RIO GRANDE RESOURCES CORPORATION

Bruce Norquist
Facilities Manager
Rio Grande Resources Corporation
P.O. Box 1150
Grants, NM 87020

May 13, 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, April 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 April 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 L. Norquist

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

CC: David Ohori, NMMMD (via email)

Construction Update Report | For Period Ending: | April 30, 2019
Mt Taylor Mine | Rio Grande Resources | Date: 5/12/19
Existing Mining Operation

This construction update report provides details of construction activities that occurred in April, 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 April 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 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
        - Available disposal cell capacity is nearly consumed
            - Much of the design capacity was consumed by the placement of contaminated soils excavated from MWTU Pond No.3; the amount of these soils were nearly 4 times the amount originally estimated
        - Anticipated additional volume of contaminated materials is triple the original estimate
        - The locations of the north and east disposal cell confining berms have not been defined
        - Construction of the expanded liner floor has not been started
        - The south berm will need to be extended eastward
        - The final configuration of the disposal cell cannot be determined until the full extent of remaining contaminated soils is known
    - By end of March 2019, current capacity was nearly full; less than 5 vertical feet of elevation difference between the contaminated material bench and crest of the disposal cell berm
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
        - Materials dominantly excavated from MWTU Pond 2
        - Warmer weather set in; sufficiently warm for compaction activities

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 – Started 8/20/18, Completed 9/19/18
   - Rundown chute wingwalls were formed and poured by 10/4/18
   - South Force Main pad was formed and poured by 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" protective soil cover began 11/19/18 and completed by 11/27/18
     - Compaction of protective soil completed 12/4/18
   - The SSWP was made functional and ready to receive and store stormwater runoff by 12/5/18

12) South Stormwater Pond – 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
   - Placed rip-rap at toe of the west slope concrete cloth drainage channel

13) New Septic System - Started 7/11/18, 100% Complete 8/7/18
   - Old system deactivated 8/7/18

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

15) Waste Rock Pile - Placement of Clay Cover Soil / Radon Barrier 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 No.3
   - 99% complete by 11/20/18
     - Restarted task on 11/15/18
       - Started placing remaining 1-ft cover (2nd lift) on the north nose of the WRP on 11/15/18
       - First 1-ft of cover was previously placed by 9/7/18
       - Total thickness was brought to 2-ft by 11/20/18
     - Completed placement of all clay cover soil on the WRP by 11/20/18
       - Stopped at the end of November to work on sub-grade preparation of the MWTU Pond No.3

- Final compaction of all clay cover soil on the out-slopes completed 12/5/18

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 in. 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" clay sub-liner began 12/6/18; 100% Completed by 12/14/18
        - Winter weather conditions slowed the progress of work
        - By 12/17/18 the liner installer had approved of the clay sub-liner surface.
    - The liner installer arrived on 12/17/18
        - No liner work was performed on the first day.
        - SLS personnel underwent site safety and hazard training
    - RGR's QA/QC inspector arrived on 12/17/18
    - The leak locating service 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
  - Additionally, 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
- Of the 8 task days, actual liner installation required 5.5 full days; liner installation was originally estimated to take 6 days
  - 2 days were lost to weather
  - 1 day was spent with training and site familiarization

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

- Anchor trench backfilling began on 1/9/19
- Anchor Trench backfilling 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; also contained melt water from 2 snow events
- 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) around the beginning of March 2019

23) MWTU Pond No. 2 Excavation of contaminated sediments – Began 9/19/18; in progress
- Excavation of 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 No.2 on 3/12/19
  - By end of March 2019, 30% of the side slopes had been excavated in the first stage of final cleanup activities
    - Removed approximately 2 additional feet of material from the side slopes

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, MH24 by 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 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 the concrete rundown for manhole 27 was poured and completed
- By 3/31/19 the rundown for manhole 28 was formed
- By 3/31/19 completed pouring concrete aprons for manholes 24, 25 and 26

25) Stormwater Drainage System – South Alignment
- A contractor was awarded bid-work for the South Alignment by the end of March 2019
- By end of March 2019 manhole structures for the south alignment were fabricated and delivered on site

26) Ore Stockpile Removal
- Began work on defining thickness of the cover soil
- RGR began contract negotiations with a licensed receiving facility
- Contract was written and in review
- Discussed shipping procedures and handling practices with officials at the licensed receiving facility
- Talked to potential ore haulers and completed a scope of work for bid proposals in February 2019
- Issued RFP's to ore haulers in February 2019
- Awarded a bid for hauling ore by 3/5/19
- Contracts were still in review by end of March 2019

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 of the API Recommended Practice 1110
- Consultants for revising the Water Treatment Plant design were contacted in February 2019
  - Discussions are ongoing regarding the selection of the most appropriate treatment plan
  - NMED informed RGR to wait to submit any new water treatment designs until the application for DP-61 renewal is made

28) Connection to Surface Water Drains
- A holding tank was installed for WP5 by end of March 2019

<u>April 2019 Milestones</u>

1) Storm Drainage System
A) North Alignment

The rundown above manhole 28 was completed by 4/3/19

B) South Alignment

The pipe-laying contractor arrived on site 4/8/19 and began radiation and site safety training as scheduled. This contractor is working on a time and materials basis, four 10-hour days per week because of the numerous unknown site conditions expected to be encountered.

Job mobilization was completed 4/9/19. By 4/10/19 excavation began on manhole 23. A construction delay occurred almost immediately when the existing storm drain piping was encountered 3 feet above the expected elevation. An as-built survey was conducted and by the end of 4/11/19 a pipeline redesign was provided to the contractor. Cold and snowy weather further delayed construction activities.

By 4/15/19 excavation of the manhole 23 structure was finished and by 4/16/19 the first 60 feet of trench was excavated. Another construction delay occurred when an unidentified pipe and electric line were encountered. Snow and cold weather delayed construction again as 4/17/19 was declared too snowy for work.

The concrete base for manhole 23 was formed and poured by 4/19/19. Trenching continued until another 3 unidentified utility lines were hit. Of these, the most significant was a 480V electrical line. It was determined to be dead and abandoned and by 4/24/19 trenching continued, nearing the manhole 22 structure location. By 4/26/19, the first barrel of manhole 23 was set and 40 feet of pipe was laid. By 4/30/19 connections were made to manhole 23 and the existing storm drain system.

2) Ore Stockpile Removal

RGR began stripping the cover material from the ore pile in preparation for commencement of ore hauling activities. By 4/16/19 an attempt was made to remove the material with the CAT 16G blade but was unsuccessful. A CAT D8 arrived on site by 4/25/19 and began pushing the material. By end of April 2019 approximately 1 foot of the cover material had been pushed from much of the top surface area.

RGR's parent company completed legal reviews of the milling and haulage contracts by 4/24/19. These were sent to the milling company and haulage company for review and approval.

3) Disposal Cell and Placement of Contaminated Materials

Contaminated soils from excavation activities were placed and compacted in the disposal cell. The majority of contaminated soils came from MWTU Pond No.2. By end of month, the working bench of the disposal cell was approximately 4 and a half feet below the berm crest. Material delivery and placement slowed during the month due to the longer haul route used to avoid ongoing work at the south alignment of the storm drainage system. Additional delays were caused by the need to maintain a safety berm around the working bench.

4) MWTU Pond No.2

By 4/1/19 the first stage of final cleanup of the side slopes was completed. A subsequent gamma survey was performed and found that a 2nd stage of final cleanup was required. Following that cleanup effort, a gamma survey was conducted on 4/15/19 and found that the west ¾ of the side slopes were below background. However, the floor and part of the eastern slopes remained higher than background. A 3rd stage of final cleanup began and by 4/29/19 all side slopes were below background. The floor remains contaminated and will need another 4 to 6 feet of soil removed.

Experiences from the excavation of MWTU Pond No. 3 have led to the current method of excavation; clean up the contaminated soil from the side slopes first, then excavate the floor. Gamma surveys are conducted between each successive cleanup effort. This sequence leads to a more efficient use of the equipment and minimizes cross-contamination.

At the beginning of April excavation work began on removing the decommissioned 48-inch reinforced concrete pipe (RCP) that formerly delivered stormwater runoff to Pond 2. By 4/2/19 the pipe was fully exposed to the box manhole 29 location. The trench was backfilled by 4/22/19. By 4/29/19, manhole 29 was formed.

5) MWTU Pond No.8

MWTU Pond No.8 was worked all month. Pond 8 was used as a "go-to" work site for the excavator while verification gamma surveys were conducted in Pond 2. Excavation work began with the slopes. By end of month an initial sediment removal stage and the 1st stage of final cleanup was completed.

6) South Stormwater Pond (SSWP)

The concrete cloth was installed 4/22/19 in the rundown channel of the drainage ditch of the waste rock pile.

The manhole for the south force main was delivered on 4/18/19. This was the last fabricated concrete piece needed for the south force main system.

Forecasted Activities

1) Stormwater Water Drainage System
   - South Alignment
     - Anticipated to finish late May or early June 2019, depending on encounters with unidentified buried debris or utilities

2) South Stormwater Pond
   - Installation of the south force main. Anticipated to start in late May or early June 2019. 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, to be concurrent with excavation of the MWTU ponds
   - Expansion work will be needed in late May or early June 2019, when the current portion of the disposal cell becomes full
   - Excavation of contaminated materials from the MWTU ponds is continuing
     - Volumes are significantly greater than originally estimated

4) MWTU Pond No. 2 Excavation, Reshaping and Liner Installation
   - Anticipate final cleanup verification to occur in early June 2019
     - Verification testing to be performed by soil sampling
     - Results for radon require a 3 to 4-week duration
   - Reshaping to commence in late June or early July 2019
   - Upgrades to concrete structures anticipated to commence in July 2019
   - Lining anticipated to commence in late July or early 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

6) Ore Stockpile Removal – Anticipated Start 2nd Quarter 2019
   - This task is scheduled to proceed in 2nd quarter 2019, once contracts and preparations are in place
   - 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) Connection to Surface Water Drains (Stage 2 Abatement Plan)
   - Installation of connecting piping and power is in progress
     - Anticipate completing in June 2019
     - As a temporary measure, all pumped well water will be trucked to MWTU Pond No.3

Construction Update Report
Mt Taylor Mine
Existing Mining Operation
Critical Path Items

For Period Ending:
Rio Grande Resources

April 30, 2019
Date: 5/12/19

1) Completion of South Storm Drain alignment
2) Excavation work of MWTU Pond No. 2 and subsequent reshaping and lining
3) Expansion of the disposal cell (construct additional clay liner floor area)

Plan Changes

Expansion of the disposal cell is the only major plan change anticipated. To accommodate this expansion, the south alignment of the stormwater drainage system has also been changed.

No new variances issued in April 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 April were encounters with unidentified utilities during excavation of the south alignment of the stormwater drainage system. Additionally, cold weather in April compounded this situation. There were 4 days of snow and cold temperatures. Unidentified utilities accounted for another 5 days of delay. Overall, these delays caused a loss of nearly 2 full work weeks.

The greatest causes of project delays for RGR's earthwork in April were mechanical malfunctions of the rented equipment. The compactor was down for nearly 2 weeks. The excavator was down several days and the water truck was delivered to the site in a non-operational condition. This time of the year is particularly difficult to secure equipment for rental 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, these early 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 major remaining work.

To date, delays have been primarily caused by winter weather, excessive quantities of contaminated materials encountered during excavation and related radiological clean-up efforts. The radiological clean-up efforts significantly increase task duration because of long analyses time and a need to switch from simpler gamma scanning techniques to more involved and time-consuming radium soil sampling.

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
- Winter weather conditions

Specific Comments:

1) 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.

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 will be exceeded once MWTU Pond No. 2 is 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
            - Expand in segments

6) Potential Delay: Removal of the Low-grade Ore stockpile
    - This could be potentially delayed an additional month due to ongoing contract negotiations and legal reviews between RGR and the licensed receiver of the materials

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: April 2019

   a. Mechanical malfunctions of rented equipment

   b. Unidentified utilities encountered and known utilities occurring at different elevations than anticipated (south alignment of the stormwater drainage system)