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May 15, 2020

Mr. Jerry Schoeppner
Director
Mining and Minerals Division
New Mexico Energy Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

Subject: Submission of the Permit Modification Request for Updated Closeout/Closure Plan Schedule, Updated PMLU and Disposal Cell Expansion, Permit CI002RE, Rev. 13-2; Mt. Taylor Mine

Dear Mr. Schoeppner,

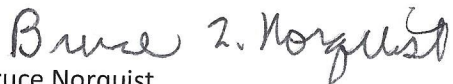
Rio Grande Resources Corp. (RGR) is requesting a permit modification for the approved Closeout / Closure Plan, approved in December of 2017. This request for modification pertains to the Permit CI002RE, Rev 13-2 for the Mt Taylor Mine.

The permit modification request involves an update of the Closeout/Closure Plan schedule, an update of the PMLU and an expansion of the disposal cell. The schedule has been updated to reflect the current status of the site and expected closeout activity durations based on recent contractor experiences and practices. Recent developments regarding future post-mining land uses for the site, including water supply, have been moving forward. This has led to a need to update the PMLU of the site.

The disposal cell expansion is required because the existing disposal cell was filled to capacity at the end of 2019 during construction. The expansion is necessary to accommodate the anticipated remaining contaminated materials to be remediated at the site.

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,

Handwritten signature of Bruce Z. Norquist in cursive.

Bruce Norquist

Facilities Manager, Mt. Taylor Mine

Rio Grande Resources Corporation

CC: David Ogori, MMD, Permit Lead (via email)

Ashlynn Winton, NMED (via email)

**Rationale for the Updated
Closeout/Closure Plan Schedule,
Conceptual Design of the Expanded
Disposal Cell Plan and Updated
PMLU, Mt Taylor Mine**

5/15/2020

1 General Information

1.1 Background

The Closeout/Closure Plan schedule (CCP) of 2013 is being updated to reflect the current status of the Mt Taylor mine. The Mt Taylor mine was granted active status by MMD at the end of December, 2017. Since that time, Rio Grande Resources Corp. (RGR) has been conducting mining activities at the site. Phase I reactivation construction began in the middle of the 2nd Quarter of 2018. Initial work focused on reshaping the waste rock pile (WRP) and construction of the disposal cell. Once pile reshaping was completed, work began on refurbishing the South Stormwater Pond (SSWP) and MWTU Pond 3. During this time, the north stormwater drainage system was upgraded. By the end of 2018, the SSWP and MWTU Pond 3 were lined.

In 2019, the south stormwater drainage system upgrade was completed, and the MWTU Pond 2 was refurbished and lined. The contaminated materials residing in and beneath MWTU Ponds 1, 4, 5, 6, 7 and 8 were fully excavated. Offsite removal of the low-grade ore was initiated in June of 2019. By the end of 2019, the 11.5-acre disposal cell was filled completely with excavated sediments and soils, primarily from the MWTU ponds.

In December 2019, RGR informed MMD and NMED of its intent to enter the closure stage for the Mt Taylor.

RGR initiated closure activities at the beginning of January 2020 and is implementing the approved CCP of 2013. This plan anticipated a series of closeout activities based on assumptions that the orebody would be mined out, the site would be ready for decommissioning and the operations would be in cessation. Because this set of assumed conditions was not realized, RGR found it necessary to update the CCP to meet conditions presently existing at the site that resulted from the Phase I construction in 2018-2019.

1.1.1 Closeout/Closure Activities Completed to Date

The following is a list of CCP activities conducted during Phase I construction and completed to date:

- Completed reshaping the Waste Rock Pile (WRP).
- Completed construction of the Disposal Cell Liner floor.
- Completed excavation of contaminated sediments and soils from the eight MWTU Ponds (ponds 1 through 8).
- Completed filling of the Disposal Cell with contaminated materials.
- Removed approximately one-third of the low-grade ore stockpile from the site.
- Completed refurbishment and upgrade of the site surface water drainage system.
- Completed reshaping and lining of MWTU Ponds 2 and 3, including refurbishment and upgrade of concrete structures.

1.1.2 Closeout/Closure Activities Remaining to be Completed

The following is a list of remaining CCP activities currently approved:

- Demolition of the shaft headframes.
- Demolition of Surface facilities;
 - MWTU structures and buildings,
 - Treated water discharge pipeline,
 - Service and support facilities.
- Plugging of the shafts.
- Well and conduit plugging,
- Earthwork.
 - Capping the disposal cell and the remaining open portions of the waste rock pile.
 - Continued removal of the remaining low-grade ore, ore pad and ore pad pond.
 - Backfilling of the MWTU ponds (except ponds #2 and #3).
 - Removal of contaminated soils and materials from around the site.
(Note: Removal of contaminated sediments and soils from the eight MWTU ponds has already been completed)
 - Site finish grading.
- Revegetation.

2 Details of the Schedule Update and Disposal Cell Expansion

2.1 Updated Closeout/Closure Schedule

The proposed updated CCP schedule follows the task structure of the one presented and approved in 2013. The primary difference between the two schedules is that the 2020 schedule has an expanded timespan to account for anticipated work productivity and increased quantities of materials at the site under present conditions. Figure 3 presents the updated 2020 Closeout/Closure schedule.

2.1.1 Details of Schedule Changes

The following bullet points are highlights of the changes made in the schedule,

- **Critical Path**

The critical path events in the 2020 updated CCP schedule are:

- Shaft headframe demolition.
- Shaft Plugging.
- Disposal cell expansion.
- Excavation of contaminated soils and other materials around the site.
- Finish grading.
- Revegetation.

- **2013 CCP Schedule**

- The working calendar assumes 30 working days per month.
- Holidays and weekends are considered working days.
- Assumes simultaneous, multi-task work crews active at the same time.

- **2020 CCP Schedule**

- The working calendar assumes 20 working days per month (8-hour work day).
- Holidays and weekends are not counted as working days.
- Schedule summary lines show total duration for all included sub-tasks.
- These assumptions increase the duration of those tasks defined in the 2013 CCP schedule because of the change in the working calendar.

- **PMLU Changes**

- The structures designated for post-mining land use (PMLU) remain in the schedule for demolition until such time as RGR obtains 3rd party commitments.

- Regulatory Approvals

- MMD

Currently, no significant regulatory delays are expected from MMD to impact the schedule.

- NMED

RGR has scheduled a significant delay in the sequencing of the expansion of the disposal cell. The delay affects all earthwork tasks involved with cleanup of contaminated materials. This is because those materials cannot be excavated until the disposal cell is constructed sufficiently for their placement in it.

NMED informed RGR that approval of the disposal cell expansion plan will require a permit modification under NMED regulations. Discussions indicated this could take 9 months or longer, if there is a request for public hearing. The updated CCP schedule accounts for a 9-month delay in construction of the expanded disposal cell as well as delay in removing any contaminated soils and other materials.

- Radiation Control Bureau (RCB)

Discussions with the RCB indicate there may be some impact on the updated CCP schedule from regulatory delays pertaining to the decommissioning of the Water Treatment Plant. These tasks are not in the critical path.

- Project Management: Contracting, Mobilization and Demobilization

The updated CCP schedule shows the duration of these tasks running for nearly the timespan of the project. RGR sees the project as a series of small inter-related tasks and expects to conduct contracting and contractor mobilization/demobilization continually through the project.

- Demolition

- Shaft Headframes

The updated CCP schedule provides for the demolition of the headframes. The tasks have been pushed back in time to allow RGR to obtain approval to allow the headframes to remain in place for raptor habitat and/or designation of historic structures with local cultural significance.

- Shaft Exhaust Fans and Vent

This is a newly defined task for the updated CCP schedule. The ventilation stack and associated structures were combined into the 24- and 14- foot shaft demolition tasks in the 2013 CCP.

- Surface Facilities

- MWTU and Service and Support Facilities

Demolition of surface facilities is shown in the updated CCP as occurring from early in the project to very late in the project. There are numerous structures that will be removed. RGR is also trying to preserve several structures for PMLU. Most of the buildings that have no useful purpose will be demolished early in the project. The buildings planned for the PMLU have been pushed towards the end of the project in order for RGR

to obtain 3rd party commitments. Otherwise, the updated CCP schedule provides for plans to demolish the buildings.

- Discharge Pipeline

There is minor potential for delay in the removal of the Treated Discharge Pipe and reclamation of the pipeline corridor. This minor potential exists because of contractual obligations with the lease holders that will have to be addressed before work can proceed. This task is not on the critical path.

- Shaft Plugging

This is a critical path activity. The updated CCP schedule activity duration is significantly longer than projected in the 2013 schedule because of the need for a specialized crew and equipment for entry into the shaft. The increase in task duration reflects safety considerations.

RGR is looking into an alternative to shaft plugging. RGR is considering the use of a permanent cap to be placed over the top of all shafts. The cap will most likely include structural steel and be designed to safeguard human health and minimize environmental impacts. By installing the caps, work crews will not have to enter the shafts. Caps will also provide safe access for groundwater sampling and measurement of water levels.

- Well and Conduit Plugging

The duration of this activity shows a significant increase from 2013. RGR anticipates that a major drilling company with strong deep well drilling experience will be needed to clean and grout these deep wells. There are approximately 26 deep wells to be fully grouted. Additionally, access to all of the wells will need to be re-established.

- Earthwork

- Waste Disposal Cell Expansion

The duration of this activity has been increased based on recent construction productivity at the site. The existing disposal cell liner required over a month to construct. Construction of the berms for the existing disposal cell required over two months. Because the expansion area of the disposal cell is larger than the existing one, the estimated duration was increased appropriately.

- Ore Pad and Runoff Retention Pond

This task has a significantly longer duration than the 2013 schedule, due mostly because the low-grade ore stockpile removal activity is a sub-task. At this time, RGR estimates it will take between 1 and 1.5 years to complete the removal. The truck transport route is long and the drivers are limited by DOT drive-time regulations. The ore receiver only operates during normal business hours. These factors limit the productivity of the trucks. Currently, five trucks operate five days per week. Recently, the onset of the Corona virus has impacted the transporters schedule.

The task also includes excavation of contaminated materials. Based on recent experience in MWTU Ponds 2 and 3, RGR is estimating the volume of contaminated material to be about 6 times the amount projected in 2013.

- Contaminated Soil

This task has a significantly longer duration than projected in 2013. RGR estimates the remaining contaminated materials around the site to be two and a half times more than originally estimated in 2013. The activity is also spread out over a longer time interval due to sequencing with other tasks.
- MWTU Ponds

RGR does not see any significant changes in the duration of this activity. While the estimated quantity of backfill needed is about 2 times that estimated 2013, no additional contaminated material will need to be excavated.
- Waste Pile

The duration of this activity is significantly longer than projected in 2013. The task is split over two distinct events, with an attendant lag. The first event involves constructing a clay cap and growth media cover layer over the upper part of the existing disposal cell. The second event involves constructing a clay cap and growth media cover layer over the proposed expanded disposal cell area. The lag between the two events is caused by the delay in the approval of the disposal cell expansion.
- Finish Grading and Erosion Control

This task is significantly longer than the one projected in 2013 because of the need to conduct radiological surveys over each area before they are deemed cleaned. The majority of the duration time is due to the long analytical process time for radium.
- Site Revegetation

This task is significantly longer than that estimated in 2013 because of the long distance between locations. Because of the travel time to different locations, the effective work day is only about fifty percent. Conditioning and mulch involve large quantities of supplies that must also be delivered to each area.
- Radiological Cleanup

Radiological surveys and scanning efforts to document contaminated materials has consumed much time to date. This step in the cleanup process has been added to all activities in the updated CCP schedule. Final Status Surveys (FSS) conducted on remediated areas account for as much as 45 to 55 days of idle time at each location. Duration time has been increased to account for the numerous re-surveys that are expected to be performed. Experience has shown that at least two sets of cleanup and radiological surveying are performed before regulatory limits are achieved. When these delays occur, work is rescheduled elsewhere.
- Post Closure Monitoring and Maintenance

Post Closure Monitoring is anticipated to begin once the site is remediated and revegetated. During this time, RGR will need to maintain access to the shafts, dewatering wells, and monitoring wells. RGR will also require the use of water wells in the Pt Lookout Formation to provide water for dust control and site staff use while the vegetation growth monitoring period is in effect. Many of these components are

included as subtasks of the demolition or plugging sections of the CCP. Components required to support the post-closure monitoring period will be retained until such time that they are no longer needed. This may lead to an extension of the timespan of the schedule.

Based on site experience, there is some risk that unknown adverse site conditions could be discovered throughout the Closeout/Closure period that extend the projected completion date.

- **Stage II Abatement**

Stage II Abatement will proceed concurrently with the activities of the updated CCP. The updated CCP schedule may need to be extended depending on the successful progression of the abatement plan. This will be especially true where CCP tasks occur in the same location as abatement activities. Planned 2020 abatement activities will impact the CCP tasks located around the disposal cell, waste rock pile and 24-ft production shaft areas.

2.2 Expanded Disposal Cell

NMED informed RGR that expansion of the disposal cell will require a modification of the DP-61 discharge permit. This most likely will involve a public hearing. The discharge permit expires in October 2020 and is up for renewal. It has been discussed that the process could take as long as 9 months for approval. The impact to the schedule is significant, no contaminated materials can be excavated and placed in the disposal cell until approval is granted.

Figures 1 and 2 show RGR's conceptual design for the expanded disposal cell. In this design concept, the existing disposal cell will be expanded eastward in stages. Four stages are contemplated, with floor liner and berms being constructed sequentially based on the amount of contaminated materials identified at the time. RGR does not expect to construct the cell to full build-out unless the volume of contaminated materials discovered during the CCP implementation requires it. Slopes will be maintained at a 5:1 (H:V) configuration. The construction will be according to the previously approved design specifications in the 2013 CCP and earthwork specifications for the Phase I construction.

4 Proposed PMLU Changes

Along with the approved PMLU uses of commercial and grazing, RGR desires to add water supply as a third PMLU. RGR has significant valuable water rights (1,680 acre-ft/year, and larger) in connection with the Mt Taylor Mine property. RGR intends to exercise its water right and develop the water in connection with reclamation and abatement activities associated with CCP activities in the shorter term. In the longer term (post mining), RGR intends to develop and use water granted by the water right for PMLU endeavors.

4.1 PMLU Uses

Short-term water usage includes support of reclamation and abatement activities associated with the CCP. These include dust suppression, septic and other domestic

needs, pumping of wells for abatement and other permit commitments.

Long-term uses (post closure) include watering livestock, supporting on-site commercial activities, irrigated agricultural land and 3rd party end-users. These may occur on the site or peripherally.

4.2 Grazing

RGR is currently approved for a grazing PMLU. Water will be used to support ranching and livestock activities.

4.3 Commercial

RGR is currently approved for a commercial PMLU. Commercially, RGR intends to maintain a presence on the site as part of its business plan and ownership of the land. Water will be needed to support those activities. Along with RGR's business plan for the site, RGR is also working on securing agreements with other 3rd party entities that may desire to use the facility assets for business. These businesses would revolve around ranching, light industry, warehousing, storage and possible governmental uses.

Because of the sudden change in site direction from mining to closure and post-closure activities, RGR has not had time to fully develop the relations necessary to produce the 3rd party agreements. Negotiations will require time to work out details on utility and electric supply as well as specific uses conducive the area.

4.4 Water Supply

RGR is currently in negotiation with potential end-users of the water supply. RGR expects to acquire use-agreements and contracts for the water supply the near future. Once those 3rd party agreements are in place, RGR intends to begin the water supply PMLU. Because of confidentiality conditions at this time, specifics cannot be divulged, but several of the potential end-users of RGR's water supply would be customers that are down-gradient in the San Mateo Creek and the Bluewater basins. Some of the potential uses would include remediation of contaminated groundwater, industrial uses, irrigation and augmentation of municipal water suppliers. This might also include offsetting of water rights as well.

Water at the Mt Taylor site will be pumped by existing wells from the Point Lookout and Gallup/Dakota aquifers. Water from the Point Lookout formation should not require treatment to meet New Mexico human health standards. Lesser amounts of water may be pumped from the Gallup/Dakota aquifers. Water from this aquifer would be blended with the Point Lookout aquifer water in a manner that would meet New Mexico's water quality standards under 20.6.2.3103A NMAC.

4.5 Requested Changes to the Approved PMLU

To support planned commercial, grazing and water supply endeavors of post-mining land uses, RGR desires to change the selection of buildings that will be retained.

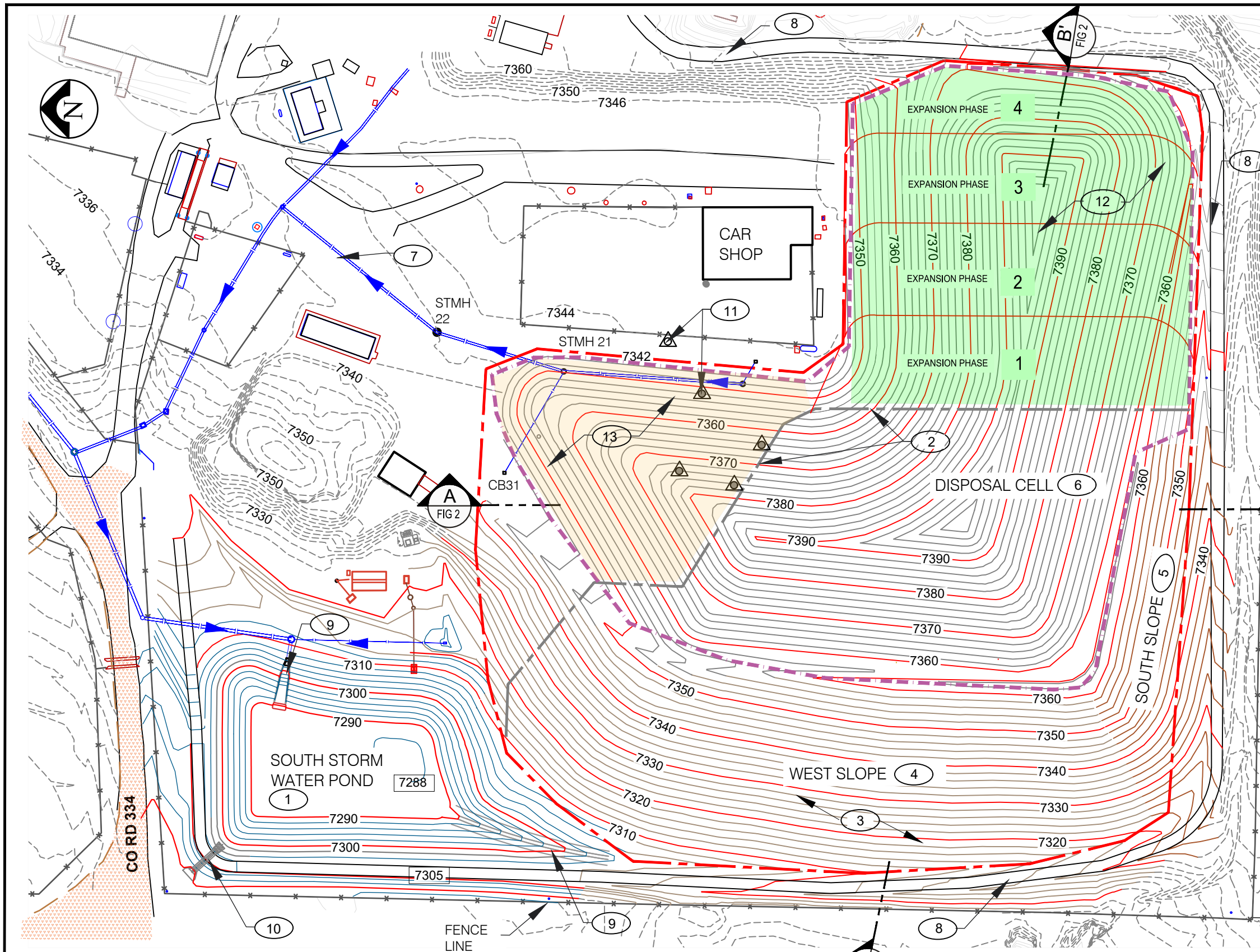
Table 1 presents the facility structure disposition, indicating the structures that RGR desires to retain for the requested PMLU update. It also indicates the structures that will be demolished. The table was patterned after Table 5.1 "Building List – Demolish and Retain" in the Active Mine Permit CI002RE, Revision 13-2.

The following is a list of facility components that are intended to be preserved, at a minimum, throughout the duration of closure activities. These components are required to remain in place to support abatement activities.

- Phase I Dewatering Wells (Pt Lookout, site potable water and NMED, DP-61 permit monitoring)
- Phase II Dewatering Wells (Gallup/Dakota aquifers, water supply)
- MWTU Ponds 2 and 3 (abatement discharge site)
- Abatement Wells (NMED, DP-61 permit monitoring)
- All other Groundwater Monitoring wells (NMED, DP-61 permit monitoring)
- Shafts (groundwater monitoring)
- Site Access roads (abatement and DP-61 site monitoring)
 - Entrance road
 - Roads between and around Service Building and Hoist House
 - Roads to Car Shop
 - Road to Electrical Building (site power and electrical)
 - Road to Water Tank
 - Road around WRP and SSWP

5 Implementation

Once the proposed changes are approved, RGR will commence its CCP activities under the new schedule. RGR will initiate plans for the disposal cell expansion under the same specifications used to construct the existing disposal cell. Construction of the disposal cell expansion will not proceed until NMED has granted approval. Until that time, RGR will proceed with CCP activities under the existing approved plan, incorporating the updated schedule and expanded disposal cell design when approved. It should be noted that no further removal of contaminated materials will occur until the disposal cell expansion is approved. Presently, there is no capacity remaining in the existing disposal cell to place these materials. RGR will proceed with other CCP activities that do not require placement in the disposal cell.



NOTES:

- 1 SOUTH STORM WATER POND WITH 2' THICK CLAY LINER
- 2 WASTE ROCK PILE AND DISPOSAL CELL AS OF DECEMBER 2019 - (11.5 ACRES)
- 3 WASTE ROCK PILE SLOPES = 5H TO 1V
- 4 WEST SLOPE = WASTE ROCK WITH 2' RADON BARRIER COVER SOILS.
- 5 SOUTH SLOPE = CONSTRUCTED WITH CLEAN SOILS
- 6 DISPOSAL CELL WITH 1' THICK CLAY LINER
- 7 STORM DRAINAGE PIPES, MANHOLES
- 8 SERVICE ROADS
- 9 CONCRETE CHUTE
- 10 OVERFLOW PIPES = 2 -24" DIA.CMP PIPES
- 11 LAGOON DEWATERING WELLS.
- 12 PROPOSED EXPANSION AREA (PHASES 1 - 4)
- 13 FILL OVER LAGOON AREA ONLY IF NEEDED (PHASE 5).

LEGEND

	SPOT ELEVATIONS
	EXISTING CONTOURS
	SOUTH POND CONTOURS
	WEST SLOPE CONTOURS
	SOUTH SLOPE CONTOURS
	10' INTERVAL CONTOURS
	DRAINAGE PIPES
	DISPOSAL CELL (CLAY LINED)
	WASTE ROCK PILE FULL BUILDOUT LIMITS = 19.3 ACRES

NOTE: SITE TOPOGRAPHY BASED ON SURVEY DATA BY CSTI. DISPOSAL CELL SURVEY PERFORMED ON DECEMBER 06, 2019. CONTOUR INTERVALS = 2' VERTICAL.



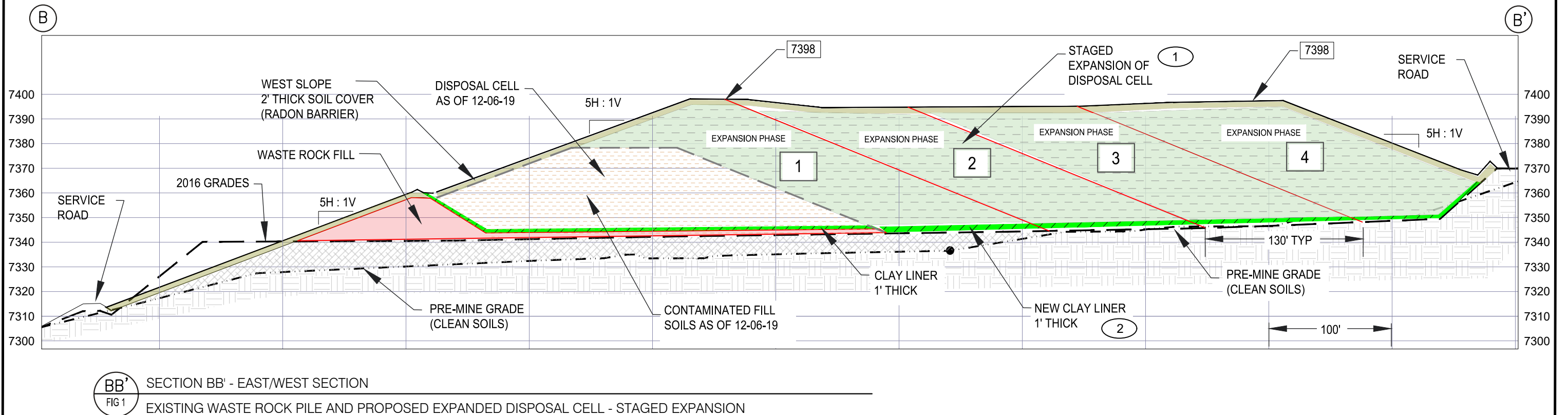
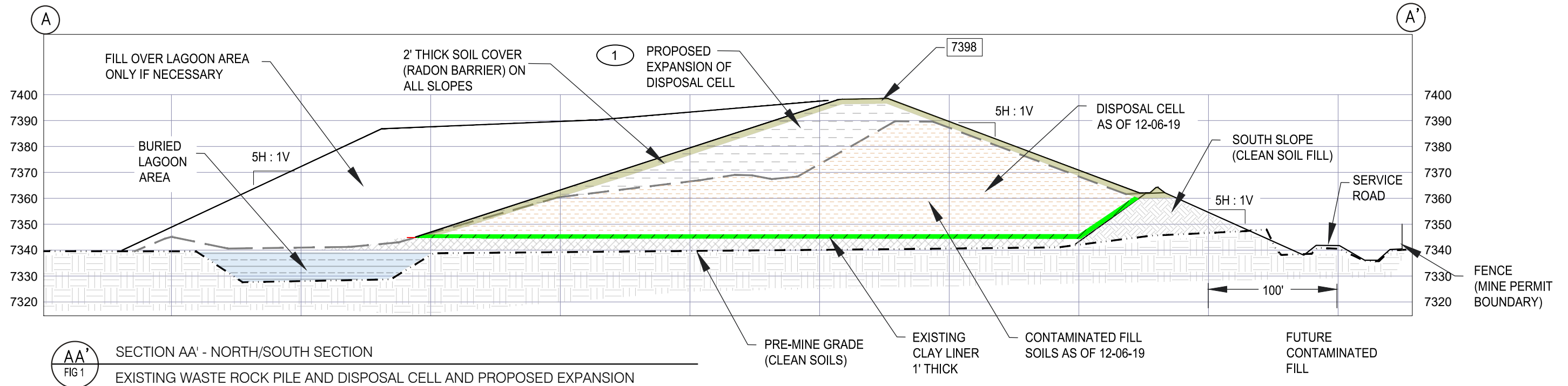
RIO GRANDE RESOURCES CORP.
MOUNT TAYLOR MINE - San Mateo, NM

Prepared By:
Alan Kuhn Associates LLC

SIZE: **B** SCALE: AS SHOWN
FIGURE 1

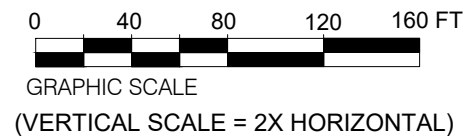
PROJECT TITLE: **MT. TAYLOR MINE CLOSEOUT/CLOSURE PLAN**

SHEET TITLE: **WASTE ROCK PILE AND DISPOSAL CELL (CONCEPTUAL FULL BUILDOUT)**



NOTES:

- ① PROPOSED EXPANDED SHAPE (SIZE AND HEIGHT) OF THE DISPOSAL CELL WILL VARY DEPENDING ON THE AMOUNT OF CONTAMINATED SOIL EXCAVATED FROM THE CLEANUP OF THE SITE.
- ② THE NEW CLAY LINER TO EXTEND ONLY AS MUCH AS NEEDED TO ACCOMMODATE THE AMOUNT OF CONTAMINATED SOIL EXCAVATED FROM THE SITE.



NOTE: SITE TOPOGRAPHY BASED ON SURVEY DATA BY CSTI. DISPOSAL CELL SURVEY PERFORMED ON DECEMBER 06, 2019.

 RIO GRANDE RESOURCES CORP. MOUNT TAYLOR MINE - San Mateo, NM		PROJECT TITLE: MT. TAYLOR MINE CLOSEOUT/CLOSURE PLAN	
		SHEET TITLE: PROPOSED EXPANSION OF WASTE ROCK PILE AND DISPOSAL CELL SECTIONS	
Prepared By: Alan Kuhn Associates LLC	SIZE B	SCALE: AS SHOWN Figure 2	

Table 1

Permit Revision 13-2 to Permit No. CI002RE

Mount Taylor Mine

APPENDIX B.

Table 5.1 Building List- Demolish and Retain

Building Name	Building Type	Disposition at Closeout		Disposition at Closeout	
		(2013 CCP)	(2013 CCP)	(2020 CCP Modification Request)	(2020 CCP Modification Request)
		Demolish	Retain for Owner PMLU**	Demolish	Retain for Owner PMLU**
Compressor Building	Steel frame and siding		X	X	
York Chiller (Chill Water) Building	Steel frame and siding		X	X	
Pump Building (Chill Water Pump House)	Steel frame and siding		X	X	
Chlorine Building	Concrete Block	X		X	
Shaft Heating Building	Steel frame and siding	X		X	
Glycol Heat Exchanger	Steel frame and siding	X		X	
Hoist House	Steel frame and siding		X		X
Cooling Tower	Steel frame and siding	X		X	
Guard House (Security Building)	Steel frame and siding		X		X
Fire Equipment Building (Fire House)	Steel frame and siding		X	X	
Service Building (Office and Warehouse)	Steel frame and siding		X		X
Car (Maintenance) Shop	Steel frame and siding		X		X
Carpenter Shop	Steel frame and siding		X	X	
Electrical Building	Steel frame and siding	X		X	
Water Treatment and Boiler Building	Steel frame and siding	X		X	
Core Storage Building	Steel frame and siding		X	X	
Fan Shop	Steel frame and siding		X	X	
Storage Buildings (2)	Steel frame and siding		X	X	
Flocculant Treatment Facility	Steel frame and siding	X			X
Barium Chloride Treatment Facility	Steel frame and siding	X			X

Table 1

Permit Revision 13-2 to Permit No. CI002RE

Mount Taylor Mine

APPENDIX B.

Table 5.1 Building List- Demolish and Retain

Building Name	Building Type	Disposition at Closeout		Disposition at Closeout	
		(2013 CCP)	(2013 CCP)	(2020 CCP Modification Request)	(2020 CCP Modification Request)
		Demolish	Retain for Owner PMLU**	Demolish	Retain for Owner PMLU**
Ion Exchange Plant	Steel frame and siding	X			X
Mo-Se Facility***	Steel frame and siding	X		X	
Portable building	Steel frame and siding	X		X	
Fuel Pump House	Steel frame and siding		X	X	
Access/Utility Tunnel	Concrete		X		X
Sanitary Treatment Plant	Concrete; steel	X		X	
Septic Tank and Leach Field	Various		X		X
Water Tank	Steel		X		X
Fuel Storage Tanks	Steel	X		X	
Other Facilities to Be Retained by Owner	Phase I Water Wells (For Water Supply)		X		X
	Phase II Water Wells (For Water Supply)				X
	Phase III Water Wells (For Water Supply)				X
	MWTU Pond 5 (For Water Supply)				X
	24- and 14- Foot Shaft Headframes (For Raptor Habitat)	X			X