inflow Points	A. K. Kuhn	11/21/2018
			Also Drawing Sheet HY-18, Note 7		A. K. Kuhn	11/21/2018

Delays and Changes to Project Schedule

General Comments:

The greatest cause of project delays in May were encounters with unidentified utilities during excavation of the south alignment of the stormwater drainage system. Additionally, rainy and snowy weather in May compounded delays. The pipe-laying contractor did incur some delay in backfilling due to the need for clean backfill material. Overall, these delays caused a loss of nearly 1 full work week.

Other than the above-mentioned delays, RGR did not encounter significant delays besides the usual radiological survey delays. Previous project delays for RGR's earthwork were mechanical malfunctions of the rented equipment. Equipment replacement is difficult at this time of year because of high demand. Additional delays were caused by increased haul path distances due to ongoing activities. The site is small and not conducive to running independent operations.

In aggregate, project delays have pushed anticipated completion dates of the subsequent work back around a month and a half. As before, the project is heavily linear in nature because of the short list of tasks to complete and the critical path nature of remaining work.

Phase I work tasks to date have generally been delayed due to:

- Excavation of excessive amounts of contaminated materials in the MWTU ponds and waste rock pile and excessive amounts of debris encountered during excavation
- In-field radiological measurements heavily influenced by "shine"
- Need for radium soil sampling (long analyses time) instead of fast continuous gamma scanning during cleanup efforts
- Weather conditions

Specific Comments:

1) Plan Change: MWTU Pond No. 3 was the first MWTU pond to be lined, instead of MWTU Pond No.2
    - It was initially believed that both MWTU Ponds 2 and 3 could be lined by the 12/1/18 deadline
        - This belief changed when it became apparent that the contractor was unable to mobilize sufficient resources to complete excavation, backfilling and lining of more than 1 pond by the deadline
    - Because of heavy monsoonal rains in August and September 2018, control of stormwater would become problematic if MWTU Pond No.2 was taken offline
    - Plans were put in place to line one MWTU pond (Pond No. 3)
        - In September, the contractor indicated that they could finish one pond by mid to late November, ahead of the deadline
            - This was dependent on weather; temperatures would need to be above freezing for compaction of materials and moisture could not be on the liner geomembranes during installation. There was a physical need to get the liner installed before winter weather set in.
    - A decision was made prioritize the completion of MWTU Pond No.3 to meet the deadlines
2) Delay: Ability to line a single MWTU Pond (Pond No.3) by the deadline of 12/1/18 was impacted for the following reasons:
    - Schedule slip first began with the excavation process of MWTU Pond No.3

- Schedule slip occurred when excessive quantities of contaminated materials were encountered, this significantly lengthened excavation time and ultimately contributed to pushing back the liner installation task into late December
- Schedule slip increased further because of increased radiological sampling and analysis time during the cleanup verification process
  - Schedule was originally based on continuous correlated gamma scanning
  - Wide-area "shine" rendered gamma scanning unreliable as a confirmatory cleanup tool
  - Schedule was impacted because of the need to perform radium soil sampling
  - Each radium soil sampling and analysis campaign required 9 days of time for return of results before work could continue; with 3 cleanup campaigns, this resulted in 27 days of unanticipated schedule slip
- Through the course of work activities, it became apparent that the contractor was unable to mobilize sufficient resources to complete more than one excavation and construction task at a time
- Because of excessive quantities of contaminated materials as well as excessive radiological sampling time, nearly 1 full month of delay was added to the schedule

- Difficulties in procuring specialized and sole-source materials during upgrades of the hydraulic structures
- Design complexity of forming and pouring of new concrete for the hydraulic structures.
  - There were 9 individual concrete pours, 3 per each of the 3 hydraulic structures. Each pour required 3 to 4 days duration for forming, pouring and curing. This amounted to a total of 34 days (1.5 months) of work in concrete work alone.
    - This level of work effort was not accounted for in the original schedule. Ultimately this caused a 2-week delay
- Another week of schedule slip occurred because of late scheduling by the contractor; the sub-contracted liner installer could not mobilize by the time needed with the short notice given
- Four more days of delay occurred due to winter weather and the Christmas holiday
- While the geomembranes have been fully installed in Pond No.3, completion and commissioning were delayed another 3 weeks because backfilling of the anchor trench has not yet been completed
  - The cause of the delay in anchor trench backfilling was primarily due to persistent winter weather on site since 12/26/18.
    - Compaction cannot be performed in freezing weather
  - The delay in backfilling of the anchor trench delayed final commissioning of Pond No.3
    - Filling of the pond could not proceed until the anchor trench was backfilled
    - In turn, the final leak test of the primary liner could not be conducted until Pond No.3 was filled with water
- Generally, winter weather was the most significant delay in commissioning of the liner. However, project delays from prior activities had contributed strongly to the schedule slip of the liner installation.
  - The backfilling of the anchor trench was prolonged due to freezing conditions and generally poor weather. Filling of Pond No.3 was similarly delayed due to the delay in completing the anchor trench, along with a slower than expected pumping rates.

3) Delay: Excavation of contaminated sediments from MWTU Ponds 1, 4, 5, 6, 7 and 8
   - This task was delayed because of other priority work tasks (MWTU Pond No.3)

- Efficiency of excavation decreased due to adverse weather and associated delays
- Safety considerations for personnel trying to conduct multiple tasks around a small project site

4) Delay: Stormwater Drainage System Schedule
   - Significant delays due to availability of materials, procurement management issues and lack of contractor's ability to commit additional resources
     - Originally anticipated that work crews and materials would be on-site by late August
     - Materials did not arrive on site until 10/23/18
       - Manhole structures – long fabrication lead time
       - Contractor procurement issues led to a 2-month delay of material delivery
     - Need for more specialized and different equipment than that of regular earthmoving
   - The north alignment was completed in late-January 2019.
     - Delay of nearly a month past original forecast due to weather conditions and the holiday season
   - Work on the south alignment has generally been delayed due to overall schedule slip of other precursory tasks and weather.

5) Delay: Construction of the Disposal Cell Clay Cap
   - Originally a Phase II activity
   - Anticipated to be partially constructed in mid to late 2019 depending on the need to expand the disposal cell
     - Construction of the disposal cell clay cap was intended to occur after the excavation and subsequent placement of all contaminated sediments from the MWTU ponds and contaminated soils from the ore pad and retention pond
   - Potential for early partial construction of the disposal cell cap has been investigated
     - Capacity of the initial disposal cell area (Phase I planned construction) will be exceeded once MWTU Ponds 2 and 8 are fully excavated
     - Preliminary designs were investigated for accelerating the timing of cap construction once the initial disposal cell area was filled
     - Investigated layout options for expansion of the disposal cell
       - Expand upwards
       - Expand Eastwards (preferred)
       - Expand in segments (preferred)

6) Delay: Removal of the Low-grade Ore stockpile
   - This has been delayed by the lengthy legal review process of the contracts and attendant negotiations between RGR and the licensed receiver of the materials

   Note: After discussion with MMD and NMED in July 2018, the task of removing low-grade-ore and ore pad materials was deleted from the Phase I implementation plan. Under the Phase I plan the low-grade ore material would have been temporarily placed in the disposal cell. While deleted from the Phase I implementation plan, RGR has committed to removing the low-grade ore materials from the site and shipping to a licensed receiver.

7) Delay: Resumption of Phase I work was delayed in January and February due to winter weather and cold temperatures.
   - Specified compaction of fills could not be achieved because of freezing temperatures

8) Delays:
   - May 2019
     - Mechanical malfunctions of rented equipment (minor)
     - Unidentified utilities encountered and known utilities occurring at different elevations than anticipated (south alignment of the stormwater drainage system)
     - Weather (rain and snow)

9) Plan Changes:
   - May 2019
     - Expansion of the disposal cell eastward rather than upwards
     - Shortening of the storm drainage system south alignment to accommodate the eastward expansion of the disposal cell