

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

July 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, June 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 June 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 <a href="mailto:bruce.norquist@ga.com">bruce.norquist@ga.com</a>. A hard-copy of this document is also being sent by regular mail.

Sincerely, Bruce 2. Norquist

Bruce Norquist

Facilities Manager, Mt. Taylor Mine Rio Grande Resources Corporation

CC: David Ohori, NMMMD (via email)

June 30, 2019 Date: 7/16/19

This construction update report provides details of construction activities that occurred in June, 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 June 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 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; expansion of the cell was deemed necessary
    - o Contaminated soils being excavated has been nearly 4 times greater than 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 on 3/12/19, once weather warmed sufficiently to achieve compaction
    - o Majority of contaminated materials excavated have come from MWTU ponds 2 and 8
- 9) South Stormwater Pond Excavation began 8/2/18
  - Excavation was 40% complete by 8/13/18
    - The task was stopped to prioritize excavation work of MWTU Pond No.3 as well as to control stormwater runoff during the monsoon season
  - Excavation completed by 10/20/18
    - Task completion was delayed due to difficulties in ripping a persistent sandstone lens
    - Task completion was also delayed due to the radiological scanning and cleanup verification process

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- 10) South Stormwater Pond Concrete Structures completed
  - Run-down chute base, wing walls and South Force Main concrete pipe pad –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 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 (WRP) Placement of Clay Cover Soil on Outer-Slopes 100% complete
  - Began 8/15/18
  - 90% complete by 9/7/18
    - o 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
  - Started placing remaining 2<sup>nd</sup> lift on the north nose of the WRP on 11/20/19
  - Completed placement of all clay cover soil by 11/20/18
  - Final compaction of all clay cover soil on the out-slopes completed 12/5/18
  - Conducted Radon Flux Test on the south and west out-slopes on 4/25/19
    - South and west out-slopes are the only completed portions of the WRP cap
    - o Results of the Radon Flux test were available on 5/7/19
      - Average flux rate was 1.23 pCi/m2s; maximum flux rate was 3.12 pCi/m2s
      - Maximum flux rate was well below the permitted limit of 20.0 pCi/m2s
  - By end of May, erosion blankets and straw waddles were placed on the entire south slope and 70% of the west out-slopes
- 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)
    - o 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
  - A significant delay of the liner installation occurred due the greater amount of fill needed to reach design grade and the need for additional compaction effort

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• Refurbishment of the hydraulic structures was also delayed because of backfill volume

- 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 subliner 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; completed by 12/14/18
     Winter weather conditions slowed the progress of work
  - The liner installer arrived on 12/17/18; no work occurred due to training requirements
  - RGR's QA/QC inspector arrived on 12/17/18 and the leak locating contractor arrived 12/18/18
  - Actual liner installation work began 12/18/18; by end of day, 1/3<sup>rd</sup> of the secondary liner was installed
  - By end of day 12/20/18 the secondary liner installation was completed
    - About 1/3 of the geonet was installed by end of day
  - Leak detection testing of the secondary liner was completed by 12/21/18
  - By 12/21/18 Installation of the geonet was completed as well as about 15% of the primary liner
    - The primary earthwork contractor left the site for the holiday, returned 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 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 MWTU Pond No.3 with clean water on 1/17/19
    - o Could not start until after the anchor trench backfilling had been completed
  - By 1/21/19 approximately 300,000 gallons had been delivered from the site water tank

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- By 1/22/19 a new delivery pipe was constructed to deliver water from well 8 (Point Lookout well) to Pond No.3
  - o A water meter was placed in this delivery pipe system
- Pumping from well 8 began 1/24/19
- 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 water filling 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

- 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 May, all remaining contaminated soils had been excavated
  - o By 5/29/19 confirmatory soil samples were collected and sent for analysis for Ra226
  - o Cleanup efforts resulted in a much deeper pond than planned
    - Approximately 9,000 cu. yds. of contaminated sediment and soil had been removed, nearly 4 times more than originally planned

### 24) Stormwater Drainage System - North Alignment

- Began excavation 10/30/18
- Task was significantly delayed because of a lack of availability of materials
  - Several of the primary manholes had long procurement lead-times
- By 12/13/18, manhole MH26 was set in place
  - o Installation of this manhole connected the existing south site drainage system to the SSWP by 12/18/18
- By 1/23/19 the north alignment drainage system was connected and fully functional
- North alignment commissioned by the end of January 2019
- By 3/31/19 a new concrete rundown for manhole 27 was 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
  - o A 2-day delay 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 when several unknown utility lines were encountered
  - Rain and snow caused additional delays

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# **Existing Mining Operation**

- By 4/19/19, the base for the first manhole was poured
- A delay occurred when an unknown buried power cable was severed
- 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
- By end of May, all trenching and installation of the main pipe-line had been completed
- By end of May, all manhole structures had been installed

### 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 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 April 2019
- In April, preparation of the ore pile for hauling began
- By the end of May, final draft agreements had been sent to the milling and hauling contractors for review and signatures

### 27) Phase II Reactivation Projects

- Surface piping upgrades A contractor was selected to perform integrity testing of the MWTU facility piping in February 2019
  - o 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
  - o Discussions are ongoing regarding the selection of the most appropriate treatment
  - o RGR's WTP engineering group informed RGR about a major design change 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
  - o 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

- A holding tank was installed for WP5 by end of March 2019
- Plans were formalized to plumb delivery piping, run power and acquire a pump for the WP5 well in April
- By end of May, the electrical power panel had been constructed

#### 29) MWTU Pond No.'s 4, 5 and 8

- Excavation of the side slope sediments in MWTU No.8 began in April
- By end of May, all of the sediments on the side-slopes of ponds 4 and 8 been removed

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#### June 2019 Milestones

### 1) MWTU Pond No.2

By the end of June, confirmatory soils samples for MWTU Pond No.2 were not yet available. They are expected to be available by the beginning of July. Further work is on hold until results confirm cleanup has been completed.

#### 2) Other MWTU Ponds

Removal of contaminated sediments and soils continued in MWTU Pond No.'s 4 and 8. By month end, MWTU Pond No.8 was considered to be "clean" and ready for confirmatory soil sampling. Several concrete structures were removed from MWTU Pond No.'s 4 and 8. A work delay occurred in early June from encounters with previously unidentified electrical cables in the excavations.

#### 3) Ore Pile Removal

By June 10<sup>th</sup>, all agreements were signed (milling and ore haulage). On 6/25/19, the first loads of ore were hauled to the mill. Haulage continues at this time.

### 4) Stormwater Drainage System - South Alignment

By the end of June, all of the south alignment of the storm drainage system had been completed. Additionally, installation of the south force main pipe system was completed.

# 5) Waste Rock Pile – Disposal Cell

By the end of June, the existing disposal cell was filled to 100% of current capacity. A plan for eastward expansion of the disposal cell was presented to MMD and NMED. At the end of June, NMED informed RGR that eastward expansion would not be allowed without a permit modification.

RGR will continue to fill the disposal cell upwards. Upward filling was originally planned and is shown in the closeout/closure plans.

#### 6) Waste Rock Pile Vegetation Test Plot Plan

Much of June was spent in discussion with MMD and NMED regarding the finalization of the Vegetation test Plot Plan. RGR is currently preparing a response to a letter sent by MMD / NMED.

Placement of erosion blankets and straw waddles on the south and west out-slopes of the WRP was completed.

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7) Borrow Areas

The top 1-foot of soil was stripped from borrow area A in June in preparation for soil sampling and stockpiling. Plans have been made on how to stockpile the various materials anticipated to be excavated.

# 8) Phase II Activities

RGR's WTP engineering group continues to refine plans for the WTP. Planning also continues with other WTP consultants.

#### 9) WP5 Well Connections

By the end of June, the electrical power panel and transformer had been installed.

### **Forecasted Activities**

- 1) Continued Filling of the Disposal Cell
  - Upward filling of the disposal cell is planned to begin in July
  - Capping of the disposal cell will commence after completion of filling; anticipated for the September timeframe
- 2) MWTU Pond No. 2 Excavation, Reshaping and Liner Installation
  - Anticipate results of final cleanup verification to be available by early July 2019
  - Backfilling and reshaping to commence in July 2019
  - Upgrades to concrete structures anticipated to commence in August 2019
  - Geosynthetic liner installation anticipated to commence in September 2019
- Removal of Contaminated Sediments from MWTU Ponds 1 and 4 through 8
  - The majority of this excavation work is on hold until a resolution is made for necessary expansion of the disposal cell
  - Continued upward filling of the disposal cell will occur until the available capacity is full
- 4) Ore Pile Removal
  - In progress
  - Anticipate 1 year to complete
- 5) Connection to Surface Water Drains WP5
  - Installation of connecting piping and power for WP5 is in progress
    - Anticipate completing in early August 2019
  - As a temporary measure, all pumped well water is being trucked to MWTU Pond No.3
- 6) Vegetation Test Plot Plan
  - Working on plan approval
  - · Anticipate starting to place growth media soil on the south and west out-slopes of the WRP late July or early August 2019
  - Anticipate seeding by late August

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- 1) Reshaping and lining of MWTU Pond No. 2
- 2) Expansion of the disposal cell

# Plan Changes

Because an east expansion of the disposal cell has been cancelled, upward filling will now commence.

No new variances issued in June 2019

# **Drawing Variances**

VARIANCE #			Drawing	Variance Subject	Date	
	Sheet #	Drawing #	Title	variance subject		
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	Ву	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 Drawin	g Sheet HY-18, Note 7	A. K. Kuhn	11/21/2018

Construction Update Report
Mt Taylor Mine
Existing Mining Operation
Delays and Changes to Project Schedule

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#### **General Comments:**

A major project delay occurred in June when NMED informed RGR that it could not proceed with eastward expansion of the disposal cell. Eastward expansion of the disposal cell is necessary to provide storage capacity for additional contaminated materials. Without the ability to expand the disposal cell eastward for placing these contaminated materials, RGR will not be able to proceed with much of the remaining Phase I work. Because of the linear dependence of subsequent work on the removal of contaminated materials, RGR will also have to delay completion of many Phase II and III projects. These include lining of the MWTU ponds and ore pad runoff pond, cleaning up and reconstructing the ore pad, installing process piping for the water treatment plant, commissioning of the water treatment system and dewatering the mine. Ultimately, these delays impact mining activities.

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
- o Weather conditions
- o Equipment mechanical failures contributed to slower moving of materials.
- o Encounters with unknown utility lines during construction

# Plan Changes:

- 1) 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) Shortening of the storm drainage system south alignment to accommodate the eastward expansion of the disposal cell (May 2019)

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- 1) 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 new concrete hydraulic structures.
    - There were 9 individual concrete pours. Each pour required 3 to 4 days duration for forming, pouring and curing for a total of 1-1/2 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 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 had 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 could not 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.
- 2) Excavation of contaminated sediments from MWTU Ponds 1, 4, 5, 6, 7 and 8 delayed by
  - Other priority work tasks (i.e. MWTU Pond No.3)

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No Grande Resources Date.

- Cold weather, contributed to decreased excavation efficiency
  - Safety issues related to equipment operation on steep slopes and multiple crews working in small areas
  - Regulatory cancellation of plans for the eastward expansion of the disposal cell
- 3) Stormwater Drainage System Schedule
  - Significant delays due to availability of materials, procurement management issues and lack of contractor's ability to commit additional resources
    - o Originally anticipated that work crews and materials would be on-site by late August
    - o Materials did not arrive on site until 10/23/18
      - Manhole structures long fabrication lead time
      - Contractor procurement issues
    - o Need for more specialized and different equipment than that of regular earthmoving
  - Cold weather conditions during construction
- 4) 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
- 5) Removal of the Low-grade Ore stockpile
  - Delayed by lengthy legal review of the contracts and attendant negotiations between RGR and the mill

Note: After discussion with MMD and NMED in July 2018, the task of removing low-gradeore 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.

- 6) Restart of Phase I Activities in 2019
  - 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