Construction Update Report | For Period Ending: | March 31, 2019
Mt Taylor Mine | Rio Grande Resources | Date: 4/12/19
Existing Mining Operation

This construction update report provides details of construction activities that occurred in March, 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 March 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
    - Removal of Brush
    - Locating buried pipe and utility lines for repair or removal prior to pond excavation
    - Repair of a soil void beneath the overflow structure connecting MWTU ponds 2 and 3
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
        - Work stopped because of lack of clay material and other high priority tasks
        - Additional source of clay liner material identified later
    - Initial liner floor area construction completed 10/22/18
        - The north-east portion remained unlined until this time due to prioritization of construction of the MWTU Pond No.3
    - The disposal cell clay liner remains open and uncompleted because of the need for expansion
    - By end of February 2019 the contaminated fill surface was dressed, but not compacted due to cold weather
    - 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

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

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
        - Pipe installation started 11/29/18, finished by 11/30/18
        - Formed headwall by 12/20/18
        - Poured headwall 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) MWTU Pond No.3 Geosynthetic liner Leak Detection Contractor Selected 8/27/18
        - Contractor selection was made at this time in anticipation of the liners of both MWTU ponds No.2 and No.3 being installed by the end of November 2018

16) 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 completed 12/5/18

17) 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

18) 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

19) 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.

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

21) 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
  - Last-minute rolling of the clay sub-liner surface and final touch-up work were performed on 12/17/18, the same day as the arrival of the liner installation sub-contractor

- Poor weather conditions slowed the progress of work
- By end of the day, 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
  - Stayed through 12/21/18 to complete leak detection services of the secondary liner
  - Leak detection contractor would return to test the primary liner once water filling of MWTU Pond No. 3 was complete
- 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 LDSC 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
- 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

22) 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

23) 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

24) MWTU Pond No. 2 Excavation of contaminated sediments – Began 9/19/18; in progress
- 50% Complete by 10/19/18
- Task was halted due to extremely wet material and the need to line MWTU Pond No.3

25) 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

26) Ore Stockpile Removal
- Began work on defining thickness of the cover soil
  - Started grid-staking the pile on 11/30/18
  - Completed definition auger-drilling at staked locations on 12/21/18
- RGR in 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
- Issued RFP's to ore haulers

27) Primary Contractor Demobilized and Left the Project
- RGR and the primary contractor agreed that the project could not continue with the cold temperatures and snow conditions

- RGR and the primary contractor mutually agreed to terminate the existing agreement for construction services
  - Terminated agreement 1/31/19 due to constructability issues and weather delays
  - Fully demobilized by 1/31/19
  - Winter weather had caused significant delay and excessive standby
  - Phase I Reactivation work substantially completed at this time
  - Materials were not available on site to begin the south alignment of the Stormwater Drainage System
  - No further contaminated materials could be placed on the disposal cell because of constructability issues
    - Specifications forbade compaction during freezing temperatures

March 2019 Milestones

March saw a substantial restart effort of the suspended Phase I construction activities. In February RGR began setting up for the 2019 construction season. Because of winter weather conditions no activities involving compaction could start. However, RGR finished preparing and grading the existing surface of the partially filled disposal cell. Contractors were selected, work scopes were written and requests for proposals (RFP) were sent out.

In March RGR rented several pieces of earthmoving equipment and began excavating the contaminated sediments in MWTU Pond No.2. Additionally, RGR secured a pipe-laying contractor to install the south alignment of the stormwater drainage system. RGR also secured a haulage contractor in anticipation of starting the ore removal project.

Run-down structures and manhole aprons were installed along the north alignment of the stormwater drainage system.

1) MWTU Pond No. 3

RGR crews installed power for the LDCS pump system at the beginning of the month. With the pump operational, the first task was to remove the inter-liner water. This water filled the space between the primary and secondary liners and was required in order to conduct the primary liner leak test. By the end of the month, no water was pumped from the LDCS sump since the inter-liner water was removed.

NMED instructed RGR to begin placing all pumped water from the monitoring wells into MWTU Pond No.3 now that it is commissioned. On 3/22/19, the first tank-load of pumped water from the monitoring wells was placed into MWTU Pond No.3 (approximately 1,600 gallons).

2) Storm Drainage System

North Alignment

Minor stormwater control work remained to be completed from last season. This work was put on hold through the winter months and was restarted once temperatures warmed up enough to compact soil and pour concrete. This work included forming and pouring 3 manhole drainage aprons and installing 2 run-down structures.

In March, the permanent rundown structure for manhole 27 was formed and poured. By the end of March, the run-down for manhole 28 was formed. Originally, each rundown structure consisted of only an inlet mouth that attached the existing run-down channels to the manholes. RGR reviewed the existing run-down channels and found them to be insufficient. RGR installed substantially improved run-down channels to better handle stormwater runoff from the parking lot area.

The 3 concrete manhole aprons were minor structures and were all formed and poured by 3/18/19. They function to guide stormwater runoff from ditches and swales into the manhole structures 24, 25 and 26.

South Alignment

During March, a pipe installation contractor was awarded a bid to start work. Installation of the south alignment is scheduled to begin in early April. The manhole structures for the south alignment were fabricated and delivered to the site. This task is on schedule.

3) Ore Stockpile Removal

RGR awarded a contract on a bid for ore haulage on 3/5/19. The contract was sent to the legal department on 3/8/19. Both the milling and haulage contracts were in review but had not been finalized before the end of March.

The planned haul route from the Mt Taylor Mine to the receiving facility is:

1) South on State Hwy 605 from Mt Taylor Mine to I-40
2) West on I-40 to US Hwy 491
3) North on US Hwy 491 to US Hwy 160
4) West on US Hwy 160 to US Hwy 191
5) North on US Hwy 191 to the White Mesa Mill

4) Disposal Cell and Placement of Contaminated Materials

In conjunction with excavation work in MWTU Pond No.2, work restarted on placing contaminated materials in the disposal cell as warmer temperatures enabled fills to be compacted according to specifications. By 3/12/19, compaction of the previous contaminated material surface was completed. Contaminated materials previously stockpiled from MWTU Pond No.2 were then picked up and placed in the disposal cell. Another debris pit was excavated and filled with debris. The debris pit was then filled with flow-fill, similar to the first debris pit. Safety berms were pushed up around the outer perimeter of the of the dump area. Overall, nearly another full 10” lift of contaminated material was placed in the disposal cell. There remains approximately less than 5 vertical feet of capacity in the initial disposal cell. Construction drawings were created for the expansion of the cell.

5) MWTU Pond No.2

In early March, earthmoving equipment arrived on site. Excavation of all previously stockpiled contaminated materials of MWTU Pond No.2 restarted by 3/12/19. Excavation of contaminated materials from the slopes of MWTU Pond No.2 began by 3/27/19. By end of month nearly 30%

of the slopes of MWTU Pond No.2 had been excavated (first cleanup iteration). Once this first stage of cleanup in MWTU Pond No.2 is completed, gamma scans and soil samples will be taken.

6) Phase II Reactivation Projects
As part of the surface piping upgrades, a consultant / contractor was selected for integrity testing of MWTU facility piping. Consultants for revising the Water Treatment Plant design were contacted. An RFP is being formulated.

7) Other

RGR ordered a holding tank for the WP5 well. The tank was installed by 3/25/19. The tank will be used to hold water from pumping of WP5. This work is associated with connection to surface water drains.

Straw waddles were ordered (3/18/19) and installed on the south and west out-slopes of the waste rock pile (WRP) / disposal cell berms. Installation was completed by 3/28/19. Erosion blanket vendors were contacted as well as hydro-seeding vendors. Plans were formulated to secure a vendor for applying these products. Completion of this erosion control has been put on hold until the radon emanation study is complete. The radon emanation study will be conducted in April, once consistent above-freezing weather arrives. A consultant was selected to assist RGR with revegetation efforts.

RGR sent Phase I construction quality control data to NMED and MMD (3/13/19). This data included soil classifications, plasticity indexes and compaction information pertaining to the Phase I construction earthmoving efforts to date.

<u>Forecasted Activities</u>

1) South Stormwater Pond
   - Installation of the concrete cloth drainage channel has not begun due to cold weather and higher priority work. It is ranked second in priority at this time and will be installed in April. The first priority is installation of manhole 23, the first manhole structure of the south stormwater drainage alignment.

2) Stormwater Water Drainage System
   - South Alignment
     - Anticipated to start in early April 2019

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 May 2019
   - Excavation of contaminated materials from the MWTU ponds is continuing

4) MWTU Pond No. 2 Excavation, Reshaping and Liner Installation
   - Pond No.2 excavation work has restarted and will continue
   - Initial gamma scans and soil sampling of the slopes will be performed in April.

- MWTU Pond No.2 liner installation is still projected as late-June 2019, depending on the number of iterations of radiological cleanup efforts and unfavorable weather. This projected date is based on previous experiences with Pond No.3

5) Removal of Contaminated Sediments from MWTU ponds 1 and 4 through 8
   - Anticipated start in April with MWTU Pond No.8
     - To be worked concurrently with Pond No.2 while waiting on radiological sampling results
     - Anticipate completion of all excavations by late 3rd quarter of 2019
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 is in progress
     - Anticipate completing in May 2019
     - Complete after installation of SSWP concrete cloth
   - Activation of pumping system will not occur until approved
     - As a temporary measure, all pumped well water is being trucked to MWTU Pond No.3
8) Completion of all major Phase I activities appears to be 3rd quarter 2019
   - Completion of the south stormwater drainage alignment is expected to be late May
   - Completion of contaminated sediment and soil removal from the 7 remaining MWTU ponds is anticipated to be 3rd quarter 2019

<u>Critical Path Items</u>

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

Plan Changes

No new variances issued in March 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

Anticipated Delays and Changes to Project Schedule

General Comments:

Currently, there are no delays in the remaining work. All work is progressing on schedule. While not a true delay, installation of the concrete cloth drainage channel at the south end of the SSWP has been reduced in priority due to cold weather and the need to complete higher priority work that would otherwise delay the project (i.e. pouring the concrete base of manhole 23, south alignment).

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 increased 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.

At this point in time, RGR crews will continue to perform earthwork tasks in order to keep the project progressing. RGR's earthwork techniques have reduced idle time and improved excavation efficiency. RGR's crews have successfully increased capacity in the disposal cell by achieving improved compaction.

Phase I work tasks have generally been delayed due to:

- Excavation of excessive amounts of contaminated materials in MWTU Pond No.3
- 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
- Excavation of excessive quantities of WRP material during WRP reshaping
- Excessive mine debris requiring extra effort to sort and dispose
- Winter weather conditions

Project delays have also arisen because of a lack of resources committed to the project by the previous contractor:

- Equipment and manpower
- Management of the procurement process
- Sub-contractor coordination

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)
    - RGR anticipates it will continue this work through the winter and spring seasons
    - Efficiency of excavation decreased due to adverse weather and associated delays
        - Reduced digging capabilities in potentially frozen ground, icy roadways
    - Safety considerations for personnel due to winter weather conditions
        - Ability to perform radiation scans in freezing weather

- Equipment travel on icy roadways
- Icy conditions on steep pond access ramps

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
   - The south alignment has not been started. Construction will start shortly now that the north alignment is completed and stormwater control is no longer an issue. Work on the south alignment has generally been delayed due to overall schedule slip of other precursory tasks.
   - Generally, winter weather conditions have delayed completion of the north alignment of the stormwater drainage system by 1 to 2 weeks due to freezing ground conditions

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 is 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