October 15, 2025 Project No. 111360

Mr. Abimbola Ojekanmi
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Energy, Minerals and Natural Resources Department
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Mr. Corey Dimond
New Mexico Environment Department
Ground Water Quality Bureau
Mining Environmental Compliance Section
1190 St. Francis Dr.
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RE: **Deliverable Notice for Mount Taylor Mine Updated Closeout Closure Plan (email)**

Dear Mr. Abimbola Ojekanmi and Mr. Corey Dimond,

RGR respectfully submits the revised Closeout Closure Plan (CCP) for Mount Taylor Mine per Revision 22-1 Application, Permit No. C100RE.

If you have any questions, please call (970) 488-3111 or email me at mmeyer@enganalytics.com.

Respectfully Submitted,
**Engineering Analytics, Inc.**



Melissa Meyer
Project Manager, Mt Taylor Mine

cc: Mr. Clint Chisler, Senior Reclamation Supervisor MMD (email)
Ms. Anita Wilcox, Site Supervisor, RGR (email)
Mr. Kevin Raabe, President, RGR (email)

# Closeout/Closure Plan

# Mt. Taylor Mine

# Existing Mine Permit No. C1002RE

# Discharge Permit DP-61

*Prepared for:*

**Rio Grande Resources**

*P.O. Box 1150*

*Grants, NM  87020*

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Project No. 111360

October 15, 2025

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## ACRONYMS

| | |
|---|---|
| ACM | Asbestos Containing Material |
| ALARA | As Low As Reasonably Achievable |
| ALI | Annual Limits on Intake |
| BLM | Bureau of Land Management |

| | |
|---|---|
| BMP | Best Management Practices |
| CAP | Corrective Action Plan |
| CCP | Closeout/Closure Plan |
| DAC | Derived Air Concentrations |
| DCGL | Derived Concentration Guideline Limit |
| EA | Engineering Analytics |
| ERG | Environmental Restoration Group |
| FA | Financial Assurance |
| FHWA | Federal Highway Administration |
| FM | Formation |
| GWQB | Ground Water Quality Bureau |
| IAEA | International Atomic Energy Association |
| IL | Investigation Level |
| LNAPL | Light Non-Aqueous Phase Liquids |
| MARP | Mining Act Reclamation Program |
| MARSSIM | Multi-Agency Radiation Survey and Site Investigation Manual |
| MECS | Mining Environmental Compliance Section |
| MSGP | Multi-Sector General Storm Water Permit |
| MSHA | Mine Safety and Health Administration |
| MWTU | Mine Water Treatment Unit |
| NFM | North Force Main |
| NMAC | New Mexico Administration Code |
| NMED | New Mexico Environmental Quality Bureau |
| NMEI | New Mexico Environmental Institute |
| NPDES | National Pollutant Discharge Elimination System |
| NRC | Nuclear Regulatory Commission |
| NRCS | Natural Resources Conservation Service |
| NSWP | North Storm Water Pond |
| OSE | Office of the State Engineer |
| OSHA | Occupational Safety and Health Administration |
| PCMP | Post-Closure Monitoring Plan |
| PHC | Petroleum Hydrocarbons |

| | |
|---|---|
| PMLU | Post-Mining Land Use |
| PPE | Personal Protective Equipment |
| RCRA | Resource Conservation and Recovery Act |
| RGR | Rio Grande Resources Corporation |
| ROW | Right-of-Way |
| RPP | Radiation Protection Program |
| RSO | Radiation Safety Officer |
| RSPM | Radiation Safety Program Manual |
| RUSLE2 | Revised Universal Soil Loss Equation |
| RWP | Radiation Work Plan |
| S2AP | Stage 2 Abatement Plan |
| SSWP | South Storm Water Pond |
| STP | Sanitary Treatment Plant |
| SWPPP | Storm Water Pollution Prevention Plan |
| UAV | Unmanned Aerial Vehicle |
| USCS | Unified Soil Classification System |
| USFS | United States Forest Service |
| VTPP | Vegetation Test Plot Plan |
| WEPP | Water Erosion Prediction Project |
| WQCC | Water Quality Control Commission |
| WRP | Waste Rock Pile |
| WSP | Water Supply Project |
| WWC | Westwater Canyon |

# 1.0 INTRODUCTION

## 1.1 Background

Rio Grande Resources Corporation (RGR) owns and operates the Mt. Taylor Mine located at San Mateo, Cibola County, New Mexico. The mine is currently on active status under Permit No. CI002RE, Rev 13-2 (Mine Permit), approved December 29, 2017, by the New Mexico Mines and Minerals Division (MMD).

In 2022, RGR applied for a revision of its Mine Permit No. C1002RE (RGR, 2022) to include expansion of the Disposal Cell and provide an update of the updated Closeout/Closure Plan (CCP, Kuhn et al, 2013). The application for revision of the mine plan was submitted per 19.10.5.505 (NMAC, 2001a) and 19.10.7.701 (NMAC, 2001c).

The CCP is required by 19.10.5.506 and 19.10.5.507 NMAC (NMAC, 2001a) to describe the measures and estimated costs for reclamation of the mine site for the designated post-mining land uses at closeout/closure. This CCP was prepared following the guidelines presented in the Closeout Plan Guidelines for Existing Mines (MARP, 1996) that are part of the State of New Mexico Energy, Minerals and Natural Resources Department (EMNRD) of Mining Act Reclamation Program (MARP).

From 2022 to the date of this report, RGR and the various agencies have been working toward obtaining the updated C1002RE and Discharge Permit DP-61 (DP-61). As part of this ongoing process, RGR is submitting this update to the Closeout/Closure Plan (CCP) as requested in the three letters cited below:

1. April 25, 2025 titled "New Mexico Environment Department (NMED) Comments Round 3, Mt Taylor Uranium Mine Closure/Closeout Plan, Cibola County, New Mexico, Mining Act Permit No. CI002RE" the Mining Environmental Compliance Section (MECS) in the Ground Water Quality Bureau (GWQB) of the New Mexico Environment Department (NMED) (NMED, 2025b).
2. March 28, 2025, titled "3rd Comment Letter, Mt. Taylor Mine, Disposal Cell Expansion and Update of Closeout/Closure Plan, Revision 22-1, Permit No. CI002RE", the New Mexico Mining and Minerals Division (MMD) of the New Mexico Energy Minerals and Natural Resources Department (EMNRD) (NMED, 2025a).
3. April 25, 2025, titled "Request for Additional Information Round 3 Comments, Discharge Permit 61 Renewal and Modification Application, Mt. Taylor Mine, San Mateo, New Mexico," the Mining Environmental Compliance Section (MECS) in the Ground Water Quality Bureau (GWQB) of the New Mexico Environment Department (NMED) (NMED, 2025c).

The CCP was initially submitted in 1998 by RGR (RGR, 1998) as a revision to its existing Mine Permit No. C1002RE (RGR, 1994b) in accordance with the New Mexico Mining Act of 1993 (New Mexico, 2005), Section 69-36-1, Section 69-36-11B(3) and (4), and the New Mexico Mining Act Rules subparts 506.A and 506. B of 19.10.5 NMAC (NMAC, 2001a).

The NMED Water Quality Control Commission (WQCC), through 20.6.2.3107 A (11) NMAC (NMAC, 2018b), as enforced by the MECS of the GWCB, also required a CCP under (DP-61 (NPDES, 1979). DP-61 was initially approved in 1979, modified and renewed in 1984 (NPDES, 1984) and 1989 (NPDES, 1989), and amended to include a CCP in 1995. Both the Mine Permit and the DP-61 require reclamation of some of the mine facilities and financial assurance (FA) to cover the cost of such reclamation. Because the CCP and DP-61 have common elements and similar FA requirements, MMD and MECS agreed that RGR could submit one CCP, including one cost estimate that satisfies the requirements of both agencies, with MMD taking the lead in coordinating the regulatory review and approval process, RGR submitted its CCP for existing conditions applicable to the mine site during standby in July 2012 (RGR, 2012).

In April 2013, RGR submitted an updated CCP (RGR, 2013a) for the mine after returning to active status. Energy, Minerals, and Natural Resources Department (EMNRD)/MMD accepted the 2013 CCP revision (RGR, 2013b) and MMD approved and issued an active status permit (CI002RE, Rev 13-2) on December 29, 2017 (MMD, 2017). This updated CCP is for revision of the approved 2013 CCP (RGR, 2013b) to reflect the status of the Mine Permit.

The original Mine Permit CCP (RGR, 1998) and the DP-61 closure plan renewal (NPDES 1998) anticipated that the primary post-mining land use (PMLU) of the mine site and most facilities would be a water supply project (WSP). Although the WSP remains a feasible PMLU, the previous business agreements for the WSP have expired. Thus, the WSP was not included in either the 2012 CCP update (RGR, 1012) nor the 2013 CCP (RGR, 2013a, 2013b) update and is also not included in this revision of the CCP.

The mine remains in active permit status. However, in 2019, RGR decided not to return the mine to production and to begin some closeout/closure activities included in the 2013 CCP (RGR, 2013b), which is permissible under the Mining Act (New Mexico, 2005). Accordingly, this submittal has been prepared to revise the 2013 CCP (NMED, 2013b) to reflect the existing land disturbances and the mine facilities, both those already removed and those remaining. This CCP describes the measures that will be taken to reclaim the disturbed land for post-mining land use and to satisfy the requirements of relevant environmental standards.

The following sections contain a description of the mine site and mining-related disturbances (Section 2.0); PMLU and related ecosystems (Section 3.0); completed and pending closeout/closure measures to achieve the PMLU (Section 4.0); and environmental monitoring, environmental standards, and permits required for closeout/closure (Section 5.0). Section 6 addresses the CCP schedule. The updated cost estimate for closeout/closure of the mine is discussed in Section 7.0. The revised cost estimate will be completed and submitted 60 days after CCP approval.

## 1.2 Project Description

RGR owns and operates the Mt. Taylor Mine in Cibola County, New Mexico, Section 24, T13N, R8W, NMPM (Figure 1-1). The mine site is 1/2-mile northeast of the Village of San Mateo and is accessible from New Mexico State Route 605.

The mine facilities at the ground surface are shown in Figure 1-2. No mill was constructed nor operated within the permit area. Since 2020, RGR has removed some surface facilities for closeout/closure.

The existing Mt. Taylor Mine units were described in the Mine Permit Application of December 1994 (RGR, 1994b). The mine permit areas consist of the 4,006.7 acres (Figure 1-3), and the mine surface facilities are located on 285.6 acres, of which approximately 148 acres are disturbed land.

The disturbed land surface in the permit area consists of:

- Support (Service and Support) Facilities
- Mine Water Treatment Area
- Ore Stockpile Pad
- Existing Disposal Cell
- Storm Water Retention Ponds (2)
- Access Road

The existing facilities and those already removed as of October 2025 are shown in Figure 1-2b. Permits other than the Mine Permit are listed in Table 1-1. Detailed locations and descriptions of deep wells are shown in Figure 1-4 of this CCP.

An inactive Treated Water Discharge Pipeline extended 4.3 miles from the Mine Water Treatment Unit (MWTU) area to the outfall point in San Lucas Canyon north of the mine (Figures 1-3). RGR removed this pipeline in 2024 and 2025, and the disturbed areas are being revegetated in the fall of 2025.

A maintained gravel access road, NM 334, bisects the mine site. This is a state road and right-of-way, maintained by Cibola County, which provides public access to the west edge of the Cibola National Forest; it is not part of the Mine Permit area, but is an affected area. Any soils with levels exceeding the approved radium limit of 6.8 pCi/g will be removed during closeout/closure.

An adobe ruin remains on the small hill east of the south storm water pond (Figure 1-2b). This feature was not disturbed by, or used in, mining and will be left in place.

The Underground Mine Unit, consisting of the underground workings, shafts, and conduits, has no surface disturbance other than that included in the Service and Support Facilities Unit (shaft collars and connecting ventilation openings). The mine extracted uranium ore using room-and-pillar and stope mining methods. Mining was conducted on a single level (Westwater Formation ore horizon), approximately 3,100 ft below the surface. These mine workings were connected to two approximately 3,300-ft deep shafts via shaft stations. Several hydrostratigraphic units were penetrated by the shafts, requiring three sets (phases) of deep wells for local dewatering to access the ore body (Figures 1-4 and 1-5).

## 1.3 Project History

Prior to 1971, when Gulf Mineral Resources Corporation acquired the property, there was no mining within the permit area of the Mt. Taylor Mine. However, some disturbances for exploratory drilling and access roads were created before 1971.

### 1.3.1 Mine Development

The Mt. Taylor Mine was developed in the 1970's by Gulf Mineral Resources Company. Two, approximately 3,300-foot-deep mine shafts were constructed using traditional drill-and-blast methods with progressive liner construction to gain access to the ore zones. Shaft sinking began in 1976 and was completed in 1979. Once the shafts were completed, development drifting into the orebody began. During development, dewatering of the mine was accomplished by using a series of dewatering wells constructed in 3 phases.

### 1.3.2 Mine Production

Gulf started production in 1980, after the orebody was sufficiently developed. Production continued until September 1982, when the market price of uranium fell dramatically, resulting in the temporary cessation of production by Gulf. Mine pumps continued dewatering the mine during this shut-down period. Ownership was transferred to Chevron Resources Company in 1985 when the two companies merged. Chevron produced ore from the mine from 1986 to 1990, when it suspended mining of uranium ore, again due to low market prices for uranium.

The mine historically produced uranium using conventional underground mining methods from ore zones of the Morrison Formation at depths of more than 3,000 ft bgs. Approximately 675,085 tons of ore and approximately 698,000 tons of waste rock have been mined (RGR, 1994a). The ore was shipped off-site for milling. Overlying formations, including the water-bearing Dakota Sandstone, were penetrated by the shafts, but no mining of ore was conducted in those formations.

Waste rock from shaft sinking (shaft muck) and from mine development was placed in an on-site stockpile, located at the southwest corner of the waste rock pile. The shaft muck was found to meet the criteria of clean materials (radioactive components at or below background values, see Appendix D.1) and was subsequently used for the newly constructed disposal cell (2018).

The mine has not produced uranium since RGR purchased the property because of the continued low market price for uranium and the high cost of reactivation. Facility descriptions remain unchanged from those provided in previous renewals of this plan.

### 1.3.3 Mine De-Activation

Chevron Resources Corp. ceased mining activities at the Mt Taylor Mine in January 1990 due to low uranium market prices. RGR acquired the mine property in 1991 and maintained the mine in a ready status in anticipation of improving uranium market conditions.

### 1.3.4 Mine Permitting

RGR submitted its application for an Existing Mine Permit in December 1994, shortly after the New Mexico Mining Act was passed and the rules went into effect. The MMD approved the Mt.

Taylor Mine Permit No. CI002RE as an existing mine operation on July 28, 1995 (MMD, 1995). On December 18, 1998, the MMD approved the CCP and FA for the mine (MMD, 1998).

RGR submitted its first application for standby status of the Mt. Taylor Mine on March 25, 1999 (RGR, 1999). MMD approved standby status on October 7, 1999, under permit revision 99-1 (MMD, 1999). From 1999 to 2017, the mine was in standby status due to the depressed uranium market.

Anticipating recovery of the uranium market, RGR submitted an application in 2013 to revise the Mine Permit from standby to active status (RGR, 2013a; RGR, 2013b). Since December 29, 2017, the mine has been in active status. However, in 2019, RGR decided that the uranium market was not recovering sufficiently to justify resuming production of the Mt. Taylor Mine, so closeout/closure activities began.

### 1.3.5 Mine Water Pumping, Treatment, and Discharge

To gain access to the ore zones during mine development, dewatering (depressurizing) wells were drilled and operated in stages. The primary function of these wells was to reduce the water pressure on the shaft as it was constructed. Pumping water from these dewatering wells began in the early 1970's and ceased by 1978. Locations and descriptions of these dewatering wells within the mine area are shown in Figure 1-4. A typical geologic section and typical well construction are shown on Figure 1-5. Shallow monitoring wells were installed to track the effects on shallow water resources from the sewage lagoon leakage or the diesel spill contamination (Figure 1-6).

During mining operations in the late 1970's and through the 1980's, the mine was dewatered via underground pumps and piping. The water was pumped to the MWTU facility on the surface, where it was treated to reduce radium concentrations before discharge. The treated water was then discharged through a 24-inch diameter, 4.3-mile-long pipeline (Treated Water Discharge Pipeline). This pipeline mainly crossed private land, except for approximately a three-quarter-mile portion on US Forest Service land. The pipeline terminated at the outfall in San Lucas Canyon north of the mine (Figure 1-3). The water was discharged under the now terminated National Pollutant Discharge Elimination System (NPDES) Permit No. NM 0028100 (NPDES, 2016) from Outfall 001 into the San Lucas Canyon, an ephemeral stream. The discharged water flowed northward from the San Lucas Canyon and disappeared approximately 22 miles from the point of discharge after comingling with the San Miguel Creek drainage system. A study by RGR (RGR, 2013b, Appendix E) found that uranium levels in soil and groundwater downstream from the Outfall 001 are very low, below human health limits, indicating that previous mine water discharge has not contaminated the soil or groundwater. This information will be confirmed in future radiological studies by RGR.

Seven observation wells were installed for monitoring drawdown during the initial dewatering of the mine (Figures 1-4 and 1-8). Observation wells SM 24-89, SM 24-43, and SM 24-38 are in the mine area near the production shaft (Figure 1-4). One of these observation wells, SM 24-23E, is in the mine area near dewatering well DW-8. The three other wells are located outside of the mine area at locations shown in Figure 1-8. These observation wells have not been used since operations ceased in the 1980's. Water levels in the dewatering and observation wells are listed in Table 1-2.

## 1.4 Other Permits

RGR maintains several permits that are relevant to the closeout/closure of the Mt. Taylor Mine. In addition to the Mine Permit and DP-61, the other permits related to the mine are listed in Table 11.

The NPDES Permit No. 0028100 (NPDES, 2016) was terminated in 2021 because it was no longer required. The Mt Taylor Mine facility has not discharged through Outfall 001 since the early 1990's. With the mine site in closeout, RGR has no plans to discharge from the facility, and the discharge pipeline has been removed.

The Radioactive Material License SO043-14 (NMED, 2020) was terminated in 2021 because it was no longer required. The sources covered under the license were no longer needed and were disposed.

There are no stationary sources with potential emissions of regulated contaminants associated with closeout/closure activities, so there are no air quality permit requirements for closeout.

No other permits beyond those listed in Table 1-1 and those just discussed above are required for closeout/closure of the Mt. Taylor Mine.

# 2.0 SITE CHARACTERISTICS

## 2.1 Site Climate

The climate and air quality of the permit area are described in the Environmental Site Assessment (RGR, 1994a) and the Permit Application (RGR, 1994b). The climate is semi-arid, like most of the state, but the elevation (about 7,300 ft above MSL) and orographic effects of Mt. Taylor cause low winter temperatures and frequent high winds that impose some limitations on post-mining land uses and ecosystems. In particular, the climate of the site is not well-suited to crop production other than hay, but it has historically allowed livestock grazing. Rainfall is not sufficient to support forest within the area of the surface facilities, where most disturbance has occurred.

## 2.2 Site Geologic Setting Summary

The geologic setting of the mine has been described in detail in the Baseline Study prepared by New Mexico Environmental Institute (NMEI) in 1974 (NMEI, 1974) and the Site Assessment submitted in 1994 (RGR, 1994a). The following summary is derived from those, and other reports. The geologic section is illustrated in Figure 2-1.

The deepest geologic formation encountered in the Mount Taylor mine shaft is the Jurassic-age Morrison Formation. The Morrison Formation includes the following members, in ascending order: the Recapture Creek, the Westwater Canyon, and the Brushy Basin. Recapture Creek member occurs at a depth between 3,240-3,300 ft below ground surface (ft bgs) in the mine shaft pilot well. This member grades vertically into the overlying Westwater Canyon member. The Westwater Canyon member is variable in thickness owing to lensing and vertical gradations into both the Brushy Basin and Recapture Creek members. At the mine site, the Westwater Canyon is divided into Upper and Lower units by a persistent shale unit. The lower sandstone unit is about 60 to 70 ft thick, while the upper sandstone unit is approximately 100 ft thick in the mine shaft area. These two sandstone units contain most of the uranium ore reserves of the mine. The Brushy Basin member conformably overlies and interfingers with the Westwater Canyon member. It is approximately 80 ft thick and consists predominantly of shales and claystones at the mine shaft.

Between the ore-bearing Morrison Formation and the ground surface is a sequence of sedimentary units approximately 2,950 ft thick, starting with the Dakota Sandstone, which unconformably overlies the Brushy Basin. The Dakota is approximately 50 to 60 ft thick and is only slightly mineralized and not mined at the Mt. Taylor Mine. The Dakota conformably intertongues with the overlying Mancos Shale.

The overlying Mancos Shale, nearly 900 ft thick, is composed chiefly of dark-gray, calcareous, marine clay shale but does contain interspersed sandstone units. The lowermost portion of the Mancos Shale contains three sandstone units that have been referred to as the Upper, Middle, and Lower Tres Hermanos Sandstones. These sands are 72 ft, 45 ft, and 118 ft thick, respectively, at the mine shaft pilot well (McGlothin, 1972).

Above the Tres Hermanos Sandstones, the Manco Shale extends up to the base of the Gallup Sandstone at approximately 2,050 ft bgs. The Gallup Sandstone consists of two separate sandstone units separated by 130 ft of dark gray shale. Overlying the Gallup Sandstone is the Crevasse

Canyon Formation which includes, in ascending order, the Dilco Coal, the Stray Sand, the Mulatto Tongue of the Mancos Shale, the Dalton Sandstone, and the Gibson Coal. The Crevasse Canyon Formation is conformably overlain by the Point Lookout Formation.

The Point Lookout Formation is the basal unit of the Mesa Verde Group and it is typically encountered between 700 and 850 ft bgs at the mine site. In the vicinity of the mine, this unit is separated into two units by the Satan Tongue of the Mancos Shale. The upper unit, referred to as the Point Lookout Sandstone, is the main body, and it is typically 110 to 130 ft thick. The lower unit is the Lower Hosta Tongue, a transgressive marine beach sandstone that is between 80 to 100 ft thick. Both units merge along the southern margin of the basin to a combined unit approximately 250 ft thick. The Lower Hosta Tongue is of limited areal extent, pinching out 30 miles northeast of its outcrop. The Point Lookout Sandstone consists of a sequence of thick-to very thick-bedded, very fine-to medium-grained, locally cross-bedded sandstone. The Point Lookout aquifer provides the domestic water supply for both the mine and the Village of San Mateo.

The Menefee Formation is the uppermost geologic unit present at the mine. It forms uneven slopes around the mine and near the Village of San Mateo. The formation is composed of interbedded pale yellowish-brown silt stone, fine to medium grained sandstone, gray shale, carbonaceous shale, and thin coal beds. Its thickness at the mine shaft is approximately 767 ft (NMEI, 1974). Mine water treatment pond basins were excavated into the Menefee, and both the manway/vent and production shafts are collared in this formation.

Deposits of Quaternary age exposed in the area consist of unconsolidated talus, alluvial, and eolian sediments. Talus, landslides, and black lava blocks cover extensive areas on the slopes adjacent to the high basalt-covered mesas to the south, southwest, and east of the mine. Clay, silt, sand, and gravel alluvial lenses underlie the valleys, as well as the lower topographic slopes (NMEI, 1974).

## 2.3 Site Hydrology Summary

The hydrologic conditions of the mine and impacts from mining have been described in detail in the Baseline Study (NMEI, 1974) and the Environmental Site Assessment (RGR, 1994a). The following summary of the surface and groundwater hydrology from those reports and updates from more recent observations and studies is provided as the basis for proposed closeout/closure measures.

### 2.3.1 Surface Water

Two main surface drainage systems collect both bedrock seepage water and storm water run-off in the vicinity of the mine. The primary surface water course is San Mateo Creek, located one-half mile south of the mine. This perennial stream is fed with numerous springs in the San Mateo Canyon area but disappears into the stream bed approximately two miles beyond the Village of San Mateo. During spring peak run-off and after heavy rainstorms, the surface flow may occasionally extend for a brief period farther down San Mateo Creek. Surface water runoff within the permit area occurs only after heavy precipitation on or upstream from the site.

The second main drainage system is the Marquez Arroyo ephemeral steam, located immediately north of the mine. This deeply incised arroyo collects water during the infrequent heavy

rainstorms, but otherwise it is dry throughout the year. Low-flow springs are located at higher elevations feeding this drainage, but their total flow has never been large enough to be measurable at the mine's elevation. Marquez Arroyo flattens out, and surface flow dissipates into the alluvium about one-half mile west of the mine.

Constructed during mine development in the 1970's, diversion ditches and below-grade collection systems intercept and channel runoff originating on the site to storm water retention ponds where water is evaporated. These ditches replace three shallow ephemeral drainage courses that existed prior to mine development (Figure 2-2). Storm water originating directly on the mine site area is channeled into culverts and storm water pipes, which flow into storm water retention ponds and evaporates.

As part of site drainage upgrades completed during mine reactivation (2018):

1. Runoff from the service and support area previously directed into mine water treatment Pond #2 has been diverted into a replacement storm water collection system (re-constructed 2018) along the county road that discharges to the South Storm Water Pond (SSWP).
2. Runoff from the east and north slopes of the Waste Rock Pile now collects in a storm water collection system (Storm Drainage System) that discharges to the SSWP (Appendix A Drawing Sheet CL 14), which was completed in 2019.

The storm water runoff retention structures are designed to contain not less than the 100-year storm runoff and hold the water for evaporation. After closeout/closure, those diversion ditches and retention structures that support post-mining land use will remain in use for stock watering; otherwise, runoff will be re-directed to existing drainage courses that naturally would receive runoff from the site (Appendix A Drawing Sheet CL 14).

### 2.3.2 Groundwater

Aquifers and the groundwater conditions in the mine area are described in detail in the Baseline Study (NMEI, 1974), in reports (McGlothin, 1972), and Water Resources Report (Geohydrology Associates, Inc., 1994). The following summary of groundwater hydrology from those reports and updates from more recent observations and studies are provided as the basis for proposed closeout/closure measures. Aquifers capable of delivering substantial quantities of groundwater occur in some Cretaceous formations and in the Jurassic Morrison Formation, where the uranium ore bodies are found.

Several aquifers are intersected by the mineshafts and were affected by the mine dewatering. Groundwater from these strata was removed by pumping a series of dewatering wells during mine shaft advancement until 1978 (Figures 1-4 and 1-5) and then by underground mine pumps into 1990 to dewater the ore bodies. The underground mine pumps were shut off in June 1990, after mining operations were suspended, and the mine has subsequently flooded as groundwater levels recovered. The mine water has concentrations of uranium and radium that slightly exceed current drinking water standards (Table 2-1). Sampling in 2021 of several dewatering wells indicates water quality in the Cretaceous aquifers meets most New Mexico water quality standards.

The shallowest aquifer capable of sustaining a potable water supply in the mine area, the Cretaceous Point Lookout Sandstone, has a potentiometric surface at a depth of approximately 460 to 610 ft bgs, and the aquifer has a large flow potential (Table 1-2). The Village of San Mateo and the mine both have wells reaching depths between 650 to 1190 ft and are completed within the Point Lookout Sandstone. The quality of the Point Lookout aquifer generally meets the WQCC water standards with occasional exceedance of the fluoride standard and some low-level detections of petroleum hydrocarbon compounds (Table 2-2(b)). The mine began using this water in 1972, whereas the San Mateo village water well, located at 35° 19' 56.14" N, 107° 39' 02.53" W, was drilled in 1976 by Gulf and serves approximately 200 residents. Geologic cross-section indicates that the Point Lookout Sandstone is separated vertically from the surface and alluvium by over 650 ft of shale and sandy shale sequences (Figure 2-1) in the Menefee Formation, minimizing the possibility of any shallow Menefee or alluvial aquifer groundwater discharging to the Point Lookout aquifer.

The Environmental Baseline Study (NMEI, 1974) includes a list of other shallow water wells, most of which are clustered in and around San Mateo. Six wells (three hand-dug) are in the alluvium, less than 100 ft deep, and nine wells produce from the Upper Menefee Formation from 120 to 336 ft deep. Some of these wells may still be used for watering livestock, but several of them were abandoned when the Point Lookout water well was drilled for village use by Gulf.

The alluvial and shallow portions of the Menefee Formation are unconfined aquifer systems that yield small amounts of water in the local area. Water levels vary from 35 to 90 ft bgs. The alluvial sediments vary from 0 to 65 ft thick at the mine site. The Menefee Formation is typically over 750 ft thick and is comprised of interbedded shales, claystones, and sandstones, which provide a confining layer to the underlying Point Lookout Sandstone (Figure 2-1).

Perched groundwater occurs in some locations in the mine area. A discontinuous perched groundwater zone occurs at approximately 12-25 ft bgs, located within the Waste Rock Pile and paleochannels. Alluvial groundwater occurs at the alluvial/bedrock contact at approximately 45-60 ft bgs primarily in paleo-arroyos within the operational area of the mine and in shallow, low-volume saturated zones elsewhere in the Upper Menefee.

A geophysical study was conducted in 2020 (Willowstick, 2020) across the southern half of the mine site. This study concluded that preferential groundwater flow paths exist beneath the Waste Rock Pile and the operations area. The primary preferential groundwater flow paths identified in the study overlap the paleo-arroyo channels that were filled in as part of the mine site development. The study also identified several areas of perched water within the Waste Rock Pile. In late 2020, an additional site investigation was conducted, with installation of seven new monitor wells located in the preferential flow paths identified in the Willowstick study (Ensero, 2021b). These new wells were completed in water-bearing siltstones and sandstones within the Upper Menefee just below the alluvium/bedrock contact. One background monitoring well, MW 1C, was installed in the southeast portion of the mine site. Alluvial and Menefee monitor well locations are shown on Figure 1-6.

Recharge to the alluvial and Upper Menefee groundwater at the mine site comes from the Menefee Formation east of the mine site, historic seepage from a former sewage lagoon and meteoric waters that recharge occurs primarily through paleochannels from seeps and possibly springs along the (now) subcrop of Menefee sandstone beds that were covered when Gulf conducted extensive cut and fill of the mine surface during 1976-1980. The paleochannels were the drainage courses for discharge from those springs, as well as surface runoff from the mine site and the mesa above the mine site. Alluvial and Upper Menefee groundwater flows west to northwest through the mine site.

### 2.3.3 Site Conceptual Hydrogeologic Model

A site conceptual hydrogeologic model of the Mt Taylor mine site is presented that provides a synthesis of available site geologic and hydrologic information.

The deepest aquifer of interest with respect to the mine site is within the Westwater Canyon (WWC) member of the Morrison Formation (Fm). This aquifer occurs at a depth of approximately 3,100 to 3,200 ft bgs, is between 120 and 180 feet thick, and was the ore-bearing unit that was mined for uranium at Mt Taylor. The WWC aquifer can transmit large amounts of groundwater. During the dewatering of the mine from 1979 to 1990, the WWC aquifer produced water at sustained rates between 3,000 and 4,000 gallons per minute (gpm). Dewatering activities ceased in 1990.

Water level elevations within the dewatering wells are generally between 6,580 and 6,590 ft amsl. Based on potentiometric data collected from those wells, the ambient groundwater flow direction is to the northwest (Figure 2-3). Water levels within the WWC aquifer have largely recovered to pre-mining levels.

Water quality of the WWC aquifer typically exceeds secondary drinking water EPA standards for sulfate and TDS, and NMED WQCC standards for total radium. Because of its depth and water quality, and the fact that there are better, shallower alternative sources, the WWC is not considered a potable water supply in the local area.

The WWC lies between the Recapture Creek and Brushy Basin members of the Morrison Fm, both of which are considered aquitards in the area of the mine site because they consist predominantly of finer grained units of shales, claystones, and mudstones, with thin interbedded sandstones. Between the Morrison Formation and ground surface is a sequence of sedimentary units approximately 2,950 ft thick.

Directly above the Morrison Fm, is the Dakota Sandstone, approximately 50 to 60 ft thick. The Dakota Sandstone is considered a regional aquifer, although it is not used for water supply locally, primarily because of its depth of around 2,900 ft bgs. Overlying the Dakota Sandstone is the Mancos Shale. Within the lowermost portion of the Mancos Shale are three sandstone units collectively referred to as the Tres Hermanos. The Dakota Sandstone is separated from the overlying Tres Hermanos by a relatively thin (less than 15 ft) shale layer and from the underlying WWC aquifer by the shaley Brushy Basin Member. Water level elevations for the dewatering wells are generally between 6545 and 6725 ft amsl. Water level data suggest that the Dakota and Tres Hermanos aquifers, and possibly the WWC aquifer, may be hydraulically connected. Limited potentiometric data for the Dakota/Tres Hermanos aquifers suggests a south to southeasterly

groundwater flow direction (Figure 2-4), which is opposite to that of the WWC aquifer. However, the data may not be representative because many of the dewatering wells that are screened within the Dakota/Tres Hermanos aquifers are also screened across other aquifers.

Most of the Mancos Shale is characterized as a thick sequence of predominately marine shales. There is an approximately 550 ft section of Mancos Shale separating the Tres Hermanos Sandstones from the overlying Gallup Sandstone. The Gallup aquifer (which includes the Lower and Upper Gallup Sandstones) occurs from approximately 1,740 to 2,010 ft bgs at the mine shaft. The Mancos Shale interval provides a significant confining layer between the Tres Hermanos and Gallup aquifers. Pre-mining water level data collected from a shaft pilot well confirmed the hydraulic isolation between the Tres Hermanos and Gallup aquifers (McGlothin, 1972). There is insufficient data to estimate the potentiometric surface of the Gallup aquifer system (which includes the Lower and Upper Gallup Sandstones).

Overlying the Gallup Sandstone is the Crevasse Canyon Fm, which is approximately 690 ft thick at the mine shaft. The Crevasse Canyon Fm consists of the following units in ascending order (approximate depth encountered in the mine shaft in parentheses in ft bgs): Dilco Coal (1,720), Stray SS (1,640), Mulatto Tongue of the Mancos Shale (1,297), Dalton SS (1,138), and Gibson Coal (1,013). The formation is composed primarily of fine-grained sandstone, siltstone, and shale with coal present in the Gibson and Dilco Members. The sandstones within these units are typically fine-grained and are limited in areal extent but could potentially provide a localized water supply. The Gipson Coal is overlain by the Lower Hosta Tongue of the Point Lookout Sandstone. There are no dewatering or observation wells that are completed only within the Gallup Sandstone, or the Crevasse Canyon Fm, or any of its subunits.

The Point Lookout is typically encountered between 700 and 850 ft bgs. At the mine site, the Point Lookout aquifer is separated into two units by the Satan Tongue shale. The upper unit is the main body, commonly referred to as the Point Lookout Sandstone. The upper unit is typically 130 ft thick. The lower unit is the Lower Hosta Tongue, a transgressive marine beach sandstone that is approximately 100 ft thick. Testing in the mine shaft pilot well indicated relatively higher permeability within the Point Lookout aquifer. The Point Lookout provides a local water supply to the village of San Mateo and to the Mt Taylor mine. Water level elevations within the Point Lookout dewatering wells are between 6755 and 6880 ft amsl. Potentiometric data indicates a southerly groundwater flow direction for the Point Lookout aquifer (Figure 2-5).

The projection of the Point Lookout aquifer potentiometric surface through the shaft location is approximately 6,785 ft amsl. The water level elevation within the shaft (which is open to the WWC aquifer) is approximately 6,564 ft amsl. The potentiometric surface of the Point Lookout aquifer (Figure 2-5) is more than 200 ft higher than in the WWC aquifer (Figure 2-3) at the shaft location. No breeches or failures have been identified in the shaft where it penetrates the Point Lookout. The large difference in the potentiometric surfaces clearly indicates that the concrete shaft lining is effectively separating groundwater in the WWC aquifer from the Point Lookout aquifer.

Water quality of the Point Lookout is generally within NMED WQCC standards although there are local exceedances of fluoride. Additionally, petroleum hydrocarbons (PHCs) in the form of Light Non-Aqueous Phase Liquids (LNAPLs) and some dissolved concentrations were detected

in two of the dewatering wells (DW3 and DW10). Corrective actions have reduced dissolved concentrations to below NMED standards for all PHCs and removed the LNAPLs. Investigation into the source of those constituents is ongoing, and monitoring of the Point Lookout dewatering wells was conducted in the third quarter of 2025.

The Menefee Fm is the shallowest geologic unit present at Mt Taylor mine site and is found in outcrops and in the shallow subsurface. The Menefee Fm is typically greater than 750 ft thick and consists of interbedded siltstone, fine- to medium-grained sandstone, gray shale, carbonaceous shale, and thin coal beds. This thick sequence of relative low permeability sediments provides a confining layer to the underlying Point Lookout aquifer.

The shallow portions of the Menefee Fm yield small amounts of water in the local area. Water levels vary from 35 to 90 ft bgs. Potentiometric data indicates a generally west to northwest flow direction across the mine site within this hydrogeologic unit (Figure 2-6).

The alluvial sediments vary from 0 to 60 ft thick at the mine site and are typically located along drainages and within paleo-arroyos. Alluvial groundwater occurs locally as discontinuous, thin saturated zones at the alluvial/Menefee Fm contact at depths of 45-60 ft bgs within the operational area of the mine. A discontinuous perched groundwater zone occurs at approximately 12-25 ft bgs located within the Waste Rock Pile and paleochannels.

Groundwater impacts from mining have been identified within the perched, alluvial, and upper Menefee Fm groundwater systems. Additional field investigation and characterization to delineate the nature and extent of those impacts is planned for early 2026.

## 2.4 Mine Units

Mt. Taylor Mine was an underground mine, with the ore bodies present over 3000 ft bgs and supported by a surface facility. Refer to the Permit Application (RGR, 1994b) for details of the mine facilities. Ore was mined by conventional drill-and- blast methods, hoisted to the surface in ore skips via shafts, and transported offsite for milling.

A worst-case subsidence analysis was performed in support of the 1994 Permit Application (RGR, 1994b). Even with the assumed case of 100% extraction of ore, which would not be physically possible, no subsidence would reach the ground surface and would be limited to 300 ft above the mine workings. During previous mining operations, approximately 1.3 million tons of ore and waste rock were extracted from the ore bodies in the Morrison units.

Using best current practices of room-and-pillar mining with backfilling, subsidence would be limited to heights less than one room width above the room, leaving overlying aquifers and ground surface unaffected. Therefore, upon closeout, underground workings (the Underground Mine Unit) will be abandoned, and shafts plugged at the surface.

Mine units identified in the 2013 Mine Permit renewal application (RGR, 2013b) include the underground workings (referred to as the Mine Unit in the 2013 Mine Permit) and surface mine units that consisted of all activities at ground level needed for support of underground mining. These activities included:

- Hoisting of men, materials, and ore
- Ventilation and cooling of air for the underground
- Removal and treatment of mine water
- Disposal of waste rock
- Administrative, health and safety, and maintenance services
- Stockpiling and loading of ore for offsite milling

The location and identification of mine facilities are shown in Figure 1-2 and Figure 1-2b. Mine units are delineated primarily by function and secondary by location; there is some overlap in locations of the mine units. The mine units are described in the following sections and include:

- Underground Mine Unit (Section 2.4.1)
- Mine Dewatering and Mine Water Treatment Unit (Section 2.4.2)
- Service and Support Unit (Section 2.4.3)
- Low Grade Ore Stockpile and Ore Pad (Section 2.4.4)
- Waste Rock Pile and Disposal Cell (Section 2.4.5)
- Storm Water Ponds (Section 2.4.6)
- County Road (Section 2.4.7)

### 2.4.1 Underground Mine Unit

The facilities in this category, collectively called the Underground Mine Unit, consist of below-surface facilities - the two shafts and associated underground workings. The underground mine workings, including all drifts, stopes, haulage ways, and other openings for ore extraction are shown on Figure II of the Environmental Site Assessment (RGR, 1994a). These underground workings follow the ore body at depths of 3,100 to 3,200 ft bgs.

The Mt. Taylor Mine has two shafts, the production shaft (24-foot diameter shaft) and a manway/ ventilation shaft (14-foot diameter shaft). In addition, two 10 ¾ -inch I.D. utility conduits (pipes) extend from the ground surface to the mine level. The shafts and conduits penetrate all the geologic units and aquifers described in Sections 2.2 and 2.3.

The conduits are steel casings/pipes, grouted in place. The conduits are 11.5 inches O.D., cemented in place in 12.5-inch diameter boreholes through the entire length of 3,100 ft (north conduit) and 3,200 ft (south conduit). The annulus between the steel casing/pipe and the bore hole is cement grouted. The grout isolates the conduit from all aquifers except the Westwater at the mine level. As previously requested by MMD and approved in the Mine Permit, the entire length of each conduit will be grouted closed during closeout/closure.

Both shafts have slip-formed, cast-in-place concrete liners from collar level to mine level. The liner thickness increases with depth, from 1 ft at the sub-collar level to 3 ft at the mine level. The rock/concrete contact is pressure-grouted through the water-bearing sections from the Point Lookout aquifer to the shaft stations at mine level, isolating the shafts from the aquifers above mine level and the aquifers from each other.

The hydrologic isolation of the shafts and the mine water from the Point Lookout aquifer is demonstrated by the difference in static water levels between the shafts and the Phase I dewatering wells that are completed in the Point Lookout aquifer (Table 1-2). Water level data have been routinely measured at four Phase I wells since 2023. Potentiometric surface maps developed from that data (Figure 2-5) indicate that the water level elevation of the Point Lookout aquifer is approximately 6,835 ft above mean sea level (ft amsl) at the manway shaft and approximately 6,785 ft amsl at the production shaft. The water level elevation within the production shaft is approximately 6,564 ft amsl, or about 220 feet lower than the water level elevation in the Point Lookout.

Dewatering operations ended around 1990. Water levels within the Point Lookout wells and within the production shaft have stabilized following recovery since dewatering ended 35 years ago. The water level being over 200 ft lower in the production shaft than the Point Lookout aquifer indicates that there is no discernible hydrologic connection between the mine water (Morrison/ Recapture/Westwater) and the Point Lookout (Table 1-2). If a connection existed between the shafts and the Point Lookout aquifer, water levels in the mine shafts would be similar to those in Point Lookout. The isolation of mine water from the Point Lookout is also evident from the differences in water quality between the mine water (Table 2-1) sampled from the production shaft and the Point Lookout water (Table 2-2) sampled from DW-2a.

### 2.4.2 Mine Dewatering and Mine Water Treatment Unit

#### 2.4.2.1 Mine Dewatering Wells

The mine facilities included deep dewatering wells for removing water from the mine, a MWTU, and a Treated Water Discharge Pipeline. During initial mine operations, water was pumped from up to 22 deep dewatering wells to dewater the mine. These wells are located concentrically around the shafts, as shown in Figure 1-4 and listed in Table 2-3.

When the mine was operating, these facilities were used to pump, treat, and discharge up to 7,200,000 gallons per day. However, during mine standby and the more recent active status period (2018-2019), no mine water was discharged, and these facilities were not in operation.

#### 2.4.2.2 Mine Water Treatment

The MWTU is regulated under DP-61, which was originally approved on July 20, 1979, and subsequently renewed every five years hence. DP-61 is in the process of timely renewal concurrently with RGR's application for renewal of the Mine Permit.

The MWTU covers 28 acres of land surface within the Mine Permit boundary. The mine water treatment unit included the water treatment equipment and buildings (Ion Exchange plant, flocculant treatment, and barium chloride treatment facilities), as well as the ponds, which had an original combined capacity of approximately 62 acre-feet (RGR, 2013b).

In the 1970's and 1980's, when the mine was operating, the mine water was treated in the MWTU to remove low concentrations of uranium and radium so that the treated water met human health standards (NMAC, 2018a). Treatment consisted of sediment settlement assisted by flocculation

and precipitation of radium using barium chloride. An ion exchange (IX) circuit for removal of uranium was constructed but never placed into full operation because the uranium concentrations of the mine water were below the groundwater standard (0.05 mg/L) in effect at that time. The IX circuit was run only in an initial test mode; it was not subsequently used for uranium removal.

Mine water was first treated with flocculant before being released into Pond #1. Mine water then flowed from Pond #1 through Ponds #2 and #3, where settling of suspended solids occurred. The settled mine water then flowed from Pond #3, through the barium chloride mixing facility, and into Pond #8. From Pond #8, the treated water flowed into Pond #4, then into Pond #5. Through the addition of barium chloride, barium precipitation was induced (barium-radium-sulfate co-precipitation) as the mine water flowed through these three ponds. After barium precipitation in Pond #5, the treated water flowed into Ponds #6 and #7 before release to the discharge pipeline.

From Pond #7, treated water was pumped through a 4.3 mile long, 24-inch diameter discharge pipeline and discharged to San Lucas Canyon (Figure 1-3) under authority of NPDES Permit No. NM0028100. The pipe, all constructed above-ground, consisted of 1/4 to 3/8-inch thickness steel sections, welded in the field.

The MWTU was upgraded during the mine reactivation period (2018-2019), after the Mine Permit was revised to active status. During this time, MWTU Ponds #2 and #3 were enlarged in 2019 and 2018, respectively; existing hydraulic structures were refurbished, new concrete spillways were constructed at the inlets, and double-membrane high-density polyurethane (HDPE) liner systems were installed according to DP-61. Both ponds were enlarged for increased storage capacities (Table 2-4). Excavated contaminated soils generated during the reshaping activities were placed in the disposal cell.

MWTU Pond #3 is being used to retain and evaporate contaminated water and fluids generated around the site, including groundwater from abatement activities, surface water runoff collected from containment structures, monitor well purge water generated from sampling, and wash water generated on site from equipment and materials decontamination. MWTU Pond #2 is not regularly in use; it serves as backup storage in case MWTU Pond #3 becomes filled to capacity. A shallow pool of clean water is maintained in MWTU Pond #2 to preserve and maintain the liner.

MWTU Ponds #2 and #3 will remain in place until groundwater abatement objectives have been achieved, and site decontamination activities are no longer required. These ponds were constructed as below-grade basins excavated into native rock and soil. When no longer needed, these two ponds will be reclaimed. The sediments contained on the liners will be removed and placed in the disposal cell. The hydraulic structures and liners will then be removed and placed in the disposal cell. The berms will be pushed in, and the ponds backfilled and regraded to meet final grading contours (Drawing Sheets CL 07A and CL 08). The pond areas will then be re-vegetated according to Appendix F.

MWTU Ponds #1, #4, #5, #6, #7, and #8 were excavated in 2019, during the reactivation phase, to remove contaminated sediments and soil, which were subsequently placed in the disposal cell. These ponds were not relined and never put into use during active status because RGR initiated closeout/closure activities before those ponds were re-constructed.

Demolition of the MWTU pond hydraulic structures has been initiated, with completion anticipated by 2026.

Once the disposal cell expansion is approved, RGR will complete cleanup and reclamation of MWTU Ponds #1, #4, #5, #6, #7, and #8. After these six ponds are demonstrated to be clean, the berms will be pushed in, and the ponds backfilled. These six ponds will be regraded to meet final grading contours during closeout (Appendix A Drawing Sheets CL 07A and CL 08).

### 2.4.3 Service and Support Unit

The Service and Support Unit includes all surface facilities other than mine water treatment and mine waste rock disposal. The location and identification of these facilities are shown in Figure 12b and listed in Table 4-2

Service facilities are those units at ground surface that supported the overall mine operation but do not provide direct support for underground operations. These units provided site access control, administrative services, personnel and sanitary services, warehousing and storage, maintenance and repair, water and power utilities. The facilities include the guard house, fire equipment building, service building, car shop, carpenter shop, electrical building, water treatment building, storage building, core storage building, water tanks, fuel storage tanks, fan shop, septic tank, leach field, and water wells for water supply to the mine.

Support facilities are those facilities at ground surface (above the shaft collars) that had a direct function in underground mining operations. These support facilities supplied air for ventilation; pumping water from the underground space; cooling and heating of underground air; and hoisting of personnel, materials, and ore to and from the underground mining levels. The mine support facilities included the compressor building, chiller building, cooling towers, chiller pump building, shaft heating buildings, hoist house, headframes, and the exhaust fan structure.

An electrical substation is located on the north side of the service and support facilities area. This substation is owned by the Continental Divide Electrical Cooperative and Public Service of New Mexico and is not subject to regulation under the Mine Permit. However, because the substation has some contamination from fugitive dust, it is an affected area and will be cleaned up during closeout/closure.

### 2.4.4 Low Grade Ore Stockpile and Ore Pad

The ore stockpile covered 6.8 acres and contained approximately 60,000 tons of low-grade ore. The ore stockpile has been removed, and the ore has been trucked to the White Mesa uranium mill in Utah. The chemistry of the ore in the stockpile is represented by the test results in Appendix D.3.

In the previous version of the CCP, a new 10-acre ore pad was to be constructed with a liner, truck wash, and runoff collection system as described in RGR, 2013b. These improvements were never constructed and are no longer proposed at the site.

As part of closeout, the surface soils currently in the ore pad will be removed to eliminate any soil contamination from the ore stockpile. Contaminated soils in the ore pad will be placed in the disposal cell. This is described further in the Earthwork Section 4.4.3.

### 2.4.5 Waste Rock Pile and Disposal Cell

This mine unit consists of the original Waste Rock Pile (WRP) and the disposal cell within and adjacent to the original WRP footprint that contains radiologically contaminated materials that have been, and will be, removed from other locations. The WRP and disposal cell constitute the permanent repository for radiologically contaminated materials of the Mt Taylor Mine and affected areas.

The original WRP is comprised of the waste material generated from previous mining and development activities. The disposal cell is a distinctly separate structure constructed above and adjacent to the original WRP. The disposal cell is a clay-lined cell intended to be the repository for all newly generated site waste. The purpose of this clay liner, along with its engineered cap, is to reduce surface water from infiltrating the contaminated materials within. By reducing surface water infiltration, leaching and mobilization of contaminants is minimized, thus protecting the public and the environment.

The existing WRP was reshaped during the mine reactivation period (2018-2019) and occupies 11.5 acres in the southwest corner of the surface facility area. Upon resuming mining operations, waste rock was to be placed on this pile until it reached the maximum build-out configuration. The WRP contains waste rock (rock with uranium content below economic value), excavated during mine development and production, from non-ore bearing formations or below-ore- grade rock in the mine.

The mound of material previously located at the southwest corner (before 2018) was shaft muck excavated from strata above mine level, making its radionuclide content essentially background level. The shaft muck pile was reshaped into the south sloping berm of the current WRP and disposal cell during the 2018 reconstruction period.

The WRP also contains a variety of non-rock waste from the mine such as rock bolts, timbers, ventilation bags, pipes, and other mine-related debris. These materials occur randomly throughout the pile. Waste rock removed from underground mines typically includes non-rock materials that are hoisted with the rock and remain mixed with the rock when placed in the WRP. At the Mt. Taylor Mine, this mixture has been in place for up to 37 years with no visible evidence of settlement.

Non-rock waste (site debris and scrap materials) generated during closeout/closure will be placed in the disposal cell in a controlled manner to minimize potential for settlement. This material will be placed in lifts and either covered with soil and compacted after each lift or flooded with soil/cement slurry to fill voids. The Expanded Disposal Cell Design report will discuss how potential settlement issues will be addressed at the site.

### 2.4.6 Storm Water Ponds

Two runoff retention ponds, the north storm water pond (NSWP) and the south storm water pond (SSWP), capture and retain runoff from areas of the mine surface that contain ore or waste rock (Figure 1-2). The NSWP is also referred to as the ore pad runoff retention pond.

The NSWP (0.9 acres), located between the ore stockpile pad area and the mine water treatment area, retains runoff from the ore pad and holds it until it evaporates. The NSWP will be remediated as part of closeout, once the disposal cell expansion is approved and after the ore pad is removed.

The SSWP was reconstructed in 2018 to its current size of 2.67 acres (Kuhn, 2019) increasing the capacity sufficiently to hold the runoff of two 100-year storm events. The SSWP retains storm water from the existing WRP and the service and support facilities and will remain as part of PMLU after closeout/closure to retain and evaporate site runoff.

During reactivation (2018), the sediments and contaminated soils in the SSWP were excavated and placed in the disposal cell. Once cleaned, a 2-ft thick clay liner was installed over the floor and sides (Kuhn, 2019). Subsequent runoff from the mine facility has introduced new contaminated sediment onto the pond floor, as anticipated. Once closeout/closure is completed, these newly deposited contaminated sediments will be excavated and placed in the disposal cell.

Along with reconstruction of the SSWP during mine reactivation (2018-2019), the mine facility runoff that formerly flowed to MWTU Pond #2 was rerouted via reconstructed and new storm water pipe system to the SSWP. At this time, all mine facility storm water runoff has been diverted to the SSWP, including the catchment of storm water runoff from the disposal cell. Upon closeout/closure, this runoff will continue to be diverted to the south storm water pond.

All contaminated soil from the cleanup of both ponds will be placed in the disposal cell.

### 2.4.7 County Road

County Road 334 (County Road), also known as the Access Road, is a public gravel road and right-of-way, totaling approximately 4.7 acres, maintained for the State of New Mexico by Cibola County, that provides access to the west edge of the Cibola National Forest; it is not part of the Mine Permit area, and not subject to closeout. However, contaminated soil along the County Road corridor will be removed and the road surface restored during closeout/closure.

# 3.0 POST MINING LAND USE

## 3.1 Factors in Selection of Post-Mining Land Use

In selecting post-mining land uses (PMLUs) for the permit area, RGR considered many factors. These included:

- Technical feasibility
- Economics
- Land ownership
- Current and possible future surrounding land uses
- Public interests
- Site resources and ecosystems
- Environmental impacts and standards

*Technical feasibility* - No PMLUs were considered for which necessary technology does not presently exist.

*Economics* - This factor consists of two parts, economic feasibility and economic compatibility. A PMLU should have net positive economic returns (returns at least equal to costs). The net returns can be in the form of revenues, cost savings, or any combination of these. The PMLU should work positively within the local economy, either by improving it or helping to sustain it.

*Land Ownership* - RGR controls, either through direct ownership or through leases with landowners, the permit-area surface listed in the Permit Application. RGR owns the surface land in the E-1/2, Section 24, T13N, R8W, containing the mine facilities, apart from a wedge-shaped portion of land around the SSWP, which is leased by RGR.

*Current and possible future surrounding land* - The surrounding lands have been used for livestock grazing and small-scale logging for several generations, and these uses are expected to continue in the foreseeable future. The Cibola National Forest to the east provides several recreational, commercial, and cultural uses available to the public. The selected PMLUs should be consistent and compatible with surrounding land uses but need not be the same uses.

*Public interests* - The San Mateo community has a strong cultural heritage and places great value on its rural, independent lifestyle. PMLUs that would require substantial new infrastructure or impose demographic changes were avoided to reduce the chance for negative impacts to the community.

*Site resources and ecosystems* - RGR examined the resources of the site other than the uranium ore, especially those already disturbed by mining, to identify which ones have potential for productive use after mining. Site resources include both natural and man-made attributes of the site. Water removed from the mine and some mine surface facilities are resources that have potential use after mining operations. Reclamation should restore the pre-mining ecosystem to the extent consistent with the PMLU(s).

*Environmental impacts and standards* - Potential PMLUs should limit land disturbance or, preferably, contribute to mitigation of mining disturbances. Each PMLU must be able to meet standards for air and water protection established by NMED and federal agencies as applicable.

## 3.2 Potential Post-Mining Land Uses

Using the factors described above, RGR identified the following potential PMLUs:

- Livestock grazing
- Wildlife habitat
- Commercial or government facilities

*Livestock grazing* as a PMLU is consistent with surrounding and historical land uses and local public interest. It is also consistent with the wishes of those land surface owners who have expressed a preference. This use will be facilitated through covering of the WRP and mine water treatment ponds, final grading of disturbed surfaces, and revegetation. This PMLU could coexist with or next to the other potential PMLUs and would restore the pre-mining ecosystem.

*Wildlife habitat* is consistent with surrounding lands uses and community values. It is readily implemented with the same measures used for establishing livestock grazing.

*Commercial or government facilities* would make use of some existing mine buildings and infrastructure, all in usable condition, for services, manufacturing, storage or wholesale/ retail sales, providing a center for employment in the San Mateo area. This use is consistent with a municipal/ industrial water supply or livestock grazing PMLU but is not compatible with wildlife habitat. The mine surface facilities include office, warehouse, and maintenance facilities that could be used by other mining operations in the area or by land management agencies such as the Bureau of Land Management and the US Forest Service. Although located away from main transportation routes and in a thinly populated area, the mine facilities could attract light industrial business.

## 3.3 Selected Post-Mining Land Uses

For the purposes of this CCP, RGR has selected grazing and light industrial as the primary PMLU and the basis of the cost estimate for financial assurance. RGR intends to utilize the selected buildings (retained for PMLU, Table 4-2 and Figure 1-2b) for its continued business operations in New Mexico and focus on maintaining a continued presence at the Mt Taylor facility. The buildings and facilities will provide for storage and maintenance of its equipment, as well as office space for RGR's site personnel and current and future business opportunities, including light industrial. The equipment will be used to maintain the PMLU facilities (water wells, grazing endeavors, other business potential).

### 3.3.1 Grazing

As stated in the Mine Permit Application (RGR, 2022a), prior to the development of the mine, the site was used for grazing by generations of the same families. Specifically, the surface owners have grazed livestock on, or expressed this preference for, the following areas:

- Portion of NE 1/4, Section 24 - This is the northerly portion of the mine surface area, containing the Mine Water Treatment Unit as well as the county road right-of-way. RGR is the surface owner of this tract. This land has been grazed historically so the non-excluded parts of this surface will be returned to grazing as the PMLU.
- Portion of SE 1/4, Section 24 - This is the southerly portion of the mine surface area as well as undisturbed land south of the mine facilities. It contains most of the surface support and mine support facilities and the WRP. RGR is the surface owner of all but a wedged-shaped portion of this tract (see bullet point below).
- Northwest Portion of SE 1/4, Section 24 - This triangle of land, about six acres owned by others, is the surface presently occupied by part of the WRP and the adjacent storm water retention pond. A land swap agreement to transfer title of this land to RGR is anticipated. This triangle of land would be included subsequently with the rest of the SE 1/4 of Section 24. The SSWP will be retained as a stock tank, and the remainder of the area will be converted to grazing except for the WRP, which will be fenced to exclude grazing.

### 3.3.2 Commercial or Government Facilities

The existing service and support facilities are multiple-use buildings that support office, warehouse, and maintenance/repair activities. Some buildings and facilities will be left in place for PMLU in support of agricultural and future commercial activities. As a landowner, RGR desires that the facilities designated on Table 4-2 and shown on Figure 1-2b, plus the water supply wells indicated on Figure 1-4, remain in place for PMLU.

### 3.3.3 Facilities Retained for PMLU

The following facilities will remain in place for PMLU:

- Guard House (Security Building)
- Septic System (Septic Tank, Leach Field and piping)
- Dewatering Wells # 2A (domestic use well), 3, 6 (site water use), 10,11, 14 and 19
- Water Tank
- Service Building
- Electric Building
- Hoist House (for warehouse and equipment storage)
- Access/utility Tunnels (water, electric supply and other utilities to the PMLU facilities)
- South Storm Water Pond
- Storm Drain System
- MWTU Ponds #2 and #3 (until groundwater abatement per DP-61 is completed)

These facilities are listed on Table 4-2 and shown on Figure 1-2b and Figure 1-4.

### 3.3.4 Radiological Levels for PMLU

Preliminary surveys performed in the habitable buildings designated for PMLU have indicated that radioactive contamination does not exceed the Nuclear Regulatory Commission (NRC) Regulatory Guide 1.86 (NRC, 1974) criteria for unrestricted release (Table 3-1). A final radiological characterization survey will be conducted before mine closeout/closure is complete to determine whether contamination has spread into these facilities during closeout/closure activities at levels

that exceed the NRC Regulatory Guide 1.86 criteria. Areas that exceed the criteria will be decontaminated to levels that do not exceed the unrestricted release criteria.

## 3.4 No Waiver from Self-Sustaining Ecosystem or Post-Mining Land Use

RGR is not seeking a waiver from a self-sustaining ecosystem or post-mining land use (19.10.5.506C, 507B; NMAC, 2001a). RGR is proposing livestock grazing as the primary PMLU, with wildlife habitat as a natural and compatible use inevitably associated with livestock grazing. Once vegetation is re-established on the portions of the site not used for other purposes, grazing should be sustainable as it has been in this area for many generations. The WRP area will be fenced and restricted from grazing so that a self- sustaining ecosystem can regenerate on fill slopes without interference from livestock.

Commercial or government use of the service and support structures to be left in place, are additional PMLUs that will provide valuable infrastructure for sustainable economic opportunities for the San Mateo community and for RGR's continued business endeavors in New Mexico.

# 4.0 DESCRIPTION OF CLOSEOUT/CLOSURE ACTIVITIES

RGR's mine reactivation program, initiated in January 2018 and suspended in December 2019, was structured in four sequential phases:

- Phase 1 – Environmental Upgrades
- Phase 2 – Water Treatment Facilities Upgrades
- Phase 3 - Dewatering and Water Treatment Reactivation
- Phase 4 – Underground Facilities Reactivation

The scope of Phase 1 was focused on environmental clean-up and environmental upgrades identified in the Revision 13-2 of the Mine Permit (RGR, 2013b) and set as priorities in the Implementation Plan of DP-61.

Phase 1, initiated in 2018, was planned to include activities that were equally necessary for both reactivation and closeout/closure. Phase 1 was substantially completed by December 2019 and included (Kuhn, 2019):

1. Reshaping and flattening the west and northwest slopes of the WRP to 5H:1V grades.
2. Constructing the south and west berms of the disposal cell.
3. Constructing the disposal cell clay liner.
4. Excavating radiologically contaminated sediments and soils from all MWTU pond basins and placing material in the disposal cell.
5. Reshaping of MWTU Ponds #2 and #3 and upgrading their associated hydraulic control structures.
6. Reshaping and lining the SSWP and installing hydraulic control structures.
7. Installing double HDPE liner systems in MWTU Ponds #2 and #3.
8. Leak testing and commissioning of MWTU Ponds #2.
9. Upgrading and extending the surface water drainage system.
10. Constructing the new septic system.
11. Installing the North Force Main.
12. Began removing ore from the low-grade ore stockpile to an off-site licensed facility at MMD and NMED direction.

The Phase 1 work started in January 2018 with the preparation of construction bid documents. Earthwork began in May 2018, focused on reshaping the WRP and SSWP, reconstruction of the stormwater drain system, initial construction of the disposal cell and reconstruction of MWTU Pond #3. Phase 1 construction work was substantially completed by the end of December 2019 and was addressed in supplemental reports of closeout/closure construction in 2020 and later.

Removal of the ore pad was the only Phase I activity not initiated before the end of 2019. This activity could not begin until all the low-grade ore on the pad had been removed. Ore pad removal was completed in April 2022. Removal of the ore pad material is pending approval of the disposal cell expansion.

After RGR made its decision to begin the closeout/closure process of the mine, work related solely to mine reactivation in Phases 2, 3 and 4 ceased. RGR continues to conduct closeout/closure activities under its active status permit. Many activities, such as earth moving and facility removal, are suspended until approval is granted to expand the disposal cell. Expansion of the disposal cell is necessary as the existing and approved 11.5-acre disposal cell has been filled to near-capacity by the volume of contaminated sediments and soils excavated from the MWTU ponds (Ponds 1 through 8) during Phase I.

The following sections describe the closeout/closure practices (Section 4.1), activities completed by October 2025 (Section 4.2) and activities remaining to be completed (Section 4.3).

## 4.1 Closeout/Closure Practices

For Phase 1 and subsequent closeout/closure activities, Best Management Practices (BMP) were followed and will be followed, including "Best Practice in Environmental Management of Uranium Mining", IAEA Nuclear Energy Series NF-T-1.2. (IAEA, 2010), and Federal Highway Administration (FHWA) Best Management Practices for Erosion and Sediment Control FHWA-SLP-94-005 (Roberts, 1995). Technical specifications for some measures, as appropriate and as previously provided in the CCP, are contained in Appendix C. Future technical specifications of closeout/closure measures will be provided as part of submitted work plans or design sets. Select closeout/closure measures are illustrated in the drawing sheets contained within Appendix A Drawing Sheets CL 05, CL06, CL 07A, CL 07B, CL 08 and CL 14.

All contractors using heavy equipment, trucks, and other materials involving fuel, lubricant, solvents or capable of collecting and transporting solid contaminants will be refueled, serviced, washed, and parked in a specified area. This area will be located by the contractor and approved by RGR. The area will include a temporary wash facility with a temporary liner and water collection system. Alternatively, a temporary decontamination area will be set at the concrete wash-bay adjacent to the production shaft, unless and until it is scheduled for removal under closeout/closure. Wash water will preferentially be transported to MWTU Pond 3 and evaporated or evaporated at the temporary decontamination site. Residues from evaporated water will be removed for disposal, either temporarily stored for placement in the disposal cell or offsite in a licensed facility.

At the time of this submittal, small quantities of solvents and lubricants from the maintenance shops may remain on site at the time of closeout/closure. The products being used and expected to be in use throughout that time are listed in Table 4-1.

Radiation levels in the facilities that will be retained for PMLU do not exceed the NRC Regulatory Guide 1.86 criteria for unrestricted release and use. A final radiological characterization survey of these facilities will be conducted to ensure release criteria are met (see Section 3.3.4).

## 4.2 Closeout/Closure Activities Completed

Since early 2018, RGR has completed numerous closeout/closure activities, including those specific to Phase 1, in accordance with the Mine Permit. These activities include, but are not limited to, the dismantling of numerous service and support facilities deemed non-essential for

PMLU (Section 4.2.1), addressing non-essential concrete foundations (Section 4.2.2), removal of other facilities (Section 4.2.3), and the regrading of the WRP (Section 4.2.4).

The following Phase I reactivation tasks have been completed during the period of Mine Permit No. C1002RE, Rev. 13-2 (after 12/29/2017):

1. Reshaping of the WRP
2. Construction of the disposal cell liner and south, west and north-west berms
3. Excavation of contaminated sediments and soils within the eight MWTU ponds.
4. Construction and commissioning of MWTU Ponds 3 and 2
5. Filling of the existing 11.5-acre disposal cell to near-capacity
6. Covering the filled disposal cell with 24 inches of compacted clay and 12 to 18 inches of loam soil
7. Re-constructing the SSWP and septic system
8. Upgrading the surface water drainage system
9. Removal of the low-grade ore stockpile

Table 4-2 lists the status of each mine facility and its disposition at the time of this report.

### 4.2.1 Removal of Service and Support Facility Units

As of October 2025, the following service and support facilities have been dismantled at the mine.

1. . Compressor Building
2. . York Chiller Building
3. . Pump Building (Chill Water Pump House)
4. . Chlorine Building
5. . Shaft Heat Buildings (2)
6. . Glycol Heat Exchanger
7. . Cooling Towers
8. . Fire Equipment Building
9. . Carpenter Shop
10. Water Treatment Building
11. Storage Buildings
12. Flocculant Treatment Building
13. Barium Chloride Building
14. Portable Building
15. Fuel Pump House
16. Fuel Storage Tanks
17. Mine Ventilation Structure (fan and base)
18. Mine Car Rails
19. MWTU Pump House and Motor Control Center
20. Production Shaft Headframe
21. Manway/Ventilation Shaft Headframe

The dismantled materials have been sheared into manageable pieces and are waiting for disposal either in the expanded disposal cell onsite or at an offsite facility. The final disposal location will

be decided through radiological scanning to determine if the materials meet the criteria to be disposed of offsite, which would aid in limiting the amount of material to be stored in the disposal cell.

Much of the mine debris is metal (i.e. structural steel) and has demonstrated very little removable contamination when characterized for potential release. Once RGR completes the characterization and segregation of the materials qualified for unrestricted release, the clean material will be staged in the parking lot north of the guard house until they can be recycled. The remaining materials intended for the disposal cell will be moved to one of three staging areas on the site (Figure 4-2). These three areas were chosen for the following reasons:

- The proposed staging areas are located away from the proposed disposal cell to minimize the double handling of material and to facilitate the construction of the disposal cell when approved.
- The staging areas are in locations that had previous mining operations, so the top few inches of soil are likely already impacted by previous mining activities, therefore staging materials will not negatively impact the ground surfaces it is stored on.
- Runoff in the staging areas all drains to the SSWP, which has no discharge point; therefore, it provides containment for the proposed staging areas. In the event water in the SSWP needs to be released, water is conveyed by pipe to Pond 3 for secondary containment. Pond 3 also does not have a discharge point and uses only evaporation for water removal.

Table 4-2 lists the status of these and other mine structures, as well as the facilities that will be retained for support of post-mining land use identified in Section 3.3.3.

### 4.2.2 Concrete Foundations

Concrete foundations (including floor slabs) of the facilities will be either:

- Left in place and rubblized, then covered with clean soil, or
- Left in place intact.

If no other purpose can be found, the rubblized concrete will be placed in the disposal cell. All concrete left in place (intact or rubblized) will be covered with two feet of soil.

Prior to removal of facilities and buildings, and breakage of the associated concrete foundations, radiological surveys of the structures will be performed, for free release. Only those concrete foundations meeting the release criteria of the appropriate NRC guidance, as demonstrated via the radiological survey, will be buried in place. Those that fail to meet release criteria will be buried in the disposal cell along with other contaminated materials. RGR will make reasonable efforts to reduce the amount of materials to be placed in the disposal cell through characterization studies. Materials found not to be radiologically contaminated will be separated and buried as clean fill or released from the site for proper disposal or recycling.

Table 4-2 provides a list of the disposition of the facilities and foundations. The foundations of the Compressor Building and the Fuel Storage Tanks remain unbroken. Except for the Electrical

Building (preserved for PMLU), all facilities on the Compressor bench are to be removed in preparation for remediation of potentially diesel contaminated soils existing beneath portions of the Compressor bench.

The foundations for the fire equipment building, glycol building, and storage buildings are to remain intact for use as material storage areas for PMLU. The radiological surveys for these facilities demonstrated that the release criteria were met (Table 3-1).

The concrete foundations around the manway shaft and production shaft will not be broken, so as to provide protection and confinement for the shaft plugs (when constructed). These foundations will be covered with two feet of clean soil once construction around the shaft is completed. In addition to providing a growth medium for revegetation, the soil cover will also minimize the chances of surface storm water re-entering the shafts. The ventilation structure foundation is part of a concrete pit, before the end of reclamation the pit walls will be broken to below ground surface and the pit filled with debris and backfilled (soil or flowable fill).

The following foundations have been rubblized (Table 4-2):

a. Carpenter Shop (#14 on Table 4-2): foundation also removed
b. Water Treatment Building (#09 on Table 4-2): foundation also removed
c. Fuel Storage Tank (#15 on Table 4-2)
d. Fuel Pump House (#13 on Table 4-2): foundation also removed
e. Chiller Building Electrical Room (#40 on Table 4-2)
f. Flocculant Treatment Facility (#34 on Table 4-2)
g. Barium Chloride Treatment Facility (#31 on Table 4-2)
h. Compressor Building (#10 on Table 4-2)
i. York Chiller Building (#17 on Table 4-2)
j. Chlorine Building (#27 on Table 4-2)
k. Pump Building/Chiller Water Pump House (#25 on Table 4-2)
l. Cooling Towers (#26 on Table 4-2)

The foundations that remain and their disposition (Table 4-2) include:

a. Fire Equipment Building (#19 on Table 4-2): leave intact for PMLU
b. Shaft Heat Buildings (2) (#04A on Table 4-2): retain as part of shaft plug
c. Manway Shaft Headframe foundations (#01A on Table 4-2): remove to ground surface then remain intact for protection of shaft plug
d. Glycol Heat Exchanger (#05 on Table 4-2): leave intact for PMLU
e. Storage Buildings (#04B on Table 4-2): leave intact for PMLU
f. Mine Ventilation Structure (#03 on Table 4-2 (evase' and fan) - break below ground/fill pits

### 4.2.3 Removal of Other Facilities

The removal status of other facilities is:

a. Process Water Piping – estimated at 20% dismantled, to be removed to disposal cell

b. Mine Rails – removed, temporarily staged, final placement is in disposal cell
c. MWTU Pond Hydraulic Structures (demolition estimated at 70%, work is occurring in 2025 and estimated to be complete by the end of the year, debris temporarily staged, final placement is in disposal cell)
d. Low-grade Ore Stockpile: removal completed, transported to White Mesa Mill
e. Discharge Pipeline and Structures – 100% dismantled, either recycled offsite after clearance or staged for the disposal cell.

The status of closeout/closure activities of facilities is summarized in Table 4-2. That table summarizes the disposition of mine facilities, those already decommissioned or removed and those still to be either retained for post-mining land use or removed.

### 4.2.4 Waste Rock Pile and Disposal Cell Status

The initial activity in Phase 1 construction was re-shaping of the WRP followed by construction of the disposal cell within the 11.5-acre footprint of the WRP approved under Revision 13-2 of the Mine Permit (RGR, 2013b). The WRP and disposal cell are the permanent repository for radiologically contaminated materials generated on site that exceed applicable unrestricted release criteria. By December 2019, the disposal cell was filled to near-capacity after the MWTU ponds were remediated during the reactivation stage of the active status permit. Filling the disposal cell to near-capacity was a result of RGR's efforts to comply with the permit and remove all soils exceeding the accepted soil cleanup standard of 6.8 pCi/g radium (1.8 pCi/g background plus 5 pCi/g). At that time, RGR recognized it could not proceed with earthwork remediation efforts unless the disposal cell was expanded. RGR continued to fill any available capacity of the disposal cell with contaminated materials throughout 2020 as it awaited decisions by MMD and NMED on expanding the disposal cell. As-built drawings are provided in Appendix J.

RGR submitted a permit modification request (MOD 20-1) in May 2020 to MMD (RGR, 2020a), to alter the PMLU list of retained buildings, to expand the disposal cell from 11.5 to 19.3 acres, and to alter the closeout/closure schedule. At that time, MMD indicated a simple permit modification (MMD definition) was appropriate, however, NMED informed RGR that a modification of DP-61 (NMED, 2021) (as defined by NMED rules) would be required. As of the date of this CCP submittal, regulatory approval of the disposal cell expansion is pending. Because of the need for approval to expand the disposal cell, RGR has focused its closeout/closure efforts on removing facilities rather than continuing with earthwork.

## 4.3 Closeout/Closure Activities Pending

At the time of this CCP submittal, the closeout/closure actions taken from 2018 through mid-2025 have accomplished many of the CCP goals. RGR continues to remove and encapsulate contaminants and facilitate the designated PMLU(s).

The large-scale site remediation will resume once regulatory approval of expansion of the disposal cell is approved as part of the DP-61 renewal and the Mine Permit revision.

Shaft closure, for the purpose of this CCP, and the information in 4.3.1 is unchanged. MMD has agreed to continued discussions and clarification which regulatory agency has shaft closure jurisdiction.

### 4.3.1 Shaft Plugging

Both the production shaft and the manway/ventilation shaft will be closed in the same manner, as approved in the current Mine Permit (RGR, 2013b) and illustrated on Appendix A Drawing Sheets CL 05 and CL 06 and described in Appendix C.3. In the approved design (Mine Permit), the plugging concept was to use recycled steel from the headframes. A caveat to the approved design was that prior to plugging the shaft, the design would be reviewed by a registered professional structural engineer. Subsequently, a structural analysis of the approved conceptual design was completed. It found the prior concept of using recycled steel from the headframes did not provide an acceptable structural factor of safety against failure in the design for the production shaft plug. A set of revised conceptual design drawings has been prepared by Critical View Engineering (Appendix G).

The updated design by Critical View Engineering is essentially the same concept of plug design as approved previously, namely a steel reinforced structural member. However, the construction materials are slightly different. The new concept is to utilize a steel (rebar) reinforced concrete plug rather than steel I-beams encased in concrete. Structurally reinforced concrete is a proven and well-established structural member design, utilized in most new building construction around the world. The advantage of this revised concept is that the steel is encapsulated sufficiently to prevent corrosion, and the constructability of the structural member is more easily accomplished. The factor of safety is higher, and the structure is more efficient in shape and size.

Using the following procedures (Appendix C.3), the entire closure plug in the production shaft will extend to a depth of 62 ft and to 40 ft in the manway shaft:

- Equipment and fittings within the shaft collar will be removed to the sub-collar level.
- Once all protruding metal in the shaft is removed to below the sub-collar, a work deck and supporting scaffolding and plug forms will be erected.
- Reinforced concrete of appropriate design strength will be poured (Appendix A Drawing Sheets CL 05 and 06, Appendix G).
- After the structurally reinforced concrete plug member has cured, the remainder of the shaft, as well as connecting tunnels, will be backfilled with cementitious slurry of soil, Portland cement, fly ash, and water. The proportions will be determined by using test batches of the available materials.
- Remaining space at the top of the shaft will be capped with concrete, including a marker monument. The proposed surface completion shall protect the shaft monitoring pipe and plug to prevent surface runoff from migrating into the shaft.

RGR intends to seal off the near-surface seep in the 14-ft diameter manway shaft.

Infiltration or inflow of water from surface runoff will be prevented by the shaft plug and backfill in each shaft. The existing shaft liner and annular grout also provide a barrier to infiltration.

Therefore, the proposed shaft closure measures will be protective of groundwater quality from both mine-level and surface sources of potential contamination.

A system of tunnels provides access to, and utility corridors for, the shafts and facilities (Figure 12b). The portions of the tunnels connecting directly to the shafts will be backfilled with slurried, weak, soil-cement (flowable fill) as part of shaft closure. The steel culvert (Figure 1-2b) from the compressor bench to the car shop will also be closed with flowable fill.

### 4.3.2 Well and Conduit Plugging

#### 4.3.2.1 Conduits

Two vertical utility conduits, casings extending from ground surface to mine level, will be plugged. The conduits are 11.5 inches O.D., cemented in place in 12.5-inch diameter boreholes through the entire length of north conduit (3,100 ft) and south conduit (3,200 ft). A conduit plugging workplan will be prepared and submitted for approval prior to conduit plugging.

#### 4.3.2.2 Dewatering/Depressurizing and Deep Aquifer Monitor Wells

As required under DP-61, two Point Lookout aquifer wells, one Tres Hermanos /Dakota aquifer well, and two Westwater Canyon aquifer wells will be utilized for post-closure monitoring. Some of the existing dewatering wells may be suitable for that purpose, depending on well condition. Replacement wells may be required in some cases. Two deep wells completed in the Point Lookout aquifer are currently used to provide water for the mine site and will continue in that purpose throughout CCP and post-closure monitoring.

Any dewatering well not used for site water supply or post closure monitoring will be plugged and abandoned as part of site closure. Additionally, five observation wells and two deep aquifer (>3,500 ft) monitor wells that were used to observe drawdown in the mine area during active dewatering will also be plugged and abandoned (Figures 1-4 and 1-8). All wells that will be utilized for post closure monitoring will be plugged and abandoned once post closure monitoring is complete.

#### 4.3.2.3 Abatement Monitor and Extraction Wells

There are 23 shallow alluvial and Upper Menefee wells in the groundwater-abatement monitoring program as of 2025. RGR has been addressing detected nitrate and uranium contamination under a NMED-approved Stage 2 Abatement Plan (S2AP) (Metric, 2010) since 2011. Once the abatement program objectives are achieved (to reduce constituent concentrations within the shallow groundwater system to levels that meet WQCC standards), these wells will be plugged and abandoned. Likewise, any future abatement wells that are installed will be plugged and abandoned once the wells' abatement program has ended.

Before plugging and abandoning is initiated for any wells the contracted licensed-water well driller will submit to the OSE a deep well plugging plan on OSE's Form WD-08 that will include:

- Sealant design with ratios and material specifications of seal components.
- Well construction details – borehole and casing diameters, screen types and intervals

- Depth to water
- Casing annulus seal description
- Plugging steps
- Documentation and reporting of well plugging

Plugging and abandonment will be conducted in accordance with the approved OSE well plugging plan and NMAC regulations (19.27.4 NMAC, 2017). The conduit and deep well plugging plan will be submitted for approval separately. Abatement wells and post-closure monitoring well plugging plans will be submitted separately, as well.

### 4.3.3 Surface Facilities Removal Pending

Surface facilities not needed for PMLUs described in Section 3.2, will be demolished. Table 4-2 lists all surface buildings, their sizes and their disposition at closeout/closure. Facilities remaining to be demolished include:

- Car (Maintenance) Shop
- Ion Exchange Plant
- Process water piping
- MWTU Hydraulic Structures (remaining)
- Foundations (see Table 4-2)
- Core Storage Building
- Fan Shop
- Sanitary Treatment Plant
- Phase I Wells
- Phase II Wells
- Phase III Wells
- Ore loading pad and wash bay

Radiological characterization surveys have been and will be conducted to determine whether contamination exists at levels that exceed the NRC Regulatory Guide 1.86 unrestricted release criteria.

Building demolition debris and other scrap materials will be placed in the disposal cell. Materials that meet the unrestricted release criteria may be removed from the site. Materials that exceed the criteria may be decontaminated to levels that meet the release criteria and be removed from the site.

All pipes that are exposed and within 3 feet of the surface, except the potable water line in the utility tunnels, will be removed and buried in the disposal cell. Other pipes that are deeper than 3 feet will be either capped or plugged and left in place.

Demolition of facilities will include removal of concrete slabs or other foundations not needed for PMLU. Uncontaminated concrete slabs not retained for PMLU may be broken and covered by clean soil or removed for placement in the disposal cell.

Generally, MWTU ponds will be decommissioned during closeout/closure. However, MWTU Ponds 2 and 3 will remain in use until the groundwater abatement project is successfully completed. RGR envisions the need to keep these ponds for storing contaminated water for at least the first half of the 12-year period of responsibility. These two ponds are monitored for water quality and water levels quarterly, per requirements of DP-61, and will take additional time to remediate because of the steps involved:

- Evaporate remaining water
- Remove contaminated sediments
- Remove liners
- Demolish hydraulic controls structures and piping.
- Backfill pond basins

Contaminated pond sediments and soils in these pond areas will be removed and placed in the disposal cell. Contaminated demolition debris, including scrap steel, pipe and concrete, will be placed in the disposal cell. Clean debris may be removed from the site for salvage and recycling.

The buried drainage culvert from the storm drain along the county road (Figure 1.-2b), which diverts runoff away from the mine water treatment area, will not be removed. As part of the PMLU, it will continue to direct water to the SSWP.

## 4.4 Earthwork

Excavation of soils that require cleanup as part of the closeout/closure will begin after the disposal cell footprint is expanded. Cultural resources surveys, and clearances if required, will be performed on any land surface not previously surveyed that will be disturbed by closeout earthwork. In general, earthwork will involve short hauls by dozer to redistribute berm fills or mine waste rock and by scraper, excavator and trucks or grader for contaminated soil removal. Some loader excavation and short truck hauling may be required, as well. Except for short pushes of up to 300 ft on pond berms and WRP slopes, the working grades are less than 5%.

At this time Borrow Area A, located within the permit area and previously approved for use under the current Mine Permit, is expected to provide the necessary clean soils for reclamation. Should Borrow Area A have insufficient materials, RGR may need to use clay deposits adjacent to the Mine Permit area to construct the required engineered caps and clay liners of the disposal cell. These clay soils have been identified in two locations thus far: Borrow Area B (west of the permit area on RGR land) and Borrow Area C within the permit area (Figure 1-2). Borrow Area C (approximately 14 acres in size) is the preferred choice for providing clean clayey soils for liners and caps. In January of 2025, Engineering Analytics (EA) completed a borrow source investigation for Borrow areas A, B, and C. The field investigation included the excavation of 22 test pits and laboratory testing of the soils. The results of this investigation will be included in the Expanded Disposal Cell Design report to be provided as a standalone report. Investigations of soils at Borrow Area B have indicated that insufficient quantities of clayey soils exist there for future needs for the remaining earthwork on the site. Borrow Area B is considered an Affected Area (see Section 4.4.5) and will not be used in the future unless necessary.

The proposed access to Borrow Area C will be provided via the existing access road that exits the MWTU area through the north gate, crosses over the Marquez Arroyo, and connects to a newly constructed gravel road, as shown in Figure 1-2. Potential reclamation of the access road and borrow area will include regrading the ground to minimize water ponding, scarifying the ground, and revegetating according to Appendix F.

Cut slopes above the chiller bench will remain at their current slope to maintain existing wells and conduits at base of slope. A protective fence will be installed at the top of the wall. The cut slope below the chiller bench requires no additional work, because it is already stable and vegetated. The cut slope to the south of the hoist house will have additional fill placed at the toe and extending as high as the bottom of the existing wire fencing.

Once the disposal cell expansion is approved, the general sequence for removing contaminated soils from the mine site will be to start with the soils in the NSWP and ore pad area. The NSWP sediments and ore pad working surface materials contain residual low-grade uranium ore from mine production. This material will be placed toward the bottom of the disposal cell to minimize radon flux through the final cover.

After placement of the soils from the NSWP and ore pad area in the disposal cell, contaminated soil from around the remainder of the mine site (support area and others) will be placed in the disposal cell. Contaminated soils remaining from the MWTU area and from affected lands outside of the mine site area will then be placed in the disposal cell. A secondary disposal cell will be built abutting the proposed disposal cell to contain material from MWTU Ponds 2 and 3 and other miscellaneous material. Contaminated sediments from those ponds as well as the SSWP will then be removed and placed in the disposal cell. This will also allow any other contaminated soil materials discovered at that time to be placed in the disposal cell. Table 4-3 lists the estimated quantities and locations of these materials prior to excavation.

Site regarding after soil clean up will be completed using soils from areas already disturbed. Sufficient fill volumes are calculated to be available from the design cut quantities on site (Table 4-3). However, if additional borrow soil is needed, it can be obtained from the area immediately north of Marquez Arroyo within the permit area (Borrow Area C, preferred source). As an alternative, additional borrow soil may be obtained from the area west of the MWTU area (Borrow Area B, alternate source). These soils consist of sandy clay, clayey sand and clay with Unified Soil Classification of SC and CL as determined by test pits and laboratory testing . Table 4-3 lists the estimated volumes of clean soil required for closeout/closure earthwork and the sources for that soil as well as the overall balance of site earthwork.

The site and adjacent land owned by RGR provides ample quantities of native soil with good engineering properties and suitable agronomic properties. The east-dipping interbedded shale, claystone, mudstone, and thin sandstone lenses that underlie the site are the parent materials for the residual and colluvial soils that thinly blanket most of the site. The Natural Resource Conservation Service (NRCS) web site has soil survey results for this area (http://soildatamart.nrcs.usda.gov/manuscripts/NM682/0/cibola.pdf) that identify the mine site soils as Penistaja- San Mateo- Sparank series. These are surficial soils that have supported native vegetation; they are not overburden or inter-burden materials. The units on the mine site are #230

dumps-pits complex on the disturbed areas and otherwise #57 San Mateo clay loam and #257 Sparank- San Mateo Complex. According to the NRCS survey, the latter two soils, from which borrow soil will be excavated, naturally support western wheat grass, vine mesquite, alkali sacaton, and four- wing saltbush. Site soils are consistently low-to-moderate plasticity clays with some sandy clay. Alluvial sand with some gravel and cobbles exists in the few arroyos on site.. Contaminated soil will not be used in site closeout/closure covers or backfill, other than the disposal cell.

### 4.4.1 Existing Waste Rock Pile

Starting in 2018, RGR reclaimed the WRP to protect it against erosion. In the initial step of this reclamation, RGR reshaped the existing WRP to enhance long-term stability. The north, west and south slopes were flattened to 5H:1V, as represented in the lower slopes shown in the disposal cell as-built drawings (Appendix J), then covered with 2 ft of compacted clay. The clay was obtained from the clean soil stockpile (shaft muck) located in the southwest corner of the pile and from Borrow Areas A and B. The shaft muck was used to form the south slope of the WRP.

Burial of non-rock waste generated during closeout/closure was controlled so that the material was placed in lifts and either covered with soil after each lift or placed in disposal trenches created in the disposal cell and flooded with soil/cement slurry (flowable fill) to fill voids.

Contaminated soil and pond sediments, excavated as part of the reactivation of the mine, were the first materials placed in the newly constructed clay-lined disposal cell on the WRP. Once these materials were placed, the disposal cell and WRP slopes were finish-graded, covered with a compacted clay radon barrier and clean growth media soil (loam), and protected with erosion control materials (e.g., Curlex® or other surface stabilization materials).

The mound of shaft muck (soil stockpile) that occupied the southwest corner of the WRP was found to have levels of radiation at or below background and supported healthy volunteer vegetation, so it was used to reshape the south slope of the WRP. Results of soil tests (Appendix D) show that the shaft muck has weathered to soil consistency and classifies as low to moderate plasticity clay and clayey sand (loam in USDA classification), like the soil that covered the ore stockpile, on which two feet of cover supported healthy volunteer vegetation.

### 4.4.2 Disposal Cell and Expansion

The disposal cell, which was constructed atop the WRP, is the permanent repository for contaminated pond sediments and soils and demolition debris generated by mine site closeout/closure activities. The disposal expansion design calculations will be provided in a separate design report. RGR constructed the current disposal cell during the mine reactivation phase (2018-2019), according to an approved design. The cell was constructed within the 11.5-acre footprint of the WRP. The existing disposal cell was filled to near-capacity by the contaminated materials (sediments and soils) excavated from MWTU pond basins, storm water ponds, and other locations within the Mine Permit area. As of April 2022, the disposal cell had reached a filled volume of approximately 99,300 cubic yards (RGR, 2021). No new material has been placed within the disposal cell since 2020.

To accommodate the further remediation of the site during closeout/closure, the expanded portion of the disposal cell will be located east and north of the existing disposal cell and WRP at a nominal bottom elevation of 7340 ft (Figure 4-1). The expanded cell will be up to 13.5 acres in area, which brings the total area of WRP plus disposal cell to 25 acres. A clay liner, consisting of not less than 1 ft of compacted clay soil (CL, CH, or SC soils per USCS classification) will be constructed under the disposal cell to provide additional protection for groundwater.

This disposal cell provides for permanent disposal of radiologically contaminated material. As illustrated in Figure 4-1, it is the repository for contaminated pond sediments and soils excavated at mine closeout/closure, as well as debris generated during closeout/closure. The final position and dimensions of the expanded closure cell will not be known until mine closeout/closure is complete.

To date, no demolition debris has been identified as containing RCRA Subtitle C hazardous waste (EPA). RGR does not expect to find much ACM (volumetrically) during closeout/closure. If ACM is found, it will be disposed of at a properly permitted offsite facility. Mitigation and disposal of ACMs will be in accordance with all State and Federal regulations and will be performed by a certified asbestos contractor.

After filling and grading, the expanded disposal cell cover will be placed over the waste material. This cover will provide a barrier to reduce water infiltration, protection from erosion, support of vegetation, and radon attenuation. Extensive research and experience with uranium mill tailing covers indicate that an appropriately designed and constructed soil cover accomplishes these objectives (NRC, 2010). The radon attenuation function is unique to covering uranium- and radium-bearing materials, but it governs the design thickness of the cover. The results of the radon modeling will be provided in the Expanded Disposal Cell Design report.

Unsaturated flow modeling will be completed for the proposed cover system to assess the effectiveness of reducing infiltration into the disposal cell. The final model results for infiltration, radon emanation, and freeze thaw protection will be used to develop the final cover thickness that will be presented in the Expanded Disposal Cell Design report.

### 4.4.3 Ore Pad Working Surface Removal

The ore pad material will be excavated by loader and hauled by truck to the disposal cell, alongside other cleanup related materials, in accordance with the Reclamation and Post-Reclamation Radiation Work Plan (RGR, 2020b). A radiological characterization of the Ore Pad (AVM, 2023) was performed in 2023. Estimated quantities to be removed are found in Table 4-3.

### 4.4.4 MWTU and NSWP

The sediments in the Mine Water Treatment Unit (MWTU) Ponds #1 and #4 through #8 have been excavated and already placed in the approved disposal cell (11.5 acre) They contained low levels of uranium, radium, barium sulfate and other constituents in the sediments from the mine and mine water treatment circuit described in Section 2.4.2 and Appendix D. MWTU ponds were allowed to dry by natural evaporation, then the pond sediments were removed until residual gamma

readings in the underlying soil met the soil cleanup standard (Appendix D). The pond sediments were placed in the disposal cell on the WRP, as described in Section 4.4.2.

A subsequent radiological characterization of the MWTU (AVM, 2024) was performed in 2024 that identified small areas of cleanup that remain to be removed to the disposal cell. These quantities are found in Table 4-3.

Once the Ore Pad is removed, the NSWP will be excavated to clean (background) radium values, with the contaminated materials being placed in the disposal cell (when expansion is approved).

MWTU Ponds #2 and #3 were lined with a double HDPE membrane system and used for evaporation of contaminated groundwater, surface water runoff and other wash-water generated on site. These two ponds will be used during closeout/closure until groundwater abatement objectives have been achieved. When no longer needed, any newly generated pond sediments will be removed and the pond liners will be removed and placed in the disposal cell, then the hydraulic controls and related structures including foundations in the pond area will be demolished.

The NSWP sediments have not yet been removed. They will be excavated and placed in the disposal cell like the MWTU pond sediments.

After the hydraulic control structures of the ponds are demolished and all debris is removed, clean berm soils, not exceeding MMD's 2016 Joint Guidance standard of 5 pCi/g Ra-226 above background (MMD et al., 2016), will be used to fill the pond basins. Soil will be spread and compacted in lifts not to exceed eight inches. The area will be regraded to match final design grade (Appendix A Drawing Sheets CL 07A, CL 08).

### 4.4.5 Affected Areas

Affected Areas will be reclaimed according to NMAC (19.10.5.507.A NMAC, 2001a) (19.10.1.7.R.1 NMAC, 2001b). Per NMAC 19.10.1.7.A.(3), *"affected area" means the area outside of the permit area where land surface, groundwater, or air resources are impacted by mining operations within the permit area* (NMAC, 2001b). At this time, RGR is in the process of identifying affected areas and will continue to characterize and survey surrounding lands around the site according to the approved Reclamation and Post-Reclamation Radiological Survey Work Plan (RGR, 2020b). RGR is focused on characterizing contiguous land around the site, including those potentially impacted by windblown and water-born contamination.

Borrow Area B

Borrow Area B is situated on land that RGR owns, but is outside the permit boundary (Figure 1-2). No mining occurred on this land, and no activities were performed that were related to mining. Borrow Area B was used to supply the clay required to construct the 2-foot-thick clay cap on the west and northwest slopes of the WRP. Borrow Area B is comprised of a shallow pit and access road. The depression is presently being used as a stock pond and has 3:1 slope. The pit and access road will be regraded and revegetated according to Appendix F.

Borrow Area B was opened to supply these materials in the 3rd quarter of 2018, shortly after these specific clay materials were exhausted in Borrow Area A. Borrow Area B was reopened in 2020

to provide these same heavy clays to construct the 2-ft thick cap covering the disposal cell after it had been filled to near-capacity. RGR does not intend to use any more material from Borrow Area B because the supply of clay materials appears to be nearly exhausted.

There was some prior gamma survey information conducted in the vicinity of Borrow Area B. Trinitech conducted a soil investigation of the areas west and north of the mine site in 2012 to investigate environmental dispersal of uranium from the Mt Taylor Mine (Trinitech, 2012) (Appendix D.2). Sixteen soil samples were collected and analyzed along arroyos that drain the mine property. Gamma dose rates were also measured. The conclusions of the memo indicated that no discernable dispersal of uranium from the mine property was detected.

Four soil samples were collected and analyzed in 2012 within the area of Borrow Area B location: MTE-12 to the west, MTE-13 and -14 to the south and MTE-6 to the west (Figure labeled "April 23, 2012, Soil Sample Locations", Appendix D.2). Uranium concentrations were below 1 pCi/g except for MTE-13 (1.4 pCi/g). Radium-226 concentrations were below the background of 1.8 pCi/g except for MTE-13 (2.7 pCi/g). All radium-226 values were below the accepted soil cleanup standard (background +5 pCi/g) limit of 6.8 pCi/g. Further gamma dose rates of these four samples were less than the Post Reclamation Radiation Level of 24 urem/hr, which is equivalent to 6.8 pCi/g. These four samples were located near drainages, where uranium dispersal from the mine would have a higher probability of accumulating.

A radiation characterization survey will be performed, as needed, for Borrow Area B and any contaminated soil will be removed so that the area meets the soil standard. Borrow Area B will be graded and revegetated according to Appendix F.

Continental Divide Substation Area

The electrical substation, located north of the Service Building (Figure 1-2), is within the permit boundary but is under the control of the Continental Divide Electrical Cooperative and Public Service of New Mexico. Before final closeout, a radiation characterization survey will be performed, and any contaminated soil will be removed and placed in the disposal cell so that the area meets the soil standard. RGR will work with the substation owners on any potential reclamation and revegetation site work.

County Road 334

Existing NM 334 and its right-of-way through Section 24. The right-of-way is not under RGR now nor during mining. This surface is dedicated to public use and is not subject to reclamation or PMLU considerations under the Mining Act. A radiation characterization survey will be performed, and any contaminated soil will be removed so that the area meets the soil clean up standard. No revegetation is expected as the area is comprised of a gravel roadway. RGR will work with the Cibola County Road Maintenance Department to re-establish the roadway once contaminated materials are remediated.

Treated Water Discharge Pipeline

The Treated Water Discharge Pipeline and right-of-way (ROW) are part of the permit area (Figure 2-3). RGR removed the pipeline and impacted soils and structures along the pipeline per two Discharge Pipeline Abandonment Workplans (EA 2024a, EA 2024b) Another area of above-

background gamma readings is the outfall area, just beyond the pipe outfall. The area downstream from the pipeline discharge point will be cleaned up to meet permitted soil standards when the disposal cell is ready to accept material. These areas will be revegetated along with the rest of the pipeline corridor according to Appendix F.

### 4.4.6 Excavation and Disposal of Contaminated Soil

As is typical for a uranium mining operation, materials bearing uranium and uranium progeny are found at locations within the Mine Permit boundary including the WRP, mine water treatment ponds, the service and support area, the ore pad area, the storm water retention ponds, and a very small area north of Marquez Canyon Arroyo, due to windblown contamination. RGR is currently investigating all areas between its northern fenced boundary and the windblown area to identify the extent of any impacted areas, including the Marquez Canyon Arroyo. Any contamination identified will be remediated and the contaminated soil placed in the disposal cell.

Along with remediation of uranium contaminated soils, RGR will remediate the remnants of a diesel spill, located in the soils on the east edge of the compressor bench (Figure 1-2) (Ensero, 2021a). The diesel was first identified in soil in 2019 (RGR, 2019), while RGR was reactivating facility piping. The spill was originally reported in 1991 by RGR (RGR, 1991), which was subsequently cleaned up (RGR, 1992). RGR will excavate all soils with diesel and uranium contamination exceeding the cleanup standards and place the materials in the disposal cell, which has been designed to accept the material. NMED has approved the placement of these soils in the disposal cell (RGR, 2023a). RGR submitted a corrective action plan (CAP) to NMED in 2021 (Ensero, 2021a).

Investigative radiation surveys and soil sampling were performed in Spring 2012 (Appendix D.1) and have been ongoing in 2023-2025 to establish background levels of radium and to identify higher levels of radioactive materials that will require cleanup. Additional surveys were conducted from 2019 through 2021 to confirm cleanup efforts in progress. Background levels are those levels due to natural content of radium unrelated to mining. The radium background is 1.8 pCi/g and the total background uranium is 9.96 ppm. Both values were established by samples taken in June 2007 and in April 2012, which has been approved in the DP-61 and mine permits. All investigative radiological surveys have been provided and will be used to perform closeout/closure activities.

Access to the mine is controlled by fences, locked gates, and surveillance to prevent exposure to the public. Administrative and physical controls are implemented to maintain radiation exposures to levels as low as reasonably achievable (ALARA). Occupational exposure controls and monitoring are implemented for those activities where annual radiation exposures can reasonably exceed the dose limits and applicable provisions specified in 29CFR§ 1910.1096 (OSHA, 2019). These controls will be continued during closeout/closure activities.

After the facilities demolition is complete and debris has been transported to the locations of staging (Figure 4-2) or placed in the disposal cell, the site soils will be excavated to remove radiological contamination above the cleanup standard as dictated by MMD's 2016 Joint Guidance (MMD et al.), 5 pCi/g Ra-226 above background in the top 15 cm (~6 inches) of soil. The technical specifications for contaminated soil earthwork are included in Appendix C.4.

Previous site radiological surveys (Trinitek 2012) indicate an average background Ra-226 concentration of 1.8 pCi/g, so soils exceeding 6.8 pCi/g radium will be excavated and placed in the disposal cell. Gamma readings, correlated against Radium-226 soil samples, will be collected while soil cleanup excavation is being performed. A final status survey consisting of independent laboratory analysis of soils from all remediated areas will be used to verify that soil remediation is complete. The Work Plan for Post-Mining Radiological Surveys of Permit Area and Impacted Lands (RGR, 2020b), approved in May 2022 for reclamation and post reclamation cleanup, will serve to guide radiation contamination cleanup efforts.

Contaminated soil in large, unobstructed areas will be excavated, loaded and hauled to the disposal cell by truck or scraper. Smaller or obstructed areas of soil will be removed by loader, excavator or grader and either windrowed for scraper pickup or loaded onto trucks for placement in the disposal cell.

### 4.4.7 Finish Grading

After demolition, soil cleanup, shaft and well plugging, and backfilling are complete, the mine site will be regraded as indicated on Appendix A Drawing Sheets CL 07A, CL 07, CL 08, and CL 14. The reshaping of the land will provide controlled drainage and will aid in the establishment of new vegetation. Grading will be adjusted as needed to remove obstacles or surface depressions that might obstruct or divert runoff from the intended flow directions. The technical specifications for grading are included in Appendix C.4.

## 4.5 Revegetation

Following regrading, areas that have been disturbed by Mt. Taylor Mine operations and soil cleanup will be revegetated in accordance with the Revegetation Plan and Monitoring Protocols (Cedar Creek, 2025, Appendix F). Revegetated areas include the Treated Water Discharge Pipeline corridor, the existing and expanded disposal cell area, the ore stockpile pad and runoff retention pond area, the mine water treatment pond area, borrow areas, and locations surrounding the demolished facilities within the service and support area. The SSWP bottom and other areas where mining-related features are retained (e.g. buildings and roads) will not be revegetated. RGR provided stormwater and erosion monitoring specifications for the areas that will not be revegetated in a Post Closure Monitoring Plan (EA, 2025a; Appendix H).

Preparations for revegetation and the selected seed mix will be directed toward establishing a vegetation community that can thrive at this site and that can support grazing of livestock. Plants native to the general area will be used as much as possible to provide for long-term stability of the soil and vegetation communities. Plant species that provide rapid initial cover will be used in the seed mix to achieve initial soil stabilization. RGR may use irrigation water, as necessary, during drought situations only within the first three years after seeding to ensure the establishment of vegetation. Water for this irrigation will be provided by RGR's wells in the Point Lookout formation.

Runoff control during regrading and revegetation will use the most appropriate technology available at that time, including methods recognized by the NRCS or the International Association for Erosion Control. Measures that use present technology include check dams constructed of hay

bales, geotextile silt fences secured in shallow trenches, and water bars across the disturbed area and perpendicular to the slope. Tobacco net, Curlex® or similar net-and-fiber mats might be used as required for protection of surfaces susceptible to rilling or wind erosion. The specific measures applied to revegetated surfaces will be based on the method most appropriate for the seeding method, erodibility and depth of the soils, degree of slope, proportion of large rocks at the surface, roughness of the surface, and anticipated rainfall.

Locations of temporary runoff controls will be selected, consistent with the Stormwater Pollution Prevention Plan (SWPPP), to slow down or divert runoff, trap sediment, and provide improved conditions for germination and plant establishment. Once revegetation has been achieved, temporary erosion control measures that have not disintegrated will be removed.

### 4.5.1 Revegetation Species

The predominant native grass species in the area is blue grama (NMEI, 1974); therefore, this species will be the primary species in the revegetation seed mix (assuming it is readily and economically available at the time of closeout/closure). The list of proposed species was optimized for the Mt Taylor mine site's specific soil and climate conditions (Appendix F).

### 4.5.2 Seedbed Preparation and Seeding

The regraded surfaces will be prepared for seeding by scarifying the surface and creating minor depressions to provide a proper seedbed. Seed will then be applied by either rangeland drill or broadcast. Broadcast seed will be incorporated into the growth medium by hand raking or some mechanical means such as heavy chains dragged behind tracked dozers.

*Amendments.* Organic soil amendments will be applied on a location-specific basis, taking into consideration the properties of the soil at that source. The material specifics and applications rates for the proposed amendments are described in Appendix F.

### 4.5.3 Seed Origin and Quality

Seed for the dominant species of grasses and shrubs that are indigenous to the mine area are available commercially and will be secured through those sources. All seeds must be certified, and each seed bag must have attached to it a complete label with certification information.

### 4.5.4 Revegetation Success

*Technical Standard* - The primary post mining land use is anticipated to be grazing, therefore, revegetation success in revegetated units will concentrate on four performance standards 1) vegetative ground cover, and 2) diversity, 3) woody plant density, and 4) productivity. Revegetation efforts will be considered successful when the following criteria have been met. The reference areas will be sampled along with the revegetation to provide a suitable comparison each year of assessment. In this manner, the success criteria outlined in the Revegetation Plan and Monitoring Protocols (Cedar Creek, 2025, Appendix F) is dynamic and adjusts to climatic conditions.

*Monitoring* - Monitoring of revegetated areas will be conducted on a periodic basis in accordance with the Revegetation Plan and Monitoring Protocols (Appendix F). Success of both germination and establishment will be dependent in large part on the moisture received in the summer and winter months and variations from year to year. Since establishment of vegetation is a function of its ability to reproduce, vegetation will also be assessed for its reproductive status, as well as its overall vigor. The survey will be conducted by a qualified vegetation specialist. Survey results will be analyzed and summarized to aid in determining the need for any changes in management practices or the need for reseeding or other supplementary practices. Less formal monitoring will be conducted throughout the year by RGR personnel to identify conditions in the revegetated areas that may require attention.

### 4.5.5 Management and Contingency Plans

After revegetation efforts have been completed, management of the revegetated areas will follow the Revegetation Plan and Monitoring Protocols (Cedar Creek 2025, Appendix F) and will include:

- Instruction of staff in measures to protect revegetated areas
- Posting of signs to warn against disturbance
- Placement, and replacement as necessary, of erosion controls
- Supplementary seeding of areas as necessary
- Periodic inspections and monitoring

Revegetation efforts will be repeated until successful. If results of annual monitoring indicate failure in all or part of a revegetated area, RGR will either supplement work already accomplished or revegetate the affected area, as appropriate. Efforts will be modified, as necessary, depending on what the cause of the failure is determined to have been.

## 4.6 Erosion Protection

The purpose of erosion monitoring of the disposal cell, WRP, SSWP, facilities and roads is to maintain the integrity and effectiveness of the disposal cell cover and stormwater retention or diversion measures.

Monitoring of the disposal cell /WRP includes conducting best management practices (BMPs) that include conducting inspections and making repairs as necessary to correct the effects of settling, erosion, or other significant events that may alter the effectiveness of the cover. Maintenance will prevent run-on and runoff from eroding or otherwise damaging the final cover.

Maintenance will involve repairing eroded areas by replacing lost soil material and reseeding. RGR considers any rill exceeding 6 inches of depth to be significant and requires soil replacement. Repairs will entail adding soil (in six-inch lifts and compacted) to the cover of the disposal cell Lesser erosion will be addressed by regrading. Additional erosion control BMP's will be added where needed. These will include berms, silt fences, erosion blankets, hay bales and other water flow controls to minimize soil loss until vegetation becomes established.

Visual inspections of the ground surface will be carried out to monitor the physical stability of the disposal cell, WRP, and other reclaimed areas. Findings of the visual inspection and changes of

the ground surface will be evaluated using professional judgement, informed by comparison to the closure criteria. This information will be used to generate a professional assessment of the physical stability of the disposal cell and WRP. Exceedances of the monitoring criteria will trigger geotechnical review and may or may not require corrective actions based on site-specific conditions. This may include a change in the frequency of monitoring.

### 4.6.1 Protection of the Existing Waste Rock Pile Surfaces

Erosion modeling using the Revised Universal Soil Loss Equation (RUSLE) performed for the original CCP submittal (RGR, 1998) showed that the maximum annual soil loss rate on the un-reclaimed WRP is only 0.02 T/acre/yr and would be reduced to less than 0.005 T/acre/yr after revegetation of the soil cover.

The analysis examined several base management scenarios, from smooth bare slope surface to 4-year-old vegetation on the modeled slope. For the modeled slope, representing the worst case for the WRP, 350 ft long at 20% slope, the best erosion protection is achieved by use of hay mulch. The predicted soil loss is 0.77 t/ac/yr using hay mulch, compared to slightly higher soil loss of 0.82 t/ac/yr using rock mulch or gravel. For comparison, with vegetation after four years the predicted loss is 4.3 t/ac/yr, and a smooth bare surface is predicted to have 5.6 t/ac/yr soil loss. Therefore, RGR's use of certified weed-free hay mulch will provide the best slope protection while also encouraging vegetation of the WRP cover.

The WRP has been reshaped to avoid concentration of runoff and maintain sheet flow over the pile slopes. Erosion control blankets used in conjunction with revegetation should provide adequate interim protection of the 5H:1V and flatter slopes. If additional erosion protection is needed for surfaces on the WRP that are susceptible to erosion due to high runoff velocities or concentrated flows, such as steep slopes or drainage swales, riprap will be applied. Riprap screened for minus five inches with average particle diameter (d50) of not less 2.7 inches will be applied at least 0.5 ft thick in the bottom 1/3 of steeper slopes and as water bars in swales. Riprap will consist of basalt or equivalent rock.

Information on drainage structures and erosion protection design for the existing WRP is provided in Appendix B. Design runoff and shear calculations were prepared as part of the original CCP in 1998 (RGR, 1998). The updated erosion calculations for the expanded disposal cell design will be provided in the Expanded Disposal Cell Design report that will be provided as a standalone report. The design will address erosion protection for the ultimate build-out size and shape of the disposal cell surfaces.

### 4.6.2 Arroyos

There are three arroyos at the mine site. There is a northern surface water diversion channel located north and east of the manway shaft and ore stockpile areas, which intercepts and diverts runoff northward to the Marquez Arroyo. The middle arroyo was largely filled in during site construction, but its remnants lead to the SSWP north of the WRP. The middle arroyo has a very small watershed; therefore, it receives little runoff. The southern arroyo (south diversion channel) was diverted at the time of mine development to run along the south side of the WRP.

Hydrologic analyses using the HEC-1 and HEC-2 models (Appendix B) show that the Marquez Canyon arroyo will convey the 24-hour, 100-year flood. These analyses show that the design flood water and energy surfaces are well within the arroyo banks in both cases, indicating that there should be no out-of-bank flow during the design flood and that the arroyo morphology appears to be in equilibrium with much larger runoff events.

The southern arroyo (south diversion channel) was diverted at the time of mine development to run along the south side of the WRP. The south diversion channel is currently in design. The New Mexico Department of Transportation (NMDOT) drainage criteria, as shown in their Drainage Manual, using the Simplified Peak Discharge methodology or the NRCS Unit Hydrograph methodology within the US Corps of Engineers Hydrologic Engineering Center-Hydrologic Modeling System (HECHMS) was used to develop flow rates and volumes. Based on RGR's comment response letter to MECS (RGR, 2023b), the southern arroyo channel will be redesigned to accommodate the 500-year, 24-hour storm event. Existing development condition hydrology is the only scenario analyzed. Existing condition channel hydraulics were modeled using US Corps of Engineers Hydrologic Engineering Center-River Analysis System (HEC-RAS). Conceptual erosion control alternatives were analyzed for the south channel based on NMDOT methodology to comply with mining requirements and regulations. Final condition hydraulics will be evaluated for the alternative selected and included in preliminary and final construction plans.

The north diversion channel, located north and east of the manway shaft and ore stockpile areas, intercepts and diverts runoff northward to Marquez Arroyo. The hydraulic analysis and design for the north diversion channel will be submitted at a later date. This is because closeout/closure activities will alter the final site grading, and the final survey cannot be completed until the ore pad has been removed.

## 4.7 Fencing

RGR has replaced and increased the height of existing fences on the mine site to provide better exclusion of cattle and wildlife from the mine site. One chain link fence, eight feet high, encloses the MWTU and is approximately 5,000 ft in length. Another eight-foot chain link fence will be up to 4,750 ft long surrounding the WRP and disposal cell, depending on its final footprint. An additional 2,000 ft fence will be installed to prevent entry into the shaft areas.

# 5.0 POST-CLOSURE ENVIRONMENTAL COMPLIANCE AND MONITORING

Through the closeout/closure measures described in Section 4.0 and the requirements of other permits listed in Table 1-1 and described in the Environmental Site Assessment (RGR, 1994a), the Mt. Taylor Mine site is expected to stay within environmental standards for air and water quality.

## 5.1 Surface Water Monitoring

Surface water releases will continue to conform to NPDES-Multi Sector General Storm Water Permit (MSGP) No. NMR05J02B (NPDES, 2021) requirements until closeout/closure is completed and the permit has been terminated. The Post Closure Monitoring Plan (EA, 2025a) outlines all post-closure surface water monitoring, maintenance, and reporting requirements.

The surface water courses across the site are ephemeral. The storm water retention ponds collect runoff during larger storm or snowmelt events but are usually dry.

## 5.2 Groundwater Monitoring

Per the following subsections, groundwater monitoring will be completed in the alluvial and Menefee, plus the deep aquifers.

### 5.2.1 Alluvial and Menefee Groundwater Monitoring

Previous mining activity has adversely impacted the shallow groundwater at the site. RGR has been addressing detected nitrate and uranium contamination under a NMED-approved S2AP (Metric, 2010) since 2011. Findings from site investigations indicate that the shallow groundwater quality and quantity is variable throughout the mine area. In various areas of the WRP and service areas, groundwater concentrations of arsenic, boron, chloride, iron, manganese, nitrate, pH, total radium, selenium, sulfate, total dissolved solids, and uranium exceed New Mexico WQCC drinking water standards.

Site investigations performed over the years (Willowstick, 2024; Ensero, 2021b; Willowstick, 2020; RGR, 2012; Kleinfelder, 2012; METRIC, 2005; METRIC, 2006; METRIC, 2009; RGR, 1994a; NMEI, 1974) indicate that alluvium forms a discontinuous, thin veneer over residual soil and rock of the east-dipping Menefee shales and interbedded sandstones. The alluvial soil cover is thin or absent over most of the mine site. Shallow alluvial groundwater occurs primarily in preferential pathways that occur in the paleo arroyos that lie below part of the Service and Support area and the existing WRP (Willowstick, 2020; Kleinfelder, 2012).

The unlined sewage lagoon, used from 1975 to 1982, is the primary source of perched water and alluvial saturation and believed to be the source of uranium and nitrate observed in monitoring wells (Kleinfelder, 2012). Shallow groundwater flows from the site west-northwest along the alluvial-bedrock interface, primarily in paleo arroyos in the bedrock. Upper Menefee siltstones and sandstones, east of the mine site, provide groundwater recharge to alluvium and the Upper Menefee bedrock underlying the operational areas.

In addition to seepage of sewage lagoon water, minor amounts of water from over thirty years of precipitation and surface runoff infiltration contributes to a persistent groundwater mound within

the WRP. The perched water migrates downward by gravity drainage along preferential pathways created by the different material buried in the WRP and paleochannels in the top of the Menefee bedrock (now buried beneath the WRP). This perched water is hydraulically connected to the underlying alluvial sediments and Upper Menefee silty sandstones as indicated by elevated uranium and nitrate concentrations present in monitor wells completed in the upper 50 ft of the Menefee in this area.

The S2AP (Metric, 2010) remedial action is extraction and evaporation of contaminated groundwater. RGR maintains a series of shallow recovery wells and alluvial/Menefee-aquifer and monitor wells as part of the ongoing abatement. Wells are completed in a perched-water zone within the WRP, in alluvium at the bedrock contact, and in the upper 50 ft of the Menefee Formation. Six wells (MW-6, WP- 5, WL-2, WL-3, WL-4 and WL-5) are currently used as extraction wells. These wells are in the former lagoon area and on the western edge of the WRP (Figure 1-6).

RGR is planning to install two more extraction wells near MW-1M and MW-11A (Figure 16). Elevated levels of uranium and nitrate in the groundwater were detected in these areas during the 2020 site investigation (Ensero, 2021b).

A piping system, referred to as the North Force Main (NFM), was refurbished and updated during the 2018-2019 mine reactivation period. The NFM system is located just south of the Sanitary Treatment Plant (Appendix A Drawing Sheet CL03) and is comprised of a vault, pumps, and piping. The piping is buried and connects the vault to MWTU Pond #3. Monitor well WP5 is plumbed into the NFM system, so that water extracted from the well can be pumped to MWTU Pond #3 for evaporation. Both the NFM and the WP5 water delivery piping were leak-tested and certified leak-free by a registered New Mexico Professional Engineer, but neither has been placed into operation.

RGR intends to connect all other existing and future extraction wells to the NFM for transferring extracted water to MWTU Pond #3. This will eliminate the need to pump extraction water from the wells into a mobile water tank, which is currently used to truck the impacted water from the wells to MWTU Pond #3. The new delivery pipe will run below the ground surface from the wells to the NFM Vault via an HDPE pipe. The NFM system will operate throughout the closeout/closure period until it is no longer needed.

Piper diagrams of monitoring well water quality indicate that groundwater quality is highly variable at the mine. Water from wells 1C, 2F, and 1J are sodium-bicarbonate water (the predominant cation is sodium and the predominant anion is bicarbonate). Water from these wells represent background water quality in the Upper Menefee at the mine site. These three wells are located east of the WRP and have low total dissolved solids (TDS), low sulfate concentrations, and no elevated levels of chemicals of concern at the site. Water quality of all other abatement wells are sodium chloride-type waters (the predominant cation is sodium and the predominant anion is bicarbonate) and have variable levels of elevated TDS, sulfate, nitrate, and uranium concentrations. WP-4 water quality is a mixed-type water between sodium chloride and sodium bicarbonate. Details on the water quality monitoring and impacts of ongoing abatement are reported in the most recent quarterly DP-61 groundwater report (EA, 2025b).

Additional site investigation as part of the abatement program will continue to assess the source, nature and extent of groundwater impacts in the area of the shafts, near well MW-1M, and to the west and northwest of these areas.

Uranium (U) and nitrate (NO3) isoconcentration maps for the shallow groundwater within the alluvial sediments and upper Menefee Fm have been provided in the Quarterly Groundwater Monitoring Report (submitted to NMED Ground Water Quality Bureau) in accordance with DP61 (NPDES, 1998 and the S2AP (Metric, 2010) since the 3rd quarter of 2018. The overall shape and magnitude of U and NO3 distribution in shallow groundwater was relatively consistent from 2018 through the 2nd quarter of 2021. The only notable change over that period with respect to uranium concentration was a greater than two orders of magnitude reduction at well MW-6, declining from 150 mg/L down to 1.1 mg/L. That well is completed across a perched water zone within the Waste Rock Pile (WRP).

Beginning in the 2nd quarter 2021, water quality from seven new monitoring wells (all completed in the upper Menefee Fm) were added to the quarterly reporting, and the results were included in the isoconcentration maps. The additional data points revealed a north-northeasterly trending arm of the nitrate and uranium plumes that extends up to newly installed well MW-1M. Note that this extension was not an indication of recent plume migration. Rather the extension reflected the addition of data in an area that was previously not part of the monitoring network.

From the 3rd quarter of 2021 through the most recent sampling in the 2nd quarter of 2025 (EA, 2025b), there has been little change in the shape or magnitude of either the U and NO3 distribution in shallow groundwater at the Mt Taylor mine site (Figures 5-1 through 5-4).

Sulfate concentrations for the shallow groundwater monitoring network have been provided in the quarterly monitoring reports, but isoconcentration maps were not included (nor required under DP-61). Sulfate isoconcentration maps for the shallow groundwater system (alluvial and Upper Menefee) from the 3rd quarter 2018 and 2nd quarter 2025 are provided as Figures 5-5 and 5-6, respectively. Similar to the uranium and nitrate isoconcentration maps, the earlier sulfate map failed to detect the north-northeast trending arm of the plume that was later identified by wells MW-1M and MW4D.

Other potential sources of shallow groundwater contamination are the MWTU ponds, the ore pad and the NSWP, but such contamination is not expected. Well MW-3, which monitors groundwater down gradient of these areas, has not shown any contamination from nitrate, uranium, nor radium (EA, 2025b). In the area of these features, the alluvial cover is thin or absent. The mine treatment ponds have been remediated and closed except for Ponds #2 and #3, which will remain open and serve as evaporation ponds until groundwater abatement activities are complete. Ponds #2 and #3 were remediated and reconstructed with HDPE liners and leak detection systems. The ore pad is graded so that water falling on it is directed to the NSWP. The NSWP is clay lined.

The S2AP (Metric, 2010) will continue to be followed until the groundwater quality meets the WQCC water quality standards for nitrate and uranium. RGR anticipates remediating site groundwater during the closeout/closure period. As needed, monitoring could extend beyond

closeout/closure. Currently, groundwater extraction is the only approved remediation method, so no additional technology is included in this CCP. However, RGR intends to conduct a feasibility study of several other treatment options that potentially could accelerate the groundwater remediation. The impacted groundwater and the effects of the abatement plan are being assessed through the DP-61 monitoring program. When the abatement plan objectives have been achieved, this monitoring program will be discontinued, and a completion report will be submitted to NMED.

Once the remediation goals are achieved, all abatement wells will be plugged and abandoned, except for four alluvial/Menefee wells (MW-1M, MW-5, WP-5, and MW-11A) that are proposed for monitoring water quality as part of the Post-Closure Monitoring Plan (EA, 2025a) (Appendix H). These well locations are shown in Figure 1-6. All wells that shall be plugged and abandoned will be done in accordance with OSE regulations and in consultation with OSE. RGR will submit a well plugging plan for approval prior to abandonment.

### 5.2.2 Deep Aquifer Groundwater Monitoring

As required by DP-61, RGR submitted a Post-Closure Deep Well Monitoring Plan (NV5, 2020) to NMED in April 2020. Condition 57 requires post-closure groundwater monitoring of the Point Lookout, Tres Hermanos, Dakota, and Westwater Canyon aquifers. RGR submitted an updated Post-Closure Monitoring Plan on June 30, 2025 (EA, 2025a) that is pending approval from NMED and includes the water quality parameters and schedule for monitoring and reporting. In that plan, five wells were selected for long-term monitoring including: DW-3 and DW-10 (Point Lookout aquifer wells); DW-11 (Tres Hermanos and Dakota); and DW-14 and DW-19 (Westwater Canyon) (Figure 1-4). However, after that plan submittal, RGR received notice on September 25, 2025 from the New Mexico Office of the State Engineer (OSE) that all of those wells, with the exception of DW-14, may be in violation of NMAC 19.27.4, which does not allow for interaquifer exchange, and may require plugging and abandonment. Therefore, some of the wells included in the Post Closure Monitoring Plan may need to be changed or replaced, based on the OSE notice and subsequent investigation of well condition.

## 5.3 Radiological Safety and Monitoring

### 5.3.1 Radiological Safety

Radiation safety controls and monitoring are implemented to protect workers and the public consistent with applicable aspects of OSHA standards for ionizing radiation (29CFR§ 1910.1096 OSHA, 2019) (ionizing radiation) and NMAC standards for protection against ionizing radiation (20.3.4 NMAC, 2009) associated with uranium mine sites, and the ALARA requirement in 10CFR§ 20.1101 (NRC, 1991). The controls and monitoring will be implemented pursuant to the Mt. Taylor Mine Site (Site) March 2021 Radiation Protection Program (RPP) Manual (ERG, 2021) and its subordinate standard operating procedures (SOPs). The RPP includes radiation safety organization, radiation safety training requirements, ALARA policy, radiation dose standards, access controls, radiation protection controls, radiologic surveys and monitoring for exposures, associated SOPs, and environmental radiation monitoring. Radiation work permits (RWP) are written and implemented for one-time tasks which are not included in the WPs and RPP and are not ongoing activities. Applicable elements of the RPP will be updated for closeout activities, such as excavation and handling of uranium ore impacted material, that poses increased potential for

exposure to workers and the public. The ongoing radiologic characterization of surface and subsurface soil will provide data that will facilitate any update of the RPP.

### 5.3.2 Radiological Surveying and Monitoring

The Site RPP (ERG, 2021) includes radiological contamination surveys, airborne particulate and radon monitoring for occupational exposure to radioactive material via internal pathways. The RPP also includes area TLDs and gamma radiation surveys for occupational exposure to radioactive material via external pathways. Radiologic monitoring for exposure to the public in the RPP consists of environmental area TLDs, radon gas monitors and airborne particulate monitoring as needed. The radiological surveys and monitoring specified in the RPP are consistent with USNRC Reg Guide 8.30, 8.31 and 4.14 for radiation protection. Where warranted, the RSO will use the data generated by occupational radiation exposure monitoring to calculate estimates of radiological dose using conventional health physics principles and methods traceable to applicable State and/or Federal regulations and regulatory guidance documents.

The May 2022 MMD/NMED approved Work Plan for Post-Mining Radiological Surveys of Permit Area and Impacted Lands (WP) for the Site (ERG, 2020) includes surveys that will be utilized during the closeout activities. The radiologic surveys in the Site Work Plan are consistent with the MARSSIM (NRC er al. 2000). Direct gamma scan and static surveys will be used for excavation control (Remedial Action Support) surveys during remediation (excavation and removal) of soils exceeding the Ra-226 soil Cleanup Level. Direct gamma scan and static surveys and soil sampling and analysis will be used for Final Status Survey (FSS) for demonstrating compliance with the Site soil cleanup level following the soil remediation. U.S. EPA Method 115 (EPA, 2017) for monitoring of radon – 222 emission will be used over the uranium mine waste repository radon barrier to demonstrate compliance with the 20 pCi/m2/second radon flux emission standard.

## 5.4 Air Quality

Air quality impacts from Mt. Taylor Mine are minimal, resulting primarily from fugitive dust generated by truck traffic which is controlled by application of water as needed. Completion of closeout/closure measures will reduce truck traffic to occasional trips by the landowner if grazing is the PMLU. Traffic related to other continued use of mine facilities retained by the surface owners cannot be predicted at this time. Revegetation of disturbed ground and erosion protection on steep slopes will reduce other fugitive dust. There are no other sources of dust or gaseous emissions left after closeout/closure. For additional information on air quality, see page 14 of the Mt. Taylor Mine Site Assessment (RGR, 1994a).

## 5.5 Sanitary Treatment Plant Discharge

The sanitary treatment plant (STP), which has not operated since the early 1990's, will be demolished during closeout/closure. The existing septic tank will be inspected, repaired or replaced if necessary, and placed back into service with the leach field through closeout. No monitoring of the septic system is planned.

## 5.6 Erosion Control and Stormwater Monitoring

After the CCP earthwork is completed and the surface water runoff controls have been installed in the area identified for commercial PMLU per the Erosion and Sediment Control Plan (RGR, 2018), RGR will initiate and continue erosion monitoring through the succeeding 12-year period, or until released under the New Mexico Mining Act.

RGR will visually inspect reclaimed land for signs of erosion and will mitigate significant erosion features to prevent soil degradation at the site. RGR will inspect drainage channels, diversion structures, retention ponds, and auxiliary erosion control measures and will repair and maintain them in accordance with the standards identified in the Field Office Technical Guides of the U.S. Natural Resource Conservation Service (NRCS), Section IV current at the time of the future erosion control monitoring activities.

Inspections will continue until the specific units are released under the New Mexico Mining Act (New Mexico, 2005). Inspections will be conducted monthly for the first year following completion of reclamation construction activities for each unit, and quarterly thereafter. Reclaimed areas will also be inspected for evidence of erosion after storm events of one inch or greater in any one-day period.

Erosion control measures that are damaged or ineffective will be repaired or redesigned as necessary. RGR commits to using a variety of erosion control measures, as needed, if erosion control problems develop. Long-term erosion control measures will include the installation of berms, designed channels, and sediment containment structures, as necessary. Short-term erosion control measures may include, but not be limited to silt fences, hay bales, water bars, and mulching.

Monitoring methods include visual observation followed as needed by more quantitative methods that could include time-sequenced UAV-based imagery, close-range photogrammetry, silt fences, erosion bridges placed across active rills, and sediment traps at the terminus of rills. These and other methods are described in detail in Upland Soil Erosion Monitoring and Assessment: An Overview (BLM, 2011).

As a supplement to visual erosion inspections, ground surfaces created, disturbed, or reclaimed by closeout activities may be mapped by UAV-based imagery to document as-built topography and baseline terrain conditions. For the first three years after completion of closeout, the UAV imagery of reclaimed areas may be used as baseline conditions against which visual observations can be mapped. Based on those observations, erosion could be accurately located and quantitatively evaluated. Ideally, these observations and quantitative methods may be performed annually at the end of monsoon season.

As long as the NPDES Multi Sector General Stormwater Permit #NMR05J02B (NPDES, 2021) is active; RGR will continue to monitor stormwater discharges, as required, and operate in accordance with the Mt Taylor Mine SWPPP (Inspections Plus, 2019). RGR will inspect the entire length of all storm- and surface-water diversion channels, outfalls, the SSWP, and all associated structures for physical evidence of erosion and other damage that may compromise the integrity of the stormwater management system.

Stormwater and erosion monitoring will occur according to the following schedule and as listed in Table 1:

- Quarterly while NPDES Multi Sector General Stormwater Permit #NMR05J02B (NPDES, 2021) is active during years 13-30
- Annually for years 31-100 after a one-inch rainfall occurs in a 24-hour period

The SSWP will be monitored for water quality once every four years through Year 30 and once every fifteen years thereafter. The sampling event will coincide with the groundwater-monitoring event. Continued monitoring of the SSWP will confirm that stormwater is not contaminated with uranium or radium.

## 5.7 Vegetation Monitoring

Monitoring of revegetated areas will be conducted in accordance with the Revegetation Plan and Monitoring Protocols (Cedar Creek, 2025) (Appendix F). The revegetation liability period (period that the owner is responsible for revegetation performance) under the MMD framework is 12 years with monitoring every three years. Results will be analyzed and summarized to assist in determining the need for any changes in management practices or the need for reseeding.

Once vegetation success is determined, monitoring will continue to ensure quality of success. Monitoring results will be used to track the revegetation progress and assist in identifying management practices for improvement.

# 6.0 CLOSEOUT/CLOSURE SCHEDULE

The schedule for mine closeout/closure is shown in the Gantt chart in Figure 6-1. From initiation of the closeout/closure contracting process to completion of the closeout/closure activities on site is estimated to take about 5 years. The first 10 months would be taken up by project management and contractor procurement, followed by 52 months of actual construction activities on site from mobilization through demobilization.

# 7.0 COST ESTIMATE

The revised cost estimate will be completed and submitted 60 days after final CCP approval (Appendix E).

## 7.1 Estimation Strategy

A detailed cost estimate was prepared to project the anticipated cost associated with implementing the Closure and Closeout Plan (CCP) activities and will be finalized after approval of the CCP. The cost estimate was developed using RSMeans Online Database (RSMeans, 2025), an established and recognized construction cost estimating database. To obtain accurate and consistent unit pricing used in creating the estimate, regional cost data specific to central New Mexico was selected within RSMeans to reflect real world pricing. In addition, regional material costs were referenced for items used during reclamation (e.g. fencing, erosion control materials, concrete, and riprap). Wage data from the U.S. Bureau of Labor Statistics for equipment operation, management, and construction laborers was incorporated into overall costs estimates for construction and deconstruction activities. The Consumer Price Index was referenced to collect diesel fuel costs used to accurately determine the cost of equipment operation (CPI, 2025).

## 7.2 Basis of Estimation

Quantities used to estimate the costs of the CCP activities, specifically the cost of demolition, construction activities, and earthwork, were derived from a combination of field measurements, counts of previously identified materials, review of design and construction plans, and volumetric calculations based on site-specific conditions and general site knowledge. These quantities provide the basis for calculating labor and equipment costs for CCP activities. It should be noted that all quantities presented in the estimate are approximations developed from available information and site observations. There is potential for variance between estimated and actual quantities. The estimates made in this exercise are intended for planning and bonding purposes and should be modified if additional information becomes available.

## 7.3 Direct Costs

The direct costs in the CCP estimate represent the expense directly associated with performance of the physical work outlined in this CCP document. Direct costs include the demolition and disposal of selected on-site buildings and infrastructure and excavation, hauling, and disposal of contaminated soils and waste in accordance to regulation, monitoring and testing during CCP activities, and mobilization and demobilization of equipment required to carry out CCP activities. Additional direct costs include the construction of stormwater management infrastructure and revegetation activities (e.g. mulching, fertilizing, and seeding).

## 7.4 Indirection Costs

The indirect costs in the CCP estimate represent the costs that support and enable the execution of the CCP activities. Indirect costs include engineering and redesign, CCP management, and contract administration. Additionally, indirect costs include required archaeological studies, regulatory compliance, and insurance. A contingency allowance is included in the indirect costs to address possible uncertainties inherent in CCP activities, as well as potential scope of work adjustments

that may be necessary during construction. The contingency is applied as a percentage of the direct costs and has been estimated at 10% to reflect the level of estimated accuracy.

## 7.5 Supplemental Costs

In addition to RSMeans cost data, supplemental cost information was obtained from third-party sources to estimate specific components within the CCP. These supplemental costs were necessary to accurately estimate the costs associated with unique demolition tasks (e.g. shaft closure and conduit plugging). Additionally, preliminary design reports were used to estimate the cost associated with the construction of the proposed south stormwater improvement infrastructure (NV5, 2025).

More specifically, the cost estimated to plug the mine conduit and to complete the closure of the manway and production shafts are taken from a previous estimate (RGR, 2022b) and adjusted to current costs. Adjustment of older estimates was completed by multiplying the costs by the difference in CPI index, expressed as a percentage, between the time of origination, 2022, and at the time of this report, 2025.

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# TABLES

**Table 1-1 Other Permits**

| Name of Permit | Purpose | Expires |
|---|---|---|
| **Federal** | | |
| NPDES NM 0028100 | Mine water discharge | Terminated 8/21 |
| Multi Sector General Storm Water Permit #NMR05J02B | Stormwater discharge effective 06/17/2021 industrial plant | February 28, 2026 |
| US Forest Service Special Use Permit | 24” water transmission pipeline | December 31, 2028 |
| **State of New Mexico** | | |
| Mine Water Discharge Permit NMED Permit #DP-61 | Mine water discharge and retention | October 14, 2020 (in timely renewal) |
| Radioactive Material License #SO043-14 | Radioactive materials (sources only) | Terminated 12/29/21 |
| Mt. Taylor Mine Permits NM MMD Permit #C1002RE – Revision 13-2 | Active status December 29, 2017 | Applied for revision June 2022 (22-1), awaiting approval |

## Table 1-2 Groundwater Levels in Wells and Shafts

| Well No. | State Plane Coordinates (NAD 83) | | Top of Casing Elevation, Feet AMSL(a) | Well Depth, Feet from Surface | Well Depth, Feet Elevation AMSL | Screened Interval, Feet BGS (5) | Screened Interval Elevation, Feet AMSL (5) | Depth to Water, Feet from Top of Casing | Elevation of Water Level, Feet AMSL | Date of Water Level Measurement | Aquifer in Screened Interval (3) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | E | | | | | | | | | |
| DW-1 | 1579419 | 2782626 | 7342.0 | 1118 | 6222 | 740-890 | 6600-6450 | 471.50 | 6870.49 | 2/2025 | PL |
| DW-2 | 1579121 | 2782606 | 7337.6 (b) | 2920 | 4425 | 2550-2920 | 4795-4425 | 741.43 | - | 2/2025 | TH/D |
| DW-2a(1) | 1579202 | 2782709 | 7347.0 (b) | 925 | 6422 | 750-900 | 6597-6447 | 483 | 6864 | 4/2018 | PL |
| DW-3 | 1579008 | 2782795 | 7350.1 | 1150 | 6197 | 737-891 | 6610-6456 | 592.53 | 6757.61 | 2/2025 | PL |
| DW-4 | 1578965 | 2783021 | 7349.0 (b) | 1130 | 6214 | 750-900 | 6599-6449 | - | - | - | PL |
| DW-5 | 1579038 | 2783256 | 7403.4 | 1172 | 6234 | 852-1002 | 6554-6404 | - | - | - | PL |
| DW-6 | 1579210 | 2783402 | 7384.7 | 1190 | 6195 | 845-995 | 6540-6390 | 598.00 | 6786.65 | 12/2013 | PL |
| DW-7 | 1579455 | 2783384 | 7376.3 | 1125 | 6251 | 825-995 | 6551-6401 | 565.87 | 6810.46 | 2/2025 | PL |
| DW-8 | 1579672 | 2783240 | 7342.7 | 1044 | 6302 | 791-941 | 6555-6405 | - | - | | PL |
| DW-9 | 1579723 | 2782973 | 7337.6 | 2845 | 4495 | 2538-2840 | 4802-4500 | 613.31 | 6724 .33 | 2/2025 | TH |
| DW-10 | 1579619 | 2782734 | 7339.7 | 1065 | 6272 | 738-888 | 6599-6449 | 462.35 | 6877.32 | 2/2025 | PL |
| DW-11 | 1578845 | 2783245 | 7445.0 | 3028 | 4418 | 2819-3028 | 4627-4418 | 899.88 | 6545.12 | 2/2025 | TH/D |
| DW-12 | 1579421 | 2783439 | 7418.9 | 2940 | 4479 | 2791-2940 | 4628-4479 | 823.4 | 6595 .60 | 2/2025 | TH/D |
| DW-13 | 1579378 | 2782065 | 7322.3 | 3185 | 4132 | 3045-3185 | 4247-4132 | 740.28 | 6582.04 | 2/2025 | W |
| DW-14 | 1578847 | 2782182 | 7342.3 | 3205 | 4133 | 3048-3188 | 4290-4150 | 754.62 | 6587.77 | 2/2025 | W |
| DW-15 | 1578491 | 2782501 | 7393.5(b) | 3205 | 4142 | 3056-3196 | 4291-4151 | - | - | - | W |
| DW-16 | 1578334 | 2782995 | 7393.6 | 3275 | 4118 | 3105-3245 | 4288-4148 | 806.6 | 6587.50 | 2/2025 | W |
| DW-17 | 1578570 | 2783563 | 7496.8 | 3342 | 4159 | 3209-3342 | 4291-4159 | 909.00 | 6587.79 | 2/2025 | W |
| DW-18 | 1578902 | 2783778 | 7497.7 | 3314 | 4188 | 3212-3314 | 4295-4192 | 919 | 6578.79 | 5/2022 | W |

**Table 1-2 Groundwater Levels in Wells and Shafts (Continued)**

| Well No. | State Plane Coordinates (NAD 83) | | Top of Casing Elevation, Feet AMSL(a) | Well Depth, Feet from Surface | Well Depth, Feet Elevation AMSL | Screened Interval, Feet BGS (5) | Screened Interval Elevation, Feet AMSL (5) | Depth to Water, Feet from Top of Casing | Elevation of Water Level, Feet AMSL | Date of Water Level Measurement | Aquifer in Screened Interval (3) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | E | | | | | | | | | |
| DW-19 | 1579493 | 2783781 | 7453.2 | 3274 | 4179 | 3166-3274 | 4287-4179 | - | - | - | W |
| DW-20 | 1579945 | 2783505 | 7386.1 | 3223 | 4162 | 2938-3223 | 4447-4162 | 811.36 | 6574.78 | 5/2022 | D-W |
| DW-21 | 1580165 | 2782966 | 7323.4 | 3184 | 4132 | 2873-3173 | 4443-4143 | 743.79 | 6579.61 | 2/2025 | D-W |
| DW-22 | 1579900 | 2782460 | 7305.4 | 3195 | 4110 | 3019-3159 | 4286-4146 | 725.24 | 6580.13 | 2/2025 | W |
| SM-24-38 | 1579116 | 2783008 | 7390.0 (b) | 3535 | 3814 | 3107-3247 | 4324-4184 | - | - | - | W |
| SM-24-43 | 1579029 | 2782948 | 7347.0 (b) | 3535 | 3812 | 3064-3204 | 4283-4143 | - | - | - | W |
| SM-24-89 | 1578964 | 2782908 | 7348.0 (b) | 3121 | 4227 | | | -- | -- | - | W |
| SM-15-59 | 1584519 | 2771754 | 7738.0 (b) | -- | -- | | | -- | -- | - | -- |
| SM-13-74 | 1584233 | 2783313 | 7480.0 | -- | -- | | | 1518 | 5962 | 10/1991 | -- |
| SM-31-1-2D | 1584519 | 2786914 | 7630.0 | -- | -- | | | -- | -- | - | -- |
| SM 24-23E | 1579711 | 2783249 | 7342.0 | 3077 | 4265 | | | 796.41 | 6550.59 | 5/5/2022 | D |
| 14-Ft Shaft | 1579520 | 2783065 | 7344.0 | 3340 | 4008 | | | 776 | 6566 | 10/2019 | W |
| 24-Ft Shaft | 1579122 | 2782964 | 7342.0 | 3300 | 4043 | | | 779 | 6567 | 9/2019 | W |

(1) Well 2-a supplies domestic water from the Pt. Lookout Sandstone
(2) Wells installed in 1977
(3) PL=Pt Lookout, TH= Tres Hermanos, D= Dakota, W= Westwater
(4) -- = Well details unknown.
(5) - = Wells with no water level measurements are not accessible.
(a). Most wells were resurveyed in 2023 except those indicated with a (b)
(b). Well was not included in the 2023 survey, survey date unknown

## Table 2-1 Water Quality Test Results for Mine Pool in Manway Shaft (14ft) and Production Shaft (24ft)

| Sample ID | Date | As mg/L | Ba mg/L | Cl mg/L | F mg/L | Fe mg/L | Mo mg/L | pH | Ra-226 pCi/L | Se mg/L | SO4 mg/L | TDS mg/L | U mg/L | Zn mg/L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20.6.2.3103 NMAC (1)** | | **0.01** | **2** | **250** | **1.6** | **1** | **1** | **6-9** | **5** | **0.05** | **600** | **1000** | **0.03** | **10** |
| **MANWAY AND PRODUCTION SHAFT WATER QUALITY RESULTS** | | | | | | | | | | | | | | |
| 14FT-SEEP-12 FTBGS | 6/2/2021 | -0.001 | 0.029 | 39 | -0.5 | -0.02 | -0.02 | 8.65 | -- | -0.001 | 510 | 1130 | -0.0005 | 0.011 |
| 14FT-PLSS-855FTBGS | 10/1/2019 | 0.0012 | 0.22 | 3.2 | 1.2 | -0.02 | 0.093 | 8.56 | 8.36 | -0.001 | 25 | 353 | 0.021 | 0.018 |
| 14FT-MSH/DC-1635FTBGS | 10/1/2019 | 0.0021 | 0.22 | 4.3 | 1.1 | 0.036 | 0.15 | 8.51 | 8.99 | -0.001 | 38 | 343 | 0.036 | 0.019 |
| 14FT-THSS-2635FTBGS | 10/1/2019 | 0.002 | 0.23 | 4.3 | 1.1 | 0.038 | 0.16 | 8.5 | 15.4 | -0.001 | 38 | 347 | 0.036 | 0.026 |
| 14FT-WWSS-3110FTBGS | 10/1/2019 | 0.0021 | 0.22 | 4.2 | 1 | 0.032 | 0.16 | 8.48 | 17.1 | -0.001 | 37 | 344 | 0.036 | 0.021 |
| 24FT-PLSS-855FTBGS | 10/1/2019 | 0.0012 | 0.26 | 3 | 0.91 | 0.024 | 0.094 | 8.48 | 8.19 | -0.001 | 24 | 306 | 0.021 | 0.025 |
| 24FT-MSH/DC-1635FTBGS | 10/1/2019 | 0.0022 | 0.22 | 4.4 | 1.1 | 0.037 | 0.16 | 8.48 | 12.2 | -0.001 | 38 | 344 | 0.037 | 0.029 |
| 24FT-THSS-2635FTBGS | 10/1/2019 | 0.0022 | 0.21 | 4.4 | 1.1 | 0.041 | 0.17 | 8.5 | 14.1 | -0.001 | 39 | 349 | 0.037 | 0.024 |
| 24FT-WWSS-3110FTBGS | 10/1/2019 | 0.0014 | 0.25 | 3.2 | 0.97 | 0.027 | 0.1 | 8.47 | 13.4 | -0.001 | 26 | 308 | 0.023 | 0.018 |
| 24-FT SHAFT | 9/28/2007 | -- | -- | 4 | -- | 0.05 | 0.2 | 8.38 | 16.8 | -0.001 | 44 | -- | 0.071 | -0.01 |
| FB-12/9/21 | 12/9/2021 | 0.001 | 0.002 | -0.5 | 0.1 | -0.02 | 0.008 | 6.24 | ND | -0.001 | -0.5 | -20 | 0.0005 | -0.01 |
| EQB-12/6/21 | 12/6/2021 | 0.001 | 0.002 | -0.5 | 0.1 | -0.02 | 0.008 | 6.35 | ND | -0.001 | 0.59 | -20 | 0.0005 | 0.078 |

(1) Water quality standards for human health, domestic water supply, and irrigation use as listed in 20.6.2.3103 NMAC

Notes:

Yellow highlighted values indicate that the water quality result exceeds the standards of 20.6.2.3103 NMAC.

-0.001 - A negative sign in front of result indicates that the analyte was not detected above the Practical Quantitation Limit (PQL).

Bold lettering indicates that the analyte was detected above the PQL, but below the WQCC standard

ND = Not Detected above the minimum activity count

-- = No analytical results available for the analyte

PLSS= Point Lookout Sandstone MSH/DC = Mancos Shale/Dilco Coal THSS = Tres Hermanos Sandstone WWSS – Westwater Sandstone

## Table 2-2(a) Water Quality Inorganic Test Results for Point Lookout Aquifer Wells 2017-2021 (Dewatering Wells)

| Sample ID | Date | As (mg/L) | Ba (mg/L) | Cl (mg/L) | F (mg/L) | Fe (mg/L) | Mo (mg/L) | pH | Total Ra (pCi/L) | Se (mg/L) | SO4 (mg/L) | TDS (mg/L) | U (mg/L) | Zn (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **20.6.2.3103 NMAC (1)** | | **0.01** | **2** | **250** | **1.6** | **1** | **1** | **6-9** | **5** | **0.05** | **600** | **1000** | **0.03** | **10** |
| **POINT LOOKOUT AQUIFER WATER QUALITY RESULTS** | | | | | | | | | | | | | | |
| **DW-1** | **12/6/2021** | **0.001** | **0.34** | -2.5 | **0.58** | **0.22** | **0.008** | **8.38** | ND | -0.001 | **5.3** | **226** | -0.0005 | **0.015** |
| **DW-2a(2)** | **8/22/2017** | **0.001** | **0.018** | **10** | **2.4** | -0.02 | -0.008 | **8.85** | **0.682** | **0.003** | **170** | **692** | -0.0005 | **0.035** |
| **DW-3** | **12/7/2021** | **0.001** | **0.37** | -2.5 | **0.52** | **0.12** | **0.008** | **8.34** | **3.93** | -0.001 | **3.7** | **212** | **0.0013** | **0.022** |
| **DW-6 (PL-6)** | **2/18/2020** | -0.001 | **0.39** | **0.084** | **0.48** | **0.059** | -0.008 | **8.43** | ND | -0.001 | **6** | **209** | -0.0005 | **0.011** |
| **DW-7** | **12/7/2021** | **0.001** | **0.21** | -2.5 | **0.61** | **0.17** | **0.008** | **8.42** | ND | -0.001 | **6.6** | **220** | -0.0005 | **0.016** |
| **DW-8 (PL-8)** | **2/13/2020** | -0.001 | **0.38** | **0.73** | **0.61** | **0.029** | -0.008 | **8.47** | ND | -0.001 | **6** | **201** | -0.0005 | **0.017** |
| **DW-10** | **12/6/2021** | **0.001** | **0.0058** | **5** | **2.7** | **0.36** | **0.008** | **8.63** | ND | -0.001 | **52** | **474** | **0.013** | **0.011** |
| **FB-12/9/21** | **12/9/2021** | **0.001** | **0.002** | -0.5 | **0.1** | -0.02 | **0.008** | **6.24** | ND | -0.001 | -0.5 | -20 | **0.0005** | -0.01 |
| **EQB-12/6/21** | **12/6/2021** | **0.001** | **0.002** | -0.5 | **0.1** | -0.02 | **0.008** | **6.35** | ND | -0.001 | **0.59** | -20 | **0.0005** | **0.078** |

(1) Water quality standards for human health, domestic water supply, and irrigation use as listed in 20.6.2.3103 NMAC
(2) Well DW-2a supplies domestic water from the Pt. Lookout Sandstone
(3) Well DW-6 supplies water to storage tank for site use

Notes:

Yellow highlighted values indicate that the water quality result exceeds the standards of 20.6.2.3103 NMAC

-0.001 - A negative sign in front of result indicates that the analyte was not detected above the Practical Quantitation Limit (PQL).

Bold lettering indicates that the analyte was detected above the PQL, but below the WQCC standard.

ND = Not Detected above the minimum activity count

FB = Field Blank

EQB = Equipment Blank

## Table 2-2(b) DW-1 Water Quality Organic Test Results for Point Lookout Aquifer Wells 2023 (Dewatering Wells)

| October 2023 Dewatering Wells Water Quality Data Summary | | Well ID | DW1 | DW1 | DW1 | DW1 |
|---|---|---|---|---|---|---|
| | | Depth (fbtoc) | 785 | 785 | 785 | 785 |
| | | Sample Type | Sample | Field Duplicate | Rinseate Blank | Trip Blank |
| | | Date Collected | 10/03/2023 | 10/03/2023 | 10/03/2023 | 10/03/2023 |
| **Analyte** | **NM WQCC-3103** | **Units** | | | | |
| Acenaphthene | | mg/l | <0.00005002 | <0.0000500 | <0.0000500 | <0.0000500 |
| Acenaphthylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Pyrene | 0.0002 | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(B)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(K)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(G,H,I)Perylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| 2-Chloronaphthalene | | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Chrysene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Dibenz(A,H)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Fluoranthene | | mg/l | <0.000100 | <0.000100 | <0.000100 | <0.000100 |
| Fluorene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Indeno(1,2,3-Cd)Pyrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| 1-Methylnaphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| 2-Methylnaphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Naphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Phenanthrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Pyrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzene | 0.005 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| Ethylbenzene | 0.7 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| Toluene | 1 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| Xylenes, Total | 0.62 | mg/l | <0.00300 | <0.00300 | <0.00300 | <0.00300 |
| TPH | | mg/l | <0.100 | <0.100 | <0.100 | <0.100 |
| C10-C28 Diesel Range | | mg/l | <0.100 | <0.100 | <0.100 | <0.100 |
| C28-C40 Oil Range | | mg/l | <0.100 | <0.100 | <0.100 | <0.100 |

Acronyms: Reporting Limit (RDL), Feet Below Top of Casing (Fbtoc), Quality Control (QC) Total Petroleum Hydrocarbons (TPH), Point Discharge (PD)



Dark grey shading in cells indicates a concentration was measured above RDL
Yellow shading in cells indicates a concentration was measured above NMWQCC-3102 Standards
Blue indicates a concentration was measured above RDL in a blank sample
Footnotes:

1. The “less than” symbol “<” is a method to convey that the target analyte was not encountered above the RDL.
2. Sample was collected from spigot new well head.
3. The targeted sample depth was unable to be met due to unforeseen obstruction. The depths listed for the sample ID for the blanks is the targeted sample depth and the depth listed for the representative sample is the depth reached in the field.

## Table 2-2(b) DW-2A Water Quality Organic Test Results for Point Lookout Aquifer Wells 2023 (Dewatering Wells) (Continued)

| October 2023 Dewatering Wells Water Quality Data Summary | | Well ID | DW2A2 |
|---|---|---|---|
| | | Depth (fbtoc) | Spigot |
| | | Date Collected | 10/11/2023 |
| **Analyte** | **NM WQCC-3103** | **Units** | |
| Acenaphthene | | mg/l | <0.0000500 |
| Acenaphthylene | | mg/l | <0.0000500 |
| Anthracene | | mg/l | <0.0000500 |
| Benzo(A)Anthracene | | mg/l | <0.0000500 |
| Benzo(A)Pyrene | 0.0002 | mg/l | <0.0000500 |
| Benzo(B)Fluoranthene | | mg/l | <0.0000500 |
| Benzo(K)Fluoranthene | | mg/l | <0.0000500 |
| Benzo(G,H,I)Perylene | | mg/l | <0.0000500 |
| 2-Chloronaphthalene | | mg/l | <0.000250 |
| Chrysene | | mg/l | <0.0000500 |
| Dibenz(A,H)Anthracene | | mg/l | <0.0000500 |
| Fluoranthene | | mg/l | <0.000100 |
| Fluorene | | mg/l | <0.0000500 |
| Indeno(1,2,3-Cd)Pyrene | | mg/l | <0.0000500 |
| 1-Methylnaphthalene | 0.03 | mg/l | <0.000250 |
| 2-Methylnaphthalene | 0.03 | mg/l | <0.000250 |
| Naphthalene | 0.03 | mg/l | <0.000250 |
| Phenanthrene | | mg/l | <0.0000500 |
| Pyrene | | mg/l | <0.0000500 |
| Benzene | 0.005 | mg/l | <0.00100 |
| Ethylbenzene | 0.7 | mg/l | <0.00100 |
| Toluene | 1 | mg/l | <0.00100 |
| Xylenes, Total | 0.62 | mg/l | <0.00300 |
| TPH | | mg/l | <0.100 |
| C10-C28 Diesel Range | | mg/l | <0.100 |
| C28-C40 Oil Range | | mg/l | <0.100 |

Acronyms: Reporting Limit (RDL), Feet Below Top of Casing (Fbtoc), Quality Control (QC) Total Petroleum Hydrocarbons (TPH), Point Discharge (PD)



Dark grey shading in cells indicates a concentration was measured above RDL
Yellow shading in cells indicates a concentration was measured above NMWQCC-3102 Standards
Blue indicates a concentration was measured above RDL in a blank sample

Footnotes:

1. The “less than” symbol “<” is a method to convey that the target analyte was not encountered above the RDL.
2. Sample was collected from spigot new well head.
3. The targeted sample depth was unable to be met due to unforeseen obstruction. The depths listed for the sample ID for the blanks is the targeted sample depth and the depth listed for the representative sample is the depth reached in the field.

## Table 2-2(b) DW-2 Water Quality Organic Test Results for Point Lookout Aquifer Wells 2023 (Dewatering Wells) (Continued)

| October 2023 Dewatering Wells Water Quality Data Summary | | Well ID | DW23 | DW23 | DW23 |
|---|---|---|---|---|---|
| | | Depth (fbtoc) | 2480 | 2480 | 2480 |
| | | Sample Type | Sample | Field Blank | Rinseate Blank |
| | | Date Collected | 10/05/2023 | 10/05/2023 | 10/05/2023 |
| **Analyte** | **NM WQCC-3103** | **Units** | | | |
| Acenaphthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Acenaphthylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Pyrene | 0.0002 | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(B)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(K)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(G,H,I)Perylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| 2-Chloronaphthalene | | mg/l | <0.000250 | <0.000250 | <0.000250 |
| Chrysene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Dibenz(A,H)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Fluoranthene | | mg/l | <0.000100 | <0.000100 | <0.000100 |
| Fluorene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Indeno(1,2,3-Cd)Pyrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| 1-Methylnaphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 |
| 2-Methylnaphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 |
| Naphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 |
| Phenanthrene | | mg/l | 0.0000639 | <0.0000500 | <0.0000500 |
| Pyrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzene | 0.005 | mg/l | <0.00100 | <0.00100 | <0.00100 |
| Ethylbenzene | 0.7 | mg/l | <0.00100 | <0.00100 | <0.00100 |
| Toluene | 1 | mg/l | <0.00100 | <0.00100 | <0.00100 |
| Xylenes, Total | 0.62 | mg/l | <0.00300 | <0.00300 | <0.00300 |
| TPH | | mg/l | <0.100 | <0.100 | <0.100 |
| C10-C28 Diesel Range | | mg/l | 0.463 | <0.100 | <0.100 |
| C28-C40 Oil Range | | mg/l | 0.359 | <0.100 | <0.100 |

Acronyms: Reporting Limit (RDL), Feet Below Top of Casing (Fbtoc), Quality Control (QC) Total Petroleum Hydrocarbons (TPH), Point Discharge (PD)



Dark grey shading in cells indicates a concentration was measured above RDL
Yellow shading in cells indicates a concentration was measured above NMWQCC-3102 Standards
Blue indicates a concentration was measured above RDL in a blank sample

Footnotes:
1. The “less than” symbol “<” is a method to convey that the target analyte was not encountered above the RDL.
2. Sample was collected from spigot new well head.
3. The targeted sample depth was unable to be met due to unforeseen obstruction. The depths listed for the sample ID for the blanks is the targeted sample depth and the depth listed for the representative sample is the depth reached in the field.

## Table 2-2(b) DW-3 Water Quality Organic Test Results for Point Lookout Aquifer Wells 2023 (Dewatering Wells) (Continued)

| October 2023 Dewatering Wells Water Quality Data Summary | | | Well ID | DW3 | DW3 | DW3 | DW3 | DW3 | DW3 | DW3 | DW3 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth (fbtoc) | 596 | 596 | 896 | 896 | 1005 | 1005 | 1005 | 1005 |
| | | | Sample Type | Sample | Rinseate Blank | Sample | Rinseate Blank | Sample | Field Duplicate | Field Blank | Rinseate Blank |
| | | | Date Collected | 10/11/2023 | 10/11/2023 | 10/11/2023 | 10/11/2023 | 10/11/2023 | 10/11/2023 | 10/11/2023 | 10/11/2023 |
| **Analyte** | **NM WQCC-3103** | **Units** | | | | | | | | | |
| Acenaphthene | | mg/l | 0.000477 | <0.0000500 | <0.0000500 | <0.0000500 | 0.000104 | 0.000111 | <0.0000500 | <0.0000500 |
| Acenaphthylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Pyrene | 0.0002 | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(B)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(K)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(G,H,I)Perylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| 2-Chloronaphthalene | | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Chrysene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Dibenz(A,H)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Fluoranthene | | mg/l | <0.000100 | <0.000100 | <0.000100 | <0.000100 | <0.000100 | <0.000100 | <0.000100 | <0.000100 |
| Fluorene | | mg/l | 0.00161 | <0.0000500 | 0.0000566 | <0.0000500 | 0.000183 | 0.00018 | <0.0000500 | <0.0000500 |
| Indeno(1,2,3-Cd)Pyrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| 1-Methylnaphthalene | 0.03 | mg/l | 0.0105 | <0.000250 | <0.000250 | <0.000250 | 0.000599 | 0.00058 | <0.000250 | <0.000250 |
| 2-Methylnaphthalene | 0.03 | mg/l | 0.0118 | <0.000250 | <0.000250 | <0.000250 | 0.000701 | 0.00068 | <0.000250 | <0.000250 |
| Naphthalene | 0.03 | mg/l | 0.00134 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Phenanthrene | | mg/l | 0.00181 | <0.0000500 | 0.0000815 | <0.0000500 | 0.000245 | 0.000252 | <0.0000500 | <0.0000500 |
| Pyrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzene | 0.005 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| Ethylbenzene | 0.7 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| Toluene | 1 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |

## Table 2-2(b) DW-3 Water Quality Organic Test Results for Point Lookout Aquifer Wells 2023 (Dewatering Wells) (Continued)

| October 2023 Dewatering Wells Water Quality Data Summary | | | Well ID | DW3 | DW3 | DW3 | DW3 | DW3 | DW3 | DW3 | DW3 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth (fbtoc) | 596 | 596 | 896 | 896 | 1005 | 1005 | 1005 | 1005 |
| | | | Sample Type | Sample | Rinseate Blank | Sample | Rinseate Blank | Sample | Field Duplicate | Field Blank | Rinseate Blank |
| | | | Date Collected | 10/11/2023 | 10/11/2023 | 10/11/2023 | 10/11/2023 | 10/11/2023 | 10/11/2023 | 10/11/2023 | 10/11/2023 |
| **Analyte** | **NM WQCC-3103** | **Units** | | | | | | | | | |
| Xylenes, Total | 0.62 | mg/l | <0.00300 | <0.00300 | <0.00300 | <0.00300 | <0.00300 | <0.00300 | <0.00300 | <0.00300 |
| TPH | | mg/l | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 |
| C10-C28 Diesel Range | | mg/l | 1.37 | <0.100 | 0.62 | <0.100 | 2.3 | 1.7 | <0.100 | <0.100 |
| C28-C40 Oil Range | | mg/l | 0.147 | <0.100 | 0.158 | <0.100 | 0.347 | 0.156 | <0.100 | <0.100 |

Acronyms: Reporting Limit (RDL), Feet Below Top of Casing (Fbtoc), Quality Control (QC) Total Petroleum Hydrocarbons (TPH), Point Discharge (PD)



Dark grey shading in cells indicates a concentration was measured above RDL
Yellow shading in cells indicates a concentration was measured above NMWQCC-3102 Standards
Blue indicates a concentration was measured above RDL in a blank sample

Footnotes:

1. The “less than” symbol “<” is a method to convey that the target analyte was not encountered above the RDL.
2. Sample was collected from spigot new well head.
3. The targeted sample depth was unable to be met due to unforeseen obstruction. The depths listed for the sample ID for the blanks is the targeted sample depth and the depth listed for the representative sample is the depth reached in the field.

## Table 2-2(b) DW-6 Water Quality Organic Test Results for Point Lookout Aquifer Wells 2023 (Dewatering Wells) (Continued)

| October 2023 Dewatering Wells Water Quality Data Summary | | Well ID | DW63 |
|---|---|---|---|
| | | Depth (fbtoc) | Spigot |
| | | Date Collected | 10/10/2023 |
| **Analyte** | **NM WQCC-3103** | **Units** | |
| Acenaphthene | | mg/l | <0.0000500 |
| Acenaphthylene | | mg/l | <0.0000500 |
| Anthracene | | mg/l | <0.0000500 |
| Benzo(A)Anthracene | | mg/l | <0.0000500 |
| Benzo(A)Pyrene | 0.0002 | mg/l | <0.0000500 |
| Benzo(B)Fluoranthene | | mg/l | <0.0000500 |
| Benzo(K)Fluoranthene | | mg/l | <0.0000500 |
| Benzo(G,H,I)Perylene | | mg/l | <0.0000500 |
| 2-Chloronaphthalene | | mg/l | <0.000250 |
| Chrysene | | mg/l | <0.0000500 |
| Dibenz(A,H)Anthracene | | mg/l | <0.0000500 |
| Fluoranthene | | mg/l | <0.000100 |
| Fluorene | | mg/l | <0.0000500 |
| Indeno(1,2,3-Cd)Pyrene | | mg/l | <0.0000500 |
| 1-Methylnaphthalene | 0.03 | mg/l | <0.000250 |
| 2-Methylnaphthalene | 0.03 | mg/l | <0.000250 |
| Naphthalene | 0.03 | mg/l | <0.000250 |
| Phenanthrene | | mg/l | <0.0000500 |
| Pyrene | | mg/l | <0.0000500 |
| Benzene | 0.005 | mg/l | <0.00100 |
| Ethylbenzene | 0.7 | mg/l | <0.00100 |
| Toluene | 1 | mg/l | <0.00100 |
| Xylenes, Total | 0.62 | mg/l | <0.00300 |
| TPH | | mg/l | <0.100 |
| C10-C28 Diesel Range | | mg/l | 0.115 |
| C28-C40 Oil Range | | mg/l | 0.366 |

Acronyms: Reporting Limit (RDL), Feet Below Top of Casing (Fbtoc), Quality Control (QC) Total Petroleum Hydrocarbons (TPH), Point Discharge (PD)



Dark grey shading in cells indicates a concentration was measured above RDL
Yellow shading in cells indicates a concentration was measured above NMWQCC-3102 Standards
Blue indicates a concentration was measured above RDL in a blank sample

Footnotes:

1. The “less than” symbol “<” is a method to convey that the target analyte was not encountered above the RDL.
2. Sample was collected from spigot new well head.
3. The targeted sample depth was unable to be met due to unforeseen obstruction. The depths listed for the sample ID for the blanks is the targeted sample depth and the depth listed for the representative sample is the depth reached in the field.

## Table 2-2(b) DW-7 Water Quality Organic Test Results for Point Lookout Aquifer Wells 2023 (Dewatering Wells) (Continued)

| October 2023 Dewatering Wells Water Quality Data Summary | | | Well ID | DW7 | DW7 | DW7 |
|---|---|---|---|---|---|---|
| | | | Depth (fbtoc) | 900 | 900 | 900 |
| | | | Sample Type | Sample | Field Blank | Rinseate Blank |
| | | | Date Collected | 10/02/2023 | 10/02/2023 | 10/02/2023 |
| **Analyte** | **NM WQCC-3103** | **Units** | | | | |
| Acenaphthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Acenaphthylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Pyrene | 0.0002 | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(B)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(K)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(G,H,I)Perylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| 2-Chloronaphthalene | | mg/l | <0.000250 | <0.000250 | <0.000250 |
| Chrysene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Dibenz(A,H)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Fluoranthene | | mg/l | <0.000100 | <0.000100 | <0.000100 |
| Fluorene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Indeno(1,2,3-Cd)Pyrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| 1-Methylnaphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 |
| 2-Methylnaphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 |
| Naphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 |
| Phenanthrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Pyrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzene | 0.005 | mg/l | <0.00100 | <0.00100 | <0.00100 |
| Ethylbenzene | 0.7 | mg/l | <0.00100 | <0.00100 | <0.00100 |
| Toluene | 1 | mg/l | <0.00100 | <0.00100 | <0.00100 |
| Xylenes, Total | 0.62 | mg/l | <0.00300 | <0.00300 | <0.00300 |
| TPH | | mg/l | <0.100 | <0.100 | <0.100 |
| C10-C28 Diesel Range | | mg/l | 0.166 | <0.100 | <0.100 |
| C28-C40 Oil Range | | mg/l | <0.100 | <0.100 | <0.100 |

Acronyms: Reporting Limit (RDL), Feet Below Top of Casing (Fbtoc), Quality Control (QC) Total Petroleum Hydrocarbons (TPH), Point Discharge (PD)



Dark grey shading in cells indicates a concentration was measured above RDL
Yellow shading in cells indicates a concentration was measured above NMWQCC-3102 Standards
Blue indicates a concentration was measured above RDL in a blank sample

Footnotes:

1. The “less than” symbol “<” is a method to convey that the target analyte was not encountered above the RDL.
2. Sample was collected from spigot new well head.
3. The targeted sample depth was unable to be met due to unforeseen obstruction. The depths listed for the sample ID for the blanks is the targeted sample depth and the depth listed for the representative sample is the depth reached in the field.

## Table 2-2(b) DW-8 Water Quality Organic Test Results for Point Lookout Aquifer Wells 2023 (Dewatering Wells) (Continued)

| October 2023 Dewatering Wells Water Quality Data Summary | | | Well ID | DW8 | DW8 | DW8 | DW8 | DW8 |
|---|---|---|---|---|---|---|---|---|
| | | | Depth (fbtoc) | 840 | 840 | 961 | 961 | 961 |
| | | | Sample Type | Sample | Rinseate Blank | Sample | Field Duplicate | Rinseate Blank |
| | | | Date Collected | 10/09/2023 | 10/09/2023 | 10/09/2023 | 10/09/2023 | 10/09/2023 |
| **Analyte** | **NM WQCC-3103** | **Units** | | | | | | |
| Acenaphthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Acenaphthylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Pyrene | 0.0002 | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(B)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(K)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(G,H,I)Perylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| 2-Chloronaphthalene | | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Chrysene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Dibenz(A,H)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Fluoranthene | | mg/l | <0.000100 | <0.000100 | <0.000100 | <0.000100 | <0.000100 |
| Fluorene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Indeno(1,2,3-Cd)Pyrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| 1-Methylnaphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| 2-Methylnaphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Naphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Phenanthrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Pyrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzene | 0.005 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| Ethylbenzene | 0.7 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| Toluene | 1 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| Xylenes, Total | 0.62 | mg/l | <0.00300 | <0.00300 | <0.00300 | <0.00300 | <0.00300 |
| TPH | | mg/l | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 |
| C10-C28 Diesel Range | | mg/l | <0.100 | <0.100 | 0.122 | 0.13 | <0.100 |
| C28-C40 Oil Range | | mg/l | <0.100 | <0.100 | 0.146 | 0.138 | <0.100 |

Acronyms: Reporting Limit (RDL), Feet Below Top of Casing (Fbtoc), Quality Control (QC) Total Petroleum Hydrocarbons (TPH), Point Discharge (PD)



Dark grey shading in cells indicates a concentration was measured above RDL
Yellow shading in cells indicates a concentration was measured above NMWQCC-3102 Standards
Blue indicates a concentration was measured above RDL in a blank sample

Footnotes:

1. The “less than” symbol “<” is a method to convey that the target analyte was not encountered above the RDL.
2. Sample was collected from spigot new well head.
3. The targeted sample depth was unable to be met due to unforeseen obstruction. The depths listed for the sample ID for the blanks is the targeted sample depth and the depth listed for the representative sample is the depth reached in the field.

## Table 2-2(b) DW-9 Water Quality Organic Test Results for Point Lookout Aquifer Wells 2023 (Dewatering Wells) (Continued)

| October 2023 Dewatering Wells Water Quality Data Summary | | | Well ID | DW9 | DW9 | DW9 | DW9 | DW9 | DW9 | DW9 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth (fbtoc) | 1144 | 1144 | 1655 | 1655 | 2760 | 2760 | 2760 |
| | | | Sample Type | Sample | Rinseate Blank | Sample | Rinseate Blank | Sample | Field Blank | Rinseate Blank |
| | | | Date Collected | 10/04/2023 | 10/04/2023 | 10/04/2023 | 10/04/2023 | 10/04/2023 | 10/04/2023 | 10/04/2023 |
| **Analyte** | **NM WQCC-3103** | **Units** | | | | | | | | |
| Acenaphthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Acenaphthylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Pyrene | 0.0002 | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(B)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(K)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(G,H,I)Perylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| 2-Chloronaphthalene | | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Chrysene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Dibenz(A,H)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Fluoranthene | | mg/l | <0.000100 | <0.000100 | <0.000100 | <0.000100 | <0.000100 | <0.000100 | <0.000100 |
| Fluorene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Indeno(1,2,3-Cd)Pyrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| 1-Methylnaphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| 2-Methylnaphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Naphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Phenanthrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Pyrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzene | 0.005 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| Ethylbenzene | 0.7 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| Toluene | 1 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |

## Table 2-2(b) DW-9 Water Quality Organic Test Results for Point Lookout Aquifer Wells 2023 (Dewatering Wells) (Continued)

| October 2023 Dewatering Wells Water Quality Data Summary | | | Well ID | DW9 | DW9 | DW9 | DW9 | DW9 | DW9 | DW9 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth (fbtoc) | 1144 | 1144 | 1655 | 1655 | 2760 | 2760 | 2760 |
| | | | Sample Type | Sample | Rinseate Blank | Sample | Rinseate Blank | Sample | Field Blank | Rinseate Blank |
| | | | Date Collected | 10/04/2023 | 10/04/2023 | 10/04/2023 | 10/04/2023 | 10/04/2023 | 10/04/2023 | 10/04/2023 |
| **Analyte** | **NM WQCC-3103** | **Units** | | | | | | | | |
| Xylenes, Total | 0.62 | mg/l | <0.00300 | <0.00300 | <0.00300 | <0.00300 | <0.00300 | <0.00300 | <0.00300 |
| TPH | | mg/l | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 |
| C10-C28 Diesel Range | | mg/l | 0.193 | <0.100 | <0.100 | <0.100 | 0.422 | <0.300 | <0.100 |
| C28-C40 Oil Range | | mg/l | 0.126 | <0.100 | <0.100 | <0.100 | 1.68 | <0.300 | <0.100 |

Acronyms: Reporting Limit (RDL), Feet Below Top of Casing (Fbtoc), Quality Control (QC) Total Petroleum Hydrocarbons (TPH), Point Discharge (PD)



Dark grey shading in cells indicates a concentration was measured above RDL
Yellow shading in cells indicates a concentration was measured above NMWQCC-3102 Standards
Blue indicates a concentration was measured above RDL in a blank sample

Footnotes:

1. The “less than” symbol “<” is a method to convey that the target analyte was not encountered above the RDL.
2. Sample was collected from spigot new well head.
3. The targeted sample depth was unable to be met due to unforeseen obstruction. The depths listed for the sample ID for the blanks is the targeted sample depth and the depth listed for the representative sample is the depth reached in the field.

## Table 2-2(b) DW-10 Water Quality Organic Test Results for Point Lookout Aquifer Wells 2023 (Dewatering Wells) (Continued)

| October 2023 Dewatering Wells Water Quality Data Summary | | Well ID | DW10 | DW10 | DW10 | DW10 | DW10 | DW10 | DW10 | DW10 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Depth (fbtoc) | 463 | 463 | 781 | 781 | 781 | 865 | 865 | 865 |
| | | Sample Type | Sample | Rinseate Blank | Sample | Field Blank | Rinseate Blank | Sample | Field Blank | Rinseate Blank |
| | | Date Collected | 10/09/2023 | 10/09/2023 | 10/09/2023 | 10/09/2023 | 10/09/2023 | 10/06/2023 | 10/06/2023 | 10/06/2023 |
| **Analyte** | **NM WQCC-3103** | **Units** | | | | | | | | |
| Acenaphthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Acenaphthylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Pyrene | 0.0002 | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(B)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(K)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(G,H,I)Perylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| 2-Chloronaphthalene | | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Chrysene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Dibenz(A,H)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Fluoranthene | | mg/l | <0.000100 | <0.000100 | <0.000100 | <0.000100 | <0.000100 | <0.000100 | <0.000100 | <0.000100 |
| Fluorene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Indeno(1,2,3-Cd)Pyrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| 1-Methylnaphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| 2-Methylnaphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Naphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Phenanthrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Pyrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzene | 0.005 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| Ethylbenzene | 0.7 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| Toluene | 1 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| Xylenes, Total | 0.62 | mg/l | <0.00300 | <0.00300 | <0.00300 | <0.00300 | <0.00300 | <0.00300 | <0.00300 | <0.00300 |

## Table 2-2(b) DW-10 Water Quality Organic Test Results for Point Lookout Aquifer Wells 2023 (Dewatering Wells) (Continued)

| October 2023 Dewatering Wells Water Quality Data Summary | | Well ID | DW10 | DW10 | DW10 | DW10 | DW10 | DW10 | DW10 | DW10 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Depth (fbtoc) | 463 | 463 | 781 | 781 | 781 | 865 | 865 | 865 |
| | | Sample Type | Sample | Rinseate Blank | Sample | Field Blank | Rinseate Blank | Sample | Field Blank | Rinseate Blank |
| | | Date Collected | 10/09/2023 | 10/09/2023 | 10/09/2023 | 10/09/2023 | 10/09/2023 | 10/06/2023 | 10/06/2023 | 10/06/2023 |
| **Analyte** | **NM WQCC-3103** | **Units** | | | | | | | | |
| TPH | | mg/l | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 |
| C10-C28 Diesel Range | | mg/l | 0.518 | <0.100 | 0.112 | <0.100 | <0.100 | 0.395 | <0.100 | <0.100 |
| C28-C40 Oil Range | | mg/l | 0.871 | <0.100 | 0.236 | <0.100 | <0.100 | 0.74 | <0.100 | <0.100 |

Acronyms: Reporting Limit (RDL), Feet Below Top of Casing (Fbtoc), Quality Control (QC) Total Petroleum Hydrocarbons (TPH), Point Discharge (PD)



Dark grey shading in cells indicates a concentration was measured above RDL
Yellow shading in cells indicates a concentration was measured above NMWQCC-3102 Standards
Blue indicates a concentration was measured above RDL in a blank sample

Footnotes:

1. The “less than” symbol “<” is a method to convey that the target analyte was not encountered above the RDL.
2. Sample was collected from spigot new well head.
3. The targeted sample depth was unable to be met due to unforeseen obstruction. The depths listed for the sample ID for the blanks is the targeted sample depth and the depth listed for the representative sample is the depth reached in the field.

## Table 2-2(b) DW-11 Water Quality Organic Test Results for Point Lookout Aquifer Wells 2023 (Dewatering Wells) (Continued)

| October 2023 Dewatering Wells Water Quality Data Summary | | | Well ID | DW11 | DW11 | DW11 | DW11 | DW113 | DW113 | DW113 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth (fbtoc) | 904 | 904 | 1100 | 1100 | 1750 | 1750 | 1750 |
| | | | Sample Type | Sample | Rinseate Blank | Sample | Rinseate Blank | Sample | Field Blank | Rinseate Blank |
| | | | Date Collected | 10/10/2023 | 10/10/2023 | 10/10/2023 | 10/10/2023 | 10/10/2023 | 10/10/2023 | 10/10/2023 |
| **Analyte** | **NM WQCC-3103** | **Units** | | | | | | | | |
| Acenaphthene | | mg/l | 0.00775 | 0.000118 | 0.00915 | 0.00008 | 0.0105 | <0.0000500 | <0.0000500 |
| Acenaphthylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Pyrene | 0.0002 | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(B)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(K)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(G,H,I)Perylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| 2-Chloronaphthalene | | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Chrysene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Dibenz(A,H)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Fluoranthene | | mg/l | <0.000100 | <0.000100 | <0.000100 | <0.000100 | <0.000100 | <0.000100 | <0.000100 |
| Fluorene | | mg/l | 0.00204 | <0.0000500 | 0.00226 | <0.0000500 | 0.00238 | <0.0000500 | <0.0000500 |
| Indeno(1,2,3-Cd)Pyrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| 1-Methylnaphthalene | 0.03 | mg/l | <0.0125 | <0.000250 | <0.0125 | <0.000250 | <0.0125 | <0.000250 | <0.000250 |
| 2-Methylnaphthalene | 0.03 | mg/l | <0.0125 | <0.000250 | 0.0136 | <0.000250 | 0.0155 | <0.000250 | <0.000250 |
| Naphthalene | 0.03 | mg/l | 0.404 | 0.000424 | 0.485 | 0.000258 | 0.55 | <0.000250 | <0.000250 |
| Phenanthrene | | mg/l | 0.000577 | <0.0000500 | 0.000609 | <0.0000500 | 0.000536 | <0.0000500 | <0.0000500 |
| Pyrene | | mg/l | 0.0000516 | <0.0000500 | 0.00006 | <0.0000500 | 0.0000768 | <0.0000500 | <0.0000500 |
| Benzene | 0.005 | mg/l | <0.00100 | <0.00100 | 0.00143 | <0.00100 | 0.00137 | <0.00100 | <0.00100 |
| Ethylbenzene | 0.7 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| Toluene | 1 | mg/l | 0.00185 | <0.00100 | 0.0028 | <0.00100 | 0.00258 | <0.00100 | <0.00100 |
| Xylenes, Total | 0.62 | mg/l | <0.00300 | <0.00300 | <0.00300 | <0.00300 | <0.00300 | <0.00300 | <0.00300 |

## Table 2-2(b) DW-11 Water Quality Organic Test Results for Point Lookout Aquifer Wells 2023 (Dewatering Wells) (Continued)

| October 2023 Dewatering Wells Water Quality Data Summary | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Well ID | | DW11 | DW11 | DW11 | DW11 | DW113 | DW113 | DW113 |
| | Depth (fbtoc) | | 904 | 904 | 1100 | 1100 | 1750 | 1750 | 1750 |
| | Sample Type | | Sample | Rinseate Blank | Sample | Rinseate Blank | Sample | Field Blank | Rinseate Blank |
| | Date Collected | | 10/10/2023 | 10/10/2023 | 10/10/2023 | 10/10/2023 | 10/10/2023 | 10/10/2023 | 10/10/2023 |
| **Analyte** | **NM WQCC-3103** | **Units** | | | | | | | |
| TPH | | mg/l | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 |
| C10-C28 Diesel Range | | mg/l | 12.5 | <0.100 | 13.1 | <0.100 | 13 | <0.100 | <0.100 |
| C28-C40 Oil Range | | mg/l | 9.5 | <0.100 | 8.62 | <0.100 | 7.42 | <0.100 | <0.100 |

Acronyms: Reporting Limit (RDL), Feet Below Top of Casing (Fbtoc), Quality Control (QC) Total Petroleum Hydrocarbons (TPH), Point Discharge (PD)



Dark grey shading in cells indicates a concentration was measured above RDL
Yellow shading in cells indicates a concentration was measured above NMWQCC-3102 Standards
Blue indicates a concentration was measured above RDL in a blank sample

Footnotes:

1. The “less than” symbol “<” is a method to convey that the target analyte was not encountered above the RDL.
2. Sample was collected from spigot new well head.
3. The targeted sample depth was unable to be met due to unforeseen obstruction. The depths listed for the sample ID for the blanks is the targeted sample depth and the depth listed for the representative sample is the depth reached in the field.

## Table 2-2(b) DW-12 Water Quality Organic Test Results for Point Lookout Aquifer Wells 2023 (Dewatering Wells) (Continued)

| October 2023 Dewatering Wells Water Quality Data Summary | | | Well ID | DW12 | DW12 | DW12 | DW12 |
|---|---|---|---|---|---|---|---|
| | | | Depth (fbtoc) | 1764 | 1764 | 2865 | 2865 |
| | | | Sample Type | Sample | Rinseate Blank | Sample | Rinseate Blank |
| | | | Date Collected | 10/06/2023 | 10/06/2023 | 10/05/2023 | 10/05/2023 |
| **Analyte** | **NM WQCC-3103** | **Units** | | | | | |
| Acenaphthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Acenaphthylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(A)Pyrene | 0.0002 | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(B)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(K)Fluoranthene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzo(G,H,I)Perylene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| 2-Chloronaphthalene | | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Chrysene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Dibenz(A,H)Anthracene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Fluoranthene | | mg/l | <0.000100 | <0.000100 | <0.000100 | <0.000100 |
| Fluorene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Indeno(1,2,3-Cd)Pyrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| 1-Methylnaphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| 2-Methylnaphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Naphthalene | 0.03 | mg/l | <0.000250 | <0.000250 | <0.000250 | <0.000250 |
| Phenanthrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Pyrene | | mg/l | <0.0000500 | <0.0000500 | <0.0000500 | <0.0000500 |
| Benzene | 0.005 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| Ethylbenzene | 0.7 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| Toluene | 1 | mg/l | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| Xylenes, Total | 0.62 | mg/l | <0.00300 | <0.00300 | <0.00300 | <0.00300 |
| TPH | | mg/l | <0.100 | <0.100 | <0.100 | <0.100 |
| C10-C28 Diesel Range | | mg/l | 0.246 | <0.100 | 0.156 | <0.100 |
| C28-C40 Oil Range | | mg/l | 0.126 | <0.100 | 0.116 | <0.100 |

Acronyms: Reporting Limit (RDL), Feet Below Top of Casing (Fbtoc), Quality Control (QC) Total Petroleum Hydrocarbons (TPH), Point Discharge (PD)



Dark grey shading in cells indicates a concentration was measured above RDL
Yellow shading in cells indicates a concentration was measured above NMWQCC-3102 Standards
Blue indicates a concentration was measured above RDL in a blank sample

Footnotes:

1. The “less than” symbol “<” is a method to convey that the target analyte was not encountered above the RDL.
2. Sample was collected from spigot new well head.
3. The targeted sample depth was unable to be met due to unforeseen obstruction. The depths listed for the sample ID for the blanks is the targeted sample depth and the depth listed for the representative sample is the depth reached in the field.

## Table 2-3 Post Closure Disposition of Mine Dewatering and Observation Wells

| Well No. (1) | Closure Disposition (3) | State Plane Coordinates (NAD 83) | | Aquifer in Screened Interval (6) |
|---|---|---|---|---|
| | | N | E | |
| DW-1 | Plug | 1579422 | 2782632 | PL |
| DW-2 | Plug | 1579121 | 2782606 | TH/D |
| DW-2-a(2) | PMLU | 1579202 | 2782709 | PL |
| DW-3 | PCMP | 1579011 | 2782801 | PL |
| DW-4 | Plug | 1578965 | 2783021 | PL |
| DW-5 | Plug | 1580374 | 2785615 | PL |
| DW-6(2) | PMLU | 1579214 | 2783407 | PL |
| DW-7 | Plug | 1579461 | 2783387 | PL |
| DW-8 | Plug | 1579673 | 2783247 | PL |
| DW-9 | Plug | 1579721 | 2782987 | TH |
| DW-10 | PCMP | 1579621 | 2782740 | PL |
| DW-11 | PCMP | 1578849 | 2783250 | TH/D |
| DW-12 | Plug | 1579423 | 2783445 | TH/D |
| DW-13 | Plug | 1579382 | 2782073 | W |
| DW-14 | PCMP | 1578850 | 2782188 | W |
| DW-15 | Plug | 1578491 | 2782501 | W |
| DW-16 | Plug | 1578335 | 2783004 | W |
| DW-17 | Plug | 1578576 | 2783571 | W |
| DW-18 | Plug | 1578908 | 2783788 | W |
| DW-19 | PCMP | 1580829 | 2786130 | W |
| DW-20 | Plug | 1579947 | 2783511 | D-W |
| DW-21 | Plug | 1580168 | 2782974 | D-W |
| DW-22 | Plug | 1579902 | 2782468 | W |
| SM-24-38(8) | Plug | 1579132 | 2783007 | W |
| SM-24-43(8) | Plug | 1579029 | 2782948 | W |
| SM-24-89(8) | Plug | 1578964 | 2782908 | W |
| SM-15-59(8) | Plug | 1584519 | 2771754 | -- |
| SM-13-74(8) | Plug | 1584233 | 2783313 | -- |
| SM-31-1-2D(8) | Plug | 1584519 | 2786914 | -- |
| SM 24-23E(8) | Plug | 1579711 | 2783249 | D |

(1) Wells installed in 1977

(2) Wells DW2-a and DW6 supply domestic water from the Pt. Lookout Sandstone

(3) PMLU= post-mining land use, PCMP=Post-Closure Monitoring Plan

(4) All well casings are steel – 8 5/8" ID in Pt Lookout, 9 5/8" ID in Tres Hermanos and Dakota, 10 ¾" ID with 7" liner in Westwater

(5) Elevation and depths of screens and formation intercepts are approximate. BGS = Below Ground Surface. AMSL = Above Mean Sea Level

(6) PL=Pt Lookout, TH= Tres Hermanos, D= Dakota, W= Westwater

(7) -- = Well details unknown

(8) Observation Wells

**Table 2-4 As-Built Capacities of MWTU Ponds #2 and #3**

| Pond Number | Operating Pool Elevation (ft) | | Water Surface Area at Pool Elevation (ft^2) | Volume (cy) | Volume (acre feet) |
|---|---|---|---|---|---|
| 2 | Max | 7300 | 31605 | 11237 | 6.97 |
| 3 | Max | 7300 | 50178 | 18227 | 11.23 |

Note: Calculations based on as-built survey of ponds 2 and 3 by CSTI surveyors in November 2019 after removal of contaminated sediments and soil.

**Table 3-1(a) Radiological Survey Results for PMLU Habitable Structures**

| PMLU Habitable Structure | Interior Surface Alpha Activity (dpm/100 cm$^2$) | | Exterior Surface Alpha Activity (dpm/100 cm$^2$) | |
|---|---|---|---|---|
| | Average* | Maximum* | Average* | Maximum* |
| Hoist House[1] | 322 | 471 | - | - |
| Guard House (Security Building)[1] | 3 | 11 | - | - |
| Service Building (Office and Warehouse)[1] | 294 | 1,189 | - | - |
| Emergency Hoist House[2] | 256 | 732 | 87 | 134 |
| Electrical Building[3] | 112 | 278 | 120 | 200 |

*Release Limits for Unrestricted Use: Average = 2,364 dpm/100 cm$^2$; Maximum = 23,640 dpm/100 cm$^2$

[1]Surveys conducted in July 2012 by Stan Fitch, CHP

[2]Surveys conducted in 2021 by ERG

[3] ERG, *Radiological survey results to inform the disposition of the legacy Electrical building*, August 17, 2021

TBD = To be determined; NA = Not applicable

**Table 3-1(b) Status of Release Surveys for Other PMLU Structures**

| Other PMLU Structures | Release Survey Status | Applicable Release Survey Type | | |
|---|---|---|---|---|
| | | Surface Alpha Activity | Volumetric Sampling | Gamma Survey |
| Water Tank | TBD | X | | |
| Septic Tank and Leach Field | TBD | X | X | |
| Phase I Dewatering Wells | TBD | X | | |
| Storm Drain System | TBD | | X | X |
| South Storm Water Pond | Completed | | X | X |
| MWTU Pond 2 | Completed | | X | X |
| MWTU Pond 3 | Completed | | X | X |

**Table 3-1(c) Summary of Radiological Survey Results for Non-PMLU Buildings**

| Non-PMLU Building (map ID) | Date Surveyed | Interior Surfaces Alpha Activity (dpm/100 $cm^2$) | | Exterior Surfaces Alpha Activity (dpm/100 $cm^2$) | |
|---|---|---|---|---|---|
| | | Average* | Maximum* | Average* | Maximum* |
| Carpenter Shop (14) | 7/14/2020 | 54 | 290 | 123 | 210 |
| Water Treatment (9) | 7/15/2020 | 253 | 1,680 | 221 | 940 |
| Core Storage Building (20) | 9/22/2020 | 113 | 6,273 | 166 | 455 |
| Ion Exchange Plant (32) | 9/30/2020 | 388 | 5,330 | 173 | 870 |
| "Chiller" Pump Building (25) | 7/20/2020 | 1,200 | 7,570 | 347 | 1,860 |
| York Chiller Building (17) | 7/16/2020 | 238 | 1,200 | 100 | 330 |
| Fire Equipment Building (19) | 7/28/2020 | 193 | 690 | 199 | 340 |
| Fuel Pump Building (13) | 7/29/2020 | 63 | 160 | 53 | 80 |
| Gylcol Heat exchanger (5) | 7/29/2020 | 679 | 8,150 | 1,475 | 10,425 |
| Flocculant (33) | 1/18/2021 | 966 | 3,853 | 203 | 263 |
| Trailer House (N/A) | 1/18/2021 | 96 | 290 | 129 | 210 |
| Rockys Shop (N/A) [1] | 1/19/2021 | 538 | 1,100 | 246 | 600 |
| Auxiliary mine water Treatment MCC (N/A) [2] | 1/19/2021 | 69 | 170 | 363 | 1,716 |
| Mine water treatment (36) | 1/19/2021 | 68 | 170 | 138 | 221 |
| Barium Chloride Building (31) [3] | 1/20/2021 | 84 | 180 | 257 | 1,270 |
| Storage Building/Quonset Hut (4) [4] | 1/20/2021 | 227 | 620 | 221 | 360 |
| Shaft Heat Buildings | 1/21/2021 | 408 | 1,290 | 100 | 237 |
| Compressor Building (10) | 8/19/2021 | 175 | 526 | 106 | 250 |

*Release Limits for Unrestricted Use: Average = 2,364 dpm/100 $cm^2$; Maximum = 23,640 dpm/100 $cm^2$

[1]ERG, *Radiological survey results to inform the disposition of legacy Rocky's Shop building*, August 17, 2021

[2]ERG, *Radiological survey results to inform the disposition of legacy Auxiliary Mine Water Treatment Pump House MCC*, August 17, 2021

[3]ERG, *Radiological survey results to inform the disposition of legacy Barium Chloride Building*, February 3, 2021

[4]ERG, *Radiological survey results to inform the disposition of legacy Storage Building/Quonset Hut building*, August 17, 2021

**Table 4-1 Potential Contaminants on Site and in Use**

| DESCRIPTION | SAFETY DATA Sheets (SDS), CAS #'s | | |
|---|---|---|---|
| Antifreeze/Coolant | 107-21-1 | | |
| Coherex | 64742-34-3 | 64742-11-6 | |
| Diesel Fuel #2 | 68476-34-6 | 64742-80-9 | 64741-44-2 |
| | 91-20-3 | | |
| Engine Oil | 68649-42-3 | | |
| | 86290-81-5 | 71-43-2 | 108-88-3 |
| Gasoline Fuel | 110-54-3 | 110-82-7 | 108-87-2 |
| | 637-92-3 | 994-05-8 | 142-82-5 |
| Grease | 686-42-3 | Mixture | |
| Holeplug 3/8 | 14464-46-1 | 15468-32-3 | 1302-78-9 |
| Hydraulic Oil | Mixture | | |
| Insulating Oil | 64741-97-5 | 64742-53-6 | |
| Lubricant - Gear | Mixture | | |
| Transmission Fluid | Mixture | | |
| Windshield Wiper Fluid | UN120 50/50 0000067-56-1 | | |
| Simple Green | 7732-18-5 | | |
| Kerosene | 8008-20-6 | | |
| DEF Fluid | 57-13-6 | 7732-18-5 | |

**Table 4-2 Mine Facility Disposition at Closeout**

| Number[*6] | Facility Name | Facility Type | Dimensions | Disposition at Closeout Status as of August 2025 | | |
|---|---|---|---|---|---|---|
| | | | | Remove Structure | Foundation | Retain for PMLU |
| W | Phase I Water Wells[*1] | Steel casing and screen | | Plug/ abandon[*1*4] | | √ |
| W | Phase II Water Wells[*2] | Steel casing and screen | | Plug/ abandon[*2*4] | | |
| W | Phase III Water Wells[*3] | Steel casing and screen | | Plug/ abandon[*3*4] | | |
| 01 | Manway Shaft | Reinforced concrete liner | 3300' | To be plugged | Cover with soil (retain as part of shaft plug) | |
| 01A | Manway Shaft Headframe | Structural steel | 75' high | Removed (1/22) | Remove to ground surface | |
| 02 | Production Shaft | Reinforced concrete liner | 3300' | To be plugged | Cover with soil (retain as part of shaft plug) | |
| 02A | Production Shaft Headframe | Structural steel | 180' high | Removed (12/22) | Remove to ground surface | |
| 03 | Mine Vent Structure | Evase' (steel), frame and fan | | Removed (1/22) | Break to below ground and backfill pits | |
| 04A | Shaft Heating Building | Steel frame and siding | 50' X 30' X 16' | Removed (12/21) | Cover with soil (retain as part of shaft plug) | |
| 04B | Storage Buildings | Steel frame and siding | 28' X 30' X 16' | Removed (12/21) | Retain for Hoist House area storage | √ |
| 05 | Glycol Heat Exchanger | Steel frame and siding | 50’ X 30’ X 16’ | Removed (10/20) | Retain for storage | √ |
| 06 | Hoist House | Steel frame and siding | 162' X 120' X 40' | | | √ |
| 07 | Service Building (Office and Warehouse) | Steel frame and siding | 194' X 138' X 24' | | | √ |
| 08 | Capacitor Building | Steel frame and siding | 27’ X 24’ X 16’ | To be removed | To be removed | |

**Table 4-2 Mine Facility Disposition at Closeout (Continued)**

| Number*[6] | Facility Name | Facility Type | Dimensions | Disposition at Closeout Status as of August 2025 | | |
|---|---|---|---|---|---|---|
| | | | | Remove Structure | Foundation | Retain for PMLU |
| 09 | Water Treatment and Boiler Building | Steel frame and siding | 62' X 50' X 16' | Removed (9/20) | Rubblized and removed | |
| 10 | Compressor Building | Steel frame and siding | 40'4" X 40'2"x 16' | Removed (12/21) | Rubblized, to be removed | |
| 11 | Electrical Building | Steel frame and siding | 62' X 30' X 16' | | | √ |
| 12 | Portable building | Steel frame and siding | 12' X 12' X 8' | Removed (11/20) | Removed | |
| 13 | Fuel Pump House | Steel frame and siding | 10' X 15' X 8' | Removed (4/21) | Rubblized and removed | |
| 14 | Carpenter Shop | Steel frame and siding | 45' X 24' X 16' | Removed (10/20) | Rubblized and removed | |
| 15 | Fuel Storage Tanks | Steel | 5’ X 30' X 6' | Removed (2/20) | Rubblized, to be removed | |
| 16 | Water Tank | Steel | | | | √ |
| 17 | York Chiller (Chill Water) Building | Steel frame and siding | 100' X 50' X 30' | Removed (4/21) | Rubblize and cover with soil | temporary |
| 18 | Guard House (Security Building) | Steel frame and siding | 63' X 20'6" X 16' | | | √ |
| 19 | Fire Equipment Building (Fire House) | Steel frame and siding | 27' X 24' X 16' | Removed (3/21) | Concrete foundation slab to be retained for storage | √ |
| 20 | Core Storage Building | Steel frame and siding | 100' X 38' X 16' | To be removed | Rubblize and cover with soil | |
| 22 | Fan Shop | Steel frame and siding | 40' X 30' X 12' | To be removed | Rubblize and cover with soil | |
| 23 | Car (Maintenance) Shop | Steel frame and siding | 150' X 100' X 30' | To be removed | To be removed | |
| 24 | CMP Utility Tunnel | Concrete | 10’ X 8’ X 700’ | To be removed or flowable filled | Not applicable | |

**Table 4-2 Mine Facility Disposition at Closeout (Continued)**

| Number*[6] | Facility Name | Facility Type | Dimensions | Disposition at Closeout Status as of August 2025 | | |
|---|---|---|---|---|---|---|
| | | | | Remove Structure | Foundation | Retain for PMLU |
| 27 | Chlorine Building | Concrete block | 23' X 50'6" X 20' | Removed (8/21) | Rubblized, cover with soil | |
| 25 | Pump Building (Chill Water Pump House) | Steel frame and siding | 40' X 24' X 16' | Removed (12/21) | Rubblize and cover with soil | |
| 26 | Cooling Tower | Steel frame and siding | 75’ X 25’ X 25’ | Removed (12/21) | Rubblized, to be removed | |
| 28 | Conduits | 11.5 inch diameter steel pipe | 3100'-3200' deep | Plug/ abandon | | |
| 29 | Access/utility tunnel | Concrete | | | | √ |
| 30 | Ore Car Rails | Steel (with wood and concrete ties) | 6750' | Removed (2021) | | |
| 31 | Barium Chloride Treatment Facility | Steel frame and siding | 40' X 25' X 16' | Removed (3/21) | Rubblized, to be removed | |
| 33 | Ion Exchange Plant | Steel frame and siding | 140' X 70' X 40' | To be removed | To be removed | |
| 34 | Flocculant Treatment Facility | Steel frame and siding | 30' X 23' X 12' | Removed (3/21) | Rubblized, to be removed | |
| 35 | Treated Water Discharge Pipeline | 24 inch diameter steel pipe, concrete trust blocks | 4.3 miles | Removed (2025) | | |
| 36 | MWTU Pump House and MCC | Steel frame and siding | 20' x 12' x 8' | Removed (2021) | Removed (2021) | |
| 37 | Ore Loading Pad and Wash Bay | Steel, concrete | 5,664 sf base, 400'x 4' x 1' walls | To be removed | To be removed | |
| 38 | Sanitary Treatment Plant | Concrete; steel | 70' X 30' X 6'; 40' x 20' X 8' | To be removed | | |
| 39 | Septic Tank and Leach Field | Various (concrete, plastic, gravel) | | | | √ |

**Table 4-2 Mine Facility Disposition at Closeout (Continued)**

| Number*6 | Facility Name | Facility Type | Dimensions | Disposition at Closeout Status as of August 2025 | | |
|---|---|---|---|---|---|---|
| | | | | Remove Structure | Foundation | Retain for PMLU |
| 42 | Ore Pad | Earthen pad | 6.8 acres | To be removed, then regraded | | |
| 40 | Chiller Electrical Room | Steel frame and siding | 30' X 20' X 30' | Removed (4/21) | Rubblized, to be removed | temporary |
| 41 | Storm Drain System | Steel and concrete culverts | various | | | √ |
| 43 | Ore Pad Storm Water Retention Pond | Earthen basin | 0.9 acres | To be removed, then regraded | | |
| 44 | MWTU ponds 1,4,5,6,7,8 | Earthen basins and hydraulic control structures | various | To be backfilled | Hydraulic structures to be removed (50% removed 2021) | |
| 45A | MWTU Pond 2*5 | Double HDPE liner system | 0.73 acres | To be removed | Hydraulic structures to be removed | |
| 45B | MWTU Pond 3*5 | Double HDPE liner system | 0.93 acres | To be removed | Hydraulic structures to be removed | |
| 46 | South Storm Water Pond | Earthen basin | 2.67 acres | | | √ |
| 47 | Plant and Refrigeration Water Pipelines | Pipeline | unknown | To be removed or flowable filled | Not applicable | |

*1 Phase I wells to be used for post-closure groundwater monitoring: DW-3, DW-10
*2 Phase II well to be used for post-closure groundwater monitoring: DW-11
*3 Phase III wells to be used for post-closure groundwater monitoring: DW-14, DW-19
*4 All other Phase I, II, and III wells to be plugged and abandoned
*5 MWTU Ponds 2 and 3 maintained until Abatement Plan and Post-Closure Monitoring Plan programs are completed
*6 "Number" matches "Numbers" on Figure 1-2b

## Table 4-3 Earthwork Balance

| EXCAVATION - CONTAMINATED SOIL | | |
|---|---|---|
| **LOCATION** | **Volume, CY*** | **Destination** |
| Windblown Area | 1,424 | Disposal Cell |
| Ore Pad and Ore Pad Runoff Retention Pond | 126,135 | Disposal Cell |
| Ore Pad Runoff Retention Pond, Buried Waste Rock | 28,000 | Disposal Cell |
| Ore Pad Runoff Retention Pond, Berm | 21,100 | Disposal Cell |
| MWTU Area less pond basins and Borrow Area A | 60,100 | Disposal Cell |
| Soils from initial Pond Cleanup | 2,100 | Disposal Cell |
| Leftover Soils in Ponds included Pond Berms | 2,500 | Disposal Cell |
| County Road 334 and other roads | 12,000 | Disposal Cell |
| Service and Support Areas | 106,950 | Disposal Cell |
| Disposal Cell Expansion Pit Area | 9,300 | Disposal Cell |
| SSWP Area | 3,000 | Disposal Cell |
| Diesel-contaminated Soil | 24,600 | Disposal Cell |
| Sediment and Waste Rock in the Former Lagoon[1] | 10,680 | Disposal Cell |
| Continental Divide Coop Substation | 1,850 | Disposal Cell |
| **Total** | **418,167** | |
| **EXCAVATION/CUT - CLEAN SOIL** | | |
| **LOCATION** | **Volume, LCY** | **Destination** |
| Borrow Area A and C North of Marquez arroyo 2 | 45,500 | Waste Pile/ Disposal Cell -Clay Cover and Liner |
| MWTU Area | 141,900 | Establishing final grades in MWTU area |
| Ore Pad and North Diversion channel | 12,600 | Establishing final grades in Ore Pad area |
| Service and Support Area including chiller bench and north parking lot | 56,000 | General fill in Service and Support area |
| Final Grading Around the Car Shop (Cut existing grades by 2 to 3 feet) | 9,300 | General fill for north side of Disposal cell |
| Disposal Cell expansion pit | 44,000 | Waste Pile/ Disposal Cell - loam cover |
| **Total** | **309,300** | |
| **FILL - CLEAN SOIL** | | |
| **LOCATION** | **Volume, LCY** | **Sources** |
| MWTU Area | 141,900 | Rough grading for establishing final grades |
| Ore Pad and North Diversion channel | 12,600 | Rough grading for establishing final grades |
| Service and Support Area | 52,700 | Chiller bench and North Parking lot |
| Fill For shaft plugs and other misc structures | 3,400 | Chiller bench and North Parking lot |
| Fill needed for Disposal cell berms, liners, and cover | 98,700 | Disposal cell pit and grading around Car shop |
| **Total** | **309,300** | |

*All contaminated soil volumes are estimates. The actual amount of materials removed may be larger or smaller than estimated.

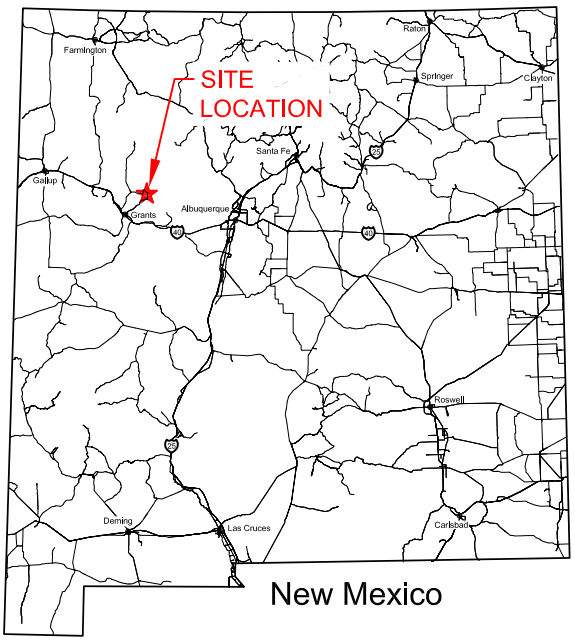
## Table 4-3 Earthwork Balance (Continued)

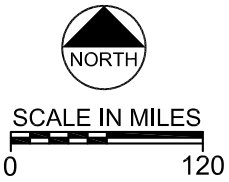
| FINAL GRADING | |
|---|---|
| **LOCATION** | **Area, SY** |
| Borrow area C north of Marquez Arroyo | 104,850 |
| Ore Pad | 58,225 |
| Ore Pad Runoff Retention Pond | 9,640 |
| Borrow Area A | 38,270 |
| Borrow Area B | 29,800 |
| MWTU Area | 198,416 |
| County Road 334 | 35,150 |
| Mine Access Road | 0 |
| Old Ore Load-out Pit | 17,850 |
| Shaft areas | 18,375 |
| Service and Support Area (less Building areas) | 46,082 |
| Chiller bench | 20,116 |
| compressor bench | 21,958 |
| Car Shop Area | 30,693 |
| Waste Rock Pile / Disposal pit | 93,412 |
| Substation | 4,400 |
| **Total** | **797,986** |

Notes:

(1) Volumes associated with the former lagoon are included per NMED request. It is not likely that the material will be excavated and transferred to the disposal cell

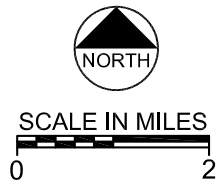
# FIGURES









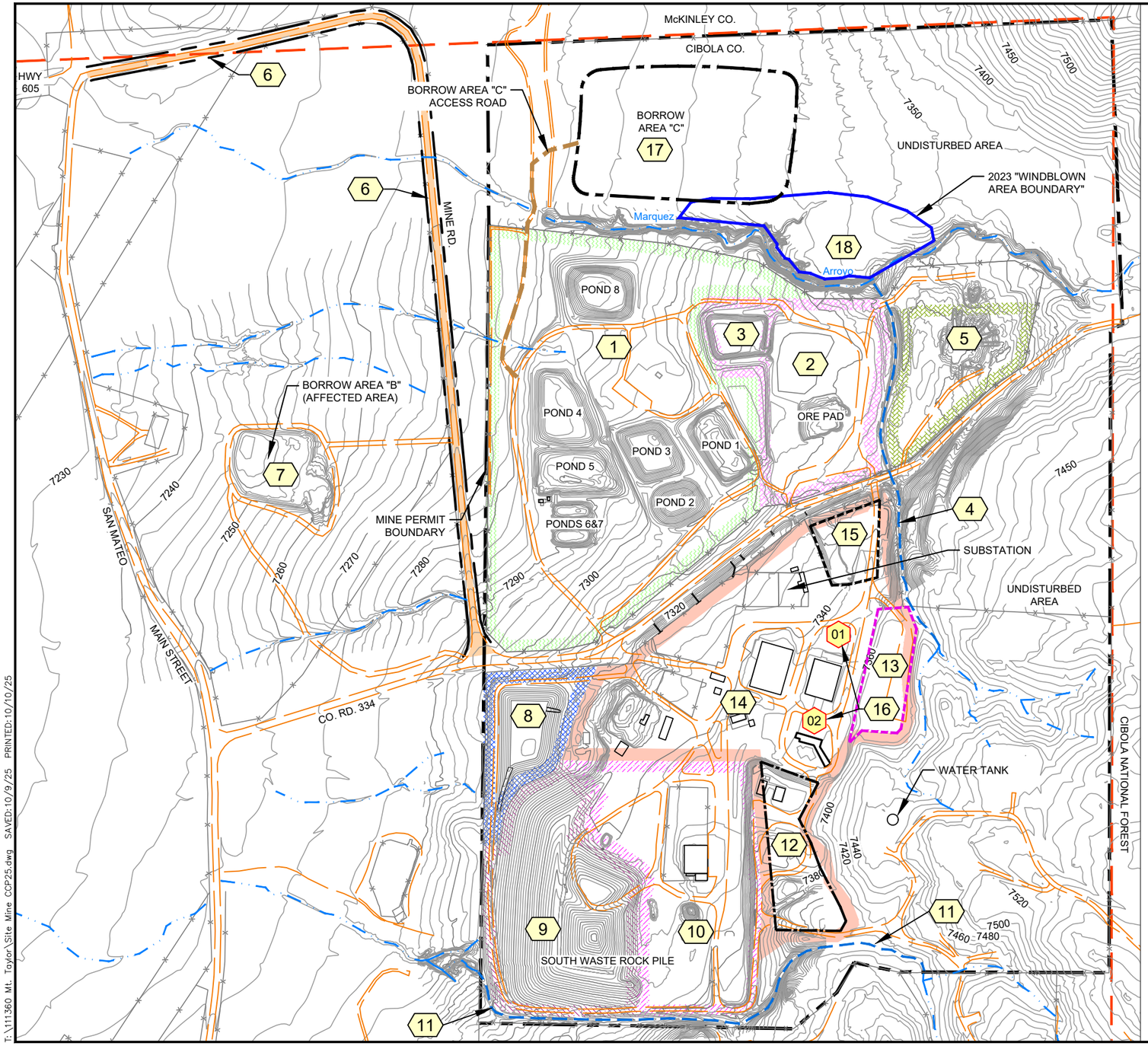

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Project No. 111360

October 2025

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**FIGURE 1-1**
**SITE LOCATION MAP**
**MT. TAYLOR MINE**




MINE UNITS AND OTHER AREAS:

| | | | |
|---|---|---|---|
| 1 | MINE WATER TREATMENT AREA | 10 | DISPOSAL CELL EXPANSION AREA |
| 2 | ORE PAD | 11 | SOUTH DIVERSION CHANNEL |
| 3 | ORE PAD RUNOFF RETENTION POND | 12 | COMPRESSOR BENCH AREA |
| 4 | NORTH DIVERSION CHANNEL | 13 | CHILLER BENCH AREA |
| 5 | BORROW AREA "A" | 14 | SERVICE AND SUPPORT AREA |
| 6 | MINE ACCESS ROAD | 15 | OLD ORE LOADING AREA |
| 7 | BORROW AREA "B" | 01 | 16 MINE SHAFTS |
| 8 | SOUTH STORM WATER POND | 17 | BORROW AREA "C" |
| 9 | EXISTING WASTE ROCK PILE/ DISPOSAL AREA | 18 | WINDBLOWN AREA |

LEGEND:

- MINE SITE AREA
- SECTION 24 BOUNDARY
- ROADWAY
- BORROW AREA "C" ACCESS ROAD
- FENCE
- EXISTING TOPOGRAPHY
- DRAINAGE PATHWAYS
- MINE BUILDINGS (PRIOR TO REMOVAL ACTIVITIES)

GENERAL NOTES:

G.1 THE MINE PERMIT AREA INCLUDES THE RIGHT OF WAY ALONG THE TREATED WATER DISCHARGE PIPELINE AND A 50' WIDE CORRIDOR FOR AN ACCESS ROAD (SEE FIGURE 1-3).

G.2 AFFECTED AREAS INCLUDE BUT ARE NOT LIMITED TO BORROW AREA "B." EVALUATION OF OTHER POSSIBLE AFFECTED AREAS IS ONGOING.

G.3 THIS DRAWING SHOWS THE SITE CONDITIONS AS OF JULY 2025. SEE FIGURE 1-2B AND TABLE 4.2 FOR DETAILED FACILITY DISPOSITION INFORMATION.

G.4 TOPOGRAPHY BASED ON A 2012 AERIAL SURVEY BY THOMAS R. MANN AND ASSOCIATES AND 2021 SURVEYS BY SOUTHWEST SURVEYING SOLUTIONS (S3).

NORTH

SCALE IN FEET
0 500'

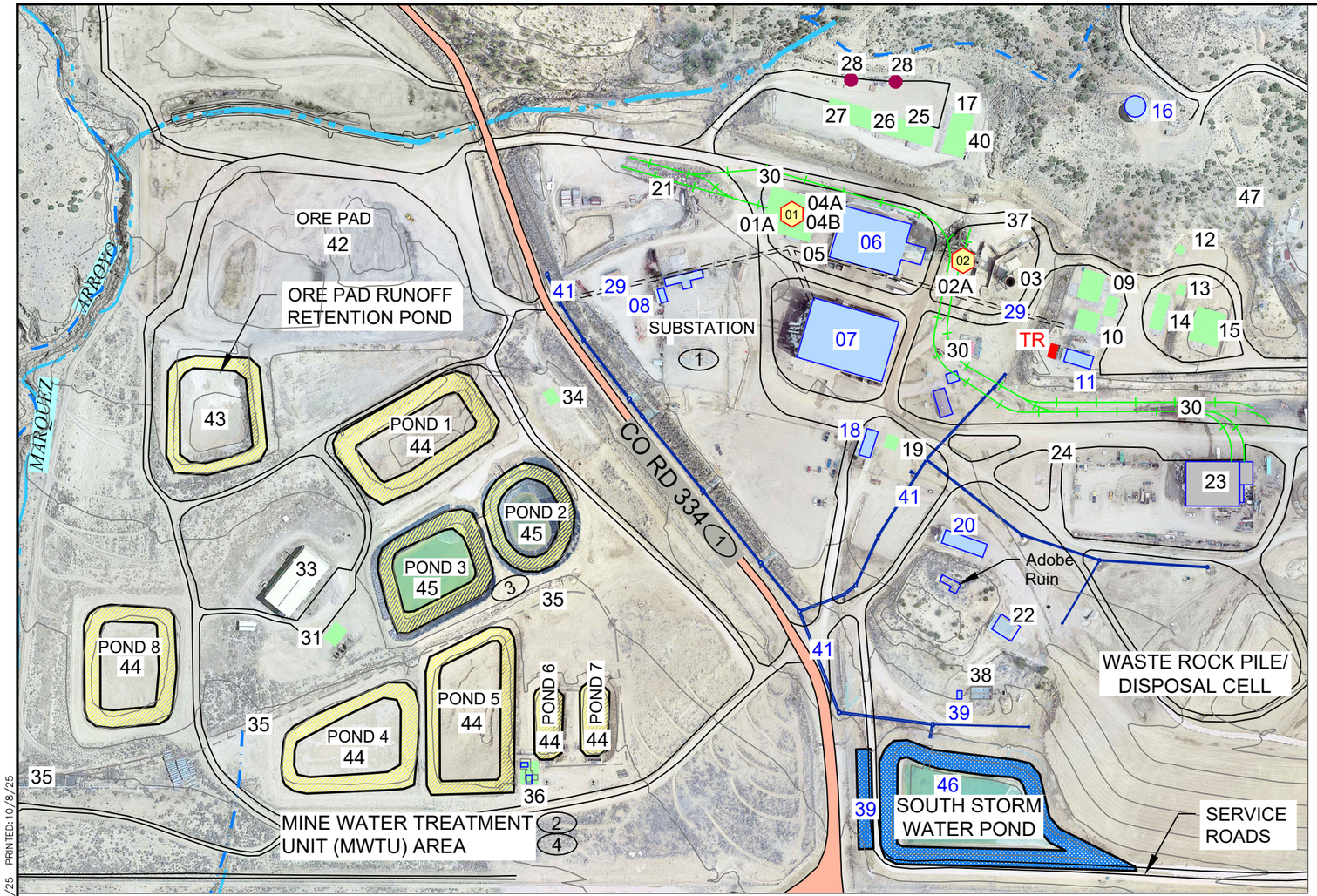
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October 2025

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**FIGURE 1-2**
**MINE SITE AND AFFECTED AREAS**
**MT. TAYLOR MINE**




NOTES:

1. COUNTY ROAD 334, POWER POLES AND TRANSMISSION LINES, AND SUBSTATION ARE FACILITIES OWNED BY OTHERS AND ARE NOT WITHIN PERMIT. OTHER THAN CLEANUP OF CONTAMINATED SOILS, THESE FACILITIES ARE NOT SUBJECT TO CLOSEOUT.
2. DEWATERING AND PROCESS WATER PIPELINES (PARTLY SHOWN) TO BE REMOVED AND PROPERLY DISPOSED OF IF NOT NEEDED FOR PMLU WATER MANAGEMENT.
3. MWTU PONDS 2 AND 3 TO REMAIN UNTIL ABATEMENT ACTIVITIES ARE COMPLETED. ALL OTHER MWTU PONDS AND THE ORE PAD POND TO BE REGRADED.
4. CONCRETE FOUNDATIONS: EXCEPT WHERE OTHERWISE NOTED, REMOVAL OF THE STRUCTURES INCLUDES RUBBLIZATION OF THE CONCRETE SLAB AND FOUNDATIONS. ANY CONTAMINATED CONCRETE SHALL BE REMOVED AND PLACED IN THE DISPOSAL CELL. CLEAN RUBBLIZED CONCRETE CAN EITHER BE REMOVED AND PLACED IN THE DISPOSAL CELL, OR COVERED BY 24" OF CLEAN SOIL AT THE DISCRETION OF RGR.

LEGEND

- PONDS TO RETAIN
- PONDS TO BE REGRADED
- FACILITIES REMOVED AS OF 7-31-25
- FACILITIES TO BE REMOVED
- FACILITIES RETAINED FOR PMLU
- TR — ELECTRICAL TRANSFORMERS TO BE RETAINED
- STORM DRAINAGE SYSTEM
- 01 — MINE SHAFTS
- CONDUITS

FACILITIES AND FOUNDATIONS REMOVAL PENDING (4)

| NO. | FACILITY NAME |
|---|---|
| 21 | Shaft Sump Cleanout Bin |
| 22 | Fan Shop |
| 23 | Car Maintenance Shop |
| 33 | Ion Exchange Plant |
| 37 | Ore Loading Pad and Wash Bay |
| 38 | Sanitary Treatment Plant |

SHAFTS AND CONDUITS

| NO. | FACILITY NAME | DISPOSITION |
|---|---|---|
| 01 | Manway Shaft | To Be Plugged |
| 02 | Production Shaft | |
| 28 | Conduits (2) | |

PONDS

| NO. | FACILITY NAME | DISPOSITION |
|---|---|---|
| 43 | Ore Pad Storm Water Retention Pond | To Be Regraded |
| 44 | MWTU Ponds 1,4,5,6,7,8 | |
| MWTU Ponds 2,3 and the South Storm Water Pond are included in Facilities to Remain for PLMU. (See Note #5) | | |

OTHER

| NO. | FACILITY NAME | DISPOSITION |
|---|---|---|
| 47 | Plant and Refrigeration Water Pipelines (Not Shown) (2) | To Be Removed or Flowable Filled |
| 24 | CMP Utility Tunnel | |
| 42 | Ore Pad | To Be Removed |

WELLS

Wells are Not Shown on This Figure. See Figures 1-4, 1-6, and 1-8 for Well Locations and Dispositions.

FACILITIES TO BE RETAINED FOR PMLU

| NO. | FACILITY NAME |
|---|---|
| 06 | Hoist House |
| 07 | Service Building (Office and Warehouse) |
| 08 | Capacitor Building |
| 11 | Electrical Building |
| 16 | Water Tank |
| 18 | Guard House (Security Building) |
| 20 | Core Storage Building |
| 29 | Access/Utility Tunnel |
| 39 | Septic Tank and Leach Field |
| W | Phase 1 Dewatering Wells |
| 46 | South Storm Water Pond |
| 41 | Storm Drain System |
| 45 | MWTU Pond 2 (3) |
| 45 | MWTU Pond 3 (3) |

FACILITIES REMOVED, ONLY FOUNDATIONS TO BE RETAINED

| NO. | FACILITY NAME |
|---|---|
| 01A | Manway Shaft Headframe |
| 02A | Production Shaft Headframe |
| 04A | Shaft Heating Building |
| 04B | Storage Building |
| 05 | Glycol Heat Exchanger |

FACILITIES AND FOUNDATIONS REMOVED

| NO. | FACILITY NAME (4) |
|---|---|
| 03 | Mine Vent Structure |
| 09 | Water Treatment and Boiler Building |
| 12 | Portable Building |
| 13 | Fuel Pump House |
| 14 | Carpenter Shop |
| 19 | Fire Equipment Building |
| 30 | Ore Car Rails |
| 34 | Flocculent Treatment Facility |
| 35 | Treated Water Discharge Pipeline |
| 36 | MWTU Pump House |

FACILITIES REMOVED, FOUNDATION REMOVAL OR COVER PENDING (4)

| NO. | FACILITY NAME |
|---|---|
| 10 | Compressor Building |
| 15 | Fuel Storage Tanks |
| 17 | Chiller Building |
| 25 | Chiller Pump Building |
| 26 | Cooling Towers |
| 27 | Chlorine Building |
| 31 | Barium Chloride Treatment Facility |
| 40 | Chiller Electrical Building |

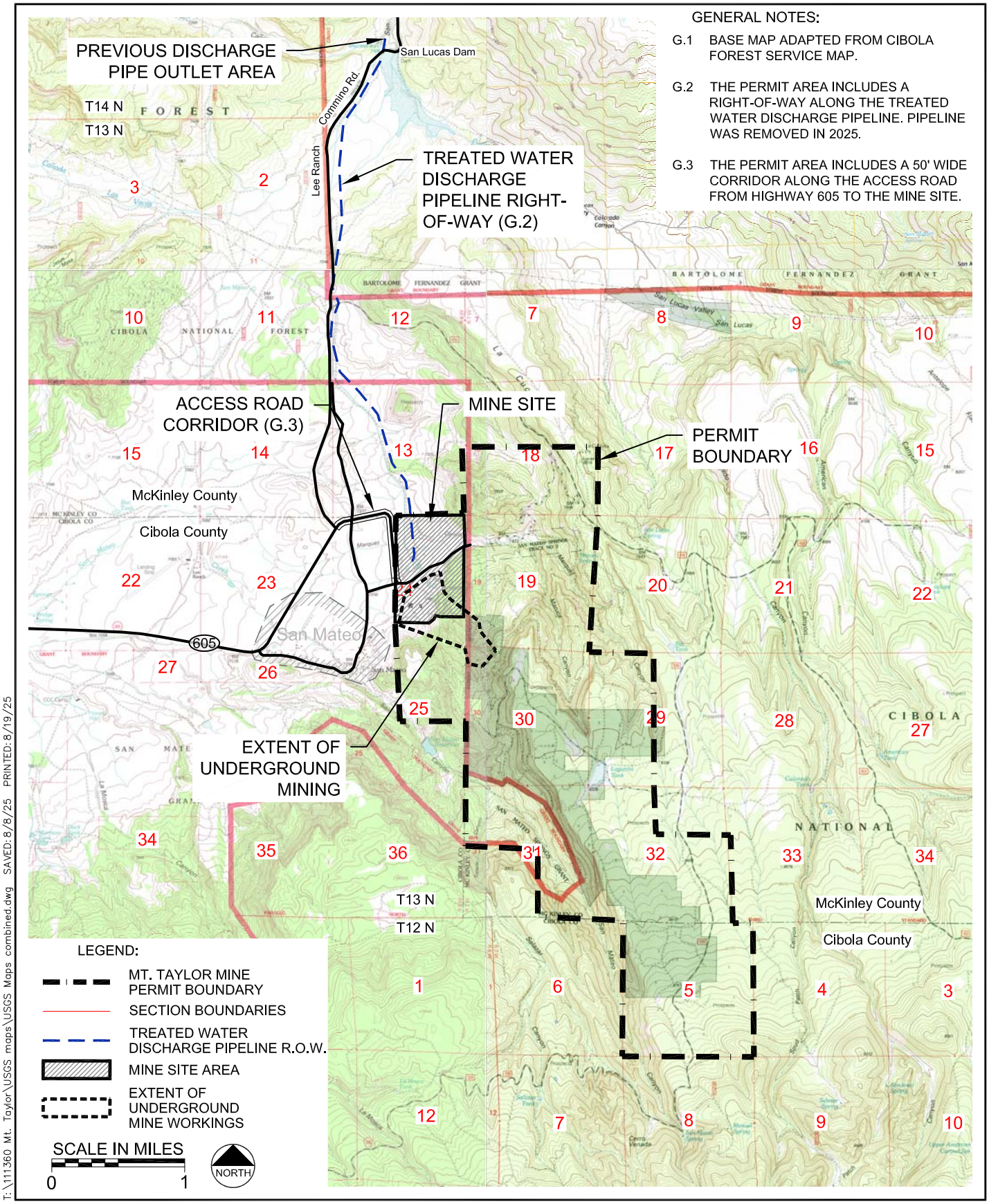
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**FIGURE 1-2B**
**MINE FACILITIES DISPOSITION AT CLOSEOUT**
**MT. TAYLOR MINE**



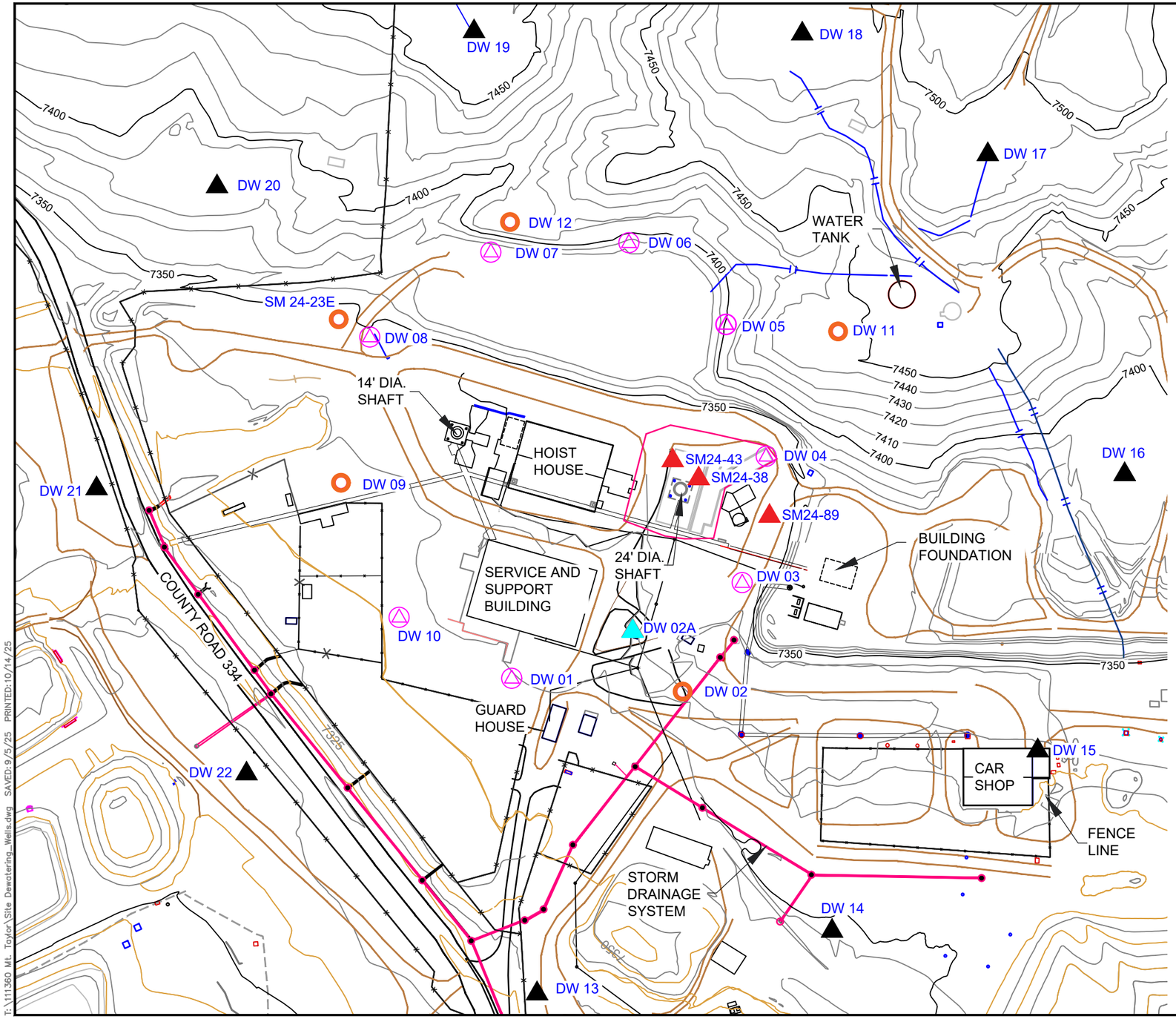

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**FIGURE 1-3**
**MINE PERMIT AREA**
**MT. TAYLOR MINE**




| Phase and Geologic Formation of Screen | Well No | Well Coordinates (NM West NAD 83) Northing | Well Coordinates (NM West NAD 83) Easting | Top of Casing Elevation (Feet AMSL) | Depth From Surface (*Feet*) | Screen Interval (*Feet*) | Closure Disposition (See Notes) |
|---|---|---|---|---|---|---|---|
| ▲ (Domestic Water Supply) | DW-2A | 1579202 | 2782709 | 7347.0 | 925 | 750-900 | Retain For Site Water Supply |
| 1 △ Point Lookout | DW-1 | 1579419 | 2782626 | 7342.0 | 1118 | 740-890 | Abandon[1] |
| | DW-4 | 1578965 | 2783021 | 7349.0 | 1130 | 750-900 | |
| | DW-5 | 1579038 | 2783256 | 7403.4 | 1172 | 852-1002 | |
| | DW-6 | 1579210 | 2783402 | 7384.7 | 1190 | 845-995 | Retain For Site Water Supply |
| | DW-7 | 1579455 | 2783384 | 7376.3 | 1125 | 825-995 | Abandon[1] |
| | DW-8 | 1579672 | 2783240 | 7342.7 | 1044 | 791-941 | |
| | DW-3 | 1579008 | 2782795 | 7350.1 | 1150 | 737-891 | PCMP [2] |
| | DW-10 | 1579619 | 2782734 | 7339.7 | 1065 | 738-888 | |
| 2 ○ Tres Hermanos / Dakota | SM 24-23E[5] | 1579711 | 2783249 | 7342.0 | 933 | 833-933 | Abandon[1] |
| | DW-2 | 1579121 | 2782606 | 7337.6 | 2920 | 2550-2920 | |
| | DW-9 | 1579723 | 2782973 | 7337.6 | 2845 | 2538-2840 | |
| | DW-11 | 1578845 | 2783245 | 7445.0 | 3028 | 2819-3028 | PCMP [2] |
| | DW-12 | 1579421 | 2783439 | 7418.9 | 2940 | 2791-2940 | Abandon[1] |
| 3 ▲ Westwater | DW-13 | 1579378 | 2782065 | 7322.3 | 3185 | 3045-3185 | Abandon[1] |
| | DW-15 | 1578491 | 2782501 | 7393.5 | 3205 | 3056-3196 | |
| | DW-16 | 1578334 | 2782995 | 7393.6 | 3275 | 3105-3245 | |
| | DW-17 | 1578570 | 2783563 | 7496.8 | 3342 | 3209-3342 | |
| | DW-18 | 1578902 | 2783778 | 7497.7 | 3314 | 3212-3314 | |
| | DW-20 | 1579945 | 2783505 | 7386.1 | 3223 | 2938-3223 | |
| | DW-21 | 1580165 | 2782966 | 7323.4 | 3184 | 2873-3173 | |
| | DW-22 | 1579900 | 2782460 | 7305.4 | 3195 | 3019-3159 | |
| | DW-14 | 1578847 | 2782182 | 7342.3 | 3205 | 3048-3188 | PCMP [2] |
| | DW-19 | 1579493 | 2783781 | 7453.2 | 3274 | 3166-3274 | |
| Other [5] ▲ Westwater | SM24-38 | 1579116 | 2783008 | 7390.0 | 3535 | 3107-3247 | Abandon[1] |
| | SM24-43 | 1579029 | 2782948 | 7347.0 | 3535 | 3064-3204 | |
| | SM24-89 | 1578964 | 2782908 | 7348.0 | 3121 | | |
| Off-Site Wells [4,5] | SM15-59 | 1584519 | 2771754 | 7738.0 | | | Abandon[1] |
| | SM13-74 | 1584233 | 2783313 | 7480.0 | | | |
| | SM21-1-2D | 1584519 | 2786914 | 7630.0 | | | |

NOTES

1. WELLS PLUGGED AND ABANDONED AS PART OF CLOSURE ACTIVITIES.
2. WELLS RETAINED FOR POST-CLOSURE MONITORING PROGRAM (PCMP) THEN PLUGGED AND ABANDONED WHEN PCMP IS COMPLETE.
3. WELLS RETAINED FOR POST MINING LAND USE (PMLU).
4. OFF-SITE WELLS ARE SHOWN ON FIGURE 1-8.
5. THE "SM" WELLS WERE OBSERVATION WELLS NOT DEWATERING WELLS.

NORTH

SCALE IN FEET
0 200'

T:\111360 Mt. Taylor\Site Dewatering_Wells.dwg SAVED:9/5/25 PRINTED:10/14/25

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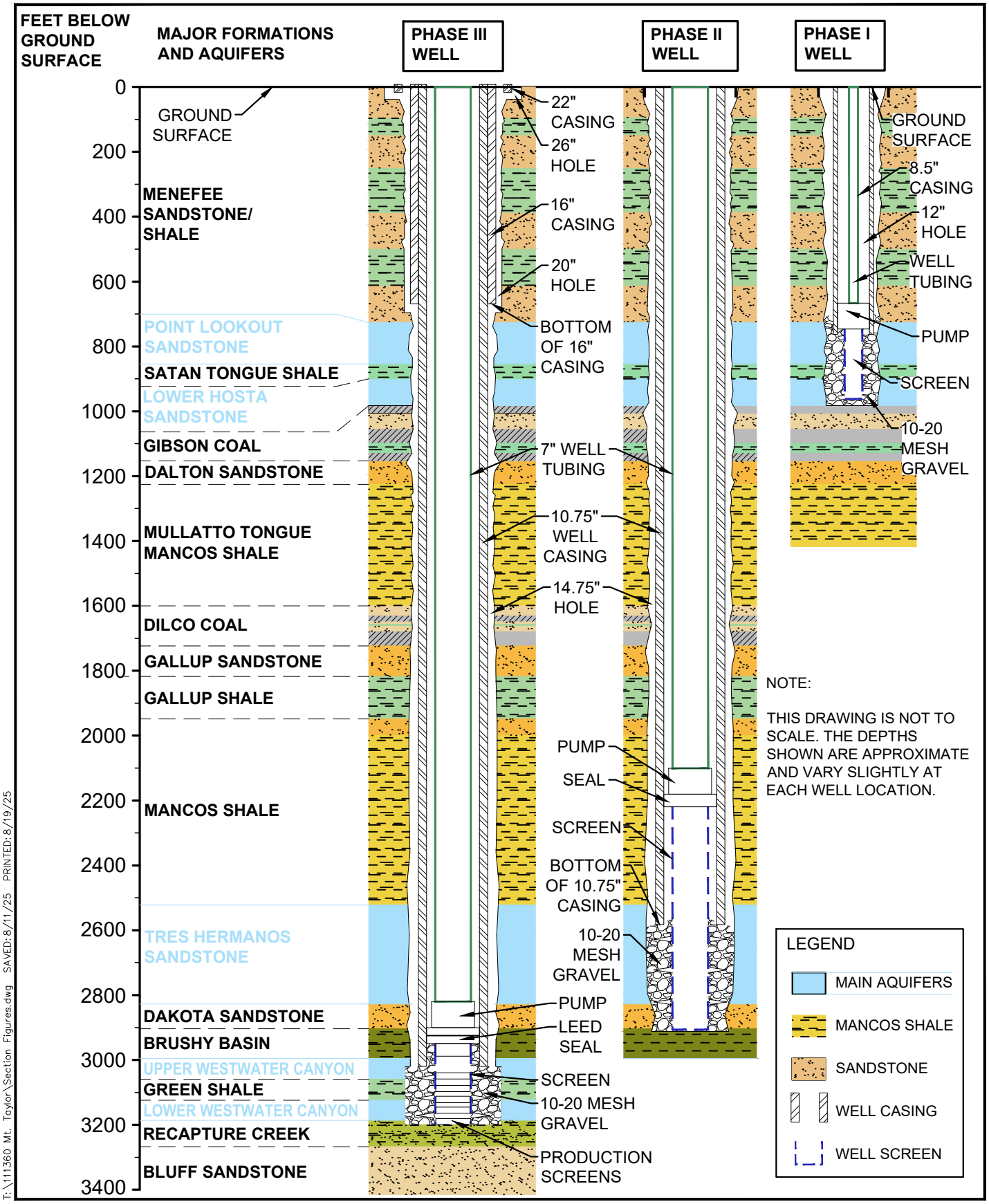
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GENERAL NOTE

G1. DEPTHS TO BOTTOM OF WELLS AND TO GEOLOGICAL FORMATIONS ARE APPROXIMATE.

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**FIGURE 1-4**
**DEWATERING WELL LOCATIONS AND DESCRIPTIONS**
**MT. TAYLOR MINE**



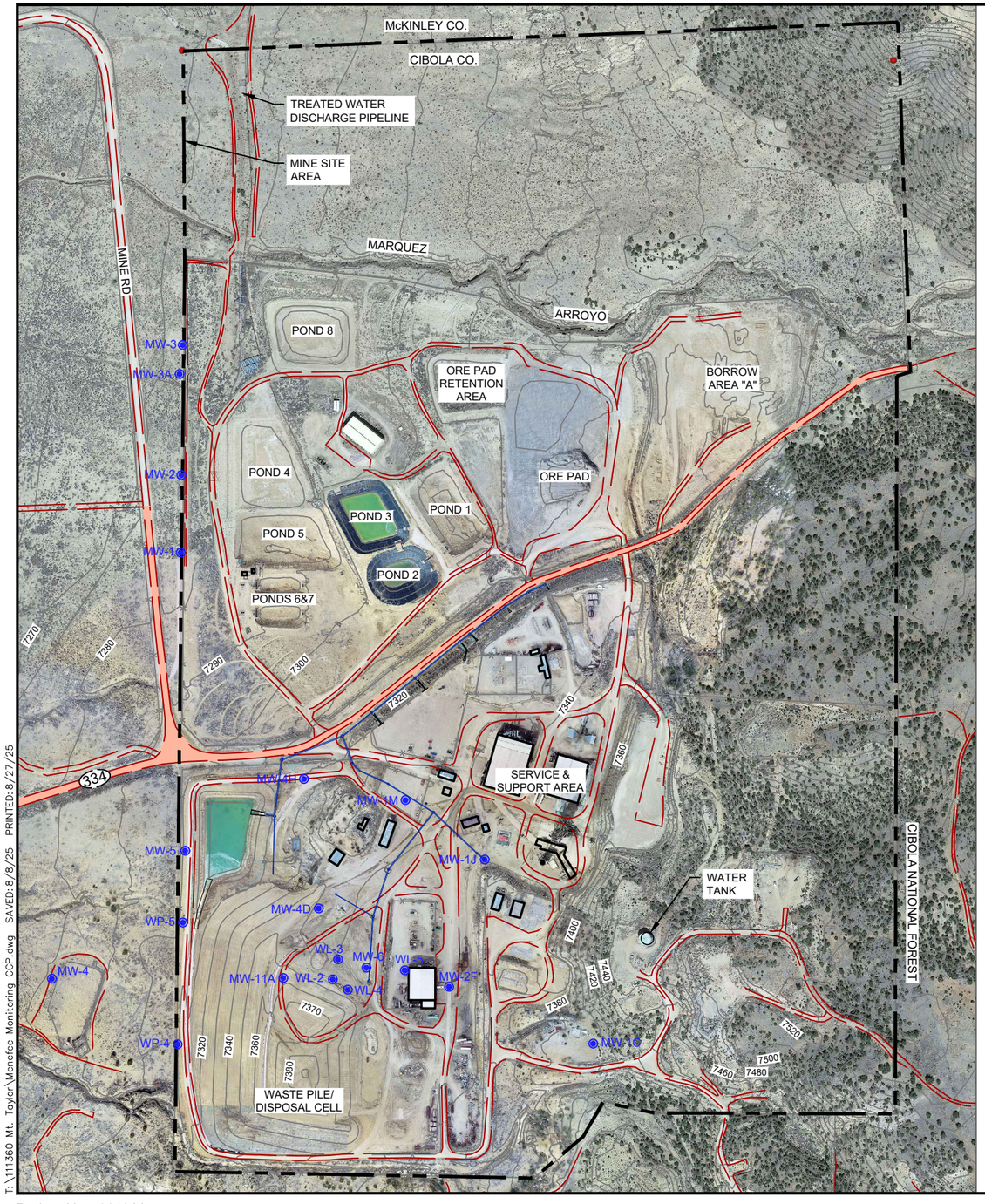

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**FIGURE 1-5**
**TYPICAL SECTION OF DEWATERING WELLS**
**MT. TAYLOR MINE**




| Well No. | Well Coordinates (New Mexico State Plane West NAD 83) | | Year Installed | Casing Diameter (Inches) | Casing Material | TOC Elevation (ft amsl) | Depth to Top of Screen (ft. bgs) | Screen Length (feet) | Closure Disposition |
|---|---|---|---|---|---|---|---|---|---|
| | Northing | Easting | | | | | | | |
| MW-01 | 1580484 | 2781541 | 1979 | 3 | STEEL | 7275.3 | 33.5 | 5 | PL |
| MW-02 | 1580191 | 2781538 | 1979 | 3 | STEEL | 7278.3 | 30.1 | 6 | PL |
| MW-03 | 1580976 | 2781545 | 1979 | 3 | STEEL | 7273.0 | 33.6 | 5 | PL |
| MW-03A | 1580976 | 2781546 | 2017 | 2 | PVC | 7272.0 | 39.0 | 10 | PL |
| MW-04 | 1578580 | 2781050 | 2005 | 4 | PVC | 7284.2 | 31.5 | 15 | PL |
| MW-05 | 1579062 | 2781556 | 2005 | 2 | PVC | 7303.4 | 22.5 | 10 | RET |
| MW-06 | 1578620 | 2782243 | 2011 | 2 | PVC | 7341.5 | 15.0 | 20 | PL |
| WP-04 | 1578330 | 2781527 | 1982 | 4 | PVC | 7312.7 | 38.0 | 10 | PL |
| WP-05 | 1578786 | 2781546 | 1982 | 4 | PVC | 7303.1 | 30.0 | 10 | RET |
| WL-02 | 1578575 | 2782115 | 2017 | 6 | PVC | 7341.4 | 39.0 | 10 | PL |
| WL-03 | 1578651 | 2782133 | 2017 | 6 | PVC | 7341.1 | 39.0 | 10 | PL |
| WL-04 | 1578537 | 2782171 | 2017 | 6 | PVC | 7342.2 | 39.0 | 10 | PL |
| WL-05 | 1578614 | 2782309 | 2017 | 6 | PVC | 7346.3 | 40.0 | 10 | PL |
| MW-1C | 1578341 | 2783120 | 2020 | 3 | PVC | 7395.5 | 84.0 | 10 | PL |
| MW-1J | 1579034 | 2782712 | 2020 | 3 | PVC | 7347.4 | 49.4 | 10 | PL |
| MW-1M | 1579255 | 2782392 | 2020 | 3 | PVC | 7339.0 | 38.0 | 10 | RET |
| MW-2F | 1578553 | 2782577 | 2020 | 3 | PVC | 7348.0 | 42.0 | 20 | PL |
| MW-4D | 1578849 | 2782082 | 2020 | 3 | PVC | 7341.4 | 42.0 | 20 | PL |
| MW-4H | 1579335 | 2782029 | 2020 | 3 | PVC | 7322.5 | 51.5 | 10 | PL |
| MW-11A | 1578585 | 2781928 | 2020 | 3 | PVC | 7355.8 | 75.0 | 10 | RET |

TABLE NOTES:

PL = Plug wells after utility for abatement is complete.

RET = Retain for Post-Closure Monitoring; Plug wells after post closure monitoring requirements are met.

ft amsl = feet above mean sea level

ft bgs = feet below ground surface

LEGEND

- MINE SITE AREA
- PUBLIC GRAVEL ROADS
- MINE GRAVEL ROADS
- MINE BUILDINGS
- FENCE LINES
- STORM DRAINAGE SYSTEM
- 10' CONTOURS
- SHALLOW AQUIFER MONITORING WELLS

NORTH

SCALE IN FEET

0 500'

GENERAL NOTES:

G.1 TOPOGRAPHY BASED ON A 2012 AERIAL SURVEY BY THOMAS R. MANN AND ASSOCIATES AND 2021 SURVEYS BY SUTHWEST SURVEYING SOLUTIONS (S3).

G.2 CONTOUR LINES REPRESENT 10 FOOT VERTICAL INCREMENTS.

G.3 WELL LOCATIONS SURVEYED BY S3 SURVEYORS AND BY RGR RECORDS.

G.4 TOC ELEVATIONS UPDATED SEPTEMBER 2021 BY RGR BASED ON S3 SURVEY.

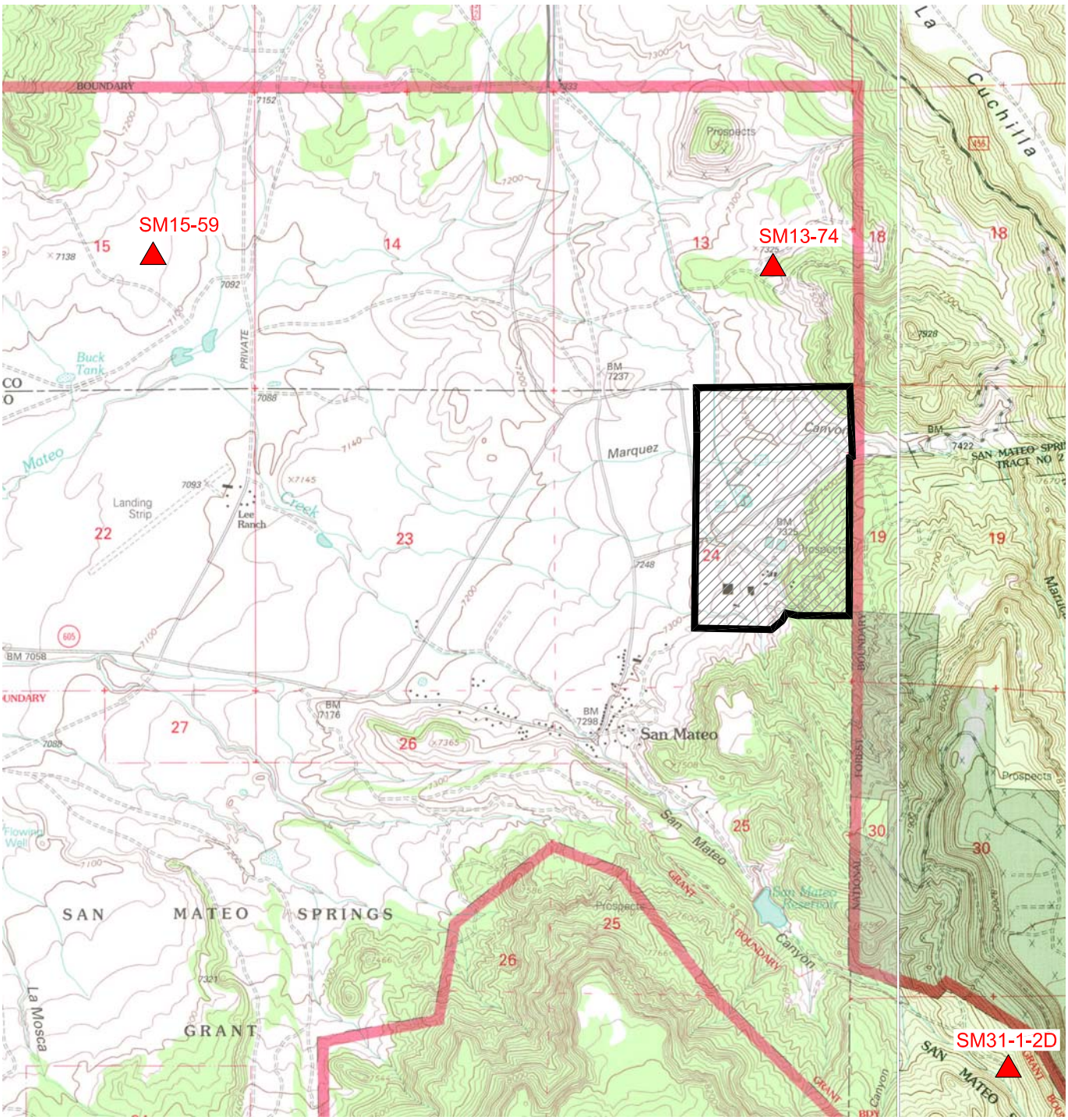
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**FIGURE 1-6**
**MINE SITE ALLUVIAL AND MENEFEE MONITORING WELLS**
**MT. TAYLOR MINE**




LEGEND:

- MT. TAYLOR MINE SITE AREA
- SECTION BOUNDARIES
- WELL LOCATIONS

SCALE IN MILES

0 1/2

NORTH

GENERAL NOTES:

G.1 BASE MAP ADAPTED FROM USGS QUAD MAP.

G.2 ALL OFF-SITE WELLS TO BE ABANDONED.

| Well No | Well Coordinates (NM West NAD 83) | | Collar Elevation (Feet AMSL) |
|---|---|---|---|
| | Northing | Easting | |
| SM15-59 | 1584519 | 2771754 | 7738 |
| SM13-74 | 1584233 | 2783313 | 7480 |
| SM31-1-2D | 1584519 | 2786914 | 7630 |

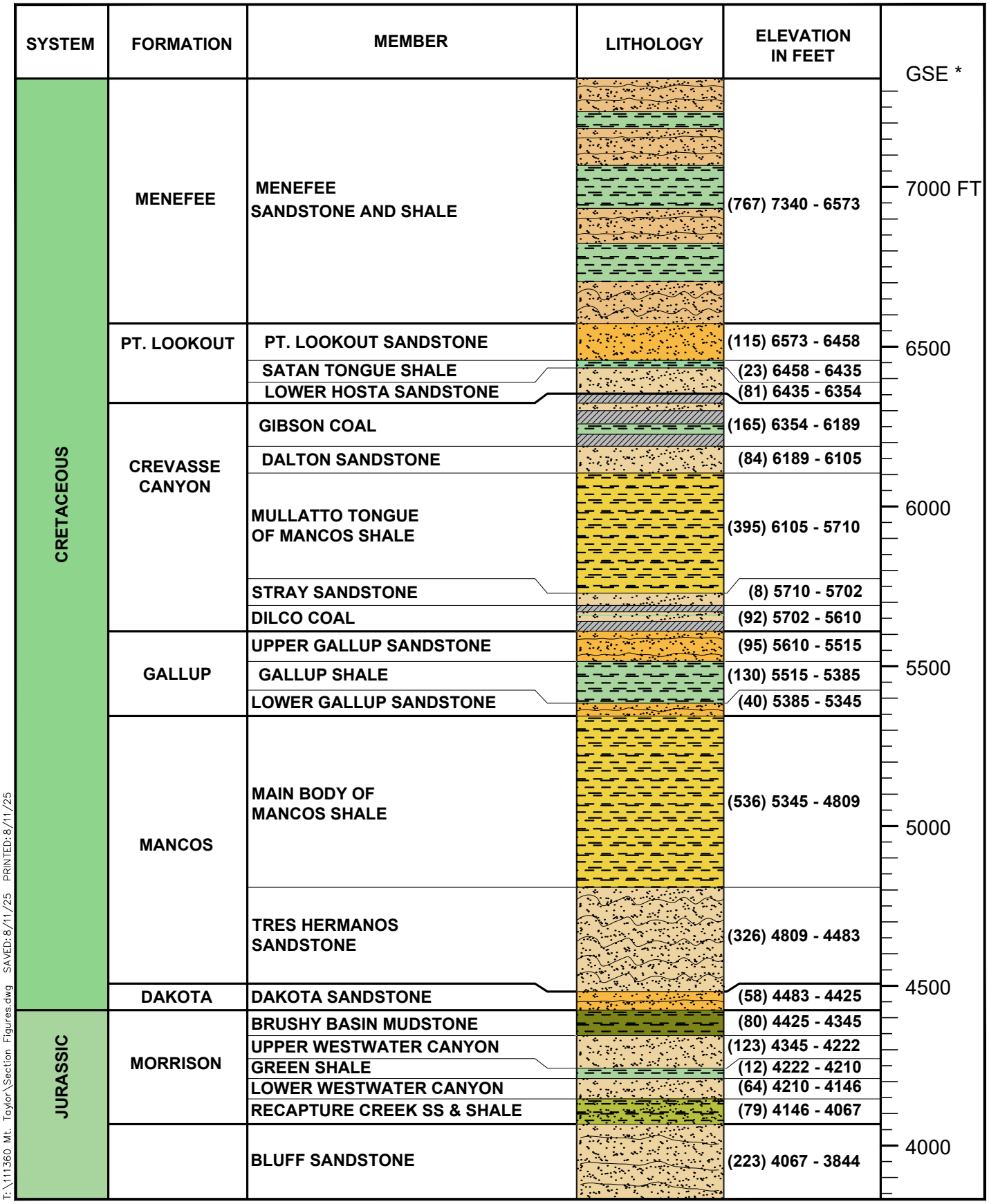
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**FIGURE 1-8**
**OBSERVATION WELLS (OFF-SITE)**
**MT. TAYLOR MINE**




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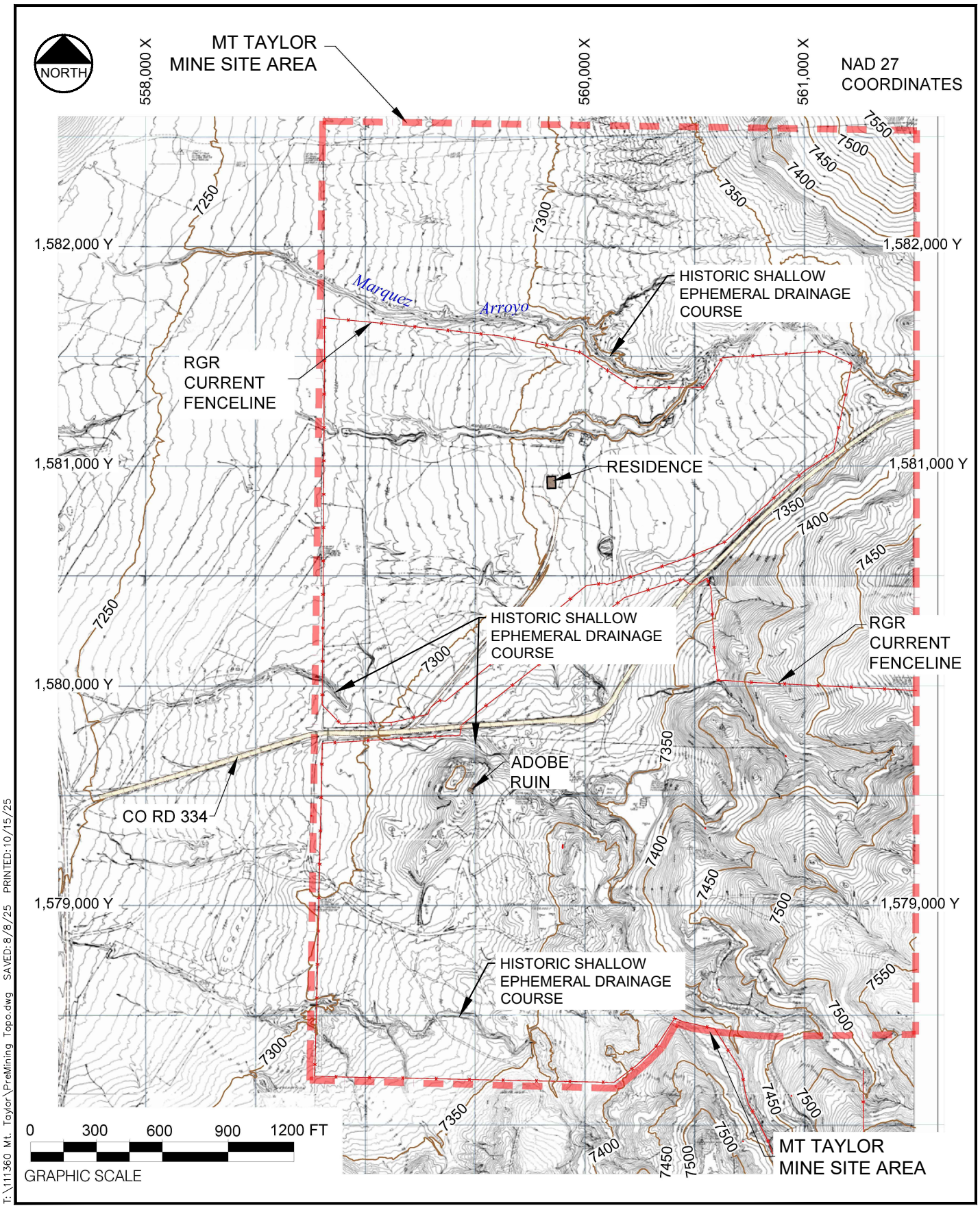
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NOTES:
1. GSE* = GROUND SURFACE ELEVATION. THE GSE FOR THE MINE SITE VARIES FROM 7280' TO 7400'.
2. (#) INDICATES THICKNESS OF GEOLOGIC UNIT IN FEET AT THE MINE SHAFT.
3. THE ELEVATIONS SHOWN ON THIS FIGURE ARE IN FEET ABOVE MEAN SEA LEVEL.

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**FIGURE 2-1**
**GEOLOGIC SECTION**
**MT. TAYLOR MINE**




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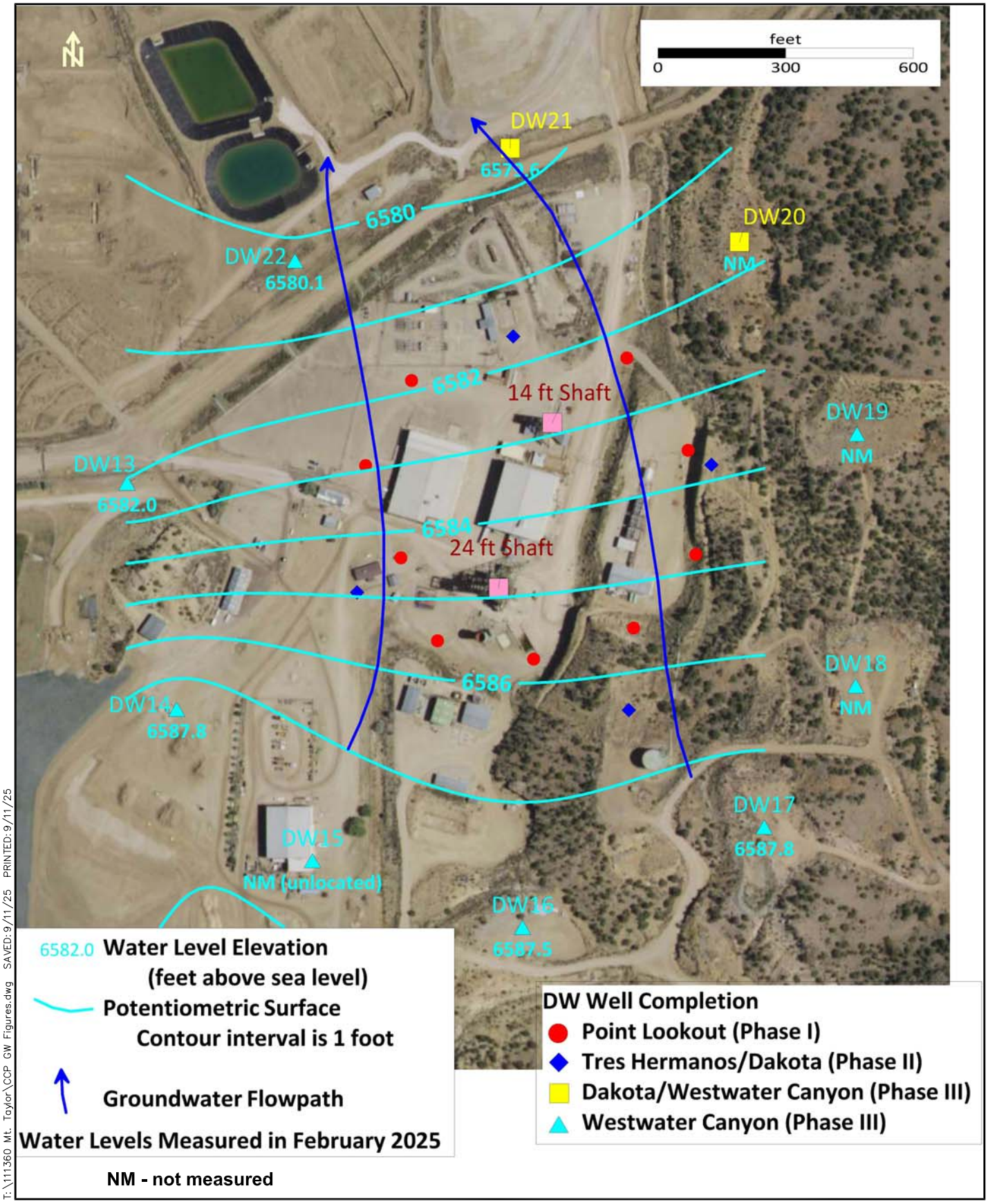
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NOTE:
THIS MAP IS BASED ON THE WILLIAM MATOTAN & ASSOCIATES ENGINEERS SURVEY THAT WAS BASED ON AERIAL PHOTOGRAPHY DATED 9-6-1974.

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**FIGURE 2-2**
**PRE-MINING TOPOGRAPHY**
**MT. TAYLOR MINE**



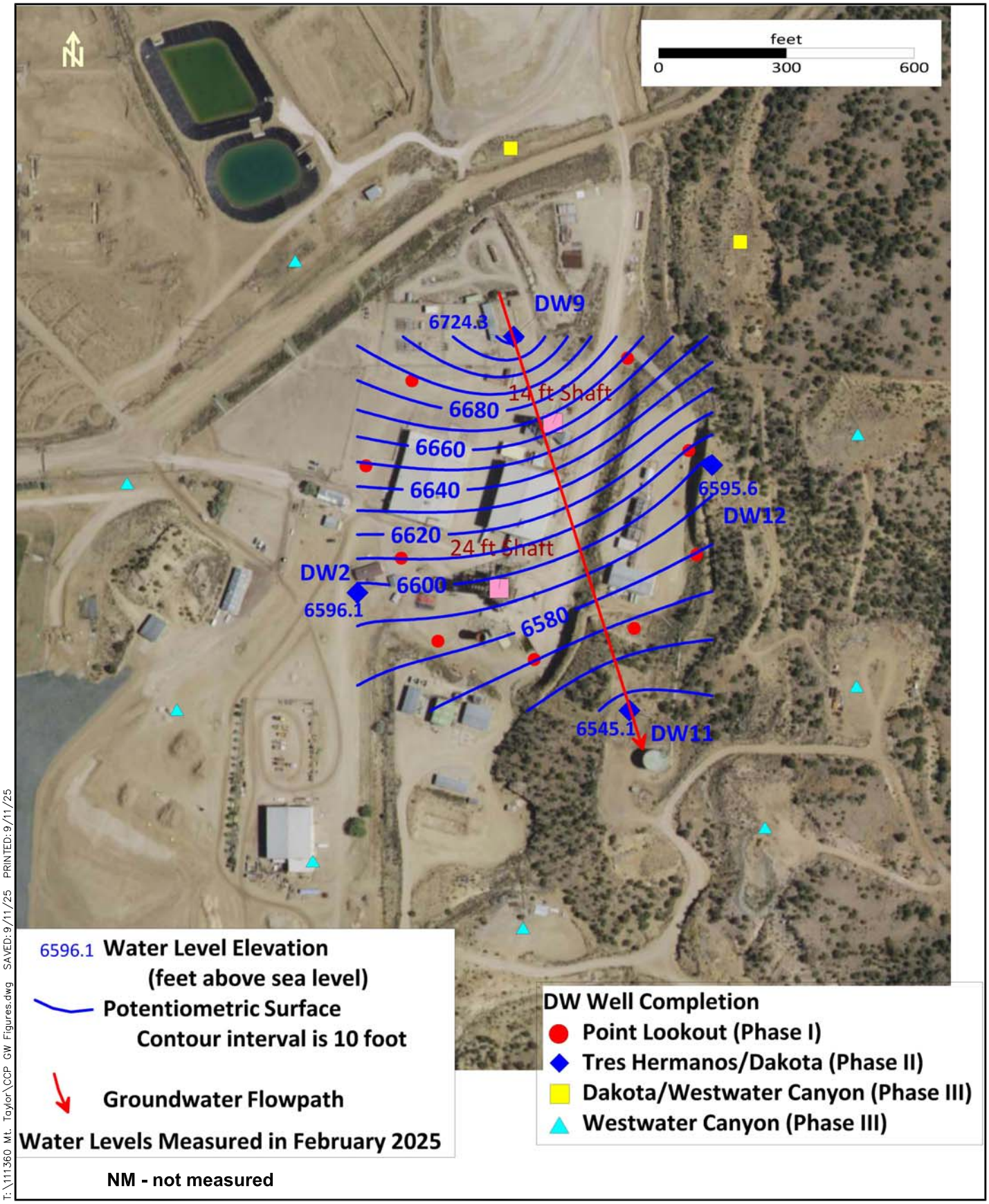

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**FIGURE 2-3**
**WESTWATER CANYON AQUIFER POTENTIOMETRIC SURFACE MAP**
**WESTWATER CANYON AQUIFER**
**MT. TAYLOR MINE**

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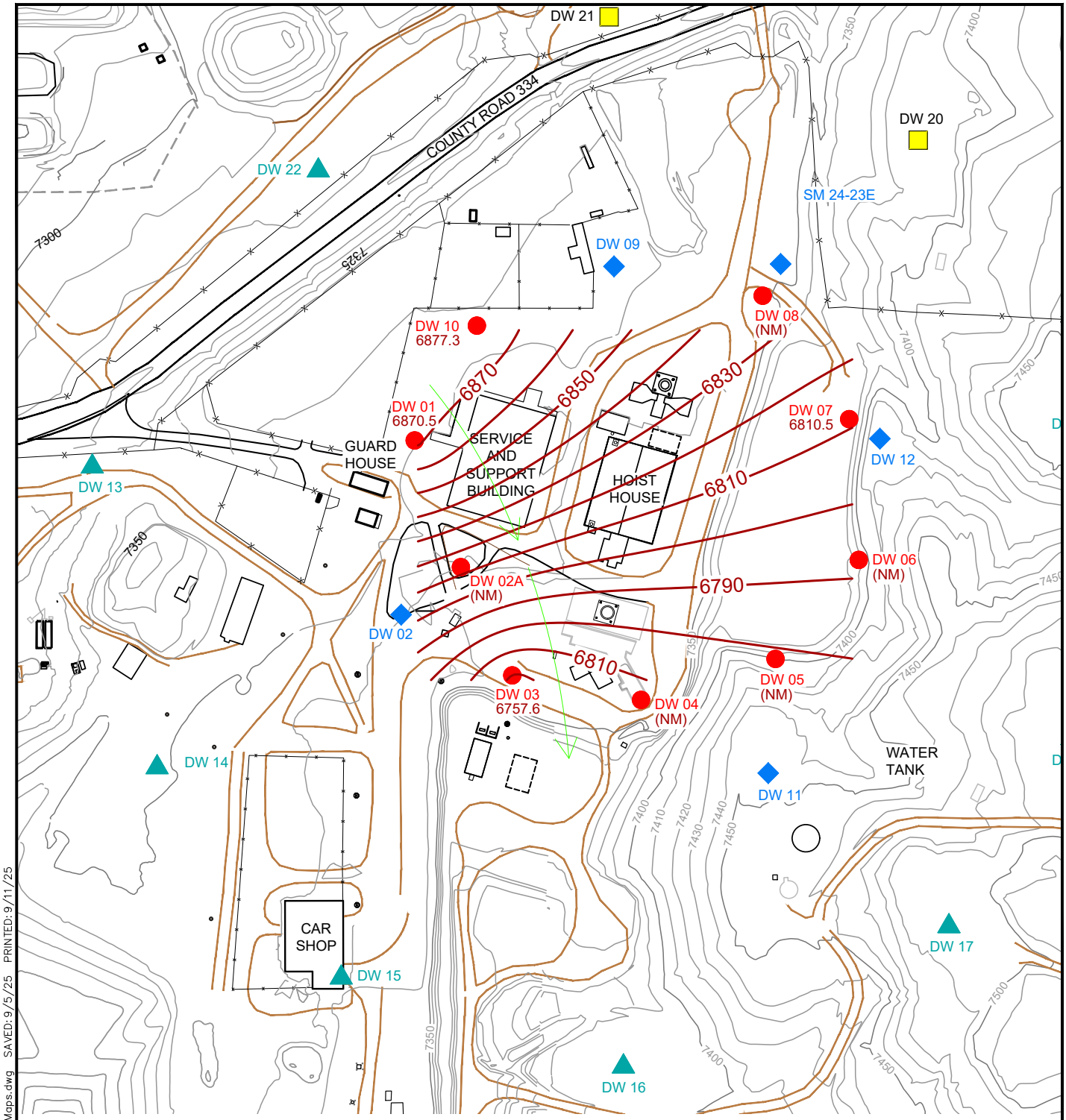

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**FIGURE 2-4**
**TRES HERMANOS/DAKOTA AQUIFER POTENTIOMETRIC SURFACE MAP**
**TRES HERMANOS/DAKOTA AQUIFER**
**MT. TAYLOR MINE**

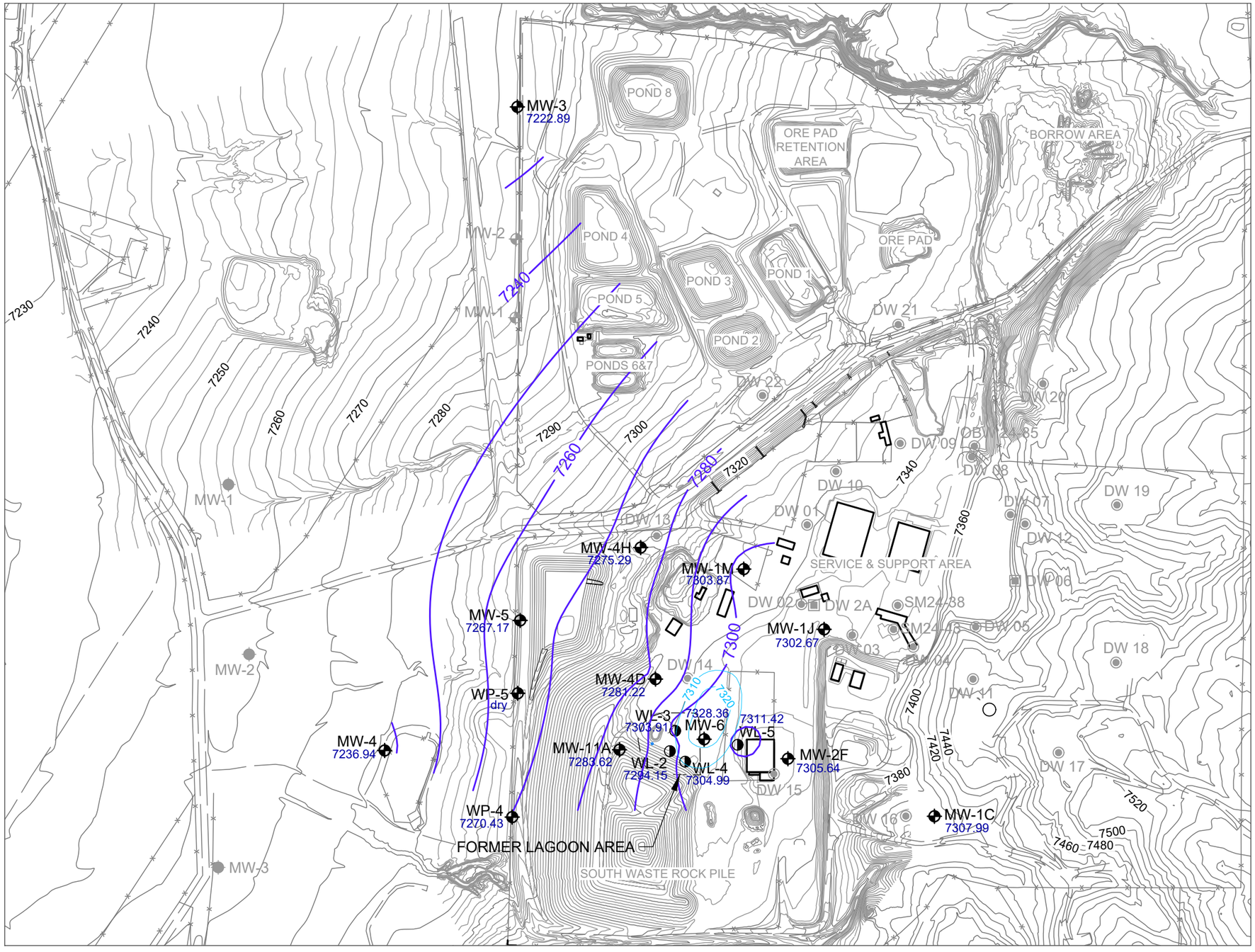



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**FIGURE 2-5**
**POINT LOOKOUT/HOSTA AQUIFER POTENTIOMETRIC SURFACE MAP**
**POINT LOOKOUT/HOSTA AQUIFER**
**MT. TAYLOR MINE**




- MONITOR WELL
- DRY WELL (PLUGGED AND ABANDONED)
- RECOVERY WELL
- DEWATERING WELL
- FACILITY WATER SUPPLY
- STORMWATER DRAINAGE
- FENCE
- ROADWAY
- POTENTIOMETRIC CONTOURS (10 FT) IN THE ALLUVIUM AND BEDROCK
- WATER LEVEL ELEVATION CONTOURS IN THE WASTE ROCK PILE
- **(N/A)** WATER LEVEL NOT RECORDED DUE TO PUMP IN WELL
- 7301.10 GROUNDWATER ELEVATION MEASURED MARCH 10, 2025

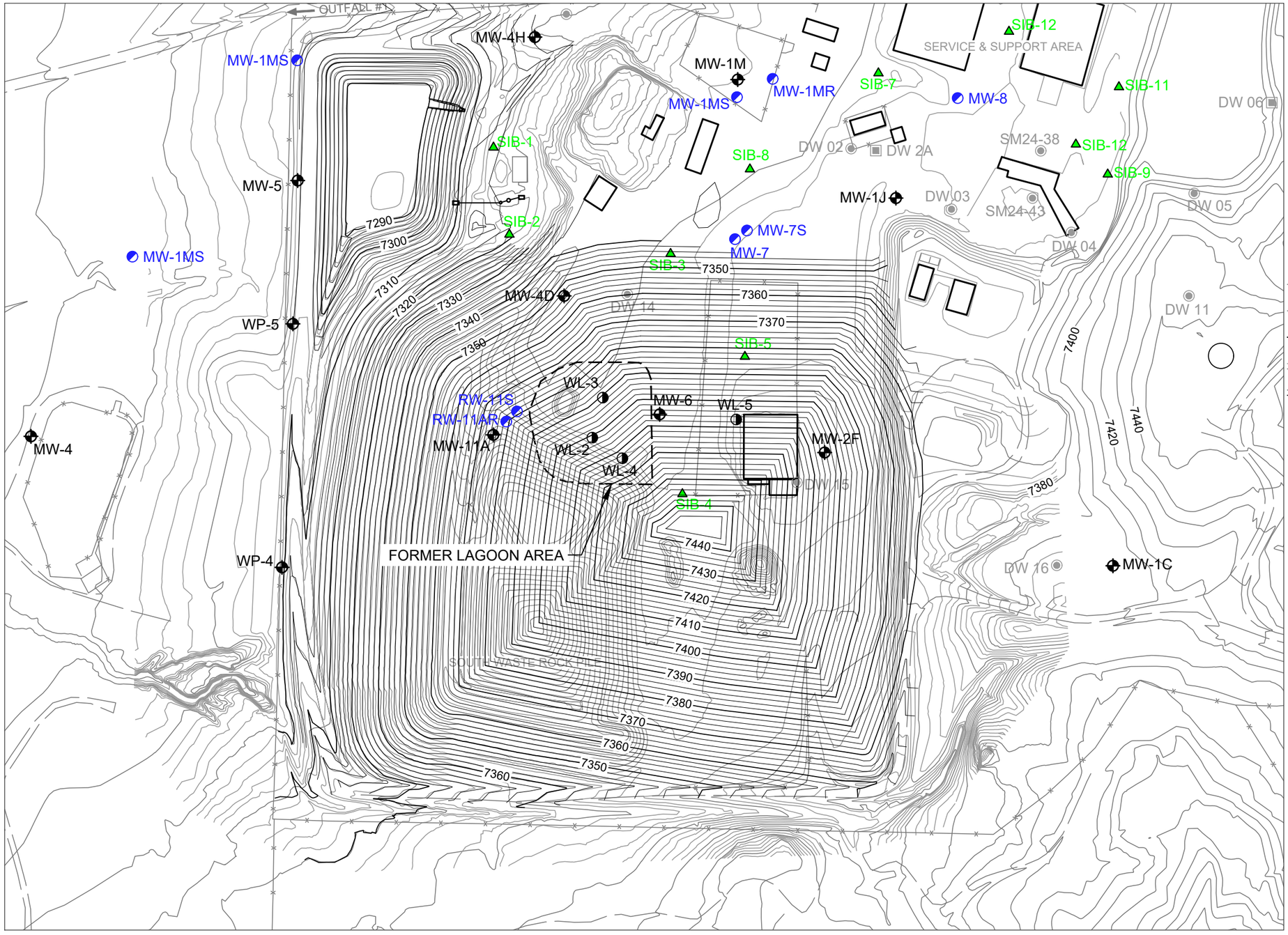
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**FIGURE 2-6**
**SHALLOW AQUIFER POTENTIOMETRIC MAP**
**ALLUVIAL AND MENEFEE AQUIFERS**
**MT. TAYLOR MINE**




- MONITOR WELL
- DRY WELL (PLUGGED AND ABANDONED)
- RECOVERY WELL
- DEWATERING WELL
- FACILITY WATER SUPPLY
- PROPOSED WELL 2025 SIP
- PROPOSED BORING 2025 SIP
- STORMWATER DRAINAGE
- FENCE
- ROADWAY
- FORMER LAGOON AREA
- EXISTING TOPOGRAPHY
- PROPOSED TOPOGRAPHY

NOTE:
MAX DEPTH AT HIGHEST POINT;

| Current El | Proposed El | Height |
|---|---|---|
| 7344' | 7444' | 100' |

EXPANDED VOLUME
(Compared to original disposal cell volume)

| CUT | FILL | NET |
|---|---|---|
| 7,250 | 1,101,090 | 1,093,840 |

in cubic yards

NORTH

SCALE IN FEET
0 200'

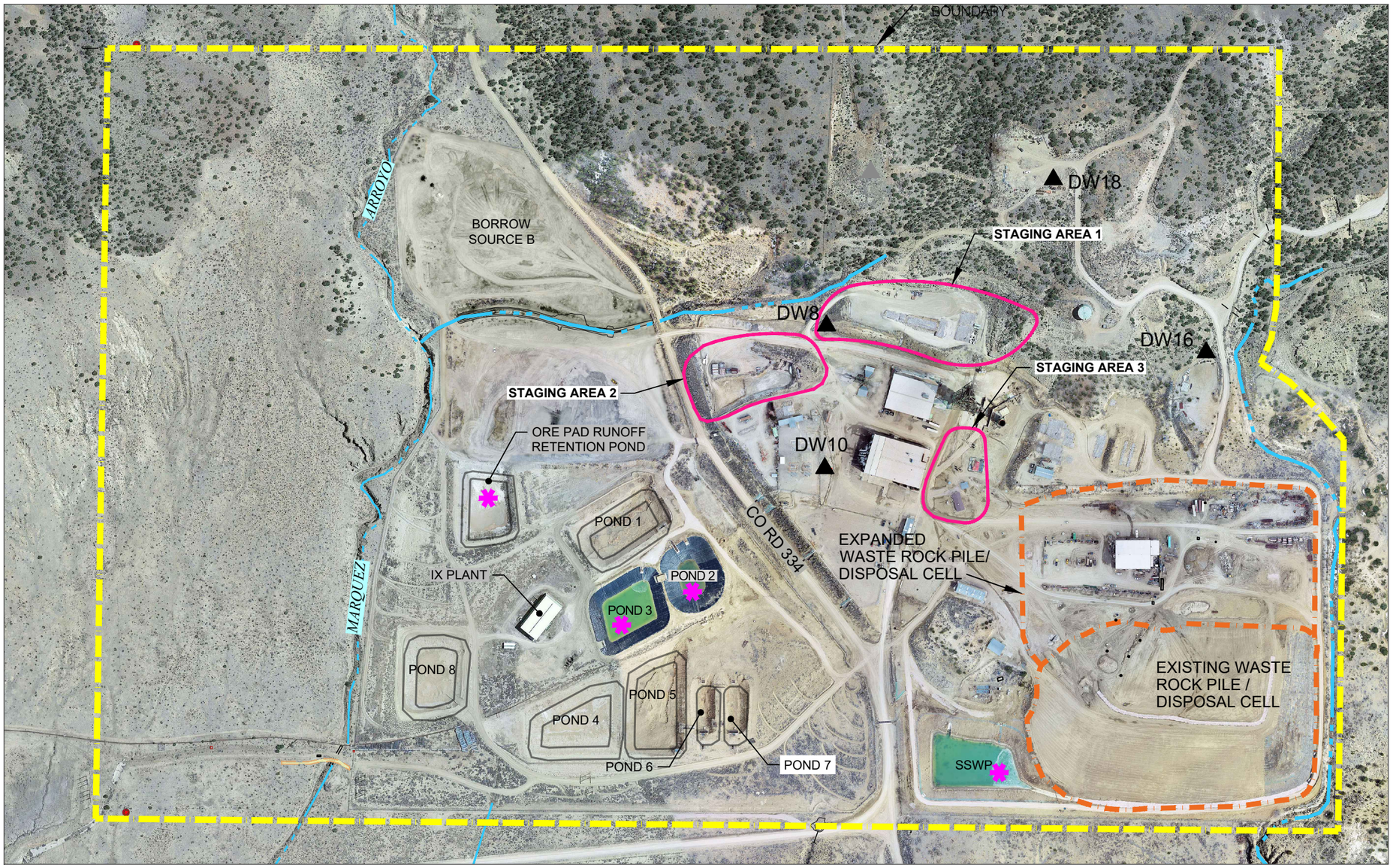
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**FIGURE 4-1**
**EXPANDED DISPOSAL CELL WITH SITE TOPOGRAPHY, CURRENT WELLS, AND PROPOSED WELLS**
**MT. TAYLOR MINE**



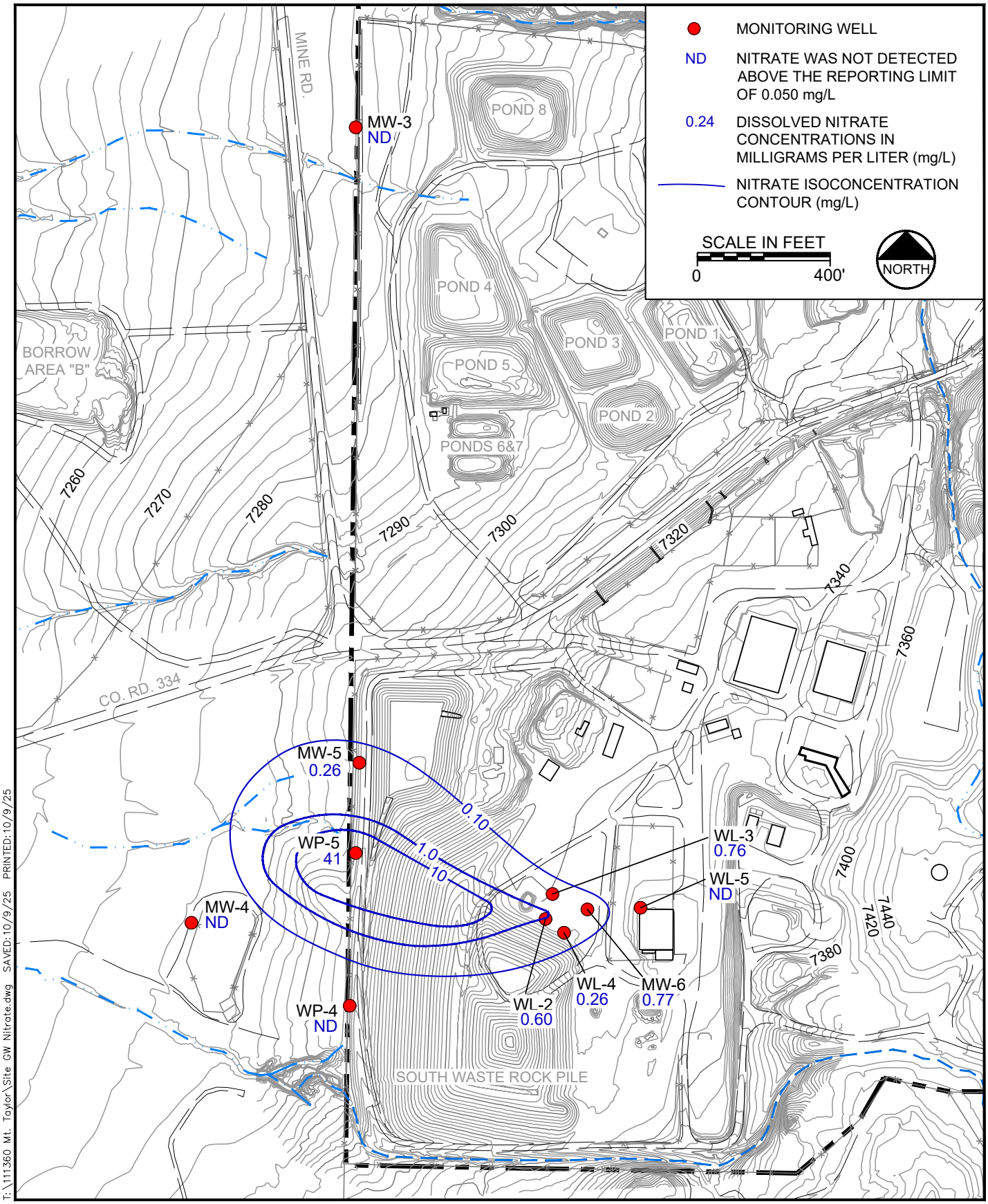

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**FIGURE 4-2**
**APPROVED STAGING AREAS**
**MT. TAYLOR MINE**



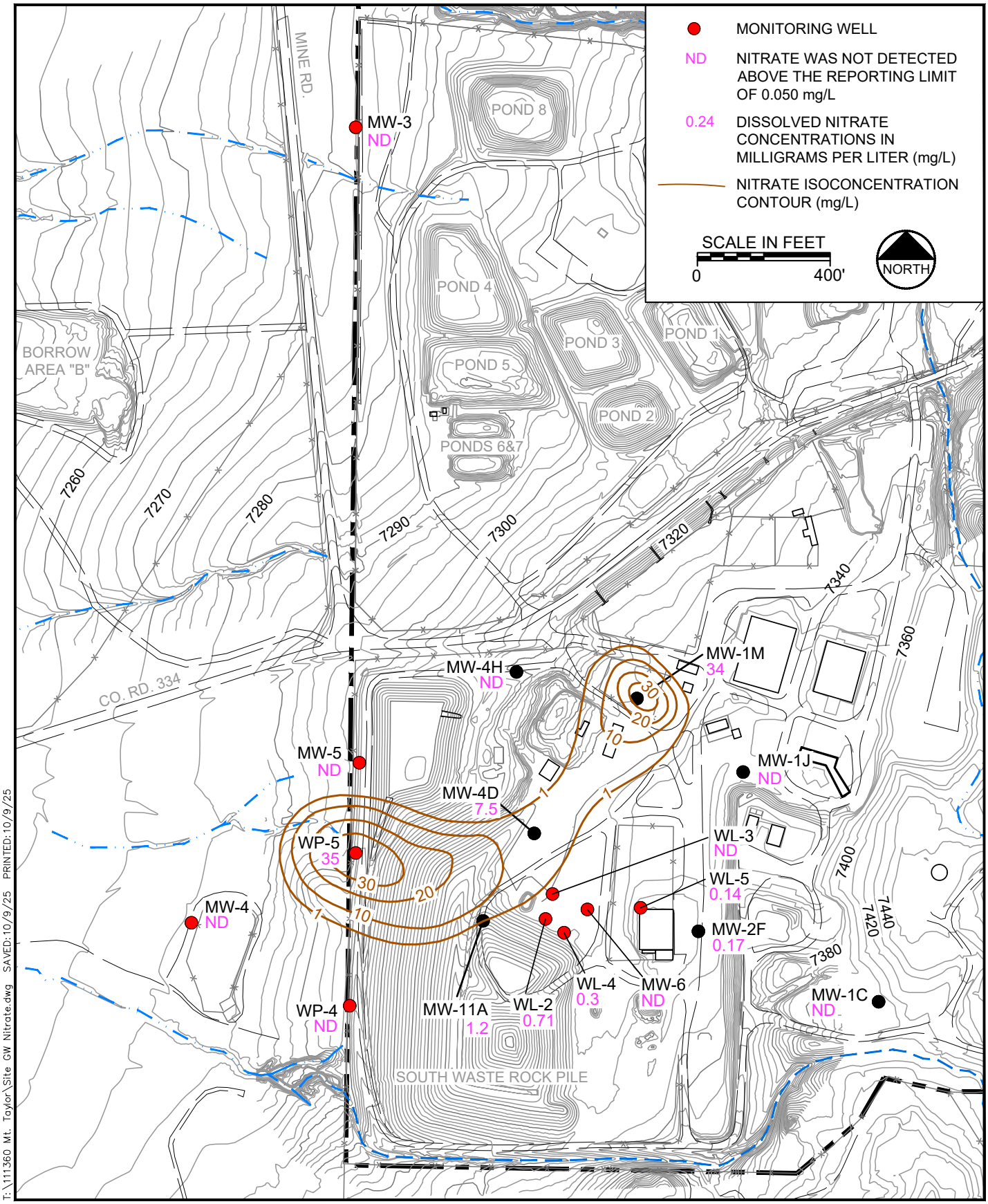

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**FIGURE 5-1**
**NITRATE DISTRIBUTION IN ALLUVIAL AND UPPER MENEFEE GROUNDWATER (AUGUST 2018)**
**MT. TAYLOR MINE**

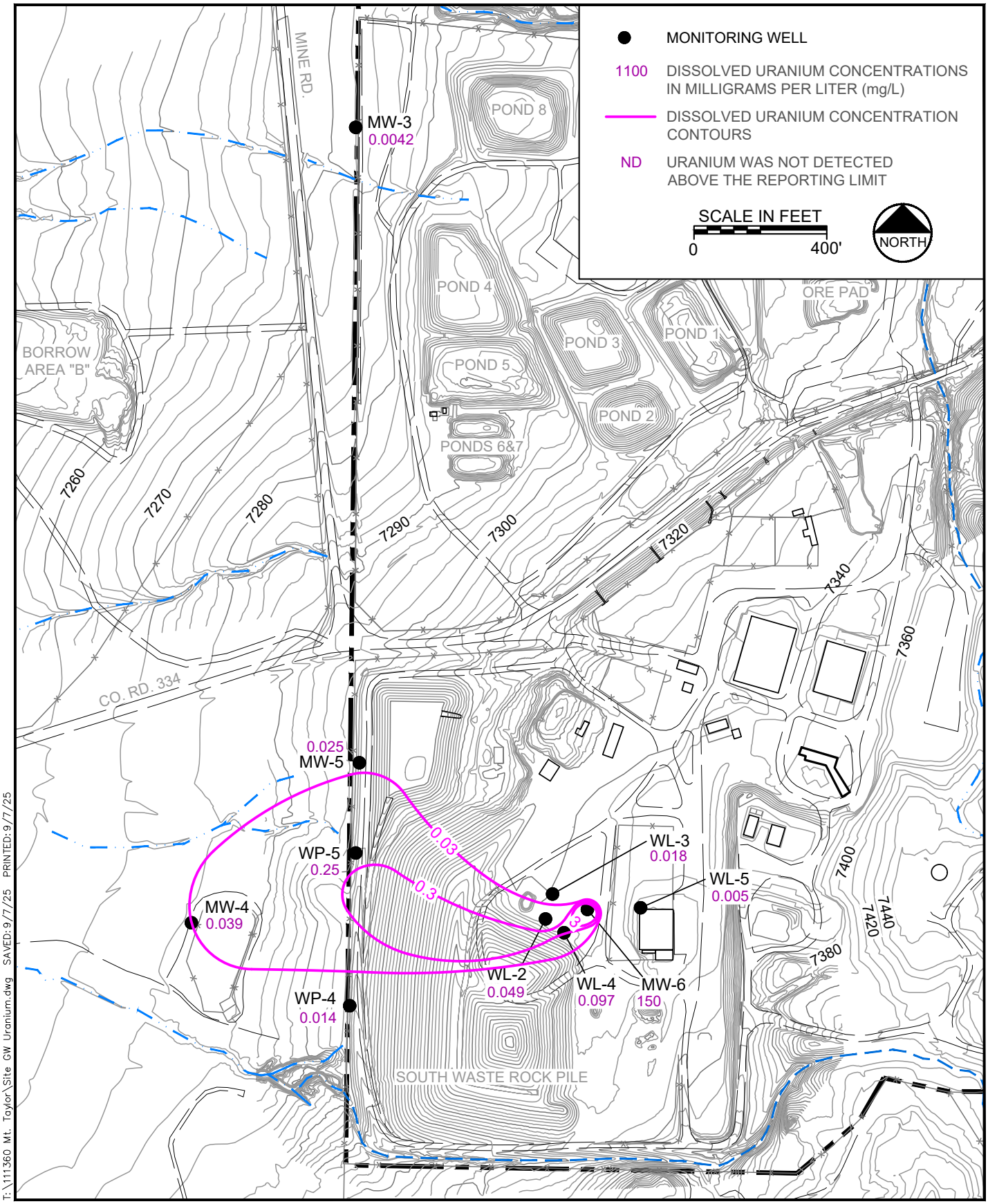



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**FIGURE 5-2**
**NITRATE DISTRIBUTION IN ALLUVIAL AND UPPER MENEFEE GROUNDWATER (MAY 2025)**
**MT. TAYLOR MINE**



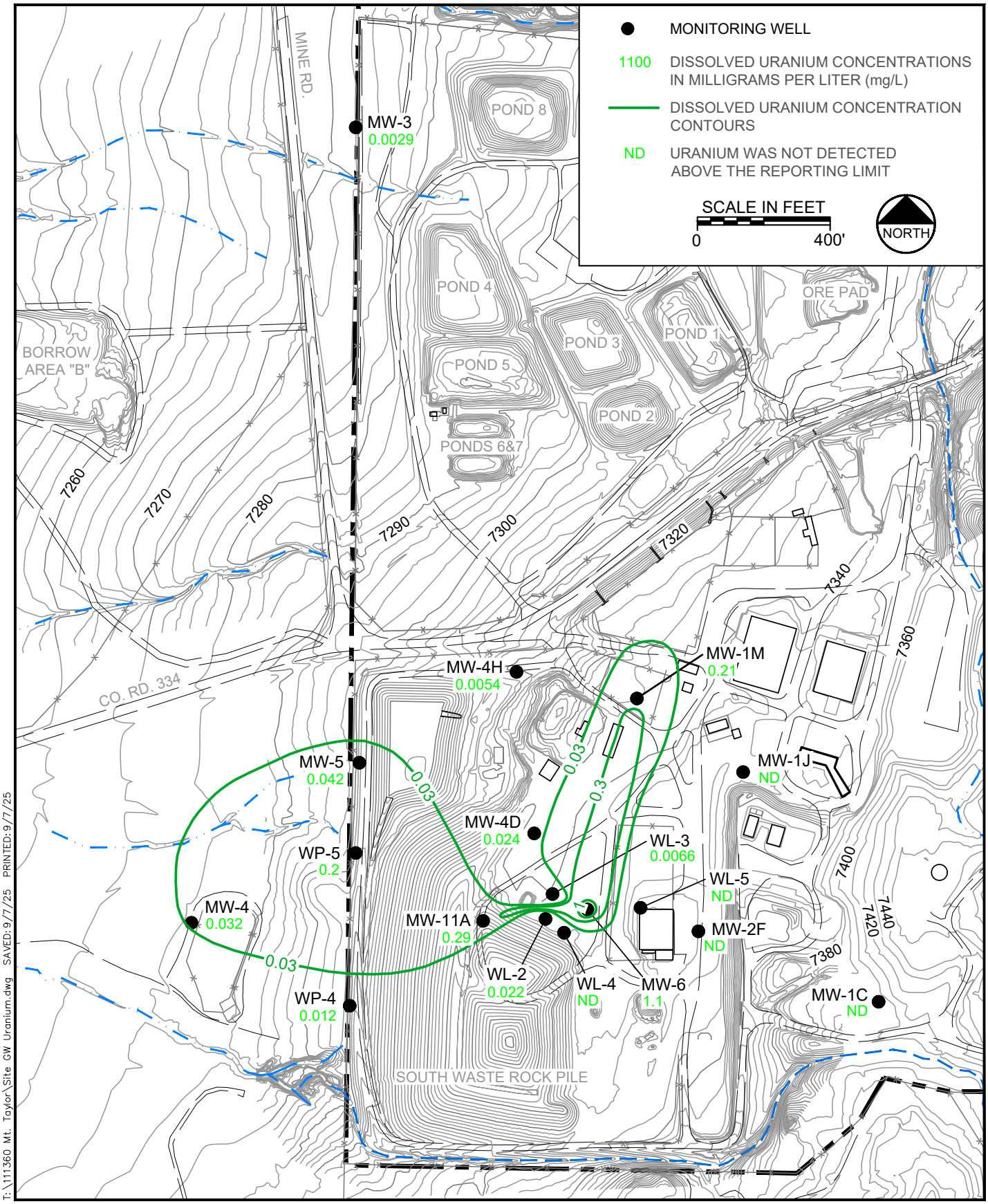

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**FIGURE 5-3**
**URANIUM DISTRIBUTION IN ALLUVIAL AND UPPER MENEFEE GROUNDWATER (AUGUST 2018)**
**MT. TAYLOR MINE**



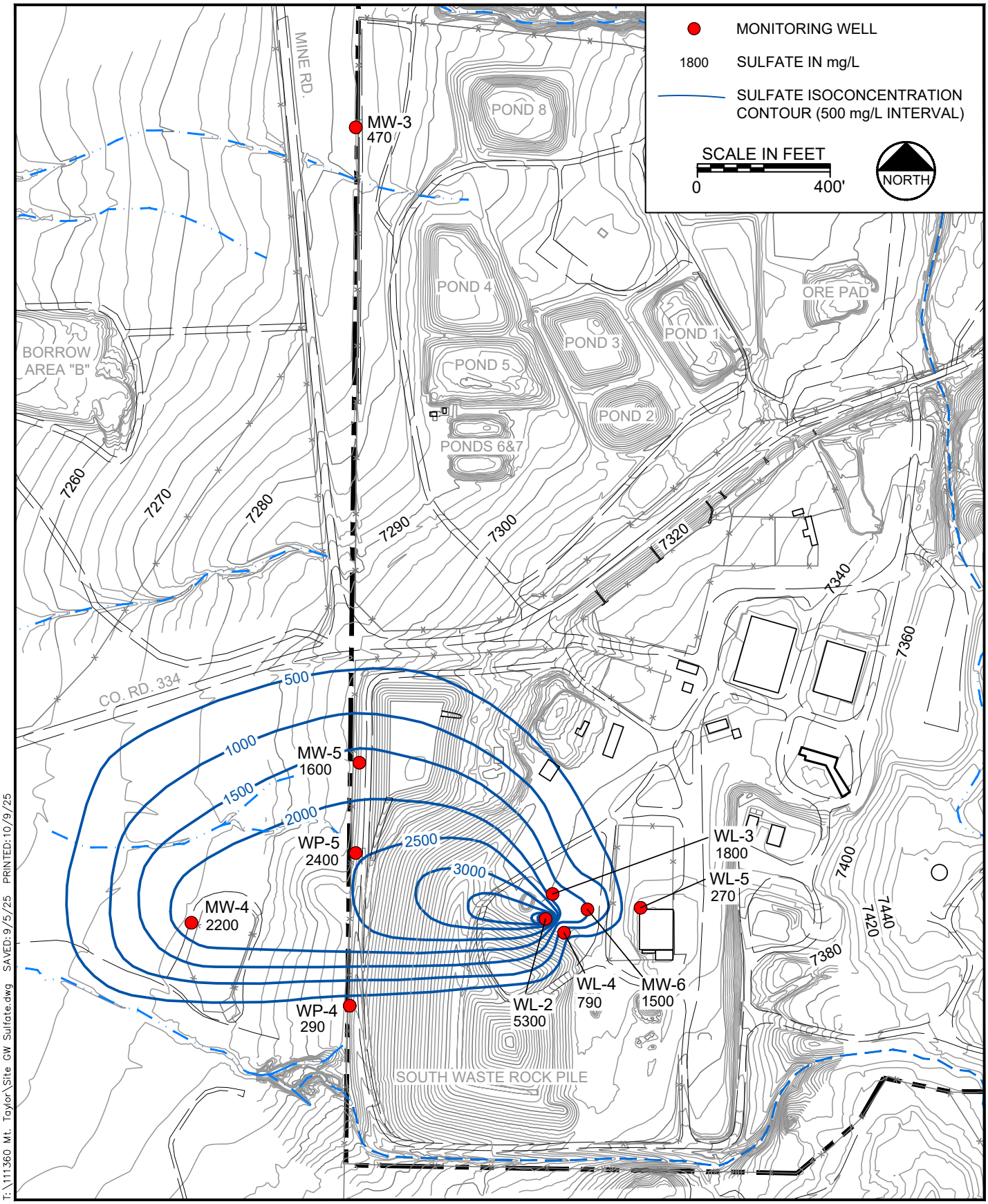

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**FIGURE 5-4**
**URANIUM DISTRIBUTION IN ALLUVIAL AND UPPER MENEFEE GROUNDWATER (MAY 2025)**
**MT. TAYLOR MINE**



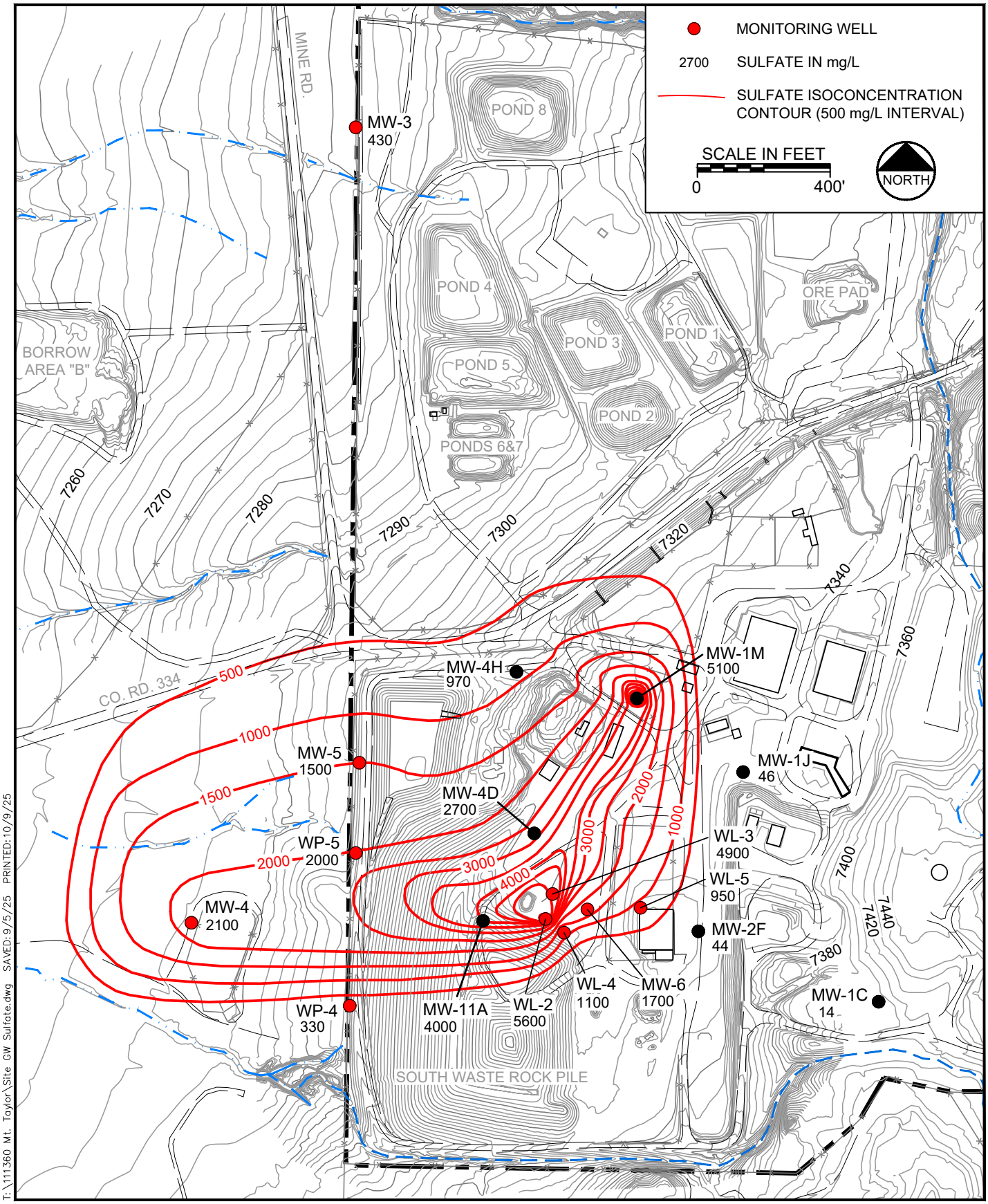

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**FIGURE 5-5**
**SULFATE DISTRIBUTION IN ALLUVIAL AND UPPER MENEFEE GROUNDWATER (MAY 2018)**
**MT. TAYLOR MINE**




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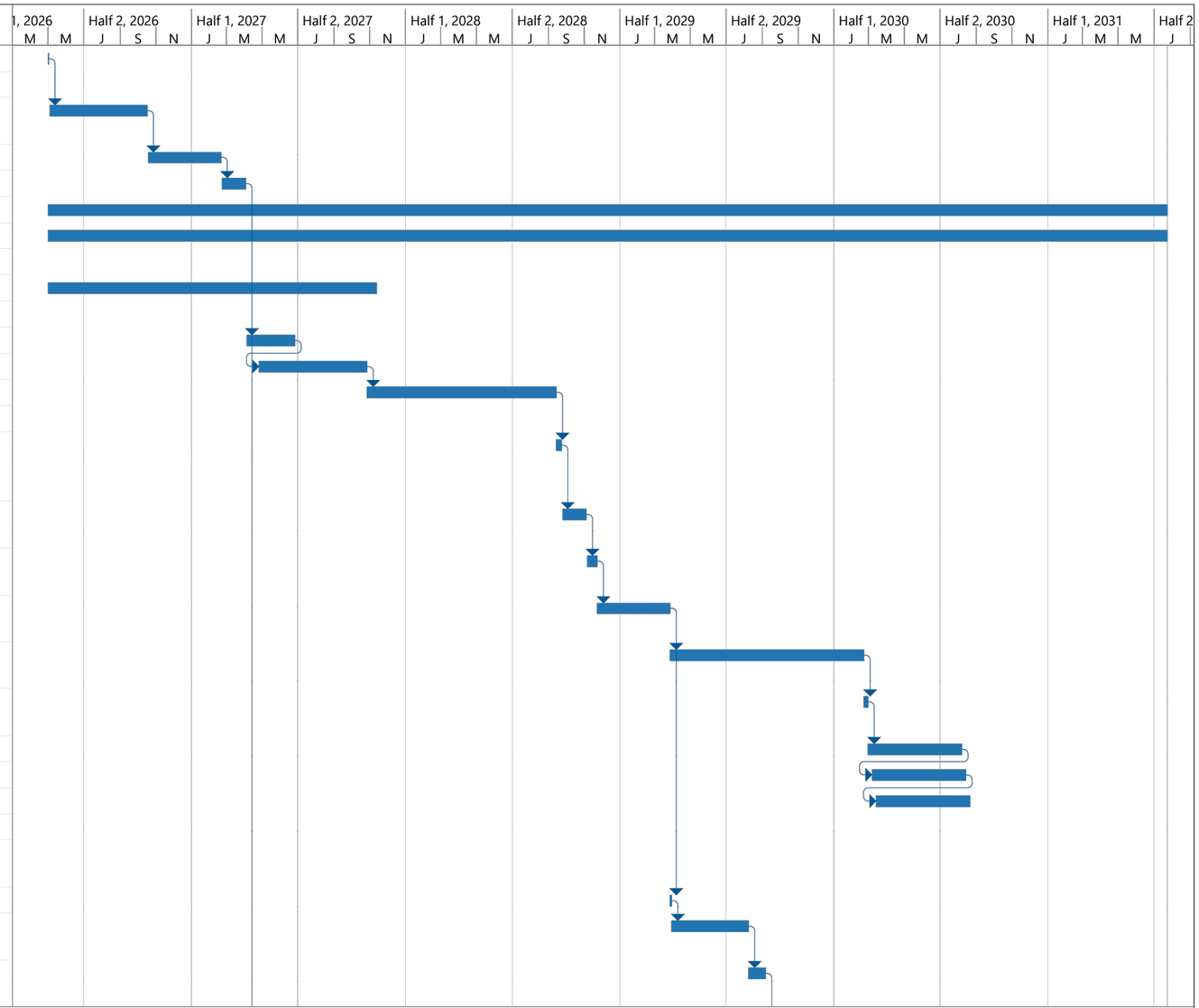
Project No. 111360

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**FIGURE 5-6**
**SULFATE DISTRIBUTION IN ALLUVIAL AND UPPER MENEFEE GROUNDWATER (MAY 2025)**
**MT. TAYLOR MINE**

| ID | Task Name | Duration | Start | Finish | Predecessors |
|---|---|---|---|---|---|
| 1 | CCP Approval (Estimated) | 1 day | Fri 5/1/26 | Fri 5/1/26 | |
| 2 | **Project Management** | | | | |
| 3 | Workplan Development and Approval | 120 days | Mon 5/4/26 | Fri 10/16/26 | 1 |
| 4 | Bids and Contracts | 90 days | Mon 10/19/26 | Fri 2/19/27 | 3 |
| 5 | Mobilization | 30 days | Mon 2/22/27 | Fri 4/2/27 | 4 |
| 6 | Documentation | 1364 days | Fri 5/1/26 | Wed 7/23/31 | |
| 7 | Quality Control | 1364 days | Fri 5/1/26 | Wed 7/23/31 | |
| 8 | **Facility Removal** | | | | |
| 9 | Well and Conduit Plugging | 400 days | Fri 5/1/26 | Thu 11/11/27 | |
| 10 | **Surface Facilities** | | | | |
| 11 | Building Removal | 60 days | Mon 4/5/27 | Fri 6/25/27 | 5 |
| 12 | Concrete Removal | 132 days | Mon 4/26/27 | Tue 10/26/27 | 11FS-45 days |
| 13 | Pipe Removal | 231 days | Wed 10/27/27 | Wed 9/13/28 | 12 |
| 14 | **Disposal Cell** | | | | |
| 15 | Disposal Cell Expansion Pit Area Contaminated Soil Removal | 7 days | Thu 9/14/28 | Fri 9/22/28 | 13 |
| 16 | Clearing & Grubbing Cell Pad | 30 days | Mon 9/25/28 | Fri 11/3/28 | 15 |
| 17 | Placement of Bottom Liner | 13 days | Mon 11/6/28 | Wed 11/22/28 | 16 |
| 18 | Placement of Demolished Site Materials | 88 days | Thu 11/23/28 | Mon 3/26/29 | 17 |
| 19 | Placement of Contaminated Soil | 237 days | Tue 3/27/29 | Wed 2/20/30 | 18 |
| 20 | Clearing and Grubbing Borrow Area | 5 days | Thu 2/21/30 | Wed 2/27/30 | 19 |
| 21 | Cover Placement | 114 days | Thu 2/28/30 | Tue 8/6/30 | 20 |
| 22 | Haul Rip-rap | 114 days | Thu 3/7/30 | Tue 8/13/30 | 21FS-109 days |
| 23 | Erosion Control | 114 days | Thu 3/14/30 | Tue 8/20/30 | 22FS-109 days |
| 24 | **Earthwork** | | | | |
| 25 | **Contaminated Soil Removal** | | | | |
| 26 | Windblown Area | 3 days | Tue 3/27/29 | Thu 3/29/29 | 18 |
| 27 | Ore Pad and Ore Pad Runoff Retention Pond | 93 days | Fri 3/30/29 | Tue 8/7/29 | 26 |
| 28 | Ore Pad Runoff Retention Pond, Buried Waste Rock | 21 days | Wed 8/8/29 | Wed 9/5/29 | 27 |




Project: CCP Schedule
Date: Thu 9/18/25

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Task | Project Summary | Manual Task | Start-only | Deadline | | | |
| Split | Inactive Task | Duration-only | Finish-only | Progress | | | |
| Milestone | Inactive Milestone | Manual Summary Rollup | External Tasks | Manual Progress | | | |
| Summary | Inactive Summary | Manual Summary | External Milestone | | | | |



T:\111360 Mt. Taylor\Site Mine CCP25.dwg SAVED:10/10/25 PRINTED:10/15/25

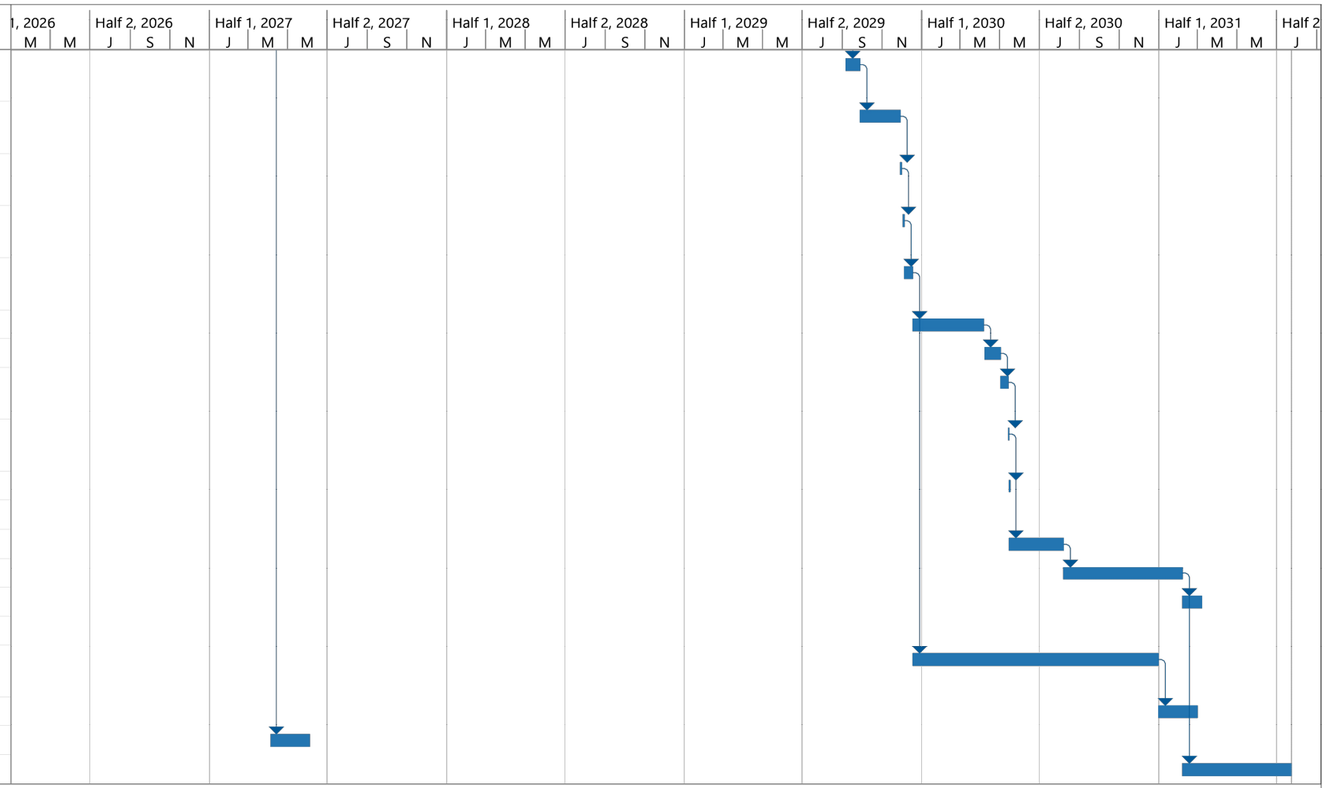
Project No. 111360

October 2025

Engineering Analytics, Inc.

**FIGURE 6-1**
**CLOSEOUT/CLOSURE SCHEDULE - PAGE 1 OF 2**
**MT. TAYLOR MINE**

| ID | Task Name | Duration | Start | Finish | Predecessors |
|---|---|---|---|---|---|
| 29 | Ore Pad Runoff Retention Pond, Berm | 16 days | Thu 9/6/29 | Thu 9/27/29 | 28 |
| 30 | MWTU Area less pond basins and Borrow Area A | 44 days | Fri 9/28/29 | Wed 11/28/29 | 29 |
| 31 | Soils from initial Pond Cleanup | 2 days | Thu 11/29/29 | Fri 11/30/29 | 30 |
| 32 | Leftover Soils in Ponds included Pond Berms | 2 days | Mon 12/3/29 | Tue 12/4/29 | 31 |
| 33 | County Road 334 and other roads | 9 days | Wed 12/5/29 | Mon 12/17/29 | 32 |
| 34 | Service and Support Areas | 79 days | Tue 12/18/29 | Fri 4/5/30 | 33 |
| 35 | Diesel-contaminated Soil | 18 days | Mon 4/8/30 | Wed 5/1/30 | 34 |
| 36 | Sediment and Waste Rock in the Former Lagoon | 8 days | Thu 5/2/30 | Mon 5/13/30 | 35 |
| 37 | Continental Divide Coop Substation | 1 day | Tue 5/14/30 | Tue 5/14/30 | 36 |
| 38 | SSWP Area | 2 days | Wed 5/15/30 | Thu 5/16/30 | 37 |
| 39 | **Final Site Earthwork** | | | | |
| 40 | Final SS | 60 days | Wed 5/15/30 | Tue 8/6/30 | 37 |
| 41 | Final Grading | 131 days | Wed 8/7/30 | Wed 2/5/31 | 40 |
| 42 | Revegetation | 22 days | Thu 2/6/31 | Fri 3/7/31 | 41 |
| 43 | **Surface Water** | | | | |
| 44 | North Ditch Survey and Design | 270 days | Tue 12/18/29 | Mon 12/30/30 | 33 |
| 45 | North Ditch | 44 days | Tue 12/31/30 | Fri 2/28/31 | 44 |
| 46 | South Ditch | 44 days | Mon 4/5/27 | Thu 6/3/27 | 5 |
| 47 | **Shaft Plugging** | 120 days | Thu 2/6/31 | Wed 7/23/31 | 41 |




Project: CCP Schedule
Date: Thu 9/18/25

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Task | Project Summary | Manual Task | Start-only | Deadline |
| Split | Inactive Task | Duration-only | Finish-only | Progress |
| Milestone | Inactive Milestone | Manual Summary Rollup | External Tasks | Manual Progress |
| Summary | Inactive Summary | Manual Summary | External Milestone | |



T:\111360 Mt. Taylor\Site Mine CCP25.dwg SAVED:9/19/25 PRINTED:9/19/25



Engineering Analytics, Inc.

**FIGURE 6-1**
**CLOSEOUT/CLOSURE SCHEDULE - PAGE 2 OF 2**
**MT. TAYLOR MINE**

# APPENDICES

## APPENDIX A

## Mt. Taylor Mine Closeout/Closure Plan Drawings

CL 05 Shaft Closure – Manway Vent

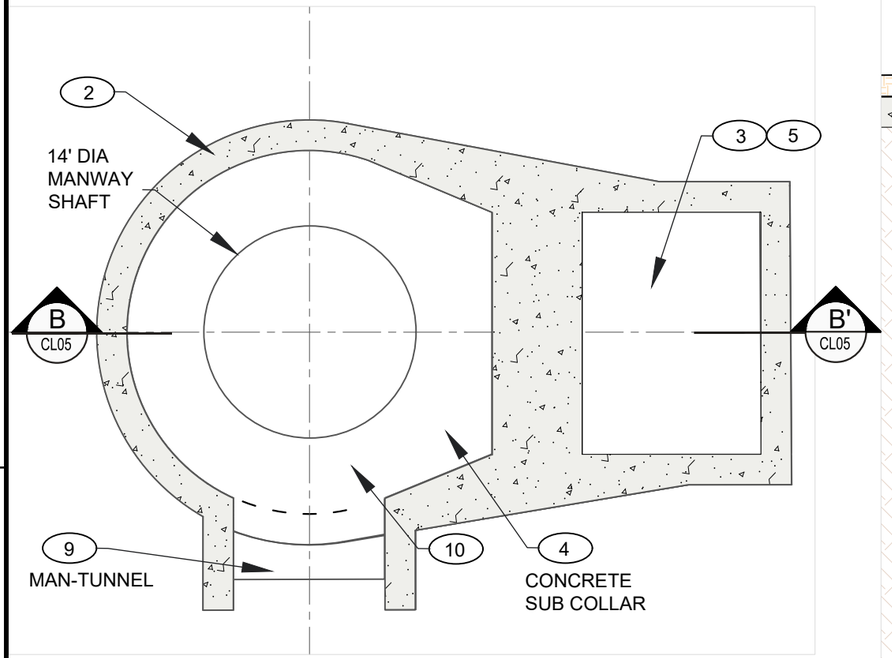
CL 06 Shaft Closure – Production Shaft

CL 07A Final Grading Plan Mine Water Treatment Unit

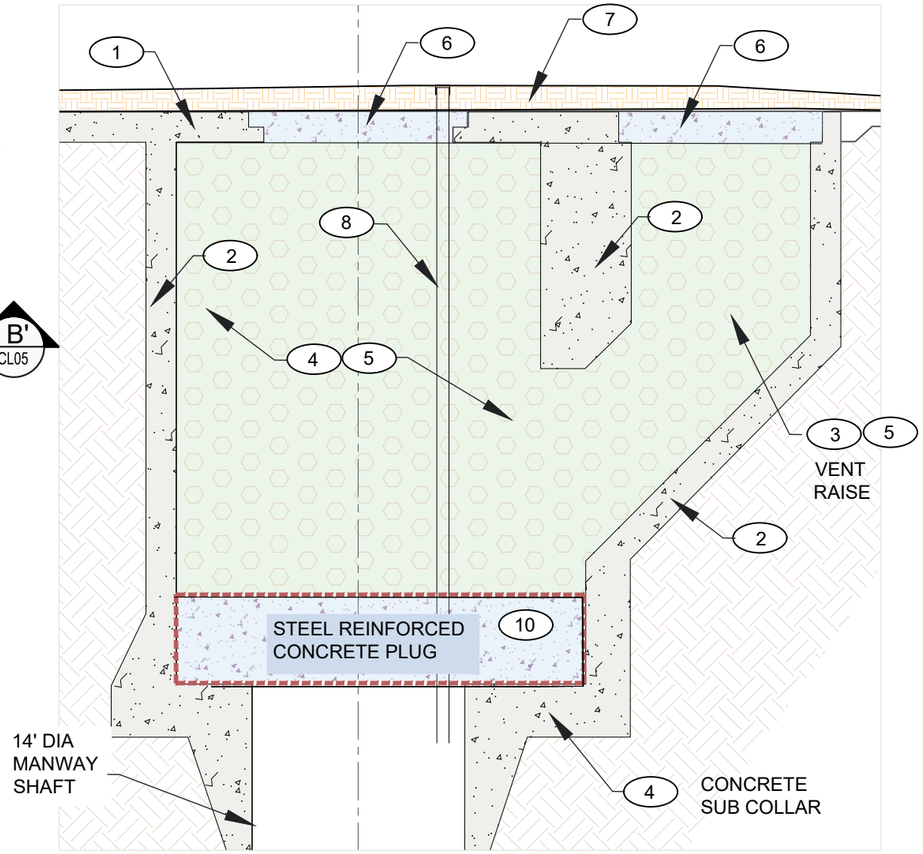
CL 07B Final Grading Plan Service and Support Area

CL 08 Details – Backfill in Pond Areas

CL 14 Final Drainage Plan




AA'
CL05
SECTION AA' - PLAN VIEW




BB'
CL05
SECTION BB'

## NOTES:

1. EXISTING CONCRETE SLAB TO REMAIN.
2. EXISTING CONCRETE SHAFT COLLAR WALLS TO REMAIN.
3. EXISTING VENT RAISE TO REMAIN AS PART OF SHAFT PLUG STRUCTURE. THE VENT RAISE TO BE BACKFILLED WITH FLOWABLE CEMENTITIOUS FILL.
4. REMOVE AND DROP ALL EQUIPMENT, FITTINGS, AND UTILITIES BETWEEN COLLAR TO SUB COLLAR LEVEL AND CLEAN SUB COLLAR OF ANY DEBRIS.
5. FLOWABLE CEMENTITIOUS BACKFILL - USE TO BACKFILL THE VENT RAISE AND SHAFT FROM PLUG AT THE SUB-COLLAR TO WITHIN 1 FOOT OF THE EXISTING CONCRETE CAP. THEN FILL THE REMAINING VOID WITH LIGHT-WEIGHT CONCRETE.
6. PLUG THE EXISTING SHAFT OPENING WITH LIGHTWEIGHT CONCRETE AND PLACE A SHAFT MARKER IN THE PLUG.
7. PLACE 2' OF CLEAN SOIL OVER THE TOP OF THE CONCRETE SLAB AND REVEGITATE.
8. 8" TO 10" PVC MONITORING PIPE WITH ACCESS CAP AT THE GROUND SURFACE.
9. UTILITY TUNNEL SHAFT CONNECTION TO BE BACKFILLED WITH THE SAME FLOWABLE CEMENTITIOUS FILL SPECIFIED FOR THE SHAFT COLLAR.

## GENERAL NOTES:

G.1 FOR CONSTRUCTION, PLACEMENT, AND MATERIAL REQUIREMENTS FOR THE FLOWABLE CEMENTITIOUS BACKFILL SEE PROJECT SPECIFICATIONS.

G.2 CONTRACTOR TO DETERMINE MEANS AND METHODS TO SAFELY FABRICATE AND INSTALL THE SHAFT PLUG AND BACKFILL SHOWN ON THIS DRAWING.

G.3 THIS IS THE APPROVED CONCEPTUAL DESIGN. THE FINAL DESIGN WILL GENERALLY FOLLOW THIS CONCEPT BUT MAY VARY IN MATERIALS AND CONSTRUCTION PER THE FINAL DESIGN OF A LICENSED STRUCTURAL ENGINEER.

| REV | DESCRIPTION | DATE | DRAWN BY | ENGINEER | APPROVED |
|---|---|---|---|---|---|
| A | FOR REVIEW | 12-17-21 | EL | EL | AK |
| B | FOR SUBMITTAL | 6-6-22 | EL | EL | AK |
| C | FOR SUBMITTAL | 9-15-25 | SM | MM | MM |
| | | | | | |

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

Prepared By: Alan Kuhn Associates LLC

Drawn By: EL Engineering Services LLC

PRINT SIZE: B

SCALE: As Shown

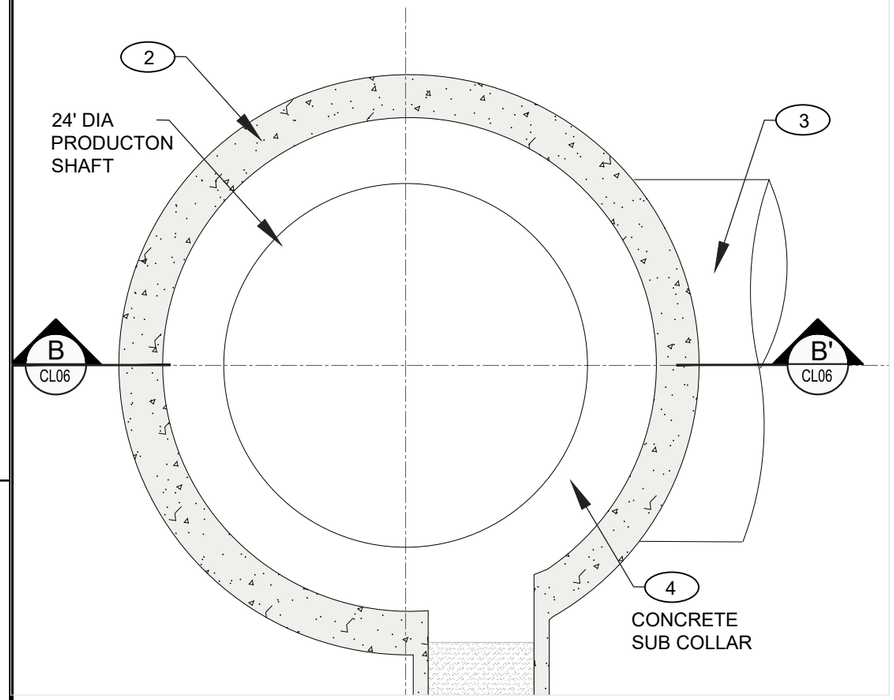
**MT. TAYLOR MINE**
**2022 CLOSEOUT / CLOSURE PLAN**

SHEET TITLE: SHAFT CLOSURE - MANWAY VENT

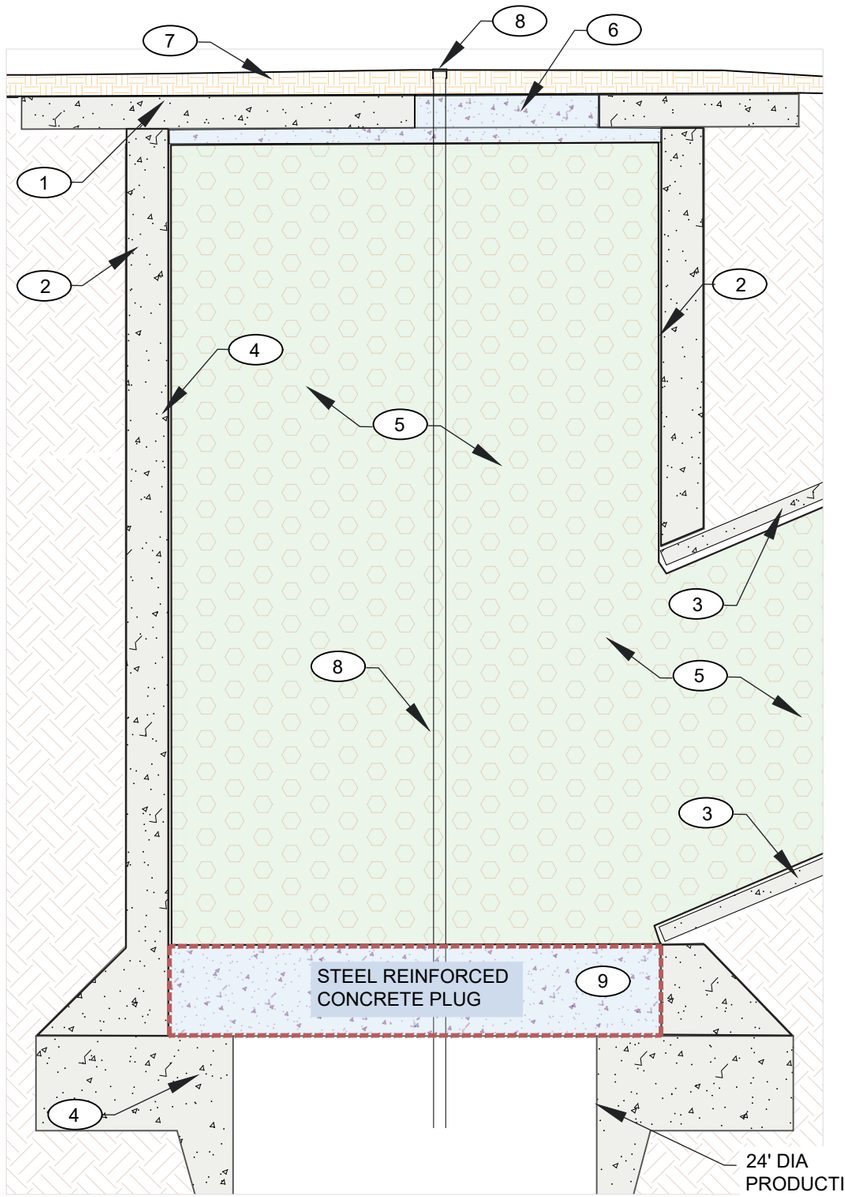
SHEET NO. **CL 05**

DWG NO. **GS21-CB105-00**

REV **B**




AA'
CL06
SECTION AA' - PLAN VIEW




BB'
CL06
SECTION BB'

## NOTES:

1. EXISTING CONCRETE SLAB TO REMAIN.
2. EXISTING CONCRETE SHAFT COLLAR WALLS TO REMAIN.
3. EXISTING 24' DIAMETER VENT RAISE TO REMAIN AS PART OF SHAFT PLUG STRUCTURE. THE VENT RAISE TO BE BACKFILLED WITH SLURRY FILL.
4. REMOVE AND DROP ALL EQUIPMENT, FITTINGS, AND UTILITIES BETWEEN COLLAR TO SUB COLLAR LEVEL AND CLEAN SUB COLLAR OF ANY DEBRIS.
5. FLOWABLE CEMENTITIOUS BACKFILL - USE TO BACKFILL THE VENT RAISE AND SHAFT FROM PLUG AT THE SUB-COLLAR TO WITHIN 1 FOOT OF THE EXISTING CONCRETE CAP. THEN FILL THE REMAINING VOID WITH LIGHT-WEIGHT CONCRETE.
6. PLUG THE EXISTING SHAFT OPENING WITH LIGHTWEIGHT CONCRETE AND PLACE A SHAFT MARKER IN THE PLUG.
7. PLACE 2' OF CLEAN SOIL OVER THE TOP OF THE CONCRETE SLAB AND REVEGITATE.
8. 8" TO 10" PVC MONITORING PIPE WITH ACCESS CAP AT THE GROUND SURFACE.
9. MRB TECHNICAL SERVICES AND CRITICAL VIEW ENGINEERING ARE PREPARING THE STRUCTURAL DESIGN TO IMPLEMENT THE ACCEPTED 2013 DESIGN CONCEPT FOR THE SHAFT PLUG. (SEE APPENDIX G).

## GENERAL NOTES:

G.1 FOR CONSTRUCTION, PLACEMENT, AND MATERIAL REQUIREMENTS FOR THE FLOWABLE CEMENTITIOUS BACKFILL SEE PROJECT SPECIFICATIONS.

G.2 CONTRACTOR TO DETERMINE MEANS AND METHODS TO SAFELY FABRICATE AND INSTALL THE SHAFT PLUG AND BACKFILL SHOWN ON THIS DRAWING.

G.3 THIS IS THE APPROVED CONCEPTUAL DESIGN. THE FINAL DESIGN WILL GENERALLY FOLLOW THIS CONCEPT BUT MAY VARY IN MATERIALS AND CONSTRUCTION PER THE FINAL DESIGN OF A LICENSED STRUCTURAL ENGINEER (SEE NOTE 9).

| REV | DESCRIPTION | DATE | DRAWN BY | ENGINEER | APPROVED |
|---|---|---|---|---|---|
| A | FOR REVIEW | 12-17-21 | EL | EL | AK |
| B | FOR SUBMITTAL | 5-26-22 | EL | EL | AK |
| | | | | | |
| | | | | | |

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

Prepared By: Alan Kuhn Associates LLC

Drawn By: EL Engineering Services LLC

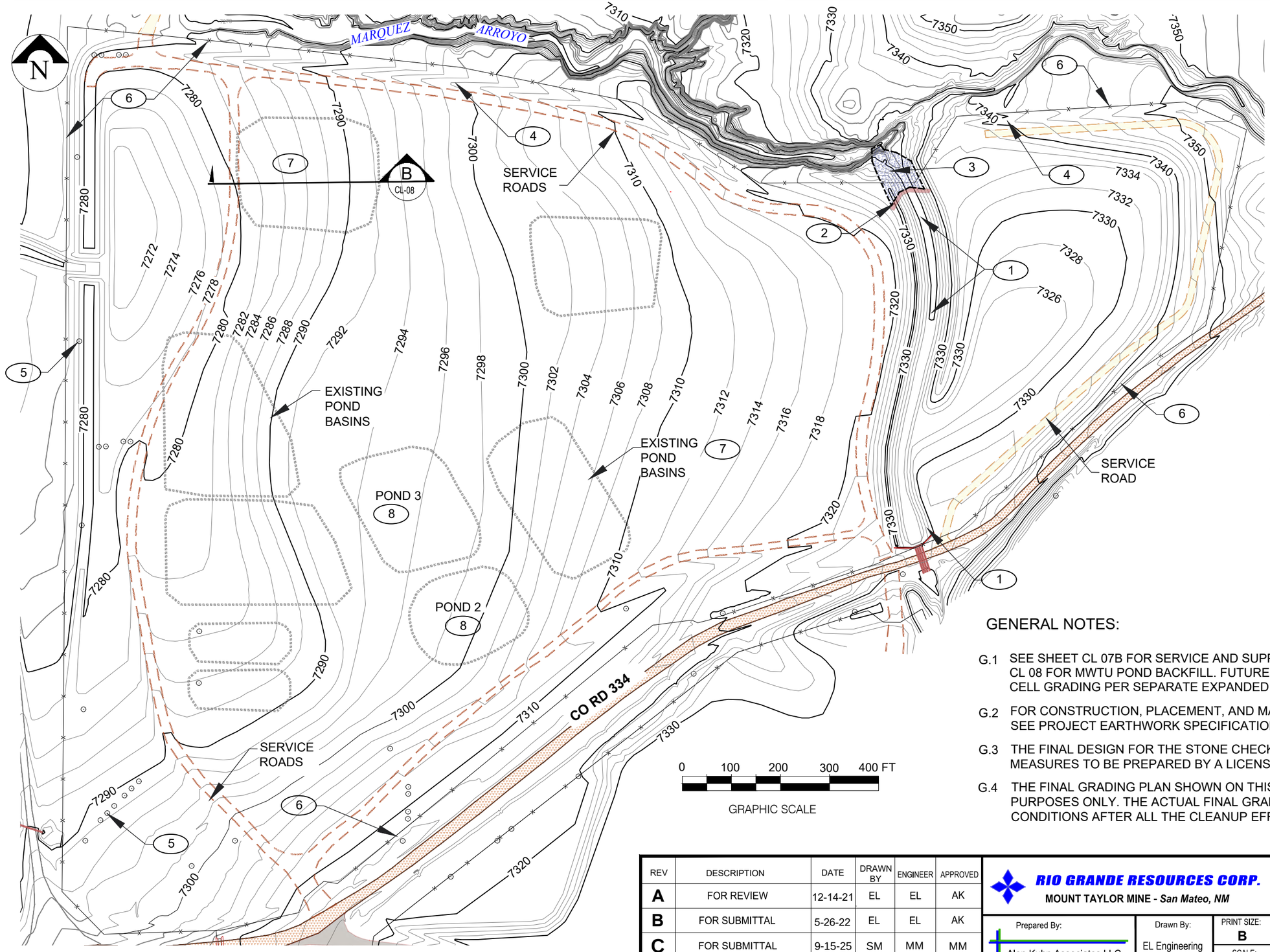
PRINT SIZE: B

SCALE: As Shown

**MT. TAYLOR MINE**
**2022 CLOSEOUT / CLOSURE PLAN**

SHEET TITLE: SHAFT CLOSURE - PRODUCTION SHAFT

| SHEET NO. | DWG NO. | REV |
|---|---|---|
| CL 06 | GS21-CB106-00 | B |




NOTES:

1. NORTH DIVERSION DITCH WILL BE DESIGNED AFTER SITE RECLAMATION.
2. STONE CHECK DAM.
3. EROSION PROTECTION - GEOGRID WITH STONE FILL.
4. BERM (2' TO 3' HIGH).
5. EXISTING POWER POLES TO REMAIN.
6. EXISTING SECURITY FENCE TO REMAIN.
7. EXISTING MWTU PONDS TO BE BACKFILLED. (SEE SHEET CL 08)
8. LINED PONDS #2 AND #3 TO REMAIN UNTIL ABATEMENT ACTIVITIES ARE COMPLETED THEN THEY WILL BE BACKFILLED.

## GENERAL NOTES:

G.1 SEE SHEET CL 07B FOR SERVICE AND SUPPORT GRADING PLAN AND SHEET CL 08 FOR MWTU POND BACKFILL. FUTURE WASTE ROCK PILE / DISCPOSAL CELL GRADING PER SEPARATE EXPANDED DISPOSAL CELL DESIGN REPORT.

G.2 FOR CONSTRUCTION, PLACEMENT, AND MATERIAL REQUIREMENTS SEE PROJECT EARTHWORK SPECIFICATIONS.

G.3 THE FINAL DESIGN FOR THE STONE CHECK DAM AND EROSION PROTECTION MEASURES TO BE PREPARED BY A LICENSED CIVIL ENGINEER.

G.4 THE FINAL GRADING PLAN SHOWN ON THIS DRAWING IS FOR INFORMATIONAL PURPOSES ONLY. THE ACTUAL FINAL GRADING WILL DEPEND ON THE SITE CONDITIONS AFTER ALL THE CLEANUP EFFORTS ARE COMPLETE.

| REV | DESCRIPTION | DATE | DRAWN BY | ENGINEER | APPROVED |
|---|---|---|---|---|---|
| A | FOR REVIEW | 12-14-21 | EL | EL | AK |
| B | FOR SUBMITTAL | 5-26-22 | EL | EL | AK |
| C | FOR SUBMITTAL | 9-15-25 | SM | MM | MM |
| | | | | | |

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

Prepared By: Alan Kuhn Associates LLC

Drawn By: EL Engineering Services LLC

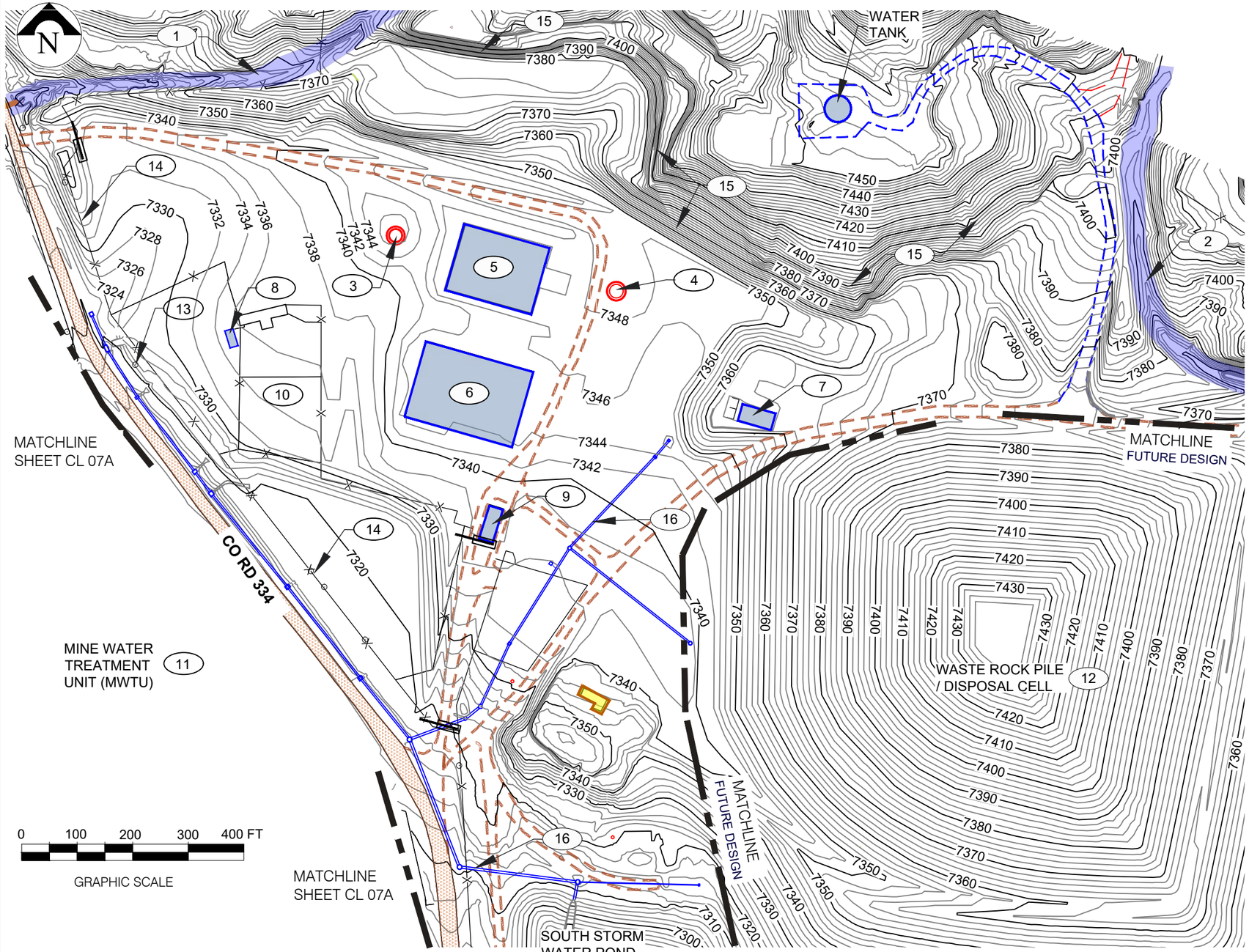
PRINT SIZE: B

SCALE: As Shown

**MT. TAYLOR MINE**
**2022 CLOSEOUT / CLOSURE PLAN**

SHEET TITLE: FINAL GRADING PLAN - MINE WATER TREATMENT UNIT

| SHEET NO. | DWG NO. | REV |
|---|---|---|
| CL 07A | GS21-CB107A-00 | B |




## NOTES:

1. NORTH DIVERSION CHANNEL.
2. SOUTH DIVERSION CHANNEL.
3. MANWAY SHAFT - SEE SHEET CL05 FOR PLUG AND BACKFILL DETAILS.
4. PRODUCTION SHAFT - SEE SHEET CL06 FOR PLUG AND BACKFILL DETAILS.
5. HOIST HOUSE.
6. SERVICE BUILDING (OFFICE AND WAREHOUSE).
7. ELECTRICAL BUILDING.
8. CAPACITOR BUILDING.
9. GUARD HOUSE (SECURITY BUILDING).
10. SUBSTATION (EARTHWORK IN THIS AREA TO BE LIMITED TO CLEAN UP OF CONTAMINATED SOILS AND FILLING TO RESTORE ORIGINAL GRADES).
11. SEE SHEET CL 07A FOR MWTU GRADING PLAN.
12. WASTE ROCK PILE/DISPOSAL CELL FINAL GRADING PER EXPANDED DISPOSAL CELL DESIGN (SEPARETE SUBMITTAL).
13. EXISTING POWER POLES TO REMAIN.
14. EXISTING SECURITY FENCE TO REMAIN. IMPROVE OR REPLACE SECTIONS OF THE EXISTING FENCE AS NEEDED.
15. SLOPES GREATER THAN 1H: 1V IN THE SERVICE AND SUPPORT AREA TO BE REDUCED TO NO GREATER THAN 1.5H : 1V.
16. EXISTING STORM DRAINAGE SYSTEM TO REMAIN.

## LEGEND

- COUNTY ROADS (NOT RGR'S RESPONSIBILITY)
- SERVICE ROADS
- WATER TANK ACCESS ROAD
- SECURITY GATES
- EXISTING FENCE-LINES TO REMAIN
- EXISTING BUILDINGS TO REMAIN
- ADOBE RUIN
- DIVERSION CHANNELS

## GENERAL NOTES:

G.1 FOR CONSTRUCTION, PLACEMENT, AND MATERIAL REQUIREMENTS SEE PROJECT EARTHWORK SPECIFICATIONS.

G.2 THE FINAL GRADING PLAN SHOWN ON THIS DRAWING IS FOR INFORMATIONAL PURPOSES ONLY. THE ACTUAL FINAL GRADING WILL DEPEND ON THE SITE CONDITIONS AFTER ALL THE CLEANUP EFFORTS ARE COMPLETE.

| REV | DESCRIPTION | DATE | DRAWN BY | ENGINEER | APPROVED |
|---|---|---|---|---|---|
| A | FOR REVIEW | 12-14-21 | EL | EL | AK |
| B | FOR SUBMITTAL | 5-26-22 | EL | EL | AK |
| C | FOR SUBMITTAL | 9-15-25 | SM | MM | MM |
| | | | | | |

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

Prepared By: Alan Kuhn Associates LLC

Drawn By: EL Engineering Services LLC

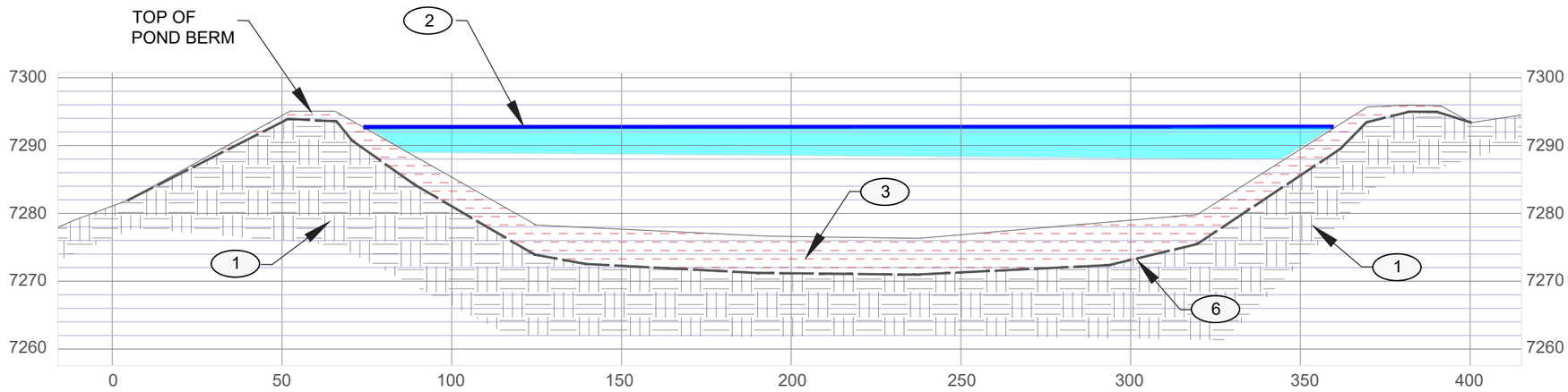
PRINT SIZE: B

SCALE: As Shown

**MT. TAYLOR MINE**
**2022 CLOSEOUT / CLOSURE PLAN**

SHEET TITLE: FINAL GRADING PLAN - SERVICE AND SUPPORT AREA

| SHEET NO. | DWG NO. | REV |
|---|---|---|
| CL 07B | GS21-CB107-00 | B |

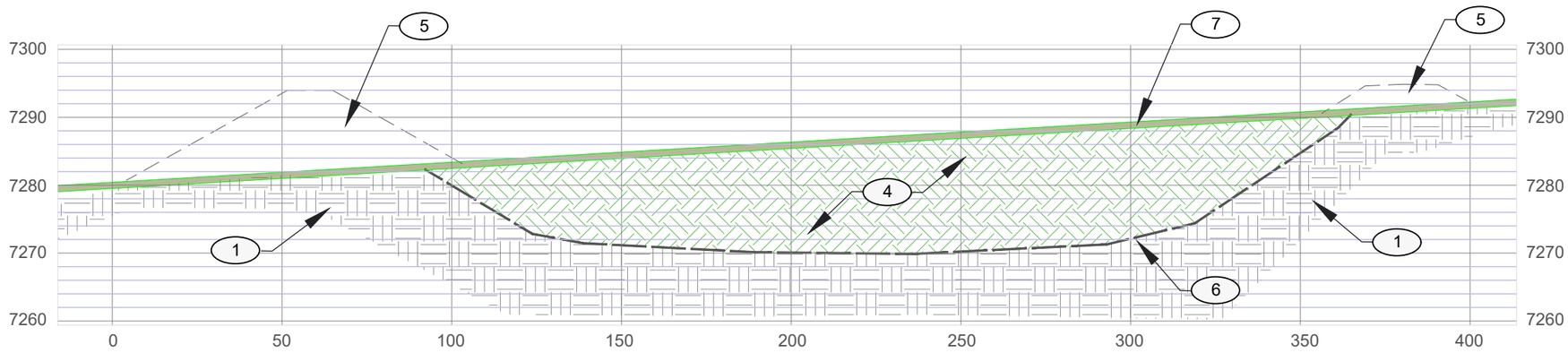



B / CL07 SECTION B - MINE WATER TREATMENT POND BEFORE CLOSURE

E/W SECTION THROUGH POND 8 SHOWN AS EXAMPLE

NOTES:

1. CLEAN SOILS
2. APPROXIMATE TOP OF POND WATER AT OPERATIONAL LEVELS.
3. CONTAMINATED SOILS AND POND SEDIMENTS. (REMOVED AND DEPOSITED IN THE DISPOSAL CELL IN 2018 -2021.)
4. CLEAN FILL FROM POND BERMS AND NEARBY GRADING.
5. POND BERMS REMOVED AND USED AS CLEAN FILL IN POND BASINS.
6. CURRENT GRADES AFTER 2018- 2021 CLEANUP EFFORTS.
7. FINAL GRADES. (NOTE: THE GENTLY SLOPING GRADES ARE SIMILAR TO THE PRE-MINE 1974 TOPOGRAPHY. SEE NOTE G.3)




B.1 / CL07 SECTION B.1 - MINE WATER TREATMENT POND AFTER CLOSURE

E/W SECTION THROUGH POND 8 SHOWN AS EXAMPLE

GENERAL NOTES:

G.1 FOR CONSTRUCTION, PLACEMENT, AND MATERIAL REQUIREMENTS SEE PROJECT EARTHWORK SPECIFICATIONS.

G.2 SEE SHEET CL07A FOR MWTU AREA GRADING PLAN.

G.3 THE FINAL GRADES ON THIS SITE MAY NEED TO BE SLIGHTLY LOWER OR HIGHER THAN THE "PRE-MINE" ELEVATIONS DEPENDING ON THE CUT/FILL BALANCE FOR THE SITE.

| REV | DESCRIPTION | DATE | DRAWN BY | ENGINEER | APPROVED |
|---|---|---|---|---|---|
| A | FOR REVIEW | 12-13-21 | EL | EL | AK |
| B | FOR SUBMITTAL | 6-2-22 | EL | EL | AK |
| | | | | | |
| | | | | | |

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

Prepared By: Alan Kuhn Associates LLC

Drawn By: EL Engineering Services LLC

PRINT SIZE: B

SCALE: As Shown

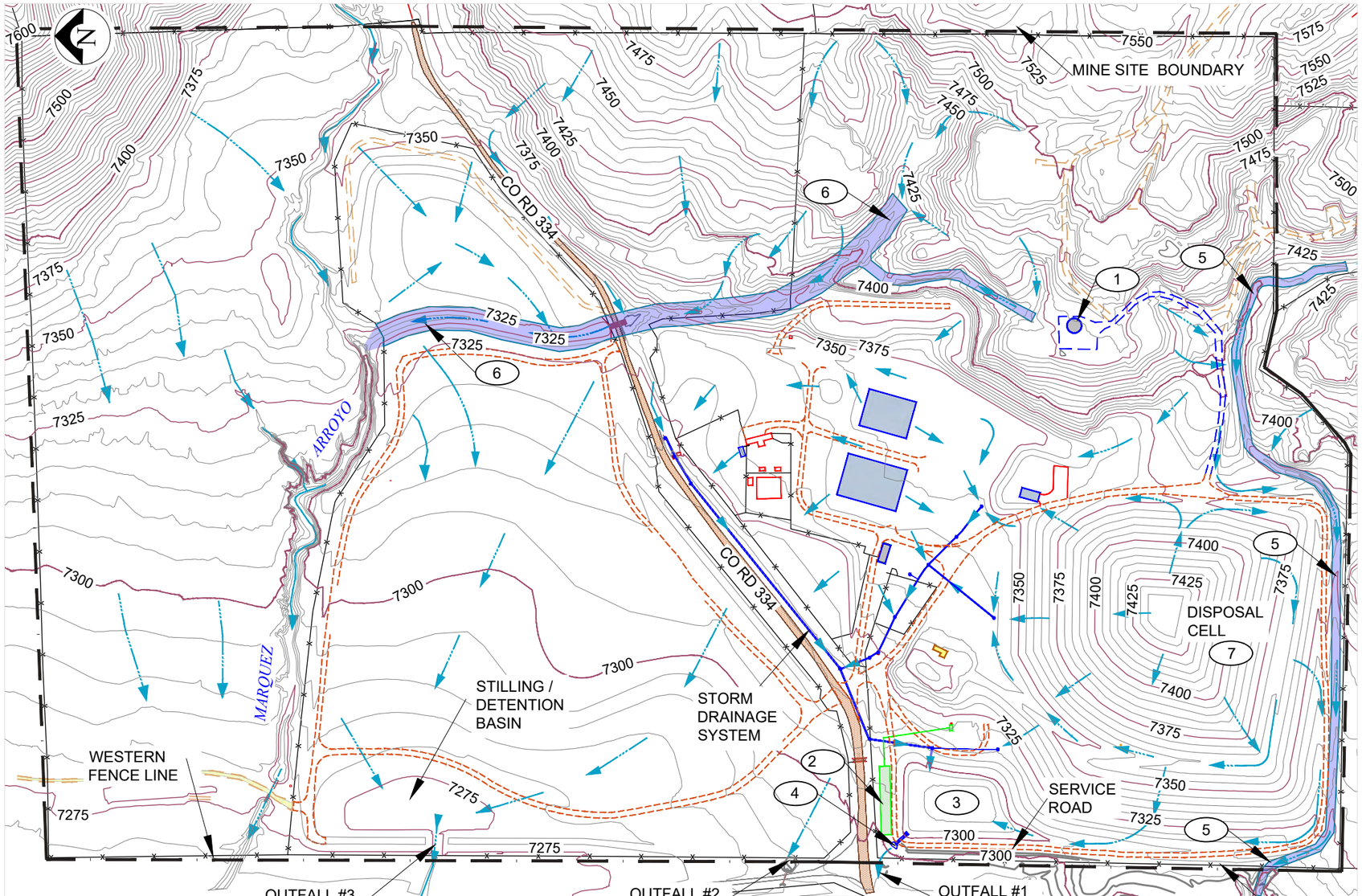
**MT. TAYLOR MINE**
**2022 CLOSEOUT / CLOSURE PLAN**

SHEET TITLE: DETAILS - BACKFILL IN POND AREAS

SHEET NO. **CL 08**

DWG NO. **GS21-CB108-00**

REV **B**




## LEGEND

- COUNTY ROADS
- ELECTRICAL SUBSTATION AND TRANSFORMERS
- MINE SERVICE ROADS
- FENCE-LINES
- EXISTING BUILDINGS TO REMAIN
- SEPTIC SYSTEM
- INTERMITTENT FLOW WITH DIRECTIONAL ARROW
- DIVERSION CHANNELS
- MINE SITE BOUNDARY
- STORM DRAINAGE SYSTEM
- PRE-MINE ADOBE STRUCTURE

## NOTES:

1. WATER TANK
2. SEPTIC SYSTEM
3. SOUTH STORM WATER POND (SSWP)
4. SOUTH STORM WATER POND OVER-FLOW CULVERTS
5. SOUTH DIVERSION CHANNEL- FLOW IN THIS CHANNEL IS ISOLATED FROM THE DISPOSAL CELL DRAINAGE.
6. NORTH DIVERSION CHANNEL
7. ALL DRAINAGE FROM THE WASTE ROCK / DISPOSAL CELL AREA FLOWS INTO THE SOUTH STORM WATER POND.

0 400 800 FT

GRAPHIC SCALE

## GENERAL NOTES:

G.1 OUTFALL #1 DRAINS THE SOUTHERN HALF OF COUNTY ROAD 334 FROM THE MINE ACCESS ROAD TO THE WESTERN FENCE LINE. IT ALSO DRAINS THE NARROW STRIP OF PROPERTY BETWEEN THE SERVICE ROAD THE FENCE LINE ON THE NORTH AND WEST SIDES OF THE SSWP .

G.2 OUTFALL #2 DRAINS THE NORTHERN HALF OF THE COUNTY ROAD 334 RIGHT OF WAY FROM THE NORTH DIVERSION CHANNEL TO THE WESTERN FENCE LINE.

G.3 OUTFALL #3 DRAINS THE AREA FROM THE NORTH DIVERSION CHANNEL TO THE WESTERN FENCE LINE AND FROM THE NORTHERN FENCE ALONG COUNTY ROAD 334 TO THE THE FENCE LINE ALONG THE MARQUEZ ARROYO.

G.4 ALL FLOWS INDICATED ON THIS DRAWING SHOW INTERMITTENT FLOW ONLY. THERE ARE NO PERENNIAL OR INTERMITTENT STREAMS NEAR OR ON THIS SITE.

| REV | DESCRIPTION | DATE | DRAWN BY | ENGINEER | APPROVED |
|---|---|---|---|---|---|
| A | FOR REVIEW | 12-16-21 | EL | EL | AK |
| B | FOR SUBMITTAL | 6-2-22 | EL | EL | AK |
| C | FOR SUBMITTAL | 9-15-25 | SM | MM | MM |
| | | | | | |

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

Prepared By: Alan Kuhn Associates LLC

Drawn By: EL Engineering Services LLC

PRINT SIZE: B

SCALE: As Shown

**MT. TAYLOR MINE**
**2022 CLOSEOUT / CLOSURE PLAN**

SHEET TITLE: FINAL DRAINAGE PLAN

SHEET NO. CL 14

DWG NO. GS21-CB114-00

REV B

# APPENDIX B

## Hydrologic and Erosion Analysis

B.1 Design Runoff Calculations

B.2 Surface Water Hydrologic Analysis

- Flood Hydrograph (HEC-1) Analysis
- Water Surface Profile (HEC-2) Analysis

# SURFACE WATER RUNOFF HYDROLOGIC ANALYSIS

## GENERAL PARAMETRIC EVALUATION AND MODEL INPUT DATA SELECTION FOR HEC-1 (WATERSHED RUNOFF) AND HEC-2 (FLOOD ROUTING)

**Design Storm Precipitation (Inches) for Various Frequency Intervals and Durations**

| Interval years | Duration in Hours | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 6 | 12 | 24 |
| 2 | 0.89 | 1.00 | 1.07 | 1.20 | 1.30 | 1.50 |
| 5 | 1.03 | 1.17 | 1.27 | 1.45 | 1.60 | 1.90 |
| 10 | 1.15 | 1.32 | 1.44 | 1.65 | 1.83 | 2.20 |
| 25 | 1.38 | 1.59 | 1.73 | 2.00 | 2.23 | 2.70 |
| 50 | 1.71 | 1.91 | 2.04 | 2.30 | 2.50 | 2.90 |
| 100 | 1.97 | 2.15 | 2.27 | 2.50 | 2.73 | 3.20 |

** Duration selected must be => time of concentration, Tc

Unit Duration ~= Lg/5.5

Time of Concentration, tc
For watersheds < or = 10 sq. mi.
tc = 0.00013*(L^0.77/S^0.385)
where S = gradient
For watersheds > 10 sq. mi.
tc = 0.385*(11.9*L^3)/H
where H = elevation difference

Curve Number, CN
CN = 71 for P-J uplands (Group D) = 78 for Group B/C soils

Time to Peak Discharge, Tp, hours
Tp = 0.5*dt+Tlag
where dt = duration of excess, or computation interval
Tlag = time between center of rainfall excess and time of peak discharge

Peak flow of unit hydrograph, Qp, cfs/in
Qp = 484*Area*/Tp where Area = subbasin area in sq mi

Average Manning's Coefficient, Kn =
0.26 for uplands, general storm
0.13 for PMF and well-developed drainage courses
0.05 for uplands thunderstorm
0.073 for thunderstorm in well-developed drainage courses
For Southwest region
0.07 for coniferous forest areas
0.042 for desert terrain

# WEATHER DATA FOR THE MT. TAYLOR AREA

from National Weather Service Annual Climatological Summaries
**1986-1995**
Grants Airport (1986-1995) and San Mateo (1986-1987) Stations

## GRANTS AIRPORT

AVERAGE MONTHLY PRECIPITATION, INCHES

| | J | F | M | A | M | J | JL | A | S | O | N | D | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1986 | 0.00 | 0.55 | 0.32 | 0.47 | 1.29 | 1.94 | 1.75 | 1.53 | 1.10 | 1.55 | 2.25 | 1.35 | 14.10 |
| 1987 | 1.60 | 1.24 | 0.54 | 0.28 | 0.89 | 0.26 | 2.61 | 3.05 | 0.72 | 0.50 | 0.82 | 1.25 | 13.76 |
| 1988 | 0.19 | 0.09 | 0.07 | 1.74 | 0.20 | 1.06 | 1.22 | 2.30 | 1.46 | 0.85 | 0.15 | 0.13 | 9.46 |
| 1989 | 0.77 | 0.45 | 0.16 | 0.00 | 0.08 | 0.10 | 0.98 | 0.90 | 1.64 | 1.07 | 0.05 | 0.11 | 6.31 |
| 1990 | 0.35 | 0.17 | 0.88 | 1.54 | 1.02 | 0.37 | 1.96 | 3.99 | 2.13 | 1.27 | 0.62 | 1.59 | 15.89 |
| 1991 | 0.66 | 0.05 | 1.04 | 0.65 | 0.26 | 0.99 | 1.05 | 1.66 | 1.83 | 0.27 | 1.33 | 1.76 | 11.55 |
| 1992 | 0.72 | 0.27 | 0.93 | 0.67 | 2.68 | 0.46 | 1.68 | 1.86 | 1.23 | 0.90 | 0.90 | 1.26 | 13.56 |
| 1993 | 1.91 | 1.15 | 1.94 | 0.25 | 1.10 | 0.00 | 0.43 | 4.23 | 0.35 | 0.60 | 0.43 | 0.18 | 12.57 |
| 1994 | 0.10 | 0.38 | 0.77 | 0.52 | 2.02 | 0.18 | 0.84 | 1.50 | 1.42 | 1.82 | 1.84 | 0.30 | 11.69 |
| 1995 | 0.49 | 0.30 | 0.38 | 0.09 | 0.29 | 0.49 | 0.45 | 1.92 | 0.86 | 0.00 | 0.30 | 0.37 | 5.94 |
| AVE | 0.68 | 0.47 | 0.70 | 0.62 | 0.98 | 0.59 | 1.30 | 2.29 | 1.27 | 0.88 | 0.87 | 0.83 | 11.48 |

| | FREEZE-FREE DAYS | ANNUAL TEMP., F LOW | HIGH |
|---|---|---|---|
| 1986 | 141 | 0 | 96 |
| 1987 | 132 | -18 | NA |
| 1988 | 120 | -6 | 94 |
| 1989 | 167 | -15 | 101 |
| 1990 | 159 | -33 | 99 |
| 1991 | 154 | -7 | 98 |
| 1992 | 183 | -9 | 99 |
| 1993 | 138 | -4 | 98 |
| 1994 | 140 | -3 | 101 |
| 1995 | 129 | 2 | 102 |
| AVE | **146.3** | **-9.3** | **98.7** |

## SAN MATEO

| | J | F | M | A | M | J | JL | A | S | O | N | D | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1986 | 0.04 | 0.13 | 0.45 | 0.38 | 0.73 | 0.84 | 3.45 | 1.78 | 1.90 | 1.91 | 3.88 | 0.57 | 16.06 |
| 1987 | 0.92 | 2.81 | 0.84 | 0.14 | 0.78 | 0.73 | 0.39 | 3.97 | 0.23 | 0.72 | 0.54 | 2.00 | 14.07 |
| 1988 | 2.64 | | | | | | | | | | | | *10.22* |
| 1989 | | | | | | | | | | | | | *6.82* |
| 1990 | | | | | | | | | | | | | *17.17* |
| 1991 | | | | | | | | | | | | | *12.48* |
| 1992 | | | | | | | | | | | | | *14.66* |
| 1993 | | | | | | | | | | | | | *13.59* |
| 1994 | | | | | | | | | | | | | *12.63* |
| 1995 | | | | | | | | | | | | | *6.42* |
| AVE | 1.20 | 1.47 | 0.65 | 0.26 | 0.76 | 0.79 | 1.92 | 2.88 | 1.07 | 1.32 | 2.21 | 1.29 | **12.41** |

| | FREEZE-FREE DAYS | ANNUAL TEMP., F LOW | HIGH |
|---|---|---|---|
| 1986 | 155 | 4 | 89 |
| 1987 | 181 | 0 | 89 |
| 1988 | *146* | *5* | *87* |
| 1989 | *204* | *-4* | *94* |
| 1990 | *194* | *-22* | *92* |
| 1991 | *188* | *4* | *91* |
| 1992 | *223* | *2* | *92* |
| 1993 | *168* | *7* | *91* |
| 1994 | *171* | *8* | *94* |
| 1995 | *157* | *13* | *95* |
| AVE | *179* | ***2*** | ***91*** |

CORRECTION FACTORS

| F-F DAYS | LOW | HIGH |
|---|---|---|
| 0.9097 | 4 | -7 |
| 0.7293 | 18 | |
| 0.8195 | 11 | -7 |
| 0.8195 | 11 | -7 |
| 0.8195 | 11 | -7 |
| 0.8195 | 11 | -7 |
| 0.8195 | 11 | -7 |
| 0.8195 | 11 | -7 |
| 0.8195 | 11 | -7 |
| 0.8195 | 11 | -7 |

## RAINFALL PARAMETERS

Design Storm Precipitation (Inches) for Various Frequency Intervals and Durations

| Interval years | Duration in Hours | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 6 | 12 | 24 |
| 2 | 0.9 | 1.0 | 1.1 | 1.2 | 1.3 | 1.5 |
| 5 | 1.0 | 1.2 | 1.3 | 1.45 | 1.6 | 1.9 |
| 10 | 1.2 | 1.3 | 1.4 | 1.65 | 1.8 | 2.2 |
| 25 | 1.4 | 1.6 | 1.7 | 2.0 | 2.2 | 2.7 |
| 50 | 1.7 | 1.9 | 2.0 | 2.3 | 2.5 | 2.9 |
| 100 | 2.0 | 2.1 | 2.3 | 2.5 | 2.7 | 3.2 |

** Duration selected must be => time of concentration, Tc

**Fraction of one hour**

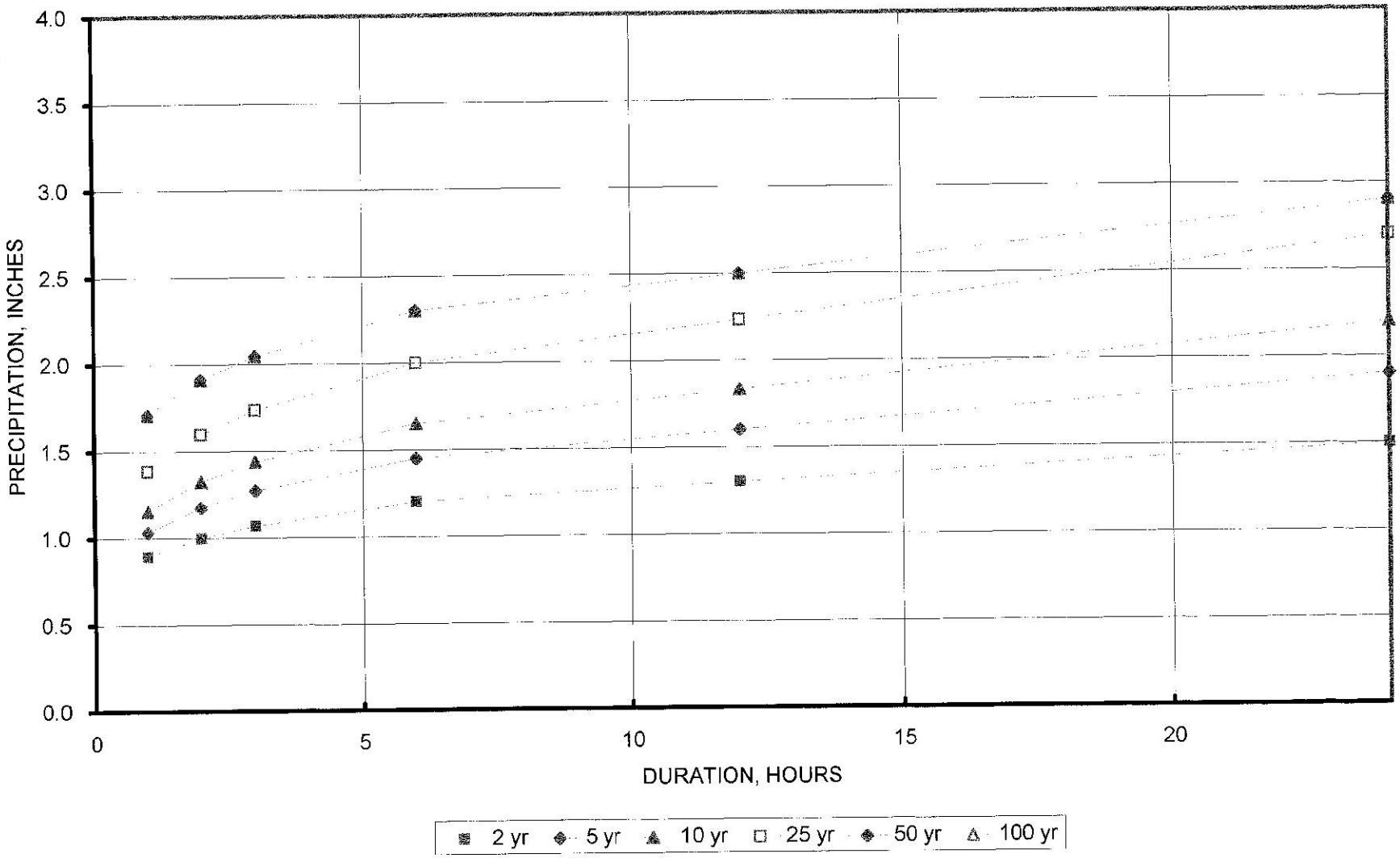
depth10 = 0.59 depth15 + 0.41 depth5
depth30 = 0.49 depth60 + 0.51 depth15

| Minutes | Hours | Fraction of 1-Hr Depth inches |
|---|---|---|
| 0 | 0 | 0.00 |
| 5 | 0.08 | 0.60 |
| 10 | 0.17 | 0.75 |
| 15 | 0.25 | 0.85 |
| 30 | 0.50 | 0.93 |
| 45 | 0.75 | 0.97 |
| 60 | 1.00 | 1.00 |

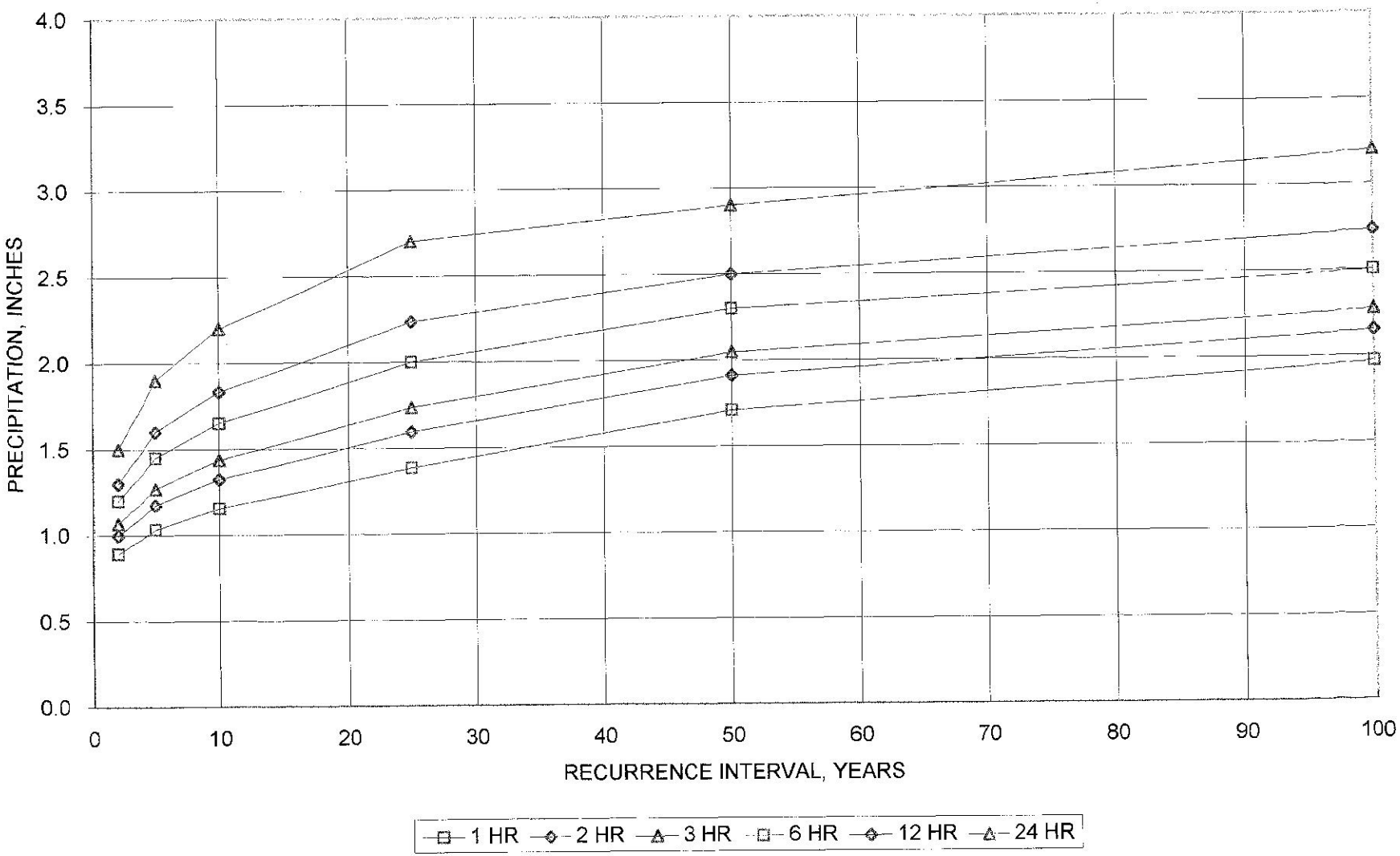
**Triangular Precipitation Distribution for 24 hr/100 yr Event**

| Time Step hours | Cum Precip | Interval Depth | Balanced Storm Hyetograph |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 1 | 1.97 | 1.9686 | 0.0300 |
| 2 | 2.15 | 0.1812 | 0.0367 |
| 3 | 2.27 | 0.1212 | 0.0400 |
| 4 | 2.35 | 0.0790 | 0.0400 |
| 5 | 2.42 | 0.0700 | 0.0400 |
| 6 | 2.50 | 0.0800 | 0.0400 |
| 7 | 2.54 | 0.0400 | 0.0400 |
| 8 | 2.58 | 0.0400 | 0.0400 |
| 9 | 2.62 | 0.0400 | 0.0400 |
| 10 | 2.66 | 0.0400 | 0.0700 |
| 11 | 2.69 | 0.0300 | 0.0800 |
| 12 | 2.73 | 0.0433 | 0.1812 |
| 13 | 2.77 | 0.0367 | 1.9686 |
| 14 | 2.81 | 0.0400 | 0.1212 |
| 15 | 2.85 | 0.0400 | 0.0790 |
| 16 | 2.89 | 0.0400 | 0.0433 |
| 17 | 2.93 | 0.0400 | 0.0400 |
| 18 | 2.97 | 0.0400 | 0.0400 |
| 19 | 3.00 | 0.0300 | 0.0400 |
| 20 | 3.04 | 0.0400 | 0.0400 |
| 21 | 3.08 | 0.0400 | 0.0400 |
| 22 | 3.12 | 0.0400 | 0.0400 |
| 23 | 3.16 | 0.0400 | 0.0400 |
| 24 | 3.20 | 0.0400 | 0.0300 |

PRECIPITATION DEPTH VS DURATION
MT TAYLOR MINE WATERSHED



PRECIPITATION VS INTERVAL AND DURATION
MT TAYLOR MINE WATERSHED




9431HYD.XLS

## SURFACE WATER RUNOFF HYDROLOGIC ANALYSIS - MT. TAYLOR MINE
## WATERSHED PARAMETERS

A73.K145

| PARAMETERS | Marquez/ Maruca Basin | | | | Hummer Basin | | |
|---|---|---|---|---|---|---|---|
| | Total Basin | Marquez Canyon above junction | Maruca Canyon | Lower Marquez Canyon | Total Basin | East Hummer | West Hummer |
| L, length of longest watercourse, ft = | 32312 | 26805 | 26214 | 7000 | 10481 | 9513 | 5644 |
| Maximum elevation | 9250 | 9250 | 9380 | 7928 | 8300 | 8300 | 7810 |
| Minimum elevation | 7260 | 7450 | 7450 | 7450 | 7315 | 7350 | 7315 |
| H, difference in elevation | 1990 | 1800 | 1930 | 478 | 985 | 950 | 495 |
| S, slope gradient = | 0.062 | 0.067 | 0.074 | 0.068 | 0.094 | 0.100 | 0.088 |
| in ft/mi = | 325 | 355 | 389 | 361 | 496 | 527 | 463 |
| Time of Concentration, tc, hrs (watersheds < 10 sq. mi.) = 0.00013*(L^0.77/S^0.385) = | 1.13 | 0.94 | 0.90 | 0.33 | 0.40 | 0.37 | 0.26 |
| Area, sq. mi. | 5.02 | 2.76 | 1.63 | 0.63 | 0.54 | 0.4 | 0.14 |
| Lag Time, Lg, hrs | | | | | | | |
| USBR method, Lg = C*(L*Lc/S^.5)^N = | 1.58 | 1.38 | 1.34 | 0.57 | 0.70 | 0.65 | 0.47 |
| Constant, C = 26*Kn = | 1.56 | 1.56 | 1.56 | 1.56 | 1.56 | 1.56 | 1.56 |
| Constant, N = | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 |
| Length of Longest Watercourse, L, mi = | 6.12 | 5.08 | 4.96 | 1.33 | 1.99 | 1.80 | 1.07 |
| Length Along L to Point Opposite Watershed Centroid, Lc, mi = | 3.06 | 2.54 | 2.48 | 0.66 | 0.99 | 0.90 | 0.53 |
| Overall Slope of L, S, ft/mi = | 325 | 355 | 389 | 361 | 496 | 527 | 463 |
| Average Manning's Coefficient, Kn = 0.06 average based on: For Southwest region 0.07 for coniferous forest 0.042 for desert terrain | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 |
| SCS Method, Lg = 0.6 Tc | 0.68 | 0.57 | 0.54 | 0.20 | 0.24 | 0.22 | 0.15 |
| Unit Duration, dt, hours ~= Lg/5.5 | 0.12 | 0.10 | 0.10 | 0.04 | 0.04 | 0.04 | 0.03 |
| rounded to | 0.1 | 0.1 | 0.1 | 0.04 | 0.04 | 0.04 | 0.03 |
| Time to Peak Discharge, Tp, hours | | | | | | | |
| Tp = 0.5*dt+Lg | 0.73 | 0.62 | 0.59 | 0.22 | 0.26 | 0.24 | 0.17 |
| Peak flow of unit hydrograph, Qp, cfs/in | | | | | | | |
| Qp = 484*Area*/Tp | 3344 | 2166 | 1342 | 1384 | 999 | 810 | 401 |
| Vol. = volume of runoff, cfs-day from 1 inch rainfall | 134.99 | 74.22 | 43.83 | 16.94 | 14.52 | 10.76 | 3.76 |
| Curve Number, CN | | | | | | | |
| CN = 71 for P-J upland (Group D) = 78 for Group B/C soils | | | | | | | |

# Temporal Distribution - Dimensionless Unit Hydrograph

m1.u71

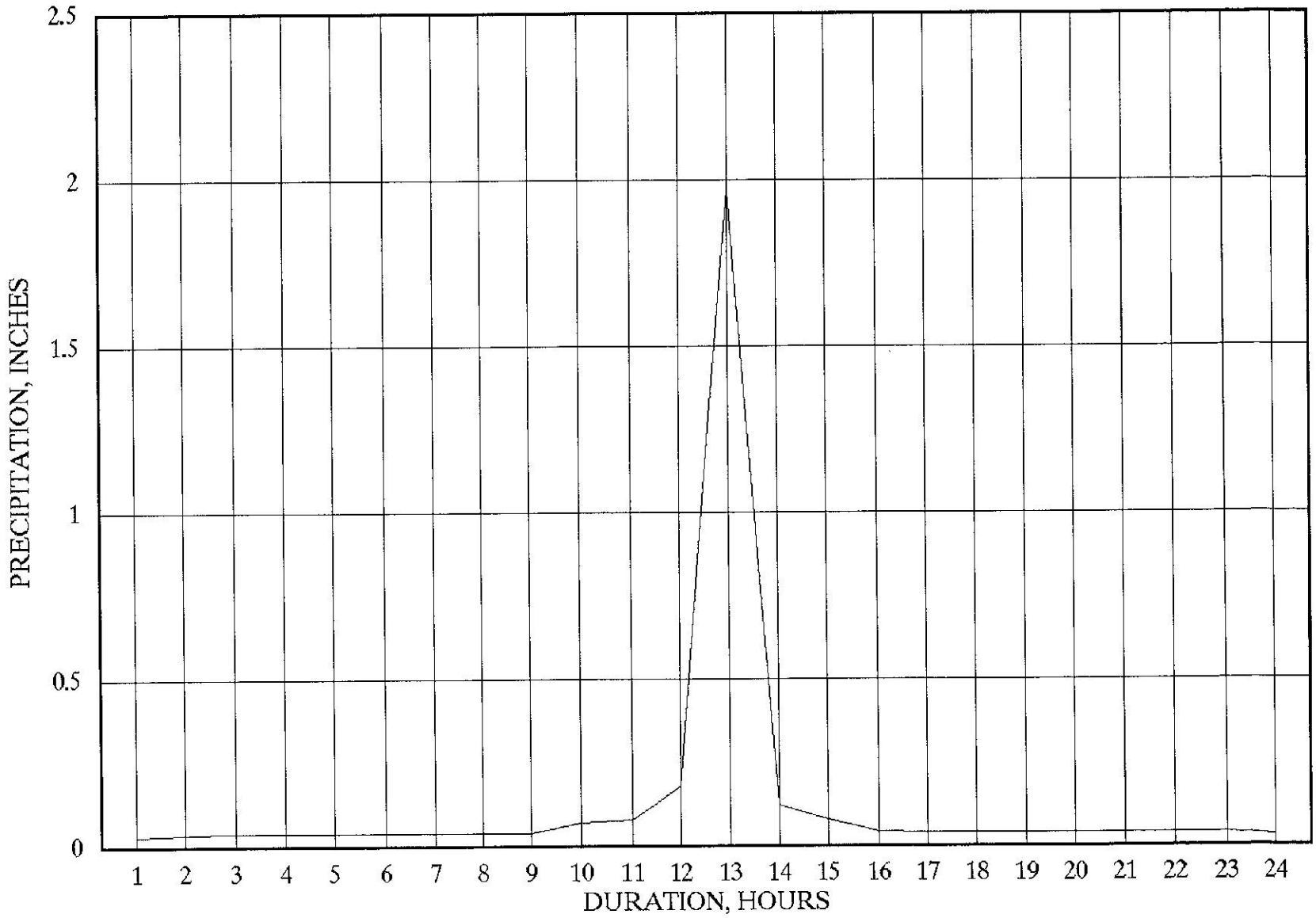
| ** % of (Lg+D/2) | ** q | q*(Lg+D/2)/V | differential q*(Lg+D/2)/Vol. | Time hours | % of (Lg+D/2) | Ordinate | Unit q cfs |
|---|---|---|---|---|---|---|---|
| 5 | 0.19 | 0.0016 | | 0.25 | 40.5 | 0.032 | 3.86 |
| 10 | 0.32 | 0.0027 | 0.0011 | 0.50 | 81.1 | 0.239 | 28.73 |
| 15 | 0.48 | 0.0040 | 0.0013 | 0.75 | 121.6 | 0.101 | 12.11 |
| 20 | 0.74 | 0.0061 | 0.0022 | 1.00 | 162.1 | 0.129 | 15.49 |
| 25 | 1.21 | 0.0101 | 0.0039 | 1.25 | 202.7 | 0.220 | 26.46 |
| 30 | 1.81 | 0.0150 | 0.0050 | 1.50 | 243.2 | 0.225 | 27.06 |
| 35 | 2.63 | 0.0219 | 0.0068 | 1.75 | 283.7 | 0.167 | 20.13 |
| 40 | 3.68 | 0.0306 | 0.0087 | 2.00 | 324.3 | 0.112 | 13.46 |
| 45 | 5.47 | 0.0455 | 0.0149 | 2.25 | 364.8 | 0.080 | 9.61 |
| 50 | 8.41 | 0.0699 | 0.0244 | 2.50 | 405.3 | 0.060 | 7.16 |
| 55 | 12.61 | 0.1048 | 0.0349 | 2.75 | 445.9 | 0.048 | 5.74 |
| 60 | 16.5 | 0.1371 | 0.0323 | 3.00 | 486.4 | 0.040 | 4.79 |
| 65 | 20.5 | 0.1704 | 0.0332 | 3.25 | 526.9 | 0.034 | 4.07 |
| 70 | 23.97 | 0.1992 | 0.0288 | 3.50 | 567.5 | 0.029 | 3.46 |
| 75 | 27.75 | 0.2306 | 0.0314 | 3.75 | 608.0 | 0.024 | 2.93 |
| 80 | 28.91 | 0.2403 | 0.0096 | 4.00 | 648.5 | 0.021 | 2.48 |
| 85 | 28.07 | 0.2333 | -0.0070 | 4.25 | 689.1 | 0.018 | 2.12 |
| 90 | 26.38 | 0.2192 | -0.0140 | 4.50 | 729.6 | 0.015 | 1.80 |
| 95 | 24.18 | 0.2009 | -0.0183 | 4.75 | 770.1 | 0.013 | 1.52 |
| 100 | 21.55 | 0.1791 | -0.0219 | 5.00 | 810.7 | 0.011 | 1.31 |
| 105 | 18.92 | 0.1572 | -0.0219 | 5.25 | 851.2 | 0.009 | 1.11 |
| 110 | 16.08 | 0.1336 | -0.0236 | 5.50 | 891.7 | 0.008 | 0.94 |
| 115 | 14.19 | 0.1179 | -0.0157 | 5.75 | 932.3 | 0.007 | 0.80 |
| 120 | 12.61 | 0.1048 | -0.0131 | 6.00 | 972.8 | 0.006 | 0.68 |
| 125 | 11.04 | 0.0917 | -0.0130 | 6.25 | 1013.3 | 0.005 | 0.58 |
| 130 | 9.99 | 0.0830 | -0.0087 | 6.50 | 1053.9 | 0.004 | 0.49 |
| 135 | 9.04 | 0.0751 | -0.0079 | 6.75 | 1094.4 | 0.003 | 0.42 |
| 140 | 8.2 | 0.0681 | -0.0070 | 7.00 | 1135.0 | 0.003 | 0.36 |
| 145 | 7.36 | 0.0612 | -0.0070 | 7.25 | 1175.5 | 0.002 | 0.30 |
| 150 | 6.78 | 0.0563 | -0.0048 | | | | |
| 155 | 6.2 | 0.0515 | -0.0048 | | | | |
| 160 | 5.83 | 0.0484 | -0.0031 | | | | |
| 165 | 5.47 | 0.0455 | -0.0030 | | | | |
| 170 | 5.15 | 0.0428 | -0.0027 | | | | |
| 175 | 4.84 | 0.0402 | -0.0026 | | | | |
| 180 | 4.57 | 0.0380 | -0.0022 | | | | |
| 185 | 4.31 | 0.0358 | -0.0022 | | | | |
| 190 | 4.1 | 0.0341 | -0.0017 | | | | |
| 195 | 3.87 | 0.0322 | -0.0019 | | | | |
| 200 | 3.68 | 0.0306 | -0.0016 | | | | |
| 205 | 3.47 | 0.0288 | -0.0017 | | | | |
| 210 | 3.28 | 0.0273 | -0.0016 | | | | |
| 215 | 3.1 | 0.0258 | -0.0015 | | | | |
| 220 | 2.93 | 0.0243 | -0.0014 | | | | |
| 225 | 2.75 | 0.0229 | -0.0015 | | | | |
| 230 | 2.63 | 0.0219 | -0.0010 | | | | |
| 235 | 2.47 | 0.0205 | -0.0013 | | | | |
| 240 | 2.33 | 0.0194 | -0.0012 | | | | |
| 245 | 2.22 | 0.0184 | -0.0009 | | | | |
| 250 | 2.1 | 0.0175 | -0.0010 | | | | |
| 255 | 1.99 | 0.0165 | -0.0009 | | | | |
| 260 | 1.88 | 0.0156 | -0.0009 | | | | |
| 265 | 1.78 | 0.0148 | -0.0008 | | | | |
| 270 | 1.68 | 0.0140 | -0.0008 | | | | |
| 275 | 1.59 | 0.0132 | -0.0007 | | | | |
| 280 | 1.5 | 0.0125 | -0.0007 | | | | |
| 285 | 1.43 | 0.0119 | -0.0006 | | | | |
| 290 | 1.36 | 0.0113 | -0.0006 | | | | |
| 295 | 1.28 | 0.0106 | -0.0007 | | | | |
| 300 | 1.21 | 0.0101 | -0.0006 | | | | |
| 305 | 1.15 | 0.0096 | -0.0005 | | | | |

| | | | |
|---|---|---|---|
| Lg = | 0.57 | 0.54 | 0.20 |
| D = | 0.1 | 0.1 | 0.04 |
| Lg+D/2 = | 0.62 | 0.59 | 0.22 |
| Vol. = | 74.22 | 43.83 | 16.94 |

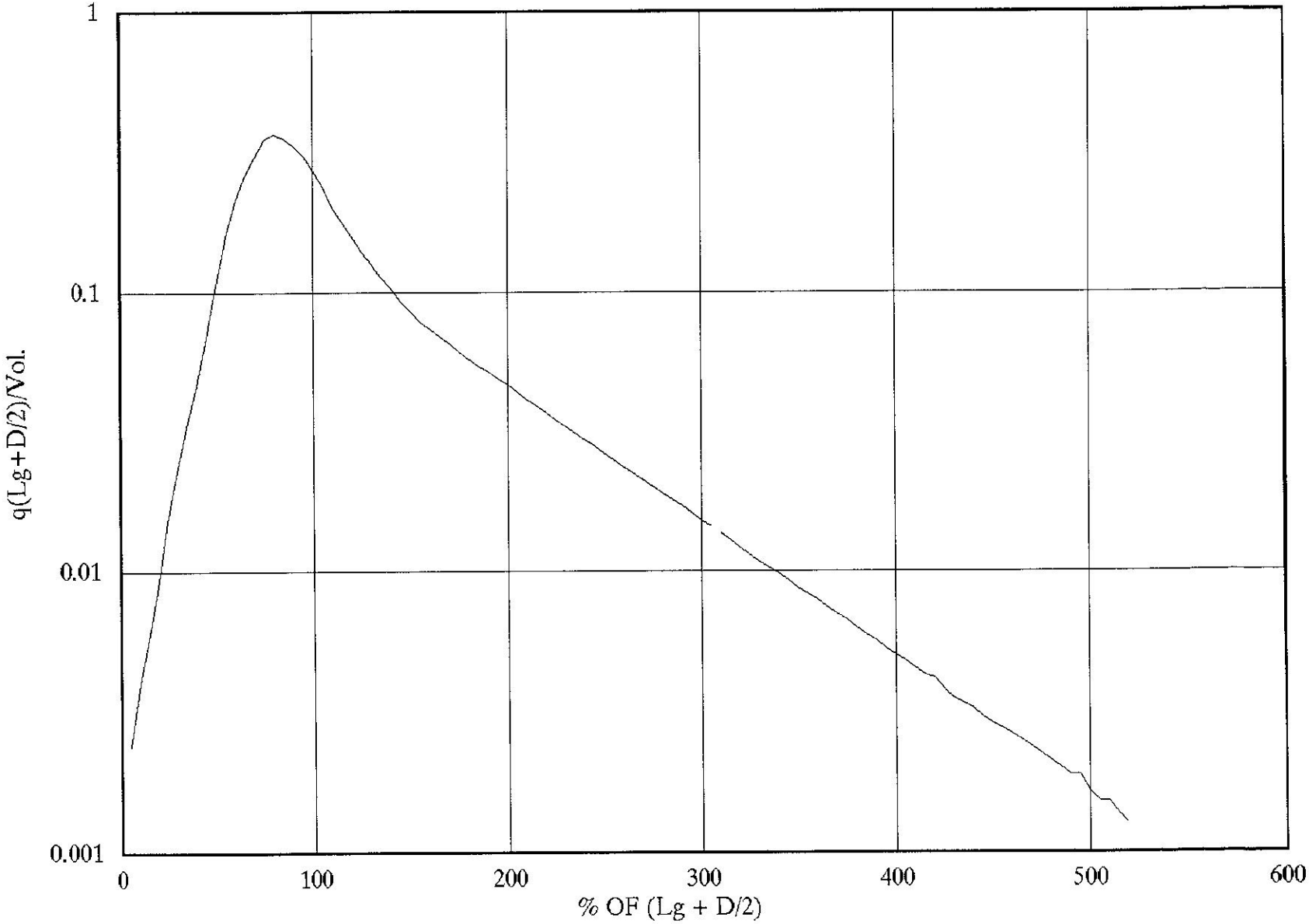
** from Table 3-13, USBR 1987

# BALANCED STORM HYETOGRAPH – 24 HR/100YR

MT TAYLOR MINE WATERSHED

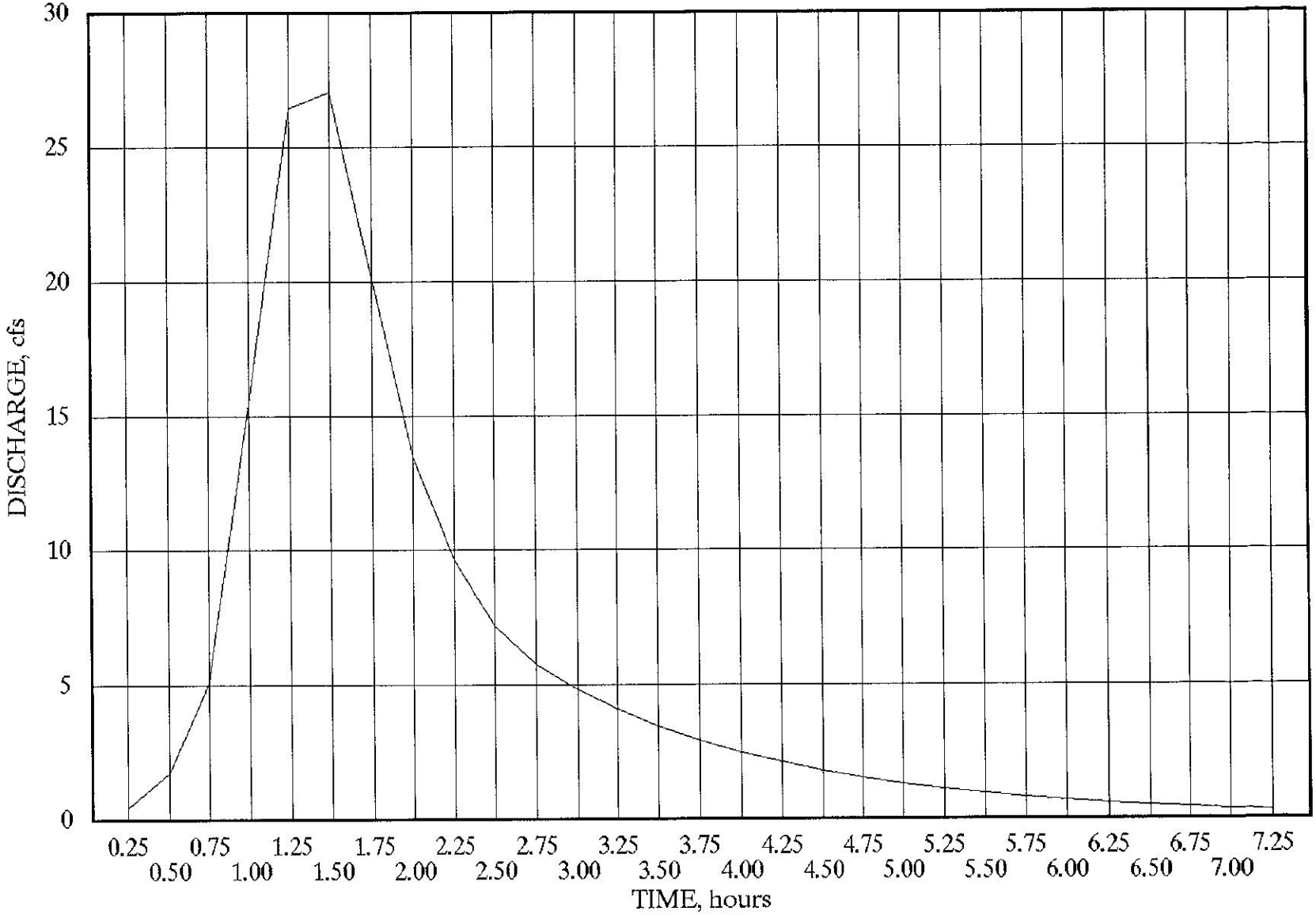


DIMENSIONLESS UNIT HYDROGRAPH FOR MARQUEZ WATERSHED
MT TAYLOR MINE

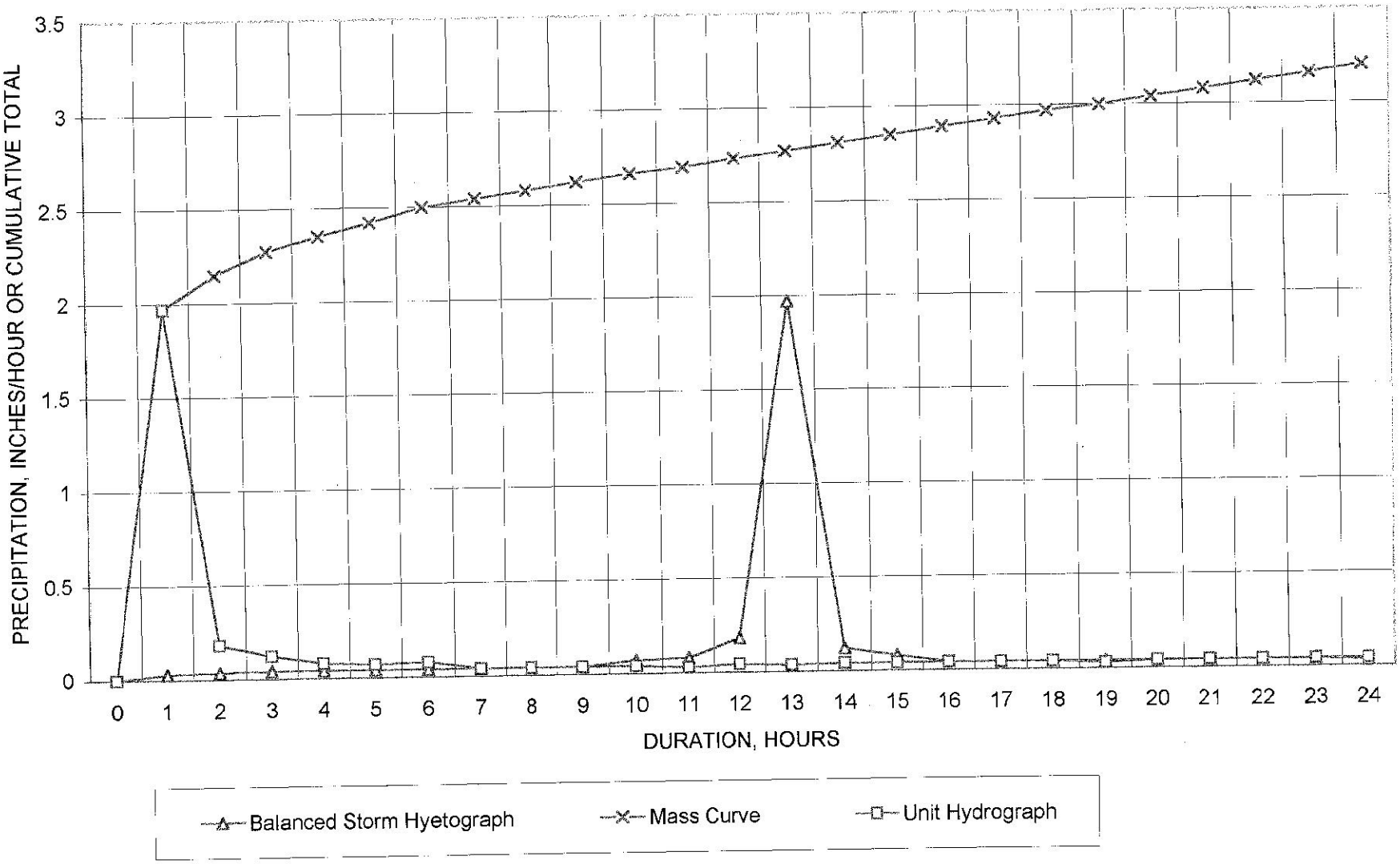


# UNIT HYDROGRAPH AT SITE WEST BOUNDARY

MT. TAYLOR MINE – MARQUEZ CANYON WATERSHED



24 HR/100YR RAINFALL DISTRIBUTION
MT TAYLOR MINE - MARQUEZ CANYON WATERSHED



HEC1 S/N: 1343001323 HMVersion: 6.33 Data File: MARQEZ.HC1

```
*****************************************
*                                       *
*    FLOOO HYDROGRAPH PACKAGE  (HEC·1)  *
*              MAY  1991                *
*           VERSION 4.0.1E              *
*                                       *
*  RUN DATE 09/06/1996 TIME  10:53:37   *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS CALIFORNIA 95616          *
*         (y16) 756-1104                *
*                                       *
*****************************************
```

```
X    X XXXXXXX  XXXXX         X
X    X  X       X    X       XX
 X  X   X       X       XXXXX  X
  XX    XXXXX   X              X
 X  X   X       X              X
X    X  X       X    X         X
X    X  XXXXXXX  XXXXX        XXX
```

Full Microcomputer lrrplementation
by
Haestad Methods, Inc.

37 Brookside Road* Waterbury, Connecticut 06708 * (203) 755-1666

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73}, HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP· AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK· ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS JS THE FORTRAN?? VERSION
NEU OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS;WRJTE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
    1     ID  PRECIP DEPTH, AREA SIMULATION FOR MARQUEZ CANYON WATERSHED - MT. TAYLOR HINE
    2     ID  100 YEAR, 24 HOUR STORM EVENT
    3     IT      15        0        0       96
    4     IO       1
    5     JO     3.2      5.02
    6     PIT                      1.2     1.70    Z.00     2.1      2.3     2.5     2.7     3.2
    7     KK       10 RUNOFF FROM UPPER MARQUEZ CANYOM TO MARUCA JUNCTION
    8     KO        0
    9     SA    2.76         0
   10     BF       0         0        1
   11     LS       0        71        0
   12     UD      .57
   13     KK     1040 ROUTE MARQUEZ RUNOFF TO JUNCTION
   14     RO    26805    .067     .06            TRAP     4.5      1.9
   15     1(1(     20  RUNOFF FROM MARUCA CANYON
   16     1(0       0
   17     BA    t.63         0
   18     BF       0         0        1
   19     LS       0        71        0
   20     U0     .54
   21           2040  ROUTE MARUCA RUNOFF TO JUNCTION
   22     1(1(  _2 6-2-1-4   .074      .06            TRAP     4.5      1.9
   23     KK       30 RUNOFF FROM LOWER MARQUEZ CANYON
   24     BA     .63         0
   25     BF       O         O        1
   26     LS       O        78        0
   27     UO     .20
   28     KK       40 COMBINE 10  20,30 RUNOFF
   29     KM    COMBINE RUNOFF FROM UPPER MARQUEZ AND MARUCA CANYONS AND LOWER MARQUEZ
   30     KC       3         0
   31     KO       0
   32     KK    4050 ROUTE COMBINED 10,20, ANO 30 RUNOFF TO WEST SIDE OF  !NE PROPERTY
   33     RO    5507    ,068     .06            TRAP     4.5      1.9
   34     Z
```

C1 S/N: 1343001323 HMVersion: 6.33 Data File: MARQEZ.HC1

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| OPERATION | STATION | PEAK FLOW | TIME OF PEAk | AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOJR | 24-HOUR | 72-HOUR | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| !\YDROGRAPH AT | 10 | 990. | 12.50 | 213. | 65. | 65. | 2.76 | | |
| ROUTED TO | 1040 | 929. | 13.00 | 210. | 63. | 63. | 2.76 | | |
| HYDROGRAPH AT | 20 | 604. | 12.50 | 126. | 38. | 38. | 1.63 | | |
| ROOTED TO | 2040 | 593. | 13.00 | 131. | 39. | 39. | 1.63 | | |
| HYDROGRAPH AT | 30 | 625. | 12.00 | 73. | 22. | 22. | 0.63 | | |
| 3 COMBINED AT | 40 | 1579. | 13.00 | 407. | 123. | 123. | 5.02 | | |
| ROUTED TO | 4050 | 1502. | 13.00 | 406. | 123. | 123. | 5.02 | | |

100 YEAR- 24 HOUR EVENT

**SUMMARY** PRINTOUT TABLE 150

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| • | 3.000 | 0.00 | 0.00 | 0.00 | 318.50 | 361.00 | 320.18 | 320.18 | 320.73 | 232.10 | 5.94 | 60.75 | 23.70 |
| | 2.000 | 800.00 | 0.00 | 0.00 | 331.75 | 361.00 | 333.96 | 333.73 | 334.43 | 135.64 | 5.51 | 65.48 | 31.00 |
| | 1.000 | 900.00 | 0.00 | 0.00 | 344.00 | 361.00 | 346.37 | 346.15 | 346.94 | 141.74 | 6.10 | 59.21 | 30.32 |

100 YEAR- 24 HOUR EVENT

SUMMARY PRINTOUT TABLE 150

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| * | 3.000 | 361.00 | 320.18 | 0.00 | 0.00 | 0.00 | 56.32 | 0.00 |
| | 2.000 | 361.00 | 333.96 | 0.00 | 13.78 | 0.00 | 45.22 | 800.00 |
| | 1.000 | 361.00 | 346.37 | 0.00 | 12.41 | 0.00 | 36.07 | 900.00 |

HEC-2 WATER SURFACE PROFILES
Version 4.6.2; May 1991
JN DATE 6SEP96 TIME 10:59:50

U.S. ARMY CORPS OF ENGINEERS
HYDROLOGIC ENGINEERING CENTER
609 SECOND STREET, SUITED
DAVIS, CALIFORNIA 95616-4687
(916) 756-1104

FULL MICRO-COMPUTER IMPLEMENTATION

H A E S T AD ME TH O DS

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 755-1666



THIS RUN EXECUTED 6SEP96 10:59:50

'E'G'2''A'T'E'R''S'U'R'F'A'C'E''P'R'O'F'I L E S

**WATER** PROFfIE ANALYSES FOR MARQUEZ CANYON ARROYO ACROSS MINE SITE
!MT. 1AYLOR MINE, WITHOUT CHANNEL IMPROVEMENTS
: 100 YEAR· 24 HOUR EVENT

| !CHECK | **INQ** | **NlNV** | **IDIR** | STRT | **METRIC** | **HVINS** | Q | **WSEL** | FQ |
|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | -1 | 0 | 0 | 1579 | | 0 |

| **NPROf** | !PLOT | PRFVS | XSECV | XSECH | **FN** | ALLOC | **IBW** | CKNIM | **ITRACf.** |
|---|---|---|---|---|---|---|---|---|---|
| -1 | **1** | 0 | 0 | 0 | 0 | -1 | 0 | 0 | |

**VARIABLE** CODES **FOR SUMMARY** PRINTOUT

150

**LPRNT** **NUMSEC** ***·****REQUESTED SECTION NUMBERS********

-1 -10

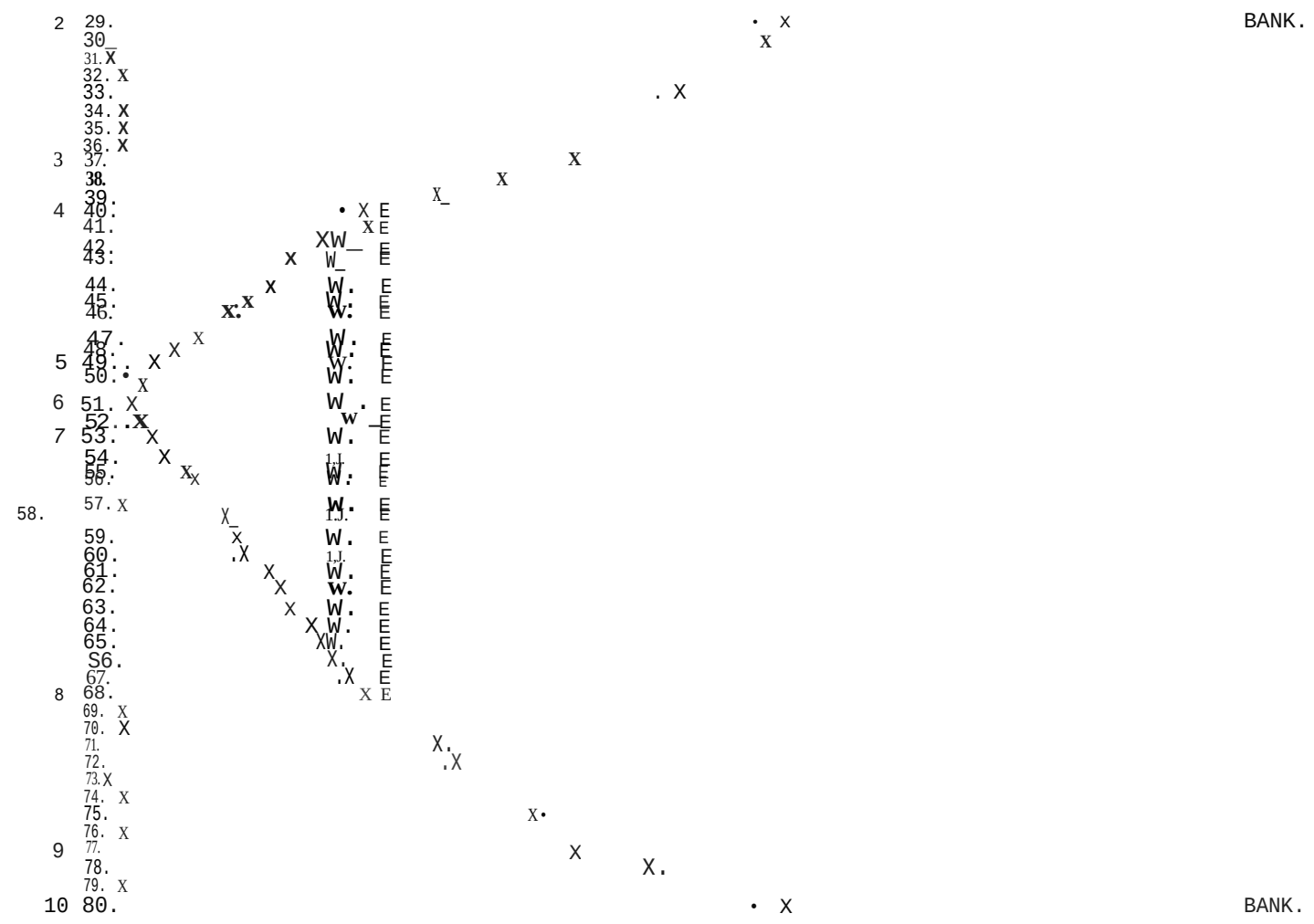
IHLEO !COPY SUBOJV STRTOS RMILE

0 0 0

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| C | .03 | .03 | _040 | ·, | .3 | | | | | |
| 1 | 3 | 8 | 10 | 50 | 0 | 0 | 0 | 0 | 0 | 1 |
| **R** | 270 | 0 | 265 | 10 | 260 | 19 | 257 | 22 | 257 | 28 |
| **R** | 260 | 35 | 265 | 50 | 267 | 68 | | | | |
| | 2 | 11 | 40 | 108 | 1200 | 1200 | 1200 | 0 | 0 | 1 |
| | 305 | 0 | 300 | 40 | 285 | 50 | 280 | 62 | 277 | 67 |
| **R** | 276 | 77 | 277 | 87 | 280 | 90 | 285 | 92 | 300 | 108 |
| **R** | 305 | 118 | | | | | | | | |
| 1 | | 9 | 29 | 80 | 350 | 350 | 350 | 0 | 0 | 1 |
| **R** | 320 | 29 | 310 | 37 | 300 | 40 | 290 | 49 | 289 | 51 |
| **R** | 290 | 53 | 300 | 68 | 310 | 77 | 320 | 80 | | |

CROSS SECTION 1.00
**STREAM** 100 YEAR- 24 HOUR EVENT
DISCHARGE"' 1579_

PLOTTED POINTS (BY PRIORITY)-B"'BOTTOM BR!DGE,T,,,TOP BRIDGE,X=GROUND,W=WATER SUR,E=ENERGY GRADIENT,C=CRITICAL WSEL

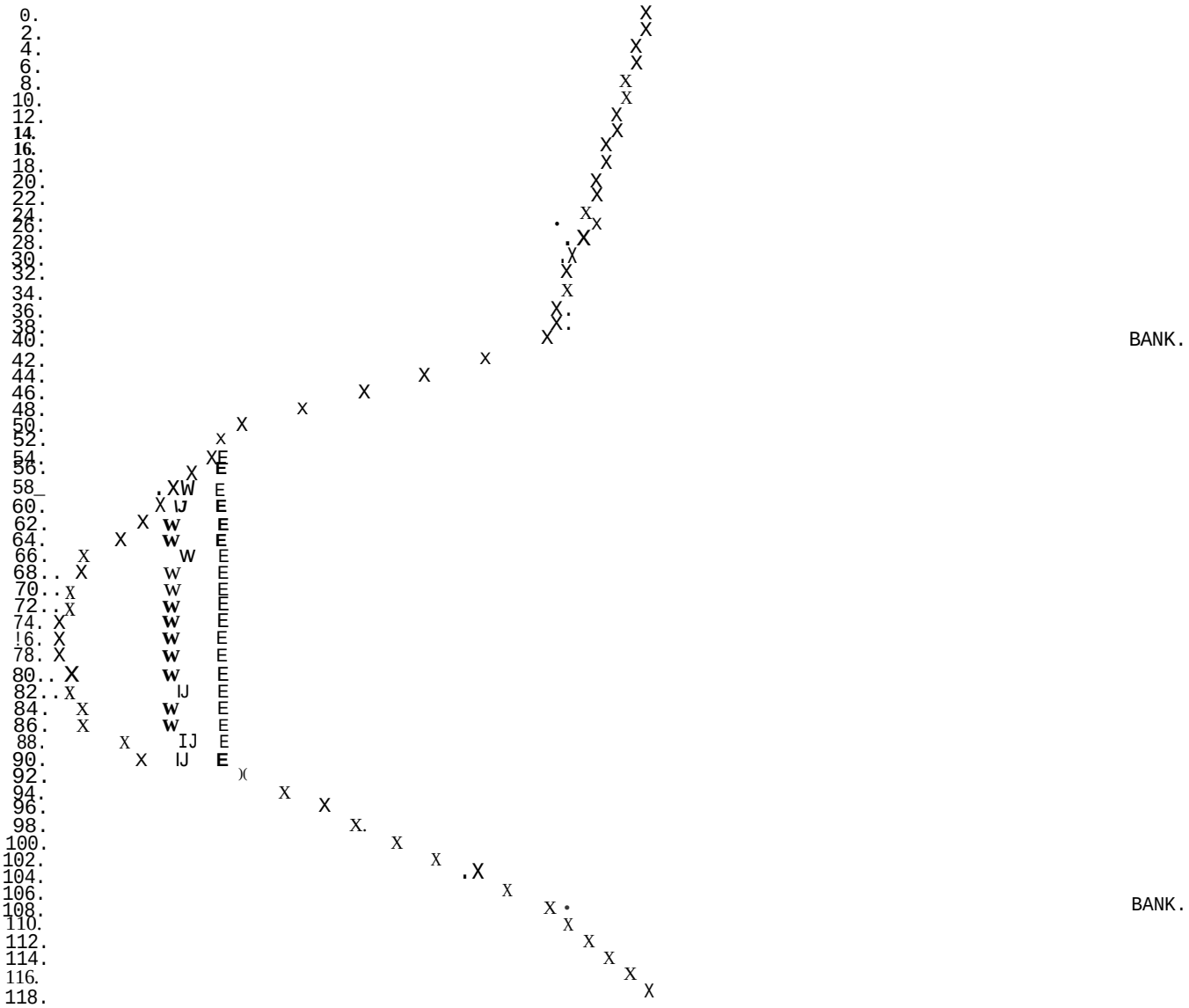


CROSS SECTION 2.00
STREAM 100 YEAR- 24 HOUR EVENT
DISCHARGE= 1579.

PLOTTED POINTS (BY PRIORITY)-B=BOTTOM BRIDGE,T=TOP BRIDGE,X=GROUND,IJ=IJATER SUR,E=ENERGY GRADIENT,C=CRITICAL IJSEL

E. 276.0 281.0 286.0 291.0 296.0 301.0 306.0 311.0 316.0 321.0 326.0

STA-FEET

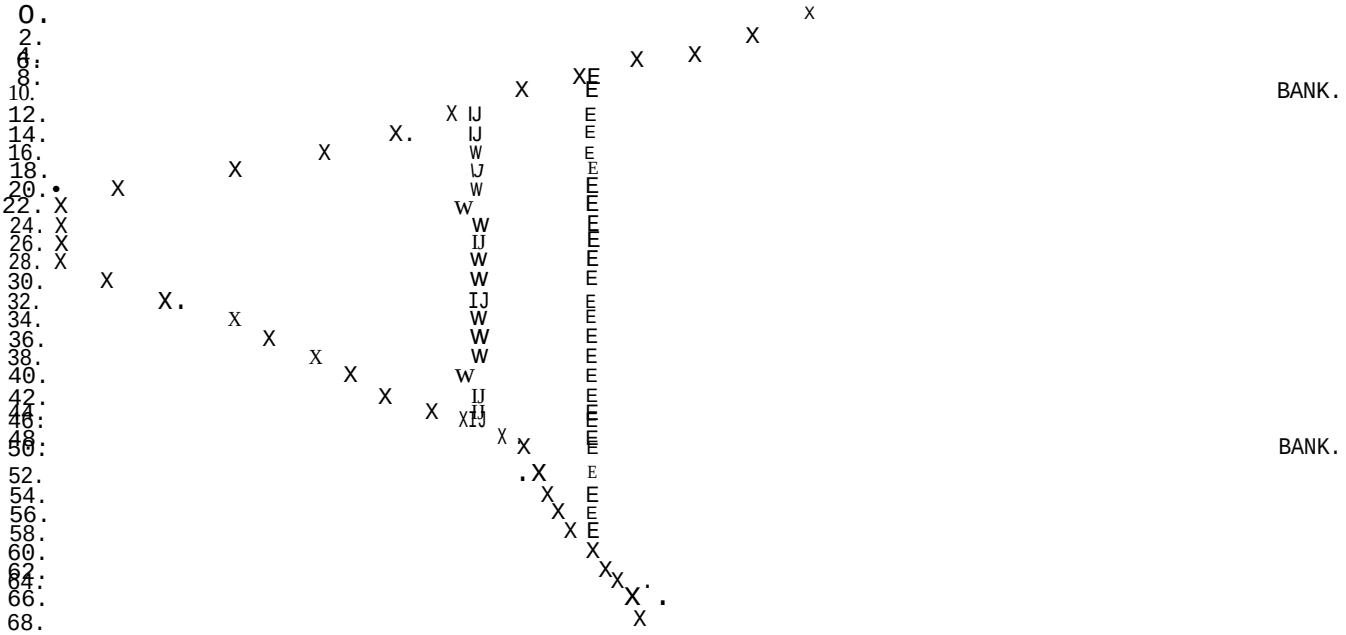


CROSS SECTION 3.00
STREAM 100 YEAR· 24 HOUR EVENT
DISCHARGE= 1579.

P. ED POINTS (BY PRIORITY)·B=BOTTOM BRIDGE,T=TOP BRIDGE,X=GROUND,IJ=\JATER SUR,E=ENERGY GRADIENT,C=CRITICAL IJSEL

ELEV 257.0 259.0 261.0 263.0 265.0 267.0 269.0 271.0 273.0 275.0 277.0

STA-FEET



100 YEAR· 24 HOUR EVENT

SUMMARY PRINTOUT TABLE 150

| | SECNO | XLCH | ELTRD | ELLC | ELMIN | Q | CWSEL | CRIWS | EG | 10*KS | VCH | AREA | .01K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| • | 3.000 | 0.00 | 0.00 | 0.00 | 257.00 | 1579.00 | 264.15 | 264.15 | 266.10 | 168.24 | 11.23 | 140.58 | 121.74 |
| | 2.000 | 1200.00 | 0.00 | 0.00 | 276.00 | 1579.00 | 282.16 | 281.77 | 283.90 | 132.33 | 10.60 | 148.91 | 137.26 |
| * | 1.000 | 350.00 | 0.00 | 0.00 | 289.00 | 1579.00 | 298.49 | 298.49 | 301.07 | 194.22 | 12.89 | 122.54 | 113.30 |

100 YEAR· 24 HOUR EVENT

SUMMARY PRINTOUT TABLE 150

| | SECNO | Q | CWSEL | DIFWSP | DIFWSX | DIFKWS | TOPWID | XLCH |
|---|---|---|---|---|---|---|---|---|
| • | 3.000 | 1579.00 | 264.15 | 0.00 | 0.00 | 0.00 | 35.90 | 0.00 |
| | 2.000 | 1579.00 | 282.16 | 0.00 | 18.01 | 0.00 | 34.04 | 1200.00 |
| * | 1.000 | 1579.00 | 298.49 | 0.00 | 16.34 | 0.00 | 24.38 | 350.00 |

HEC1 S/N: 1343001323 HMVersion: 6.33 Data File: hu1Trller.hc1

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*                                       *
*  FLOOD HYOROGRAPH PACKAGE (HEC·l)     *
*               MAY  1991               *
*            VERSION 4.0.1E             *
*                                       *
*  RUN DATE 09/06/1996  TIME  15:18:49  *
*                                       *
*****************************************
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*****************************************
*                                       *
*     U.S. ARMY CORPS OF ENGINEERS      *
*     HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET            *
*        DAVIS CALIFORNIA 95616         *
*           (Y16) 756-1104              *
*                                       *
*****************************************
```

```
x     x  xxxxxxx  xxxxx          x
x     x  x       x     x        xx
x     x  x       x              x
xxxxxxx  xxxx    x       xxxxx  x
x     x  x       x              x
x     x  x       x     x        x
x     x  xxxxxxx  xxxxx          xxx
```

Full Microcomputer Implementation
by
Haestad Methods, Inc.

37 Brookside Road* Waterbury, Connectlcut 06708 * (203) 755-1666

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP· AND ·RTIOR· HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION *OF* -AMSKK· ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:REAO TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: **NEW** FINITE DIFFERENCE ALGORITHM

```
LINE      10 .....1....2....3....4....5....6.....7....8....9....10
   1      ID  PRECIP DEPTH- AREA SIMULATION FOR HUMMER WATERSHED - MT. TAYLOR MINE
   2      ID  100 YEAR, 24 HOUR STORM EVENT
   3      IT     15       0       0      96
   4      10      1
   5      JD    3.2     .54
   6      PH                    1.2     1.70    2.00     2.1     2.3     2.5     2.7     3.2
   7      1(1(    10 RUNOFF FRa-1 EAST HUMMER
   8      KO       0
   9      BA     .40       0
          BF       0       0       1
  10      LS       0      71       0
  11      UD     .22
  12
  13      KI(   1030  ROUTE EAST HUMKER RUNOFF TO JUNCTION 30
  14      RD    9513   0.10    •06          TRAP     14     4.0
  15      KK      20  RUNOFF FROM WEST HUMMER
  16      J(Q      0
  17      BA     .14       0
  18      Bf       0       0       1
  19      LS       0      71       0
  20      LIO   0.15
  21      KK    2030  ROUTE WEST HUMMER RUNOFF TO JUNCTION 30
  22      RD    5644   0.088     .06          TRAP     14     4.0
  23      KK      30 COMBINE 10 AND 20 RUNOFF
  24      KM    COMBINE RUNOFF FROM EAST AND WEST HUMMER
  25      HC       2       0
  26      1(0      0
  27      KK    3040 ROUTE COMBINED 10 AND 20 RUNOFF TO WEST SIDE OF MINE PROPERTY
  28      RO     968    .036    .03          TRAP     14      4
  29      ZZ
```

r1 S/N: 1343001323 IIMVersion: 6.33 Date File: hU11111er_nc1

RUMOFF SUMMARY

FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

| OPERATION | STATION | PEAK FLOW | TIME OF PEAK | AVERAGE FLO\J FOR MAXIMUM PERIOD 6·1!0UR | 24-HOUR | 72-HOUR | BASIN AREA | MAXIMUM STAGE | TIME OF MAX STAGE |
|---|---|---|---|---|---|---|---|---|---|
| HYDROGRAPH AT | 10 | 226. | 12.00 | 31. | 9. | 9. | 0.40 | | |
| ROUTED TO | 1030 | 254. | 12.25 | 35. | 10. | to. | 0.40 | | |
| HYDROGRAPH AT | 20 | 118. | 12.00 | 11. | 3. | 3. | 0.14 | | |
| ROUTED TO | 2030 | 107. | 12.25 | 11. | 3. | 3. | 0.14 | | |
| 2 COMBINED AT | 30 | 361. | 12.25 | 46. | 14. | 14. | 0.54 | | |
| ROUTED TO | 3040 | 334. | 12.25 | 46. | 14. | 14. | 0.54 | | |

HEC-2 ATER SURFACE PROFILES
rsion 4.6.2; May 1991
DATE 6SEP96 TINE 16:05:18

U.S. ARMY CORPS OF ENGINEERS
HYDROLOGJC ENGINEERING CENTER
609 SECOND STREET, SUITED
DAVIS, CALIFORNIA 95616-4687
(916) 756·1104

FULL MICRO•CCf,tPUTER IMPLEMENTATION

H A E S T A D M E T H O O S

37 Brookside Road * Uaterbury, Connecticut 06708 * (203) 755·1666



THIS RUN EXECUTED 6SEP96 16:05:18

lEC·2 UATER SURFACE PROFILES

WATER PROFILE ANALYSES FOR HUMMER WATERSHED WITHOUT IMPROVEMENTS
'.MT. TAYLOR MINE
100 YEAR· 24 HOUR EVENT

| !CHECK | INQ | NIIIV | !DIR | | METRIC | HVINS | Q | USEL | FQ |
|---|---|---|---|---|---|---|---|---|---|
| | 0 | 0 | 0 | ST R T | 0 | 0 | 361 | | 0 |

| NPROf | !PLOT | PRFVS | XSECV | XSECH | HI | ALLDC | IBW | CHNlM | lTRACE |
|---|---|---|---|---|---|---|---|---|---|
| -1 | | 0 | 0 | 0 | 0 | -1 | 0 | 0 | |

VARIABLE COOES FOR **SUMMARY** PRINTOUT

150

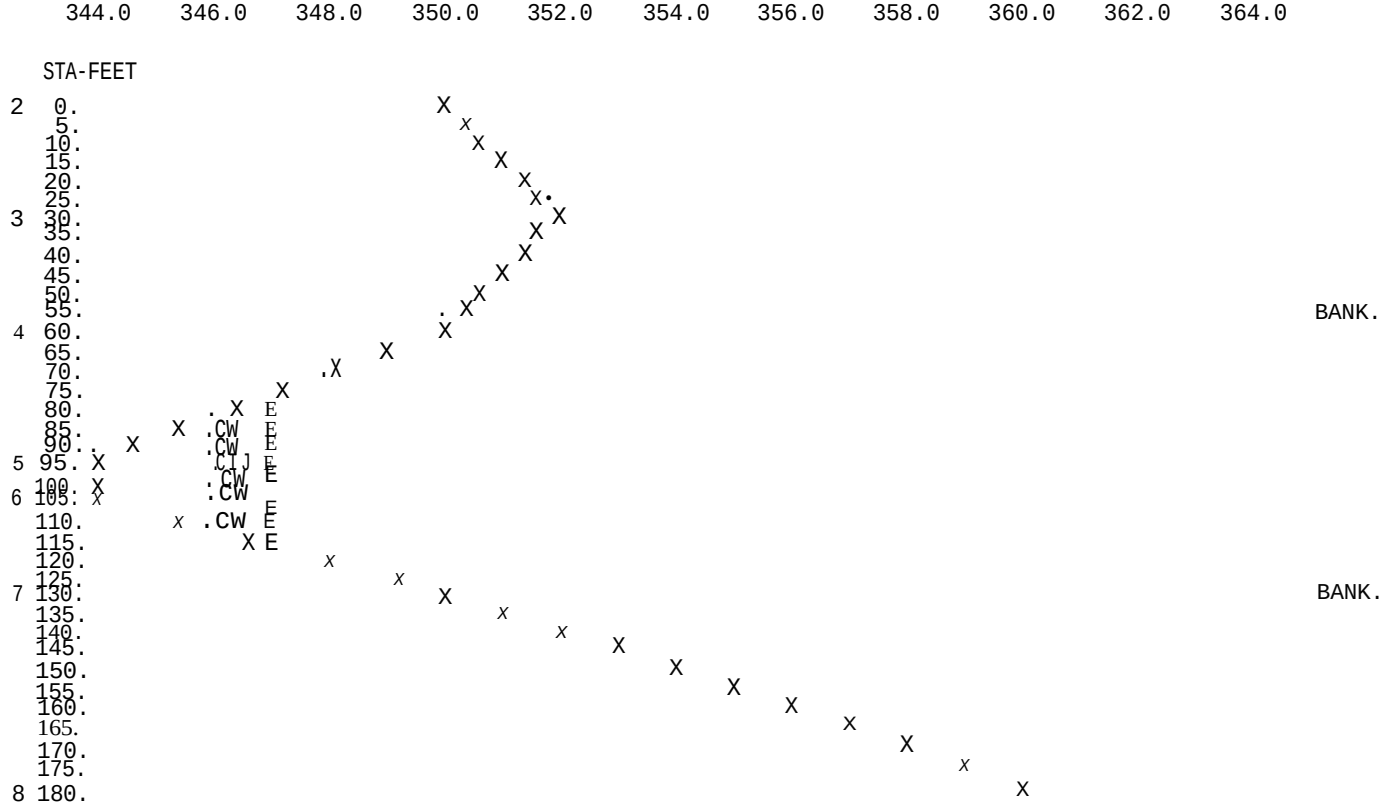
LPRNT NU1'1SEC ********REQUESTED SECTION NUMBERS********
-1 -10

| !HLEQ | !COPY | SUBDTV | STRTDS | RMILE |
|---|---|---|---|---|
| | | 0 | 0 | 0 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| .03 | .03 | .040 | .1 | .3 | | | 0 | 0 | 1 |
| 3 | 7 | 110 | 186 | | | | | | |
| 325 | 0 | 321 | 80 | 321 | 110 | 318.5 | 142 | 318.5 | 158 |
| 321 | 186 | 323.7 | 280 | | | | | | |
| 2 | 7 | **85** | **159** | 820 | 790 | 800 | 0 | 0 | 1 |
| 340 | 0 | 336 | 60 | **336** | 85 | 331.75 | 115 | 331.75 | 129 |
| 336 | 159 | **338.2** | **280** | | | | | | |
| 1 | 7 | 60 | 130 | 900 | 900 | 900 | 0 | 0 | 1 |
| 350 | 0 | 352 | 30 | **350** | 60 | 344 | 93 | 344 | 107 |
| 350 | 130 | 360 | 180 | | | | | | |

CROSS SECTION 1.00
STREAM 100 YEAR· 24 HOUR EVENT
OISCHARGE= 361.

PLOTTED POINTS (BY PRIORITY)·B=BOTTOM BRIDGE,T=TOP BRIDGE,X=GROUND,W=WATER SUR,E=ENERGY GRADIENT,C=CRITICAL WSEL

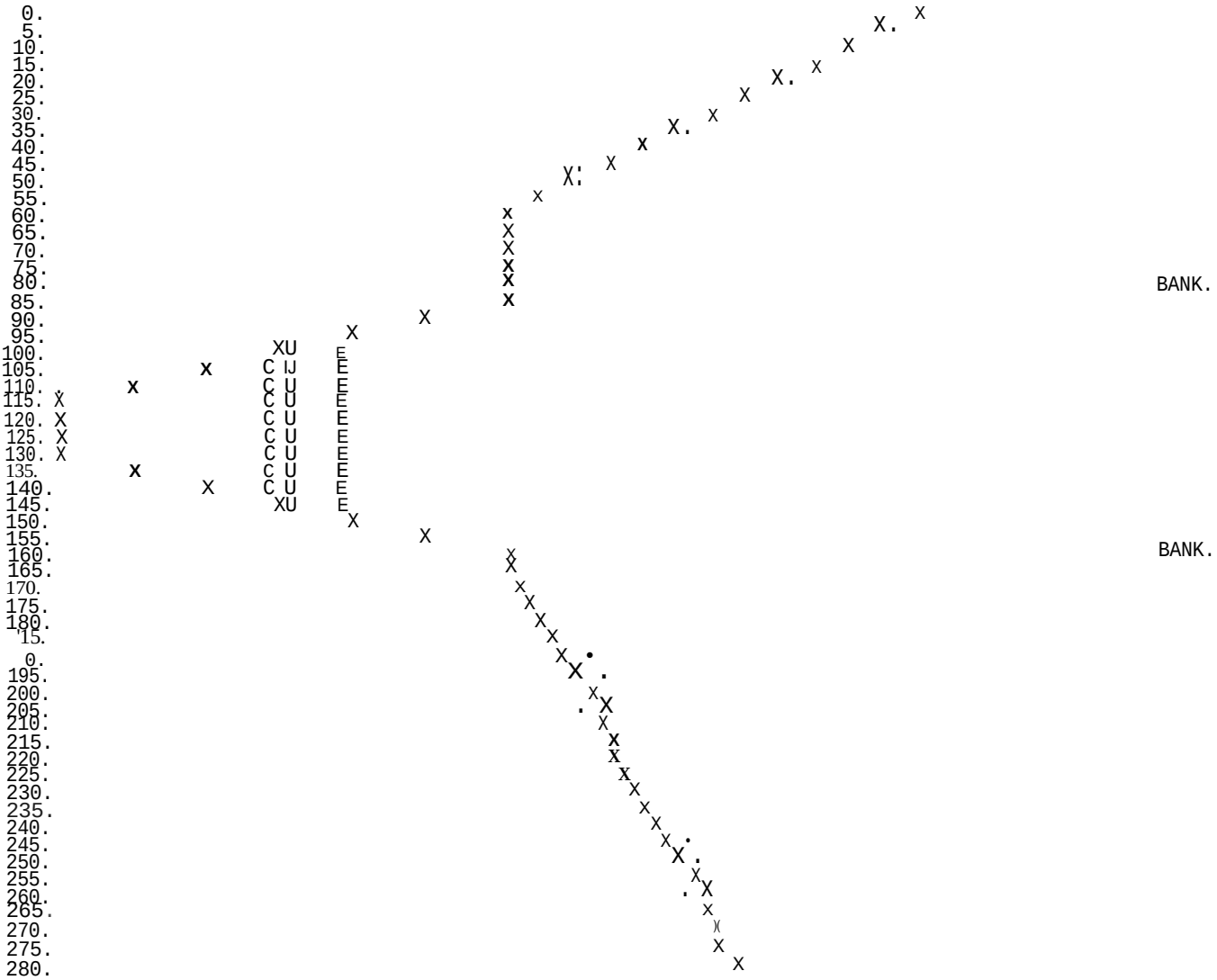


CROSS SECTION 2.00
STREAM 100 YEAR· 24 HOUR EVENT
DISCHARGE= 361.

PLOTTED POINTS(BY PRIORITY)·B=BOTTOM BRIDGE,T=TOP BRIDGE,X=GROUND,U=UATER SUR,E=ENERGY GRADIENT,C=CRITICAL USEL

331.8 332.8 333.8 334.8 335.8 336.8 337.8 338.8 339.8 340.8 341.8

STA-FEET

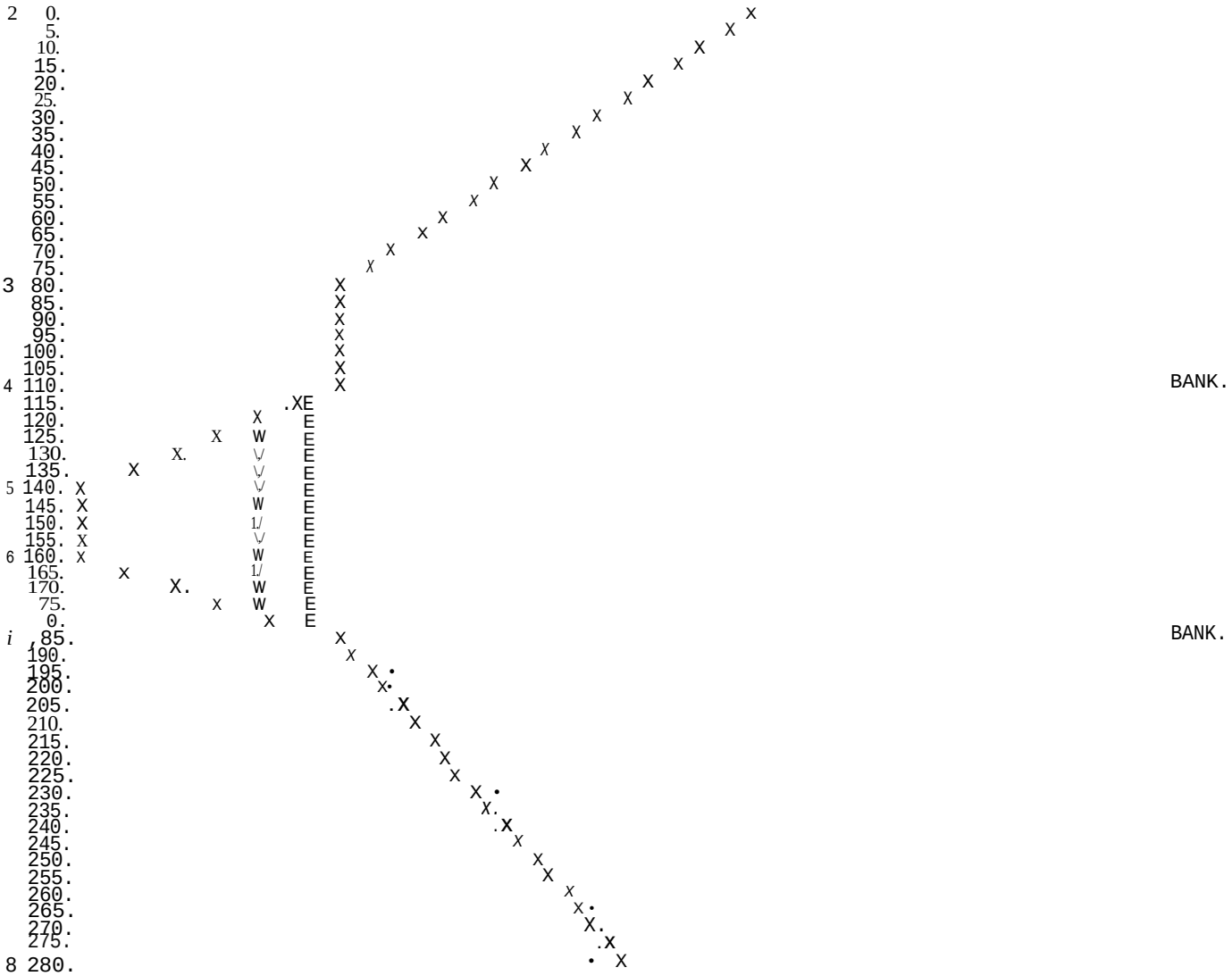


CROSS SECTION 3.00
STREAM 100 YEAR- 24 HOUR EVENT
DISCHARGE= 361.

'ED POINTS (BY PRIORITY)-B=BOTTOM BRJDGE,T=TOP BRIDGE,X=GROUND,W=WATER SUR,E=ENERGY GRADIENT,C=CRITICAL WSEL

ELEV 318.5 319.5 320.5 321.5 322.5 323.5 324.5 325.5 326.5 327.5 328.5

STA·FEET



# APPENDIX C

## Technical Specifications

C.2 Buildings and Pipeline Demolition

C.3 Shaft Backfill and Plugging

C.4 Earthwork

# C.2 BUILDINGS AND PIPELINE DEMOLITION

## GENERAL TECHNICAL REQUIREMENTS

### Summary of Work

Rio Grande Resources Corporation (RGR) is owner and operator of the Mt. Taylor Uranium Mine located in Cibola County, New Mexico in Section 24, T13N, R8W, NMPM. The mine site is 1/2-mile northeast of the Village of San Mateo and is accessible from New Mexico State Route 605. At the time of this submittal, the mine is on active (operating) status, but RGR has initiated closeout due to the depressed uranium market. The mine extracted uranium ore from depths of over 3,000 feet below ground surface that connect to two 3,300-foot-deep shafts from the mine surface. The mine surface facilities are located on 285.6 acres, of which approximately 175 acres are disturbed land, and the remaining acres are undisturbed. The disturbed land consists of:

- Support (Service and Support) Facilities
- Mine Water Treatment Area
- Treated Water Discharge Pipeline Easement
- Ore Stockpile
- Waste Pile
- Storm Water Retention Ponds (2)
- Access Road

The included work consists of demolition of buildings that will have no post-mining use, excavation of contaminated soils, well plug and abandonment, shaft and conduit closure, and disposal cell construction. Some of the mine buildings, the treated water discharge pipeline, the headframe, and other facilities have already been removed. Buildings and facilities that have post-mining use will not be removed.

Facilities remaining to be removed are listed in Table 4.2.

Removal of the production shaft and the manway shaft are addressed in other specifications in Appendix C.

Scrap materials from demolition, with the exception of concrete, that are not radiologically contaminated and meet the criteria for unrestricted use will be disposed of as scrap or made available for off-site sale. The surface landowner shall have the right to retain any uncontaminated demolition materials, other than concrete, for its own use, including but not limited to on-site use for post-mining applications or for off-site sale. Any demolition materials not retained on site at the written request of the surface landowner prior to demolition shall be removed by the contractor and may be used or sold by the contractor without compensation to RGR or the surface landowner. Subsequent to closeout, removal of remaining salvaged materials from the site will be at the landowners' discretion and cost.

The required work includes:

- Mobilization and demobilization of contractor's equipment
- Preparation of the work area
- Protection of potentially impacted facilities and structures
- De-energizing and removal of electric lines and equipment in facilities to be removed
- Demolition of the buildings listed in Table 4.2
- Separation and stacking of demolition debris at locations on site approved by NMED as staging areas.

Any demolition materials other than concrete meeting release criteria may be salvaged for sale and re-used offsite by the contractor.

Workplans with drawing sheets will be prepared as each task is initiated.

**Site Survey**

Prior to mobilizing the mine, the Contractor shall perform its own survey of the facilities to be removed for the purposes of dimensional and volume measurements, assessment of hazards, and planning the work. The results of this site survey shall be submitted to the Project Manager for review and approval before the work begins.

**Site Restrictions**

Access to the site is limited to ingress/ egress through the main gate. All Contractor personnel and visitors shall log in and out at the guardhouse. All personnel shall wear the required safety equipment as directed by the site Safety Officer while inside the mine perimeter fence.

**Information on Existing Facilities**

Facilities to be removed include the buildings listed in Table 4.2, abandoned on-site water pipes, and hydraulic control structures of the mine water treatment ponds.

**Codes, Standards, and Regulatory Requirements**

All work must be performed according to NM State Mine Inspector or MSHA requirements. The Contractor is responsible for identifying and complying with the relevant standards and requirements.

**Site Investigation Reports & Data**

Not Applicable

## Health & Safety Practices

### *Health & Safety Practices*

Work area safety is the responsibility of the contractor. The contractor shall submit and implement a Safety Plan that satisfies federal, state, and RGR requirements for the type of work being performed.

For the work under this specification, Level D PPE is required. All contractor personnel and others within the contractor's working area must be equipped with the required PPE and must comply with the requirements cited in the Codes, Standards, and Regulatory Requirements section above.

The contractor shall have a qualified Safety Officer on site during working hours. The Safety Officer shall be responsible for enforcing all safety requirements and shall have the authority to remove anyone not complying with those requirements from the contractor's working area.

### *Site Safety & Emergency Communication*

The contractor shall post emergency response phone numbers in the worker break area. The contractor shall maintain an active phone line at all times. The cell phone service may not be reliable at the mine site.

### *Radiological Materials*

Radiological contamination levels in most of these facilities do not exceed the NRC Regulatory Guide 1.86 criteria for unrestricted release and use and will not require decontamination prior to demolition. However, the ion exchange building and contents may require some decontamination prior to removal. However, the contractor shall implement relevant portions of RGR's Radiation Safety Program Manual (RSPM) and corresponding procedures to provide for the radiation safety of workers, the public and environment. The RSPM and procedures topics include (but are not limited to) radiological work controls, development and use of non-routine procedures, access control and security, radiation monitoring surveys, radiation dose, and response to incidents and emergencies involving radioactive materials. RGR's Radiation Safety Officer and Mine Manager will provide the necessary training and oversight, but the contractor shall ensure worker compliance with the RSPM.

## Field Engineering and Surveying

Not Applicable

## General Submittals

Prior to commencing the work, the contractor shall submit, in a format acceptable to RGR, the following:

- Site Safety Plan – including name and qualifications of Safety Officer

- Demolition Plan – Methods of demolition shall be described, including methods and equipment to be used, names and qualifications of key personnel, and schedule

**Construction Facilities and Field Office**

***Site Access, Field Office, Storage, and Maintenance***

RGR will provide space for the contractor's field office, laydown areas, sanitary facilities, and equipment maintenance. Existing buildings, if any, will not be available for contractor use. If needed, electrical power must be arranged by the contractor with Continental Divide Electrical Co- op.

Water, both potable and non-potable, is available on site. The contractor must make arrangements with RGR for pumping, storing, and discharge of water needed by the contractor.

***Protection of Existing Facilities***

The contractor shall not use, damage, or block access to site buildings and other facilities that are in use at the time of the contractor's work or that are to remain intact for post-mining land use. Any damage or loss of use shall be repaired or compensated at the contractor's cost.

***Temporary Environmental Controls***

The contractor shall be responsible for emplacing, utilizing, and removing those measures necessary to contain contaminants, surface water and fugitive dust releases generated by the contractor's work. Such measures may include, but are not limited to;

- Fuels, solvents and lubricants storage
- Surface water diversions and erosion control materials
- Dust suppression chemicals containers
- Sanitary wastes containments
- Trash containers
- Fire suppression equipment

Wildlife, including large game animals, frequently enters the site. The contractor's workers shall do nothing to attract, injure, or otherwise interfere with wildlife. No firearms may be brought on the mine site.

## SITE WORK

### Site Preparation

The contractor shall de-energize and remove all electrical equipment and lines in facilities to be removed.

The contractor shall prepare its office, equipment, and laydown areas as approved by RGR so as not to obstruct or interfere with RGR site operations or other contractors' operations.

### Demolition

The contractor shall submit a demolition plan for RGR approval prior to beginning the work. The plan shall include methods and equipment to be used, names and qualifications of key personnel, and schedule. The plan shall also describe any salvage proposed by the contractor, including materials and expected values.

#### *Building and Pipe Removal*

The buildings shall be removed by mechanical or manual methods; no explosives may be used. The buildings are steel frames with metal siding and roofs.

No asbestos is known to be present within these facilities. However, the contractor shall perform inspections it considers necessary to confirm that asbestos is not present.

RGR has identified some Transite pipe on site. This pipe shall be handled by personnel trained in handling of asbestos and wrapped or otherwise contained while being removed and transported to the trench within the disposal sell specifically designated by RGR. The Transite pipe and other asbestos material, if found, will be placed in the designated trench and flooded by flowable fill composed of soil, Portland cement and water with a 30-day compressive strength of 75-150 psi.

#### *Debris Sizing and Stacking*

The contractor shall prepare demolition debris for disposal. The contractor shall reduce the size of debris and sort it sufficiently for it to be classified and stacked by material type and potential re-use or salvage. With prior approval of RGR, uncontaminated non-rigid materials (other than concrete, structural steel or metal siding/roofing) that have no salvage value may be reduced in size and dropped down the shafts and free-fall to the bottom, taking into consideration the cage guides, ducts, and other structures remaining in place below the subcollar. The nominal distance between cage guides, the narrowest opening in the center of the shaft, is 6 feet in the manway shaft and 13 feet in the production.

Demolition debris other than concrete shall be cut, hauled, and stacked according to shape (e.g.; beams, sheet metal) in disposal cell of the waste pile as determined by RGR. Debris shall be reduced in size to fit into the likely transport vehicle, but in any case, not longer than 40 feet.

### *Concrete Debris*

The contractor shall remove the concrete in floor slabs of removed buildings, pond hydraulic control structures, ore bins next to the production shaft, aprons more than 20 feet beyond the shaft collars, and subgrade of mine car rails. Some concrete slabs and foundations (Table 4.2) will be broken into pieces not exceeding one-foot maximum dimension and left in place to be covered with soil.

## GENERAL QUALITY ASSURANCE AND QUALITY CONTROL

### Reviews

Not Applicable

### Inspection Reports

The contractor shall record in writing the amount of material removed in each truck-load trip ticket, as well as the total amount of material removed each working day. This record shall be subject to review and independent verification by RGR.

### Test Reports

Not Applicable

## FINAL ACCEPTANCE AND CONTRACT CLOSEOUT

### Substantial Completion

The work will be substantially complete when all site work and general quality assurance and quality control has been completed by the contractor and accepted by RGR.

### Close-Out Documentation

The contractor shall submit written documentation, in a form acceptable to RGR, that all units of work have been completed in accordance with this specification. This documentation shall include quantities of work performed in accordance with the line items in the contractor's bid schedule that have been approved in writing by RGR. The documentation shall also include the contractor's affirmation that all regulatory requirements and environmental standards applicable to the work have been met.

The documentation shall bear the signature of the contractor's officer with signatory authority.

**Final Payment**

Final payment shall be made after close-out documentation has been accepted and approved by RGR.

# C.3 SHAFT PLUGGING AND BACKFILL

## GENERAL TECHNICAL REQUIREMENTS

### Summary of Work

Rio Grande Resources Corporation (RGR) is owner and operator of the Mt. Taylor Uranium Mine located in Cibola County, New Mexico in Section 24, T13N, R8W, NMPM (Drawing Sheet CL00. The mine site is 1/2-mile northeast of the Village of San Mateo and is accessible from New Mexico State Route 605. At the time of this submittal, the mine is in active (operating) status but has initiated closeout activities due to the continued depressed uranium market. The mine extracted uranium ore from depths of over 3,000 feet below ground surface that connect to two 3300-foot-deep shafts from the mine surface. The water level in the shafts is approximately 820 feet below collar elevation.

The included work consists of construction of a plug in each shaft at subcollar level, backfilling to the collar and connected openings, and placement of concrete markers on the shaft caps.

- Mobilization and demobilization of contractor's equipment
- Preparation of the work area
- Placement of salvaged or new structural steel as the primary structural component of the shaft plugs
- Mixing and placement of light weight concrete, cementitious slurry, and cap concrete
- Site cleanup and removal of work debris

The work is represented in Appendix A Drawing Sheets: CL05 Shaft Closure - Manway Vent and CL06 Shaft Closure - Production Shaft

NOTE: THESE DRAWINGS SHOW THE CONCEPTUAL DESIGNS OF SHAFT CLOSURE. DETAILED DESIGN WILL BE COMPLETED BY A LICENSED STRUCTURAL ENGINEER AND MAY ALTER THE PLUG CONFIGURATIONS SHOWN HERE.

### Site Survey

The Contractor shall perform its own survey of the dimensions of the shaft collar, subcollar, and connected openings above subcollar level for the purposes of dimensional and volume measurements, assessment of hazards, and planning the work. This survey shall include an inventory of material in the shaft collars that can be dropped into the shafts and material that must be removed from the shafts for salvage (see Debris Removal section). The results of this site survey shall be submitted to the Project Manager for review and approval before the work begins.

## Site Restrictions

Access to the site is limited to ingress/ egress through the main gate. All Contractor personnel and visitors shall log in and out at the guardhouse. All personnel shall wear the required safety equipment as directed by the site Safety Officer while inside the mine perimeter fence.

The contractor's work area shall be enclosed with temporary fencing, selected and provided by the contractor, to restrict access to the shafts to authorized personnel only. The contractor shall prohibit entry to anyone not trained and authorized to enter the enclosed area or accompanied at all times by an authorized person.

## Work Performed by Others

Not applicable.

## Codes, Standards, and Regulatory Requirements

All work must be performed according to New Mexico State Mine Inspector and/ or MSHA requirements. The Contractor is responsible for identifying and complying with the relevant standards and requirements.

The contractor shall implement the applicable requirements for worker fall protection including, but not limited to, 29 CFR 1926:

- 1926.501, Duty to have fall protection
- 1926.502, Fall protection systems criteria and practices
- 1926.503, Training requirements (Fall Protection)
- 1926.760, Steel Erection (Fall protection)
- 1926.800, Underground construction
- 1926.1051, General requirements (Stairways and Ladders)

## Site Investigation Reports & Data

Not Applicable

## Health & Safety Practices

### *Health & Safety Practices*

Work area safety is the responsibility of the contractor. The contractor shall submit and implement a Safety Plan that satisfies federal, state, and RGR requirements for the type of work being performed.

For the work under this specification, at a minimum Level D PSE is required. In addition, safety measures required under the Codes, Standards, and Regulatory Requirements section and elsewhere in federal and state regulations shall be implemented.

All contractor personnel and others within the contractor' working area must be equipped with the required PSE and must comply with the requirements cited in the Codes, Standards, and Regulatory Requirements section.

The contractor shall have a qualified Safety Officer on site during working hours. The Safety Officer shall be responsible for enforcing all safety requirements and shall have the authority to remove anyone not complying with those requirements from the contractor's working area.

***Site Safety & Emergency Communication***

The contractor shall post emergency response phone numbers in the worker break area. The contractor shall maintain an active phone line at all times. Cell phone service is not reliable at the mine site.

***Radiological Materials***

Radiological contamination levels in the shafts do not exceed the NRC Regulatory Guide 1.86 criteria for unrestricted release and use. The shafts will not require decontamination prior to demolition. However, the contractor shall implement relevant portions of RGR's Radiation Safety Program Manual (RSPM) and corresponding procedures to provide for the radiation safety of workers, the public and environment. The RSPM and procedures topics include (but are not limited to) radiological work controls, development and use of non-routine procedures, access control and security, radiation monitoring surveys, radiation dose, and response to incidents and emergencies involving radioactive materials.

**Field Engineering and Survey**

The contractor shall perform surveys and measurements as required under the Site Survey section to verify dimensions of workspaces and construction materials described in this specification, the Appendix A reference drawings, and the 1974 Dravo design drawings, which will be available to the contractor for planning the work.

**General Submittals**

Prior to commencing the work, the contractor shall submit, in a format acceptable to RGR, the following:

- Site Safety Plan – including name and qualifications of Safety Officer
- Shaft Plug and Backfill Construction Plan – Method of construction shall be described, including methods and equipment to be used, names and qualifications of key personnel, and schedule.

## Construction Facilities and Field Office

### *Site Access, Field Office, Storage, and Maintenance*

RGR will provide space for the contractor's field office, laydown areas, sanitary facilities, and equipment maintenance. Existing buildings, if any, will not be available for contractor use. If needed, electrical power must be arranged by the contractor with Continental Divide Electrical Coop.

Water, both potable and non-potable, is available on site. The contractor must make arrangements with RGR for pumping, storing, and discharge of water needed by the contractor.

### *Protection of Existing Facilities*

The contractor shall not use, damage, or block access to site buildings and other facilities that are in use at the time of the contractor's work or that are to remain intact for post-mining land use. Any damage or loss of use shall be repaired or compensated at the contractor's cost.

### *Temporary Environmental Controls*

The contractor shall be responsible for emplacing, utilizing, and removing those measures necessary to contain contaminants, surface water and fugitive dust releases generated by the contractor's work. Such measures may include, but are not limited to:

- Fuels, solvents and lubricants storage
- Surface water diversions and erosion control materials
- Dust suppression chemicals containers
- Sanitary wastes containments
- Trash containers
- Fire suppression equipment

## SITE CONSTRUCTION

### Site Preparation

The contractor shall prepare its office, equipment, and laydown areas as approved by RGR so as not to obstruct or interfere with RGR site operations or other contractors' operations. The contractor shall stage and operate its equipment to allow setback distances from the shaft collars that are appropriate for the selected equipment size, weight, and operating radius. The contractor shall prepare its working area and equipment locations to minimize traffic or materials next to the shaft collars.

## Shaft Plug Construction

The following information represents the construction of conceptual plug designs. The actual design and the construction to implement that design provided by a licensed Structural Engineer may be different for this conceptual design and shall supersede or modify this design concept.

Both the 24 ft. diameter production shaft and the 14 ft. diameter manway/ ventilation shaft will be closed in the same way, illustrated in the Appendix A Drawing Sheets CL05 and CL06, in the following sequence after the headframes and collar structures are removed (by others) and the subcollar space has been freed of obstacles per the Site Preparation section.

If allowed by the design engineer, selected structural steel I-beams and scrap metal plate, salvaged from headframe and other demolition, shall be welded at ground surface in sections consisting of two or more beams with scrap plate. The plate of each section shall be shaped to fit flush with, or overlap, the plate of the next adjacent section. Each section shall be of a size that can be lowered into the shaft. Each section shall be lowered from ground surface to the subcollar and set onto the shaft subcollar to form the first layer of the support platform for the shaft plug and backfill. A second layer of I-beams shall be placed on top of, and perpendicular to, the lower layer to form an orthogonal support system for the shaft plug and backfill.

A plug of light-weight concrete meeting the requirements of ASTM C 330 shall be poured to encapsulate the platform steel. The concrete shall have an in-place density of 90-115 pcf and a minimum compressive strength of 2500 psi. The concrete shall be placed in not more than three lifts. The first lift shall fully encapsulate and cover the steel beams and shall be vibrated until the concrete level reaches the top of the second layer of I-beams. Successive lifts shall be not more than 1.0 feet thick.

The shaft plug concrete shall be allowed to cure for not less than 28 days before the shaft backfill is placed.

## Shaft Backfill

The remainder of the shaft, as well as connecting tunnels and raises, shall be backfilled with a cementitious slurry of soil, Portland cement, fly ash, and water. The contractor shall determine proportions of these components using test batches of the available materials, for acceptance by RGR before placement. The selected mix shall have a cured compressive strength of not less than 75 pcf.

Sandy waste rock material from the waste pile may be substituted for the soil fraction of the mix.

## Shaft Cap and Marker

The remaining space at the top of the shaft backfill, from top of slurried backfill to adjacent ground surface, shall be capped with not less than 1.0 feet of light-weight concrete, with a monument marker extending above ground surface. The marker monuments shall be pre-cast 2500-psi

concrete, at least two feet high and four feet wide and long, with a hand finished top surface. Both shaft markers shall be inscribed with “Mt. Taylor Mine (name) Shaft, Closed (date)”.

## GENERAL QUALITY ASSURANCE AND QUALITY CONTROL

### Reviews

Not Applicable

### Daily Reports

The contractor shall prepare a written daily report of each working day. This report shall include a record of the dimensions of the shaft plug components, the volumes of materials used, and any deviations from the drawings or this specification necessitated by conditions encountered. This record shall be subject to review and independent verification by RGR.

### Test Reports

At least one test cylinder shall be cast for each lift of light-weight concrete poured. The contractor shall have each cylinder tested for density (unit weight) and unconfined compressive strength. Records of test cylinder tests shall be submitted to RGR.

## FINAL ACCEPTANCE AND CONTRACT CLOSEOUT

### Substantial Completion

The work will be substantially complete when all work required under the Site Construction and General Quality Assurance and Quality Control sections have been completed by the contractor and accepted by RGR.

### Close-Out Documentation

The contractor shall submit written documentation, in a form acceptable to RGR, that all units of work have been completed in accordance with this specification. This documentation shall include quantities of work performed in accordance with the line items in the contractor’s bid schedule that have been approved in writing by RGR. The documentation shall also include the contractor’s affirmation that all regulatory requirements and environmental standards applicable to the work have been met.

The documentation shall bear the signature of the contractor’s office with signatory authority.

### Final Payment

Final payment shall be made after close-out documentation has been accepted and approved by RGR.

# C.4 EARTHWORK

## GENERAL TECHNICAL REQUIREMENTS

### Summary of Work

Rio Grande Resources Corporation (RGR) is owner and operator of the Mt. Taylor Uranium Mine located in Cibola County, New Mexico in Section 24, T13N, R8W,. The mine site is 1/2-mile northeast of the Village of San Mateo and is accessible from New Mexico State Route 605. At the time of this submittal, the mine is on active (operating) status, but RGR has initiated closeout activities due to the depressed uranium market. The mine extracted uranium ore from depths of over 3,000 feet below ground surface that connect to two 3300-foot-deep shafts from the mine surface. The mine surface facilities are located on 285.6 acres, of which approximately 148 acres are disturbed land, and the remaining acres are undisturbed.

The disturbed land consists of:

- Support (Service and Support) Facilities
- Mine Water Treatment Area
- Treated Water Discharge Pipeline - (most beyond the mine surface area)
- Ore Stockpile Pad
- Waste Pile / Disposal Cell
- Storm Water Retention Ponds (2)
- Access Road and other roads
- Borrow areas

The included work consists of excavation, hauling, placement, and compaction of soil and rippable rock within the mine permit area and nearby affected areas for the purposes removing contaminated soil, stabilizing slopes, and covering mine waste containment structures.

The required work includes:

- Mobilization and demobilization of contractor's equipment
- Preparation of the work area
- Excavation of soil contaminated with low levels of radium and uranium originating from the underground mine and mine water
- Disposal of contaminated soil in the existing mine disposal cell on the waste rock

pile, or in the shafts

- Expanding the disposal cell
- Reducing rock slopes
- Backfilling of the mine water treatment ponds
- Placement of clean soil cover over the waste rock pile and disposal cell
- Backfilling the mine water treatment ponds
- Finish grading of disturbed ground within the mine permit area and affected areas

The work is represented in the Appendix A Drawing Sheets, and or will be develop in future workplan and drawing sets per individual tasks.

CL07A Final Grading Plan - Mine Water Treatment Unit

CL07B Final Grading Plan – Service and Support Area

CL08 Details – Backfill in Pond areas

CL14 Final Drainage Plan

**Site Survey**

The Contractor shall perform its own survey or calculations to determine depths and volumes of excavated soil, field control for line and grade, and depths and volumes of soil placed. The results of this site survey shall be submitted to the Project Manager for review and approval of work performed and for verification of payment quantities.

**Site Restrictions**

Access to the site is limited to ingress/ egress through the main gate. All Contractor personnel and visitors shall log in and out at the guardhouse. All personnel shall wear the required safety equipment as directed by the site Safety Officer while inside the mine perimeter fence.

**Work Performed by Others**

Prior to the commencement of this work, the shaft headframes, hydraulic control structures, selected buildings will be removedothers.

**Codes, Standards, and Regulatory Requirements**

All work must be performed according to OSHA and/or MSHA requirements. The Contractor is responsible for identifying and complying with the relevant standards and requirements.

## Site Investigation Reports & Data

RGR has conducted site investigations to characterize the waste rock pile materials, soil contamination, and geotechnical properties of on-site soil. Reports of these studies and related data are included in Appendix D of the Mt. Taylor Mine Closeout/ Closure Plan.

## Health & Safety Practices

### *Health and Safety Plan*

Work area safety is the responsibility of the contractor. The contractor shall submit and implement a Site Safety Plan that satisfies federal, state, and RGR requirements for the type of work being performed.

For the work under this specification, Level D PSE is required. In addition, safety measures required under the Codes, Standards, and Regulatory Requirements section and elsewhere in federal and state regulations shall be implemented. All contractor personnel and others within the contractor' working area must be equipped with the required PSE and must comply with the requirements cited in the Codes, Standards, and Regulatory Requirements section.

The contractor shall have a qualified Safety Officer on site during working hours. The Safety Officer shall be responsible for enforcing all safety requirements and shall have the authority to remove from the contractor's working area anyone not complying with those requirements.

### *Site Safety & Emergency Communication*

The contractor shall post emergency response phone numbers in the worker break area. The contractor shall maintain an active phone line at all times. Cell phone service is not reliable at the mine site.

### *Radiological Materials*

Radiological contamination levels on the mine site do not exceed the NRC Regulatory Guide 1.86 criteria for unrestricted release and use. However, the contractor shall implement relevant portions of RGR's Radiation Safety Program Manual (RSPM) and corresponding procedures to provide for the radiation safety of workers, the public and environment. The RSPM and procedures topics include (but are not limited to) radiological work controls, development and use of non- routine procedures, access control and security, radiation monitoring surveys, radiation dose, and response to incidents and emergencies involving radioactive materials. RGR's Radiation Safety Officer and Mine Manager will provide the necessary training and oversight, but the contractor shall ensure worker compliance with the RSPM.

## Field Engineering and Surveying

The contractor shall perform surveys and measurements as required under the Site Survey section to verify dimensions, lines and grades, and construction materials described in this specification and the Appendix A referenced drawings.

## General Submittals

Prior to commencing the work, the contractor shall submit, in a format acceptable to RGR, the following:

- Site Safety Plan – including name and qualifications of Safety Officer
- Contaminated Soil Excavation Plan – Methods for excavating, hauling, and placing contaminated soil shall be described including measures to be taken to control spillage and fugitive dust release during handling. The plan shall also describe equipment to be used, names and qualifications of key personnel, and schedule.
- Soil Cover and Grading Plan – Method of construction for excavation, hauling, placing and compacting clean fill soil shall be described, including equipment to be used, names and qualifications of key personnel, and schedule. The plan shall also include fugitive dust control and finish line and grade control.
- Stormwater Pollution Prevention Plan (SWPPP) that is compliant with the minimum requirements of EPA's 2012 Construction General Permit under the NPDES.

## Construction Facilities and Field Office

### *Site Access, Field Office, Storage and Maintenance*

RGR will provide space for the contractor's field office, laydown areas, sanitary facilities, and equipment maintenance. Existing buildings, if any, will not be available for contractor use. If needed, electrical power must be arranged by the contractor with Continental Divide Electrical Coop.

Water, both potable and non-potable, is available on site. The contractor must make arrangements with RGR for pumping, storing, and discharge of water needed by the contractor.

### *Protection of Existing Facilities*

The contractor shall not use, damage, or block access to site buildings and other facilities that are in use at the time of the contractor's work or that are to remain intact for post-mining land use (Appendix A Drawing MT13-CL-04). Any damage or loss of use shall be repaired or compensated at the contractor's cost.

### *Temporary Environmental Controls*

The contractor shall be responsible for emplacing, utilizing, and removing those measures necessary to contain contaminants, surface water and fugitive dust releases generated by the contractor's work. Such measures may include, but are not limited to:

- Spraying of clean water for dust suppression
- Storage of fuels, solvents and lubricants
- Surface water diversions and erosion control materials
- Sanitary wastes containments
- Trash containers
- Fire suppression equipment

Wildlife, including large game animals, frequently enters the site. The contractor's workers shall do nothing to attract, injure, or otherwise interfere with wildlife. No firearms may be brought on the mine site.

## SITE CONSTRUCTION

### Site Preparation

The contractor shall prepare its office, equipment, and laydown areas as approved by RGR so as not to obstruct or interfere with RGR site operations or other contractors' operations.

### Removal of MWTU Facilities Pond Liner Anchor

The contractor shall remove the HDPE liner system in mine water treatment pond (MWTU) and the remaining hydraulic control structures in MWTU ponds 1-8 and ore pad runoff retention pond. The Pond #2 liner materials and the debris from the hydraulic control structures shall be removed and placed in the disposal cell as directed by RGR.

### Excavation and Disposal of Contaminated Soil

The contractor shall submit a Contaminated Soil Excavation Plan for excavating, hauling, and disposal of soil containing more than 6.8 pCi/g of Radium 226. RGR will provide field direction for the contractor in determining the lateral extent and depth of excavation required.

The contaminated soil excavated north of the CR 334 shall be disposed of in the disposal cell on the waste rock pile, as directed by RGR. Contaminated soil excavated within the CR 334 right-of-way and on the mine site south of the CR 334 right-of-way shall be placed in the disposal cell, as well.

The waste pile and some old fill (placed during mine development) contain scrap metal, rock bolts, abandoned pipe and cable, and other debris from mining. The contractor can encounter these materials buried within the waste rock and other locations within the mine area. If such debris is uncovered during reshaping, it shall be removed and reburied in the disposal cell.

RGR will provide radiological screening support to guide the contractor in assessment of soil radium content and determination of areas and depths of excavation for soil removal and for relocation to the disposal cell.

**Construction of Soil Cover**

The contractor shall submit for RGR approval a Soil Cover and Grading Plan that describes the methods for excavation, hauling, placing and compacting clean fill soil and finish grading over the mine site. The plan shall include equipment to be used, names and qualifications of key personnel, and schedule. The plan shall also include fugitive dust control and methods to verify finish line and grade control.

**Finish Grading**

All disturbed soil surfaces and constructed cover surfaces shall be finish-graded to achieve the lines and grades shown on Appendix A Drawing Sheets CL07A, CL07B, CL08, and CL14. The elevation contours shown on these drawings are representational; final elevations will depend on actual quantities of contaminated soil and clean cover soil excavated and placed.

The finish-graded surface shall conform to the direction (line) and angle of slope (grade) shown on the drawings. Verification of line and grade shall be made by land surveys directed by a New Mexico License Professional Surveyor.

The finish-graded surfaces shall be free of demolition debris and depressions, ridges, rills, and other irregularities more than three inches in amplitude caused by either mining-related activities or closeout activities. On surfaces where rock will be placed for erosion protection (riprap), final grading need not achieve this standard but shall remove all irregularities of amplitude greater than the design thickness of the rock to be placed on such surfaces.

The surfaces of the disturbed areas and covers shall be bladed to provide a) smooth transitions to surrounding soil surfaces, b) gradual transitions in slope gradients, and c) unimpeded drainage of runoff (no depressions deeper than the amplitude of the surface roughness of the soil cover). On the final pass of surface grading, the grading equipment shall run along the contour of the slope, unless slope gradients are prohibitively steep, and shall blend the re-contoured surfaces into adjacent undisturbed areas.

## Erosion Control

### *General Site Drainage*

The primary means of controlling erosion by runoff will be grading per the Finish Grading section. Control of surface water runoff onto or from reclaimed areas will be accomplished as part of the re-contouring and final grading. Existing natural drainage courses will be preserved and improved as necessary to remove obstacles and trapped debris. In general, runoff will be directed to natural drainage courses and will follow natural surface gradients so that no control structures or energy dissipaters will be required. New drainage courses and swales will be not less than 10 feet wide at channel bed, not less than two feet deep, with side slopes not steeper than 4H: 1V unless obstructed by natural durable rock. Diversion channels will be required only where actual cover or final slope gradients produce concentrated runoff and/or slope erosion.

## GENERAL QUALITY ASSURANCE AND QUALITY CONTROL

### Reviews

RGR shall meet with the contractor at the start of work each day to review the previous day's Daily Report and any deliverable from the contractor.

### Daily Reports

The contractor shall prepare a written daily report of each working day. This report shall include a record of the units and quantities of work performed, events or conditions adversely affecting the work, and any deviations from the drawings or this specification necessitated by conditions encountered. This record shall be subject to review and independent verification by RGR.

### Test Reports

The contractor shall measure, record and report in writing the quantities of each size of concrete and rock crushed and screened.

The contractor shall report on the measured volumes, locations and thicknesses of soil, rock, and erosion control materials placed each day.

## FINAL ACCEPTANCE AND CONTRACT CLOSEOUT

### Substantial Completion

The work will be substantially complete when all work required under the Site Construction and General Quality Assurance and Quality Control sections have been completed by the contractor and accepted by RGR.

**Close-Out Documentation**

The contractor shall submit written documentation, in a form acceptable to RGR, that all units of work have been completed in accordance with this specification. This documentation shall include quantities of work performed in accordance with the line items in the contractor's bid schedule that have been approved in writing by RGR. The documentation shall also include the contractor's affirmation that all regulatory requirements and environmental standards applicable to the work have been met.

The documentation shall bear the signature of the contractor's officer with signatory authority.

**Final Payment**

Final payment shall be made after close-out documentation has been accepted and approved by RGR.

# APPENDIX D

## Soil Sampling and Laboratory Test Data

D.1 2012 Soil Investigations

- Kleinfelder Laboratory Results
- Shaft Muck Criteria

D.2 Radiological Investigations

- Soil Investigation, June 6, 2012
- Radiological Survey Results for Discharge Pipeline and Soils Along Pipeline Corridor, July 6, 2020
- Gamma Radiation Survey Clean Borrow Pile, April 25, 2016
- Soil Analysis Results, April 30, 2018
- Gamma Radiation Survey Waste Pile North/East Delineation, April 25, 2016
- Surface and Subsurface Soil Radiologic Characterization Windblown Area, Ore Pad Area and Mine Compound, August 14, 2023
- Addendum August 14, 2023, Surface and Subsurface Soil Radiologic Characterization Report Windblown Area, Ore Pad Area and Mine Compound
- Treatment Pond Radiologic Characterization, June 4, 2024
- North Controlled Area Soil Radiologic Characterization, June 5, 2025

D.3 Laboratory Test Results

- Soil Physical Properties Analytical Results, April 2012
- Soil Chemical Analytical Results, April 2012
- Sediment Analytical Results, April 2012
- Ore Chemical Analysis, March 18, 1986

D.4 Original Closeout Plan Soil Data

See these reports for sampling and test data generated from 2014 to 2022:

- Construction Quality Assurance Report (CQAR), Phase 1 Completion, Mt. Taylor Mine Reactivation, February 2021
- Construction Quality Control Data Report Mine Water Treatment Pond #2, Mt. Taylor Mine, July 2020
- Construction Quality Control Data Report, Disposal Cell Liner, Mt. Taylor Mine, February 2020
- Construction Quality Control Data Report Mine Water Treatment Pond #3, Mt. Taylor Mine, February 2020
- Soil and Water Sampling and Testing, Water and Sediment Impoundment Locations Downstream of Mt. Taylor Mine Water Outfall 001, January 2015
- Vegetation Growth Report, Mt. Taylor, 2019
- Construction Quality Control Data Report, South Storm Water Pond, Mt. Taylor Mine, June 2019
- Radon Flux Measurements Report, Waste Repository Cover at Mt. Taylor Mine, May 2019

# APPENDIX D.1

## Field Sampling and Laboratory Test Data

2012 Soil Investigations

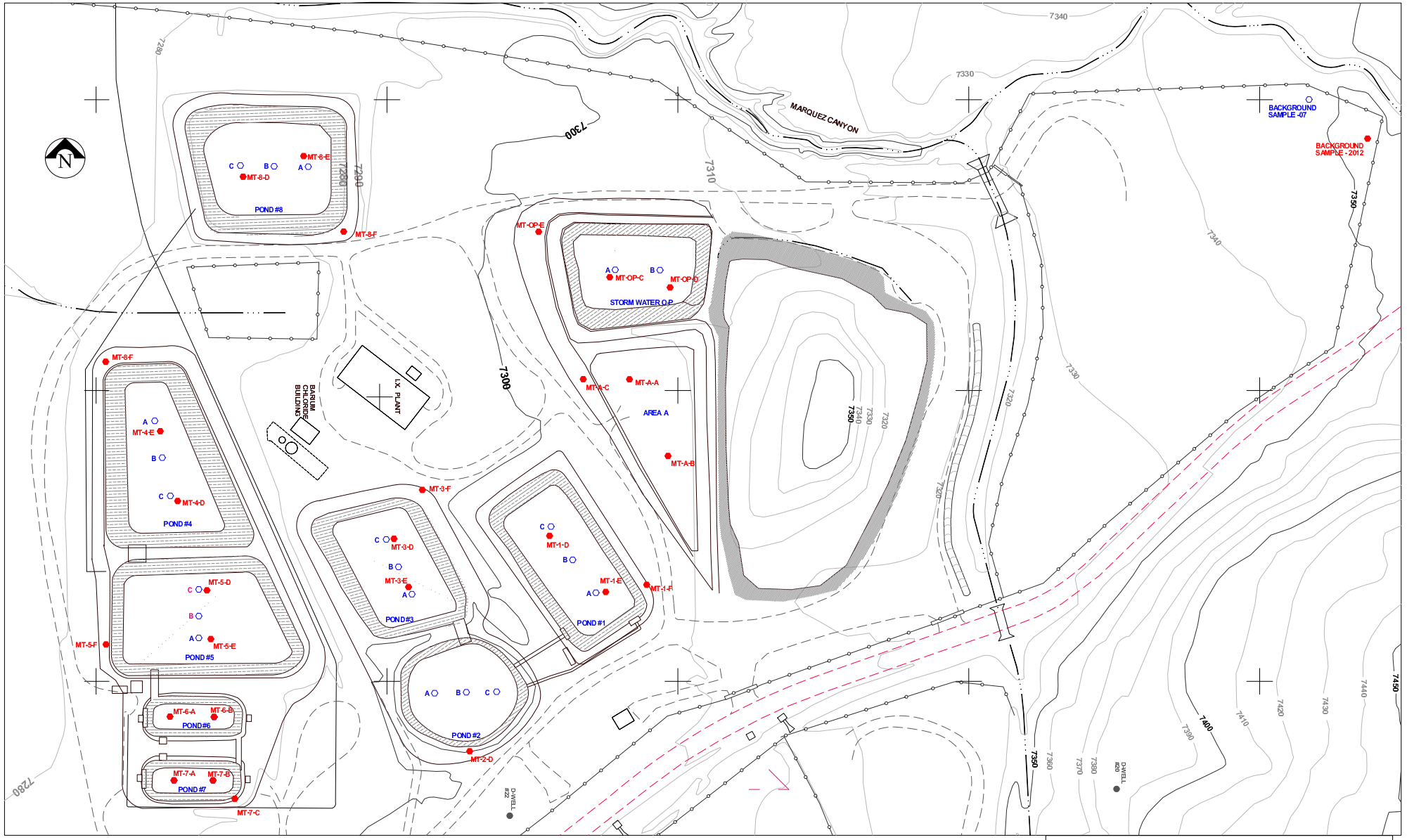



FIGURE 1

PROPOSED SAMPLE LOCATIONS
MARCH 29, 2012 - TASK 7A

RIO GRANDE RESOURCES CORPORATION

File #

**Mt Taylor Mine - Borrow Test Pit Log** **Pit #** **MT-1-F**

| | | |
|---|---|---|
| Location Pond # 1 Berm | GPS N 35-20.578' | W 107-38.001' |
| Location Description | Top edges of Ponds – South East Side of Pond # 1 | |
| Field Engineer: Stan Fitch / Ed Loescher | | Excavation Method: Small Bobcat Backhoe |
| Date: April - 10-2012 10:30 am | | Operator: |

Weather and Moisture Conditions: Warm – Sunny – 60 to 70d

| | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | MT - 1- F Depth 6" | Silty Clay, mixed with some coarse sand, trace gravel, dark brown |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 12" DEEP

Comments:

Part of the sample for sent for Geotechnical testing - Part for Environmental Testing.

Checked: Date:

Approved: Date:

RIO GRANDE RESOURCES CORPORATION

File #

**Mt Taylor Mine - Borrow Test Pit Log** | **Pit #** | **MT-2-D**

| | | | |
|---|---|---|---|
| Location | Pond #2 berm | GPS N 35-20.541' | W 107-38.057' |
| Location Description | Top edges of Ponds – South Side of Pond # 2 | | |
| Field Engineer: | Stan Fitch / Ed Loescher | Excavation Method: | Small Bobcat Backhoe |
| Date: | April - 10-2012 10:15 am | Operator: | |
| Weather and Moisture Conditions: | Warm – Sunny – 60 to 70d | | |

| | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | MT - 2- D Depth 6" | Clayey Silt, some sand, trace roots, medium brown |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 12" DEEP

Comments:

Part of the sample for sent for Geotechnical testing - Part for Environmental Testing.

Checked: Date:

Approved: Date:

RIO GRANDE RESOURCES CORPORATION

File #

**Mt Taylor Mine - Borrow Test Pit Log** | **Pit #** | **MT-3-F**

| | | |
|---|---|---|
| Location Pond # 3 Berm | GPS N 35-20.632' | W 107-38.089' |
| Location Description | Top edges of Ponds – North East Corner of Pond # 3 | |
| Field Engineer: Stan Fitch / Ed Loescher | | Excavation Method: Small Bobcat Backhoe |
| Date: April - 10-2012 11:10 am | | Operator: |
| Weather and Moisture Conditions: Warm – Sunny – 60 to 70d | | |

| | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | MT -3-F Depth 6" | Silty Clay, some sand, trace gravel, dark brown |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 12" DEEP

Comments:

Part of the sample for sent for Geotechnical testing - Part for Environmental Testing.

Checked: Date:

Approved: Date:

RIO GRANDE RESOURCES CORPORATION

File #

**Mt Taylor Mine - Borrow Test Pit Log** | **Pit #** | **MT-4-F**

| | | | |
|---|---|---|---|
| Location | Pond #4 berm | GPS N 35-20.661' | W 107-38.220' |
| Location Description | Top edges of Ponds – North West Corner of Pond # 4 | | |
| Field Engineer: | Stan Fitch / Ed Loescher | Excavation Method: | Small Bobcat Backhoe |
| Date: | April - 10-2012 9:35 am | Operator: | |
| Weather and Moisture Conditions: | Warm – Sunny – 60 to 70d | | |

| . | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | MT -4-F Depth 6" | Sandy Clay, trace roots, dark brown |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 12" DEEP

Comments:

Part of the sample for sent for Geotechnical testing - Part for Environmental Testing.

Checked: Date:

Approved: Date:

RIO GRANDE RESOURCES CORPORATION

File #

**Mt Taylor Mine - Borrow Test Pit Log** | **Pit #** | **MT-5-F**

Location Pond #5 Berm | GPS N 35-20.576' | W 107-38.217'

Location Description: Top edges of Ponds – South West Corner of Pond # 5

Field Engineer: Stan Fitch / Ed Loescher | Excavation Method: Small Bobcat Backhoe

Date: April - 10-2012 9:45 am | Operator:

Weather and Moisture Conditions: Warm – Sunny – 60 to 70d

| | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | MT -5-F Depth 6" | Clayey Silt, some sand, trace roots, medium brown |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 12" DEEP

Comments:

Part of the sample for sent for Geotechnical testing - Part for Environmental Testing.

Checked: Date:

Approved: Date:

RIO GRANDE RESOURCES CORPORATION

File #

**Mt Taylor Mine - Borrow Test Pit Log** | **Pit #** | **MT-7-C**

| | | | |
|---|---|---|---|
| Location | Pond #7 Berm | GPS N 35-20.526' | W 107-38.148' |
| Location Description | Top edges of Ponds – South East Corner of Pond # 7 | | |
| Field Engineer: | Stan Fitch / Ed Loescher | Excavation Method: | Small Bobcat Backhoe |
| Date: | April - 10-2012 9:55 am | Operator: | |
| Weather and Moisture Conditions: | Warm – Sunny – 60 to 70d | | |

| | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | MT -7-C Depth 6" | Clayey Silt, some sand, trace roots, light brown |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 12" DEEP

Comments:

Part of the sample for sent for Geotechnical testing - Part for Environmental Testing.

Checked: Date:

Approved: Date:

RIO GRANDE RESOURCES CORPORATION

File #

**Mt Taylor Mine - Borrow Test Pit Log** | **Pit #** | **MT-8-F**

| | | |
|---|---|---|
| Location Pond #8 Berm | GPS N 35-20.693' | W 107-38.108' |
| Location Description | Top edges of Ponds – South West Corner of Pond # 8 | |
| Field Engineer: Stan Fitch / Ed Loescher | | Excavation Method: Small Bobcat Backhoe |
| Date: April - 10-2012 9:50 am | | Operator: |
| Weather and Moisture Conditions: Warm – Sunny – 60 to 70d | | |

| | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | MT -8-F Depth 6" | Clayey Silt, some sand, trace gravel, brown |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 12" DEEP

Comments:

Part of the sample for sent for Geotechnical testing - Part for Environmental Testing.

Checked: Date:

Approved: Date:

RIO GRANDE RESOURCES CORPORATION

File #

**Mt Taylor Mine - Borrow Test Pit Log** | **Pit #** | **MT-Borrow**

| | | | |
|---|---|---|---|
| Location | Background borrow area | GPS N 35-20.724' | W 107-38.759' |
| Location Description | NE Corner of the Property in the main proposed borrow area. | | |
| Field Engineer: | Stan Fitch / Ed Loescher | Excavation Method: | Small Bobcat Backhoe |
| Date: | April - 10-2012 8:50 am | Operator: | |

Weather and Moisture Conditions: Warm – Sunny – 60 to 70d

| | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | | (0-24") Clayey Silt, some sand, trace roots gravel, brown |
| 1 | | | |
| 2 | | MT -borrow Composite Sample 24"-66" | (24"- 66") Silty Sand with Clay, trace gravel, occasional gray sand seams, brown. |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | | | (66" – 72") Clayey Sand, with silt, trace roots and gravel, brown. |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 72" DEEP

Comments:

Part of the sample for sent for Geotechnical testing - Part for Environmental Testing.

Checked: Date:

Approved: Date:

RIO GRANDE RESOURCES CORPORATION

File #

**Mt Taylor Mine - Borrow Test Pit Log** | **Pit #** | **MT-A-C**

Location Pond # Area "A" | GPS N 35-20.650' | W 107-38.046'

Location Description: Top edges of Ponds – North West Corner of Area A

Field Engineer: Stan Fitch / Ed Loescher | Excavation Method: Small Bobcat Backhoe

Date: April - 10-2012 10:55 am | Operator:

Weather and Moisture Conditions: Warm – Sunny – 60 to 70d

| | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | MT -A-C Depth 6" | Silty Sand, some clay, trace gravel, light brown |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 12" DEEP

Comments:

Sample submitted for Environmental Testing.

Checked: Date:

Approved: Date:

RIO GRANDE RESOURCES CORPORATION

File #

**Mt Taylor Mine - Borrow Test Pit Log** | **Pit #** | **MT-OP-E**

Location: Pond # OP (Ore Pile Pond) | GPS N 35-20.694' | W 107-38.062'

Location Description: Top edges of Ponds – North West Corner of Pond # OP

Field Engineer: Stan Fitch / Ed Loescher | Excavation Method: Small Bobcat Backhoe

Date: April - 10-2012 9:10 am | Operator:

Weather and Moisture Conditions: Warm – Sunny – 60 to 70d

| | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | MT -OP-E Depth 6" | Sandy Clay, trace gravel, medium brown |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 12" DEEP

Comments:

Part of the sample for sent for Geotechnical testing - Part for Environmental Testing.

Checked: Date:

Approved: Date:

RIO GRANDE RESOURCES CORPORATION

File #

## Mt Taylor Mine Water Treatment Pond Test Pit Log

Pit # 1

| | | | |
|---|---|---|---|
| Location | Pond 1 | (GPS) N 35°20.579' | W 107°38.023' |
| Location Description | MT-1-E | | |
| Field Engineer: | B. Everett | Excavation Method: | Backhoe/Shovel |
| Date: | 4/10/2012 | Operator: | K. Strickland |
| Weather and Moisture Conditions: | clear, sunny, warm; cool and windy in afternoon | | |

| Depth | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | S1-01-01 | 0-6": Sediment, silty to sandy clay, slightly moist<br>Sample collected at 0-4" bgs at 10:45 |
| 1 | | S1-01-02 | 6"-26": Clay sediments, trace gravel and cobles, some silt lenses, dark gray, dense, moist<br>Sample collected at 16-18" bgs at 10:50 |
| 2 | | S1-01-03 | 26-67": Sandy clay, hard, moist, brown<br>Sample collected at 44-48" bgs at 11:00 |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | TD = 67" bgs |
| 7 | | | |
| 8 | | | |

Total Depth: 67" bgs

Comments: Pond sediments 0-6"
Clay 6-26" bgs
Native soil 26-67" bgs

Checked: Date:

Approved: Everett Date: 5/7/2012

RIO GRANDE RESOURCES CORPORATION

File #

## Mt Taylor Mine Water Treatment Pond Test Pit Log

Pit # 2

| | | | |
|---|---|---|---|
| Location | MT-1-D | (GPS) N | W |
| Location Description | Distal to inlet | | |
| Field Engineer: | B. Everett | Excavation Method: | Backhoe/Shovel |
| Date: | 4/10/2012 | Operator: | K. Strickland |
| Weather and Moisture Conditions: | clear, sunny, warm; cool and windy in afternoon | | |

| Depth | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | SL-02-01 | 0-10": Pond sediment, silty sand, friable, mottled brown and gray, moist<br>Sample collected at 0-4" bgs at 11:40 |
| 1 | | | 10"-30": Silty sand, some clay, friable, yellow-brown, moist |
| 2 | | SL-02-02 | Sample collected at 26-30" at 11:43 |
| 3 | | SL-02-03 | 30-48": Silty sand, some clay, friable, yellow-brown, slightly moist<br>Sample collected at 44-48" bgs at 11:45 |
| 4 | | | TD = 48" bgs |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 48" bgs

Comments: No visible clay or clay liner at this location.
Native material at 10-inches

Checked: Date:

Approved: Everett Date: 5/7/2012

RIO GRANDE RESOURCES CORPORATION

File #

## Mt Taylor Mine Water Treatment Pond Test Pit Log

**Pit #** 1

| | | | |
|---|---|---|---|
| Location | Pond 3 | (GPS) N 35°20.592' | W 107°38.02' |
| Location Description | MT-3-E | | |
| Field Engineer: | B. Everett | Excavation Method: | Backhoe/Shovel |
| Date: | 4/10/2012 | Operator: | K. Strickland |
| Weather and Moisture Conditions: | clear, sunny, warm; cool and windy in afternoon | | |

| Depth | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | | 0-4": Sediment and organic matter, clayey silt - siltiy sand, light gray, varved lenses of settling |
| | | S3-01-01 | 4"-20": Clay and bentonite, dark gray, with lenses of silt, pond liner material<br>Sample collected at 0-12" bgs |
| 1 | | | |
| | | S3-01-02 | 20"-22": Silt - clayey silt, dense, white, wet. Sample collected at 20-26" bgs at 08:50 |
| 2 | | | 22"-26": Clayey Silt, brown, wet at 25 ft bgs |
| | | S3-01-03 | 26"-64": Clay, hard, dense, brown, moist, trace gravel and some silt/sand lenses.<br>Sample collected at 26-36" bgs at 09:40 |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| | | S3-01-04 | 64"-75": Silty Sand, friable, yellow-brown, trace gravel<br>Sample collected at 64-75" bgs at 09:40 |
| 6 | | | TD - 75" bgs |
| | | | |
| 7 | | | |
| 8 | | | |

| | |
|---|---|
| Total Depth: | 75" bgs |
| Comments: | Pond sediments 0-4"<br>Clay 4-20" bgs<br>Clayey silt 20-26" bgs<br>Clay 26-64" bgs<br>Native material 64" bgs |
| Checked: | Date: |
| Approved: Everett | Date: 5/7/2012 |

RIO GRANDE RESOURCES CORPORATION

File #

## Mt Taylor Mine Water Treatment Pond Test Pit Log

Pit # 2

| | | | |
|---|---|---|---|
| Location | Pond 3 | (GPS) N 35°20.605' | W 107°38.106' |
| Location Description | MT-3-D | | |
| Field Engineer: | B. Everett | Excavation Method: | Backhoe/Shovel |
| Date: | 4/10/2012 | Operator: | K. Strickland |
| Weather and Moisture Conditions: | clear, sunny, warm; cool and windy in afternoon | | |

| Depth | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | S3-02-01 | 0-13": Sediment, silty to sandy clay, slightly moist<br>Sample collected at 0-12" bgs at 10:05 |
| 1 | | | 13"-19": Clay sediments, varved white and dark gray, dense, moist |
| | | | 19"-37": Clay, dense brown, moist |
| 2 | | S3-02-02 | Sample collected at 26-30" bgs at 10:30 |
| 3 | | | 37"-54": Silty sand, friable, yellow-brown, moist, native soil |
| 4 | | S3-02-03 | Sample collected at 50-54" bgs at 10:30<br>TD = 54" bgs |
| | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 54" bgs

Comments: Pond sediments 0-19"
Clay 19-37" bgs
Native soil 37-54" bgs

Checked: Date:

Approved: Everett Date: 5/7/2012

RIO GRANDE RESOURCES CORPORATION

File #

**Mt Taylor Mine Water Treatment Pond Test Pit Log** **Pit #** **MT-4-D**

Location Pond #4 bottom | GPS N 35-20.644' | W 107-38.178'

Location Description Bottom of Pond – North End

Field Engineer: Ed Loescher | Excavation Method: Small Bobcat Backhoe

Date: April - 10-2012 2:00 pm | Operator:

Weather and Moisture Conditions: Warm – Sunny – 70d

| | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0<br>12" | | MT -4-D-S1<br>Depth 6" | (0"-12") *Pond Sediment* - Sandy Clay with some silt– Dark Brown |
| 1 | | MT -4-D-S2<br>Depth 14" | (12"- 42") Soft –fine grained- Sandstone, highly fractured, white, easily excavated with bobcat. (*Natural Soil)* |
| 2 | | | |
| 3<br>42" | | | |
| 48" | | MT -4-D-S3<br>Depth 48" | (42"- 48") Sandy Silt Brown – trace gravel *(Natural Soil)* |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 48" DEEP

Comments:

Checked: Date:

Approved: Date:

RIO GRANDE RESOURCES CORPORATION

File #

**Mt Taylor Mine Water Treatment Pond Test Pit Log** **Pit #** **MT-4-E**

Location Pond # 4 Bottom | GPS N 35-20.522' | W 107-38.170'

Location Description Bottom of Pond – South End

Field Engineer: Ed Loescher | Excavation Method: Small Bobcat Backhoe

Date: April - 10-2012 1:35 pm | Operator:

Weather and Moisture Conditions: Warm – Sunny – 60d to 70d

| | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0<br>6" | | MT-4-E-S1<br>Depth 4" | (0"-6") *Pond Sediment* - Silty Sand, with some silt lenses – the sand was white/tan and the silt lenses were dark Brown. |
| 1<br>20" | | MT -4-E-S2<br>Depth 10-12" | (6"- 20") Silty Clay, dark brown, moist, hard (*Natural Soil or Possible liner)* |
| 2<br>3<br>48" | | MT -4-E-S3<br>Depth 36" | (20"-48") Sandy Clay, some silt, trace gravel, brown, *(Natural Soil)* |
| 4<br>50" | | MT-4-E-S4<br>Depth 48" -50" | (48"- 50") Clayey Sand, trace gravel, brown *(Natural Soil)* |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 50" DEEP

Comments:

Possible clay liner from 6 to 20" depth

Checked: Date:

Approved: Date:

RIO GRANDE RESOURCES CORPORATION

File #

## Mt Taylor Mine Water Treatment Pond Test Pit Log

Pit # 1

| | | | |
|---|---|---|---|
| Location | Pond 5 | (GPS) N 35°20.580' | W 107°38.150' |
| Location Description | MT-5-E | | |
| Field Engineer: | B. Everett | Excavation Method: | Backhoe/Shovel |
| Date: | 4/10/2012 | Operator: | K. Strickland |
| Weather and Moisture Conditions: | clear, sunny, warm; cool and windy in afternoon | | |

| Depth | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | S5-01-01 | 0-22": Clayey silt with sand, friable, brown, moist<br>Sample collected at 0-12" bgs at 14:05 |
| 1 | | | |
| 2 | | | 22"-37": Silty sand, trace clay, friable, dry |
| 3 | | S5-01-02 | Sample collected at 36-37" bgs at 14:09 |
| | | | TD = 37" bgs |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 37" bgs

Comments:
No clay layer noted
Clayey silt with sand 0-22" bgs
Native soil at 22" bgs
Silty sand with trace clay 22-37" bgs

| | | | |
|---|---|---|---|
| Checked: | | Date: | |
| Approved: | Everett | Date: | 5/7/2012 |

RIO GRANDE RESOURCES CORPORATION

File #

## Mt Taylor Mine Water Treatment Pond Test Pit Log

Pit # 2

| | | | |
|---|---|---|---|
| Location | Pond 5 | (GPS) N 35°20.595' | W 107°38.189' |
| Location Description | MT-5-D | | |
| Field Engineer: | B. Everett | Excavation Method: | Backhoe/Shovel |
| Date: | 4/10/2012 | Operator: | K. Strickland |

Weather and Moisture Conditions: clear, sunny, warm; cool and windy in afternoon

| Depth | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | S5-02-01 | 0-10": Silty sand, slightly clayey, brown, mottled with white dense BaCl, friable, slightly damp<br>Sample collected at 0-12" bgs at 14:30 |
| 1 | | | 10"-17": Clay with white precipate BaCl, varved sediments from settling, dark brown gray and white, dense, some silt |
| | | S5-02-02 | 17"-24": Silty sand, friable, yellow brown, slightly moist<br>Sample collected 17-24" bgs at 14:15 |
| 2 | | | 24"- 44": Silty sand, friable yellow brown, slightly damp, trace gravel and cobbles |
| 3 | | S5-02-03 | Sample collected at 40-44" bgs at 14:20 |
| | | | TD = 45" bgs |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 45" bgs

Comments: No liner in this pond. Various construction debris on surface. Moist to 24" bgs, slightly damp below.
Pond sediments 0-17" bgs
Native soil 17-44" bgs

Checked: Date:

Approved: Everett Date: 5/7/2012

RIO GRANDE RESOURCES CORPORATION

File #

**Mt Taylor Mine Water Treatment Pond Test Pit Log** **Pit #** **MT-6-A**

| | | | |
|---|---|---|---|
| Location Pond # 6 Bottom | GPS N 35-20.557' | W 107-38.157' | |
| Location Description | Bottom of Pond – East end | | |
| Field Engineer: Ed Loescher | | Excavation Method: Small Bobcat Backhoe | |
| Date: April - 10-2012 3:00 pm | | Operator: | |

Weather and Moisture Conditions: Warm – Sunny – 60d to 70d

| | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | MT -6-A-S1 Depth 0-5" | (0"-12") *Pond Sediment* - Sandy Silt, light gray (sand from erosion of pond side-banks) |
| 12" | | | |
| 1 | | MT -4-D-S2 Depth 12-20 | (12"- 20") Silty Clay, dark gray and reddish brown silt seams, moist (Pond sediment) |
| 20" | | | (Hypalon geomembrane liner at 20" depth) |
| 2 | | | (20"-40") River Rocks, rounded, 3"dia to 6"dia. |
| 3 | | | (Hypalon geomembrane liner at 40" depth) |
| 40" | | | 40" - Hit hard rock surface. Appears to be a sandstone layer. |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 40" DEEP

Comments:

Hypalon and river-rock liner.

Checked: Date:

Approved: Date:

RIO GRANDE RESOURCES CORPORATION

File #

**Mt Taylor Mine Water Treatment Pond Test Pit Log** **Pit #** **MT-6-B**

Location Pond #6 Bottom | GPS N 35-20.560' | W 107-38.174'

Location Description Bottom of Pond West End

Field Engineer: Ed Loescher | Excavation Method: Small Bobcat Backhoe

Date: April - 10-2012 2:30 pm | Operator:

Weather and Moisture Conditions: Warm – Sunny –60d to 70d

| | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | MT -6-B-S1 depth 8"- 10" | (0"-16") *Pond Sediment* - Intermittent lenses of silt, sand and sandy Clay, light gray (sand from erosion of pond side banks) |
| 1 16" | | | (Hypalon geomembrane liner at 16" depth)<br>(16"- 28") River Rocks, rounded, 3"dia to 6"dia. |
| 2 28" | | | (Hypalon geomembrane liner at 28" depth) |
| 3 42" | | MT -6-B-S2 Depth 30" | (28"- 42") Sandy Silt Brown – trace gravel *(Natural Soil)*<br>42" - Hit hard rock surface. Appears to be a sandstone layer |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 42" DEEP

Comments:

Hypalon and river-rock liner.

Checked: Date:

Approved: Date:

RIO GRANDE RESOURCES CORPORATION

File #

## Mt Taylor Mine Water Treatment Pond Test Pit Log

Pit # 1

| | | | |
|---|---|---|---|
| Location | Pond 7 | (GPS) N 35°20.544 | W 107°38.171' |
| Location Description | MT-7-A | | |
| Field Engineer: | B. Everett | Excavation Method: | Backhoe/Shovel |
| Date: | 4/10/2012 | Operator: | K. Strickland |
| Weather and Moisture Conditions: | clear, sunny, warm; cool and windy in afternoon | | |

| Depth | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | S7-01-01 | 0-10": Sediments, clayey silt, moist, dark brown<br>Sample collected at 0-10" bgs at 15:12 |
| | | | 10"-12": Clay, soft red, moist |
| 1 | | | 12"-30.5": Silty clay, dense, dark brown, moist |
| 2 | | S7-01-02 | Sample collected at 24-30" bgs at 15:17 |
| | | S7-01-03 | 30.5"-35": Silty sand, yellow brown, moist<br>Sample collected at 30.5-34" bgs at 15:22 |
| 3 | | | TD = 35" bgs |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 35" bgs

Comments: Geolayer at 10" bgs, 2" of moist red clay below liner
18" of dark brown clay below red clay
Native soil - silty sand below 30.5" bgs, slightly moist
Bedrock at 35" bgs

Checked: Date:

Approved: Everett Date: 5/7/2012

RIO GRANDE RESOURCES CORPORATION

File #

## Mt Taylor Mine Water Treatment Pond Test Pit Log

Pit # 2

| | | | |
|---|---|---|---|
| Location | Pond 7 | (GPS) N 35°20.544 | W 107°38.171' |
| Location Description | MT-7-B | | |
| Field Engineer: | B. Everett | Excavation Method: | Backhoe/Shovel |
| Date: | 4/10/2012 | Operator: | K. Strickland |
| Weather and Moisture Conditions: | clear, sunny, warm; cool and windy in afternoon | | |

| Depth | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | | 0-23": Silty sand sediments, loose, light tan, some organic material, moist to 12" bgs, dry below 12" bgs |
| | | S7-02-01 | Sample collected at 0-12" bgs at 15:45 |
| 1 | | | |
| 2 | | | 23"-43": Pond sediments, silt varved from settling |
| | | S7-02-02 | Sample collected at 23-43" bgs |
| 3 | | | |
| | | S7-02-03 | 43"-45": Clay, red, moist, soft. Sample collected at 43-46" bgs |
| | | | 45"-49": Clay and silt, brown, dense, moist |
| 4 | | | 49"-50": Sandy silt, yellow brown, dry |
| | | | TD =50" bgs |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 50" bgs

Comments: Geolayer at 43" bgs with 2" red clay beneath
Native soil at 49-50" bgs
Bedrock at 50" bgs

Checked: Date:

Approved: Everett Date: 5/7/2012

RIO GRANDE RESOURCES CORPORATION

File #

## Mt Taylor Mine Water Treatment Pond Test Pit Log

Pit # 1

| | | | |
|---|---|---|---|
| Location | Pond 8 | (GPS) N 35°20.708 | W 107°38.129' |
| Location Description | MT-8-E | | |
| Field Engineer: | B. Everett | Excavation Method: | Backhoe/Shovel |
| Date: | 4/10/2012 | Operator: | K. Strickland |
| Weather and Moisture Conditions: | clear, sunny, warm; cool and windy in afternoon | | |

| Depth | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | | 0-17": Clayey silt, pliable, brown, moist |
| | | S8-01-01 | Sample collected at 0-8" bgs at 13:00 |
| 1 | | | |
| | | | 17"-30": Clay, dense, gray brown, with white precipitate BaCl 6" layer from 17-23" bgs |
| | | S8-01-02 | Sample collected at 17-30" bgs |
| 2 | | | Increase in brown silty sand 23-30" bgs |
| | | | 30"-40": Silty sand, friable, yellow brown, dry |
| 3 | | S8-01-03 | Sample collected at 36-40" bgs at 13:09 |
| | | | TD = 40" bgs |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 40" bgs

Comments: Moist to 20" bgs
BaCl layer 17-23" bgs in clay 17-30" bgs
Native soil yellow brown, silty sand at 30" bgs

Checked: Date:

Approved: Everett Date: 5/7/2012

RIO GRANDE RESOURCES CORPORATION

File #

## Mt Taylor Mine Water Treatment Pond Test Pit Log

Pit # 2

| | | | |
|---|---|---|---|
| Location | Pond 8 | (GPS) N 35°20.714' | W 107°38.150' |
| Location Description | MT-8-D | | |
| Field Engineer: | B. Everett | Excavation Method: | Backhoe/Shovel |
| Date: | 4/10/2012 | Operator: | K. Strickland |

Weather and Moisture Conditions: clear, sunny, warm; cool and windy in afternoon

| Depth | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | S8-02-01 | 0-18": Silty sand, trace gravel, brown, friable, moist<br>Sample collected at 0-12" bgs at 13:26 |
| 1 | | | |
| | | S8-02-02 | 18"-24": Clayey silt, varved gray and white sediment settling<br>Sample collected 18-24" bgs at 13:36 |
| 2 | | S8-02-03 | 24"-56": Clay, very dense, dark brown, slightly damp to dry<br>Sample collected at 40-50" bgs at 13:36 |
| 3 | | | |
| 4 | | | |
| | | S8-02-04 | 56"-62": Silty sand, yellow brown, friable, dry<br>Sample collected 58-62" bgs at 13:39 |
| 5 | | | TD = 62" bgs |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 62" bgs

Comments:
Silty sand, brown, friable, some gravel 0-18" bgs
Clayey silt, gray white, varved pond sediments 18-24" bgs
Clay, very dense, dark brown, dry 24-56" bgs
Native soil, yellow brown, silty sand 56-62" bgs

Checked: Date:

Approved: Everett Date: 5/7/2012

RIO GRANDE RESOURCES CORPORATION

File #

**Mt Taylor Mine Water Treatment Pond Test Pit Log** **Pit #** **MT-A-A**

Location Area "A" | GPS no reading | W no reading

Location Description Bottom of Pond –North End

Field Engineer: Ed Loescher | Excavation Method: Small Bobcat Backhoe

Date: April - 10-2012 11:45 am | Operator:

Weather and Moisture Conditions: Warm – Sunny – 60 to 70d

| | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 4" 0 | | MT -A-A-S1 Depth 4" | (0"-4") *Pond Sediment* - Clayey Silt with some silt– Dark Brown |
| 1 | | MT -A-A-S2 Depth 8" | (4"- 30") Sandy Clay, trace gravel, brown, moist (*Natural Soil)* |
| 30" 2 | | | |
| 36" | | | (30"-36") Silty Sand, some clay, trace gravel, tan (*Natural Soil)* |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 36" DEEP

Comments:

Checked: Date:

Approved: Date:

RIO GRANDE RESOURCES CORPORATION

File #

**Mt Taylor Mine Water Treatment Pond Test Pit Log** | **Pit #** | **MT-A-B**

Location Area "A" | GPS no reading | W no reading

Location Description: Bottom of Pond –South End

Field Engineer: Ed Loescher | Excavation Method: Small Bobcat Backhoe

Date: April - 10-2012 11:30 am | Operator:

Weather and Moisture Conditions: Warm – Sunny – 60 to 70d

| | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0<br>6" | | MT -A-B-S1<br>Depth 4" | (0"-6") *Pond Sediment* - Clayey Silt with some silt– Dark Brown |
| 1 | | MT -A-B-S2<br>Depth 8" | (6"- 28") Sandy Clay, trace gravel, brown, moist (*Natural Soil)* |
| 28" 2<br>36" | | MT -A-B-S3<br>Depth 30" | (28"-36") Silty Sand, some clay, trace gravel, brown, moist (*Natural Soil)* |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 36" DEEP

Comments:

Checked: Date:

Approved: Date:

RIO GRANDE RESOURCES CORPORATION

File #

**Mt Taylor Mine Water Treatment Pond Test Pit Log** **Pit #** **MT-OP-D**

Location OP (ore pile pond) GPS N 35-20.675' W 107-38.004'

Location Description Bottom of Pond – West end

Field Engineer: Ed Loescher Excavation Method: Small Bobcat Backhoe

Date: April - 10-2012 12:45 pm Operator:

Weather and Moisture Conditions: Warm – Sunny – 60 -70d

| | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | MT -OP-D-S1 Depth 6" | (*Alluvial Sand* 0-48") **Sand,** trace silt and gravel, tan, loose. (layer of sand from erosion of inlet channel and pond side-banks.) |
| 1 | | | |
| 2 | | | |
| 3 48" | | | |
| 4 | | MT -OP-D-S2 Depth 48" -50" | (48"- 72") **Clay**, frequent silt seams, dark gray, moist. (possible original pond sediment from 48"-50" and underlain by a clay liner to 72") |
| 5 72" | | | |
| 6 | | | (72"-76") **Clayey Sand,** trace gravel, brown, moist *(Natural Soil)* |
| 76" | | | |
| 7 | | | |
| 8 | | | |

Total Depth: 76" DEEP

Comments:

Difficult to determine layering below 48" due to the upper layer of sand caving into excavation.
Upper layer of sand due to erosion from pond inlet and side-banks.
Observed perched water seeping slowly into excavation at 50" depth

Checked: Date:

Approved: Date:

RIO GRANDE RESOURCES CORPORATION

**Mt Taylor Mine Water Treatment Pond Test Pit Log** | **Pit #** | **MT-OP-C**

| | | | |
|---|---|---|---|
| Location OP (ore pile pond) | GPS N 35-20.680' | W 107-38.032' | |
| Location Description | Bottom of Pond - East end | | |
| Field Engineer: Ed Loescher | | Excavation Method: Small Bobcat Backhoe | |
| Date: April - 10-2012 1:20 pm | | Operator: | |

Weather and Moisture Conditions: Warm – Sunny – 60 -70d

| | Graphic Log | Sample # | Description (USCS, texture, density, color, moisture, odor, inclusions, etc.) |
|---|---|---|---|
| 0 | | MT -OP-C-S1 Depth 6" | (*Pond Sediment* 0-18") **Mix of Silt and Clay** - Dark Gray- Trace Gravel |
| 1 18" | | | |
| 2 | | MT -OP-C-S2 Depth 20" | (18"- 44") **Clayey Sand** with some silt - Brown - Trace Gravel (*Natural Soil)* |
| 3 44" | | | |
| 4 | | MT -OP-C-S3 Depth 48" -50" | (44"- 72") **Sandy Clay** - Brown- Some Gravel – moist *(Natural Soil)* |
| 5 72" | | | |
| 6 | | MT -OP-C-S4 Depth 72" | (72") **Clayey Sand** - Brown - Some Gravel – moist *(Natural Soil)* |
| 7 | | | |
| 8 | | | |

Total Depth: 72" DEEP

Comments:

Checked: Date:

Approved: Date:

**APPENDIX B**

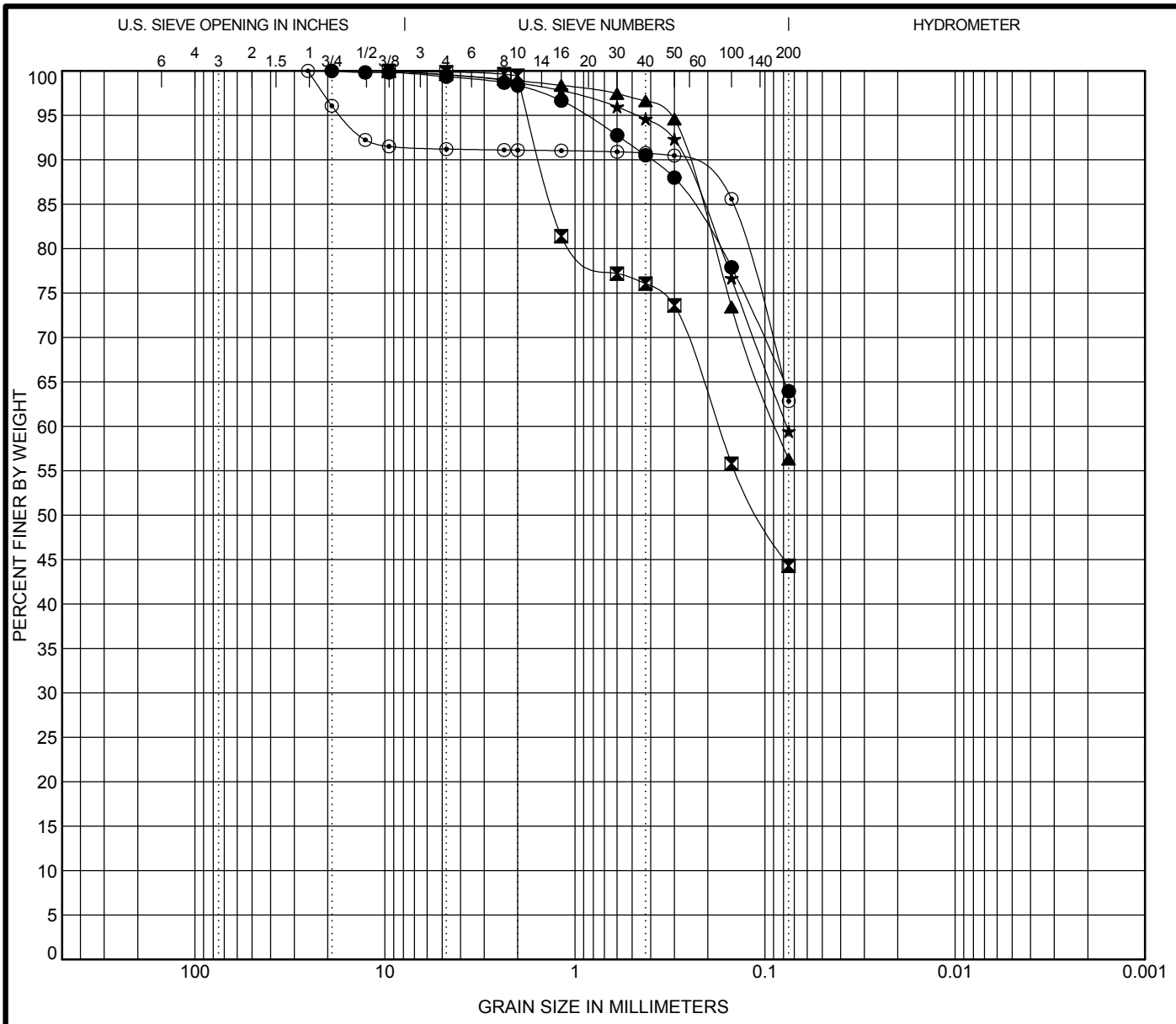
Kleinfelder Laboratory Results

# SUMMARY OF LABORATORY ANALYSIS

Project: **Mount Taylor Mine: Settling Pond Evaluations** Location: **San Mateo, New Mexico**
Project Number: **96450**

| Boring Number | Depth | Soil Classification | | Atterberg Limits | | Sieve Analysis - Accumulative % Passing | | | | | | | | | | | | | | Moisture Content | Dry Density | Unconfined Comp. Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (ft.) | USCS | AASHTO | PI | LL | No. 200 | No. 100 | No. 50 | No. 40 | No. 30 | No. 16 | No. 10 | No. 8 | No. 4 | 3/8 in | 1/2 in | 3/4 in | 1 in | 1 1/2 in | (%) | (pcf) | (psi) |
| Borrow Area | 2.0 - 5.5 | CL | A-6 | 13 | 37 | 64 | 78 | 88 | 91 | 93 | 97 | 98 | 99 | 99 | 100 | 100 | 100 | -- | -- | 10.7 | -- | -- |
| MT-1-F | 0.0 - 0.5 | SC | A-6 | 15 | 35 | 44 | 56 | 74 | 76 | 77 | 81 | 99 | 100 | 100 | 100 | -- | -- | -- | -- | 13.7 | -- | -- |
| MT-2-D | 0.0 - 0.5 | CL | A-6 | 14 | 33 | 56 | 73 | 95 | 97 | 97 | 98 | 99 | 99 | 100 | 100 | -- | -- | -- | -- | 16.4 | -- | -- |
| MT-3-F | 0.0 - 0.5 | CL | A-6 | 17 | 35 | 59 | 77 | 92 | 95 | 96 | 98 | 99 | 99 | 100 | 100 | -- | -- | -- | -- | 17.3 | -- | -- |
| MT-4-F | 0.0 - 0.5 | CL | A-6 | 13 | 34 | 63 | 86 | 90 | 91 | 91 | 91 | 91 | 91 | 91 | 92 | 92 | 96 | 100 | -- | 10.5 | -- | -- |
| MT-5-F | 0.0 - 0.5 | CL | A-6 | 17 | 37 | 67 | 80 | 94 | 96 | 97 | 98 | 99 | 99 | 99 | 100 | 100 | -- | -- | -- | 17.6 | -- | -- |
| MT-7-C | 0.0 - 0.5 | CL | A-6 | 17 | 39 | 71 | 80 | 94 | 97 | 98 | 100 | 100 | 100 | 100 | -- | -- | -- | -- | -- | 17.9 | -- | -- |
| MT-8-F | 0.0 - 0.5 | SC | A-6 | 13 | 27 | 50 | 73 | 95 | 97 | 98 | 99 | 99 | 99 | 100 | 100 | -- | -- | -- | -- | 12.9 | -- | -- |
| MT-OP-E | 0.0 - 0.5 | CL | A-6 | 12 | 31 | 63 | 79 | 95 | 97 | 98 | 99 | 99 | 99 | 100 | 100 | -- | -- | -- | -- | 10.3 | -- | -- |
| MT-WP-SM1 | 0.0 - | SC | A-6 | 24 | 37 | 48 | 67 | 91 | 93 | 94 | 96 | 97 | 97 | 98 | 99 | 99 | 100 | -- | -- | 5.9 | -- | -- |
| MT-WP-SM2 | 0.0 - | CL | A-7-6 | 27 | 43 | 70 | 78 | 85 | 86 | 87 | 89 | 91 | 92 | 96 | 98 | 100 | -- | -- | -- | 10.9 | -- | -- |
| MT-WP-SM3 | 0.0 - | SC | A-6 | 21 | 34 | 46 | 63 | 89 | 93 | 95 | 96 | 97 | 97 | 98 | 98 | 99 | 100 | -- | -- | 3.0 | -- | -- |

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| COBBLES | GRAVEL | | SAND | | | SILT OR CLAY |
|---|---|---|---|---|---|---|
| | coarse | fine | coarse | medium | fine | |

| | Specimen Identification | | D100 | D60 | D30 | D10 | %Gravel | %Sand | %Silt | %Clay |
|---|---|---|---|---|---|---|---|---|---|---|
| ● | Borrow Area | 2.0 | 19.05 | | | | 0.7 | 35.4 | 63.9 | |
| ⊠ | MT-1-F | 0.0 | 9.525 | 0.177 | | | 0.1 | 55.6 | 44.3 | |
| ▲ | MT-2-D | 0.0 | 9.525 | 0.087 | | | 0.4 | 43.2 | 56.3 | |
| ★ | MT-3-F | 0.0 | 9.525 | 0.077 | | | 0.4 | 40.1 | 59.4 | |
| ⊙ | MT-4-F | 0.0 | 25.4 | | | | 8.8 | 28.4 | 62.8 | |

ASTM D1140 ASTM C136

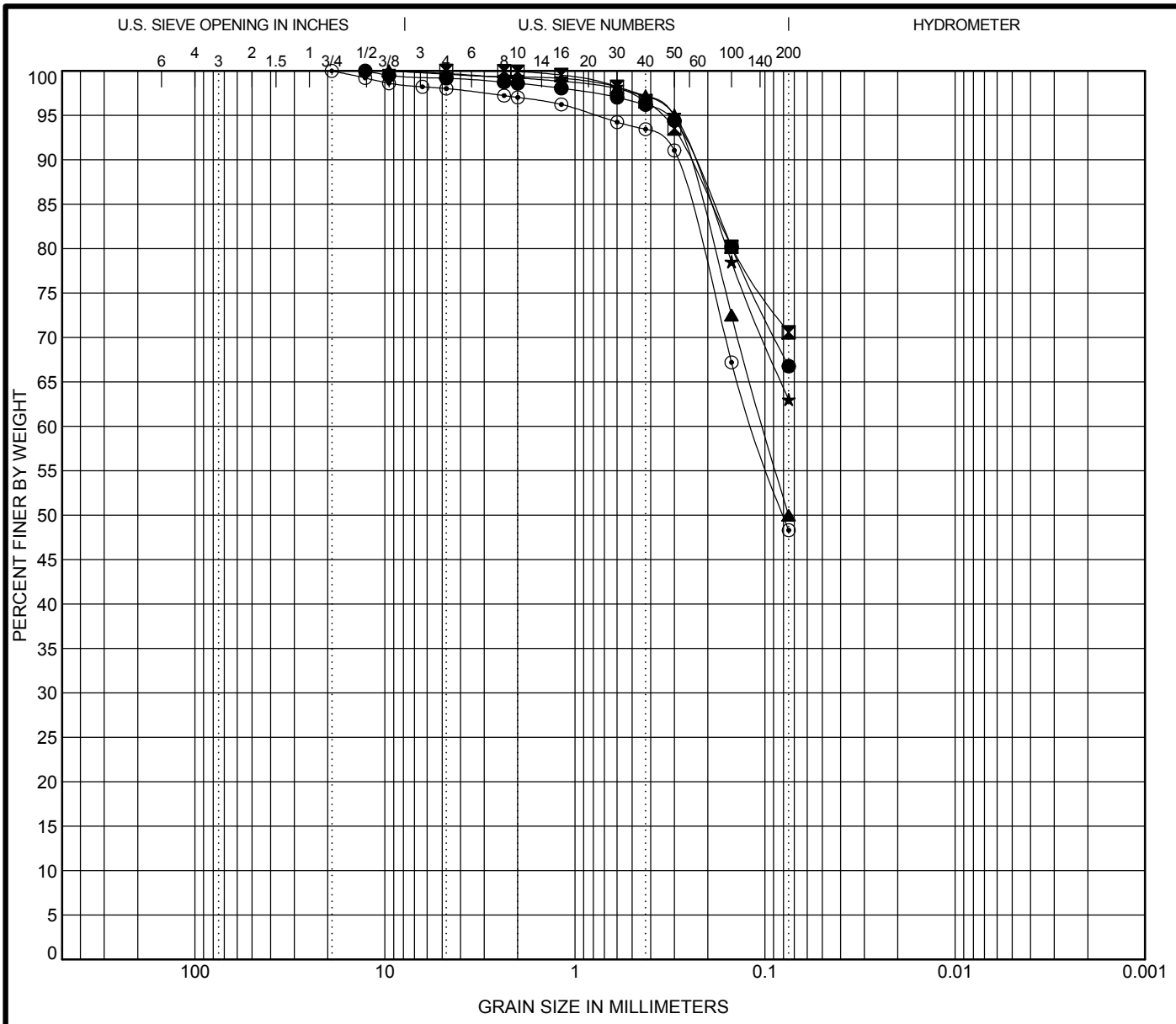
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## GRAIN SIZE DISTRIBUTION

Project: Mount Taylor Mine: Settling Pond Evaluations

Location: San Mateo, New Mexico

Project Number: 96450




| COBBLES | GRAVEL | | SAND | | | SILT OR CLAY |
|---|---|---|---|---|---|---|
| | coarse | fine | coarse | medium | fine | |

| | Specimen Identification | | D100 | D60 | D30 | D10 | %Gravel | %Sand | %Silt | %Clay |
|---|---|---|---|---|---|---|---|---|---|---|
| ● | MT-5-F | 0.0 | 12.7 | | | | 0.8 | 32.4 | 66.8 | |
| ⊠ | MT-7-C | 0.0 | 4.75 | | | | 0.0 | 29.4 | 70.6 | |
| ▲ | MT-8-F | 0.0 | 9.525 | 0.102 | | | 0.3 | 49.7 | 50.0 | |
| ★ | MT-OP-E | 0.0 | 9.525 | | | | 0.4 | 36.6 | 63.0 | |
| ⊙ | MT-WP-SM1 | 0.0 | 19.05 | 0.115 | | | 2.0 | 49.7 | 48.3 | |

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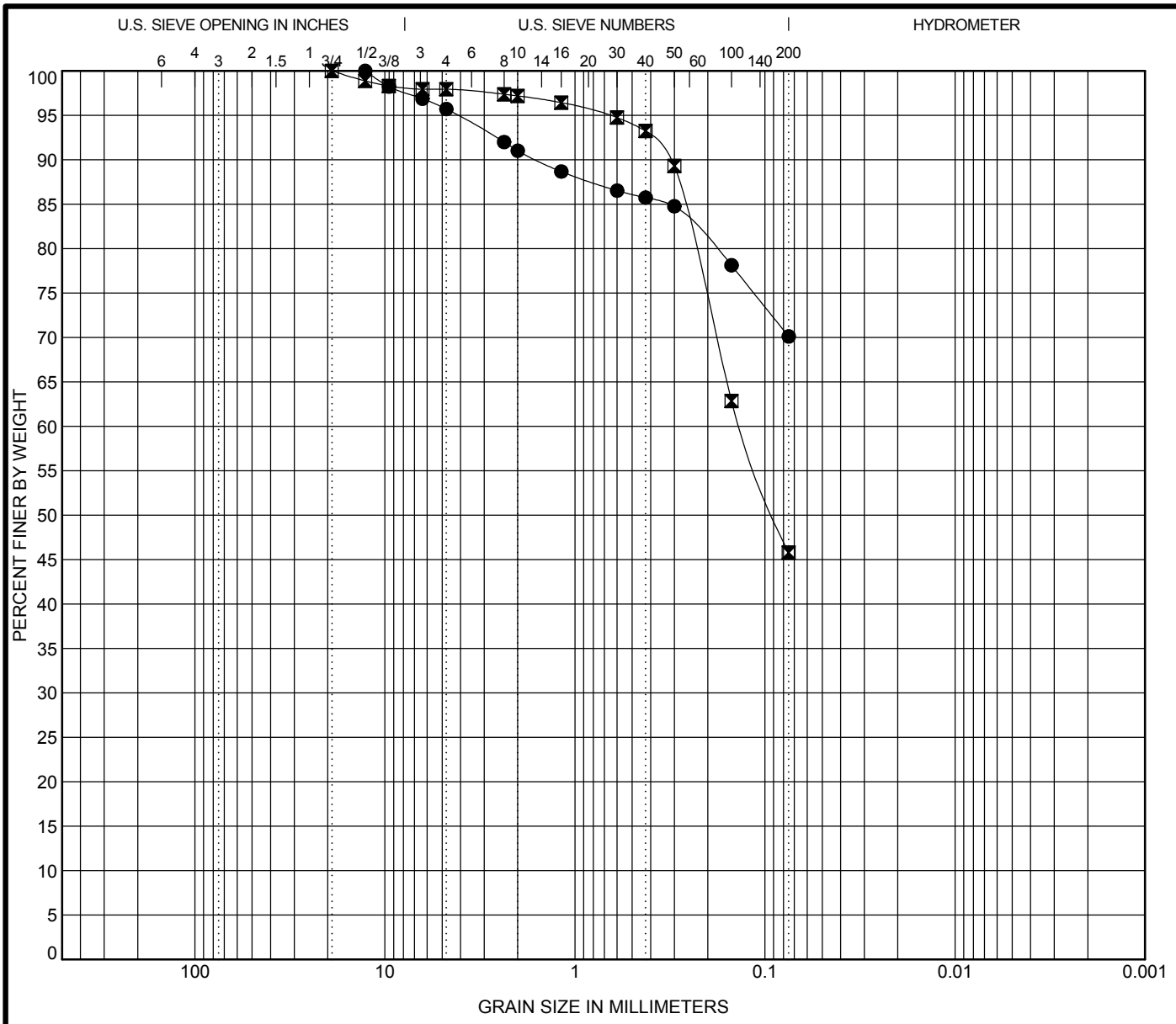
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## GRAIN SIZE DISTRIBUTION

Project: Mount Taylor Mine: Settling Pond Evaluations

Location: San Mateo, New Mexico

Project Number: 96450




| COBBLES | GRAVEL | | SAND | | | SILT OR CLAY |
|---|---|---|---|---|---|---|
| | coarse | fine | coarse | medium | fine | |

| | Specimen Identification | | D100 | D60 | D30 | D10 | %Gravel | %Sand | %Silt | %Clay |
|---|---|---|---|---|---|---|---|---|---|---|
| ● | MT-WP-SM2 | 0.0 | 12.7 | | | | 4.3 | 25.6 | 70.1 | |
| ⊠ | MT-WP-SM3 | 0.0 | 19.05 | 0.134 | | | 2.1 | 52.2 | 45.8 | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

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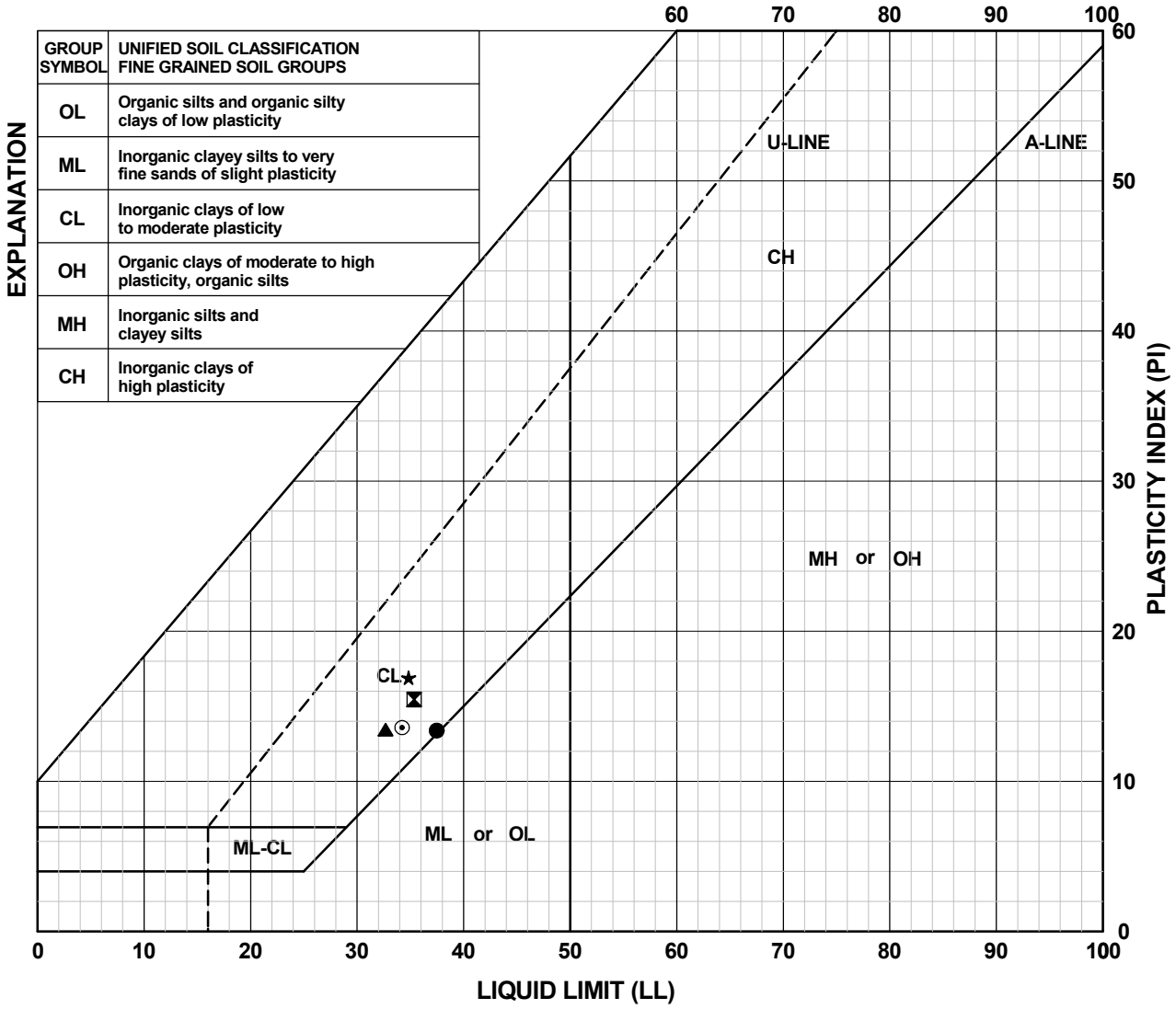
## GRAIN SIZE DISTRIBUTION

Project: Mount Taylor Mine: Settling Pond Evaluations

Location: San Mateo, New Mexico

Project Number: 96450

ASTM D4318




| Specimen Identification | | | Liquid Limit (LL) | Plastic Limit (PL) | Plasticity Index (PI) |
|---|---|---|---|---|---|
| ● | Borrow Area | 2.0 | 37 | 24 | 13 |
| ⊠ | MT-1-F | 0.0 | 35 | 20 | 15 |
| ▲ | MT-2-D | 0.0 | 33 | 19 | 14 |
| ★ | MT-3-F | 0.0 | 35 | 18 | 17 |
| ⊙ | MT-4-F | 0.0 | 34 | 21 | 13 |


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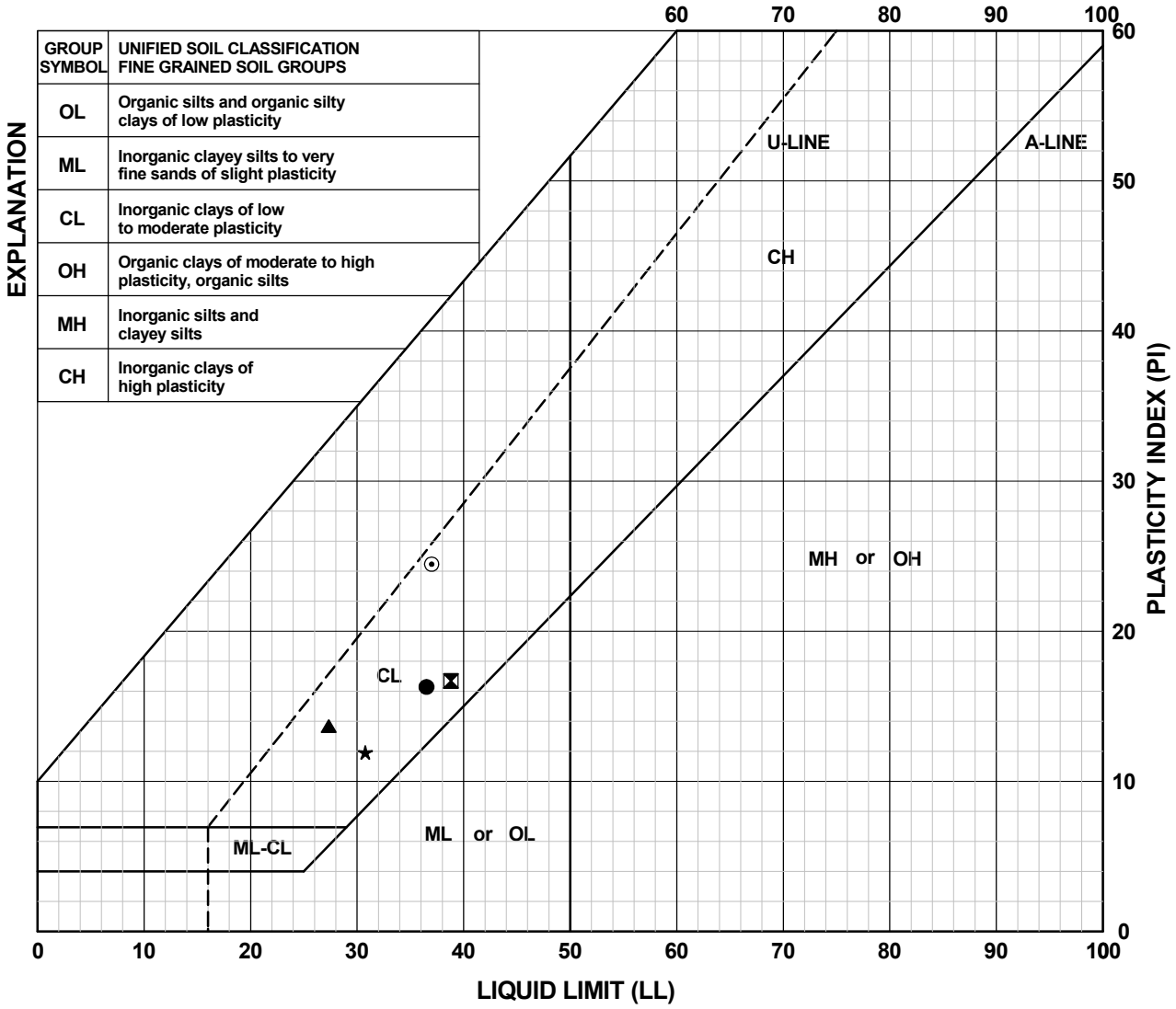

## ATTERBERG LIMITS

Project: Mount Taylor Mine: Settling Pond Evaluations

Location: San Mateo, New Mexico

Project Number: 96450

ASTM D4318




| Specimen Identification | | | Liquid Limit (LL) | Plastic Limit (PL) | Plasticity Index (PI) |
|---|---|---|---|---|---|
| ● | MT-5-F | 0.0 | 37 | 20 | 17 |
| ⊠ | MT-7-C | 0.0 | 39 | 22 | 17 |
| ▲ | MT-8-F | 0.0 | 27 | 14 | 13 |
| ★ | MT-OP-E | 0.0 | 31 | 19 | 12 |
| ⊙ | MT-WP-SM1 | 0.0 | 37 | 13 | 24 |

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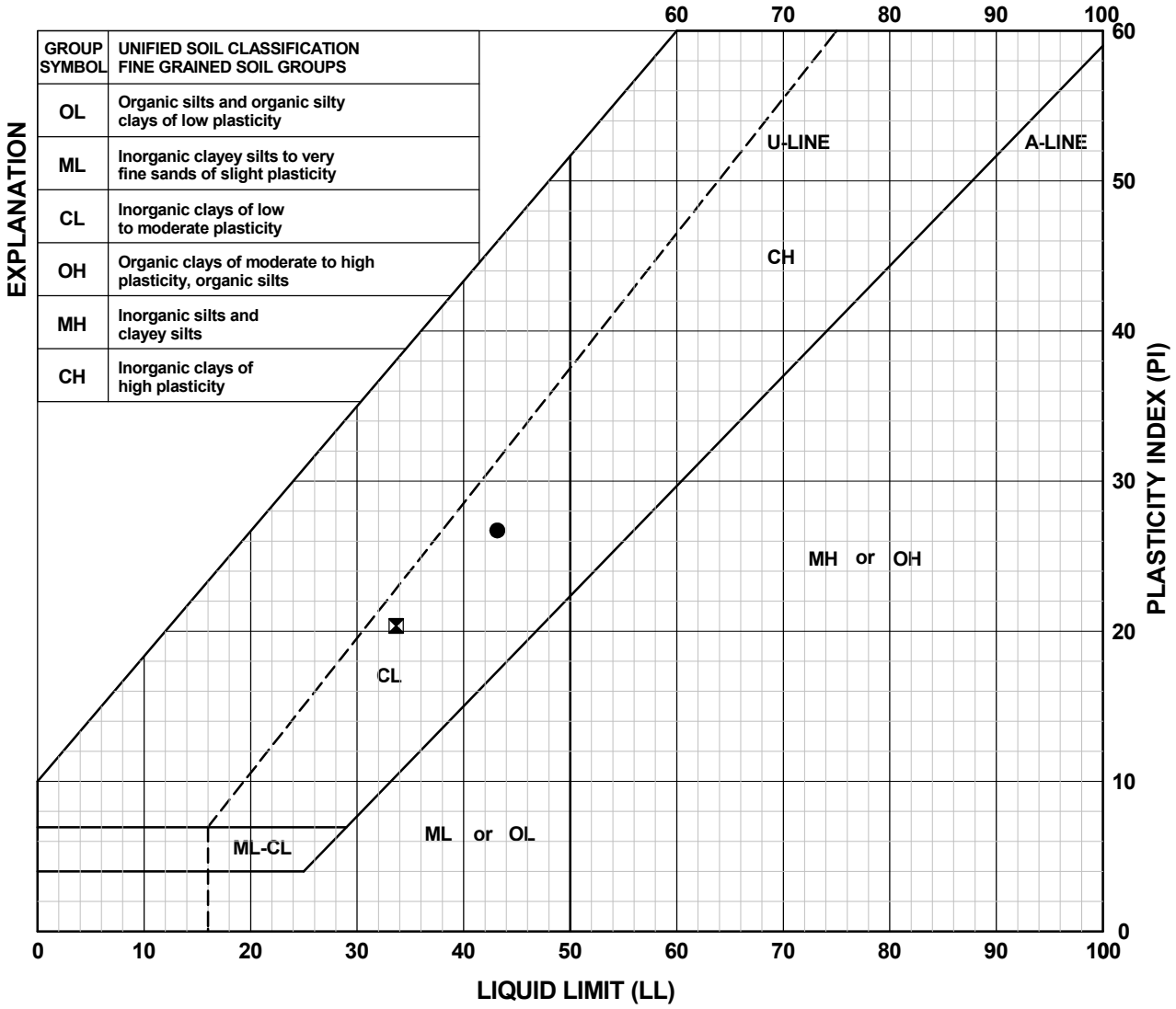
## ATTERBERG LIMITS

Project: Mount Taylor Mine: Settling Pond Evaluations

Location: San Mateo, New Mexico

Project Number: 96450

ASTM D4318




| Specimen Identification | | Liquid Limit (LL) | Plastic Limit (PL) | Plasticity Index (PI) |
|---|---|---|---|---|
| ● | MT-WP-SM2 0.0 | 43 | 16 | 27 |
| ⧓ | MT-WP-SM3 0.0 | 34 | 13 | 21 |
| | | | | |
| | | | | |
| | | | | |


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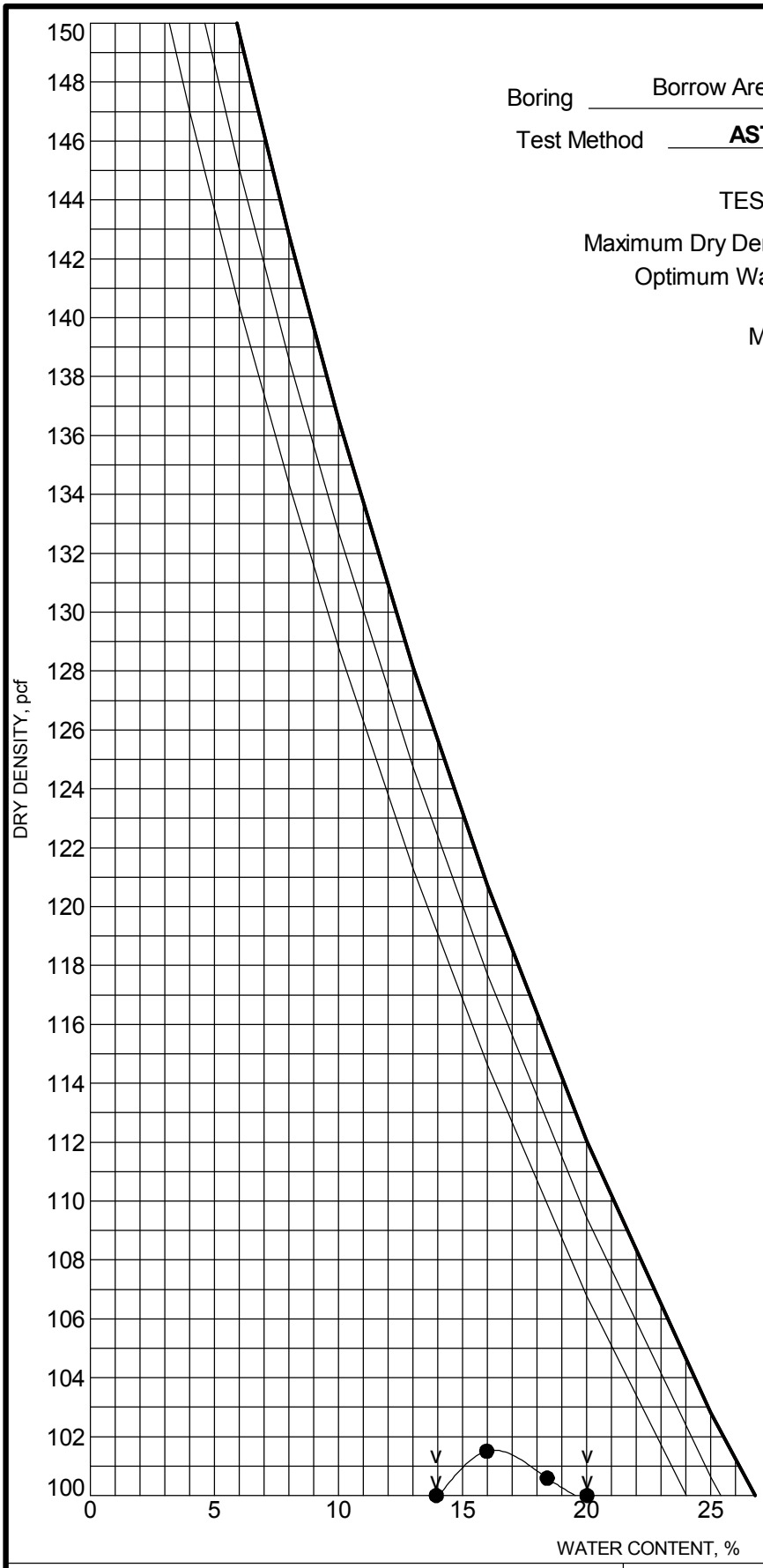
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## ATTERBERG LIMITS

Project: Mount Taylor Mine: Settling Pond Evaluations

Location: San Mateo, New Mexico

Project Number: 96450




Boring Borrow Area Depth 2.0 - 5.5

Test Method **ASTM D1557 Method B**

TEST RESULTS

| | | |
|---|---|---|
| Maximum Dry Density | **101.5** | **PCF** |
| Optimum Water Content | **16.2** | **%** |

MATERIAL DESCRIPTION

| | |
|---|---|
| % clay or silt | 63.9 |
| % sand | 35.4 |
| % gravel | 0.7 |
| Liquid Limit | 37 |
| Plastic Limit | 24 |
| Plasticity Index | 13 |

CURVES OF 100% SATURATION
FOR SPECIFIC GRAVITY EQUAL TO:

2.80

2.70

2.60

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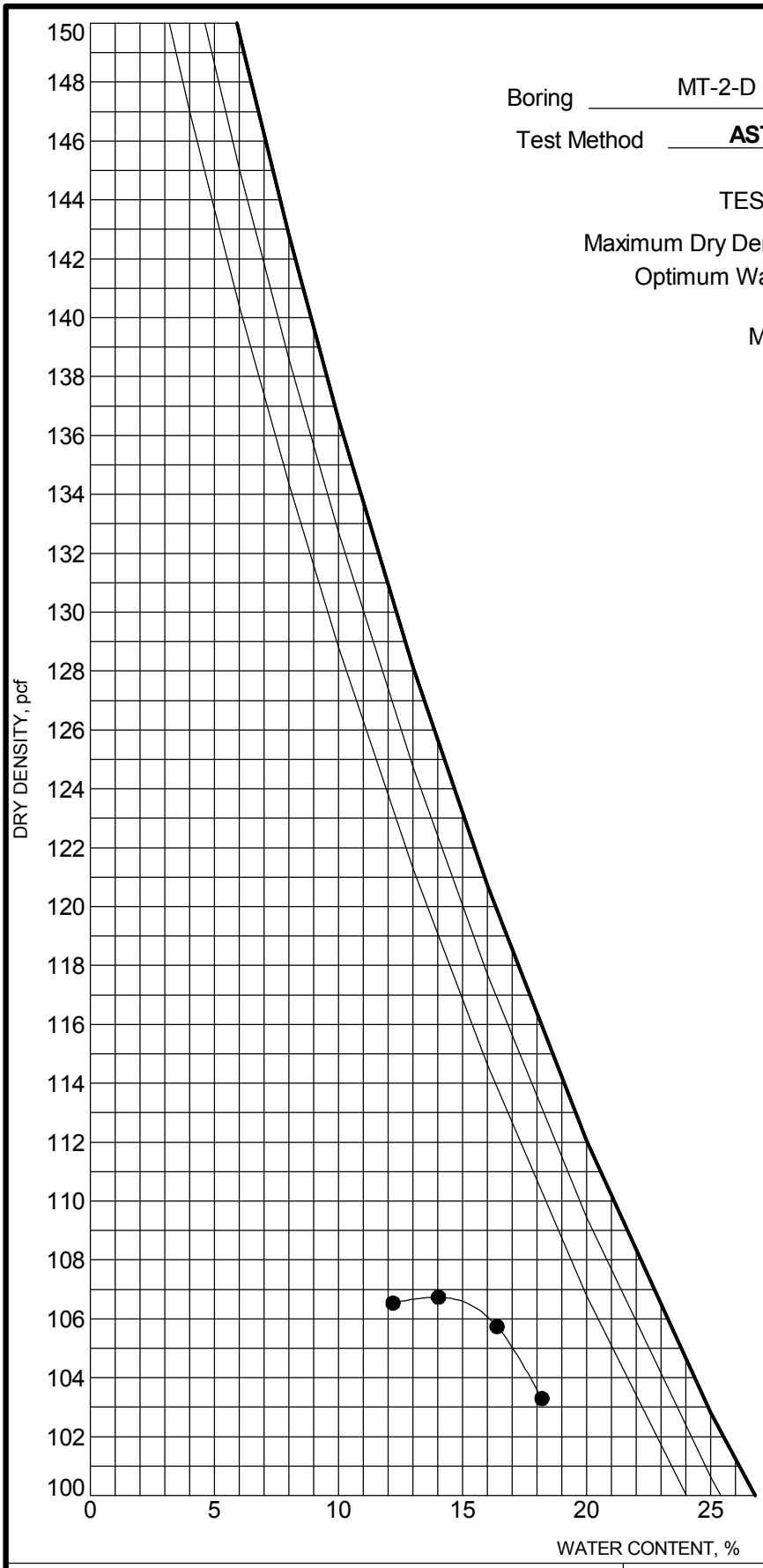
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## MOISTURE-DENSITY RELATIONSHIP

Project: Mount Taylor Mine: Settling Pond Evaluations

Location: San Mateo, New Mexico

Project Number: 96450




Boring MT-2-D Depth 0.0 - 0.5

Test Method **ASTM D1557 Method B**

TEST RESULTS

Maximum Dry Density **106.7** **PCF**

Optimum Water Content **13.9** **%**

MATERIAL DESCRIPTION

| | |
|---|---|
| % clay or silt | 56.3 |
| % sand | 43.2 |
| % gravel | 0.4 |
| Liquid Limit | 33 |
| Plastic Limit | 19 |
| Plasticity Index | 14 |

CURVES OF 100% SATURATION
FOR SPECIFIC GRAVITY EQUAL TO:

2.80

2.70

2.60

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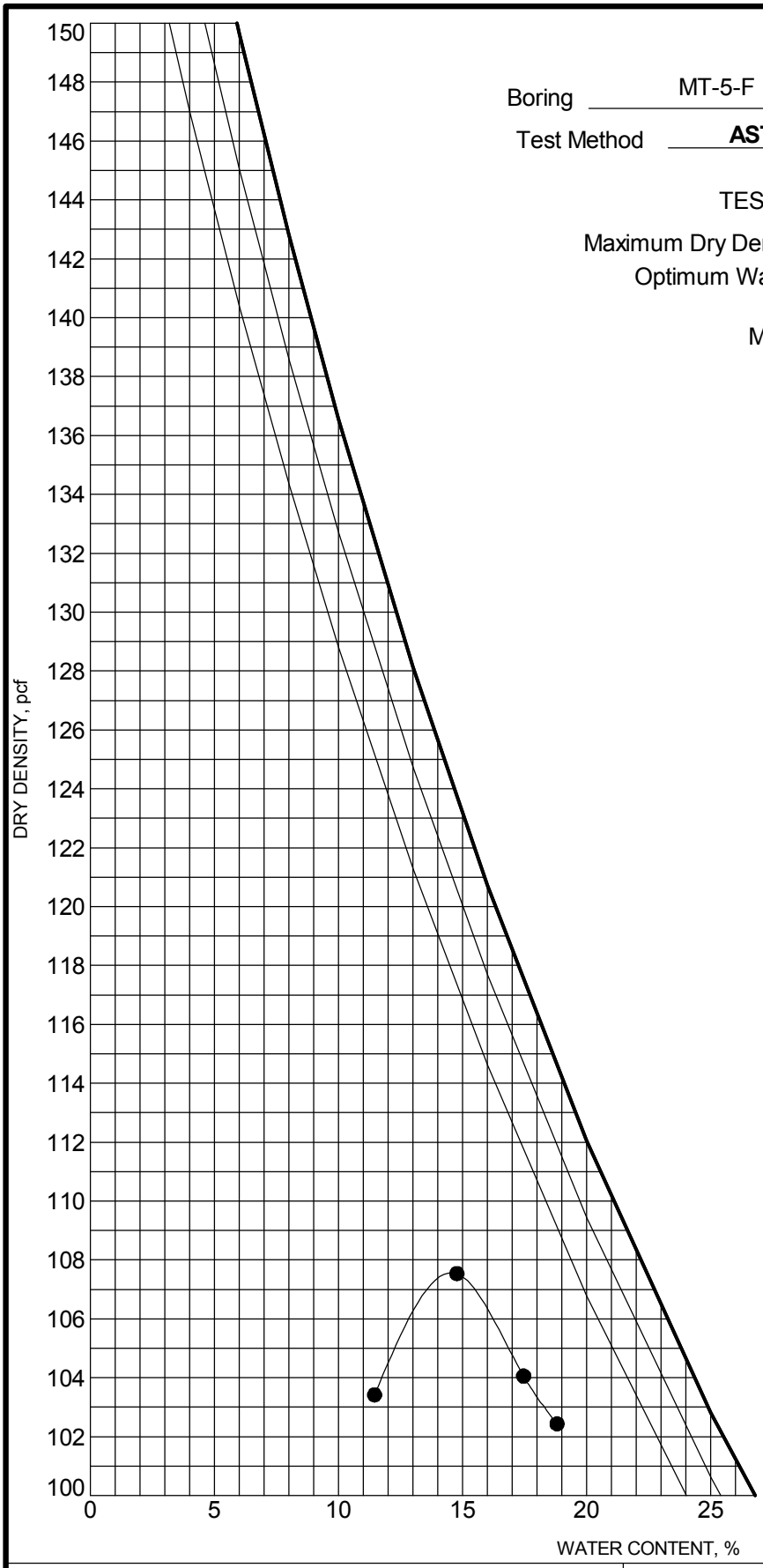
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## MOISTURE-DENSITY RELATIONSHIP

Project: Mount Taylor Mine: Settling Pond Evaluations

Location: San Mateo, New Mexico

Project Number: 96450




Boring MT-5-F Depth 0.0 - 0.5

Test Method **ASTM D1557 Method B**

TEST RESULTS

| | | |
|---|---|---|
| Maximum Dry Density | **107.6** | **PCF** |
| Optimum Water Content | **14.6** | **%** |

MATERIAL DESCRIPTION

| | |
|---|---|
| % clay or silt | 66.8 |
| % sand | 32.4 |
| % gravel | 0.8 |
| Liquid Limit | 37 |
| Plastic Limit | 20 |
| Plasticity Index | 17 |

CURVES OF 100% SATURATION
FOR SPECIFIC GRAVITY EQUAL TO:

2.80

2.70

2.60

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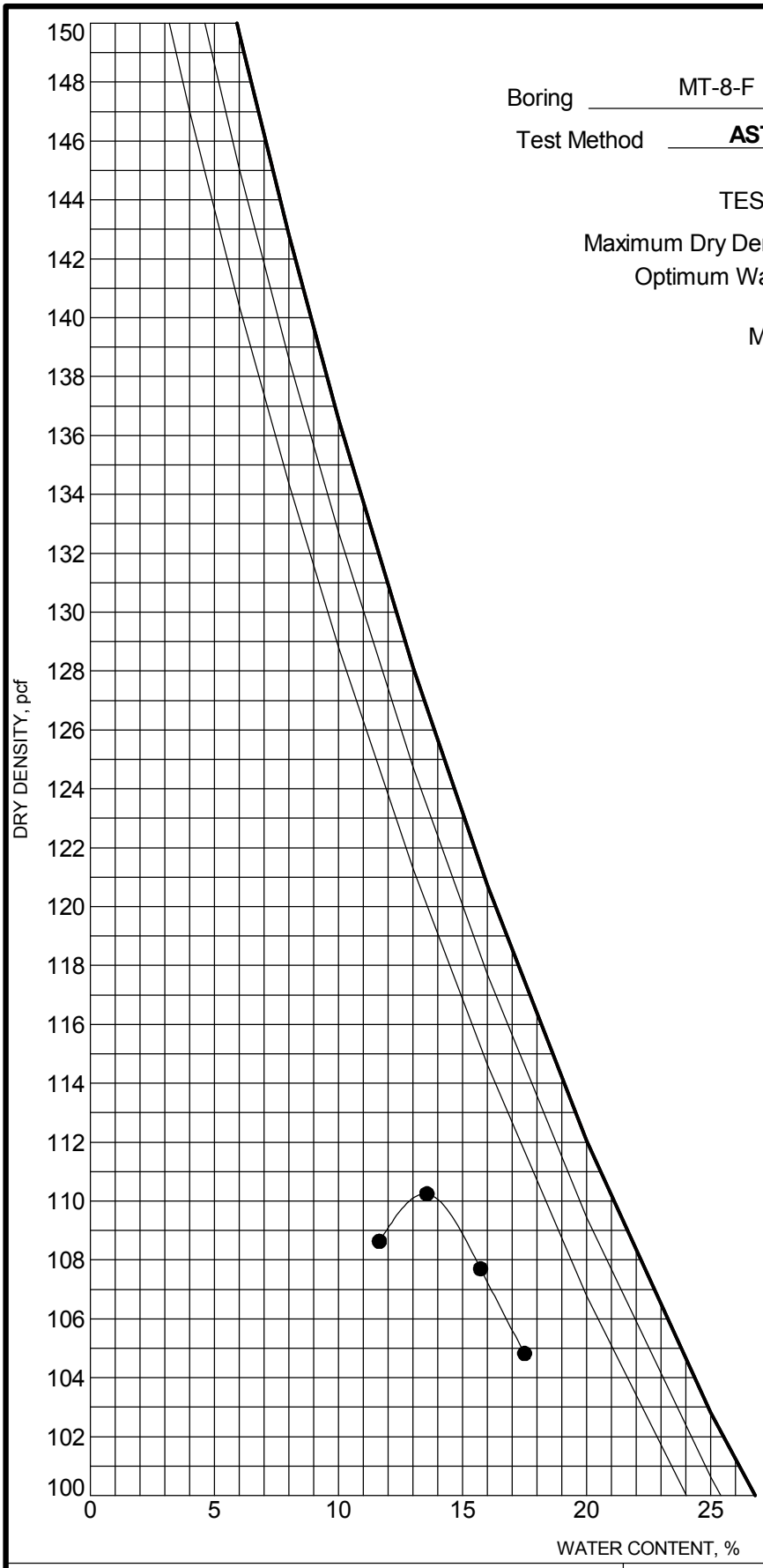
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## MOISTURE-DENSITY RELATIONSHIP

Project: Mount Taylor Mine: Settling Pond Evaluations

Location: San Mateo, New Mexico

Project Number: 96450




Boring MT-8-F Depth 0.0 - 0.5

Test Method **ASTM D1557 Method B**

TEST RESULTS

| | | |
|---|---|---|
| Maximum Dry Density | **110.2** | **PCF** |
| Optimum Water Content | **13.5** | **%** |

MATERIAL DESCRIPTION

| | |
|---|---|
| % clay or silt | 50.0 |
| % sand | 49.7 |
| % gravel | 0.3 |
| Liquid Limit | 27 |
| Plastic Limit | 14 |
| Plasticity Index | 13 |

CURVES OF 100% SATURATION
FOR SPECIFIC GRAVITY EQUAL TO:

2.80

2.70

2.60

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9019 Washinton NE Bldg A
Albuquerque, NM 87113

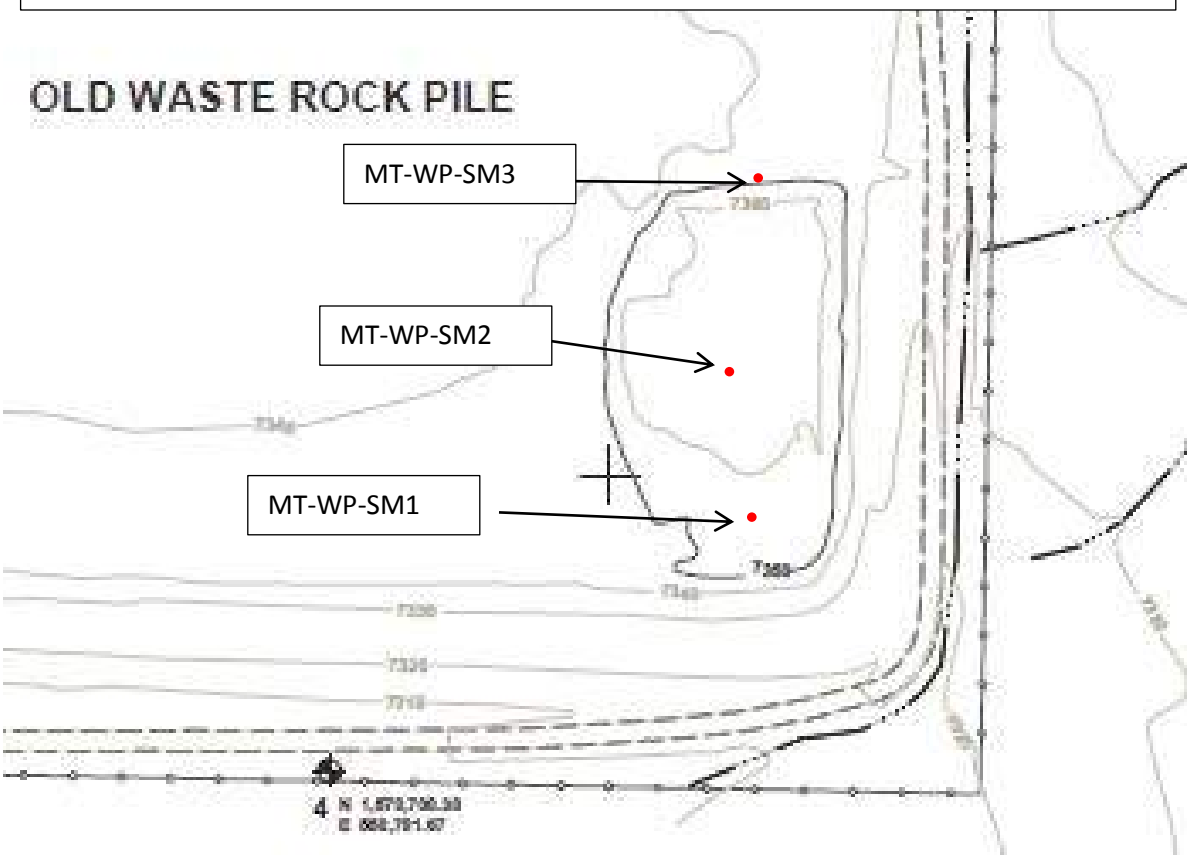
## MOISTURE-DENSITY RELATIONSHIP

Project: Mount Taylor Mine: Settling Pond Evaluations

Location: San Mateo, New Mexico

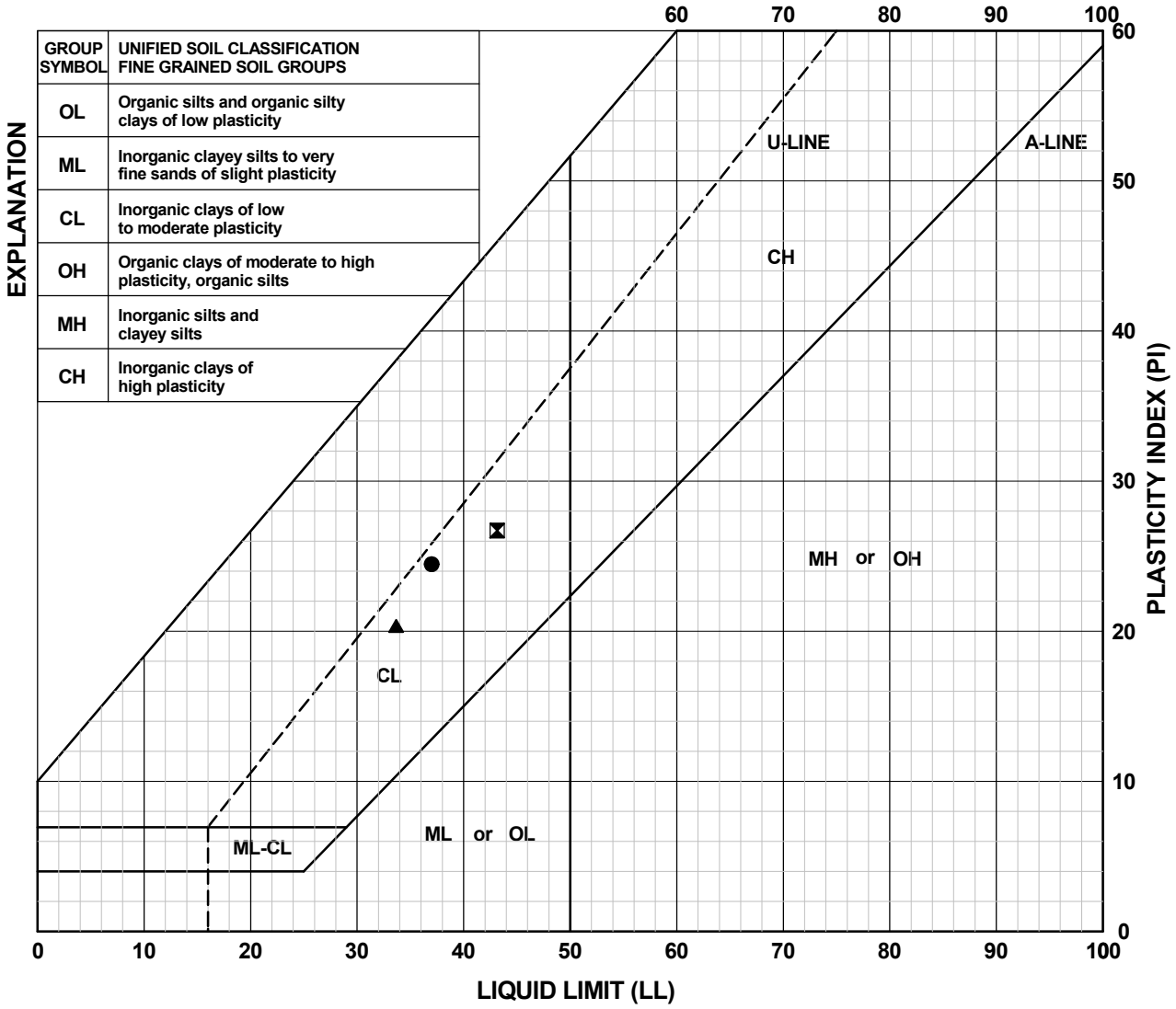
Project Number: 96450

# MT TAYLOR MINE SHAFT MUCK SAMPLE LOCATIONS – 5/18/2010




Bulk samples of shaft muck from Mt. Taylor Mine waste rock pile collected on 5/18/2012 by Alan Kuhn. Locations are approximate (+/- 50 ft) based on visual reference to slopes. Splits delivered 5/18/12 to Kleinfelder Albuquerque for grain size analysis and plasticity tests. Other splits left with RGR Mine office for shipment to Energy Labs for testing of U and Ra concentration.

ASTM D4318




| Specimen Identification | | Liquid Limit (LL) | Plastic Limit (PL) | Plasticity Index (PI) |
|---|---|---|---|---|
| ● MT-WP-SM1 | 0.0 | 37 | 13 | 24 |
| ⊠ MT-WP-SM2 | 0.0 | 43 | 16 | 27 |
| ▲ MT-WP-SM3 | 0.0 | 34 | 13 | 21 |
| | | | | |
| | | | | |


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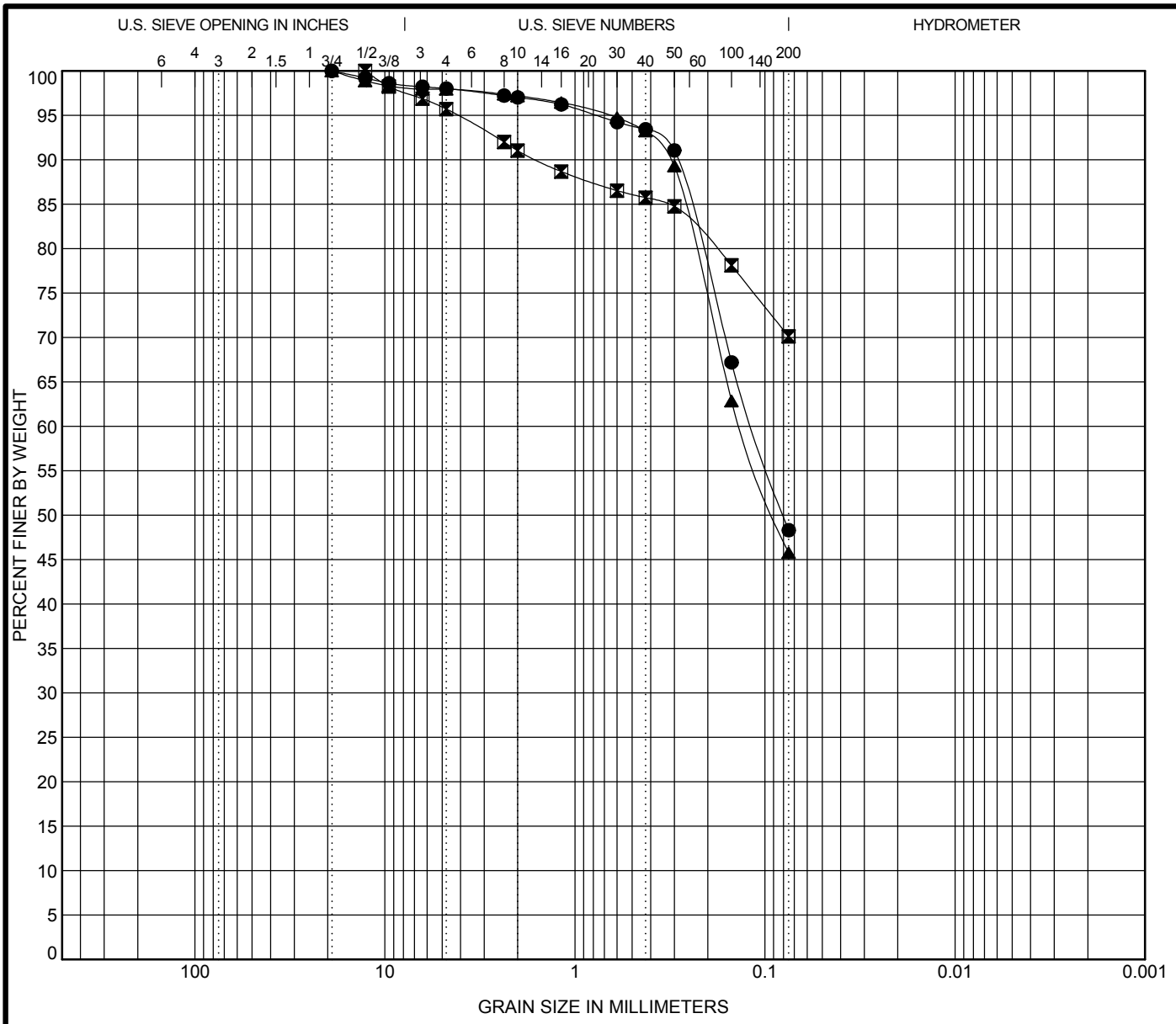
9019 Washington NE, Building A
Albuquerque, NM 87113


## ATTERBERG LIMITS

Project: Mount Taylor Mine: Settling Pond Evaluations

Location: San Mateo, New Mexico

Project Number: 96450




| COBBLES | GRAVEL | | SAND | | | SILT OR CLAY |
|---|---|---|---|---|---|---|
| | coarse | fine | coarse | medium | fine | |

| | Specimen Identification | | D100 | D60 | D30 | D10 | %Gravel | %Sand | %Silt | %Clay |
|---|---|---|---|---|---|---|---|---|---|---|
| ● | MT-WP-SM1 | 0.0 | 19.05 | 0.115 | | | 2.0 | 49.7 | 48.3 | |
| ⊠ | MT-WP-SM2 | 0.0 | 12.7 | | | | 4.3 | 25.6 | 70.1 | |
| ▲ | MT-WP-SM3 | 0.0 | 19.05 | 0.134 | | | 2.1 | 52.2 | 45.8 | |
| | | | | | | | | | | |
| | | | | | | | | | | |

ASTM D1140 ASTM C136

KLEINFELDER
Bright People. Right Solutions.
9019 Washington NE, Building A
Albuquerque, NM 87113

## GRAIN SIZE DISTRIBUTION

Project: Mount Taylor Mine: Settling Pond Evaluations

Location: San Mateo, New Mexico

Project Number: 96450

# SUMMARY OF LABORATORY ANALYSIS

Project: **Mount Taylor Mine: Settling Pond Evaluations** Location: **San Mateo, New Mexico**
Project Number: **96450**

| Boring Number | Depth (ft.) | Soil Classification | | Atterberg Limits | | Sieve Analysis - Accumulative % Passing | | | | | | | | | | | | | | Moisture Content (%) | Dry Density (pcf) | Unconfined Comp. Strength (psi) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | USCS | AASHTO | PI | LL | No. 200 | No. 100 | No. 50 | No. 40 | No. 30 | No. 16 | No. 10 | No. 8 | No. 4 | 3/8 in | 1/2 in | 3/4 in | 1 in | 1 1/2 in | | | |
| MT-WP-SM1 | 0.0 - | SC | A-6 | 24 | 37 | 48 | 67 | 91 | 93 | 94 | 96 | 97 | 97 | 98 | 99 | 99 | 100 | -- | -- | 5.9 | -- | -- |
| MT-WP-SM2 | 0.0 - | CL | A-7-6 | 27 | 43 | 70 | 78 | 85 | 86 | 87 | 89 | 91 | 92 | 96 | 98 | 100 | -- | -- | -- | 10.9 | -- | -- |
| MT-WP-SM3 | 0.0 - | SC | A-6 | 21 | 34 | 46 | 63 | 89 | 93 | 95 | 96 | 97 | 97 | 98 | 98 | 99 | 100 | -- | -- | 3.0 | -- | -- |

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# APPENDIX D.2

## Field Sampling and Laboratory Test Data

Radiological Investigations

**MEMORANDUM**

Date: June 6, 2012

From: Stanley Fitch, CHP, Radiation Safety Officer 

To: Joel Lister, Mine Manager, Mt. Taylor Mine

Subject: April 2012 Soil Investigation

On April 23, 2012, a soil sampling campaign was performed to investigate possible environmental dispersal of uranium and its progeny from the Mt. Taylor Mine. A total of 16 samples were retrieved, 2 background locations and 14 locations along arroyos that drain the mine property. In addition, gamma dose rate measurements were taken.

The purpose of this investigation is to determine background radionuclide concentrations and to evaluate the potential spread of uranium and radium from the mine. To wit, soil samples were taken at various locations adjacent to drainage features (e.g., Marquez Arroyo) and in the thalwegs of these features. The background locations selected are locations MTE-1 (up Marquez Canyon next to the Forest Service Boundary) and MTE-7 (North ¼ Corner of Section 24) for grades above drainage features.

MTE-2 was selected as the background location for the Marquez Canyon drainage. However, because the steepness of the arroyo created a sandy bed with very limited organics that would retain background naturally occurring radioactive material (NORM), it is believed that MTE-2 is a poor representation of the remainder of the drainage.

An aerial map is attached depicting the sample locations. The soil sample locations are also attached in Table 2 (below) with their respective New Mexico State Plane Coordinates and sample analysis results. See also Table 3.

The following observations are made based on the radionuclide data in Table 2:

- There appears to be no discernible dispersal of uranium and uranium progeny off the mine property.

- The concentrations of radionuclides in the Marquez Canyon arroyo adjacent and below Pond 8 (MTE-3, MTE-4, MTE-5, MTE-6) are equivalent to or lower than the background concentrations (MTE-1, MTE-2, MTE-7), indicating: 1) no discernible spread of contamination north of the current boundary; and 2) seasonal water flows purge organics from the Marquez arroyo thalweg that would contain naturally occurring radioactive material (NORM) and radionuclides from the mine (TENORM).

- Radionuclide concentrations in the alluvial deposits north and northeast of San Mateo (MTE-8, MTE-9, MTE-10, MTE-11, MTE-13, MTE-14) are consistent with NORM concentrations typical for this region at locales away from uranium mining operations. There are no identifiable patterns that would indicate the dispersal of uranium and radium into the plain from Mt. Taylor Mine.

- The slightly elevated ambient radiation readings north of Pond 8 were not explained by the soil sample analyses performed for this investigation. Please compare the survey results for MTE-3 and MTE-4 against the survey results for the background locations:

**Table 1**

| **Location** | **Dose Rate** µrem/h | **U-238** pCi/g | **Ra-226** pCi/g |
|---|---|---|---|
| MTE-1 (Surface Grade BKG) | 18 | 1.6 | 1.7 |
| MTE-7 (Surface Grade BKG) | 13 | 0.6 | 1.5 |
| MTE-3 (Surface Grade) | 26 | 0.5 | 1.4 |

Regressional analysis of the data in Table 2 indicates very poor statistical correlation between the dose rates and the concentrations of Radium-226 in the soil.

The conclusions are that: 1) radiation "shine" from nearby and elevated rock and soils could be affecting the instrument readings; and 2) soil sample analyses must be performed along with dose rate surveys when evaluating remediation requirements.

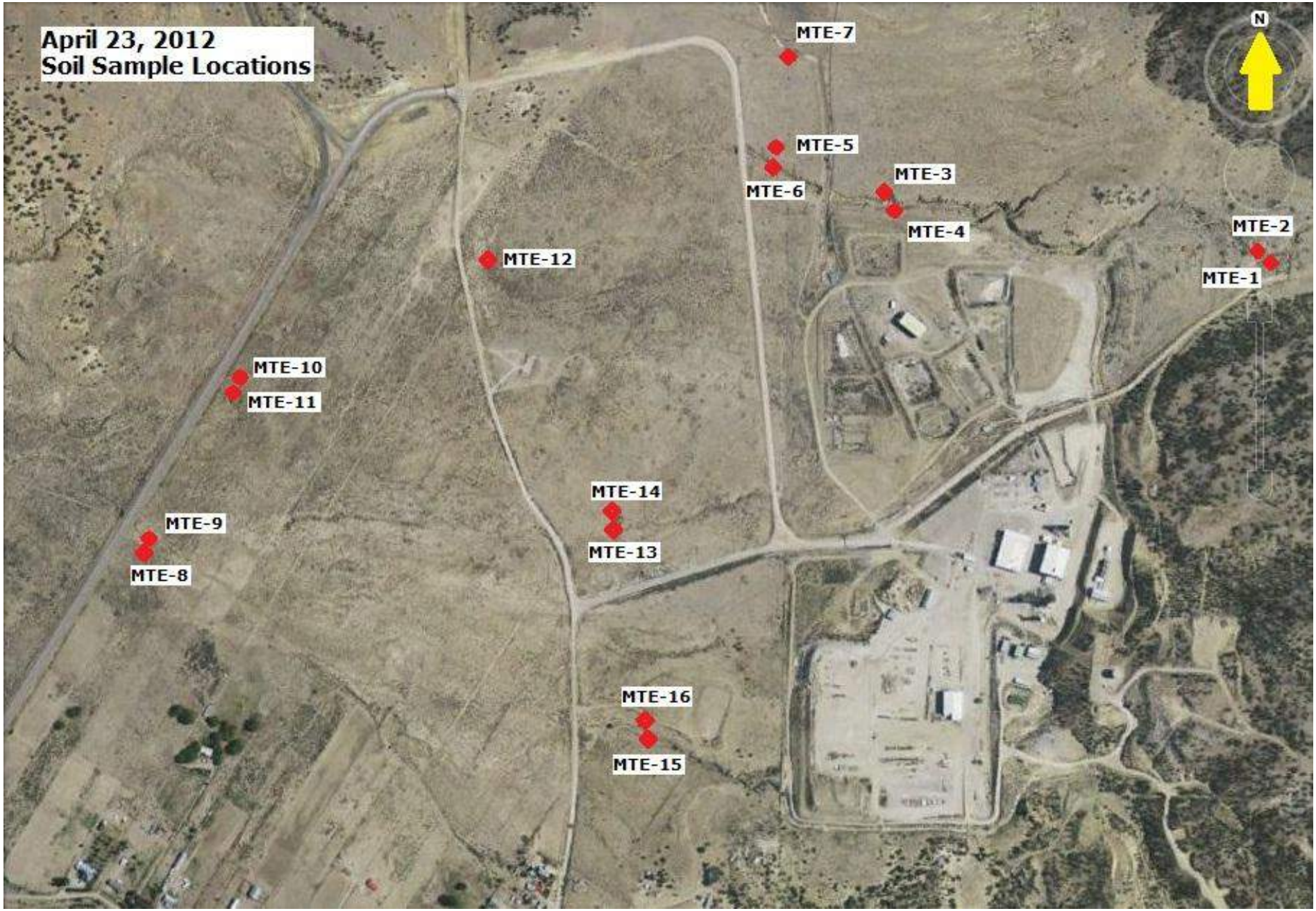

April 23, 2012
Soil Sample Locations
N
MTE-7
MTE-5
MTE-6
MTE-3
MTE-4
MTE-2
MTE-1
MTE-12
MTE-10
MTE-11
MTE-14
MTE-13
MTE-9
MTE-8
MTE-16
MTE-15

**Table 2**
**RADIATION SURVEY AND SAMPLE RESULTS**
**April 23, 2012**

| Location # | Description | Sample Time | NAD 27 Northing | NAD 27 Easting | Dose Rate (µrem/h) | U-238 (pCi/g) | Ra-226 (pCi/g) | Gross Alpha (pCi/g) |
|---|---|---|---|---|---|---|---|---|
| MTE-1 | Marquez Arroyo Top of Grade; clay | 10:20 | 1580869 | 561223 | 18 | 1.6 | 1.7 | 6.8 |
| MTE-2 | Marquez Arroyo Thalweg; very sandy | 10:25 | 1580963 | 561211 | 15 | 0.3 | 0.7 | 3.7 |
| MTE-3 | Marquez Arroyo Top of Grade; clay | 10:50 | 1581289 | 559191 | 26 | 0.5 | 1.4 | 7.6 |
| MTE-4 | Marquez Arroyo Thalweg; sandy | 10:58 | 1581226 | 559201 | 24 | 0.2 | 1.2 | 5.0 |
| MTE-5 | Marquez Arroyo Top of Grade; clay | 11:05 | 1581507 | 558551 | 18 | 0.4 | 1.4 | 4.6 |
| MTE-6 | Marquez Arroyo Thalweg; sandy | 11:10 | 1581479 | 558532 | 15 | 0.4 | 1.5 | 8.9 |
| MTE-7 | N¼ Corner Section 24; clay | 11:30 | 1582031 | 558654 | 13 | 0.6 | 1.5 | 12.4 |
| MTE-8 | Drainage Top of Grade; clay | 12:37 | 1579422 | 555004 | 14 | 1.2 | 2.8 | 9.8 |
| MTE-9 | Drainage Thalweg; clay | 12:40 | 1579428 | 555009 | 14 | 1.1 | 1.8 | 7.6 |
| MTE-10 | Drainage Top of Grade; clay | 12:52 | 1580023 | 555383 | 14 | 0.3 | 1.2 | 5.5 |
| MTE-11 | Drainage Thalweg; clay | 12:54 | 1580047 | 555376 | 13 | 0.4 | 1.2 | 4.5 |
| MTE-12 | Marquez Arroyo fan; clay | 13:40 | 1580724 | 556946 | 13 | 0.9 | 2.1 | 12.9 |
| MTE-13 | Drainage Thalweg; sandy clay | 13:55 | 1579390 | 557582 | 14 | 1.4 | 2.7 | 8.0 |
| MTE-14 | Drainage Top of Grade; clay | 14:05 | 1579410 | 557576 | 14 | 0.4 | 1.1 | 11.9 |
| MTE-15 | Drainage Thalweg; sandy | 14:45 | 1578344 | 557794 | 14 | 1.0 | 2.0 | 5.8 |
| MTE-16 | Drainage Top of Grade; clay | 14:50 | 1578386 | 557805 | 13 | 0.3 | 0.8 | 6.4 |

Notes:

1. The term "grade" above refers to the natural surface outside of and atop the drainage feature.
2. Dose Rate Instrument: Eberline PRM-7 #182, BKG = 10-12 µrem/h
3. Coordinates reported are New Mexico State Plane Coordinates in the New Mexico West UTM projection.

## Table 3
## COORDINATE CONVERSIONS

| Location # | Description | NAD 83 Coordinates | | NAD 27 Coordinates | |
|---|---|---|---|---|---|
| | | N | E | N | E |
| MTE-1 | Grade on South Side of Marquez Arroyo | 1580937 | 2784129 | 1580869 | 561223 |
| MTE-2 | Thalweg of Marquez Arroyo | 1581031 | 2784117 | 1580963 | 561211 |
| MTE-3 | Grade on North Side of Marquez Arroyo | 1581357 | 2782097 | 1581289 | 559191 |
| MTE-4 | Thalweg of Marquez Arroyo | 1581294 | 2782107 | 1581226 | 559201 |
| MTE-5 | Grade North Side of Marquez Arroyo | 1581575 | 2781457 | 1581507 | 558551 |
| MTE-6 | Thalweg of Marquez Arroyo | 1581547 | 2781438 | 1581479 | 558532 |
| MTE-7 | North 1/4 Corner Section 24 | 1582099 | 2781560 | 1582031 | 558654 |
| MTE-8 | Grade on South Side of Drainage | 1579490 | 2777910 | 1579422 | 555004 |
| MTE-9 | Thalweg of Drainage | 1579496 | 2777915 | 1579428 | 555009 |
| MTE-10 | Grade on South Side of Drainage | 1580091 | 2778289 | 1580023 | 555383 |
| MTE-11 | Thalweg of Drainage | 1580115 | 2778282 | 1580047 | 555376 |
| MTE-12 | Marquez Arroyo Fan | 1580792 | 2779852 | 1580724 | 556946 |
| MTE-13 | Thalweg of Drainage | 1579458 | 2780488 | 1579390 | 557582 |
| MTE-14 | Grade on North Side of Drainage | 1579478 | 2780482 | 1579410 | 557576 |
| MTE-15 | Thalweg of Drainage | 1578412 | 2780700 | 1578344 | 557794 |
| MTE-16 | Grade on North Side of Drainage | 1578454 | 2780711 | 1578386 | 557805 |

Note: Coordinates reported are New Mexico State Plane Coordinates in the New Mexico West UTM projection.

# ANALYTICAL SUMMARY REPORT

June 01, 2012

Rio Grande Resources Corporation
PO Box 1150
Grants, NM 87020

Workorder No.: C12041338

Project Name: Mt. Taylor Mine

Energy Laboratories, Inc. Casper WY received the following 16 samples for Rio Grande Resources Corporation on 4/30/2012 for analysis.

| Sample ID | Client Sample ID | Collect Date | Receive Date | Matrix | Test |
|---|---|---|---|---|---|
| C12041338-001 | MTE-1 | 04/23/12 10:20 | 04/30/12 | Soil | Digestion For RadioChemistry<br>Gross Alpha, Gross Beta Sample Prep<br>Gamma Sample Preparation<br>Gross Alpha, Gross Beta<br>Gross Gamma<br>Uranium, Isotopic |
| C12041338-002 | MTE-2 | 04/23/12 10:25 | 04/30/12 | Soil | Same As Above |
| C12041338-003 | MTE-3 | 04/23/12 10:50 | 04/30/12 | Soil | Same As Above |
| C12041338-004 | MTE-4 | 04/23/12 10:58 | 04/30/12 | Soil | Same As Above |
| C12041338-005 | MTE-5 | 04/23/12 11:05 | 04/30/12 | Soil | Same As Above |
| C12041338-006 | MTE-6 | 04/23/12 11:10 | 04/30/12 | Soil | Same As Above |
| C12041338-007 | MTE-7 | 04/23/12 11:30 | 04/30/12 | Soil | Same As Above |
| C12041338-008 | MTE-8 | 04/23/12 12:37 | 04/30/12 | Soil | Same As Above |
| C12041338-009 | MTE-9 | 04/23/12 12:40 | 04/30/12 | Soil | Same As Above |
| C12041338-010 | MTE-10 | 04/23/12 12:52 | 04/30/12 | Soil | Same As Above |
| C12041338-011 | MTE-11 | 04/23/12 12:56 | 04/30/12 | Soil | Same As Above |
| C12041338-012 | MTE-12 | 04/23/12 13:40 | 04/30/12 | Soil | Same As Above |
| C12041338-013 | MTE-13 | 04/23/12 13:55 | 04/30/12 | Soil | Same As Above |
| C12041338-014 | MTE-14 | 04/23/12 14:05 | 04/30/12 | Soil | Same As Above |
| C12041338-015 | MTE-15 | 04/23/12 14:45 | 04/30/12 | Soil | Same As Above |
| C12041338-016 | MTE-16 | 04/23/12 14:50 | 04/30/12 | Soil | Same As Above |

The analyses presented in this report were performed at Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Radiochemistry analyses were performed at Energy Laboratories, Inc., 2325 Kerzell Lane, Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing. Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. Data corrected for moisture content are typically noted as -dry on the report. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

If you have any questions regarding these test results, please call.

Report Approved By:

**CLIENT:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Sample Delivery Group:** C12041338

**Report Date:** 06/01/12

# CASE NARRATIVE

ORIGINAL SAMPLE SUBMITTAL(S)
All original sample submittals have been returned with the data package.

SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)
Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

GROSS ALPHA ANALYSIS
Method 900.0 for gross alpha and gross beta is intended as a drinking water method for low TDS waters. Data provided by this method for non potable waters should be viewed as inconsistent.

RADON IN AIR ANALYSIS
The desired exposure time is 48 hours (2 days). The time delay in returning the canister to the laboratory for processing should be as short as possible to avoid excessive decay. Maximum recommended delay between end of exposure to beginning of counting should not exceed 8 days.

SOIL/SOLID SAMPLES
All samples reported on an as received basis unless otherwise indicated.

ATRAZINE, SIMAZINE AND PCB ANALYSIS
Data for PCBs, Atrazine and Simazine are reported from EPA 525.2. PCB data reported by ELI reflects the results for seven individual Aroclors. When the results for all seven are ND (not detected), the sample meets EPA compliance criteria for PCB monitoring.

SUBCONTRACTING ANALYSIS
Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

BRANCH LABORATORY LOCATIONS
eli-b - Energy Laboratories, Inc. - Billings, MT
eli-g - Energy Laboratories, Inc. - Gillette, WY
eli-h - Energy Laboratories, Inc. - Helena, MT
eli-r - Energy Laboratories, Inc. - Rapid City, SD
eli-t - Energy Laboratories, Inc. - College Station, TX

CERTIFICATIONS:
USEPA: WY00002, Radiochemical WY00937; FL-DOH NELAC: E87641, Radiochemical E871017; California: 02118CA; Oregon: WY200001, Radiochemical WY200002; Utah: WY00002; Virginia: 00057; Washington: C836

ISO 17025 DISCLAIMER:
The results of this Analytical Report relate only to the items submitted for analysis.

ENERGY LABORATORIES, INC. - CASPER,WY certifies that certain method selections contained in this report meet requirements as set forth by the above accrediting authorities. Some results requested by the client may not be covered under these certifications. All analysis data to be submitted for regulatory enforcement should be certified in the sample state of origin. Please verify ELI's certification coverage by visiting www.energylab.com

ELI appreciates the opportunity to provide you with this analytical service. For additional information and services visit our web page www.energylab.com.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12041338-001
**Client Sample ID:** MTE-1

**Report Date:** 06/01/12
**Collection Date:** 04/23/12 10:20
**DateReceived:** 04/30/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Gross Alpha | 6.8 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Gross Alpha precision (±) | 0.8 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Uranium 234 | 1.7 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 precision (±) | 0.4 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 | 1.6 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 precision (±) | 0.4 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| **RADIONUCLIDES - GAMMA** | | | | | | | |
| Potassium 40 | 19.2 | pCi/g-dry | | 0.5 | | E901.1 | 05/22/12 13:10 / dpb |
| Potassium 40 precision (±) | 3.8 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 | 1.7 | pCi/g-dry | | 0.3 | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12041338-002
**Client Sample ID:** MTE-2

**Report Date:** 06/01/12
**Collection Date:** 04/23/12 10:25
**DateReceived:** 04/30/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Gross Alpha | 3.7 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Gross Alpha precision (±) | 0.7 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Uranium 234 | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 | 0.06 | pCi/g-dry | U | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| **RADIONUCLIDES - GAMMA** | | | | | | | |
| Potassium 40 | 0.0 | pCi/g-dry | U | 0.5 | | E901.1 | 05/22/12 13:10 / dpb |
| Potassium 40 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 | 0.7 | pCi/g-dry | | 0.3 | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12041338-003
**Client Sample ID:** MTE-3

**Report Date:** 06/01/12
**Collection Date:** 04/23/12 10:50
**DateReceived:** 04/30/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Gross Alpha | 7.6 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Gross Alpha precision (±) | 0.8 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Uranium 234 | 0.6 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 precision (±) | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 | -0.02 | pCi/g-dry | U | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 precision (±) | 0.1 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 | 0.5 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| **RADIONUCLIDES - GAMMA** | | | | | | | |
| Potassium 40 | 0.0 | pCi/g-dry | U | 0.5 | | E901.1 | 05/22/12 13:10 / dpb |
| Potassium 40 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 | 1.4 | pCi/g-dry | | 0.3 | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12041338-004
**Client Sample ID:** MTE-4

**Report Date:** 06/01/12
**Collection Date:** 04/23/12 10:58
**DateReceived:** 04/30/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Gross Alpha | 5.0 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Gross Alpha precision (±) | 0.7 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Uranium 234 | 0.5 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 precision (±) | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 | 0.07 | pCi/g-dry | U | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 | 0.2 | pCi/g-dry | U | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| **RADIONUCLIDES - GAMMA** | | | | | | | |
| Potassium 40 | 0.0 | pCi/g-dry | U | 0.5 | | E901.1 | 05/22/12 13:10 / dpb |
| Potassium 40 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 | 1.2 | pCi/g-dry | | 0.3 | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 precision (±) | 0.4 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12041338-005
**Client Sample ID:** MTE-5

**Report Date:** 06/01/12
**Collection Date:** 04/23/12 11:05
**DateReceived:** 04/30/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Gross Alpha | 4.6 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Gross Alpha precision (±) | 0.7 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Uranium 234 | 0.6 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 | 0.03 | pCi/g-dry | U | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 precision (±) | 0.1 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 | 0.4 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| **RADIONUCLIDES - GAMMA** | | | | | | | |
| Potassium 40 | 0.0 | pCi/g-dry | U | 0.5 | | E901.1 | 05/22/12 13:10 / dpb |
| Potassium 40 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 | 1.4 | pCi/g-dry | | 0.3 | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12041338-006
**Client Sample ID:** MTE-6

**Report Date:** 06/01/12
**Collection Date:** 04/23/12 11:10
**DateReceived:** 04/30/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Gross Alpha | 8.9 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Gross Alpha precision (±) | 0.8 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Uranium 234 | 0.5 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 | 0.09 | pCi/g-dry | U | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 | 0.4 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| **RADIONUCLIDES - GAMMA** | | | | | | | |
| Potassium 40 | 0.0 | pCi/g-dry | U | 0.5 | | E901.1 | 05/22/12 13:10 / dpb |
| Potassium 40 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 | 1.5 | pCi/g-dry | | 0.3 | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12041338-007
**Client Sample ID:** MTE-7

**Report Date:** 06/01/12
**Collection Date:** 04/23/12 11:30
**DateReceived:** 04/30/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Gross Alpha | 12.4 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Gross Alpha precision (±) | 0.9 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Uranium 234 | 0.6 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 precision (±) | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 | 0.02 | pCi/g-dry | U | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 precision (±) | 0.1 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 | 0.6 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 precision (±) | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| **RADIONUCLIDES - GAMMA** | | | | | | | |
| Potassium 40 | 0.0 | pCi/g-dry | U | 0.5 | | E901.1 | 05/22/12 13:10 / dpb |
| Potassium 40 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 | 1.5 | pCi/g-dry | | 0.3 | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12041338-008
**Client Sample ID:** MTE-8

**Report Date:** 06/01/12
**Collection Date:** 04/23/12 12:37
**DateReceived:** 04/30/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Gross Alpha | 9.8 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Gross Alpha precision (±) | 0.8 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Uranium 234 | 1.4 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 precision (±) | 0.4 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 | 0.1 | pCi/g-dry | U | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 | 1.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 precision (±) | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| **RADIONUCLIDES - GAMMA** | | | | | | | |
| Potassium 40 | 0.0 | pCi/g-dry | U | 0.5 | | E901.1 | 05/22/12 13:10 / dpb |
| Potassium 40 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 | 2.8 | pCi/g-dry | | 0.3 | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 precision (±) | 0.6 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12041338-009
**Client Sample ID:** MTE-9

**Report Date:** 06/01/12
**Collection Date:** 04/23/12 12:40
**DateReceived:** 04/30/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Gross Alpha | 7.6 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Gross Alpha precision (±) | 0.8 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Uranium 234 | 1.1 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 precision (±) | 0.4 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 | 0.2 | pCi/g-dry | U | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 | 1.1 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 precision (±) | 0.4 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| **RADIONUCLIDES - GAMMA** | | | | | | | |
| Potassium 40 | 0.0 | pCi/g-dry | U | 0.5 | | E901.1 | 05/22/12 13:10 / dpb |
| Potassium 40 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 | 1.8 | pCi/g-dry | | 0.3 | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12041338-010
**Client Sample ID:** MTE-10

**Report Date:** 06/01/12
**Collection Date:** 04/23/12 12:52
**DateReceived:** 04/30/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Gross Alpha | 5.5 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Gross Alpha precision (±) | 0.7 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Uranium 234 | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 | 0.08 | pCi/g-dry | U | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 precision (±) | 0.1 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| **RADIONUCLIDES - GAMMA** | | | | | | | |
| Potassium 40 | 0.0 | pCi/g-dry | U | 0.5 | | E901.1 | 05/22/12 13:10 / dpb |
| Potassium 40 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 | 1.2 | pCi/g-dry | | 0.3 | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12041338-011
**Client Sample ID:** MTE-11

**Report Date:** 06/01/12
**Collection Date:** 04/23/12 12:56
**DateReceived:** 04/30/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Gross Alpha | 4.5 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Gross Alpha precision (±) | 0.7 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Uranium 234 | 0.4 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 | 0.02 | pCi/g-dry | U | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 precision (±) | 0.1 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 | 0.4 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| **RADIONUCLIDES - GAMMA** | | | | | | | |
| Potassium 40 | 0.0 | pCi/g-dry | U | 0.5 | | E901.1 | 05/22/12 13:10 / dpb |
| Potassium 40 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 | 1.2 | pCi/g-dry | | 0.3 | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 precision (±) | 0.4 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12041338-012
**Client Sample ID:** MTE-12

**Report Date:** 06/01/12
**Collection Date:** 04/23/12 13:40
**DateReceived:** 04/30/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Gross Alpha | 12.9 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Gross Alpha precision (±) | 0.9 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Uranium 234 | 0.9 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 precision (±) | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 | 0.07 | pCi/g-dry | U | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 MDC | 0.4 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 | 0.9 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 precision (±) | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| **RADIONUCLIDES - GAMMA** | | | | | | | |
| Potassium 40 | 0.0 | pCi/g-dry | U | 0.5 | | E901.1 | 05/22/12 13:10 / dpb |
| Potassium 40 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 | 2.1 | pCi/g-dry | | 0.3 | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12041338-013
**Client Sample ID:** MTE-13

**Report Date:** 06/01/12
**Collection Date:** 04/23/12 13:55
**DateReceived:** 04/30/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Gross Alpha | 8.0 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Gross Alpha precision (±) | 0.8 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Uranium 234 | 1.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 precision (±) | 0.4 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 | 0.08 | pCi/g-dry | U | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 precision (±) | 0.1 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 | 1.4 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 precision (±) | 0.4 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| **RADIONUCLIDES - GAMMA** | | | | | | | |
| Potassium 40 | 0.0 | pCi/g-dry | U | 0.5 | | E901.1 | 05/22/12 13:10 / dpb |
| Potassium 40 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 | 2.7 | pCi/g-dry | | 0.3 | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12041338-014
**Client Sample ID:** MTE-14

**Report Date:** 06/01/12
**Collection Date:** 04/23/12 14:05
**DateReceived:** 04/30/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Gross Alpha | 11.9 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Gross Alpha precision (±) | 0.9 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Uranium 234 | 0.4 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 | 0.05 | pCi/g-dry | U | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 | 0.4 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| **RADIONUCLIDES - GAMMA** | | | | | | | |
| Potassium 40 | 0.0 | pCi/g-dry | U | 0.5 | | E901.1 | 05/22/12 13:10 / dpb |
| Potassium 40 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 | 1.1 | pCi/g-dry | | 0.3 | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12041338-015
**Client Sample ID:** MTE-15

**Report Date:** 06/01/12
**Collection Date:** 04/23/12 14:45
**DateReceived:** 04/30/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Gross Alpha | 5.8 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Gross Alpha precision (±) | 0.7 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Uranium 234 | 0.8 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 precision (±) | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 MDC | 0.1 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 | 0.02 | pCi/g-dry | U | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 precision (±) | 0.09 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 | 1 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 precision (±) | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 MDC | 0.1 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| **RADIONUCLIDES - GAMMA** | | | | | | | |
| Potassium 40 | 0.0 | pCi/g-dry | U | 0.5 | | E901.1 | 05/22/12 13:10 / dpb |
| Potassium 40 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 | 2.0 | pCi/g-dry | | 0.3 | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12041338-016
**Client Sample ID:** MTE-16

**Report Date:** 06/01/12
**Collection Date:** 04/23/12 14:50
**DateReceived:** 04/30/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Gross Alpha | 6.4 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Gross Alpha precision (±) | 0.8 | pCi/g-dry | | | | E900.0 | 05/02/12 12:00 / ep |
| Uranium 234 | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 precision (±) | 0.1 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 234 MDC | 0.1 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 | -0.01 | pCi/g-dry | U | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 precision (±) | 0.06 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 235 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 | 0.3 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 precision (±) | 0.1 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| Uranium 238 MDC | 0.1 | pCi/g-dry | | | | E908.0 | 05/08/12 08:58 / dmf |
| **RADIONUCLIDES - GAMMA** | | | | | | | |
| Potassium 40 | 0.0 | pCi/g-dry | U | 0.5 | | E901.1 | 05/22/12 13:10 / dpb |
| Potassium 40 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 | 0.8 | pCi/g-dry | | 0.3 | | E901.1 | 05/22/12 13:10 / dpb |
| Radium 226 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 05/22/12 13:10 / dpb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation **Report Date:** 06/01/12

**Project:** Mt. Taylor Mine **Work Order:** C12041338

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: E900.0** | | | | | | | | | | Batch: R159328 |
| **Sample ID: MB-R159328** | 2 | Method Blank | | | | Run: G5000W_120502A | | | | 05/02/12 12:00 |
| Gross Alpha | | -0.03 | pCi/g-dry | | | | | | | U |
| Gross Alpha precision (±) | | 0.6 | pCi/g-dry | | | | | | | |
| **Sample ID: LCS-R159328** | | Laboratory Control Sample | | | | Run: G5000W_120502A | | | | 05/02/12 12:00 |
| Gross Alpha | | 487 | pCi/g-dry | | 96 | 70 | 130 | | | |
| **Sample ID: C12040820-001ADUP** | 2 | Sample Duplicate | | | | Run: G5000W_120502A | | | | 05/02/12 12:00 |
| Gross Alpha | | 3.28 | pCi/g-dry | | | 70 | 130 | 14 | 20 | |
| Gross Alpha precision (±) | | 0.660 | pCi/g-dry | | | | | | | |
| - Duplicate RPD for Gross Beta is outside of the acceptance range for this analysis. | | | | | | | | | | |
| **Sample ID: C12041338-010ADUP** | 2 | Sample Duplicate | | | | Run: G5000W_120502A | | | | 05/02/12 12:00 |
| Gross Alpha | | 6.25 | pCi/g-dry | | | 70 | 130 | 13 | 20 | |
| Gross Alpha precision (±) | | 0.750 | pCi/g-dry | | | | | | | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation **Report Date:** 06/01/12

**Project:** Mt. Taylor Mine **Work Order:** C12041338

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: E901.1** | | | | | | | | | Batch: R160127 | |
| **Sample ID: LCS-R160127** | | Laboratory Control Sample | | | | Run: GAM-HPGE_120522B | | | 05/22/12 13:10 | |
| Bismuth 214 | | 2.30 | pCi/g-dry | 0.30 | 89 | 70 | 130 | | | |
| **Sample ID: MB-R160127** | 4 | Method Blank | | | | Run: GAM-HPGE_120522B | | | 05/22/12 13:10 | |
| Potassium 40 | | ND | pCi/g-dry | | | | | | | U |
| Potassium 40 precision (±) | | ND | pCi/g-dry | | | | | | | |
| Radium 226 | | ND | pCi/g-dry | | | | | | | U |
| Radium 226 precision (±) | | ND | pCi/g-dry | | | | | | | |
| **Sample ID: C12041338-010ADUP** | 4 | Sample Duplicate | | | | Run: GAM-HPGE_120522B | | | 05/22/12 13:10 | |
| Potassium 40 | | ND | pCi/g-dry | 0.50 | | | | | 20 | U |
| Potassium 40 precision (±) | | ND | pCi/g-dry | | | | | | | |
| Radium 226 | | 1.80 | pCi/g-dry | 0.30 | | | | 40 | 20 | R |
| Radium 226 precision (±) | | 0.400 | pCi/g-dry | | | | | | | |
| - Duplicate RPD for Ra226 is outside of the acceptance range for this analysis. | | | | | | | | | | |
| **Sample ID: C12041338-016ADUP** | 4 | Sample Duplicate | | | | Run: GAM-HPGE_120522B | | | 05/22/12 13:10 | |
| Potassium 40 | | ND | pCi/g-dry | 0.50 | | | | | 20 | U |
| Potassium 40 precision (±) | | ND | pCi/g-dry | | | | | | | |
| Radium 226 | | 1.00 | pCi/g-dry | 0.30 | | | | 22 | 20 | R |
| Radium 226 precision (±) | | 0.300 | pCi/g-dry | | | | | | | |
| - Duplicate RPD for Ra226 is outside of the acceptance range for this analysis. | | | | | | | | | | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

ND - Not detected at the reporting limit.

R - RPD exceeds advisory limit.

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation **Report Date:** 06/01/12

**Project:** Mt. Taylor Mine **Work Order:** C12041338

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: E908.0** | | | | | | | | | | Batch: 33540 |
| **Sample ID: C12041338-016AMS** | 2 | Sample Matrix Spike | | | | Run: EGG-ORTEC_120504B | | | | 05/08/12 13:12 |
| Uranium 234 | | 29.3 | pCi/g-dry | | 105 | 70 | 130 | | | |
| Uranium 238 | | 31.8 | pCi/g-dry | | 112 | 70 | 130 | | | |
| **Sample ID: C12041338-016AMSD** | 2 | Sample Matrix Spike Duplicate | | | | Run: EGG-ORTEC_120504B | | | | 05/08/12 13:12 |
| Uranium 234 | | 30.7 | pCi/g-dry | | 109 | 70 | 130 | 4.3 | 28.4 | |
| Uranium 238 | | 31.8 | pCi/g-dry | | 111 | 70 | 130 | 0.1 | 28.1 | |
| **Sample ID: LCS-33540** | 2 | Laboratory Control Sample | | | | Run: EGG-ORTEC_120504B | | | | 05/08/12 13:12 |
| Uranium 234 | | 2.44 | pCi/g-dry | | 105 | 80 | 120 | | | |
| Uranium 238 | | 2.53 | pCi/g-dry | | 107 | 80 | 120 | | | |
| **Sample ID: MB-33540** | 9 | Method Blank | | | | Run: EGG-ORTEC_120504B | | | | 05/08/12 13:12 |
| Uranium 234 | | 0.002 | pCi/g-dry | | | | | | | U |
| Uranium 234 precision (±) | | 0.02 | pCi/g-dry | | | | | | | |
| Uranium 234 MDC | | 0.03 | pCi/g-dry | | | | | | | |
| Uranium 235 | | -0.004 | pCi/g-dry | | | | | | | U |
| Uranium 235 precision (±) | | 0.01 | pCi/g-dry | | | | | | | |
| Uranium 235 MDC | | 0.03 | pCi/g-dry | | | | | | | |
| Uranium 238 | | 0.0001 | pCi/g-dry | | | | | | | U |
| Uranium 238 precision (±) | | 0.009 | pCi/g-dry | | | | | | | |
| Uranium 238 MDC | | 0.02 | pCi/g-dry | | | | | | | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

# Workorder Receipt Checklist

## Rio Grande Resources Corporation

C12041338

Login completed by: Corinne Wagner
Date Received: 4/30/2012
Reviewed by: BL2000\cwagner
Received by: tj
Reviewed Date: 5/2/2012
Carrier name: Ground

| | | | |
|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on shipping container/cooler? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on sample bottles? | Yes ☐ | No ☐ | Not Present ☑ |
| Chain of custody present? | Yes ☑ | No ☐ | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | |
| Sample containers intact? | Yes ☑ | No ☐ | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | |
| All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes ☑ | No ☐ | |
| Container/Temp Blank temperature: | 14.2°C | | |
| Water - VOA vials have zero headspace? | Yes ☐ | No ☐ | No VOA vials submitted ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☐ | Not Applicable ☑ |

Contact and Corrective Action Comments:

None

# Chain of Custody and Analytical Request Record



**PLEASE PRINT- Provide as much information as possible.**

| Company Name: | Project Name, PWS, Permit, Etc. | Sample Origin | EPA/State Compliance: |
|---|---|---|---|
| Rio Grande Resources Corporation #C11115 | Mt. Taylor Mine | State: NM | Yes ☒ No ☐ |
| **Report Mail Address:** PO Box 1150<br>Grants, NM 87020-1150 | **Contact Name:** Joe Lister, Manager<br>**Phone/Fax:** (505) 287-7971 | **Email:** | **Sampler: (Please Print)** Stan Fitch |
| **Invoice Address:** Rio Grande Resources<br>PO Box 1150<br>Grants, New mexico 87020 | **Invoice Contact & Phone:** Joe Lister 505-287-7971 | **Purchase Order:** | **Quote/Bottle Order:** Soil Samples |

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:**_____
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

**RUSH** Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: Sample results needed within 30 days.

Shipped by: UPS-G
Cooler ID(s): 3539 / 29
Receipt Temp 14.2 °C
On Ice: Yes (No)
Custody Seal Intact Signature Match: Y (N)

| | SAMPLE IDENTIFICATION (Name, Location, Interval, etc.) | Collection Date | Collection Time | MATRIX | Isotopic Uranium | Radium-226 | Potassium-40 | Gross Alpha | SEE ATTACHED | Normal Turnaround (TAT) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MTE-1 | 04/23/12 | 10:20 | soil | X | X | X | X | | X |
| 2 | MTE-2 | 04/23/12 | 10:25 | soil | X | X | X | X | | X |
| 3 | MTE-3 | 04/23/12 | 10:50 | soil | X | X | X | X | | X |
| 4 | MTE-4 | 04/23/12 | 10:58 | soil | X | X | X | X | | X |
| 5 | MTE-5 | 04/23/12 | 11:05 | soil | X | X | X | X | | X |
| 6 | MTE-6 | 04/23/12 | 11:10 | soil | X | X | X | X | | X |
| 7 | MTE-7 | 04/23/12 | 11:30 | soil | X | X | X | X | | X |
| 8 | MTE-8 | 04/23/12 | 12:37 | soil | X | X | X | X | | X |
| 9 | MTE-9 | 04/23/12 | 12:40 | soil | X | X | X | X | | X |
| 10 | MTE-10 | 04/23/12 | 12:52 | soil | X | X | X | X | | X |

LABORATORY USE ONLY

**Custody Record MUST be Signed**

| | Relinquished by (print): | Date/Time: | Signature: | Received by (print): | Date/Time: | Signature: |
|---|---|---|---|---|---|---|
| 1 | Stan Fitch | 04/26/12 11:00 | | | | |
| 2 | | | | | | |
| Laboratory | | | | | 4-30-12 9:20 | |

Sample Disposal: Return to Client: _____ Lab Disposal: XXXXX

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

# Chain of Custody and Analytical Request Record



**PLEASE PRINT- Provide as much information as possible.**

| | | | |
|---|---|---|---|
| Company Name: Rio Grande Resources Corporation #C11115 | Project Name, PWS, Permit, Etc.: Mt. Taylor Mine | Sample Origin State: NM | EPA/State Compliance: Yes ☑ No ☐ |
| Report Mail Address: PO Box 1150 Grants, NM 87020-1150 | Contact Name: Joe Lister, Manager | Phone/Fax: (505) 287-7971 | Email: / Sampler: (Please Print) Stan Fitch |
| Invoice Address: PO Box 1150 Grants, New Mexico 87020 | Invoice Contact & Phone: Joe Lister 505-287-7971 | Purchase Order: | Quote/Bottle Order: Soil Samples |

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA ☐ EDD/EDT (Electronic Data) Format: _____
☐ POTW/WWTP ☐ LEVEL IV
☐ State: _____ ☐ NELAC
☐ Other: _____

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

| SAMPLE IDENTIFICATION (Name, Location, Interval, etc.) | Collection Date | Collection Time | MATRIX | Isotopic Uranium | Radium-226 | Potassium-40 | Gross Alpha | SEE ATTACHED | Normal Turnaround (TAT) |
|---|---|---|---|---|---|---|---|---|---|
| 1 MTE-11 | 04/23/12 | 12:56 | soil | X | X | X | X | | X |
| 2 MTE-12 | 04/23/12 | 13:40 | soil | X | X | X | X | | X |
| 3 MTE-13 | 04/23/12 | 13:55 | soil | X | X | X | X | | X |
| 4 MTE-14 | 04/23/12 | 14:05 | soil | X | X | X | X | | X |
| 5 MTE-15 | 04/23/12 | 14:45 | soil | X | X | X | X | | X |
| 6 MTE-16 | 04/23/12 | 14:50 | soil | X | X | X | X | | X |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |

**RUSH**

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Sample results needed within 30 days.

Shipped by:

Cooler ID(s):

Receipt Temp _____ °C

On Ice: Yes No

Custody Seal Y N
Intact Y N
Signature Match Y N

LABORATORY USE ONLY

**Custody Record MUST be Signed**

| | | | |
|---|---|---|---|
| Relinquished by (print): Stan Fitch | Date/Time: 04/26/12 11:00 | Signature: | Received by (print): / Date/Time: / Signature: |
| Relinquished by (print): | Date/Time: | Signature: | Received by (print): / Date/Time: / Signature: |
| Sample Disposal: Return to Client: _____ Lab Disposal: XXXXX | | | Received by Laboratory: 4-30-12 9:20 / Date/Time: / Signature: |

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| TECHNICAL MEMORANDUM | |
|---|---|
| **To**: Bruce Norquist (RGR) | **Date**: July 06, 2020 |
| **From**: Randy Whicker (ERG) | **Project**: Mt. Taylor Mine |
| **Direct**: 970-556-1174 | **Task(s)**: Site closeout/closure Support |
| **Cc**: Chuck Farr (ERG) | |
| **Subject**: Radiological survey results for discharge pipeline and soils along pipeline corridor. | |

Dear Mr. Norquist,

This Technical Memorandum provides the results of radiological surveys of the discharge pipeline and underlying/adjacent soils at the Rio Grande Resources (RGR) Mt. Taylor Mine near San Mateo, New Mexico. This work was conducted June 23-24, 2020 to support mine closeout/closure activities.

Please let me know if you have questions or need more information.

Regards,



*Randy Whicker, CHP*
*Radiation Safety Officer*
*Mt. Taylor Mine*

Environmental Restoration Group, Inc.
8809 Washington St. NE, Suite 150
Albuquerque, NM 87113
Email: RandyWhicker@ergoffice.com

# Radiological Surveys of Discharge Pipeline

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## 1. INTRODUCTION

The Mt. Taylor Mine (Site) is a former underground uranium mine in Cibola County near the town of San Mateo, New Mexico. Owned and operated by Rio Grande Resources (RGR), the Site is situated at the foot of Mount Taylor, an extinct volcano. Gulf Mineral Resources Company (Gulf) acquired the property and began mine development in 1971. Ore production occurred between 1979 – 1982, and after a transfer of ownership to Chevron Resources Company (Chevron) in 1985, production resumed through 1990. RGR acquired the mine and other Chevron property in 1991. In 1999 the Mine entered standby status under Mine Permit C1002RE with MMD. On December 29, 2017, the permit changed to an active status, and on December 3, 2019, RGR notified MMD of intentions to begin the Site closeout/closure process.

Discharge permit DP-61 with the New Mexico Environment Department (NMED) was first issued to Gulf in 1979. Mine water was treated to meet applicable water quality standards prior to conveyance through a pipeline and surface discharge at Outfall 001 located 4.3 miles north of the Site in San Lucas Canyon (Figure 1). RGR intends to dismantle and remove the pipeline and remediate any impacted soils along the pipeline corridor, along with impacted sediments at Outfall 001 in the San Lucas Canyon drainage.

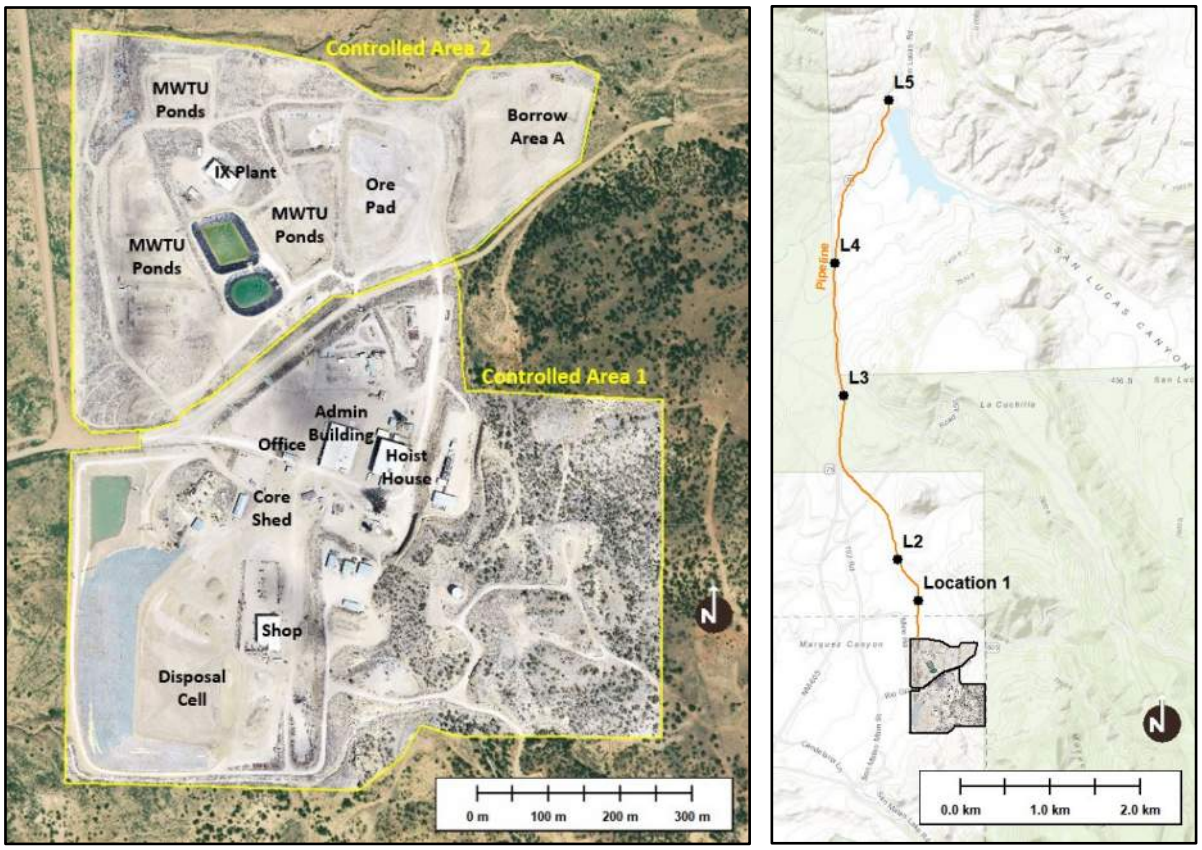



**Figure 1: Mine features within operationally Controlled Areas at the Site (left) and the 4.3 mile pipeline for conveyance of treated mine water for discharge at Outfall 001 in San Lucas Canyon under DP-61 (right). Locations for interior/exterior measurements of radiological properties of steel pipeline materials are also shown (right).**

Once dismantled and removed, the disposition of steel pipeline materials is dependent on the radiological condition of the material. The status of land areas along the pipeline corridor depends on the magnitude and extent of any radiological impacts to soils underlying and adjacent to the pipeline. This Technical Memorandum provides the results of radiological field screening measurements for pipeline materials (interior and exterior surfaces of steel piping material) at five (5) representative locations along the 4.3 mile length of the discharge pipeline (Figure 1), along with continuous GPS-based gamma scans adjacent to the pipeline to characterize terrestrial gamma radiation emissions from soils along the pipeline corridor.

Characterization survey results are presented in this report and values compared to applicable criteria for clearance or release from current radiological and regulatory controls on these mine-related features. The objective of these surveys was to help inform decisions on the future disposition of pipeline materials and infrastructure, and to estimate the extent of soil remediation that may be required along the pipeline corridor to meet Mine reclamation and closure objectives as specified in the *Mt. Taylor Mine Closeout/Closure Plan* (RGR, 2013).

## 2. CLEARANCE CRITERIA

### *2.1 Pipeline Materials and Equipment*

The clearance criteria for surface radioactivity levels on pipeline walls and volumetric criteria for loose sediments or scales are based on a national standard published jointly by the American National Standards Institute (ANSI) and the Health Physics Society (ANSI/HPS, 2013). More stringent than the U.S. Nuclear Regulatory Commission's criteria for unrestricted release of materials and equipment (M/E) from uranium recovery facilities (NRC, 2002), the ANSI/HPS standard is designed to protect human health by limiting potential radiological doses from future use of the M/E to a de-minimis value of 1 millirem (mrem)/year.

Clearance in the ANSI/HPS standard is defined as "the removal of items or materials that contain or *may* contain residual levels of radioactive materials within authorized practices from further radiological control for radiation protection purposes." This standard applies to the clearance of M/E from areas controlled to protect individuals from exposure to radiation or radioactive material during or after operations. This dose-based standard provides derived screening levels for surface and volume radioactivity. The derived screening levels that apply are presented in Table 1.

**Table 1: Surface activity screening levels for clearance of materials and equipment (adapted from ANSI/HPS, 2013).**

| Radionuclide Group | Surface Activity Limit | Volumetric Concentration Limit |
|---|---|---|
| *Group 1:* $^{Nat}$U, $^{Nat}$Th, and associated decay products: Pb210, Po210, Ra226, Ra228, Th228, Th230 | 600 dpm/100 $cm^2$ | 3 pCi/g |

The surface activity limit in Table 1 can be partitioned into alpha and beta components for the uranium and thorium decay series as follows:

The uranium decay series has 14 particles emitted, with 8 alphas (57%) and 6 betas (43%)
The thorium decay series has 12 particles emitted, with 7 alphas. (58%) and 5 betas (42%)

Since it is unknown what mixture of primordial decay series radionuclides may be present in any surface contamination on M/E at the Site, it is conservative to assume that all alpha emissions are from uranium decay series radionuclides only and an equivalent alpha screening level, assuming secular equilibrium between all uranium decay series radionuclides, is as follows:

600 dpm / 100 $cm^2$ * (0.57 α dpm/total dpm) ≈ **340 dpm α / 100 $cm^2$**

A similar calculation for beta activity gives a conservative beta screening level of 252 dpm β / 100 $cm^2$, a value that is well below the minimum detectable activity (MDA) achievable with a one-minute static count (the count time needed to meet an MDA of 250 dpm β / 100 $cm^2$ is on the order of 20-25 minutes). Given the need for a screening level that is practical to measure in the field, a screening level for alpha activity of 340 dpm/100 $cm^2$ will be used as the primary criterion for determination of compliance with the total surface activity clearance limit given in Table 1. In addition, a maximum alpha reading equivalent to 10 times the screening level (3,400 dpm α / 100 $cm^2$) for any single measurement (a secondary "hotspot" criterion) will be applied for consistency with related specifications in the ANSI/HPS standard. Individual items may be grouped into similar types of M/E to represent a "survey unit", and alpha readings within each survey unit may be used to determine compliance with both the average and hotspot alpha screening levels.

Because the ANSI clearance criteria in Table 1 were derived from a conservative receptor dose assessment that assumed infinite plane source term conditions (ANSI/HPS, 1999; Annex B), the averaging approach described above is consistent with regulatory guidance for comparison against clearance criteria as provided in MARSAME, the *Multi-Agency Radiation Survey and Assessment of Materials and Equipment Manual* (NRC, 2009). In other words, if a receptor were exposed to all M/E within a survey unit where average and maximum surface alpha activities are below respective alpha screening levels, the potential radiological dose to a receptor is conservatively assumed to be less than the de-minimis 1 mrem/year radiation dose limit specified in the ANSI/HPS standard.

If the average for the survey unit is below the primary alpha screening level, and no single measurement is greater than the secondary alpha hotspot criterion, then all M/E within the survey unit can be released from further radiological controls on the future disposition of the M/E. These criteria do not apply to offsite disposal as commercial disposal facilities may have their own radiological acceptance criteria and approved characterization methods for waste profiling. Pipeline materials that do not meet these clearance criteria will be flagged for either decontamination efforts, or for onsite disposal in the engineered waste disposal cell or offsite at an approved industrial waste disposal facility.

## *2.2 Pipeline Corridor and Outfall Soils/Sediments*

With respect to land areas along the pipeline corridor and the San Lucas Canyon drainage below discharge Outfall 001, the release criterion for surface soil or sediment (0-15 cm) is equivalent to a Ra-226 concentration of 5 pCi/g above background based on the "*Joint Guidance for the Cleanup and Reclamation*

*of Existing Uranium Mining Operations in New Mexico*" from the Mining and Minerals Division (MMD) and the Mining Environmental and Compliance Section of the New Mexico Environment Department (NMED) (MMD/NMED, 2016). The approved background Ra-226 concentration for the Site is 1.8 pCi/g, giving a total (gross) release criterion of 6.8 pCi/g of Ra-226. In addition, the "*Joint Guidance*" from MMD/NMED describes an additional criterion for ambient gamma radiation called the "post reclamation radiation level" (PRRL). As determined in RGR's "*Work Plan for Post-Mining Radiological Surveys of Permit Area and Impacted Lands Mount Taylor Mine*" (RGR, 2020a), the PRRL for the Mount Taylor Site is equivalent to a gamma exposure rate of 24.5 micro-roentgen per hour (µR/hr). If surface soils along the pipeline corridor or sediments at Outfall 001 have Ra-226 concentrations below 6.8 pCi/g, and ambient gamma exposure rates are below 24.5 µR/hr, respective land areas can be released for the Post-Mining Land Use (PMLU) as described in the *Joint Guidance* (MMD/NMED, 2016). Otherwise, soil excavation will be required until these release criteria are achieved.

## 3. METHODS

The methods used for the radiological characterization measurements and gamma surveys along the pipeline were based on applicable standard operating procedures (SOPs) provided in the Radiation Protection Program (RPP) Manual for the Mt. Taylor Mine (RGR, 2020b), including:

- SOP-2: Instrument Testing and Calibration
- SOP-3: Radiological Contamination Surveys
- SOP-7: GPS-based Gamma Radiation Surveys
- SOP-8: Soil Sampling for Radiometric Analysis

Total alpha and beta surface radioactivity levels were measured on June 24, 2020 at multiple systematic locations (top, bottom and sides) both inside and outside accessible portions of the pipeline walls at each of the locations shown in Figure 1. In order to access the interior of the pipeline at each location, a welding torch was used to cut a hole through the steel pipeline walls approximately 2 feet in diameter. Swipe (smear) samples were collected at each measurement location to evaluate readily removable surface activity. Gamma exposure rates were also measured inside of the pipeline (center and bottom). Samples of scale/sediment accumulated in the bottom of the pipeline were sampled, then screened onsite to estimate Ra-226 levels based on gross gamma readings inside of a lead-shielded, low-background counting well. These samples were then sent offsite to a qualified commercial laboratory for quantitative determination of U-nat, Th-230, Ra-226, and Pb-210 concentrations.

All field measurement data were recorded in the field logbook. Swipe samples for removable surface activity were measured in the radiation control office and recorded. Instrument quality control (QC) measurements were taken and documented to ensure proper instrument function. Photos were taken of the interior/exterior of the pipeline at each sampling/measurement location. GPS-based gamma transects were walked parallel to the pipeline just adjacent to the pipe and about 5 meters away from the pipeline. Gamma readings were manually monitored while scanning, and locations with evidence of elevated readings (above apparent background) were investigated further with additional scans to identify the outer bounds of potential radiological impacts to soil related to the pipeline.

## 4. PIPELINE MATERIALS SURVEY RESULTS

The results of alpha/beta surface activity and gamma emission measurements, along with sampling of loose residual solids (scale/sediments) inside the pipeline, are presented in the following Subsections for the five representative pipeline survey locations shown in Figure 1.

### *4.1 Pipeline Location 1*

**Table 2A: Alpha/beta surface activity measurement results for pipeline survey Location 1.**

| Pipeline Location 1 | Total Alpha Activity (DPM/100 cm²) | Total Beta Activity (DPM/100 cm²) | Removable Alpha Activity (DPM/100 cm²) | Removable Beta Activity (DPM/100 cm²) |
|---|---|---|---|---|
| Clearance Criterion | 340 | 252 | N/A* | N/A* |
| Ambient Background | 2 | 345 | 0 | 92 |
| **Measurement Point** | **Net (above background) Surface Activity** | | | |
| Outside Top | 944 | 2080 | 6 | 0 |
| Outside East | 367 | 1220 | 17 | 0 |
| Outside West | 33 | 11560 | 0 | 0 |
| Outside Bottom | 378 | 1220 | 17 | 0 |
| Inside Top | 122 | 1240 | 6 | 0 |
| Inside East | 133 | 1860 | 0 | 0 |
| Inside West | 44 | 1960 | 17 | 0 |
| Inside Bottom | 33 | 3480 | 0 | 0 |

*Removable activity criteria not applicable under the ANSI/HPS standard. NRC's release criterion for removable natural uranium in equilibrium with its decay progeny is 1,000 DPM/100 cm² (NRC, 2002).

| |
|---|
| ≤ clearance criterion |
| > clearance criterion |





**Table 2B: Gamma emission data and radionuclide activity concentrations for residual solids at pipeline survey Location 1.**

| Gamma Exposure Rate (µR/h) | | Residual Solids Concentration (pCi/g) | |
|---|---|---|---|
| Outside Background | 16 | Ra-226* | 118 |
| Interior Center | 38 | Ra-226 | 125 |
| Interior Bottom | 75 | U-nat** | 139 |
| | | Th-230 | 24.1 |
| | | Pb-210 | 27.6 |

*Screening-level estimate from shielded onsite sample counting
** Analytical result from offsite lab = 206 mg/kg

## *4.2 Pipeline Location 2*

**Table 3A: Alpha/beta surface activity measurement results for pipeline survey Location 2.**

| Pipeline Location 2 | Total Alpha Activity (DPM/100 cm²) | Total Beta Activity (DPM/100 cm²) | Removable Alpha Activity (DPM/100 cm²) | Removable Beta Activity (DPM/100 cm²) |
|---|---|---|---|---|
| Clearance Criterion | 340 | 252 | N/A* | N/A* |
| Ambient Background | 2 | 382 | 0 | 92 |
| **Measurement Point** | **Net (above background) Surface Activity** | | | |
| Outside Top | 944 | 3100 | 6 | 114 |
| Outside East | 211 | 760 | 0 | 0 |
| Outside West | 356 | 1480 | 11 | 0 |
| Outside Bottom | 89 | 13760 | 6 | 0 |
| Inside Top | 89 | 5200 | 0 | 0 |
| Inside East | 456 | 6740 | 17 | 14 |
| Inside West | 4656 | 138560 | 139 | 443 |
| Inside Bottom | 2456 | 86900 | 44 | 57 |

*Removable activity criteria are not applied under the ANSI/HPS standard. NRC's release criterion for removable natural uranium in equilibrium with its decay progeny is 1,000 DPM/100 cm² (NRC, 2002).

| |
|---|
| ≤ clearance criterion |
| > clearance criterion |





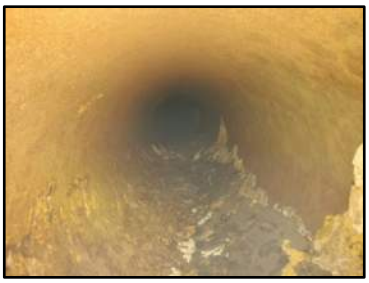
**Table 3B: Gamma emission data and radionuclide activity concentrations for residual solids at pipeline survey Location 2.**

| Gamma Exposure Rate (µR/h) | | Residual Solids Concentration (pCi/g) | |
|---|---|---|---|
| Outside Background | 17 | Ra-226* | 524 |
| Interior Center | 60 | Ra-226 | 529 |
| Interior Bottom | 100 | U-nat** | 290 |
| | | Th-230 | 31.6 |
| | | Pb-210 | 91.3 |

*Screening-level estimate from shielded onsite sample counting
** Analytical result from offsite lab = 428 mg/kg







## *4.3 Pipeline Location 3*

**Table 4A: Alpha/beta surface activity measurement results for pipeline survey Location 3.**

| Pipeline Location 3 | Total Alpha Activity (DPM/100 cm²) | Total Beta Activity (DPM/100 cm²) | Removable Alpha Activity (DPM/100 cm²) | Removable Beta Activity (DPM/100 cm²) |
|---|---|---|---|---|
| Clearance Criterion | 340 | 252 | N/A* | N/A* |
| Ambient Background | 3 | 319 | 0 | 92 |
| **Measurement Point** | **Net (above background) Surface Activity** | | | |
| Outside Top | 911 | 3000 | 17 | 29 |
| Outside East | 211 | 620 | 6 | 0 |
| Outside West | 378 | 1160 | 17 | 0 |
| Outside Bottom | 78 | 7080 | 6 | 0 |
| Inside Top | 600 | 7320 | 17 | 0 |
| Inside East | 1400 | 12420 | 39 | 143 |
| Inside West | 444 | 4420 | 33 | 0 |
| Inside Bottom | 2700 | 61320 | 44 | 0 |

*Removable activity criteria are not applied under the ANSI/HPS standard. NRC's release criterion for removable natural uranium in equilibrium with its decay progeny is 1,000 DPM/100 cm² (NRC, 2002).

| |
|---|
| ≤ clearance criterion |
| > clearance criterion |



**Table 4B: Gamma emission data and radionuclide activity concentrations for residual solids at pipeline survey Location 3.**

| Gamma Exposure Rate (µR/h) | | Residual Solids Concentration (pCi/g) | |
|---|---|---|---|
| Outside Background | 15 | Ra-226* | 340 |
| Interior Center | 39 | Ra-226 | 316 |
| Interior Bottom | 90 | U-nat** | 170 |
| | | Th-230 | 16.2 |
| | | Pb-210 | 62.8 |

*Screening-level estimate from shielded onsite sample counting
** Analytical result from offsite lab = 251 mg/kg









## *4.4 Pipeline Location 4*

**Table 5A: Alpha/beta surface activity measurement results for pipeline survey Location 4.**

| Pipeline Location 4 | Total Alpha Activity (DPM/100 cm²) | Total Beta Activity (DPM/100 cm²) | Removable Alpha Activity (DPM/100 cm²) | Removable Beta Activity (DPM/100 cm²) |
|---|---|---|---|---|
| Clearance Criterion | 340 | 252 | N/A* | N/A* |
| Ambient Background | 8 | 337 | 0 | 92 |
| **Measurement Point** | **Net (above background) Surface Activity** | | | |
| Outside Top | 822 | 2880 | 28 | 0 |
| Outside East | 344 | 1080 | 6 | 0 |
| Outside West | 500 | 2040 | 6 | 0 |
| Outside Bottom | N/A | N/A | N/A | N/A |
| Inside Top | 356 | 5360 | 0 | 0 |
| Inside East | 167 | 7500 | 22 | 0 |
| Inside West | 0 | 3920 | 22 | 0 |
| Inside Bottom | 89 | 12920 | 0 | 129 |

*Removable activity criteria are not applied under the ANSI/HPS standard. NRC's release criterion for removable natural uranium in equilibrium with its decay progeny is 1,000 DPM/100 cm² (NRC, 2002).

| |
|---|
| ≤ clearance criterion |
| > clearance criterion |



**Table 5B: Gamma emission data and radionuclide activity concentrations for residual solids at pipeline survey Location 4.**

| Gamma Exposure Rate (µR/h) | | Residual Solids Concentration (pCi/g) | |
|---|---|---|---|
| Outside Background | 17 | Ra-226* | 253 |
| Interior Center | 45 | Ra-226 | 247 |
| Interior Bottom | 100 | U-nat** | 159 |
| | | Th-230 | 7.7 |
| | | Pb-210 | 41.4 |

*Screening-level estimate from shielded onsite sample counting
** Analytical result from offsite lab = 235 mg/kg









## *4.5 Pipeline Location 5*

**Table 6A: Alpha/beta surface activity measurement results for pipeline survey Location 5.**

| Pipeline Location 5 | Total Alpha Activity (DPM/100 cm²) | Total Beta Activity (DPM/100 cm²) | Removable Alpha Activity (DPM/100 cm²) | Removable Beta Activity (DPM/100 cm²) |
|---|---|---|---|---|
| Clearance Criterion | 340 | 252 | N/A* | N/A* |
| Ambient Background | 4 | 317 | 0 | 92 |
| **Measurement Point** | **Net (above background) Surface Activity** | | | |
| Outside Top | 1144 | 3220 | 6 | 57 |
| Outside East | 378 | 120 | 17 | 57 |
| Outside West | 256 | 1100 | 11 | 0 |
| Outside Bottom | 11 | 6200 | 11 | 0 |
| Inside Top | 1900 | 10280 | 28 | 386 |
| Inside East | 1800 | 7680 | 39 | 29 |
| Inside West | 156 | 3320 | 100 | 100 |
| Inside Bottom | 989 | 16160 | 6 | 0 |

*Removable activity criteria are not applied under the ANSI/HPS standard. NRC's release criterion for removable natural uranium in equilibrium with its decay progeny is 1,000 DPM/100 cm² (NRC, 2002).

| |
|---|
| ≤ clearance criterion |
| > clearance criterion |




**Table 6B: Gamma emission data and radionuclide activity concentrations for residual solids at pipeline survey Location 5.**

| Gamma Exposure Rate (µR/h) | | Residual Solids Concentration (pCi/g) | |
|---|---|---|---|
| Outside Background | 15 | Ra-226* | 314 |
| Interior Center | 30 | Ra-226 | 306 |
| Interior Bottom | 70 | U-nat** | 64.3 |
| | | Th-230 | 8.6 |
| | | Pb-210 | 98.3 |

*Screening-level estimate from shielded onsite sample counting
**Analytical result from offsite lab = 95 mg/kg










## 5. PIPELINE CORRIDOR GAMMA SURVEY RESULTS

The gamma survey of the pipeline corridor indicates that the vast majority of soils underlying and adjacent to the discharge pipeline have terrestrial gamma emissions consistent with local background conditions (Figure 2). Approximately 7 small, localized areas of elevated gamma radiation, indicative of radiological impacts to surface soils due to historic pipeline operations, are present at various discrete locations along the corridor as depicted by the white boxes in Figure 2. Gamma exposure rate readings for six of these small "hotspots" are shown in closer detail in the insets to Figure 2. These results suggest that the volume of contaminated soil that may require excavation and removal to release pipeline corridor lands to the PRLU as described in the Mine Closeout/Closure Plan (RGR, 2013), is likely to be relatively small, perhaps a few tens to a few hundreds of cubic yards of material that may be contaminated in excess of the 6.8 pCi/g release criterion for Ra-226 concentrations in soil.

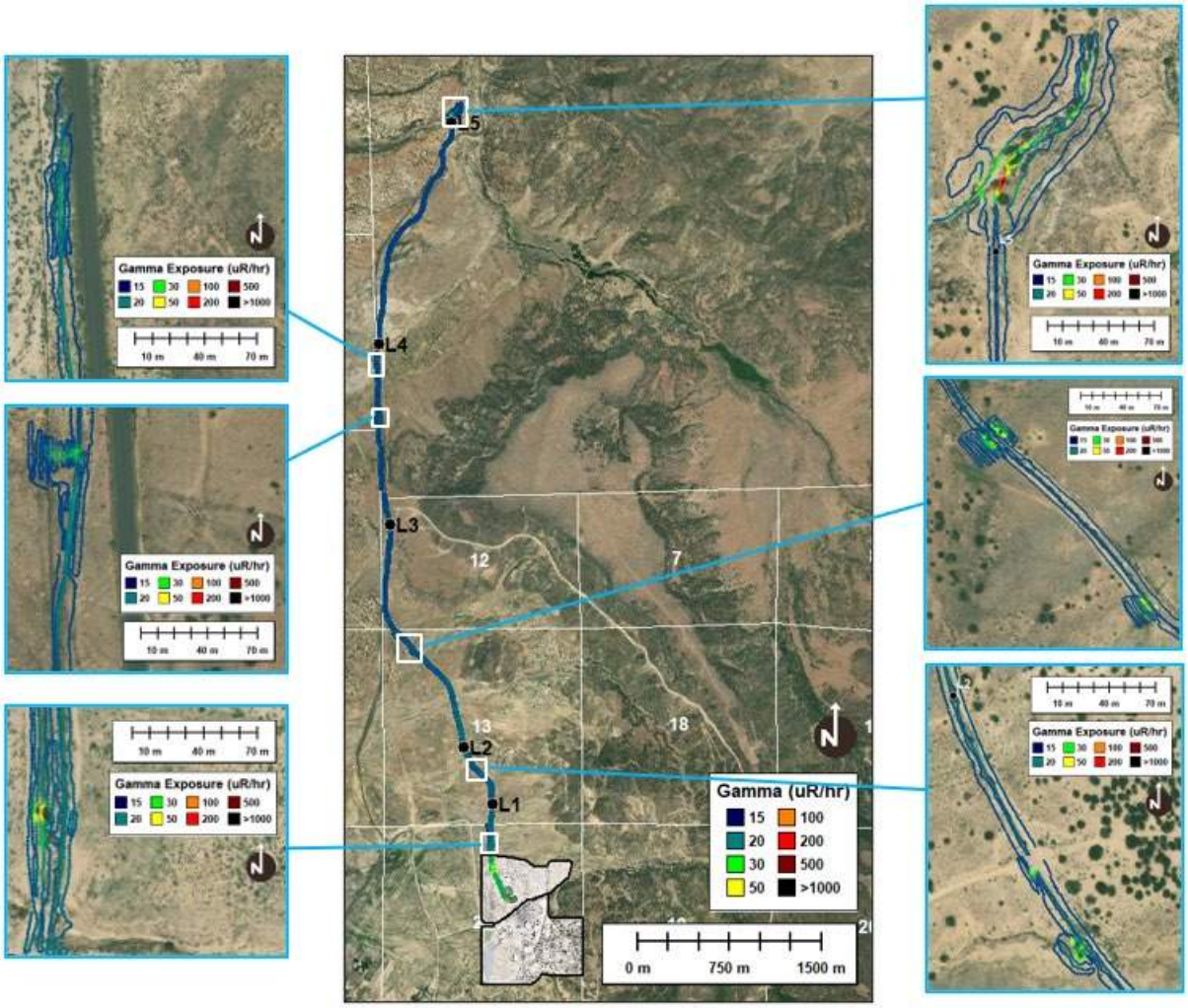



**Figure 2: Gamma survey results with detail insets to identify areas of small, localized hotspots that may require some relatively minor soil cleanup to meet the radiological criteria for release to the post remediation land use (PRLU).**

## 6. CONCLUSIONS

The results of the pipeline materials surveys (Section 4) indicate that in general, radiological impacts to the steel pipe along the length of the pipeline corridor exceed conservative, ANSI/HPS criteria for clearance from future radiological controls on access or reuse. Therefore, the options for future disposition of the pipeline materials are currently limited to 1) decontamination until the release criteria are met, or 2) onsite disposal in the engineered waste disposal cell or offsite disposal at an appropriate industrial waste disposal facility.

With respect to radiological impacts to soils, the gamma survey data suggest that spills or leaks were limited and the extent of impacts to soil that may require remediation are relatively small, perhaps involving excavation and removal of a few tens to a few hundreds of cubic yards of material. Removal of these small hotspots should result in compliance with the radiological soil release criteria specified in Section 2 along the entire length of the pipeline (including impacted sediments in the San Lucas drainage below Outfall 001 under DP-61).

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**RGR Mt. Taylor Mine** Stan Fitch
**Gamma Radiation Survey** 4/25/2016
**Clean Borrow Pile**

Instrument: Eberline PRM-7 #182, BKG = 15 µrem/h, readings waist high

| NAD 83 Datum | | | |
|---|---|---|---|
| Northing | Easting | Dose Rate µrem/h | Notes |
| 1581153 | 2783831 | 16 | Fence Angle |
| 1581120 | 2783737 | 20 | |
| 1581085 | 2783638 | 22 | |
| 1581053 | 2783536 | 32 | |
| 1581017 | 2783451 | 60 | East toe of levy |
| 1580986 | 2783331 | 60 | Crown -- top of pile, west side |
| 1580885 | 2783375 | 60 | Crown -- top of pile, west side |
| 1580910 | 2783477 | 30 | East toe of levy |
| 1580942 | 2783575 | 26 | |
| 1580972 | 2783678 | 22 | |
| 1580990 | 2783776 | 18 | |
| 1581020 | 2783874 | 18 | |
| 1581098 | 2783955 | 16 | Northeasterly Fence Corner |
| 1580992 | 2783937 | 16 | Fence Line |
| 1580955 | 2783843 | 20 | |
| 1580911 | 2783751 | 24 | |
| 1580867 | 2783656 | 25 | |
| 1580819 | 2783560 | 35 | |
| 1580785 | 2783471 | 60 | East toe of levy |
| 1580759 | 2783383 | 60 | Crown -- top of pile, west side |
| 1580652 | 2783371 | 80 | Crown -- top of pile, west side |
| 1580686 | 2783463 | 35 | East toe of levy |
| 1580709 | 2783562 | 30 | |
| 1580735 | 2783664 | 24 | |
| 1580757 | 2783770 | 26 | |
| 1580792 | 2783895 | 20 | Fence line |
| 1580703 | 2783873 | 16 | Southeasterly Fence Corner |

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

# Analytical Report

April 30, 2018

Report to:
Alan Kuhn
Alan Kuhn Associates LLC
13212 Manitoba Dr NE
Albuquerque, NM 87111

cc: Joe Lister

Bill to:
Alan Kuhn
Alan Kuhn Associates LLC
13212 Manitoba Dr NE
Albuquerque, NM 87111

Project ID: AKA-ACZ-2018.1
ACZ Project ID: L43559

Alan Kuhn:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on April 05, 2018. This project has been assigned to ACZ's project number, L43559. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L43559. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after May 30, 2018. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC1-1

ACZ Sample ID: ***L43559-01***
Date Sampled: *04/02/18 15:00*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium, total (3050) | M6020 ICP-MS | 520 | 0.68 | | * | mg/Kg | 0.05 | 0.1 | 04/17/18 13:26 | bsu |
| Uranium, total (3050) | M6020 ICP-MS | 520 | 32.9 | | * | mg/Kg | 0.05 | 0.3 | 04/17/18 13:26 | bsu |

Soil Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | D2216-80 | 1 | 88.5 | | * | % | 0.1 | 0.5 | 04/09/18 16:11 | ajm |

Soil Preparation

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Dry at 34 Degrees C | USDA No. 1, 1972 | | | | | | | | 04/09/18 8:50 | ajm |
| Digestion - Hot Plate | M3050B ICP-MS | | | | | | | | 04/12/18 9:07 | jlw |
| Sieve-2000 um (2.0mm) | ASA No.9, 15-4.2.2 | | | | | | | | 04/10/18 10:15 | ajm |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC1-2

ACZ Sample ID: ***L43559-02***
Date Sampled: *04/02/18 15:00*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium, total (3050) | M6020 ICP-MS | 515 | 0.73 | | * | mg/Kg | 0.05 | 0.1 | 04/17/18 13:30 | bsu |
| Uranium, total (3050) | M6020 ICP-MS | 515 | 28.6 | | * | mg/Kg | 0.05 | 0.3 | 04/17/18 13:30 | bsu |

Soil Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | D2216-80 | 1 | 86.2 | | * | % | 0.1 | 0.5 | 04/09/18 17:19 | ajm |

Soil Preparation

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Dry at 34 Degrees C | USDA No. 1, 1972 | | | | | | | | 04/09/18 8:53 | ajm |
| Digestion - Hot Plate | M3050B ICP-MS | | | | | | | | 04/12/18 9:28 | jlw |
| Sieve-2000 um (2.0mm) | ASA No.9, 15-4.2.2 | | | | | | | | 04/10/18 10:19 | ajm |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC2-1

ACZ Sample ID: ***L43559-03***
Date Sampled: *04/02/18 15:15*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium, total (3050) | M6020 ICP-MS | 510 | 0.15 | | * | mg/Kg | 0.05 | 0.1 | 04/17/18 13:39 | bsu |
| Uranium, total (3050) | M6020 ICP-MS | 510 | 1.30 | | * | mg/Kg | 0.05 | 0.3 | 04/17/18 13:39 | bsu |

Soil Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | D2216-80 | 1 | 92.5 | | * | % | 0.1 | 0.5 | 04/09/18 18:27 | ajm |

Soil Preparation

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Dry at 34 Degrees C | USDA No. 1, 1972 | | | | | | | | 04/09/18 8:57 | ajm |
| Digestion - Hot Plate | M3050B ICP-MS | | | | | | | | 04/12/18 10:30 | jlw |
| Sieve-2000 um (2.0mm) | ASA No.9, 15-4.2.2 | | | | | | | | 04/10/18 10:23 | ajm |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC2-2

ACZ Sample ID: ***L43559-04***
Date Sampled: *04/02/18 15:15*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium, total (3050) | M6020 ICP-MS | 515 | 0.17 | | * | mg/Kg | 0.05 | 0.1 | 04/17/18 13:40 | bsu |
| Uranium, total (3050) | M6020 ICP-MS | 515 | 1.93 | | * | mg/Kg | 0.05 | 0.3 | 04/17/18 13:40 | bsu |

Soil Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | D2216-80 | 1 | 90.2 | | * | % | 0.1 | 0.5 | 04/09/18 19:35 | ajm |

Soil Preparation

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Dry at 34 Degrees C | USDA No. 1, 1972 | | | | | | | | 04/09/18 9:01 | ajm |
| Digestion - Hot Plate | M3050B ICP-MS | | | | | | | | 04/12/18 10:51 | jlw |
| Sieve-2000 um (2.0mm) | ASA No.9, 15-4.2.2 | | | | | | | | 04/10/18 10:27 | ajm |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC3-1

ACZ Sample ID: ***L43559-05***
Date Sampled: *04/02/18 10:30*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium, total (3050) | M6020 ICP-MS | 505 | 0.12 | | * | mg/Kg | 0.05 | 0.1 | 04/17/18 13:42 | bsu |
| Uranium, total (3050) | M6020 ICP-MS | 505 | 0.73 | | * | mg/Kg | 0.05 | 0.3 | 04/17/18 13:42 | bsu |

Soil Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | D2216-80 | 1 | 94.6 | | * | % | 0.1 | 0.5 | 04/09/18 20:43 | ajm |

Soil Preparation

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Dry at 34 Degrees C | USDA No. 1, 1972 | | | | | | | | 04/09/18 9:04 | ajm |
| Digestion - Hot Plate | M3050B ICP-MS | | | | | | | | 04/12/18 11:11 | jlw |
| Sieve-2000 um (2.0mm) | ASA No.9, 15-4.2.2 | | | | | | | | 04/10/18 10:31 | ajm |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC3-2

ACZ Sample ID: ***L43559-06***
Date Sampled: *04/02/18 10:30*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium, total (3050) | M6020 ICP-MS | 505 | 0.17 | | * | mg/Kg | 0.05 | 0.1 | 04/17/18 13:44 | bsu |
| Uranium, total (3050) | M6020 ICP-MS | 505 | 1.25 | | * | mg/Kg | 0.05 | 0.3 | 04/17/18 13:44 | bsu |

Soil Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | D2216-80 | 1 | 93.5 | | * | % | 0.1 | 0.5 | 04/09/18 21:51 | ajm |

Soil Preparation

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Dry at 34 Degrees C | USDA No. 1, 1972 | | | | | | | | 04/09/18 9:08 | ajm |
| Digestion - Hot Plate | M3050B ICP-MS | | | | | | | | 04/12/18 11:32 | jlw |
| Sieve-2000 um (2.0mm) | ASA No.9, 15-4.2.2 | | | | | | | | 04/10/18 10:35 | ajm |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC4-1

ACZ Sample ID: ***L43559-07***
Date Sampled: *04/02/18 10:45*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium, total (3050) | M6020 ICP-MS | 505 | 0.14 | | * | mg/Kg | 0.05 | 0.1 | 04/17/18 13:46 | bsu |
| Uranium, total (3050) | M6020 ICP-MS | 505 | 1.26 | | * | mg/Kg | 0.05 | 0.3 | 04/17/18 13:46 | bsu |

Soil Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | D2216-80 | 1 | 92.8 | | * | % | 0.1 | 0.5 | 04/09/18 22:59 | ajm |

Soil Preparation

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Dry at 34 Degrees C | USDA No. 1, 1972 | | | | | | | | 04/09/18 9:12 | ajm |
| Digestion - Hot Plate | M3050B ICP-MS | | | | | | | | 04/12/18 11:53 | jlw |
| Sieve-2000 um (2.0mm) | ASA No.9, 15-4.2.2 | | | | | | | | 04/10/18 10:39 | ajm |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC4-2

ACZ Sample ID: ***L43559-08***
Date Sampled: *04/02/18 10:45*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium, total (3050) | M6020 ICP-MS | 505 | 0.31 | | * | mg/Kg | 0.05 | 0.1 | 04/17/18 13:48 | bsu |
| Uranium, total (3050) | M6020 ICP-MS | 505 | 5.99 | | * | mg/Kg | 0.05 | 0.3 | 04/17/18 13:48 | bsu |

Soil Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | D2216-80 | 1 | 93.3 | | * | % | 0.1 | 0.5 | 04/10/18 0:06 | ajm |

Soil Preparation

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Dry at 34 Degrees C | USDA No. 1, 1972 | | | | | | | | 04/09/18 9:15 | ajm |
| Digestion - Hot Plate | M3050B ICP-MS | | | | | | | | 04/12/18 12:14 | jlw |
| Sieve-2000 um (2.0mm) | ASA No.9, 15-4.2.2 | | | | | | | | 04/10/18 10:43 | ajm |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC5-1

ACZ Sample ID: ***L43559-09***
Date Sampled: *04/02/18 11:00*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium, total (3050) | M6020 ICP-MS | 505 | 0.19 | | * | mg/Kg | 0.05 | 0.1 | 04/17/18 13:49 | bsu |
| Uranium, total (3050) | M6020 ICP-MS | 505 | 0.96 | | * | mg/Kg | 0.05 | 0.3 | 04/17/18 13:49 | bsu |

Soil Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | D2216-80 | 1 | 91.4 | | * | % | 0.1 | 0.5 | 04/10/18 1:14 | ajm |

Soil Preparation

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Dry at 34 Degrees C | USDA No. 1, 1972 | | | | | | | | 04/09/18 9:19 | ajm |
| Digestion - Hot Plate | M3050B ICP-MS | | | | | | | | 04/12/18 12:34 | jlw |
| Sieve-2000 um (2.0mm) | ASA No.9, 15-4.2.2 | | | | | | | | 04/10/18 10:47 | ajm |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC5-2

ACZ Sample ID: ***L43559-10***
Date Sampled: *04/02/18 11:00*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium, total (3050) | M6020 ICP-MS | 505 | 0.15 | | * | mg/Kg | 0.05 | 0.1 | 04/17/18 13:51 | bsu |
| Uranium, total (3050) | M6020 ICP-MS | 505 | 0.98 | | * | mg/Kg | 0.05 | 0.3 | 04/17/18 13:51 | bsu |

Soil Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | D2216-80 | 1 | 92.5 | | * | % | 0.1 | 0.5 | 04/10/18 2:22 | ajm |

Soil Preparation

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Dry at 34 Degrees C | USDA No. 1, 1972 | | | | | | | | 04/09/18 9:23 | ajm |
| Digestion - Hot Plate | M3050B ICP-MS | | | | | | | | 04/12/18 12:55 | jlw |
| Sieve-2000 um (2.0mm) | ASA No.9, 15-4.2.2 | | | | | | | | 04/10/18 10:51 | ajm |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC6-1

ACZ Sample ID: ***L43559-11***
Date Sampled: *04/02/18 11:15*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium, total (3050) | M6020 ICP-MS | 505 | 0.17 | | * | mg/Kg | 0.05 | 0.1 | 04/17/18 13:53 | bsu |
| Uranium, total (3050) | M6020 ICP-MS | 505 | 0.68 | | * | mg/Kg | 0.05 | 0.3 | 04/17/18 13:53 | bsu |

Soil Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | D2216-80 | 1 | 92.8 | | * | % | 0.1 | 0.5 | 04/10/18 3:30 | ajm |

Soil Preparation

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Dry at 34 Degrees C | USDA No. 1, 1972 | | | | | | | | 04/09/18 9:26 | ajm |
| Digestion - Hot Plate | M3050B ICP-MS | | | | | | | | 04/12/18 13:16 | jlw |
| Sieve-2000 um (2.0mm) | ASA No.9, 15-4.2.2 | | | | | | | | 04/10/18 10:55 | ajm |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC6-2

ACZ Sample ID: ***L43559-12***
Date Sampled: *04/02/18 11:15*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium, total (3050) | M6020 ICP-MS | 505 | 0.29 | | * | mg/Kg | 0.05 | 0.1 | 04/17/18 13:58 | bsu |
| Uranium, total (3050) | M6020 ICP-MS | 505 | 1.20 | | * | mg/Kg | 0.05 | 0.3 | 04/17/18 13:58 | bsu |

Soil Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | D2216-80 | 1 | 93.7 | | * | % | 0.1 | 0.5 | 04/10/18 4:38 | ajm |

Soil Preparation

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Dry at 34 Degrees C | USDA No. 1, 1972 | | | | | | | | 04/09/18 9:30 | ajm |
| Digestion - Hot Plate | M3050B ICP-MS | | | | | | | | 04/12/18 13:37 | jlw |
| Sieve-2000 um (2.0mm) | ASA No.9, 15-4.2.2 | | | | | | | | 04/10/18 10:59 | ajm |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC7-1

ACZ Sample ID: ***L43559-13***
Date Sampled: *04/02/18 11:30*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium, total (3050) | M6020 ICP-MS | 500 | 0.11 | | * | mg/Kg | 0.05 | 0.1 | 04/17/18 14:00 | bsu |
| Uranium, total (3050) | M6020 ICP-MS | 500 | 0.44 | | * | mg/Kg | 0.05 | 0.3 | 04/17/18 14:00 | bsu |

Soil Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | D2216-80 | 1 | 95.0 | | * | % | 0.1 | 0.5 | 04/10/18 5:46 | ajm |

Soil Preparation

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Dry at 34 Degrees C | USDA No. 1, 1972 | | | | | | | | 04/09/18 9:34 | ajm |
| Digestion - Hot Plate | M3050B ICP-MS | | | | | | | | 04/12/18 13:57 | jlw |
| Sieve-2000 um (2.0mm) | ASA No.9, 15-4.2.2 | | | | | | | | 04/10/18 11:03 | ajm |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC7-2

ACZ Sample ID: ***L43559-14***
Date Sampled: *04/02/18 11:30*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium, total (3050) | M6020 ICP-MS | 500 | 0.10 | | * | mg/Kg | 0.05 | 0.1 | 04/17/18 14:02 | bsu |
| Uranium, total (3050) | M6020 ICP-MS | 500 | 0.51 | | * | mg/Kg | 0.05 | 0.3 | 04/17/18 14:02 | bsu |

Soil Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | D2216-80 | 1 | 93.3 | | * | % | 0.1 | 0.5 | 04/10/18 6:54 | ajm |

Soil Preparation

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Dry at 34 Degrees C | USDA No. 1, 1972 | | | | | | | | 04/09/18 9:37 | ajm |
| Digestion - Hot Plate | M3050B ICP-MS | | | | | | | | 04/12/18 14:18 | jlw |
| Sieve-2000 um (2.0mm) | ASA No.9, 15-4.2.2 | | | | | | | | 04/10/18 11:07 | ajm |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC8-1

ACZ Sample ID: ***L43559-15***
Date Sampled: *04/02/18 12:30*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium, total (3050) | M6020 ICP-MS | 505 | 0.17 | | * | mg/Kg | 0.05 | 0.1 | 04/17/18 14:04 | bsu |
| Uranium, total (3050) | M6020 ICP-MS | 505 | 0.78 | | * | mg/Kg | 0.05 | 0.3 | 04/17/18 14:04 | bsu |

Soil Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | D2216-80 | 1 | 90.8 | | * | % | 0.1 | 0.5 | 04/10/18 8:02 | ajm |

Soil Preparation

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Dry at 34 Degrees C | USDA No. 1, 1972 | | | | | | | | 04/09/18 9:41 | ajm |
| Digestion - Hot Plate | M3050B ICP-MS | | | | | | | | 04/12/18 14:39 | jlw |
| Sieve-2000 um (2.0mm) | ASA No.9, 15-4.2.2 | | | | | | | | 04/10/18 11:11 | ajm |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC8-2

ACZ Sample ID: ***L43559-16***
Date Sampled: *04/02/18 12:30*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Selenium, total (3050) | M6020 ICP-MS | 505 | 0.14 | | * | mg/Kg | 0.05 | 0.1 | 04/17/18 14:06 | bsu |
| Uranium, total (3050) | M6020 ICP-MS | 505 | 0.67 | | * | mg/Kg | 0.05 | 0.3 | 04/17/18 14:06 | bsu |

Soil Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Solids, Percent | D2216-80 | 1 | 92.3 | | * | % | 0.1 | 0.5 | 04/10/18 9:10 | ajm |

Soil Preparation

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Dry at 34 Degrees C | USDA No. 1, 1972 | | | | | | | | 04/09/18 9:45 | ajm |
| Digestion - Hot Plate | M3050B ICP-MS | | | | | | | | 04/12/18 15:00 | jlw |
| Sieve-2000 um (2.0mm) | ASA No.9, 15-4.2.2 | | | | | | | | 04/10/18 11:15 | ajm |

## Report Header Explanations

| | |
|---|---|
| *Batch* | A distinct set of samples analyzed at a specific time |
| *Found* | Value of the QC Type of interest |
| *Limit* | Upper limit for RPD, in %. |
| *Lower* | Lower Recovery Limit, in % (except for LCSS, mg/Kg) |
| *MDL* | Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations. |
| *PCN/SCN* | A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis |
| *PQL* | Practical Quantitation Limit. Synonymous with the EPA term "minimum level". |
| *QC* | True Value of the Control Sample or the amount added to the Spike |
| *Rec* | Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg) |
| *RPD* | Relative Percent Difference, calculation used for Duplicate QC Types |
| *Upper* | Upper Recovery Limit, in % (except for LCSS, mg/Kg) |
| *Sample* | Value of the Sample of interest |

## QC Sample Types

| | | | |
|---|---|---|---|
| *AS* | Analytical Spike (Post Digestion) | *LCSWD* | Laboratory Control Sample - Water Duplicate |
| *ASD* | Analytical Spike (Post Digestion) Duplicate | *LFB* | Laboratory Fortified Blank |
| *CCB* | Continuing Calibration Blank | *LFM* | Laboratory Fortified Matrix |
| *CCV* | Continuing Calibration Verification standard | *LFMD* | Laboratory Fortified Matrix Duplicate |
| *DUP* | Sample Duplicate | *LRB* | Laboratory Reagent Blank |
| *ICB* | Initial Calibration Blank | *MS* | Matrix Spike |
| *ICV* | Initial Calibration Verification standard | *MSD* | Matrix Spike Duplicate |
| *ICSAB* | Inter-element Correction Standard - A plus B solutions | *PBS* | Prep Blank - Soil |
| *LCSS* | Laboratory Control Sample - Soil | *PBW* | Prep Blank - Water |
| *LCSSD* | Laboratory Control Sample - Soil Duplicate | *PQV* | Practical Quantitation Verification standard |
| *LCSW* | Laboratory Control Sample - Water | *SDL* | Serial Dilution |

## QC Sample Type Explanations

| | |
|---|---|
| Blanks | Verifies that there is no or minimal contamination in the prep method or calibration procedure. |
| Control Samples | Verifies the accuracy of the method, including the prep procedure. |
| Duplicates | Verifies the precision of the instrument and/or method. |
| Spikes/Fortified Matrix | Determines sample matrix interferences, if any. |
| Standard | Verifies the validity of the calibration. |

## ACZ Qualifiers (Qual)

| | |
|---|---|
| B | Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity. |
| H | Analysis exceeded method hold time. pH is a field test with an immediate hold time. |
| L | Target analyte response was below the laboratory defined negative threshold. |
| U | The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. |

## Method References


| | |
|---|---|
| (1) | EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983. |
| (2) | EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993. |
| (3) | EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994. |
| (4) | EPA SW-846. Test Methods for Evaluating Solid Waste. |
| (5) | Standard Methods for the Examination of Water and Wastewater. |


## Comments

| | |
|---|---|
| (1) | QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations. |
| (2) | Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis. |
| (3) | Animal matrices for Inorganic analyses are reported on an "as received" basis. |
| (4) | An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result. |
| (5) | If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit. |

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

**Alan Kuhn Associates LLC**

ACZ Project ID: ***L43559***

*NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.*

**Selenium, total (3050)** M6020 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WG445528** | | | | | | | | | | | | | |
| WG445528ICV | ICV | 04/17/18 13:10 | MS180329-2 | .05 | | .04911 | mg/L | 98 | 90 | 110 | | | |
| WG445528ICB | ICB | 04/17/18 13:12 | | | | U | mg/L | | -0.0003 | 0.0003 | | | |
| WG445221PBS | PBS | 04/17/18 13:21 | | | | U | mg/Kg | | -0.15 | 0.15 | | | |
| WG445221LCSS | LCSS | 04/17/18 13:23 | PCN55863 | 117 | | 117.61 | mg/Kg | | 91.8 | 141 | | | |
| WG445221LCSSD | LCSSD | 04/17/18 13:25 | PCN55863 | 117 | | 118.42 | mg/Kg | | 91.8 | 141 | 1 | 20 | |
| L43559-02MS | MS | 04/17/18 13:32 | MS180321-2 | 12.887875 | .73 | 13.425 | mg/Kg | 99 | 75 | 125 | | | |
| L43559-02MSD | MSD | 04/17/18 13:37 | MS180321-2 | 12.887875 | .73 | 12.827 | mg/Kg | 94 | 75 | 125 | 5 | 20 | |

**Solids, Percent** D2216-80

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WG444935** | | | | | | | | | | | | | |
| WG444935PBS | PBS | 04/09/18 11:40 | | | | U | % | | -0.1 | 0.1 | | | |
| L43555-01DUP | DUP | 04/09/18 13:55 | | | 73.8 | 73.6 | % | | | | 0 | 20 | |

**Uranium, total (3050)** M6020 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WG445528** | | | | | | | | | | | | | |
| WG445528ICV | ICV | 04/17/18 13:10 | MS180329-2 | .05 | | .04956 | mg/L | 99 | 90 | 110 | | | |
| WG445528ICB | ICB | 04/17/18 13:12 | | | | U | mg/L | | -0.0003 | 0.0003 | | | |
| WG445221PBS | PBS | 04/17/18 13:21 | | | | U | mg/Kg | | -0.15 | 0.15 | | | |
| WG445221LCSS | LCSS | 04/17/18 13:23 | PCN55863 | 109 | | 105.36 | mg/Kg | | 83 | 135 | | | |
| WG445221LCSSD | LCSSD | 04/17/18 13:25 | PCN55863 | 109 | | 107.95 | mg/Kg | | 83 | 135 | 2 | 20 | |
| L43559-02MS | MS | 04/17/18 13:32 | MS180321-2 | 12.875 | 28.6 | 29.887 | mg/Kg | 10 | 75 | 125 | | | M2 |
| L43559-02MSD | MSD | 04/17/18 13:37 | MS180321-2 | 12.875 | 28.6 | 32.046 | mg/Kg | 27 | 75 | 125 | 7 | 20 | M2 |

**Alan Kuhn Associates LLC** ACZ Project ID: ***L43559***

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|---|---|---|---|---|---|
| **L43559-01** | WG445528 | Selenium, total (3050) | M6020 ICP-MS | ZG | The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL. |
| | | Uranium, total (3050) | M6020 ICP-MS | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-02** | WG445528 | Selenium, total (3050) | M6020 ICP-MS | ZG | The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL. |
| | | Uranium, total (3050) | M6020 ICP-MS | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-03** | WG445528 | Selenium, total (3050) | M6020 ICP-MS | ZG | The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL. |
| | | Uranium, total (3050) | M6020 ICP-MS | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-04** | WG445528 | Selenium, total (3050) | M6020 ICP-MS | ZG | The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL. |
| | | Uranium, total (3050) | M6020 ICP-MS | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-05** | WG445528 | Selenium, total (3050) | M6020 ICP-MS | ZG | The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL. |
| | | Uranium, total (3050) | M6020 ICP-MS | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-06** | WG445528 | Selenium, total (3050) | M6020 ICP-MS | ZG | The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL. |
| | | Uranium, total (3050) | M6020 ICP-MS | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-07** | WG445528 | Selenium, total (3050) | M6020 ICP-MS | ZG | The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL. |
| | | Uranium, total (3050) | M6020 ICP-MS | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-08** | WG445528 | Selenium, total (3050) | M6020 ICP-MS | ZG | The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL. |
| | | Uranium, total (3050) | M6020 ICP-MS | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-09** | WG445528 | Selenium, total (3050) | M6020 ICP-MS | ZG | The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL. |
| | | Uranium, total (3050) | M6020 ICP-MS | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-10** | WG445528 | Selenium, total (3050) | M6020 ICP-MS | ZG | The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL. |
| | | Uranium, total (3050) | M6020 ICP-MS | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-11** | WG445528 | Selenium, total (3050) | M6020 ICP-MS | ZG | The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL. |
| | | Uranium, total (3050) | M6020 ICP-MS | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |

**Alan Kuhn Associates LLC** ACZ Project ID: ***L43559***

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|---|---|---|---|---|---|
| **L43559-12** | WG445528 | Selenium, total (3050) | M6020 ICP-MS | ZG | The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL. |
| | | Uranium, total (3050) | M6020 ICP-MS | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-13** | WG445528 | Selenium, total (3050) | M6020 ICP-MS | ZG | The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL. |
| | | Uranium, total (3050) | M6020 ICP-MS | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-14** | WG445528 | Selenium, total (3050) | M6020 ICP-MS | ZG | The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL. |
| | | Uranium, total (3050) | M6020 ICP-MS | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-15** | WG445528 | Selenium, total (3050) | M6020 ICP-MS | ZG | The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL. |
| | | Uranium, total (3050) | M6020 ICP-MS | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-16** | WG445528 | Selenium, total (3050) | M6020 ICP-MS | ZG | The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL. |
| | | Uranium, total (3050) | M6020 ICP-MS | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC1-1
Locator:

ACZ Sample ID: ***L43559-01***
Date Sampled: *04/02/18 15:00*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Radium 226 (3050) Prep Method:
M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 226 (3050) | 04/26/18 0:00 | | 11 | 0.71 | 0.25 | pCi/g | * | leb |

Radium 228, 3050 Prep Method:
M904.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 228, 3050 | 04/18/18 11:08 | | 0.13 | 1.3 | 1.4 | pCi/g | * | jlg |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC1-2
Locator:

ACZ Sample ID: ***L43559-02***
Date Sampled: *04/02/18 15:00*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Radium 226 (3050) Prep Method:
M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 226 (3050) | 04/26/18 0:00 | | 13 | 0.72 | 0.08 | pCi/g | * | leb |

Radium 228, 3050 Prep Method:
M904.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 228, 3050 | 04/18/18 11:08 | | 1.1 | 1.3 | 1.3 | pCi/g | * | jlg |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC2-1
Locator:

ACZ Sample ID: ***L43559-03***
Date Sampled: *04/02/18 15:15*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Radium 226 (3050) Prep Method:
M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 226 (3050) | 04/26/18 0:00 | | 0.81 | 0.26 | 0.45 | pCi/g | * | leb |

Radium 228, 3050 Prep Method:
M904.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 228, 3050 | 04/18/18 11:08 | | 0.31 | 1.2 | 1.3 | pCi/g | * | jlg |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC2-2
Locator:

ACZ Sample ID: ***L43559-04***
Date Sampled: *04/02/18 15:15*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Radium 226 (3050) Prep Method:
M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 226 (3050) | 04/26/18 0:00 | | 0.67 | 0.23 | 0.53 | pCi/g | * | leb |

Radium 228, 3050 Prep Method:
M904.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 228, 3050 | 04/18/18 11:08 | | 0.03 | 1.4 | 1.5 | pCi/g | * | jlg |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC3-1
Locator:

ACZ Sample ID: ***L43559-05***
Date Sampled: *04/02/18 10:30*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Radium 226 (3050) Prep Method:
M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 226 (3050) | 04/26/18 0:00 | | 0.73 | 0.34 | 0.5 | pCi/g | * | leb |

Radium 228, 3050 Prep Method:
M904.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 228, 3050 | 04/18/18 11:08 | | 0.12 | 1.3 | 1.3 | pCi/g | * | jlg |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC3-2
Locator:

ACZ Sample ID: ***L43559-06***
Date Sampled: *04/02/18 10:30*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Radium 226 (3050) Prep Method:
M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 226 (3050) | 04/26/18 0:00 | | 0.49 | 0.3 | 0.33 | pCi/g | * | leb |

Radium 228, 3050 Prep Method:
M904.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 228, 3050 | 04/18/18 11:08 | | 1.1 | 1.2 | 1.2 | pCi/g | * | jlg |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC4-1
Locator:

ACZ Sample ID: ***L43559-07***
Date Sampled: *04/02/18 10:45*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Radium 226 (3050) Prep Method:
M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 226 (3050) | 04/26/18 0:00 | | 1.2 | 0.33 | 0.57 | pCi/g | * | leb |

Radium 228, 3050 Prep Method:
M904.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 228, 3050 | 04/18/18 11:08 | | -0.27 | 1.4 | 1.5 | pCi/g | * | jlg |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC4-2
Locator:

ACZ Sample ID: ***L43559-08***
Date Sampled: *04/02/18 10:45*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Radium 226 (3050) Prep Method:
M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 226 (3050) | 04/26/18 0:00 | | 0.96 | 0.35 | 0.56 | pCi/g | * | leb |

Radium 228, 3050 Prep Method:
M904.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 228, 3050 | 04/18/18 11:08 | | 0.22 | 1.5 | 1.5 | pCi/g | * | jlg |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC5-1
Locator:

ACZ Sample ID: ***L43559-09***
Date Sampled: *04/02/18 11:00*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Radium 226 (3050) Prep Method:
M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 226 (3050) | 04/26/18 0:00 | | 0.92 | 0.26 | 0.19 | pCi/g | * | leb |

Radium 228, 3050 Prep Method:
M904.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 228, 3050 | 04/18/18 11:08 | | 0.97 | 1.8 | 1.9 | pCi/g | * | jlg |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC5-2
Locator:

ACZ Sample ID: ***L43559-10***
Date Sampled: *04/02/18 11:00*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Radium 226 (3050) Prep Method:
M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 226 (3050) | 04/26/18 0:00 | | 4.2 | 0.5 | 0.7 | pCi/g | * | leb |

Radium 228, 3050 Prep Method:
M904.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 228, 3050 | 04/18/18 13:28 | | 0.68 | 1.4 | 1.4 | pCi/g | * | jlg |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC6-1
Locator:

ACZ Sample ID: ***L43559-11***
Date Sampled: *04/02/18 11:15*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Radium 226 (3050) Prep Method:
M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 226 (3050) | 04/26/18 0:00 | | 0.36 | 0.25 | 0.31 | pCi/g | | leb |

Radium 228, 3050 Prep Method:
M904.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 228, 3050 | 04/18/18 13:28 | | -0.24 | 1.1 | 1.2 | pCi/g | * | jlg |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC6-2
Locator:

ACZ Sample ID: ***L43559-12***
Date Sampled: *04/02/18 11:15*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Radium 226 (3050) Prep Method:
M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 226 (3050) | 04/26/18 0:00 | | 2.2 | 0.35 | 0.5 | pCi/g | | leb |

Radium 228, 3050 Prep Method:
M904.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 228, 3050 | 04/18/18 13:28 | | -0.01 | 1.1 | 1.2 | pCi/g | * | jlg |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC7-1
Locator:

ACZ Sample ID: ***L43559-13***
Date Sampled: *04/02/18 11:30*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Radium 226 (3050) Prep Method:
M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 226 (3050) | 04/26/18 0:00 | | 1.5 | 0.26 | 0.51 | pCi/g | | leb |

Radium 228, 3050 Prep Method:
M904.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 228, 3050 | 04/18/18 13:28 | | -0.76 | 1.2 | 1.3 | pCi/g | * | jlg |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC7-2
Locator:

ACZ Sample ID: ***L43559-14***
Date Sampled: *04/02/18 11:30*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Radium 226 (3050) Prep Method:
M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 226 (3050) | 04/26/18 0:00 | | 0.74 | 0.24 | 0.32 | pCi/g | | leb |

Radium 228, 3050 Prep Method:
M904.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 228, 3050 | 04/18/18 13:28 | | 0.76 | 1.2 | 1.2 | pCi/g | * | jlg |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC8-1
Locator:

ACZ Sample ID: ***L43559-15***
Date Sampled: *04/02/18 12:30*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Radium 226 (3050) Prep Method:
M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 226 (3050) | 04/26/18 0:00 | | 1.2 | 0.29 | 0.22 | pCi/g | | leb |

Radium 228, 3050 Prep Method:
M904.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 228, 3050 | 04/18/18 13:28 | | 0.43 | 1.4 | 1.5 | pCi/g | * | jlg |

**Alan Kuhn Associates LLC**
Project ID: AKA-ACZ-2018.1
Sample ID: SMC8-2
Locator:

ACZ Sample ID: ***L43559-16***
Date Sampled: *04/02/18 12:30*
Date Received: *04/05/18*
Sample Matrix: *Soil*

Radium 226 (3050) Prep Method:
M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 226 (3050) | 04/26/18 0:00 | | 1.1 | 0.3 | 0.18 | pCi/g | | leb |

Radium 228, 3050 Prep Method:
M904.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---|---|---|---|---|---|---|---|---|
| Radium 228, 3050 | 04/18/18 13:28 | | 1 | 1.3 | 1.4 | pCi/g | * | jlg |

## Report Header Explanations

| | |
|---|---|
| *Batch* | A distinct set of samples analyzed at a specific time |
| *Error(+/-)* | Calculated sample specific uncertainty |
| *Found* | Value of the QC Type of interest |
| *Limit* | Upper limit for RPD, in %. |
| *LCL* | Lower Control Limit, in % (except for LCSS, mg/Kg) |
| *LLD* | Calculated sample specific Lower Limit of Detection |
| *PCN/SCN* | A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis |
| *PQL* | Practical Quantitation Limit |
| *QC* | True Value of the Control Sample or the amount added to the Spike |
| *Rec* | Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg) |
| *RER* | Relative Error Ratio, calculation used for Dup. QC taking into account the error factor. |
| *RPD* | Relative Percent Difference, calculation used for Duplicate QC Types |
| *UCL* | Upper Control Limit, in % (except for LCSS, mg/Kg) |
| *Sample* | Value of the Sample of interest |

## QC Sample Types

| | | | |
|---|---|---|---|
| *DUP* | Sample Duplicate | *MS/MSD* | Matrix Spike/Matrix Spike Duplicate |
| *LCSS* | Laboratory Control Sample - Soil | *PBS* | Prep Blank - Soil |
| *LCSW* | Laboratory Control Sample - Water | *PBW* | Prep Blank - Water |

## QC Sample Type Explanations

| | |
|---|---|
| Blanks | Verifies that there is no or minimal contamination in the prep method procedure. |
| Control Samples | Verifies the accuracy of the method, including the prep procedure. |
| Duplicates | Verifies the precision of the instrument and/or method. |
| Matrix Spikes | Determines sample matrix interferences, if any. |

## ACZ Qualifiers (Qual)

| | |
|---|---|
| H | Analysis exceeded method hold time. |

## Method Prefix Reference

| | |
|---|---|
| M | EPA methodology, including those under SDWA, CWA, and RCRA |
| SM | Standard Methods for the Examination of Water and Wastewater. |
| D | ASTM |
| RP | DOE |
| ESM | DOE/ESM |

## Comments

| | |
|---|---|
| (1) | Solid matrices are reported on a dry weight basis. |
| (2) | Preparation method: "Method" indicates preparation defined in analytical method. |
| (3) | QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations. |
| (4) | An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result. |

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

**Alan Kuhn Associates LLC**

ACZ Project ID: ***L43559***

*NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.*

**Radium 226 (3050)** M903.1 **Units:** pCi/g

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WG446162** | | | | | | | | | | | | | | | | |
| L43559-04DUP | DUP-RER | 04/26/18 | | | 0.67 | 0.23 | 0.53 | 1.9 | 0.28 | 0.13 | | | | 3.39 | 2 | RC |
| WG445113PBS | PBS | 04/26/18 | | | | | | .14 | 0.18 | 0.15 | | | 0.3 | | | |
| WG445113LCSS | LCSS | 04/26/18 | PCN54812 | 40 | | | | 33 | 1.1 | 0.12 | 83 | 43 | 148 | | | |
| L43559-14MS | MS | 04/26/18 | PCN54812 | 40 | 0.74 | 0.24 | 0.32 | 34 | 1.2 | 0.2 | 83 | 43 | 148 | | | |
| L43559-08DUP | DUP-RER | 04/26/18 | | | 0.96 | 0.35 | 0.56 | .25 | 0.21 | 0.13 | | | | 1.74 | 2 | |

**Radium 228, 3050** M904.0 **Units:** pCi/g

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **WG445692** | | | | | | | | | | | | | | | | |
| WG445110PBS | PBS | 04/18/18 | | | | | | -.75 | 1.2 | 1.4 | | | 2.8 | | | |
| WG445110LCSS | LCSS | 04/18/18 | PCN53179 | 17.56 | | | | 17 | 2 | 1.3 | 97 | 47 | 123 | | | |
| L43559-08MS | MS | 04/18/18 | PCN53179 | 17.92 | 0.22 | 1.5 | 1.5 | 36 | 3.9 | 2.5 | 200 | 47 | 123 | | | M1 |
| L43559-14DUP | DUP-RER | 04/18/18 | | | 0.76 | 1.2 | 1.2 | -.22 | 1 | 1.1 | | | | 0.63 | 2 | |
| L43559-04DUP | DUP-RER | 04/18/18 | | | 0.03 | 1.4 | 1.5 | 1.1 | 1.1 | 1.1 | | | | 0.6 | 2 | |

**Alan Kuhn Associates LLC** ACZ Project ID: ***L43559***

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|---|---|---|---|---|---|
| **L43559-01** | WG446162 | Radium 226 (3050) | M903.1 | RC | For a solid matrix, the matrix duplicate precision assessment (RPD or RER) exceeded the control limit, which is attributable to the non-homogeneity of the sample. |
| | WG445692 | Radium 228, 3050 | M904.0 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-02** | WG446162 | Radium 226 (3050) | M903.1 | RC | For a solid matrix, the matrix duplicate precision assessment (RPD or RER) exceeded the control limit, which is attributable to the non-homogeneity of the sample. |
| | WG445692 | Radium 228, 3050 | M904.0 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-03** | WG446162 | Radium 226 (3050) | M903.1 | RC | For a solid matrix, the matrix duplicate precision assessment (RPD or RER) exceeded the control limit, which is attributable to the non-homogeneity of the sample. |
| | WG445692 | Radium 228, 3050 | M904.0 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-04** | WG446162 | Radium 226 (3050) | M903.1 | RC | For a solid matrix, the matrix duplicate precision assessment (RPD or RER) exceeded the control limit, which is attributable to the non-homogeneity of the sample. |
| | WG445692 | Radium 228, 3050 | M904.0 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-05** | WG446162 | Radium 226 (3050) | M903.1 | RC | For a solid matrix, the matrix duplicate precision assessment (RPD or RER) exceeded the control limit, which is attributable to the non-homogeneity of the sample. |
| | WG445692 | Radium 228, 3050 | M904.0 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-06** | WG446162 | Radium 226 (3050) | M903.1 | RC | For a solid matrix, the matrix duplicate precision assessment (RPD or RER) exceeded the control limit, which is attributable to the non-homogeneity of the sample. |
| | WG445692 | Radium 228, 3050 | M904.0 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-07** | WG446162 | Radium 226 (3050) | M903.1 | RC | For a solid matrix, the matrix duplicate precision assessment (RPD or RER) exceeded the control limit, which is attributable to the non-homogeneity of the sample. |
| | WG445692 | Radium 228, 3050 | M904.0 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-08** | WG446162 | Radium 226 (3050) | M903.1 | RC | For a solid matrix, the matrix duplicate precision assessment (RPD or RER) exceeded the control limit, which is attributable to the non-homogeneity of the sample. |
| | WG445692 | Radium 228, 3050 | M904.0 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-09** | WG446162 | Radium 226 (3050) | M903.1 | RC | For a solid matrix, the matrix duplicate precision assessment (RPD or RER) exceeded the control limit, which is attributable to the non-homogeneity of the sample. |
| | WG445692 | Radium 228, 3050 | M904.0 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-10** | WG446162 | Radium 226 (3050) | M903.1 | RC | For a solid matrix, the matrix duplicate precision assessment (RPD or RER) exceeded the control limit, which is attributable to the non-homogeneity of the sample. |
| | WG445692 | Radium 228, 3050 | M904.0 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-11** | WG445692 | Radium 228, 3050 | M904.0 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-12** | WG445692 | Radium 228, 3050 | M904.0 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-13** | WG445692 | Radium 228, 3050 | M904.0 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |

**Alan Kuhn Associates LLC** ACZ Project ID: ***L43559***

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|---|---|---|---|---|---|
| **L43559-14** | WG445692 | Radium 228, 3050 | M904.0 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-15** | WG445692 | Radium 228, 3050 | M904.0 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| **L43559-16** | WG445692 | Radium 228, 3050 | M904.0 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |

Radiochemistry

**The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.**

| | |
|---|---|
| Radium 228, 3050 | M904.0 |

Soil Analysis

**The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.**

| | |
|---|---|
| Solids, Percent | D2216-80 |

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

# Sample Receipt

**Alan Kuhn Associates LLC**
AKA-ACZ-2018.1

ACZ Project ID: L43559
Date Received: 04/05/2018 10:42
Received By:
Date Printed: 4/6/2018

## Receipt Verification

| | YES | NO | NA |
|---|---|---|---|
| 1) Is a foreign soil permit included for applicable samples? | | | X |
| 2) Is the Chain of Custody form or other directive shipping papers present? | X | | |
| 3) Does this project require special handling procedures such as CLP protocol? | | X | |
| 4) Are any samples NRC licensable material? | | | X |
| 5) If samples are received past hold time, proceed with requested short hold time analyses? | X | | |
| 6) Is the Chain of Custody form complete and accurate? | X | | |
| 7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples? | X | | |

A change was made in the Page 1 Sampler's Name. Relinquished By. Page 2 Copy of Report to. Invoice to. Relinquished By Date:Time section prior to ACZ custody.

## Samples/Containers

| | YES | NO | NA |
|---|---|---|---|
| 8) Are all containers intact and with no leaks? | X | | |
| 9) Are all labels on containers and are they intact and legible? | X | | |
| 10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time? | X | | |
| 11) For preserved bottle types, was the pH checked and within limits? [1] | | | X |
| 12) Is there sufficient sample volume to perform all requested work? | X | | |
| 13) Is the custody seal intact on all containers? | | | X |
| 14) Are samples that require zero headspace acceptable? | | | X |
| 15) Are all sample containers appropriate for analytical requirements? | X | | |
| 16) Is there an Hg-1631 trip blank present? | | | X |
| 17) Is there a VOA trip blank present? | | | X |
| 18) Were all samples received within hold time? | X | | |

NA indicates Not Applicable

## Chain of Custody Related Remarks

The 'Relinquished By' field on the COC was not completed. The project manager is contacting the client.

## Client Contact Remarks

## Shipping Containers

| Cooler Id | Temp(°C) | Temp Criteria(°C) | Rad(µR/Hr) | Custody Seal Intact? |
|---|---|---|---|---|
| 5350 | 15.5 | NA | 17 | N/A |
| NA28102 | 14.2 | NA | 13 | N/A |

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

# Sample Receipt

**Alan Kuhn Associates LLC**
AKA-ACZ-2018.1

ACZ Project ID: L43559
Date Received: 04/05/2018 10:42
Received By:
Date Printed: 4/6/2018

Was ice present in the shipment container(s)?

No - Wet or gel ice was not present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

# ACZ Laboratories, Inc. L43559

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

## CHAIN of CUSTODY

**Report to:**

Name: Alan Kuhn
Company: Alan Kuhn Associates LLC
E-mail: akkuhn41@gmail.com
Address: 13212 Manitoba Dr NE
Albuquerque NM 87111
Telephone: 505 350 9188

**Copy of Report to:**

Name: Joe Lister
Company: Rio Grande Resources
E-mail: joel.lister@riograderesources.com
Telephone: 505 287 7971

**Invoice to:**

Name: Alan Kuhn
Company: Alan Kuhn Associates
E-mail: akkuhn41@gmail.com
Address: 13212 Manitoba Dr NE
Albuquerque NM 87111
Telephone: 505 350 9188

**If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?** N/A YES [ ] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

**Are samples for SDWA Compliance Monitoring?** Yes [ ] No [X]

**If yes, please include state forms. Results will be reported to PQL for Colorado.**

**Sampler's Name:** A. Kuhn **Sampler's Site Information** **State** NM **Zip code** 87020 **Time Zone** MDT

***Sampler's Signature:** Alan Kuhn

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

**PROJECT INFORMATION**

Quote #:
PO#: AKA-ACZ-2018.1
Reporting state for compliance testing: NM
Check box if samples include NRC licensed material? NO

**ANALYSES REQUESTED** *(attach list or use quote number)*

| | SAMPLE IDENTIFICATION | DATE:TIME | Matrix | # of Containers | V | Ra | Se | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | SMC1-1 | 4/2/18 1500 | Soil | 1 | | | | | | | | |
| 2. | SMC1-2 | 4/2/18 1500 | | 1 | | | | | | | | |
| 3. | SMC2-1 | 4/2/18 1515 | | 1 | | | | | | | | |
| 4. | SMC2-2 | 4/2/18 1515 | | 1 | | | | | | | | |
| 5. | SMC3-1 | 4/2/18 1030 | | 1 | | | | | | | | |
| 6. | SMC3-2 | 4/2/18 1030 | | 1 | | | | | | | | |
| 7. | SMC4-1 | 4/2/18 1045 | | 1 | | | | | | | | |
| 8. | SMC4-2 | 4/2/18 1045 | | 1 | | | | | | | | |
| 9. | SMC5-1 | 4/2/18 1100 | | 1 | | | | | | | | |
| 10. | SMC5-2 | 4/2/18 1100 | | 1 | | | | | | | | |

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

**REMARKS**

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

| RELINQUISHED BY: | DATE:TIME: | RECEIVED BY: | DATE:TIME |
|---|---|---|---|
| Alan Kuhn | 4/2/18 1530 | Bruce Z. Norgaard | 4/2/18 3:30 P |
| ~~Bruce Z. Norgaard~~ | ~~4/3/18 2:00 P~~ | | |
| | | | |

L43559 Chain of Custody

FRM-00006 08/06/2014

White - Return with sample. Yellow - Retain for your records.

# ACZ Laboratories, Inc. L43559

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

## CHAIN of CUSTODY

**Report to:**

Name: Alan Kuhn
Company: Alan Kuhn Associates LLC
E-mail: akkuhn41@gmail.com
Address: 13212 Manitoba Dr NE Albuquerque NM 87111
Telephone: 505-350-9155

**Copy of Report to:**

Name: Joe Lister
Company: Rio Grande Resources
E-mail: joel.lister@riograndresources.com
Telephone: 505-237-7971

**Invoice to:**

Name: Alan Kuhn
Company: Alan Kuhn Associates LLC
E-mail: akkuhn41@gmail.com
Address: 13212 Manitoba Dr NE Albuquerque NM 87111
Telephone: 505-350-9155

**If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?** N/A YES [ ] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

**Are samples for SDWA Compliance Monitoring?** Yes [ ] No [X]

**If yes, please include state forms. Results will be reported to PQL for Colorado.**

**Sampler's Name:** A. Kuhn **Sampler's Site Information** **State** NM **Zip code** 87020 **Time Zone** MDT

***Sampler's Signature:** Alan Kuhn

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

**PROJECT INFORMATION**

Quote #:
PO#: AKA ACZ - 2015.1
Reporting state for compliance testing: NM
Check box if samples include NRC licensed material? NO

**ANALYSES REQUESTED** *(attach list or use quote number)*

| | SAMPLE IDENTIFICATION | DATE:TIME | Matrix | # of Containers | V | Rw | So | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11. | SMC6-1 | 4/2/18 1115 | So. | | | | | | | | | | |
| 12. | SMC6-2 | 4/2/18 1115 | | | | | | | | | | | |
| 13. | SMC7-1 | 4/2/18 1130 | | | | | | | | | | | |
| 14. | SMC7-2 | 4/2/18 1130 | | | | | | | | | | | |
| 15. | SMC8-1 | 4/2/18 1230 | | | | | | | | | | | |
| 16. | SMC8-2 | 4/2/18 1230 | | | | | | | | | | | |

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

**REMARKS**

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

| RELINQUISHED BY: | DATE:TIME | RECEIVED BY: | DATE:TIME |
|---|---|---|---|
| Alan Kuhn | 4/2/18 1530 | Bruce 2. Norgard | 4/3/18 3:30 |
| | | | |
| | | | |

ACZ Laboratories, Inc.
Steamboat Springs, CO 80487

(800) 334-5493

No ice

Project Number: L 43559

| Cooler Number | Cooler Tag |
|---|---|
| 1 | NA28102 10:43 04/05/18<br>Temp: 14.2 By: bce<br>Rad: 13 uR Seal: N/A |
| 2 | 5350 10:42 04/05/18<br>Temp: 15.5 By: bce<br>Rad: 17 uR Seal: N/A |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |

| Sample Number | Associated Cooler |
|---|---|
| 1 | 2 |
| 2 | 2 |
| 3 | 2 |
| 4 | 2 |
| 5 | 2 |
| 6 | 2 |
| 7 | 2 |
| 8 | 2 |
| 9 | 2 |
| 10 | 2 |
| 11 | 1 |
| 12 | 1 |
| 13 | 1 |
| 14 | 1 |
| 15 | 1 |
| 16 | 1 |
| 17 | |
| 18 | |
| 19 | |
| 20 | |

Log-In Order Verified:

Initials/Date: 4.5.18

**RGR Mt. Taylor Mine** Stan Fitch
**Gamma Radiation Survey** 4/25/2016
**Waste Pile North/East Delineation**

Instrument: Eberline PRM-7 #182, BKG = 10 µrem/h, readings waist high

| NAD 83 Datum | | | |
|---|---|---|---|
| Northing | Easting | Dose Rate µrem/h | Notes |
| 1578877 | 2782337 | 80 | NW Fence Corner - Car Shop yard |
| 1578747 | 2782327 | 70 | |
| 1578645 | 2782320 | 40 | |
| 1578544 | 2782314 | 30 | |
| 1578467 | 2782308 | 27 | SW Fence Corner - Car Shop yard |
| 1578363 | 2782303 | 20 | |
| 1578264 | 2782295 | 18 | |
| 1578163 | 2782287 | 15 | |
| 1578063 | 2782279 | 11 | |
| 1578062 | 2782181 | 12 | |
| 1578165 | 2782185 | 20 | |
| 1578263 | 2782188 | 30 | |
| 1578364 | 2782192 | 24 | |
| 1578450 | 2782200 | 36 | |
| 1578564 | 2782192 | 110 | |
| 1578675 | 2782197 | 80 | |
| 1578779 | 2782193 | 160 | |
| 1578880 | 2782192 | 150 | |
| 1578984 | 2782188 | 130 | |
| 1579038 | 2782202 | 40 | Fire Hydrant |
| 1579004 | 2782130 | 28 | South-Easterly Corner of Fan Shop |
| 1578882 | 2782090 | 115 | |
| 1578783 | 2782088 | 80 | |
| 1578683 | 2782081 | 100 | |
| 1578577 | 2782084 | 100 | |
| 1578500 | 2782082 | 100 | |
| 1578377 | 2782080 | 30 | |
| 1578276 | 2782081 | 40 | |
| 1578178 | 2782084 | 26 | |
| 1578179 | 2781985 | 110 | |
| 1578277 | 2781992 | 100 | |
| 1578043 | 2781993 | 18 | |
| 1578275 | 2782007 | 90 | |
| 1578373 | 2782012 | 50 | |
| 1578471 | 2782009 | 120 | |
| 1578571 | 2782006 | 110 | |
| 1578672 | 2782000 | 100 | |
| 1578772 | 2782000 | 80 | |
| 1578871 | 2782003 | 110 | |
| 1578917 | 2782011 | 50 | Shoulder of slope |
| 1578962 | 2782013 | 30 | Natural grade at foot of small hill |
| 1578973 | 2781898 | 28 | |
| 1578973 | 2781795 | 32 | |
| 1578974 | 2781700 | 44 | Inside of southerly end of stormwater pond |
| 1578914 | 2781717 | 120 | Drainage ditch, near toe |

**RGR Mt. Taylor Mine** Stan Fitch
**Gamma Radiation Survey** 4/25/2016
**Waste Pile North/East Delineation**

Instrument: Eberline PRM-7 #182, BKG = 10 µrem/h, readings waist high

| NAD 83 Datum | | | |
|---|---|---|---|
| Northing | Easting | Dose Rate µrem/h | Notes |
| 1578907 | 2781815 | 110 | Toe of waste pile (at drainage ditch) |
| 1578911 | 2781896 | 80 | Toe of waste pile (at drainage ditch) |
| 1578911 | 2781958 | 50 | Toe of waste pile (NE corner of pile) |
| 1578880 | 2781968 | 90 | Crown -- top of waste pile slope, NE corner |
| 1578864 | 2781901 | 110 | Crown -- top of waste pile slope |
| 1578862 | 2781801 | 110 | Crown -- top of waste pile slope |
| 1578836 | 2781702 | 120 | Crown -- top of waste pile slope, NW corner |
| 1578776 | 2781682 | 100 | Crown -- top of waste pile slope |
| 1578765 | 2781795 | 125 | |
| 1578771 | 2781900 | 110 | |
| 1578670 | 2781901 | 80 | |
| 1578565 | 2781900 | 80 | |
| 1578470 | 2781902 | 50 | |
| 1578369 | 2781900 | 50 | |
| 1578252 | 2781899 | 60 | |

# Surface and Subsurface Soil Radiologic Characterization

## Windblown Area, Ore Pad Area and Mine Compound

## Mount Taylor Mine Site

## San Mateo, NM


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**August 14, 2023**

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Appendix A Surface Gamma Radiation Static Survey Forms
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Appendix C Radiologic Instrument Calibration and Operational Function Check and Collimated Detector Correlation Documentation

## 1.0 Introduction and Background

This report provides the results of the Soil Radiologic Characterization (SRC) that was conducted at the Mt. Taylor Mine (Site) in Cibola County, near San Mateo, New Mexico. This SRC was performed to evaluate the lateral and vertical extent of radiologic contamination exceeding the Site Radiation Cleanup Criteria (RCC) of 6.8 pCi/g Ra-226 to estimate radiologic impacted material volumes within three specified areas of the Site; the Windblown Area, Ore Pad Area and portions of the Mine Compound Area, also known as the "Service and Support area". The methods and procedures used were consistent with the June 2020 Work Plan for Post-Mining Radiological Surveys of Permit Area and Impacted Lands (2020 Work Plan) and the applicable survey methods described in the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM, EPA 2000a). The RCC specified in the March 2016 *Joint Guidance for the Cleanup and Reclamation of Existing Uranium Mining Operations in New Mexico* (EMNRD, 2016) (2016 Guidance) by the Energy, Minerals & Natural Resources Department (EMNRD) and the New Mexico Environment Department (NMED) was used for the investigation level (IL). The Ra-226 cleanup criteria of 5.0 pCi/g above the background level in land averaged over 100 square meters in surface soil (top six inches) specified in the Joint Guidance is taken from the UMTRCA (40 CFR 192) regulation, which is based on an unrestricted land use exposure scenario. A 6.8 pCi/g Ra-226 IL (5.0 pCi/g plus 1.8 pCi/g background level) has been established for the Site.

The Site was an underground uranium mine located in Cibola County, near San Mateo, New Mexico. The mine was developed by Gulf Mineral Resources Company (Gulf) in the 1970s and ore production occurred from 1979 to 1982. Following transfer of Site to Chevron Resources Company in 1985, the ore production resumed and continued until 1990. Rio Grande Resources (RGR) acquired the Site in 1991. In 1999 the Site entered standby status under Mine Permit C1002RE with EMNRD. On December 29, 2017, the permit changed to an active status, and on December 3, 2019, RGR notified MMD of intentions to begin the Site closeout/closure process. The following sections describe the strategy, methods and procedures that were used and the results of the SRC conducted at the Site.

## 2.0 Previous Characterization

Surface gamma radiation surveys were performed periodically within operationally controlled areas of the Site to monitor changes in radiological conditions during a period of remedial excavations in the Mine Water Treatment Unit (MWTU) ponds, construction of the disposal cell and placement of contaminated mine materials, and gradual removal of ore from the ore stockpile. The most recent gamma survey prior to this characterization, conducted March 27, 2021, showed elevated gamma radiation levels in certain operational areas within the Controlled Area boundaries, including the three areas included in this SRC, the Windblown Area, Ore Pad Area and the Mine Compound Area. The survey results are summarized in The June 2020 Work Plan, and indicate surface soils in portions of the Windblown Area, the Mine Compound and the entire Ore Pad Area exceed the 6.8 pCi/g Ra-226 IL.

Additionally, a radiologic subsurface soil investigation was performed in a portion of the Mine Compound Area as part of the 2020 Diesel Investigation. The results are summarized in the Mount Taylor Mine, Diesel Release Investigation Report of Finding, April 2021, Ensero Solutions, Inc. (Ensero 2021). The soil borings sample results within the Mine Compound Area indicate Ra-226 levels exceeding the IL in subsurface soils ranging from a depth of ground surface to 10 feet below ground surface (bgs) in the area around the Production Shaft.

## 3.0 Objective of the Radiological Characterization

The Site is a former uranium mine, therefore the surface and subsurface soil is expected to be impacted by radionuclides associated with the uranium decay series, with Ra-226 being the primary Constituent of Concern (COC). The objective of this characterization is to evaluate Ra-226 contamination exceeding the Site IL of 6.8 pCi/g Ra-226 in surface and subsurface soils to estimate volumes of radiologic impacted material within the Windblown, Ore Pad and Mine Compound Areas.

## 4.0 Field Investigation

Field investigations for this characterization were conducted consistent with the 2020 Work Plan and were conducted during the period of April 11, 2023 through June 14, 2023. The three specified soil characterization areas are shown in Figure 1. The field investigations included, both static 0.5 inch thick lead (Pb) collimated and uncollimated (bare) 2x2 sodium iodide (NaI) detector gamma radiologic survey measurements and Differential Global Positioning System (DGPS) based bare detector gamma scan surveys, along with ex-situ soil screening, soil sampling and offsite vendor laboratory analysis. The geo-located gamma scans were conducted to provide Ra-226 concentration level estimates in surface soil and to determine the test pit and sampling locations to assess subsurface radiologic contamination relative to the IL. Ex-situ gamma radiation soil screening was performed to provide real-time information to estimate subsurface contamination depths. Subsurface soil sampling and offsite vendor laboratory analysis was performed to confirm subsurface contamination depths below the IL as estimated by field ex-situ gamma radiation soil screening. Additionally, gamma radiation static surveys count per minute (cpm) measurements, exposure rate (µR/hr) measurements and surface soil samples and analysis were performed at selected locations to update the Site-specific correlation.

### 4.1 Surface Gamma Radiation Scan and Static Survey

The instrument configuration for direct gamma radiation level measurements during this characterization consisted of lead collimated and bare 2x2 NaI scintillation detectors (Eberline SPA-3 or Ludlum 44-10) for detection of gamma radiation, coupled to a scaler/rate meter (Ludlum 2221 or Ludlum 2241). This instrument configuration is used widely for this type of survey and is recommended by the MARSSIM. The scaler/rate meters were interfaced with a sub-meter accurate DGPS with surveying software and a data

logger/controller for electronically recording the gamma radiation levels to the corresponding geo-location coordinates. The coordinate system that was used for this work was the State Plane Coordinate System (NAD83, New Mexico West, US Feet) system. Direct gamma radiation surveys using a NaI scintillation detector provide radiation levels in counts per unit time, generally obtained as cpm. A Ludlum Model 19 µR Meter was used for gamma exposure rate (µR/hr) measurements.

During this characterization, systematic gamma radiation scan surveys using bare 2x2 NaI detectors were performed at the Site to determine the level of Ra-226 in surface soil within the characterization areas. Although bare detectors do not avoid lateral gamma radiation shine, bare detectors have a large field of view and provide a large scan coverage area for an efficient and conservative lateral extent of contamination assessment. The gamma scan surveys were performed consistent with the 2020 Work Plan. Thirty-feet spaced geo-projected transects for each area were digitally created using mapping software and loaded on the field data logger/controller. Based on a conservative field of view (FOV) of at least six feet diameter for a bare 2x2 NaI detector for Ra-226 gamma radiations, a scanning transects spacing of 30 feet would provide at least a 20% scan coverage. The gamma scan survey was performed by scanning along these transects with a bare 2x2 NaI detector at 12 inches above the ground surface at a scan rate of about three feet per second, with a data collection time interval of two seconds.

The geo-located gamma scan data includes the gamma scan point ID, date and time, location coordinates, and bare detector gamma cpm. The scan data was exported from the data logger and the bare detector cpm were converted to equivalent Ra-226 estimate using the Site-specific correlation (Ra-226 pCi/g = 0.0005 x CPM)-7.3228 $R^2$ = 0.97)(2020 Work Plan). The scan data was mapped using a mapping software, arranged in color coded ranges and then reviewed to identify areas that exceeded the IL. The color-coded range was structured to include the Ra-226 6.8 pCi/g IL as shown in Figures 2 and 3. The characterization gamma scan survey included approximately 12,107 gamma scan data points within a total of approximately 40 acres at the Site. The gamma scan data was exported from the scan system data logger into an Excel file. The detector cpm was converted into equivalent estimated surface soil Ra-226 concentration in pCi/g using the Site-specific correlation for bare detectors as discussed in Section 4.5 of the 2020 Work Plan. A typical gamma scan data export table from the scan system data logger is shown in Table 1. Gamma scan survey data for this characterization are provided in electronic file.

One-minute static gamma radiation surveys were performed prior to collecting a soil sample at each surface soil sampling and test pit location using a bare 2x2 NaI detector and collimated 2x2 NaI detector. The survey data were recorded on Static Gamma Radiation Survey Forms, which are included in Appendix A. The bare detector cpm data was converted to equivalent Ra-226 estimate using the Site-specific correlation. A site-specific correlation for a 2x2 NaI 0.5-inch thick lead collimated detector was developed using the surface (0 – 6 Inch) soil samples collected from the Windblown Area and the co-located collimated detector survey performed during this characterization, which is included in Appendix C. This correlation regression yielded an equation of Ra=226 = (CPM x 0.0016) – 8.41 with an acceptable $R^2$ value

of 0.83 The collimated detector measurements were converted to soil Ra-226 concentrations using this correlation equation. The static gamma survey results are summarized in Table 2.

### 4.2 Ra-226 Radiation Cleanup Criteria Contamination Boundary

The Windblown area Ra-226 6.8 pCi/g RCC contamination boundary delineated based on the surface gamma scan survey and a 6.8 pCi/g Ra-226 RCC contamination boundary based on the surface soil sample ex-situ screening and vendor laboratory results are shown in Figure 4. The ex-situ and vendor lab Ra-226 pCi/g surface soil sample results are lower than the Ra-226 pCi/g concentrations estimated by the bare 2x2 NaI detector surface soil gamma scan. Based on the results of the soil sample analysis and static gamma radiation surveys, the area of the Windblown Area that exceeds the IL is smaller than previously estimated by bare detector gamma scan surveys alone, as shown in Figure 4. The primary cause of the overestimated Ra-226 concentrations in the Windblown Area determined by the bare detector gamma scan survey appears to be the lateral gamma radiation shine interference from nearby areas with elevated Ra-226 concentrations, specifically the close proximity to the Ore Pad Area. As discussed previously, one-minute static gamma radiation level measurements were performed prior to collecting a soil sample at each location using a bare and a 0.5 inch lead collimated 2x2 NaI detector. As shown in Tables 2 and 3, the Ra-226 concentration estimates determined using the collimated detector are comparable to the on-Site ex-situ gamma screening and the vendor laboratory Ra-226 analytical results. Thus, delineation of the Windblown Area surface soils exceeding the 6.8 pCi/g Ra-226 IL using the collimated static gamma survey, the on-Site ex-situ gamma screening and the vendor laboratory Ra-226 analytical results are appropriate, as shown in Figure 4.

As shown in Tables 2 and 4, and Figure 2 the entire Ore Pad Area surface soil far exceeds the 6.8 pCi/g Ra-226 IL. Additionally, surface soil gamma scans previously performed in 2018 and 2020 (2020 Work Plan) for area exposure rates (µR/hr) included the Mine Compound Area and showed that the majority of the Mine Compound Area exceeds the IL. As shown in Figure 3, the surface gamma scan performed during this characterization also shows that the surface soil in the majority of the Mine Compound Area exceeds the 6.8 pCi/g Ra-226 IL. To better characterize the surface soil and to assist in the selection of test pit locations, the surface gamma scan survey was performed at a higher density, 30-feet transect spacing, compared to the previous scan (2021) density of 60-ft transect spacing.

### 4.3 Test Pits, Soil Sampling and Ex-Situ Gamma Radiation Soil Screening

Test pit trench excavations, subsurface soil sampling and on-Site ex-situ gamma radiation soil screening were performed from May 17 through June 7, 2023. These methods were used to determine the subsurface soil Ra-226 contamination depth exceeding the IL at the test pit locations within the three characterization areas. The ex-situ gamma radiation soil screening was conducted to provide a real-time estimate of Ra-226 concentrations in subsurface soil samples. This method is more reliable than the in-situ

direct gamma radiation level measurements and allows for real-time Ra-226 concentration assessments. The on-Site ex-situ soil screening method consists of selectively measuring the 609 KeV region gamma radiations of Bi-214, a decay product of Ra-226. A single channel analyzer (Ludlum L2221) integrated with a Ludlum 44-20 3x3 NaI scintillation detector was used to measure the 609 keV energy peak region of Bi-214. The soil sample was placed around the plastic lined detector in a heavily lead shielded counting chamber. The heavily shielded counting chamber lowers the system background counts, thus improving the system's minimum detectable concentration (MDC). A reference soil with the Ra-226 concentration of 6.6 pCi/g, comparable to the 6.8 pCi/g IL, was prepared as described in Appendix C and was used for soil screening during this characterization. The 6.6 pCi/g reference soil provides a conservative estimate of Ra-226 concentration in samples below the IL.

A total of 12 locations were selected in the Windblown Area for surface and subsurface soil sampling in areas that exceeded the IL determined by the surface soil gamma scan survey, as shown in Figure 2. Twenty-eight test pit locations were selected for subsurface soil sampling based on the surface soil gamma scan survey and Site operational history where Ra-226 contamination was likely to be deeper than one-foot bgs, twenty test pits in the Mine Compound Area and eight in the Ore Pad Area, as shown in Figures 2 and 3.

Hand augers and sampling trowels were used to collect surface and subsurface soil samples up to a depth of 1.5 feet in the Windblown Area. At each of the 11 sample locations selected in the Windblown Area, a surface (0 – 6”) and a subsurface (1’ – 1.5’) soil sample were collected. At one location, a sample was collected at 0-1” and 2"-6” depths for surface soils Ra-226 contamination distribution analysis. A backhoe was used to excavate a trench at each selected test pit location for subsurface soil sample collection in the Ore Pad and Mine Compound areas. The trenches were excavated at approximately one-to-two-foot depth intervals depending on visual observations of the type and consistency of the soil. At each interval, a subsurface soil sample was collected from the base of the excavation for ex-situ soil screening. The excavation continued at least 2 feet after native soil was observed and on-Site ex-situ soil screening indicated Ra-226 concentrations were below the 6.8 pCi/g IL. The test pit excavation soil sample logs and the field soil screening forms are included in Appendix B. The test pit subsurface soil ex-situ gamma screening data is summarized in Tables 3, 4 and 5, which includes Ra-226 concentrations of the samples relative to the 6.8 pCi/g IL.

Although the primary objective of the ex-situ gamma radiation soil screening was to determine the Ra-226 concentrations above or below the 6.8 pCi/g IL, Ra-226 concentrations were estimated in all test pit excavation subsurface soil samples collected and screened. During the setup of the soil screening system prior to mobilizing in the field, a calibration/correlation of the ex-situ soil screening system was performed using a 6.6 pCi/g, a 25 pCi/g and a 50 pCi/g reference soil. This correlation is included in Appendix C. The estimated Ra-226 concentration of the subsurface soil samples determined using this correlation are included in Tables 3, 4 and 5.

Fourteen samples out of a total of 24 surface and subsurface soil samples screened on-Site from the Windblown Area were sent to the off-Site vendor laboratory, Energy Laboratories, in Casper, WY. From the Ore Pad and Mine Compound Areas, 34 samples out of a total of 88 subsurface soil samples screened onsite were sent to the off-site vendor laboratory. These soil samples were analyzed for Ra-226 using EPA Method 901.1 (modified for soil matrix) for confirmation of the on-Site ex-situ soil screening results. The 53 samples sent to the laboratory included at least one sample from each test pit excavation that screened below the IL. Also, 10% (5 samples) of the samples sent to the lab were split in the field and sent to the lab for quality assurance/quality control (QA/QC) duplicates. The laboratory results reports are included in Appendix B and are summarized in Table 3, 4 and 5. As shown in these tables, the estimated Ra-226 levels by on-Site ex-situ soil screening are comparable with the laboratory Ra-226 results, specifically in regard to determining the depth of Ra-226 levels above or below the IL.

### 4.4 Windblown Area Characterization Summary

As shown in Table 3 and Table 6, 11 of the 12 surface soil (0 – 6”) samples from the Windblown Area screened on-Site and analyzed by the vendor laboratory show Ra-226 pCi/g below the 6.8 pCi/g IL. The only location above the IL was WBSB-08 at 9.7 pCi/g. The Ra-226 concentration in all of the Windblown Area subsurface samples screened on-Site and analyzed by the vendor laboratory show Ra-226 pCi/g concentrations below the Ra-226 6.8 pCi/g IL, which is far below the Ra-226 15 pCi/g 2016 Guidance for 6-inch soil layers six inches bgs. This demonstrates that the Ra-226 levels exceeding the IL are contained only within the surface soil (0 – 6”) in the Windblown area, as shown in Figure 4 and Table 3. Furthermore, analyzing the 0-1” and 2”-6” soil samples resulted in Ra-226 concentrations of 2.0 pCi/g in the 0-1” sample and 1.0 pCi/g in the 2”-6” sample. Based upon the lab results in the Windblown area, the majority of the contamination is distributed within the top one inch of soil.

### 4.5 Ore Pad Area Characterization Summary

Results of test pit excavation observations and subsurface soil sampling analysis in the Ore Pad Area show waste rock depth from surface level to the native soil at approximately three to five feet bgs at four (OPSB-02, OPSB-03, OPSB-04 and OPSB-05) out of the five selected test pit locations, as shown in Table 4 and 6. The on-Site ex-situ gamma screening results show Ra-226 concentrations ranging from about 22 to 510 pCi/g as shown in Table 4. At test pit location OPSB-01, waste rock was observed at depths greater than five feet. A thin dark clay layer was observed at about five feet bgs. Excavation continued as light gray waste rock material and debris was constantly observed to a depth of 13.5 feet bgs, the excavation depth limit of the trenching equipment. The on-Site ex-situ gamma screening results show a Ra-226 concentration in the 0 to 13 feet composite sample from this location at 74 pCi/g, and 31 pCi/g Ra-226 in the sample from a depth of 13.5 feet. Since waste rock depth at all other test pit locations in the Ore Pad Area was approximately four to five feet, three additional test pits were excavated east of OPSB-01 to determine the

extent of waste rock depth in the area. Test pit locations OPSB-06 and OPSB-07 were selected at approximately 150' and 100' east of OPSB-01, respectively. Both of these test pits showed waste rock depths of approximately 4' bgs before observing native soil. Test pit location OPSB-08 was selected approximately 62' east of OPSB-01 and showed a waste rock and debris depth similar to that of OPSB-01. According to Site operational history, a portion of the nearby treatment pond may have been backfilled with low grade waste rock and used as part of the foundation for the Ore Pad Area. The waste rock depth in the OPSB-01 area is estimated to be about 15 feet bgs based on the nearby ore-pad runoff retention pond depth.

### 4.6 Mine Compound Area Characterization Summary

Results of test pit excavation observations and subsurface soil sampling analysis in the Mine Compound Area show subsurface soil exceeding the 6.8 pCi/g Ra-226 IL at varying depths ranging from ground surface to about seven feet bgs as shown in Tables 5 and 6 and Figure 5. Soil exceeding the IL is generally limited to only the surface soil (<1.0 feet) in the areas around test pit locations MCSB-04, MCSB-10, MCSB-12, MCSB-13, MCSB-14, MCSB-15, MCSB-16, MCSB-17 and MCSB-18. At the other nine test pit locations, soil/ material depths bgs exceeding the IL are shown in Table 6, except at test pit locations MCSB-02 and MCSB-05. Test pits MCSB-02 and MCSB-05 had an isolated layer of soil/gravel that exceeded the IL while the soil above and below the layer screened below the IL. At test pit location MCSB-02, soil exceeding the IL was found in a gravel layer at a depth of 3.5 to 4.5 feet bgs, while at a depth of 5.5 to 6.5 feet bgs at test pit location MCSB-05, as shown in Tables 5 and 6, and Figure 5. At each test pit location, when native soil was observed, excavation continued into the native soil at least two feet to ensure that the soil/material exceeding the IL had been identified. Two additional observation test pit excavations up to nine feet were performed at locations MCSB-19 and MCSB-20. These two test pits are located east of locations MCSB-08 and MCSB-11, between the shop yard fence and the road. The purpose of these two observational test pit excavations was to estimate the lateral extent of subsurface waste rock material found at locations MCSB-08 and MCSB-11. Identification of any waste rock material was noted by visual observation. No waste rock material was observed in test pit MCSB-19, east of Test Pit MCSB-08. A thin (approximately 3") layer of waste rock material at a depth of 2.0 to 2.25' was observed in Test Pit MCSB-20, indicating that the lateral extent boundary of subsurface waste rock material is between MCSB-11 and the shop yard fence line. Based on the field soil screening and the laboratory sample results, depths of Ra-226 concentrations above the 6.8 pCi/g IL at each Ore Pad and Mine Compound Area test pit and Windblown Area sampling location are summarized in Table 6.

## 5.0 Soil Sampling and Analysis

Soil samples from the Windblown Area and subsurface soil samples from the test pit excavations collected for on-Site ex-situ gamma radiation soil screening were collected consistent with the 2020 Work Plan. Field QA/QC duplicate samples were split at a frequency of 10% of the total number of soil samples collected. A total of 112 surface and subsurface soil samples were collected during this characterization. Field sampling

equipment used for soil sampling included: stainless steel scoops, bowls, spoons, and hand auger barrels were decontaminated between sample locations. The soil sampling equipment decontamination was conducted by brushing off loose visible soil and wiped with clean towels. Excavator buckets were cleaned by removing any loose, visible soil. Any soils excavated from the test pits were returned to the test pit excavations from which the soil came. Personal protection equipment (PPE), such as gloves, were brushed off and scanned for residual contamination and were disposed of.

Surface and subsurface soil samples were analyzed by on-Site ex-situ gamma radiation soil screening (AVM SOP-4) to estimate Ra-226 concentrations. A completed Chain-of-Custody (COC) along with the surface soil samples and confirmatory soil samples were placed in labeled Ziploc bags, and packaged in coolers with sealed lids and shipped to Energy Laboratories, Inc for Ra-226 analysis. The soil samples were analyzed for Ra-226 with a reporting limit of 0.5 pCi/g, using EPA Method 901.1 (modified for soil matrix). The completed COCs are included with the analytical results reports in Appendix B.

## 6. 0 Quality Assurance and Quality Control Measures

QA/QC measures were implemented during this characterization to ensure that decisions were made based on data of acceptable quality. All radiologic survey instruments have been calibrated at least annually. Additionally, operational functions checks were performed on all radiologic instruments daily prior to use. The calibration and function check documents are included in Appendix C. During this characterization, no instruments were found to be out of calibration or inoperable as indicated by the operational function checks. The instrument background measurements for bare 2x2 NaI detectors during daily operational function checks were less than 10,000 cpm as shown in Appendix C. The bare detector field of view (FOV) at 12 inches above the ground surface is conservatively assumed at an area of six feet diameter. The 2x2 NaI detector response factor is determined to be 0.0005 pCi/g/cpm from the linear regression for the Site-specific correlation included in Appendix C. Based on the above detector parameters, the Ra-226 minimum detectable concentrations (MDCs) for a scan survey at a scan speed of three feet per second, calculated using MARSSIM guidance, were less than 1.0 pCi/g, which is significantly less than 50% of the 6.8 pCi/g IL. The ex-situ soil gamma radiation screening system was calibrated prior to mobilization in the field and daily operational function checks were performed prior to use. The calibration and function check documentation are included in Appendix C. Based on the highest system background (blank) measurements from daily operational function checks and efficiency (pCi/g/cpm), the highest Ra-226 MDC for the screening system calculated was less than 0.8 pCi/g, significantly less than the 6.8 pCi/g IL. The MDCs during the supplemental characterization met the QA objective.

The QA/QC measures also included field QA/QC duplicate soil sampling at a frequency of 10% of the soil samples collected for laboratory analysis. As discussed above, field QA/QC duplicate soil samples were collected and sent to the laboratory for analysis, and the QA/QC duplicate results are included in appropriate summary tables.

# Tables

**Table 1**
**Typical Gamma Scan Data Exported from the Scan System Data Logger**

| ID | Time | Northing(1) (feet) | Easting(1) (feet) | MSL Elevation (feet) | CPM 2x2 Bare NaI Detector | Ra-226 pCi/g(2) | Zone_ID |
|---|---|---|---|---|---|---|---|
| 1 | 4/11/2023 12:58 | 1579644.59 | 2782922.79 | 7350 | 37181 | 11.27 | Mine_Compound |
| 2 | 4/11/2023 12:58 | 1579644.55 | 2782925.05 | 7350 | 35699 | 10.53 | Mine_Compound |
| 3 | 4/11/2023 12:58 | 1579644.42 | 2782929.34 | 7350 | 34119 | 9.74 | Mine_Compound |
| 4 | 4/11/2023 12:58 | 1579644.62 | 2782934.44 | 7350 | 33580 | 9.47 | Mine_Compound |
| 5 | 4/11/2023 12:58 | 1579645.02 | 2782938.58 | 7350 | 36088 | 10.72 | Mine_Compound |
| 6 | 4/11/2023 12:58 | 1579644.99 | 2782943.19 | 7350 | 36656 | 11.01 | Mine_Compound |
| 7 | 4/11/2023 12:58 | 1579643.77 | 2782946.70 | 7350 | 38855 | 12.11 | Mine_Compound |
| 8 | 4/11/2023 12:58 | 1579643.87 | 2782947.05 | 7350 | 35564 | 10.46 | Mine_Compound |
| 9 | 4/11/2023 12:58 | 1579644.03 | 2782950.60 | 7350 | 37249 | 11.30 | Mine_Compound |
| 10 | 4/11/2023 12:58 | 1579645.17 | 2782955.46 | 7351 | 34818 | 10.09 | Mine_Compound |
| 11 | 4/11/2023 12:58 | 1579644.44 | 2782960.55 | 7350 | 33211 | 9.29 | Mine_Compound |
| 12 | 4/11/2023 12:58 | 1579644.36 | 2782966.24 | 7350 | 35848 | 10.60 | Mine_Compound |
| 13 | 4/11/2023 12:58 | 1579645.40 | 2782971.43 | 7351 | 44480 | 14.92 | Mine_Compound |
| 14 | 4/11/2023 12:58 | 1579644.95 | 2782976.50 | 7351 | 40445 | 12.90 | Mine_Compound |
| 15 | 4/11/2023 12:59 | 1579644.04 | 2782981.35 | 7351 | 38310 | 11.84 | Mine_Compound |
| 16 | 4/11/2023 12:59 | 1579644.89 | 2782986.75 | 7351 | 34757 | 10.06 | Mine_Compound |
| 17 | 4/11/2023 12:59 | 1579645.26 | 2782992.08 | 7351 | 35607 | 10.48 | Mine_Compound |
| 18 | 4/11/2023 12:59 | 1579645.28 | 2782997.28 | 7351 | 34693 | 10.03 | Mine_Compound |
| 19 | 4/11/2023 12:59 | 1579644.62 | 2783002.45 | 7352 | 31665 | 8.51 | Mine_Compound |
| 20 | 4/11/2023 12:59 | 1579644.26 | 2783008.07 | 7352 | 34754 | 10.06 | Mine_Compound |
| 21 | 4/11/2023 12:59 | 1579644.42 | 2783013.72 | 7352 | 32487 | 8.92 | Mine_Compound |
| 22 | 4/11/2023 12:59 | 1579645.39 | 2783019.31 | 7352 | 31633 | 8.50 | Mine_Compound |
| 23 | 4/11/2023 12:59 | 1579645.34 | 2783024.97 | 7352 | 35967 | 10.66 | Mine_Compound |
| 24 | 4/11/2023 12:59 | 1579645.52 | 2783030.66 | 7352 | 40738 | 13.05 | Mine_Compound |
| 25 | 4/11/2023 12:59 | 1579644.54 | 2783036.55 | 7352 | 44013 | 14.69 | Mine_Compound |
| 26 | 4/11/2023 12:59 | 1579643.73 | 2783042.37 | 7353 | 43985 | 14.67 | Mine_Compound |
| 27 | 4/11/2023 12:59 | 1579644.36 | 2783047.96 | 7353 | 39949 | 12.65 | Mine_Compound |
| 28 | 4/11/2023 12:59 | 1579644.72 | 2783053.66 | 7353 | 40529 | 12.94 | Mine_Compound |
| 29 | 4/11/2023 12:59 | 1579644.62 | 2783058.85 | 7353 | 39350 | 12.36 | Mine_Compound |
| 30 | 4/11/2023 12:59 | 1579644.57 | 2783064.21 | 7354 | 37544 | 11.45 | Mine_Compound |
| 31 | 4/11/2023 12:59 | 1579644.14 | 2783069.71 | 7354 | 35781 | 10.57 | Mine_Compound |
| 32 | 4/11/2023 12:59 | 1579643.88 | 2783075.08 | 7354 | 35911 | 10.64 | Mine_Compound |
| 33 | 4/11/2023 12:59 | 1579644.60 | 2783080.73 | 7355 | 31419 | 8.39 | Mine_Compound |
| 34 | 4/11/2023 12:59 | 1579645.54 | 2783086.33 | 7355 | 33426 | 9.39 | Mine_Compound |
| 35 | 4/11/2023 12:59 | 1579645.93 | 2783091.25 | 7355 | 37444 | 11.40 | Mine_Compound |

(1) projection: StatePlane NAD 1983 NM West-feet
(2) Ra-226 pCi/g is determined from surface soil gamma radiation scan using 2x2 NaI detector and Site-specific gamma radiation level (cpm) correlation

## Table 2
## Static Gamma Radiation Survey at Soil Sampling/Test Pit Locations

| Survey Date | Survey Point ID/Description | Survey Point Coordinate NAD83 StatePlane NM West, Feet | | Static Gamma Radiation Survey | | | | Gamma Exposure Rate µR/hr |
|---|---|---|---|---|---|---|---|---|
| | | | | Bare 2x2 NaI Detector | | Collimated (0.5" Pb) 2x2 NaI Detector | | |
| | | Northing | Easting | CPM | Estimated Ra-226 pCi/g | CPM | Estimated Ra-226 pCi/g | |
| 05/17/23 | WBSB-01 | 1,581,413 | 2,782,866 | 26,897 | 6.1 | 6,297 | 1.7 | 33 |
| 05/17/23 | WBSB-02 | 1,581,390 | 2,782,444 | 26,749 | 6.1 | 6,350 | 1.7 | 33 |
| 05/17/23 | WBSB-03 | 1,581,356 | 2,783,329 | 24,529 | 4.9 | 6,073 | 1.3 | 31 |
| 05/17/23 | WBSB-04 | 1,581,339 | 2,782,706 | 30,064 | 7.7 | 6,069 | 1.3 | 37 |
| 05/17/23 | WBSB-05 | 1,581,329 | 2,783,062 | 31,828 | 8.6 | 6,945 | 2.7 | 41 |
| 05/17/23 | WBSB-06 | 1,581,271 | 2,782,942 | 35,410 | 10.4 | 7,288 | 3.3 | 47 |
| 05/17/23 | WBSB-07 | 1,581,187 | 2,783,253 | 37,965 | 11.7 | 8,183 | 4.7 | 47 |
| 05/17/23 | WBSB-08 | 1,581,164 | 2,782,988 | 55,849 | 20.6 | 11,042 | 9.3 | 70 |
| 05/31/23 | WBSB-09 | 1,581,254 | 2,782,870 | 36,491 | 10.9 | 6,599 | 2.1 | 44 |
| 05/31/23 | WBSB-10 | 1,581,263 | 2,783,140 | 34,898 | 10.1 | 7,286 | 3.2 | 48 |
| 05/31/23 | WBSB-11 | 1,581,277 | 2,783,335 | 29,002 | 7.2 | 6,602 | 2.2 | 34 |
| 05/31/23 | WBSB-12 | 1,581,228 | 2,782,908 | 40,341 | 12.9 | 7,153 | 3.0 | 55 |
| 05/31/23 | OPSB-01 | 1,580,834 | 2,782,884 | 2,328,550 | 1157 | 716,621 | 1138 | 2,100 |
| 05/31/23 | OPSB-02 | 1,580,812 | 2,783,138 | 505,097 | 245 | 160,357 | 248 | 650 |
| 05/31/23 | OPSB-03 | 1,580,599 | 2,783,013 | 700,063 | 343 | 247,434 | 387 | 900 |
| 05/31/23 | OPSB-04 | 1,580,328 | 2,782,874 | 408,698 | 197 | 133,199 | 205 | 450 |
| 05/31/23 | OPSB-05 | 1,580,386 | 2,783,136 | 446,083 | 216 | 156,044 | 241 | 450 |
| 05/30/23 | MCSB-01 | 1,579,585 | 2,783,019 | 35,807 | 10.6 | 10,538 | 8.5 | 41 |
| 05/30/23 | MCSB-02 | 1,579,573 | 2,783,167 | 34,096 | 9.7 | 9,678 | 7.1 | 39 |
| 05/30/23 | MCSB-03 | 1,579,343 | 2,782,883 | 34,019 | 9.7 | 9,832 | 7.3 | 39 |
| 05/30/23 | MCSB-04 | 1,579,317 | 2,783,098 | 34,656 | 10.0 | 10,811 | 8.9 | 40 |
| 05/24/23 | MCSB-05 | 1,579,183 | 2,782,702 | 52,231 | 18.8 | 14,892 | 15 | 65 |
| 05/24/23 | MCSB-06 | 1,579,162 | 2,783,064 | 31,976 | 8.7 | 8,548 | 5.3 | 37 |
| 05/24/23 | MCSB-07 | 1,579,040 | 2,783,010 | 52,974 | 19.2 | 18,511 | 21 | 65 |
| 05/23/23 | MCSB-08 | 1,578,849 | 2,782,249 | 107,010 | 46.2 | 39,626 | 55.0 | 125 |
| 05/23/23 | MCSB-09 | 1,578,850 | 2,782,582 | 28,188 | 6.8 | 8,193 | 4.7 | 33 |
| 05/23/23 | MCSB-10 | 1,578,758 | 2,782,444 | 39,814 | 12.6 | 12,984 | 12 | 43 |
| 05/22/23 | MCSB-11 | 1,578,611 | 2,782,258 | 53,106 | 19.2 | 18,055 | 20 | 60 |
| 05/22/23 | MCSB-12 | 1,578,521 | 2,782,569 | 29,299 | 7.3 | 9,090 | 6.1 | 33 |
| 05/22/23 | MCSB-13 | 1,578,301 | 2,782,557 | 21,952 | 3.7 | 6,254 | 1.6 | 25 |
| 05/23/23 | MCSB-14 | 1,578,278 | 2,782,258 | 21,642 | 3.5 | 6,366 | 1.8 | 25 |
| 05/18/23 | MCSB-15 | 1,578,214 | 2,782,398 | 48,059 | 16.7 | 15,633 | 17 | 51 |
| 05/18/23 | MCSB-16 | 1,578,084 | 2,782,313 | 30,445 | 7.9 | 11,069 | 9.3 | 33 |
| 05/18/23 | MCSB-17 | 1,578,085 | 2,782,599 | 18,059 | 1.7 | 5,891 | 1.0 | 19 |
| 05/18/23 | MCSB-18 | 1,578,071 | 2,782,424 | 17,170 | 1.3 | 5,046 | <0.6 | 19 |
| 05/31/23 | MCSB-19 | 1,578,837 | 2,782,317 | 69,850 | 27.6 | 24,522 | 31 | 80 |
| 05/31/23 | MCSB-20 | 1,578,650 | 2,782,298 | 55,167 | 20.3 | 18,497 | 21 | 65 |

## Table 3
## Windblown Area Surface and Subsurface Soil Sample Field Ex-Situ Gamma Screening and Vendor Laboratory Results Summary

| Sampling Data | | | | | Field Soil Screening Data | | | | | | | Laboratory Data | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Sample Depth (ft) | Sample Date | Sample Time | Description | Screen Date | Sample Weight grams | 609 (559-669) Kev Gross Counts CP5M | CPM | 6.6 pCi/g Ra-226 Reference Soil CPM | Soil Gamma Screening Estimated Ra-226 pCi/g | SSL (< or >) | Sample Sent to Lab | Ra-226 pCi/g | Error Estimate pCi/g | MDC pCi/g |
| WBSB-01 0-6" | 0.5 | 5/17/2023 | 855 | Light brown alluvium, sandy-loam | 5/17/2023 | 3000 | 1406 | 281 | 536 | 2.5 | < | Y | 0.9 | 0.1 | 0.1 |
| WBSB-01 1'-1.5' | 1.5 | 5/17/2023 | 906 | Brown silty clay | 5/17/2023 | 3000 | 1244 | 249 | 536 | 2.1 | < | N | - | - | - |
| WBSB-02 0-6" | 0.5 | 5/17/2023 | 815 | Light brown alluvium, sandy-loam | 5/17/2023 | 3000 | 1577 | 315 | 536 | 3.0 | < | Y | 1.5 | 0.1 | 0.1 |
| WBSB-02 1'-1.5' | 1.5 | 5/17/2023 | 820 | Brown silty clay | 5/17/2023 | 2958 | 1008 | 204 | 536 | 1.5 | < | N | - | - | - |
| WBSB-03 0-6" | 0.5 | 5/17/2023 | 942 | Light brown alluvium, sandy-loam | 5/17/2023 | 3000 | 2039 | 408 | 536 | 4.3 | < | Y | 3.2 | 0.2 | 0.1 |
| WBSB-03 1'-1.5' | 1.5 | 5/17/2023 | 948 | Brown silty clay | 5/17/2023 | 3000 | 1136 | 227 | 536 | 1.8 | < | N | - | - | - |
| WBSB-04 0-6" | 0.5 | 5/17/2023 | 835 | Light brown alluvium, sandy-loam | 5/17/2023 | 3000 | 1521 | 304 | 536 | 2.9 | < | Y | 1.5 | 0.1 | 0.1 |
| WBSB-04 1'-1.5' | 1.5 | 5/17/2023 | 845 | Brown silty clay | 5/17/2023 | 2840 | 1189 | 251 | 536 | 2.1 | < | N | - | - | - |
| WBSB-05 0-6" | 0.5 | 5/17/2023 | 920 | Light brown alluvium, sandy-loam | 5/17/2023 | 3000 | 1747 | 349 | 536 | 3.5 | < | Y | 2.1 | 0.2 | 0.1 |
| WBSB-05 1'-1.5' | 1.5 | 5/17/2023 | 930 | Brown silty clay | 5/17/2023 | 2835 | 1086 | 230 | 536 | 1.8 | < | N | - | - | - |
| WBSB-06 0-6" | 0.5 | 5/17/2023 | 1054 | Light brown alluvium, sandy-loam | 5/17/2023 | 3000 | 1406 | 281 | 536 | 2.5 | < | Y | 1.3 | 0.1 | 0.1 |
| DSSB-01 | | | WBSB-06 0-6" Field QA/QC Duplicate | | | | | | | | < | Y | 1.1 | 0.1 | 0.1 |
| WBSB-06 1'-1.5' | 1.5 | 5/17/2023 | 1100 | Brown silty clay | 5/17/2023 | 2876 | 1004 | 209 | 536 | 1.5 | < | N | - | - | - |
| WBSB-07 0-6" | 0.5 | 5/17/2023 | 1014 | Light brown alluvium, sandy-loam | 5/17/2023 | 3000 | 2272 | 454 | 536 | 5.0 | ≤ | Y | 3.7 | 0.2 | 0.1 |
| WBSB-07 1'-1.5' | 1.5 | 5/17/2023 | 930 | Brown silty clay | 5/17/2023 | 3000 | 1082 | 216 | 536 | 1.6 | < | N | - | - | - |
| WBSB-08 0-6" | 0.5 | 5/17/2023 | 1034 | Light brown alluvium, sandy-loam | 5/17/2023 | 3000 | 4140 | 828 | 536 | 10.2 | > | Y | 9.7 | 0.3 | 0.2 |
| WBSB-08 1'-1.5' | 1.5 | 5/17/2023 | 1042 | Brown silty clay | 5/17/2023 | 3000 | 1118 | 224 | 536 | 1.7 | < | Y | 0.9 | 0.1 | 0.1 |
| WBSB-09 0-6" | 0.5 | 5/31/2023 | 825 | Light brown alluvium, sandy-loam | 5/31/2023 | 3000 | 1393 | 279 | 536 | 2.5 | < | Y | 1.2 | 0.1 | 0.1 |
| WBSB-09 6-12" | 1 | 5/31/2023 | 835 | Brown silty clay | 5/31/2023 | 3000 | 1170 | 234 | 536 | 1.9 | < | N | - | - | - |
| WBSB-10 0-6" | 0.5 | 5/31/2023 | 910 | Light brown alluvium, sandy-loam | 5/31/2023 | 3000 | 2217 | 443 | 536 | 4.8 | < | Y | 3.5 | 0.2 | 0.1 |
| WBSB-10 6-12" | 1 | 5/31/2023 | 915 | Brown loam/roots | 5/31/2023 | 3000 | 1380 | 276 | 536 | 2.5 | < | N | - | - | - |
| WBSB-11 0-6" | 0.5 | 5/31/2023 | 935 | Light brown alluvium, sandy-loam | 5/31/2023 | 3000 | 1959 | 392 | 536 | 4.1 | < | Y | 2.7 | 0.2 | 0.1 |
| WBSB-11 6-12" | 1 | 5/31/2023 | 940 | Sandstone/sand | 5/31/2023 | 2008 | 1053 | 315 | 536 | 3.0 | < | N | - | - | - |
| WBSB-12 0-1" | 0.08 | 5/31/2023 | 850 | Light brown alluvium, sandy-loam | 5/31/2023 | 3000 | 1736 | 347 | 536 | 3.5 | < | Y | 2.0 | 0.2 | 0.1 |
| WBSB-12 2-6" | 0.5 | 5/31/2023 | 900 | Brown loam/ sandy | 5/31/2023 | 3000 | 1117 | 223 | 536 | 1.7 | < | Y | 1.0 | 0.1 | 0.1 |

(1) Projection: NAD 1983, New Mexico West, Feet.

## Table 4
## Ore Pad Area Subsurface Soil Sample Field Ex-Situ Gamma Screening and Vendor Laboratory Results Summary

| Sampling Data | | | | | Field Soil Screening Data | | | | | | | Laboratory Data | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Sample Depth (ft) | Sample Date | Sample Time | Description | Screen Date | Sample Weight grams | 609 (559-669) Kev Gross Counts CP5M | CPM | 6.6 pCi/g Ra-226 Reference Soil CPM | Soil Gamma Screening Estimated Ra-226 pCi/g | SSL (< or >) | Sample Sent to Lab | Ra-226 pCi/g | Error Estimate pCi/g | MDC pCi/g |
| OPSB-01 0-13' | 0 to 13' | 6/1/2023 | 1005 | Light/dark grey waste rock | 6/1/2023 | 3000 | 26904 | 5381 | 529 | 74 | > | N | - | - | - |
| OPSB-01 13.5' | 13.5 | 6/1/2023 | 1020 | Light/dark grey waste rock | 6/1/2023 | 3000 | 11560 | 2312 | 529 | 31 | > | N | - | - | - |
| OPSB-02 0-4' | 0 to 4' | 6/1/2023 | 1115 | Grey/dark ore waste rock | 6/1/2023 | 3000 | 182551 | 36510 | 529 | 510 | > | N | - | - | - |
| OPSB-02 4.5' | 4.5 | 6/1/2023 | 1100 | Dark/light grey clay & waste rock | 6/1/2023 | 3000 | 35425 | 7085 | 529 | 98 | > | N | - | - | - |
| OPSB-02 5.5' | 5.5 | 6/1/2023 | 1120 | Light brown silty sand mix | 6/1/2023 | 3000 | 1189 | 238 | 529 | 1.9 | < | Y | 0.9 | 0.1 | 0.1 |
| DSSB-05 | | | OPSB-02 5.5' Field QA/QC Duplicate | | | | | | | | < | Y | 0.8 | 0.1 | 0.1 |
| OPSB-03 0-4' | 0 to 4' | 6/1/2023 | 850 | Grey/dark waste rock mix | 6/1/2023 | 3000 | 56365 | 11273 | 529 | 156 | > | N | - | - | - |
| OPSB-03 4.2' | 4.2 | 6/1/2023 | 910 | Grey/dark brown clay waste rock mix | 6/1/2023 | 1708 | 2091 | 735 | 529 | 8.9 | > | Y | 4.4 | 0.2 | 0.1 |
| OPSB-03 4.5' | 4.5 | 6/1/2023 | 925 | Dark brown clay | 6/1/2023 | 3000 | 1193 | 239 | 529 | 1.9 | < | Y | 0.8 | 0.1 | 0.1 |
| OPSB-04 0-4' | 0 to 4' | 6/1/2023 | 815 | Grey/dark waste rock mix | 6/1/2023 | 3000 | 8428 | 1686 | 529 | 22 | > | N | - | - | - |
| OPSB-04 4.8' | 4.83 | 6/1/2023 | 825 | Dark clay mixed with brown silty soil | 6/1/2023 | 3000 | 1124 | 225 | 529 | 1.8 | < | N | - | - | - |
| OPSB-04 4.5' | 4.5 | 6/1/2023 | 835 | Grey/dark brown clay waste rock mix | 6/1/2023 | 3000 | 4373 | 875 | 529 | 11 | > | N | - | - | - |
| OPSB-05 0-3' | 0 to 3' | 6/1/2023 | 1200 | Grey/dark waste rock mix | 6/1/2023 | 3000 | 32147 | 6429 | 529 | 89 | > | N | - | - | - |
| OPSB-05 3' | 3 | 6/1/2023 | 1140 | Grey/dark brown clay waste rock mix | 6/1/2023 | 3000 | 5526 | 1105 | 529 | 14 | > | N | - | - | - |
| OPSB-05 3.75' | 3.75 | 6/1/2023 | 1155 | Light brown sandy silty soil | 6/1/2023 | 3000 | 1587 | 317 | 529 | 3.0 | < | Y | 0.9 | 0.1 | 0.1 |

(1) Projection: NAD 1983, New Mexico West, Feet.

## Table 5
## Mine Compound Test Pit Subsurface Soil Sample Field Ex-Situ Gamma Screening and Vendor Laboratory Results Summary

| Sampling Data | | | | | Field Soil Screening Data | | | | | | | Laboratory Data | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Sample Depth (ft) | Sample Date | Sample Time | Description | Screen Date | Sample Weight grams | 609 (559-669) Kev Gross Counts CP5M | CPM | 6.6 pCi/g Ra-226 Reference Soil CPM | Soil Gamma Screening Estimated Ra-226 pCi/g | SSL (< or >) | Sample Sent to Lab | Ra-226 pCi/g | Error Estimate pCi/g | MDC pCi/g |
| MCSB-01 1' | 1 | 5/30/2023 | 1240 | 3" Roadbase gravel mixed with dark brown silty clay | 5/30/2023 | 3000 | 2326 | 465 | 570 | 5.1 | < | N | - | - | - |
| MCSB-01 2' | 2 | 5/30/2023 | 1250 | Brown loamy clay w/ gravel | 5/30/2023 | 3000 | 2965 | 593 | 570 | 6.9 | ≈ | Y | 5.9 | 0.2 | 0.1 |
| DSSB-04 | | | MCSB-01 2' Field QA/QC Duplicate | | | | | | | | ≈ | Y | 5.8 | 0.2 | 0.1 |
| MCSB-01 3' | 3 | 5/30/2023 | 1300 | Brown loamy soil | 5/30/2023 | 3000 | 1240 | 248 | 570 | 2.1 | < | Y | 0.8 | 0.1 | 0.1 |
| MCSB-01 4' | 4 | 5/30/2023 | 1315 | Brown loamy clay | 5/30/2023 | 3000 | 1120 | 224 | 570 | 1.7 | < | N | - | - | - |
| MCSB-02 1' | 1 | 5/30/2023 | 1030 | Red roadbase gravel | 5/30/2023 | 3000 | 1243 | 249 | 570 | 2.1 | < | N | - | - | - |
| MCSB-02 2' | 2 | 5/30/2023 | 1040 | silty clay mix w/ 3/4" gravel | 5/30/2023 | 3000 | 1620 | 324 | 570 | 3.1 | < | N | - | - | - |
| MCSB-02 3' | 3 | 5/30/2023 | 1050 | Grey, greenish black clay/bentonite | 5/30/2023 | 3000 | 947 | 189 | 570 | 1.2 | < | Y | 0.8 | 0.1 | 0.1 |
| MCSB-02 4' | 4 | 5/30/2023 | 1100 | Loose sandy silt w/ reddish gravel. | 5/30/2023 | 3000 | 5236 | 1047 | 570 | 13.3 | > | Y | 12.6 | 0.4 | 0.2 |
| MCSB-02 5.2' | 5.2 | 5/30/2023 | 1115 | Loose dark brown silty clay | 5/30/2023 | 3000 | 1426 | 285 | 570 | 2.6 | < | Y | 1.4 | 0.1 | 0.1 |
| MCSB-03 1' | 1 | 5/30/2023 | 1340 | Light brown loamy soil w/ small amounts gravel | 5/30/2023 | 3000 | 3386 | 677 | 570 | 8.1 | > | Y | 5.9 | 0.2 | 0.1 |
| MCSB-03 2' | 2 | 5/30/2023 | 1350 | Brown loamy soil | 5/30/2023 | 3000 | 1201 | 240 | 570 | 2.0 | < | Y | 0.8 | 0.1 | 0.1 |
| MCSB-03 3' | 3 | 5/30/2023 | 1400 | Brown sandy loam | 5/30/2023 | 3000 | 1279 | 256 | 570 | 2.2 | < | N | - | - | - |
| MCSB-04 1' | 1 | 5/30/2023 | 935 | 0-6" Red roadbase gravel, 6"-12" Brown silty soil w/ gravel | 5/30/2023 | 3000 | 1055 | 211 | 570 | 1.6 | < | Y | 1.4 | 0.1 | 0.1 |
| MCSB-04 2' | 2 | 5/30/2023 | 945 | Gravel roadbase | 5/30/2023 | 3000 | 1919 | 384 | 570 | 4.0 | < | Y | 3.4 | 0.2 | 0.1 |
| MCSB-04 3.5' | 3.5 | 5/30/2023 | 955 | Mixed dark brown silty sandy and rocks | 5/30/2023 | 3000 | 1017 | 203 | 570 | 1.4 | < | N | - | - | - |
| MCSB-04 4.5' | 4.5 | 5/30/2023 | 1005 | Dark brown silty clay w/ gravel-cobbles | 5/30/2023 | 3000 | 1274 | 255 | 570 | 2.2 | < | N | - | - | - |
| MCSB-5 1' | 1 | 5/24/2023 | 1010 | 0-6" gravel roadbase, 6"-12" brown silty sand | 5/25/2023 | 3000 | 1183 | 237 | 555 | 1.9 | < | N | - | - | - |
| MCSB-5 2' | 2 | 5/24/2023 | 1020 | Brown silty sandy soil | 5/25/2023 | 3000 | 1309 | 262 | 555 | 2.3 | < | N | - | - | - |
| MCSB-5 3' | 3 | 5/24/2023 | 1030 | Rocky w/ silty sand soil | 5/25/2023 | 3000 | 1162 | 232 | 555 | 1.8 | < | N | - | - | - |
| MCSB-5 4' | 4 | 5/24/2023 | 1040 | Rocky w/ silty sand soil | 5/25/2023 | 3000 | 1262 | 252 | 555 | 2.1 | < | Y | 1.5 | 0.1 | 0.1 |
| MCSB-5 6' | 6 | 5/24/2023 | 1100 | Gravel, sandy soil | 5/25/2023 | 3000 | 6564 | 1313 | 555 | 17.0 | > | Y | 16.1 | 0.4 | 0.2 |
| MCSB-5 7.5' | 7.5 | 5/24/2023 | 1110 | Dark brown silty soil | 5/25/2023 | 3000 | 1150 | 230 | 555 | 1.8 | < | Y | 1.0 | 0.1 | 0.1 |
| MCSB-06 1' | 1 | 5/30/2023 | 822 | 0-8" red 1" roadbase gravel, 8"-12" dark brown soil gravel mix | 5/30/2023 | 3000 | 19543 | 3909 | 570 | 53.3 | > | N | - | - | - |
| MCSB-06 2' | 2 | 5/30/2023 | 835 | Dark brown packed clay with gravel | 5/30/2023 | 3000 | 4112 | 822 | 570 | 10.1 | > | N | - | - | - |
| MCSB-06 3.25' | 3.25 | 5/30/2023 | 850 | Dark brown packed clay with gravel | 5/30/2023 | 3000 | 1477 | 295 | 570 | 2.7 | < | N | - | - | - |
| MCSB-06 4.25' | 4.25 | 5/30/2023 | 900 | Dark brown silty clay | 5/30/2023 | 3000 | 1091 | 218 | 570 | 1.7 | < | N | - | - | - |
| MCSB-06 6' | 6 | 5/30/2023 | 915 | Rocky silty clay | 5/30/2023 | 3000 | 1311 | 262 | 570 | 2.3 | < | Y | 1.9 | 0.2 | 0.1 |

## Table 5 (Continued)
## Mine Compound Test Pit Subsurface Soil Sample Field Ex-Situ Gamma Screening and Vendor Laboratory Results Summary

| Sampling Data | | | | | Field Soil Screening Data | | | | | | | Laboratory Data | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Sample Depth (ft) | Sample Date | Sample Time | Description | Screen Date | Sample Weight grams | 609 (559-669) Kev Gross Counts CP5M | CPM | 6.6 pCi/g Ra-226 Reference Soil CPM | Soil Gamma Screening Estimated Ra-226 pCi/g | SSL (< or >) | Sample Sent to Lab | Ra-226 pCi/g | Error Estimate pCi/g | MDC pCi/g |
| MCSB-7 1' | 1 | 5/24/2023 | 1220 | Gravel/Roadbase w/ sand | 5/25/2023 | 3000 | 10973 | 2195 | 555 | 29.3 | > | N | - | - | - |
| MCSB-7 2' | 2 | 5/24/2023 | 1232 | Dark brown clay/bentonite silty | 5/25/2023 | 3000 | 1333 | 267 | 555 | 2.3 | < | N | - | - | - |
| MCSB-7 3' | 3 | 5/24/2023 | 1246 | light brown/greyish sandy silty | 5/25/2023 | 3000 | 2872 | 574 | 555 | 6.6 | ≈ | Y | 6.3 | 0.2 | 0.1 |
| DSSB-03 | | | | MCSB-7 3' Field QA/QC Duplicate | | | | | | | | Y | 6.2 | 0.2 | 0.1 |
| MCSB-7 4.5' | 4.5 | 5/24/2023 | 1300 | Light brown silty sand mix | 5/25/2023 | 3000 | 1396 | 279 | 555 | 2.5 | < | Y | 1.2 | 0.1 | 0.1 |
| MCSB-7 5.5' | 5.5 | 5/24/2023 | 1110 | Light brown/grey clay soil | 5/25/2023 | 3000 | 1150 | 230 | 555 | 1.8 | < | N | - | - | - |
| MCSB-08 1' | 1 | 5/23/2023 | 1035 | Clay mixed w/ grey waste rock | 5/23/2023 | 3000 | 29705 | 5941 | 586 | 81.8 | > | N | - | - | - |
| MCSB-08 2' | 2 | 5/23/2023 | 1045 | Clay mixed w/ grey waste rock | 5/23/2023 | 3000 | 34740 | 6948 | 586 | 95.9 | > | N | - | - | - |
| MCSB-08 3' | 3 | 5/23/2023 | 1058 | Clay mixed w/ sandy grey waste rock | 5/23/2023 | 3000 | 19380 | 3876 | 586 | 52.9 | > | N | - | - | - |
| MCSB-08 5' | 5 | 5/23/2023 | 1110 | Clay mixed w/ sandy grey waste rock | 5/23/2023 | 3000 | 33460 | 6692 | 586 | 92.3 | > | Y | 77.1 | 0.9 | 0.4 |
| MCSB-08 6.5' | 6.5 | 5/23/2023 | 1125 | Black gravel/soil | 5/23/2023 | 3000 | 1266 | 253 | 586 | 2.1 | < | Y | 1.1 | 0.1 | 0.1 |
| MCSB-08 12' | 12 | 5/23/2023 | 1145 | Dark rocky clay | 5/23/2023 | 3000 | 2421 | 484 | 586 | 5.4 | ≤ | N | - | - | - |
| MCSB-9 1' | 1 | 5/24/2023 | 825 | Gravel/Roadbase w/ sand | 5/25/2023 | 3000 | 4191 | 838 | 555 | 10.3 | > | Y | 7.9 | 0.3 | 0.1 |
| MCSB-9 2' | 2 | 5/24/2023 | 840 | Brown sandy soil | 5/25/2023 | 3000 | 980 | 196 | 555 | 1.3 | < | Y | 0.6 | 0.1 | 0.1 |
| MCSB-9 3' | 3 | 5/24/2023 | 850 | Brown sandy soil | 5/25/2023 | 3000 | 1056 | 211 | 555 | 1.6 | < | N | - | - | - |
| MCSB-9 4' | 4 | 5/24/2023 | 900 | Brown sandy soil | 5/25/2023 | 3000 | 1082 | 216 | 555 | 1.6 | < | N | - | - | - |
| MCSB-10 1' | 1 | 5/24/2023 | 915 | Gravel/Roadbase w/ sand | 5/25/2023 | 3000 | 920 | 184 | 555 | 1.2 | < | Y | 0.8 | 0.1 | 0.1 |
| MCSB-10 2' | 2 | 5/24/2023 | 922 | Loose light brown sandy silty soil | 5/25/2023 | 3000 | 913 | 183 | 555 | 1.2 | < | Y | | | |
| MCSB-10 3' | 3 | 5/24/2023 | 930 | Dark brown clay mix w/ sandy silt | 5/25/2023 | 3000 | 930 | 186 | 555 | 1.2 | < | N | - | - | - |
| MCSB-10 4' | 4 | 5/24/2023 | 943 | Dark brown clay mix w/ sandy silt | 5/25/2023 | 3000 | 1055 | 211 | 555 | 1.6 | < | N | - | - | - |
| MCSB-11 1' | 1 | 5/22/2023 | 1030 | 0-4" Roadbase gravel, 4"-12" grey rocky sandy waste rock | 5/22/2023 | 3000 | 12907 | 2581 | 551 | 34.7 | > | N | - | - | - |
| MCSB-11 2' | 2 | 5/22/2023 | 1040 | Dark grey rocky sandy waste rock | 5/22/2023 | 3000 | 42761 | 8552 | 551 | 118.3 | > | N | - | - | - |
| MCSB-11 3' | 3 | 5/22/2023 | 1050 | Grey waste rock w/ brown silty mix | 5/22/2023 | 3000 | 15497 | 3099 | 551 | 42.0 | > | N | - | - | - |
| MCSB-11 4' | 4 | 5/22/2023 | 1104 | Dark brown rocky loose soil | 5/22/2023 | 3000 | 3871 | 774 | 551 | 9.4 | > | Y | 11.0 | 0.4 | 0.2 |
| MCSB-11 5' | 5 | 5/22/2023 | 1112 | Dark brown clay mix w/ pebbles | 5/22/2023 | 3000 | 2036 | 407 | 551 | 4.3 | < | Y | 2.8 | 0.2 | 0.1 |
| MCSB-11 6' | 6 | 5/23/2023 | 835 | Dark brown sandy clay mix | 5/23/2023 | 3000 | 1824 | 365 | 586 | 3.7 | < | N | - | - | - |

## Table 5 (Continued)

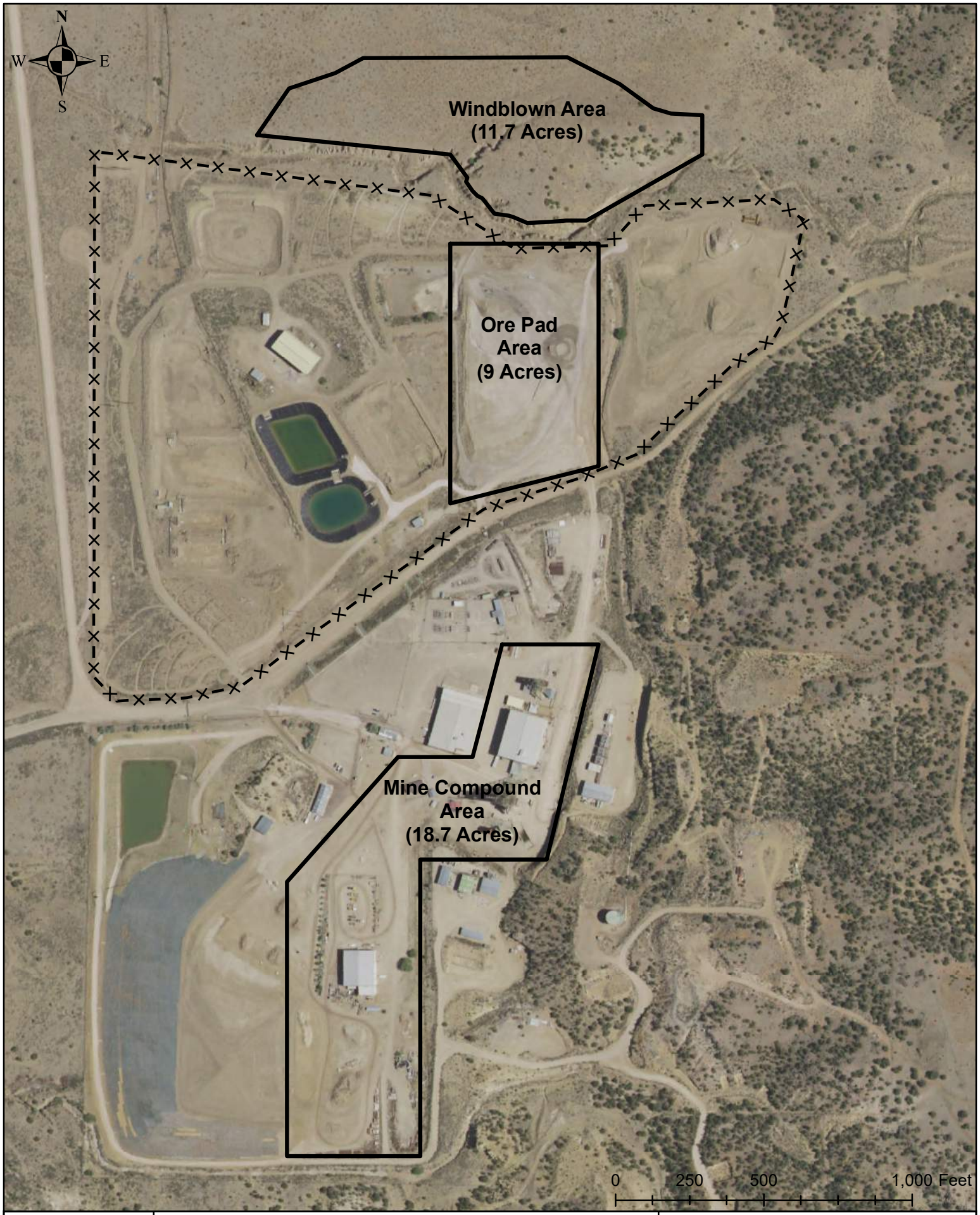
## Mine Compound Test Pit Subsurface Soil Sample Field Ex-Situ Gamma Screening and Vendor Laboratory Results Summary

| Sampling Data | | | | | Field Soil Screening Data | | | | | | | Laboratory Data | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Sample Depth (ft) | Sample Date | Sample Time | Description | Screen Date | Sample Weight grams | 609 (559-669) Kev Gross Counts CP5M | CPM | 6.6 pCi/g Ra-226 Reference Soil CPM | Soil Gamma Screening Estimated Ra-226 pCi/g | SSL (< or >) | Sample Sent to Lab | Ra-226 pCi/g | Error Estimate pCi/g | MDC pCi/g |
| MCSB-12 1' | 1 | 5/22/2023 | 928 | 0-6" Roadbase gravel, 6"-12" 3/4-1" gravel sandy | 5/22/2023 | 3000 | 1957 | 391 | 551 | 4.1 | < | Y | 3.3 | 0.2 | 0.1 |
| MCSB-12 2' | 2 | 5/22/2023 | 935 | Black gravel/soil | 5/22/2023 | 3000 | 1793 | 359 | 551 | 3.6 | < | N | - | - | - |
| MCSB-12 3' | 3 | 5/22/2023 | 948 | Hard packed brown silty sand | 5/22/2023 | 3000 | 915 | 183 | 551 | 1.2 | < | N | - | - | - |
| MCSB-12 4' | 4 | 5/22/2023 | 956 | Hard packed brown silty sand | 5/22/2023 | 3000 | 923 | 185 | 551 | 1.2 | < | N | - | - | - |
| MCSB-13 1' | 1 | 5/22/2023 | 825 | 0-4" Roadbase gravel, 4"-12" dark silty clay | 5/22/2023 | 3000 | 1197 | 239 | 551 | 1.9 | < | Y | 1.2 | 0.1 | 0.1 |
| MCSB-13 2' | 2 | 5/22/2023 | 839 | Dark silty clay | 5/22/2023 | 3000 | 1253 | 251 | 551 | 2.1 | < | N | - | - | - |
| MCSB-13 3' | 3 | 5/22/2023 | 851 | Dark silty clay | 5/22/2023 | 3000 | 1309 | 262 | 551 | 2.3 | < | N | - | - | - |
| MCSB-13 4' | 4 | 5/22/2023 | 905 | Light brown sandstone silty | 5/22/2023 | 3000 | 1210 | 242 | 551 | 2.0 | < | N | - | - | - |
| MCSB-14 1' | 1 | 5/23/2023 | 853 | Dark brown topsoil, cobbles | 5/23/2023 | 3000 | 1982 | 396 | 586 | 4.1 | < | Y | 3.8 | 0.2 | 0.1 |
| MCSB-14 2' | 2 | 5/23/2023 | 905 | Grey sandy waste rock | 5/23/2023 | 3000 | 1942 | 388 | 586 | 4.0 | < | N | - | - | - |
| MCSB-14 3' | 3 | 5/23/2023 | 915 | Grey sandy waste rock | 5/23/2023 | 3000 | 1856 | 371 | 586 | 3.8 | < | N | - | - | - |
| MCSB-14 4' | 4 | 5/23/2023 | 920 | Grey sandy waste rock | 5/23/2023 | 3000 | 1795 | 359 | 586 | 3.6 | < | N | - | - | - |
| MCSB-14 5' | 5 | 5/23/2023 | 932 | Dark brown clay | 5/23/2023 | 3000 | 1274 | 255 | 586 | 2.2 | < | N | - | - | - |
| MCSB-14 6' | 6 | 5/23/2023 | 950 | Dark brown clay | 5/23/2023 | 3000 | 1059 | 212 | 586 | 1.6 | < | N | - | - | - |
| MCSB-15 1' | 1 | 5/18/2023 | 1138 | Light brown clay/sand mix | 5/18/2023 | 3000 | 1503 | 301 | 539 | 2.8 | < | Y | 1.6 | 0.1 | 0.1 |
| DSSB-02 | | | MCSB-15 1' Field QA/QC Duplicate | | | | | | | | < | Y | 1.3 | 0.1 | 0.1 |
| MCSB-15 2' | 2 | 5/18/2023 | 1145 | Light brown clay/sand-road base mixed | 5/18/2023 | 3000 | 1389 | 278 | 539 | 2.5 | < | N | - | - | - |
| MCSB-15 3' | 3 | 5/18/2023 | 1158 | Brown /greyish clay/sand mix | 5/18/2023 | 3000 | 2206 | 441 | 539 | 4.8 | < | N | - | - | - |
| MCSB-15 4' | 4 | 5/18/2023 | 1212 | Brown clay/sand mix | 5/18/2023 | 3000 | 1415 | 283 | 539 | 2.6 | < | N | - | - | - |
| MCSB-16 1' | 1 | 5/18/2023 | 1045 | Rocky w/ sand - grey/light green color | 5/18/2023 | 3000 | 2498 | 500 | 539 | 5.6 | ≤ | Y | 4.8 | 0.2 | 0.2 |
| MCSB-16 2' | 2 | 5/18/2023 | 1100 | Light brown alluvium, sandy-loam | 5/18/2023 | 3000 | 1646 | 329 | 539 | 3.2 | < | Y | 2.4 | 0.2 | 0.1 |
| MCSB-16 3' | 3 | 5/18/2023 | 1110 | Shale/sandy, light grey/brown | 5/18/2023 | 3000 | 1587 | 317 | 539 | 3.0 | < | N | - | - | - |
| MCSB-16 4' | 4 | 5/18/2023 | 1120 | Light borown sandy loam | 5/18/2023 | 3000 | 1280 | 256 | 539 | 2.2 | < | N | - | - | - |
| MCSB-17 1' | 1 | 5/18/2023 | 845 | Gravel/Roadbase w/ sand | 5/18/2023 | 3000 | 974 | 195 | 539 | 1.3 | < | Y | 0.7 | 0.1 | 0.1 |
| MCSB-17 2' | 2 | 5/18/2023 | 857 | Dark brown clay/loam | 5/18/2023 | 3000 | 1070 | 214 | 539 | 1.6 | < | N | - | - | - |
| MCSB-18 1'-1.5' | 1-1.5 | 5/18/2023 | 948 | Light brown sandy clay loam | 5/18/2023 | 3000 | 1634 | 327 | 539 | 3.2 | < | Y | 2.6 | 0.2 | 0.1 |
| MCSB-18 2' | 2 | 5/18/2023 | 958 | Dark brown/grey clay & bentonite mix w/ sandy loam | 5/18/2023 | 3000 | 1321 | 264 | 539 | 2.3 | < | N | - | - | - |
| MCSB-18 3' | 3 | 5/18/2023 | 1010 | Light brown sandy mixed w/ charcoal, rust & debris | 5/18/2023 | 3000 | 1306 | 261 | 539 | 2.3 | < | N | - | - | - |

**Table 6**
**Subsurface Ra-226 Contamination Depth Summary**

| Area | Test Pit ID | Test Pit Location Coordinates, NAD83 NM West (Feet) | | Date | Depth of Soil Ra-226 Contamination >RCC (Feet bgs) |
|---|---|---|---|---|---|
| | | Northing | Easting | | |
| Windblown Area | WBSB-01 | 1581418.18 | 2782862.43 | 05/17/23 | **0** |
| | WBSB-02 | 1581391.39 | 2782444.66 | 05/17/23 | **0** |
| | WBSB-03 | 1581357.28 | 2783327.71 | 05/17/23 | **0** |
| | WBSB-04 | 1581342.67 | 2782705.31 | 05/17/23 | **0** |
| | WBSB-05 | 1581330.49 | 2783059.75 | 05/17/23 | **0** |
| | WBSB-06 | 1581265.93 | 2782941.60 | 05/17/23 | **0** |
| | WBSB-07 | 1581192.86 | 2783257.06 | 05/17/23 | **0** |
| | WBSB-08 | 1581162.41 | 2782991.54 | 05/17/23 | **0.5** |
| | WBSB-09 | 1580833.55 | 2782884.36 | 05/31/23 | **0** |
| | WBSB-10 | 1580832.33 | 2783163.28 | 05/31/23 | **0** |
| | WBSB-11 | 1580598.48 | 2783012.25 | 05/31/23 | **0** |
| | WBSB-12 | 1580328.08 | 2782874.61 | 05/31/23 | **0** |
| Ore Pad Area | OPSB-01 | 1580834.11 | 2782884.42 | 05/31/23 | **≈15** |
| | OPSB-02 | 1580811.55 | 2783138.10 | 05/31/23 | **4.2** |
| | OPSB-03 | 1580599.03 | 2783012.73 | 05/31/23 | **4.3** |
| | OPSB-04 | 1580328.29 | 2782874.34 | 05/31/23 | **4.5** |
| | OPSB-05 | 1580386.28 | 2783136.44 | 05/31/23 | **3.0** |
| | OPSB-06 | 1580827.17 | 2783031.17 | 06/07/23 | **3.0** |
| | OPSB-07 | 1580839.91 | 2782985.85 | 06/07/23 | **3.0** |
| | OPSB-08 | 1580839.92 | 2782946.79 | 06/07/23 | **≈15** |
| Mine Compound Area | MCSB-01 | 1579584.67 | 2783018.74 | 05/30/23 | **<1.0** |
| | MCSB-02 | 1579573.01 | 2783166.70 | 05/30/23 | **0 to 1.0 and 3.5 to 4.5** |
| | MCSB-03 | 1579343.02 | 2782883.30 | 05/30/23 | **<1.0** |
| | MCSB-04 | 1579317.49 | 2783098.04 | 05/30/23 | **<1.0** |
| | MCSB-05 | 1579183.08 | 2782701.94 | 05/24/23 | **0 to 1.0 and 6.0 to 7.0** |
| | MCSB-06 | 1579162.34 | 2783064.40 | 05/24/23 | **2.0** |
| | MCSB-07 | 1579040.09 | 2783009.78 | 05/24/23 | **1.0** |
| | MCSB-08 | 1578849.18 | 2782249.48 | 05/23/23 | **6.0** |
| | MCSB-09 | 1578849.89 | 2782581.54 | 05/23/23 | **<0.5** |
| | MCSB-10 | 1578758.24 | 2782443.51 | 05/23/23 | **<1.0** |
| | MCSB-11 | 1578610.92 | 2782257.53 | 05/22/23 | **4.5** |
| | MCSB-12 | 1578520.57 | 2782569.17 | 05/22/23 | **<1.0** |
| | MCSB-13 | 1578300.74 | 2782557.01 | 05/22/23 | **0** |
| | MCSB-14 | 1578278.15 | 2782258.40 | 05/23/23 | **0** |
| | MCSB-15 | 1578214.43 | 2782398.32 | 05/18/23 | **<0.5** |
| | MCSB-16 | 1578084.02 | 2782313.13 | 05/18/23 | **<1.0** |
| | MCSB-17 | 1578084.66 | 2782598.61 | 05/18/23 | **0** |
| | MCSB-18 | 1578071.36 | 2782423.53 | 05/18/23 | **0** |

# Figures



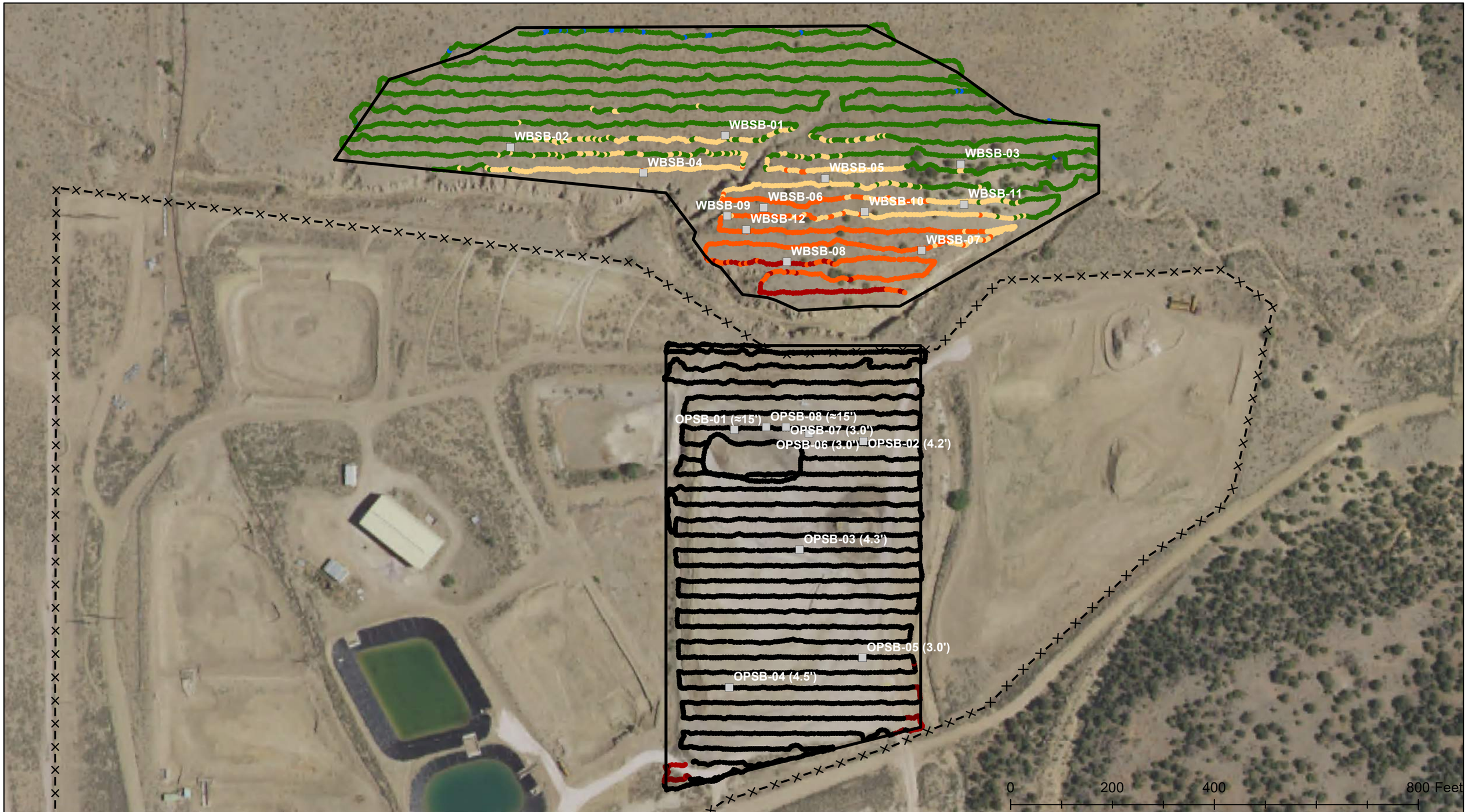

AVM Environmental Services, Inc.

Figure 1
Mt. Taylor Mine Site
Soil Radiologic Characterization Areas

**Legend**

North Controlled Fence

Soil Radiologic Characterization Area




N
W E
S

AVM Environmental Services, Inc.

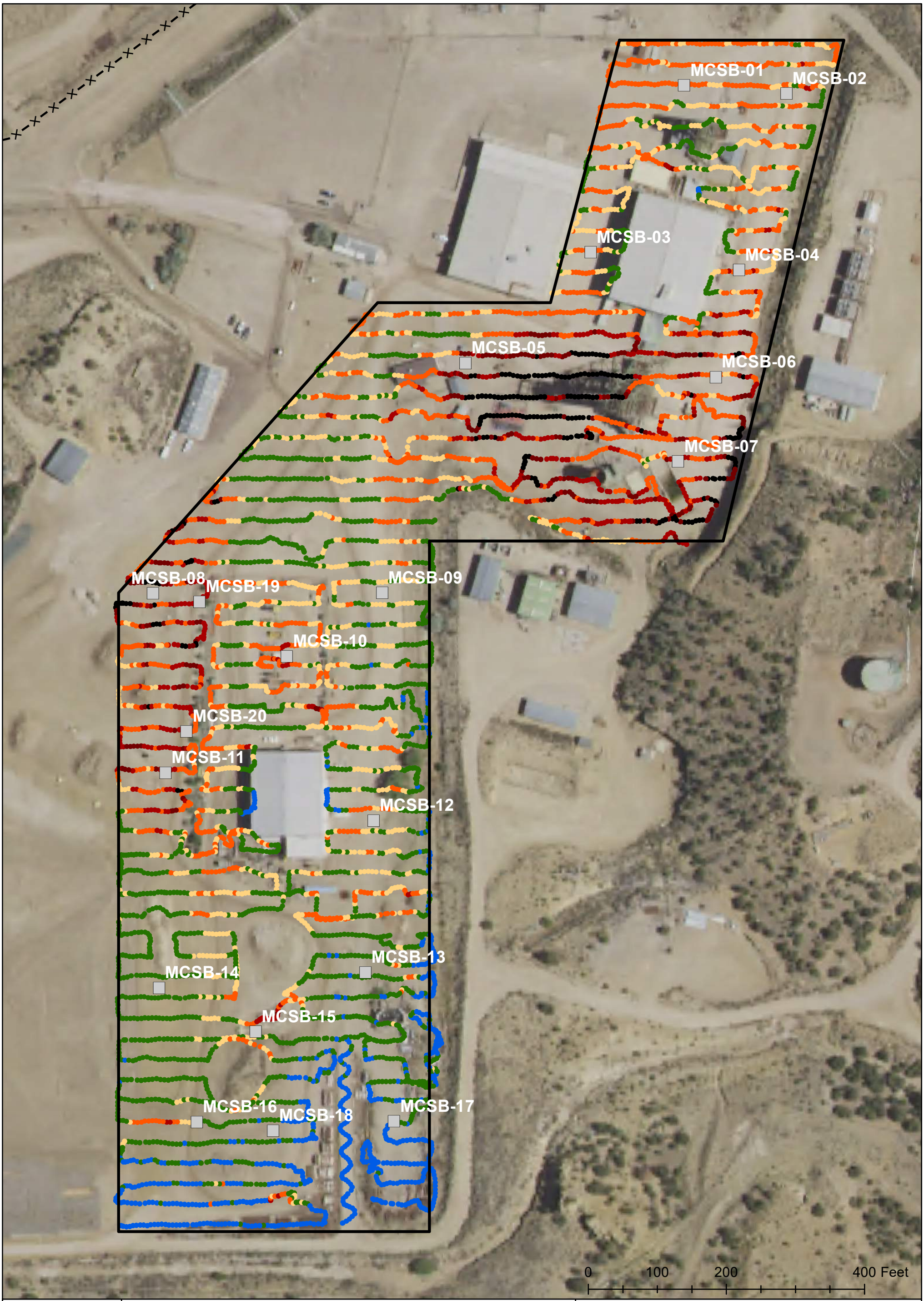
Figure 2
Mt. Taylor Mine Site
Windblown and Ore Pad Area Soil Sample/Test Pit Locations
and April 2023 Surface Gamma Scan Survey

## Legend

**Ra-226 pCi/g**

- <1.8 pCi/g
- 1.9 - 6.8 pCi/g
- 6.9 - 10.0 pCi/g
- 10.1 - 20.0 pCi/g
- 20.1 - 30.0 pCi/g
- 30.1 - 40.0 pCi/g
- >40.1 pCi/g
- North Controlled Fence
- Soil Radiologic Characterization Area
- Soil Sample/Test Pit (>6.8 Ra-226 pCi/g RCC Depth) Location

Note: Ra-226 pCi/g is determined from surface soil gamma radiation scan using 2x2 NaI detector and Site specific gamma radiation level (cpm) correlation.




N
W E
S

Environmental Services, Inc.

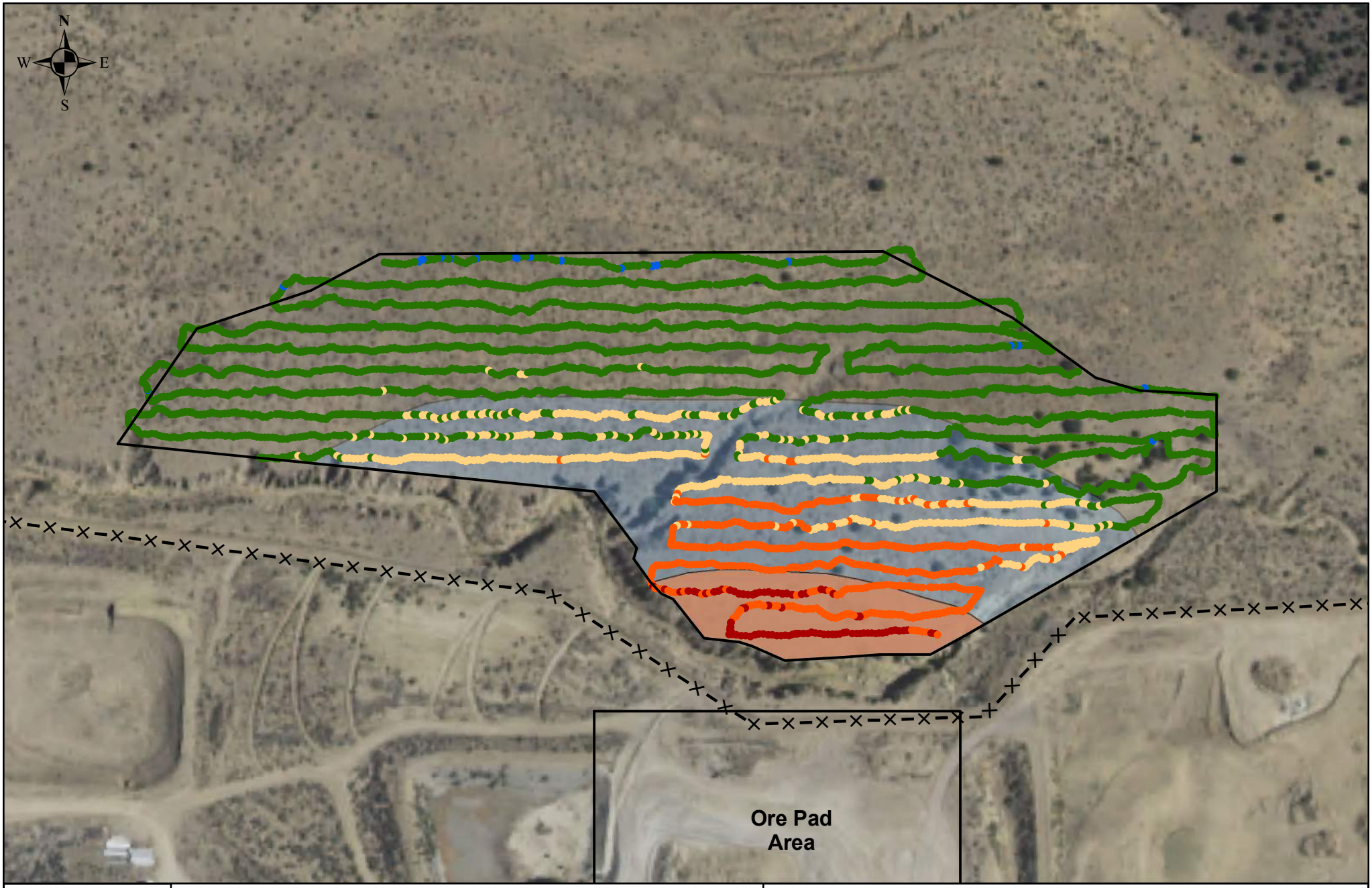
Figure 3
Mt. Taylor Mine Site
Mine Compound Area Soil Sample/Test Pit Locations
and April 2023 Surface Gamma Scan Survey

**Legend**

**Ra-226 pCi/g**

- <1.8 pCi/g
- 1.9 - 6.8 pCi/g
- 6.9 - 10.0 pCi/g
- 10.1 - 20.0 pCi/g
- 20.1 - 30.0 pCi/g
- 30.1 - 40.0 pCi/g
- >40.1 pCi/g
- Soil Sample/Test Pit Location
- North Controlled Fence
- Soil Radiologic Characterization Area

Note: Ra-226 pCi/g is determined from surface soil gamma radiation scan using 2x2 NaI detector and Site specific gamma radiation level (cpm) correlation.




Environmental Services, Inc.

# Figure 4
# Mt. Taylor Mine Site
# Windblown Area Surface Soil Ra-226 6.8 pCi/g
# Release Criteria Contamination Boundary

**Legend**

**Ra-226 pCi/g**

- <1.8 pCi/g
- 1.9 - 6.8 pCi/g
- 6.9 - 10.0 pCi/g
- 10.1 - 20.0 pCi/g
- 20.1 - 30.0 pCi/g
- 30.1 - 40.0 pCi/g
- >40.1 pCi/g
- North Controlled Fence
- Surface Gamma Scan Survey Based 6.8 Ra-226 Boundary
- Soil Sample Based 6.8 Ra-226 pCi/g Boundary
- Soil Radiologic Characterization Area

Note: Ra-226 pCi/g is determined from surface soil gamma radiation scan using 2x2 NaI detector and Site specific gamma radiation level (cpm) correlation.

| MCSB-01 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-01 1' | 5.1 | - |
| MCSB-01 2' | 6.9 | 5.9 |
| MCSB-01 3' | 2.1 | - |
| MCSB-01 4' | 1.7 | - |

| MCSB-02 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-02 1' | 2.1 | - |
| MCSB-02 2' | 3.1 | - |
| MCSB-02 3' | 1.2 | 0.8 |
| MCSB-02 4' | 13.3 | 12.6 |
| MCSB-02 5.2' | 2.6 | 1.4 |

| MCSB-03 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-03 1' | 8.1 | 5.9 |
| MCSB-03 2' | 2.0 | 0.8 |
| MCSB-03 3' | 2.2 | - |

| MCSB-04 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-04 1' | 1.6 | 1.4 |
| MCSB-04 2' | 4.0 | 3.4 |
| MCSB-04 3.5' | 1.4 | - |
| MCSB-04 4.5' | 2.2 | - |

| MCSB-05 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-05 1' | 1.9 | - |
| MCSB-05 2' | 2.3 | - |
| MCSB-05 3' | 1.8 | - |
| MCSB-05 4' | 2.1 | 1.5 |
| MCSB-05 6' | 17 | 16.1 |
| MCSB-05 7.5' | 1.8 | 1.0 |

| MCSB-06 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-06 1' | 53.3 | - |
| MCSB-06 2' | 10.1 | - |
| MCSB-06 3.25' | 2.7 | - |
| MCSB-06 4.25' | 1.7 | - |
| MCSB-06 6' | 2.3 | 1.9 |

| MCSB-07 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-07 1' | 29.3 | - |
| MCSB-07 2' | 2.3 | - |
| MCSB-07 3' | 6.6 | 6.3 |
| MCSB-07 4.5' | 2.5 | 1.2 |
| MCSB-07 5.5' | 1.8 | - |

| MCSB-08 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-08 1' | 81.8 | - |
| MCSB-08 2' | 95.9 | - |
| MCSB-08 3' | 52.9 | - |
| MCSB-08 5' | 92.3 | 77.1 |
| MCSB-08 6.5' | 2.1 | 1.1 |
| MCSB-08 12' | 5.4 | - |

| MCSB-09 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-09 1' | 10.3 | 7.9 |
| MCSB-09 2' | 1.3 | 0.6 |
| MCSB-09 3' | 1.6 | - |
| MCSB-09 4' | 1.6 | - |

| MCSB-10 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-10 1' | 1.2 | 0.8 |
| MCSB-10 2' | 1.2 | - |
| MCSB-10 3' | 1.2 | - |
| MCSB-10 4' | 1.6 | - |

| MCSB-11 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-11 1' | 34.7 | - |
| MCSB-11 2' | 118.3 | - |
| MCSB-11 3' | 42.0 | - |
| MCSB-11 4' | 9.4 | 11.0 |
| MCSB-11 5' | 4.3 | 2.8 |
| MCSB-11 6' | 3.7 | - |

| MCSB-12 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-12 1' | 4.1 | 3.3 |
| MCSB-12 2' | 3.6 | - |
| MCSB-12 3' | 1.2 | - |
| MCSB-12 4' | 1.2 | - |

| MCSB-13 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-13 1' | 1.9 | 1.2 |
| MCSB-13 2' | 2.1 | - |
| MCSB-13 3' | 2.3 | - |
| MCSB-13 4' | 2.0 | - |

| MCSB-14 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-14 1' | 4.1 | 3.8 |
| MCSB-14 2' | 4.0 | - |
| MCSB-14 3' | 3.8 | - |
| MCSB-14 4' | 3.6 | - |
| MCSB-14 5' | 2.2 | - |
| MCSB-14 6' | 1.6 | - |

| MCSB-15 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-15 1' | 2.8 | 1.6 |
| MCSB-15 2' | 2.5 | - |
| MCSB-15 3' | 4.8 | - |
| MCSB-15 4' | 2.6 | - |

| MCSB-16 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-16 1' | 5.6 | 4.8 |
| MCSB-16 2' | 3.2 | 0.24 |
| MCSB-16 3' | 3.0 | - |
| MCSB-16 4' | 2.2 | - |

| MCSB-17 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-17 1' | 1.3 | 0.7 |
| MCSB-17 2' | 1.6 | - |

| MCSB-18 | | |
|---|---|---|
| Sample ID | On-Site Soil Screening Ra-226 pCi/g | Lab Results Ra-226 pCi/g |
| MCSB-18 1'-1.5' | 3.2 | 2.6 |
| MCSB-18 2' | 2.3 | |
| MCSB-18 3' | 2.3 | |

0 125 250 500 Feet

N W E S

AVM Environmental Services, Inc.

Figure 5
Mt. Taylor Mine Site
Mine Compound Area Subsurface Soil Sample
On-Site Ex-Situ Soil Screening and Lab Results
and April 2023 Surface Gamma Scan Survey

**Legend**

**Ra-226 pCi/g**

- <1.8 pCi/g
- 1.9 - 6.8 pCi/g
- 6.9 - 10.0 pCi/g
- 10.1 - 20.0 pCi/g
- 20.1 - 30.0 pCi/g
- 30.1 - 40.0 pCi/g
- >40.1 pCi/g
- Soil Sample/Test Pit Location
- North Controlled Fence
- Soil Radiologic Characterization Area

Note: Ra-226 pCi/g is determined from surface soil gamma radiation scan using 2x2 NaI detector and Site specific gamma radiation level (cpm) correlation.

# Appendix A
# Surface Gamma Radiation Static Survey Field Forms

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Static Gamma Radiation Survey Field Form**

Instrumentation : Scaler/Ratemeter L2241-2 S#287029 Detector SPA-3 #30

Instrument Calibration Date: 10-7-22, Instrument Daily Function Check Performed: ✓

2"x2" NaI Detector Collimated ✓ Yes or ✓ No.

Survey Area/Unit Decsription Mt. Taylor Mine Site

| Survey Date | Survey Point ID/Description | Survey Point Coordinate | | Gamma Radiation Reading - CPM | | Exposure Rate µR/hr | Comments/Notes |
|---|---|---|---|---|---|---|---|
| | | Northing | Easting | Bare | Collimated (0.5"Pb) | | |
| 5-17-23 | WBSB-01 | 1581412.80 | 2782866.15 | 26897 | 6297 | 33 | |
| 5-17-23 | WBSB-02 | 1581389.51 | 2782444.25 | 26749 | 6350 | 33 | |
| 5-17-23 | WBSB-03 | 1581356.39 | 2783329.27 | 24529 | 6073 | 31 | |
| 5-17-23 | WBSB-04 | 1581338.82 | 2782705.91 | 30064 | 6069 | 37 | |
| 5-17-23 | WBSB-05 | 1581328.80 | 2783062.43 | 31828 | 6945 | 41 | |
| 5-17-23 | WBSB-06 | 1581271.37 | 2782942.27 | 35410 | 7288 | 47 | |
| 5-17-23 | WBSB-07 | 1581187.28 | 2783252.71 | 37965 | 8183 | 47 | |
| 5-17-23 | WBSB-08 | 1581164.47 | 2782987.54 | 55849 | 11042 | 70 | |
| 5-31-23 | WBSB-09 | 1581254.28 | 2782870.27 | 36491 | 6599 | 44 | |
| 5-31-23 | WBSB-10 | 1581262.56 | 2783140.16 | 34898 | 7286 | 48 | |
| 5-31-23 | WBSB-11 | 1581277.45 | 2783335.44 | 29002 | 6602 | 34 | |
| 5-31-23 | WBSB-12 | 1581227.90 | 2782907.89 | 40341 | 7153 | 55 | |
| 5-31-23 | OPSB-01 | 1580834.11 | 2782884.42 | 2328550 | 716621 | 2100 | |
| 5-31-23 | OPSB-02 | 1580811.55 | 2783138.10 | 505097 | 160357 | 650 | |
| 5-31-23 | OPSB-03 | 1580599.03 | 2783012.73 | 700063 | 247434 | 900 | |
| 5-31-23 | OPSB-04 | 1580328.29 | 2782874.34 | 408698 | 133199 | 450 | |
| 5-31-23 | OPSB-05 | 1580386.28 | 2783136.44 | 446083 | 156044 | 450 | |
| 5-30-23 | MCSB-01 | 1579584.67 | 2783018.74 | 35807 | 10538 | 41 | |
| 5-30-23 | MCSB-02 | 1579573.01 | 2783166.70 | 34096 | 9678 | 39 | |
| 5-30 23 | MCSB-03 | 1579343.02 | 2782883.30 | 34019 | 9832 | 39 | |
| 5-30-23 | MCSB-04 | 1579317.49 | 2783098.04 | 34656 | 10811 | 40 | |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Static Gamma Radiation Survey Field Form**

Instrumentation : Scaler/Ratemeter L2241-2 S#287029 Detector SPA-3 #30

Instrument Calibration Date: 10-7-22, Instrument Daily Function Check Performed: ✓

2"x2" NaI Detector Collimated ✓ Yes or ✓ No.

Survey Area/Unit Decsription Mt. Taylor Mine Site

| Survey Date | Survey Point ID/Description | Survey Point Coordinate | | Gamma Radiation Reading - CPM | | Exposure Rate µR/hr | Comments/Notes |
|---|---|---|---|---|---|---|---|
| | | Northing | Easting | Bare | Collimated (0.5"Pb) | | |
| 5-24-23 | MCSB-05 | 1579183.08 | 2782701.94 | 52231 | 14892 | 65 | |
| 5-24-23 | MCSB-06 | 1579162.34 | 2783064.40 | 31976 ~~31967~~ | 8548 | 37 | |
| 5-24-23 | MCSB-07 | 1579040.09 | 2783009.78 | 52974 | 18511 | 65 | |
| 5-23-23 | MCSB-08 | 1578849.18 | 2782249.48 | 107010 | 39626 | 125 | |
| 5-23-23 | MCSB-09 | 1578849.89 | 2782581.54 | 28188 | 8193 | 33 | |
| 5-23-23 | MCSB-10 | 1578758.24 | 2782443.51 | 39814 | 12984 | 43 | |
| 5-22-23 | MCSB-11 | 1578610.92 | 2782257.53 | 53106 | 18055 | 60 | |
| 5-22-23 | MCSB-12 | 1578520.57 | 2782569.17 | 29299 | 9090 | 33 | |
| 5-22-23 | MCSB-13 | 1578300.74 | 2782557.01 | 21952 | 6254 | 25 | |
| 5-23-23 | MCSB-14 | 1578278.15 | 2782258.40 | 21642 | 6366 | 25 | |
| 5-18-23 | MCSB-15 | 1578214.43 | 2782398.32 | 48059 | 15633 | 51 | |
| 5-18-23 | MCSB-16 | 1578084.02 | 2782313.13 | 30445 | 11069 | 33 | |
| 5-18-23 | MCSB-17 | 1578084.66 | 2782598.61 | 18059 | 5891 | 19 | |
| 5-18-23 | MCSB-18 | 1578071.36 | 2782423.53 | 17170 | 5046 | 19 | |
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Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Static Gamma Radiation Survey Field Form**

Instrumentation : Scaler/Ratemeter 2241-2 S#287029 , Detector SPA-3 #30

Instrument Calibration Date: 10-7-22 , Instrument Daily Function Check Performed: ✓

2"x2" NaI Detector Collimated ✓ Yes or ✓ No.

Survey Area/Unit Decsription Mt. Taylor Mine Site

| Survey Date | Survey Point ID/Description | Survey Point Coordinate | | Gamma Radiation Reading - CPM | | Exposure Rate µR/hr | Comments/Notes |
|---|---|---|---|---|---|---|---|
| | | Northing | Easting | Bare | Collimated (0.5"Pb) | | |
| 5-31-23 | MCSB-19 | 1578837 | 2782317 | 69850 | 24522 | 80 | |
| 5-31-23 | MCSB-20 | 1578650 | 2782298 | 55167 | 18497 | 65 | |
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Technician Signature _____, Reviewed by _____

# Appendix B

## Surface and Subsurface Contamination Field Investigation Documentation
## Soil Sample Log Forms
## Field Soil Sample Ex-Situ Gamma Radiation Screening Forms
## Soil Sample COCs and Laboratory Analytical Result Reports)

**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| WBSB-02 0-0.5' | 0815 5-17-23 | 0-6" | Light brown Alluvium Loam | Surface Soil dry |
| WBSB-02 1.0-1.5' | 0820 5-17-23 | 1.0'-1.5' | Brown Silty Clay | Moist soil |
| WBSB-04 0-0.5' | 0835 5-17-23 | 0-6" | Light brown Alluvium -Loam | |
| WBSB-04 1.0'-1.5' | 0845 5-17-23 | 1.0'-1.5' | Brown Silty Clay | |
| WBSB-01 0-0.5' | 0855 5-17-23 | 0-6" | Light brown Alluvium Loam | |
| WBSB-01 1.0-1.5' | 0906 5-17-23 | 1.0'-1.5' | Brown Silty clay | |
| WBSB-05 0-0.5' | 0920 5-17-23 | 0-6" | Light brown Alluvium -Loam | |
| WBSB-05 1.0'-1.5' | 0930 5-17-23 | 1.0'-1.5' | brown Silty Clay | |
| WBSB-03 0-0.5' | 0942 5-17-23 | 0-6" | Light brown Alluvium -Loam | |
| WBSB-03 1.0'-1.5' | 0948 5-17-23 | 1.0'-1.5' | brown silty clay | |
| WBSB-07 0-6" | 1014 5-17-23 | 0-6" | Light brown Alluvium Loam | |
| WBSB-07 1.0'-1.5' | 1020 5-17-23 | 1.0'-1.5' | brown silty clay | |
| WBSB-08 0-0.5" MS | 1034 5-17-23 | 0-6" | Light brown Alluvium -Loam | |
| WBSB-08 1.0-1.5 | 1042 5-17-23 | 1.0'-1.5' | brown Silty Clay | |
| | | | | |

**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| WBSB-06 0-0.5' | 1054 5-17-23 | 0-6" | Light brown Alluvium - Loam | |
| WBSB-06 1.0-1.5' | 1100 5-17-23 | 1.0-1.5' | brown silty clay | |
| WBSB-09 0-6" | 5-31-23 @825 | 0-6" | light brown Alluvium Sandy | |
| WBSB-09 6-12' | 5-31-23 @835 | 6-12" | brown Silty Clay | |
| WBSB-12 0-1" | 5-31-23 @850 | 0-1" | Alluvium brown Sandy | |
| WBSB-12 2-6" | 5-31-23 @900 | 2-6" | brown loam / Sand | |
| WBSB-10 0-6" | 5-31-23 @910 | 0-6" | Alluvium light brown Sandy | |
| WBSB-10 6-12" | 5-31-23 @915 | 6-12" | brown loam / Roots | |
| WBSB-11 0-6" | 5-31-23 @935 | 0-6' | Alluvium light brown Sandy | |
| WBSB-11 6-10" | 5-31-23 940 | 6-10" | Sandstone / Sand. | |
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**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| MCSB-17 1' 5-18-23 | 5-18-23 845 | 1' | | 0-1' gravel/Road base @1' appears native |
| MCSB-17 2 | 5-18-23 857 | 2' | | native to Depth of 5.5' |
| MCSB-18-1-1.5 | 5-18-23 948 | 1-1.5' | | |
| MCSB-18 2 | 5-18-23 958 | 2' | clay Sand loam Dark Conglomerate multi Color | Metal Debris @ 2.5' |
| MCSB-18 3 | 5-18-23 1010 | 3' | Charcoal - Rust light Brown | |
| MCSB-18 4 | 5-18-23 1018 | 4' | Clay Dk Brown | native @ ± 5' |
| MCSB-16 1 | 5-18-23 1045 | 1' | Rocky light grey/green | Top 1' = 5" soil) ± 5" gravel |
| MCSB-16 2 | 5-18-23 1100 | 2' | light brown Alluvium/Sand | |
| MCSB-16 3 | 5-18-23 1110 | 3' | light grayish/Brown mix of Shale | |
| MCSB-16 4 | 5-18-23 1120 | 4' | | |
| MCSB-15 1 | 5-18-23 1138 | 1' | Brown clay/Sand | from borrow A or B |
| MCSB-15 2 | 5-18-23 1145 | 2' | " " /gravel Roadbase | |
| MCSB-15 3 | 5-18-23 1158 | 3' | Brown Clay/Sand grey | |
| MCSB-15 4 | 5-18-23 1212 | 4' | Brown Clay/Sand | |
| | | | | |

**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| MCSB-13 - 1' | 5-22-23 825 | 1' | 0-4" Road base<br>4-12" Dark Silt Clay | |
| MCSB-13 2' | 5-22-23 839 | 2' | 1'-2' Dark Silt Clay | |
| MCSB-13 3' | 5-22-23 851 | 3' | Light/Dark Silt Clay | |
| MCSB-13 4' | 5-22-23 905 | 4' | Sandstone<br>light brown Sandy/Silt Soil | some @ 6' |
| MCSB-12 1' | 5-22-23 928 | 1' | 0-6" Road base<br>6"-12" Large gravel 3/4"-1" | |
| MCSB-12 2' | 5-22-23 935 | 2' | odor/DRO<br>Dark/Black gravel | |
| MCSB-12 3' | 5-22-23 948 | 3' | Brown Silty/Sandy Hard pack | |
| MCSB-12 4' | 5-22-23 956 | 4' | " " " | |
| MCSB-11 1' | 5-22-23 1030 | 1' | 0-4" Road base<br>4-12" Grey Rocky loose Waste Rock | |
| MCSB-11 2' | 5-22-23 1040 | 2' | White Rock<br>Dark Grey Rocky loose Soil | |
| MCSB-11 3' | 5-22-23 1050 | 3' | Grey Waste Rock/Brown Silty mix | |
| MCSB-11 4' | 5-22-23 1104 | 4' | Dark brown/Rocky = Interface | |
| MCSB-11 5' | 5-22-23 1112 | 5' | Pebbles<br>Dark brown/~~Rocky~~ Clay | appears native @ 6.5' |
| MCSB-11 6' | 5-23-23 835 | 6' | Dark brown Clay/Sand | |
| | | | | |

**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| MCSB-14 1' | 5-23-23 853 | 1' | Cobble<br>Dark brown topsoil Maybe backfill | |
| MCSB-14 2' | 5-23-23 905 | 2' | Grey / mine waste | metal Debris @ 1'-2' |
| MCSB-14 3' | 5-23-23 915 | 3' | " " " | metal Debris hoses etc. |
| MCSB-14 4' | 5-23-23 920 | 4' | " " " | Debris |
| MCSB-14 5' | 5-23-23 932 | 5' | Dark brown Clay | |
| MCSB-14 6' | 5-23-23 950 | 6' | " " | Clay & Charcoal Past 6' |
| MCSB-08 1' | 5-23-23 1035 | 1' | Clay mix w/ Mine Waste Rock | |
| MCSB-08 2' | 5-23-23 1045 | 2' | " " " | |
| MCSB-08 3' | 5-23-23 1058 | 3' | " " " Sandy | |
| MCSB-08 5' | 5-23-23 1110 | 5' | Sandy/clay mine Waste | 3'-5' Same material |
| MCSB-08 6.5' | 5-23-23 1125 | 6.5' | Sandy mix<br>Dark/Black DRO smell | 2'-6' Same waste Sandy |
| MCSB-08 12', 11.5' | 5-23-23 1145 | 12' | Dark Rocky Clay. | |
| MCSB-09 1' | 5-24-23 825 | 1' | 0-6" Road base<br>6-12" Road base | 0-2' Road base |
| MCSB-09 2' | 5-24-23 840 | 2' | Brown Sandy Soil | |
| MCSB-09 3' | 5-24-23 850 | 3' | " " " | |

**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| MCSB-09 4' | 5-24-23 900 | 4' | Brown Sandy Soil | |
| MCSB-10 1' | 5-24-23 915 | 1' | Road Base | |
| MCSB-10 2' | 5-24-23 922 | 2' | unconsolidated light brown silty Sand | |
| MCSB-10 3' | 5-24-23 930 | 3' | Clay Dark Brown " " | |
| MCSB-10 4' | 5-24-23 943 | 4' | clay Dark Brown / Sandy Silty | |
| MCSB-10 5' | — | 5' | Dark Brown / Sandy - Clay | |
| MCSB-5 1' | 5-24-23 @ 1010 | 1' | 0-6" Road base Brown Silty Sand | |
| MCSB-5 2' | 5-24-23 @ 1020 | 2' | Brown silty Sand | |
| MCSB-5 3' | 5-24-23 @ 1030 | 3' | " " " Rocky | |
| MCSB-5 4' | 5-24-23 @ 1040 | 4' | " " " " | |
| MCSB-5 ~~5~~ 6' | 5-24-23 @ 1100 | 6' | gravel / Sandy Rocky | 6'-7' gravel Sandy Road base |
| MCSB-5 7.5' | 5-24-23 @ 1110 | 7.5' | Dark brown Silty Soil | Starts @ ≈ 7' |
| MCSB-07 1' | 5-24-23 @ 1220 | 1' | 0 ≈ 8" Gravel | |
| MCSB-07 2' | 5-24-23 @ 1232 | 2' | Dark Clay / bentonite Silts | |
| MCSB-07 3' | 5-24-23 @ 1246 | 3' | | |

**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| MCSB-07 4.5' | 5-24-23 @1300 | 4.5' | light brown Sandy Silty | |
| MCSB-07 5.5' | 5.24.23 @1310 | 5.5' | light brown Clay / grey clay | |
| MCSB-07 6.6' | 5-24-23 @ | 6.6' | no Sample Same as above | |
| MCSB-06 1' | 5-30-23 @822 | 1' | 0-8" Red Road base 1" Dark brown Soil Gravel mix | VP ~~Slight Ore Grade~~ |
| MCSB-06 2' | 5-30-23 @835 | 2' | Dark brown Rock clay w gravel 1" | |
| MCSB-06 3.25 | 5-30-23 @850 | 3.25 | " " " " | Metal Debris @ 2.5' |
| MCSB-06 4.25' | 5-30-23 @900 | 4.25 | Dark brown Silty/clay | ~4' non-mineralized ore body. |
| MCSB-06 6' | 5-30-23 @915 | 6' | Silty/Rocky w/ Clay | |
| MCSB-06 6.5' | 5-30-23 | 6.5 | No Sample Clay w/ Silty/loose | |
| MCSB-04 1' | 5-30-23 @935 | 1' | 0-6" Road base Red 6-12" Brown Silty w/ gravel | |
| MCSB-04 2' | 5-30-23 @945 | 2' | All Road base 0-2' light Brown | |
| MCSB-04 3.5' | 5-30-23 @955 | 3.5' | Mix Rocky Darkish Rocky Silty Sandy | |
| MCSB-04 4.5' | 5-30-23 @1005 | 4.5' | Clay Dark brown Silty w/ light gravel/cobble | |
| MCSB-04 5'-6' | 5-30-23 | 5'-6' | Clay Consolidated Silty Dark brown | bank |
| | | | | |

**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| MCSB-02 1' | 5-30-23 @ 1030 | 1' | 0-6" Red Road base | |
| MCSB-02 2' | 5-30-23 @ 1040 | 2' | Clay Silt mix w/ 3/4" gravel | |
| MCSB-02 3' | 5-30-23 @ 1050 | 3' | grey clay / silty bentonite greenish / black | |
| MCSB-02 4' | 5-30-23 @ 1100 | 4' | loose, sandy silt / gravel light brown (reddish) gravel | DRO odor (slight) |
| MCSB-02 5.2' | 5-30-23 @ 1115 | 5.2' | dark brown, silty unconsolidated clay | |
| MCSB-02 6.2' | 5-30-23 @ | 6.2' | " " " no sample | |
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**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| MCSB-01 1' | 5-30-23 @1240 | 1' | 3" gravel road base ~~dark~~ brown clay mixed w/ gravel | |
| MCSB-01 - 2' | 5-30-23 @1250 | 2' | brown loomy ~~&~~ clay w/gravel | |
| MCSB-01 3' | 5-30-23 @0900 | 3' | brown loomy no gravel | |
| MCSB-01 4' | 5-30-23 @0915 | 4' | brown loom/clay no gravel | |
| MCSB-01 6' | 5-30-23 no sample | 6' | " " " | |
| MCSB-03 1' | 5-30-23 @0940 | 1' | light brown loomy w/some gravel | 0-8" roadbase gravel 3/4" |
| MCSB-03 2' | 5-30-23 @0950 | 2' | ~~brown~~ loomy no gravel | |
| MCSB-03 3' | 5-30-23 @0200 | 3' | brown sandy/loom no gravel | |
| MCSB-03 4.25' | NO sample | | " " " | |
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**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| OPSB-04 0-4' | 6-1-23 @815 | 0-4' | 0-4' Grey Waste Rock | |
| OPSB-04 4.8', ~~4.83~~ UP | 6-1-23 @825 | 4.8', ~~4.10~~ UP | Dark Clay / brown Silty | |
| OPSB-04 4.5' | 6-1-23 @835 | 4.5' | Mix Clay & Waste Rock | Interface |
| OPSB-03 0-4' | 6-1-23 @850 | 0-4' | Waste Rock light/Dark Grey | |
| OPSB-03 4.2' | 6-1-23 @910 | 4.2' | mix Clay / waste Rock | Interface |
| OPSB-03 4.5' | 6-1-23 @925 | 4.5' | Dark brown Clay | |
| OPSB-01 0-13' | 6-1-23 @1025 | 0-13' | Waste Rock - Grey | |
| OPSB-01 13.5' | 6-1-23 @1020 | 13.5' | Waste Rock - Grey | limit of backhoe |
| OPSB-02 4.5' | 6-1-23 @1100 | 4.5' | Dark Clay / waste Rock | Interface |
| OPSB-02 0-4' | 6-1-23 @1115 | 0-4' | Dark Grey - Sandy waste Rock | |
| OPSB-02 5.5' | 6-1-23 @1120 | 5.5' | light brown Sandy Silty | |
| OPSB-05 3' | 6-1-23 @1140 | 3' | Dark Clay / Waste Rock | Interface |
| OPSB-05 3.75' | 6-1-23 @1155 | 3.75' | light brown Sandy Silty | |
| OPSB-05 0-3' | 6-1-23 @1200 | 0-3' | Waste Rock | |
| | | | | |

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 SN 68782, Detector L44-20 S# 295573
Instrument Calibration Date: 5-10-23, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription Mt. Taylor Mine Site

Area exposure rate: 10-12

| Date/Time | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 5-17-23 | Blank | — | 349 | | 70 | | |
| 5-17-23 | 6.6 pCi/g Ra-226 | 3000 | 2682 | | 536 | | |
| 5-17-23 | WBSB 01 0-6" @ 855 | 3000 | 1406 | | 282 | | |
| 5-17-23 | WBSB 01 1'-1.5' @ 906 | 3000 | 1244 | | 249 | | |
| 5-17-23 | WBSB 02 0-6" @ 815 ~~820~~ | 3000 | 1577 | | 315 | | |
| 5-17-23 | WBSB 02 1'-1.5' @ 820 | 2958 | 1008 | 1022 | 204 | | |
| 5-17-23 | WBSB 03 0-6" 5-17-23 @ 942 | 3000 | 2039 | | 408 | | |
| 5-17-23 | WBSB 03 1'-1.5' 5-17-23 @ 948 | 3000 | 1136 | | 227 | | |
| 5-17-23 | WBSB 04 0-6" 5-17-23 @ 835 | 3000 | 1521 | | 304 | | |
| 5-17-23 | WBSB 04 1'-1.5' 5-17-23 @ 845 | 2840 | 1189 | 1256 | 251 | | |
| 5-17-23 | WBSB 05 0-6" 5-17-23 @ 920 | 3000 | 1747 | | 349 | | |
| 5-17-23 | WBSB 05 1'-1.5' 5-17-23 @ 930 | 2835 | 1086 | 1149 | 230 | | QA/QC CPSM: 1093 |
| 5-17-23 | WBSB 06 0-6" 5-17-23 @ 1054 | 3000 | 1406 | | 281 | | |
| 5-17-23 | WBSB-06 1-1.5' 5-17-23 @ 1100 | 2876 | 1004 | 1047 | 209 | | |
| 5-17-23 | WBSB-07 0-6" 5-17-23 @ 1014 | 3000 | 2272 | | 454 | | |

Technician Signature _____, Reviewed by MP

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 S# 68782, Detector L44-20 S# 295573
Instrument Calibration Date: 5-10-23, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription Mt. Taylor Mine Site

Area exposure rate: 10-12

| Date/Time | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 5-17-23 | WBSB-07 1'-1.5' 5-17-23 @ 930 | 3000 | 1082 | | 216 | | |
| 5-17-23 | WBSB-08 0-6" 5-17-23 @ 1034 | 3000 | 4140 | | 828 | | QA/QC CP5M: 4183 |
| 5-17-23 | WBSB-08 1'-1.5' 5-17-23 @ 1042 | 3000 | 1118 | | 224 | | |
| 5-18-23 | Blank | | 330 | | 66 | | |
| 5-18-23 | 6.6pCi/g $R_a$-226 | 3000 | 2695 | | 539 | | |
| 5-18-23 | MCSB-15 4 5-18-23 @ 1212 | 3000 | 1415 | | 283 | | |
| 5-18-23 | MCSB-16 4 5-18-23 @ 1120 | 3000 | 1280 | | 256 | | |
| 5-18-23 | MCSB-17 2' 5-18-23 @ 857 | 3000 | 1070 | | 214 | | |
| 5-18-23 | MCSB 18 3' 5-18-23 @ 1010 | 3000 | 1306 | | 261 | | |
| 5-18-23 | MCSB 15 3' 5-18-23 @ 1158 | 3000 | 2206 | | 441 | | |
| 5-18-23 | MCSB 16 3' 5-18-23 @ 1110 | 3000 | 1587 | | 317 | | |
| 5-18-23 | MCSB 17 1' 5-18-23 @ 845 | 3000 | 974 | | 195 | | |
| 5-18-23 | MCSB 18 2' 5-18-23 @ 958 | 3000 | 1321 | | 264 | | |
| 5-18-23 | MCSB 15 2' 5-18-23 @ 1145 | 3000 | 1389 | | 278 | | |
| 5-18-23 | MCSB 16 2' 5-18-23 @ 1100 | 3000 | 1646 | | 329 | | QA/QC CP5M: 1621 |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 S# 68782, Detector L44-20 S# 295573
Instrument Calibration Date: 5-10-23, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription Mt. Taylor Mine Site

Area exposure rate: 10-12

| Date/Time | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 5-18-23 | MCSB-18 1-1.5' 5-18-23 @ 943 | 3000 | 1634 | | 327 | | |
| 5-18-23 | MCSB-15 1' 5-18-23 1138 | 3000 | 1503 | | 301 | | |
| 5-18-23 | MCSB-16 1' 5-18-23 @ 1045 | 3000 | 2498 | | 500 | | |
| 5-22-23 | Blank | — | 342 | | 68 | | |
| 5-22-23 | 6.6 pCi/g Ra-226 | 3000 | 2755 | | 551 | | |
| 5-22-23 | MCSB-11 5' 5-22-23 @ 1112 | 3000 | 2036 | | 407 | | |
| 5-22-23 | MCSB-12 4' 5-22-23 @ 956 | 3000 | 923 | | 185 | | |
| 5-22-23 | MCSB-13 4' 5-22-23 @ 905 | 3000 | 1210 | | 242 | | |
| 5-22-23 | MCSB-12 3' 5-22-23 @ 948 | 3000 | 915 | | 183 | | |
| 5-22-23 | MCSB-12 2' 5-22-23 @ 935 | 3000 | 1793 | | 359 | | |
| 5-22-23 | MCSB-12 1' 5-22-23 @ 928 | 3000 | 1957 | | 391 | | |
| 5-22-23 | MCSB-13 3' 5-22-23 @ 851 | 3000 | 1309 | | 262 | | |
| 5-22-23 | MCSB-13 2' 5-22-23 @ 839 | 3000 | 1253 | | 251 | | |
| 5-22-23 | MCSB-13 1' 5-22-23 @ 825 | 3000 | 1197 | | 239 | | |
| 5-22-23 | MCSB-11 4' 5-22-23 @ 1104 | 3000 | 3871 | | 774 | | QA/QC CP5M: 3855 |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector L44-20 S# 295573
Instrument Calibration Date: 5-10-23, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription Mt. Taylor Mine Site

Area exposure rate: 10-12

| Date/Time | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 5-22-23 | MCSB-11 3' 5-22-23 @ 1050 | 3000 | 15497 | | 3099 | | |
| 5-22-23 | MCSB-11 2' 5-22-23 @ 1040 | 3000 | 42761 | | 8552 | | |
| 5-22-23 | MCSB-11 1' 5-22-23 @ 1030 | 3000 | 12907 | | 2581 | | |
| 5-23-23 | Blank | | 357 | | 71 | | |
| 5-23-23 | 6.6 pCi/g Ra-226 | 3000 | 2930 | | 586 | | |
| 5-23-23 | MCSB-11 6' 5-23-23 @ 835 | 3000 | 1824 | | 365 | | |
| 5-23-23 | MCSB-08 12' 5-23-23 @ 1145 | 3000 | 2421 | | 484 | | |
| 5-23-23 | MCSB-14 6' 5-23-23 @ 950 | 3000 | 1059 | | 212 | | |
| 5-23-23 | MCSB-14 5' 5-23-23 @ 932 | 3000 | 1274 | | 255 | | |
| 5-23-23 | MCSB-08 6.5' 5-23-23 @ 1125 | 3000 | 1266 | | 253 | | |
| 5-23-23 | MCSB-08 1' 5-23-23 @ 1035 | 3000 | 29705 | | 5941 | | |
| 5-23-23 | MCSB-14 1' 5-22-23 @ 853 | 3000 | 1982 | | 396 | | |
| 5-23-23 | MCSB-14 4' 5-23-23 @ 920 | 3000 | 1795 | | 359 | | |
| 5-23-23 | MCSB-14 3' 5-23-23 @ 915 | 3000 | 1856 | | 371 | | |
| 5-23-23 | MCSB-14 2' 5-23-23 @ 905 | 3000 | 1942 | | 388 | | QA/QC CPGM: 1942 |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 S# 68782, Detector L44-20 S# 295573
Instrument Calibration Date: 5-10-23, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription Mt Taylor Mine Site

Area exposure rate: 10-12

| Date/Time | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 5-23-23 | MCSB-8 5' 5-23-23 @1110 | 3000 | 33460 | | 6692 | | |
| 5-23-23 | MCSB-8 3' 5-23-23 @1058 | 3000 | 19380 | | 3876 | | |
| 5-23-23 | MCSB-8 2' 5-23-23 @1045 | 3000 | 34740 | | 6948 | | |
| 5-25-23 | Blank | — | 363 | | 73 | | |
| 5-25-23 | 6.6 pCi/g $R_a$-226 | 3000 | 2776 | | 555 | | |
| 5-25-23 | MCSB-10 4' 5-24-23 @943 | 3000 | 1055 | | 211 | | |
| 5-25-23 | MCSB-9 4' 5-24-23 @900 | 3000 | 1082 | | 216 | | |
| 5-25-23 | MCSB-7 5.5' 5-24-23 @1310 | 3000 | 1607 | | 321 | | |
| 5-25-23 | MCSB-5 7.5' 5-24-23 @1110 | 3000 | 1150 | | 230 | | |
| 5-25-23 | MCSB-9 3' 5-24-23 @850 | 3000 | 1056 | | 211 | | |
| 5-25-23 | MCSB-9 2' 5-24-23 @840 | 3000 | 980 | | 196 | | |
| 5-25-23 | MCSB-9 1' 5-24-23 @825 | 3000 | 4191 | | 838 | | |
| 5-25-23 | MCSB-10 3' 5-24-23 @930 | 3000 | 930 | | 186 | | |
| 5-25-23 | MCSB-10 2' 5-24-23 @922 | 3000 | 913 | | 183 | | |
| 5-25-23 | MCSB-10 1' 5-24-23 @915 | 3000 | 920 | | 184 | | QA/QC CP5M: 935 |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L 2221 S#68782, Detector L 44-20 S# 295573
Instrument Calibration Date: 5-10-23, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription Mt. Taylor Mine Site

Area exposure rate: 10-12

| Date/Time | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 5-25-23 | MCSB-05 6' 5-24-23 @1100 | 3000 | 6564 | | 1313 | | |
| 5-25-23 | MCSB-05 4' 5-24-23 @1040 | 3000 | 1262 | | 252 | | |
| 5-25-23 | MCSB-05 3' 5-24-23 @1030 | 3000 | 1162 | | 232 | | |
| 5-25-23 | MCSB-05 2' 5-24-23 @1020 | 3000 | 1309 | | 262 | | |
| 5-25-23 | MCSB-05 1' 5-24-23 @1010 | 3000 | 1183 | | 237 | | |
| 5-25-23 | MCSB-07 4.5' 5-24-23 @1300 | 3000 | 1396 | | 279 | | |
| 5-25-23 | MCSB-07 3' 5-24-23 @1246 | 3000 | 2872 | | 574 | | |
| 5-25-23 | MCSB-07 2' 5-24-23 @1232 | 3000 | 1333 | | 267 | | |
| 5-25-23 | MCSB-07 1' 5-24-23 @1220 | 3000 | 10973 | | 2195 | | |
| 5-30-23 | Blank | — | 360 | | 72 | | |
| 5-30-23 | 6.6 pC/g $Ra_{-226}$ | 3000 | 2848 | | 570 | | |
| 5-30-23 | MCSB-06 6' 5-30-23 @915 | 3000 | 1311 | | 262 | | |
| 5-30-23 | MCSB-04 4.5' 5-30-23 @1005 | 3000 | 1274 | | 255 | | |
| 5-30-23 | MCSB-02 5.2' 5-30-23 @1115 | 3000 | 1426 | | 285 | | |
| 5-30-23 | MCSB-02 4' 5-30-23 @1100 | 3000 | 5236 | | 1047 | | |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 S/N 68782, Detector L44-20 S/N 295573
Instrument Calibration Date: 5-10-23, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription Mt. Taylor Mine Site

Area exposure rate: 10-12

| Date | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 5-30-23 | MCSB-02 3' 5-30-23 @1050 | 3000 | 947 | | 189 | | |
| 5-30-23 | MCSB-02 2' 5-30-23 @1040 | 3000 | 1620 VP 3000 | | 324 | | |
| 5-30-23 | MCSB-02 1' 5-30-23 @1030 | 3000 | 1243 VP 30 | | 249 | | |
| 5-30-23 | MCSB-06 4.25 5-30-23 @900 | 3000 | 1091 | | 218 | | |
| 5-30-23 | MCSB-06 3.25 5-30-23 850 | 3000 | 1477 | | 295 | | |
| 5-30-23 | MCSB-06 2' 5-30-23 @835 | 3000 | 4112 | | 822 | | QA/QC CP5M: 4168 |
| 5-30-23 | MCSB-06 1' 5-30-23 @822 | 3000 | 19543 | | 3909 | | |
| 5-30-23 | MCSB-01 4' 5-30-23 @1315 | 3000 | 1120 | | 224 | | |
| 5-30-23 | MCSB-04 3.5' 5-30-23 @955 | 3000 | 1017 | | 203 | | |
| 5-30-23 | MCSB-04 2' 5-30-23 @945 | 3000 | 1919 | | 384 | | |
| 5-30-23 | MCSB-04 1' 5-30-23 @935 | 3000 | 1055 | | 211 | | |
| 5-30-23 | MCSB-01 3' 5-30-23 @1300 | 3000 | 1240 | | 248 | | |
| 5-30-23 | MCSB-01 2' 5-30-23 @1250 | 3000 | 2965 | | 593 | | |
| 5-30-23 | MCSB-01 1' 5-30-23 @1240 | 3000 | 2326 | | 465 | | |
| 5-30-23 | MCSB-03 3' 5-3-23 @1400 | 3000 | 1279 | | 256 | | |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector L44-20 S# 295573
Instrument Calibration Date: 5-10-23, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription Mt taylor Mine Site

Area exposure rate: 10-12

| Date | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 5-30-23 | MCSB-03 2' 5-30-23 @1350 | 3000 | 1201 | | 240 | | QA/QC CP5M: 1194 |
| 5-30-23 | MCSB-03 1' 5-30-23 @1340 | 3000 | 3386 | | 677 | | |
| 5-31-23 | Blank | — | 320 | | 64 | | |
| 5-31-23 | 6.6 pCi/g Ra-226 | 3000 | 2679 | | 536 | | |
| 5-31-23 | WBSB-09 0-6" 5-31-23 @825 | 3000 | 1393 | | 279 | | |
| 5-31-23 | WBSB-09 6-12" 5-31-23 @835 | 3000 | 1170 | | 234 | | |
| 5-31-23 | WBSB-10 0-6" 5-31-23 @910 | 3000 | 2217 | | 443 | | |
| 5-31-23 | WBSB-10 6-12" 5-31-23 @915 | 3000 | 1380 | | 276 | | |
| 5-31-23 | WBSB-11 0-6" 5-31-23 @935 | 3000 | 1959 | | 392 | | |
| 5-31-23 | WBSB-11 6-12" 5-31-23 @940 | 2008 JP | 1053 | 1573 | 315 | | |
| 5-31-23 | WBSB-12 0-1" 5-31-23 @850 | 3000 | 1736 | | 347 | | |
| 5-31-23 | WBSB-12 2-6" 5-31-23 @900 | 3000 | 1117 | | 223 | | |
| 6-1-23 | Blank | — | 355 | | 71 | | |
| 6-1-23 | 6.6 pCi/g | 3000 | 2644 | | 529 | | |
| 6-1-23 | OPSB-05 3.75' 6-1-23 @1155 | 3000 | 1587 | | 317 | | |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L 2221 S#68782, Detector L44-20 S# 295573
Instrument Calibration Date: 5-10-23, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription Mt. Taylor Mine Site

Area exposure rate: 10-12

| Date | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 6-1-23 | OPSB-03 4.5' 6-1-23 @ 925 | 3000 | 1193 | | 239 | | |
| 6-1-23 | OPSB-02 5.5' 6-1-23 @ 1120 | 3000 | 1189 | | 238 | | |
| 6-1-23 | OPSB-04 ~~4'~~ 4.10" 6-1-23 @ 825 | 3000 | 1124 | | 225 | | 4.8' |
| 6-1-23 | OPSB-05 3' 6-1-23 @ 1140 | 3000 | 5526 | | 1105 | | |
| 6-1-23 | OPSB-03 4.2' 6-1-23 @ 910 | 1708 | 2091 | 3673 | 735 | | |
| 6-1-23 | OPSB-02 4.5' 6-1-23 @ 1100 | 3000 | 35425 | | 7085 | | |
| 6-1-23 | OPSB-04 4.5' 6-1-23 @ 835 | 3000 | 4373 | | 875 | | |
| 6-1-23 | OPSB-01 13.5' 6-1-23 @ 1020 | 3000 | 11560 | | 2312 | | QA/QC CP5M: 11423 |
| 6-1-23 | OPSB-01 0-13' 6-1-23 @ 1025 | 3000 | 26904 | | 5381 | | |
| 6-1-23 | OPSB-02 0-4' 6-1-23 @ 1115 | 3000 | 182551 | | 36510 | | |
| 6-1-23 | OPSB-03 0-4' 6-1-23 @ 850 | 3000 | 56365 | | 11273 | | |
| 6-1-23 | OPSB-04 0-4' 6-1-23 @ 815 | 3000 | 8428 | | 1686 | | |
| 6-1-23 | OPSB-05 0-3' 6-1-23 @ 1200 | 3000 | 32147 | | 6429 | | |
| | | | | | | | |
| | | | | | | | |

Technician Signature _____, Reviewed by _____

# ANALYTICAL SUMMARY REPORT

August 07, 2023

Rio Grande Resources Corporation
PO Box 1150
Grants, NM 87020-1150

Work Order: C23060688 Quote ID: C16056

Project Name: MTM Subsurface soil investigation

Energy Laboratories, Inc. Casper WY received the following 53 samples for Rio Grande Resources Corporation on 6/19/2023 for analysis.

| Lab ID | Client Sample ID | Collect Date | Receive Date | Matrix | Test |
|---|---|---|---|---|---|
| C23060688-001 | WBSB-02 0-6" | 05/17/23 8:15 | 06/19/23 | Soil | Gamma Sample Preparation Drying/Grinding, Radiochemistry Gross Gamma |
| C23060688-002 | WBSB-04 0-6 | 05/17/23 8:35 | 06/19/23 | Soil | Same As Above |
| C23060688-003 | WBSB-01 0-6' | 05/17/23 8:55 | 06/19/23 | Soil | Same As Above |
| C23060688-004 | WBSB-05 0-6" | 05/17/23 9:20 | 06/19/23 | Soil | Same As Above |
| C23060688-005 | WBSB-03 0-6" | 05/17/23 9:42 | 06/19/23 | Soil | Same As Above |
| C23060688-006 | WBSB-07 0-6" | 05/17/23 10:14 | 06/19/23 | Soil | Same As Above |
| C23060688-007 | WBSB-08 0-6" | 05/17/23 10:34 | 06/19/23 | Soil | Same As Above |
| C23060688-008 | WBSB-08 1'-1.5' | 05/17/23 10:42 | 06/19/23 | Soil | Same As Above |
| C23060688-009 | WBSB-06- 0-6" | 05/17/23 10:54 | 06/19/23 | Soil | Same As Above |
| C23060688-010 | DSSB-01 | 05/17/23 12:00 | 06/19/23 | Soil | Same As Above |
| C23060688-011 | MCSB-16 1' | 05/18/23 10:45 | 06/19/23 | Soil | Same As Above |
| C23060688-012 | MCSB-16 2' | 05/18/23 11:00 | 06/19/23 | Soil | Same As Above |
| C23060688-013 | MCSB-15 1' | 05/18/23 11:38 | 06/19/23 | Soil | Same As Above |
| C23060688-014 | MCSB-17 1' | 05/18/23 8:45 | 06/19/23 | Soil | Same As Above |
| C23060688-015 | MCSB-18 1'-1.5' | 05/18/23 9:48 | 06/19/23 | Soil | Same As Above |
| C23060688-016 | DSSB-02 | 05/18/23 13:00 | 06/19/23 | Soil | Same As Above |
| C23060688-017 | MCSB-11 4' | 05/22/23 11:04 | 06/19/23 | Soil | Same As Above |
| C23060688-018 | MCSB-13 1' | 05/22/23 8:25 | 06/19/23 | Soil | Same As Above |
| C23060688-019 | MCSB-12 1' | 05/22/23 9:28 | 06/19/23 | Soil | Same As Above |
| C23060688-020 | MCSB-11 5' | 05/22/23 11:12 | 06/19/23 | Soil | Same As Above |
| C23060688-021 | MCSB-14 1' | 05/23/23 8:53 | 06/19/23 | Soil | Same As Above |
| C23060688-022 | MCSB-08 5' | 05/23/23 11:10 | 06/19/23 | Soil | Same As Above |
| C23060688-023 | MCSB-08 6.5' | 05/23/23 11:25 | 06/19/23 | Soil | Same As Above |
| C23060688-024 | MCSB-9 1' | 05/24/23 8:25 | 06/19/23 | Soil | Same As Above |
| C23060688-025 | MCSB-9 2' | 05/24/23 8:40 | 06/19/23 | Soil | Same As Above |
| C23060688-026 | MCSB-10 1' | 05/24/23 9:15 | 06/19/23 | Soil | Same As Above |

# ANALYTICAL SUMMARY REPORT

| | | | | | |
|---|---|---|---|---|---|
| C23060688-027 | MCSB-5 4' | 05/24/23 10:40 | 06/19/23 | Soil | Same As Above |
| C23060688-028 | MCSB-5 6' | 05/24/23 11:00 | 06/19/23 | Soil | Same As Above |
| C23060688-029 | MCSB-5 7.5' | 05/24/23 11:10 | 06/19/23 | Soil | Same As Above |
| C23060688-030 | MCSB-7 3' | 05/24/23 12:46 | 06/19/23 | Soil | Same As Above |
| C23060688-031 | MCSB-7 4.5' | 05/24/23 13:00 | 06/19/23 | Soil | Same As Above |
| C23060688-032 | DSSB-03 | 05/24/23 13:30 | 06/19/23 | Soil | Same As Above |
| C23060688-033 | MCSB-06 6' | 05/30/23 9:15 | 06/19/23 | Soil | Same As Above |
| C23060688-034 | MCSB-04 1' | 05/30/23 9:35 | 06/19/23 | Soil | Same As Above |
| C23060688-035 | MCSB-04 2' | 05/30/23 9:45 | 06/19/23 | Soil | Same As Above |
| C23060688-036 | MCSB-02 3' | 05/30/23 10:50 | 06/19/23 | Soil | Same As Above |
| C23060688-037 | MCSB-02 4' | 05/30/23 11:00 | 06/19/23 | Soil | Same As Above |
| C23060688-038 | MCSB-02 5.2' | 05/30/23 11:15 | 06/19/23 | Soil | Same As Above |
| C23060688-039 | MCSB-01 2' | 05/30/23 12:50 | 06/19/23 | Soil | Same As Above |
| C23060688-040 | MCSB-01 3' | 05/30/23 13:00 | 06/19/23 | Soil | Same As Above |
| C23060688-041 | MCSB-03 1' | 05/30/23 13:40 | 06/19/23 | Soil | Same As Above |
| C23060688-042 | MCSB-03 2' | 05/30/23 13:50 | 06/19/23 | Soil | Same As Above |
| C23060688-043 | DSSB-04 | 05/30/23 14:15 | 06/19/23 | Soil | Same As Above |
| C23060688-044 | WBSB-09 0-6" | 05/31/23 8:25 | 06/19/23 | Soil | Same As Above |
| C23060688-045 | WBSB-12 0-1" | 05/31/23 8:50 | 06/19/23 | Soil | Same As Above |
| C23060688-046 | WBSB-12 2-6" | 05/31/23 9:00 | 06/19/23 | Soil | Same As Above |
| C23060688-047 | WBSB-10 0-6" | 05/31/23 9:10 | 06/19/23 | Soil | Same As Above |
| C23060688-048 | WBSB-11 0-6" | 05/31/23 9:35 | 06/19/23 | Soil | Same As Above |
| C23060688-049 | OPSB-03 4.2' | 06/01/23 9:10 | 06/19/23 | Soil | Same As Above |
| C23060688-050 | OPSB-03 4.5' | 06/01/23 9:25 | 06/19/23 | Soil | Same As Above |
| C23060688-051 | OPSB-02 5.5' | 06/01/23 11:20 | 06/19/23 | Soil | Same As Above |
| C23060688-052 | OPSB-05 3.75' | 06/01/23 11:55 | 06/19/23 | Soil | Same As Above |
| C23060688-053 | DSSB-05 | 06/01/23 12:30 | 06/19/23 | Soil | Same As Above |

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager .

Report Approved By:

**CLIENT:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Work Order:** C23060688

**Report Date:** 08/07/23

# CASE NARRATIVE

ORIGINAL SAMPLE SUBMITTAL(S)
All original sample submittals have been returned with the data package.

SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)
Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

GROSS ALPHA ANALYSIS
Method 900.0 for gross alpha and gross beta is intended as a drinking water method for low TDS waters. Data provided by this method for non potable waters should be viewed as inconsistent.

RADON IN AIR ANALYSIS
The desired exposure time is 48 hours (2 days). The time delay in returning the canister to the laboratory for processing should be as short as possible to avoid excessive decay. Maximum recommended delay between end of exposure to beginning of counting should not exceed 8 days.

SOIL/SOLID SAMPLES
All samples reported on an as received basis unless otherwise indicated.

ATRAZINE, SIMAZINE AND PCB ANALYSIS
Data for PCBs, Atrazine and Simazine are reported from EPA 525.2. PCB data reported by ELI reflects the results for seven individual Aroclors. When the results for all seven are ND (not detected), the sample meets EPA compliance criteria for PCB monitoring.

SUBCONTRACTING ANALYSIS
Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

BRANCH LABORATORY LOCATIONS
eli-b - Energy Laboratories, Inc. - Billings, MT
eli-g - Energy Laboratories, Inc. - Gillette, WY
eli-h - Energy Laboratories, Inc. - Helena, MT

ISO 17025 DISCLAIMER:
The results of this Analytical Report relate only to the items submitted for analysis.

ENERGY LABORATORIES, INC. - CASPER,WY certifies that certain method selections contained in this report meet requirements as set forth by the above accrediting authorities. Some results requested by the client may not be covered under these certifications. All analysis data to be submitted for regulatory enforcement should be certified in the sample state of origin. Please verify ELI's certification coverage by visiting www.energylab.com

ELI appreciates the opportunity to provide you with this analytical service. For additional information and services visit our web page www.energylab.com.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-001
**Client Sample ID:** WBSB-02 0-6"

**Report Date:** 08/07/23
**Collection Date:** 05/17/23 08:15
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.4 | pCi/g-dry | | | | E901.1 | 07/25/23 11:24 / haw |
| Radium 224 precision (±) | 0.8 | pCi/g-dry | | | | E901.1 | 07/25/23 11:24 / haw |
| Radium 224 MDC | 1.2 | pCi/g-dry | | | | E901.1 | 07/25/23 11:24 / haw |
| Radium 226 | 1.5 | pCi/g-dry | | | | E901.1 | 07/25/23 11:24 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 07/25/23 11:24 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/25/23 11:24 / haw |
| Radium 228 | 1.4 | pCi/g-dry | | | | E901.1 | 07/25/23 11:24 / haw |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 07/25/23 11:24 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/25/23 11:24 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-002
**Client Sample ID:** WBSB-04 0-6

**Report Date:** 08/07/23
**Collection Date:** 05/17/23 08:35
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.5 | pCi/g-dry | | | | E901.1 | 07/25/23 13:51 / haw |
| Radium 224 precision (±) | 0.8 | pCi/g-dry | | | | E901.1 | 07/25/23 13:51 / haw |
| Radium 224 MDC | 1.2 | pCi/g-dry | | | | E901.1 | 07/25/23 13:51 / haw |
| Radium 226 | 1.5 | pCi/g-dry | | | | E901.1 | 07/25/23 13:51 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 07/25/23 13:51 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/25/23 13:51 / haw |
| Radium 228 | 1.5 | pCi/g-dry | | | | E901.1 | 07/25/23 13:51 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/25/23 13:51 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/25/23 13:51 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-003
**Client Sample ID:** WBSB-01 0-6'

**Report Date:** 08/07/23
**Collection Date:** 05/17/23 08:55
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.7 | pCi/g-dry | | | | E901.1 | 07/25/23 15:01 / haw |
| Radium 224 precision (±) | 0.7 | pCi/g-dry | | | | E901.1 | 07/25/23 15:01 / haw |
| Radium 224 MDC | 1.0 | pCi/g-dry | | | | E901.1 | 07/25/23 15:01 / haw |
| Radium 226 | 0.9 | pCi/g-dry | | | | E901.1 | 07/25/23 15:01 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 07/25/23 15:01 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/25/23 15:01 / haw |
| Radium 228 | 1.4 | pCi/g-dry | | | | E901.1 | 07/25/23 15:01 / haw |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 07/25/23 15:01 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/25/23 15:01 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-004
**Client Sample ID:** WBSB-05 0-6"

**Report Date:** 08/07/23
**Collection Date:** 05/17/23 09:20
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.4 | pCi/g-dry | U | | | E901.1 | 07/25/23 16:03 / haw |
| Radium 224 precision (±) | 1.5 | pCi/g-dry | | | | E901.1 | 07/25/23 16:03 / haw |
| Radium 224 MDC | 2.5 | pCi/g-dry | | | | E901.1 | 07/25/23 16:03 / haw |
| Radium 226 | 2.1 | pCi/g-dry | | | | E901.1 | 07/25/23 16:03 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/25/23 16:03 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/25/23 16:03 / haw |
| Radium 228 | 1.2 | pCi/g-dry | | | | E901.1 | 07/25/23 16:03 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/25/23 16:03 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/25/23 16:03 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-005
**Client Sample ID:** WBSB-03 0-6"

**Report Date:** 08/07/23
**Collection Date:** 05/17/23 09:42
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.4 | pCi/g-dry | U | | | E901.1 | 07/25/23 17:08 / haw |
| Radium 224 precision (±) | 1.6 | pCi/g-dry | | | | E901.1 | 07/25/23 17:08 / haw |
| Radium 224 MDC | 2.6 | pCi/g-dry | | | | E901.1 | 07/25/23 17:08 / haw |
| Radium 226 | 3.2 | pCi/g-dry | | | | E901.1 | 07/25/23 17:08 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/25/23 17:08 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/25/23 17:08 / haw |
| Radium 228 | 1.2 | pCi/g-dry | | | | E901.1 | 07/25/23 17:08 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/25/23 17:08 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/25/23 17:08 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-006
**Client Sample ID:** WBSB-07 0-6"

**Report Date:** 08/07/23
**Collection Date:** 05/17/23 10:14
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.04 | pCi/g-dry | U | | | E901.1 | 07/26/23 08:25 / haw |
| Radium 224 precision (±) | 1.8 | pCi/g-dry | | | | E901.1 | 07/26/23 08:25 / haw |
| Radium 224 MDC | 2.9 | pCi/g-dry | | | | E901.1 | 07/26/23 08:25 / haw |
| Radium 226 | 3.7 | pCi/g-dry | | | | E901.1 | 07/26/23 08:25 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/26/23 08:25 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/26/23 08:25 / haw |
| Radium 228 | 1.1 | pCi/g-dry | | | | E901.1 | 07/26/23 08:25 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/26/23 08:25 / haw |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 07/26/23 08:25 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-007
**Client Sample ID:** WBSB-08 0-6"

**Report Date:** 08/07/23
**Collection Date:** 05/17/23 10:34
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.06 | pCi/g-dry | U | | | E901.1 | 07/26/23 09:29 / haw |
| Radium 224 precision (±) | 2.5 | pCi/g-dry | | | | E901.1 | 07/26/23 09:29 / haw |
| Radium 224 MDC | 4.2 | pCi/g-dry | | | | E901.1 | 07/26/23 09:29 / haw |
| Radium 226 | 9.7 | pCi/g-dry | | | | E901.1 | 07/26/23 09:29 / haw |
| Radium 226 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 07/26/23 09:29 / haw |
| Radium 226 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/26/23 09:29 / haw |
| Radium 228 | 1.4 | pCi/g-dry | | | | E901.1 | 07/26/23 09:29 / haw |
| Radium 228 precision (±) | 0.4 | pCi/g-dry | | | | E901.1 | 07/26/23 09:29 / haw |
| Radium 228 MDC | 0.5 | pCi/g-dry | | | | E901.1 | 07/26/23 09:29 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-008
**Client Sample ID:** WBSB-08 1'-1.5'

**Report Date:** 08/07/23
**Collection Date:** 05/17/23 10:42
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.3 | pCi/g-dry | U | | | E901.1 | 07/26/23 10:45 / haw |
| Radium 224 precision (±) | 1.5 | pCi/g-dry | | | | E901.1 | 07/26/23 10:45 / haw |
| Radium 224 MDC | 2.4 | pCi/g-dry | | | | E901.1 | 07/26/23 10:45 / haw |
| Radium 226 | 0.9 | pCi/g-dry | | | | E901.1 | 07/26/23 10:45 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 07/26/23 10:45 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/26/23 10:45 / haw |
| Radium 228 | 1.1 | pCi/g-dry | | | | E901.1 | 07/26/23 10:45 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/26/23 10:45 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/26/23 10:45 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-009
**Client Sample ID:** WBSB-06- 0-6"

**Report Date:** 08/07/23
**Collection Date:** 05/17/23 10:54
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.2 | pCi/g-dry | | | | E901.1 | 07/26/23 12:41 / haw |
| Radium 224 precision (±) | 0.7 | pCi/g-dry | | | | E901.1 | 07/26/23 12:41 / haw |
| Radium 224 MDC | 1.1 | pCi/g-dry | | | | E901.1 | 07/26/23 12:41 / haw |
| Radium 226 | 1.3 | pCi/g-dry | | | | E901.1 | 07/26/23 12:41 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 07/26/23 12:41 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/26/23 12:41 / haw |
| Radium 228 | 1.2 | pCi/g-dry | | | | E901.1 | 07/26/23 12:41 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/26/23 12:41 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/26/23 12:41 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-010
**Client Sample ID:** DSSB-01

**Report Date:** 08/07/23
**Collection Date:** 05/17/23 12:00
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.02 | pCi/g-dry | U | | | E901.1 | 07/26/23 14:29 / haw |
| Radium 224 precision (±) | 1.4 | pCi/g-dry | | | | E901.1 | 07/26/23 14:29 / haw |
| Radium 224 MDC | 2.4 | pCi/g-dry | | | | E901.1 | 07/26/23 14:29 / haw |
| Radium 226 | 1.1 | pCi/g-dry | | | | E901.1 | 07/26/23 14:29 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 07/26/23 14:29 / haw |
| Radium 226 MDC | 0.09 | pCi/g-dry | | | | E901.1 | 07/26/23 14:29 / haw |
| Radium 228 | 1.3 | pCi/g-dry | | | | E901.1 | 07/26/23 14:29 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/26/23 14:29 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/26/23 14:29 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-011
**Client Sample ID:** MCSB-16 1'

**Report Date:** 08/07/23
**Collection Date:** 05/18/23 10:45
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.5 | pCi/g-dry | U | | | E901.1 | 07/26/23 16:45 / haw |
| Radium 224 precision (±) | 1.8 | pCi/g-dry | | | | E901.1 | 07/26/23 16:45 / haw |
| Radium 224 MDC | 2.9 | pCi/g-dry | | | | E901.1 | 07/26/23 16:45 / haw |
| Radium 226 | 4.8 | pCi/g-dry | | | | E901.1 | 07/26/23 16:45 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/26/23 16:45 / haw |
| Radium 226 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/26/23 16:45 / haw |
| Radium 228 | 0.6 | pCi/g-dry | | | | E901.1 | 07/26/23 16:45 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/26/23 16:45 / haw |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 07/26/23 16:45 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-012
**Client Sample ID:** MCSB-16 2'

**Report Date:** 08/07/23
**Collection Date:** 05/18/23 11:00
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.3 | pCi/g-dry | U | | | E901.1 | 07/27/23 09:38 / haw |
| Radium 224 precision (±) | 1.5 | pCi/g-dry | | | | E901.1 | 07/27/23 09:38 / haw |
| Radium 224 MDC | 2.5 | pCi/g-dry | | | | E901.1 | 07/27/23 09:38 / haw |
| Radium 226 | 2.4 | pCi/g-dry | | | | E901.1 | 07/27/23 09:38 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/27/23 09:38 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/27/23 09:38 / haw |
| Radium 228 | 1 | pCi/g-dry | | | | E901.1 | 07/27/23 09:38 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/27/23 09:38 / haw |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 07/27/23 09:38 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-013
**Client Sample ID:** MCSB-15 1'

**Report Date:** 08/07/23
**Collection Date:** 05/18/23 11:38
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.3 | pCi/g-dry | U | | | E901.1 | 07/27/23 11:22 / haw |
| Radium 224 precision (±) | 1.5 | pCi/g-dry | | | | E901.1 | 07/27/23 11:22 / haw |
| Radium 224 MDC | 2.5 | pCi/g-dry | | | | E901.1 | 07/27/23 11:22 / haw |
| Radium 226 | 1.6 | pCi/g-dry | | | | E901.1 | 07/27/23 11:22 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 07/27/23 11:22 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/27/23 11:22 / haw |
| Radium 228 | 1.2 | pCi/g-dry | | | | E901.1 | 07/27/23 11:22 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/27/23 11:22 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/27/23 11:22 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-014
**Client Sample ID:** MCSB-17 1'

**Report Date:** 08/07/23
**Collection Date:** 05/18/23 08:45
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.1 | pCi/g-dry | | | | E901.1 | 07/27/23 12:55 / haw |
| Radium 224 precision (±) | 0.6 | pCi/g-dry | | | | E901.1 | 07/27/23 12:55 / haw |
| Radium 224 MDC | 0.9 | pCi/g-dry | | | | E901.1 | 07/27/23 12:55 / haw |
| Radium 226 | 0.7 | pCi/g-dry | | | | E901.1 | 07/27/23 12:55 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 07/27/23 12:55 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/27/23 12:55 / haw |
| Radium 228 | 1.1 | pCi/g-dry | | | | E901.1 | 07/27/23 12:55 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/27/23 12:55 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/27/23 12:55 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-015
**Client Sample ID:** MCSB-18 1'-1.5'

**Report Date:** 08/07/23
**Collection Date:** 05/18/23 09:48
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.4 | pCi/g-dry | U | | | E901.1 | 07/27/23 13:56 / haw |
| Radium 224 precision (±) | 1.4 | pCi/g-dry | | | | E901.1 | 07/27/23 13:56 / haw |
| Radium 224 MDC | 2.4 | pCi/g-dry | | | | E901.1 | 07/27/23 13:56 / haw |
| Radium 226 | 2.6 | pCi/g-dry | | | | E901.1 | 07/27/23 13:56 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/27/23 13:56 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/27/23 13:56 / haw |
| Radium 228 | 0.9 | pCi/g-dry | | | | E901.1 | 07/27/23 13:56 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/27/23 13:56 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/27/23 13:56 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-016
**Client Sample ID:** DSSB-02

**Report Date:** 08/07/23
**Collection Date:** 05/18/23 13:00
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.4 | pCi/g-dry | | | | E901.1 | 07/27/23 15:17 / haw |
| Radium 224 precision (±) | 0.7 | pCi/g-dry | | | | E901.1 | 07/27/23 15:17 / haw |
| Radium 224 MDC | 1.2 | pCi/g-dry | | | | E901.1 | 07/27/23 15:17 / haw |
| Radium 226 | 1.3 | pCi/g-dry | | | | E901.1 | 07/27/23 15:17 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 07/27/23 15:17 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/27/23 15:17 / haw |
| Radium 228 | 1.2 | pCi/g-dry | | | | E901.1 | 07/27/23 15:17 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/27/23 15:17 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/27/23 15:17 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-017
**Client Sample ID:** MCSB-11 4'

**Report Date:** 08/07/23
**Collection Date:** 05/22/23 11:04
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.6 | pCi/g-dry | U | | | E901.1 | 07/27/23 16:21 / haw |
| Radium 224 precision (±) | 2.4 | pCi/g-dry | | | | E901.1 | 07/27/23 16:21 / haw |
| Radium 224 MDC | 4.0 | pCi/g-dry | | | | E901.1 | 07/27/23 16:21 / haw |
| Radium 226 | 11.0 | pCi/g-dry | | | | E901.1 | 07/27/23 16:21 / haw |
| Radium 226 precision (±) | 0.4 | pCi/g-dry | | | | E901.1 | 07/27/23 16:21 / haw |
| Radium 226 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/27/23 16:21 / haw |
| Radium 228 | 1.1 | pCi/g-dry | | | | E901.1 | 07/27/23 16:21 / haw |
| Radium 228 precision (±) | 0.4 | pCi/g-dry | | | | E901.1 | 07/27/23 16:21 / haw |
| Radium 228 MDC | 0.5 | pCi/g-dry | | | | E901.1 | 07/27/23 16:21 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-018
**Client Sample ID:** MCSB-13 1'

**Report Date:** 08/07/23
**Collection Date:** 05/22/23 08:25
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 2.1 | pCi/g-dry | | | | E901.1 | 07/27/23 17:27 / haw |
| Radium 224 precision (±) | 0.7 | pCi/g-dry | | | | E901.1 | 07/27/23 17:27 / haw |
| Radium 224 MDC | 1.1 | pCi/g-dry | | | | E901.1 | 07/27/23 17:27 / haw |
| Radium 226 | 1.2 | pCi/g-dry | | | | E901.1 | 07/27/23 17:27 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 07/27/23 17:27 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/27/23 17:27 / haw |
| Radium 228 | 1.7 | pCi/g-dry | | | | E901.1 | 07/27/23 17:27 / haw |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 07/27/23 17:27 / haw |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 07/27/23 17:27 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-019
**Client Sample ID:** MCSB-12 1'

**Report Date:** 08/07/23
**Collection Date:** 05/22/23 09:28
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.4 | pCi/g-dry | U | | | E901.1 | 07/28/23 09:11 / haw |
| Radium 224 precision (±) | 1.2 | pCi/g-dry | | | | E901.1 | 07/28/23 09:11 / haw |
| Radium 224 MDC | 2.0 | pCi/g-dry | | | | E901.1 | 07/28/23 09:11 / haw |
| Radium 226 | 3.3 | pCi/g-dry | | | | E901.1 | 07/28/23 09:11 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/28/23 09:11 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/28/23 09:11 / haw |
| Radium 228 | 0.4 | pCi/g-dry | | | | E901.1 | 07/28/23 09:11 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/28/23 09:11 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/28/23 09:11 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-020
**Client Sample ID:** MCSB-11 5'

**Report Date:** 08/07/23
**Collection Date:** 05/22/23 11:12
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.4 | pCi/g-dry | U | | | E901.1 | 07/28/23 10:12 / haw |
| Radium 224 precision (±) | 1.7 | pCi/g-dry | | | | E901.1 | 07/28/23 10:12 / haw |
| Radium 224 MDC | 2.9 | pCi/g-dry | | | | E901.1 | 07/28/23 10:12 / haw |
| Radium 226 | 2.8 | pCi/g-dry | | | | E901.1 | 07/28/23 10:12 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/28/23 10:12 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/28/23 10:12 / haw |
| Radium 228 | 1.4 | pCi/g-dry | | | | E901.1 | 07/28/23 10:12 / haw |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 07/28/23 10:12 / haw |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 07/28/23 10:12 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-021
**Client Sample ID:** MCSB-14 1'

**Report Date:** 08/07/23
**Collection Date:** 05/23/23 08:53
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.2 | pCi/g-dry | U | | | E901.1 | 07/28/23 13:29 / haw |
| Radium 224 precision (±) | 1.7 | pCi/g-dry | | | | E901.1 | 07/28/23 13:29 / haw |
| Radium 224 MDC | 2.9 | pCi/g-dry | | | | E901.1 | 07/28/23 13:29 / haw |
| Radium 226 | 3.8 | pCi/g-dry | | | | E901.1 | 07/28/23 13:29 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/28/23 13:29 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/28/23 13:29 / haw |
| Radium 228 | 1.1 | pCi/g-dry | | | | E901.1 | 07/28/23 13:29 / haw |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 07/28/23 13:29 / haw |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 07/28/23 13:29 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-022
**Client Sample ID:** MCSB-08 5'

**Report Date:** 08/07/23
**Collection Date:** 05/23/23 11:10
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -1 | pCi/g-dry | U | | | E901.1 | 07/28/23 14:36 / haw |
| Radium 224 precision (±) | 5.4 | pCi/g-dry | | | | E901.1 | 07/28/23 14:36 / haw |
| Radium 224 MDC | 8.9 | pCi/g-dry | | | | E901.1 | 07/28/23 14:36 / haw |
| Radium 226 | 77.1 | pCi/g-dry | | | | E901.1 | 07/28/23 14:36 / haw |
| Radium 226 precision (±) | 0.9 | pCi/g-dry | | | | E901.1 | 07/28/23 14:36 / haw |
| Radium 226 MDC | 0.4 | pCi/g-dry | | | | E901.1 | 07/28/23 14:36 / haw |
| Radium 228 | -0.3 | pCi/g-dry | U | | | E901.1 | 07/28/23 14:36 / haw |
| Radium 228 precision (±) | 0.7 | pCi/g-dry | | | | E901.1 | 07/28/23 14:36 / haw |
| Radium 228 MDC | 1.1 | pCi/g-dry | | | | E901.1 | 07/28/23 14:36 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-023
**Client Sample ID:** MCSB-08 6.5'

**Report Date:** 08/07/23
**Collection Date:** 05/23/23 11:25
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.3 | pCi/g-dry | | | | E901.1 | 07/28/23 15:46 / haw |
| Radium 224 precision (±) | 0.7 | pCi/g-dry | | | | E901.1 | 07/28/23 15:46 / haw |
| Radium 224 MDC | 1.0 | pCi/g-dry | | | | E901.1 | 07/28/23 15:46 / haw |
| Radium 226 | 1.1 | pCi/g-dry | | | | E901.1 | 07/28/23 15:46 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 07/28/23 15:46 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/28/23 15:46 / haw |
| Radium 228 | 1.4 | pCi/g-dry | | | | E901.1 | 07/28/23 15:46 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/28/23 15:46 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/28/23 15:46 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-024
**Client Sample ID:** MCSB-9 1'

**Report Date:** 08/07/23
**Collection Date:** 05/24/23 08:25
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.3 | pCi/g-dry | U | | | E901.1 | 07/31/23 10:02 / haw |
| Radium 224 precision (±) | 1.8 | pCi/g-dry | | | | E901.1 | 07/31/23 10:02 / haw |
| Radium 224 MDC | 3.0 | pCi/g-dry | | | | E901.1 | 07/31/23 10:02 / haw |
| Radium 226 | 7.9 | pCi/g-dry | | | | E901.1 | 07/31/23 10:02 / haw |
| Radium 226 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 07/31/23 10:02 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/31/23 10:02 / haw |
| Radium 228 | 0.3 | pCi/g-dry | U | | | E901.1 | 07/31/23 10:02 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/31/23 10:02 / haw |
| Radium 228 MDC | 0.4 | pCi/g-dry | | | | E901.1 | 07/31/23 10:02 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-025
**Client Sample ID:** MCSB-9 2'

**Report Date:** 08/07/23
**Collection Date:** 05/24/23 08:40
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.3 | pCi/g-dry | U | | | E901.1 | 07/31/23 11:08 / haw |
| Radium 224 precision (±) | 1.1 | pCi/g-dry | | | | E901.1 | 07/31/23 11:08 / haw |
| Radium 224 MDC | 1.8 | pCi/g-dry | | | | E901.1 | 07/31/23 11:08 / haw |
| Radium 226 | 0.6 | pCi/g-dry | | | | E901.1 | 07/31/23 11:08 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 07/31/23 11:08 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/31/23 11:08 / haw |
| Radium 228 | 0.8 | pCi/g-dry | | | | E901.1 | 07/31/23 11:08 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/31/23 11:08 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/31/23 11:08 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-026
**Client Sample ID:** MCSB-10 1'

**Report Date:** 08/07/23
**Collection Date:** 05/24/23 09:15
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1 | pCi/g-dry | | | | E901.1 | 07/31/23 12:18 / haw |
| Radium 224 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 07/31/23 12:18 / haw |
| Radium 224 MDC | 0.8 | pCi/g-dry | | | | E901.1 | 07/31/23 12:18 / haw |
| Radium 226 | 0.8 | pCi/g-dry | | | | E901.1 | 07/31/23 12:18 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 07/31/23 12:18 / haw |
| Radium 226 MDC | 0.09 | pCi/g-dry | | | | E901.1 | 07/31/23 12:18 / haw |
| Radium 228 | 0.9 | pCi/g-dry | | | | E901.1 | 07/31/23 12:18 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/31/23 12:18 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/31/23 12:18 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-027
**Client Sample ID:** MCSB-5 4'

**Report Date:** 08/07/23
**Collection Date:** 05/24/23 10:40
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.4 | pCi/g-dry | | | | E901.1 | 07/31/23 13:22 / haw |
| Radium 224 precision (±) | 0.7 | pCi/g-dry | | | | E901.1 | 07/31/23 13:22 / haw |
| Radium 224 MDC | 1.2 | pCi/g-dry | | | | E901.1 | 07/31/23 13:22 / haw |
| Radium 226 | 1.5 | pCi/g-dry | | | | E901.1 | 07/31/23 13:22 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 07/31/23 13:22 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/31/23 13:22 / haw |
| Radium 228 | 1.3 | pCi/g-dry | | | | E901.1 | 07/31/23 13:22 / haw |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 07/31/23 13:22 / haw |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 07/31/23 13:22 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-028
**Client Sample ID:** MCSB-5 6'

**Report Date:** 08/07/23
**Collection Date:** 05/24/23 11:00
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.6 | pCi/g-dry | U | | | E901.1 | 07/31/23 14:40 / haw |
| Radium 224 precision (±) | 2.4 | pCi/g-dry | | | | E901.1 | 07/31/23 14:40 / haw |
| Radium 224 MDC | 3.9 | pCi/g-dry | | | | E901.1 | 07/31/23 14:40 / haw |
| Radium 226 | 16.1 | pCi/g-dry | | | | E901.1 | 07/31/23 14:40 / haw |
| Radium 226 precision (±) | 0.4 | pCi/g-dry | | | | E901.1 | 07/31/23 14:40 / haw |
| Radium 226 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 07/31/23 14:40 / haw |
| Radium 228 | 0.3 | pCi/g-dry | U | | | E901.1 | 07/31/23 14:40 / haw |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 07/31/23 14:40 / haw |
| Radium 228 MDC | 0.5 | pCi/g-dry | | | | E901.1 | 07/31/23 14:40 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-029
**Client Sample ID:** MCSB-5 7.5'

**Report Date:** 08/07/23
**Collection Date:** 05/24/23 11:10
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.3 | pCi/g-dry | | | | E901.1 | 07/31/23 15:55 / haw |
| Radium 224 precision (±) | 0.6 | pCi/g-dry | | | | E901.1 | 07/31/23 15:55 / haw |
| Radium 224 MDC | 1 | pCi/g-dry | | | | E901.1 | 07/31/23 15:55 / haw |
| Radium 226 | 1.0 | pCi/g-dry | | | | E901.1 | 07/31/23 15:55 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 07/31/23 15:55 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/31/23 15:55 / haw |
| Radium 228 | 1.1 | pCi/g-dry | | | | E901.1 | 07/31/23 15:55 / haw |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 07/31/23 15:55 / haw |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 07/31/23 15:55 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-030
**Client Sample ID:** MCSB-7 3'

**Report Date:** 08/07/23
**Collection Date:** 05/24/23 12:46
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.4 | pCi/g-dry | U | | | E901.1 | 07/31/23 17:08 / haw |
| Radium 224 precision (±) | 1.6 | pCi/g-dry | | | | E901.1 | 07/31/23 17:08 / haw |
| Radium 224 MDC | 2.6 | pCi/g-dry | | | | E901.1 | 07/31/23 17:08 / haw |
| Radium 226 | 6.3 | pCi/g-dry | | | | E901.1 | 07/31/23 17:08 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/31/23 17:08 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 07/31/23 17:08 / haw |
| Radium 228 | 0.2 | pCi/g-dry | U | | | E901.1 | 07/31/23 17:08 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 07/31/23 17:08 / haw |
| Radium 228 MDC | 0.4 | pCi/g-dry | | | | E901.1 | 07/31/23 17:08 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-031
**Client Sample ID:** MCSB-7 4.5'

**Report Date:** 08/07/23
**Collection Date:** 05/24/23 13:00
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 2.1 | pCi/g-dry | | | | E901.1 | 08/01/23 08:48 / haw |
| Radium 224 precision (±) | 0.7 | pCi/g-dry | | | | E901.1 | 08/01/23 08:48 / haw |
| Radium 224 MDC | 1.1 | pCi/g-dry | | | | E901.1 | 08/01/23 08:48 / haw |
| Radium 226 | 1.2 | pCi/g-dry | | | | E901.1 | 08/01/23 08:48 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 08/01/23 08:48 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/01/23 08:48 / haw |
| Radium 228 | 1.6 | pCi/g-dry | | | | E901.1 | 08/01/23 08:48 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/01/23 08:48 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 08/01/23 08:48 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-032
**Client Sample ID:** DSSB-03

**Report Date:** 08/07/23
**Collection Date:** 05/24/23 13:30
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.4 | pCi/g-dry | U | | | E901.1 | 08/01/23 09:52 / haw |
| Radium 224 precision (±) | 1.6 | pCi/g-dry | | | | E901.1 | 08/01/23 09:52 / haw |
| Radium 224 MDC | 2.6 | pCi/g-dry | | | | E901.1 | 08/01/23 09:52 / haw |
| Radium 226 | 6.2 | pCi/g-dry | | | | E901.1 | 08/01/23 09:52 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/01/23 09:52 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/01/23 09:52 / haw |
| Radium 228 | 0.3 | pCi/g-dry | U | | | E901.1 | 08/01/23 09:52 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/01/23 09:52 / haw |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 08/01/23 09:52 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-033
**Client Sample ID:** MCSB-06 6'

**Report Date:** 08/07/23
**Collection Date:** 05/30/23 09:15
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.4 | pCi/g-dry | U | | | E901.1 | 08/01/23 11:07 / haw |
| Radium 224 precision (±) | 1.6 | pCi/g-dry | | | | E901.1 | 08/01/23 11:07 / haw |
| Radium 224 MDC | 2.6 | pCi/g-dry | | | | E901.1 | 08/01/23 11:07 / haw |
| Radium 226 | 1.9 | pCi/g-dry | | | | E901.1 | 08/01/23 11:07 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/01/23 11:07 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/01/23 11:07 / haw |
| Radium 228 | 1.3 | pCi/g-dry | | | | E901.1 | 08/01/23 11:07 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/01/23 11:07 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 08/01/23 11:07 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-034
**Client Sample ID:** MCSB-04 1'

**Report Date:** 08/07/23
**Collection Date:** 05/30/23 09:35
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.3 | pCi/g-dry | U | | | E901.1 | 08/01/23 13:40 / haw |
| Radium 224 precision (±) | 0.9 | pCi/g-dry | | | | E901.1 | 08/01/23 13:40 / haw |
| Radium 224 MDC | 1.5 | pCi/g-dry | | | | E901.1 | 08/01/23 13:40 / haw |
| Radium 226 | 1.4 | pCi/g-dry | | | | E901.1 | 08/01/23 13:40 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 08/01/23 13:40 / haw |
| Radium 226 MDC | 0.08 | pCi/g-dry | | | | E901.1 | 08/01/23 13:40 / haw |
| Radium 228 | 0.2 | pCi/g-dry | | | | E901.1 | 08/01/23 13:40 / haw |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 08/01/23 13:40 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 08/01/23 13:40 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-035
**Client Sample ID:** MCSB-04 2'

**Report Date:** 08/07/23
**Collection Date:** 05/30/23 09:45
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.3 | pCi/g-dry | U | | | E901.1 | 08/01/23 14:42 / haw |
| Radium 224 precision (±) | 1.4 | pCi/g-dry | | | | E901.1 | 08/01/23 14:42 / haw |
| Radium 224 MDC | 2.3 | pCi/g-dry | | | | E901.1 | 08/01/23 14:42 / haw |
| Radium 226 | 3.4 | pCi/g-dry | | | | E901.1 | 08/01/23 14:42 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/01/23 14:42 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/01/23 14:42 / haw |
| Radium 228 | 0.4 | pCi/g-dry | | | | E901.1 | 08/01/23 14:42 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/01/23 14:42 / haw |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 08/01/23 14:42 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-036
**Client Sample ID:** MCSB-02 3'

**Report Date:** 08/07/23
**Collection Date:** 05/30/23 10:50
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.3 | pCi/g-dry | U | | | E901.1 | 08/01/23 15:59 / haw |
| Radium 224 precision (±) | 1.0 | pCi/g-dry | | | | E901.1 | 08/01/23 15:59 / haw |
| Radium 224 MDC | 1.7 | pCi/g-dry | | | | E901.1 | 08/01/23 15:59 / haw |
| Radium 226 | 0.8 | pCi/g-dry | | | | E901.1 | 08/01/23 15:59 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 08/01/23 15:59 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/01/23 15:59 / haw |
| Radium 228 | 0.7 | pCi/g-dry | | | | E901.1 | 08/01/23 15:59 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/01/23 15:59 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 08/01/23 15:59 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-037
**Client Sample ID:** MCSB-02 4'

**Report Date:** 08/07/23
**Collection Date:** 05/30/23 11:00
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.4 | pCi/g-dry | U | | | E901.1 | 08/01/23 17:13 / haw |
| Radium 224 precision (±) | 2.1 | pCi/g-dry | | | | E901.1 | 08/01/23 17:13 / haw |
| Radium 224 MDC | 3.5 | pCi/g-dry | | | | E901.1 | 08/01/23 17:13 / haw |
| Radium 226 | 12.6 | pCi/g-dry | | | | E901.1 | 08/01/23 17:13 / haw |
| Radium 226 precision (±) | 0.4 | pCi/g-dry | | | | E901.1 | 08/01/23 17:13 / haw |
| Radium 226 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 08/01/23 17:13 / haw |
| Radium 228 | 0.3 | pCi/g-dry | U | | | E901.1 | 08/01/23 17:13 / haw |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 08/01/23 17:13 / haw |
| Radium 228 MDC | 0.4 | pCi/g-dry | | | | E901.1 | 08/01/23 17:13 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-038
**Client Sample ID:** MCSB-02 5.2'

**Report Date:** 08/07/23
**Collection Date:** 05/30/23 11:15
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 2.0 | pCi/g-dry | | | | E901.1 | 08/02/23 08:25 / haw |
| Radium 224 precision (±) | 0.7 | pCi/g-dry | | | | E901.1 | 08/02/23 08:25 / haw |
| Radium 224 MDC | 1.1 | pCi/g-dry | | | | E901.1 | 08/02/23 08:25 / haw |
| Radium 226 | 1.4 | pCi/g-dry | | | | E901.1 | 08/02/23 08:25 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 08/02/23 08:25 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/02/23 08:25 / haw |
| Radium 228 | 1.7 | pCi/g-dry | | | | E901.1 | 08/02/23 08:25 / haw |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 08/02/23 08:25 / haw |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 08/02/23 08:25 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-039
**Client Sample ID:** MCSB-01 2'

**Report Date:** 08/07/23
**Collection Date:** 05/30/23 12:50
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.5 | pCi/g-dry | U | | | E901.1 | 08/02/23 12:03 / sec |
| Radium 224 precision (±) | 1.6 | pCi/g-dry | | | | E901.1 | 08/02/23 12:03 / sec |
| Radium 224 MDC | 2.6 | pCi/g-dry | | | | E901.1 | 08/02/23 12:03 / sec |
| Radium 226 | 5.9 | pCi/g-dry | | | | E901.1 | 08/02/23 12:03 / sec |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/02/23 12:03 / sec |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/02/23 12:03 / sec |
| Radium 228 | 0.5 | pCi/g-dry | | | | E901.1 | 08/02/23 12:03 / sec |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/02/23 12:03 / sec |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 08/02/23 12:03 / sec |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-040
**Client Sample ID:** MCSB-01 3'

**Report Date:** 08/07/23
**Collection Date:** 05/30/23 13:00
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.4 | pCi/g-dry | | | | E901.1 | 08/02/23 13:56 / sec |
| Radium 224 precision (±) | 0.6 | pCi/g-dry | | | | E901.1 | 08/02/23 13:56 / sec |
| Radium 224 MDC | 1 | pCi/g-dry | | | | E901.1 | 08/02/23 13:56 / sec |
| Radium 226 | 0.8 | pCi/g-dry | | | | E901.1 | 08/02/23 13:56 / sec |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 08/02/23 13:56 / sec |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/02/23 13:56 / sec |
| Radium 228 | 1.2 | pCi/g-dry | | | | E901.1 | 08/02/23 13:56 / sec |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/02/23 13:56 / sec |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 08/02/23 13:56 / sec |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-041
**Client Sample ID:** MCSB-03 1'

**Report Date:** 08/07/23
**Collection Date:** 05/30/23 13:40
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.4 | pCi/g-dry | U | | | E901.1 | 08/02/23 15:03 / sec |
| Radium 224 precision (±) | 1.6 | pCi/g-dry | | | | E901.1 | 08/02/23 15:03 / sec |
| Radium 224 MDC | 2.7 | pCi/g-dry | | | | E901.1 | 08/02/23 15:03 / sec |
| Radium 226 | 5.9 | pCi/g-dry | | | | E901.1 | 08/02/23 15:03 / sec |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/02/23 15:03 / sec |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/02/23 15:03 / sec |
| Radium 228 | 0.4 | pCi/g-dry | | | | E901.1 | 08/02/23 15:03 / sec |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/02/23 15:03 / sec |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 08/02/23 15:03 / sec |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-042
**Client Sample ID:** MCSB-03 2'

**Report Date:** 08/07/23
**Collection Date:** 05/30/23 13:50
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.2 | pCi/g-dry | | | | E901.1 | 08/02/23 16:13 / sec |
| Radium 224 precision (±) | 0.6 | pCi/g-dry | | | | E901.1 | 08/02/23 16:13 / sec |
| Radium 224 MDC | 1 | pCi/g-dry | | | | E901.1 | 08/02/23 16:13 / sec |
| Radium 226 | 0.8 | pCi/g-dry | | | | E901.1 | 08/02/23 16:13 / sec |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 08/02/23 16:13 / sec |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/02/23 16:13 / sec |
| Radium 228 | 1.3 | pCi/g-dry | | | | E901.1 | 08/02/23 16:13 / sec |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/02/23 16:13 / sec |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 08/02/23 16:13 / sec |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-043
**Client Sample ID:** DSSB-04

**Report Date:** 08/07/23
**Collection Date:** 05/30/23 14:15
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.2 | pCi/g-dry | U | | | E901.1 | 08/02/23 17:18 / sec |
| Radium 224 precision (±) | 1.7 | pCi/g-dry | | | | E901.1 | 08/02/23 17:18 / sec |
| Radium 224 MDC | 2.8 | pCi/g-dry | | | | E901.1 | 08/02/23 17:18 / sec |
| Radium 226 | 5.8 | pCi/g-dry | | | | E901.1 | 08/02/23 17:18 / sec |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/02/23 17:18 / sec |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/02/23 17:18 / sec |
| Radium 228 | 0.6 | pCi/g-dry | | | | E901.1 | 08/02/23 17:18 / sec |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/02/23 17:18 / sec |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 08/02/23 17:18 / sec |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-044
**Client Sample ID:** WBSB-09 0-6"

**Report Date:** 08/07/23
**Collection Date:** 05/31/23 08:25
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.4 | pCi/g-dry | | | | E901.1 | 08/03/23 08:51 / sec |
| Radium 224 precision (±) | 0.7 | pCi/g-dry | | | | E901.1 | 08/03/23 08:51 / sec |
| Radium 224 MDC | 1.2 | pCi/g-dry | | | | E901.1 | 08/03/23 08:51 / sec |
| Radium 226 | 1.2 | pCi/g-dry | | | | E901.1 | 08/03/23 08:51 / sec |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 08/03/23 08:51 / sec |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/03/23 08:51 / sec |
| Radium 228 | 1.4 | pCi/g-dry | | | | E901.1 | 08/03/23 08:51 / sec |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/03/23 08:51 / sec |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 08/03/23 08:51 / sec |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-045
**Client Sample ID:** WBSB-12 0-1"

**Report Date:** 08/07/23
**Collection Date:** 05/31/23 08:50
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.4 | pCi/g-dry | | | | E901.1 | 08/03/23 09:57 / sec |
| Radium 224 precision (±) | 0.8 | pCi/g-dry | | | | E901.1 | 08/03/23 09:57 / sec |
| Radium 224 MDC | 1.3 | pCi/g-dry | | | | E901.1 | 08/03/23 09:57 / sec |
| Radium 226 | 2.0 | pCi/g-dry | | | | E901.1 | 08/03/23 09:57 / sec |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/03/23 09:57 / sec |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/03/23 09:57 / sec |
| Radium 228 | 1.2 | pCi/g-dry | | | | E901.1 | 08/03/23 09:57 / sec |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/03/23 09:57 / sec |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 08/03/23 09:57 / sec |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-046
**Client Sample ID:** WBSB-12 2-6"

**Report Date:** 08/07/23
**Collection Date:** 05/31/23 09:00
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.7 | pCi/g-dry | | | | E901.1 | 08/03/23 11:04 / sec |
| Radium 224 precision (±) | 0.7 | pCi/g-dry | | | | E901.1 | 08/03/23 11:04 / sec |
| Radium 224 MDC | 1.0 | pCi/g-dry | | | | E901.1 | 08/03/23 11:04 / sec |
| Radium 226 | 1 | pCi/g-dry | | | | E901.1 | 08/03/23 11:04 / sec |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 08/03/23 11:04 / sec |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/03/23 11:04 / sec |
| Radium 228 | 1.2 | pCi/g-dry | | | | E901.1 | 08/03/23 11:04 / sec |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/03/23 11:04 / sec |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 08/03/23 11:04 / sec |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-047
**Client Sample ID:** WBSB-10 0-6"

**Report Date:** 08/07/23
**Collection Date:** 05/31/23 09:10
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.4 | pCi/g-dry | U | | | E901.1 | 08/03/23 12:10 / sec |
| Radium 224 precision (±) | 1.6 | pCi/g-dry | | | | E901.1 | 08/03/23 12:10 / sec |
| Radium 224 MDC | 2.6 | pCi/g-dry | | | | E901.1 | 08/03/23 12:10 / sec |
| Radium 226 | 3.5 | pCi/g-dry | | | | E901.1 | 08/03/23 12:10 / sec |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/03/23 12:10 / sec |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/03/23 12:10 / sec |
| Radium 228 | 1.2 | pCi/g-dry | | | | E901.1 | 08/03/23 12:10 / sec |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/03/23 12:10 / sec |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 08/03/23 12:10 / sec |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-048
**Client Sample ID:** WBSB-11 0-6"

**Report Date:** 08/07/23
**Collection Date:** 05/31/23 09:35
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.4 | pCi/g-dry | | | | E901.1 | 08/03/23 13:24 / sec |
| Radium 224 precision (±) | 0.9 | pCi/g-dry | | | | E901.1 | 08/03/23 13:24 / sec |
| Radium 224 MDC | 1.4 | pCi/g-dry | | | | E901.1 | 08/03/23 13:24 / sec |
| Radium 226 | 2.7 | pCi/g-dry | | | | E901.1 | 08/03/23 13:24 / sec |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/03/23 13:24 / sec |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/03/23 13:24 / sec |
| Radium 228 | 1.3 | pCi/g-dry | | | | E901.1 | 08/03/23 13:24 / sec |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 08/03/23 13:24 / sec |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 08/03/23 13:24 / sec |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-049
**Client Sample ID:** OPSB-03 4.2'

**Report Date:** 08/07/23
**Collection Date:** 06/01/23 09:10
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.3 | pCi/g-dry | U | | | E901.1 | 08/03/23 15:37 / sec |
| Radium 224 precision (±) | 1.8 | pCi/g-dry | | | | E901.1 | 08/03/23 15:37 / sec |
| Radium 224 MDC | 3.0 | pCi/g-dry | | | | E901.1 | 08/03/23 15:37 / sec |
| Radium 226 | 4.4 | pCi/g-dry | | | | E901.1 | 08/03/23 15:37 / sec |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/03/23 15:37 / sec |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/03/23 15:37 / sec |
| Radium 228 | 0.9 | pCi/g-dry | | | | E901.1 | 08/03/23 15:37 / sec |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/03/23 15:37 / sec |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 08/03/23 15:37 / sec |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-050
**Client Sample ID:** OPSB-03 4.5'

**Report Date:** 08/07/23
**Collection Date:** 06/01/23 09:25
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.6 | pCi/g-dry | | | | E901.1 | 08/03/23 16:44 / sec |
| Radium 224 precision (±) | 0.7 | pCi/g-dry | | | | E901.1 | 08/03/23 16:44 / sec |
| Radium 224 MDC | 1.1 | pCi/g-dry | | | | E901.1 | 08/03/23 16:44 / sec |
| Radium 226 | 0.8 | pCi/g-dry | | | | E901.1 | 08/03/23 16:44 / sec |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 08/03/23 16:44 / sec |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/03/23 16:44 / sec |
| Radium 228 | 1.3 | pCi/g-dry | | | | E901.1 | 08/03/23 16:44 / sec |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/03/23 16:44 / sec |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 08/03/23 16:44 / sec |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-051
**Client Sample ID:** OPSB-02 5.5'

**Report Date:** 08/07/23
**Collection Date:** 06/01/23 11:20
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.1 | pCi/g-dry | U | | | E901.1 | 08/03/23 17:46 / sec |
| Radium 224 precision (±) | 1.4 | pCi/g-dry | | | | E901.1 | 08/03/23 17:46 / sec |
| Radium 224 MDC | 2.4 | pCi/g-dry | | | | E901.1 | 08/03/23 17:46 / sec |
| Radium 226 | 0.9 | pCi/g-dry | | | | E901.1 | 08/03/23 17:46 / sec |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 08/03/23 17:46 / sec |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/03/23 17:46 / sec |
| Radium 228 | 1.1 | pCi/g-dry | | | | E901.1 | 08/03/23 17:46 / sec |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/03/23 17:46 / sec |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 08/03/23 17:46 / sec |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-052
**Client Sample ID:** OPSB-05 3.75'

**Report Date:** 08/07/23
**Collection Date:** 06/01/23 11:55
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.7 | pCi/g-dry | | | | E901.1 | 08/04/23 08:54 / sec |
| Radium 224 precision (±) | 0.7 | pCi/g-dry | | | | E901.1 | 08/04/23 08:54 / sec |
| Radium 224 MDC | 1.1 | pCi/g-dry | | | | E901.1 | 08/04/23 08:54 / sec |
| Radium 226 | 0.9 | pCi/g-dry | | | | E901.1 | 08/04/23 08:54 / sec |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 08/04/23 08:54 / sec |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/04/23 08:54 / sec |
| Radium 228 | 1.5 | pCi/g-dry | | | | E901.1 | 08/04/23 08:54 / sec |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 08/04/23 08:54 / sec |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 08/04/23 08:54 / sec |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM Subsurface soil investigation
**Lab ID:** C23060688-053
**Client Sample ID:** DSSB-05

**Report Date:** 08/07/23
**Collection Date:** 06/01/23 12:30
**DateReceived:** 06/19/23
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.2 | pCi/g-dry | | | | E901.1 | 08/04/23 10:57 / sec |
| Radium 224 precision (±) | 0.6 | pCi/g-dry | | | | E901.1 | 08/04/23 10:57 / sec |
| Radium 224 MDC | 0.9 | pCi/g-dry | | | | E901.1 | 08/04/23 10:57 / sec |
| Radium 226 | 0.8 | pCi/g-dry | | | | E901.1 | 08/04/23 10:57 / sec |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 08/04/23 10:57 / sec |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 08/04/23 10:57 / sec |
| Radium 228 | 1.1 | pCi/g-dry | | | | E901.1 | 08/04/23 10:57 / sec |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 08/04/23 10:57 / sec |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 08/04/23 10:57 / sec |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation **Work Order:** C23060688 **Report Date:** 08/04/23

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: E901.1** | | | | | | | | | | Batch: R296981 |
| **Lab ID: MB-296981** | 9 | Method Blank | | | | Run: GAM-HPGE 2_230725A | | | | 07/25/23 09:16 |
| Radium 224 | | 0.2 | pCi/g-dry | | | | | | | U |
| Radium 224 precision (±) | | 0.4 | pCi/g-dry | | | | | | | |
| Radium 224 MDC | | 0.7 | pCi/g-dry | | | | | | | |
| Radium 226 | | 0.2 | pCi/g-dry | | | | | | | |
| Radium 226 precision (±) | | 0.06 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.06 | pCi/g-dry | | | | | | | |
| Radium 228 | | 0.09 | pCi/g-dry | | | | | | | U |
| Radium 228 precision (±) | | 0.09 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.1 | pCi/g-dry | | | | | | | |
| **Lab ID: LCS-296981** | 6 | Laboratory Control Sample | | | | Run: GAM-HPGE 2_230725A | | | | 07/25/23 10:20 |
| Cobalt 60 | | 8.1 | pCi/g-dry | | 90 | 70 | 130 | | | |
| Cobalt 60 precision (±) | | 0.55 | pCi/g-dry | | | | | | | |
| Cobalt 60 MDC | | 0.83 | pCi/g-dry | | | | | | | |
| Radium 226 | | 50 | pCi/g-dry | | 92 | 70 | 130 | | | |
| Radium 226 precision (±) | | 2.3 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 2.6 | pCi/g-dry | | | | | | | |
| **Lab ID: C23060688-001ADUP** | 9 | Sample Duplicate | | | | Run: GAM-HPGE 2_230725A | | | | 07/25/23 12:49 |
| Radium 224 | | 1.5 | pCi/g-dry | | | | | 12 | 30 | |
| Radium 224 precision (±) | | 0.76 | pCi/g-dry | | | | | | | |
| Radium 224 MDC | | 1.2 | pCi/g-dry | | | | | | | |
| Radium 226 | | 1.6 | pCi/g-dry | | | | | 6.1 | 30 | |
| Radium 226 precision (±) | | 0.16 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.14 | pCi/g-dry | | | | | | | |
| Radium 228 | | 1.4 | pCi/g-dry | | | | | 1.8 | 30 | |
| Radium 228 precision (±) | | 0.25 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.24 | pCi/g-dry | | | | | | | |
| - The RER result for Ra224 is 0.16, Ra226 is 0.44 and Ra228 is 0.07. | | | | | | | | | | |
| **Lab ID: C23060688-011ADUP** | 9 | Sample Duplicate | | | | Run: GAM-HPGE 2_230725A | | | | 07/27/23 08:36 |
| Radium 224 | | -0.48 | pCi/g-dry | | | | | 5.3 | 30 | U |
| Radium 224 precision (±) | | 1.7 | pCi/g-dry | | | | | | | |
| Radium 224 MDC | | 2.8 | pCi/g-dry | | | | | | | |
| Radium 226 | | 4.9 | pCi/g-dry | | | | | 1.9 | 30 | |
| Radium 226 precision (±) | | 0.24 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.14 | pCi/g-dry | | | | | | | |
| Radium 228 | | 0.86 | pCi/g-dry | | | | | 44 | 30 | R |
| Radium 228 precision (±) | | 0.26 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.31 | pCi/g-dry | | | | | | | |
| - Duplicate RPD for Ra228 is outside of the acceptance range for this analysis. However, the RER is less than or equal to the limit of 3, the RER result is 0.86. | | | | | | | | | | |
| -The RER result for Ra224 is 0.01 and Ra226 is 0.28. | | | | | | | | | | |

**Qualifiers:**

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

R - Relative Percent Difference (RPD) exceeds advisory limit

U - Not detected at Minimum Detectable Concentration (MDC)

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation **Work Order:** C23060688 **Report Date:** 08/04/23

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: E901.1** | | | | | | | | | | Batch: R297133 |
| **Lab ID: MB-297133** | 9 | Method Blank | | | | Run: GAM-HPGE 2_230728A | | | | 07/28/23 11:18 |
| Radium 224 | | 0.2 | pCi/g-dry | | | | | | | U |
| Radium 224 precision (±) | | 0.4 | pCi/g-dry | | | | | | | |
| Radium 224 MDC | | 0.7 | pCi/g-dry | | | | | | | |
| Radium 226 | | 0.2 | pCi/g-dry | | | | | | | |
| Radium 226 precision (±) | | 0.05 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.05 | pCi/g-dry | | | | | | | |
| Radium 228 | | 0.1 | pCi/g-dry | | | | | | | U |
| Radium 228 precision (±) | | 0.1 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.1 | pCi/g-dry | | | | | | | |
| **Lab ID: LCS-297133** | 6 | Laboratory Control Sample | | | | Run: GAM-HPGE 2_230728A | | | | 07/28/23 12:25 |
| Cobalt 60 | | 7.7 | pCi/g-dry | | 85 | 70 | 130 | | | |
| Cobalt 60 precision (±) | | 0.53 | pCi/g-dry | | | | | | | |
| Cobalt 60 MDC | | 0.82 | pCi/g-dry | | | | | | | |
| Radium 226 | | 50 | pCi/g-dry | | 92 | 70 | 130 | | | |
| Radium 226 precision (±) | | 2.3 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 2.6 | pCi/g-dry | | | | | | | |
| **Lab ID: C23060688-023ADUP** | 9 | Sample Duplicate | | | | Run: GAM-HPGE 2_230728A | | | | 07/28/23 17:06 |
| Radium 224 | | 1.3 | pCi/g-dry | | | | | 1.1 | 30 | |
| Radium 224 precision (±) | | 0.67 | pCi/g-dry | | | | | | | |
| Radium 224 MDC | | 1.1 | pCi/g-dry | | | | | | | |
| Radium 226 | | 1.1 | pCi/g-dry | | | | | 5.5 | 30 | |
| Radium 226 precision (±) | | 0.13 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.11 | pCi/g-dry | | | | | | | |
| Radium 228 | | 1.4 | pCi/g-dry | | | | | 1.3 | 30 | |
| Radium 228 precision (±) | | 0.23 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.21 | pCi/g-dry | | | | | | | |
| - The RER result for Ra224 is 0.02, Ra226 is 0.32, Ra228 is 0.06. | | | | | | | | | | |
| **Lab ID: C23060688-033ADUP** | 9 | Sample Duplicate | | | | Run: GAM-HPGE 2_230728A | | | | 08/01/23 12:13 |
| Radium 224 | | 0.33 | pCi/g-dry | | | | | 3200 | 30 | UR |
| Radium 224 precision (±) | | 1.5 | pCi/g-dry | | | | | | | |
| Radium 224 MDC | | 2.5 | pCi/g-dry | | | | | | | |
| Radium 226 | | 1.9 | pCi/g-dry | | | | | 0.5 | 30 | |
| Radium 226 precision (±) | | 0.16 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.11 | pCi/g-dry | | | | | | | |
| Radium 228 | | 1.2 | pCi/g-dry | | | | | 0.7 | 30 | |
| Radium 228 precision (±) | | 0.23 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.22 | pCi/g-dry | | | | | | | |
| - Duplicate RPD for Ra224 is outside of the acceptance range for this analysis. However, the RER is less than or equal to the limit of 3, the RER result for Ra224 is 0.33. The RER result for Ra226 is 0.04 and Ra228 is 0.03 | | | | | | | | | | |

**Qualifiers:**

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

R - Relative Percent Difference (RPD) exceeds advisory limit

U - Not detected at Minimum Detectable Concentration (MDC)

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation **Work Order:** C23060688 **Report Date:** 08/04/23

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: E901.1** | | | | | | | | | | Batch: R297281 |
| **Lab ID: MB-297281** | 9 | Method Blank | | | | Run: GAM-HPGE 2_230802A | | | | 08/02/23 09:38 |
| Radium 224 | | 0.02 | pCi/g-dry | | | | | | | U |
| Radium 224 precision (±) | | 0.4 | pCi/g-dry | | | | | | | |
| Radium 224 MDC | | 0.7 | pCi/g-dry | | | | | | | |
| Radium 226 | | 0.2 | pCi/g-dry | | | | | | | |
| Radium 226 precision (±) | | 0.05 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.05 | pCi/g-dry | | | | | | | |
| Radium 228 | | 0.06 | pCi/g-dry | | | | | | | U |
| Radium 228 precision (±) | | 0.09 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.1 | pCi/g-dry | | | | | | | |
| **Lab ID: C23060688-048ADUP** | 9 | Sample Duplicate | | | | Run: GAM-HPGE 2_230802A | | | | 08/03/23 14:34 |
| Radium 224 | | -0.41 | pCi/g-dry | | | | | 360 | 30 | UR |
| Radium 224 precision (±) | | 1.5 | pCi/g-dry | | | | | | | |
| Radium 224 MDC | | 2.5 | pCi/g-dry | | | | | | | |
| Radium 226 | | 2.7 | pCi/g-dry | | | | | 0.5 | 30 | |
| Radium 226 precision (±) | | 0.18 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.13 | pCi/g-dry | | | | | | | |
| Radium 228 | | 1.4 | pCi/g-dry | | | | | 11 | 30 | |
| Radium 228 precision (±) | | 0.28 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.29 | pCi/g-dry | | | | | | | |
| - Duplicate RPD for Ra224 is outside of the acceptance range for this analysis. However, the RER is less than or equal to the limit of 3, the RER result is 1.05. The RER result for Ra226 is 0.05 and Ra228 is 0.41. | | | | | | | | | | |
| **Lab ID: C23060688-052ADUP** | 9 | Sample Duplicate | | | | Run: GAM-HPGE 2_230802A | | | | 08/04/23 09:55 |
| Radium 224 | | 0.041 | pCi/g-dry | | | | | 190 | 30 | UR |
| Radium 224 precision (±) | | 1.7 | pCi/g-dry | | | | | | | |
| Radium 224 MDC | | 2.8 | pCi/g-dry | | | | | | | |
| Radium 226 | | 1.1 | pCi/g-dry | | | | | 17 | 30 | |
| Radium 226 precision (±) | | 0.14 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.11 | pCi/g-dry | | | | | | | |
| Radium 228 | | 1.3 | pCi/g-dry | | | | | 16 | 30 | |
| Radium 228 precision (±) | | 0.24 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.23 | pCi/g-dry | | | | | | | |
| - Duplicate RPD for Ra224 is outside of the acceptance range for this analysis. However, the RER is less than or equal to the limit of 3, the RER result is 0.90. The RER result for Ra226 is 0.92 and Ra228 is 0.61. | | | | | | | | | | |
| **Lab ID: LCS-297281** | 6 | Laboratory Control Sample | | | | Run: GAM-HPGE 2_230802A | | | | 08/04/23 14:26 |
| Cobalt 60 | | 8.0 | pCi/g-dry | | 88 | 70 | 130 | | | |
| Cobalt 60 precision (±) | | 0.57 | pCi/g-dry | | | | | | | |
| Cobalt 60 MDC | | 0.72 | pCi/g-dry | | | | | | | |
| Radium 226 | | 48 | pCi/g-dry | | 89 | 70 | 130 | | | |
| Radium 226 precision (±) | | 2.1 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 2.4 | pCi/g-dry | | | | | | | |

**Qualifiers:**

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

R - Relative Percent Difference (RPD) exceeds advisory limit

U - Not detected at Minimum Detectable Concentration (MDC)

# Work Order Receipt Checklist

## Rio Grande Resources Corporation C23060688

Login completed by: Dakota R. Januska
Date Received: 6/19/2023
Reviewed by: mstephens
Received by: slr
Reviewed Date: 6/21/2023
Carrier name: UPS

| | | | |
|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on all shipping container(s)/cooler(s)? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on all sample bottles? | Yes ☐ | No ☐ | Not Present ☑ |
| Chain of custody present? | Yes ☑ | No ☐ | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | |
| Sample containers intact? | Yes ☑ | No ☐ | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | |
| All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes ☑ | No ☐ | |
| Temp Blank received in all shipping container(s)/cooler(s)? | Yes ☑ | No ☐ | Not Applicable ☐ |
| Container/Temp Blank temperature: | 19.0°C No Ice | | |
| Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4"). | Yes ☐ | No ☐ | No VOA vials submitted ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☐ | Not Applicable ☑ |

### Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

### Contact and Corrective Action Comments:

Energy Labs INC is missing pages three and four worth of samples from the chain of custody. All other samples are present and match the Chain of Custody.

We received the missing samples on 6/20/2023 @1000. The samples are intact and match the Chain of Custody. The Temperature for the cooler was 24.8°C and received with no temp blank or ice.
NOTE: The Lab Sample ID's will reflect a received date of when the initial samples were received which will be 6/19/2023 @1000.
Called and spoke with Ms.Anita and informed her we received the samples.

# Work Order Receipt Checklist - Continued

## Rio Grande Resources Corporation C23060688

Temperature Blank temperature for Cooler 1 was 19.0°C and Cooler 2 was 18.9°C.

6/19/23 DR

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Trust our People. Trust our Data.

# Chain of Custody & Analytical Request Record

www.energylab.com



## Account Information *(Billing information)*

| | |
|---|---|
| Company/Name | Rio Grande Resources Corporation |
| Contact | Anita Willcox |
| Phone | 505-287-7971 |
| Mailing Address | PO Box 1150 |
| City, State, Zip | Grants, NM 87020 |
| Email | anita.willcox@ga.com |
| Receive Invoice | ☐Hard Copy ☒Email |
| Receive Report | ☐Hard Copy ☐Email |
| Purchase Order | MT11572 |
| Quote | 16056 |
| Bottle Order | |

## Report Information *(if different than Account Information)*

| | |
|---|---|
| Company/Name | Rio Grande Resources Corporation |
| Contact | Bruce Norquist |
| Phone | 505-287-7971 |
| Mailing Address | PO Box 1150 |
| City, State, Zip | Grants, NM 87020 |
| Email | bruce.norquist@ga.com |
| Receive Report | ☒Hard Copy ☒Email |

Special Report/Formats:
☐ LEVEL IV ☐NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

## Comments

## Project Information

| | |
|---|---|
| Project Name, PWSID, Permit, etc. | MTM Subsurface soil investigation |
| Sampler Name | Victor Patel |
| Sampler Phone | 505-287-7971 |
| Sample Origin State | New Mexico |
| EPA/State Compliance | ☐ Yes ☒ No |

**URANIUM MINING CLIENTS MUST indicate sample type**
☒ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

**Matrix Codes**
A - Air
W - Water
S - Soils/ Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

| | Sample Identification (Name, Location, Interval, etc.) | Collection Date | Collection Time | Number of Containers | Matrix (See Codes Above) | EPA 901.1 Modified for Soil | See Attached | RUSH TAT | ELI LAB ID (Laboratory Use Only) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | WBSB-02 0-6" | 05/17/2023 | 8:15 am | 1 | S | ✓ | | | C23060688-1 |
| 2 | WBSB-04 0-6' | 05/17/2023 | 8:35 am | 1 | S | ✓ | | | -2 |
| 3 | WBSB-01 0-6' | 05/17/2023 | 8:55 am | 1 | S | ✓ | | | -3 |
| 4 | WBSB-05 0-6" | 05/17/2023 | 9:20 am | 1 | S | ✓ | | | -4 |
| 5 | WBSB-03 0-6" | 05/17/2023 | 9:42 am | 1 | S | ✓ | | | -5 |
| 6 | WBSB-07 0-6" | 05/17/2023 | 10:14 am | 1 | S | ✓ | | | -6 |
| 7 | WBSB-08 0-6" | 05/17/2023 | 10:34 am | 1 | S | ✓ | | | -7 |
| 8 | WBSB-08 1'-1.5' | 05/17/2023 | 10:42 am | 1 | S | ✓ | | | -8 |
| 9 | WBSB-06 0-6" | 05/17/2023 | 10:54 am | 1 | S | ✓ | | | -9 |

**ELI is REQUIRED to provide preservative traceability.** If the preservatives supplied with the bottle order were **NOT** used, please attach your preservative information with this COC.

| Custody Record MUST be signed | Relinquished by (print) | Date/Time | Signature | Received by (print) | Date/Time | Signature |
|---|---|---|---|---|---|---|
| | Bruce L. Norquist | 6/14/23 | Bruce L. Norquist | | | |
| | Relinquished by (print) | Date/Time | Signature | Received by Laboratory (print) | Date/Time | Signature |
| | | | | Shelby Richins | 6/19/23 1005 | |

**LABORATORY USE ONLY**

| Shipped By | Cooler ID(s) | Custody Seals Y N C B | Intact Y N | Receipt Temp °C | Temp Blank Y N | On Ice Y N | Payment Type CC Cash Check_____ | Amount $ | Receipt Number *(cash/check only)* |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

# Chain of Custody & Analytical Request Record

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## Account Information *(Billing information)*

| | |
|---|---|
| Company/Name | Rio Grande Resources Corporation |
| Contact | Anita Willcox |
| Phone | 505-287-7971 |
| Mailing Address | PO Box 1150 |
| City, State, Zip | Grants, NM 87020 |
| Email | anita.willcox@ga.com |
| Receive Invoice | ☐Hard Copy ☒Email |
| Receive Report | ☐Hard Copy ☐Email |
| Purchase Order | MT11572 |
| Quote | 16056 |
| Bottle Order | |

## Report Information *(if different than Account Information)*

| | |
|---|---|
| Company/Name | Rio Grande Resources Corporation |
| Contact | Bruce Norquist |
| Phone | 505-287-7971 |
| Mailing Address | PO Box 1150 |
| City, State, Zip | Grants, NM 87020 |
| Email | bruce.norquist@ga.com |
| Receive Report | ☒Hard Copy ☒Email |

Special Report/Formats: ☐ LEVEL IV ☐NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

## Comments

## Project Information

| | |
|---|---|
| Project Name, PWSID, Permit, etc. | MTM Subsurface soil investigation |
| Sampler Name | Victor Patel |
| Sampler Phone | 505-287-7971 |
| Sample Origin State | New Mexico |
| EPA/State Compliance | ☐ Yes ☒ No |

**URANIUM MINING CLIENTS MUST indicate sample type**
☒ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

**Matrix Codes**
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

| | Sample Identification *(Name, Location, Interval, etc.)* | Collection Date | Collection Time | Number of Containers | Matrix *(See Codes Above)* | EPA 901.1 Modified for Soil | See Attached | RUSH TAT | ELI LAB ID *Laboratory Use Only* |
|---|---|---|---|---|---|---|---|---|---|
| 1 | DSSB-01 | 05/17/2023 | 12:00 pm | 1 | S | ✓ | | | |
| 2 | MCSB-16 1' | 05/18/2023 | 10:45 am | 1 | S | ✓ | | | |
| 3 | MCSB-16 2' | 05/18/2023 | 11:00 am | 1 | S | ✓ | | | |
| 4 | MCSB-15 1' | 05/18/2023 | 11:38 am | 1 | S | ✓ | | | |
| 5 | MCSB-17 1' | 05/18/2023 | 8:45 am | 1 | S | ✓ | | | |
| 6 | MCSB-18 1'-1.5' | 05/18/2023 | 9:48 am | 1 | S | ✓ | | | |
| 7 | DSSB-02 | 05/18/2023 | 1:00 pm | 1 | S | ✓ | | | |
| 8 | MCSB-11 4' | 05/22/2023 | 11:04 am | 1 | S | ✓ | | | |
| 9 | MCSB-13 1' | 05/22/2023 | 8:25 am | 1 | S | ✓ | | | |

**ELI is REQUIRED to provide preservative traceability.** If the preservatives supplied with the bottle order were **NOT** used, please attach your preservative information with this COC.

| Custody Record MUST be signed | Relinquished by (print) | Date/Time | Signature | Received by (print) | Date/Time | Signature |
|---|---|---|---|---|---|---|
| | Bruce L. Norquist | 6/14/23 | Bruce L. Norquist | | 6/19/23 | |
| | Relinquished by (print) | Date/Time | Signature | Received by Laboratory (print) | Date/Time | Signature |
| | | | | Sheila Richins | 1000 | |

**LABORATORY USE ONLY**

| Shipped By | Cooler ID(s) | Custody Seals Y N C B | Intact Y N | Receipt Temp °C | Temp Blank Y N | On Ice Y N | Payment Type CC Cash Check_____ | Amount $ | Receipt Number *(cash/check only)* |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

# Chain of Custody & Analytical Request Record

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## Account Information *(Billing information)*

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|---|---|
| Company/Name | Rio Grande Resources Corporation |
| Contact | Anita Willcox |
| Phone | 505-287-7971 |
| Mailing Address | PO Box 1150 |
| City, State, Zip | Grants, NM 87020 |
| Email | anita.willcox@ga.com |
| Receive Invoice | ☐Hard Copy ▣Email |
| Receive Report | ☐Hard Copy ☐Email |
| Purchase Order | MT11572 |
| Quote | 16056 |
| Bottle Order | |

## Report Information *(if different than Account Information)*

| | |
|---|---|
| Company/Name | Rio Grande Resources Corporation |
| Contact | Bruce Norquist |
| Phone | 505-287-7971 |
| Mailing Address | PO Box 1150 |
| City, State, Zip | Grants, NM 87020 |
| Email | bruce.norquist@ga.com |
| Receive Report | ▣Hard Copy ▣Email |
| Special Report/Formats: | ☐ LEVEL IV ☐NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____ |

## Comments

## Project Information

| | |
|---|---|
| Project Name, PWSID, Permit, etc. | MTM Subsurface soil investigation |
| Sampler Name | Victor Patel |
| Sampler Phone | 505-287-7971 |
| Sample Origin State | New Mexico |
| EPA/State Compliance | ☐ Yes ▣ No |

**URANIUM MINING CLIENTS MUST indicate sample type**
- ▣ Unprocessed Ore
- ☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
- ☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

**Matrix Codes**

A - Air; W- Water; S - Soils/Solids; V - Vegetation; B - Bioassay; O - Oil; DW - Drinking Water

All turnaround times are standard unless marked as RUSH.

Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

| | Sample Identification *(Name, Location, Interval, etc.)* | Collection Date | Collection Time | Number of Containers | Matrix *(See Codes Above)* | EPA 901.1 Modified for Soil | See Attached | RUSH TAT | ELI LAB ID *Laboratory Use Only* |
|---|---|---|---|---|---|---|---|---|---|
| 1 | MCSB-12 1' | 05/22/2023 | 9:28 am | 1 | S | ✓ | | | C23060688 |
| 2 | MCSB-11 5' | 05/22/2023 | 11:12 am | 1 | S | ✓ | | | |
| 3 | MCSB-14 1' | 05/23/2023 | 8:53 am | 1 | S | ✓ | | | |
| 4 | MCSB-08 5' | 05/23/2023 | 11:10 am | 1 | S | ✓ | | | |
| 5 | MCSB-08 6.5' | 05/23/2023 | 11:25 am | 1 | S | ✓ | | | |
| 6 | MCSB-9 1' | 05/24/2023 | 8:25 am | 1 | S | ✓ | | | |
| 7 | MCSB-9 2' | 05/24/2023 | 8:40 am | 1 | S | ✓ | | | |
| 8 | MCSB-10 1' | 05/24/2023 | 9:15 am | 1 | S | ✓ | | | |
| 9 | MCSB-5 4' | 05/24/2023 | 10:40 am | 1 | S | ✓ | | | |

**ELI is REQUIRED to provide preservative traceability.** If the preservatives supplied with the bottle order were **NOT** used, please attach your preservative information with this COC.

| Custody Record MUST be signed | | | | | | | |
|---|---|---|---|---|---|---|---|
| Relinquished by (print) | Bruce L. Norquist | Date/Time | 6/14/23 | Signature | Bruce L. Norquist | Received by (print) | Date/Time 6/19/23 | Signature |
| Relinquished by (print) | | Date/Time | | Signature | | Received by Laboratory (print) Shelby Richins | Date/Time 1000 | Signature |

**LABORATORY USE ONLY**

| Shipped By | Cooler ID(s) | Custody Seals Y N C B | Intact Y N | Receipt Temp °C | Temp Blank Y N | On Ice Y N | Payment Type CC Cash Check_____ | Amount $ | Receipt Number *(cash/check only)* |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

ENERGY LABORATORIES
Trust our People. Trust our Data.

# Chain of Custody & Analytical Request Record

www.energylab.com



## Account Information *(Billing information)*

| | |
|---|---|
| Company/Name | Rio Grande Resources Corporation |
| Contact | Anita Willcox |
| Phone | 505-287-7971 |
| Mailing Address | PO Box 1150 |
| City, State, Zip | Grants, NM 87020 |
| Email | anita.willcox@ga.com |
| Receive Invoice | ☐Hard Copy ☒Email |
| Receive Report | ☐Hard Copy ☐Email |
| Purchase Order | MT11572 |
| Quote | 16056 |
| Bottle Order | |

## Report Information *(if different than Account Information)*

| | |
|---|---|
| Company/Name | Rio Grande Resources Corporation |
| Contact | Bruce Norquist |
| Phone | 505-287-7971 |
| Mailing Address | PO Box 1150 |
| City, State, Zip | Grants, NM 87020 |
| Email | bruce.norquist@ga.com |
| Receive Report | ☒Hard Copy ☒Email |
| Special Report/Formats: | ☐ LEVEL IV ☐NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____ |

## Comments

## Project Information

| | |
|---|---|
| Project Name, PWSID, Permit, etc. | MTM Subsurface soil investigation |
| Sampler Name | Victor Patel |
| Sampler Phone | 505-287-7971 |
| Sample Origin State | New Mexico |
| EPA/State Compliance | ☐ Yes ☒ No |

**URANIUM MINING CLIENTS MUST indicate sample type**
☒ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

**Matrix Codes**
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

| | Sample Identification *(Name, Location, Interval, etc.)* | Collection Date | Collection Time | Number of Containers | Matrix *(See Codes Above)* | EPA 901.1 Modified for Soil | See Attached | RUSH TAT | ELI LAB ID *Laboratory Use Only* |
|---|---|---|---|---|---|---|---|---|---|
| 1 | MCSB-5 6' | 05/24/2023 | 11:00 am | 1 | S | ✓ | | | C23060688-001 |
| 2 | MCSB-5 7.5' | 05/24/2023 | 11:10 am | 1 | S | ✓ | | | -002 |
| 3 | MCSB-7 3' | 05/24/2023 | 12:46 pm | 1 | S | ✓ | | | -003 |
| 4 | MCSB-7 4.5' | 05/24/2023 | 1:00 pm | 1 | S | ✓ | | | -004 |
| 5 | DSSB-03 | 05/24/2023 | 1:30 pm | 1 | S | ✓ | | | -005 |
| 6 | MCSB-06 6' | 05/30/2023 | 9:15 am | 1 | S | ✓ | | | -006 |
| 7 | MCSB-04 1' | 05/30/2023 | 9:35 am | 1 | S | ✓ | | | -007 |
| 8 | MCSB-04 2' | 05/30/2023 | 9:45 am | 1 | S | ✓ | | | -008 |
| 9 | MCSB-02 3' | 05/30/2023 | 10:50 am | 1 | S | ✓ | | | -009 |

**ELI is REQUIRED to provide preservative traceability.** If the preservatives supplied with the bottle order were **NOT** used, please attach your preservative information with this COC.

| Custody Record MUST be signed | Relinquished by (print) | Date/Time | Signature | Received by (print) | Date/Time | Signature |
|---|---|---|---|---|---|---|
| | Bruce L. Norquist | 6/14/23 | Bruce L. Norquist | | 6/14/23 | |
| | Relinquished by (print) | Date/Time | Signature | Received by Laboratory (print) | Date/Time | Signature |
| | | | | Shelby Richins | 1000 | |

**LABORATORY USE ONLY**

| Shipped By | Cooler ID(s) | Custody Seals Y N C B | Intact Y N | Receipt Temp °C | Temp Blank Y N | On Ice Y N | Payment Type CC Cash Check_____ | Amount $ | Receipt Number *(cash/check only)* |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

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# Chain of Custody & Analytical Request Record

www.energylab.com



## Account Information *(Billing information)*

| | |
|---|---|
| Company/Name | Rio Grande Resources Corporation |
| Contact | Anita Willcox |
| Phone | 505-287-7971 |
| Mailing Address | PO Box 1150 |
| City, State, Zip | Grants, NM 87020 |
| Email | anita.willcox@ga.com |
| Receive Invoice | ☐Hard Copy ☒Email |
| Receive Report | ☐Hard Copy ☐Email |
| Purchase Order | MT11572 |
| Quote | 16056 |
| Bottle Order | |

## Report Information *(if different than Account Information)*

| | |
|---|---|
| Company/Name | Rio Grande Resources Corporation |
| Contact | Bruce Norquist |
| Phone | 505-287-7971 |
| Mailing Address | PO Box 1150 |
| City, State, Zip | Grants, NM 87020 |
| Email | bruce.norquist@ga.com |
| Receive Report | ☒Hard Copy ☒Email |
| Special Report/Formats: | ☐ LEVEL IV ☐NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____ |

## Comments

## Project Information

| | |
|---|---|
| Project Name, PWSID, Permit, etc. | MTM Subsurface soil investigation |
| Sampler Name | Victor Patel |
| Sampler Phone | 505-287-7971 |
| Sample Origin State | New Mexico |
| EPA/State Compliance | ☐ Yes ☒ No |

**URANIUM MINING CLIENTS MUST indicate sample type**
☒ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

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A - Air
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S - Soils/ Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

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| | Sample Identification *(Name, Location, Interval, etc.)* | Collection Date | Collection Time | Number of Containers | Matrix *(See Codes Above)* | EPA 901.1 Modified for Soil | See Attached | RUSH TAT | ELI LAB ID *Laboratory Use Only* |
|---|---|---|---|---|---|---|---|---|---|
| 1 | MCSB-02 4' | 05/30/2023 | 11:00 am | 1 | S | ✓ | | | |
| 2 | MCSB-02 5.2' | 05/30/2023 | 11:15 am | 1 | S | ✓ | | | |
| 3 | MCSB-01 2' | 05/30/2023 | 12:50 pm | 1 | S | ✓ | | | |
| 4 | MCSB-01 3' | 05/30/2023 | 1:00 pm | 1 | S | ✓ | | | |
| 5 | MCSB-03 1' | 05/30/2023 | 1:40 pm | 1 | S | ✓ | | | |
| 6 | MCSB-03 2' | 05/30/2023 | 1:50 pm | 1 | S | ✓ | | | |
| 7 | DSSB-04 | 05/30/2023 | 2:15 pm | 1 | S | ✓ | | | |
| 8 | WBSB-09 0-6" | 05/31/2023 | 8:25 am | 1 | S | ✓ | | | |
| 9 | WBSB-12 0-1" | 05/31/2023 | 8:50 am | 1 | S | ✓ | | | |

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| Custody Record MUST be signed | Relinquished by (print) | Date/Time | Signature | Received by (print) | Date/Time | Signature |
|---|---|---|---|---|---|---|
| | Bruce L. Norquist | 6/14/23 | Bruce L. Norquist | | 6/19/23 | |
| | Relinquished by (print) | Date/Time | Signature | Received by Laboratory (print) | Date/Time | Signature |
| | | | | Shelby Kitchens | 1020 | |

**LABORATORY USE ONLY**

| Shipped By | Cooler ID(s) | Custody Seals Y N C B | Intact Y N | Receipt Temp °C | Temp Blank Y N | On Ice Y N | Payment Type CC Cash Check_____ | Amount $ | Receipt Number *(cash/check only)* |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

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## Account Information (Billing information)

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|---|---|
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| Phone | 505-287-7971 |
| Mailing Address | PO Box 1150 |
| City, State, Zip | Grants, NM 87020 |
| Email | anita.willcox@ga.com |
| Receive Invoice | ☐Hard Copy ☒Email |
| Receive Report | ☐Hard Copy ☐Email |
| Purchase Order | MT11572 |
| Quote | 16056 |
| Bottle Order | |

## Report Information (if different than Account Information)

| | |
|---|---|
| Company/Name | Rio Grande Resources Corporation |
| Contact | Bruce Norquist |
| Phone | 505-287-7971 |
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| City, State, Zip | Grants, NM 87020 |
| Email | bruce.norquist@ga.com |
| Receive Report | ☒Hard Copy ☒Email |
| Special Report/Formats: | ☐ LEVEL IV ☐NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____ |

## Comments

## Project Information

| | |
|---|---|
| Project Name, PWSID, Permit, etc. | MTM Subsurface soil investigation |
| Sampler Name | Victor Patel |
| Sampler Phone | 505-287-7971 |
| Sample Origin State | New Mexico |
| EPA/State Compliance | ☐ Yes ☒ No |

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☒ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

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S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

| | Sample Identification (Name, Location, Interval, etc.) | Collection Date | Collection Time | Number of Containers | Matrix (See Codes Above) | EPA 901.1 Modified for Soil | See Attached | RUSH TAT | ELI LAB ID (Laboratory Use Only) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | WBSB-12 2-6" | 05/31/2023 | 9:00 am | 1 | S | ✓ | | | |
| 2 | WBSB-10 0-6" | 05/31/2023 | 9:10 am | 1 | S | ✓ | | | |
| 3 | WBSB-11 0-6" | 05/31/2023 | 9:35 am | 1 | S | ✓ | | | |
| 4 | OPSB-03 4.2' | 06/01/2023 | 9:10 am | 1 | S | ✓ | | | |
| 5 | OPSB-03 4.5' | 06/01/2023 | 9:25 am | 1 | S | ✓ | | | |
| 6 | OPSB-02 5.5' | 06/01/2023 | 11:20 am | 1 | S | ✓ | | | |
| 7 | OPSB-05 3.75' | 06/01/2023 | 11:55 am | 1 | S | ✓ | | | |
| 8 | DSSB-05 | 06/01/2023 | 12:30 pm | 1 | S | ✓ | | | |
| 9 | | | | | | | | | |

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| Custody Record MUST be signed | Relinquished by (print) | Date/Time | Signature | Received by (print) | Date/Time | Signature |
|---|---|---|---|---|---|---|
| | Bruce L. Norquist | 6/14/23 | Bruce L Norquist | | 6/19/23 | |
| | Relinquished by (print) | Date/Time | Signature | Received by Laboratory (print) | Date/Time | Signature |
| | | | | Shelby Nichols | 1000 | |

**LABORATORY USE ONLY**

| Shipped By | Cooler ID(s) | Custody Seals Y N C B | Intact Y N | Receipt Temp °C | Temp Blank Y N | On Ice Y N | Payment Type CC Cash Check_____ | Amount $ | Receipt Number (cash/check only) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

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# Appendix C

## Radiologic Instrument Calibration and Operational Function Check and Collimated Detector Correlation Documentation

**AVM Environmental Services, Inc.**
**Ludlum SCA L2221 - 44-20 3x3 NaI Detector Function Check**
**559 - 659 KeV Gamma Radiation Soil Screening**

L2221 #290801

Ludlum 44-20 3x3 NaI Detector, #PR295573

Function Check Source ID: 1% $U_3O_8$ Ore in Sealed can

Acceptable background Count (cpm) Range (20%) 53 to 79

Acceptable Source Count (cpm) Range (20%) 12557 to 18835

| Date | Physical Check | Cal Date | Battery(1) Volts or OK | HV Volts | Threshhold mV (2) | Window mV | Window In/Out | BKG Counts cpm | Source Counrts cpm | Within Acceptable Range Y or N | MDC pCi/gm | Tech |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5-17-23 | ✓ | 5-10-23 | ✓ | 577 | 559 | 100 | in | 70 | 16805 | Y | — | VP |
| 5-18-23 | ✓ | 5-10-23 | ✓ | 578 | 559 | 100 | in | 66 | 16200 | Y | — | VP |
| 5-22-23 | ✓ | 5-10-23 | ✓ | 582 | 559 | 100 | in | 68 | 15900 | Y | — | VP |
| 5-23-23 | ✓ | 5-10-23 | ✓ | 582 | 559 | 100 | in | 71 | 15508 | Y | — | VP |
| 5-25-23 | ✓ | 5-10-23 | ✓ | 578 | 559 | 100 | in | 73 | 16253 | Y | — | VP |
| 5-30-23 | ✓ | 5-10-23 | ✓ | 577 | 559 | 100 | in | 72 | 16101 | Y | — | VP |
| 5-31-23 | ✓ | 5-10-23 | ✓ | 575 | 559 | 100 | in | 64 | 15789 | Y | | VP |
| 6-1-23 | ✓ | 5-10-23 | ✓ | 577 | 559 | 100 | in | 71 | 16224 | Y | — | VP |
| | | | | | | | | | | | | |
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| | | | | | | | | | | | | |

Note: (1) Battery Voltage for Ludlum 2221 must be >5.3 volts; (2) Threshhold must be at 220 mV; (3) Window @ 440, must be IN

**AVM Environmental Services, Inc**
**Scaler/Ratemeter - HP-210L Detector Function Check**

Scaler/Ratemeter ID: LIZ S#274216

HP-210L Detector ID: ANA-1

Function Check Source ID: 1% $U_3O_8$ Ore in Sealed can

Acceptable background Count (cpm) Range (20%) 34 to 50

Acceptable Source Count (cpm) Range (20%) 2880 to 4320

| Date | Physical Check | Cal date | Battery Volts or OK | HV Volts | BKG Counts cpm | Source Counrts cpm | Within Acceptable Range Y or N | Comments | Tech |
|---|---|---|---|---|---|---|---|---|---|
| 10-7-22 | ✓ | 10-7-22 | ok | .9 | 40 | 3700 | y | @ AVM office | VP |
| 1-4-23 | ✓ | 10-7-22 | ok | .9 | 45 | 3600 | y | @ AVM office | VP |
| 4-5-23 | ✓ | 10-7-22 | ok | .9 | 40 | 3600 | y | @ AVM office | VP |
| 4-11-23 | ✓ | 10-7-22 | ok | .9 | 40 | 3600 | y | @ AVM office | VP |
| 4-12-23 | ✓ | 10-7-22 | ok | .9 | 40 | 3600 | y | @ AVM office | VP |
| 4-13-23 | ✓ | 10-7-22 | ok | .9 | 40 | 3600 | y | @ AVM office | VP |
| 4-20-23 | ✓ | 10-7-22 | ok | .9 | 40 | 3600 | y | @ AVM office | VP |
| 5-9-23 | ✓ | 10-7-22 | ok | .9 | 40 | 3600 | y | @ AVM office | VP |
| 5-16-23 | ✓ | 10-7-22 | ok | .9 | 40 | 3400 | y | @ AVM office | VP |
| 5-17-23 | ✓ | 10-7-22 | ok | .9 | 40 | 3300 | y | @ AVM office | VP |
| 5-18-23 | ✓ | 10-7-22 | ok | .9 | 40 | 3400 | y | @ AVM office | VP |
| 5-22-23 | ✓ | 10-7-22 | ok | .9 | 40 | 3300 | y | @ AVM office | VP |
| 5-23-23 | ✓ | 10-7-22 | ok | .9 | 40 | 3400 | y | @ AVM office | VP |
| 5-24-23 | ✓ | 10-7-22 | ok | .9 | 40 | 3600 | y | @ AVM office | VP |
| 5-25-23 | ✓ | 10-7-22 | ok | .9 | 40 | 3400 | y | @ AVM office | VP |
| 5-30-23 | ✓ | 10-7-22 | ok | .9 | 45 | 3600 | y | @ AVM office | VP |
| 5-31-23 | ✓ | 10-7-22 | ok | .9 | 40 | 3300 | y | @ AVM office | VP |
| 6-1-23 | ✓ | 10-7-22 | ok | .9 | 40 | 3400 | y | @ AVM office | VP |

Note: (1) Threshhold must be at 100 mV;

**AVM Environmental Services, Inc.**
**Scaler/Ratemeter - 2" x 2" NaI Detector Function Check**

Function Check Source ID: 1% $U_3O_8$ Ore in Sealed can

2" x 2" NaI Detector ID: SPA-3 S# 408522-30

Acceptable background Count (cpm) Range (20%) 6391 to 9587 (Bare)

Acceptable background Count (cpm) Range (20%) 2546 to 3820 (collimated)

Acceptable Source Count (cpm) Range (20%) 77687 to 116531

| Date | Scaler/Ratemeter | Physical Check | Cal Due | Battery[1] Volts or OK | HV Volts | THR mV[2] | Window In or OUT[3] | C.C.[4] | BKG Counts cpm | Source Counrts cpm | Within Acceptable Range Y or N | MDC pCi/gm | Tech |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-1-23 | L2221 S# 290801 | ✓ | 10-7-23 | ok | 900 | 10 | out | 1 | 7989 Bare / 3183 Coll. | 97109 | Y | — | VP |
| 4-5-23 | L2221 S# 68782 | ✓ | 10-7-23 | ok | 900 | 10 | out | 1 | 7621 Bare / 2949 Coll. | 99478 | Y | — | VP |
| 4-11-23 | L2221 S# 68782 | ✓ | 10-7-23 | ok | 900 | 10 | out | 1 | 7822 Bare / 3044 Coll. | 99630 | Y | — | VP |
| 4-12-23 | L2221 S# 68782 | ✓ | 10-7-23 | ok | 900 | 10 | out | 1 | 7947 Bare / 3122 Coll. | 98687 | Y | — | VP |
| 4-13-23 | L2221 S# 68782 | ✓ | 10-7-23 | ok | 900 | 10 | out | 1 | 7894 Bare / 3150 Coll. | 99731 | Y | — | VP |
| 4-20-23 | L2221 S# 68782 | ✓ | 10-7-23 | ok | 900 | 10 | out | 1 | 7850 Bare / 2987 Coll. | 99214 | Y | — | VP |
| 5-16-23 | L2221 S# 68782 | ✓ | 10-7-23 | ok | 900 | 10 | out | 1 | 7714 Bare / 3018 Coll. | 97431 | Y | — | VP |
| 5-17-23 | L2241-2 S# 287029 | ✓ | 10-7-23 | ok | 900 | 10 | N/A | 1 | 7914 Bare / 3002 Coll. | 99331 | Y | — | VP |
| 5-18-23 | L2241-2 S# 287029 | ✓ | 10-7-23 | ok | 900 | 10 | N/A | 1 | 7842 Bare / 3118 Coll. | 98522 | Y | — | VP |
| 5-22-23 | L2241-2 S# 287029 | ✓ | 10-7-23 | ok | 900 | 10 | N/A | 1 | VP 7644 3108 Bare / 7644 Coll. | 97555 | Y | — | VP |
| 5-23-23 | L2241-2 S# 287029 | ✓ | 10-7-23 | ok | 900 | 10 | N/A | 1 | 7912 Bare / 2974 Coll. | 98782 | Y | — | VP |
| 5-24-23 | L2241-2 S# 287029 | ✓ | 10-7-23 | ok | 900 | 10 | N/A | 1 | 8086 Bare / 3157 Coll. | 98949 | Y | — | VP |
| 5-30-23 | L2241-2 S# 287029 | ✓ | 10-7-23 | ok | 900 | 10 | N/A | 1 | 7814 Bare / 3160 Coll. | 97901 | Y | — | VP |
| 5-31-23 | L2241-2 S# 287029 | ✓ | 10-7-23 | ok | 900 | 10 | N/A | 1 | 7833 Bare / 3022 Coll. | 98634 | Y | — | VP |
| 6-1-23 | L2241-2 S# 287029 | ✓ | 10-7-23 | ok | 900 | 10 | N/A | 1 | 7882 Bare / 3018 Coll. | 97601 | Y | — | VP |
| 6-7-23 | L2241-2 S# 287029 | ✓ | 10-7-23 | ok | 900 | 10 | N/A | 1 | 7942 Bare / 3001 Coll. | 98441 | Y | — | VP |

Note: (1) Battery Voltage for Ludlum 2221 must be >5.3 volts; (2) Threshhold must be at 10.0 mV; (3) Window Position must be OUT; (4) CC on L2241-2 set at 0.001
For L2241-2 Check HV and Threshold using Ludlum 500 pulser.

**AVM Environmental Services, Inc.**
**Micro R Meter Function Check Form**

Micro R Meter: Ludlum 19, SR#76248

Function Check Source ID: 1% $U_3O_8$ Ore in Sealed can

Function Check @ Calibration 115

Acceptable Function Check Reading (uR/hr) Range (20%) 92 to 138

| Date | Physical Check | Cal Date | Battery(1) Volts or OK | BKG Reading uR/hr | Source Reading (2) uR/hr | Within Acceptable Range Y or N | Cal Due | Tech |
|---|---|---|---|---|---|---|---|---|
| 10-17-22 | ✓ | 10-6-22 | ok | 10-12 | 110 | y | 10-6-23 | VP |
| 1-4-23 | ✓ | 10-6-22 | ok | 8-10 | 120 | y | 10-6-23 | VP |
| 4-5-23 | ✓ | 10-6-22 | ok | 8-10 | 110 | y | 10-6-23 | VP |
| 4-11-23 | ✓ | 10-6-22 | ok | 8-10 | 110 | y | 10-6-23 | VP |
| 4-12-23 | ✓ | 10-6-22 | ok | 8-10 | 110 | y | 10-6-23 | VP |
| 4-13-23 | ✓ | 10-6-22 | ok | 8-10 | 110 | y | 10-6-23 | VP |
| 4-20-23 | ✓ | 10-6-22 | ok | 8-10 | 110 | y | 10-6-23 | VP |
| 5-9-23 | ✓ | 10-6-22 | ok | 8-10 | 110 | y | 10-6-23 | VP |
| 5-16-23 | ✓ | 10-6-22 | ok | 8-10 | 110 | y | 10-6-23 | VP |
| 5-17-23 | ✓ | 10-6-22 | ok | 8-10 | 110 | y | 10-6-23 | VP |
| 5-18-23 | ✓ | 10-6-22 | ok | 8-10 | 110 | y | 10-6-23 | VP |
| 5-22-23 | ✓ | 10-6-22 | ok | 10-12 | 100 | y | 10-6-23 | VP |
| 5-23-23 | ✓ | 10-6-22 | ok | 8-10 | 100 | y | 10-6-23 | VP |
| 5-24-23 | ✓ | 10-6-22 | ok | 8-10 | 110 | y | 10-6-23 | VP |
| 5-25-23 | ✓ | 10-6-22 | ok | 10-12 | 110 | y | 10-6-23 | VP |
| 5-30-23 | ✓ | 10-6-22 | ok | 8-10 | 100 | y | 10-6-23 | VP |
| 5-31-23 | ✓ | 10-6-22 | ok | 8-10 | 100 | y | 10-6-23 | VP |
| 6-1-23 | ✓ | 10-6-22 | ok | 8-10 | 110 | y | 10-6-23 | VP |

Note: (1) Battery Voltage must be within BAT TEST Range (2) Function Check Source must be placed in the circle on the front side of the meter

**AVM Environmental Services Inc.**

**Scaler/Ratemeter Calibration Form**

Model : L2221 S/N: 68782

Reference Instrument/Source: Ludlum Pulser 500, S/N:114513

**HV Calibration**

HV Readout (2 points): Ref/Inst 600 / 600 Ref/Inst 900 / 900

**Ratemeter Calibration**

Instrument Threshold @ 100 (10 mV), WIN: Out, HV 900VDC; Pulser Threshold @ 200 (20mV)

| Range/Mode | Range Multiplier | Calibration Point (Pulser Setting) cpm x multiplier | Target CPM (±5%) | As Found Reading | | Left or Set Reading |
|---|---|---|---|---|---|---|
| Ratemeter | x1 | 40x1 | 38-42 | 40 | | 40 |
| | x1 | 40x10 | 380-420 | 400 | | 400 |
| | x10 | 40x100 | 3800-4200 | 4000 | | 4000 |
| | x100 | 40x1K | 38K-42K | 40000 | | 40000 |
| | x1K | 40x10K | 380K-420K | 400000 | | 400000 |
| Digital Ratemeter | - | 40x1 | 38-42 | 39 | | 39 |
| | - | 40x10 | 380-420 | 400 | | 400 |
| | - | 40x100 | 3800-4200 | 3960 | | 3960 |
| | - | 40x1K | 38K-42K | 39500 | | 39500 |
| | - | 40x10K | 380K-420K | 395000 | | 395000 |
| | | | | | | |

**Threshold/Gain Calibration**

WIN OUT

| Pulser Amplitude (mV) | Pulser CPM | | L2221 Theshold (mv) | Target CPM | L2221 CPM Found | | L2221 CPM Left or Set @ |
|---|---|---|---|---|---|---|---|
| 10.0 | 40000 | | 100 (10 mV) | 27K -33K | 31534 | | 31534 |
| 20.0 | 40000 | | 200 (20 mV) | 27K -33K | 29273 | | 29273 |
| 30.0 | 40000 | | 300 (30 mV) | 27K -33K | 30822 | | 30822 |
| 40.0 | 40000 | | 400 (40 mV) | 27K -33K | 29659 | | 29659 |
| 50.0 | 40000 | | 500 (50 mV) | 27K -33K | 29242 | | 29242 |

Note: Use R174 Gain Control on Power Supply Board to adjust L2221 CPM @75% for Threshold/Gain Calibration

**Window Cut-off Points Check**

L2221 Threshold set @100 (10.0 mv)

WIN @ 100 (10.0 mV) ✓ WIN @ 400 (40.0 mV) ✓

WIN @ 200 (20.0 mV) ✓ WIN @ 500 (50.0 mV) ✓

Date 10-7-22 Calibrated By Vicky Patel

**AVM Environmental Services Inc.**

**Scaler/Ratemeter Calibration Form**

Model : L2221 S/N: 290801

Reference Instrument/Source: Ludlum Pulser 500, S/N:114513

**HV Calibration**

HV Readout (2 points): Ref/Inst 600 / 600 Ref/Inst 900 / 900

**Ratemeter Calibration**

Instrument Threshold @ 100 (10 mV), WIN: Out, HV 900VDC; Pulser Threshold @ 200 (20mV)

| Range/Mode | Range Multiplier | Calibration Point (Pulser Setting) cpm x multiplier | Target CPM (±5%) | As Found Reading | | Left or Set Reading |
|---|---|---|---|---|---|---|
| Ratemeter | x1 | 40x1 | 38-42 | 40 | | 40 |
| | x1 | 40x10 | 380-420 | 400 | | 400 |
| | x10 | 40x100 | 3800-4200 | 4000 | | 4000 |
| | x100 | 40x1K | 38K-42K | 40000 | | 40000 |
| | x1K | 40x10K | 380K-420K | 400000 | | 400000 |
| Digital Ratemeter | - | 40x1 | 38-42 | 40 | | 40 |
| | - | 40x10 | 380-420 | 395 | | 395 |
| | - | 40x100 | 3800-4200 | 3950 | | 3950 |
| | - | 40x1K | 38K-42K | 39503 | | 39503 |
| | - | 40x10K | 380K-420K | 395978 | | 395978 |
| | | | | | | |

**Threshold/Gain Calibration**

WIN OUT

| Pulser Amplitude (mV) | Pulser CPM | | L2221 Theshold (mv) | Target CPM | L2221 CPM Found | | L2221 CPM Left or Set @ |
|---|---|---|---|---|---|---|---|
| 10.0 | 40000 | | 100 (10 mV) | 27K -33K | 30889 | | 30889 |
| 20.0 | 40000 | | 200 (20 mV) | 27K -33K | 30419 | | 30419 |
| 30.0 | 40000 | | 300 (30 mV) | 27K -33K | 29799 | | 29799 |
| 40.0 | 40000 | | 400 (40 mV) | 27K -33K | 30238 | | 30238 |
| 50.0 | 40000 | | 500 (50 mV) | 27K -33K | 30330 | | 30330 |

Note: Use R174 Gain Control on Power Supply Board to adjust L2221 CPM @75% for Threshold/Gain Calibration

**Window Cut-off Points Check**

L2221 Threshold set @100 (10.0 mv)

WIN @ 100 (10.0 mV) ✓ WIN @ 400 (40.0 mV) ✓

WIN @ 200 (20.0 mV) ✓ WIN @ 500 (50.0 mV) ✓

Date 10-7-22 Calibrated By Victor Patel

**AVM Environmental Services Inc.**
**Scaler/Ratemeter Calibration Form**

Scaler/Ratemeter Model L2241-2 S/N 287029

Calibration Source Ludlum Model 500 Pulser #114513

Threshold (input sensitivity), Found at 10 mV Left or Set at 10 mV

Window, In/Out N/A Window N/A mV

Pulser Amplitude Set @ 20 mV

| Range/Mode | Calibration Point (Pulser Setting) cpm x multiplier | As Found Reading | Left or Set Reading |
|---|---|---|---|
| Ratemeter | 40x1 | 38-42 | 38-42 |
| | 40x10 | 395-400 | 395-400 |
| | 40x100 | 3.95k-4k | 3.95k-4k |
| | 40x1k | 39.6k-40k | 39.6k-40k |
| | | | |
| Scaler | 40x1 | 39 | 39 |
| | 40x10 | 398 | 398 |
| | 40x100 | 3998 | 3998 |
| | 40x1k | 39940 | 39940 |

HV Set @ 900 VDC

Date 10-7-22 Calibrated By Victor Patel

**AVM Environmental Services Inc.**
**Scaler/Ratemeter Calibration Form**

Scaler/Ratemeter Model L12 S/N 274216

Calibration Source Ludlum Model 500 Pulser #114513

Threshold (input sensitivity), Found at 10 mV Left or Set at 10 mV

Window, In/Out N/A Window N/A mV

Pulser Amplitude Set @ 20 mV

| Range/Mode | Calibration Point (Pulser Setting) cpm x multiplier | As Found Reading | Left or Set Reading |
|---|---|---|---|
| x 1 | 40x10 | 400 | 400 |
| x 10 | 40x100 | 4000 | 4000 |
| x 100 | 40x1k | 40k | 40k |
| x 1000 | 40x10k | 400k | 400k |
| | | | |
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| | | | |

HV Set @ 900 VDC

Date 10-7-22 Calibrated By [signature] Vicky Patel

**AVM Environmental Services Inc.**
L2221 SCA/L44-20 Energy Calibration Form

SCA: L2221, SR #290801 Detector: Ludlum 44-20 (3x3 NaI Scintillator)

Calibration Source: Cs-137 Check Source, 5 uCi (August 2008) For 662 KeV Peak Cal

Threshold (input sensitivity) **652**

Window, In/Out **IN** Window **20**

HV Initial 100, At Peak 579

Maximum CPM: 198160 Background CPM: 13

HV Set @ 579 VDC

For Bi-214 609.2 KeV Peak (559 - 659 KeV ROI), Set Threshold @ 559, Window @ 100

Calibration Check w 1% U3O8 Ore Check Source: 15696 CPM

BKG = 65 cpm

Date 5-10-23 Calibrated By

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

**Instrumentation : Scaler/Ratemeter** L2221 S# 68782 , **Detector** L44-20 S#295573
**Instrument Calibration Date:** 10-7-22 , **Instrument Function Check Performed:** ✓
**Survey Area/Unit Decsription** Mt Taylor Mine - Correlation Calibration

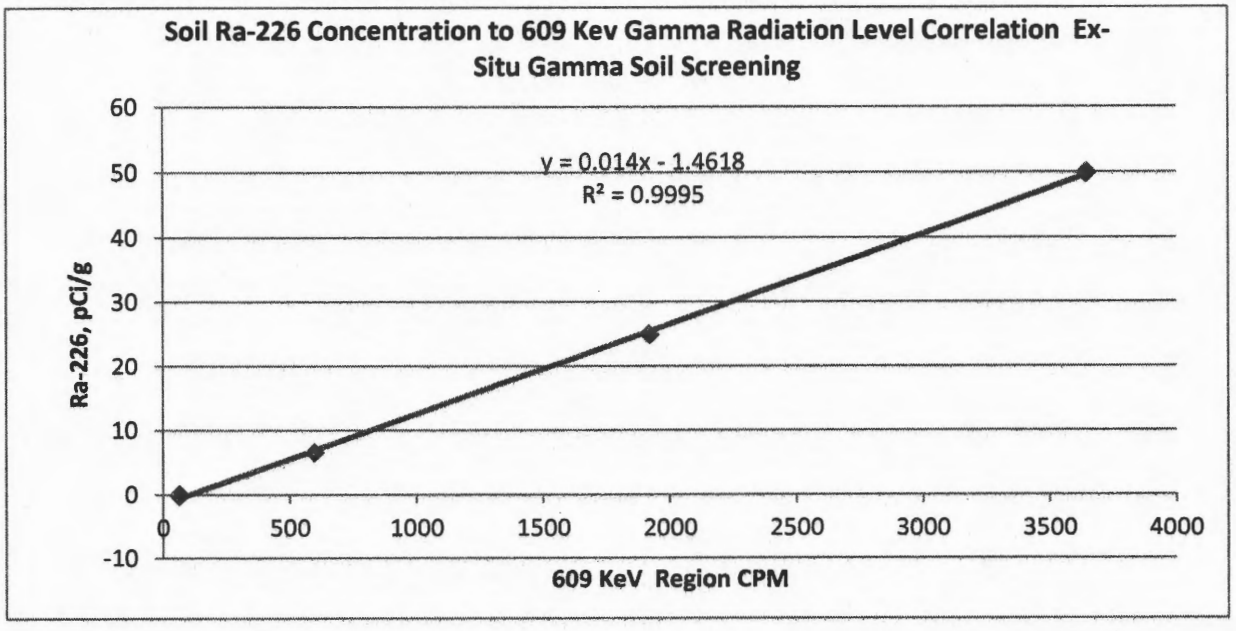
**Area exposure rate:**

| Date/Time | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 5-10-23 | Blank | | 329 | | 66 | | |
| 5-10-23 | 6.6pCi/g Ref. Soil | 3000 | 2998 | | 600 | | |
| 5-10-23 | 25 pCi/g Ref Soil | 2984 | 9552 | 9603 | 1921 | | |
| 5-10-23 | 50 pCi/g Ref Soil | 2976 | 18078 | 18224 | 3645 | | |
| | | | | | | | |
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Technician Signature _____, Reviewed by _____

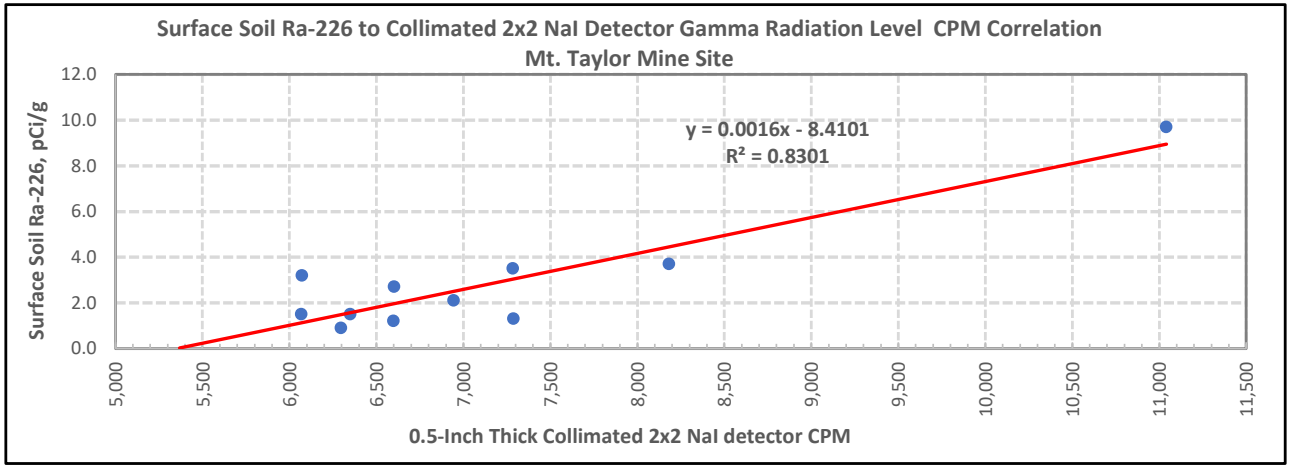
**AVM Environmental Services**
**Ex-Situ Soil Screening Gamma Radiation Level to Ra-226 Correlation**
**Mt. Taylor Mine Site Subsurface Soil Investigation**

| Reference Soil ID | Date | Ra-226 pCi/g | Wt gms | 609 KeV CP5Min Gross (3x3 Nal Detector) | CPM |
|---|---|---|---|---|---|
| Blank | 5/10/2023 | - | - | 329 | 66 |
| 6.6 pCi/g Ra-226 Ref Soil | 5/10/2023 | 6.6 | 3000 | 2998 | 600 |
| 25 pCi/g Ra-226 Ref Soil | 5/10/2023 | 25 | 3000 | 9603 | 1921 |
| 50 pCi/g Ra-226 Ref Soil | 5/10/2023 | 50 | 3000 | 18224 | 3645 |



## Surface Soil Ra-226 to Gamma Radiation Level Correlation
## Mount Taylor Mine Site

| Survey Date | Survey Point ID/Description | Survey Point Coordinate NAD83 StatePlane NM West, Feet | | Static Gamma Radiation Survey | | Sample Laboratory Analysis | Gamma Exposure Rate µR/hr |
|---|---|---|---|---|---|---|---|
| | | Northing | Easting | Bare 2x2 NaI Detector CPM | Collimated (0.5" Pb) 2x2 NaI Detector CPM | Ra-226 pCi/g | |
| 05/17/23 | WBSB-01 | 1,581,413 | 2,782,866 | 26,897 | 6,297 | **0.9** | 33 |
| 05/17/23 | WBSB-02 | 1,581,390 | 2,782,444 | 26,749 | 6,350 | **1.5** | 33 |
| 05/17/23 | WBSB-03 | 1,581,356 | 2,783,329 | 24,529 | 6,073 | **3.2** | 31 |
| 05/17/23 | WBSB-04 | 1,581,339 | 2,782,706 | 30,064 | 6,069 | **1.5** | 37 |
| 05/17/23 | WBSB-05 | 1,581,329 | 2,783,062 | 31,828 | 6,945 | **2.1** | 41 |
| 05/17/23 | WBSB-06 | 1,581,271 | 2,782,942 | 35,410 | 7,288 | **1.3** | 47 |
| 05/17/23 | WBSB-07 | 1,581,187 | 2,783,253 | 37,965 | 8,183 | **3.7** | 47 |
| 05/17/23 | WBSB-08 | 1,581,164 | 2,782,988 | 55,849 | 11,042 | **9.7** | 70 |
| 05/31/23 | WBSB-09 | 1,581,254 | 2,782,870 | 36,491 | 6,599 | **1.2** | 44 |
| 05/31/23 | WBSB-10 | 1,581,263 | 2,783,140 | 34,898 | 7,286 | **3.5** | 48 |
| 05/31/23 | WBSB-11 | 1,581,277 | 2,783,335 | 29,002 | 6,602 | **2.7** | 34 |




SUMMARY OUTPUT

### Regression Statistics

| | |
|---|---|
| Multiple R | 0.91 |
| R Square | 0.83 |
| Adjusted R Square | 0.81 |
| Standard Error | 1.08 |
| Observations | 11 |

**ANOVA**

| | df | SS | MS | F | Significance F |
|---|---|---|---|---|---|
| Regression | 1 | 50.92 | 50.92 | 43.97 | 9.58E-05 |
| Residual | 9 | 10.42 | 1.16 | | |
| Total | 10 | 61.35 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% | Lower 95.0% | Upper 95.0% |
|---|---|---|---|---|---|---|---|---|
| Intercept | -8.41 | 1.73 | -4.87 | 0.00089 | -12.32 | -4.50 | -12.32 | -4.50 |
| X Variable 1 | 0.00 | 0.00 | 6.63 | 0.00010 | 0.00104 | 0.00211 | 0.00104 | 0.00211 |

# Addendum

## August 14, 2023 Surface and Subsurface Soil Radiologic Characterization Report Windblown Area, Ore Pad Area and Mine Compound, Mount Taylor Mine Site

This addendum presents the revision to the Ore Pad soil radiologic characterization summary described in the August 14, 2023 Surface and Subsurface Soil Radiologic Characterization; Windblown Area, Ore Pad Area and Mine Compound Report (Report) for the Mt. Taylor Mine Site (Site). As discussed in Section 4.5 and shown in Figure 2 of the Report, the approximated depth of waste rock from ground surface to non-impacted native soil in the northwest area of the Ore Pad was estimated at 15 feet, two feet past the excavation depth limit of the trenching equipment, at two test pit locations (OPSB-01 and OPSB-08). The waste rock depth in the other areas of the Ore Pad ranged from 3.0 feet to 4.5 feet below ground surface (bgs). Upon review of historical operational information, the eastern portion of the adjacent Ore Pad Runoff Retention Pond (Retention Pond) was backfilled with low grade waste rock and used as part of the foundation for the Ore Pad Area expansion. A 1981 aerial image of the Site (Figure 1A) shows the footprint of the Retention Pond prior to backfilling to expand the Ore Pad. The 1981 aerial image explains the cause of the anomalous estimated depth of the waste rock in the northwest area of the Ore Pad compared to the remainder of the areas of the Ore Pad. As shown in Figure 2A, recent topographic contours show the elevation of the northwest area of the Ore Pad ground surface at 7320 feet mean sea level (msl) and the Retention Pond bottom ground surface at 7298 feet msl. Considering that the waste rock in the existing Retention Pond is two feet thick, the baseline elevation of the Retention Pond bottom is estimated at 7296 feet msl. Thus, the waste rock depth within the Retention Pond foot print in the northwest area of the Ore Pad is estimated at 24 feet.

0 50 100 200 300 400 500 Feet

Note: 1981 Imagery and collected data georeference not precisely aligned.

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S

AVM Environmental Services, Inc.

**Figure 1A**
**Mt. Taylor Mine Site**
**1981 Historic Areal Image of Ore Pad and Ore Pad Retention Pond Area with 2023 Soil Sample/Test Pit Locations**

**Legend**

- 2023 Soil Sample/Test Pit Location
- North Controlled Area Fence
- Ore Pad Characterization Area




**Figure 2A**
**Mt. Taylor Mine Site**
**Ore Pad and Ore Pad Retention Pond Area Topographic Countour with 2023 Soil Sample/Test Pit Locations**

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**Legend**

- 2023 Soil Sample/Test Pit Location (>6.8 Ra-226 pCi/g RCC Depth)
- Topographic Contour Lines
- Existing Ore Pad Retention Pond
- Historic Approx. Ore Pad Retention Pond
- Ore Pad Characterization Area
- North Controlled Area Fence

# Treatment Pond Radiologic Characterization

**Mt. Taylor Mine Site**
**San Mateo, NM**

**Prepared by:**
**AVM Environmental Services, Inc.**
**1717 Del Norte Blvd.**
**Grants, NM 87020**

**Prepared for:**
**Rio Grande Resource Corporation**
**PO Box 1150**
**Grants, NM 87020**

**June 4, 2024**

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Figure 3 Treatment Pond Characterization Area Estimated Depth of Contamination above the 6.8 pCi/g Ra-226 Investigation Level

## Appendices

Appendix A Surface and Subsurface Contamination Field Investigation Documentation (Soil Sample Log Forms, Field Soil Sample Ex-Situ Gamma Radiation Screening Forms)
Appendix B Concrete Structure Radiologic Investigation
Appendix C Radiologic Instrument Calibration and Operational Function Check and Collimated Detector Correlation Documentation
Appendix D Soil Sample COC and Laboratory Analytical Results Report

## 1.0 Introduction and Background

This report provides the results of the Treatment Pond Radiologic Characterization (TPRC) that was conducted at the Mt. Taylor Mine (Site) in Cibola County, near San Mateo, New Mexico. This TPRC was performed to check the status and estimate radiologic contamination exceeding the Site Radiation Cleanup Criteria (RCC) of 6.8 pCi/g Radium (Ra)-226 within six treatment ponds at the Site: Treatment Ponds 1, 4, 5, 6, 7 and 8. Any synthetic liners and previously identified radiologically impacted soils were removed from the treatment ponds during material removal efforts conducted in 2019, prior to this characterization. Additionally, various treatment pond concrete structures (hydraulic control structures) were left in place either intact or partially demolished, with concrete rumble remaining nearby most structures. The majority of the demolished concrete pieces were placed in piles south of the TPRC area. The TPRC area includes treatment pond dikes, bottoms, and concrete structures, as shown in the Figure 1. The methods and procedures used were consistent with the June 2020 Work Plan for Post-Mining Radiological Surveys of Permit Area and Impacted Lands (2020 Work Plan) and the applicable survey methods described in the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM, EPA 2000a). The RCC specified in the March 2016 *Joint Guidance for the Cleanup and Reclamation of Existing Uranium Mining Operations in New Mexico* (EMNRD, 2016) (2016 Guidance) by the Energy, Minerals & Natural Resources Department (EMNRD) and the New Mexico Environment Department (NMED) was used for the investigation level (IL). The Ra-226 cleanup criteria of 5.0 pCi/g above the background level in land averaged over 100 square meters in surface soil (top six inches) specified in the Joint Guidance is taken from the UMTRCA (40 CFR 192) regulation, which is based on an unrestricted land use exposure scenario. A 6.8 pCi/g Ra-226 IL (5.0 pCi/g plus 1.8 pCi/g background level) has been established for the Site.

The Site was an underground uranium mine located in Cibola County, near San Mateo, New Mexico. The mine was developed by Gulf Mineral Resources Company (Gulf) in the 1970s and ore production occurred from 1979 to 1982. Following transfer of the Site to Chevron Resources Company in 1985, the ore production resumed and continued until 1990. Rio Grande Resources (RGR) acquired the Site in 1991. In 1999 the Site entered standby status under Mine Permit C1002RE with EMNRD. On December 29, 2017, the permit changed to an active status, and on December 3, 2019, RGR notified MMD of intentions to begin the Site closeout/closure process. The following sections describe the strategy, methods and procedures that were used and the results of the TPRC conducted at the Site.

## 2.0 Previous Radiologic Characterizations

Surface gamma radiation surveys were performed periodically within operationally controlled areas of the Site to monitor changes in radiological conditions during a period of remedial excavations in the Mine Water Treatment Unit (MWTU) ponds, construction of the disposal cell and placement of contaminated mine materials, and gradual removal of ore from the ore stockpile. The most recent gamma survey prior to this characterization, conducted March 2020, showed elevated gamma radiation levels in certain operational areas within the Controlled Area boundaries, including areas within the treatment ponds. The gamma

survey results are summarized in the June 2020 Work Plan, and indicate surface soils in portions of treatment Ponds 4 through 8, and the entire Pond 1 area exceed the 6.8 pCi/g Ra-226 IL.

## 3.0 Objective of the Radiological Characterization

The Site is a former uranium mine, therefore the surface and subsurface soil is expected to be impacted by radionuclides associated with the uranium decay series, with Ra-226 being the primary Constituent of Concern (COC). The objective of this characterization is to evaluate Ra-226 contamination exceeding the Site IL of 6.8 pCi/g Ra-226 in surface and subsurface soils to facilitate volume estimates of radiologic impacted material within the TPRC area.

## 4.0 Field Investigation

Field investigations for this characterization were conducted consistent with the June 2020 Work Plan and were performed during the period of November 2, 2023 through April 29, 2024. The specified TPRC areas are shown in Figure 1. The field investigations included both static 0.5-inch thick lead collimated and uncollimated (bare) 2x2 sodium iodide (NaI) detector gamma radiologic survey measurements and Differential Global Positioning System (DGPS) based bare detector gamma scan surveys, along with ex-situ soil screening, soil sampling, and offsite vendor laboratory confirmatory sample analysis. Geo-located gamma scans were conducted to provide Ra-226 concentration level estimates in surface soil and to assist in determining data point (static gamma, soil sampling) locations to assess surface and subsurface radiologic contamination relative to the IL. Ex-situ gamma radiation soil screening was performed on soil samples collected during this TPRC to provide real-time information to estimate surface and subsurface contamination depths. Offsite vender laboratory soil sample analysis was performed to confirm contamination relative to the IL levels estimated by the field ex-situ gamma radiation soil screening.

### 4.1 Surface Gamma Radiation Scan and Static Survey

The instrument configuration for direct gamma radiation level measurements during this characterization consisted of lead collimated and bare 2x2 NaI scintillation detectors (Eberline SPA-3) for detection of gamma radiation, coupled to a scaler/rate meter (Ludlum 2221 or Ludlum 2241). This instrument configuration is used widely for this type of survey and is recommended by the MARSSIM. The scaler/rate meters were interfaced with a sub-meter accurate DGPS with surveying software and a data logger/controller for electronically recording the gamma radiation levels to the corresponding geo-location coordinates. The coordinate system used for this work was the State Plane Coordinate System (NAD83, New Mexico West, US Feet) system. Direct gamma radiation surveys using a NaI scintillation detector provide radiation levels in counts per unit time, generally obtained as counts per minute (cpm).

During this characterization, systematic gamma radiation scan surveys using bare 2x2 NaI detectors were performed at the Site to determine the level of Ra-226 in surface soil within the characterization areas.

Although bare detectors do not avoid lateral gamma radiation shine, bare detectors have a large field of view and provide a large scan coverage area for an efficient and conservative lateral extent of contamination assessment. To better characterize the surface soil and to assist in the selection of data point locations, the surface gamma scan survey was performed at a higher density, 30-feet transect spacing compared to the March 2020 scan density of about 60-ft transect spacing. Thirty feet spaced geo-projected transects for Treatment Ponds 4, 5, 6, 7 and 8 were digitally created using a mapping software and loaded on the field data logger/controller. A gamma scan survey was not conducted at Treatment Pond 1 since the March 2020 gamma scan showed uniformly elevated measurements over the entire area making the additional surface gamma scan with a bare detector unnecessary in selecting data point locations. Data point locations were selected in Treatment Pond 1 by selecting locations that would adequately characterize the elements of the treatment pond as well as the areal extent of the area, as shown in Figure 2. Additionally, three of the data point locations in Treatment Pond 1 were biasedly located in material removal excavations performed prior to this characterization. Based on a conservative field of view (FOV) of at least six feet diameter for a bare 2x2 NaI detector for Ra-226 gamma radiations, scanning transects spacing of 30 feet would provide at least a 20% scan coverage. The gamma scan survey was performed by scanning along these transects with a bare 2x2 NaI detector at 12 inches above the ground surface at a scan rate of about three feet per second, with a data collection time interval of two seconds.

The geo-located gamma scan data includes the gamma scan point ID, date and time, location coordinates, and bare detector gamma cpm. The scan data was exported from the data logger and the bare detector cpm were converted to equivalent Ra-226 estimate using the Site-specific correlation (Ra-226 pCi/g = 0.0005 x CPM)-7.3228 $R^2$ = 0.97) (2020 Work Plan). The scan data was mapped using mapping software, arranged in color coded ranges and then reviewed to identify areas that exceeded the IL. The color-coded range was structured to include the 6.8 pCi/g Ra-226 IL as shown in Figure 2. The characterization gamma scan survey included approximately 3,810 gamma scan data points within the TP characterization area. The gamma scan data was exported from the scan system data logger into an Excel file. The detector cpm was converted into equivalent estimated surface soil Ra-226 concentration in pCi/g using the Site-specific correlation for bare detectors as discussed in Section 4.5 of the 2020 Work Plan. A typical gamma scan data export table from the scan system data logger is shown in Table 1. Gamma scan survey data for this characterization are provided in an electronic file.

Thirty seven data point locations were selected within the Treatment Ponds 4, 5, 6, 7 and 8 characterization area based on surface gamma scan survey results and twelve data point locations were selected in the Treatment Pond 1 characterization area as described above, totaling in forty nine data point locations. One-minute static gamma radiation surveys were performed prior to collecting a soil sample at each data point location using a collimated 2x2 NaI detector. The survey data were recorded on Static Gamma Radiation Survey Forms, which are included in Appendix A. A Site-specific correlation for a 2x2 NaI 0.5-inch thick lead collimated detector was previously performed during the August 2023 Soil Radiologic Characterization. This correlation regression yielded an equation of Ra-226 = (cpm x 0.0016) – 8.41 with an acceptable $R^2$ value of 0.83. The collimated detector measurements were converted to soil Ra-226

concentrations using this correlation equation. The static gamma survey results are summarized in Table 2.

Treatment pond concrete structures located within the TPRC areas were surveyed by collecting a one minute collimated detector static gamma count on the intact structure walls. The static gamma survey was conducted with the collimated detector housing at contact with the concrete surface, which located the detector at 1.75 inches from the concrete surface. The results of the concrete surveys are included in Appendix B. In order to convert the collimated detector static survey results in cpm to the Ra-226 IL in pCi/g, the 2x2 NaI collimated detector was calibrated for the same survey geometry at the Department of Energy (DOE) Grants concrete calibration Pad. The calibration is included in Appendix C. The calibration indicates a level of 7,200 cpm for the 0.5 inch thick lead collimated detector at contact would be equivalent to the 6.8 pCi/g Ra-226 IL in concrete.

### 4.2 Soil Sampling and Ex-Situ Gamma Radiation Soil Screening

Soil sampling and on-Site ex-situ gamma radiation soil screening were performed from November 2, 2023, through April 29, 2024. These methods were used to estimate surface and subsurface soil Ra-226 contamination exceeding the IL at data point locations within the TPRC areas. The ex-situ gamma radiation soil screening was conducted to provide a real-time estimate of Ra-226 concentrations in soil samples. This method is more reliable than in-situ direct gamma radiation level measurements and allows for more certain real-time Ra-226 concentration assessments. The on-Site ex-situ soil screening method consists of selectively measuring the 609 KeV region gamma radiations of Bi-214, a decay product of Ra-226. A single channel analyzer (Ludlum L2221) integrated with a Ludlum 44-20 3x3 NaI scintillation detector was used to measure the 609 keV energy peak region of Bi-214. The soil sample was placed around the plastic lined detector in a heavily lead shielded counting chamber. The heavily shielded counting chamber lowers the system background counts, thus improving the system's minimum detectable concentration (MDC). A reference soil with the Ra-226 concentration of 6.6 pCi/g, comparable to the 6.8 pCi/g IL, was prepared and was used for soil screening during this characterization. The 6.6 pCi/g reference soil provides a conservative estimate of Ra-226 concentration in samples below the IL.

A total of 49 data point locations were selected for this TPRC, shown in Figure 2. Thirty seven data point locations were selected within the Treatment Pond 4, 5, 6, 7 and 8 characterization areas. The surface gamma scan indicated that no significant gamma shine was observed within these characterization areas. As a result, surface (0 to 6 inches) soil samples were not collected at the data points within this characterization area. The surface soil Ra-226 level was determined using the 0.5 inch thick collimated detector static gamma survey at these 37 data point locations. A one minute collimated detector static gamma survey provides a significantly higher certainty for a data point survey and the collimator mitigates any low level lateral gamma radiation shine from any nearby hot spots. A one minute collimated static gamma survey and both surface and subsurface soil samples were collected at the remaining twelve data point locations, which are all located within the Treatment Pond 1 characterization area.

Soil samples were collected from each of the 49 data point locations. The number and depth of the samples at each data point location varied depending upon location and soil screening results. At the 37 data points from the Treatment Pond 4, 5, 6, 7 and 8 characterization areas, a subsurface (6-12 inch) soil sample was collected, and ex-situ soil gamma screened. At five data point locations in this characterization area, TP-5B, TP-11, TP-15B, TP-16B and TP-21, a subsurface soil sample at a depth of 1-2 feet was collected and ex-situ soil screened since the 6-12 inch subsurface sample soil screening result was above the IL. At location TP-5B, an additional subsurface soil sample at a depth of 2-3 feet was collected since the 1-2 feet subsurface sample screening result was 6.0 pCi/g, near the IL. No additional subsurface soil samples were necessary at these locations. At each of the remaining 12 data points located in the Treatment Pond 1 characterization area, a surface and a subsurface (6 – 12") soil sample was collected, and ex-situ soil screened. At three data points located on the pond dike crests, TP-39, TP-41 and TP-46, the surface soil sample ex-situ soil screening results were above the IL. The 6-12 inch subsurface soil sample ex-situ soil screening results were above the IL in only one data point location, TP-36. The 1-2 feet subsurface soil sample ex-situ soil screening results at TP-36 was below the IL. No additional subsurface soils samples were necessary at these locations.

A backhoe was used to excavate a trench at each selected data point location for subsurface soil sample collection. The trenches were excavated in approximately 6 to 12 inches depth intervals. At each interval, a subsurface soil sample was collected from the base of the excavation for ex-situ soil screening. Stainless steel sampling trowels were used to collect all of the soil samples. The excavation continued until on-Site ex-situ soil screening indicated Ra-226 concentrations below the 6.8 pCi/g IL. The soil sample logs and the field soil screening forms are included in Appendix A. The soil ex-situ gamma screening data is summarized in Table 3, which includes Ra-226 concentrations of the samples relative to the 6.8 pCi/g IL.

Although the primary objective of the ex-situ gamma radiation soil screening was to determine the Ra-226 concentrations above or below the 6.8 pCi/g IL, Ra-226 concentrations were estimated in all soil samples collected and screened. A calibration/correlation of the ex-situ soil screening system was performed using a 6.6 pCi/g, a 25 pCi/g and a 50 pCi/g reference soil. This correlation is included in Appendix C. The estimated Ra-226 concentration of the subsurface soil samples determined using this correlation are included in Tables 3 and 4.

A total of nine, including one field quality assurance/quality check (QA/QC) duplicate, soil samples that were ex-situ soil screened on-Site were sent to an offsite vendor laboratory, Energy Laboratories, in Casper, WY. These soil samples were analyzed for Ra-226 using EPA Method 901.1 (modified for soil matrix) for the confirmation of the on-Site ex-situ soil screening results. The laboratory results report is included in Appendix D and are summarized in Table 3. As shown in the table, the estimated Ra-226 levels determined by the on-Site ex-situ soil screening are comparable with the laboratory Ra-226 results, specifically in regard to determining the Ra-226 levels above or below the IL.

### 4.3 Treatment Pond 1 Area Characterization Summary

In addition to subsurface soil samples, surface soil samples were collected at data points from within the Treatment Pond 1 characterization area to confirm the static gamma survey with a collimated detector, which indicated that the surface soil may not be elevated, as indicated by the 2020 bare detector surface soil gamma scan. As outlined in Tables 3 and 4, the soil screening results show that the surface and subsurface (6-12") soil Ra-226 levels are below the 6.8 pCi/g IL in all six samples located on the pond bottom in Treatment Pond 1. The surface and subsurface (6-12 inch) soil sample at location TP-35, which was collected from the base of a previously excavated area from the north dike, and the surface and subsurface (6-12 inch) soil sample at location TP-45, which was collected from the east dike crest, show Ra-226 levels below the 6.8 pCi/g IL. The ex-situ soil screening results show that samples collected from the crests of the dikes at four data point locations (TP-36, TP-39, TP-41 and TP- 46) the Ra-226 levels exceed the IL. Similar to TP-35, data point TP-41 was located at the base of a previous excavation. The subsurface soil (6-12 inch) Ra-226 levels are below the IL at all data point locations except for one location, TP-36. The screening results show the Ra-226 level at TP-36 in the 6-12 inch subsurface soil sample at 10.4 pCi/g, which is above the IL, and the 1-2 feet subsurface soil sample showed the Ra-226 level below the IL at 2.3 pCi/g. As shown in Figure 3, surface soil in the Treatment Pond 1 dikes exceeded the IL in some areas, but the subsurface soil is generally below the IL.

A one minute collimated detector static gamma survey was conducted on the concrete structure within the Treatment Pond 1 characterization area. The concrete structure was designated CS-10 and is located on the western dike inside slope. The gamma survey shows radiation cpm levels ranging from 9,408 to 25,471 cpm, above the 6.8 pCi/g Ra-226 IL equivalent of 7,200 cpm at all 7 survey points selected withing the concrete structure. Portions of the elevated gamma cpm levels may be due to apparent waste rock material near and surrounding the concrete structure, and from concrete surface staining from the historic retention of mine wastewater and sediments. A gamma radiation level of 90,000 cpm was observed in the bottom of the concrete sump, likely due to the remaining layer of mine waste sediments and soil. Further direct radiation surveys of the concrete structure in place may not be effective. Removal of the concrete structures and radiation surveys of the underlying soil and sampling and surveying of the concrete may provide a better understanding of the Ra-226 levels within the concrete structure.

### 4.4 Treatment Pond 4, 5, 6 and 7 Area Characterization Summary

Because lateral gamma radiation shine was not a significant concern at these ponds, the surface soil (0-6 inch) Ra-226 levels were determined by a collimated detector one minute gamma static survey. As shown in Table 2, Table 4, and Figure 2, the surface static gamma survey results show the surface soil (0-6 inch) Ra-226 level in Treatment Pond 4, 5, 6 and 7 pond bottoms are below the IL, except for areas that are down gradient of the concrete structures and at a few isolated areas of elevated gamma radiation levels, likely remnants from previous removal efforts. The elevated surface static gamma levels near the concrete structures appear to be due to contaminated sediment in the concrete structure sumps and from apparent

mine waste material around the structures. The soil along the north dike crest of Treatment Pond 4 appears to be generally below the IL. The surface soil along the east and west dike crests are generally above the IL. The subsurface soil along the east and west dike crests are generally below the IL, except for the 6-12 inch subsurface sample at TP-11. Ex-situ soil screening results from the 6-12 inch subsurface sample at TP-11 of 64.4 pCi/g is likely due to apparent mine waste rock visible in the area. The Ra-226 levels in the subsequent 1–2 feet subsurface soil sample at TP-11 is below the IL. The surface soil on the south dike crest of Treatment Pond 4 appears to be below the IL, except near the concrete structure. The soil on the west dike outside slopes and crests of Treatment Pond 5, 6 and 7 are generally below the IL, except near the concrete structures. The surface soil on the east dike crest of Treatment Pond 5 is above the IL at various isolated locations, shown in Figures 2 and 3.

One minute collimated detector static gamma surveys conducted at nine concrete structures, shown in Figure 1, located on the dike inside slopes and/or crests at Treatment Pond 4, 5, 6, and 7 show gamma radiation levels ranging from 5,500 cpm to 45,600 cpm. As stated previously, the IL equivalent cpm for the concrete survey is 7,200 cpm. Portions of the elevated gamma cpm levels may be due to apparent waste rock material near and surrounding the concrete structure, and from concrete surface staining from the historic retention of mine wastewater and sediments. Mine waste sediments were also observed inside all the concrete structure sumps, which showed elevated gamma survey readings of up to 31,000 cpm. The concrete structure static gamma survey forms are included in Appendix B. In general, the majority of the concrete comprising the structures are likely to be below the IL, but it will be difficult to assess by gamma radiation surveys as concrete surface staining from the retention of mine waste water and sediments and apparent waste rock material near and surrounding the concrete structure are still present. Further direct radiation surveys of the concrete structure in place may not be effective.

Removal of the concrete structures and radiation surveys of the underlying soil and sampling and surveying of the concrete may provide a better understanding of the Ra-226 levels within the concrete structure. Several random pieces of the demolished concrete structures were surveyed for gamma radiation. The demolished concrete structure pieces are piled in fairly low gamma shine area south of Treatment Pond 7. The results, included in Appendix B, show all pieces surveyed were below the 7200 cpm IL, which supports the assumption that the sediments and apparent waste rock material near and surrounding the concrete structures may be impacting the direct gamma survey of the in-place concrete structures.

### 4.5 Treatment Pond 8 Area Characterization Summary

As shown in Table 2, Table 4, Figure 2 and 3, the surface static gamma survey results show the surface soil (0-6 inch) Ra-226 level in the bottom of Treatment Pond 8 is below the IL, except in a small isolated area at data point TP-6, which is estimated by ex-situ soil screening at 9 pCi/g. The 6–12 inch subsurface soil sample at TP-6 showed Ra-226 level at 3.1 pCi/g, well below the IL. Surface soil Ra-226 levels in portions of the south and west dike slopes and crests are above the IL. Ra-226 in the subsurface soil at these locations are below the IL. Elevated surface gamma scans with a bare detector along the east dike crest and outside

slope appear to be mostly due to lateral gamma radiation shine from adjacent areas outside of the Treatment Pond 8 characterization area.

### 4.6 Borrow Area A Soil Piles

Two soil piles located in the East Borrow area were sampled to estimate Ra-226 levels relative to the IL. Soil in these piles apparently came from the mine water treatment ponds. Pile 1 contained shrub/wood debris and treatment pond waste residue. Pile 2 contained fine treatment pond waste residue along with pieces of synthetic liner. Gamma exposure rates were measured at several locations on each pile. Exposure rates on pile 1 ranged from 100 to 200 uR/hr, and ranged from 100 to 300 uR/hr on Pile 2. A five-point composite soil sample was collected from both the surface and from within Pile 1. A soil sample was not collected from Pile 2 because the gamma exposure rate measurements indicated Ra-226 levels significantly above the IL and the fine pond waste residue on the surface of the pile posed airborne radiation safety concerns and the spread of contamination in the area due to windy conditions. As shown in Table 3, ex-situ soil gamma screening of the samples from Pile 1 indicates Ra-226 levels significantly above the IL.

## 5.0 Soil Sampling and Analysis

Soil samples from the Treatment Pond areas collected for on-Site ex-situ gamma radiation soil screening were collected consistent with the 2020 Work Plan. Field QA/QC duplicate samples were split at a frequency of 10% of the total number of soil samples collected. A total of 67 surface and subsurface soil samples were collected during this characterization. Field sampling equipment used for soil sampling included: stainless steel scoops, bowls, and spoons that were decontaminated between sample locations. The soil sampling equipment decontamination was conducted by brushing off loose visible soil and wiped with clean towels. Excavator buckets were cleaned by removing any loose, visible soil. Any soils excavated from the test pits were returned to the test pit excavations from which the soil came. Personal protection equipment (PPE), such as gloves, were brushed off and scanned for residual contamination and were disposed of.

Surface and subsurface soil samples were analyzed by on-Site ex-situ gamma radiation soil screening (AVM SOP-4) to estimate Ra-226 concentrations. A completed Chain-of-Custody (COC) along with confirmatory soil samples were placed in labeled Ziploc bags, and packaged in a cooler with a sealed lid and shipped to Energy Laboratories, Inc for Ra-226 analysis. The soil samples were analyzed for Ra-226 with a reporting limit of 0.5 pCi/g, using EPA Method 901.1 (modified for soil matrix). The completed COCs are included with the analytical results reports in Appendix D.

## 6. 0 Quality Assurance and Quality Control Measures

QA/QC measures were implemented during this characterization to ensure that decisions were made based on data of acceptable quality. All radiologic survey instruments have been calibrated at least annually. Additionally, operational functions checks were performed on all radiologic instruments daily prior to use.

The calibration and function check documents are included in Appendix C. During this characterization, no instruments were found to be out of calibration or inoperable as indicated by the operational function checks. The instrument background measurements for bare 2x2 NaI detectors during daily operational function checks were less than 10,000 cpm as shown in Appendix C. The bare detector field of view (FOV) at 12 inches above the ground surface is conservatively assumed at an area of six feet diameter. The 2x2 NaI detector response factor is determined to be 0.0005 pCi/g/cpm from the linear regression for the Site-specific correlation included in Appendix C. Based on the above detector parameters, the Ra-226 minimum detectable concentrations (MDCs) for a scan survey at a scan speed of three feet per second, calculated using MARSSIM guidance, were less than 1.0 pCi/g, which is significantly below 50% of the 6.8 pCi/g IL. The instrument background measurements for the 0.5 inch thick lead collimated 2x2 NaI detectors during daily operational function checks were less than 3,200 cpm, as shown in Appendix C. The bare detector field of view (FOV) at 12 inches above the ground surface is conservatively assumed at an area of 1.5 feet diameter. The collimated 2x2 NaI detector response factor is determined to be 625 cpm/pCi/g from the linear regression for the Site-specific correlation included in Appendix C. Based on the above collimated detector parameters, the Ra-226 minimum detectable concentrations (MDCs) for a one minute static survey, calculated using MARSSIM guidance, was less than 0.5 pCi/g, which is significantly below 50% of the 6.8 pCi/g IL. The ex-situ soil gamma radiation screening system was calibrated prior to mobilization in the field and daily operational function checks were performed prior to use. The calibration and function check documentation are included in Appendix C. Based on the highest system background (blank) measurements from daily operational function checks and efficiency (pCi/g/cpm), the highest Ra-226 MDC for the screening system calculated was less than 1.0 pCi/g, significantly less than the 6.8 pCi/g IL. The MDCs during the supplemental characterization met the QA objective.

The QA/QC measures also included nine field QA/QC duplicate soil samples out of the 67 soil samples collected sent to the off-site vendor laboratory for analysis to confirm contamination relative to the IL levels estimated by the field ex-situ gamma radiation soil screening. The QA/QC duplicate vendor laboratory results are included in Table 3. All QA/QC sample results confirm Ra-226 concentration levels relative to the IL level determined by the field ex-situ gamma radiation soil screening. The Ra-226 concentration in QA/QC duplicate samples estimated by on-sit ex-situ gamma radiation soil screening are comparable to the off-site vendor laboratory analytical results.

# Tables

Table 1
Typical Gamma Scan Data Exported from the Scan System Data Logger

| ID | Time | Northing[1] (feet) | Easting[1] (feet) | MSL Elevation (feet) | CPM 2x2 Bare NaI Detector | Ra-226 pCi/g[2] | Zone_ID |
|---|---|---|---|---|---|---|---|
| 1 | 10/18/2023 8:12 | 1579902.54 | 2781775.10 | 7300 | 24761 | 5.06 | Treatment_Ponds |
| 2 | 10/18/2023 8:12 | 1579903.88 | 2781775.74 | 7300 | 23724 | 4.54 | Treatment_Ponds |
| 3 | 10/18/2023 8:12 | 1579904.17 | 2781778.02 | 7300 | 25456 | 5.41 | Treatment_Ponds |
| 4 | 10/18/2023 8:12 | 1579903.99 | 2781781.66 | 7300 | 25463 | 5.41 | Treatment_Ponds |
| 5 | 10/18/2023 8:12 | 1579904.34 | 2781785.64 | 7300 | 24786 | 5.07 | Treatment_Ponds |
| 6 | 10/18/2023 8:12 | 1579904.46 | 2781790.40 | 7300 | 23246 | 4.30 | Treatment_Ponds |
| 7 | 10/18/2023 8:12 | 1579903.97 | 2781795.09 | 7301 | 23822 | 4.59 | Treatment_Ponds |
| 8 | 10/18/2023 8:12 | 1579903.49 | 2781800.02 | 7300 | 25694 | 5.53 | Treatment_Ponds |
| 9 | 10/18/2023 8:12 | 1579904.14 | 2781805.18 | 7301 | 31410 | 8.39 | Treatment_Ponds |
| 10 | 10/18/2023 8:12 | 1579904.09 | 2781810.07 | 7301 | 28672 | 7.02 | Treatment_Ponds |
| 11 | 10/18/2023 8:12 | 1579904.27 | 2781814.71 | 7301 | 25935 | 5.65 | Treatment_Ponds |
| 12 | 10/18/2023 8:12 | 1579904.36 | 2781819.65 | 7301 | 26984 | 6.17 | Treatment_Ponds |
| 13 | 10/18/2023 8:12 | 1579904.09 | 2781821.94 | 7301 | 26902 | 6.13 | Treatment_Ponds |
| 14 | 10/18/2023 8:12 | 1579903.77 | 2781822.84 | 7301 | 28593 | 6.98 | Treatment_Ponds |
| 15 | 10/18/2023 8:12 | 1579903.22 | 2781827.06 | 7301 | 28036 | 6.70 | Treatment_Ponds |
| 16 | 10/18/2023 8:12 | 1579902.15 | 2781831.73 | 7302 | 27870 | 6.62 | Treatment_Ponds |
| 17 | 10/18/2023 8:12 | 1579902.11 | 2781836.90 | 7302 | 26062 | 5.71 | Treatment_Ponds |
| 18 | 10/18/2023 8:13 | 1579902.06 | 2781842.31 | 7302 | 27827 | 6.59 | Treatment_Ponds |
| 19 | 10/18/2023 8:13 | 1579903.05 | 2781848.05 | 7302 | 27534 | 6.45 | Treatment_Ponds |
| 20 | 10/18/2023 8:13 | 1579902.68 | 2781853.78 | 7302 | 25994 | 5.68 | Treatment_Ponds |
| 21 | 10/18/2023 8:13 | 1579903.18 | 2781859.71 | 7302 | 26539 | 5.95 | Treatment_Ponds |
| 22 | 10/18/2023 8:13 | 1579903.39 | 2781865.09 | 7302 | 28415 | 6.89 | Treatment_Ponds |
| 23 | 10/18/2023 8:13 | 1579903.06 | 2781874.06 | 7302 | 26264 | 5.81 | Treatment_Ponds |
| 24 | 10/18/2023 8:13 | 1579902.23 | 2781879.73 | 7303 | 23133 | 4.25 | Treatment_Ponds |
| 25 | 10/18/2023 8:13 | 1579903.30 | 2781885.83 | 7303 | 24734 | 5.05 | Treatment_Ponds |
| 26 | 10/18/2023 8:13 | 1579903.75 | 2781891.77 | 7303 | 22704 | 4.03 | Treatment_Ponds |
| 27 | 10/18/2023 8:13 | 1579903.75 | 2781897.38 | 7303 | 22324 | 3.84 | Treatment_Ponds |
| 28 | 10/18/2023 8:13 | 1579902.96 | 2781902.73 | 7303 | 20758 | 3.06 | Treatment_Ponds |
| 29 | 10/18/2023 8:13 | 1579899.92 | 2781907.85 | 7303 | 19594 | 2.48 | Treatment_Ponds |
| 30 | 10/18/2023 8:13 | 1579899.78 | 2781914.18 | 7304 | 20910 | 3.14 | Treatment_Ponds |
| 31 | 10/18/2023 8:13 | 1579900.82 | 2781919.94 | 7304 | 20171 | 2.77 | Treatment_Ponds |
| 32 | 10/18/2023 8:13 | 1579901.72 | 2781925.63 | 7304 | 22063 | 3.71 | Treatment_Ponds |
| 33 | 10/18/2023 8:13 | 1579901.53 | 2781931.45 | 7304 | 20831 | 3.10 | Treatment_Ponds |
| 34 | 10/18/2023 8:13 | 1579901.71 | 2781937.44 | 7305 | 22406 | 3.88 | Treatment_Ponds |
| 35 | 10/18/2023 8:13 | 1579904.08 | 2781942.73 | 7305 | 22237 | 3.80 | Treatment_Ponds |
| 36 | 10/18/2023 8:13 | 1579903.40 | 2781948.33 | 7305 | 21049 | 3.20 | Treatment_Ponds |
| 37 | 10/18/2023 8:13 | 1579903.70 | 2781954.27 | 7305 | 20684 | 3.02 | Treatment_Ponds |
| 38 | 10/18/2023 8:13 | 1579904.71 | 2781959.77 | 7306 | 19715 | 2.54 | Treatment_Ponds |
| 39 | 10/18/2023 8:13 | 1579904.25 | 2781965.50 | 7306 | 19402 | 2.38 | Treatment_Ponds |
| 40 | 10/18/2023 8:13 | 1579903.80 | 2781971.03 | 7306 | 19788 | 2.57 | Treatment_Ponds |

(1) projection: StatePlane NAD 1983 NM West - Feet

(2) Ra-226 pCi/g determined from surface soil gamma radiation scan using 2x2 NaI detector and Site-specific gamma radiation level (cpm) correlation

Table 2
Static Gamma Radiation Survey at Data Point/Soil Sample Locations

| Data Point ID | Treatment Pond ID | Survey Date | Data Point Coordinate NAD83 StatePlane NM West, Feet | | Static Gamma Radiation Survey Collimated (0.5" PB) 2x2 Detector | |
|---|---|---|---|---|---|---|
| | | | Northing | Easting | Static Gamma CPM | Surface Soil Static Gamma Estimated Ra-226 pCi/g |
| TP-1 | 8 | 11/13/2023 | 1581160 | 2782050 | 8154 | 4.6 |
| TP-2 | 8 | 11/13/2023 | 1581049 | 2782082 | 6452 | 1.9 |
| TP-3 | 8 | 11/13/2023 | 1581054 | 2782194 | 8391 | 5.0 |
| TP-4 | 8 | 11/13/2023 | 1581056 | 2781878 | 6148 | 1.4 |
| TP-5 | 8 | 11/13/2023 | 1581009 | 2781973 | 6414 | 1.9 |
| TP-5B | 8 | 11/13/2023 | 1580938 | 2781891 | 12872 | 12.2 |
| TP-6 | 8 | 11/13/2023 | 1580922 | 2782111 | 10909 | 9.0 |
| TP-7 | 8 | 11/13/2023 | 1580883 | 2782046 | 25660 | 32.6 |
| TP-8 | 4 | 11/13/2023 | 1580701 | 2781885 | 6271 | 1.6 |
| TP-9 | 4 | 11/13/2023 | 1580657 | 2781727 | 11168 | 9.5 |
| TP-10 | 4 | 11/13/2023 | 1580626 | 2781847 | 7220 | 3.1 |
| TP-11 | 4 | 11/13/2023 | 1580610 | 2781955 | 47231 | 67.2 |
| TP-12 | 4 | 11/13/2023 | 1580536 | 2781864 | 9564 | 6.9 |
| TP-13 | 4 | 11/13/2023 | 1580469 | 2782022 | 29197 | 38.3 |
| TP-14 | 4 | 11/13/2023 | 1580448 | 2781724 | 14340 | 14.5 |
| TP-15 | 4 | 11/13/2023 | 1580405 | 2781891 | 7949 | 4.3 |
| TP-15B | 4 | 11/13/2023 | 1580374 | 2781812 | 37940 | 52.3 |
| TP-16 | 4/5 | 11/2/2023 | 1580347 | 2781902 | 6253 | 1.6 |
| TP-16B | 5 | 11/2/2023 | 1580328 | 2781811 | 34845 | 47.3 |
| TP-17 | 5 | 11/2/2023 | 1580244 | 2781736 | 6229 | 1.6 |
| TP-18 | 5 | 11/2/2023 | 1580226 | 2782002 | 7005 | 2.8 |
| TP-19 | 5 | 11/2/2023 | 1580227 | 2782127 | 10742 | 8.8 |
| TP-20 | 5 | 11/2/2023 | 1580228 | 2781915 | 6205 | 1.5 |
| TP-21 | 5 | 11/2/2023 | 1580208 | 2781840 | 32143 | 43.0 |
| TP-22 | 5 | 11/2/2023 | 1580165 | 2781780 | 15930 | 17.1 |
| TP-23 | 5/6 | 11/1/2023 | 1580123 | 2781924 | 7359 | 3.4 |
| TP-24 | 6 | 11/1/2023 | 1580069 | 2781800 | 7873 | 4.2 |
| TP-25 | 6 | 11/1/2023 | 1580062 | 2782028 | 6629 | 2.2 |
| TP-26 | 6 | 11/1/2023 | 1580069 | 2781851 | 19833 | 23.3 |
| TP-27 | 6 | 11/1/2023 | 1580070 | 2781925 | 6839 | 2.5 |
| TP-28 | 6 | 11/2/2023 | 1580058 | 2781819 | 19305 | 22.5 |
| TP-29 | 6/7 | 11/1/2023 | 1580018 | 2781918 | 6952 | 2.7 |
| TP-30 | 7 | 11/1/2023 | 1579960 | 2781881 | 7672 | 3.9 |
| TP-31 | 7 | 11/1/2023 | 1579960 | 2781945 | 6195 | 1.5 |
| TP-32 | 7 | 11/1/2023 | 1579963 | 2781801 | 8654 | 5.4 |
| TP-33 | 7 | 11/1/2023 | 1579962 | 2782026 | 5955 | 1.1 |
| TP-34 | 7 | 11/1/2023 | 1579905 | 2781906 | 5895 | 1.0 |
| TP-35 | 1 | 4/15/2024 | 1580506 | 2782478 | 9284 | 6.4 |
| TP-36 | 1 | 4/15/2024 | 1580485 | 2782620 | 21880 | 26.6 |
| TP-37 | 1 | 4/15/2024 | 1580440 | 2782508 | 7677 | 3.9 |
| TP-38 | 1 | 4/15/2024 | 1580409 | 2782635 | 10030 | 7.6 |
| TP-39 | 1 | 4/15/2024 | 1580389 | 2782407 | 13401 | 13.0 |
| TP-40 | 1 | 4/15/2024 | 1580369 | 2782563 | 8484 | 5.2 |
| TP-41 | 1 | 4/15/2024 | 1580303 | 2782726 | 34091 | 46.1 |
| TP-42 | 1 | 4/15/2024 | 1580282 | 2782640 | 8149 | 4.6 |
| TP-43 | 1 | 4/15/2024 | 1580242 | 2782586 | 8081 | 4.5 |
| TP-44 | 1 | 4/15/2024 | 1580214 | 2782663 | 8627 | 5.4 |
| TP-45 | 1 | 4/15/2024 | 1580206 | 2782536 | 10022 | 7.6 |
| TP-46 | 1 | 4/15/2024 | 1580316 | 2782449 | 32407 | 43.4 |

# Table 3

Treatment Pond Characterization Area Soil Sample Field Ex-Situ Screening and Vendor Laboratory Results Summary

| Sample Data | | | | | | Field Soil Screening Data | | | | | | | Laboratory Data | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Sample Depth (ft) | Pond /Area | Sample Date | Sample Time | Description | Screen Date | Sample Weight grams | 609 (559-669) Kev Gross Counts CP5M | CPM | 6.6 pCi/g Ra-226 Reference Soil CPM | Soil Gamma Screening Estimated Ra-226 pCi/g | Soil IL (< or >) | Sample Sent to Lab | Ra-226 pCi/g | Error Estimate pCi/g | MDC pCi/g |
| TP-1 | 6"-12" | 8 | 11/13/2023 | 1130 | Light brown/white specks | 11/16/2023 | 3000 | 1481 | 296 | 488 | 2.7 | < | - | - | - | - |
| TP-2 | 6"-12" | 8 | 11/13/2023 | 1300 | Light brown sandy | 11/16/2023 | 3000 | 1227 | 245 | 488 | 2.0 | < | - | - | - | - |
| TP-3 | 6"-12" | 8 | 11/13/2023 | 1150 | Brown packed clay | 11/16/2023 | 3000 | 1242 | 248 | 488 | 2.0 | < | - | - | - | - |
| TP-4 | 6"-12" | 8 | 11/13/2023 | 1115 | Brown packed clay | 11/16/2023 | 3000 | 1410 | 282 | 488 | 2.5 | < | - | - | - | - |
| TP-5 | 6"-12" | 8 | 11/13/2023 | 1250 | Light brown sandy | 11/16/2023 | 3000 | 1102 | 220 | 488 | 1.6 | < | - | - | - | - |
| TP-5B | 6"-12" | 8 | 11/13/2023 | 1025 | Light grey/brown silty sand | 11/16/2023 | 3000 | 4353 | 871 | 488 | 10.7 | > | - | - | - | - |
| TP-5B | 1.5'-2.0' | 8 | 11/14/2024 | 915 | Light grey/brown silty sand | 11/16/2024 | 3000 | 2676 | 535 | 488 | 6.0 | ≈ | - | - | - | - |
| TP-5B | 2'-3' | 8 | 11/14/2023 | 920 | Rocky light grey silty | 11/16/2023 | 3000 | 1928 | 386 | 488 | 3.9 | < | - | - | - | - |
| TP-5B | 3'-3.5' | 8 | 11/14/2023 | 930 | Light brown silty | 11/16/2023 | 3000 | 1251 | 250 | 488 | 2.0 | < | - | - | - | - |
| TP-6 | 6"-12" | 8 | 11/13/2023 | 1315 | Brown silty sand w/ stones | 11/16/2023 | 3000 | 1643 | 329 | 488 | 3.1 | < | - | - | - | - |
| TP-7 | 6"-12" | 8 | 11/13/2023 | 1210 | Light brown silty/loam clay | 11/16/2023 | 3000 | 1478 | 296 | 488 | 2.7 | < | - | - | - | - |
| TP-8 | 6"-12" | 4 | 11/13/2023 | 1330 | Light brown packed silty clay | 11/16/2023 | 3000 | 1341 | 268 | 488 | 2.3 | < | - | - | - | - |
| TP-9 | 6"-12" | 4 | 11/14/2023 | 755 | Light brown packed silty clay | 11/16/2023 | 3000 | 1361 | 272 | 488 | 2.3 | < | - | - | - | - |
| TP-10 | 6"-12" | 4 | 11/14/2023 | 900 | Brown silty loam | 11/16/2023 | 3000 | 1153 | 231 | 488 | 1.8 | < | - | - | - | - |
| TP-11 | 6"-12" | 4 | 11/13/2023 | 1345 | Light brown/white specks | 11/16/2023 | 3000 | 23511 | 4702 | 488 | 64.4 | > | x | 61.5 | 1.4 | 0.7 |
| TP-11 | 1.5'-2' | 4 | 11/16/2023 | 1105 | Light brown packed silty clay | 11/16/2023 | 3000 | 1439 | 288 | 488 | 2.6 | < | x | 1.1 | 0.1 | 0.1 |
| TP-12 | 6"-12" | 4 | 11/14/2023 | 850 | Brown packed clay & silty | 11/16/2023 | 3000 | 1320 | 264 | 488 | 2.2 | < | - | - | - | - |
| TP-13 | 6"-12" | 4 | 11/13/2023 | 1405 | Light brown silty sand | 11/16/2023 | 3000 | 1389 | 278 | 488 | 2.4 | < | - | - | - | - |
| TP-14 | 6"-12" | 4 | 11/14/2023 | 810 | Light brown/white specks | 11/16/2023 | 3000 | 1388 | 278 | 488 | 2.4 | < | - | - | - | - |
| TP-15 | 6"-12" | 4 | 11/14/2023 | 835 | Light brown sandy | 11/16/2023 | 3000 | 1120 | 224 | 488 | 1.7 | < | - | - | - | - |
| TP-15B | 6"-12" | 4 | 11/14/2023 | 825 | Brown silty with cobble | 11/16/2023 | 3000 | 7551 | 1510 | 488 | 19.7 | > | x | 15.2 | 0.5 | 0.3 |
| TP-15B | 1'-1.5' | 4 | 11/16/2023 | 1135 | Light brown sandy | 11/16/2023 | 3000 | 1362 | 272 | 488 | 2.4 | < | x | 1.2 | 0.2 | 0.2 |
| TP-16 | 6"-12" | 4/5 | 11/7/2023 | 1225 | Brown silty clay | 11/8/2023 | 3000 | 1321 | 264 | 541 | 2.2 | < | - | - | - | - |
| TP-16B | 6"-12" | 5 | 11/7/2023 | 1048 | Brown hardpack silty | 11/8/2023 | 3000 | 3782 | 756 | 541 | 9.1 | > | - | - | - | - |
| TP-16B | 1'-1.5' | 5 | 11/16/2023 | 1150 | Brown hardpack silty clay | 11/16/2023 | 3000 | 1960 | 392 | 488 | 4.0 | < | - | - | - | - |
| TP-17 | 6"-12" | 5 | 11/2/2023 | 1135 | Light brown sandy/silty | 11/8/2023 | 3000 | 1373 | 275 | 541 | 2.4 | < | - | - | - | - |
| TP-18 | 6"-12" | 5 | 11/7/2023 | 1000 | Light brown sandy/silty | 11/8/2023 | 3000 | 1191 | 238 | 541 | 1.9 | < | - | - | - | - |
| TP-19 | 6"-12" | 5 | 11/2/2023 | 1340 | Light brown hardpack silty | 11/8/2023 | 3000 | 1463 | 293 | 541 | 2.6 | < | - | - | - | - |
| TP-20 | 6"-12" | 5 | 11/7/2023 | 1010 | Dark brown silty/clay | 11/8/2023 | 3000 | 1164 | 233 | 541 | 1.8 | < | - | - | - | - |
| TP-21 | 6"-12" | 5 | 11/7/2023 | 1025 | Brown silty clay | 11/8/2023 | 2716 | 8363 | 1673 | 541 | 22.0 | > | - | - | - | - |
| TP-21 | 1'-1.5' | 5 | 11/16/2023 | 1205 | Brown silty clay | 11/16/2023 | 3000 | 1440 | 288 | 488 | 2.6 | < | - | - | - | - |
| TP-22 | 6"-12" | 5 | 11/7/2023 | 1040 | Light brown sandy/silty | 11/8/2023 | 3000 | 1186 | 237 | 541 | 1.9 | < | - | - | - | - |
| TP-23 | 6"-12" | 5/6 | 11/2/2023 | 1330 | Brown silty loam, thin clay | 11/8/2023 | 3000 | 1314 | 263 | 541 | 2.2 | < | - | - | - | - |
| TP-24 | 6"-12" | 6 | 11/2/2023 | 1115 | Brown loamy clay | 11/8/2023 | 3000 | 1218 | 244 | 541 | 1.9 | < | - | - | - | - |
| TP-25 | 6"-12" | 6 | 11/2/2023 | 1310 | Light brown sandy | 11/8/2023 | 3000 | 1231 | 246 | 541 | 2.0 | < | - | - | - | - |
| TP-26 | 6"-12" | 6 | 11/7/2023 | 1210 | Brown silty packed, specks rock | 11/8/2023 | 3000 | 1213 | 243 | 541 | 1.9 | < | - | - | - | - |
| TP-27 | 6"-12" | 6 | 11/7/2023 | 1150 | Light brown sandy | 11/8/2023 | 3000 | 1053 | 211 | 541 | 1.5 | < | - | - | - | - |
| TP-28 | 6"-12" | 6 | 11/2/2023 | 1125 | Light brown sandy/silty | 11/8/2023 | 3000 | 1305 | 261 | 541 | 2.2 | < | - | - | - | - |

Table 3 (cont.)

Treatment Pond Characterization Area Soil Sample Field Ex-Situ Screening and Vendor Laboratory Results Summary

| Sample Data | | | | | | Field Soil Screening Data | | | | | | | Laboratory Data | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Sample Depth (ft) | Pond /Area | Sample Date | Sample Time | Description | Screen Date | Sample Weight grams | 609 (559-669) Kev Gross Counts CP5M | CPM | 6.6 pCi/g Ra-226 Reference Soil CPM | Soil Gamma Screening Estimated Ra-226 pCi/g | Soil IL (< or >) | Sample Sent to Lab | Ra-226 pCi/g | Error Estimate pCi/g | MDC pCi/g |
| TP-29 | 6"-12" | 6/7 | 11/7/2023 | 845 | Light brown sandy/silty | 11/8/2023 | 3000 | 1302 | 260 | 541 | 2.2 | < | - | - | - | - |
| TP-30 | 6"-12" | 7 | 11/7/2023 | 901 | Dark brown silty/clay | 11/8/2023 | 3000 | 1367 | 273 | 541 | 2.4 | < | - | - | - | - |
| TP-31 | 6"-12" | 7 | 11/7/2023 | 915 | Light brown sandy/silty | 11/8/2023 | 3000 | 1267 | 253 | 541 | 2.1 | < | - | - | - | - |
| TP-32 | 6"-12" | 7 | 11/2/2023 | 1103 | Brown loamy clay | 11/8/2023 | 3000 | 1278 | 256 | 541 | 2.1 | < | - | - | - | - |
| TP-33 | 6"-12" | 7 | 11/2/2023 | 1255 | Light brown sandy | 11/8/2023 | 3000 | 1419 | 284 | 541 | 2.5 | < | - | - | - | - |
| TP-34 | 6"-12" | 7 | 11/2/2023 | 1245 | Light brown sandy/silty | 11/8/2023 | 3000 | 1332 | 266 | 541 | 2.3 | < | - | - | - | - |
| TP-35 | 0-6" | 1 | 4/15/2024 | 950 | Light brown loamy/silty clay | 4/17/2024 | 3000 | 1774 | 355 | 494 | 3.5 | < | - | - | - | - |
| TP-35 | 6"-12" | 1 | 4/16/2024 | 1050 | Brown silty clay | 4/17/2024 | 3000 | 954 | 191 | 494 | 1.2 | < | - | - | - | - |
| TP-36 | 0-6" | 1 | 4/16/2024 | 840 | Light brown loamy/silty clay | 4/17/2024 | 3000 | 2684 | 537 | 494 | 6.1 | ≈ | - | - | - | - |
| TP-36 | 6"-12" | 1 | 4/16/2024 | 1100 | light brown silty clay w/ grey rocks | 4/17/2024 | 3000 | 4247 | 849 | 494 | 10.4 | > | x | 8.8 | 0.5 | 0.3 |
| TP-36 | 1'-2' | 1 | 4/17/2024 | 1120 | Light brown silty/sandy clay | 4/17/2024 | 3000 | 1352 | 270 | 494 | 2.3 | < | x | 0.7 | 0.2 | 0.2 |
| TP-37 | 0-6" | 1 | 4/16/2024 | 820 | Dark brown silty/sandy clay | 4/17/2024 | 3000 | 1145 | 229 | 494 | 1.7 | < | - | - | - | - |
| TP-37 | 6"-12" | 1 | 4/16/2024 | 1300 | Dark brown clay w/ small rock | 4/17/2024 | 3000 | 1153 | 231 | 494 | 1.8 | < | - | - | - | - |
| TP-38 | 0-6" | 1 | 4/16/2024 | 830 | Light brown loamy/silty clay | 4/17/2024 | 3000 | 2196 | 439 | 494 | 4.7 | < | - | - | - | - |
| TP-38 | 6"-12" | 1 | 4/16/2024 | 1215 | Brown silty/sandy clay w/ roots | 4/17/2024 | 3000 | 1067 | 213 | 494 | 1.5 | < | - | - | - | - |
| TP-39 | 0-6" | 1 | 4/16/2024 | 910 | Light brown loamy/silty clay | 4/17/2024 | 3000 | 4898 | 980 | 494 | 12.3 | > | - | - | - | - |
| TP-39 | 6"-12" | 1 | 4/16/2024 | 1035 | Brown silty clay w/ roots | 4/17/2024 | 3000 | 1505 | 301 | 494 | 2.8 | < | - | - | - | - |
| TP-40 | 0-6" | 1 | 4/15/2024 | 945 | Light brown loamy/silty clay | 4/17/2024 | 3000 | 1106 | 221 | 494 | 1.6 | < | - | - | - | - |
| TP-40 | 6"-12" | 1 | 4/16/2024 | 1250 | Light brown silty/sandy clay | 4/17/2024 | 3000 | 1140 | 228 | 494 | 1.7 | < | - | - | - | - |
| TP-41 | 0-6" | 1 | 4/16/2024 | 845 | Light brown loamy/silty clay | 4/17/2024 | 2800 | 12188 | 2612 | 494 | 35.1 | > | x | 43.5 | 1.1 | 0.5 |
| TP-41 | 6"-12" | 1 | 4/16/2024 | 1115 | Light brown silty clay | 4/17/2024 | 2700 | 1243 | 276 | 494 | 2.4 | < | x | 1.9 | 0.3 | 0.3 |
| TP-42 | 0-6" | 1 | 4/15/2024 | 930 | Light brown loamy/silty clay | 4/17/2024 | 2936 | 1171 | 239 | 494 | 1.9 | < | - | - | - | - |
| TP-42 | 6"-12" | 1 | 4/16/2024 | 1240 | Brown silty/sandy clay | 4/17/2024 | 3000 | 975 | 195 | 494 | 1.3 | < | - | - | - | - |
| TP-43 | 0-6" | 1 | 4/15/2024 | 940 | Light brown loamy/silty clay | 4/17/2024 | 3000 | 1165 | 233 | 494 | 1.8 | < | - | - | - | - |
| TP-43 | 6"-12" | 1 | 4/16/2024 | 1230 | light brown silty clay w/ roots | 4/17/2024 | 3000 | 1101 | 220 | 494 | 1.6 | < | - | - | - | - |
| TP-44 | 0-6" | 1 | 4/15/2024 | 915 | Light brown loamy/silty clay | 4/17/2024 | 3000 | 1224 | 245 | 494 | 2.0 | < | - | - | - | - |
| TP-44 | 6"-12" | 1 | 4/16/2024 | 1125 | Light brown loamy/silty clay | 4/17/2024 | 3000 | 1101 | 220 | 494 | 1.6 | < | - | - | - | - |
| TP-45 | 0-6" | 1 | 4/16/2024 | 850 | Light brown loamy/silty clay | 4/17/2024 | 2700 | 1558 | 346 | 494 | 3.4 | < | - | - | - | - |
| TP-45 | 6"-12" | 1 | 4/16/2024 | 1015 | Brown silty clay | 4/17/2024 | 3000 | 1109 | 222 | 494 | 1.6 | < | - | - | - | - |
| TP-46 | 0-6" | 1 | 4/16/2024 | 900 | Light brown loamy/silty clay w/ grey rock | 4/17/2024 | 3000 | 21504 | 4301 | 494 | 58.7 | > | - | - | - | - |
| TP-46 | 6"-12" | 1 | 4/16/2024 | 1025 | Dark brown silty/clay w/ small rocks | 4/17/2024 | 3000 | 1766 | 353 | 494 | 3.5 | < | x | 2.3 | 0.3 | 0.2 |
| EBP-1 | Surface | East Borrow | 4/30/2024 | 830 | Composite from surface of pile | 4/30/2024 | 3000 | 16930 | 3386 | 533 | 45.9 | > | - | - | - | - |
| EBP-1 | Internal | East Borrow | 4/30/2024 | 853 | Composite from various depths from inside pile | 4/30/2024 | 3000 | 14135 | 2827 | 533 | 38.1 | > | - | - | - | - |

Table 4
Treatment Pond Surface and Subsurface Soil Ra-226 Level Summary

| Data Point ID | Treatment Pond ID | Static Gamma Estimated Ra-226 pCi/g 0-6" (surface) Soil | Ex-Situ Soil Screening Estimated Ra-226 pCi/g | | | |
|---|---|---|---|---|---|---|
| | | | 0-6" Soil (surface) | 6"-12" Soil | 1'-2' Soil | 2'-3' Soil |
| TP-1 | 8 | 4.6 | - | 2.7 | - | - |
| TP-2 | 8 | 1.9 | - | 2.0 | - | - |
| TP-3 | 8 | 5.0 | - | 2.0 | - | - |
| TP-4 | 8 | 1.4 | - | 2.5 | - | - |
| TP-5 | 8 | 1.9 | - | 1.6 | - | - |
| TP-5B | 8 | 12.2 | - | 10.7 | 6.0 | 3.9 |
| TP-6 | 8 | 9.0 | - | 3.1 | - | - |
| TP-7 | 8 | 32.6 | - | 2.7 | - | - |
| TP-8 | 4 | 1.6 | - | 2.3 | - | - |
| TP-9 | 4 | 9.5 | - | 2.3 | - | - |
| TP-10 | 4 | 3.1 | - | 1.8 | - | - |
| TP-11 | 4 | 67.2 | - | 64.4 | 2.6 | - |
| TP-12 | 4 | 6.9 | - | 2.2 | - | - |
| TP-13 | 4 | 38.3 | - | 2.4 | - | - |
| TP-14 | 4 | 14.5 | - | 2.4 | - | - |
| TP-15 | 4 | 4.3 | - | 1.7 | - | - |
| TP-15B | 4 | 52.3 | - | 19.7 | 2.4 | - |
| TP-16 | 4/5 | 1.6 | - | 2.2 | - | - |
| TP-16B | 5 | 47.3 | - | 9.1 | 4.0 | - |
| TP-17 | 5 | 1.6 | - | 2.4 | - | - |
| TP-18 | 5 | 2.8 | - | 1.9 | - | - |
| TP-19 | 5 | 8.8 | - | 2.6 | - | - |
| TP-20 | 5 | 1.5 | - | 1.8 | - | - |
| TP-21 | 5 | 43.0 | - | 22 | 2.6 | - |
| TP-22 | 5 | 17.1 | - | 1.9 | - | - |
| TP-23 | 5/6 | 3.4 | - | 2.2 | - | - |
| TP-24 | 6 | 4.2 | - | 1.9 | - | - |
| TP-25 | 6 | 2.2 | - | 2 | - | - |
| TP-26 | 6 | 23.3 | - | 1.9 | - | - |
| TP-27 | 6 | 2.5 | - | 1.5 | - | - |
| TP-28 | 6 | 22.5 | - | 2.2 | - | - |
| TP-29 | 6/7 | 2.7 | - | 2.2 | - | - |
| TP-30 | 7 | 3.9 | - | 2.4 | - | - |
| TP-31 | 7 | 1.5 | - | 2.1 | - | - |
| TP-32 | 7 | 5.4 | - | 2.1 | - | - |
| TP-33 | 7 | 1.1 | - | 2.5 | - | - |
| TP-34 | 7 | 1.0 | - | 2.3 | - | - |
| TP-35 | 1 | 6.4 | 3.5 | 1.2 | - | - |
| TP-36 | 1 | 26.6 | 6.1 | 10.4 | 2.3 | - |
| TP-37 | 1 | 3.9 | 1.7 | 1.8 | - | - |
| TP-38 | 1 | 7.6 | 4.7 | 1.5 | - | - |
| TP-39 | 1 | 13.0 | 12.3 | 2.8 | - | - |
| TP-40 | 1 | 5.2 | 1.6 | 1.7 | - | - |
| TP-41 | 1 | 46.1 | 35.1 | 2.4 | - | - |
| TP-42 | 1 | 4.6 | 1.9 | 1.3 | - | - |
| TP-43 | 1 | 4.5 | 1.8 | 1.6 | - | - |
| TP-44 | 1 | 5.4 | 2.0 | 1.6 | - | - |
| TP-45 | 1 | 7.6 | 3.4 | 1.6 | - | - |
| TP-46 | 1 | 43.4 | 58.7 | 3.5 | - | - |

Note: Surface Soil Static Gamma Estimated pCi/g levels were estimated from .5" lead collimated detector static gamma measurements.

# Figures




Figure 1
Mt. Taylor Mine Site
Treatment Pond Characterization
Areas and Concrete Structure Locations

**Legend**

- Concrete Structure
- North Controlled Fence
- Treatment Pond Characterization Area

AVM Environmental Services, Inc.

TP-1
TP-2
TP-3
TP-4
TP-5
TP-5B
TP-6
TP-7
TP-8
TP-9
TP-10
TP-11
TP-12
TP-13
TP-14
TP-15
TP-15B
TP-16
TP-16B
TP-17
TP-18
TP-19
TP-20
TP-21
TP-22
TP-23
TP-24
TP-25
TP-26
TP-27
TP-28
TP-29
TP-30
TP-31
TP-32
TP-33
TP-34
TP-35
TP-36
TP-37
TP-38
TP-39
TP-40
TP-41
TP-42
TP-43
TP-44
TP-45
TP-46

0 50 100 200 300 Feet

N
W E
S

Environmental Services, Inc.

# Figure 2
# Mt. Taylor Mine Site
# Treatment Ponds Characterzation Area
# Data Point Locations and
# Gamma Survey Data

## Legend

**Estimated Ra-226**

- <1.8 pCi/g
- 1.9 - 6.8 pCi/g
- 6.9 - 10.0 pCi/g
- 10.1 - 20.0 pCi/g
- 20.1 - 30.0 pCi/g
- 30.1 - 40.0 pCi/g
- >40.1 pCi/g
- Data Point
- North Controlled Fence
- Treatment Pond Characterization Area

Note: Ra-226 pCi/g is determined from surface soil gamma radiation scan and static cpm using 2x2 NaI detector and Site specific gamma radiation level (cpm) correlation.

0 50 100 200 300 Feet

N
W E
S

AVM Environmental Services, Inc.

# Figure 3
# Mt. Taylor Mine Site
# Treatment Ponds Characterzation Area
# Estimated Depth of Contamination above the 6.8 pCi/g Ra-226 Investigation Level

**Legend**

- Treatment Pond Characterization Area
- Berm Profile above the Ra-226 6.8 pCi/g Investigation Level
- 6 Inch Contamination depth above the Ra-226 6.8 pCi/g Investigation Level
- 1 ft Contamination depth above the Ra-226 6.8 pCi/g Investigation Level
- 1.5 ft Contamination depth above the Ra-226 6.8 pCi/g Investigation Level
- Concrete Structure
- North Controlled Fence

# Appendices

| | |
|---|---|
| Appendix A | Surface and Subsurface Contamination Field Investigation Documentation (Soil Sample Log Forms, Field Soil Sample Ex-Situ Gamma Radiation Screening Forms) |
| Appendix B | Concrete Structure Radiologic Investigation |
| Appendix C | Radiologic Instrument Calibration and Operational Function Check and Collimated Detector Correlation Documentation |
| Appendix D | Soil Sample COC and Laboratory Analytical Results Report |

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**

**Static Gamma Radiation Survey Field Form**

Instrumentation : Scaler/Ratemeter L2221 S#290801, Detector SPA-3 #30

Instrument Calibration Date: 2-19-24, Instrument Daily Function Check Performed: ✓

2"x2" NaI Detector Collimated ✓ Yes or _____ No.

Survey Area/Unit Decsription Mt Taylor Mine Site Treatment Ponds

| Survey Date/Time | Survey Point ID/Description | Survey Point Coordinate | | Gamma Radiation Reading, CPM | Comments/Notes |
|---|---|---|---|---|---|
| | | Northing | Easting | | |
| 11-13-23 | TP-1 | 1581160.23 | 2782050.33 | 8154 | |
| 11-13-23 | TP-2 | 1581048.51 | 2782082.19 | 6452 | |
| 11-13-23 | TP-3 | 1581053.56 | 2782193.53 | 8391 | |
| 11-13-23 | TP-4 | 1581056.28 | 2781877.80 | 6148 | |
| 11-13-23 | TP-5 | 1581008.60 | 2781973.38 | 6414 | |
| 11-13-23 | TP-5B | 1580937.63 | 2781890.74 | 12872 | |
| 11-13-23 | TP-6 | 1580921.93 | 2782110.62 | 10909 | |
| 11-13-23 | TP-7 | 1580883.33 | 2782045.88 | 25660 | |
| 11-13-23 | TP-8 | 1580701.01 | 2781884.91 | 6271 | |
| 11-13-23 | TP-9 | 1580657.09 | 2781726.59 | 11168 | |
| 11-13-23 | TP-10 | 1580625.66 | 2781846.72 | 7220 | |
| 11-13-23 | TP-11 | 1580609.85 | 2781954.68 | 47231 | |
| 11-13-23 | TP-12 | 1580536.13 | 2781863.94 | 9564 | |
| 11-13-23 | TP-13 | 1580469.14 | 2782022.02 | 29197 | |
| 11-13-23 | TP-14 | 1580448.27 | 2781723.76 | 14340 | |
| 11-13-23 | TP-15 | 1580405.00 | 2781891.33 | 7949 | |
| 11-13-23 | TP-15B | 1580374.22 | 2781811.70 | 37940 | |
| 11-2-23 | TP-16 | 1580347.37 | 2781901.68 | 6253 | |
| 11-2-23 | TP-16B | 1580327.56 | 2781811.01 | 34845 | |
| 11-2-23 | TP-17 | 1580244.30 | 2781736.20 | 6229 | |
| 11-2-23 | TP-18 | 1580226.28 | 2782002.49 | 7005 | |
| 11-2-23 | TP-19 | 1580226.78 | 2782127.17 | 10742 | |
| 11-2-23 | TP-20 | 1580228.47 | 2781915.38 | 6205 | |
| 11-2-23 | TP-21 | 1580207.85 | 2781839.85 | 32143 | |
| 11-2-23 | TP-22 | 1580164.80 | 2781780.30 | 15930 | |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**

**Static Gamma Radiation Survey Field Form**

Instrumentation : Scaler/Ratemeter 2221 SN290801, Detector SPA-3 #30
Instrument Calibration Date: 2-19-24, Instrument Daily Function Check Performed: ✓
2"x2" NaI Detector Collimated ✓ Yes or ____ No.
Survey Area/Unit Decsription Mt. Taylor Mine Site Treatment Ponds

| Survey Date/Time | Survey Point ID/Description | Survey Point Coordinate | | Gamma Radiation Reading, CPM | Comments/Notes |
|---|---|---|---|---|---|
| | | Northing | Easting | | |
| 11-2-23 | TP-23 | 1580122.85 | 2781924.41 | 7359 | |
| 11-2-23 | TP-24 | 1580068.98 | 2781799.51 | 7873 | |
| 11-2-23 | TP-25 | 1580062.13 | 2782027.54 | 6629 | |
| 11-2-23 | TP-26 | 1580069.28 | 2781851.47 | 19833 | |
| 11-2-23 | TP-27 | 1580070.01 | 2781925.21 | 6839 | |
| 11-2-23 | TP-28 | 1580057.59 | 2781819.32 | 19305 | |
| 11-2-23 | TP-29 | 1580017.82 | 2781917.62 | 6952 | |
| 11-2-23 | TP-30 | 1579960.47 | 2781880.55 | 7672 | |
| 11-2-23 | TP-31 | 1579960.46 | 2781944.76 | 6195 | |
| 11-2-23 | TP-32 | 1579963.04 | 2781801.01 | 8654 | |
| 11-2-23 | TP-33 | 1579962.22 | 2782025.52 | 5955 | |
| 4-10-24 | TP-34 | 1579905.48 | 2781906.24 | 5895 | |
| 4-10-24 | TP-35 | 1580505.83 | 2782477.73 | 9284 | |
| 4-10-24 | TP-36 | 1580484.67 | 2782620.22 | 21880 | |
| 4-10-24 | TP-37 | 1580439.62 | 2782507.78 | 7677 | |
| 4-10-24 | TP-38 | 1580408.58 | 2782634.69 | 10030 | |
| 4-10-24 | TP-39 | 1580389.39 | 2782406.73 | 13401 | |
| 4-10-24 | TP-40 | 1580369.24 | 2782563.39 | 8484 | |
| 4-10-24 | TP-41 | 1580303.17 | 2782725.85 | 34091 | |
| 4-10-24 | TP-42 | 1580282.42 | 2782639.66 | 8149 | |
| 4-10-24 | TP-43 | 1580242.16 | 2782585.55 | 8081 | |
| 4-10-24 | TP-44 | 1580214.10 | 2782662.94 | 8627 | |
| 4-10-24 | TP-45 | 1580205.92 | 2782535.59 | 10022 | |
| 4-10-24 | TP-46 | 1580316.03 | 2782448.56 | 32407 | |
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Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| TP-32 | 11-2-23 @1103 | 6"-12" | Brown Clay/loamy | |
| TP-24 | 11-2-23 @1115 | 6"-12" | Brow Clay/loamy Roots | |
| TP-28 | 11-2-23 @1125 | 6"-12" | light brown Sandy/Silty Roots | |
| TP-17 | 11-2-23 @1135 | 6"-12" | light brown Sandy/silty Roots | |
| TP-34 | 11-2-23 @1245 | 6"-12" | light brown Sandy/silty Roots | |
| TP-33 | 11-2-23 @1255 | 6"-12" | light brown Sandy Roots | |
| TP-25 | 11-2-23 @1310 | 6"-12" | light brown Sandy Roots | |
| TP-23 | 11-2-23 @1330 | 6"-12" | Brown Silty loam - Small layer of Dark Clay | |
| TP-19 | 11-2-23 @1340 | 6"-12" | light brown hardpack silty Roots | |
| TP-29 | 11-7-23 @845 | 6"-12" | light brown Silty/Sandy Roots | |
| TP-30 | 11-7-23 @901 | 6"-12" | Dark Brown Clay & Silt Sandstone Refusal @ 28" | |
| TP-31 | 11-7-23 @915 | 6"-12" | light brown Silty Sand Sandstone Bed @16" | |
| TP-18 | 11-7-23 @1000 | 6"-12" | light brown silty Sand | |
| TP-20 | 11-7-23 @1010 | 6"-12" | Dark brown Silty/Sand & Clay | |
| TP-21 | 11-7-23 @1025 | 6"-12" | Brown Silty Clay | |

**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| TP-22 | 11-7-23 @1040 | 6"-12" | light Brown Silty Sand | |
| TP-16B | 11-7-23 @1048 | 6"-12" | Brown hardpack Silty | |
| TP-27 | 11-7-23 @1150 | 6"-12" | light brown Sandy sandstone @1.4' | |
| TP-26 | 11-7-23 @1210 | 6"-12" | Brown Silty/Rock speckled w/white Soil | |
| TP-16 | 11-7-23 @1225 | 6"-12" | Brown Clay Silty Hard Rock | |
| TP-5b | 11-13-23 @1025 | 6"-12" | Light Grey/brown silty Sand gravel | |
| TP-4 | 11-13-23 @1115 | 6"-12" | Brown Packed Clay | |
| TP-1 | 11-13-23 @1130 | 6"-12" | light brown/grey-white limestone | plastic debris |
| TP-3 | 11-13-23 @1150 | 6"-12" | Brown Packed Clay | |
| TP-7 | 11-13-23 @1210 | 6"-12" | light brown Silty/loamy Clay | |
| TP-5 | 11-13-23 @1250 | 6"-12" | light brown Sandy | |
| TP-2 | 11-13-23 @1300 | 6"-12" | light brown Sandy | |
| TP-6 | 11-13-23 @1315 | 6"-12" | brown Silty Sand w/stones | |
| TP-8 | 11-13-23 @1330 | 6"-12" | light brown Packed Silt Clay | |
| TP-11 | 11-13-23 @1345 | 6"-12" | light brown/white Silty | |

**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| TP-13 | 11-13-23 @1405 | 6"-12" | light brown Silty Sand | |
| TP-9 | 11-14-23 @755 | 6"-12" | light brown Packed silty Clay | |
| TP-14 | 11-14-23 @810 | 6"-12" | light brown Packed white specks 1" Rock | |
| TP-15B | 11-14-23 @825 | 6"-12" | Brown silty w/ cobble | |
| TP-15 | 11-14-23 @835 | 6"-12" | light brown Sandy | |
| TP-12 | 11-14-23 @850 | 6"-12" | light brown packed silty Dark brown Clay | |
| TP-10 | 11-14-23 @900 | 6"-12" | Brown Silty loamy moist | |
| TP-5B | 11-14-23 @920 | 2'-3.0' | Grey Rocky | |
| TP-5B | 11-14-23 @930 | 3'-3.5' | light brown Silty | |
| TP-11 | 11-16-23 @1105 | 1.5'-2' | light brown Packed Clay | |
| TP-11 | 11-16-23 @1112 | 2'-2.5' | light brown Packed Clay | |
| TP-15B | 11-16-23 @1135 | 1'-1.5' | light brown Sandy | |
| TP-16B | 11-16-23 @1150 | 1'-1.5' | brown Hard pack Clay | |
| TP-21 | 11-16-23 @1205 | 1'-1.5' | brown Silty Clay | |
| | | | | |

**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| TP-44 | 4-15-24 915 | 0-6" | light brown loam/silt/clay | |
| TP-42 | 4-15-24 930 | 0-6" | " | |
| TP-43 | 4-15-24 940 | 0-6" | " | |
| TP-40 | 4-15-24 945 | 0-6" | " | |
| TP-35 | 4-15-24 950 | 0-6" | " | |
| TP-37 | 4-16-24 820 | 0-6" | Dark brown / Sandy / silty clay | |
| TP-38 | 4-16-24 830 | 0-6" | light brown loam/silt clay | |
| TP-36 | 4-16 24 840 | 0-6" | " | |
| TP-41 | 4-16-24 845 | 0-6" | " | |
| TP-45 | 4-16-24 850 | 0-6" | " | |
| TP-46 | 4-16-24 900 | 0-6" | " Slight grey. | |
| TP-~~4~~VP39 | 4-16 24 910 | 0-6" | " | |
| TP-45 | 4-16-24 1015 | 6"-12" | Brown silty clay | |
| TP-46 | 4-16 24 1025 | 6"-12" | Dark brown Silty clay w/ Rocks | |
| TP-39 | 4-16 24 1035 | 6"-12" | Brown silty clay Roots | |

**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| TP-35 | 4-16-24 1050 | 6"-12" | Brown Silt, Clay | |
| TP-36 | 4-16-24 1100 | 6"-12" | light brown Silty Clay hardpack Grey Rocks | |
| TP-41 | 4-16-24 1115 | 6"-12" | light brown Silty Clay | |
| TP-44 | 4-16-24 1125 | 6"-12" | light brown loamy/silty Clay | |
| TP-38 | 4-16-24 1215 | 6"-12" | Brown silty/Sandy Clay Roots | |
| TP-43 | 4-16-24 1230 | 6"-12" | light brown silty/sand clay Roots | |
| TP-42 | 4-16-24 1240 | 6"-12" | Brown Silty/Sand Clay | |
| TP-40 | 4-16-24 1250 | 6"-12" | light brown Silty Sand Clay | |
| TP-37 | 4-16-24 1300 | 6"-12" | Dark Brown Clay w Stones 3/4" | |
| TP-36 | 4-17-24 1120 | 1'-2' | light brown Sandy-Silty Clay hard rock | |
| TP-36 | 4-17-24 1130 | 2'-3' | " " Not hard rock | |
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**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| EBP-1 Surface | 4-30-24 830 | 0-6" | Composite Sample from surface of pile | grey material present |
| EBP-1 Internal | 4-30-24 853 | Various | Composite Sample from various depths inside of pile | " |
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**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector 44-20 S# 295573
Instrument Calibration Date: 5-10-23, Instrument Function Check Performed: Y
Survey Area/Unit Decsription Mt. Taylor Mine Site

Area exposure rate: 10-12 uR/hr

| Date | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 11-8-23 | Blank | - | 314 | | 63 | | |
| 11-8-23 | 66 pCi/g Ra-226 Ref Soil | 3000 | 2707 | | 541 | | |
| 11-8-23 | TP-32 6"-12" 11-2-23 @1103 | 3000 | 1278 | | 256 | | |
| 11-8-23 | TP-24 6"-12" 11-2-23 @1115 | 3000 | 1218 | | 244 | | |
| 11-8-23 | TP-28 6"-12" 11-2-23 @1125 | 3000 | 1305 | | 261 | | |
| 11-8-23 | TP-17 6"-12" 11-2-23 @1135 | 3000 | 1373 | | 275 | | |
| 11-8-23 | TP-34 6"-12" 11-2-23 @1245 | 3000 | 1332 | | 266 | | |
| 11-8-23 | TP-33 6"-12" 11-2-23 @1255 | 3000 | 1419 | | 284 | | |
| 11-8-23 | TP-25 6"-12" 11-2-23 @1310 | 3000 | 1291 | | 258 | | |
| 11-8-23 | TP-23 6"-12" 11-2-23 @1330 | 3000 | 1314 | | 263 | | |
| 11-8-23 | TP-19 6"-12" 11-2-23 @1340 | 3000 | 1463 | | 293 | | QA/QC 5 min: 1423 |
| 11-8-23 | TP-29 6"-12" 11-7-23 @845 | 3000 | 1302 | | 260 | | |
| 11-8-23 | TP-30 6"-12" 11-7-23 @901 | 3000 | 1367 | | 273 | | |
| 11-8-23 | TP-31 6"-12" 11-7-23 @915 | 3000 | 1267 | | 253 | | |
| 11-8-23 | TP-18 6"-12" 11-7-23 @1000 | 3000 | 1191 | | 238 | | |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 SN 68782, Detector 44-20 SN 295573
Instrument Calibration Date: 5-10-23, Instrument Function Check Performed: Y
Survey Area/Unit Decsription Mt. Taylor Mine Site

Area exposure rate: 10-12 uR/hr

| Date | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 11-8-23 | TP-20 6"-12" 11-7-23 @ 1010 | 3000 | 1164 | | 233 | | |
| 11-8-23 | TP-21 6"-12" 11-7-23 @ 1025 | 2716 | 7571 | 8363 | 1673 | | |
| 11-8-23 | TP-22 6"-12" 11-7-23 @ 1040 | 3000 | 1186 | | 237 | | |
| 11-8-23 | TP-16B 6"-12" 11-7-23 @ 1048 | 3000 | 3782 | | 756 | | |
| 11-8-23 | TP-27 6"-12" 11-7-23 @ 1150 | 3000 | 1053 | | 211 | | QA/QC cpsmin = 1052 |
| 11-8-23 | TP-26 6"-12" 11-7-23 @ 1210 | 3000 | 1213 | | 243 | | |
| 11-8-23 | TP-16 6"-12" 11-7-23 @ 1225 | 3000 | 1321 | | 264 | | |
| 11-16-23 | Blank | - | 335 | | 67 | | |
| ~~11-16-23~~ | ~~6.6 pCi/g Ref Soil~~ | ~~3000~~ | ~~335~~ | | ~~67~~ | | |
| 11-16-23 | 6.6 pCi/g Ref Soil | 3000 | 2479 | | 488 | | |
| 11-16-23 | TP-5B 6"-12" 11-13-23 @ 1025 | 3000 | 4353 | | 871 | | |
| 11-16-23 | TP-4 6"-12" 11-13-23 @ 1115 | 3000 | 1410 | | 282 | | |
| 11-16-23 | TP-1 6"-12" 11-13-23 @ 1130 | 3000 | 1481 | | 296 | | |
| 11-16-23 | TP-3 6"-12" 11-13-23 @ 1150 | 3000 | 1242 | | 248 | | |
| 11-16-23 | TP-7 6"-12" 11-13-23 @ 1210 | 3000 | 1478 | | 296 | | |

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Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector 44-20 S# 295523
Instrument Calibration Date: 5-10-23, Instrument Function Check Performed: Y
Survey Area/Unit Decsription Mt. Taylor Mine Site

Area exposure rate: 10-12 uR/hr

| Date | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CPSM | Weight Corrected CPSM | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 11-16-23 | TP-5 6"-12" 11-13-23 @1250 | 3000 | 1102 | | 220 | | |
| 11-16-23 | TP-2 6"-12" 11-13-23 @1300 | 3000 | 1227 | | 245 | | |
| 11-16-23 | TP-6 6"-12" 11-13-23 @1315 | 3000 | 1643 | | 329 | | |
| 11-16-23 | TP-8 6"-12" 11-13-23 @1330 | 3000 | 1341 | | 268 | | |
| 11-16 23 | TP-11 6"-12" 11-13-23 @1345 | 3000 | 23511 | | 4702 | | avac CPSM: 23785 |
| 11-16-23 | TP-13 6"-12" 11-13-23 @1405 | 3000 | 1389 | | 278 | | |
| 11-16 23 | TP-9 6"-12" 11-13-23 @ ~~810~~ 755 | 3000 | 1361 | | 272 | | |
| 11-16-23 | TP-14 6"-12" 11-14-23 @ 810 | 3000 | 1388 | | 278 | | |
| 11-16-23 | TP-15B 6"-12" 11-14-23 @ 825 | 3000 | 7551 | | 1510 | | |
| 11-16-23 | TP-15 6"-12" 11-14-23 @835 | 3000 | 1120 | | 224 | | |
| 11-16-23 | TP-12 6"-12" 11-14-23 @ 850 | 3000 | 1320 | | 264 | | |
| 11-16-23 | TP-10 6"-12" 11-14-23 @ 900 | 3000 | 1153 | | 231 | | |
| 11-16-23 | TP-5B 2'-3' 11-14-23 @ 920 | 3000 | 1928 | | 386 | | |
| 11-16-23 | TP-5B 3'-3.5' 11-14-23 @930 | 3000 | 1251 | | 250 | | |
| 11-16-23 | TP-11 1.5'-2' 11-16-23 @1105 | 3000 | 1439 | | 288 | | |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 S# 68782, Detector 44-20 S# 295573
Instrument Calibration Date: 5-10-23, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription Mt. Taylor Mine Site

Area exposure rate: 10-12

| Date | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 11-16-23 | TP-15B 1'-1.5' 11-16-23 @1135 | 3000 | 1362 | | 272 | | |
| 11-16 23 | TP-16B 1'-1.5' 11-16 23 @1150 | 3000 | 1960 | | 392 | | |
| 11-16-23 | TP-21 1'-1.5' 11-16-23 @1205 | 3000 | 1440 | | 288 | | |
| 11-16-23 | TP-5B 1.5'-2.0' 11-14-23 @915 | 3000 | 2676 | | 535 | | |
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Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 S# 63782, Detector 44-20 S# 295573
Instrument Calibration Date: 5-10-23, Instrument Function Check Performed: Y
Survey Area/Unit Decsription Mt. Taylor mine site

Area exposure rate: 10-12

| Date | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 4-17-24 | Blank | | 310 | | 62 | | |
| 4-17-24 | 6.6 pCi/g Ra-226 Ref Soil | 3000 | 2468 | | 494 | | |
| 4-17-24 | TP-45 6"-12" 4-16-24 @ 1015 | 3000 | 1109 | | 222 | | |
| 4-17-24 | TP-46 6"-12" 4-16-24 @ 1025 | 3000 | 1766 | | 353 | | |
| 4-17-24 | TP-39 6"-12" 4-16-24 @ 1035 | 3000 | 1505 | | 301 | | |
| 4-17-24 | TP-36 6"-12" 4-16-24 @ 1100 | 3000 | 4247 | | 849 | | |
| 4-17-24 | TP-41 6"-12" 4-16-24 @ 1115 | 2700 | 1243 | 1381 | 276 | | |
| 4-17-24 | TP-44 6"-12" 4-16-24 @ 1125 | 3000 | 1101 | | 220 | | |
| 4-17-24 | TP-38 6"-12" 4-16-24 @ 1215 | 3000 | 1067 | | 213 | | |
| 4-17-24 | TP-42 6"-12" 4-16-24 @ 1240 | 3000 | 975 | | 195 | | |
| 4-17-24 | TP-40 6"-12" 4-16-24 @ 1250 | 3000 | 1140 | | 228 | | |
| 4-17-24 | TP-37 6"-12" 4-16-24 @ 1300 | 3000 | 1153 | | 231 | | QA/QC CP5M: 1101 |
| 4-17-24 | TP-35 6"-12" 4-16-24 @ 1050 | 3000 | 954 | | 191 | | |
| 4-17-24 | TP-43 6"-12" 4-16-24 @ 1230 | 3000 | 1101 | | 220 | | |
| 4-17-24 | TP-44 0-6" 4-15-24 @ 915 | 3000 | 1224 | | 245 | | |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter Ludlum 2221 S#68782, Detector 44-20 S# 295573
Instrument Calibration Date: 5-10-23, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription Mt. Taylor mine Site

Area exposure rate: 10-12

| Date | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 4-17-24 | TP-42 0-6" 4-15-24 @ 930 | 2936 | 1171 | 1197 | 239 | | |
| 4-17-24 | TP-43 0-6" 4-15-24 @ 940 | 3000 | 1165 | | 233 | | |
| 4-17-24 | TP-40 0-6" 4-15-24 @ 945 | 3000 | 1106 | | 221 | | |
| 4-17-24 | TP-35 0-6" 4-15-24 @ 950 | 3000 | 1774 | | 355 | | |
| 4-17-24 | TP-37 0-6" 4-16-24 @ 820 | 3000 | 1145 | | 229 | | |
| 4-17-24 | TP-38 0-6" 4-16-24 @ 830 | 3000 | 2196 | | 439 | | |
| 4-17-24 | TP-36 0-6" 4-16-24 @ 840 | 3000 | 2684 | | 537 | | QA/QC CP5M: 2673 |
| 4-17-24 | TP-41 0-6" 4-16-24 @ 845 | 2800 | 12188 | 13059 | 2612 | | |
| 4-17-24 | TP-45 0-6" 4-16-24 @ 850 | 2700 | 1558 | 1731 | 346 | | |
| 4-17-24 | TP-46 0-6" 4-16-24 @ 900 | 3000 | 21504 | | 4301 | | |
| 4-17-24 | TP-39 0-6" 4-16-24 @ 910 | 3000 | 4898 | | 980 | | |
| 4-17-24 | TP-36 1'-2' 4-17-24 @ 1120 | 3000 | 1352 | | 270 | | |
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Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter 12221 S#68782, Detector 44-20 S#295573
Instrument Calibration Date: 5-10-23, Instrument Function Check Performed: Y
Survey Area/Unit Decsription Mt. Taylor Mine Site

Area exposure rate: 10-12 uR/hr.

| Date | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 4-30-24 | Blank | — | 327 | | 65 | | |
| 4-30-24 | 6.6 pC/g Ra-226 | 3000 | 2663 | | 533 | | |
| 4-30-24 | EBP-1 Surface 4-30-24 @830 | 3000 | 16930 | | 3386 | | |
| 4-30-24 | EBP-1 Internal 4-30-24 @853 | 3000 | 14135 | | 2827 | | |
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Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Concrete Structures**

Instrumentation : Scaler/Ratemeter L2221 S#290801, Detector SPA-3 #30

Instrument Calibration Date: 2-19-24, Instrument Daily Function Check Performed: ✓

2"x2" NaI Detector Collimated ✓ Yes or ____ No.

Survey Area/Unit Decsription Treatment Road 4/5 CS-1 Ra-226 6.8pCi/g ILT 7200

| Survey Date/Time | Survey Area ID/Description | Gamma Radiation Reading CPM | Comments/Notes |
|---|---|---|---|
| 4-22-24 | CS-1 East inside wall | 7970 | |
| " | CS-1 South East wall | 30312 | |
| " | CS-1 West inside wall | 9022 | |
| " | CS-1 South west wall | 13633 | |
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Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Concrete Structures**

Instrumentation : Scaler/Ratemeter L2221 S#290801 Detector SPA-3 #30

Instrument Calibration Date: 2-19-24 Instrument Daily Function Check Performed: ✓

2"x2" NaI Detector Collimated ✓ Yes or ____ No.

Survey Area/Unit Description Treatment Pond 5 CS-2 Ra-226 6.8 pCi/L ≈ 7200

| Survey Date/Time | Survey Area ID/Description | Gamma Radiation Reading CPM | Comments/Notes |
|---|---|---|---|
| 4-22-24 | CS-2 ~~West~~ North wall | 10559 | |
| " | CS-2 West wall | 11509 | |
| " | CS-2 West Wall Divider | 12688 | |
| " | CS-2 West wall | 7355 | |
| " | CS-2 South wall | 8901 | |
| " | CS-2 base North | 17024 | Sediments |
| " | CS-2 base South | 18844 | |
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Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Concrete Structures**

Instrumentation : Scaler/Ratemeter L2221 S#290801, Detector SPA-3 #30

Instrument Calibration Date: 2-19-24, Instrument Daily Function Check Performed: ✓

2"x2" NaI Detector Collimated ✓ Yes or ____ No.

Survey Area/Unit Decsription Treatment Pond 6 CS-3 Ra-226 6.8 pCi/g 1L = 7200

| Survey Date/Time | Survey Area ID/Description | Gamma Radiation Reading CPM | Comments/Notes |
|---|---|---|---|
| 4-22-24 | CS-3 South wall | 13081 | |
| " | CS-3 South base | 14425 | |
| " | CS-3 North base | 34721 | Elevated gamma readings around Structure 2 103000 |
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Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Concrete Structures**

Instrumentation : Scaler/Ratemeter L2221 S#290801, Detector SPA-3 #30

Instrument Calibration Date: 2-19-24, Instrument Daily Function Check Performed: ✓

2"x2" NaI Detector Collimated ✓ Yes or ____ No.

Survey Area/Unit Decsription Treatment Pond to CS-4 Ra-226 6.8 pCi/g 12 ≈ 7200

| Survey Date/Time | Survey Area ID/Description | Gamma Radiation Reading CPM | Comments/Notes |
|---|---|---|---|
| 4-22-24 | CS-4 North upper box top | 7155 | |
| " | CS-4 East upper box top | 6952 | |
| " | CS-4 South upper box top | 6938 | |
| " | CS-4 West upper box top | 10395 | |
| " | CS-4 North lower box Top | 8988 | |
| " | CS-4 west lower box top | 15543 | |
| " | CS-4 South lower box top | 9062 | |
| " | CS-4 North lower box wall | 26459 | |
| " | CS-4 West lower box wall | 39452 | |
| " | CS-4 South lower box wall | 39466 | |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Concrete Structures**

Instrumentation : Scaler/Ratemeter L2221 S#290801, Detector SPA-3 #30

Instrument Calibration Date: 2-19-24, Instrument Daily Function Check Performed: ✓

2"x2" NaI Detector Collimated ✓ Yes or ____ No.

Survey Area/Unit Decsription Treatment Pond 6 CS-4 Ra-226 6.8 pCi/gIL = 7200

| Survey Date/Time | Survey Area ID/Description | Gamma Radiation Reading CPM | Comments/Notes |
|---|---|---|---|
| 4-22-24 | CS-4 East lower box wall | 23780 | |
| 11 | CS-4 Lower box base | 14800 | |
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Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Concrete Structures**

Instrumentation : Scaler/Ratemeter 12221 S#290801, Detector SPA-3 #30

Instrument Calibration Date: 2-19-24, Instrument Daily Function Check Performed: ✓

2"x2" NaI Detector Collimated ✓ Yes or ____ No.

Survey Area/Unit Decsription Treatment Pond 6 CS-5 Ra-226 6.8 pCi/g 1L ≈ 7200

| Survey Date/Time | Survey Area ID/Description | Gamma Radiation Reading CPM | Comments/Notes |
|---|---|---|---|
| 4-22-24 | CS-5 South upper box top | 6281 | |
| " | CS-5 North upper box top | 5938 | |
| " | CS-5 East lower box top | 6477 | |
| " | CS-5 West lower box top | 6762 | |
| " | CS-5 North lower box top | 7119 | |
| " | CS-5 North lower box inside wall | 6806 | |
| " | CS-5 East lower box inside wall | 6426 | |
| " | CS-5 South lower box inside wall | 6122 | |
| " | CS-5 West lower box inside wall | 7241 | |
| | | | |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Concrete Structures**

Instrumentation : Scaler/Ratemeter L2221 SN290801, Detector SPA-3 #30

Instrument Calibration Date: 2-19-24, Instrument Daily Function Check Performed: ✓

2"x2" NaI Detector Collimated ✓ Yes or ____ No.

Survey Area/Unit Decsription Treatment Pond 6/7 CS-6 Ra-226 6.8pCi/g ILTE 7200

| Survey Date/Time | Survey Area ID/Description | Gamma Radiation Reading CPM | Comments/Notes |
|---|---|---|---|
| 4-22-24 | CS-6 South/East Top | 5762 | |
| " | CS-6 South/East inside wall | 5711 | |
| " | CS-6 East inside wall | 5590 | |
| " | CS-6 North/East inside wall | 5838 | |
| " | CS-6 Middle base | 6702 | |
| " | CS-6 South base | 7255 | |
| " | CS-6 South/west inside wall | 6004 | |
| " | CS-6 West inside wall | 6542 | |
| " | CS-6 North/west inside wall | 7271 | |
| | | | |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Concrete Structures**

Instrumentation : Scaler/Ratemeter L2221 S#290801, Detector SPA-3 #30

Instrument Calibration Date: 2-19-24, Instrument Daily Function Check Performed: ✓

2"x2" NaI Detector Collimated ✓ Yes or ____ No.

Survey Area/Unit Decsription Treatment Pad 7 CS-7 Ra-226 6.8pCi/g IL # 7200

| Survey Date/Time | Survey Area ID/Description | Gamma Radiation Reading CPM | Comments/Notes |
|---|---|---|---|
| 4-22-24 | CS-7 North West box top | 11804 | |
| " | CS-7 North East box top | 10611 | |
| " | CS-7 East box top | 11861 | |
| " | CS-7 South box top | 10354 | |
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Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Concrete Structures**

Instrumentation : Scaler/Ratemeter L2221 S#290801, Detector SPA-3 #30

Instrument Calibration Date: 2-19-24, Instrument Daily Function Check Performed: ✓

2"x2" NaI Detector Collimated ✓ Yes or ____ No.

Survey Area/Unit Decsription Treatment Pond 7 CS-8 Ra-226 6.8 pC/g ILT 7200

| Survey Date/Time | Survey Area ID/Description | Gamma Radiation Reading CPM | Comments/Notes |
|---|---|---|---|
| 4-22-24 | CS-8 box base | 31092 | |
| " | CS-8 North inside wall | 20294 | |
| " | CS-8 South inside wall | 15894 | |
| " | CS-8 ~~South~~ North wall | 22039 | |
| " | CS-8 ~~South~~ North base | 29815 | |
| " | CS-8 South wall | 14452 | |
| " | CS-8 South base | 14080 | |
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Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Concrete Structures**

Instrumentation : Scaler/Ratemeter L2221 S# 290801, Detector SPA-3 #30

Instrument Calibration Date: 2-19-24, Instrument Daily Function Check Performed: ✓

2"x2" NaI Detector Collimated ✓ Yes or ____ No.

Survey Area/Unit Decsription Treatment Pond 7 CS-9 Ra-226 6.8 pCi/g ILR ≈ 7200

| Survey Date/Time | Survey Area ID/Description | Gamma Radiation Reading CPM | Comments/Notes |
|---|---|---|---|
| 4-22-24 | CS-9 North upper box Top | 6342 | |
| 4-22-24 | CS-9 East upper box Top | 6099 | |
| " | CS-9 South upper box ~~wall~~ Top | 6891 | |
| " | CS-9 West upper box Top | 8801 | |
| " | CS-9 North lower box Top | 9122 | |
| " | CS-9 North lower box inside wall | 27352 | |
| " | CS-9 West lower box Top | 15852 | |
| " | CS-9 West lower box inside wall | 45633 | |
| " | CS-9 South lower box Top | 10558 | |
| " | CS-9 lower box base of Sump | 20500 | mine residue / soil |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Concrete Structures**

Instrumentation : Scaler/Ratemeter L2221 S#290801, Detector SPA-3 #30

Instrument Calibration Date: 2-19-24, Instrument Daily Function Check Performed: ✓

2"x2" NaI Detector Collimated ✓ Yes or ____ No.

Survey Area/Unit Decsription Treatment Pond 1 CS-10 Ra-226 6.8 pCi/g, IL = 7200

| Survey Date/Time | Survey Area ID/Description | Gamma Radiation Reading CPM | Comments/Notes |
|---|---|---|---|
| 4-22-24 | CS-10 North/East wall | 25471 | |
| " | CS-10 North/West wall | 13104 | |
| " | CS-10 North base | 13052 | |
| " | CS-10 Sump base | 90000 | mine residue / soil |
| " | CS-10 South/East wall | 16022 | |
| " | CS-10 South/West wall | 9408 | |
| " | CS-10 South base | 10272 | |
| | | | |
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Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Scaler/Ratemeter - 2" x 2" NaI Detector Function Check**

Function Check Source ID: 1% $U_3O_8$ Ore in Sealed can

2" x 2" NaI Detector ID: SPA-3 S#408522-30

Acceptable background Count (cpm) Range (20%) 6524 to 9786 (Bare)

Acceptable background Count (cpm) Range (20%) 2537 to 3805 (collimated)

Acceptable Source Count (cpm) Range (20%) 77104 to 115656

| Date | Scaler/Ratemeter | Physical Check | Cal Due | Battery[1] Volts or OK | HV Volts | THR mV[2] | Window In or OUT[3] | C.C.[4] | BKG Counts cpm | Source Counrts cpm | Within Acceptable Range Y or N | MDC pCi/gm | Tech |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-19-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8351 Bare<br>3120 Coll. | 96758 | y | – | VP |
| 4-7-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8272 Bare<br>3110 Coll. | 97815 | y | – | VP |
| 4-8-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8249 Bare<br>3095 Coll. | 96288 | y | – | VP |
| 4-10-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8440 Bare<br>3065 Coll. | 96064 | y | – | VP |
| 4-15-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8345 Bare<br>3119 Coll. | 97475 | y | – | VP |
| 4-16-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8411 Bare<br>3124 Coll. | 96227 | y | – | VP |
| 4-17-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8401 Bare<br>3193 Coll. | 97111 | y | – | VP |
| 4-22-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8093 Bare<br>3194 Coll. | 96431 | y | – | VP |
| 4-23-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8205 Bare<br>3092 Coll. | 95968 | y | – | VP |
| 4-30-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8264 Bare<br>3263 Coll. | 96356 | y | – | VP |
| | | | | | | | | | Bare<br>Coll. | | | | |
| | | | | | | | | | Bare<br>Coll. | | | | |
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| | | | | | | | | | Bare<br>Coll. | | | | |

Note: (1) Battery Voltage for Ludlum 2221 must be >5.3 volts; (2) Threshhold must be at 10.0 mV; (3) Window Position must be OUT; (4) CC on L2241-2 set at 0.001
For L2241-2 Check HV and Threshold using Ludlum 500 pulser.

**AVM Environmental Services, Inc.**
**Scaler/Ratemeter - 2" x 2" NaI Detector Function Check**

Function Check Source ID: 1% $U_3O_8$ Ore in Sealed can

2" x 2" NaI Detector ID: SPA-3 S#408522-30

Acceptable background Count (cpm) Range (20%) 6391 to 9587 (Bare)

Acceptable background Count (cpm) Range (20%) 2546 to 3820 (collimated)

Acceptable Source Count (cpm) Range (20%) 77687 to 116531

| Date | Scaler/Ratemeter | Physical Check | Cal Due | Battery[1] Volts or OK | HV Volts | THR mV[2] | Window In or OUT[3] | C.C.[4] | BKG Counts cpm | Source Counrts cpm | Within Acceptable Range Y or N | MDC pCi/gm | Tech |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10-17-23 | L2221 S#240801 | ✓ | 5-15-24 | 6.0 | 900 | 10 | out | 1 | 7978 Bare / 3024 Coll. | 97941 | Y | – | VP |
| 10-18-23 | L2221 S#240801 | ✓ | 5-15-24 | OK | 900 | 10 | out | 1 | 7874 Bare / 2931 Coll. | 98494 | Y | – | VP |
| 10-25-23 | L2221 S#240801 | ✓ | 5-14-24 | ok | 900 | 10 | out | 1 | 7950 Bare / 2916 Coll. | 98651 | Y | – | VP |
| 11-1-23 | L2221 S#240801 | ✓ | 5-14-24 | ok | 900 | 10 | out | 1 | 7824 Bare / 3111 Coll. | 99371 | Y | – | VP |
| 11-2-23 | L2221 S#240801 | ✓ | 5-14-24 | ok | 900 | 10 | out | 1 | 7980 Bare / 2910 Coll. | 98416 | Y | – | VP |
| 11-7-23 | L2221 S#240801 | ✓ | 5-14-24 | ok | 900 | 10 | out | 1 | 7901 Bare / 3090 Coll. | 97213 | Y | – | VP |
| 11-13-23 | L2221 S#240801 | ✓ | 5-14-24 | ok | 900 | 10 | out | 1 | 7880 Bare / 2974 Coll. | 97008 | Y | – | VP |
| 11-20-23 | L2221 S#240801 | ✓ | 5-14-24 | ok | 900 | 10 | out | 1 | 7811 Bare / 2840 Coll. | 96911 | Y | – | VP |
| | | | | | | | | | Bare / Coll. | | | | |
| | | | | | | | | | Bare / Coll. | | | | |
| | | | | | | | | | Bare / Coll. | | | | |
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| | | | | | | | | | Bare / Coll. | | | | |
| | | | | | | | | | Bare / Coll. | | | | |

Note: (1) Battery Voltage for Ludium 2221 must be >5.3 volts; (2) Threshhold must be at 10.0 mV; (3) Window Position must be OUT; (4) CC on L2241-2 set at 0.001
For L2241-2 Check HV and Threshold using Ludium 500 pulser.

**AVM Environmental Services, Inc.**
**Micro R Meter Function Check Form**

Micro R Meter: Ludlum 19, SR#76248

Function Check Source ID: 1% $U_3O_8$ Ore in Sealed can

Function Check @ Calibration 135

Acceptable Function Check Reading (uR/hr) Range (20%) 108 to 162

| Date | Physical Check | Cal Date | Battery(1) Volts or OK | BKG Reading uR/hr | Source Reading (2) uR/hr | Within Acceptable Range Y or N | Cal Due | Tech |
|---|---|---|---|---|---|---|---|---|
| 11-13-23 | ✓ | 11-3-23 | ok | 10-12 | 130 | y | 11-3-24 | VP |
| 4-7-24 | ✓ | 11-3-23 | ok | 10-12 | 140 | y | 11-3-24 | VP |
| 4-8-24 | ✓ | 11-3-23 | ok | 10-12 | 140 | y | 11-3-24 | VP |
| 4-10-24 | ✓ | 11-3-23 | ok | 10-12 | 130 | y | 11-3-24 | VP |
| 4-15-24 | ✓ | 11-3-23 | ok | 10-12 | 130 | y | 11-3-24 | VP |
| 4-16-24 | ✓ | 11-3-23 | ok | 10-12 | 140 | y | 11-3-24 | VP |
| 4-17-24 | ✓ | 11-3-23 | ok | 10-12 | 140 | y | 11-3-24 | VP |
| 4-22-24 | ✓ | 11-3-23 | ok | 10-12 | 130 | y | 11-3-24 | VP |
| 4-23-24 | ✓ | 11-3-23 | ok | 10-12 | 130 | y | 11-3-24 | VP |
| 4-30-24 | ✓ | 11-3-23 | ok | 10-12 | 140 | y | 11-3-24 | VP |
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Note: (1) Battery Voltage must be within BAT TEST Range (2) Function Check Source must be placed in the circle on the front side of the meter

**AVM Environmental Services, Inc.**
**Ludlum SCA L2221 - 44-20 3x3 NaI Detector Function Check**
**559 - 659 KeV Gamma Radiation Soil Screening**

L2221 #290801

Ludlum 44-20 3x3 NaI Detector, #PR295573

Function Check Source ID: 1% $U_3O_8$ Ore in Sealed can

Acceptable background Count (cpm) Range (20%) 53 to 79

Acceptable Source Count (cpm) Range (20%) 12557 to 18835

| Date | Physical Check | Cal Date | Battery[1] Volts or OK | HV Volts | Threshhold mV [2] | Window mV | Window In/Out | BKG Counts cpm | Source Counrts cpm | Within Acceptable Range Y or N | MDC pCi/gm | Tech |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5-17-23 | ✓ | 5-10-23 | ✓ | 577 | 559 | 100 | in | 70 | 16805 | Y | — | VP |
| 5-18-23 | ✓ | 5-10-23 | ✓ | 578 | 559 | 100 | in | 66 | 16200 | Y | — | VP |
| 5-22-23 | ✓ | 5-10-23 | ✓ | 582 | 559 | 100 | in | 68 | 15900 | Y | — | VP |
| 5-23-23 | ✓ | 5-10-23 | ✓ | 582 | 559 | 100 | in | 71 | 15508 | Y | — | VP |
| 5-25-23 | ✓ | 5-10-23 | ✓ | 578 | 559 | 100 | in | 73 | 16253 | Y | — | VP |
| 5-30-23 | ✓ | 5-10-23 | ✓ | 577 | 559 | 100 | in | 72 | 16101 | Y | — | VP |
| 5-31-23 | ✓ | 5-10-23 | ✓ | 575 | 559 | 100 | in | 64 | 15789 | Y | | VP |
| 6-1-23 | ✓ | 5-10-23 | ✓ | 577 | 559 | 100 | in | 71 | 16224 | Y | — | VP |
| 11-8-23 | ✓ | 5-10-23 | ✓ | 576 | 559 | 100 | in | 60 | 16170 | Y | — | VP |
| 11-16-23 | ✓ | 5-10-23 | ✓ | 577 | 559 | 100 | in | 68 | 15327 | Y | — | VP |
| 4-17-24 | ✓ | 5-10-23 | ✓ | 578 | 559 | 100 | in | 74 | 15518 | Y | — | VP |
| 4-30-24 | ✓ | 5-10-23 | ✓ | 577 | 559 | 100 | in | 69 | 16122 | Y | — | VP |
| | | | | | | | | | | | | |
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Note: (1) Battery Voltage for Ludlum 2221 must be >5.3 volts; (2) Threshhold must be at 220 mV; (3) Window @ 440, must be IN

**AVM Environmental Services Inc.**
**Scaler/Ratemeter - Detector Calibration Form**



Scaler/Ratemeter: L2221 S# 290801
Detector: SPA-3 S# 408522-30

Source: U308 ore in can S# FC-2 Strength 1%

Scaler/Ratemeter Threshhold set @ 10 mV, Window IN/OUT Out, Window N/A mV

| HV | Reading, CPM (Source) | Reading, CPM (Background) |
|---|---|---|
| 500 | 17200 | 470 |
| 550 | 37012 | 738 |
| 600 | 57214 | 998 |
| 650 | 71774 | 1379 |
| 700 | 84865 | 1633 |
| 750 | 93899 | 1765 |
| 800 | 95561 | 1837 |
| 850 | 96093 | 1895 |
| 900 | 97180 | 2012 |
| 950 | 97636 | 2018 |
| 1000 | 100155 | 2037 |
| 1050 | 113726 | 2090 |
| 1100 | 133647 | 2249 |
| 1150 | 161780 | 2497 |
| 1200 | 199910 | 3198 |
| 1250 | | |
| 1300 | | |
| 1350 | | |
| 1400 | | |

**Background reading at designated function check location in AVM office.**

| Count # | Reading (CPM) Bare | Collimated |
|---|---|---|
| 1 | 8139 | 3129 |
| 2 | 8284 | 3144 |
| 3 | 8301 | 3004 |
| 4 | 8107 | 3170 |
| 5 | 8155 | 3171 |
| Average | 8197 | 3124 |

FC Range (6524-9786) (2537-3805)

**Count Readings with 1 percent $U_3O_8$ can directly under collimated detector on designated function check location in AVM office.**

| Count # | Reading (CPM) |
|---|---|
| 1 | 96354 |
| 2 | 95928 |
| 3 | 96716 |
| 4 | 96662 |
| 5 | 96241 |
| Average | 96380 |

HV Set @ 900 VDC (Instrument) 900 VDC (DVM Fluke 8020B)

Input Sensitivity (THR), mV 10

Function Check with 1 percent $U_3O_8$ ore in can. Can Directly under the detector in the collimator.
Acceptable Function check range is 77104 to 115656 CPM

**Notes:**

Date 2-19-24 By

**AVM Environmental Services Inc.**
**Scaler/Ratemeter - Detector Calibration Form**



Scaler/Ratemeter LZ221 S# 290801
Detector SPA-3 S# 408522-30

Source U308 ore in can S# FC-2 Strength 1%

Scaler/Ratemeter Threshhold set @ 10 mV, Window IN/OUT out, Window N/A mV

HV Set @ 900 VDC (Instrument) 900 VDC (DVM Fluke 8020B)

**Count Readings for Calibration Pad GPB (0.0 ± 0.3 pCi/gm Ra-226)**

| | Bare (Uncollimated) @ 1' | | Collimated @ 1' | |
|---|---|---|---|---|
| #1 | 11498 | cpm | 2766 | cpm |
| #2 | 11820 | cpm | 2839 | cpm |
| #3 | 11614 | cpm | 2849 | cpm |
| #4 | 11823 | cpm | 2833 | cpm |
| #5 | 11777 | cpm | 2772 | cpm |
| BKG Average | 11706 | cpm | 2812 | cpm |

**Count Readings for Calibration Pad GPL (87.78 pCi/gm Ra-226)**

| | Bare (Uncollimated) @ 1' | | Collimated @ 1' | |
|---|---|---|---|---|
| #1 | 90635 | cpm | 53328 | cpm |
| #2 | 90696 | cpm | 53884 | cpm |
| #3 | 90626 | cpm | 53443 | cpm |
| #4 | 90778 | cpm | 54004 | cpm |
| #5 | 91414 | cpm | 53996 | cpm |
| Gross Average | 90830 | cpm | 53731 | cpm |
| Net Source Pad | 79123 | cpm | 50919 | cpm |
| Eff(net cpm/87.78 pCi/gm | 901 | cpm/pCi/gm | 580 | cpm/pCi/gm |

**µR/hr Reading for Calibration Pad GPL (87.78 pCi/gm Ra-226)**

Ludlum Model 19 serial # 76248

Reading @ 1' 115 µR/hr
1.27E-03 µR/hr/cpm

Date 2-19-24 By

**AVM Environmental Services Inc.**

**Scaler/Ratemeter Calibration Form**

Model : L2221 S/N: 68782

Reference Instrument/Source: Ludlum Pulser 500, S/N:114513

**HV Calibration**

HV Test (2 points): Ref/Inst 600/600 Ref/Inst 900/900

**Ratemeter Calibration**

Instrument Threshold @ 100 (10 mV), WIN: Out, HV 900VDC; Pulser Threshold @ 200 (20mV)

| Range/Mode | Range Multiplier | Calibration Point (Pulser Setting) cpm x multiplier | Target CPM (±5%) | As Found Reading | | Left or Set Reading |
|---|---|---|---|---|---|---|
| Ratemeter | x1 | 40x1 | 38-42 | 40 | | 40 |
| | x1 | 40x10 | 380-420 | 397 | | 397 |
| | x10 | 40x100 | 3800-4200 | 3996 | | 3996 |
| | x100 | 40x1K | 38K-42K | 39948 | | 39948 |
| | x1K | 40x10K | 380K-420K | 400751 | | 400751 |
| Digital Ratemeter | - | 40x1 | 38-42 | 39-40 | | 39-40 |
| | - | 40x10 | 380-420 | 392-401 | | 392-401 |
| | - | 40x100 | 3800-4200 | 3996-4005 | | 3996-4005 |
| | - | 40x1K | 38K-42K | 39K-40K | | 39K-40K |
| | - | 40x10K | 380K-420K | 400K | | 400K |
| | | | | | | |

**Threshold/Gain Calibration**

WIN OUT

| Pulser Amplitude (mV) | Pulser CPM | | L2221 Theshold (mv) | Target CPM | L2221 CPM Found | | L2221 CPM Left or Set @ |
|---|---|---|---|---|---|---|---|
| 10.0 | 40000 | | 100 (10 mV) | 27K -33K | 31255 | | 31255 |
| 20.0 | 40000 | | 200 (20 mV) | 27K -33K | 30801 | | 30801 |
| 30.0 | 40000 | | 300 (30 mV) | 27K -33K | 30951 | | 30951 |
| 40.0 | 40000 | | 400 (40 mV) | 27K -33K | 29579 | | 29579 |
| 50.0 | 40000 | | 500 (50 mV) | 27K -33K | 31042 | | 31042 |

Note: Use R174 Gain Control on Power Supply Board to adjust L2221 CPM @75% for Threshold/Gain Calibration

**Window Cut-off Points Check**

L2221 Threshold set @100 (10.0 mv)

WIN @ 100 (10.0 mV) ✓ WIN @ 400 (40.0 mV) ✓

WIN @ 200 (20.0 mV) ✓ WIN @ 500 (50.0 mV) ✓

Date 2-19-24 Calibrated By

**AVM Environmental Services Inc.**

**Scaler/Ratemeter Calibration Form**

Model : L2221 S/N: 290801

Reference Instrument/Source: Ludlum Pulser 500, S/N:114513

**HV Calibration**

HV Test (2 points): Ref/Inst 600/600 Ref/Inst 900/900

**Ratemeter Calibration**

Instrument Threshold @ 100 (10 mV), WIN: Out, HV 900VDC; Pulser Threshold @ 200 (20mV)

| Range/Mode | Range Multiplier | Calibration Point (Pulser Setting) cpm x multiplier | Target CPM (±5%) | As Found Reading | | Left or Set Reading |
|---|---|---|---|---|---|---|
| Ratemeter | x1 | 40x1 | 38-42 | 40 | | 40 |
| | x1 | 40x10 | 380-420 | 400 | | 400 |
| | x10 | 40x100 | 3800-4200 | 4002 | | 4002 |
| | x100 | 40x1K | 38K-42K | 40020 | | 40020 |
| | x1K | 40x10K | 380K-420K | 400220 | | 400220 |
| Digital Ratemeter | - | 40x1 | 38-42 | 39 | | 39 |
| | - | 40x10 | 380-420 | 402 | | 402 |
| | - | 40x100 | 3800-4200 | 4004 | | 4004 |
| | - | 40x1K | 38K-42K | 40026 | | 40026 |
| | - | 40x10K | 380K-420K | 400221 | | 400221 |
| | | | | | | |

**Threshold/Gain Calibration**

WIN OUT

| Pulser Amplitude (mV) | Pulser CPM | | L2221 Theshold (mv) | Target CPM | L2221 CPM Found | | L2221 CPM Left or Set @ |
|---|---|---|---|---|---|---|---|
| 10.0 | 40000 | | 100 (10 mV) | 27K -33K | 31194 | | 31194 |
| 20.0 | 40000 | | 200 (20 mV) | 27K -33K | 29354 | | 29354 |
| 30.0 | 40000 | | 300 (30 mV) | 27K -33K | 30765 | | 30765 |
| 40.0 | 40000 | | 400 (40 mV) | 27K -33K | 30082 | | 30082 |
| 50.0 | 40000 | | 500 (50 mV) | 27K -33K | 29842 | | 29842 |

Note: Use R174 Gain Control on Power Supply Board to adjust L2221 CPM @75% for Threshold/Gain Calibration

**Window Cut-off Points Check**

L2221 Threshold set @100 (10.0 mv)

WIN @ 100 (10.0 mV) ✓ WIN @ 400 (40.0 mV) ✓

WIN @ 200 (20.0 mV) ✓ WIN @ 500 (50.0 mV) ✓

Date 2-19-24 Calibrated By

**AVM Environmental Services Inc.**
L2221 SCA/L44-20 Energy Calibration Form

SCA: L2221, SR #290801 Detector: Ludlum 44-20 (3x3 NaI Scintillator)

Calibration Source: Cs-137 Check Source, 5 uCi (August 2008) For 662 KeV Peak Cal

Threshold (input sensitivity) **652**

Window, In/Out **IN** Window **20**

HV Initial 100, At Peak 579

Maximum CPM: 198160 Background CPM: 13

HV Set @ 579 VDC

For Bi-214 609.2 KeV Peak (559 - 659 KeV ROI), Set Threshold @ 559, Window @ 100

Calibration Check w 1% U3O8 Ore Check Source: 15696 CPM

BKG = 65 cpm

Date 5-10-23 Calibrated By

**AVM Enviro. tal Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

**Instrumentation : Scaler/Ratemeter** L2221 S# 68782 , **Detector** L44-20 S# 295573
**Instrument Calibration Date:** 10-7-22 , **Instrument Function Check Performed:** ✓
**Survey Area/Unit Decsription** Mt Taylor Mine - Correlation Calibration

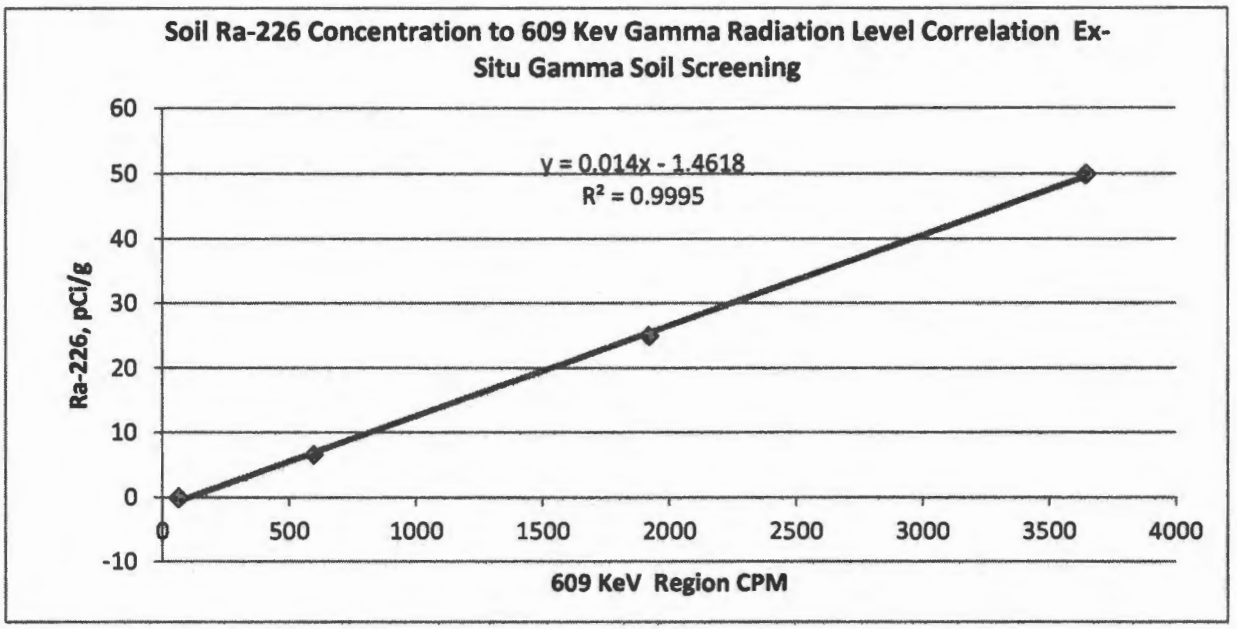
**Area exposure rate:**

| Date/Time | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 5-10-23 | Blank | | 329 | | 66 | | |
| 5-10-23 | 6.6pCi/g Ref. Soil | 3000 | 2998 | | 600 | | |
| 5-10-23 | 25pCi/g Ref Soil | 2984 | 9552 | 9603 | 1921 | | |
| 5-10-23 | 50pCi/g Ref Soil | 2976 | 18078 | 18224 | 3645 | | |
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**Technician Signature** _____ , **Reviewed by** _____

**AVM Environmental Services**
**Ex-Situ Soil Screening Gamma Radiation Level to Ra-226 Correlation**
**Mt. Taylor Mine Site Subsurface Soil Investigation**

| Reference Soil ID | Date | Ra-226 pCi/g | Wt gms | 609 KeV CP5Min Gross (3x3 Nal Detector) | CPM |
|---|---|---|---|---|---|
| Blank | 5/10/2023 | - | - | 329 | 66 |
| 6.6 pCi/g Ra-226 Ref Soil | 5/10/2023 | 6.6 | 3000 | 2998 | 600 |
| 25 pCi/g Ra-226 Ref Soil | 5/10/2023 | 25 | 3000 | 9603 | 1921 |
| 50 pCi/g Ra-226 Ref Soil | 5/10/2023 | 50 | 3000 | 18224 | 3645 |



**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Concrete Correlation Form**

Instrumentation : Scaler/Ratemeter L2221 S#290801, Detector SPA-3 #30

Instrument Calibration Date: 2-19-24, Instrument Daily Function Check Performed: ✓

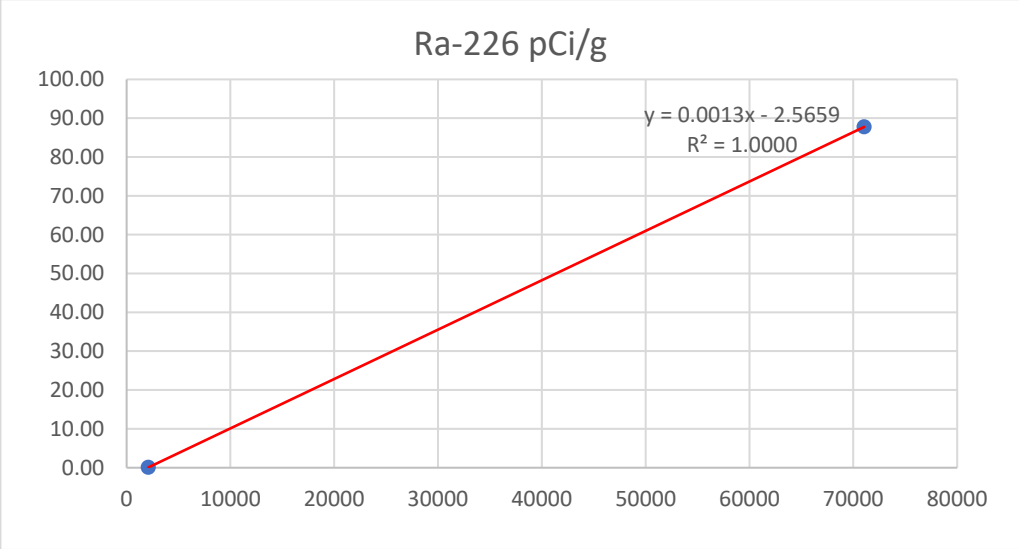
2"x2" NaI Detector Collimated ✓ Yes or ____ No.

Survey Area/Unit Decsription Grants Calibration Pad site - DOE

| Survey Date | Calibration Pad ID | Gamma Radiation Reading, CPM | | Comments/Notes |
|---|---|---|---|---|
| | | SPA-3, 0.5-inch lead collimated | SPA-3, 1.0-inch lead collimated | |
| 4-18-24 | GPB | 2019 | 1989 | |
| | | 2148 | 1865 | |
| | | 2123 | 2076 | uR/hr @ Contact 9.5 |
| 11 | GPL | 70818 | 74469 | |
| | | 71213 | 74463 | uR/hr @ Contact 205 |
| | | 71137 | 74487 | |
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Technician Signature _____, Reviewed by _____

Grants DOE Calibration Pad
0.5 inch lead collimated 2x2 detector calibration for concrete investigation




| Concrete ID | CPM | Ra-226 pCi/g |
|---|---|---|
| Cal Pad GPB | 2097 | 0.10 |
| Cal Pad GPL | 71056 | 87.78 |

Designer and Manufacturer of Scientific and Industrial Instruments

www.ludlums.com

# CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.

NAC-MRA ACCREDITED CERT # 4084.01

Customer AVM ENVIRONMENTAL SERVICES INC ORDER NO. 20457182/547880

Mfg. Ludlum Measurements, Inc. Model 19 Serial No. 76248

M. Model Serial No.

Cal. Date 3-Nov-23 Cal Due Date 3-Nov-24 Cal. Interval 1 Year Meterface 202-1070

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 73 °F RH 37 % Alt 708.1 mm Hg

☐ New Instrument Instrument Received ☐ Within Toler. +-10% ☑ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☑ F/S Resp. ck ☑ Reset ck. ☐ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck.

☐ Calibrated in accordance with LMI SOP 14.8 ☑ Calibrated in accordance with LMI SOP 14.9

Instrument Volt Set 800 V Input Sens. 37 mV Det. Oper. 800 V at 37 mV Threshold Dial Ratio = mV

☐ HV Readout (2 points) Ref./Inst. / V Ref./Inst. / V

**COMMENTS:**

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.
Multimeter uncertainty within 1.3% of reading, Gamma uncertainty within 5.0% of reading, Neutron uncertainty within 7.0% of reading, Count rate uncertainty within 5.4% of reading

| RANGE/MULTIPLIER | REFERENCE CAL. POINT | INSTRUMENT REC'D "AS FOUND READING" | INSTRUMENT METER READING |
|---|---|---|---|
| 5000 | 4000µR/hr | 4200 µR/hr | 4000 µR/hr |
| 5000 | 1000µR/hr | 1100 | 1000 |
| 500 | 400µR/hr = 69800 cpm | 410 | 400 |
| 500 | 100µR/hr | 110 | 100 |
| 250 | 200µR/hr = 33800 cpm | 210 | 200 |
| 250 | 100µR/hr | 100 | 100 |
| 50 | 6980 cpm | 42 | 40 |
| 50 | 1750 cpm | 10 | 10 |
| 25 | 3380 cpm | 22 | 20 |
| 25 | 845 cpm | 5 | 5 |

Range(s) Calibrated Electronically

| Digital Readout | REFERENCE CAL. POINT | INSTRUMENT RECEIVED | INSTRUMENT METER READING |
|---|---|---|---|
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| Log Scale | REFERENCE CAL. POINT | INSTRUMENT RECEIVED | INSTRUMENT METER READING |
|---|---|---|---|
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Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques.
All pass/fail determinations are based on the manufacturer's specifications without considering uncertainty factors.
Measurement results represent expanded uncertainties expressed at approximately the 95% level of confidence, using a coverage factor of k=2.
The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323AB-2013

ISO/IEC 17025:2017(E)
State of Texas Calibration License No. LO-1963

**Reference Instruments and/or Sources:** Cs-137 S/N: ☐ 059 ☐ 2171CP ☐ 2261CP ☐ 720 ☐ 734 ☐ 781 ☐ 1131 ☐ 1616 ☐ 1696 ☐ 1909 ☐ 1916CP ☐ 2324/2521
☐ 5717CO ☐ 5719CO ☐ 60846 ☐ 70897 ☐ 73410 ☐ E552 ☐ G112 ☑ 2168CP ☐ S-394 ☐ S-1054 ☐ T10081 ☐ T10082 Neutron Am-241 Be ☐ T-304 Ra-226 ☐ Y982
☐ E551 ☐ 5105 ☐ CSV280

☐ Alpha S/N ☐ Beta S/N ☐ Other

☐ m 500 S/N 114520 ☐ Oscilloscope S/N ☑ Multimeter S/N 53950165

Calibrator Sheba Lee Sheba Lee Title Calibrator Date 3-Nov-23

QC'd By Title Final QC Date 3Nov23

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.


AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

www.ludlums.com

# CERTIFICATE OF CALIBRATION

**LUDLUM MEASUREMENTS, INC.**
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.

ACCREDITED
CERT # 4084.01

Model No. / Serial No. 500 / 114513

Customer AVM ENVIRONMENTAL SERVICES INC ORDER NO. 20460064/549833

Date 13-Dec-23 Cal Due Date 13-Dec-24 Cal. Interval 1 Year Procedure 500/Rev 8

☐ New Instrument Instrument Received ☑ Within Tolerance ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See Comments

T. 73 °F RH 36 % Alt 714.2 mm Hg ☑ Meter Zeroed ☑ Mechanical Check

**PULSE WIDTH Uncertainty within 0.85% of reading**

| | As Found | As Left | Acceptable Range (µs) |
|---|---|---|---|
| NEG PULSE | 1.7 | 1.7 | 1.5 - 1.9 |
| POS PULSE | 1.7 | 1.7 | < 2.25 |

**PULSE AMPLITUDE (NEGATIVE) Uncertainty within 1.3% of reading**

| Reference Amplitude | As Found Amplitude Reading | As Left Amplitude Reading | Acceptable Range | Reference Amplitude | As Found Amplitude Reading | As Left Amplitude Reading | Acceptable Range |
|---|---|---|---|---|---|---|---|
| 1 V | 1 V | 1 V | 0.9 - 1.1 | 4 V | 4.1 V | 4.1 V | 3.6 - 4.4 |
| 100 mV | 100 mV | 100 mV | 90 - 110 | 400 mV | 410 mV | 410 mV | 360 - 440 |
| 10 mV | 10 mV | 10 mV | 9 - 11 | 40 mV | 41 mV | 41 mV | 36 - 44 |
| 1 mV | 1 mV | 1 mV | 0.9 - 1.1 | 4 mV | 4.1 mV | 4.1 mV | 3.6 - 4.4 |

**PULSE AMPLITUDE (POSITIVE) Uncertainty within 1.3% of reading**

| Reference Amplitude | As Found Amplitude Reading | As Left Amplitude Reading | Acceptable Range |
|---|---|---|---|
| 3 V | 3 V | 3 V | 2.7 - 3.3 |
| 300 mV | 300 mV | 300 mV | 270 - 330 |
| 30 mV | 30 mV | 30 mV | 27 - 33 |
| 3 mV | 3 mV | 3 mV | 2.7 - 3.3 |

**PULSE FREQUENCY (PERIOD) Uncertainty within 0.46% of reading**

| Pulser Range | As Found Period | As Left Period | Acceptable Range |
|---|---|---|---|
| x 10K | 6.667 | 6.667 | 6.534 - 6.8 |
| x 1K | 66.70 | 66.70 | 65.34 - 68 |
| x 100 | 667.2 | 667.2 | 653.4 - 680 |
| x 10 | 6671 | 6671 | 6534 - 6800 |
| x 1 | 66.71 | 66.71 | 65.34 - 68 |
| x 0.1 | 90 | 90 | 88.2 - 91.8 Counts |

Digital High Voltage Uncertainty within 1.3% of reading

| Reference Voltage | As Found Voltage Reading | As Left Voltage Reading | Acceptable Range |
|---|---|---|---|
| 500 V | | | 490 - 510 |
| 1500 V | | | 1470 - 1530 |

Analog High Voltage Uncertainty within 1.3% of reading

| Reference Voltage | As Found Voltage Reading | As Left Voltage Reading | Acceptable Range |
|---|---|---|---|
| 500 V | 500 | 500 | 475 - 525 |
| 2000 V | 2000 | 2000 | 1900 - 2100 |

| CPM Reading | As Found cpm Reading | As Left cpm Reading | Acceptable Range |
|---|---|---|---|
| MAX | 992 | 992 | 981 - 999 |
| MIN | 0-1 | 0-1 | 0 - 1* |

* READING OF 0-99 IS ACCEPTABLE FOR INSTRUMENTS WITH A S/N 100000 AND BELOW OR MAIN BOARD = 5208-066

**COMMENTS:**
CAL'D W/ 39" CABLE.

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques.
All pass/fail determinations are based on the manufacturer's specifications without considering uncertainty factors.
Measurement results represent expanded uncertainties expressed at approximately the 95% level of confidence, using a coverage factor of k=2.
The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323AB-2013
ISO/IEC 17025:2017(E)
State of Texas Calibration License No. LO-1963

Reference Instruments:
Frequency Counter Model BK 1856D S/N 332L14297 Cal Date 17-Feb 2023
Oscilloscope Model Tenma 72-6820 S/N 1102645 Cal Date 11-Oct 2023
Voltmeter Model Fluke 83 V S/N 94000441 Cal Date 2-Jun 2023

Calibrator William Tinsley William Tinsley Title Calibrator Date 13-December 2023
QC'd By [signature] Title Final QC Date 14 Dec 23

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.


AC Inst. Only ☑ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

# ANALYTICAL SUMMARY REPORT

May 24, 2024

Rio Grande Resources Corporation
PO Box 1150
Grants, NM 87020-1150

Work Order: C24040791 Quote ID: C16056

Project Name: MTM TP Soil Characterization

Energy Laboratories, Inc. Casper WY received the following 10 samples for Rio Grande Resources Corporation on 4/24/2024 for analysis.

| Lab ID | Client Sample ID | Collect Date | Receive Date | Matrix | Test |
|---|---|---|---|---|---|
| C24040791-001 | TP-11 [6-12]inches | 11/13/23 13:45 | 04/24/24 | Solid | Gamma Sample Preparation Drying/Grinding, Radiochemistry Gross Gamma |
| C24040791-002 | TP-15B [6-12]Inches | 11/14/23 8:25 | 04/24/24 | Solid | Same As Above |
| C24040791-003 | TP-11 [1-2]Feet | 11/16/23 11:05 | 04/24/24 | Solid | Same As Above |
| C24040791-004 | TP-15B [1-1.5]Feet | 11/16/23 11:35 | 04/24/24 | Solid | Same As Above |
| C24040791-005 | TP-41 [0-6]Inches | 04/16/24 8:45 | 04/24/24 | Solid | Same As Above |
| C24040791-006 | TP-46 [6-12]Inches | 04/16/24 10:25 | 04/24/24 | Solid | Same As Above |
| C24040791-007 | TP-36 [6-12]Inches | 04/16/24 11:00 | 04/24/24 | Solid | Same As Above |
| C24040791-008 | TP-41 [6-12]Inches | 04/16/24 11:15 | 04/24/24 | Solid | Same As Above |
| C24040791-009 | TP-36 [1-2]Feet | 04/17/24 11:20 | 04/24/24 | Solid | Same As Above |
| C24040791-010 | TP-DS 01 | 04/17/24 13:00 | 04/24/24 | Solid | Same As Above |

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager .

Report Approved By:

**CLIENT:** Rio Grande Resources Corporation
**Project:** MTM TP Soil Characterization
**Work Order:** C24040791

**Report Date:** 05/24/24

# CASE NARRATIVE

ORIGINAL SAMPLE SUBMITTAL(S)
All original sample submittals have been returned with the data package.

SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)
Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

GROSS ALPHA ANALYSIS
Method 900.0 for gross alpha and gross beta is intended as a drinking water method for low TDS waters. Data provided by this method for non potable waters should be viewed as inconsistent.

RADON IN AIR ANALYSIS
The desired exposure time is 48 hours (2 days). The time delay in returning the canister to the laboratory for processing should be as short as possible to avoid excessive decay. Maximum recommended delay between end of exposure to beginning of counting should not exceed 8 days.

SOIL/SOLID SAMPLES
All samples reported on an as received basis unless otherwise indicated.

ATRAZINE, SIMAZINE AND PCB ANALYSIS
Data for PCBs, Atrazine and Simazine are reported from EPA 525.2. PCB data reported by ELI reflects the results for seven individual Aroclors. When the results for all seven are ND (not detected), the sample meets EPA compliance criteria for PCB monitoring.

SUBCONTRACTING ANALYSIS
Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

BRANCH LABORATORY LOCATIONS
eli-b - Energy Laboratories, Inc. - Billings, MT
eli-g - Energy Laboratories, Inc. - Gillette, WY
eli-h - Energy Laboratories, Inc. - Helena, MT

ISO 17025 DISCLAIMER:
The results of this Analytical Report relate only to the items submitted for analysis.

ENERGY LABORATORIES, INC. - CASPER,WY certifies that certain method selections contained in this report meet requirements as set forth by the above accrediting authorities. Some results requested by the client may not be covered under these certifications. All analysis data to be submitted for regulatory enforcement should be certified in the sample state of origin. Please verify ELI's certification coverage by visiting www.energylab.com

ELI appreciates the opportunity to provide you with this analytical service. For additional information and services visit our web page www.energylab.com.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM TP Soil Characterization
**Lab ID:** C24040791-001
**Client Sample ID:** TP-11 [6-12]

**Report Date:** 05/24/24
**Collection Date:** 11/13/23 13:45
**DateReceived:** 04/24/24
**Matrix:** Solid

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.8 | pCi/g-dry | U | | | E901.1 | 05/16/24 15:53 / haw |
| Radium 224 precision (±) | 8.0 | pCi/g-dry | | | | E901.1 | 05/16/24 15:53 / haw |
| Radium 224 MDC | 13.3 | pCi/g-dry | | | | E901.1 | 05/16/24 15:53 / haw |
| Radium 226 | 61.5 | pCi/g-dry | | | | E901.1 | 05/16/24 15:53 / haw |
| Radium 226 precision (±) | 1.4 | pCi/g-dry | | | | E901.1 | 05/16/24 15:53 / haw |
| Radium 226 MDC | 0.7 | pCi/g-dry | | | | E901.1 | 05/16/24 15:53 / haw |
| Radium 228 | 0.4 | pCi/g-dry | U | | | E901.1 | 05/16/24 15:53 / haw |
| Radium 228 precision (±) | 1.2 | pCi/g-dry | | | | E901.1 | 05/16/24 15:53 / haw |
| Radium 228 MDC | 1.7 | pCi/g-dry | | | | E901.1 | 05/16/24 15:53 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM TP Soil Characterization
**Lab ID:** C24040791-002
**Client Sample ID:** TP-15B [6-12]

**Report Date:** 05/24/24
**Collection Date:** 11/14/23 08:25
**DateReceived:** 04/24/24
**Matrix:** Solid

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.9 | pCi/g-dry | U | | | E901.1 | 05/17/24 12:48 / haw |
| Radium 224 precision (±) | 3.1 | pCi/g-dry | | | | E901.1 | 05/17/24 12:48 / haw |
| Radium 224 MDC | 5.2 | pCi/g-dry | | | | E901.1 | 05/17/24 12:48 / haw |
| Radium 226 | 15.2 | pCi/g-dry | | | | E901.1 | 05/17/24 12:48 / haw |
| Radium 226 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/17/24 12:48 / haw |
| Radium 226 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 05/17/24 12:48 / haw |
| Radium 228 | 1.6 | pCi/g-dry | | | | E901.1 | 05/17/24 12:48 / haw |
| Radium 228 precision (±) | 0.4 | pCi/g-dry | | | | E901.1 | 05/17/24 12:48 / haw |
| Radium 228 MDC | 0.5 | pCi/g-dry | | | | E901.1 | 05/17/24 12:48 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM TP Soil Characterization
**Lab ID:** C24040791-003
**Client Sample ID:** TP-11 [1-2]

**Report Date:** 05/24/24
**Collection Date:** 11/16/23 11:05
**DateReceived:** 04/24/24
**Matrix:** Solid

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.4 | pCi/g-dry | U | | | E901.1 | 05/17/24 14:57 / haw |
| Radium 224 precision (±) | 1.5 | pCi/g-dry | | | | E901.1 | 05/17/24 14:57 / haw |
| Radium 224 MDC | 2.6 | pCi/g-dry | | | | E901.1 | 05/17/24 14:57 / haw |
| Radium 226 | 1.1 | pCi/g-dry | | | | E901.1 | 05/17/24 14:57 / haw |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E901.1 | 05/17/24 14:57 / haw |
| Radium 226 MDC | 0.1 | pCi/g-dry | | | | E901.1 | 05/17/24 14:57 / haw |
| Radium 228 | 1.1 | pCi/g-dry | | | | E901.1 | 05/17/24 14:57 / haw |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 05/17/24 14:57 / haw |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 05/17/24 14:57 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM TP Soil Characterization
**Lab ID:** C24040791-004
**Client Sample ID:** TP-15B [1-1.5]

**Report Date:** 05/24/24
**Collection Date:** 11/16/23 11:35
**DateReceived:** 04/24/24
**Matrix:** Solid

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.5 | pCi/g-dry | U | | | E901.1 | 05/17/24 16:01 / haw |
| Radium 224 precision (±) | 2.1 | pCi/g-dry | | | | E901.1 | 05/17/24 16:01 / haw |
| Radium 224 MDC | 3.6 | pCi/g-dry | | | | E901.1 | 05/17/24 16:01 / haw |
| Radium 226 | 1.2 | pCi/g-dry | | | | E901.1 | 05/17/24 16:01 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 05/17/24 16:01 / haw |
| Radium 226 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 05/17/24 16:01 / haw |
| Radium 228 | 1.3 | pCi/g-dry | | | | E901.1 | 05/17/24 16:01 / haw |
| Radium 228 precision (±) | 0.4 | pCi/g-dry | | | | E901.1 | 05/17/24 16:01 / haw |
| Radium 228 MDC | 0.4 | pCi/g-dry | | | | E901.1 | 05/17/24 16:01 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM TP Soil Characterization
**Lab ID:** C24040791-005
**Client Sample ID:** TP-41 [0-6]

**Report Date:** 05/24/24
**Collection Date:** 04/16/24 08:45
**DateReceived:** 04/24/24
**Matrix:** Solid

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.7 | pCi/g-dry | U | | | E901.1 | 05/20/24 09:23 / haw |
| Radium 224 precision (±) | 6.6 | pCi/g-dry | | | | E901.1 | 05/20/24 09:23 / haw |
| Radium 224 MDC | 10.9 | pCi/g-dry | | | | E901.1 | 05/20/24 09:23 / haw |
| Radium 226 | 43.5 | pCi/g-dry | | | | E901.1 | 05/20/24 09:23 / haw |
| Radium 226 precision (±) | 1.1 | pCi/g-dry | | | | E901.1 | 05/20/24 09:23 / haw |
| Radium 226 MDC | 0.5 | pCi/g-dry | | | | E901.1 | 05/20/24 09:23 / haw |
| Radium 228 | 1.5 | pCi/g-dry | | | | E901.1 | 05/20/24 09:23 / haw |
| Radium 228 precision (±) | 0.7 | pCi/g-dry | | | | E901.1 | 05/20/24 09:23 / haw |
| Radium 228 MDC | 1.0 | pCi/g-dry | | | | E901.1 | 05/20/24 09:23 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM TP Soil Characterization
**Lab ID:** C24040791-006
**Client Sample ID:** TP-46 [6-12]

**Report Date:** 05/24/24
**Collection Date:** 04/16/24 10:25
**DateReceived:** 04/24/24
**Matrix:** Solid

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 2.3 | pCi/g-dry | | | | E901.1 | 05/20/24 10:26 / haw |
| Radium 224 precision (±) | 1.3 | pCi/g-dry | | | | E901.1 | 05/20/24 10:26 / haw |
| Radium 224 MDC | 2.0 | pCi/g-dry | | | | E901.1 | 05/20/24 10:26 / haw |
| Radium 226 | 2.3 | pCi/g-dry | | | | E901.1 | 05/20/24 10:26 / haw |
| Radium 226 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 05/20/24 10:26 / haw |
| Radium 226 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 05/20/24 10:26 / haw |
| Radium 228 | 1 | pCi/g-dry | | | | E901.1 | 05/20/24 10:26 / haw |
| Radium 228 precision (±) | 0.4 | pCi/g-dry | | | | E901.1 | 05/20/24 10:26 / haw |
| Radium 228 MDC | 0.5 | pCi/g-dry | | | | E901.1 | 05/20/24 10:26 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM TP Soil Characterization
**Lab ID:** C24040791-007
**Client Sample ID:** TP-36 [6-12]

**Report Date:** 05/24/24
**Collection Date:** 04/16/24 11:00
**DateReceived:** 04/24/24
**Matrix:** Solid

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 4.2 | pCi/g-dry | | | | E901.1 | 05/20/24 11:44 / haw |
| Radium 224 precision (±) | 2.3 | pCi/g-dry | | | | E901.1 | 05/20/24 11:44 / haw |
| Radium 224 MDC | 3.6 | pCi/g-dry | | | | E901.1 | 05/20/24 11:44 / haw |
| Radium 226 | 8.8 | pCi/g-dry | | | | E901.1 | 05/20/24 11:44 / haw |
| Radium 226 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/20/24 11:44 / haw |
| Radium 226 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 05/20/24 11:44 / haw |
| Radium 228 | 1.3 | pCi/g-dry | | | | E901.1 | 05/20/24 11:44 / haw |
| Radium 228 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/20/24 11:44 / haw |
| Radium 228 MDC | 0.7 | pCi/g-dry | | | | E901.1 | 05/20/24 11:44 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM TP Soil Characterization
**Lab ID:** C24040791-008
**Client Sample ID:** TP-41 [6-12]

**Report Date:** 05/24/24
**Collection Date:** 04/16/24 11:15
**DateReceived:** 04/24/24
**Matrix:** Solid

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 2.2 | pCi/g-dry | | | | E901.1 | 05/20/24 13:27 / haw |
| Radium 224 precision (±) | 1.3 | pCi/g-dry | | | | E901.1 | 05/20/24 13:27 / haw |
| Radium 224 MDC | 2.0 | pCi/g-dry | | | | E901.1 | 05/20/24 13:27 / haw |
| Radium 226 | 1.9 | pCi/g-dry | | | | E901.1 | 05/20/24 13:27 / haw |
| Radium 226 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 05/20/24 13:27 / haw |
| Radium 226 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 05/20/24 13:27 / haw |
| Radium 228 | 1.6 | pCi/g-dry | | | | E901.1 | 05/20/24 13:27 / haw |
| Radium 228 precision (±) | 0.5 | pCi/g-dry | | | | E901.1 | 05/20/24 13:27 / haw |
| Radium 228 MDC | 0.6 | pCi/g-dry | | | | E901.1 | 05/20/24 13:27 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM TP Soil Characterization
**Lab ID:** C24040791-009
**Client Sample ID:** TP-36 [1-2]

**Report Date:** 05/24/24
**Collection Date:** 04/17/24 11:20
**DateReceived:** 04/24/24
**Matrix:** Solid

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.6 | pCi/g-dry | U | | | E901.1 | 05/20/24 16:12 / haw |
| Radium 224 precision (±) | 2.1 | pCi/g-dry | | | | E901.1 | 05/20/24 16:12 / haw |
| Radium 224 MDC | 3.6 | pCi/g-dry | | | | E901.1 | 05/20/24 16:12 / haw |
| Radium 226 | 0.7 | pCi/g-dry | | | | E901.1 | 05/20/24 16:12 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 05/20/24 16:12 / haw |
| Radium 226 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 05/20/24 16:12 / haw |
| Radium 228 | 1.3 | pCi/g-dry | | | | E901.1 | 05/20/24 16:12 / haw |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | E901.1 | 05/20/24 16:12 / haw |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | E901.1 | 05/20/24 16:12 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM TP Soil Characterization
**Lab ID:** C24040791-010
**Client Sample ID:** TP-DS 01

**Report Date:** 05/24/24
**Collection Date:** 04/17/24 13:00
**DateReceived:** 04/24/24
**Matrix:** Solid

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.5 | pCi/g-dry | U | | | E901.1 | 05/21/24 08:43 / haw |
| Radium 224 precision (±) | 2.2 | pCi/g-dry | | | | E901.1 | 05/21/24 08:43 / haw |
| Radium 224 MDC | 3.6 | pCi/g-dry | | | | E901.1 | 05/21/24 08:43 / haw |
| Radium 226 | 0.8 | pCi/g-dry | | | | E901.1 | 05/21/24 08:43 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1 | 05/21/24 08:43 / haw |
| Radium 226 MDC | 0.2 | pCi/g-dry | | | | E901.1 | 05/21/24 08:43 / haw |
| Radium 228 | 1.1 | pCi/g-dry | | | | E901.1 | 05/21/24 08:43 / haw |
| Radium 228 precision (±) | 0.4 | pCi/g-dry | | | | E901.1 | 05/21/24 08:43 / haw |
| Radium 228 MDC | 0.4 | pCi/g-dry | | | | E901.1 | 05/21/24 08:43 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected at Minimum Detectable Concentration (MDC)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation **Work Order:** C24040791 **Report Date:** 05/23/24

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: E901.1** | | | | | | | | | | Batch: R306411 |
| **Lab ID: MB-306411** | 9 | Method Blank | | | | Run: GAM-HPGE 2_240516A | | | | 05/16/24 13:03 |
| Radium 224 | | 0.3 | pCi/g-dry | | | | | | | U |
| Radium 224 precision (±) | | 0.9 | pCi/g-dry | | | | | | | |
| Radium 224 MDC | | 1 | pCi/g-dry | | | | | | | |
| Radium 226 | | 0.1 | pCi/g-dry | | | | | | | U |
| Radium 226 precision (±) | | 0.1 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.2 | pCi/g-dry | | | | | | | |
| Radium 228 | | 0.2 | pCi/g-dry | | | | | | | U |
| Radium 228 precision (±) | | 0.2 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.4 | pCi/g-dry | | | | | | | |
| **Lab ID: C24040791-008ADUP** | 9 | Sample Duplicate | | | | Run: GAM-HPGE 2_240516A | | | | 05/20/24 15:10 |
| Radium 224 | | -0.15 | pCi/g-dry | | | | | 230 | 30 | UR |
| Radium 224 precision (±) | | 2.6 | pCi/g-dry | | | | | | | |
| Radium 224 MDC | | 4.3 | pCi/g-dry | | | | | | | |
| Radium 226 | | 1.8 | pCi/g-dry | | | | | 3.9 | 30 | |
| Radium 226 precision (±) | | 0.26 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.23 | pCi/g-dry | | | | | | | |
| Radium 228 | | 1.7 | pCi/g-dry | | | | | 6.9 | 30 | |
| Radium 228 precision (±) | | 0.44 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.44 | pCi/g-dry | | | | | | | |

- Duplicate RPD for Ra224 is outside of the acceptance range for this analysis. However, the RER is less than or equal to the limit of 3, the RER result is 0.82. The RER result for Ra226 is 0.19 and Ra228 is 0.17.

**Qualifiers:**

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected at Minimum Detectable Concentration (MDC)

# Work Order Receipt Checklist

## Rio Grande Resources Corporation C24040791

| | | | |
|---|---|---|---|
| Login completed by: | Cristen C. Smith | Date Received: | 4/24/2024 |
| Reviewed by: | tjones | Received by: | CCS |
| Reviewed Date: | 4/30/2024 | Carrier name: | FedEx |

| | | | |
|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on all shipping container(s)/cooler(s)? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on all sample bottles? | Yes ☐ | No ☐ | Not Present ☑ |
| Chain of custody present? | Yes ☑ | No ☐ | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | |
| Sample containers intact? | Yes ☑ | No ☐ | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | |
| All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes ☑ | No ☐ | |
| Temp Blank received in all shipping container(s)/cooler(s)? | Yes ☑ | No ☐ | Not Applicable ☐ |
| Container/Temp Blank temperature: | 14.9°C No Ice | | |
| Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4"). | Yes ☐ | No ☐ | No VOA vials submitted ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☐ | Not Applicable ☑ |

### Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

### Contact and Corrective Action Comments:

None

ENERGY LABORATORIES
Trust our People. Trust our Data.

# Chain of Custody & Analytical Request Record

www.energylab.com



## Account Information (Billing information)

| | |
|---|---|
| Company/Name | Rio Grande Resources Corporation |
| Contact | Anita Willcox |
| Phone | 505-287-7971 |
| Mailing Address | PO Box 1150 |
| City, State, Zip | Grants, NM 87020 |
| Email | anita.willcox@ga.com |
| Receive Invoice | ☐Hard Copy ☒Email |
| Receive Report | ☐Hard Copy ☒Email |
| Purchase Order | MT11705 |
| Quote | |
| Bottle Order | |

## Report Information (if different than Account Information)

| | |
|---|---|
| Company/Name | AVM Environmental Services, Inc. |
| Contact | Victor Patel |
| Phone | 505-287-4593 |
| Mailing Address | 1717 Del Norte Blvd |
| City, State, Zip | Grants, NM 87020 |
| Email | vpatelavm@outlook.com |
| Receive Report | ☐Hard Copy ☒Email |
| Special Report/Formats: | ☐ LEVEL IV ☐NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____ |

## Comments

## Project Information

| | |
|---|---|
| Project Name, PWSID, Permit, etc. | MTM TP Soil Characterization |
| Sampler Name | Victor Patel |
| Sampler Phone | 505-287-4593 |
| Sample Origin State | New Mexico |
| EPA/State Compliance | ☐ Yes ☒ No |

**URANIUM MINING CLIENTS MUST indicate sample type**
☒ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

**Matrix Codes**
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

| | Sample Identification (Name, Location, Interval, etc.) | Collection Date | Collection Time | Number of Containers | Matrix (See Codes Above) | EPA 901.1 Modified for Soil | See Attached | RUSH TAT | ELI LAB ID (Laboratory Use Only) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | TP-11 6"-12" | 11/13/2023 | 1:45 pm | 1 | S | ✓ | | | C24040791 |
| 2 | TP-15B 6"-12" | 11/14/2023 | 8:25 am | 1 | S | ✓ | | | |
| 3 | TP-11 1'-2' | 11/16/2023 | 11:05 am | 1 | S | ✓ | | | |
| 4 | TP-15B 1'-1.5' | 11/16/2023 | 11:35 am | 1 | S | ✓ | | | |
| 5 | TP-41 0"-6" | 04/16/2024 | 8:45 am | 1 | S | ✓ | | | |
| 6 | TP-46 6"-12" | 04/16/2024 | 10:25 am | 1 | S | ✓ | | | |
| 7 | TP-36 6"-12" | 04/16/2024 | 11:00 am | 1 | S | ✓ | | | |
| 8 | TP-41 6"-12" | 04/16/2024 | 11:15 am | 1 | S | ✓ | | | |
| 9 | | | | | | | | | |

**ELI is REQUIRED to provide preservative traceability.** If the preservatives supplied with the bottle order were **NOT** used, please attach your preservative information with this COC.

| Custody Record MUST be signed | Relinquished by (print) | Date/Time | Signature | Received by (print) | Date/Time | Signature |
|---|---|---|---|---|---|---|
| | Victor Patel | 4-22-24/1000 | | | | |
| | Relinquished by (print) | Date/Time | Signature | Received by Laboratory (print) | Date/Time | Signature |
| | | | | Chester Smith | 4/24/24 10:10 | |

**LABORATORY USE ONLY**

| Shipped By | Cooler ID(s) | Custody Seals Y N C B | Intact Y N | Receipt Temp °C | Temp Blank Y N | On Ice Y N | Payment Type CC Cash Check_____ | Amount $ | Receipt Number (cash/check only) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

ENERGY LABORATORIES
Trust our People. Trust our Data.

# Chain of Custody & Analytical Request Record

www.energylab.com



## Account Information (Billing information)

| | |
|---|---|
| Company/Name | Rio Grande Resources Corporation |
| Contact | Anita Willcox |
| Phone | 505-287-7971 |
| Mailing Address | PO Box 1150 |
| City, State, Zip | Grants, NM 87020 |
| Email | anita.willcox@ga.com |
| Receive Invoice | ☐Hard Copy ▣Email |
| Receive Report | ☐Hard Copy ▣Email |
| Purchase Order | MT11705 |
| Quote | |
| Bottle Order | |

## Report Information (if different than Account Information)

| | |
|---|---|
| Company/Name | AVM Environmental Services, Inc. |
| Contact | Victor Patel |
| Phone | 505-287-4593 |
| Mailing Address | 1717 Del Norte Blvd |
| City, State, Zip | Grants, NM 87020 |
| Email | vpatelavm@outlook.com |
| Receive Report | ☐Hard Copy ▣Email |
| Special Report/Formats: | ☐ LEVEL IV ☐NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____ |

## Comments

## Project Information

| | |
|---|---|
| Project Name, PWSID, Permit, etc. | MTM TP Soil Characterization |
| Sampler Name | Victor Patel |
| Sampler Phone | 505-287-4593 |
| Sample Origin State | New Mexico |
| EPA/State Compliance | ☐ Yes ▣ No |

**URANIUM MINING CLIENTS MUST indicate sample type**
▣ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

**Matrix Codes**
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

| | Sample Identification (Name, Location, Interval, etc.) | Collection Date | Collection Time | Number of Containers | Matrix (See Codes Above) | EPA 901.1 Modified for Soil | See Attached | RUSH TAT | ELI LAB ID (Laboratory Use Only) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | TP-36 1'-2' | 04/17/2024 | 11:20 am | 1 | S | ✓ | | | C24040791 |
| 2 | TP-DS 01 | 04/17/2024 | 1:00 pm | 1 | S | ✓ | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
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# North Controlled Area Soil Radiologic Characterization

**Mt. Taylor Mine Site**
**San Mateo, NM**

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Appendix A Surface and Subsurface Contamination Field Investigation Documentation (Soil Sample Log Forms, Field Soil Sample Ex-Situ Gamma Radiation Screening Forms)
Appendix B Radiologic Instrument Calibration, Operational Function Check, and Collimated Detector Correlation Documentation
Appendix C Soil Sample COC and Laboratory Analytical Results Report

## 1.0 Introduction and Background

This report provides the results of the North Controlled Area (NCA) Soil Radiologic Characterization (SRC) that was conducted at the Mt. Taylor Mine (Site) in Cibola County, near San Mateo, New Mexico. This NCA SRC was performed to check the status and estimate radiologic contamination in soil exceeding the Site Radiation Cleanup Criteria (RCC) of 6.8 pCi/g Radium (Ra)-226, which is also used as the Site Investigation Level (IL). The NCA SRC area includes the Mine Water Treatment Area, the Ore Pad Runoff Retention Pond, the North Diversion Channel, Borrow Area A, the Marquez Arroyo bed, and the area between the Marquez Arroyo and the northern boundary fence of the NCA. The previously characterized Mine Water Treatment Ponds (1, 4, 5, 6, 7 & 8), the Ore Pad Area and the two active Mine Water Treatment Ponds (2 & 3) are not included in this NCA SRC. The methods and procedures used were consistent with the agency May 2022 approved June 2020 Work Plan for Post-Mining Radiological Surveys of Permit Area and Impacted Lands (Work Plan), and the applicable survey methods described in the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM, EPA 2000a). The RCC specified in the March 2016 *Joint Guidance for the Cleanup and Reclamation of Existing Uranium Mining Operations in New Mexico* (EMNRD, 2016) (2016 Guidance) by the Energy, Minerals & Natural Resources Department (EMNRD) and the New Mexico Environment Department (NMED) was used for the investigation level (IL) the NCA SRC. The Ra-226 cleanup criteria of 5.0 pCi/g above the background level in land averaged over 100 square meters in surface soil (top six inches) specified in the Joint Guidance is taken from the UMTRCA (40 CFR 192) regulation, which is based on an unrestricted land use exposure scenario. A 6.8 pCi/g Ra-226 IL (5.0 pCi/g plus 1.8 pCi/g background level) has been established for the Site.

The Site was an underground uranium mine located in Cibola County, near San Mateo, New Mexico. The mine was developed by Gulf Mineral Resources Company (Gulf) in the 1970s and ore production occurred from 1979 to 1982. Following the transfer of the Site to Chevron Resources Company in 1985, the ore production resumed and continued until 1990. Rio Grande Resources (RGR) acquired the Site in 1991. In 1999 the Site entered standby status under Mine Permit C1002RE with EMNRD. On December 29, 2017, the permit changed to an active status, and on December 3, 2019, RGR notified EMNRD of intentions to begin the Site closeout/closure process. The following sections describe the strategy, methods and procedures that were used and the results of the NCA SRC conducted at the Site.

## 2.0 Previous Radiologic Characterizations

Surface gamma radiation surveys were performed periodically within operationally controlled areas of the Site, including the NCA, to monitor changes in radiological conditions during a period of remedial excavations in the Mine Water Treatment Ponds, construction of the disposal cell, placement of contaminated mine materials, and the gradual removal of ore from the Ore Pad stockpile. The most recent gamma survey in this area prior to this characterization was conducted in March 2020 and showed gamma radiation levels exceeding the 6.8 pCi/g Ra-226 IL in numerous areas at the Site, including areas within the NCA. The 2020 gamma survey results are summarized in the Work Plan.

## 3.0 Objective of the Soil Radiological Characterization

The Site is a former uranium mine, therefore the surface and subsurface soil is expected to be impacted by radionuclides associated with the uranium decay series, with Ra-226 being the primary Constituent of Concern (COC). The objective of this characterization is to evaluate Ra-226 contamination exceeding the 6.8 pCi/g Ra-226 IL in surface and subsurface soils to facilitate the estimation of the volume of radiologic impacted soil within the NCA SRC area.

## 4.0 Field Investigation

Field investigations for this NCA SRC were conducted consistent with the Work Plan and were performed during the period of July 2024 through January 2025. The field investigation included both 0.5-inch thick lead collimated and bare (uncollimated) 2x2 sodium iodide (NaI) detector Differential Global Positioning System (DGPS) based gamma radiation scan surveys, and measurements. Additionally, static gamma radiation surveys, soil sampling, ex-situ soil screening, and offsite vendor laboratory confirmatory sample analysis were utilized during this SRC. The DGPS based gamma scan surveys were conducted to provide lateral Ra-226 concentration level estimates in surface soils. To assess subsurface radiological contamination, areas of potentially similar vertical extent of contamination were selected based on the DGPS gamma scan surveys, and data point (static gamma survey and subsurface soil samples) locations were selected to provide an area contamination depth profile estimation. Ex-situ gamma radiation soil screening was performed on the soil samples collected to provide real-time information to estimate surface and subsurface Ra-226 contamination levels. Offsite vender laboratory soil sample analysis was utilized to confirm the contamination levels estimated by ex-situ soil screening.

### 4.1 Surface Gamma Radiation Scan and Static Surveys

The instrument configuration used for direct gamma radiation level measurements during this characterization consisted of 0.5 inch thick lead collimated and bare 2x2 NaI scintillation detectors (Eberline SPA-3 or Ludlum 44-10) coupled to a scaler/rate meter, such as a Ludlum 2221 or Ludlum 2241. This instrument configuration is widely used for this type of survey and is recommended by the MARSSIM. The scaler/rate meters were interfaced with a sub-meter accurate DGPS with surveying software and a data logger/controller for electronically recording the gamma radiation levels to the corresponding geo-location coordinates. The coordinate system used for this work was the State Plane Coordinate System (NAD83, New Mexico West, US Feet) system. The direct gamma radiation surveys using a NaI scintillation detector provide radiation levels in counts per minute (cpm).

During this characterization, systematic gamma radiation scan surveys using bare 2x2 NaI detectors were performed at the Site to estimate the level of Ra-226 in surface soil within the characterization areas. Although bare detectors do not avoid lateral gamma radiation shine, bare detectors have a large field of view and provide a large scan coverage area for an efficient and conservative lateral extent of

contamination assessment. To better characterize the surface soil and to assist in the selection of data point locations, the surface gamma scan survey was performed at a higher density, 25-feet transect spacing, compared to the March 2020 scan density of about 60-ft transect spacing. Based on a conservative field of view (FOV) of about ten feet diameter for a bare 2x2 NaI detector for Ra-226 gamma radiation, scanning transects spacing of 25 feet would provide at least a 40% scan coverage, which is sufficient to identify and characterize any surface soil contamination. The gamma scan survey was performed by scanning along these transects with the detector at 12 inches above the ground surface at a scan rate of about three feet per second, with a data collection time interval of two seconds. A Bare detector gamma scan survey was performed in areas away from the Ore Pad, which could result in lateral gamma radiation shine. In areas near the Ore Pad, a 0.5 inch thick lead collimated detector was used to mitigate lateral gamma radiation shine. The bare/collimated detector gamma scan boundary is shown in Figure 2.

Twenty-five feet spaced geo-projected transects within the NCA were digitally created using a mapping software and loaded on the field data logger/controller. During this characterization, a gamma scan survey was not conducted in the Ore Pad Runoff Retention Pond since previous gamma scan surveys showed uniformly and significantly elevated measurements compared to the IL, making additional surface gamma scan surveys unnecessary in assisting with selecting data point locations for subsurface investigation.

The geo-located gamma scan data includes the gamma scan point ID number, date and time, location coordinates, and detector cpm. The scan data was exported from the data logger and the bare detector cpm were converted to equivalent Ra-226 estimate using the Site-specific correlation (Ra-226 pCi/g = 0.0005 x CPM)-7.32 $R^2$ = 0.97). The collimated detector cpm data was converted to equivalent Ra-226 estimate using the Site-specific correlation (Ra-226 pCi/g = 0.0016 x CPM)-7.5 $R^2$ = 0.83). The 20,357 discrete gamma scan points collected during the gamma scan survey were exported from the scan system and the detector cpm data was converted into the equivalent estimated surface soil Ra-226 pCi/g concentration using the appropriate Site-specific correlation. The data was then plotted using a mapping software, shown in Figure 2, and arranged in graduated color ranges, then reviewed to identify areas that exceeded the Ra-226 IL. A typical gamma scan data export table from the scan system data logger is shown in Table 1. Gamma scan survey data collected during this characterization are provided in an electronic file.

As previously discussed, areas of potentially similar vertical extent of contamination were selected based on the DGPS gamma scan surveys. A total of forty test pit (TP) data point locations, shown in Figure 3, were selected within these areas for the estimation of the vertical extent of Ra-226 contamination above IL. A one-minute collimated detector static gamma radiation survey was performed to estimate surface soil Ra-226 levels prior to collecting any soil samples at each data point location. Of the 40 TP data point locations, two were in the Ore Pad Retention Pond and one was located in the bed of the Marquez Arroyo. Additionally, seven investigation (INV) data point locations were selected where gamma scan surveys showed an isolated area with Ra-226 levels slightly above the IL. The investigation (INV) locations were inspected and one-minute collimated detector static gamma measurements were performed to determine if subsurface soil sampling was necessary. The survey data was recorded on Static Gamma Radiation Survey

Forms, which are included in Appendix A. The collimated detector measurements were converted to soil Ra-226 concentrations using the correlation equation for the collimated detector. The static gamma survey results are summarized in Table 2.

### 4.2 Soil Sampling and Ex-Situ Gamma Radiation Soil Screening

Soil sampling and on-site ex-situ gamma radiation soil screening were performed during October 2024 to January 2025 to estimate the subsurface soil Ra-226 contamination exceeding the IL. Surface (0 to 6 inches) soil samples were not collected at the data points during this characterization. The estimated surface soil Ra-226 level was determined from one-minute collimated detector static gamma radiation surveys. A one-minute collimated detector static gamma radiation survey provides a significantly higher certainty for a surface soil Ra-226 estimate than a two second integration gamma radiation scan survey provides. The use of a collimated detector mitigates any lateral gamma radiation shine from any nearby elevated concentration areas

Ex-situ gamma radiation soil screening was conducted to provide a real-time estimate of Ra-226 concentrations in soil samples to determine depth of subsurface soil sampling. This method is more reliable than in-situ direct gamma radiation level measurements and allows for a more reliable real-time Ra-226 concentration assessment. The on-site ex-situ soil screening method consists of selectively measuring the 609 KeV region gamma radiation of Bi-214, a decay product of Ra-226. A single channel analyzer (Ludlum L2221 or Ludlum 3003) integrated with a Ludlum 44-20 3x3 NaI scintillation detector was used to measure the 609 keV energy peak region of Bi-214. The soil sample was placed around the plastic lined detector in a heavily lead shielded counting chamber. The heavily shielded counting chamber lowers the system background counts thus, improving the system's minimum detectable concentration (MDC). A reference soil with the Ra-226 concentration of 6.6 pCi/g, comparable to the 6.8 pCi/g IL, was prepared and was used for soil screening during this characterization. The 6.6 pCi/g reference soil provides a conservative estimate of Ra-226 concentration in samples below the IL.

Subsurface soil samples were collected from each of the 47 data point (TP & INV) locations. The number and depth of the samples at each data point location varied depending upon location and soil screening results. A backhoe was used to excavate a trench for subsurface soil sample collection at each selected data point location, except for the subsurface soil samples collected from the Ore Retention Pond Bottom (TP-21 and TP-26), the North Diversion Channel Bed (TP-32 and TP-34), the Marquez Arroyo (TP-30), and the area between the Marquez Arroyo and the northern NCA boundary fence (TP-17, TP-25 and TP-33). At these locations, a hand auger was used to collect the subsurface soil samples since backhoe access was not practical. The trenches were excavated in approximately 6 to 12 inches depth intervals, depending on soil type and visual observations. At each interval, a subsurface soil sample was collected from the base of the excavation for ex-situ gamma radiation soil screening. Stainless steel sampling trowels, bowls and sieves were used to collect the soil samples. The excavation continued until on-site ex-situ gamma radiation soil screening indicated that Ra-226 concentrations were below the 6.8 pCi/g IL. The soil sample

logs and the field soil screening forms are included in Appendix A. The ex-situ gamma radiation screening data is summarized in Table 3, which includes estimated Ra-226 concentrations of the samples relative to the 6.8 pCi/g IL.

At 34 of the 47 data point locations, a 6-12 inch below ground surface (bgs) subsurface soil sample was collected, and ex-situ soil gamma screened. Furthermore, at five of those 37 data point locations, a subsurface soil sample at a depth of 1-2 feet bgs was collected and ex-situ soil screened since the 6–12-inch bgs subsurface sample soil screening result was above the IL. The subsurface soil samples from the two data point locations on the bottom of the Ore Retention Pond were collected at a depth of 3-4 feet below ground surface (bgs) since the shallow subsurface sample screening result was above the IL. At location TP-19, a subsurface soil sample was collected at a depth of 4.5 to 5.0 feet bgs since waste rock was observed from the ground surface to a depth of 4.5 feet bgs. An additional subsurface soil sample was collected at TP-19 at 5.0-5.5 feet bgs to confirm that the soil below 4.5 feet bgs is below the 6.8 pCi/g IL.

Although the primary objective of the ex-situ gamma radiation soil screening was to determine the Ra-226 concentrations above or below the 6.8 pCi/g IL, Ra-226 concentrations were estimated in all soil samples collected and screened. A calibration/correlation of the ex-situ soil screening system was performed using a 6.6 pCi/g, a 25 pCi/g and a 50 pCi/g reference soil. This correlation is included in Appendix B. The estimated Ra-226 concentrations of the subsurface soil samples are included in Tables 3 and 4.

A total of twelve, including one field quality assurance/quality check (QA/QC) duplicate, of the soil samples that were ex-situ gamma radiation soil screened on-site were sent to an offsite vendor laboratory for analysis, Energy Laboratories, in Casper, WY. These soil samples were analyzed for Ra-226 using EPA Method 901.1 (modified for soil matrix) for confirmation of the on-site ex-situ soil screening results. The laboratory results report is included in Appendix C and are summarized in Table 3. As shown in the table, the estimated Ra-226 levels determined by the on-site ex-situ soil screening are comparable with the vendor laboratory Ra-226 results, specifically in regards to determining that the Ra-226 levels are above or below the IL.

### 4.3 NCA Characterization Summary

As described previously, this NCA SRC included the areas shown in Figure 1. The entire NCA SRC area consists of approximately 46 acres. The soil in approximately a 23 acre area is below the 6.8 pCi/g Ra-226 IL. In the remaining 23 acre area, the soil exceeds the IL and ranges from the ground surface to a depth of 4.5 feet bgs. The depth of soil exceeding the IL at each data point (TP and INV) are summarized in Table 4 and shown in Figure 4. Figure 5 shows areas within the characterization area with soil exceeding the IL at various contamination depths. The areas and estimated volume of in-situ soil exceeding the IL within this characterization are summarized in Table 5. The excavated volume of soil exceeding the IL may be higher than the estimated in-situ volume due to the swell factor and the excavation equipment and technique used.

### 4.3.1 Mine Water Treatment Area Characterization Summary

The Mine Water Treatment Area consists of approximately 31 acres. Included in this area is the area between the Marquez Arroyo and the NCA fence. As shown in Figure 2, the gamma scan survey showed that the soil in the area generally west of the Treatment Ponds 4, 5, 6, and 7 is below the 6.8 pCi/g Ra-226 IL, except for a few isolated small areas. In these small isolated areas, the soil exceeding the IL ranges from 0.5 feet to 3.5 feet. The depth of soil exceeding the IL in the middle of the Mine Water Treatment Area, the area surrounding the Treatment and Active Ponds, generally ranged from 0.5 feet to 1.5 feet. The depth of soil exceeding the IL in the eastern section of the area, the areas near the Ore Pad and Ore Retention Pond, generally ranged from 0.5 feet to 4.5 feet.

### 4.3.2 Marquez Arroyo Bed Characterization Summary

A gamma scan survey of the Marquez Arroyo bed surface was conducted using a 0.5-inch lead collimated detector to mitigate any gamma radiation shine from the walls of the arroyo. As shown in Figure 2, there are only a few isolated locations that showed Ra-226 levels just above the IL. As shown in Table 2, the collimated detector gamma static survey at those isolated spots showed the bed surface soils well below the IL. A subsurface soil sample at a depth of 0.5 to 1.0 foot bgs was collected using a hand auger at the highest static gamma survey result location, TP-30. The gamma soil screening of the subsurface soil sample showed Ra-226 levels well below the IL. The Marquez Arroyo bed soil is below the Ra-226 IL.

### 4.3.3 Ore Retention Pond Characterization Summary

A gamma scan survey within the Ore Pad Retention Pond was not conducted because the 2020 gamma scan showed that the pond bottom surface soil has significantly elevated levels of Ra-226 above the IL. The two locations (TP-21 & TP-26) from the bottom of the pond were selected for subsurface characterization. The collimated detector static gamma survey at these two locations confirmed that the surface soil Ra-226 levels are significantly above the IL. Because of practical concerns for backhoe access into the Ore Retention Pond, subsurface soil samples were collected using a hand auger. As shown in Table 4 and Figure 4, the pond bottom subsurface soil sample gamma screening results show the Ra-226 level exceeding the IL range from two feet bgs at TP-21 to three feet at TP-26 bgs. The ground surface elevation at TP-26 is about one foot higher than at TP-21. The Ore Retention Pond crest and the outside slopes of the dikes are covered by an approximate one-foot layer of soil which is slightly above the IL. Waste rock was observed under the approximately one-foot soil layer. Waste rock is visible on the inside slope of the dikes from the crest to the base. It is likely that the entire dike profile and approximately one foot bgs under the dike base are likely to exceed the Ra-226 IL. Table 5 does not include the approximate volume of the Ore Retention Pond dikes impacted soil.

### 4.3.4 North Diversion Channel Characterization Summary

A lead collimated detector gamma scan survey of the banks and bed of the North Diversion Channel was conducted and showed the surface soil Ra-226 levels are above the IL. The western berm of the channel is adjacent the Ore Pad and exceeds the Ra-226 IL through its entire depth profile. The depth of Ra-226 levels above the IL in the eastern berm ranges from 0.5 to 1.0 foot bgs. As shown in Figures 4 and 5, the depth of Ra-226 levels exceeding the IL in the North Diversion Channel bed ranges from one to two feet bgs.

### 4.3.5 Borrow Area A Characterization Summary

As shown in Figure 2, the collimated detector gamma scan survey of Borrow Area A showed surface soil that exceeds the Ra-226 IL along the western, northern and southern perimeter areas. The subsurface soil samples and ex-situ gamma soil screening results show that the soil exceeding the Ra-226 IL is generally limited to 0.5-foot bgs, except for a small area near the southeast corner of the Borrow Area A, where the Ra-226 level exceeds the IL at a depth of about one-foot bgs. During the gamma scan of the Borrow Area A, scattered debris was observed on the surface and some debris such as cables and pipes were protruding out of the ground surface along the perimeter of the area. Additionally, at data point location TP-38, a subsurface soil sample was not collected due to the presence of metal debris restricting excavation past approximately 8 inches bgs. It is likely that the soil around buried debris may have soil Ra-226 levels above the IL. A magnetometer survey of the area may be necessary to locate any buried debris.

## 5.0 Soil Sampling and Analysis

Soil samples from the NCA collected for on-site ex-situ gamma radiation soil screening were collected consistent with the Work Plan. Field QA/QC duplicate samples were ex-situ gamma radiation soil screened at a frequency of 10% of the total number of soil samples screened. A total of 70 surface and subsurface soil samples were collected for the NCA characterization. Field sampling equipment used for soil sampling included: stainless steel scoops, hand auger, bowls, sieve, and spoons that were decontaminated between sample locations. The soil sampling equipment decontamination was conducted by brushing off loose visible soil and when necessary was rinsed with distilled water, then wiped with clean towels. The rinsed water was disposed of in Active Pond No. 2. Excavator buckets were cleaned by removing any loose, visible soil. Any soils excavated from the test pits were returned to the test pit excavations from which the soil came. Personal protection equipment (PPE), such as gloves, were brushed off and scanned for residual contamination and were disposed of.

Subsurface soil samples were analyzed by on-site ex-situ gamma radiation soil screening to estimate Ra-226 concentrations. Twelve QA/QC confirmatory soil samples were placed in labeled Ziploc bags and packaged along with a completed chain of custody in a cooler with a custody sealed lid and shipped to Energy Laboratories, Inc for Ra-226 analysis. The soil samples were analyzed for Ra-226 with a reporting limit of

0.5 pCi/g, using EPA Method 901.1 (modified for soil matrix). The completed chain of custody and the analytical results are included in Appendix C.

## 6. 0 Quality Assurance and Quality Control Measures

QA/QC measures were implemented during this characterization to ensure that decisions were made based on data of acceptable quality. All radiologic survey instruments have been calibrated at least annually. Additionally, operational functions checks were performed on all radiologic instruments daily prior to use. The calibration and function check documents are included in Appendix B. During this characterization, no instruments were found to be out of calibration or inoperable as indicated by the operational function checks. The instrument background measurements for bare 2x2 NaI detectors during daily operational function checks were less than 10,000 cpm as shown in Appendix B. The bare detector field of view (FOV) at 12 inches above the ground surface is conservatively assumed at an area of six feet diameter. The 2x2 NaI detector response factor is determined to be 0.0005 pCi/g/cpm from the linear regression for the Site-specific correlation included in Appendix B. Based on the above detector parameters, the Ra-226 minimum detectable concentrations (MDCs) for a scan survey at a scan speed of three feet per second, calculated using MARSSIM guidance, were less than 1.0 pCi/g, which is significantly below 50% of the 6.8 pCi/g IL. The instrument background measurements for the 0.5 inch thick lead collimated 2x2 NaI detectors during daily operational function checks were less than 3,200 cpm, as shown in Appendix B. The collimated detector field of view (FOV) at 12 inches above the ground surface is conservatively assumed at an area of 1.5 feet diameter. The collimated 2x2 NaI detector response factor is determined to be 625 cpm/pCi/g from the linear regression for the Site-specific correlation included in Appendix B. Based on the above collimated detector parameters, the Ra-226 minimum detectable concentrations (MDCs) for a one minute static survey, calculated using MARSSIM guidance, was less than 0.5 pCi/g, which is significantly below 50% of the 6.8 pCi/g IL. The ex-situ soil gamma radiation screening system was calibrated prior to mobilization in the field and daily operational function checks were performed prior to use. The calibration and function check documentation are included in Appendix B. Based on the highest system background (blank) measurements from daily operational function checks and efficiency (pCi/g/cpm), the highest Ra-226 MDC for the screening system calculated was less than 1.0 pCi/g, significantly less than the 6.8 pCi/g IL. The MDCs during the supplemental characterization met the QA objective.

The QA/QC measures also included twelve field QA/QC duplicate soil samples out of the 58 soil samples collected sent to the off-site vendor laboratory for analysis to confirm contamination relative to the IL levels estimated by the field ex-situ gamma radiation soil screening. The QA/QC duplicate vendor laboratory results are included in Table 3. All QA/QC sample results confirm Ra-226 concentration levels relative to the IL level determined by the field ex-situ gamma radiation soil screening. The Ra-226 concentration in QA/QC duplicate samples estimated by on-sit ex-situ gamma radiation soil screening are comparable to the off-site vendor laboratory analytical results.

# Tables

## Table 1
## Mt. Taylor Mine Site - North Controlled Area Soil Radiological Characterization
## Typical Gamma Scan Data Exported from the Scan System Data Logger

| ID | Time | Northing[(1)] (feet) | Easting[(1)] (feet) | MSL Elevation (feet) | CPM 2x2 Bare NaI Detector | Ra-226 pCi/g[(2)] | Zone_ID |
|---|---|---|---|---|---|---|---|
| 1 | 7/15/2024 9:44 | 1579480.37 | 2781608.42 | 7313 | 18924 | 2.14 | North_Control_Area |
| 2 | 7/15/2024 9:44 | 1579481.43 | 2781608.84 | 7313 | 17734 | 1.55 | North_Control_Area |
| 3 | 7/15/2024 9:44 | 1579482.53 | 2781611.48 | 7313 | 17983 | 1.67 | North_Control_Area |
| 4 | 7/15/2024 9:44 | 1579482.66 | 2781614.68 | 7313 | 18419 | 1.89 | North_Control_Area |
| 5 | 7/15/2024 9:45 | 1579480.86 | 2781617.51 | 7313 | 15123 | 0.60 | North_Control_Area |
| 6 | 7/15/2024 9:45 | 1579480.45 | 2781620.08 | 7313 | 17737 | 1.55 | North_Control_Area |
| 7 | 7/15/2024 9:45 | 1579480.19 | 2781620.09 | 7313 | 17526 | 1.44 | North_Control_Area |
| 8 | 7/15/2024 9:45 | 1579480.18 | 2781621.42 | 7313 | 17508 | 1.43 | North_Control_Area |
| 9 | 7/15/2024 9:45 | 1579480.46 | 2781624.34 | 7313 | 17811 | 1.59 | North_Control_Area |
| 10 | 7/15/2024 9:45 | 1579481.46 | 2781626.49 | 7313 | 17170 | 1.27 | North_Control_Area |
| 11 | 7/15/2024 9:45 | 1579482.91 | 2781628.77 | 7313 | 18518 | 1.94 | North_Control_Area |
| 12 | 7/15/2024 9:45 | 1579483.80 | 2781631.28 | 7313 | 17297 | 1.33 | North_Control_Area |
| 13 | 7/15/2024 9:45 | 1579483.15 | 2781634.57 | 7313 | 18091 | 1.73 | North_Control_Area |
| 14 | 7/15/2024 9:45 | 1579482.23 | 2781637.63 | 7313 | 17840 | 1.60 | North_Control_Area |
| 15 | 7/15/2024 9:45 | 1579480.18 | 2781638.20 | 7313 | 21050 | 3.21 | North_Control_Area |
| 16 | 7/15/2024 9:45 | 1579477.12 | 2781637.47 | 7313 | 17418 | 1.39 | North_Control_Area |
| 17 | 7/15/2024 9:45 | 1579474.30 | 2781641.18 | 7314 | 17603 | 1.48 | North_Control_Area |
| 18 | 7/15/2024 9:45 | 1579474.52 | 2781645.76 | 7314 | 16122 | 0.74 | North_Control_Area |
| 19 | 7/15/2024 9:45 | 1579476.86 | 2781649.32 | 7314 | 17957 | 1.66 | North_Control_Area |
| 20 | 7/15/2024 9:45 | 1579479.59 | 2781651.61 | 7314 | 17082 | 1.22 | North_Control_Area |
| 21 | 7/15/2024 9:45 | 1579483.79 | 2781652.22 | 7314 | 18520 | 1.94 | North_Control_Area |
| 22 | 7/15/2024 9:45 | 1579485.62 | 2781655.27 | 7314 | 19757 | 2.56 | North_Control_Area |
| 23 | 7/15/2024 9:45 | 1579486.09 | 2781659.48 | 7314 | 22257 | 3.81 | North_Control_Area |
| 24 | 7/15/2024 9:46 | 1579485.52 | 2781665.29 | 7314 | 17688 | 1.52 | North_Control_Area |
| 25 | 7/15/2024 9:46 | 1579484.31 | 2781666.71 | 7315 | 17440 | 1.40 | North_Control_Area |
| 26 | 7/15/2024 9:46 | 1579483.20 | 2781672.84 | 7315 | 16720 | 1.04 | North_Control_Area |
| 27 | 7/15/2024 9:46 | 1579482.38 | 2781677.17 | 7315 | 18212 | 1.79 | North_Control_Area |
| 28 | 7/15/2024 9:46 | 1579482.68 | 2781681.44 | 7315 | 19918 | 2.64 | North_Control_Area |
| 29 | 7/15/2024 9:46 | 1579483.18 | 2781685.24 | 7315 | 18825 | 2.09 | North_Control_Area |
| 30 | 7/15/2024 9:46 | 1579482.84 | 2781689.59 | 7315 | 18951 | 2.16 | North_Control_Area |
| 31 | 7/15/2024 9:46 | 1579481.31 | 2781693.89 | 7315 | 19597 | 2.48 | North_Control_Area |
| 32 | 7/15/2024 9:46 | 1579481.72 | 2781698.27 | 7315 | 18782 | 2.07 | North_Control_Area |
| 33 | 7/15/2024 9:46 | 1579483.49 | 2781702.34 | 7315 | 18723 | 2.04 | North_Control_Area |
| 34 | 7/15/2024 9:46 | 1579485.29 | 2781706.70 | 7315 | 18615 | 1.99 | North_Control_Area |
| 35 | 7/15/2024 9:46 | 1579485.28 | 2781711.19 | 7315 | 18751 | 2.06 | North_Control_Area |
| 36 | 7/15/2024 9:46 | 1579483.10 | 2781715.08 | 7315 | 20342 | 2.85 | North_Control_Area |
| 37 | 7/15/2024 9:46 | 1579483.94 | 2781719.09 | 7315 | 18866 | 2.11 | North_Control_Area |
| 38 | 7/15/2024 9:46 | 1579483.31 | 2781722.44 | 7316 | 19876 | 2.62 | North_Control_Area |
| 39 | 7/15/2024 9:46 | 1579483.93 | 2781726.44 | 7316 | 20314 | 2.84 | North_Control_Area |
| 40 | 7/15/2024 9:46 | 1579485.57 | 2781730.70 | 7316 | 19959 | 2.66 | North_Control_Area |

(1) projection: StatePlane NAD 1983 NM West - Feet

(2) Ra-226 pCi/g determined from surface soil gamma radiation scan using 2x2 NaI detector and Site-specific gamma radiation level (cpm) correlation

**Table 2**
**Mt. Taylor Mine Site - North Controlled Area Soil Radiological Characterization**
**Static Gamma Radiation Survey at Data Point/Soil Sample Locations**

| Data Point ID | Survey Date | Data Point Coordinate NAD83 StatePlane NM West, Feet | | Static Gamma Radiation Survey Collimated (0.5" PB) 2x2 Detector | |
|---|---|---|---|---|---|
| | | Northing | Easting | Static Gamma CPM | Surface Soil Static Gamma Estimated Ra-226 pCi/g |
| TP-01 | 9/19/2024 | 1580186.76 | 2781641.72 | 74549 | 111.8 |
| TP-02 | 9/19/2024 | 1581347.96 | 2781655.87 | 23242 | 29.7 |
| TP-03 | 9/19/2024 | 1581200.16 | 2781928.52 | 12217 | 12.0 |
| TP-04 | 9/19/2024 | 1580830.01 | 2781918.97 | 11677 | 11.2 |
| TP-05 | 9/19/2024 | 1580644.14 | 2781961.31 | 7643 | 4.7 |
| TP-06 | 9/19/2024 | 1579534.44 | 2782004.83 | 28795 | 38.6 |
| TP-07 | 9/19/2024 | 1580612.66 | 2782033.15 | 7755 | 4.9 |
| TP-08 | 9/19/2024 | 1580712.40 | 2782055.84 | 9500 | 7.7 |
| TP-09 | 11/25/2024 | 1579887.40 | 2782299.57 | 26878 | 35.5 |
| TP-10 | 9/19/2024 | 1580089.57 | 2782156.92 | 10215 | 8.8 |
| TP-11 | 9/19/2024 | 1580893.36 | 2782211.56 | 17075 | 19.8 |
| TP-12 | 9/19/2024 | 1580498.58 | 2782193.94 | 7687 | 4.8 |
| TP-13 | 9/19/2024 | 1581025.34 | 2782214.93 | 25917 | 34.0 |
| TP-14 | 9/19/2024 | 1581007.22 | 2782310.10 | 31693 | 43.2 |
| TP-15 | 9/19/2024 | 1580839.32 | 2782323.98 | 10771 | 9.7 |
| TP-16 | 9/19/2024 | 1580514.25 | 2782350.77 | 20877 | 25.9 |
| TP-17 | 11/22/2024 | 1581231.06 | 2782360.91 | 9788 | 8.2 |
| TP-18 | 9/19/2024 | 1580678.19 | 2782412.82 | 23920 | 30.8 |
| TP-19 | 9/19/2024 | 1581111.05 | 2782512.59 | 108929 | 166.8 |
| TP-20 | 9/19/2024 | 1580575.91 | 2782540.15 | 42042 | 59.8 |
| TP-21 | 1/27/2025 | 1580826.78 | 2782605.83 | 189626 | 295.9 |
| TP-22 | 9/19/2024 | 1580005.97 | 2782577.72 | 27679 | 36.8 |
| TP-23 | 10/28/2024 | 1580933.72 | 2782615.38 | 11721 | 11.3 |
| TP-24 | 9/19/2024 | 1580664.84 | 2782653.22 | 184511 | 287.7 |
| TP-25 | 11/22/2024 | 1581176.90 | 2782660.86 | 15304 | 17.0 |
| TP-26 | 12/12/2024 | 1580859.02 | 2782663.51 | 154801 | 240.2 |
| TP-27 | 9/19/2024 | 1580481.71 | 2782702.25 | 116173 | 178.4 |
| TP-28 | 9/19/2024 | 1581078.62 | 2782722.31 | 69269 | 103.3 |
| TP-29 | 9/19/2024 | 1580104.95 | 2782715.01 | 37349 | 52.3 |
| TP-30 | 12/2/2024 | 1581088.55 | 2782875.42 | 7362 | 4.3 |
| TP-31 | 11/25/2024 | 1580996.95 | 2783152.31 | 76057 | 114.2 |
| TP-32 | 12/12/2024 | 1580437.62 | 2783254.26 | 11869 | 11.5 |
| TP-33 | 11/25/2024 | 1581081.58 | 2783299.76 | 11765 | 11.3 |
| TP-34 | 12/12/2024 | 1580838.74 | 2783312.73 | 18951 | 22.8 |
| TP-35 | 10/23/2024 | 1580623.09 | 2783328.09 | 31729 | 43.3 |
| TP-36 | 10/23/2024 | 1580793.59 | 2783353.65 | 12576 | 12.6 |
| TP-37 | 10/23/2024 | 1580494.41 | 2783389.94 | 9058 | 7.0 |
| TP-38 | 10/23/2024 | 1581073.21 | 2783415.97 | 13769 | 14.5 |
| TP-39 | 10/23/2024 | 1580478.54 | 2783504.44 | 9606 | 7.9 |
| TP-40 | 10/23/2024 | 1581112.23 | 2783628.43 | 13072 | 13.4 |
| Inv-01 | 9/19/2024 | 1580780.75 | 2781697.35 | 14304 | 15.4 |
| Inv-02 | 9/19/2024 | 1579936.57 | 2781697.29 | 9200 | 7.2 |
| Inv-03 | 9/19/2024 | 1581223.91 | 2781793.57 | 13157 | 13.6 |
| Inv-04 | 9/19/2024 | 1580827.72 | 2782178.60 | 36695 | 51.2 |
| Inv-05 | 10/23/2024 | 1580653.58 | 2783716.79 | 7441 | 4.4 |
| Inv-06 | 10/23/2024 | 1581080.53 | 2783861.07 | 19774 | 24.1 |
| Inv-07 | 9/19/2024 | 1580754.28 | 2781792.25 | 10142 | 8.7 |

# Table 3

## North Controlled Area Radiological Characterization Soil Sample Field Ex-Situ Screening and Vendor Laboratory Results Summary

| Sample Data | | | | | Field Soil Screening Data | | | | | | Laboratory Data | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Sample Depth | Sample Date | Sample Time | Description | Screen Date | Sample Weight grams | 609 (559-669) Kev Gross Counts CP5M | CPM | Soil Gamma Screening Estimated Ra-226 pCi/g | Soil IL (< or >) | Sample Sent to Lab | Ra-226 pCi/g | Error Estimate pCi/g | MDC pCi/g |
| TP-01 | 6"-12" | 10/8/2024 | 930 | Brown silt/sand compacted | 10/8/2024 | 3000 | 1437 | 287 | 3.1 | < | yes | 1.2 | 0.2 | 0.2 |
| TP-01 | 1'-2' | 10/8/2024 | 940 | Light brown sand/silt hardpack | 10/8/2024 | 3000 | 1363 | 273 | 2.9 | < | - | - | - | - |
| TP-02 | 3.5'-4' | 10/8/2024 | 1000 | Dark brown loam/slit W/ clay | 10/8/2024 | 3000 | 1194 | 239 | 2.4 | < | - | - | - | - |
| TP-02 | 4.5'-5' | 10/8/2024 | 1020 | Brown silt/sand compacted | 10/8/2024 | 3000 | 1245 | 249 | 2.5 | < | - | - | - | - |
| TP-03 | 6"-12" | 10/9/2024 | 810 | Light brown sand/silt hardpack w/ grey soil | 10/9/2024 | 3000 | 1241 | 248 | 2.5 | < | - | - | - | - |
| TP-03 | 1'-2' | 10/9/2024 | 820 | Brown slit/sand - clay | 10/9/2024 | 3000 | 1208 | 242 | 2.4 | < | - | - | - | - |
| TP-04 | 6"-12" | 10/15/2024 | 1020 | Gravel & brown slit/sand - clay | 10/15/2024 | 3000 | 1424 | 285 | 3.0 | < | - | - | - | - |
| TP-05 | 6"-12" | 10/9/2024 | 940 | Light brown sand/silt hardpack | 10/9/2024 | 3000 | 1395 | 279 | 2.9 | < | - | - | - | - |
| TP-06 | 6"-12" | 10/8/2024 | 846 | Light brown sand/silt hardpack | 10/8/2024 | 3000 | 1306 | 261 | 2.7 | < | - | - | - | - |
| TP-06 | 1'-2' | 10/8/2024 | 856 | Light brown sand/silt hardpack | 10/8/2024 | 3000 | 1256 | 251 | 2.6 | < | - | - | - | - |
| TP-07 | 6"-12" | 10/9/2024 | 925 | Light brown sand/silt hardpack | 10/9/2024 | 3000 | 1524 | 305 | 3.3 | < | - | - | - | - |
| TP-08 | 6"-12" | 10/9/2024 | 910 | Light brown sand/silt hardpack | 10/9/2024 | 3000 | 1375 | 275 | 2.9 | < | - | - | - | - |
| TP-09 | 6"-12" | 11/25/2024 | 1250 | Light brown sandy, silt | 11/26/2024 | 3000 | 1185 | 237 | 2.4 | < | - | - | - | - |
| TP-09 | 1'-1.5' | 11/25/2024 | 1305 | Light brown sandy, silt | 11/26/2024 | 3000 | 1131 | 226 | 2.2 | < | - | - | - | - |
| TP-09 | 2'-2.5' | 11/25/2024 | 1315 | Light brown sandy, silt | 11/26/2024 | 3000 | 1225 | 245 | 2.5 | < | - | - | - | - |
| TP-10 | 6"-12" | 10/8/2024 | 910 | Light brown sand/silt hardpack | 10/8/2024 | 3000 | 1840 | 368 | 4.2 | < | - | - | - | - |
| TP-11 | 6"-12" | 10/9/2024 | 850 | Brown slit/sand - clay | 10/9/2024 | 3000 | 7653 | 1531 | 20.5 | > | - | - | - | - |
| TP-11 | 1'-1.5' | 10/9/2024 | 900 | Dark brown slit/sand - clay | 10/9/2024 | 3000 | 2076 | 415 | 4.9 | < | - | - | - | - |
| TP-12 | 6"-12" | 10/9/2024 | 1000 | Brown slit/sand - clay | 10/9/2024 | 3000 | 1353 | 271 | 2.8 | < | - | - | - | - |
| TP-13 | 6"-12" | 10/9/2024 | 840 | Dark brown slit/sand - clay | 10/9/2024 | 3000 | 2745 | 549 | 6.7 | ≈ | yes | 7.2 | 0.4 | 0.3 |
| TP-13 | 1'-1.5' | 10/15/2024 | 815 | Light brown sand/silt hardpack | 10/15/2024 | 3000 | 1397 | 279 | 3.0 | < | - | - | - | - |
| TP-14 | 6"-12" | 10/15/2024 | 1040 | Brown slit/sand - clay | 10/15/2024 | 3000 | 1915 | 383 | 4.4 | < | - | - | - | - |
| TP-15 | 6"-12" | 10/9/2024 | 1050 | Light brown sand/silt hardpack | 10/9/2024 | 3000 | 1274 | 255 | 2.6 | < | - | - | - | - |
| TP-16 | 6"-12" | 10/9/2024 | 1010 | Brown slit/sand - clay | 10/9/2024 | 3000 | 1376 | 275 | 2.9 | < | - | - | - | - |
| TP-16 | 1'-1.5' | 10/9/2024 | 1020 | Brown slit/sand - clay | 10/9/2024 | 3000 | 1250 | 250 | 2.5 | < | - | - | - | - |
| TP-17 | 6"-12" | 11/22/2024 | 1040 | Brown slit/loam | 11/26/2024 | 3000 | 1475 | 295 | 3.2 | < | - | - | - | - |
| TP-18 | 6"-12" | 10/9/2024 | 1030 | Light brown sand/silt hardpack | 10/9/2024 | 3000 | 5468 | 1094 | 14.3 | > | - | - | - | - |
| TP-18 | 1'-1.5' | 10/15/2024 | 825 | Light brown sand/silt hardpack | 10/15/2024 | 3000 | 1977 | 395 | 4.6 | < | - | - | - | - |
| TP-18 | 1.5'-2' | 10/15/2024 | 836 | Brown slit/sand - clay | 10/15/2024 | 3000 | 1323 | 265 | 2.7 | < | - | - | - | - |
| TP-19 | 6"-4.5' | 10/28/2024 | 1140 | Sandy grey waste rock | 10/29/2024 | 3000 | 38495 | 7699 | 106.8 | > | - | - | - | - |
| TP-19 | 4.5'-5' | 10/16/2024 | 845 | Interface waste rock-dark brown clay | 10/16/2024 | 3000 | 1297 | 259 | 2.7 | < | yes | 1.1 | 0.2 | 0.2 |
| TP-19 | 5'-5.5' | 10/16/2024 | 900 | Dark brown slit/sand - clay | 10/16/2024 | 3000 | 1334 | 267 | 2.8 | < | - | - | - | - |

## Table 3 (cont.)

### North Controlled Area Radiological Characterization Soil Sample Field Ex-Situ Screening and Vendor Laboratory Results Summary

| Sample Data | | | | | Field Soil Screening Data | | | | | | Laboratory Data | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Sample Depth | Sample Date | Sample Time | Description | Screen Date | Sample Weight grams | 609 (559-669) Kev Gross Counts CP5M | CPM | Soil Gamma Screening Estimated Ra-226 pCi/g | Soil IL (< or >) | Sample Sent to Lab | Ra-226 pCi/g | Error Estimate pCi/g | MDC pCi/g |
| TP-20 | 1'-1.5' | 10/15/2024 | 1055 | Light brown sand/silt hardpack | 10/15/2024 | 3000 | 1243 | 249 | 2.5 | < | - | - | - | - |
| TP-21 | 0-2.0' | 1/27/2025 | 1056 | Dark grey compacted sandy silty clay with metal debris | 1/30/2025 | 3000 | 41183 | 8237 | 114.4 | > | - | - | - | - |
| TP-21 | 2.0'-3.0' | 1/27/2025 | 1105 | Dark grey compacted sandy silty clay | 1/30/2025 | 3000 | 1938 | 388 | 4.5 | < | - | - | - | - |
| TP-21 | 3.0'-4.0 | 1/27/2025 | 1113 | Dark brown clay | 1/30/2025 | 3000 | 1712 | 342 | 3.8 | < | - | - | - | - |
| TP-22 | 1'-1.5' | 10/16/2024 | 1115 | Dark brown slit/sand - clay | 10/16/2024 | 3000 | 9053 | 1811 | 24.4 | > | - | - | - | - |
| TP-22 | 1.5'-2' | 10/28/2024 | 1120 | Light brown sand/silt hardpack | 10/29/2024 | 3000 | 1213 | 243 | 2.4 | < | yes | 1.1 | 0.2 | 0.3 |
| TP-23 | 6"-12" | 10/28/2024 | 1300 | Brown slit/loam - clay | 10/29/2024 | 3000 | 1512 | 302 | 3.3 | < | - | - | - | - |
| TP-24 | 6"-12" | 10/16/2024 | 1020 | Light brown sand/silt hardpack | 10/16/2024 | 3000 | 2377 | 475 | 5.7 | < | yes | 3.8 | 0.3 | 0.2 |
| TP-25 | 6"-12" | 11/22/2024 | 1055 | Brown slit/loam - clay | 11/26/2024 | 3000 | 1164 | 233 | 2.3 | < | - | - | - | - |
| TP-26 | 2'-2.5' | 12/11/2024 | 1000 | Dark grey compacted sandy silty | 12/11/2024 | 3000 | 10464 | 2093 | 28.3 | > | - | - | - | - |
| TP-26 | 2.5'-3.0' | 1/27/2025 | 1028 | Dark grey compacted sandy silty clay | 1/30/2025 | 3000 | 1900 | 380 | 4.4 | < | - | - | - | - |
| TP-26 | 3.0'-4.0' | 1/27/2025 | 1037 | Dark grey compacted sandy silty clay | 1/30/2025 | 3000 | 2198 | 440 | 5.2 | < | | | | |
| TP-27 | 8"-12" | 10/16/2024 | 1000 | Brown slit/sand - clay | 10/16/2024 | 3000 | 1323 | 265 | 2.7 | < | - | - | - | - |
| TP-28 | 10"-12" | 10/16/2024 | 930 | Interface waste rock-light brown clay | 10/16/2024 | 3000 | 1506 | 301 | 3.3 | < | - | - | - | - |
| TP-29 | 1'-1.5' | 10/16/2024 | 1056 | Brown slit/sand - clay | 10/16/2024 | 3000 | 1214 | 243 | 2.4 | < | - | - | - | - |
| TP-30 | 6"-12" | 12/4/2024 | 830 | Light brown sandy, cobble, silty clay | 12/9/2024 | 3000 | 1258 | 252 | 2.6 | < | yes | 1.6 | 0.2 | 0.2 |
| TP-31 | 6"-12" | 11/25/2024 | 1020 | Dark brown slit/sand - clay | 11/26/2024 | 3000 | 3849 | 770 | 9.8 | > | - | - | - | - |
| TP-31 | 1'-1.5' | 11/25/2024 | 1040 | Light brown sandy, silt | 11/26/2024 | 3000 | 1704 | 341 | 3.8 | < | - | - | - | - |
| TP-32 | 6"-12" | 12/5/2024 | 845 | Dark brown silty clay | 12/9/2024 | 3000 | 2619 | 524 | 6.4 | ≈ | - | - | - | - |
| TP-32 | 1'-1.5' | 12/9/2024 | 950 | Brown slit/loam - clay | 12/11/2024 | 3000 | 1229 | 246 | 2.5 | < | yes | 1.4 | 0.2 | 0.3 |
| TP-33 | 6"-12" | 11/25/2024 | 1100 | Brown slit/loam - clay and sand | 11/26/2024 | 3000 | 1203 | 241 | 2.4 | < | yes | 1.1 | 0.2 | 0.2 |
| TP-34 | 6"-12" | 12/5/2024 | 930 | Dark brown silty clay | 12/9/2024 | 3000 | 6878 | 1376 | 18.3 | > | - | - | - | - |
| TP-34 | 1'-2' | 12/9/2024 | 1030 | Brown sandy/silty clay | 12/11/2024 | 3000 | 3976 | 795 | 10.2 | > | - | - | - | - |
| TP-34 | 2'-3' | 12/11/2024 | 915 | Brown silty clay/sandy with cobble | 12/11/2024 | 3000 | 1547 | 309 | 3.4 | < | yes | 1.3 | 0.2 | 0.2 |
| TP-35 | 6"-12" | 10/28/2024 | 840 | Brown slit/sand - clay | 10/29/2024 | 3000 | 3081 | 616 | 7.7 | > | - | - | - | - |
| TP-35 | 1'-1.5' | 10/28/2024 | 850 | Interface waste rock-dark brown clay | 10/29/2024 | 3000 | 1502 | 300 | 3.2 | < | - | - | - | - |
| TP-36 | 6"-12" | 10/28/2024 | 810 | Brown slit/loam - clay | 10/29/2024 | 3000 | 1345 | 269 | 2.8 | < | - | - | - | - |
| TP-36 | 1'-2' | 10/28/2024 | 825 | Brown slit/loam - clay | 10/29/2024 | 3000 | 1279 | 256 | 2.6 | < | - | - | - | - |
| TP-37 | 6"-12" | 10/28/2024 | 910 | Dark brown slit/sand - clay | 10/29/2024 | 3000 | 1273 | 255 | 2.6 | < | - | - | - | - |
| TP-39 | 6"-12" | 10/28/2024 | 930 | Brown slit/loam - clay | 10/29/2024 | 3000 | 1285 | 257 | 2.6 | < | - | - | - | - |
| TP-40 | 6"-12" | 10/28/2024 | 1035 | Light brown sandy, silt | 10/29/2024 | 3000 | 1177 | 235 | 2.3 | < | yes | 1.1 | 0.3 | 0.3 |
| Inv-01 | 2'-2.5' | 10/15/2024 | 940 | Light brown sand/silt hardpack w/ grey soil | 10/15/2024 | 3000 | 1337 | 267 | 2.8 | < | - | - | - | - |

## Table 3 (cont.)

**North Controlled Area Radiological Characterization Soil Sample Field Ex-Situ Screening and Vendor Laboratory Results Summary**

| Sample Data | | | | | Field Soil Screening Data | | | | | | Laboratory Data | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Sample Depth | Sample Date | Sample Time | Description | Screen Date | Sample Weight grams | 609 (559-669) Kev Gross Counts CP5M | CPM | Soil Gamma Screening Estimated Ra-226 pCi/g | Soil IL (< or >) | Sample Sent to Lab | Ra-226 pCi/g | Error Estimate pCi/g | MDC pCi/g |
| Inv-05 | 6"-12" | 10/28/2024 | 945 | Light brown sandy, silt | 10/29/2024 | 3000 | 2442 | 488 | 5.9 | < | - | - | - | - |
| Inv-05 | 1'-1.5' | 10/28/2024 | 1000 | Brown slit/sand - clay | 10/29/2024 | 3000 | 1553 | 311 | 3.4 | < | - | - | - | - |
| Inv-06 | 6"-12" | 10/28/2024 | 1015 | Light brown sandy, silt/loam | 10/29/2024 | 3000 | 1337 | 267 | 2.8 | < | - | - | - | - |
| Inv-07 | 6"-12" | 10/8/2024 | 1045 | Grey silt/sand w/ debris | 10/8/2024 | 3000 | 2945 | 589 | 7.3 | > | - | - | - | - |
| Inv-07 | 1.5'-2' | 10/8/2024 | 1055 | Grey silt/sand w/ debris | 10/8/2024 | 3000 | 3131 | 626 | 7.8 | > | yes | 8.6 | 0.4 | 0.3 |
| Inv-07 | 2'-3' | 10/8/2024 | 1105 | Dark brown slit/sand - clay | 10/8/2024 | 3000 | 1125 | 225 | 2.2 | < | - | - | - | - |

Note: Soil samples were not collected at locations Inv-02, Inv-03, and Inv-04.

**Table 4**
**North Controlled Area Surface and Subsurface Soil Ra-226 Level Summary**

| Data Point ID | Static Gamma CPM | Static Gamma Estimated Ra-226 pCi/g 0-6" (surface) Soil | Static Gamma & Ex-Situ Soil Screening Estimated Ra-226 pCi/g | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 6"-12" Soil | 1'-1.5' Soil | 1.5' - 2' Soil | 2'-2.5' Soil | 2.5'-3' Soil | 3'-3.5' Soil | 3.5'-4' Soil | 4'-4.5' Soil | 4.5'-5' Soil | 5'-5.5' Soil |
| TP-1 | 74549 | 111.8 | 3.1 | 2.9 | 2.9 | - | - | - | - | - | - | - |
| TP-2 | 23242 | 29.7 | 20.0 | | | | | | 2.4 | 2.5 | 2.5 | - |
| TP-3 | 12217 | 12.0 | 2.5 | 2.4 | | - | - | - | - | - | - | - |
| TP-4 | 11677 | 11.2 | 3.0 | - | - | - | - | - | - | - | - | - |
| TP-5 | 7643 | 4.7 | 2.9 | - | - | - | - | - | - | - | - | - |
| TP-6 | 28795 | 38.6 | 2.7 | 2.6 | 2.6 | - | - | - | - | - | - | - |
| TP-7 | 7755 | 4.9 | 3.3 | - | - | - | - | - | - | - | - | - |
| TP-8 | 9500 | 7.7 | 2.9 | - | - | - | - | - | - | - | - | - |
| TP-9 | 26878 | 35.5 | 2.4 | 2.2 | - | 2.5 | - | - | - | - | - | - |
| TP-10 | 10215 | 8.8 | 4.2 | - | - | - | - | - | - | - | - | - |
| TP-11 | 17075 | 19.8 | 20.5 | 4.9 | - | - | - | - | - | - | - | - |
| TP-12 | 7687 | 4.8 | 2.8 | - | - | - | - | - | - | - | - | - |
| TP-13 | 25917 | 34.0 | 6.7 | 3 | - | - | - | - | - | - | - | - |
| TP-14 | 31693 | 43.2 | 4.4 | - | - | - | - | - | - | - | - | - |
| TP-15 | 10771 | 9.7 | 2.6 | - | - | - | - | - | - | - | - | - |
| TP-16 | 20877 | 25.9 | 2.9 | 2.5 | - | - | - | - | - | - | - | - |
| TP-17 | 9788 | 8.2 | 3.2 | - | - | - | - | - | - | - | - | - |
| TP-18 | 23920 | 30.8 | 14.3 | 4.6 | 2.7 | - | - | - | - | - | - | - |
| TP-19 | 108929 | 166.8 | 106.8 | | | | | | | | 2.7 | 2.8 |
| TP-20 | 42042 | 59.8 | 59.8 | 2.5 | - | - | - | - | - | - | - | - |
| TP-21 | 189626 | 295.9 | 114.4 | | | 4.5 | | 3.8 | | - | - | - |
| TP-22 | 27679 | 36.8 | 36.8 | 24.4 | - | - | - | - | - | - | - | - |
| TP-23 | 11721 | 11.3 | 3.3 | - | - | - | - | - | - | - | - | - |
| TP-24 | 184511 | 287.7 | 5.7 | - | - | - | - | - | - | - | - | - |
| TP-25 | 15304 | 17.0 | 2.3 | - | - | - | - | - | - | - | - | - |
| TP-26 | 154801 | 240.2 | - | - | - | 28.3 | 4.4 | 5.2 | | - | - | - |
| TP-27 | 116173 | 178.4 | 2.7 | - | - | - | - | - | - | - | - | - |
| TP-28 | 69269 | 103.3 | 3.3 | - | - | - | - | - | - | - | - | - |
| TP-29 | 37349 | 52.3 | - | 2.4 | - | - | - | - | - | - | - | - |
| TP-30 | 7362 | 4.3 | 2.6 | - | - | - | - | - | - | - | - | - |
| TP-31 | 76057 | 114.2 | 9.8 | 3.8 | - | - | - | - | - | - | - | - |
| TP-32 | 11869 | 11.5 | 6.4 | 2.5 | - | - | - | - | - | - | - | - |
| TP-33 | 11765 | 11.3 | 2.4 | - | - | - | - | - | - | - | - | - |
| TP-34 | 18951 | 22.8 | 18.3 | 10.2 | | 3.4 | | - | - | - | - | - |
| TP-35 | 31729 | 43.3 | 7.7 | 3.2 | - | - | - | - | - | - | - | - |
| TP-36 | 12576 | 12.6 | 2.8 | 2.6 | | - | - | - | - | - | - | - |
| TP-37 | 9058 | 7.0 | 2.6 | - | - | - | - | - | - | - | - | - |
| TP-38 | 13769 | 14.5 | No Subsurface Soil Sample Taken - Metal Debris | | | | | | | | | |
| TP-39 | 9606 | 7.9 | 2.6 | - | - | - | - | - | - | - | - | - |
| TP-40 | 13072 | 13.4 | 2.3 | - | - | - | - | - | - | - | - | - |
| Inv-01 | 14304 | 15.4 | 32.8 | 12.4 | | 2.8 | - | - | - | - | - | - |
| Inv-02 | 9200 | 7.2 | 10.6 | 5.1 | - | - | - | - | - | - | - | - |
| Inv-03 | 13157 | 13.6 | Push-up Berm Height of 2.5' from Pond 8 Area | | | | - | - | - | - | - | - |
| Inv-04 | 36695 | 51.2 | 11.6 | 6.6 | - | - | - | - | - | - | - | - |
| Inv-05 | 7441 | 4.4 | 5.9 | 3.4 | - | - | - | - | - | - | - | - |
| Inv-06 | 19774 | 24.1 | 2.8 | - | - | - | - | - | - | - | - | - |
| Inv-07 | 10142 | 8.7 | 7.3 | 7.8 | | 2.2 | | - | - | - | - | - |

Note: Static Gamma Estimated pCi/g levels were estimated from .5" lead collimated detector static gamma measurements.

## Table 5
### Mt. Taylor Mine Site - NCA Soil Radiological Characterization
### Estimated Volumes of Areas above the 6.8 Ra-226 pCi/g Investigation Level

| Estimated Depth of Area > 6.8 Ra-226 pCi/g Investigation Level | Approximate Land Area (acre) | Estimated Volume (cubic yard) |
|---|---|---|
| surface to 6" bgs | 15 | 12,100 |
| surface to 1.0' bgs | 5.2 | 8,067 |
| surface to 1.5' bgs | 0.1 | 242 |
| surface to 2.0' bgs | 0.6 | 1,936 |
| surface to 3.0' bgs | 1.1 | 5,330 |
| surface to 3.5' bgs | 0.1 | 565 |
| surface to 4.5' bgs | 0.9 | 6,534 |
| Estimated Total | 23 | 34,773 |

Note: Does not include volume estimate of the Ore Retnetion Pond dikes. bgs = below ground surface

# Figures




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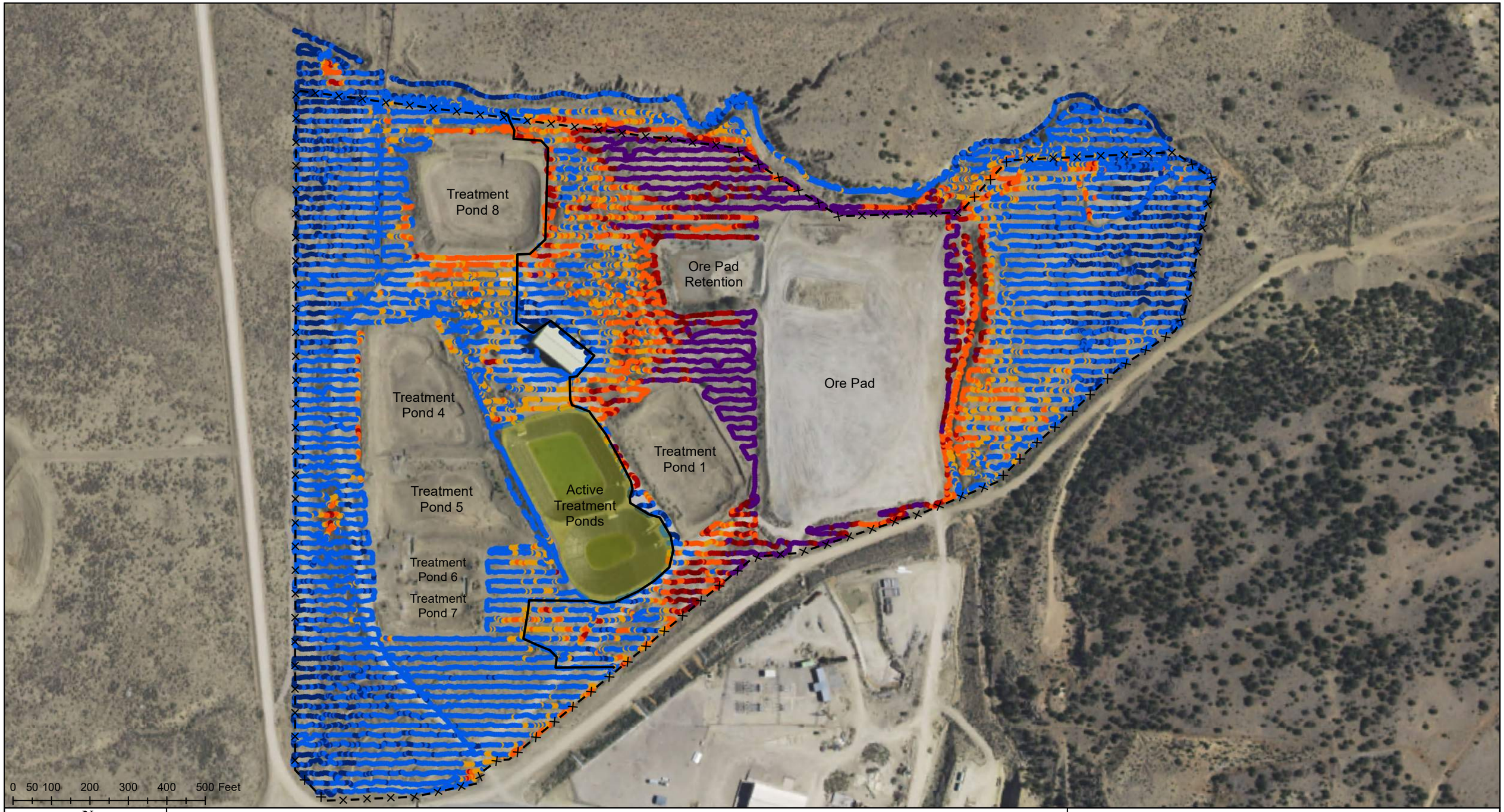
Environmental Services, Inc.

# Figure 1
# Mt. Taylor Mine Site
# North Controlled Area Soil Radiologic Characterization Area

June 2025

**Legend**

- NCA Soil Radiologic Characterization Area
- Previously Characterized Area
- Active Treatment Ponds
- North Controlled Fence




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Environmental Services, Inc.

# Figure 2
# Mt. Taylor Mine Site
# North Controlled Area - Gamma Scan Survey Data

June 2025

**Legend**

**Estimated Ra-226**

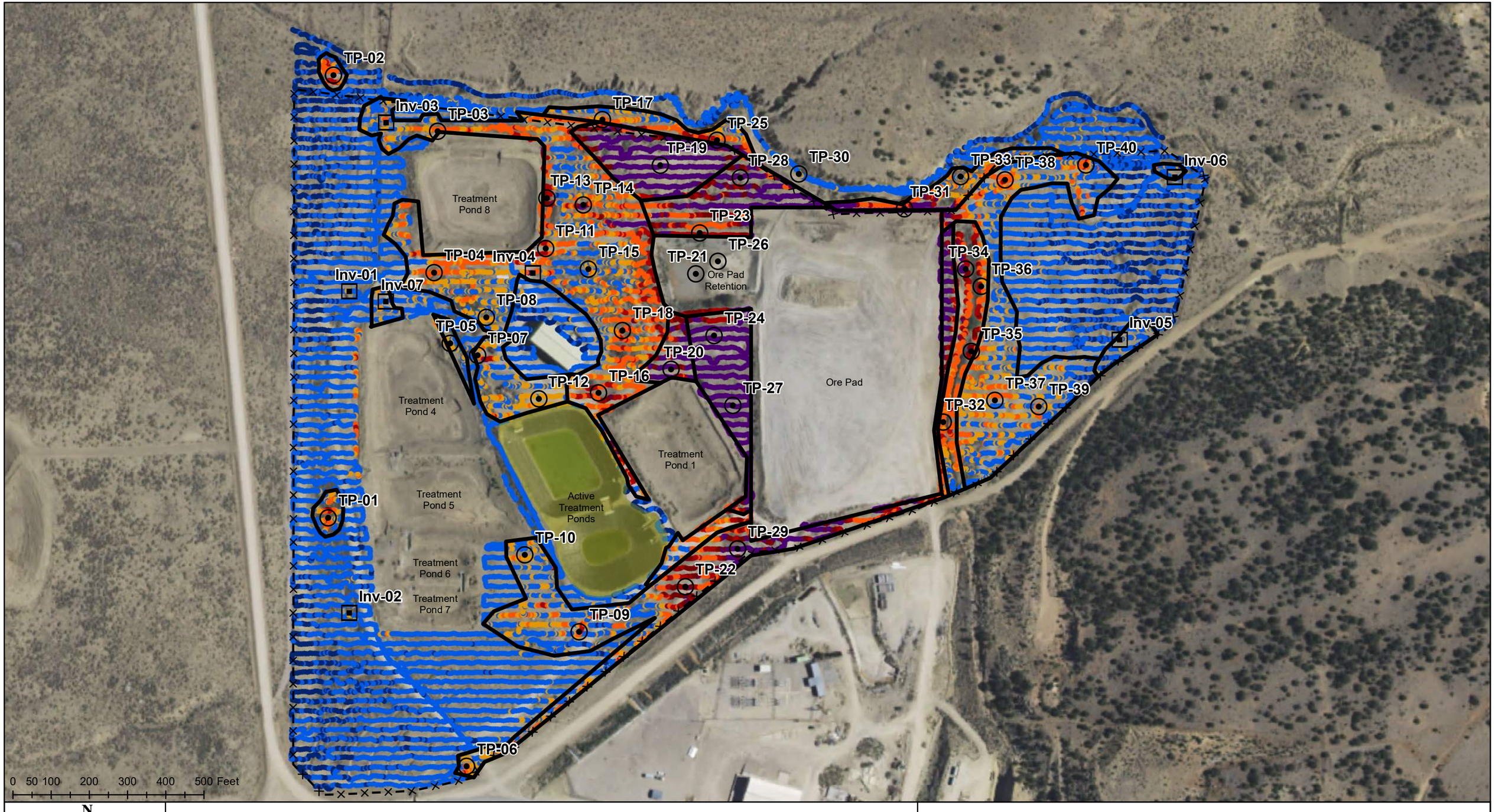
- <1.8 pCi/g
- 1.9 - 6.8 pCi/g
- 6.9 - 10.0 pCi/g
- 10.1 - 20.0 pCi/g
- 20.1 - 30.0 pCi/g
- 30.1 - 40.0 pCi/g
- >40.1 pCi/g

Active Treatment Ponds

North Controlled Fence

Bare/Collimated Detector Boundary

Note: Ra-226 pCi/g is determined from surface soil gamma radiation scan and static cpm using 2x2 NaI detector and Site specific gamma radiation level (cpm) correlation.




# Figure 3
# Mt. Taylor Mine Site - North Controlled Area
# Gamma Scan Survey Data, Investigation and Test Pit Locations

June 2025

**Legend**

**Estimated Ra-226**

- <1.8 pCi/g
- 1.9 - 6.8 pCi/g
- 6.9 - 10.0 pCi/g
- 10.1 - 20.0 pCi/g
- 20.1 - 30.0 pCi/g
- 30.1 - 40.0 pCi/g
- >40.1 pCi/g

Investigation Sample ID

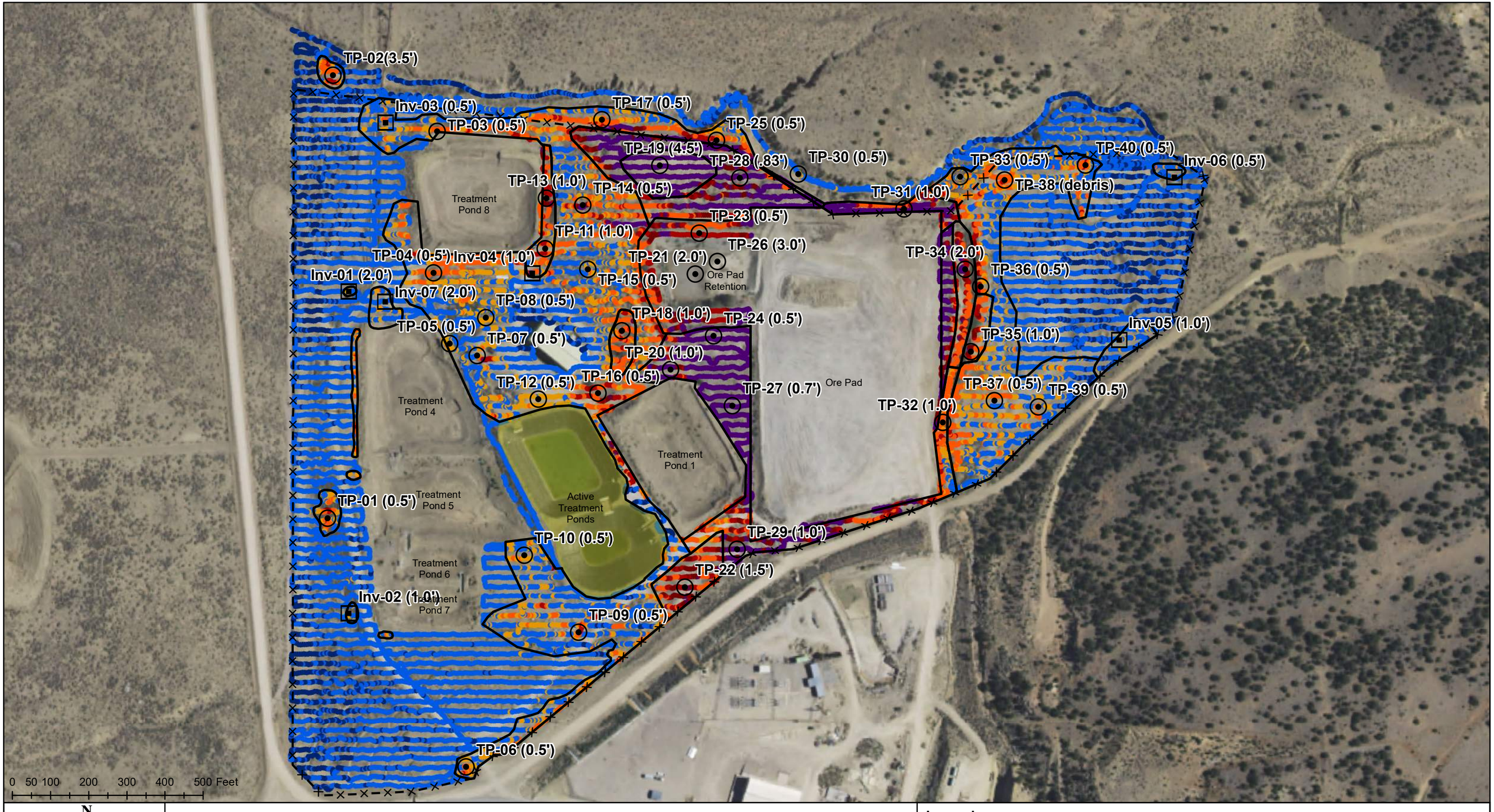
Test Pit ID

Contamination Areas

Active Treatment Ponds

North Controlled Fence

Note: Ra-226 pCi/g is determined from surface soil gamma radiation scan and static cpm using 2x2 NaI detector and Site specific gamma radiation level (cpm) correlation.




AVM Environmental Services, Inc.

# Figure 4
# Mt. Taylor Mine Site - North Controlled Area
# Gamma Scan Survey Data, Investigation and Test Pit Locations

June 2025

**Legend**

**Estimated Ra-226**

- <1.8 pCi/g
- 1.9 - 6.8 pCi/g
- 6.9 - 10.0 pCi/g
- 10.1 - 20.0 pCi/g
- 20.1 - 30.0 pCi/g
- 30.1 - 40.0 pCi/g
- >40.1 pCi/g

- Investigation Sample ID (6.8 pCi/g IL cont. Depth)
- Test Pit ID (6.8 pCi/g IL cont. Depth)
- Contamination Area
- Active Treatment Ponds
- North Controlled Fence

Note: Ra-226 pCi/g is determined from surface soil gamma radiation scan and static cpm using 2x2 NaI detector and Site specific gamma radiation level (cpm) correlation.




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# Figure 5
# Mt. Taylor Mine Site - North Controlled Area
# Estimated Depth of Contamination above the 6.8 Ra-226 pCi/g IL

June 2025

**Legend**

- 6" Contamination depth above the Ra-226 pCi/g IL
- 1.0' Contamination depth above the Ra-226 pCi/g IL
- 1.5' Contamination depth above the Ra-226 pCi/g IL
- 2.0' Contamination depth above the Ra-226 pCi/g IL
- 3.0' Contamination depth above the Ra-226 pCi/g IL
- 3.5' Contamination depth above the Ra-226 pCi/g IL
- 4.5' Contamination depth above the Ra-226 pCi/g IL
- Ore Pad Retention Pond Dike
- Active Treatment Ponds
- North Controlled Fence

Note: Ra-226 pCi/g is determined from surface soil gamma radiation scan and static cpm using 2x2 NaI detector and Site specific gamma radiation level (cpm) correlation.

**Appendix A**
**Surface and Subsurface Contamination Field Investigation Documentation**
**(Soil Sample Log Forms, Field Soil Sample Ex-Situ Gamma Radiation Screening Forms)**

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Static Gamma Radiation Survey Field Form**

Instrumentation : Scaler/Ratemeter L2221 SN 290801, Detector SPA-3 #30

Instrument Calibration Date. 2-19-24, Instrument Daily Function Check Performed: Y

2"x2" NaI Detector Collimated X Yes or _____ No.

Survey Area/Unit Decsription Mt. Taylor Mine Site – NCA

| Survey Date/Time | Survey Point ID/Description | Survey Point Coordinate | | Gamma Radiation Reading - CPM | | Exposure Rate µR/hr | Comments/Notes |
|---|---|---|---|---|---|---|---|
| | | Northing | Easting | Bare | Collimated (0.5"Pb) | | |
| 9-19-24 | TP-01 | 1580195 | 2781643 | | 74549 | | |
| | TP-02 | 1581346 | 2781656 | | 23242 | | |
| | TP-03 | 1581205 | 2781918 | | 12217 | | |
| | TP-04 | 1580828 | 2781919 | | 11677 | | |
| | TP-05 | 1580646 | 2781960 | | 7643 | | |
| | TP-06 | 1579528 | 2782004 | | 28795 | | |
| | TP-07 | 1580613 | 2782034 | | 7755 | | hot Rust pile nearby |
| | TP-08 | 1580715 | 2782055 | | 9500 | | |
| 11-25-24 | TP-09 | 1579932 | 2782126 | | 26878 | | |
| 9-19-24 | TP-10 | 1580081 | 2782153 | | 10215 | | |
| | TP-11 | 1580894 | 2782206 | | 17076 | | |
| | TP-12 | 1580505 | 2782214 | | 7687 | | |
| | TP-13 | 1581025 | 2782217 | | 25917 | | |
| | TP-14 | 1581016 | 2782311 | | 31693 | | |
| | TP-15 | 1580840 | 2782324 | | 10771 | | |
| | TP-16 | 1580519 | 2782343 | | 20877 | | |
| 11-22-24 | TP-17 | 1581234 | 2782355 | | 4788 | | |
| 9-19-24 | TP-18 | 1580677 | 2782415 | | 23920 | | |
| | TP-19 | 1581101 | 2782521 | | 108929 | | |
| | TP-20 | 1580596 | 2782544 | | 42042 | | |
| | TP-21 | 1580819 | 2782549 | | 189626 | | |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Static Gamma Radiation Survey Field Form**

Instrumentation : Scaler/Ratemeter L2221 #290301, Detector SAM-3 #30

Instrument Calibration Date: 2-19-24, Instrument Daily Function Check Performed: Y

2"x2" NaI Detector Collimated X Yes or _____ No.

Survey Area/Unit Decsription Mt. Taylor Mine Site in NCA

| Survey Date/Time | Survey Point ID/Description | Survey Point Coordinate | | Gamma Radiation Reading - CPM | | Exposure Rate µR/hr | Comments/Notes |
|---|---|---|---|---|---|---|---|
| | | Northing | Easting | Bare | Collimated (0.5"Pb) | | |
| 9-19-24 | TP-22 | 1580005 | 2782580 | | 27679 | | |
| 10-28-24 | TP-23 | 1580823 | 2782622 | | 11721 | | |
| 9-19-24 | TP-24 | 1580668 | 2782658 | | 184511 | | |
| 11-22-24 | TP-25 | 1581189 | 2782673 | | 15304 | | |
| 12-11-24 | TP-26 | 1580827 | 2782704 | | 154801 | | |
| 9-19-24 | TP-27 | 1580480 | 2782708 | | 116173 | | |
| | TP-28 | 1581082 | 2782719 | | 69269 | | |
| | TP-29 | 1580105 | 2782719 | | 37349 | | |
| 12-2-24 | TP-30 | 1581091 | 2782877 | | 7362 | | |
| 11-25-24 | TP-31 | 1580996 | 2783202 | | 76057 | | |
| 12-5-24 | TP-32 | 1580440 | 2783254 | | 11869 | | |
| 11-25-24 | TP-33 | 1581070 | 2783303 | | 11765 | | |
| 12-5-24 | TP-34 | 1580842 | 2783312 | | 18951 | | |
| 10-23-24 | TP-35 | 1580627 | 2783327 | | 31729 | | |
| 10-23-24 | TP-36 | 1580794 | 2783355 | | 12576 | | |
| 10-23-24 | TP-37 | 1580506 | 2783378 | | 9058 | | |
| 10-23-24 | TP-38 | 1581069 | 2783413 | | 13769 | | |
| 10-23-24 | TP-39 | 1580480 | 2783504 | | 9606 | | |
| 10-23-24 | TP-40 | 1581114 | 2783628 | | 13072 | | |
| | | | | | | | |
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Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Gamma Radiation Survey**
**Static Gamma Radiation Survey Field Form**

Instrumentation : Scaler/Ratemeter L 2221 SA 290801, Detector SPA-3 #30

Instrument Calibration Date: 2-19-24, Instrument Daily Function Check Performed: Y

2"x2" NaI Detector Collimated X Yes or _____ No.

Survey Area/Unit Decsription Mt. Taylor Mine site NCA

| Survey Date/Time | Survey Point ID/Description | Survey Point Coordinate | | Gamma Radiation Reading - CPM | | Exposure Rate µR/hr | Comments/Notes |
|---|---|---|---|---|---|---|---|
| | | Northing | Easting | Bare | Collimated (0.5"Pb) | | |
| 9-19-24 | Investigation 01 | 1580781 | 2781697 | | 14304 | | |
| | Investigation 02 | 1579930 | 2781700 | | 9200 | | |
| | Investigation 03 | 1581206 | 2781734 | | 13157 | | Pipeline Berm |
| | Investigation 04 | 1580829 | 2782173 | | 36,695 | | |
| 10-23-24 | Investigation 05 | 1580655 | 2783717 | | 7441 | | |
| 10-23-24 | Investigation 06 | 1581080 | 2783856 | | 19774 | | |
| 9-19-24 | I-07 | | | | 10142 | | |
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Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| TP-06 | 10-3-24 846 | 6-12" | light brown Sand / silt stone Rocks hard pack | |
| TP-06 | " 856 | 1'-2' | " " " Roots hard pack | |
| TP-10 | " 910 | 6-12" | " " " | |
| TP-01 | " 930 | 6-12" | Brown silt/Sand Compacted Roots | |
| TP-01 | 940 | 1'-2' | light brown silt/Sand Compacted | |
| TP-02 | " 1000 | 3.5-4' | Dark brown loam - silt Clay | on site - @ peak |
| TP-02 | " 1020 | 4.5'-5' | Brown Sandy silt | |
| ~~TP-04~~ VP Inv-07 | " 1045 | 6"-12" | light grey plastic debris waste Rock | |
| ~~TP-04~~ VP Inv-07 | " 1055 | 1.5'-2.5' | " " " | |
| ~~TP-04~~ VP Inv-07 | " 1105 | 2.5'-3' | Dark brown silty Sand clay | |
| TP-03 | 10-9-24 810 | 6"-12" | light brown silty Rock w/ grey | |
| TP-03 | 10-9-24 820 | 1'-2' | Brown silty Sand w clay | |
| TP-13 | 10-9-24 840 | 6"-12" | Dark brown silt clay | |
| TP-11 | 10-9-24 850 | 6"-12" | Brown silty w/ clay | |
| TP-11 | 10-9-24 900 | 1'-1.5' | Dark brown clay silt. | |

**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| TP-08 | 10-9-24 910 | 6"-12" | light brown Compacted Sand & silt | |
| TP-07 | 10-9-24 925 | 6"-12" | light brown silty Sand Consolidated | |
| TP-05 | 10-9-24 940 | 6"-12" | light brown Sandy silt consolidated | |
| TP-12 | 10-9-24 1000 | 6"-12" | Brown Silt Packed / Consolidated | |
| TP-16 | 10-9-24 1010 | 6"-12" | Dark brown silt clay | |
| TP-16 | 10-9-24 1020 | 1'-1.5' | Brown silty Clay consolidated | |
| TP-18 | 10-9-24 1030 | 6"-12" | light brown Sandy w/ cobble | |
| TP-15 | 10-9-24 1050 | 6"-12" | light brown Sandy Consolidated | |
| TP-13 | 10-15-24 815 | 1'-1.5' | light brown Sand/silt hard pack | |
| TP-18 | 10-15-24 825 | 1'-1.5' | Brown silty / Sand Clay Compacted | |
| TP-18 | 10-15-24 836 | 1.5'-2' | Brown Clay / silt Compacted | |
| Inv-01 | 10-15-24 940 | 2'-2.5' | light brown / light grey Sand hard pack | |
| TP-04 | 10-15-24 1020 | 6"-12" | Top 1" gravel - Brown silt / clay Packed. | |
| TP-14 | 10-15-24 1040 | 6"-12" | Brown silt/clay w/ specs of stone | |
| TP-20 | 10-15-24 1055 | 1'-1.5' | light brown Sandy | |

**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| TP-19 | 10-16-24 845 | 4.5'-5' | Interface waste Rock / Clay - Silt Dark brown | |
| TP-19 | 10-16-24 900 | 5'-5.5' | Dark brown clay | |
| TP-28 | 10-16-24 930 | ~~4.5~~ 10"-12" | Interface waste Rock / clay light brown | |
| TP-27 | 10-16-24 1000 | 8"-12" | Brown clay / silt hardpacked | |
| TP-24 | 10-16-24 1020 | 6"-12" | light brown Sandy | |
| TP-29 | 10-16-24 1056 | 1'-1.5' | Dark clay hardpack | |
| TP-22 | 16-16-24 1115 | 1'-1.5' | Brown clay hardpack Sand hardpack | |
| TP-36 | 10-28-24 810 | 6"-12" | Silt / loam w/ clay | |
| TP-36 | 10-28-24 825 | 1'-~~1.5~~ 2' | Sandy silt Consolidated | |
| TP-35 | 10-28-24 840 | 6"-12" | Silt / clay Roots Brown | |
| TP-35 | 10-28-24 850 | 1'-1.5' | grey / Brown Silty Sand Clay Packed | |
| TP-37 | 10-28-24 910 | 6"-12" | Dark brown Silt Clay | |
| TP-39 | 10-28-24 930 | 6"-12" | Brown silt loam / light brown sandy | |
| Inv-5 | 10-28-24 945 | 6"-12" | light brown Sandy Silt w/ light Clay | |
| Inv-5 | 10-29-24 1000 | 1'-1.5' | light brown silt Clay | |

**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| Inv-6 | 10-28-24 1015 | 6"-12" | Packed loamy Silt Sand | |
| TP-40 | 10-28-24 1035 | 6"-12' | Silty Sand compacted | |
| TP-38 | 10-28-24 1050 | 6"-12" | metal & plaster debris | No Sample |
| TP-22 | 10-28-24 1120 | 1.5' 2.0' | brown Silt Clay compacted | |
| TP-19 | 10-28-24 1140 | 6"-4.5' | grey waste Rock Sandy | |
| TP-23 | 10-28-24 1300 | 6"-12" | Brown loamy Silt | |
| TP 17 | 11-22-24 1040 | 6"-12" | Brown loamy Silt | |
| TP-25 | 11-22-24 1055 | 6"-12" | Brown loamy clay | |
| TP-31 | 11-25-24 @ 1020 | 6"-12" | Dark brown silty Sandy Clay. | |
| TP-31 | 11-25-24 @ 1040 | 1'-1.5' | light brown Sandy consolidated. | |
| TP-33 | 11-25-24 @ 1100 | 6"-12" | Brown clay / light brown sandy. | |
| TP-09 | 11-25-24 @1250 | 6"-12" | light brown silty Sand consolidated | |
| TP-09 | 11-25-24 @1305 | 1'-1.5 | light brown Silty Sand Consolidated | |
| TP-09 | 11-25-24 @1315 | 2'-2.5' | light brown Silty Sandy | |
| TP-30 | 12-4-24 @830 | 6"-12" | Sand w/ cobble 6"-8" Clay w/ cobble 8"-12' | |

**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| TP-32 | @845 12-5-24 | 6"-12" | Dark brown silt clay | |
| TP-34 | 0930 12-5-24 | 6"-12" | Dark brown silt clay. | |
| TP-32 | 12-9-24 @950 | 1'-1.5' | Brown silty clay | |
| TP-34 | 12-9-24 @1030 | 1'-2' | Brown Sandy / silty clay. | |
| TP-34 | 12-11-24 @915 | 2'-3' | 2-2.5' Brown silty clay 2.5-3' Sandy w/ cobble. | |
| TP-26 | 12-11-24 @1000 | 2'-2.5' | Dark grey compacted Sandy soil Refusal @ 2.5' | |
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**AVM Environmental Services, Inc.**
**Subsurface Soil Sample Log Form**
**Mt. Taylor Mine Site**

| Sample ID | Sample Date/Time | Sample Depth | Sample Description | Comments/Notes |
|---|---|---|---|---|
| TP-26 2.5-3.0 | 1-27-25 @1028 | 2.5-3.0 | Dark brown / black clay w/ Sand | |
| TP-26 3.0-4.0 | 1-27-25 @1037 | 3.0-4.0 | " " " " | |
| TP-21 | 1-27-25 @1056 | 0-2.0' | Dark brown clay Black. Sandy w/ metal debris + rust | |
| TP-21 | 1-27-25 @1105 | 2.0-3.0 | Dark brown w/ grey clay/silt | |
| TP-21 | 1-27-25 @1113 | 3.0-4.0 | Dark Brown Clay | |
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**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector 44-20 S#295573
Instrument Calibration Date: 2-19-24 / 9-30-24, Instrument Function Check Performed: Y
Survey Area/Unit Decsription MT. Taylor Mine - NCA Test Pit

Area exposure rate:

| Date | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 10-8-24 | Blank | — | 310 | — | 62 | | |
| 10-8-24 | 6.6pCi Ref Soil | 3000 | 2338 | — | 468 | | |
| 10-8-24 | TP-06 6"-12" 10-8-24 @846 | 3000 | 1306 | — | 261 | | |
| 10-8-24 | TP-06 1'-2' 10-8-24 @856 | 3000 | 1256 | — | 251 | | |
| 10-8-24 | TP-10 6"-12" 10-8-24 @910 | 3000 | 1840 | — | 368 | | |
| 10-8-24 | TP-01 6"-12" 10-8-24 @930 | 3000 | 1437 | — | 287 | | |
| 10-8-24 | TP-01 1'-2' 10-8-24 @940 | 3000 | 1363 | — | 273 | | |
| 10-8-24 | TP-02 3.5'-4.' 10-8-24 @1000 | 3000 | 1194 | — | 239 | | |
| 10-8-24 | TP-02 4.5'-5' 10-8-24 @1020 | 3000 | 1245 | — | 249 | | |
| 10-8-24 | Inv-07 ~~TP-04~~ 6"-12" 10-8-24 @1045 | 3000 | 2945 | — | 589 | | |
| 10-8-24 | Inv-07 ~~TP-04~~ 1.5'-2' 10-8-24 @1055 | 3000 | 3131 | — | 626 | | |
| 10-8-24 | Inv-07 ~~TP-04~~ 2'-3' 10-8-24 @1105 | 3000 | 1125 | — | 225 | | QA/QC CP5M 1174 |
| 10-9-24 | Blank | — | 300 | — | 60 | | |
| 10-9-24 | 6.6 pCi Ref Soil | 3000 | 2598 | — | 520 | | |
| 10-9-24 | TP-03 6"-12" 10-9-24 @810 | 3000 | 1241 | — | 248 | | |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector L44-20 S# 295573
Instrument Calibration Date: 2-14-24 / 9-20-24, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription Mt. Taylor Mine Site - NCM Test Pit

Area exposure rate:

| Date | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 10-9-24 | TP-03 1'-2' 10-9-24 @ 820 | 3000 | 1208 | - | 242 | | |
| 10-9-24 | TP-13 6"-12" 10-9-24 @ 840 | 3000 | 2745 | - | 549 | | |
| 10-9-24 | TP-11 6"-12" 10-9-24 @ 850 | 3000 | 7653 | - | 1531 | | |
| 10-9-24 | TP-11 1'-1.5' 10-9-24 @ 900 | 3000 | 2076 | - | 415 | | |
| 10-9-24 | TP-08 6"-12" 10-9-24 @ 910 | 3000 | 1375 | - | 275 | | |
| 10-9-24 | TP-07 6"-12" 10-9-24 @ 925 | 3000 | 1524 | - | 305 | | |
| 10-9-24 | TP-05 6"-12" 10-9-24 @ 940 | 3000 | 1395 | - | 279 | | |
| 10-9-24 | TP-12 6"-12" 10-9-24 @ 1000 | 3000 | 1353 | - | 271 | | |
| 10-9-24 | TP-16 6"-12" 10-9-24 @ 1010 | 3000 | 1376 | - | 275 | | QA/QC CpSM 1325 |
| 10-9-24 | TP-16 1'-1.5' 10-9-24 @ 1020 | 3000 | 1250 | - | 250 | | |
| 10-9-24 | TP-18 6"-12" 10-9-24 @ 1030 | 3000 | 5468 | - | 1094 | | |
| 10-9-24 | TP-15 6"-12" 10-9-24 @ 1050 | 3000 | 1274 | - | 255 | | |
| 10-15-24 | Blank | - | 343 | - | 69 | | |
| 10-15-24 | 6.6 pCi Ref Soil | 3000 | 2494 | - | 499 | | |
| 10-15-24 | TP-13 1'-1.5' 10-15-24 @ 815 | 3000 | 1397 | - | 279 | | |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter LZ221 S#68782, Detector L44-20 S# 295573
Instrument Calibration Date: 2-14-24/9-30-24, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription Mt. Taylor Mine Site - NCA test Pit

Area exposure rate:

| Date | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 10-15-24 | TP-18 1'-1.5' 10-15-24 @ 825 | 3000 | 1977 | - | 395 | | |
| 10-15-24 | TP-18 1.5'-2' 10-15-24 @ 836 | 3000 | 1323 | - | 265 | | |
| 10-15-24 | NW-01 2'-2.5' 10-15-24 @ 940 | 3000 | 1337 | - | 267 | | |
| 10-15-24 | TP-04 6"-12" 10-15-24 @ 1020 | 3000 | 1424 | - | 285 | | |
| 10-15-24 | TP-14 6"-12" 10-15-24 @ 1040 | 3000 | 1915 | - | 383 | | |
| 10-15-24 | TP-20 1'-1.5' 10-15-24 @ 1055 | 3000 | 1243 | - | 249 | | QA/QC CP5M 1310 |
| 10-16-24 | Blank | - | 340 | - | 68 | | |
| 10-16-24 | 6.6 pCi Ref Soil | 3000 | 2465 | - | 493 | | |
| 10-16-24 | TP-28 10"-12" 10-16-24 @ 930 | 3000 | 1506 | - | 301 | | |
| 10-16-24 | TP-27 8"-12" 10-16-24 @ 1000 | 3000 | 1323 | - | 265 | | |
| 10-16-24 | TP-24 6"-12" 10-16-24 @ 1020 | 3000 | 2377 | - | 475 | | |
| 10-16-24 | TP-29 1'-1.5' 10-16-24 @ 1056 | 3000 | 1214 | - | 243 | | |
| 10-16-24 | TP-22 1'-1.5' 10-16-24 @ 1115 | 3000 | 9053 | - | 1811 | | |
| 10-16-24 | TP-19 4.5'-5' 10-16-24 @ 845 | 3000 | 1297 | - | 259 | | |
| 10-16-24 | TP-19 5'-5.5' 10-16-24 @ 1159 | 3000 | 1334 | - | 267 | | QA/QC CP5M 1285 |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 S# 68782, Detector 44-20 S# 295573
Instrument Calibration Date: 2-19-24 / 9-30-24, Instrument Function Check Performed: V
Survey Area/Unit Decsription Mt. Taylor Mine Site - NCA Test Pit

Area exposure rate:

| Date | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 10-29-24 | Blank | — | 328 | — | 66 | | |
| 10-29-24 | 6.6pCi Ref Soil | 3000 | 2321 | — | 464 | | |
| 10-29-24 | TP-36 6"-12" 10-28-24 @ 810 | 3000 | 1345 | — | 269 | | |
| 10-29-24 | TP-36 1'-2' 10-28-24 @ 825 | 3000 | 1279 | — | 256 | | |
| 10-29-24 | TP-35 6"-12" 10-28-24 @ 840 | 3000 | 3081 | — | 616 | | |
| 10-29-24 | TP-35 1'-1.5' 10-28-24 @ 850 | 3000 | 1502 | — | 300 | | |
| 10-29-24 | TP-37 6"-12" 10-28-24 @ 910 | 3000 | 1273 | — | 255 | | |
| 10-29-24 | TP-39 6"-12" 10-28-24 @ 930 | 3000 | 1285 | — | 257 | | |
| 10-29-24 | Inv-5 6"-12" 10-28-24 @ 945 | 3000 | 2442 | — | 488 | | |
| 10-29-24 | Inv-5 1'-1.5' 10-28-24 @ 1000 | 3000 | 1553 | — | 311 | | |
| 10-29-24 | Inv-6 6"-12" 10-28-24 @ 1015 | 3000 | 1337 | | 267 | | |
| 10-29-24 | TP-40 6"-12" 10-28-24 @ 1035 | 3000 | 1177 | | 235 | | QA/QC CP5M 1350 |
| 10-29-24 | TP-38 6"-12" 10-28-24 @ 1050 | — | — | — | — | | No Sample |
| 10-29-24 | TP-22 1.5'-2.0' 10-28-24 @ 1120 | 3000 | 1213 | — | 243 | | |
| 10-29-24 | TP-19 6"-4.5' 10-28-24 @ 1140 | 3000 | 38495 | — | 7699 | | |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector L44-20 S# 295573
Instrument Calibration Date: 2-19-24 / 9-30-24, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription Mt. Taylor Mine Site NCA Test Pits

Area exposure rate:

| Date | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 10-29-24 | TP-23 6"-12" 10-22-24 @1300 | 3000 | 1512 | - | 302 | | |
| 11-26-24 | Blank | - | 292 | | 58 | | |
| 11-26-24 | 6.6pCi Ref Soil | 3000 | 2360 | | 472 | | |
| 11-26-24 | TP-17 6"-12" 11-22-24 @1040 | 3000 | 1475 | | 295 | | |
| 11-26-24 | TP-25 6"-12" 11-22-24 @1045 | 3000 | 1164 | | 233 | | |
| 11-26-24 | TP-31 6"-12" 11-25-24 @1020 | 3000 | 3849 | | 770 | | |
| 11-26-24 | TP-31 1'-1.5' 11-25-24 @1040 | 3000 | 1704 | | 341 | | |
| 11-26-24 | TP-33 6"-12" 11-25-24 @1100 | 3000 | 1203 | | 241 | | |
| 11-26-24 | TP-09 6"-12" 11-25-24 @1250 | 3000 | 1185 | | 237 | | |
| 11-26-24 | TP-09 1'-1.5' 11-25-24 @1305 | 3000 | 1131 | | 226 | | |
| 11-26-24 | TP-09 2'-2.5' 11-25-24 @1315 | 3000 | 1225 | | 245 | | |
| 12-9-24 | Blank | - | 333 | | 67 | | |
| 12-9-24 | 6.6 pCi Ref Soil | 3000 | 2372 | | 474 | | |
| 12-9-24 | TP-30 6"-12" 12-4-24 @830 | 3000 | 1258 | | 252 | | |
| 12-9-24 | TP-32 6"-12" 12-5-24 @845 | 3000 | 2619 | | 524 | | |

Technician Signature _____, Reviewed by _____

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector L44-20 S# 295673
Instrument Calibration Date: 2-14-24/9-30-24, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription Mt. Taylor Mine Site NCA Task P.2

Area exposure rate:

| Date | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 12-9-24 | TP-34 6'-12' 12-5-24 @ 920 | 3000 | 6878 | | 1376 | | QA/QC CP5M = 6866 |
| 12-11-24 | Blank | — | 329 | | 66 | | |
| 12-11-24 | 6.6 pCi/g Ref Soil | 3000 | 2437 | | 487 | | |
| 12-11-24 | TP-32 1'-1.5' 12-9-24 @ 950 | 3000 | 1229 | | 246 | | |
| 12-11-24 | TP-34 1'-2' 12-9-24 @ 1030 | 3000 | 3976 | | 795 | | |
| 12-11-24 | TP-34 2'-3' 12-11-24 @ 915 | 3000 | 1547 | | 309 | | QA/QC CP5M - 1599 |
| 12-11-24 | TP-26 2'-2.5 12-11-24 @ 1000 | 3000 | 10464 | | 2093 | | |
| 1-30-25 | Blank | — | 336 | | 67 | | |
| 1-30-25 | 6.6 pCi/g Ref Soil | 3000 | 2327 | | 465 | | |
| 1-30-25 | TP-26 2.5-3.0 1-27-25 @ 1028 | 3000 | 1900 | | 380 | | |
| 1-30-25 | TP-26 3.0-4.0 1-27-25 @ 1037 | 3000 | 2198 | | 440 | | |
| 1-30-25 | TP-21 0-2.0 1-27-25 @ 1056 | 3000 | 41183 | | 8237 | | |
| 1-30-25 | TP-21 2.0-3.0 1-27-25 @ 1105 | 3000 | 1938 | | 388 | | QA/QC CP5M - 1910 |
| 1-30-25 | TP-21 3.0-4.0 1-27-25 @ 1113 | 3000 | 1712 | | 342 | | |
| | | | | | | | |

Technician Signature _____, Reviewed by _____

# Appendix B
# Radiologic Instrument Calibration and Operational Function Check and Collimated Detector Correlation Documentation

# CERTIFICATE OF CALIBRATION

www.ludlums.com

**LUDLUM MEASUREMENTS, INC.**
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.

ACCREDITED
CERT # 4084.01

Model No. / Serial No. 500 / 114513

Customer AVM ENVIRONMENTAL SERVICES INC ORDER NO. 20460064/549833

Date 13-Dec-23 Cal Due Date 13-Dec-24 Cal. Interval 1 Year Procedure 500/Rev 8

☐ New Instrument Instrument Received ☑ Within Tolerance ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See Comments

T. 73 °F RH 36 % Alt 714.2 mm Hg ☑ Meter Zeroed ☑ Mechanical Check

**PULSE WIDTH Uncertainty within 0.85% of reading**

| | As Found | As Left | Acceptable Range (µs) |
|---|---|---|---|
| NEG PULSE | 1.7 | 1.7 | 1.5 - 1.9 |
| POS PULSE | 1.7 | 1.7 | < 2.25 |

**PULSE AMPLITUDE (NEGATIVE) Uncertainty within 1.3% of reading**

| Reference Amplitude | As Found Amplitude Reading | As Left Amplitude Reading | Acceptable Range | Reference Amplitude | As Found Amplitude Reading | As Left Amplitude Reading | Acceptable Range |
|---|---|---|---|---|---|---|---|
| 1 V | 1 V | 1 V | 0.9 - 1.1 | 4 V | 4.1 V | 4.1 V | 3.6 - 4.4 |
| 100 mV | 100 mV | 100 mV | 90 - 110 | 400 mV | 410 mV | 410 mV | 360 - 440 |
| 10 mV | 10 mV | 10 mV | 9 - 11 | 40 mV | 41 mV | 41 mV | 36 - 44 |
| 1 mV | 1 mV | 1 mV | 0.9 - 1.1 | 4 mV | 4.1 mV | 4.1 mV | 3.6 - 4.4 |

**PULSE AMPLITUDE (POSITIVE) Uncertainty within 1.3% of reading**

| Reference Amplitude | As Found Amplitude Reading | As Left Amplitude Reading | Acceptable Range |
|---|---|---|---|
| 3 V | 3 V | 3 V | 2.7 - 3.3 |
| 300 mV | 300 mV | 300 mV | 270 - 330 |
| 30 mV | 30 mV | 30 mV | 27 - 33 |
| 3 mV | 3 mV | 3 mV | 2.7 - 3.3 |

**PULSE FREQUENCY (PERIOD) Uncertainty within 0.46% of reading**

| Pulser Range | As Found Period | As Left Period | Acceptable Range |
|---|---|---|---|
| x 10K | 6.667 | 6.667 | 6.534 - 6.8 |
| x 1K | 66.70 | 66.70 | 65.34 - 68 |
| x 100 | 667.2 | 667.2 | 653.4 - 680 |
| x 10 | 6671 | 6671 | 6534 - 6800 |
| x 1 | 66.71 | 66.71 | 65.34 - 68 |
| x 0.1 | 90 | 90 | 88.2 - 91.8 Counts |

Digital High Voltage Uncertainty within 1.3% of reading

| Reference Voltage | As Found Voltage Reading | As Left Voltage Reading | Acceptable Range |
|---|---|---|---|
| 500 V | | | 490 - 510 |
| 1500 V | | | 1470 - 1530 |

Analog High Voltage Uncertainty within 1.3% of reading

| Reference Voltage | As Found Voltage Reading | As Left Voltage Reading | Acceptable Range |
|---|---|---|---|
| 500 V | 500 | 500 | 475 - 525 |
| 2000 V | 2000 | 2000 | 1900 - 2100 |

| CPM Reading | As Found cpm Reading | As Left cpm Reading | Acceptable Range |
|---|---|---|---|
| MAX | 992 | 992 | 981 - 999 |
| MIN | 0-1 | 0-1 | 0 - 1* |

* READING OF 0-99 IS ACCEPTABLE FOR INSTRUMENTS WITH A S/N 100000 AND BELOW OR MAIN BOARD = 5208-066

**COMMENTS:**

CAL'D W/ 39" CABLE.

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques.
All pass/fail determinations are based on the manufacturer's specifications without considering uncertainty factors.
Measurement results represent expanded uncertainties expressed at approximately the 95% level of confidence, using a coverage factor of k=2.
The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323AB-2013

ISO/IEC 17025:2017(E)
State of Texas Calibration License No. LO-1983

Reference Instruments:
Frequency Counter Model BK 1856D S/N 332L14297 Cal Date 17-Feb 2023
Oscilloscope Model Tektronix 72-6820 S/N 1102645 Cal Date 11-Oct 2023
Voltmeter Model Fluke 83 V S/N 94000441 Cal Date 2-Jun 2023

Calibrator William Tinsley William Tinsley Title Calibrator Date 13-December 2023
QC'd By [signature] Title Final QC Date 14 Dec 23

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.

AC Inst. Only ☑ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

Designer and Manufacturer of Scientific and Industrial Instruments

www.ludlums.com

# CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.

ACCREDITED
CERT # 4084.01

Customer AVM ENVIRONMENTAL SERVICES INC ORDER NO. 20457182/547880

Mfg. Ludlum Measurements, Inc. Model 19 Serial No. 76248

Mfg. _____ Model _____ Serial No. _____

Cal. Date 3-Nov-23 Cal Due Date 3-Nov-24 Cal. Interval 1 Year Meterface 202-1070

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 73 °F RH 37 % Alt 708.1 mm Hg

☐ New Instrument Instrument Received ☐ Within Toler. +-10% ☑ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☑ F/S Resp. ck ☑ Reset ck. ☐ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck.
☐ Calibrated in accordance with LMI SOP 14.8 ☑ Calibrated in accordance with LMI SOP 14.9

Instrument Volt Set 800 V Input Sens. 37 mV Det. Oper. 800 V at 37 mV Threshold Dial Ratio _____ = _____ mV

☐ HV Readout (2 points) Ref./Inst. _____ / _____ V Ref./Inst. _____ / _____ V

**COMMENTS:**

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.
Multimeter uncertainty within 1.3% of reading, Gamma uncertainty within 5.0% of reading, Neutron uncertainty within 7.0% of reading, Count rate uncertainty within 5.4% of reading

| RANGE/MULTIPLIER | REFERENCE CAL. POINT | INSTRUMENT REC'D "AS FOUND READING" | INSTRUMENT METER READING |
|---|---|---|---|
| 5000 | 4000µR/hr | 4200 µR/hr | 4000 µR/hr |
| 5000 | 1000µR/hr | 1100 | 1000 |
| 500 | 400µR/hr = 69800 cpm | 410 | 400 |
| 500 | 100µR/hr | 110 | 100 |
| 250 | 200µR/hr = 33800 cpm | 210 | 200 |
| 250 | 100µR/hr | 100 | 100 |
| 50 | 6980 cpm | 42 | 40 |
| 50 | 1750 cpm | 10 | 10 |
| 25 | 3380 cpm | 22 | 20 |
| 25 | 845 cpm | 5 | 5 |

Range(s) Calibrated Electronically

| Digital Readout | REFERENCE CAL. POINT | INSTRUMENT RECEIVED | INSTRUMENT METER READING |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

| Log Scale | REFERENCE CAL. POINT | INSTRUMENT RECEIVED | INSTRUMENT METER READING |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques.
All pass/fail determinations are based on the manufacturer's specifications without considering uncertainty factors.
Measurement results represent expanded uncertainties expressed at approximately the 95% level of confidence, using a coverage factor of k=2.
The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323AB-2013

ISO/IEC 17025:2017(E)
State of Texas Calibration License No. LO-1963

**Reference Instruments and/or Sources:** Cs-137 S/N: ☐ 059 ☐ 2171CP ☐ 2261CP ☐ 720 ☐ 734 ☐ 781 ☐ 1131 ☐ 1616 ☐ 1696 ☐ 1909 ☐ 1916CP ☐ 2324/2521
☐ 5717CO ☐ 5719CO ☐ 60646 ☐ 70897 ☐ 73410 ☐ E552 ☐ G112 ☑ 2168CP ☐ S-394 ☐ S-1054 ☐ T10081 ☐ T10082 Neutron Am-241 Be ☐ T-304 Ra-226 ☐ Y982
☐ E551 ☐ 5105 ☐ CSV280

☐ Alpha S/N _____ ☐ Beta S/N _____ ☐ Other _____

☑ m 500 S/N 114520 ☐ Oscilloscope S/N _____ ☑ Multimeter S/N 53950165

Calibrator Sheba Lee Sheba Lee Title Calibrator Date 3-Nov-23

QC'd By Rick H Title Final QC Date 3Nov23

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.


AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed: _____

Designer and Manufacturer of Scientific and Industrial Instruments
www.ludlums.com

LUDLUM MEASUREMENTS, INC.
501 Oak Street
325-235-5494
Sweetwater, TX 79556, U.S.A.

# CERTIFICATE OF CALIBRATION

ACCREDITED
CERT # 4084.01

Customer AVM ENVIRONMENTAL SERVICES INC ORDER NO. 20479685/ 563226

Mfg. Ludlum Measurements, Inc. Model 19 Serial No. 76248

M Model Serial No.

Cal. Date 4-Oct-24 Cal Due Date 4-Oct-25 Cal. Interval 1 Year Meterface 202-016

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 73 °F RH 41 % Alt 708.4 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☑ F/S Resp. ck ☑ Reset ck. ☐ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck.

☐ Calibrated in accordance with LMI SOP 14.8 ☑ Calibrated in accordance with LMI SOP 14.9

Instrument Volt Set 800 V Input Sens. 37 mV Det. Oper. V at mV Threshold Dial Ratio = mV

☑ HV Readout (2 points) Ref./Inst. 500 / V Ref./Inst. 1000 / V

**COMMENTS:**

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.
Multimeter uncertainty within 1.3% of reading, Gamma uncertainty within 5.0% of reading, Neutron uncertainty within 7.0% of reading, Count rate uncertainty within 5.4% of reading

| RANGE/MULTIPLIER | REFERENCE CAL. POINT | INSTRUMENT REC'D "AS FOUND READING" | INSTRUMENT METER READING |
|---|---|---|---|
| 5000 | 4000µR/hr | 4000 µR/hr | 4000 µR/hr |
| 5000 | 1000µR/hr | 1000 | 1000 |
| 500 | 400µR/hr = 68,500 | 400 | 400 |
| 500 | 100µR/hr | 100 | 100 |
| 250 | 200µR/hr = 35600 | 210 | 200 |
| 250 | 100µR/hr | 100 | 100 |
| 50 | 6850 cpm | 40 | 40 |
| 50 | 1712 cpm | 10 | 10 |
| 25 | 3560cpm | 21 | 20 |
| 25 | 890 cpm | 5 | 5 |

50, 25 Range(s) Calibrated Electronically

| Digital Readout | REFERENCE CAL. POINT | INSTRUMENT RECEIVED | INSTRUMENT METER READING |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

| Log Scale | REFERENCE CAL. POINT | INSTRUMENT RECEIVED | INSTRUMENT METER READING |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques.
All pass/fail determinations are based on the manufacturer's specifications without considering uncertainty factors.
Measurement results represent expanded uncertainties expressed at approximately the 95% level of confidence, using a coverage factor of k=2.
The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323AB-2013

ISO/IEC 17025:2017(E)
State of Texas Calibration License No. LO-1963

**Reference Instruments and/or Sources:** Cs-137 S/N: ☐ 059 ☐ 2171CP ☐ 2261CP ☐ 720 ☐ 734 ☐ 781 ☐ 1131 ☐ 1616 ☐ 1696 ☐ 1909 ☐ 1916CP ☐ 2324/2521
☐ 5717CO ☐ 5719CO ☐ 60646 ☐ 70897 ☐ 73410 ☐ E552 ☐ G112 ☑ 2168CP ☐ S-394 ☐ S-1054 ☐ T10081 ☐ T10082 Neutron Am-241 Be ☐ T-304 Ra-226 ☐ Y982
☐ E551 ☐ 5105 ☐ CSV280

☐ Alpha S/N ☐ Beta S/N ☐ Other

☐ m 500 S/N 371845 ☐ Oscilloscope S/N ☑ Multimeter S/N 60050420

rator Andrew Fuller Andrew J Fuller Title Calibrator Date 4 OCT 24

QC'd By Title Final QC Date 5 Oct 24

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.


AC Inst. Only ☐ Passed Dielectric (Hi-Pot) and Continuity Test ☐ Failed:

**AVM Environmental Services Inc.**
**Scaler/Ratemeter - Detector Calibration Form**



Scaler/Ratemeter: L2221 S# 290801
Detector: SPA-3 S# 408522-30

Source: U308 ore in can S# FC-2 Strength 1%

Scaler/Ratemeter Threshhold set @ 10 mV, Window IN/OUT Out, Window N/A mV

| HV | Reading, CPM (Source) | Reading, CPM (Background) |
|---|---|---|
| 500 | 17200 | 470 |
| 550 | 37012 | 738 |
| 600 | 57214 | 998 |
| 650 | 71774 | 1379 |
| 700 | 84865 | 1633 |
| 750 | 93899 | 1765 |
| 800 | 95561 | 1837 |
| 850 | 96093 | 1895 |
| 900 | 97180 | 2012 |
| 950 | 97636 | 2018 |
| 1000 | 100155 | 2037 |
| 1050 | 113726 | 2090 |
| 1100 | 133647 | 2249 |
| 1150 | 161780 | 2497 |
| 1200 | 199910 | 3198 |
| 1250 | | |
| 1300 | | |
| 1350 | | |
| 1400 | | |

**Background reading at designated function check location in AVM office.**

| Count # | Reading (CPM) Bare | Collimated |
|---|---|---|
| 1 | 8139 | 3129 |
| 2 | 8284 | 3144 |
| 3 | 8301 | 3004 |
| 4 | 8107 | 3170 |
| 5 | 8155 | 3171 |
| Average | 8197 | 3124 |

FC Range (6524-9786) (2537-3805)

**Count Readings with 1 percent $U_3O_8$ can directly under collimated detector on designated function check location in AVM office.**

| Count # | Reading (CPM) |
|---|---|
| 1 | 96354 |
| 2 | 95928 |
| 3 | 96716 |
| 4 | 96662 |
| 5 | 96241 |
| Average | 96380 |

HV Set @ 900 VDC (Instrument) 900 VDC (DVM Fluke 8020B)

Input Sensitivity (THR), mV 10

Function Check with 1 percent $U_3O_8$ ore in can. Can Directly under the detector in the collimator.
Acceptable Function check range is 77104 to 115656 CPM

**Notes:**

Date 2-19-24 By

**AVM Environmental Services Inc.**
**Scaler/Ratemeter - Detector Calibration Form**



Scaler/Ratemeter LZ221 S# 290801
Detector SPA-3 S# 408522-30

Source U308 ore in can S# FC-2 Strength 1%

Scaler/Ratemeter Threshhold set @ 10 mV, Window IN/OUT out, Window N/A mV

HV Set @ 900 VDC (Instrument) 900 VDC (DVM Fluke 8020B)

**Count Readings for Calibration Pad GPB (0.0 ± 0.3 pCi/gm Ra-226)**

| | Bare (Uncollimated) @ 1' | | Collimated @ 1' | |
|---|---|---|---|---|
| #1 | 11498 | cpm | 2766 | cpm |
| #2 | 11820 | cpm | 2839 | cpm |
| #3 | 11614 | cpm | 2849 | cpm |
| #4 | 11823 | cpm | 2833 | cpm |
| #5 | 11777 | cpm | 2772 | cpm |
| BKG Average | 11706 | cpm | 2812 | cpm |

**Count Readings for Calibration Pad GPL (87.78 pCi/gm Ra-226)**

| | Bare (Uncollimated) @ 1' | | Collimated @ 1' | |
|---|---|---|---|---|
| #1 | 90635 | cpm | 53328 | cpm |
| #2 | 90696 | cpm | 53884 | cpm |
| #3 | 90626 | cpm | 53443 | cpm |
| #4 | 90778 | cpm | 54004 | cpm |
| #5 | 91414 | cpm | 53996 | cpm |
| Gross Average | 90830 | cpm | 53731 | cpm |
| Net Source Pad | 79123 | cpm | 50919 | cpm |
| Eff(net cpm/87.78 pCi/gm | 901 | cpm/pCi/gm | 580 | cpm/pCi/gm |

**µR/hr Reading for Calibration Pad GPL (87.78 pCi/gm Ra-226)**

Ludlum Model 19 serial # 76248

Reading @ 1' 115 µR/hr
1.27E-03 µR/hr/cpm

Date 2-19-24 By

**AVM Environmental Services Inc.**
L2221 SCA/L44-20 Energy Calibration Form

SCA: L2221, SR #290801 Detector: Ludlum 44-20 (3x3 Nal Scintillator)

Calibration Source: Cs-137 Check Source, 5 uCi (August 2008) For 662 KeV Peak Cal

Threshold (input sensitivity) **652**

Window, In/Out **IN** Window **20**

HV Initial 100, At Peak 575

Maximum CPM: 204503 Background CPM: 9

HV Set @ 575 VDC

For Bi-214 609.2 KeV Peak (559 - 659 KeV ROI), Set Threshold @ 559, Window @ 10mV

Calibration Check w 1% U3O8 Ore Check Source: 15656 CPM

BKG = 63 cpm

Date 9-30-24 Calibrated By

**AVM Environmental Services, Inc.**
**Field Soil Sample Gamma Radiation Screening Form**
**Mt. Taylor Mine Site**

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector L44-20 S# 295573
Instrument Calibration Date: 2-19-24 / 9-30-24, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription Mt. Taylor Mine Site - Correlation Calibration

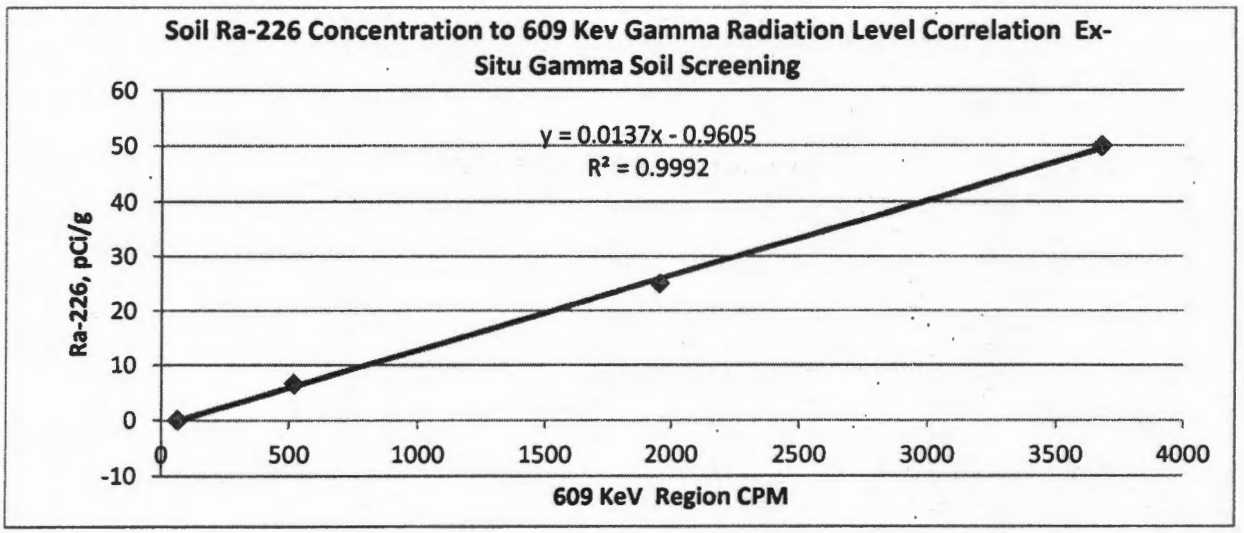
Area exposure rate: 12-14 uR/hr.

| Date | Soil Sample ID | Sample Weight Grams | 609 (559-669) Kev Gross Counts, CP5M | Weight Corrected CP5M | CPM | Reference Soil Compare (< or >) | Comments |
|---|---|---|---|---|---|---|---|
| 9-30-24 | Blank | - | 325 | - | 65 | | |
| 9-30-24 | 6.6 pCi/g Ref. Soil | 3000 | 2600 | - | 520 | | |
| 9-30-24 | 25 pCi/g Ref. Soil | 3000 | 9770 | - | 1954 | | |
| 9-30-24 | 50 pCi/g Ref. Soil | 3000 | 18386 | - | 3677 | | |
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Technician Signature _____, Reviewed by _____

## AVM Environmental Services
## Ex-Situ Soil Screening Gamma Radiation Level to Ra-226 Correlation
## Mt. Taylor Mine Site Subsurface Soil Investigation

| Reference Soil ID | Date | Ra-226 pCi/g | Wt gms | 609 KeV CP5Min Gross (3x3 Nal Detector) | CPM |
|---|---|---|---|---|---|
| Blank | 9/30/2024 | - | - | 325 | 65 |
| 6.6 pCi/g Ra-226 Ref Soil | 9/30/2024 | 6.6 | 3000 | 2600 | 520 |
| 25 pCi/g Ra-226 Ref Soil | 9/30/2024 | 25 | 3000 | 9770 | 1954 |
| 50 pCi/g Ra-226 Ref Soil | 9/30/2024 | 50 | 3000 | 18386 | 3677 |



**AVM Environmental Services, Inc.**
**Ludlum SCA L2221 - 44-20 3x3 NaI Detector Function Check**
**559 - 659 KeV Gamma Radiation Soil Screening**

L2221 #68782

Ludlum 44-20 3x3 NaI Detector, #PR295573

Function Check Source ID: 1% $U_3O_8$ Ore in Sealed can

Acceptable background Count (cpm) Range (20%) 50 to 76

Acceptable Source Count (cpm) Range (20%) 12525 to 18787

| Date | Physical Check | Cal Date | Battery[1] Volts or OK | HV Volts | Threshhold mV [2] | Window mV | Window In/Out | BKG Counts cpm | Source Counrts cpm | Within Acceptable Range Y or N | MDC pCi/gm | Tech |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9-30-24 | ✓ | 9-30-24 | ok | 575 | 559 | 10 | in | 63 | 15656 | y | — | VP |
| 10-8-24 | ✓ | 9-30-24 | ok | 575 | 559 | 10 | in | 65 | 15453 | y | — | VP |
| 10-9-24 | ✓ | 9-30-24 | ok | 583 | 559 | 10 | in | | 15588 | y | — | VP |
| 10-15-24 | ✓ | 9-30-24 | ok | 575 | 559 | 10 | in | 63 | 15698 | y | — | VP |
| 10-16-24 | ✓ | 9-30-24 | OK | 575 | 559 | 10 | in | 68 | 15552 | y | — | VP |
| 10-29-24 | ✓ | 9-30-24 | OK | 575 | 559 | 10 | in | 63 | 15524 | y | — | VP |
| 11-26-24 | ✓ | 9-30-24 | OK | 578 | 559 | 10 | in | 64 | 15657 | y | — | VP |
| 12-9-24 | ✓ | 9-30-24 | OK | 579 | 559 | 10 | in | 68 | 15634 | y | — | VP |
| 12-11-24 | ✓ | 9-30-24 | ok | 578 | 559 | 10 | in | 66 | 15841 | y | — | VP |
| 1-30-25 | ✓ | 9-30-24 | OK | 580 | 559 | 10 | in | 67 | 15891 | y | — | VP |
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Note: (1) Battery Voltage for Ludlum 2221 must be >5.3 volts; (2) Threshhold must be at 220 mV; (3) Window @ 440, must be IN

**AVM Environmental Services, Inc.**
**Scaler/Ratemeter - 2" x 2" NaI Detector Function Check**

Function Check Source ID: 1% $U_3O_8$ Ore in Sealed can

2" x 2" NaI Detector ID: SPA-3 S#408522-30

Acceptable background Count (cpm) Range (20%) 6524 to 9786 (Bare)

Acceptable background Count (cpm) Range (20%) 2537 to 3805 (collimated)

Acceptable Source Count (cpm) Range (20%) 77104 to 115656

| Date | Scaler/Ratemeter | Physical Check | Cal Due | Battery[1] Volts or OK | HV Volts | THR mV[2] | Window In or OUT[3] | C.C.[4] | BKG Counts cpm | Source Counrts cpm | Within Acceptable Range Y or N | MDC pCi/gm | Tech |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10-28-24 | L2221 S#290801 | ✓ | 2-19-24 | ok | 900 | 10 | out | 1 | 8134 Bare / 3243 Coll. | 97448 | Y | — | VP |
| 11-18-24 | L2221 S#290801 | ✓ | 2-19-24 | ok | 900 | 10 | out | 1 | 8439 Bare / 3140 Coll. | 98377 | Y | — | VP |
| 11-22-24 | L2221 S#290801 | ✓ | 2-19-24 | ok | 900 | 10 | out | 1 | 8503 Bare / 3273 Coll. | 99127 | Y | — | VP |
| 11-25-24 | L2221 S#290801 | ✓ | 2-19-24 | ok | 900 | 10 | out | 1 | 8411 Bare / 3230 Coll. | 98897 | Y | — | VP |
| 12-2-24 | L2221 S#290801 | ✓ | 2-19-24 | ok | 900 | 10 | out | 1 | 8316 Bare / 3196 Coll. | 97663 | Y | — | VP |
| 12-4-24 | L2221 S#290801 | ✓ | 2-19-24 | ok | 900 | 10 | out | 1 | 8271 Bare / 3240 Coll. | 98336 | Y | — | VP |
| 12-5-24 | L2221 S#290801 | ✓ | 2-19-24 | ok | 900 | 10 | out | 1 | 8377 Bare / 3216 Coll. | 98162 | Y | — | VP |
| 12-9-24 | L2221 S#290801 | ✓ | 2-19-24 | ok | 900 | 10 | out | 1 | 8413 Bare / 3457 Coll. | 98760 | Y | — | VP |
| 12-11-24 | L2221 S#290801 | ✓ | 2-19-24 | ok | 900 | 10 | out | 1 | 8301 Bare / 3241 Coll. | 97843 | Y | — | VP |
| 1-27-25 | L2221 S#290801 | ✓ | 2-19-24 | ok | 900 | 10 | out | 1 | 8841 Bare / 3396 Coll. | 99501 | Y | — | VP |
| 2-5-25 | L2221 S#290801 | ✓ | 2-19-24 | ok | 900 | 10 | out | 1 | 8508 Bare / 3428 Coll. | 98671 | Y | — | VP |
| 2-6-25 | L2221 S#290801 | ✓ | 2-19-24 | ok | 900 | 10 | out | 1 | 8309 Bare / 3293 Coll. | 99461 | Y | — | VP |
| 2-10-25 | L2221 S#290801 | ✓ | 2-19-24 | ok | 900 | 10 | out | 1 | 8448 Bare / 3480 Coll. | 98099 | Y | — | VP |
| 2-13-25 | L2221 S#290801 | ✓ | 2-19-24 | ok | 900 | 10 | out | 1 | 8308 Bare / 3332 Coll. | 98664 | Y | — | VP |
| | | | | | | | | | Bare / Coll. | | | | |
| | | | | | | | | | Bare / Coll. | | | | |

Note: (1) Battery Voltage for Ludlum 2221 must be >5.3 volts; (2) Threshhold must be at 10.0 mV; (3) Window Position must be OUT; (4) CC on L2241-2 set at 0.001
For L2241-2 Check HV and Threshold using Ludlum 500 pulser.

**AVM Environmental Services, Inc.**
**Scaler/Ratemeter - 2" x 2" NaI Detector Function Check**

Function Check Source ID: 1% $U_3O_8$ Ore in Sealed can

2" x 2" NaI Detector ID: SPA-3 S#408522-30

Acceptable background Count (cpm) Range (20%) 6524 to 9786 (Bare)

Acceptable background Count (cpm) Range (20%) 2537 to 3805 (collimated)

Acceptable Source Count (cpm) Range (20%) 77104 to 115656

| Date | Scaler/Ratemeter | Physical Check | Cal Due | Battery[1] Volts or OK | HV Volts | THR mV[2] | Window In or OUT[3] | C.C.[4] | BKG Counts cpm | Source Counrts cpm | Within Acceptable Range Y or N | MDC pCi/gm | Tech |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8-28-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8180 Bare<br>3342 Coll | 99633 | Y | — | VP |
| 8-30-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8151 Bare<br>3141 Coll | 94361 | Y | — | VP |
| 9-3-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8019 Bare<br>3008 Coll | 94435 | Y | — | VP |
| 9-4-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8269 Bare<br>3172 Coll | 95972 | Y | — | VP |
| 9-9-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8289 Bare<br>3460 Coll | 96559 | Y | — | VP |
| 9-10-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8117 Bare<br>3234 Coll | 94663 | Y | — | VP |
| 9-11-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8529 Bare<br>3263 Coll | 96573 | Y | — | VP |
| 9-17-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8079 Bare<br>3096 Coll | 97763 | Y | — | VP |
| 9-19-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8862 Bare<br>3380 Coll | 97608 | Y | — | VP |
| 10-7-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8805 Bare<br>3379 Coll | 95735 | Y | — | VP |
| 10-8-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8140 Bare<br>3311 Coll | 97124 | Y | — | VP |
| 10-9-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8370 Bare<br>3145 Coll | 97321 | Y | — | VP |
| 10-15-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8242 Bare<br>3290 Coll | 95964 | Y | — | VP |
| 10-16-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8395 Bare<br>3045 Coll | 95244 | Y | — | VP |
| 10-21-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8171 Bare<br>3070 Coll | 98844 | Y | — | VP |
| 10-23-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8167 Bare<br>3314 Coll | 98553 | Y | — | VP |

Note: (1) Battery Voltage for Ludlum 2221 must be >5.3 volts; (2) Threshhold must be at 10.0 mV; (3) Window Position must be OUT; (4) CC on L2241-2 set at 0.001
For L2241-2 Check HV and Threshold using Ludlum 500 pulser.

**AVM Environmental Services, Inc.**
**Scaler/Ratemeter - 2" x 2" NaI Detector Function Check**

Function Check Source ID: 1% $U_3O_8$ Ore in Sealed can

2" x 2" NaI Detector ID: SPA-3 S#408522-30

Acceptable background Count (cpm) Range (20%) 6524 to 9786 (Bare)

Acceptable background Count (cpm) Range (20%) 2537 to 3805 (collimated)

Acceptable Source Count (cpm) Range (20%) 77104 to 115656

| Date | Scaler/Ratemeter | Physical Check | Cal Due | Battery[1] Volts or OK | HV Volts | THR mV[2] | Window In or OUT[3] | C.C.[4] | BKG Counts cpm | Source Counrts cpm | Within Acceptable Range Y or N | MDC pCi/gm | Tech |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-19-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8351 Bare / 3120 Coll. | 96783 | y | – | VP |
| 4-7-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8272 Bare / 3110 Coll. | 97815 | y | – | VP |
| 4-8-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8249 Bare / 3095 Coll. | 96288 | y | – | VP |
| 4-10-24 | L2221 S#290801 | ✓ | 2-19-25 | Ok | 900 | 10 | out | 1 | 8440 Bare / 3065 Coll. | 96064 | y | – | VP |
| 4-15-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8395 Bare / 3119 Coll. | 97475 | y | – | VP |
| 4-16-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8411 Bare / 3124 Coll. | 96227 | y | – | VP |
| 4-17-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8401 Bare / 3193 Coll. | 97111 | y | – | VP |
| 4-22-24 | L2221 S#290801 | ✓ | 2-19-25 | OK | 900 | 10 | out | 1 | 8093 Bare / 3199 Coll. | 96431 | y | – | VP |
| 4-23-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8205 Bare / 3092 Coll. | 95968 | y | – | VP |
| 4-30-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8264 Bare / 3263 Coll. | 96356 | y | – | VP |
| 7-15-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8318 Bare / 3111 Coll. | 96914 | y | – | VP |
| 7-16-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8211 Bare / 3099 Coll. | 97277 | y | – | VP |
| 7-17-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8238 Bare / 3221 Coll. | 100091 | y | – | VP |
| 7-23-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8222 Bare / 3240 Coll. | 98144 | y | – | VP |
| 8-14-23 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8120 Bare / 3223 Coll. | 98757 | y | – | VP |
| 8-22-24 | L2221 S#290801 | ✓ | 2-19-25 | ok | 900 | 10 | out | 1 | 8224 Bare / 3204 Coll. | 99197 | y | – | VP |

Note: (1) Battery Voltage for Ludlum 2221 must be >5.3 volts; (2) Threshhold must be at 10.0 mV; (3) Window Position must be OUT; (4) CC on L2241-2 set at 0.001
For L2241-2 Check HV and Threshold using Ludlum 500 pulser.

**AVM Environmental Services, Inc.**
**Micro R Meter Function Check Form**

Micro R Meter: Ludlum 19, SR#76248

Function Check Source ID: 1% $U_3O_8$ Ore in Sealed can

Function Check @ Calibration 135

Acceptable Function Check Reading (uR/hr) Range (20%) 108 to 162

| Date | Physical Check | Cal Date | Battery(1) Volts or OK | BKG Reading uR/hr | Source Reading (2) uR/hr | Within Acceptable Range Y or N | Cal Due | Tech |
|---|---|---|---|---|---|---|---|---|
| 12-16-24 | ✓ | 10-4-24 | ok | 8-10 | 140 | y | 10-4-25 | VP |
| 12-18-24 | ✓ | 10-4-24 | ok | 8-10 | 135 | y | 10-4-25 | VP |
| 12-19-24 | ✓ | 10-4-24 | ok | 8-10 | 140 | y | 10-4-25 | VP |
| 12-23-24 | ✓ | 10-4-24 | ok | 8-10 | 130 | y | 10-4-25 | VP |
| 1-7-25 | ✓ | 10-4-24 | ok | 8-10 | 135 | y | 10-4-25 | VP |
| 1-16-25 | ✓ | 10-4-24 | ok | 8-10 | 130 | y | 10-4-25 | VP |
| 1-17-25 | ✓ | 10-4-24 | ok | 8-10 | 140 | y | 10-4-25 | VP |
| 1-23-25 | ✓ | 10-4-24 | ok | 8-10 | 135 | y | 10-4-25 | VP |
| 1-27-25 | ✓ | 10-4-24 | ok | 8-10 | 130 | y | 10-4-25 | VP |
| 2-5-25 | ✓ | 10-4-24 | ok | 8-10 | 130 | y | 10-4-25 | VP |
| 2-6-25 | ✓ | 10-4-24 | ok | 8-10 | 130 | y | 10-4-25 | VP |
| 2-10-25 | ✓ | 10-4-24 | ok | 10-12 | 140 | y | 10-4-25 | VP |
| 2-13-25 | ✓ | 10-4-24 | ok | 8-10 | 135 | y | 10-4-25 | VP |
| 2-19-25 | ✓ | 10-4-24 | ok | 8-10 | 140 | y | 10-4-25 | VP |
| 2-20-25 | ✓ | 10-4-24 | ok | 8-10 | 140 | y | 10-4-25 | VP |
| | | | | | | | | |
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**Note: (1) Battery Voltage must be within BAT TEST Range (2) Function Check Source must be placed in the circle on the front side of the meter**

**AVM Environmental Services, Inc.**
**Micro R Meter Function Check Form**

Micro R Meter: Ludlum 19, SR#76248

Function Check Source ID: 1% $U_3O_8$ Ore in Sealed can

Function Check @ Calibration 135

Acceptable Function Check Reading (uR/hr) Range (20%) 108 to 162

| Date | Physical Check | Cal Date | Battery[1] Volts or OK | BKG Reading uR/hr | Source Reading[2] uR/hr | Within Acceptable Range Y or N | Cal Due | Tech |
|---|---|---|---|---|---|---|---|---|
| 10-14-24 | ✓ | 10-4-24 | ok | 10-12 | 130 | y | 10-4-25 | VP |
| 10-15-24 | ✓ | 10-4-24 | ok | 8-10 | 140 | y | 10-4-25 | VP |
| 10-16-24 | ✓ | 10-4-24 | ok | 8-10 | 140 | y | 10-4-25 | VP |
| 10-21-24 | ✓ | 10-4-24 | ok | 8-10 | 130 | y | 10-4-25 | VP |
| 10-23-24 | ✓ | 10-4-24 | ok | 8-10 | 140 | y | 10-4-25 | VP |
| 10-29-24 | ✓ | 10-4-24 | ok | 8-10 | 130 | y | 10-4-25 | VP |
| 10-31-24 | ✓ | 10-4-24 | ok | 10-12 | 130 | y | 10-4-25 | VP |
| 11-11-24 | ✓ | 10-4-24 | ok | 8-10 | 130 | y | 10-4-25 | VP |
| 11-12-24 | ✓ | 10-4-24 | ok | 8-10 | 130 | y | 10-4-25 | VP |
| 11-18-24 | ✓ | 10-4-24 | ok | 8-10 | 140 | y | 10-4-25 | VP |
| 11-20-24 | ✓ | 10-4-24 | ok | 8-10 | 130 | y | 10-4-25 | VP |
| 11-22-24 | ✓ | 10-4-24 | ok | 8-10 | 140 | y | 10-4-25 | VP |
| 11-25-24 | ✓ | 10-4-24 | ok | 8-10 | 140 | y | 10-4-25 | VP |
| 11-26-24 | ✓ | 10-4-24 | ok | 8-10 | 130 | y | 10-4-25 | VP |
| 12-2-24 | ✓ | 10-4-24 | ok | 8-10 | 140 | y | 10-4-25 | VP |
| 12-4-24 | ✓ | 10-4-24 | ok | 8-10 | 130 | y | 10-4-25 | VP |
| 12-11-24 | ✓ | 10-4-24 | ok | 8-10 | 140 | y | 10-4-25 | VP |
| 12-12-24 | ✓ | 10-4-24 | ok | 8-10 | 130 | y | 10-4-25 | VP |

**Note: (1) Battery Voltage must be within BAT TEST Range (2) Function Check Source must be placed in the circle on the front side of the meter**

**AVM Environmental Services, Inc.**
**Micro R Meter Function Check Form**

Micro R Meter: Ludlum 19, SR#76248

Function Check Source ID: 1% $U_3O_8$ Ore in Sealed can

Function Check @ Calibration 135

Acceptable Function Check Reading (uR/hr) Range (20%) 108 to 162

| Date | Physical Check | Cal Date | Battery(1) Volts or OK | BKG Reading uR/hr | Source Reading (2) uR/hr | Within Acceptable Range Y or N | Cal Due | Tech |
|---|---|---|---|---|---|---|---|---|
| 9-3-24 | ✓ | 11-3-23 | OK | 8-10 | 135 | Y | 11-3-24 | VP |
| 9-4-24 | ✓ | 11-3-23 | ok | 8-10 | 140 | Y | 11-3-24 | VP |
| 9-9-24 | ✓ | 11-3-23 | ok | 8-10 | 130 | Y | 11-3-24 | VP |
| 9-11-24 | ✓ | 11-3-23 | ok | 8-10 | 130 | Y | 11-3-24 | VP |
| 9-16-24 | ✓ | 11-3-23 | ok | 8-10 | 140 | Y | 11-3-24 | VP |
| 9-17-24 | ✓ | 11-3-23 | ok | 10-12 | 140 | Y | 11-3-24 | VP |
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| | | | | | | | | |

**Note: (1) Battery Voltage must be within BAT TEST Range (2) Function Check Source must be placed in the circle on the front side of the meter**

**AVM Environmental Services, Inc.**
**Micro R Meter Function Check Form**

Micro R Meter: Ludlum 19, SR#76248

Function Check Source ID: 1% $U_3O_8$ Ore in Sealed can

Function Check @ Calibration 135

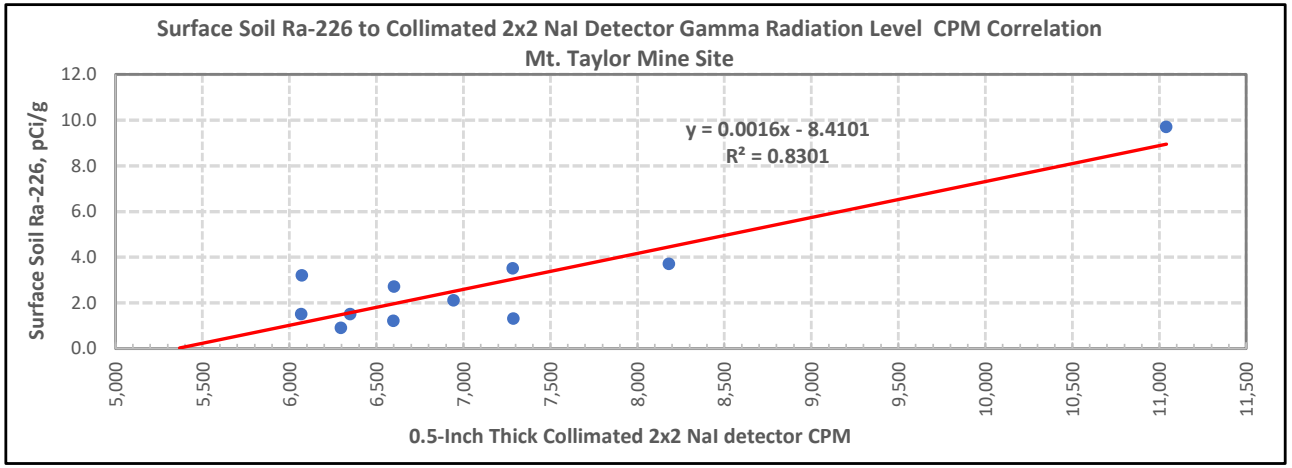
Acceptable Function Check Reading (uR/hr) Range (20%) 108 to 162

| Date | Physical Check | Cal Date | Battery(1) Volts or OK | BKG Reading uR/hr | Source Reading (2) uR/hr | Within Acceptable Range Y or N | Cal Due | Tech |
|---|---|---|---|---|---|---|---|---|
| 11-13-23 | ✓ | 11-3-23 | ok | 10-12 | 130 | y | 11-3-24 | VP |
| 4-7-24 | ✓ | 11-3-23 | ok | 10-12 | 140 | y | 11-3-24 | VP |
| 4-8-24 | ✓ | 11-3-23 | ok | 10-12 | 140 | y | 11-3-24 | VP |
| 4-10-24 | ✓ | 11-3-23 | ok | 10-12 | 130 | y | 11-3-24 | VP |
| 4-15-24 | ✓ | 11-3-23 | ok | 10-12 | 130 | y | 11-3-24 | VP |
| 4-16-24 | ✓ | 11-3-23 | ok | 10-12 | 140 | y | 11-3-24 | VP |
| 4-17-24 | ✓ | 11-3-23 | ok | 10-12 | 140 | y | 11-3-24 | VP |
| 4-22-24 | ✓ | 11-3-23 | ok | 10-12 | 130 | y | 11-3-24 | VP |
| 4-23-24 | ✓ | 11-3-23 | ok | 10-12 | 130 | y | 11-3-24 | VP |
| 4-30-24 | ✓ | 11-3-23 | ok | 10-12 | 140 | y | 11-3-24 | VP |
| 6-25-24 | ✓ | 11-3-23 | ok | 10-12 | 140 | y | 11-3-24 | VP |
| 6-26-24 | ✓ | 11-3-23 | ok | 10-12 | 140 | y | 11-3-24 | VP |
| 7-2-24 | ✓ | 11-3-23 | ok | 10-12 | 130 | y | 11-3-24 | VP |
| 7-9-24 | ✓ | 11-3-23 | ok | 10-12 | 140 | y | 11-3-24 | VP |
| 8-14-24 | ✓ | 11-3-23 | ok | 10-12 | 130 | y | 11-3-24 | VP |
| 8-22-24 | ✓ | 11-3-23 | ok | 10-12 | 130 | y | 11-3-24 | VP |
| 8-28-24 | ✓ | 11-3-23 | ok | 8-10 | 140 | y | 11-3-24 | VP |
| 8-30-24 | ✓ | 11-3-23 | ok | 10-12 | 130 | y | 11-3-24 | VP |

Note: (1) Battery Voltage must be within BAT TEST Range (2) Function Check Source must be placed in the circle on the front side of the meter

## Surface Soil Ra-226 to Gamma Radiation Level Correlation
## Mount Taylor Mine Site

| Survey Date | Survey Point ID/Description | Survey Point Coordinate NAD83 StatePlane NM West, Feet | | Static Gamma Radiation Survey | | Sample Laboratory Analysis | Gamma Exposure Rate µR/hr |
|---|---|---|---|---|---|---|---|
| | | Northing | Easting | Bare 2x2 NaI Detector CPM | Collimated (0.5" Pb) 2x2 NaI Detector CPM | Ra-226 pCi/g | |
| 05/17/23 | WBSB-01 | 1,581,413 | 2,782,866 | 26,897 | 6,297 | **0.9** | 33 |
| 05/17/23 | WBSB-02 | 1,581,390 | 2,782,444 | 26,749 | 6,350 | **1.5** | 33 |
| 05/17/23 | WBSB-03 | 1,581,356 | 2,783,329 | 24,529 | 6,073 | **3.2** | 31 |
| 05/17/23 | WBSB-04 | 1,581,339 | 2,782,706 | 30,064 | 6,069 | **1.5** | 37 |
| 05/17/23 | WBSB-05 | 1,581,329 | 2,783,062 | 31,828 | 6,945 | **2.1** | 41 |
| 05/17/23 | WBSB-06 | 1,581,271 | 2,782,942 | 35,410 | 7,288 | **1.3** | 47 |
| 05/17/23 | WBSB-07 | 1,581,187 | 2,783,253 | 37,965 | 8,183 | **3.7** | 47 |
| 05/17/23 | WBSB-08 | 1,581,164 | 2,782,988 | 55,849 | 11,042 | **9.7** | 70 |
| 05/31/23 | WBSB-09 | 1,581,254 | 2,782,870 | 36,491 | 6,599 | **1.2** | 44 |
| 05/31/23 | WBSB-10 | 1,581,263 | 2,783,140 | 34,898 | 7,286 | **3.5** | 48 |
| 05/31/23 | WBSB-11 | 1,581,277 | 2,783,335 | 29,002 | 6,602 | **2.7** | 34 |




SUMMARY OUTPUT

### Regression Statistics

| | |
|---|---|
| Multiple R | 0.91 |
| R Square | 0.83 |
| Adjusted R Square | 0.81 |
| Standard Error | 1.08 |
| Observations | 11 |

**ANOVA**

| | df | SS | MS | F | Significance F |
|---|---|---|---|---|---|
| Regression | 1 | 50.92 | 50.92 | 43.97 | 9.58E-05 |
| Residual | 9 | 10.42 | 1.16 | | |
| Total | 10 | 61.35 | | | |

| | Coefficients | Standard Error | t Stat | P-value | Lower 95% | Upper 95% | Lower 95.0% | Upper 95.0% |
|---|---|---|---|---|---|---|---|---|
| Intercept | -8.41 | 1.73 | -4.87 | 0.00089 | -12.32 | -4.50 | -12.32 | -4.50 |
| X Variable 1 | 0.00 | 0.00 | 6.63 | 0.00010 | 0.00104 | 0.00211 | 0.00104 | 0.00211 |

**Appendix C**
**Soil Sample COC and Laboratory Analytical Results Report**

ENERGY LABORATORIES
Trust our People. Trust our Data.
www.energylab.com
Billings, MT 406.252.6325 • Casper, WY 307.235.0515
Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

# ANALYTICAL SUMMARY REPORT

January 31, 2025

Rio Grande Resources Corporation
PO Box 1150
Grants, NM 87020-1150

Work Order: C24120480 Quote ID: C16056

Project Name: MTM NCA Characterization

AUM - North Control Area Sampling

Energy Laboratories, Inc. Casper WY received the following 12 samples for Rio Grande Resources Corporation on 12/18/2024 for analysis.

| Lab ID | Client Sample ID | Collect Date | Receive Date | Matrix | Test |
|---|---|---|---|---|---|
| C24120480-001 | TP-01 [6-12]Inches | 10/08/24 9:30 | 12/18/24 | Soil | Gamma Sample Preparation Drying/Grinding, Radiochemistry Gross Gamma |
| C24120480-002 | Inv-07 [1.5-2]Feet | 10/08/24 10:55 | 12/18/24 | Soil | Same As Above |
| C24120480-003 | TP-13 [6-12]Inches | 10/09/24 8:40 | 12/18/24 | Soil | Same As Above |
| C24120480-004 | TP-19 [4.5-5]Feet | 10/16/24 8:45 | 12/18/24 | Soil | Same As Above |
| C24120480-005 | TP-24 [6-12]Inches | 10/16/24 10:20 | 12/18/24 | Soil | Same As Above |
| C24120480-006 | TP-40 [6-12]Inches | 10/28/24 10:35 | 12/18/24 | Soil | Same As Above |
| C24120480-007 | TP-22 [1.5-2]Feet | 10/28/24 11:20 | 12/18/24 | Soil | Same As Above |
| C24120480-008 | TP-33 [6-12]Inches | 11/25/24 11:00 | 12/18/24 | Soil | Same As Above |
| C24120480-009 | TP-30 [6-12]Inches | 12/04/24 8:30 | 12/18/24 | Soil | Same As Above |
| C24120480-010 | TP-32 [1-1.5]Feet | 12/09/24 9:50 | 12/18/24 | Soil | Same As Above |
| C24120480-011 | TP-34 [2-3]Feet | 12/11/24 9:15 | 12/18/24 | Soil | Same As Above |
| C24120480-012 | DS-NCA-01 [6-12]Inches | 12/11/24 10:00 | 12/18/24 | Soil | Same As Above |

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy, Casper, WY 82601-9601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.

Ashley Wilson
Project Manager

Digitally signed by
Ashley L. Wilson
Date: 2025.01.31 08:26:17 -07:00

**CLIENT:** Rio Grande Resources Corporation
**Project:** MTM NCA Characterization
**Work Order:** C24120480

**Report Date:** 01/31/25

# CASE NARRATIVE

ORIGINAL SAMPLE SUBMITTAL(S)
All original sample submittals have been returned with the data package.

SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)
Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

GROSS ALPHA ANALYSIS
Method 900.0 for gross alpha and gross beta is intended as a drinking water method for low TDS waters. Data provided by this method for non potable waters should be viewed as inconsistent.

RADON IN AIR ANALYSIS
The desired exposure time is 48 hours (2 days). The time delay in returning the canister to the laboratory for processing should be as short as possible to avoid excessive decay. Maximum recommended delay between end of exposure to beginning of counting should not exceed 8 days.

SOIL/SOLID SAMPLES
All samples reported on an as received basis unless otherwise indicated.

ATRAZINE, SIMAZINE AND PCB ANALYSIS
Data for PCBs, Atrazine and Simazine are reported from EPA 525.2. PCB data reported by ELI reflects the results for seven individual Aroclors. When the results for all seven are ND (not detected), the sample meets EPA compliance criteria for PCB monitoring.

SUBCONTRACTING ANALYSIS
Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

BRANCH LABORATORY LOCATIONS
eli-b - Energy Laboratories, Inc. - Billings, MT
eli-g - Energy Laboratories, Inc. - Gillette, WY
eli-h - Energy Laboratories, Inc. - Helena, MT

ISO 17025 DISCLAIMER:
The results of this Analytical Report relate only to the items submitted for analysis.

ENERGY LABORATORIES, INC. - CASPER,WY certifies that certain method selections contained in this report meet requirements as set forth by the above accrediting authorities. Some results requested by the client may not be covered under these certifications. All analysis data to be submitted for regulatory enforcement should be certified in the sample state of origin. Please verify ELI's certification coverage by visiting www.energylab.com

ELI appreciates the opportunity to provide you with this analytical service. For additional information and services visit our web page www.energylab.com.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM NCA Characterization
**Lab ID:** C24120480-001
**Client Sample ID:** TP-01 [6-12]

**Report Date:** 01/31/25
**Collection Date:** 10/08/24 09:30
**DateReceived:** 12/18/24
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.6 | pCi/g-dry | U | | | E901.1M | 01/21/25 09:56 / haw |
| Radium 224 precision (±) | 2.2 | pCi/g-dry | | | | E901.1M | 01/21/25 09:56 / haw |
| Radium 224 MDC | 3.6 | pCi/g-dry | | | | E901.1M | 01/21/25 09:56 / haw |
| Radium 226 | 1.2 | pCi/g-dry | | | | E901.1M | 01/21/25 09:56 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1M | 01/21/25 09:56 / haw |
| Radium 226 MDC | 0.2 | pCi/g-dry | | | | E901.1M | 01/21/25 09:56 / haw |
| Radium 228 | 1.7 | pCi/g-dry | | | | E901.1M | 01/21/25 09:56 / haw |
| Radium 228 precision (±) | 0.4 | pCi/g-dry | | | | E901.1M | 01/21/25 09:56 / haw |
| Radium 228 MDC | 0.4 | pCi/g-dry | | | | E901.1M | 01/21/25 09:56 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM NCA Characterization
**Lab ID:** C24120480-002
**Client Sample ID:** Inv-07 [1.5-2]

**Report Date:** 01/31/25
**Collection Date:** 10/08/24 10:55
**DateReceived:** 12/18/24
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.0 | pCi/g-dry | U | | | E901.1M | 01/21/25 11:59 / haw |
| Radium 224 precision (±) | 2.5 | pCi/g-dry | | | | E901.1M | 01/21/25 11:59 / haw |
| Radium 224 MDC | 4.2 | pCi/g-dry | | | | E901.1M | 01/21/25 11:59 / haw |
| Radium 226 | 8.6 | pCi/g-dry | | | | E901.1M | 01/21/25 11:59 / haw |
| Radium 226 precision (±) | 0.4 | pCi/g-dry | | | | E901.1M | 01/21/25 11:59 / haw |
| Radium 226 MDC | 0.3 | pCi/g-dry | | | | E901.1M | 01/21/25 11:59 / haw |
| Radium 228 | 0.3 | pCi/g-dry | U | | | E901.1M | 01/21/25 11:59 / haw |
| Radium 228 precision (±) | 0.4 | pCi/g-dry | | | | E901.1M | 01/21/25 11:59 / haw |
| Radium 228 MDC | 0.6 | pCi/g-dry | | | | E901.1M | 01/21/25 11:59 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM NCA Characterization
**Lab ID:** C24120480-003
**Client Sample ID:** TP-13 [6-12]

**Report Date:** 01/31/25
**Collection Date:** 10/09/24 08:40
**DateReceived:** 12/18/24
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.1 | pCi/g-dry | U | | | E901.1M | 01/21/25 14:11 / haw |
| Radium 224 precision (±) | 2.7 | pCi/g-dry | | | | E901.1M | 01/21/25 14:11 / haw |
| Radium 224 MDC | 4.4 | pCi/g-dry | | | | E901.1M | 01/21/25 14:11 / haw |
| Radium 226 | 7.2 | pCi/g-dry | | | | E901.1M | 01/21/25 14:11 / haw |
| Radium 226 precision (±) | 0.4 | pCi/g-dry | | | | E901.1M | 01/21/25 14:11 / haw |
| Radium 226 MDC | 0.3 | pCi/g-dry | | | | E901.1M | 01/21/25 14:11 / haw |
| Radium 228 | 1.5 | pCi/g-dry | | | | E901.1M | 01/21/25 14:11 / haw |
| Radium 228 precision (±) | 0.4 | pCi/g-dry | | | | E901.1M | 01/21/25 14:11 / haw |
| Radium 228 MDC | 0.5 | pCi/g-dry | | | | E901.1M | 01/21/25 14:11 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM NCA Characterization
**Lab ID:** C24120480-004
**Client Sample ID:** TP-19 [4.5-5]

**Report Date:** 01/31/25
**Collection Date:** 10/16/24 08:45
**DateReceived:** 12/18/24
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.8 | pCi/g-dry | U | | | E901.1M | 01/21/25 17:35 / haw |
| Radium 224 precision (±) | 2.0 | pCi/g-dry | | | | E901.1M | 01/21/25 17:35 / haw |
| Radium 224 MDC | 3.3 | pCi/g-dry | | | | E901.1M | 01/21/25 17:35 / haw |
| Radium 226 | 1.1 | pCi/g-dry | | | | E901.1M | 01/21/25 17:35 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1M | 01/21/25 17:35 / haw |
| Radium 226 MDC | 0.2 | pCi/g-dry | | | | E901.1M | 01/21/25 17:35 / haw |
| Radium 228 | 1.2 | pCi/g-dry | | | | E901.1M | 01/21/25 17:35 / haw |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | E901.1M | 01/21/25 17:35 / haw |
| Radium 228 MDC | 0.4 | pCi/g-dry | | | | E901.1M | 01/21/25 17:35 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM NCA Characterization
**Lab ID:** C24120480-005
**Client Sample ID:** TP-24 [6-12]

**Report Date:** 01/31/25
**Collection Date:** 10/16/24 10:20
**DateReceived:** 12/18/24
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.8 | pCi/g-dry | U | | | E901.1M | 01/22/25 09:54 / haw |
| Radium 224 precision (±) | 2.5 | pCi/g-dry | | | | E901.1M | 01/22/25 09:54 / haw |
| Radium 224 MDC | 4.1 | pCi/g-dry | | | | E901.1M | 01/22/25 09:54 / haw |
| Radium 226 | 3.8 | pCi/g-dry | | | | E901.1M | 01/22/25 09:54 / haw |
| Radium 226 precision (±) | 0.3 | pCi/g-dry | | | | E901.1M | 01/22/25 09:54 / haw |
| Radium 226 MDC | 0.2 | pCi/g-dry | | | | E901.1M | 01/22/25 09:54 / haw |
| Radium 228 | 1.4 | pCi/g-dry | | | | E901.1M | 01/22/25 09:54 / haw |
| Radium 228 precision (±) | 0.4 | pCi/g-dry | | | | E901.1M | 01/22/25 09:54 / haw |
| Radium 228 MDC | 0.4 | pCi/g-dry | | | | E901.1M | 01/22/25 09:54 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM NCA Characterization
**Lab ID:** C24120480-006
**Client Sample ID:** TP-40 [6-12]

**Report Date:** 01/31/25
**Collection Date:** 10/28/24 10:35
**DateReceived:** 12/18/24
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | -0.4 | pCi/g-dry | U | | | E901.1M | 01/22/25 14:26 / haw |
| Radium 224 precision (±) | 2.4 | pCi/g-dry | | | | E901.1M | 01/22/25 14:26 / haw |
| Radium 224 MDC | 4.0 | pCi/g-dry | | | | E901.1M | 01/22/25 14:26 / haw |
| Radium 226 | 1.1 | pCi/g-dry | | | | E901.1M | 01/22/25 14:26 / haw |
| Radium 226 precision (±) | 0.3 | pCi/g-dry | | | | E901.1M | 01/22/25 14:26 / haw |
| Radium 226 MDC | 0.3 | pCi/g-dry | | | | E901.1M | 01/22/25 14:26 / haw |
| Radium 228 | 1.7 | pCi/g-dry | | | | E901.1M | 01/22/25 14:26 / haw |
| Radium 228 precision (±) | 0.4 | pCi/g-dry | | | | E901.1M | 01/22/25 14:26 / haw |
| Radium 228 MDC | 0.4 | pCi/g-dry | | | | E901.1M | 01/22/25 14:26 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM NCA Characterization
**Lab ID:** C24120480-007
**Client Sample ID:** TP-22 [1.5-2]

**Report Date:** 01/31/25
**Collection Date:** 10/28/24 11:20
**DateReceived:** 12/18/24
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.9 | pCi/g-dry | U | | | E901.1M | 01/22/25 16:28 / haw |
| Radium 224 precision (±) | 2.3 | pCi/g-dry | | | | E901.1M | 01/22/25 16:28 / haw |
| Radium 224 MDC | 3.9 | pCi/g-dry | | | | E901.1M | 01/22/25 16:28 / haw |
| Radium 226 | 1.1 | pCi/g-dry | | | | E901.1M | 01/22/25 16:28 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1M | 01/22/25 16:28 / haw |
| Radium 226 MDC | 0.3 | pCi/g-dry | | | | E901.1M | 01/22/25 16:28 / haw |
| Radium 228 | 2.0 | pCi/g-dry | | | | E901.1M | 01/22/25 16:28 / haw |
| Radium 228 precision (±) | 0.4 | pCi/g-dry | | | | E901.1M | 01/22/25 16:28 / haw |
| Radium 228 MDC | 0.5 | pCi/g-dry | | | | E901.1M | 01/22/25 16:28 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM NCA Characterization
**Lab ID:** C24120480-008
**Client Sample ID:** TP-33 [6-12]

**Report Date:** 01/31/25
**Collection Date:** 11/25/24 11:00
**DateReceived:** 12/18/24
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.4 | pCi/g-dry | U | | | E901.1M | 01/22/25 18:30 / haw |
| Radium 224 precision (±) | 2.3 | pCi/g-dry | | | | E901.1M | 01/22/25 18:30 / haw |
| Radium 224 MDC | 3.8 | pCi/g-dry | | | | E901.1M | 01/22/25 18:30 / haw |
| Radium 226 | 1.1 | pCi/g-dry | | | | E901.1M | 01/22/25 18:30 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1M | 01/22/25 18:30 / haw |
| Radium 226 MDC | 0.2 | pCi/g-dry | | | | E901.1M | 01/22/25 18:30 / haw |
| Radium 228 | 1.7 | pCi/g-dry | | | | E901.1M | 01/22/25 18:30 / haw |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | E901.1M | 01/22/25 18:30 / haw |
| Radium 228 MDC | 0.4 | pCi/g-dry | | | | E901.1M | 01/22/25 18:30 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM NCA Characterization
**Lab ID:** C24120480-009
**Client Sample ID:** TP-30 [6-12]

**Report Date:** 01/31/25
**Collection Date:** 12/04/24 08:30
**DateReceived:** 12/18/24
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.8 | pCi/g-dry | U | | | E901.1M | 01/23/25 09:57 / haw |
| Radium 224 precision (±) | 2.2 | pCi/g-dry | | | | E901.1M | 01/23/25 09:57 / haw |
| Radium 224 MDC | 3.6 | pCi/g-dry | | | | E901.1M | 01/23/25 09:57 / haw |
| Radium 226 | 1.6 | pCi/g-dry | | | | E901.1M | 01/23/25 09:57 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1M | 01/23/25 09:57 / haw |
| Radium 226 MDC | 0.2 | pCi/g-dry | | | | E901.1M | 01/23/25 09:57 / haw |
| Radium 228 | 1.5 | pCi/g-dry | | | | E901.1M | 01/23/25 09:57 / haw |
| Radium 228 precision (±) | 0.4 | pCi/g-dry | | | | E901.1M | 01/23/25 09:57 / haw |
| Radium 228 MDC | 0.4 | pCi/g-dry | | | | E901.1M | 01/23/25 09:57 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM NCA Characterization
**Lab ID:** C24120480-010
**Client Sample ID:** TP-32 [1-1.5]

**Report Date:** 01/31/25
**Collection Date:** 12/09/24 09:50
**DateReceived:** 12/18/24
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1 | pCi/g-dry | U | | | E901.1M | 01/23/25 12:14 / haw |
| Radium 224 precision (±) | 2.3 | pCi/g-dry | | | | E901.1M | 01/23/25 12:14 / haw |
| Radium 224 MDC | 3.8 | pCi/g-dry | | | | E901.1M | 01/23/25 12:14 / haw |
| Radium 226 | 1.4 | pCi/g-dry | | | | E901.1M | 01/23/25 12:14 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1M | 01/23/25 12:14 / haw |
| Radium 226 MDC | 0.3 | pCi/g-dry | | | | E901.1M | 01/23/25 12:14 / haw |
| Radium 228 | 1.9 | pCi/g-dry | | | | E901.1M | 01/23/25 12:14 / haw |
| Radium 228 precision (±) | 0.4 | pCi/g-dry | | | | E901.1M | 01/23/25 12:14 / haw |
| Radium 228 MDC | 0.4 | pCi/g-dry | | | | E901.1M | 01/23/25 12:14 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM NCA Characterization
**Lab ID:** C24120480-011
**Client Sample ID:** TP-34 [2-3]

**Report Date:** 01/31/25
**Collection Date:** 12/11/24 09:15
**DateReceived:** 12/18/24
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 0.9 | pCi/g-dry | U | | | E901.1M | 01/23/25 14:16 / haw |
| Radium 224 precision (±) | 2.2 | pCi/g-dry | | | | E901.1M | 01/23/25 14:16 / haw |
| Radium 224 MDC | 3.6 | pCi/g-dry | | | | E901.1M | 01/23/25 14:16 / haw |
| Radium 226 | 1.3 | pCi/g-dry | | | | E901.1M | 01/23/25 14:16 / haw |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E901.1M | 01/23/25 14:16 / haw |
| Radium 226 MDC | 0.2 | pCi/g-dry | | | | E901.1M | 01/23/25 14:16 / haw |
| Radium 228 | 1.8 | pCi/g-dry | | | | E901.1M | 01/23/25 14:16 / haw |
| Radium 228 precision (±) | 0.4 | pCi/g-dry | | | | E901.1M | 01/23/25 14:16 / haw |
| Radium 228 MDC | 0.4 | pCi/g-dry | | | | E901.1M | 01/23/25 14:16 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** MTM NCA Characterization
**Lab ID:** C24120480-012
**Client Sample ID:** DS-NCA-01 [6-12]

**Report Date:** 01/31/25
**Collection Date:** 12/11/24 10:00
**DateReceived:** 12/18/24
**Matrix:** Soil

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES, GAMMA** | | | | | | | |
| Radium 224 | 1.0 | pCi/g-dry | U | | | E901.1M | 01/23/25 16:36 / haw |
| Radium 224 precision (±) | 2.7 | pCi/g-dry | | | | E901.1M | 01/23/25 16:36 / haw |
| Radium 224 MDC | 4.5 | pCi/g-dry | | | | E901.1M | 01/23/25 16:36 / haw |
| Radium 226 | 7.1 | pCi/g-dry | | | | E901.1M | 01/23/25 16:36 / haw |
| Radium 226 precision (±) | 0.4 | pCi/g-dry | | | | E901.1M | 01/23/25 16:36 / haw |
| Radium 226 MDC | 0.3 | pCi/g-dry | | | | E901.1M | 01/23/25 16:36 / haw |
| Radium 228 | 1.6 | pCi/g-dry | | | | E901.1M | 01/23/25 16:36 / haw |
| Radium 228 precision (±) | 0.4 | pCi/g-dry | | | | E901.1M | 01/23/25 16:36 / haw |
| Radium 228 MDC | 0.4 | pCi/g-dry | | | | E901.1M | 01/23/25 16:36 / haw |

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
U - Not detected
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Work Order:** C24120480 **Report Date:** 01/24/25

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: E901.1M** | | | | | | | | | | Batch: R313846 |
| **Lab ID: MB-313846** | 9 | Method Blank | | | | Run: GAM-HPGE 2_250116A | | | 01/16/25 10:01 | |
| Radium 224 | | 1 | pCi/g-dry | | | | | | | |
| Radium 224 precision (±) | | 0.7 | pCi/g-dry | | | | | | | |
| Radium 224 MDC | | 1 | pCi/g-dry | | | | | | | |
| Radium 226 | | 0.07 | pCi/g-dry | | | | | | | U |
| Radium 226 precision (±) | | 0.1 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.2 | pCi/g-dry | | | | | | | |
| Radium 228 | | 0.1 | pCi/g-dry | | | | | | | U |
| Radium 228 precision (±) | | 0.2 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.2 | pCi/g-dry | | | | | | | |
| **Lab ID: LCS-313846** | 6 | Laboratory Control Sample | | | | Run: GAM-HPGE 2_250116A | | | 01/16/25 11:06 | |
| Cobalt 60 | | 340 | pCi/g-dry | | 108 | 70 | 130 | | | |
| Cobalt 60 precision (±) | | 3.8 | pCi/g-dry | | | | | | | |
| Cobalt 60 MDC | | 1.1 | pCi/g-dry | | | | | | | |
| Lead 210 | | 1900 | pCi/g-dry | | 109 | 70 | 130 | | | |
| Lead 210 precision (±) | | 19 | pCi/g-dry | | | | | | | |
| Lead 210 MDC | | 18 | pCi/g-dry | | | | | | | |
| **Lab ID: C24120480-005ADUP** | 9 | Sample Duplicate | | | | Run: GAM-HPGE 2_250116A | | | 01/22/25 11:56 | |
| Radium 224 | | 0.59 | pCi/g-dry | | | | | 1300 | 30 | UR |
| Radium 224 precision (±) | | 2.4 | pCi/g-dry | | | | | | | |
| Radium 224 MDC | | 4.1 | pCi/g-dry | | | | | | | |
| Radium 226 | | 3.7 | pCi/g-dry | | | | | 2.3 | 30 | |
| Radium 226 precision (±) | | 0.30 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.28 | pCi/g-dry | | | | | | | |
| Radium 228 | | 1.2 | pCi/g-dry | | | | | 14 | 30 | |
| Radium 228 precision (±) | | 0.41 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.55 | pCi/g-dry | | | | | | | |

- Duplicate RPD for Ra224 is outside of the acceptance range for this analysis. However, the RER is less than or equal to the limit of 3. The RER result is 0.41.
- The RER result for Ra226 is 0.22 and Ra228 is 0.34.

**Qualifiers:**

RL - Analyte Reporting Limit

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)

U - Not detected

# Work Order Receipt Checklist

## Rio Grande Resources Corporation C24120480

Login completed by: Cristen C. Smith
Date Received: 12/18/2024
Reviewed by: lquezada
Received by: SLR
Reviewed Date: 12/19/2024
Carrier name: Return UPS Ground

| | | | |
|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on all shipping container(s)/cooler(s)? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on all sample bottles? | Yes ☐ | No ☐ | Not Present ☑ |
| Chain of custody present? | Yes ☑ | No ☐ | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | |
| Sample containers intact? | Yes ☑ | No ☐ | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | |
| All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes ☑ | No ☐ | |
| Temp Blank received in all shipping container(s)/cooler(s)? | Yes ☑ | No ☐ | Not Applicable ☐ |
| Container/Temp Blank temperature: | 4.0°C No Ice | | |
| Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4"). | Yes ☐ | No ☐ | No VOA vials submitted ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☐ | Not Applicable ☑ |

### Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

### Contact and Corrective Action Comments:

None

## *Laboratory Certifications and Accreditations*

Current certificates are available at www.energylab.com website:

| | Agency | Number |
|---|---|---|
| ***Billings, MT*** | Alaska | 17-023 |
| | California | 3087 |
| | Colorado | MT00005 |
| | Department of Defense (DoD)/ISO17025 | ADE-2588 |
| | Florida (Primary NELAP) | E87668 |
| | Idaho | MT00005 |
| | Louisiana | 05079 |
| | Montana | CERT0044 |
| | Nebraska | NE-OS-13-04 |
| | Nevada | NV-C24-00250 |
| | North Dakota | R-007 |
| | National Radon Proficiency | 109383-RMP |
| | Oregon | 4184 |
| | South Dakota | ARSD 74:04:07 |
| | Texas | TX-C24-00302 |
| | US EPA Region VIII | Reciprocal |
| | USDA Soil Permit | P330-20-00170 |
| | Washington | C1039 |
| ***Casper, WY*** | Alaska | 20-006 |
| | California | 3021 |
| | Colorado | WY00002 |
| | Florida (Primary NELAP) | E87641 |
| | Idaho | WY00002 |
| | Louisiana | 05083 |
| | Montana | CERT0002 |
| | Nebraska | NE-OS-08-04 |
| | Nevada | NV-C24-00245 |
| | North Dakota | R-125 |
| | Oregon | WY200001 |
| | South Dakota | WY00002 |
| | Texas | T104704181-23-21 |
| | US EPA Region VIII | WY00002 |
| | USNRC License | 49-26846-01 |
| | Washington | C1012 |
| ***Gillette, WY*** | US EPA Region VIII | WY00006 |
| ***Helena, MT*** | Colorado | MT00945 |
| | Montana | CERT0079 |
| | Nevada | NV-C24-00119 |
| | US EPA Region VIII | Reciprocal |
| | USDA Soil Permit | P330-20-00090 |

ENERGY LABORATORIES

Trust our People. Trust our Data.

# Chain of Custody & Analytical Request Record

www.energylab.com



## Account Information *(Billing information)*

| | |
|---|---|
| Company/Name | Rio Grande Resources Corporation |
| Contact | Anita Willcox |
| Phone | 505-287-7971 |
| Mailing Address | PO Box 1150 |
| City, State, Zip | Grants, NM 87020 |
| Email | anita.willcox@ga.com |
| Receive Invoice | ☐Hard Copy ☒Email |
| Receive Report | ☐Hard Copy ☒Email |
| Purchase Order | MT11820 |
| Quote | |
| Bottle Order | |

## Report Information *(if different than Account Information)*

| | |
|---|---|
| Company/Name | AVM Environmental Services, Inc. |
| Contact | Victor Patel |
| Phone | 505-287-4593 |
| Mailing Address | 1717 Del Norte Blvd |
| City, State, Zip | Grants, NM 87020 |
| Email | vpatelavm@outlook.com |
| Receive Report | ☐Hard Copy ☒Email |

Special Report/Formats:
☐ LEVEL IV ☐NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

## Comments

## Project Information

| | |
|---|---|
| Project Name, PWSID, Permit, etc. | MTM NCA Characterization |
| Sampler Name | Victor Patel |
| Sampler Phone | 505-287-4593 |
| Sample Origin State | New Mexico |
| EPA/State Compliance | ☐ Yes ☒ No |

**URANIUM MINING CLIENTS MUST Indicate sample type**
☒ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

**Matrix Codes**
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling -- See Instructions Page

| | Sample Identification *(Name, Location, interval, etc.)* | Collection Date | Collection Time | Number of Containers | Matrix *(See Codes Above)* | EPA 901.1 Modified for soil + | | | | | | | | See Attached | RUSH TAT | ELI LAB ID *Laboratory Use Only* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | TP-01 6"-12" | 10/08/2024 | 9:30 am | 1 | S | ✓ | | | | | | | | | | C24120480 |
| 2 | Inv-07 1.5'-2' | 10/08/2024 | 10:55 am | 1 | S | ✓ | | | | | | | | | | |
| 3 | TP-13 6"-12" | 10/09/2024 | 8:40 am | 1 | S | ✓ | | | | | | | | | | |
| 4 | TP-19 4.5'-5' | 10/16/2024 | 8:45 am | 1 | S | ✓ | | | | | | | | | | |
| 5 | TP-24 6"-12" | 10/16/2024 | 10:20 am | 1 | S | ✓ | | | | | | | | | | |
| 6 | TP-40 6"-12" | 10/28/2024 | 10:35 am | 1 | S | ✓ | | | | | | | | | | |
| 7 | TP-22 1.5'-2' | 10/28/2024 | 11:20 am | 1 | S | ✓ | | | | | | | | | | |
| 8 | TP-33 6"-12" | 11/25/2024 | 11:00 am | 1 | S | ✓ | | | | | | | | | | |
| 9 | TP-30 6"-12" | 12/04/2024 | 8:30 am | 1 | S | ✓ | | | | | | | | | | |

**ELI is REQUIRED to provide preservative traceability.** If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

| Custody Record MUST be signed | Relinquished by (print) | Date/Time | Signature | Received by (print) | Date/Time | Signature |
|---|---|---|---|---|---|---|
| | Victor Patel | 12-16-24/1000 | | | | |
| | Relinquished by (print) | Date/Time | Signature | Received by Laboratory (print) | Date/Time | Signature |
| | | | | Shelby Richins | 12/19/24 1030 | |

**LABORATORY USE ONLY**

| Shipped By | Cooler ID(s) | Custody Seals Y N C B | Intact Y N | Receipt Temp °C | Temp Blank Y N | On Ice Y N | Payment Type CC Cash Check_____ | Amount $ | Receipt Number *(cash/check only)* |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

# Chain of Custody & Analytical Request Record

ENERGY LABORATORIES — Trust our People. Trust our Data

www.energylab.com



**Account Information** *(Billing information)*

| | |
|---|---|
| Company/Name | Rio Grande Resources Corporation |
| Contact | Anita Willcox |
| Phone | 505-287-7971 |
| Mailing Address | PO Box 1150 |
| City, State, Zip | Grants, NM 87020 |
| Email | anita.willcox@ga.com |
| Receive Invoice | ☐Hard Copy ■Email |
| Receive Report | ☐Hard Copy ■Email |
| Purchase Order | MT11820 |
| Quote | |
| Bottle Order | |

**Report Information** *(if different than Account Information)*

| | |
|---|---|
| Company/Name | AVM Environmental Services, Inc. |
| Contact | Victor Patel |
| Phone | 505-287-4593 |
| Mailing Address | 1717 Del Norte Blvd |
| City, State, Zip | Grants, NM 87020 |
| Email | vpatelavm@outlook.com |
| Receive Report | ☐Hard Copy ■Email |
| Special Report/Formats: | ☐ LEVEL IV ☐NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____ |

**Comments**

**Project Information**

| | |
|---|---|
| Project Name, PWSID, Permit, etc. | MTM NCA Characterization |
| Sampler Name | Victor Patel |
| Sampler Phone | 505-287-4593 |
| Sample Origin State | New Mexico |
| EPA/State Compliance | ☐ Yes ■ No |

**URANIUM MINING CLIENTS MUST indicate sample type**
■ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

**Matrix Codes**

A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

**Analysis Requested**

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

| | Sample Identification *(Name, Location, Interval, etc.)* | Collection Date | Collection Time | Number of Containers | Matrix *(See Codes Above)* | EPA 901.1 Modified for soil | See Attached | RUSH TAT | ELI LAB ID *Laboratory Use Only* |
|---|---|---|---|---|---|---|---|---|---|
| 1 | TP-32 1'-1.5' | 12/09/2024 | 9:50 am | 1 | S | ✓ | | | C24120480 |
| 2 | TP-34 2'-3' | 12/11/2024 | 9:15 am | 1 | S | ✓ | | | |
| 3 | DS-NCA-01 6"-12" | 12/11/2024 | 10:00 am | 1 | S | ✓ | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |

**ELI is REQUIRED to provide preservative traceability.** If the preservatives supplied with the bottle order were **NOT** used, please attach your preservative information with this COC.

| Custody Record MUST be signed | Relinquished by (print) | Date/Time | Signature | Received by (print) | Date/Time | Signature |
|---|---|---|---|---|---|---|
| | Victor Patel | 12-16-24 / 1600 | | | 1030 | |
| | Relinquished by (print) | Date/Time | Signature | Received by Laboratory (print) | Date/Time | Signature |
| | | | | Sheila Childs | 12/18/24 | |

**LABORATORY USE ONLY**

| Shipped By | Cooler ID(s) | Custody Seals Y N C B | Intact Y N | Receipt Temp °C | Temp Blank Y N | On Ice Y N | Payment Type CC Cash Check_____ | Amount $ | Receipt Number *(cash/check only)* |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

# APPENDIX D.3

## Field Sampling and Laboratory Test Data

Laboratory Test Results

**TABLE 1**
**Soil Physical Properties Analytical Results - April 2012**
**RIO GRANDE RESOURCES SOIL SAMPLING AND TESTING FOR CLOSEOUT PLAN**
**MT. TAYLOR MINE, SAN MATEO, NEW MEXICO**

| Boring ID | Approximate Collection Depth (inches bgs) | Collection Date | Soil Classification | Atterberg Limits | | Moisture Content (%) |
|---|---|---|---|---|---|---|
| Analytical Method | | | USCS | PI | LL | D2216A |
| | | | | | | |
| MT-WP-SM1 | 0-6 | 4/10/2012 | SC | 24 | 37 | 7.1 |
| MT-WP-SM2 | 0-6 | 4/10/2012 | CL | 27 | 43 | 7.9 |
| MT-WP-SM3 | 0-6 | 4/10/2012 | SC | 21 | 34 | 2.5 |
| BORROW | 24-66 | 4/10/2012 | CL | 13 | 37 | 10.7 |
| MT-1-F | 0-6 | 4/10/2012 | SC | 15 | 35 | 13.7 |
| MT-2-D | 0-6 | 4/10/2012 | CL | 14 | 33 | 16.4 |
| MT-3-F | 0-6 | 4/10/2012 | CL | 17 | 35 | 17.3 |
| MT-4-F | 0-6 | 4/10/2012 | CL | 13 | 34 | 10.5 |
| MT-5-F | 0-6 | 4/10/2012 | CL | 17 | 37 | 17.6 |
| MT-7-C | 0-6 | 4/10/2012 | CL | 17 | 39 | 17.9 |
| MT-8-F | 0-6 | 4/10/2012 | SC | 13 | 27 | 12.9 |
| MT-OP-E | 0-6 | 4/10/2012 | CL | 12 | 31 | 10.3 |

Notes:
bgs = below ground surface
PI = Plastic Index
LL = Liquid Limit

**TABLE 2**
**Soil Chemical Analytical Results - April 2012**
**Total Metals by SW 6010/SW 6020 and Radiochemistry by E903.0/RA-05**
**RIO GRANDE RESOURCES SOIL SAMPLING AND TESTING FOR CLOSEOUT PLAN**
**MT. TAYLOR MINE, SAN MATEO, NEW MEXICO**

| Sample ID | Location | Collection Depth (inches bgs) | Collection Date | Arsenic | Barium | Cadmium | Chromium | Lead | Mercury | Radium 226 | Radium 228 | Selenium | Silver | Uranium |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CONCENTRATION | | | mg/L | | | | | | pCi/g | pCi/g | mg/L | | |
| Analytical Method | | | | SW 6020 | SW 6010B | SW 6010B | SW 6010B | SW 6020 | SW 7470A | E903.0 | RA-05 | SW 6020 | SW 6020 | SW 6020 |
| NMED SSL DAF 1 | | | | 1.31E-02 | 3.01E+02 | 1.37E+00 | 9.86E+07 | NA | 5.71E-01 | 30[3] | | 9.65E-01 | 1.57E+00 | 4.93E+01 |
| S1-01-01 | MT-1-E | 0-4 | 4/10/2012 | 0.014 | 0.28 | <0.001 | 0.014 B | 0.014 | <0.002 | 124 | 1.8 | 0.26 | <0.002 D | 2.2 D |
| S1-01-02 | MT-1-E | 16-18 | 4/10/2012 | 0.048 | 3.8 | 0.001 | 0.040 B | 0.078 | <0.002 | 113 | 1.3 | 0.49 | <0.002 D | 5.3 D |
| S1-01-03 | MT-1-E | 44-48 | 4/10/2012 | 0.010 | 0.34 | <0.001 | 0.027 B | 0.023 | <0.002 | 12.6 | 0.8 | 0.14 | 0.002 D | 0.094 D |
| S1-02-01 | MT-1-D | 0-4 | 4/10/2012 | 0.023 | 0.39 | <0.001 | 0.014 B | 0.021 | <0.002 | 224 | 2.3 | 0.19 | <0.002 D | 1.5 D |
| S1-02-02 | MT-1-D | 26-30 | 4/10/2012 | 0.003 | <0.05 | <0.001 | 0.007 B | 0.004 | <0.002 | 0.9 | 0.8 | 0.11 | <0.002 D | 0.24 D |
| S1-02-03 | MT-1-D | 44-48 | 4/10/2012 | 0.003 | <0.05 | <0.001 | 0.006 B | 0.003 | <0.002 | 0.6 | 0.6 | 0.012 | <0.002 D | 0.050 D |
| S3-01-01 | MT-3-E | 0-12 | 4/10/2012 | 0.007 | 0.31 | 0.002 | <0.005 | 0.002 | <0.002 | 21.0 | 1.5 | 0.19 | <0.001 | 9.7 B |
| S3-01-02 | MT-3-E | 20-26 | 4/10/2012 | 0.014 | 2.3 | 0.001 | 0.050 | 0.064 | <0.002 | 6.2 | 0.7 | 0.036 | <0.001 | 5.7 B |
| S3-01-03 | MT-3-E | 26-36 | 4/10/2012 | 0.005 | 0.14 | <0.001 | 0.013 | 0.012 | <0.002 | 4.5 | 0.8 | 0.053 | <0.001 | 0.47 B |
| S3-01-04 | MT-3-E | 64-75 | 4/10/2012 | 0.003 | 0.07 | <0.001 | 0.011 | 0.005 | <0.002 | 1.7 | 0.7 | 0.032 | <0.001 | 0.036 B |
| S3-02-01 | MT-3-D | 0-12 | 4/10/2012 | 0.018 | 6.6 | 0.002 | 0.015 | 0.028 | <0.002 | 6.4 | 2.2 | 0.15 | <0.001 | 7.8 B |
| S3-02-02 | MT-3-D | 26-30 | 4/10/2012 | 0.002 | <0.05 | <0.001 | 0.009 | 0.001 | <0.002 | 3.0 | 0.7 | 0.023 | <0.001 | 0.18 B |
| S3-02-03 | MT-3-D | 50-54 | 4/10/2012 | 0.006 | 0.27 | <0.001 | 0.018 | 0.016 | <0.002 | 2.4 | 0.3 | 0.003 | <0.001 | 0.022 B |
| S5-01-01 | MT-5-E | 0-12 | 4/10/2012 | 0.009 | 5.5 | <0.001 | 0.027 B | 0.028 | <0.002 | 11.3 | 0.3 | 0.010 | <0.002 D | 0.11 |
| S5-01-02 | MT-5-E | 36-37 | 4/10/2012 | 0.004 | 0.07 | <0.001 | 0.012 | 0.005 | <0.002 | 1.7 | 0.6 | 0.004 | <0.002 | 0.0054 |
| S5-02-01 | MT-5-D | 0-12 | 4/10/2012 | <0.001 | 0.10 | <0.001 | 0.008 | <0.001 | <0.002 | 0.8 | 0.2 | 0.40 | <0.002 | 1.5 |
| S5-02-02 | MT-5-D | 17-24 | 4/10/2012 | <0.001 | 0.08 | <0.001 | 0.005 | <0.001 | <0.002 | 2.1 | 0.2 | 0.15 | <0.002 | 1.1 |
| S5-02-03 | MT-5-D | 40-44 | 4/10/2012 | 0.006 | 0.62 | <0.001 | 0.017 | 0.013 | <0.002 | 4.1 | 0.5 | 0.012 | <0.002 | 0.011 D |
| S7-01-01 | MT-7-A | 0-12 | 4/10/2012 | 0.004 | 0.06 | <0.001 | 0.005 | <0.001 | <0.002 | 10.4 | 0.1 | 0.26 | <0.002 | 0.37 |
| S7-01-02 | MT-7-A | 24-30 | 4/10/2012 | 0.002 | 0.06 | <0.001 | 0.009 | 0.003 | <0.002 | 1.1 | 0.6 | 0.002 | <0.002 | 0.0047 |
| S7-01-03 | MT-7-A | 30-35 | 4/10/2012 | <0.001 | 0.05 | <0.001 | 0.009 | 0.001 | <0.002 | 1.5 | 0.2 | 0.002 | <0.002 | 0.0049 |
| S7-02-01 | MT-7-B | 0-12 | 4/10/2012 | 0.013 | 0.76 | <0.001 | 0.006 | 0.001 | <0.002 | 2.6 | 0.5 | 0.22 | <0.001 | 0.18 |
| S7-02-02 | MT-7-B | 23-43 | 4/10/2012 | 0.007 | 0.31 | <0.001 | 0.013 | 0.020 | <0.002 | 1.9 | 0.2 | 0.13 | <0.001 | 0.014 |
| S7-02-03 | MT-7-B | 43-46 | 4/10/2012 | 0.003 | 0.16 | <0.001 | 0.010 | 0.005 | <0.002 | 1.1 | 0.3 | 0.003 | <0.001 | 0.0053 |
| S8-01-01 | MT-8-E | 0-8 | 4/10/2012 | 0.008 | 0.91 | <0.001 | 0.012 | 0.009 | <0.002 | 27.2 | 0.2 | 0.007 | <0.002 | 0.016 |
| S8-01-02 | MT-8-E | 17-30 | 4/10/2012 | 0.004 | 0.09 | <0.001 | 0.006 | <0.001 | <0.002 | 2.5 | 0.6 | 0.30 | 0.002 | 3.8 |
| S8-01-03 | MT-8-E | 36-40 | 4/10/2012 | 0.032 | 0.16 | <0.001 | 0.010 | 0.006 | <0.002 | 24.5 | 0.5 | 0.036 | <0.002 | 0.022 |
| S8-02-01 | MT-8-D | 0-12 | 4/10/2012 | 0.004 | 0.12 | <0.001 | 0.009 | 0.005 | <0.002 | 10.6 | 0.1 | 0.22 | <0.002 | 0.12 |
| S8-02-02 | MT-8-D | 18-24 | 4/10/2012 | 0.006 | 0.06 | <0.001 | 0.006 | <0.001 | <0.002 | 1.7 | 1.5 | 1.0 | <0.002 | 6.7 |
| S8-02-03 | MT-8-D | 40-50 | 4/10/2012 | 0.011 | 0.98 | <0.001 | 0.028 | 0.013 | <0.002 | 14.0 | 0.2 | 0.063 | <0.002 | 0.19 |
| S8-02-04 | MT-8-D | 58-62 | 4/10/2012 | 0.004 | 0.15 | <0.001 | 0.011 | 0.005 | <0.002 | 2.0 | 0.6 | <0.001 | <0.002 | 0.0056 D |
| SA-01-01 | MT-A-A | 0-4 | 4/10/2012 | 0.036 | 0.31 | <0.001 | 0.014 B | 0.021 | <0.002 | 152 | 1.8 | 0.046 | <0.002 D | 0.44 D |
| SA-01-02 | MT-A-A | 6-8 | 4/10/2012 | 0.006 | 0.11 | <0.001 | 0.010 B | 0.009 | <0.002 | 8.7 | 0.7 | 0.051 | <0.002 D | 0.45 D |
| SA-01-03 | MT-A-A | 28-30 | 4/10/2012 | 0.003 | <0.05 | <0.001 | 0.005 B | 0.003 | <0.002 | 1.7 | 0.6 | 0.095 | <0.002 D | 0.030 D |
| SA-02-01 | MT-A-B | 0-4 | 4/10/2012 | 0.025 | 0.25 | <0.001 | 0.011 B | 0.010 | <0.002 | 275 | 3.5 | 0.014 | <0.002 D | 0.37 D |
| SA-02-02 | MT-A-B | 8-10 | 4/10/2012 | 0.006 | 0.15 | <0.001 | 0.013 B | 0.010 | <0.002 | 5.4 | 0.7 | 0.003 | <0.002 D | 0.11 D |
| SA-02-03 | MT-A-B | 30-33 | 4/10/2012 | 0.006 | 0.09 | <0.001 | 0.013 B | 0.006 | <0.002 | 29.3 | 1.3 | 0.003 | <0.002 D | 0.088 D |
| MT-1-F (6" B.G.) | MT-1-F | 6 | 4/10/2012 | 0.006 | 0.17 | <0.001 | 0.014 | 0.016 | <0.002 | 2.0 | 0.6 | 0.005 | <0.001 | 0.077 B |
| MT-2-D (6" B.G.) | MT-2-D | 6 | 4/10/2012 | 0.002 | 0.06 | <0.001 | 0.005 | 0.003 | <0.002 | 0.6 | 0.6 | <0.001 | <0.001 | 0.0098 B |
| MT-3-F (6" B.G.) | MT-3-F | 6 | 4/10/2012 | 0.002 | <0.05 | <0.001 | <0.005 | 0.001 | <0.002 | 0.9 | 0.5 | 0.001 | <0.002 D | 0.0090 D |
| MT-4-D-S1 (0-6" B.G.) | MT-4-D | 0-6 | 4/10/2012 | 0.008 | 1.0 | <0.001 | 0.008 | 0.003 | <0.002 | 18.1 | 0.9 | 0.015 | <0.002 D | 0.033 D |
| MT-4-D-S2 (14" B.G.) | MT-4-D | 14 | 4/10/2012 | 0.007 | <0.05 | <0.001 | 0.006 | 0.001 | <0.002 | 2.8 | 0.2 | 0.39 | <0.002 D | 0.20 D |

**TABLE 2**
**Soil Chemical Analytical Results - April 2012**
**Total Metals by SW 6010/SW 6020 and Radiochemistry by E903.0/RA-05**
**RIO GRANDE RESOURCES SOIL SAMPLING AND TESTING FOR CLOSEOUT PLAN**
**MT. TAYLOR MINE, SAN MATEO, NEW MEXICO**

| Sample ID | Location | Collection Depth (inches bgs) | Collection Date | Arsenic | Barium | Cadmium | Chromium | Lead | Mercury | Radium 226 | Radium 228 | Selenium | Silver | Uranium |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CONCENTRATION | | | mg/L | | | | | | pCi/g | pCi/g | mg/L | | |
| Analytical Method | | | | SW 6020 | SW 6010B | SW 6010B | SW 6010B | SW 6020 | SW 7470A | E903.0 | RA-05 | SW 6020 | SW 6020 | SW 6020 |
| NMED SSL DAF 1 | | | | 1.31E-02 | 3.01E+02 | 1.37E+00 | 9.86E+07 | NA | 5.71E-01 | 30[3] | | 9.65E-01 | 1.57E+00 | 4.93E+01 |
| MT-4-D-S3 (48" B.G.) | **MT-4-D** | 48 | 4/10/2012 | 0.003 | 0.88 | <0.001 | 0.009 | 0.003 | <0.002 | 6.7 | 0.8 | 0.020 | <0.002 D | 0.013 D |
| MT-4-E-S1 (0-4" B.G.) | **MT-4-E** | 0-4 | 4/10/2012 | 0.034 | 34 | <0.001 | 0.007 | 0.008 | <0.002 | 8.7 | 1.5 | 0.15 | <0.002 D | 0.39 D |
| MT-4-E-S2 (10-12" B.G.) | **MT-4-E** | 10-12 | 4/10/2012 | 0.005 | 0.22 | <0.001 | 0.011 | 0.005 | <0.002 | 4.8 | 0.4 | 0.072 | <0.002 D | 0.014 D |
| MT-4-E-S3 (36" B.G.) | **MT-4-E** | 36 | 4/10/2012 | 0.003 | 0.13 | <0.001 | 0.007 | 0.003 | <0.002 | 2.9 | 0.7 | 0.026 | 0.003 D | 0.0043 D |
| MT-4-E-S4 (48" B.G.) | **MT-4-E** | 48 | 4/10/2012 | 0.005 B | 0.06 | <0.001 | 0.006 | 0.002 | <0.002 | 6.2 | 0.4 | 0.011 | <0.001 | 0.027 |
| MT-4-F (6" B.G.) | **MT-4-F** | 6 | 4/10/2012 | 0.005 | <0.05 | <0.001 | <0.005 | 0.003 | <0.002 | 0.8 | 1.0 | 0.002 | <0.002 D | 0.0027 D |
| MT-5-F (6" B.G.) | **MT-5-F** | 6 | 4/10/2012 | 0.002 | <0.05 | <0.001 | <0.005 | 0.001 | <0.002 | 2.0 | 0.8 | 0.001 | 0.003 D | 0.0029 D |
| MT-6-A-S1 (0-5" B.G.) | **MT-6-A** | 0-5 | 4/10/2012 | 0.012 | 7.3 | <0.001 | 0.007 | 0.016 | <0.002 | 6.4 | 0.2 | 0.007 | <0.001 | 0.044 |
| MT-6-A-S2 (12-20" B.G.) | **MT-6-B** | 12-20 | 4/10/2012 | 0.003 B | 0.05 | <0.001 | 0.007 | <0.001 | <0.002 | 0.4 | 0.1 | 0.15 | <0.001 | 0.26 U |
| MT-6-B-S1 (8-10" B.G.) | **MT-6-B** | 8-10 | 4/10/2012 | 0.004 B | 0.05 | <0.001 | 0.007 | <0.001 | <0.002 | 0.8 | 0.2 | 0.16 | <0.001 | 0.26 |
| MT-6-B-S2 (30" B.G.) | **MT-6-B** | 30 | 4/10/2012 | 0.002 B | 0.06 | <0.001 | <0.005 | <0.001 | <0.002 | 4.1 | 0.8 | 0.003 | <0.001 | 0.014 |
| MT-7-C (6" B.G.) | **MT-7-C** | 6 | 4/10/2012 | 0.002 | <0.05 | <0.001 | 0.006 | 0.002 | <0.002 | 0.6 | 0.8 | <0.001 | <0.002 D | 0.0023 D |
| MT-8-F (6" B.G.) | **MT-8-F** | 6 | 4/10/2012 | 0.001 | 0.05 | 0.001 | 0.005 | 0.001 | 0.002 | -1000 | -1000 | 0.001 | 0.002 D | 0.0006 D |
| MT-A-C (6" B.G.) | **MT-A-C** | 6 | 4/10/2012 | 0.003 | <0.05 | <0.001 | <0.005 | 0.001 | <0.002 | 1.7 | 0.5 | 0.044 | <0.002 D | 0.14 |
| MT-Borrow/Background | **MT-Borrow** | 24-66 | 4/10/2012 | 0.001 | <0.05 | <0.001 | <0.005 | <0.001 | <0.002 | 0.7 | 0.7 | 0.001 | <0.002 D | 0.0007 |
| MT-OP-C-S1 (0-6" B.G.) | **MT-OP-C** | 0-6 | 4/10/2012 | 0.015 | 0.05 | <0.001 | 0.010 | 0.001 | <0.002 | 53.3 | 2.1 | 0.052 | <0.001 | 1.8 |
| MT-OP-C-S2 (20" B.G.) | **MT-OP-C** | 20 | 4/10/2012 | 0.005 | 0.05 | <0.001 | 0.007 | 0.002 | <0.002 | 1.7 | 0.6 | 0.018 | <0.002 D | 0.14 |
| MT-OP-C-S3 (48-50' B.G. | **MT-OP-C** | 48-50 | 4/10/2012 | 0.004 | <0.05 | <0.001 | <0.005 | <0.001 | <0.002 | 0.8 | 0.8 | 0.028 | <0.002 D | 0.049 |
| MT-OP-C-S4 (72" B.G.) | **MT-OP-C** | 72 | 4/10/2012 | 0.004 | <0.05 | <0.001 | <0.005 | <0.001 | <0.002 | 1.5 | 0.6 | 0.025 | <0.002 D | 0.0064 |
| MT-OP-D-S1 (0-6" B.G.) | **MT-OP-D** | 0-6 | 4/10/2012 | 0.013 | 1.3 | <0.001 | 0.007 | 0.008 | <0.002 | 51.9 | 0.5 | 0.009 | <0.002 D | 0.23 |
| MT-OP-D-S2 (48-50" B.G. | **MT-OP-D** | 48-50 | 4/10/2012 | 0.001 | 0.05 | <0.001 | <0.005 | <0.001 | <0.002 | 1.9 | 0.6 | 0.005 | <0.002 D | 0.10 |
| MT-OP-D-S3 (76" B.G.) | **MT-OP-D** | 76 | 4/10/2012 | 0.006 | 0.11 | <0.001 | 0.012 | 0.009 | <0.002 | 0.6 | 0.5 | 0.002 | <0.002 D | 0.0034 |
| MT-OP-E (6" B.G.) | **MT-OP-E** | 6 | 4/10/2012 | 0.004 | 0.05 | <0.001 | 0.006 | 0.003 | <0.002 | 1.1 | 0.8 | 0.005 | <0.002 D | 0.0056 |

Notes:
bgs = below ground surface
mg/Kg = milligrams per killogram
DAF=Dilution Attenuation Factor
NA = No DAF values available, NMED 2012, rev6

Total metals concentrations should be compared to background soil sample concentrations before comparing to Soil Screening Levels (SSL). Only metal concentrations above background should be considered for comparison to SSLs.
NMED considers a DAF=20 to be protective of groundwater for a 0.5-acre source. SSL values are included for reference only, as they are applicable for reclamation, not for mines that are active or on stand-by status.
B = The analyte was detected in the method blank.
D = Reporting limit increased due to sample matrix.
U = Not detected at minimum detectable concentration.

**TABLE 3**
**Sediment Analytical Results**
**Cloride and Sulfate Detections - April 2012**
**RIO GRANDE RESOURCES SOIL SAMPLING AND TESTING FOR CLOSEOUT PLAN**
**MT. TAYLOR MINE, SAN MATEO, NEW MEXICO**

| ClientSampID | Location | Sample Interval (inches below grade) | Method | Analyte | Value (mg/kg) | Analyte | Value (mg/kg) |
|---|---|---|---|---|---|---|---|
| **Berms** | | | | | | | |
| | | | | | | | |
| MT-4-F | MT-4-F | 6 | E300.1 | Chloride | 51.2 | Sulfate | 405 |
| MT-5-F | MT-5-F | 6 | E300.2 | Chloride | 37.0 | Sulfate | 183 |
| MT-8F | MT-8F | 6 | E300.3 | Chloride | 14.2 | Sulfate | 28.9 |
| **Ponds** | | | | | | | |
| MT-4-D-S1 | MT-4-D | 0-6 | E300.0 | Chloride | 7.76 | Sulfate | 77 |
| MT-4-D-S2 | MT-4-D | 14 | E300.0 | Chloride | 92.00 | Sulfate | 1840 |
| MT-4-D-S3 | MT-4-D | 48 | E300.0 | Chloride | 6.49 | Sulfate | 132 |
| MT-4-E-S1 | MT-4-E | 0-4 | E300.0 | Chloride | 46.40 | Sulfate | 853 |
| MT-4-E-S2 | MT-4-E | 10-12 | E300.0 | Chloride | 34.10 | Sulfate | 1150 |
| MT-4-E-S3 | MT-4-E | 36 | E300.0 | Chloride | 13.10 | Sulfate | 184 |
| MT-4-E-S4 | MT-4-E | 48 | E300.0 | Chloride | 4.51 | Sulfate | 131 |
| S5-01-01 | MT-5-E | 0-12 | E300.0 | Chloride | 9.64 | Sulfate | 113 |
| S5-01-02 | MT-5-E | 30-37 | E300.0 | Chloride | 7.87 | Sulfate | 261 |
| S5-02-01 | MT-5-D | 0-12 | E300.1 | Chloride | 17.2 | Sulfate | 2860 |
| S5-02-02 | MT-5-D | 17-24 | E300.2 | Chloride | 23.1 | Sulfate | 2530 |
| S5-02-03 | MT-5-D | 40-44 | E300.3 | Chloride | 5.10 | Sulfate | 279 |
| S8-01-01 | MT-8-E | 0-8 | E300.0 | Chloride | 29.3 | Sulfate | 35.3 |
| S8-01-02 | MT-8-E | 17-30 | E300.0 | Chloride | 39.6 | Sulfate | 2750 |
| S8-01-03 | MT-8-E | 36-40 | E300.0 | Chloride | 12.0 | Sulfate | 197 |
| S8-02-01 | MT-8-D | 0-12 | E300.0 | Chloride | 58.6 | Sulfate | 1660 |
| S8-02-02 | MT-8-D | 18-24 | E300.0 | Chloride | 44.6 | Sulfate | 2480 |
| S8-02-03 | MT-8-D | 40-50 | E300.0 | Chloride | 9.13 | Sulfate | 536 |
| S8-02-04 | MT-8-D | 56-62 | E300.0 | Chloride | 3.01 | Sulfate | 31.2 |

# ANALYTICAL SUMMARY REPORT

July 05, 2012

Rio Grande Resources Corporation
PO Box 1150
Grants, NM 87020

Workorder No.: C12040804 Quote ID: C3778 - Mt Taylor Mine Closure Plan

Project Name: Mt. Taylor Mine Closure Plan

Energy Laboratories, Inc. Casper WY received the following 37 samples for Rio Grande Resources Corporation on 4/13/2012 for analysis.

| Sample ID | Client Sample ID | Collect Date | Receive Date | Matrix | Test |
|---|---|---|---|---|---|
| C12040804-001 | S1-01-01 | 04/10/12 10:45 | 04/13/12 | Sediment | Metals, SPLP Extractable<br>Mercury, SPLP<br>Mercury Analysis Prep<br>Filterability<br>Digestion, Total Metals<br>Digestion For RadioChemistry<br>Radium 226<br>Radium 228<br>SPLP Extraction, Regular |
| C12040804-002 | S1-01-02 | 04/10/12 10:50 | 04/13/12 | Sediment | Same As Above |
| C12040804-003 | S1-01-03 | 04/10/12 11:00 | 04/13/12 | Sediment | Same As Above |
| C12040804-004 | S1-02-01 | 04/10/12 11:40 | 04/13/12 | Sediment | Same As Above |
| C12040804-005 | S1-02-02 | 04/10/12 11:43 | 04/13/12 | Sediment | Same As Above |
| C12040804-006 | S1-02-03 | 04/10/12 11:45 | 04/13/12 | Sediment | Same As Above |
| C12040804-007 | SA-01-01 | 04/10/12 11:30 | 04/13/12 | Sediment | Same As Above |
| C12040804-008 | SA-01-02 | 04/10/12 11:35 | 04/13/12 | Sediment | Same As Above |
| C12040804-009 | SA-01-03 | 04/10/12 11:45 | 04/13/12 | Sediment | Same As Above |
| C12040804-010 | SA-02-01 | 04/10/12 11:48 | 04/13/12 | Sediment | Same As Above |
| C12040804-011 | SA-02-02 | 04/10/12 11:48 | 04/13/12 | Sediment | Same As Above |
| C12040804-012 | SA-02-03 | 04/10/12 11:48 | 04/13/12 | Sediment | Same As Above |
| C12040804-013 | S8-01-01 | 04/10/12 13:00 | 04/13/12 | Sediment | Metals, SPLP Extractable<br>Mercury, SPLP<br>Mercury Analysis Prep<br>Filterability<br>E300.0 Anions<br>Digestion, Total Metals<br>Digestion For RadioChemistry<br>DI Water Soil Extract<br>Radium 226<br>Radium 228<br>SPLP Extraction, Regular |
| C12040804-014 | S8-01-02 | 04/10/12 13:09 | 04/13/12 | Sediment | Same As Above |
| C12040804-015 | S8-01-03 | 04/10/12 13:09 | 04/13/12 | Sediment | Same As Above |
| C12040804-016 | S8-02-01 | 04/10/12 13:26 | 04/13/12 | Sediment | Same As Above |

# ANALYTICAL SUMMARY REPORT

| | | | | | |
|---|---|---|---|---|---|
| C12040804-017 | S8-02-02 | 04/10/12 13:36 | 04/13/12 | Sediment | Same As Above |
| C12040804-018 | S8-02-03 | 04/10/12 13:36 | 04/13/12 | Sediment | Same As Above |
| C12040804-019 | S8-02-04 | 04/10/12 13:39 | 04/13/12 | Sediment | Same As Above |
| C12040804-020 | S5-01-01 | 04/10/12 14:05 | 04/13/12 | Sediment | Same As Above |
| C12040804-021 | S7-01-01 | 04/10/12 15:12 | 04/13/12 | Sediment | Metals, SPLP Extractable<br>Mercury, SPLP<br>Mercury Analysis Prep<br>Filterability<br>Digestion, Total Metals<br>Digestion For RadioChemistry<br>Radium 226<br>Radium 228<br>SPLP Extraction, Regular |
| C12040804-022 | S7-01-02 | 04/10/12 15:17 | 04/13/12 | Sediment | Same As Above |
| C12040804-023 | S7-01-03 | 04/10/12 15:22 | 04/13/12 | Sediment | Same As Above |
| C12040804-024 | S5-02-02 | 04/10/12 14:15 | 04/13/12 | Sediment | Metals, SPLP Extractable<br>Mercury, SPLP<br>Mercury Analysis Prep<br>Filterability<br>E300.0 Anions<br>Digestion, Total Metals<br>Digestion For RadioChemistry<br>DI Water Soil Extract<br>Radium 226<br>Radium 228<br>SPLP Extraction, Regular |
| C12040804-025 | S5-02-03 | 04/10/12 14:20 | 04/13/12 | Sediment | Same As Above |
| C12040804-026 | S5-02-01 | 04/10/12 14:30 | 04/13/12 | Sediment | Same As Above |
| C12040804-027 | S5-01-02 | 04/10/12 14:09 | 04/13/12 | Sediment | Same As Above |
| C12040804-028 | S3-01-01 | 04/10/12 9:15 | 04/13/12 | Sediment | Metals, SPLP Extractable<br>Mercury, SPLP<br>Mercury Analysis Prep<br>Filterability<br>Digestion, Total Metals<br>Digestion For RadioChemistry<br>Radium 226<br>Radium 228<br>SPLP Extraction, Regular |
| C12040804-029 | S3-01-02 | 04/10/12 8:50 | 04/13/12 | Sediment | Same As Above |
| C12040804-030 | S3-01-03 | 04/10/12 9:40 | 04/13/12 | Sediment | Same As Above |
| C12040804-031 | S3-02-01 | 04/10/12 10:22 | 04/13/12 | Sediment | Same As Above |
| C12040804-032 | S3-02-02 | 04/10/12 10:30 | 04/13/12 | Sediment | Same As Above |
| C12040804-033 | S3-02-03 | 04/10/12 10:30 | 04/13/12 | Sediment | Same As Above |
| C12040804-034 | S7-02-01 | 04/10/12 15:45 | 04/13/12 | Sediment | Same As Above |
| C12040804-035 | S7-02-02 | 04/10/12 15:50 | 04/13/12 | Sediment | Same As Above |
| C12040804-036 | S7-02-03 | 04/10/12 15:55 | 04/13/12 | Sediment | Same As Above |
| C12040804-037 | S3-01-04 | 04/10/12 9:46 | 04/13/12 | Sediment | Same As Above |

# ANALYTICAL SUMMARY REPORT

The results as reported relate only to the item(s) submitted for testing. The analyses presented in this report were performed at Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Radiochemistry analyses were performed at Energy Laboratories, Inc., 2325 Kerzell Lane, Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these test results, please call.

Report Approved By:

**CLIENT:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Sample Delivery Group:** C12040804

**Revised Date:** 07/05/12
**Report Date:** 06/13/12

# CASE NARRATIVE

REVISED/SUPPLEMENTAL REPORT
The attached analytical report has been revised from a previously submitted report due to the request by the client for the analysis of Radium 226 and Radium 228 on the Sediment on all samples and Chloride and Sulfate on the Sediment on samples -013 through -020 and -024 through -027. The data presented here is from that analysis.

PREP COMMENTS
The prep hold time for Mercury analysis was exceeded by up to 10.2 days.
The prep hold time for Chloride and Sulfate analysis was exceeded by 38.8 days.

ORIGINAL SAMPLE SUBMITTAL(S)
All original sample submittals have been returned with the data package.

SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)
Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

GROSS ALPHA ANALYSIS
Method 900.0 for gross alpha and gross beta is intended as a drinking water method for low TDS waters. Data provided by this method for non potable waters should be viewed as inconsistent.

RADON IN AIR ANALYSIS
The desired exposure time is 48 hours (2 days). The time delay in returning the canister to the laboratory for processing should be as short as possible to avoid excessive decay. Maximum recommended delay between end of exposure to beginning of counting should not exceed 8 days.

SOIL/SOLID SAMPLES
All samples reported on an as received basis unless otherwise indicated.

ATRAZINE, SIMAZINE AND PCB ANALYSIS
Data for PCBs, Atrazine and Simazine are reported from EPA 525.2. PCB data reported by ELI reflects the results for seven individual Aroclors. When the results for all seven are ND (not detected), the sample meets EPA compliance criteria for PCB monitoring.

SUBCONTRACTING ANALYSIS
Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

BRANCH LABORATORY LOCATIONS
eli-b - Energy Laboratories, Inc. - Billings, MT
eli-g - Energy Laboratories, Inc. - Gillette, WY
eli-h - Energy Laboratories, Inc. - Helena, MT
eli-r - Energy Laboratories, Inc. - Rapid City, SD
eli-t - Energy Laboratories, Inc. - College Station, TX

CERTIFICATIONS:
USEPA: WY00002, Radiochemical WY00937; FL-DOH NELAC: E87641, Radiochemical E871017; California: 02118CA; Oregon: WY200001, Radiochemical WY200002; Utah: WY00002; Virginia: 00057; Washington: C836

ISO 17025 DISCLAIMER:
The results of this Analytical Report relate only to the items submitted for analysis.

ENERGY LABORATORIES, INC. - CASPER,WY certifies that certain method selections contained in this report meet requirements as set forth by the above accrediting authorities. Some results requested by the client may not be covered under these certifications. All analysis data to be submitted for regulatory enforcement should be certified in the sample state of origin. Please verify ELI's certification coverage by visiting www.energylab.com

ELI appreciates the opportunity to provide you with this analytical service. For additional information and services visit our web page www.energylab.com.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-001
**Client Sample ID:** S1-01-01

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 10:45
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.014 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:36 / smm |
| Barium | 0.28 | mg/L | | 0.05 | | SW6020 | 04/20/12 13:36 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 13:36 / smm |
| Chromium | 0.014 | mg/L | B | 0.005 | | SW6020 | 04/20/12 13:36 / smm |
| Lead | 0.014 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:36 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 07:52 / rdw |
| Selenium | 0.26 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:36 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/20/12 13:36 / smm |
| Uranium | 2.2 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 13:36 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 124 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 226 precision (±) | 1 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 228 | 1.8 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-002
**Client Sample ID:** S1-01-02

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 10:50
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.048 | mg/L | | 0.001 | | SW6020 | 04/20/12 12:57 / smm |
| Barium | 3.8 | mg/L | | 0.05 | | SW6020 | 04/20/12 12:57 / smm |
| Cadmium | 0.001 | mg/L | | 0.001 | | SW6020 | 04/20/12 12:57 / smm |
| Chromium | 0.040 | mg/L | B | 0.005 | | SW6020 | 04/20/12 12:57 / smm |
| Lead | 0.078 | mg/L | | 0.001 | | SW6020 | 04/20/12 12:57 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 07:56 / rdw |
| Selenium | 0.49 | mg/L | | 0.001 | | SW6020 | 04/20/12 12:57 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/20/12 12:57 / smm |
| Uranium | 5.3 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 12:57 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 113 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 226 precision (±) | 0.9 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 228 | 1.3 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-003
**Client Sample ID:** S1-01-03

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 11:00
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.010 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:14 / smm |
| Barium | 0.34 | mg/L | | 0.05 | | SW6020 | 04/20/12 13:14 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 13:14 / smm |
| Chromium | 0.027 | mg/L | B | 0.005 | | SW6020 | 04/20/12 13:14 / smm |
| Lead | 0.023 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:14 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 07:57 / rdw |
| Selenium | 0.14 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:14 / smm |
| Silver | 0.002 | mg/L | D | 0.002 | | SW6020 | 04/20/12 13:14 / smm |
| Uranium | 0.094 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 13:14 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 12.6 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 226 precision (±) | 0.3 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 228 | 0.8 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-004
**Client Sample ID:** S1-02-01

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 11:40
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.023 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:17 / smm |
| Barium | 0.39 | mg/L | | 0.05 | | SW6020 | 04/20/12 13:17 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 13:17 / smm |
| Chromium | 0.014 | mg/L | B | 0.005 | | SW6020 | 04/20/12 13:17 / smm |
| Lead | 0.021 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:17 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 07:58 / rdw |
| Selenium | 0.19 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:17 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/20/12 13:17 / smm |
| Uranium | 1.5 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 13:17 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 224 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 226 precision (±) | 1.3 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 228 | 2.3 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-005
**Client Sample ID:** S1-02-02

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 11:43
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.003 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:19 / smm |
| Barium | ND | mg/L | | 0.05 | | SW6020 | 04/20/12 13:19 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 13:19 / smm |
| Chromium | 0.007 | mg/L | B | 0.005 | | SW6020 | 04/20/12 13:19 / smm |
| Lead | 0.004 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:19 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 08:00 / rdw |
| Selenium | 0.11 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:19 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/20/12 13:19 / smm |
| Uranium | 0.24 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 13:19 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 0.9 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 226 precision (±) | 0.09 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 228 | 0.8 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-006
**Client Sample ID:** S1-02-03

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 11:45
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.003 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:22 / smm |
| Barium | ND | mg/L | | 0.05 | | SW6020 | 04/20/12 13:22 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 13:22 / smm |
| Chromium | 0.006 | mg/L | B | 0.005 | | SW6020 | 04/20/12 13:22 / smm |
| Lead | 0.003 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:22 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 08:20 / rdw |
| Selenium | 0.012 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:22 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/20/12 13:22 / smm |
| Uranium | 0.050 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 13:22 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 0.6 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 226 precision (±) | 0.07 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 228 | 0.6 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-007
**Client Sample ID:** SA-01-01

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 11:30
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.036 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:25 / smm |
| Barium | 0.31 | mg/L | | 0.05 | | SW6020 | 04/20/12 13:25 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 13:25 / smm |
| Chromium | 0.014 | mg/L | B | 0.005 | | SW6020 | 04/20/12 13:25 / smm |
| Lead | 0.021 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:25 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 08:22 / rdw |
| Selenium | 0.046 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:25 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/20/12 13:25 / smm |
| Uranium | 0.44 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 13:25 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 152 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 226 precision (±) | 1.1 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/02/12 22:18 / plj |
| Radium 228 | 1.8 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-008
**Client Sample ID:** SA-01-02

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 11:35
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.006 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:28 / smm |
| Barium | 0.11 | mg/L | | 0.05 | | SW6020 | 04/20/12 13:28 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 13:28 / smm |
| Chromium | 0.010 | mg/L | B | 0.005 | | SW6020 | 04/20/12 13:28 / smm |
| Lead | 0.009 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:28 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 08:23 / rdw |
| Selenium | 0.051 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:28 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/20/12 13:28 / smm |
| Uranium | 0.45 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 13:28 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 8.7 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 precision (±) | 0.4 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 MDC | 0.05 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 228 | 0.7 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-009
**Client Sample ID:** SA-01-03

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 11:45
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.003 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:31 / smm |
| Barium | ND | mg/L | | 0.05 | | SW6020 | 04/20/12 13:31 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 13:31 / smm |
| Chromium | 0.005 | mg/L | B | 0.005 | | SW6020 | 04/20/12 13:31 / smm |
| Lead | 0.003 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:31 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 08:24 / rdw |
| Selenium | 0.095 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:31 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/20/12 13:31 / smm |
| Uranium | 0.030 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 13:31 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 1.7 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 MDC | 0.05 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 228 | 0.6 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-010
**Client Sample ID:** SA-02-01

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 11:48
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.025 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:33 / smm |
| Barium | 0.25 | mg/L | | 0.05 | | SW6020 | 04/20/12 13:33 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 13:33 / smm |
| Chromium | 0.011 | mg/L | B | 0.005 | | SW6020 | 04/20/12 13:33 / smm |
| Lead | 0.010 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:33 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 08:26 / rdw |
| Selenium | 0.014 | mg/L | | 0.001 | | SW6020 | 04/20/12 13:33 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/20/12 13:33 / smm |
| Uranium | 0.37 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 13:33 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 275 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 precision (±) | 2.0 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 MDC | 0.05 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 228 | 3.5 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-011
**Client Sample ID:** SA-02-02

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 11:48
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.006 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:40 / smm |
| Barium | 0.15 | mg/L | | 0.05 | | SW6020 | 04/20/12 14:40 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 14:40 / smm |
| Chromium | 0.013 | mg/L | B | 0.005 | | SW6020 | 04/20/12 14:40 / smm |
| Lead | 0.010 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:40 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 08:31 / rdw |
| Selenium | 0.003 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:40 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/20/12 14:40 / smm |
| Uranium | 0.11 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 14:40 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 5.4 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 precision (±) | 0.3 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 MDC | 0.05 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 228 | 0.7 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-012
**Client Sample ID:** SA-02-03

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 11:48
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.006 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:06 / smm |
| Barium | 0.09 | mg/L | | 0.05 | | SW6020 | 04/20/12 14:06 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 14:06 / smm |
| Chromium | 0.013 | mg/L | B | 0.005 | | SW6020 | 04/20/12 14:06 / smm |
| Lead | 0.006 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:06 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 08:37 / rdw |
| Selenium | 0.003 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:06 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/20/12 14:06 / smm |
| Uranium | 0.088 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 14:06 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 29.3 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 precision (±) | 0.7 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 MDC | 0.05 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 228 | 1.3 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-013
**Client Sample ID:** S8-01-01

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 13:00
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 29.3 | mg/kg | | 1.00 | | E300.0 | 06/27/12 21:54 / ljl |
| Chloride, 1:1 | 0.827 | meq/L | | 0.0282 | | E300.0 | 06/27/12 21:54 / ljl |
| Sulfate | 35.3 | mg/kg | | 1.00 | | E300.0 | 06/27/12 21:54 / ljl |
| Sulfate, 1:1 | 0.735 | meq/L | | 0.0208 | | E300.0 | 06/27/12 21:54 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.008 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:12 / smm |
| Barium | 0.91 | mg/L | | 0.05 | | SW6020 | 04/20/12 14:12 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 14:12 / smm |
| Chromium | 0.012 | mg/L | B | 0.005 | | SW6020 | 04/20/12 14:12 / smm |
| Lead | 0.009 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:12 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 08:39 / rdw |
| Selenium | 0.007 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:12 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/20/12 14:12 / smm |
| Uranium | 0.016 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 14:12 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 27.2 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 precision (±) | 0.6 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 MDC | 0.04 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 228 | 0.2 | pCi/g-dry | U | | | RA-05 | 06/25/12 13:54 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-014
**Client Sample ID:** S8-01-02

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 13:09
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 38.9 | mg/kg | | 1.00 | | E300.0 | 06/27/12 22:10 / ljl |
| Chloride, 1:1 | 1.10 | meq/L | | 0.0282 | | E300.0 | 06/27/12 22:10 / ljl |
| Sulfate | 2750 | mg/kg | | 1.00 | | E300.0 | 06/28/12 13:59 / ljl |
| Sulfate, 1:1 | 57.2 | meq/L | | 0.0208 | | E300.0 | 06/28/12 13:59 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.004 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:26 / smm |
| Barium | 0.09 | mg/L | | 0.05 | | SW6020 | 04/20/12 14:26 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 14:26 / smm |
| Chromium | 0.006 | mg/L | B | 0.005 | | SW6020 | 04/20/12 14:26 / smm |
| Lead | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 14:26 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 08:40 / rdw |
| Selenium | 0.30 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:26 / smm |
| Silver | 0.002 | mg/L | D | 0.002 | | SW6020 | 04/20/12 14:26 / smm |
| Uranium | 3.8 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 14:26 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 2.5 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 MDC | 0.05 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 228 | 0.6 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-015
**Client Sample ID:** S8-01-03

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 13:09
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 12.0 | mg/kg | | 1.00 | | E300.0 | 06/27/12 22:27 / ljl |
| Chloride, 1:1 | 0.340 | meq/L | | 0.0282 | | E300.0 | 06/27/12 22:27 / ljl |
| Sulfate | 197 | mg/kg | | 1.00 | | E300.0 | 06/27/12 22:27 / ljl |
| Sulfate, 1:1 | 4.11 | meq/L | | 0.0208 | | E300.0 | 06/27/12 22:27 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.032 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:29 / smm |
| Barium | 0.16 | mg/L | | 0.05 | | SW6020 | 04/20/12 14:29 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 14:29 / smm |
| Chromium | 0.010 | mg/L | B | 0.005 | | SW6020 | 04/20/12 14:29 / smm |
| Lead | 0.006 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:29 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 08:41 / rdw |
| Selenium | 0.036 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:29 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/20/12 14:29 / smm |
| Uranium | 0.022 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 14:29 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 24.5 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 precision (±) | 0.6 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 MDC | 0.05 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 228 | 0.5 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-016
**Client Sample ID:** S8-02-01

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 13:26
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 58.6 | mg/kg | | 1.00 | | E300.0 | 06/27/12 22:43 / ljl |
| Chloride, 1:1 | 1.65 | meq/L | | 0.0282 | | E300.0 | 06/27/12 22:43 / ljl |
| Sulfate | 1660 | mg/kg | | 1.00 | | E300.0 | 06/27/12 22:43 / ljl |
| Sulfate, 1:1 | 34.5 | meq/L | | 0.0208 | | E300.0 | 06/27/12 22:43 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.004 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:32 / smm |
| Barium | 0.12 | mg/L | | 0.05 | | SW6020 | 04/20/12 14:32 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 14:32 / smm |
| Chromium | 0.009 | mg/L | B | 0.005 | | SW6020 | 04/20/12 14:32 / smm |
| Lead | 0.005 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:32 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 08:43 / rdw |
| Selenium | 0.22 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:32 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/20/12 14:32 / smm |
| Uranium | 0.12 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 14:32 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 10.6 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 precision (±) | 0.4 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 MDC | 0.05 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 228 | 0.1 | pCi/g-dry | U | | | RA-05 | 06/25/12 13:54 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-017
**Client Sample ID:** S8-02-02

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 13:36
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 44.6 | mg/kg | | 1.00 | | E300.0 | 06/27/12 23:00 / ljl |
| Chloride, 1:1 | 1.26 | meq/L | | 0.0282 | | E300.0 | 06/27/12 23:00 / ljl |
| Sulfate | 2480 | mg/kg | | 1.00 | | E300.0 | 06/27/12 23:00 / ljl |
| Sulfate, 1:1 | 51.7 | meq/L | | 0.0208 | | E300.0 | 06/27/12 23:00 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.006 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:34 / smm |
| Barium | 0.06 | mg/L | | 0.05 | | SW6020 | 04/20/12 14:34 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 14:34 / smm |
| Chromium | 0.006 | mg/L | B | 0.005 | | SW6020 | 04/20/12 14:34 / smm |
| Lead | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 14:34 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 08:44 / rdw |
| Selenium | 1.0 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:34 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/20/12 14:34 / smm |
| Uranium | 6.7 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 14:34 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 1.7 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 226 MDC | 0.05 | pCi/g-dry | | | | E903.0 | 07/02/12 23:06 / plj |
| Radium 228 | 1.5 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-018
**Client Sample ID:** S8-02-03

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 13:36
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 9.13 | mg/kg | | 1.00 | | E300.0 | 06/27/12 23:49 / ljl |
| Chloride, 1:1 | 0.258 | meq/L | | 0.0282 | | E300.0 | 06/27/12 23:49 / ljl |
| Sulfate | 536 | mg/kg | | 1.00 | | E300.0 | 06/27/12 23:49 / ljl |
| Sulfate, 1:1 | 11.2 | meq/L | | 0.0208 | | E300.0 | 06/27/12 23:49 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.011 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:37 / smm |
| Barium | 0.98 | mg/L | | 0.05 | | SW6020 | 04/20/12 14:37 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/20/12 14:37 / smm |
| Chromium | 0.028 | mg/L | B | 0.005 | | SW6020 | 04/20/12 14:37 / smm |
| Lead | 0.013 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:37 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 08:45 / rdw |
| Selenium | 0.063 | mg/L | | 0.001 | | SW6020 | 04/20/12 14:37 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/20/12 14:37 / smm |
| Uranium | 0.19 | mg/L | D | 0.0006 | | SW6020 | 04/20/12 14:37 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 14.0 | pCi/g-dry | | | | E903.0 | 07/03/12 01:58 / plj |
| Radium 226 precision (±) | 0.3 | pCi/g-dry | | | | E903.0 | 07/03/12 01:58 / plj |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/03/12 01:58 / plj |
| Radium 228 | 0.2 | pCi/g-dry | U | | | RA-05 | 06/25/12 13:54 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 13:54 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-019
**Client Sample ID:** S8-02-04

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 13:39
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 3.01 | mg/kg | | 1.00 | | E300.0 | 06/28/12 14:14 / ljl |
| Chloride, 1:1 | 0.0850 | meq/L | | 0.0282 | | E300.0 | 06/28/12 14:14 / ljl |
| Sulfate | 31.2 | mg/kg | | 1.00 | | E300.0 | 06/28/12 14:14 / ljl |
| Sulfate, 1:1 | 0.650 | meq/L | | 0.0208 | | E300.0 | 06/28/12 14:14 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.004 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:47 / smm |
| Barium | 0.15 | mg/L | | 0.05 | | SW6020 | 04/26/12 19:47 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/26/12 19:47 / smm |
| Chromium | 0.011 | mg/L | B | 0.005 | | SW6020 | 04/26/12 19:47 / smm |
| Lead | 0.005 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:47 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 08:53 / rdw |
| Selenium | ND | mg/L | | 0.001 | | SW6020 | 04/26/12 19:47 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/26/12 19:47 / smm |
| Uranium | 0.0056 | mg/L | D | 0.0006 | | SW6020 | 05/02/12 14:20 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 2.0 | pCi/g-dry | | | | E903.0 | 07/03/12 01:58 / plj |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/03/12 01:58 / plj |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/03/12 01:58 / plj |
| Radium 228 | 0.6 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 12:20 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-020
**Client Sample ID:** S5-01-01

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 14:05
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 9.64 | mg/kg | | 1.00 | | E300.0 | 06/28/12 00:22 / ljl |
| Chloride, 1:1 | 0.272 | meq/L | | 0.0282 | | E300.0 | 06/28/12 00:22 / ljl |
| Sulfate | 113 | mg/kg | | 1.00 | | E300.0 | 06/28/12 00:22 / ljl |
| Sulfate, 1:1 | 2.35 | meq/L | | 0.0208 | | E300.0 | 06/28/12 00:22 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.009 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:13 / smm |
| Barium | 5.5 | mg/L | | 0.05 | | SW6020 | 04/26/12 19:13 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/26/12 19:13 / smm |
| Chromium | 0.027 | mg/L | B | 0.005 | | SW6020 | 04/26/12 19:13 / smm |
| Lead | 0.028 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:13 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 08:57 / rdw |
| Selenium | 0.010 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:13 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/26/12 19:13 / smm |
| Uranium | 0.11 | mg/L | D | 0.0006 | | SW6020 | 05/02/12 14:00 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 11.3 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 226 precision (±) | 0.3 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 228 | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-021
**Client Sample ID:** S7-01-01

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 15:12
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.004 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:18 / smm |
| Barium | 0.06 | mg/L | | 0.05 | | SW6020 | 04/26/12 19:18 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/26/12 19:18 / smm |
| Chromium | 0.005 | mg/L | B | 0.005 | | SW6020 | 04/26/12 19:18 / smm |
| Lead | ND | mg/L | | 0.001 | | SW6020 | 04/26/12 19:18 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 08:59 / rdw |
| Selenium | 0.26 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:18 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/26/12 19:18 / smm |
| Uranium | 0.37 | mg/L | D | 0.0006 | | SW6020 | 05/02/12 14:04 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 10.4 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 228 | 0.1 | pCi/g-dry | U | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-022
**Client Sample ID:** S7-01-02

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 15:17
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.002 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:21 / smm |
| Barium | 0.06 | mg/L | | 0.05 | | SW6020 | 04/26/12 19:21 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/26/12 19:21 / smm |
| Chromium | 0.009 | mg/L | B | 0.005 | | SW6020 | 04/26/12 19:21 / smm |
| Lead | 0.003 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:21 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 09:00 / rdw |
| Selenium | 0.002 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:21 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/26/12 19:21 / smm |
| Uranium | 0.0047 | mg/L | D | 0.0006 | | SW6020 | 05/02/12 14:12 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 1.1 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 226 precision (±) | 0.08 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 228 | 0.6 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-023
**Client Sample ID:** S7-01-03

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 15:22
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | ND | mg/L | | 0.001 | | SW6020 | 05/01/12 16:45 / cp |
| Barium | 0.05 | mg/L | | 0.05 | | SW6020 | 05/01/12 16:45 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/01/12 16:45 / cp |
| Chromium | 0.009 | mg/L | B | 0.005 | | SW6020 | 05/01/12 16:45 / cp |
| Lead | 0.001 | mg/L | | 0.001 | | SW6020 | 05/01/12 16:45 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 09:01 / rdw |
| Selenium | 0.002 | mg/L | | 0.001 | | SW6020 | 05/01/12 16:45 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/01/12 16:45 / cp |
| Uranium | 0.0049 | mg/L | D | 0.0006 | | SW6020 | 05/01/12 16:45 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 1.5 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 228 | 0.2 | pCi/g-dry | U | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-024
**Client Sample ID:** S5-02-02

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 14:15
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 23.1 | mg/kg | | 1.00 | | E300.0 | 06/28/12 00:38 / ljl |
| Chloride, 1:1 | 0.653 | meq/L | | 0.0282 | | E300.0 | 06/28/12 00:38 / ljl |
| Sulfate | 2530 | mg/kg | | 1.00 | | E300.0 | 06/28/12 00:38 / ljl |
| Sulfate, 1:1 | 52.7 | meq/L | | 0.0208 | | E300.0 | 06/28/12 00:38 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | ND | mg/L | | 0.001 | | SW6020 | 04/26/12 19:24 / smm |
| Barium | 0.08 | mg/L | | 0.05 | | SW6020 | 04/26/12 19:24 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/26/12 19:24 / smm |
| Chromium | 0.005 | mg/L | B | 0.005 | | SW6020 | 04/26/12 19:24 / smm |
| Lead | ND | mg/L | | 0.001 | | SW6020 | 04/26/12 19:24 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 09:03 / rdw |
| Selenium | 0.15 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:24 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/26/12 19:24 / smm |
| Uranium | 1.1 | mg/L | D | 0.0006 | | SW6020 | 05/02/12 14:14 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 2.1 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 228 | 0.2 | pCi/g-dry | U | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-025
**Client Sample ID:** S5-02-03

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 14:20
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 5.10 | mg/kg | | 1.00 | | E300.0 | 06/28/12 00:55 / ljl |
| Chloride, 1:1 | 0.144 | meq/L | | 0.0282 | | E300.0 | 06/28/12 00:55 / ljl |
| Sulfate | 279 | mg/kg | | 1.00 | | E300.0 | 06/28/12 00:55 / ljl |
| Sulfate, 1:1 | 5.80 | meq/L | | 0.0208 | | E300.0 | 06/28/12 00:55 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.006 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:38 / smm |
| Barium | 0.62 | mg/L | | 0.05 | | SW6020 | 04/26/12 19:38 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/26/12 19:38 / smm |
| Chromium | 0.017 | mg/L | B | 0.005 | | SW6020 | 04/26/12 19:38 / smm |
| Lead | 0.013 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:38 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 09:04 / rdw |
| Selenium | 0.012 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:38 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/26/12 19:38 / smm |
| Uranium | 0.011 | mg/L | D | 0.0006 | | SW6020 | 05/02/12 14:15 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 4.1 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 228 | 0.5 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-026
**Client Sample ID:** S5-02-01

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 14:30
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 17.2 | mg/kg | | 1.00 | | E300.0 | 06/28/12 01:11 / ljl |
| Chloride, 1:1 | 0.485 | meq/L | | 0.0282 | | E300.0 | 06/28/12 01:11 / ljl |
| Sulfate | 2860 | mg/kg | | 1.00 | | E300.0 | 06/28/12 01:11 / ljl |
| Sulfate, 1:1 | 59.6 | meq/L | | 0.0208 | | E300.0 | 06/28/12 01:11 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | ND | mg/L | | 0.001 | | SW6020 | 04/26/12 19:41 / smm |
| Barium | 0.10 | mg/L | | 0.05 | | SW6020 | 04/26/12 19:41 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/26/12 19:41 / smm |
| Chromium | 0.008 | mg/L | B | 0.005 | | SW6020 | 04/26/12 19:41 / smm |
| Lead | ND | mg/L | | 0.001 | | SW6020 | 04/26/12 19:41 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 09:08 / rdw |
| Selenium | 0.40 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:41 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/26/12 19:41 / smm |
| Uranium | 1.5 | mg/L | D | 0.0006 | | SW6020 | 05/02/12 14:17 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 0.8 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 226 precision (±) | 0.07 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/02/12 23:59 / plj |
| Radium 228 | 0.2 | pCi/g-dry | U | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-027
**Client Sample ID:** S5-01-02

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 14:09
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 7.87 | mg/kg | | 1.00 | | E300.0 | 06/28/12 01:44 / ljl |
| Chloride, 1:1 | 0.222 | meq/L | | 0.0282 | | E300.0 | 06/28/12 01:44 / ljl |
| Sulfate | 261 | mg/kg | | 1.00 | | E300.0 | 06/28/12 01:44 / ljl |
| Sulfate, 1:1 | 5.43 | meq/L | | 0.0208 | | E300.0 | 06/28/12 01:44 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.004 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:44 / smm |
| Barium | 0.07 | mg/L | | 0.05 | | SW6020 | 04/26/12 19:44 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/26/12 19:44 / smm |
| Chromium | 0.012 | mg/L | B | 0.005 | | SW6020 | 04/26/12 19:44 / smm |
| Lead | 0.005 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:44 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 09:09 / rdw |
| Selenium | 0.004 | mg/L | | 0.001 | | SW6020 | 04/26/12 19:44 / smm |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 04/26/12 19:44 / smm |
| Uranium | 0.0054 | mg/L | D | 0.0006 | | SW6020 | 05/02/12 14:19 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 1.7 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 228 | 0.6 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-028
**Client Sample ID:** S3-01-01

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 09:15
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.007 | mg/L | | 0.001 | | SW6020 | 04/25/12 20:23 / smm |
| Barium | 0.31 | mg/L | | 0.05 | | SW6020 | 04/25/12 20:23 / smm |
| Cadmium | 0.002 | mg/L | | 0.001 | | SW6020 | 04/25/12 20:23 / smm |
| Chromium | ND | mg/L | | 0.005 | | SW6020 | 04/25/12 20:23 / smm |
| Lead | 0.002 | mg/L | | 0.001 | | SW6020 | 04/25/12 20:23 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 09:15 / rdw |
| Selenium | 0.19 | mg/L | | 0.001 | | SW6020 | 04/25/12 20:23 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 20:23 / smm |
| Uranium | 9.7 | mg/L | B | 0.0003 | | SW6020 | 04/25/12 20:23 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 21.0 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 precision (±) | 0.4 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 228 | 1.5 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-029
**Client Sample ID:** S3-01-02

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 08:50
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.014 | mg/L | | 0.001 | | SW6020 | 04/25/12 20:37 / smm |
| Barium | 2.3 | mg/L | | 0.05 | | SW6020 | 04/25/12 20:37 / smm |
| Cadmium | 0.001 | mg/L | | 0.001 | | SW6020 | 04/25/12 20:37 / smm |
| Chromium | 0.050 | mg/L | | 0.005 | | SW6020 | 04/25/12 20:37 / smm |
| Lead | 0.064 | mg/L | | 0.001 | | SW6020 | 04/25/12 20:37 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 09:19 / rdw |
| Selenium | 0.036 | mg/L | | 0.001 | | SW6020 | 04/25/12 20:37 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 20:37 / smm |
| Uranium | 5.7 | mg/L | B | 0.0003 | | SW6020 | 04/25/12 20:37 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 6.2 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 228 | 0.7 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-030
**Client Sample ID:** S3-01-03

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 09:40
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.005 | mg/L | | 0.001 | | SW6020 | 04/25/12 20:41 / smm |
| Barium | 0.14 | mg/L | | 0.05 | | SW6020 | 04/25/12 20:41 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 20:41 / smm |
| Chromium | 0.013 | mg/L | | 0.005 | | SW6020 | 04/25/12 20:41 / smm |
| Lead | 0.012 | mg/L | | 0.001 | | SW6020 | 04/25/12 20:41 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 09:20 / rdw |
| Selenium | 0.053 | mg/L | | 0.001 | | SW6020 | 04/25/12 20:41 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 20:41 / smm |
| Uranium | 0.47 | mg/L | B | 0.0003 | | SW6020 | 04/25/12 20:41 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 4.5 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 228 | 0.8 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-031
**Client Sample ID:** S3-02-01

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 10:22
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.018 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:04 / smm |
| Barium | 6.6 | mg/L | | 0.05 | | SW6020 | 04/25/12 21:04 / smm |
| Cadmium | 0.002 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:04 / smm |
| Chromium | 0.015 | mg/L | | 0.005 | | SW6020 | 04/25/12 21:04 / smm |
| Lead | 0.028 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:04 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 09:24 / rdw |
| Selenium | 0.15 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:04 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 21:04 / smm |
| Uranium | 7.8 | mg/L | B | 0.0003 | | SW6020 | 04/25/12 21:04 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 6.4 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 228 | 2.2 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 precision (±) | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-032
**Client Sample ID:** S3-02-02

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 10:30
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.002 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:08 / smm |
| Barium | ND | mg/L | | 0.05 | | SW6020 | 04/25/12 21:08 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 21:08 / smm |
| Chromium | 0.009 | mg/L | | 0.005 | | SW6020 | 04/25/12 21:08 / smm |
| Lead | 0.001 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:08 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 09:25 / rdw |
| Selenium | 0.023 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:08 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 21:08 / smm |
| Uranium | 0.18 | mg/L | B | 0.0003 | | SW6020 | 04/25/12 21:08 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 3.0 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 228 | 0.7 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-033
**Client Sample ID:** S3-02-03

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 10:30
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.006 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:13 / smm |
| Barium | 0.27 | mg/L | | 0.05 | | SW6020 | 04/25/12 21:13 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 21:13 / smm |
| Chromium | 0.018 | mg/L | | 0.005 | | SW6020 | 04/25/12 21:13 / smm |
| Lead | 0.016 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:13 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 09:27 / rdw |
| Selenium | 0.003 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:13 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 21:13 / smm |
| Uranium | 0.022 | mg/L | B | 0.0003 | | SW6020 | 04/25/12 21:13 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 2.4 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 228 | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-034
**Client Sample ID:** S7-02-01

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 15:45
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.013 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:17 / smm |
| Barium | 0.76 | mg/L | | 0.05 | | SW6020 | 04/25/12 21:17 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 21:17 / smm |
| Chromium | 0.006 | mg/L | | 0.005 | | SW6020 | 04/25/12 21:17 / smm |
| Lead | 0.001 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:17 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 09:28 / rdw |
| Selenium | 0.22 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:17 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 21:17 / smm |
| Uranium | 0.18 | mg/L | B | 0.0003 | | SW6020 | 04/25/12 21:17 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 2.6 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 228 | 0.5 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-035
**Client Sample ID:** S7-02-02

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 15:50
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.007 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:22 / smm |
| Barium | 0.31 | mg/L | | 0.05 | | SW6020 | 04/25/12 21:22 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 21:22 / smm |
| Chromium | 0.013 | mg/L | | 0.005 | | SW6020 | 04/25/12 21:22 / smm |
| Lead | 0.020 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:22 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 09:29 / rdw |
| Selenium | 0.13 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:22 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 21:22 / smm |
| Uranium | 0.014 | mg/L | B | 0.0003 | | SW6020 | 04/25/12 21:22 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 1.9 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 228 | 0.2 | pCi/g-dry | U | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-036
**Client Sample ID:** S7-02-03

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 15:55
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.003 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:26 / smm |
| Barium | 0.16 | mg/L | | 0.05 | | SW6020 | 04/25/12 21:26 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 21:26 / smm |
| Chromium | 0.010 | mg/L | | 0.005 | | SW6020 | 04/25/12 21:26 / smm |
| Lead | 0.005 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:26 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 09:31 / rdw |
| Selenium | 0.003 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:26 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 21:26 / smm |
| Uranium | 0.0053 | mg/L | B | 0.0003 | | SW6020 | 04/25/12 21:26 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 1.1 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 precision (±) | 0.09 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 01:40 / plj |
| Radium 228 | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12040804-037
**Client Sample ID:** S3-01-04

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 09:46
**DateReceived:** 04/13/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/18/12 08:51 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.003 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:31 / smm |
| Barium | 0.07 | mg/L | | 0.05 | | SW6020 | 04/25/12 21:31 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 21:31 / smm |
| Chromium | 0.011 | mg/L | | 0.005 | | SW6020 | 04/25/12 21:31 / smm |
| Lead | 0.005 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:31 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/19/12 09:32 / rdw |
| Selenium | 0.032 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:31 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 21:31 / smm |
| Uranium | 0.036 | mg/L | B | 0.0003 | | SW6020 | 04/25/12 21:31 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 1.7 | pCi/g-dry | | | | E903.0 | 07/03/12 03:34 / plj |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/03/12 03:34 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 03:34 / plj |
| Radium 228 | 0.7 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/05/12

**Client:** Rio Grande Resources Corporation **Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan **Work Order:** C12040804

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: E300.0** | | | | | | | | | Analytical Run: IC2-C_120626A | |
| **Sample ID: ICV-062612-10** | 2 | Initial Calibration Verification Standard | | | | | | | 06/26/12 15:31 | |
| Chloride | | 9.60 | mg/L | 1.0 | 96 | 90 | 110 | | | |
| Sulfate | | 38.7 | mg/L | 1.0 | 97 | 90 | 110 | | | |
| **Method: E300.0** | | | | | | | | | Batch: 34002 | |
| **Sample ID: MB-34002** | 2 | Method Blank | | | | Run: IC2-C_120626A | | | 06/27/12 21:21 | |
| Chloride | | ND | mg/kg | 1.0 | | | | | | |
| Sulfate | | 0.0820 | mg/kg | 1.0 | | | | | | |
| **Sample ID: LCS1-34002** | 2 | Laboratory Control Sample | | | | Run: IC2-C_120626A | | | 06/27/12 21:37 | |
| Chloride | | 42.9 | mg/kg | 1.0 | 121 | 70 | 130 | | | |
| Sulfate | | 1910 | mg/kg | 1.0 | 105 | 70 | 130 | | | |
| **Sample ID: C12040804-026CPDS** | 2 | Post Digestion/Distillation Spike | | | | Run: IC2-C_120626A | | | 06/28/12 01:27 | |
| Chloride | | 487 | mg/kg | 1.0 | 94 | 80 | 120 | | | |
| Sulfate | | 4670 | mg/kg | 1.0 | 90 | 80 | 120 | | | |
| **Sample ID: C12040804-027CDUP** | 2 | Sample Duplicate | | | | Run: IC2-C_120626A | | | 06/28/12 02:00 | |
| Chloride | | 7.34 | mg/kg | 1.0 | | | | 6.9 | 20 | |
| Sulfate | | 251 | mg/kg | 1.0 | | | | 3.8 | 20 | |

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/05/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12040804

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: E903.0** | | | | | | | | | | Batch: 34003 |
| **Sample ID: MB-34003** | 3 | Method Blank | | | | Run: BERTHOLD 770-1_120620B | | | | 07/02/12 22:18 |
| Radium 226 | | 0.003 | pCi/g-dry | | | | | | | U |
| Radium 226 precision (±) | | 0.005 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.007 | pCi/g-dry | | | | | | | |
| **Sample ID: LCS-34003** | | Laboratory Control Sample | | | | Run: BERTHOLD 770-1_120620B | | | | 07/02/12 22:18 |
| Radium 226 | | 2.4 | pCi/g-dry | | 793 | 70 | 130 | | | S |
| - LCS response is outside of the acceptance range for this analysis due to a very small amount of the precipitate from C12040804-001B being transferred to the planchet. Since the MB, MS, and MSD are acceptable the batch is approved. | | | | | | | | | | |
| **Sample ID: C12040804-019BMS** | | Sample Matrix Spike | | | | Run: BERTHOLD 770-1_120620B | | | | 07/03/12 01:58 |
| Radium 226 | | 3.2 | pCi/g-dry | | 83 | 70 | 130 | | | |
| **Sample ID: C12040804-019BMSD** | | Sample Matrix Spike Duplicate | | | | Run: BERTHOLD 770-1_120620B | | | | 07/03/12 01:58 |
| Radium 226 | | 3.3 | pCi/g-dry | | 90 | 70 | 130 | 2.6 | 19.7 | |
| **Method: E903.0** | | | | | | | | | | Batch: 34004 |
| **Sample ID: MB-34004** | 3 | Method Blank | | | | Run: BERTHOLD 770-2_120620A | | | | 07/02/12 23:59 |
| Radium 226 | | 0.1 | pCi/g-dry | | | | | | | |
| Radium 226 precision (±) | | 0.03 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.02 | pCi/g-dry | | | | | | | |
| **Sample ID: LCS-34004** | | Laboratory Control Sample | | | | Run: BERTHOLD 770-2_120620A | | | | 07/02/12 23:59 |
| Radium 226 | | 1.4 | pCi/g-dry | | 87 | 70 | 130 | | | |
| **Sample ID: C12041044-003BMS** | | Sample Matrix Spike | | | | Run: BERTHOLD 770-2_120620A | | | | 07/03/12 03:34 |
| Radium 226 | | 2.5 | pCi/g-dry | | 104 | 70 | 130 | | | |
| **Sample ID: C12041044-003BMSD** | | Sample Matrix Spike Duplicate | | | | Run: BERTHOLD 770-2_120620A | | | | 07/03/12 03:34 |
| Radium 226 | | 2.2 | pCi/g-dry | | 87 | 70 | 130 | 12 | 20.8 | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/05/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12040804

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: RA-05** | | | | | | | | | | Batch: 34003 |
| **Sample ID: LCS-34003** | | Laboratory Control Sample | | | | Run: TENNELEC-3_120620A | | | | 06/25/12 12:20 |
| Radium 228 | | 1.5 | pCi/g-dry | | 104 | 70 | 130 | | | |
| **Sample ID: MB-34003** | 3 | Method Blank | | | | Run: TENNELEC-3_120620A | | | | 06/25/12 12:20 |
| Radium 228 | | -0.02 | pCi/g-dry | | | | | | | U |
| Radium 228 precision (±) | | 0.2 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.3 | pCi/g-dry | | | | | | | |
| **Sample ID: C12040804-019BMS** | | Sample Matrix Spike | | | | Run: TENNELEC-3_120620A | | | | 06/25/12 12:20 |
| Radium 228 | | 2.1 | pCi/g-dry | | 109 | 70 | 130 | | | |
| **Sample ID: C12040804-019BMSD** | | Sample Matrix Spike Duplicate | | | | Run: TENNELEC-3_120620A | | | | 06/25/12 12:20 |
| Radium 228 | | 1.9 | pCi/g-dry | | 94 | 70 | 130 | 10 | 33.9 | |
| **Method: RA-05** | | | | | | | | | | Batch: 34004 |
| **Sample ID: LCS-34004** | | Laboratory Control Sample | | | | Run: TENNELEC-3_120620B | | | | 06/25/12 15:52 |
| Radium 228 | | 1.5 | pCi/g-dry | | 104 | 70 | 130 | | | |
| **Sample ID: MB-34004** | 3 | Method Blank | | | | Run: TENNELEC-3_120620B | | | | 06/25/12 15:52 |
| Radium 228 | | 0.07 | pCi/g-dry | | | | | | | U |
| Radium 228 precision (±) | | 0.2 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.3 | pCi/g-dry | | | | | | | |
| **Sample ID: C12041044-003BMS** | | Sample Matrix Spike | | | | Run: TENNELEC-3_120620B | | | | 06/25/12 15:52 |
| Radium 228 | | 1.8 | pCi/g-dry | | 93 | 70 | 130 | | | |
| **Sample ID: C12041044-003BMSD** | | Sample Matrix Spike Duplicate | | | | Run: TENNELEC-3_120620B | | | | 06/25/12 15:52 |
| Radium 228 | | 1.9 | pCi/g-dry | | 101 | 70 | 130 | 6.0 | 33.5 | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Work Order:** C12040804

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | Analytical Run: ICPMS2-C_120420A | |
| **Sample ID: ICV** | 8 | Initial Calibration Verification Standard | | | | | | | 04/20/12 12:15 | |
| Arsenic | | 0.0502 | mg/L | 0.0010 | 100 | 90 | 110 | | | |
| Barium | | 0.0500 | mg/L | 0.0010 | 100 | 90 | 110 | | | |
| Cadmium | | 0.0501 | mg/L | 0.0010 | 100 | 90 | 110 | | | |
| Chromium | | 0.0508 | mg/L | 0.0010 | 102 | 90 | 110 | | | |
| Lead | | 0.0492 | mg/L | 0.0010 | 98 | 90 | 110 | | | |
| Selenium | | 0.0513 | mg/L | 0.0010 | 103 | 90 | 110 | | | |
| Silver | | 0.0206 | mg/L | 0.0010 | 103 | 90 | 110 | | | |
| Uranium | | 0.0506 | mg/L | 0.00030 | 101 | 90 | 110 | | | |
| **Sample ID: ICSA** | 8 | Interference Check Sample A | | | | | | | 04/20/12 12:18 | |
| Arsenic | | 2.10E-05 | mg/L | 0.0010 | | | | | | |
| Barium | | 2.84E-05 | mg/L | 0.0010 | | | | | | |
| Cadmium | | 4.02E-05 | mg/L | 0.0010 | | | | | | |
| Chromium | | 0.000116 | mg/L | 0.0010 | | | | | | |
| Lead | | 3.52E-05 | mg/L | 0.0010 | | | | | | |
| Selenium | | -0.000115 | mg/L | 0.0010 | | | | | | |
| Silver | | 0.000711 | mg/L | 0.0010 | | | | | | |
| Uranium | | 8.01E-05 | mg/L | 0.00030 | | | | | | |
| **Sample ID: ICSAB** | 8 | Interference Check Sample AB | | | | | | | 04/20/12 12:21 | |
| Arsenic | | 0.0101 | mg/L | 0.0010 | 101 | 70 | 130 | | | |
| Barium | | 1.24E-05 | mg/L | 0.0010 | | | | | | |
| Cadmium | | 0.0102 | mg/L | 0.0010 | 102 | 70 | 130 | | | |
| Chromium | | 0.0102 | mg/L | 0.0010 | 102 | 70 | 130 | | | |
| Lead | | 1.20E-05 | mg/L | 0.0010 | | | | | | |
| Selenium | | 5.51E-05 | mg/L | 0.0010 | | | | | | |
| Silver | | 0.0101 | mg/L | 0.0010 | 101 | 70 | 130 | | | |
| Uranium | | 2.09E-05 | mg/L | 0.00030 | | | | | | |
| **Method: SW6020** | | | | | | | | | Batch: 33385 | |
| **Sample ID: MB-33385** | 8 | Method Blank | | | | Run: ICPMS2-C_120420A | | | 04/20/12 12:46 | |
| Arsenic | | 0.0007 | mg/L | 6E-05 | | | | | | |
| Barium | | 0.002 | mg/L | 3E-05 | | | | | | |
| Cadmium | | ND | mg/L | 1E-05 | | | | | | |
| Chromium | | 0.005 | mg/L | 4E-05 | | | | | | |
| Lead | | 0.0001 | mg/L | 3E-05 | | | | | | |
| Selenium | | ND | mg/L | 0.0002 | | | | | | |
| Silver | | 0.001 | mg/L | 3E-05 | | | | | | |
| Uranium | | 5E-05 | mg/L | 1E-05 | | | | | | |
| **Sample ID: LCS3-33385** | 8 | Laboratory Control Sample | | | | Run: ICPMS2-C_120420A | | | 04/20/12 12:49 | |
| Arsenic | | 0.47 | mg/L | 0.0010 | 95 | 80 | 120 | | | |
| Barium | | 0.50 | mg/L | 0.050 | 99 | 80 | 120 | | | |
| Cadmium | | 0.24 | mg/L | 0.0010 | 98 | 80 | 120 | | | |
| Chromium | | 0.49 | mg/L | 0.0050 | 98 | 80 | 120 | | | |
| Lead | | 0.51 | mg/L | 0.0010 | 102 | 80 | 120 | | | |

**Qualifiers:**

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
MDC - Minimum detectable concentration

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/05/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12040804

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | | Batch: 33385 |
| **Sample ID: LCS3-33385** | 8 | Laboratory Control Sample | | | | Run: ICPMS2-C_120420A | | | 04/20/12 12:49 | |
| Selenium | | 0.46 | mg/L | 0.0010 | 91 | 80 | 120 | | | |
| Silver | | 0.052 | mg/L | 0.0020 | 101 | 80 | 120 | | | |
| Uranium | | 0.52 | mg/L | 0.00060 | 105 | 80 | 120 | | | |
| **Sample ID: LCSD3-33385** | 8 | Laboratory Control Sample Duplicate | | | | Run: ICPMS2-C_120420A | | | 04/20/12 12:52 | |
| Arsenic | | 0.48 | mg/L | 0.0010 | 96 | 80 | 120 | 1.3 | 20 | |
| Barium | | 0.50 | mg/L | 0.050 | 100 | 80 | 120 | 1.0 | 20 | |
| Cadmium | | 0.25 | mg/L | 0.0010 | 98 | 80 | 120 | 0.7 | 20 | |
| Chromium | | 0.50 | mg/L | 0.0050 | 98 | 80 | 120 | 0.4 | 20 | |
| Lead | | 0.52 | mg/L | 0.0010 | 104 | 80 | 120 | 1.2 | 20 | |
| Selenium | | 0.46 | mg/L | 0.0010 | 92 | 80 | 120 | 1.2 | 20 | |
| Silver | | 0.053 | mg/L | 0.0020 | 105 | 80 | 120 | 3.3 | 20 | |
| Uranium | | 0.53 | mg/L | 0.00060 | 106 | 80 | 120 | 0.9 | 20 | |
| **Sample ID: C12040804-002ADIL** | 8 | Serial Dilution | | | | Run: ICPMS2-C_120420A | | | 04/20/12 13:00 | |
| Arsenic | | 0.052 | mg/L | 0.0050 | | 0 | 0 | 8.3 | 20 | |
| Barium | | 4.0 | mg/L | 0.050 | | 0 | 0 | 5.3 | 20 | |
| Cadmium | | 0.0015 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Chromium | | 0.044 | mg/L | 0.0050 | | 0 | 0 | 9.3 | 20 | |
| Lead | | 0.080 | mg/L | 0.0050 | | 0 | 0 | 1.4 | 20 | |
| Selenium | | 0.57 | mg/L | 0.0050 | | 0 | 0 | 14 | 20 | |
| Silver | | ND | mg/L | 0.010 | | 0 | 0 | | 20 | |
| Uranium | | 5.3 | mg/L | 0.0030 | | 0 | 0 | 1.4 | 20 | |
| **Sample ID: C12040804-001AMS3** | 8 | Sample Matrix Spike | | | | Run: ICPMS2-C_120420A | | | 04/20/12 13:50 | |
| Arsenic | | 0.49 | mg/L | 0.0010 | 96 | 75 | 125 | | | |
| Barium | | 1.8 | mg/L | 0.050 | 303 | 75 | 125 | | | S |
| Cadmium | | 0.25 | mg/L | 0.0010 | 99 | 75 | 125 | | | |
| Chromium | | 0.49 | mg/L | 0.0050 | 96 | 75 | 125 | | | |
| Lead | | 0.57 | mg/L | 0.0010 | 111 | 75 | 125 | | | |
| Selenium | | 0.71 | mg/L | 0.0010 | 90 | 75 | 125 | | | |
| Silver | | 0.054 | mg/L | 0.0020 | 22 | 75 | 125 | | | S |
| Uranium | | 4.5 | mg/L | 0.00060 | | 75 | 125 | | | A |
| **Method: SW6020** | | | | | | | | | | Batch: 33386 |
| **Sample ID: MB-33386** | 8 | Method Blank | | | | Run: ICPMS2-C_120420A | | | 04/20/12 13:56 | |
| Arsenic | | 0.0006 | mg/L | 6E-05 | | | | | | |
| Barium | | 0.003 | mg/L | 3E-05 | | | | | | |
| Cadmium | | 2E-05 | mg/L | 1E-05 | | | | | | |
| Chromium | | 0.006 | mg/L | 4E-05 | | | | | | |
| Lead | | 0.0001 | mg/L | 3E-05 | | | | | | |
| Selenium | | 0.0002 | mg/L | 0.0002 | | | | | | |
| Silver | | 0.0009 | mg/L | 3E-05 | | | | | | |
| Uranium | | 0.0004 | mg/L | 1E-05 | | | | | | |

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/05/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12040804

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | | Batch: 33386 |
| **Sample ID: LCS3-33386** | 8 | Laboratory Control Sample | | | | Run: ICPMS2-C_120420A | | | 04/20/12 13:58 | |
| Arsenic | | 0.49 | mg/L | 0.0010 | 98 | 80 | 120 | | | |
| Barium | | 0.51 | mg/L | 0.050 | 101 | 80 | 120 | | | |
| Cadmium | | 0.25 | mg/L | 0.0010 | 100 | 80 | 120 | | | |
| Chromium | | 0.50 | mg/L | 0.0050 | 100 | 80 | 120 | | | |
| Lead | | 0.52 | mg/L | 0.0010 | 105 | 80 | 120 | | | |
| Selenium | | 0.48 | mg/L | 0.0010 | 95 | 80 | 120 | | | |
| Silver | | 0.054 | mg/L | 0.0020 | 105 | 80 | 120 | | | |
| Uranium | | 0.53 | mg/L | 0.00060 | 106 | 80 | 120 | | | |
| **Sample ID: LCSD3-33386** | 8 | Laboratory Control Sample Duplicate | | | | Run: ICPMS2-C_120420A | | | 04/20/12 14:01 | |
| Arsenic | | 0.49 | mg/L | 0.0010 | 97 | 80 | 120 | 0.2 | 20 | |
| Barium | | 0.51 | mg/L | 0.050 | 102 | 80 | 120 | 0.4 | 20 | |
| Cadmium | | 0.25 | mg/L | 0.0010 | 100 | 80 | 120 | 0.1 | 20 | |
| Chromium | | 0.50 | mg/L | 0.0050 | 100 | 80 | 120 | 0.0 | 20 | |
| Lead | | 0.53 | mg/L | 0.0010 | 105 | 80 | 120 | 0.6 | 20 | |
| Selenium | | 0.48 | mg/L | 0.0010 | 95 | 80 | 120 | 0.2 | 20 | |
| Silver | | 0.055 | mg/L | 0.0020 | 107 | 80 | 120 | 2.1 | 20 | |
| Uranium | | 0.54 | mg/L | 0.00060 | 107 | 80 | 120 | 0.9 | 20 | |
| **Sample ID: C12040804-012ADIL** | 8 | Serial Dilution | | | | Run: ICPMS2-C_120420A | | | 04/20/12 14:09 | |
| Arsenic | | 0.0075 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Barium | | 0.094 | mg/L | 0.050 | | 0 | 0 | 4.2 | 20 | |
| Cadmium | | 0.00049 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Chromium | | 0.013 | mg/L | 0.0050 | | 0 | 0 | 4.1 | 20 | |
| Lead | | 0.0069 | mg/L | 0.0050 | | 0 | 0 | 9.6 | 20 | |
| Selenium | | 0.0044 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Silver | | ND | mg/L | 0.010 | | 0 | 0 | | 20 | |
| Uranium | | 0.086 | mg/L | 0.0030 | | 0 | 0 | 1.5 | 20 | |
| **Sample ID: C12040804-011AMS3** | 8 | Sample Matrix Spike | | | | Run: ICPMS2-C_120420A | | | 04/20/12 14:43 | |
| Arsenic | | 0.49 | mg/L | 0.0010 | 98 | 75 | 125 | | | |
| Barium | | 0.61 | mg/L | 0.050 | 92 | 75 | 125 | | | |
| Cadmium | | 0.25 | mg/L | 0.0010 | 101 | 75 | 125 | | | |
| Chromium | | 0.49 | mg/L | 0.0050 | 95 | 75 | 125 | | | |
| Lead | | 0.53 | mg/L | 0.0010 | 104 | 75 | 125 | | | |
| Selenium | | 0.48 | mg/L | 0.0010 | 96 | 75 | 125 | | | |
| Silver | | 0.053 | mg/L | 0.0020 | 21 | 75 | 125 | | | S |
| Uranium | | 0.62 | mg/L | 0.00060 | 100 | 75 | 125 | | | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.

S - Spike recovery outside of advisory limits.

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/05/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12040804

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | Analytical Run: ICPMS2-C_120426A | |
| **Sample ID: ICV** | 7 | Initial Calibration Verification Standard | | | | | | | 04/26/12 16:00 | |
| Arsenic | | 0.0480 | mg/L | 0.0010 | 96 | 90 | 110 | | | |
| Barium | | 0.0492 | mg/L | 0.0010 | 98 | 90 | 110 | | | |
| Cadmium | | 0.0490 | mg/L | 0.0010 | 98 | 90 | 110 | | | |
| Chromium | | 0.0481 | mg/L | 0.0010 | 96 | 90 | 110 | | | |
| Lead | | 0.0491 | mg/L | 0.0010 | 98 | 90 | 110 | | | |
| Selenium | | 0.0483 | mg/L | 0.0010 | 97 | 90 | 110 | | | |
| Silver | | 0.0200 | mg/L | 0.0010 | 100 | 90 | 110 | | | |
| **Sample ID: ICSA** | 7 | Interference Check Sample A | | | | | | | 04/26/12 16:03 | |
| Arsenic | | 7.41E-05 | mg/L | 0.0010 | | | | | | |
| Barium | | 5.47E-05 | mg/L | 0.0010 | | | | | | |
| Cadmium | | 4.03E-05 | mg/L | 0.0010 | | | | | | |
| Chromium | | 7.06E-05 | mg/L | 0.0010 | | | | | | |
| Lead | | 4.98E-05 | mg/L | 0.0010 | | | | | | |
| Selenium | | 0.000241 | mg/L | 0.0010 | | | | | | |
| Silver | | 0.000479 | mg/L | 0.0010 | | | | | | |
| **Sample ID: ICSAB** | 7 | Interference Check Sample AB | | | | | | | 04/26/12 16:06 | |
| Arsenic | | 0.0107 | mg/L | 0.0010 | 107 | 70 | 130 | | | |
| Barium | | 2.06E-05 | mg/L | 0.0010 | | | | | | |
| Cadmium | | 0.0108 | mg/L | 0.0010 | 107 | 70 | 130 | | | |
| Chromium | | 0.0106 | mg/L | 0.0010 | 106 | 70 | 130 | | | |
| Lead | | 1.68E-05 | mg/L | 0.0010 | | | | | | |
| Selenium | | 0.000166 | mg/L | 0.0010 | | | | | | |
| Silver | | 0.0101 | mg/L | 0.0010 | 101 | 70 | 130 | | | |
| **Method: SW6020** | | | | | | | | | Batch: 33455 | |
| **Sample ID: MB-33455** | 7 | Method Blank | | | | Run: ICPMS2-C_120426A | | | 04/26/12 19:02 | |
| Arsenic | | 0.0002 | mg/L | 6E-05 | | | | | | |
| Barium | | 0.007 | mg/L | 3E-05 | | | | | | |
| Cadmium | | 2E-05 | mg/L | 1E-05 | | | | | | |
| Chromium | | 0.005 | mg/L | 4E-05 | | | | | | |
| Lead | | ND | mg/L | 3E-05 | | | | | | |
| Selenium | | ND | mg/L | 0.0002 | | | | | | |
| Silver | | 0.001 | mg/L | 3E-05 | | | | | | |
| **Sample ID: LCS3-33455** | 7 | Laboratory Control Sample | | | | Run: ICPMS2-C_120426A | | | 04/26/12 19:05 | |
| Arsenic | | 0.46 | mg/L | 0.0010 | 91 | 80 | 120 | | | |
| Barium | | 0.50 | mg/L | 0.050 | 99 | 80 | 120 | | | |
| Cadmium | | 0.23 | mg/L | 0.0010 | 92 | 80 | 120 | | | |
| Chromium | | 0.49 | mg/L | 0.0050 | 96 | 80 | 120 | | | |
| Lead | | 0.51 | mg/L | 0.0010 | 102 | 80 | 120 | | | |
| Selenium | | 0.42 | mg/L | 0.0010 | 83 | 80 | 120 | | | |
| Silver | | 0.050 | mg/L | 0.0020 | 97 | 80 | 120 | | | |

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/05/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12040804

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | | Batch: 33455 |
| **Sample ID: LCSD3-33455** | 7 | Laboratory Control Sample Duplicate | | | | Run: ICPMS2-C_120426A | | | 04/26/12 19:07 | |
| Arsenic | | 0.44 | mg/L | 0.0010 | 89 | 80 | 120 | 2.9 | 20 | |
| Barium | | 0.49 | mg/L | 0.050 | 97 | 80 | 120 | 2.8 | 20 | |
| Cadmium | | 0.23 | mg/L | 0.0010 | 90 | 80 | 120 | 1.6 | 20 | |
| Chromium | | 0.47 | mg/L | 0.0050 | 94 | 80 | 120 | 2.4 | 20 | |
| Lead | | 0.49 | mg/L | 0.0010 | 98 | 80 | 120 | 3.6 | 20 | |
| Selenium | | 0.40 | mg/L | 0.0010 | 80 | 80 | 120 | 3.7 | 20 | |
| Silver | | 0.050 | mg/L | 0.0020 | 96 | 80 | 120 | 1.0 | 20 | |
| **Sample ID: C12040804-020ADIL** | 7 | Serial Dilution | | | | Run: ICPMS2-C_120426A | | | 04/26/12 19:16 | |
| Arsenic | | 0.0094 | mg/L | 0.0050 | | 0 | 0 | 7.4 | 20 | |
| Barium | | 5.7 | mg/L | 0.050 | | 0 | 0 | 4.0 | 20 | |
| Cadmium | | 0.00065 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Chromium | | 0.030 | mg/L | 0.0050 | | 0 | 0 | 11 | 20 | |
| Lead | | 0.027 | mg/L | 0.0050 | | 0 | 0 | 1.5 | 20 | |
| Selenium | | 0.011 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Silver | | ND | mg/L | 0.010 | | 0 | 0 | | 20 | |
| **Sample ID: C12040804-019AMS3** | 7 | Sample Matrix Spike | | | | Run: ICPMS2-C_120426A | | | 04/26/12 19:49 | |
| Arsenic | | 0.45 | mg/L | 0.0010 | 89 | 75 | 125 | | | |
| Barium | | 0.65 | mg/L | 0.050 | 100 | 75 | 125 | | | |
| Cadmium | | 0.23 | mg/L | 0.0010 | 93 | 75 | 125 | | | |
| Chromium | | 0.45 | mg/L | 0.0050 | 87 | 75 | 125 | | | |
| Lead | | 0.51 | mg/L | 0.0010 | 102 | 75 | 125 | | | |
| Selenium | | 0.41 | mg/L | 0.0010 | 81 | 75 | 125 | | | |
| Silver | | 0.049 | mg/L | 0.0020 | 20 | 75 | 125 | | | S |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.

S - Spike recovery outside of advisory limits.

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/05/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12040804

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | Analytical Run: ICPMS2-C_120501A | |
| **Sample ID: ICV** | 8 | Initial Calibration Verification Standard | | | | | | | 05/01/12 13:14 | |
| Arsenic | | 0.0490 | mg/L | 0.0010 | 98 | 90 | 110 | | | |
| Barium | | 0.0486 | mg/L | 0.0010 | 97 | 90 | 110 | | | |
| Cadmium | | 0.0491 | mg/L | 0.0010 | 98 | 90 | 110 | | | |
| Chromium | | 0.0501 | mg/L | 0.0010 | 100 | 90 | 110 | | | |
| Lead | | 0.0483 | mg/L | 0.0010 | 97 | 90 | 110 | | | |
| Selenium | | 0.0501 | mg/L | 0.0010 | 100 | 90 | 110 | | | |
| Silver | | 0.0207 | mg/L | 0.0010 | 103 | 90 | 110 | | | |
| Uranium | | 0.0485 | mg/L | 0.00030 | 97 | 90 | 110 | | | |
| **Sample ID: ICSA** | 8 | Interference Check Sample A | | | | | | | 05/01/12 13:16 | |
| Arsenic | | 0.0103 | mg/L | 0.0010 | | | | | | |
| Barium | | 3.16E-05 | mg/L | 0.0010 | | | | | | |
| Cadmium | | 0.0104 | mg/L | 0.0010 | | | | | | |
| Chromium | | 0.0104 | mg/L | 0.0010 | | | | | | |
| Lead | | 3.39E-05 | mg/L | 0.0010 | | | | | | |
| Selenium | | 8.30E-06 | mg/L | 0.0010 | | | | | | |
| Silver | | 0.0108 | mg/L | 0.0010 | | | | | | |
| Uranium | | 6.80E-05 | mg/L | 0.00030 | | | | | | |
| **Sample ID: ICSAB** | 8 | Interference Check Sample AB | | | | | | | 05/01/12 13:19 | |
| Arsenic | | 0.0103 | mg/L | 0.0010 | 103 | 70 | 130 | | | |
| Barium | | 4.64E-05 | mg/L | 0.0010 | | | | | | |
| Cadmium | | 0.0106 | mg/L | 0.0010 | 106 | 70 | 130 | | | |
| Chromium | | 0.0105 | mg/L | 0.0010 | 105 | 70 | 130 | | | |
| Lead | | 3.92E-05 | mg/L | 0.0010 | | | | | | |
| Selenium | | 1.39E-05 | mg/L | 0.0010 | | | | | | |
| Silver | | 0.0107 | mg/L | 0.0010 | 107 | 70 | 130 | | | |
| Uranium | | 1.47E-05 | mg/L | 0.00030 | | | | | | |
| **Method: SW6020** | | | | | | | | | Batch: 33487 | |
| **Sample ID: MB-33487** | 8 | Method Blank | | | | Run: ICPMS2-C_120501A | | | 05/01/12 16:23 | |
| Arsenic | | 0.0005 | mg/L | 6E-05 | | | | | | |
| Barium | | 0.008 | mg/L | 3E-05 | | | | | | |
| Cadmium | | 0.0001 | mg/L | 1E-05 | | | | | | |
| Chromium | | 0.006 | mg/L | 4E-05 | | | | | | |
| Lead | | 0.0006 | mg/L | 3E-05 | | | | | | |
| Selenium | | 0.0003 | mg/L | 0.0002 | | | | | | |
| Silver | | 0.001 | mg/L | 3E-05 | | | | | | |
| Uranium | | 0.002 | mg/L | 1E-05 | | | | | | |
| **Sample ID: LCS3-33487** | 8 | Laboratory Control Sample | | | | Run: ICPMS2-C_120501A | | | 05/01/12 16:37 | |
| Arsenic | | 0.48 | mg/L | 0.0010 | 95 | 80 | 120 | | | |
| Barium | | 0.52 | mg/L | 0.050 | 102 | 80 | 120 | | | |
| Cadmium | | 0.25 | mg/L | 0.0010 | 99 | 80 | 120 | | | |
| Chromium | | 0.50 | mg/L | 0.0050 | 98 | 80 | 120 | | | |
| Lead | | 0.52 | mg/L | 0.0010 | 103 | 80 | 120 | | | |

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/05/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12040804

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | | Batch: 33487 |
| **Sample ID: LCS3-33487** | 8 | Laboratory Control Sample | | | | Run: ICPMS2-C_120501A | | | | 05/01/12 16:37 |
| Selenium | | 0.45 | mg/L | 0.0010 | 90 | 80 | 120 | | | |
| Silver | | 0.058 | mg/L | 0.0020 | 113 | 80 | 120 | | | |
| Uranium | | 0.52 | mg/L | 0.00060 | 105 | 80 | 120 | | | |
| **Sample ID: LCSD3-33487** | 8 | Laboratory Control Sample Duplicate | | | | Run: ICPMS2-C_120501A | | | | 05/01/12 16:40 |
| Arsenic | | 0.47 | mg/L | 0.0010 | 93 | 80 | 120 | 2.4 | 20 | |
| Barium | | 0.52 | mg/L | 0.050 | 102 | 80 | 120 | 0.7 | 20 | |
| Cadmium | | 0.24 | mg/L | 0.0010 | 97 | 80 | 120 | 2.0 | 20 | |
| Chromium | | 0.49 | mg/L | 0.0050 | 98 | 80 | 120 | 0.3 | 20 | |
| Lead | | 0.51 | mg/L | 0.0010 | 101 | 80 | 120 | 1.6 | 20 | |
| Selenium | | 0.44 | mg/L | 0.0010 | 89 | 80 | 120 | 1.9 | 20 | |
| Silver | | 0.056 | mg/L | 0.0020 | 109 | 80 | 120 | 3.5 | 20 | |
| Uranium | | 0.51 | mg/L | 0.00060 | 102 | 80 | 120 | 2.2 | 20 | |
| **Sample ID: C12040804-023ADIL** | 8 | Serial Dilution | | | | Run: ICPMS2-C_120501A | | | | 05/01/12 16:48 |
| Arsenic | | 0.0014 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Barium | | 0.060 | mg/L | 0.050 | | 0 | 0 | 10 | 20 | |
| Cadmium | | 0.00043 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Chromium | | 0.011 | mg/L | 0.0050 | | 0 | 0 | 19 | 20 | |
| Lead | | 0.0016 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Selenium | | 0.0027 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Silver | | ND | mg/L | 0.010 | | 0 | 0 | | 20 | |
| Uranium | | 0.0056 | mg/L | 0.0030 | | 0 | 0 | 13 | 20 | |
| **Sample ID: C12040804-023AMS3** | 8 | Sample Matrix Spike | | | | Run: ICPMS2-C_120501A | | | | 05/01/12 16:51 |
| Arsenic | | 0.56 | mg/L | 0.0010 | 112 | 75 | 125 | | | |
| Barium | | 0.65 | mg/L | 0.050 | 119 | 75 | 125 | | | |
| Cadmium | | 0.29 | mg/L | 0.0010 | 115 | 75 | 125 | | | |
| Chromium | | 0.57 | mg/L | 0.0050 | 112 | 75 | 125 | | | |
| Lead | | 0.60 | mg/L | 0.0010 | 119 | 75 | 125 | | | |
| Selenium | | 0.53 | mg/L | 0.0010 | 105 | 75 | 125 | | | |
| Silver | | 0.063 | mg/L | 0.0020 | 25 | 75 | 125 | | | S |
| Uranium | | 0.52 | mg/L | 0.00060 | 102 | 75 | 125 | | | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.

S - Spike recovery outside of advisory limits.

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/05/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12040804

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | Analytical Run: ICPMS2-C_120502A | |
| **Sample ID: ICV** | Initial Calibration Verification Standard | | | | | | | | 05/02/12 11:37 | |
| Uranium | | 0.0486 | mg/L | 0.00030 | 97 | 90 | 110 | | | |
| **Method: SW6020** | | | | | | | | | Batch: 33505 | |
| **Sample ID: MB-33505** | Method Blank | | | | | Run: ICPMS2-C_120502A | | | 05/02/12 13:54 | |
| Uranium | | 0.002 | mg/L | 1E-05 | | | | | | |
| **Sample ID: LCS3-33505** | Laboratory Control Sample | | | | | Run: ICPMS2-C_120502A | | | 05/02/12 13:55 | |
| Uranium | | 0.47 | mg/L | 0.00060 | 93 | 80 | 120 | | | |
| **Sample ID: LCSD3-33505** | Laboratory Control Sample Duplicate | | | | | Run: ICPMS2-C_120502A | | | 05/02/12 13:57 | |
| Uranium | | 0.48 | mg/L | 0.00060 | 96 | 80 | 120 | 2.7 | 20 | |
| **Sample ID: C12040804-020ADIL** | Serial Dilution | | | | | Run: ICPMS2-C_120502A | | | 05/02/12 14:02 | |
| Uranium | | 0.12 | mg/L | 0.0030 | | 0 | 0 | 1.9 | 20 | |
| **Sample ID: C12040804-019AMS3** | Sample Matrix Spike | | | | | Run: ICPMS2-C_120502A | | | 05/02/12 14:22 | |
| Uranium | | 0.50 | mg/L | 0.00060 | 98 | 75 | 125 | | | |

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/05/12
**Report Date:** 06/13/12
**Work Order:** C12040804

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | Analytical Run: ICPMS4-C_120425B | |
| **Sample ID: ICV** | 8 | Initial Calibration Verification Standard | | | | | | | 04/25/12 11:08 | |
| Arsenic | | 0.0486 | mg/L | 0.0010 | 97 | 90 | 110 | | | |
| Barium | | 0.0497 | mg/L | 0.0010 | 99 | 90 | 110 | | | |
| Cadmium | | 0.0501 | mg/L | 0.0010 | 100 | 90 | 110 | | | |
| Chromium | | 0.0491 | mg/L | 0.0010 | 98 | 90 | 110 | | | |
| Lead | | 0.0497 | mg/L | 0.0010 | 99 | 90 | 110 | | | |
| Selenium | | 0.0485 | mg/L | 0.0010 | 97 | 90 | 110 | | | |
| Silver | | 0.0193 | mg/L | 0.0010 | 97 | 90 | 110 | | | |
| Uranium | | 0.0481 | mg/L | 0.00030 | 96 | 90 | 110 | | | |
| **Sample ID: ICSA** | 8 | Interference Check Sample A | | | | | | | 04/25/12 11:12 | |
| Arsenic | | 2.21E-05 | mg/L | 0.0010 | | | | | | |
| Barium | | 2.39E-05 | mg/L | 0.0010 | | | | | | |
| Cadmium | | 4.21E-05 | mg/L | 0.0010 | | | | | | |
| Chromium | | 2.05E-05 | mg/L | 0.0010 | | | | | | |
| Lead | | 1.30E-05 | mg/L | 0.0010 | | | | | | |
| Selenium | | 7.84E-05 | mg/L | 0.0010 | | | | | | |
| Silver | | -0.000229 | mg/L | 0.0010 | | | | | | |
| Uranium | | 2.36E-05 | mg/L | 0.00030 | | | | | | |
| **Sample ID: ICSAB** | 8 | Interference Check Sample AB | | | | | | | 04/25/12 11:17 | |
| Arsenic | | 0.0113 | mg/L | 0.0010 | 113 | 70 | 130 | | | |
| Barium | | 1.46E-05 | mg/L | 0.0010 | | | | | | |
| Cadmium | | 0.0109 | mg/L | 0.0010 | 109 | 70 | 130 | | | |
| Chromium | | 0.0115 | mg/L | 0.0010 | 115 | 70 | 130 | | | |
| Lead | | 5.40E-06 | mg/L | 0.0010 | | | | | | |
| Selenium | | 7.00E-07 | mg/L | 0.0010 | | | | | | |
| Silver | | 0.00988 | mg/L | 0.0010 | 99 | 70 | 130 | | | |
| Uranium | | 8.30E-06 | mg/L | 0.00030 | | | | | | |
| **Method: SW6020** | | | | | | | | | Batch: 33440 | |
| **Sample ID: MB-33440** | 8 | Method Blank | | | | Run: ICPMS4-C_120425B | | | 04/25/12 19:38 | |
| Arsenic | | 0.0004 | mg/L | 7E-05 | | | | | | |
| Barium | | 0.01 | mg/L | 0.0001 | | | | | | |
| Cadmium | | 0.0001 | mg/L | 4E-05 | | | | | | |
| Chromium | | ND | mg/L | 0.001 | | | | | | |
| Lead | | 0.0002 | mg/L | 3E-05 | | | | | | |
| Selenium | | 0.0001 | mg/L | 6E-05 | | | | | | |
| Silver | | 0.001 | mg/L | 2E-05 | | | | | | |
| Uranium | | 0.004 | mg/L | 5E-05 | | | | | | |
| **Sample ID: LCS3-33440** | 8 | Laboratory Control Sample | | | | Run: ICPMS4-C_120425B | | | 04/25/12 19:43 | |
| Arsenic | | 0.46 | mg/L | 0.0010 | 91 | 80 | 120 | | | |
| Barium | | 0.50 | mg/L | 0.050 | 98 | 80 | 120 | | | |
| Cadmium | | 0.24 | mg/L | 0.0010 | 97 | 80 | 120 | | | |
| Chromium | | 0.50 | mg/L | 0.0050 | 101 | 80 | 120 | | | |
| Lead | | 0.51 | mg/L | 0.0010 | 103 | 80 | 120 | | | |

**Qualifiers:**

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/05/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12040804

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | | Batch: 33440 |
| **Sample ID: LCS3-33440** | 8 | Laboratory Control Sample | | | | Run: ICPMS4-C_120425B | | | 04/25/12 19:43 | |
| Selenium | | 0.44 | mg/L | 0.0010 | 87 | 80 | 120 | | | |
| Silver | | 0.053 | mg/L | 0.0010 | 104 | 80 | 120 | | | |
| Uranium | | 0.50 | mg/L | 0.00030 | 99 | 80 | 120 | | | |
| **Sample ID: LCSD3-33440** | 8 | Laboratory Control Sample Duplicate | | | | Run: ICPMS4-C_120425B | | | 04/25/12 20:05 | |
| Arsenic | | 0.47 | mg/L | 0.0010 | 94 | 80 | 120 | 2.8 | 20 | |
| Barium | | 0.50 | mg/L | 0.050 | 99 | 80 | 120 | 1.0 | 20 | |
| Cadmium | | 0.25 | mg/L | 0.0010 | 98 | 80 | 120 | 1.0 | 20 | |
| Chromium | | 0.52 | mg/L | 0.0050 | 104 | 80 | 120 | 3.4 | 20 | |
| Lead | | 0.51 | mg/L | 0.0010 | 103 | 80 | 120 | 0.0 | 20 | |
| Selenium | | 0.44 | mg/L | 0.0010 | 89 | 80 | 120 | 1.5 | 20 | |
| Silver | | 0.054 | mg/L | 0.0010 | 106 | 80 | 120 | 1.7 | 20 | |
| Uranium | | 0.51 | mg/L | 0.00030 | 100 | 80 | 120 | 1.0 | 20 | |
| **Sample ID: C12041044-002ADIL** | 8 | Serial Dilution | | | | Run: ICPMS4-C_120425B | | | 04/25/12 20:19 | |
| Arsenic | | 0.0017 | mg/L | 0.0010 | | 0 | 0 | | 20 | N |
| Barium | | 0.065 | mg/L | 0.050 | | 0 | 0 | 2.8 | 20 | |
| Cadmium | | ND | mg/L | 0.0010 | | 0 | 0 | | 20 | |
| Chromium | | ND | mg/L | 0.011 | | 0 | 0 | | 20 | |
| Lead | | 0.0028 | mg/L | 0.0010 | | 0 | 0 | | 20 | N |
| Selenium | | ND | mg/L | 0.0010 | | 0 | 0 | | 20 | |
| Silver | | ND | mg/L | 0.0010 | | 0 | 0 | | 20 | |
| Uranium | | 0.010 | mg/L | 0.00052 | | 0 | 0 | 5.8 | 20 | |
| **Sample ID: C12040804-028AMS3** | 8 | Sample Matrix Spike | | | | Run: ICPMS4-C_120425B | | | 04/25/12 20:28 | |
| Arsenic | | 0.49 | mg/L | 0.0010 | 97 | 75 | 125 | | | |
| Barium | | 0.77 | mg/L | 0.050 | 91 | 75 | 125 | | | |
| Cadmium | | 0.25 | mg/L | 0.0010 | 101 | 75 | 125 | | | |
| Chromium | | 0.54 | mg/L | 0.0050 | 107 | 75 | 125 | | | |
| Lead | | 0.53 | mg/L | 0.0010 | 105 | 75 | 125 | | | |
| Selenium | | 0.68 | mg/L | 0.0010 | 97 | 75 | 125 | | | |
| Silver | | 0.054 | mg/L | 0.0010 | 22 | 75 | 125 | | | S |
| Uranium | | 11 | mg/L | 0.00030 | | 75 | 125 | | | A |
| **Sample ID: C12041044-001AMS3** | 8 | Sample Matrix Spike | | | | Run: ICPMS4-C_120425B | | | 04/25/12 21:40 | |
| Arsenic | | 0.48 | mg/L | 0.0010 | 94 | 75 | 125 | | | |
| Barium | | 0.68 | mg/L | 0.050 | 102 | 75 | 125 | | | |
| Cadmium | | 0.25 | mg/L | 0.0010 | 98 | 75 | 125 | | | |
| Chromium | | 0.55 | mg/L | 0.0050 | 107 | 75 | 125 | | | |
| Lead | | 0.54 | mg/L | 0.0010 | 105 | 75 | 125 | | | |
| Selenium | | 0.46 | mg/L | 0.0010 | 92 | 75 | 125 | | | |
| Silver | | 0.053 | mg/L | 0.0010 | 21 | 75 | 125 | | | S |
| Uranium | | 0.60 | mg/L | 0.00030 | 104 | 75 | 125 | | | |

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

A - The analyte level was greater than four times the spike level. In accordance with the method % recovery is not calculated.

MDC - Minimum detectable concentration

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/05/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12040804

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW7470A** | | | | | | | | | | Analytical Run: CVAA_C203_120519A |
| **Sample ID: ICV** | | Initial Calibration Verification Standard | | | | | | | | 05/19/12 07:43 |
| Mercury | | 0.00500 | mg/L | 0.00010 | 100 | 90 | 110 | | | |
| **Method: SW7470A** | | | | | | | | | | Batch: 33699 |
| **Sample ID: MB-33699** | | Method Blank | | | | Run: CVAA_C203_120519A | | | | 05/19/12 07:48 |
| Mercury | | ND | mg/L | 3E-05 | | | | | | |
| **Sample ID: LCS-33699** | | Laboratory Control Sample | | | | Run: CVAA_C203_120519A | | | | 05/19/12 07:49 |
| Mercury | | 0.0052 | mg/L | 0.0020 | 103 | 85 | 115 | | | |
| **Sample ID: LCSD-33699** | | Laboratory Control Sample Duplicate | | | | Run: CVAA_C203_120519A | | | | 05/19/12 07:50 |
| Mercury | | 0.0052 | mg/L | 0.0020 | 104 | 85 | 115 | 0.9 | 10 | |
| **Sample ID: C12040804-001ASD** | | Serial Dilution | | | | Run: CVAA_C203_120519A | | | | 05/19/12 07:53 |
| Mercury | | ND | mg/L | 0.0020 | | | | | 10 | |
| **Sample ID: C12040804-001AMS** | | Sample Matrix Spike | | | | Run: CVAA_C203_120519A | | | | 05/19/12 07:54 |
| Mercury | | 0.0051 | mg/L | 0.0020 | 102 | 85 | 115 | | | |
| **Method: SW7470A** | | | | | | | | | | Batch: 33700 |
| **Sample ID: MB-33700** | | Method Blank | | | | Run: CVAA_C203_120519A | | | | 05/19/12 08:27 |
| Mercury | | ND | mg/L | 3E-05 | | | | | | |
| **Sample ID: LCS-33700** | | Laboratory Control Sample | | | | Run: CVAA_C203_120519A | | | | 05/19/12 08:28 |
| Mercury | | 0.0050 | mg/L | 0.0020 | 100 | 85 | 115 | | | |
| **Sample ID: LCSD-33700** | | Laboratory Control Sample Duplicate | | | | Run: CVAA_C203_120519A | | | | 05/19/12 08:29 |
| Mercury | | 0.0053 | mg/L | 0.0020 | 107 | 85 | 115 | 6.0 | 10 | |
| **Sample ID: C12040804-011ASD** | | Serial Dilution | | | | Run: CVAA_C203_120519A | | | | 05/19/12 08:32 |
| Mercury | | ND | mg/L | 0.0020 | | | | | 10 | |
| **Sample ID: C12040804-011AMS** | | Sample Matrix Spike | | | | Run: CVAA_C203_120519A | | | | 05/19/12 08:36 |
| Mercury | | 0.0050 | mg/L | 0.0020 | 101 | 85 | 115 | | | |
| **Method: SW7470A** | | | | | | | | | | Batch: 33701 |
| **Sample ID: MB-33701** | | Method Blank | | | | Run: CVAA_C203_120519A | | | | 05/19/12 08:47 |
| Mercury | | ND | mg/L | 3E-05 | | | | | | |
| **Sample ID: LCS-33701** | | Laboratory Control Sample | | | | Run: CVAA_C203_120519A | | | | 05/19/12 08:48 |
| Mercury | | 0.0050 | mg/L | 0.0020 | 100 | 85 | 115 | | | |
| **Sample ID: LCSD-33701** | | Laboratory Control Sample Duplicate | | | | Run: CVAA_C203_120519A | | | | 05/19/12 08:52 |
| Mercury | | 0.0050 | mg/L | 0.0020 | 100 | 85 | 115 | 0.0 | 10 | |
| **Sample ID: C12040804-019ASD** | | Serial Dilution | | | | Run: CVAA_C203_120519A | | | | 05/19/12 08:55 |
| Mercury | | ND | mg/L | 0.0020 | | | | | 10 | |
| **Sample ID: C12040804-019AMS** | | Sample Matrix Spike | | | | Run: CVAA_C203_120519A | | | | 05/19/12 08:56 |
| Mercury | | 0.0053 | mg/L | 0.0020 | 105 | 85 | 115 | | | |

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/05/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12040804

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW7470A** | | | | | | | | | | Batch: 33702 |
| **Sample ID: MB-33702** | | Method Blank | | | | Run: CVAA_C203_120519A | | | | 05/19/12 09:11 |
| Mercury | | ND | mg/L | 3E-05 | | | | | | |
| **Sample ID: LCS-33702** | | Laboratory Control Sample | | | | Run: CVAA_C203_120519A | | | | 05/19/12 09:12 |
| Mercury | | 0.0051 | mg/L | 0.0020 | 103 | 85 | 115 | | | |
| **Sample ID: LCSD-33702** | | Laboratory Control Sample Duplicate | | | | Run: CVAA_C203_120519A | | | | 05/19/12 09:13 |
| Mercury | | 0.0051 | mg/L | 0.0020 | 101 | 85 | 115 | 1.8 | 10 | |
| **Sample ID: C12040804-028ASD** | | Serial Dilution | | | | Run: CVAA_C203_120519A | | | | 05/19/12 09:16 |
| Mercury | | ND | mg/L | 0.0020 | | | | | 10 | |
| **Sample ID: C12040804-028AMS** | | Sample Matrix Spike | | | | Run: CVAA_C203_120519A | | | | 05/19/12 09:17 |
| Mercury | | 0.0052 | mg/L | 0.0020 | 103 | 85 | 115 | | | |

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

# Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

# Workorder Receipt Checklist

## Rio Grande Resources Corporation C12040804

Login completed by: Kristy Gisse
Date Received: 4/13/2012

Reviewed by: BL2000\tedwards
Received by: kg

Reviewed Date: 4/24/2012
Carrier name: FedEx

| | | | |
|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on shipping container/cooler? | Yes ☐ | No ☐ | Not Present ☑ |
| Custody seals intact on sample bottles? | Yes ☐ | No ☐ | Not Present ☑ |
| Chain of custody present? | Yes ☑ | No ☐ | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | |
| Sample containers intact? | Yes ☑ | No ☐ | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | |
| All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes ☑ | No ☐ | |
| Container/Temp Blank temperature: | 18.2°C | | |
| Water - VOA vials have zero headspace? | Yes ☐ | No ☐ | No VOA vials submitted ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☐ | Not Applicable ☑ |

Contact and Corrective Action Comments:

None

# Chain of Custody and Analytical Request Record

E3888 Page 1 of 4

PLEASE PRINT- Provide as much information as possible.

| | | | |
|---|---|---|---|
| Company Name: Rio Grande Resources Corp | Project Name, PWS, Permit, Etc.: Mt. Taylor Mine Closure Plan | Sample Origin: State: NM | EPA/State Compliance: Yes ☒ No ☐ |
| Report Mail Address: PO Box 1150, Grants, NM 87020. Additional e-mail copy to beverett@kleinfelder.com | Contact Name: Barbara Everett (Kleinfelder) Phone/Fax: (505) 344-7373 (505) 280-1079 (Cell) | Email: beverett@kleinfelder.com | Sampler: (Please Print) Barbara Everett, Ed Loescher |
| Invoice Address: PO Box 1150, Grants, NM 87020 | Invoice Contact & Phone: Jeanette Lister 505-287-7971 | Purchase Order: | Quote/Bottle Order: C3778. Kerry Schoeder 928-235-0515 |

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ GSA ☐ POTW/WWTP ☑ State: NM ☐ Other: _____
☐ A2LA ☒ EDD/EDT (Electronic Data) Format: excel ☐ LEVEL IV ☐ NELAC

Number of Containers. Sample Type: A Air, W Water, S Soils/Solids, V Vegetation, B Bioassay, O Other

ANALYSIS REQUESTED

| SAMPLE IDENTIFICATION (Name, Location, Interval, etc.) | Collection Date | Collection Time | MATRIX | SPLP Extract | RCRA Metals + Uranium | Ra226 & Ra228 | Cl & SO4 by IC 300.0 | ~~TCL~~ BG 4/11/12 | SEE ATTACHED | Normal Turnaround (TAT) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 S1-01-01 | 4-10-12 | 10:45 | Sediment | X | X | X | | | | X |
| 2 S1-01-02 | 4-10-12 | 10:50 | Sediment | X | X | X | | | | X |
| 3 S1-01-03 | 4-10-12 | 11:00 | Sediment | X | X | X | | | | X |
| 4 S1-02-01 | 4-10-12 | 11:40 | Sediment | X | X | X | | | | X |
| 5 S1-02-02 | 4-10-12 | 11:43 | Sediment | X | X | X | | | | X |
| 6 S1-02-03 | 4-10-12 | 11:45 | Sediment | X | X | X | | | | X |
| 7 SA-01-01 | 4-10-12 | 11:30 | Sediment | X | X | X | | | | X |
| 8 SA-01-02 | 4-10-12 | 11:35 | Sediment | X | X | X | | | | X |
| 9 SA-01-03 | 4-10-12 | 11:45 | Sediment | X | X | X | | | | X |
| 10 SA-02-01 | 4-10-12 | 11:48 | Sediment | X | X | X | | | | X |

RUSH

Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Comments: FED EX TRACK # 8735 9342 9785 (KW)

Shipped by: FED-EX
Cooler ID(s):
Receipt Temp: 18.2 °C
On Ice: Yes (No)
Custody Seal Y (N)
Intact Y N
Signature Match Y N

LABORATORY USE ONLY C12040804

**Custody Record MUST be Signed**

Relinquished by (print): BARBARA EVERETT Date/Time: 4/11/12 12:00 Signature:
Relinquished by (print): KENTON WATTS Date/Time: 4-12-12 @ 0930 Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: X

Received by (print): KENTON WATTS Date/Time: 4-12-12 @ 0700 Signature:
Received by (print): Date/Time: Signature:
Received by Laboratory: Date/Time: Kris 6:55C 4-13-12 9:40 Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, ...

Page 58 of 61

# Chain of Custody and Analytical Request Record

C-3888



**PLEASE PRINT- Provide as much information as possible.**

| | | | |
|---|---|---|---|
| Company Name: Rio Grande Resources Corp | Project Name, PWS, Permit, Etc.: Mt. Taylor Mine Closure Plan | Sample Origin: State: NM | EPA/State Compliance: Yes ☒ No ☐ |
| Report Mail Address: PO Box 1150, Grants, NM 87020. Additional e-mail copy to beverett@kleinfelder.com | Contact Name: Barbara Everett (Kleinfelder) Phone/Fax: (505) 344-7373 (505) 280-1079 (Cell) | Email: beverett@kleinfelder.com | Sampler: (Please Print) Barbara Everett, Ed Loescher |
| Invoice Address: PO Box 1150, Grants, NM 87020 | Invoice Contact & Phone: Jeanette Lister 505-287-7971 | Purchase Order: | Quote/Bottle Order: C3778 |

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA ☒ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: excel
☑ State: NM ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

RUSH — Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Comments: FED EX TRACK # 8735 9342 9785 (KW)

Shipped by: FE-EX
Cooler ID(s):
Receipt Temp: 18.2 °C
On Ice: Yes (No)
Custody Seal Y (N) Intact Y N Signature Match Y N

| SAMPLE IDENTIFICATION (Name, Location, Interval, etc.) | Collection Date | Collection Time | MATRIX | Number of Containers (Sample Type: A Air, W Water, S Soils/Solids, V Vegetation, B Bioassay, O Other) | SPLP Extract | RCRA Metals + Uranium | Ra226 & Ra228 | Cl & SO4 by IC 300.0 | RCI | SEE ATTACHED | Normal Turnaround (TAT) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ✓ 1 SA-02-02 | 4/10/12 | 11:48 | Sediment | | X | X | X | | | | X |
| ✓ 2 SA-02-03 | 4/10/12 | 11:48 | Sediment | | X | X | X | | | | X |
| ✓ 3 SB-01-01 | 4/10/12 | 13:00 | Sediment | | X | X | X | X | | | X |
| ✓ 4 SB-01-02 | 4/10/12 | 13:09 | Sediment | | X | X | X | X | | | X |
| ✓ 5 SB-01-03 | 4/10/12 | 13:09 | Sediment | | X | X | X | X | | | X |
| ✓ 6 SB-02-01 | 4/10/12 | 13:26 | Sediment | | X | X | X | X | | | X |
| ✓ 7 SB-02-02 | 4/10/12 | 13:36 | Sediment | | X | X | X | X | | | X |
| ✓ 8 SB-02-03 | 4/10/12 | 13:36 | Sediment | | X | X | X | X | | | X |
| ✓ 9 SB-02-04 | 4/10/12 | 13:39 | Sediment | | X | X | X | X | | | X |
| ✓ 10 SS-01-01 | 4/10/12 | 14:05 | Sediment | | X | X | X | X | | | X |

LABORATORY USE ONLY — L12040804

**Custody Record MUST be Signed**

| | | | | |
|---|---|---|---|---|
| Relinquished by (print): BARBARA EVERETT | Date/Time: 4/11/12 12:00 | Signature: | Received by (print): KENTON WATTS | Date/Time: 4-12-12 @ 0700 |
| Relinquished by (print): KENTON WATTS | Date/Time: 4-12-12 @ 0930 | Signature: | Received by (print): | Date/Time: |
| Sample Disposal: Return to Client: _____ Lab Disposal: ✓ | | | Received by Laboratory: | Date/Time: 4-13-12 9:40 |

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

# Chain of Custody and Analytical Request Record

C2496



PLEASE PRINT- Provide as much information as possible.

| | | | |
|---|---|---|---|
| Company Name: Rio Grande Resources Corp | Project Name, PWS, Permit, Etc. Mt. Taylor Mine Closure Plan | Sample Origin State: NM | EPA/State Compliance: Yes ☒ No ☐ |
| Report Mail Address: PO Box 1150 Grants, NM 87020 Additional e-mail copy to beverett@kleinfelder.com | Contact Name: Barbara Everett (Kleinfelder) Phone/Fax: (505) 344-7373 (505) 280-1079 (Cell) | Email: beverett@kleinfelder.com | Sampler: (Please Print) Barbara Everett Ed Loescher |
| Invoice Address: PO Box 1150 Grants, NM 87020 | Invoice Contact & Phone: Jeanette Lister 505-287-7971 | Purchase Order: | Quote/Bottle Order: C3778 |

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☑ State: NM
- ☐ Other: _____
- ☐ A2LA
- ☒ EDD/EDT (Electronic Data) Format: excel
- ☐ LEVEL IV
- ☐ NELAC

Number of Containers
Sample Type: A Air W Water S Soils/Solids V Vegetation B Bioassay O Other

ANALYSIS REQUESTED

| SAMPLE IDENTIFICATION (Name, Location, Interval, etc.) | Collection Date | Collection Time | MATRIX | SPLP Extract | RCRA Metals + Uranium | Ra226 & Ra228 | Cl & SO4 by IC 300.0 | RCL | SEE ATTACHED | Normal Turnaround (TAT) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 S7-01-01 • | 4/10/12 | 15:12 | Sediment | X | X | X | | | | X |
| 2 S7-01-02 • | 4/10/12 | 15:17 | Sediment | X | X | X | | | | X |
| 3 S7-01-03 • | 4/10/12 | 15:22 | Sediment | X | X | X | | | | X |
| 4 S5-02-02 • | 4/10/12 | 14:15 | Sediment | X | X | X | X | | | X |
| 5 S5-02-03 • | 4/10/12 | 14:20 | Sediment | X | X | X | X | | | X |
| 6 S5-02-01 • | 4/10/12 | 14:30 | Sediment | X | X | X | X | | | X |
| 7 ~~S5-02~~ | | | ~~Sediment~~ | | | | | | | X |
| 8 S5-01-02 • | 4/10/12 | 14:09 | Sediment | X | X | X | X | | | X |
| 9 | | | Sediment | | | | | | | X |
| 10 | | | Sediment | | | | | | | X |

R U S H — Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: FEDEX TRACK # 8747 6695 1300

Shipped by: FE-EX

Cooler ID(s):

Receipt Temp 18.2 °C

On Ice: Yes (No)

Custody Seal Y (N)
Intact Y N
Signature Match Y N

LABORATORY USE ONLY

C12040804

**Custody Record MUST be Signed**

| | | | |
|---|---|---|---|
| Relinquished by (print): BARBARA EVERETT | Date/Time: 4/11/12 12:00 | Signature: | Received by (print): KENTON WATTS |
| Relinquished by (print): KENTON WATTS | Date/Time: 4-12-12 @ 0930 | Signature: | Received by (print): |
| Sample Disposal: Return to Client: _____ Lab Disposal: Y | | | Received by Laboratory: 4.13.12 9:40 |

Date/Time: 4-12-12 @ 0700 Signature:

Date/Time: Signature:

Signature:

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

# Chain of Custody and Analytical Request Record

C2496



**PLEASE PRINT- Provide as much information as possible.**

| | | | |
|---|---|---|---|
| Company Name: Rio Grande Resources Corp | Project Name, PWS, Permit, Etc. Mt. Taylor Mine Closure Plan | Sample Origin State: NM | EPA/State Compliance: Yes ☒ No ☐ |
| Report Mail Address: PO Box 1150 Grants, NM 87020 Additional e-mail copy to beverett@kleinfelder.com | Contact Name: Barbara Everett (Kleinfelder) Phone/Fax: (505) 344-7373 (505) 280-1079 (Cell) | Email: beverett@kleinfelder.com | Sampler: (Please Print) Barbara Everett Ed Loescher |
| Invoice Address: PO Box 1150 Grants, NM 87020 | Invoice Contact & Phone: Jeanette Lister 505-287-7971 | Purchase Order: | Quote/Bottle Order: C3778 |

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☑ State: NM
- ☐ Other: _____
- ☐ A2LA
- ☒ EDD/EDT (Electronic Data) Format: excel
- ☐ LEVEL IV
- ☐ NELAC

Number of Containers
Sample Type: A W S V B O
Air Water Soils/Solids Vegetation Bioassay Other

ANALYSIS REQUESTED

| SAMPLE IDENTIFICATION (Name, Location, Interval, etc.) | Collection Date | Collection Time | MATRIX | SPLP Extract | RCRA Metals + Uranium | Ra226 & Ra228 | Cl & SO4 by IC 300.0 | RCI | | | | | SEE ATTACHED | Normal Turnaround (TAT) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 S3-01-01 • | 4/10/12 | 0915 | Sediment | X | X | X | | | | | | | | X |
| 2 S3-01-02 • | 4/10/12 | 0850 | Sediment | X | X | X | | | | | | | | X |
| 3 S3-01-03 • | 4/10/12 | 0940 | Sediment | X | X | X | | | | | | | | X |
| 4 S3-02-01 • | 4/10/12 | 10:22 | Sediment | X | X | X | | | | | | | | X |
| 5 S3-02-02 | 4/10/12 | 10:30 | Sediment | X | X | X | | | | | | | | X |
| 6 S3-02-03 • (KW PER LABEL, BM) | 4/10/12 | 10:30 | Sediment | X | X | X | | | | | | | | X |
| 7 S7-02-01 • | 4/10/12 | 15:45 | Sediment | X | X | X | | | | | | | | X |
| 8 S7-02-02 • | 4/10/12 | 15:50 | Sediment | X | X | X | | | | | | | | X |
| 9 S7-02-03 • | 4/10/12 | 15:55 | Sediment | X | X | X | | | | | | | | X |
| 10 S3-01-04 • | 4/10/12 | 0946 | Sediment | X | X | X | | | | | | | | X |

**RUSH**

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

FED EX TRACK # 8747 6695 1300

HOLD PENDING (KW) CONFERM, BY B. EVERETT

Shipped by: FE-Ex

Cooler ID(s):

Receipt Temp: 12.2 °C

On Ice: Yes (No)

Custody Seal Y (N)
Intact Y N
Signature Match Y N

LABORATORY USE ONLY

(1204030)

**Custody Record MUST be Signed**

| | Relinquished by (print): | Date/Time: | Signature: | Received by (print): | Date/Time: | Signature: |
|---|---|---|---|---|---|---|
| 1 | BARBARA EVERETT | 4/11/12 | | KENTON WATTS | 4-12-12 @ 0700 | |
| 2 | KENTON WATTS | 4-12-12 @ 0930 | | Received by (print): | Date/Time: | Signature: |
| | Sample Disposal: Return to Client: _____ | Lab Disposal: X | | Received by Laboratory: | Date/Time: 4-13-12 9:40 | Signature: |

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

# ANALYTICAL SUMMARY REPORT

July 10, 2012

Rio Grande Resources Corporation
PO Box 1150
Grants, NM 87020

Workorder No.: C12041044 Quote ID: C3778 - Mt Taylor Mine Closure Plan

Project Name: Mt. Taylor Mine Closure Plan

Energy Laboratories, Inc. Casper WY received the following 28 samples for Rio Grande Resources Corporation on 4/20/2012 for analysis.

| Sample ID | Client Sample ID | Collect Date | Receive Date | Matrix | Test |
|---|---|---|---|---|---|
| C12041044-001 | MT-1-F (6" B.G.) | 04/10/12 10:45 | 04/20/12 | Sediment | Metals, SPLP Extractable<br>Mercury, SPLP<br>Mercury Analysis Prep<br>Filterability<br>Digestion, Total Metals<br>Digestion For RadioChemistry<br>Radium 226<br>Radium 228<br>SPLP Extraction, Regular |
| C12041044-002 | MT-2-D (6" B.G.) | 04/10/12 10:15 | 04/20/12 | Sediment | Same As Above |
| C12041044-003 | MT-3-F (6" B.G.) | 04/10/12 11:10 | 04/20/12 | Sediment | Same As Above |
| C12041044-004 | MT-4-F (6" B.G.) | 04/10/12 9:35 | 04/20/12 | Sediment | Metals, SPLP Extractable<br>Mercury, SPLP<br>Mercury Analysis Prep<br>Filterability<br>E300.0 Anions<br>Digestion, Total Metals<br>Digestion For RadioChemistry<br>DI Water Soil Extract<br>Radium 226<br>Radium 228<br>SPLP Extraction, Regular |
| C12041044-005 | MT-5-F (6" B.G.) | 04/10/12 10:00 | 04/20/12 | Sediment | Same As Above |
| C12041044-006 | MT-7-C (6" B.G.) | 04/10/12 9:45 | 04/20/12 | Sediment | Metals, SPLP Extractable<br>Mercury, SPLP<br>Mercury Analysis Prep<br>Filterability<br>Digestion, Total Metals<br>Digestion For RadioChemistry<br>Radium 226<br>Radium 228<br>SPLP Extraction, Regular |
| C12041044-007 | MT-OP-E (6" B.G.) | 04/10/12 9:00 | 04/20/12 | Sediment | Same As Above |
| C12041044-008 | MT-A-C (6" B.G.) | 04/10/12 10:55 | 04/20/12 | Sediment | Same As Above |
| C12041044-009 | MT-Borrow/Background | 04/10/12 11:00 | 04/20/12 | Sediment | Same As Above |

# ANALYTICAL SUMMARY REPORT

| | | | | | |
|---|---|---|---|---|---|
| C12041044-010 | MT-4-D-S1 (0-6" B.G.) | 04/10/12 14:05 | 04/20/12 | Sediment | Metals, SPLP Extractable<br>Mercury, SPLP<br>Mercury Analysis Prep<br>Filterability<br>E300.0 Anions<br>Digestion, Total Metals<br>Digestion For RadioChemistry<br>DI Water Soil Extract<br>Radium 226<br>Radium 228<br>SPLP Extraction, Regular |
| C12041044-011 | MT-4-D-S2 (14" B.G.) | 04/10/12 14:10 | 04/20/12 | Sediment | Same As Above |
| C12041044-012 | MT-4-D-S3 (48" B.G.) | 04/10/12 14:20 | 04/20/12 | Sediment | Same As Above |
| C12041044-013 | MT-4-E-S1 (0-4" B.G.) | 04/10/12 13:35 | 04/20/12 | Sediment | Same As Above |
| C12041044-014 | MT-4-E-S2 (10-12" B.G.) | 04/10/12 13:40 | 04/20/12 | Sediment | Same As Above |
| C12041044-015 | MT-4-E-S3 (36" B.G.) | 04/10/12 13:42 | 04/20/12 | Sediment | Same As Above |
| C12041044-016 | MT-4-E-S4 (48" B.G.) | 04/10/12 13:45 | 04/20/12 | Sediment | Same As Above |
| C12041044-017 | MT-6-A-S1 (0-5" B.G.) | 04/10/12 15:05 | 04/20/12 | Sediment | Metals, SPLP Extractable<br>Mercury, SPLP<br>Mercury Analysis Prep<br>Filterability<br>Digestion, Total Metals<br>Digestion For RadioChemistry<br>Radium 226<br>Radium 228<br>SPLP Extraction, Regular |
| C12041044-018 | MT-6-A-S2 (12-20" B.G.) | 04/10/12 15:10 | 04/20/12 | Sediment | Same As Above |
| C12041044-019 | MT-6-B-S1 (8-10" B.G.) | 04/10/12 14:30 | 04/20/12 | Sediment | Same As Above |
| C12041044-020 | MT-6-B-S2 (30" B.G.) | 04/10/12 14:35 | 04/20/12 | Sediment | Same As Above |
| C12041044-021 | MT-OP-C-S1 (0-6" B.G.) | 04/10/12 13:20 | 04/20/12 | Sediment | Same As Above |
| C12041044-022 | MT-OP-C-S2 (20" B.G.) | 04/10/12 13:25 | 04/20/12 | Sediment | Same As Above |
| C12041044-023 | MT-OP-C-S3 (48-50' B.G.) | 04/10/12 13:25 | 04/20/12 | Sediment | Same As Above |
| C12041044-024 | MT-OP-C-S4 (72" B.G.) | 04/10/12 13:30 | 04/20/12 | Sediment | Same As Above |
| C12041044-025 | MT-OP-D-S1 (0-6" B.G.) | 04/10/12 12:45 | 04/20/12 | Sediment | Same As Above |
| C12041044-026 | MT-OP-D-S2 (48-50" B.G.) | 04/10/12 12:45 | 04/20/12 | Sediment | Same As Above |
| C12041044-027 | MT-OP-D-S3 (76" B.G.) | 04/10/12 12:50 | 04/20/12 | Sediment | Same As Above |
| C12041044-028 | MT-8-F (6" B.G.) | 04/10/12 9:25 | 04/20/12 | Sediment | Metals, SPLP Extractable<br>Mercury, SPLP<br>Mercury Analysis Prep<br>Filterability<br>E300.0 Anions<br>Digestion, Total Metals<br>Digestion For RadioChemistry<br>DI Water Soil Extract<br>Radium 226<br>Radium 228<br>SPLP Extraction, Regular |

# ANALYTICAL SUMMARY REPORT

The results as reported relate only to the item(s) submitted for testing. The analyses presented in this report were performed at Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Radiochemistry analyses were performed at Energy Laboratories, Inc., 2325 Kerzell Lane, Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these test results, please call.

Report Approved By:

**CLIENT:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Sample Delivery Group:** C12041044

**Revised Date:** 07/10/12
**Report Date:** 06/13/12

# CASE NARRATIVE

REVISED/SUPPLEMENTAL REPORT
The attached analytical report has been revised from a previously submitted report due to the request by the client for the analysis of Radium 226 and Radium 228 on the Sediment on all samples and Chloride and Sulfate on the Sediment on samples -004 through -005, -010 through -016, and -028. The data presented here is from that analysis.

PREP COMMENTS
The prep hold time for the SPLP extraction was exceeded by up to 6 days.
The prep hold time for Chloride and Sulfate analysis was exceeded by 39 days.

ORIGINAL SAMPLE SUBMITTAL(S)
All original sample submittals have been returned with the data package.

SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)
Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

GROSS ALPHA ANALYSIS
Method 900.0 for gross alpha and gross beta is intended as a drinking water method for low TDS waters. Data provided by this method for non potable waters should be viewed as inconsistent.

RADON IN AIR ANALYSIS
The desired exposure time is 48 hours (2 days). The time delay in returning the canister to the laboratory for processing should be as short as possible to avoid excessive decay. Maximum recommended delay between end of exposure to beginning of counting should not exceed 8 days.

SOIL/SOLID SAMPLES
All samples reported on an as received basis unless otherwise indicated.

ATRAZINE, SIMAZINE AND PCB ANALYSIS
Data for PCBs, Atrazine and Simazine are reported from EPA 525.2. PCB data reported by ELI reflects the results for seven individual Aroclors. When the results for all seven are ND (not detected), the sample meets EPA compliance criteria for PCB monitoring.

SUBCONTRACTING ANALYSIS
Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

BRANCH LABORATORY LOCATIONS
eli-b - Energy Laboratories, Inc. - Billings, MT
eli-g - Energy Laboratories, Inc. - Gillette, WY
eli-h - Energy Laboratories, Inc. - Helena, MT
eli-r - Energy Laboratories, Inc. - Rapid City, SD
eli-t - Energy Laboratories, Inc. - College Station, TX

CERTIFICATIONS:
USEPA: WY00002, Radiochemical WY00937; FL-DOH NELAC: E87641, Radiochemical E871017; California: 02118CA; Oregon: WY200001, Radiochemical WY200002; Utah: WY00002; Virginia: 00057; Washington: C836

ISO 17025 DISCLAIMER:
The results of this Analytical Report relate only to the items submitted for analysis.

ENERGY LABORATORIES, INC. - CASPER,WY certifies that certain method selections contained in this report meet requirements as set forth by the above accrediting authorities. Some results requested by the client may not be covered under these certifications. All analysis data to be submitted for regulatory enforcement should be certified in the sample state of origin. Please verify ELI's certification coverage by visiting www.energylab.com

ELI appreciates the opportunity to provide you with this analytical service. For additional information and services visit our web page www.energylab.com.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-001
**Client Sample ID:** MT-1-F (6" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 10:45
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.006 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:35 / smm |
| Barium | 0.17 | mg/L | | 0.05 | | SW6020 | 04/25/12 21:35 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 21:35 / smm |
| Chromium | 0.014 | mg/L | | 0.005 | | SW6020 | 04/25/12 21:35 / smm |
| Lead | 0.016 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:35 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/26/12 12:36 / rdw |
| Selenium | 0.005 | mg/L | | 0.001 | | SW6020 | 04/25/12 21:35 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 21:35 / smm |
| Uranium | 0.077 | mg/L | B | 0.0003 | | SW6020 | 04/25/12 21:35 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 2.0 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 228 | 0.6 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-002
**Client Sample ID:** MT-2-D (6" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 10:15
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.002 | mg/L | | 0.001 | | SW6020 | 04/25/12 20:14 / smm |
| Barium | 0.06 | mg/L | | 0.05 | | SW6020 | 04/25/12 20:14 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 20:14 / smm |
| Chromium | 0.005 | mg/L | | 0.005 | | SW6020 | 04/25/12 20:14 / smm |
| Lead | 0.003 | mg/L | | 0.001 | | SW6020 | 04/25/12 20:14 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/26/12 12:43 / rdw |
| Selenium | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 20:14 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 04/25/12 20:14 / smm |
| Uranium | 0.0098 | mg/L | B | 0.0003 | | SW6020 | 04/25/12 20:14 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 0.6 | pCi/g-dry | | | | E903.0 | 07/03/12 03:34 / plj |
| Radium 226 precision (±) | 0.07 | pCi/g-dry | | | | E903.0 | 07/03/12 03:34 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 03:34 / plj |
| Radium 228 | 0.6 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 17:32 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-003
**Client Sample ID:** MT-3-F (6" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 11:10
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.002 | mg/L | | 0.001 | | SW6020 | 05/01/12 14:24 / cp |
| Barium | ND | mg/L | | 0.05 | | SW6020 | 05/01/12 14:24 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/01/12 14:24 / cp |
| Chromium | ND | mg/L | | 0.005 | | SW6020 | 05/01/12 14:24 / cp |
| Lead | 0.001 | mg/L | | 0.001 | | SW6020 | 05/01/12 14:24 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 15:16 / rdw |
| Selenium | 0.001 | mg/L | | 0.001 | | SW6020 | 05/01/12 14:24 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/01/12 14:24 / cp |
| Uranium | 0.0090 | mg/L | D | 0.0006 | | SW6020 | 05/01/12 14:24 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 0.9 | pCi/g-dry | | | | E903.0 | 07/03/12 03:34 / plj |
| Radium 226 precision (±) | 0.08 | pCi/g-dry | | | | E903.0 | 07/03/12 03:34 / plj |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 03:34 / plj |
| Radium 228 | 0.5 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |
| Radium 228 MDC | 0.3 | pCi/g-dry | | | | RA-05 | 06/25/12 15:52 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-004
**Client Sample ID:** MT-4-F (6" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 09:35
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 51.2 | mg/kg | | 1.00 | | E300.0 | 06/28/12 03:22 / ljl |
| Chloride, 1:1 | 1.44 | meq/L | | 0.0282 | | E300.0 | 06/28/12 03:22 / ljl |
| Sulfate | 405 | mg/kg | | 1.00 | | E300.0 | 06/28/12 03:22 / ljl |
| Sulfate, 1:1 | 8.43 | meq/L | | 0.0208 | | E300.0 | 06/28/12 03:22 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.005 | mg/L | | 0.001 | | SW6020 | 05/01/12 13:55 / cp |
| Barium | ND | mg/L | | 0.05 | | SW6020 | 05/01/12 13:55 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/01/12 13:55 / cp |
| Chromium | ND | mg/L | | 0.005 | | SW6020 | 05/02/12 21:42 / smm |
| Lead | 0.003 | mg/L | | 0.001 | | SW6020 | 05/01/12 13:55 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 15:20 / rdw |
| Selenium | 0.002 | mg/L | | 0.001 | | SW6020 | 05/01/12 13:55 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/01/12 13:55 / cp |
| Uranium | 0.0027 | mg/L | D | 0.0006 | | SW6020 | 05/01/12 13:55 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 0.8 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 precision (±) | 0.08 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 228 | 1.0 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-005
**Client Sample ID:** MT-5-F (6" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 10:00
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 37.0 | mg/kg | | 1.00 | | E300.0 | 06/28/12 03:39 / ljl |
| Chloride, 1:1 | 1.04 | meq/L | | 0.0282 | | E300.0 | 06/28/12 03:39 / ljl |
| Sulfate | 183 | mg/kg | | 1.00 | | E300.0 | 06/28/12 03:39 / ljl |
| Sulfate, 1:1 | 3.82 | meq/L | | 0.0208 | | E300.0 | 06/28/12 03:39 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.002 | mg/L | | 0.001 | | SW6020 | 05/01/12 14:12 / cp |
| Barium | ND | mg/L | | 0.05 | | SW6020 | 05/01/12 14:12 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/01/12 14:12 / cp |
| Chromium | ND | mg/L | | 0.005 | | SW6020 | 05/02/12 22:05 / smm |
| Lead | 0.001 | mg/L | | 0.001 | | SW6020 | 05/01/12 14:12 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 15:22 / rdw |
| Selenium | 0.001 | mg/L | | 0.001 | | SW6020 | 05/01/12 14:12 / cp |
| Silver | 0.003 | mg/L | D | 0.002 | | SW6020 | 05/01/12 14:12 / cp |
| Uranium | 0.0029 | mg/L | D | 0.0006 | | SW6020 | 05/01/12 14:12 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 2.0 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 228 | 0.8 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-006
**Client Sample ID:** MT-7-C (6" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 09:45
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.002 | mg/L | | 0.001 | | SW6020 | 05/01/12 14:15 / cp |
| Barium | ND | mg/L | | 0.05 | | SW6020 | 05/01/12 14:15 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/01/12 14:15 / cp |
| Chromium | 0.006 | mg/L | | 0.005 | | SW6020 | 05/01/12 14:15 / cp |
| Lead | 0.002 | mg/L | | 0.001 | | SW6020 | 05/01/12 14:15 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 15:23 / rdw |
| Selenium | ND | mg/L | | 0.001 | | SW6020 | 05/01/12 14:15 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/01/12 14:15 / cp |
| Uranium | 0.0023 | mg/L | D | 0.0006 | | SW6020 | 05/01/12 14:15 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 0.6 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 precision (±) | 0.07 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 228 | 0.8 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |
| Radium 228 MDC | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-007
**Client Sample ID:** MT-OP-E (6" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 09:00
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.004 | mg/L | | 0.001 | | SW6020 | 05/01/12 14:18 / cp |
| Barium | 0.05 | mg/L | | 0.05 | | SW6020 | 05/01/12 14:18 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/01/12 14:18 / cp |
| Chromium | 0.006 | mg/L | | 0.005 | | SW6020 | 05/01/12 14:18 / cp |
| Lead | 0.003 | mg/L | | 0.001 | | SW6020 | 05/01/12 14:18 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 15:24 / rdw |
| Selenium | 0.005 | mg/L | | 0.001 | | SW6020 | 05/01/12 14:18 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/01/12 14:18 / cp |
| Uranium | 0.0056 | mg/L | D | 0.0006 | | SW6020 | 05/01/12 14:18 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 1.1 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 228 | 0.8 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-008
**Client Sample ID:** MT-A-C (6" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 10:55
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.003 | mg/L | | 0.001 | | SW6020 | 05/01/12 14:21 / cp |
| Barium | ND | mg/L | | 0.05 | | SW6020 | 05/01/12 14:21 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/01/12 14:21 / cp |
| Chromium | ND | mg/L | | 0.005 | | SW6020 | 05/01/12 14:21 / cp |
| Lead | 0.001 | mg/L | | 0.001 | | SW6020 | 05/01/12 14:21 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 15:28 / rdw |
| Selenium | 0.044 | mg/L | | 0.001 | | SW6020 | 05/01/12 14:21 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/01/12 14:21 / cp |
| Uranium | 0.14 | mg/L | D | 0.0006 | | SW6020 | 05/01/12 14:21 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 1.7 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 228 | 0.5 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 21:06 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-009
**Client Sample ID:** MT-Borrow/Background

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 11:00
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.001 | mg/L | | 0.001 | | SW6020 | 05/01/12 15:27 / cp |
| Barium | ND | mg/L | | 0.05 | | SW6020 | 05/01/12 15:27 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/01/12 15:27 / cp |
| Chromium | ND | mg/L | | 0.005 | | SW6020 | 05/01/12 15:27 / cp |
| Lead | ND | mg/L | | 0.001 | | SW6020 | 05/01/12 15:27 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 15:34 / rdw |
| Selenium | 0.001 | mg/L | | 0.001 | | SW6020 | 05/01/12 15:27 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/01/12 15:27 / cp |
| Uranium | 0.0007 | mg/L | D | 0.0006 | | SW6020 | 05/01/12 15:27 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 0.7 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 precision (±) | 0.07 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 228 | 0.7 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-010
**Client Sample ID:** MT-4-D-S1 (0-6" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 14:05
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 7.76 | mg/kg | | 1.00 | | E300.0 | 06/28/12 03:55 / ljl |
| Chloride, 1:1 | 0.219 | meq/L | | 0.0282 | | E300.0 | 06/28/12 03:55 / ljl |
| Sulfate | 77.0 | mg/kg | | 1.00 | | E300.0 | 06/28/12 03:55 / ljl |
| Sulfate, 1:1 | 1.60 | meq/L | | 0.0208 | | E300.0 | 06/28/12 03:55 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.008 | mg/L | | 0.001 | | SW6020 | 05/01/12 14:56 / cp |
| Barium | 1.0 | mg/L | | 0.05 | | SW6020 | 05/01/12 14:56 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/01/12 14:56 / cp |
| Chromium | 0.008 | mg/L | | 0.005 | | SW6020 | 05/01/12 14:56 / cp |
| Lead | 0.003 | mg/L | | 0.001 | | SW6020 | 05/01/12 14:56 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 15:38 / rdw |
| Selenium | 0.015 | mg/L | | 0.001 | | SW6020 | 05/01/12 14:56 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/01/12 14:56 / cp |
| Uranium | 0.033 | mg/L | D | 0.0006 | | SW6020 | 05/01/12 14:56 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 18.1 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 precision (±) | 0.3 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 228 | 0.9 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-011
**Client Sample ID:** MT-4-D-S2 (14" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 14:10
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 92.0 | mg/kg | | 1.00 | | E300.0 | 06/28/12 04:12 / ljl |
| Chloride, 1:1 | 2.60 | meq/L | | 0.0282 | | E300.0 | 06/28/12 04:12 / ljl |
| Sulfate | 1840 | mg/kg | | 1.00 | | E300.0 | 06/28/12 04:12 / ljl |
| Sulfate, 1:1 | 38.2 | meq/L | | 0.0208 | | E300.0 | 06/28/12 04:12 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.007 | mg/L | | 0.001 | | SW6020 | 05/01/12 15:02 / cp |
| Barium | ND | mg/L | | 0.05 | | SW6020 | 05/01/12 15:02 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/01/12 15:02 / cp |
| Chromium | 0.006 | mg/L | | 0.005 | | SW6020 | 05/01/12 15:02 / cp |
| Lead | 0.001 | mg/L | | 0.001 | | SW6020 | 05/01/12 15:02 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 15:39 / rdw |
| Selenium | 0.39 | mg/L | | 0.001 | | SW6020 | 05/01/12 15:02 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/01/12 15:02 / cp |
| Uranium | 0.20 | mg/L | D | 0.0006 | | SW6020 | 05/01/12 15:02 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 2.8 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/10/12 13:40 / trs |
| Radium 228 | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-012
**Client Sample ID:** MT-4-D-S3 (48" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 14:20
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 6.49 | mg/kg | | 1.00 | | E300.0 | 06/28/12 04:44 / ljl |
| Chloride, 1:1 | 0.183 | meq/L | | 0.0282 | | E300.0 | 06/28/12 04:44 / ljl |
| Sulfate | 132 | mg/kg | | 1.00 | | E300.0 | 06/28/12 04:44 / ljl |
| Sulfate, 1:1 | 2.74 | meq/L | | 0.0208 | | E300.0 | 06/28/12 04:44 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.003 | mg/L | | 0.001 | | SW6020 | 05/01/12 15:05 / cp |
| Barium | 0.88 | mg/L | | 0.05 | | SW6020 | 05/01/12 15:05 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/01/12 15:05 / cp |
| Chromium | 0.009 | mg/L | | 0.005 | | SW6020 | 05/01/12 15:05 / cp |
| Lead | 0.003 | mg/L | | 0.001 | | SW6020 | 05/01/12 15:05 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 15:41 / rdw |
| Selenium | 0.020 | mg/L | | 0.001 | | SW6020 | 05/01/12 15:05 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/01/12 15:05 / cp |
| Uranium | 0.013 | mg/L | D | 0.0006 | | SW6020 | 05/01/12 15:05 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 6.7 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 228 | 0.8 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-013
**Client Sample ID:** MT-4-E-S1 (0-4" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 13:35
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 46.4 | mg/kg | | 1.00 | | E300.0 | 06/28/12 05:01 / ljl |
| Chloride, 1:1 | 1.31 | meq/L | | 0.0282 | | E300.0 | 06/28/12 05:01 / ljl |
| Sulfate | 853 | mg/kg | | 1.00 | | E300.0 | 06/28/12 05:01 / ljl |
| Sulfate, 1:1 | 17.8 | meq/L | | 0.0208 | | E300.0 | 06/28/12 05:01 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.034 | mg/L | | 0.001 | | SW6020 | 05/01/12 15:08 / cp |
| Barium | 34 | mg/L | | 0.05 | | SW6020 | 05/01/12 15:08 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/01/12 15:08 / cp |
| Chromium | 0.007 | mg/L | | 0.005 | | SW6020 | 05/02/12 22:19 / smm |
| Lead | 0.008 | mg/L | | 0.001 | | SW6020 | 05/01/12 15:08 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 15:48 / rdw |
| Selenium | 0.15 | mg/L | | 0.001 | | SW6020 | 05/01/12 15:08 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/01/12 15:08 / cp |
| Uranium | 0.39 | mg/L | D | 0.0006 | | SW6020 | 05/01/12 15:08 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 8.7 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 228 | 1.5 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |
| Radium 228 MDC | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |

- Sample matrix interference resulted in high chemical recoveries which has likely biased the Ra226 and Ra228 results low.

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-014
**Client Sample ID:** MT-4-E-S2 (10-12" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 13:40
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 34.1 | mg/kg | | 1.00 | | E300.0 | 06/28/12 05:17 / ljl |
| Chloride, 1:1 | 0.963 | meq/L | | 0.0282 | | E300.0 | 06/28/12 05:17 / ljl |
| Sulfate | 1150 | mg/kg | | 1.00 | | E300.0 | 06/28/12 05:17 / ljl |
| Sulfate, 1:1 | 23.8 | meq/L | | 0.0208 | | E300.0 | 06/28/12 05:17 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.005 | mg/L | | 0.001 | | SW6020 | 05/01/12 15:10 / cp |
| Barium | 0.22 | mg/L | | 0.05 | | SW6020 | 05/01/12 15:10 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/01/12 15:10 / cp |
| Chromium | 0.011 | mg/L | | 0.005 | | SW6020 | 05/01/12 15:10 / cp |
| Lead | 0.005 | mg/L | | 0.001 | | SW6020 | 05/01/12 15:10 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 15:49 / rdw |
| Selenium | 0.072 | mg/L | | 0.001 | | SW6020 | 05/01/12 15:10 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/01/12 15:10 / cp |
| Uranium | 0.014 | mg/L | D | 0.0006 | | SW6020 | 05/01/12 15:10 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 4.8 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 228 | 0.4 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-015
**Client Sample ID:** MT-4-E-S3 (36" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 13:42
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 13.1 | mg/kg | | 1.00 | | E300.0 | 06/28/12 05:34 / ljl |
| Chloride, 1:1 | 0.371 | meq/L | | 0.0282 | | E300.0 | 06/28/12 05:34 / ljl |
| Sulfate | 184 | mg/kg | | 1.00 | | E300.0 | 06/28/12 05:34 / ljl |
| Sulfate, 1:1 | 3.84 | meq/L | | 0.0208 | | E300.0 | 06/28/12 05:34 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.003 | mg/L | | 0.001 | | SW6020 | 05/01/12 15:24 / cp |
| Barium | 0.13 | mg/L | | 0.05 | | SW6020 | 05/01/12 15:24 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/01/12 15:24 / cp |
| Chromium | 0.007 | mg/L | | 0.005 | | SW6020 | 05/01/12 15:24 / cp |
| Lead | 0.003 | mg/L | | 0.001 | | SW6020 | 05/01/12 15:24 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 15:51 / rdw |
| Selenium | 0.026 | mg/L | | 0.001 | | SW6020 | 05/01/12 15:24 / cp |
| Silver | 0.003 | mg/L | D | 0.002 | | SW6020 | 05/01/12 15:24 / cp |
| Uranium | 0.0043 | mg/L | D | 0.0006 | | SW6020 | 05/01/12 15:24 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 2.9 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 228 | 0.7 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-016
**Client Sample ID:** MT-4-E-S4 (48" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 13:45
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 4.51 | mg/kg | | 1.00 | | E300.0 | 06/28/12 05:50 / ljl |
| Chloride, 1:1 | 0.127 | meq/L | | 0.0282 | | E300.0 | 06/28/12 05:50 / ljl |
| Sulfate | 131 | mg/kg | | 1.00 | | E300.0 | 06/28/12 05:50 / ljl |
| Sulfate, 1:1 | 2.72 | meq/L | | 0.0208 | | E300.0 | 06/28/12 05:50 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.005 | mg/L | B | 0.001 | | SW6020 | 05/02/12 21:10 / smm |
| Barium | 0.06 | mg/L | | 0.05 | | SW6020 | 05/02/12 21:10 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/02/12 21:10 / smm |
| Chromium | 0.006 | mg/L | | 0.005 | | SW6020 | 05/02/12 21:10 / smm |
| Lead | 0.002 | mg/L | | 0.001 | | SW6020 | 05/02/12 21:10 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 16:01 / rdw |
| Selenium | 0.011 | mg/L | | 0.001 | | SW6020 | 05/02/12 21:10 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 05/02/12 21:10 / smm |
| Uranium | 0.027 | mg/L | | 0.0003 | | SW6020 | 05/02/12 21:10 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 6.2 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 228 | 0.4 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |
| Radium 228 MDC | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 22:57 / gb |

- Sample matrix interference resulted in high chemical recoveries which has likely biased the Ra226 and Ra228 results low.

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-017
**Client Sample ID:** MT-6-A-S1 (0-5" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 15:05
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.012 | mg/L | | 0.001 | | SW6020 | 05/02/12 20:29 / smm |
| Barium | 7.3 | mg/L | | 0.05 | | SW6020 | 05/02/12 20:29 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/02/12 20:29 / smm |
| Chromium | 0.007 | mg/L | | 0.005 | | SW6020 | 05/02/12 20:29 / smm |
| Lead | 0.016 | mg/L | | 0.001 | | SW6020 | 05/02/12 20:29 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 16:05 / rdw |
| Selenium | 0.007 | mg/L | | 0.001 | | SW6020 | 05/02/12 20:29 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 05/02/12 20:29 / smm |
| Uranium | 0.044 | mg/L | | 0.0003 | | SW6020 | 05/02/12 20:29 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 6.4 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 228 | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 22:56 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 22:56 / gb |
| Radium 228 MDC | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 22:56 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-018
**Client Sample ID:** MT-6-A-S2 (12-20" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 15:10
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.003 | mg/L | B | 0.001 | | SW6020 | 05/02/12 20:33 / smm |
| Barium | 0.05 | mg/L | | 0.05 | | SW6020 | 05/02/12 20:33 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/02/12 20:33 / smm |
| Chromium | 0.007 | mg/L | | 0.005 | | SW6020 | 05/02/12 20:33 / smm |
| Lead | ND | mg/L | | 0.001 | | SW6020 | 05/02/12 20:33 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 16:06 / rdw |
| Selenium | 0.15 | mg/L | | 0.001 | | SW6020 | 05/02/12 20:33 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 05/02/12 20:33 / smm |
| Uranium | 0.26 | mg/L | | 0.0003 | | SW6020 | 05/02/12 20:33 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 0.4 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 precision (±) | 0.05 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 228 | 0.1 | pCi/g-dry | U | | | RA-05 | 07/05/12 22:56 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 22:56 / gb |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 22:56 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-019
**Client Sample ID:** MT-6-B-S1 (8-10" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 14:30
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.004 | mg/L | B | 0.001 | | SW6020 | 05/02/12 20:38 / smm |
| Barium | 0.05 | mg/L | | 0.05 | | SW6020 | 05/02/12 20:38 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/02/12 20:38 / smm |
| Chromium | 0.007 | mg/L | | 0.005 | | SW6020 | 05/02/12 20:38 / smm |
| Lead | ND | mg/L | | 0.001 | | SW6020 | 05/02/12 20:38 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 16:08 / rdw |
| Selenium | 0.16 | mg/L | | 0.001 | | SW6020 | 05/02/12 20:38 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 05/02/12 20:38 / smm |
| Uranium | 0.26 | mg/L | | 0.0003 | | SW6020 | 05/02/12 20:38 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 0.8 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 precision (±) | 0.08 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 228 | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 22:56 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 22:56 / gb |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 22:56 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-020
**Client Sample ID:** MT-6-B-S2 (30" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 14:35
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.002 | mg/L | B | 0.001 | | SW6020 | 05/02/12 20:43 / smm |
| Barium | 0.06 | mg/L | | 0.05 | | SW6020 | 05/02/12 20:43 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/02/12 20:43 / smm |
| Chromium | ND | mg/L | | 0.005 | | SW6020 | 05/02/12 20:43 / smm |
| Lead | ND | mg/L | | 0.001 | | SW6020 | 05/02/12 20:43 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 16:09 / rdw |
| Selenium | 0.003 | mg/L | | 0.001 | | SW6020 | 05/02/12 20:43 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 05/02/12 20:43 / smm |
| Uranium | 0.014 | mg/L | | 0.0003 | | SW6020 | 05/02/12 20:43 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 4.1 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 precision (±) | 0.2 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 228 | 0.8 | pCi/g-dry | | | | RA-05 | 07/05/12 22:56 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 22:56 / gb |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 22:56 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
B - The analyte was detected in the method blank.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-021
**Client Sample ID:** MT-OP-C-S1 (0-6" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 13:20
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.015 | mg/L | | 0.001 | | SW6020 | 05/02/12 21:06 / smm |
| Barium | 0.05 | mg/L | | 0.05 | | SW6020 | 05/02/12 21:06 / smm |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/02/12 21:06 / smm |
| Chromium | 0.010 | mg/L | | 0.005 | | SW6020 | 05/02/12 21:06 / smm |
| Lead | 0.001 | mg/L | | 0.001 | | SW6020 | 05/02/12 21:06 / smm |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 04/30/12 16:10 / rdw |
| Selenium | 0.052 | mg/L | | 0.001 | | SW6020 | 05/02/12 21:06 / smm |
| Silver | ND | mg/L | | 0.001 | | SW6020 | 05/02/12 21:06 / smm |
| Uranium | 1.8 | mg/L | | 0.0003 | | SW6020 | 05/02/12 21:06 / smm |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 53.3 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 precision (±) | 0.6 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/10/12 14:44 / trs |
| Radium 228 | 2.1 | pCi/g-dry | | | | RA-05 | 07/05/12 22:56 / gb |
| Radium 228 precision (±) | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 22:56 / gb |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 22:56 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-022
**Client Sample ID:** MT-OP-C-S2 (20" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 13:25
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.005 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:22 / cp |
| Barium | 0.05 | mg/L | | 0.05 | | SW6020 | 05/04/12 14:22 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/04/12 14:22 / cp |
| Chromium | 0.007 | mg/L | | 0.005 | | SW6020 | 05/04/12 14:22 / cp |
| Lead | 0.002 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:22 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/02/12 11:26 / rdw |
| Selenium | 0.018 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:22 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/04/12 14:22 / cp |
| Uranium | 0.14 | mg/L | D | 0.0006 | | SW6020 | 05/04/12 14:22 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 1.7 | pCi/g-dry | | | | E903.0 | 07/10/12 16:03 / trs |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/10/12 16:03 / trs |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 07/10/12 16:03 / trs |
| Radium 228 | 0.6 | pCi/g-dry | | | | RA-05 | 07/05/12 21:05 / gb |
| Radium 228 precision (±) | 0.1 | pCi/g-dry | | | | RA-05 | 07/05/12 21:05 / gb |
| Radium 228 MDC | 0.2 | pCi/g-dry | | | | RA-05 | 07/05/12 21:05 / gb |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-023
**Client Sample ID:** MT-OP-C-S3 (48-50' B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 13:25
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.004 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:41 / cp |
| Barium | ND | mg/L | | 0.05 | | SW6020 | 05/04/12 14:41 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/04/12 14:41 / cp |
| Chromium | ND | mg/L | | 0.005 | | SW6020 | 05/04/12 14:41 / cp |
| Lead | ND | mg/L | | 0.001 | | SW6020 | 05/04/12 14:41 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/02/12 11:29 / rdw |
| Selenium | 0.028 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:41 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/04/12 14:41 / cp |
| Uranium | 0.049 | mg/L | D | 0.0006 | | SW6020 | 05/04/12 14:41 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 0.8 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 226 precision (±) | 0.07 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 228 | 0.8 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |
| Radium 228 precision (±) | 0.09 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |
| Radium 228 MDC | 0.1 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-024
**Client Sample ID:** MT-OP-C-S4 (72" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 13:30
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.004 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:44 / cp |
| Barium | ND | mg/L | | 0.05 | | SW6020 | 05/04/12 14:44 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/04/12 14:44 / cp |
| Chromium | ND | mg/L | | 0.005 | | SW6020 | 05/04/12 14:44 / cp |
| Lead | ND | mg/L | | 0.001 | | SW6020 | 05/04/12 14:44 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/02/12 11:30 / rdw |
| Selenium | 0.025 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:44 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/04/12 14:44 / cp |
| Uranium | 0.0064 | mg/L | D | 0.0006 | | SW6020 | 05/04/12 14:44 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 1.5 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 228 | 0.6 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |
| Radium 228 precision (±) | 0.09 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |
| Radium 228 MDC | 0.1 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-025
**Client Sample ID:** MT-OP-D-S1 (0-6" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 12:45
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.013 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:47 / cp |
| Barium | 1.3 | mg/L | | 0.05 | | SW6020 | 05/04/12 14:47 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/04/12 14:47 / cp |
| Chromium | 0.007 | mg/L | | 0.005 | | SW6020 | 05/04/12 14:47 / cp |
| Lead | 0.008 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:47 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/02/12 11:31 / rdw |
| Selenium | 0.009 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:47 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/04/12 14:47 / cp |
| Uranium | 0.23 | mg/L | D | 0.0006 | | SW6020 | 05/04/12 14:47 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 51.9 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 226 precision (±) | 0.5 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 228 | 0.5 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |
| Radium 228 precision (±) | 0.07 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |
| Radium 228 MDC | 0.09 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-026
**Client Sample ID:** MT-OP-D-S2 (48-50" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 12:45
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.001 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:49 / cp |
| Barium | 0.05 | mg/L | | 0.05 | | SW6020 | 05/04/12 14:49 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/04/12 14:49 / cp |
| Chromium | ND | mg/L | | 0.005 | | SW6020 | 05/04/12 14:49 / cp |
| Lead | ND | mg/L | | 0.001 | | SW6020 | 05/04/12 14:49 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/02/12 11:35 / rdw |
| Selenium | 0.005 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:49 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/04/12 14:49 / cp |
| Uranium | 0.10 | mg/L | D | 0.0006 | | SW6020 | 05/04/12 14:49 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 1.9 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 228 | 0.6 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |
| Radium 228 precision (±) | 0.09 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |
| Radium 228 MDC | 0.1 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-027
**Client Sample ID:** MT-OP-D-S3 (76" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 12:50
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.006 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:52 / cp |
| Barium | 0.11 | mg/L | | 0.05 | | SW6020 | 05/04/12 14:52 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/04/12 14:52 / cp |
| Chromium | 0.012 | mg/L | | 0.005 | | SW6020 | 05/04/12 14:52 / cp |
| Lead | 0.009 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:52 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/02/12 11:37 / rdw |
| Selenium | 0.002 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:52 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/04/12 14:52 / cp |
| Uranium | 0.0034 | mg/L | D | 0.0006 | | SW6020 | 05/04/12 14:52 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 0.6 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 226 precision (±) | 0.06 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 228 | 0.5 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |
| Radium 228 precision (±) | 0.08 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |
| Radium 228 MDC | 0.1 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine Closure Plan
**Lab ID:** C12041044-028
**Client Sample ID:** MT-8-F (6" B.G.)

**Revised Date:** 07/10/12
**Report Date:** 06/13/12
**Collection Date:** 04/10/12 09:25
**DateReceived:** 04/20/12
**Matrix:** Sediment

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **SATURATED PASTE EXTRACT** | | | | | | | |
| Chloride | 14.2 | mg/kg | | 1.00 | | E300.0 | 06/28/12 06:07 / ljl |
| Chloride, 1:1 | 0.402 | meq/L | | 0.0282 | | E300.0 | 06/28/12 06:07 / ljl |
| Sulfate | 28.9 | mg/kg | | 1.00 | | E300.0 | 06/28/12 06:07 / ljl |
| Sulfate, 1:1 | 0.602 | meq/L | | 0.0208 | | E300.0 | 06/28/12 06:07 / ljl |
| **PHYSICAL CHARACTERISTICS** | | | | | | | |
| Filterable | No | | | | | SW1311 | 04/24/12 16:14 / dcj |
| **METALS - SPLP EXTRACTABLE** | | | | | | | |
| Arsenic | 0.003 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:55 / cp |
| Barium | ND | mg/L | | 0.05 | | SW6020 | 05/04/12 14:55 / cp |
| Cadmium | ND | mg/L | | 0.001 | | SW6020 | 05/04/12 14:55 / cp |
| Chromium | ND | mg/L | | 0.005 | | SW6020 | 05/04/12 14:55 / cp |
| Lead | 0.002 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:55 / cp |
| Mercury | ND | mg/L | | 0.002 | | SW7470A | 05/02/12 11:38 / rdw |
| Selenium | 0.002 | mg/L | | 0.001 | | SW6020 | 05/04/12 14:55 / cp |
| Silver | ND | mg/L | D | 0.002 | | SW6020 | 05/04/12 14:55 / cp |
| Uranium | 0.010 | mg/L | D | 0.0006 | | SW6020 | 05/04/12 14:55 / cp |
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 2.3 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 226 precision (±) | 0.1 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 226 MDC | 0.02 | pCi/g-dry | | | | E903.0 | 07/03/12 05:26 / trs |
| Radium 228 | 0.6 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |
| Radium 228 precision (±) | 0.09 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |
| Radium 228 MDC | 0.1 | pCi/g-dry | | | | RA-05 | 06/26/12 17:02 / plj |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
D - RL increased due to sample matrix.

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/10/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12041044

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: E300.0** | | | | | | | | | Analytical Run: IC2-C_120626A | |
| **Sample ID: ICV-062612-10** | 2 | Initial Calibration Verification Standard | | | | | | | 06/26/12 15:31 | |
| Chloride | | 9.60 | mg/L | 1.0 | 96 | 90 | 110 | | | |
| Sulfate | | 38.7 | mg/L | 1.0 | 97 | 90 | 110 | | | |
| **Method: E300.0** | | | | | | | | | Batch: 34007 | |
| **Sample ID: MB-34007** | 2 | Method Blank | | | | Run: IC2-C_120626A | | | 06/28/12 02:17 | |
| Chloride | | ND | mg/kg | 0.04 | | | | | | |
| Sulfate | | 0.08 | mg/kg | 0.06 | | | | | | |
| **Sample ID: LCS1-34007** | 2 | Laboratory Control Sample | | | | Run: IC2-C_120626A | | | 06/28/12 02:33 | |
| Chloride | | 35.9 | mg/kg | 1.0 | 101 | 70 | 130 | | | |
| Sulfate | | 1730 | mg/kg | 1.0 | 95 | 70 | 130 | | | |
| **Sample ID: C12041044-011CPDS** | 2 | Post Digestion/Distillation Spike | | | | Run: IC2-C_120626A | | | 06/28/12 04:28 | |
| Chloride | | 280 | mg/kg | 1.0 | 94 | 80 | 120 | | | |
| Sulfate | | 2570 | mg/kg | 1.0 | 92 | 80 | 120 | | | |
| **Sample ID: C12041044-028CDUP** | 2 | Sample Duplicate | | | | Run: IC2-C_120626A | | | 06/28/12 06:23 | |
| Chloride | | 14.0 | mg/kg | 1.0 | | | | 1.8 | 20 | |
| Sulfate | | 28.1 | mg/kg | 1.0 | | | | 2.9 | 20 | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/10/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12041044

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: E903.0** | | | | | | | | | | Batch: 34025 |
| **Sample ID: C12041044-023BMS** | | Sample Matrix Spike | | | | Run: BERTHOLD 770-1_120621B | | | | 07/03/12 05:26 |
| Radium 226 | | 2.9 | pCi/g-dry | | 85 | 70 | 130 | | | |
| **Sample ID: C12041044-023BMSD** | | Sample Matrix Spike Duplicate | | | | Run: BERTHOLD 770-1_120621B | | | | 07/03/12 05:26 |
| Radium 226 | | 2.8 | pCi/g-dry | | 85 | 70 | 130 | 3.6 | 22.9 | |
| **Sample ID: LCS-34025** | | Laboratory Control Sample | | | | Run: BERTHOLD 770-1_120621B | | | | 07/03/12 05:26 |
| Radium 226 | | 0.41 | pCi/g-dry | | 85 | 70 | 130 | | | |
| **Sample ID: MB-34025** | 3 | Method Blank | | | | Run: BERTHOLD 770-1_120621B | | | | 07/03/12 07:45 |
| Radium 226 | | 0.0009 | pCi/g-dry | | | | | | | U |
| Radium 226 precision (±) | | 0.004 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.006 | pCi/g-dry | | | | | | | |
| **Method: E903.0** | | | | | | | | | | Batch: 34023 |
| **Sample ID: C12041044-022BMS** | | Sample Matrix Spike | | | | Run: BERTHOLD 770-1_120621C | | | | 07/10/12 16:03 |
| Radium 226 | | 3.6 | pCi/g-dry | | 80 | 70 | 130 | | | |
| **Sample ID: C12041044-022BMSD** | | Sample Matrix Spike Duplicate | | | | Run: BERTHOLD 770-1_120621C | | | | 07/10/12 16:03 |
| Radium 226 | | 3.7 | pCi/g-dry | | 85 | 70 | 130 | 2.9 | 22.7 | |
| **Sample ID: LCS-34023** | | Laboratory Control Sample | | | | Run: BERTHOLD 770-1_120621C | | | | 07/10/12 16:03 |
| Radium 226 | | 0.33 | pCi/g-dry | | 69 | 70 | 130 | | | S |
| - LCS response is outside of the acceptance range for this analysis. Since the MB, MS, and MSD are acceptable the batch is approved. | | | | | | | | | | |
| **Sample ID: MB-34023** | 3 | Method Blank | | | | Run: BERTHOLD 770-1_120621C | | | | 07/10/12 16:03 |
| Radium 226 | | -0.002 | pCi/g-dry | | | | | | | U |
| Radium 226 precision (±) | | 0.006 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.01 | pCi/g-dry | | | | | | | |
| **Method: E903.0** | | | | | | | | | | Batch: 34004 |
| **Sample ID: MB-34004** | 3 | Method Blank | | | | Run: BERTHOLD 770-2_120620A | | | | 07/02/12 23:59 |
| Radium 226 | | 0.1 | pCi/g-dry | | | | | | | |
| Radium 226 precision (±) | | 0.03 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.02 | pCi/g-dry | | | | | | | |
| **Sample ID: LCS-34004** | | Laboratory Control Sample | | | | Run: BERTHOLD 770-2_120620A | | | | 07/02/12 23:59 |
| Radium 226 | | 1.4 | pCi/g-dry | | 87 | 70 | 130 | | | |
| **Sample ID: C12041044-003BMS** | | Sample Matrix Spike | | | | Run: BERTHOLD 770-2_120620A | | | | 07/03/12 03:34 |
| Radium 226 | | 2.5 | pCi/g-dry | | 104 | 70 | 130 | | | |
| **Sample ID: C12041044-003BMSD** | | Sample Matrix Spike Duplicate | | | | Run: BERTHOLD 770-2_120620A | | | | 07/03/12 03:34 |
| Radium 226 | | 2.2 | pCi/g-dry | | 87 | 70 | 130 | 12 | 20.8 | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

U - Not detected at minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/10/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12041044

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: RA-05** | | | | | | | | | | Batch: 34004 |
| **Sample ID: LCS-34004** | | Laboratory Control Sample | | | | Run: TENNELEC-3_120620B | | | | 06/25/12 15:52 |
| Radium 228 | | 1.5 | pCi/g-dry | | 104 | 70 | 130 | | | |
| **Sample ID: MB-34004** | 3 | Method Blank | | | | Run: TENNELEC-3_120620B | | | | 06/25/12 15:52 |
| Radium 228 | | 0.07 | pCi/g-dry | | | | | | | U |
| Radium 228 precision (±) | | 0.2 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.3 | pCi/g-dry | | | | | | | |
| **Sample ID: C12041044-003BMS** | | Sample Matrix Spike | | | | Run: TENNELEC-3_120620B | | | | 06/25/12 15:52 |
| Radium 228 | | 1.8 | pCi/g-dry | | 93 | 70 | 130 | | | |
| **Sample ID: C12041044-003BMSD** | | Sample Matrix Spike Duplicate | | | | Run: TENNELEC-3_120620B | | | | 06/25/12 15:52 |
| Radium 228 | | 1.9 | pCi/g-dry | | 101 | 70 | 130 | 6.0 | 33.5 | |
| **Method: RA-05** | | | | | | | | | | Batch: 34025 |
| **Sample ID: LCS-34025** | | Laboratory Control Sample | | | | Run: TENNELEC-3_120621B | | | | 06/26/12 17:02 |
| Radium 228 | | 0.24 | pCi/g-dry | | 83 | 70 | 130 | | | |
| **Sample ID: MB-34025** | 3 | Method Blank | | | | Run: TENNELEC-3_120621B | | | | 06/26/12 17:02 |
| Radium 228 | | 0.002 | pCi/g-dry | | | | | | | U |
| Radium 228 precision (±) | | 0.03 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.04 | pCi/g-dry | | | | | | | |
| **Sample ID: C12041044-028BMS** | | Sample Matrix Spike | | | | Run: TENNELEC-3_120621B | | | | 06/26/12 17:02 |
| Radium 228 | | 1.7 | pCi/g-dry | | 71 | 70 | 130 | | | |
| **Sample ID: C12041044-028BMSD** | | Sample Matrix Spike Duplicate | | | | Run: TENNELEC-3_120621B | | | | 06/26/12 17:02 |
| Radium 228 | | 1.7 | pCi/g-dry | | 78 | 70 | 130 | 3.0 | 32.3 | |
| **Method: RA-05** | | | | | | | | | | Batch: Ra228-4136 |
| **Sample ID: LCS-34023** | | Laboratory Control Sample | | | | Run: TENNELEC-3_120621D | | | | 07/05/12 21:05 |
| Radium 228 | | 0.36 | pCi/g-dry | | 129 | 70 | 130 | | | |
| **Sample ID: MB-34023** | 3 | Method Blank | | | | Run: TENNELEC-3_120621D | | | | 07/05/12 21:05 |
| Radium 228 | | -0.010 | pCi/g-dry | | | | | | | U |
| Radium 228 precision (±) | | 0.04 | pCi/g-dry | | | | | | | |
| Radium 228 MDC | | 0.06 | pCi/g-dry | | | | | | | |
| **Sample ID: C12041044-022BMS** | | Sample Matrix Spike | | | | Run: TENNELEC-3_120621D | | | | 07/05/12 21:06 |
| Radium 228 | | 1.7 | pCi/g-dry | | 80 | 70 | 130 | | | |
| **Sample ID: C12041044-022BMSD** | | Sample Matrix Spike Duplicate | | | | Run: TENNELEC-3_120621D | | | | 07/05/12 21:06 |
| Radium 228 | | 2.1 | pCi/g-dry | | 110 | 70 | 130 | 19 | 36.9 | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/10/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12041044

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | Analytical Run: ICPMS2-C_120501A | |
| **Sample ID: ICV** | 8 | Initial Calibration Verification Standard | | | | | | | 05/01/12 13:14 | |
| Arsenic | | 0.0490 | mg/L | 0.0010 | 98 | 90 | 110 | | | |
| Barium | | 0.0486 | mg/L | 0.0010 | 97 | 90 | 110 | | | |
| Cadmium | | 0.0491 | mg/L | 0.0010 | 98 | 90 | 110 | | | |
| Chromium | | 0.0501 | mg/L | 0.0010 | 100 | 90 | 110 | | | |
| Lead | | 0.0483 | mg/L | 0.0010 | 97 | 90 | 110 | | | |
| Selenium | | 0.0501 | mg/L | 0.0010 | 100 | 90 | 110 | | | |
| Silver | | 0.0207 | mg/L | 0.0010 | 103 | 90 | 110 | | | |
| Uranium | | 0.0485 | mg/L | 0.00030 | 97 | 90 | 110 | | | |
| **Sample ID: ICSA** | 8 | Interference Check Sample A | | | | | | | 05/01/12 13:16 | |
| Arsenic | | 0.0103 | mg/L | 0.0010 | | | | | | |
| Barium | | 3.16E-05 | mg/L | 0.0010 | | | | | | |
| Cadmium | | 0.0104 | mg/L | 0.0010 | | | | | | |
| Chromium | | 0.0104 | mg/L | 0.0010 | | | | | | |
| Lead | | 3.39E-05 | mg/L | 0.0010 | | | | | | |
| Selenium | | 8.30E-06 | mg/L | 0.0010 | | | | | | |
| Silver | | 0.0108 | mg/L | 0.0010 | | | | | | |
| Uranium | | 6.80E-05 | mg/L | 0.00030 | | | | | | |
| **Sample ID: ICSAB** | 8 | Interference Check Sample AB | | | | | | | 05/01/12 13:19 | |
| Arsenic | | 0.0103 | mg/L | 0.0010 | 103 | 70 | 130 | | | |
| Barium | | 4.64E-05 | mg/L | 0.0010 | | | | | | |
| Cadmium | | 0.0106 | mg/L | 0.0010 | 106 | 70 | 130 | | | |
| Chromium | | 0.0105 | mg/L | 0.0010 | 105 | 70 | 130 | | | |
| Lead | | 3.92E-05 | mg/L | 0.0010 | | | | | | |
| Selenium | | 1.39E-05 | mg/L | 0.0010 | | | | | | |
| Silver | | 0.0107 | mg/L | 0.0010 | 107 | 70 | 130 | | | |
| Uranium | | 1.47E-05 | mg/L | 0.00030 | | | | | | |
| **Method: SW6020** | | | | | | | | | Batch: 33469 | |
| **Sample ID: MB-33469** | 8 | Method Blank | | | | Run: ICPMS2-C_120501A | | | 05/01/12 13:45 | |
| Arsenic | | ND | mg/L | 6E-05 | | | | | | |
| Barium | | 0.005 | mg/L | 3E-05 | | | | | | |
| Cadmium | | 0.0001 | mg/L | 1E-05 | | | | | | |
| Chromium | | 0.002 | mg/L | 4E-05 | | | | | | |
| Lead | | 0.0001 | mg/L | 3E-05 | | | | | | |
| Selenium | | 0.0002 | mg/L | 0.0002 | | | | | | |
| Silver | | 0.002 | mg/L | 3E-05 | | | | | | |
| Uranium | | 0.001 | mg/L | 1E-05 | | | | | | |
| **Sample ID: LCS3-33469** | 8 | Laboratory Control Sample | | | | Run: ICPMS2-C_120501A | | | 05/01/12 13:47 | |
| Arsenic | | 0.47 | mg/L | 0.0010 | 93 | 80 | 120 | | | |
| Barium | | 0.51 | mg/L | 0.050 | 100 | 80 | 120 | | | |
| Cadmium | | 0.24 | mg/L | 0.0010 | 96 | 80 | 120 | | | |
| Chromium | | 0.49 | mg/L | 0.0050 | 98 | 80 | 120 | | | |

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/10/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12041044

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | | Batch: 33469 |
| **Sample ID: LCS3-33469** | 8 | Laboratory Control Sample | | | | Run: ICPMS2-C_120501A | | | | 05/01/12 13:47 |
| Lead | | 0.51 | mg/L | 0.0010 | 101 | 80 | 120 | | | |
| Selenium | | 0.43 | mg/L | 0.0010 | 86 | 80 | 120 | | | |
| Silver | | 0.054 | mg/L | 0.0020 | 104 | 80 | 120 | | | |
| Uranium | | 0.51 | mg/L | 0.00060 | 101 | 80 | 120 | | | |
| **Sample ID: LCSD3-33469** | 8 | Laboratory Control Sample Duplicate | | | | Run: ICPMS2-C_120501A | | | | 05/01/12 13:50 |
| Arsenic | | 0.47 | mg/L | 0.0010 | 94 | 80 | 120 | 0.9 | 20 | |
| Barium | | 0.51 | mg/L | 0.050 | 101 | 80 | 120 | 1.1 | 20 | |
| Cadmium | | 0.24 | mg/L | 0.0010 | 96 | 80 | 120 | 0.1 | 20 | |
| Chromium | | 0.49 | mg/L | 0.0050 | 97 | 80 | 120 | 0.4 | 20 | |
| Lead | | 0.51 | mg/L | 0.0010 | 102 | 80 | 120 | 0.8 | 20 | |
| Selenium | | 0.43 | mg/L | 0.0010 | 86 | 80 | 120 | 0.6 | 20 | |
| Silver | | 0.055 | mg/L | 0.0020 | 106 | 80 | 120 | 2.1 | 20 | |
| Uranium | | 0.51 | mg/L | 0.00060 | 101 | 80 | 120 | 0.0 | 20 | |
| **Sample ID: C12041044-004ADIL** | 8 | Serial Dilution | | | | Run: ICPMS2-C_120501A | | | | 05/01/12 13:58 |
| Arsenic | | 0.0054 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Barium | | 0.037 | mg/L | 0.050 | | 0 | 0 | | 20 | |
| Cadmium | | 0.00042 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Chromium | | 0.0071 | mg/L | 0.0050 | | 0 | 0 | 5.0 | 20 | |
| Lead | | 0.0028 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Selenium | | 0.0026 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Silver | | 0.00070 | mg/L | 0.010 | | 0 | 0 | | 20 | N |
| Uranium | | 0.0029 | mg/L | 0.0030 | | 0 | 0 | | 20 | |
| **Sample ID: C12041044-003AMS3** | 8 | Sample Matrix Spike | | | | Run: ICPMS2-C_120501A | | | | 05/01/12 14:26 |
| Arsenic | | 0.47 | mg/L | 0.0010 | 94 | 75 | 125 | | | |
| Barium | | 0.53 | mg/L | 0.050 | 103 | 75 | 125 | | | |
| Cadmium | | 0.24 | mg/L | 0.0010 | 98 | 75 | 125 | | | |
| Chromium | | 0.50 | mg/L | 0.0050 | 98 | 75 | 125 | | | |
| Lead | | 0.52 | mg/L | 0.0010 | 103 | 75 | 125 | | | |
| Selenium | | 0.44 | mg/L | 0.0010 | 88 | 75 | 125 | | | |
| Silver | | 0.054 | mg/L | 0.0020 | 22 | 75 | 125 | | | S |
| Uranium | | 0.54 | mg/L | 0.00060 | 106 | 75 | 125 | | | |
| **Method: SW6020** | | | | | | | | | | Batch: 33470 |
| **Sample ID: MB-33470** | 8 | Method Blank | | | | Run: ICPMS2-C_120501A | | | | 05/01/12 14:35 |
| Arsenic | | 0.0003 | mg/L | 6E-05 | | | | | | |
| Barium | | 0.005 | mg/L | 3E-05 | | | | | | |
| Cadmium | | 0.0001 | mg/L | 1E-05 | | | | | | |
| Chromium | | 0.004 | mg/L | 4E-05 | | | | | | |
| Lead | | 9E-05 | mg/L | 3E-05 | | | | | | |
| Selenium | | 0.0003 | mg/L | 0.0002 | | | | | | |
| Silver | | 0.0006 | mg/L | 3E-05 | | | | | | |
| Uranium | | 0.0006 | mg/L | 1E-05 | | | | | | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.

S - Spike recovery outside of advisory limits.

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/10/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12041044

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | | Batch: 33470 |
| **Sample ID: LCS3-33470** | 8 | Laboratory Control Sample | | | | Run: ICPMS2-C_120501A | | | | 05/01/12 14:49 |
| Arsenic | | 0.47 | mg/L | 0.0010 | 95 | 80 | 120 | | | |
| Barium | | 0.52 | mg/L | 0.050 | 102 | 80 | 120 | | | |
| Cadmium | | 0.24 | mg/L | 0.0010 | 98 | 80 | 120 | | | |
| Chromium | | 0.49 | mg/L | 0.0050 | 97 | 80 | 120 | | | |
| Lead | | 0.51 | mg/L | 0.0010 | 103 | 80 | 120 | | | |
| Selenium | | 0.45 | mg/L | 0.0010 | 89 | 80 | 120 | | | |
| Silver | | 0.057 | mg/L | 0.0020 | 112 | 80 | 120 | | | |
| Uranium | | 0.52 | mg/L | 0.00060 | 104 | 80 | 120 | | | |
| **Sample ID: LCSD3-33470** | 8 | Laboratory Control Sample Duplicate | | | | Run: ICPMS2-C_120501A | | | | 05/01/12 14:51 |
| Arsenic | | 0.47 | mg/L | 0.0010 | 94 | 80 | 120 | 1.1 | 20 | |
| Barium | | 0.52 | mg/L | 0.050 | 103 | 80 | 120 | 0.4 | 20 | |
| Cadmium | | 0.24 | mg/L | 0.0010 | 98 | 80 | 120 | 0.0 | 20 | |
| Chromium | | 0.49 | mg/L | 0.0050 | 98 | 80 | 120 | 1.0 | 20 | |
| Lead | | 0.51 | mg/L | 0.0010 | 103 | 80 | 120 | 0.2 | 20 | |
| Selenium | | 0.44 | mg/L | 0.0010 | 89 | 80 | 120 | 0.3 | 20 | |
| Silver | | 0.056 | mg/L | 0.0020 | 110 | 80 | 120 | 1.9 | 20 | |
| Uranium | | 0.52 | mg/L | 0.00060 | 103 | 80 | 120 | 0.7 | 20 | |
| **Sample ID: C12041044-010ADIL** | 8 | Serial Dilution | | | | Run: ICPMS2-C_120501A | | | | 05/01/12 14:59 |
| Arsenic | | 0.0083 | mg/L | 0.0050 | | 0 | 0 | 8.8 | 20 | |
| Barium | | 1.1 | mg/L | 0.050 | | 0 | 0 | 3.4 | 20 | |
| Cadmium | | 0.00051 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Chromium | | 0.0088 | mg/L | 0.0050 | | 0 | 0 | 10 | 20 | |
| Lead | | 0.0032 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Selenium | | 0.019 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Silver | | ND | mg/L | 0.010 | | 0 | 0 | | 20 | |
| Uranium | | 0.033 | mg/L | 0.0030 | | 0 | 0 | 0.5 | 20 | |
| **Sample ID: C12041044-009AMS3** | 8 | Sample Matrix Spike | | | | Run: ICPMS2-C_120501A | | | | 05/01/12 15:30 |
| Arsenic | | 0.47 | mg/L | 0.0010 | 95 | 75 | 125 | | | |
| Barium | | 0.54 | mg/L | 0.050 | 103 | 75 | 125 | | | |
| Cadmium | | 0.25 | mg/L | 0.0010 | 99 | 75 | 125 | | | |
| Chromium | | 0.49 | mg/L | 0.0050 | 98 | 75 | 125 | | | |
| Lead | | 0.51 | mg/L | 0.0010 | 102 | 75 | 125 | | | |
| Selenium | | 0.45 | mg/L | 0.0010 | 90 | 75 | 125 | | | |
| Silver | | 0.054 | mg/L | 0.0020 | 21 | 75 | 125 | | | S |
| Uranium | | 0.52 | mg/L | 0.00060 | 105 | 75 | 125 | | | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.

S - Spike recovery outside of advisory limits.

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/10/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12041044

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | Analytical Run: ICPMS2-C_120504A | |
| **Sample ID: ICV** | 8 | Initial Calibration Verification Standard | | | | | | | 05/04/12 13:40 | |
| Arsenic | | 0.0494 | mg/L | 0.0010 | 99 | 90 | 110 | | | |
| Barium | | 0.0500 | mg/L | 0.0010 | 100 | 90 | 110 | | | |
| Cadmium | | 0.0497 | mg/L | 0.0010 | 99 | 90 | 110 | | | |
| Chromium | | 0.0490 | mg/L | 0.0010 | 98 | 90 | 110 | | | |
| Lead | | 0.0497 | mg/L | 0.0010 | 99 | 90 | 110 | | | |
| Selenium | | 0.0498 | mg/L | 0.0010 | 100 | 90 | 110 | | | |
| Silver | | 0.0209 | mg/L | 0.0010 | 105 | 90 | 110 | | | |
| Uranium | | 0.0510 | mg/L | 0.00030 | 102 | 90 | 110 | | | |
| **Sample ID: ICSA** | 8 | Interference Check Sample A | | | | | | | 05/04/12 13:43 | |
| Arsenic | | 0.0106 | mg/L | 0.0010 | | | | | | |
| Barium | | 8.40E-06 | mg/L | 0.0010 | | | | | | |
| Cadmium | | 0.0106 | mg/L | 0.0010 | | | | | | |
| Chromium | | 0.0105 | mg/L | 0.0010 | | | | | | |
| Lead | | 3.57E-05 | mg/L | 0.0010 | | | | | | |
| Selenium | | 0.000221 | mg/L | 0.0010 | | | | | | |
| Silver | | 0.0109 | mg/L | 0.0010 | | | | | | |
| Uranium | | 6.77E-05 | mg/L | 0.00030 | | | | | | |
| **Sample ID: ICSAB** | 8 | Interference Check Sample AB | | | | | | | 05/04/12 13:46 | |
| Arsenic | | 0.0104 | mg/L | 0.0010 | 104 | 70 | 130 | | | |
| Barium | | 7.45E-05 | mg/L | 0.0010 | | | | | | |
| Cadmium | | 0.0104 | mg/L | 0.0010 | 104 | 70 | 130 | | | |
| Chromium | | 0.0104 | mg/L | 0.0010 | 104 | 70 | 130 | | | |
| Lead | | 3.87E-05 | mg/L | 0.0010 | | | | | | |
| Selenium | | 3.16E-05 | mg/L | 0.0010 | | | | | | |
| Silver | | 0.0106 | mg/L | 0.0010 | 105 | 70 | 130 | | | |
| Uranium | | 1.56E-05 | mg/L | 0.00030 | | | | | | |
| **Method: SW6020** | | | | | | | | | Batch: 33541 | |
| **Sample ID: MB-33541** | 8 | Method Blank | | | | Run: ICPMS2-C_120504A | | | 05/04/12 14:11 | |
| Arsenic | | 0.0005 | mg/L | 6E-05 | | | | | | |
| Barium | | 0.006 | mg/L | 3E-05 | | | | | | |
| Cadmium | | 0.0001 | mg/L | 1E-05 | | | | | | |
| Chromium | | 0.003 | mg/L | 4E-05 | | | | | | |
| Lead | | 0.0002 | mg/L | 3E-05 | | | | | | |
| Selenium | | ND | mg/L | 0.0002 | | | | | | |
| Silver | | 0.002 | mg/L | 3E-05 | | | | | | |
| Uranium | | 0.0003 | mg/L | 1E-05 | | | | | | |
| **Sample ID: LCS3-33541** | 8 | Laboratory Control Sample | | | | Run: ICPMS2-C_120504A | | | 05/04/12 14:14 | |
| Arsenic | | 0.46 | mg/L | 0.0010 | 93 | 80 | 120 | | | |
| Barium | | 0.49 | mg/L | 0.050 | 96 | 80 | 120 | | | |
| Cadmium | | 0.23 | mg/L | 0.0010 | 94 | 80 | 120 | | | |
| Chromium | | 0.48 | mg/L | 0.0050 | 95 | 80 | 120 | | | |

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/10/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12041044

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | | Batch: 33541 |
| **Sample ID: LCS3-33541** | 8 | Laboratory Control Sample | | | | Run: ICPMS2-C_120504A | | | | 05/04/12 14:14 |
| Lead | | 0.49 | mg/L | 0.0010 | 97 | 80 | 120 | | | |
| Selenium | | 0.44 | mg/L | 0.0010 | 89 | 80 | 120 | | | |
| Silver | | 0.051 | mg/L | 0.0020 | 97 | 80 | 120 | | | |
| Uranium | | 0.50 | mg/L | 0.00060 | 99 | 80 | 120 | | | |
| **Sample ID: LCSD3-33541** | 8 | Laboratory Control Sample Duplicate | | | | Run: ICPMS2-C_120504A | | | | 05/04/12 14:16 |
| Arsenic | | 0.48 | mg/L | 0.0010 | 95 | 80 | 120 | 2.6 | 20 | |
| Barium | | 0.50 | mg/L | 0.050 | 98 | 80 | 120 | 1.9 | 20 | |
| Cadmium | | 0.24 | mg/L | 0.0010 | 96 | 80 | 120 | 2.3 | 20 | |
| Chromium | | 0.49 | mg/L | 0.0050 | 98 | 80 | 120 | 3.7 | 20 | |
| Lead | | 0.50 | mg/L | 0.0010 | 100 | 80 | 120 | 2.8 | 20 | |
| Selenium | | 0.46 | mg/L | 0.0010 | 91 | 80 | 120 | 2.4 | 20 | |
| Silver | | 0.053 | mg/L | 0.0020 | 101 | 80 | 120 | 4.0 | 20 | |
| Uranium | | 0.50 | mg/L | 0.00060 | 99 | 80 | 120 | 0.1 | 20 | |
| **Sample ID: C12041044-022AMS3** | 8 | Sample Matrix Spike | | | | Run: ICPMS2-C_120504A | | | | 05/04/12 14:25 |
| Arsenic | | 0.48 | mg/L | 0.0010 | 94 | 75 | 125 | | | |
| Barium | | 0.55 | mg/L | 0.050 | 100 | 75 | 125 | | | |
| Cadmium | | 0.24 | mg/L | 0.0010 | 96 | 75 | 125 | | | |
| Chromium | | 0.48 | mg/L | 0.0050 | 95 | 75 | 125 | | | |
| Lead | | 0.50 | mg/L | 0.0010 | 100 | 75 | 125 | | | |
| Selenium | | 0.47 | mg/L | 0.0010 | 91 | 75 | 125 | | | |
| Silver | | 0.050 | mg/L | 0.0020 | 20 | 75 | 125 | | | S |
| Uranium | | 0.64 | mg/L | 0.00060 | 100 | 75 | 125 | | | |
| **Sample ID: C12041044-028ADIL** | 8 | Serial Dilution | | | | Run: ICPMS2-C_120504A | | | | 05/04/12 14:58 |
| Arsenic | | 0.0038 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Barium | | 0.029 | mg/L | 0.050 | | 0 | 0 | | 20 | |
| Cadmium | | 0.00016 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Chromium | | 0.0040 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Lead | | 0.0018 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Selenium | | 0.0079 | mg/L | 0.0050 | | 0 | 0 | | 20 | N |
| Silver | | ND | mg/L | 0.010 | | 0 | 0 | | 20 | |
| Uranium | | 0.011 | mg/L | 0.0030 | | 0 | 0 | 5.0 | 20 | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.

S - Spike recovery outside of advisory limits.

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/10/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12041044

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | Analytical Run: ICPMS4-C_120425B | |
| **Sample ID: ICV** | 8 | Initial Calibration Verification Standard | | | | | | | 04/25/12 11:08 | |
| Arsenic | | 0.0486 | mg/L | 0.0010 | 97 | 90 | 110 | | | |
| Barium | | 0.0497 | mg/L | 0.0010 | 99 | 90 | 110 | | | |
| Cadmium | | 0.0501 | mg/L | 0.0010 | 100 | 90 | 110 | | | |
| Chromium | | 0.0491 | mg/L | 0.0010 | 98 | 90 | 110 | | | |
| Lead | | 0.0497 | mg/L | 0.0010 | 99 | 90 | 110 | | | |
| Selenium | | 0.0485 | mg/L | 0.0010 | 97 | 90 | 110 | | | |
| Silver | | 0.0193 | mg/L | 0.0010 | 97 | 90 | 110 | | | |
| Uranium | | 0.0481 | mg/L | 0.00030 | 96 | 90 | 110 | | | |
| **Sample ID: ICSA** | 8 | Interference Check Sample A | | | | | | | 04/25/12 11:12 | |
| Arsenic | | 2.21E-05 | mg/L | 0.0010 | | | | | | |
| Barium | | 2.39E-05 | mg/L | 0.0010 | | | | | | |
| Cadmium | | 4.21E-05 | mg/L | 0.0010 | | | | | | |
| Chromium | | 2.05E-05 | mg/L | 0.0010 | | | | | | |
| Lead | | 1.30E-05 | mg/L | 0.0010 | | | | | | |
| Selenium | | 7.84E-05 | mg/L | 0.0010 | | | | | | |
| Silver | | -0.000229 | mg/L | 0.0010 | | | | | | |
| Uranium | | 2.36E-05 | mg/L | 0.00030 | | | | | | |
| **Sample ID: ICSAB** | 8 | Interference Check Sample AB | | | | | | | 04/25/12 11:17 | |
| Arsenic | | 0.0113 | mg/L | 0.0010 | 113 | 70 | 130 | | | |
| Barium | | 1.46E-05 | mg/L | 0.0010 | | | | | | |
| Cadmium | | 0.0109 | mg/L | 0.0010 | 109 | 70 | 130 | | | |
| Chromium | | 0.0115 | mg/L | 0.0010 | 115 | 70 | 130 | | | |
| Lead | | 5.40E-06 | mg/L | 0.0010 | | | | | | |
| Selenium | | 7.00E-07 | mg/L | 0.0010 | | | | | | |
| Silver | | 0.00988 | mg/L | 0.0010 | 99 | 70 | 130 | | | |
| Uranium | | 8.30E-06 | mg/L | 0.00030 | | | | | | |
| **Method: SW6020** | | | | | | | | | Batch: 33440 | |
| **Sample ID: MB-33440** | 8 | Method Blank | | | | Run: ICPMS4-C_120425B | | | 04/25/12 19:38 | |
| Arsenic | | 0.0004 | mg/L | 7E-05 | | | | | | |
| Barium | | 0.01 | mg/L | 0.0001 | | | | | | |
| Cadmium | | 0.0001 | mg/L | 4E-05 | | | | | | |
| Chromium | | ND | mg/L | 0.001 | | | | | | |
| Lead | | 0.0002 | mg/L | 3E-05 | | | | | | |
| Selenium | | 0.0001 | mg/L | 6E-05 | | | | | | |
| Silver | | 0.001 | mg/L | 2E-05 | | | | | | |
| Uranium | | 0.004 | mg/L | 5E-05 | | | | | | |
| **Sample ID: LCS3-33440** | 8 | Laboratory Control Sample | | | | Run: ICPMS4-C_120425B | | | 04/25/12 19:43 | |
| Arsenic | | 0.46 | mg/L | 0.0010 | 91 | 80 | 120 | | | |
| Barium | | 0.50 | mg/L | 0.050 | 98 | 80 | 120 | | | |
| Cadmium | | 0.24 | mg/L | 0.0010 | 97 | 80 | 120 | | | |
| Chromium | | 0.50 | mg/L | 0.0050 | 101 | 80 | 120 | | | |

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/10/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12041044

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | | Batch: 33440 |
| **Sample ID: LCS3-33440** | 8 | Laboratory Control Sample | | | | Run: ICPMS4-C_120425B | | | 04/25/12 19:43 | |
| Lead | | 0.51 | mg/L | 0.0010 | 103 | 80 | 120 | | | |
| Selenium | | 0.44 | mg/L | 0.0010 | 87 | 80 | 120 | | | |
| Silver | | 0.053 | mg/L | 0.0010 | 104 | 80 | 120 | | | |
| Uranium | | 0.50 | mg/L | 0.00030 | 99 | 80 | 120 | | | |
| **Sample ID: LCSD3-33440** | 8 | Laboratory Control Sample Duplicate | | | | Run: ICPMS4-C_120425B | | | 04/25/12 20:05 | |
| Arsenic | | 0.47 | mg/L | 0.0010 | 94 | 80 | 120 | 2.8 | 20 | |
| Barium | | 0.50 | mg/L | 0.050 | 99 | 80 | 120 | 1.0 | 20 | |
| Cadmium | | 0.25 | mg/L | 0.0010 | 98 | 80 | 120 | 1.0 | 20 | |
| Chromium | | 0.52 | mg/L | 0.0050 | 104 | 80 | 120 | 3.4 | 20 | |
| Lead | | 0.51 | mg/L | 0.0010 | 103 | 80 | 120 | 0.0 | 20 | |
| Selenium | | 0.44 | mg/L | 0.0010 | 89 | 80 | 120 | 1.5 | 20 | |
| Silver | | 0.054 | mg/L | 0.0010 | 106 | 80 | 120 | 1.7 | 20 | |
| Uranium | | 0.51 | mg/L | 0.00030 | 100 | 80 | 120 | 1.0 | 20 | |
| **Sample ID: C12041044-002ADIL** | 8 | Serial Dilution | | | | Run: ICPMS4-C_120425B | | | 04/25/12 20:19 | |
| Arsenic | | 0.0017 | mg/L | 0.0010 | | 0 | 0 | | 20 | N |
| Barium | | 0.065 | mg/L | 0.050 | | 0 | 0 | 2.8 | 20 | |
| Cadmium | | ND | mg/L | 0.0010 | | 0 | 0 | | 20 | |
| Chromium | | ND | mg/L | 0.011 | | 0 | 0 | | 20 | |
| Lead | | 0.0028 | mg/L | 0.0010 | | 0 | 0 | | 20 | N |
| Selenium | | ND | mg/L | 0.0010 | | 0 | 0 | | 20 | |
| Silver | | ND | mg/L | 0.0010 | | 0 | 0 | | 20 | |
| Uranium | | 0.010 | mg/L | 0.00052 | | 0 | 0 | 5.8 | 20 | |
| **Sample ID: C12041044-001AMS3** | 8 | Sample Matrix Spike | | | | Run: ICPMS4-C_120425B | | | 04/25/12 21:40 | |
| Arsenic | | 0.48 | mg/L | 0.0010 | 94 | 75 | 125 | | | |
| Barium | | 0.68 | mg/L | 0.050 | 102 | 75 | 125 | | | |
| Cadmium | | 0.25 | mg/L | 0.0010 | 98 | 75 | 125 | | | |
| Chromium | | 0.55 | mg/L | 0.0050 | 107 | 75 | 125 | | | |
| Lead | | 0.54 | mg/L | 0.0010 | 105 | 75 | 125 | | | |
| Selenium | | 0.46 | mg/L | 0.0010 | 92 | 75 | 125 | | | |
| Silver | | 0.053 | mg/L | 0.0010 | 21 | 75 | 125 | | | S |
| Uranium | | 0.60 | mg/L | 0.00030 | 104 | 75 | 125 | | | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

N - The analyte concentration was not sufficiently high to calculate a RPD for the serial dilution test.

S - Spike recovery outside of advisory limits.

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/10/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12041044

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | Analytical Run: ICPMS4-C_120502A | |
| **Sample ID: ICV** | 8 | Initial Calibration Verification Standard | | | | | | | 05/02/12 11:40 | |
| Arsenic | | 0.0474 | mg/L | 0.0010 | 95 | 90 | 110 | | | |
| Barium | | 0.0493 | mg/L | 0.0010 | 99 | 90 | 110 | | | |
| Cadmium | | 0.0496 | mg/L | 0.0010 | 99 | 90 | 110 | | | |
| Chromium | | 0.0478 | mg/L | 0.0010 | 96 | 90 | 110 | | | |
| Lead | | 0.0491 | mg/L | 0.0010 | 98 | 90 | 110 | | | |
| Selenium | | 0.0481 | mg/L | 0.0010 | 96 | 90 | 110 | | | |
| Silver | | 0.0199 | mg/L | 0.0010 | 99 | 90 | 110 | | | |
| Uranium | | 0.0480 | mg/L | 0.00030 | 96 | 90 | 110 | | | |
| **Sample ID: ICSA** | 8 | Interference Check Sample A | | | | | | | 05/02/12 11:44 | |
| Arsenic | | 0.00936 | mg/L | 0.0010 | | | | | | |
| Barium | | 2.85E-05 | mg/L | 0.0010 | | | | | | |
| Cadmium | | 0.00986 | mg/L | 0.0010 | | | | | | |
| Chromium | | 0.00959 | mg/L | 0.0010 | | | | | | |
| Lead | | 2.17E-05 | mg/L | 0.0010 | | | | | | |
| Selenium | | 5.69E-05 | mg/L | 0.0010 | | | | | | |
| Silver | | 0.00979 | mg/L | 0.0010 | | | | | | |
| Uranium | | 2.50E-05 | mg/L | 0.00030 | | | | | | |
| **Sample ID: ICSAB** | 8 | Interference Check Sample AB | | | | | | | 05/02/12 11:49 | |
| Arsenic | | 0.0100 | mg/L | 0.0010 | 100 | 70 | 130 | | | |
| Barium | | 4.90E-05 | mg/L | 0.0010 | | | | | | |
| Cadmium | | 0.00995 | mg/L | 0.0010 | 99 | 70 | 130 | | | |
| Chromium | | 0.0102 | mg/L | 0.0010 | 102 | 70 | 130 | | | |
| Lead | | 8.90E-06 | mg/L | 0.0010 | | | | | | |
| Selenium | | 1.01E-05 | mg/L | 0.0010 | | | | | | |
| Silver | | 0.00963 | mg/L | 0.0010 | 96 | 70 | 130 | | | |
| Uranium | | 4.30E-06 | mg/L | 0.00030 | | | | | | |
| **Method: SW6020** | | | | | | | | | Batch: 33486 | |
| **Sample ID: MB-33486** | 8 | Method Blank | | | | Run: ICPMS4-C_120502A | | | 05/02/12 20:11 | |
| Arsenic | | 0.001 | mg/L | 7E-05 | | | | | | |
| Barium | | 0.004 | mg/L | 0.0001 | | | | | | |
| Cadmium | | 0.0001 | mg/L | 4E-05 | | | | | | |
| Chromium | | 0.003 | mg/L | 0.001 | | | | | | |
| Lead | | 0.0001 | mg/L | 3E-05 | | | | | | |
| Selenium | | 0.0001 | mg/L | 6E-05 | | | | | | |
| Silver | | 0.0002 | mg/L | 2E-05 | | | | | | |
| Uranium | | 0.0004 | mg/L | 5E-05 | | | | | | |
| **Sample ID: LCS3-33486** | 8 | Laboratory Control Sample | | | | Run: ICPMS4-C_120502A | | | 05/02/12 20:16 | |
| Arsenic | | 0.47 | mg/L | 0.0010 | 94 | 80 | 120 | | | |
| Barium | | 0.52 | mg/L | 0.050 | 102 | 80 | 120 | | | |
| Cadmium | | 0.26 | mg/L | 0.0010 | 103 | 80 | 120 | | | |
| Chromium | | 0.53 | mg/L | 0.0050 | 104 | 80 | 120 | | | |

**Qualifiers:**

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

MDC - Minimum detectable concentration

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/10/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12041044

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW6020** | | | | | | | | | | Batch: 33486 |
| **Sample ID: LCS3-33486** | 8 | Laboratory Control Sample | | | | Run: ICPMS4-C_120502A | | | | 05/02/12 20:16 |
| Lead | | 0.54 | mg/L | 0.0010 | 108 | 80 | 120 | | | |
| Selenium | | 0.45 | mg/L | 0.0010 | 90 | 80 | 120 | | | |
| Silver | | 0.052 | mg/L | 0.0010 | 104 | 80 | 120 | | | |
| Uranium | | 0.51 | mg/L | 0.00030 | 101 | 80 | 120 | | | |
| **Sample ID: LCSD3-33486** | 8 | Laboratory Control Sample Duplicate | | | | Run: ICPMS4-C_120502A | | | | 05/02/12 20:20 |
| Arsenic | | 0.50 | mg/L | 0.0010 | 101 | 80 | 120 | 6.7 | 20 | |
| Barium | | 0.54 | mg/L | 0.050 | 107 | 80 | 120 | 4.1 | 20 | |
| Cadmium | | 0.27 | mg/L | 0.0010 | 106 | 80 | 120 | 3.5 | 20 | |
| Chromium | | 0.58 | mg/L | 0.0050 | 115 | 80 | 120 | 9.7 | 20 | |
| Lead | | 0.57 | mg/L | 0.0010 | 114 | 80 | 120 | 4.6 | 20 | |
| Selenium | | 0.48 | mg/L | 0.0010 | 96 | 80 | 120 | 7.2 | 20 | |
| Silver | | 0.055 | mg/L | 0.0010 | 110 | 80 | 120 | 5.5 | 20 | |
| Uranium | | 0.52 | mg/L | 0.00030 | 104 | 80 | 120 | 3.0 | 20 | |
| **Sample ID: C12041044-016AMS3** | 8 | Sample Matrix Spike | | | | Run: ICPMS4-C_120502A | | | | 05/02/12 21:15 |
| Arsenic | | 0.50 | mg/L | 0.0010 | 99 | 75 | 125 | | | |
| Barium | | 0.60 | mg/L | 0.050 | 108 | 75 | 125 | | | |
| Cadmium | | 0.26 | mg/L | 0.0010 | 106 | 75 | 125 | | | |
| Chromium | | 0.57 | mg/L | 0.0050 | 113 | 75 | 125 | | | |
| Lead | | 0.56 | mg/L | 0.0010 | 112 | 75 | 125 | | | |
| Selenium | | 0.49 | mg/L | 0.0010 | 96 | 75 | 125 | | | |
| Silver | | 0.054 | mg/L | 0.0010 | 21 | 75 | 125 | | | S |
| Uranium | | 0.56 | mg/L | 0.00030 | 106 | 75 | 125 | | | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/10/12

**Client:** Rio Grande Resources Corporation

**Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan

**Work Order:** C12041044

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW7470A** | | | | | | | | | | Analytical Run: CVAA_C203_120426A |
| **Sample ID: ICV** | | Initial Calibration Verification Standard | | | | | | | | 04/26/12 11:49 |
| Mercury | | 0.00526 | mg/L | 0.00010 | 105 | 90 | 110 | | | |
| **Method: SW7470A** | | | | | | | | | | Batch: 33421 |
| **Sample ID: MB-33421** | | Method Blank | | | | Run: CVAA_C203_120426A | | | | 04/26/12 12:32 |
| Mercury | | ND | mg/L | 3E-05 | | | | | | |
| **Sample ID: LCS-33421** | | Laboratory Control Sample | | | | Run: CVAA_C203_120426A | | | | 04/26/12 12:33 |
| Mercury | | 0.0053 | mg/L | 0.0020 | 106 | 85 | 115 | | | |
| **Sample ID: LCSD-33421** | | Laboratory Control Sample Duplicate | | | | Run: CVAA_C203_120426A | | | | 04/26/12 12:35 |
| Mercury | | 0.0054 | mg/L | 0.0020 | 108 | 85 | 115 | 1.1 | 10 | |
| **Sample ID: C12041044-001ASD** | | Serial Dilution | | | | Run: CVAA_C203_120426A | | | | 04/26/12 12:37 |
| Mercury | | ND | mg/L | 0.0020 | | | | | | |
| **Method: SW7470A** | | | | | | | | | | Analytical Run: CVAA_C203_120430A |
| **Sample ID: ICV** | | Initial Calibration Verification Standard | | | | | | | | 04/30/12 13:50 |
| Mercury | | 0.00522 | mg/L | 0.00010 | 104 | 90 | 110 | | | |
| **Method: SW7470A** | | | | | | | | | | Batch: 33433 |
| **Sample ID: MB-33433** | | Method Blank | | | | Run: CVAA_C203_120430A | | | | 04/30/12 15:12 |
| Mercury | | ND | mg/L | 3E-05 | | | | | | |
| **Sample ID: LCS-33433** | | Laboratory Control Sample | | | | Run: CVAA_C203_120430A | | | | 04/30/12 15:14 |
| Mercury | | 0.00520 | mg/L | 0.0020 | 104 | 85 | 115 | | | |
| **Sample ID: C12041044-003AMS** | | Sample Matrix Spike | | | | Run: CVAA_C203_120430A | | | | 04/30/12 15:19 |
| Mercury | | 0.00519 | mg/L | 0.0020 | 104 | 85 | 115 | | | |
| **Method: SW7470A** | | | | | | | | | | Batch: 33434 |
| **Sample ID: MB-33434** | | Method Blank | | | | Run: CVAA_C203_120430A | | | | 04/30/12 15:30 |
| Mercury | | ND | mg/L | 3E-05 | | | | | | |
| **Sample ID: C12041044-009AMS** | | Sample Matrix Spike | | | | Run: CVAA_C203_120430A | | | | 04/30/12 15:36 |
| Mercury | | 0.00996 | mg/L | 0.0020 | 100 | 85 | 115 | | | |
| **Sample ID: LCS-33434** | | Laboratory Control Sample | | | | Run: CVAA_C203_120430A | | | | 04/30/12 15:45 |
| Mercury | | 0.00504 | mg/L | 0.0020 | 101 | 85 | 115 | | | |
| **Method: SW7470A** | | | | | | | | | | Batch: 33465 |
| **Sample ID: MB-33465** | | Method Blank | | | | Run: CVAA_C203_120430A | | | | 04/30/12 15:52 |
| Mercury | | ND | mg/L | 3E-05 | | | | | | |
| **Sample ID: LCS-33465** | | Laboratory Control Sample | | | | Run: CVAA_C203_120430A | | | | 04/30/12 15:55 |
| Mercury | | 0.00497 | mg/L | 0.0020 | 99 | 85 | 115 | | | |
| **Sample ID: C12041044-016AMS** | | Sample Matrix Spike | | | | Run: CVAA_C203_120430A | | | | 04/30/12 16:04 |
| Mercury | | 0.0105 | mg/L | 0.0020 | 105 | 85 | 115 | | | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Revised Date:** 07/10/12

**Client:** Rio Grande Resources Corporation **Report Date:** 06/13/12

**Project:** Mt. Taylor Mine Closure Plan **Work Order:** C12041044

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: SW7470A** | | | | | | | | | Analytical Run: CVAA_C203_120502A | |
| **Sample ID: ICV** | Initial Calibration Verification Standard | | | | | | | | 05/02/12 10:05 | |
| Mercury | | 0.00516 | mg/L | 0.00010 | 103 | 90 | 110 | | | |
| **Method: SW7470A** | | | | | | | | | Batch: 33523 | |
| **Sample ID: MB-33523** | Method Blank | | | | | Run: CVAA_C203_120502A | | | 05/02/12 11:22 | |
| Mercury | | ND | mg/L | 3E-05 | | | | | | |
| **Sample ID: LCS-33523** | Laboratory Control Sample | | | | | Run: CVAA_C203_120502A | | | 05/02/12 11:23 | |
| Mercury | | 0.00530 | mg/L | 0.0020 | 106 | 85 | 115 | | | |
| **Sample ID: LCSD-33523** | Laboratory Control Sample Duplicate | | | | | Run: CVAA_C203_120502A | | | 05/02/12 11:25 | |
| Mercury | | 0.00541 | mg/L | 0.0020 | 108 | 85 | 115 | 2.1 | 10 | |
| **Sample ID: C12041044-022AMS** | Sample Matrix Spike | | | | | Run: CVAA_C203_120502A | | | 05/02/12 11:27 | |
| Mercury | | 0.00534 | mg/L | 0.0020 | 107 | 85 | 115 | | | |
| **Sample ID: C12041044-028ADIL** | Serial Dilution | | | | | Run: CVAA_C203_120502A | | | 05/02/12 11:39 | |
| Mercury | | ND | mg/L | 0.0020 | | | | | 10 | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

# Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

# Workorder Receipt Checklist

## Rio Grande Resources Corporation C12041044

Login completed by: Kristy Gisse
Date Received: 4/20/2012

Reviewed by: BL2000\kschroeder
Received by: kg

Reviewed Date: 4/26/2012
Carrier name: FedEx

| | | | |
|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on shipping container/cooler? | Yes ☐ | No ☐ | Not Present ☑ |
| Custody seals intact on sample bottles? | Yes ☐ | No ☐ | Not Present ☑ |
| Chain of custody present? | Yes ☑ | No ☐ | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | |
| Sample containers intact? | Yes ☑ | No ☐ | |
| Sufficient sample volume for indicated test? | Yes ☐ | No ☑ | |
| All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes ☑ | No ☐ | |
| Container/Temp Blank temperature: | 11.2°C No Ice | | |
| Water - VOA vials have zero headspace? | Yes ☐ | No ☐ | No VOA vials submitted ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☐ | Not Applicable ☑ |

Contact and Corrective Action Comments:

Sample MT-6-A-S3 insufficient volume for testing. Cancelled per phone conversation with Barbara Everett.

# Chain of Custody and Analytical Request Record



PLEASE PRINT- Provide as much information as possible.

| | | | |
|---|---|---|---|
| Company Name: Rio Grande Resources Corp | Project Name, PWS, Permit, Etc.: Mt. Taylor Mine Closure Plan | Sample Origin: State: NM | EPA/State Compliance: Yes ☒ No ☐ |
| Report Mail Address: PO Box 1150, Grants, NM 87020. Additional e-mail copy to beverett@kleinfelder.com | Contact Name: Barbara Everett (Kleinfelder) Phone/Fax: (505) 344-7373, (505) 280-1079 (Cell) | Email: beverett@kleinfelder.com | Sampler: (Please Print) Barbara Everett, Ed Loescher |
| Invoice Address: PO Box 1150, Grants, NM 87020 | Invoice Contact & Phone: Jeanette Lister 505-287-7971 | Purchase Order: | Quote/Bottle Order: C3778 |

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: NM
- ☐ Other: _____
- ☐ A2LA
- ☒ EDD/EDT (Electronic Data) Format: excel
- ☐ LEVEL IV
- ☐ NELAC

| SAMPLE IDENTIFICATION (Name, Location, Interval, etc.) | Collection Date | Collection Time | MATRIX | Number of Containers (Sample Type: A Air, W Water, S Soils/Solids, V Vegetation, B Biossay, O Other) | SPLP Extract | RCRA Metals + Uranium | Ra226 & Ra228 | Cl & SO4 by IC 300.0 | RCI | SEE ATTACHED | Normal Turnaround (TAT) | RUSH | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 MT-1-F | 4-10-12 | 10:45 | Soil Sediment | | X | X | X | | | | X | | 6" B.G. |
| 2 MT-2-D | 4-10-12 | 10:15 | Soil Sediment | | X | X | X | | | | X | | 6' B.G. |
| 3 MT-3-F | 4-10-12 | 11:10 | Soil Sediment | | X | X | X | | | | X | | 6" B.G |
| 4 MT-4-F | 4-10-12 | 9:35 | Soil Sediment | | X | X | X | X | | | X | | 6" B.G |
| 5 MT-5-F | 4-10-12 | 10:00 | Soil Sediment | | X | X | X | X | | | X | | 6" B.G. |
| 6 MT-7-C | 4-10-12 | 9:45 | Soil Sediment | | X | X | X | | | | X | | 6" B.G. |
| 7 MT-UP-E | 4-10-12 | 9:00 | Soil Sediment | | X | X | X | | | | X | | 6" B.G. |
| 8 MT-A-C | 4-10-12 | 10:55 | Soil Sediment | | X | X | X | | | | X | | 6" B.G. |
| 9 MT-Borrow/Backyard | 4-10-12 | 14:00 | Soil Sediment | | X | X | X | | | | X | | 6" B.G. |
| 10 | | | Soil Sediment | | | | | | | | X | | 6" B.G. |

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Shipped by: FE-NOA

Cooler ID(s): 6 Buckets

Receipt Temp: 11.2 °C

On Ice: Yes (No)

Custody Seal Y (N) Intact Y N Signature Match Y N

LABORATORY USE ONLY

**Custody Record MUST be Signed**

| | | |
|---|---|---|
| Relinquished by (print): ED LOESCHER | Date/Time: 4/11/2012 | Signature: |
| Relinquished by (print): BARBARA EVERETT | Date/Time: 4/19/2012 16:00 | Signature: |
| Received by (print): Barbara Everett | Date/Time: 4/11/2012 15:00 | Signature: |
| Received by (print): | Date/Time: | Signature: |
| Received by Laboratory: | Date/Time: 4-20-12 9:45 | Signature: Kris Gross |

Sample Disposal: Return to Client: _____ Lab Disposal: X

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

Visit our web site at www.energylab.com for additional information.

# Chain of Custody and Analytical Request Record



PLEASE PRINT- Provide as much information as possible.

| | | | |
|---|---|---|---|
| Company Name: Rio Grande Resources Corp | Project Name, PWS, Permit, Etc. Mt. Taylor Mine Closure Plan | Sample Origin State: NM | EPA/State Compliance: Yes ☒ No ☐ |
| Report Mail Address: PO Box 1150 Grants, NM 87020 Additional e-mail copy to beverett@kleinfelder.com | Contact Name: Barbara Everett (Kleinfelder) Phone/Fax: (505) 344-7373 (505) 280-1079 (Cell) | Email: beverett@kleinfelder.com | Sampler: (Please Print) Barbara Everett Ed Loescher |
| Invoice Address: PO Box 1150 Grants, NM 87020 | Invoice Contact & Phone: Jeanette Lister 505-287-7971 | Purchase Order: | Quote/Bottle Order: C3778 |

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ GSA ☐ POTW/WWTP ☐ State: NM ☐ Other: _____

☐ A2LA ☒ EDD/EDT (Electronic Data) Format: excel ☐ LEVEL IV ☐ NELAC

Number of Containers
Sample Type: A Air W Water S Soils/Solids V Vegetation B Bioassay O Other

ANALYSIS REQUESTED

| SAMPLE IDENTIFICATION (Name, Location, Interval, etc.) | Collection Date | Collection Time | MATRIX | SPLP Extract | RCRA Metals + Uranium | Ra226 & Ra228 | Cl & SO4 by IC 300.0 | RCI | | | | | | SEE ATTACHED | Normal Turnaround (TAT) | RUSH | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 1 MT-4-D-S1 | 4-10-12 | 2:05 | Sediment | X | X | X | X | | | | | | | | X | | 0-6" B.G. |
| 2 2 MT-4-D-S2 | 4-10-12 | 2:10 | Sediment | X | X | X | X | | | | | | | | X | | 14" B.G. |
| 2 3 MT-4-D-S3 | 4-10-12 | 2:20 | Sediment | X | X | X | X | | | | | | | | X | | 48" B.G. |
| 3 4 MT-4-E-S1 | 4-10-12 | 1:35 | Sediment | X | X | X | X | | | | | | | | X | | 0-4" B.G. |
| 3 5 MT-4-E-S2 | 4-10-12 | 1:40 | Sediment | X | X | X | X | | | | | | | | X | | 10-12" B.G. |
| 3 6 MT-4-E-S3 | 4-10-12 | 1:42 | Sediment | X | X | X | X | | | | | | | | X | | 36" B.G. |
| 3 7 MT-4-E-S4 | 4-10-12 | 1:45 | Sediment | X | X | X | X | | | | | | | | X | | 48" B.G. |
| 8 MT-6-A-S1 | 4-10-12 | 3:05 | Sediment | X | X | X | | | | | | | | | X | | 0-5" B.G. |
| 9 MT-6-A-S2 | 4-10-12 | 3:10 | Sediment | X | X | X | | | | | | | | | X | | 12"-20" B.G. |
| 10 MT-6-A-S3 | 4-10-12 | 3:15 | ~~Sediment~~ | X | X | X | | | | | | | | | X | | Rock chip |

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: FE-NOA

Cooler ID(s): 6 Coolers

Receipt Temp: 11.2 °C

On Ice: Yes (NO)

Custody Seal Y N

Intact Y N

Signature Match Y N

LABORATORY USE ONLY

**Custody Record MUST be Signed**

Relinquished by (print): Ed Loescher Date/Time: 4/11/12 Signature:

Relinquished by (print): BARBARA EVERETT Date/Time: 4/19/1600 Signature:

Received by (print): BARBARA EVERETT Date/Time: 4/11/12 15:00 Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: Date/Time: 4-20-12 T:45 Signature: Kris Gross

Sample Disposal: Return to Client: _____ Lab Disposal: X

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

Visit our web site at www.energylab.com for additional information, price schedules and terms and conditions.

# Chain of Custody and Analytical Request Record



PLEASE PRINT- Provide as much information as possible.

| | | | |
|---|---|---|---|
| Company Name: Rio Grande Resources Corp | Project Name, PWS, Permit, Etc.: Mt. Taylor Mine Closure Plan | Sample Origin: State: NM | EPA/State Compliance: Yes ☒ No ☐ |
| Report Mail Address: PO Box 1150, Grants, NM 87020. Additional e-mail copy to beverett@kleinfelder.com | Contact Name: Barbara Everett (Kleinfelder) Phone/Fax: (505) 344-7373 (505) 280-1079 (Cell) | Email: beverett@kleinfelder.com | Sampler: (Please Print) Barbara Everett, Ed Loescher |
| Invoice Address: PO Box 1150, Grants, NM 87020 | Invoice Contact & Phone: Jeanette Lister 505-287-7971 | Purchase Order: | Quote/Bottle Order: C3778 |

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

- ☐ DW
- ☐ GSA
- ☐ POTW/WWTP
- ☐ State: NM
- ☐ Other:
- ☐ A2LA
- ☒ EDD/EDT (Electronic Data) Format: excel
- ☐ LEVEL IV
- ☐ NELAC

Number of Containers; Sample Type: A Air, W Water, S Soils/Solids, V Vegetation, B Bioassay, O Other

ANALYSIS REQUESTED

| | SAMPLE IDENTIFICATION (Name, Location, Interval, etc.) | Collection Date | Collection Time | MATRIX | SPLP Extract | RCRA Metals + Uranium | Ra226 & Ra228 | Cl & SO4 by IC 300.0 | RCI | SEE ATTACHED | Normal Turnaround (TAT) | RUSH | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MT-6-B-S1 | 4-10-12 | 2:30 | Sediment | X | X | X | | | | X | | 8"-10" B.G. |
| 1 | 2 MT-6-B-S2 | 4-10-12 | 2:35 | Sediment | X | X | X | | | | X | | 30" B.G. |
| 1 | 3 MT-OP-C-S1 | 4-10-12 | 1:20 | Sediment | X | X | X | | | | X | | 0"-6" B.G. |
| 1 | 4 MT-OP-C-S2 | 4-10-12 | 1:25 | Sediment | X | X | X | | | | X | | 20" B.G. |
| 1 | 5 MT-OP-C-S3 | 4-10-12 | 1:25 | Sediment | X | X | X | | | | X | | 48"-50" B.G. |
| 1 | 6 MT-OP-C-S4 | 4-10-12 | 1:30 | Sediment | X | X | X | | | | X | | 72" B.G. |
| 2 | 7 MT-OP-D-S1 | 4-10-12 | 12:45 | Sediment | X | X | X | | | | X | | 0-6" B.G. |
| 2 | 8 MT-OP-D-S2 | 4-10-12 | 12:45 | Sediment | X | X | X | | | | X | | 48-50" B.G. |
| 2 | 9 MT-OP-D-S3 | 4-10-12 | 12:50 | Sediment | X | X | X | | | | X | | 76" B.G. |
| 4 | 10 MT-8-F | 4-10-12 | 09:25 | Sediment | X | X | X | X | | | X | | 6" B.G. |

Page 50 of 50

Contact ELI prior to RUSH sample submittal for charges and scheduling – See Instruction Page

Shipped by: FE-MAIL

Cooler ID(s): 6 buckets

Receipt Temp: 11.2 °C

On Ice: Yes (No)

Custody Seal Y (N) Intact Y N Signature Match Y N

**Custody Record MUST be Signed**

Relinquished by (print): ED LOESCHER Date/Time: 4-11-12 Signature:

Relinquished by (print): BARBARA EVERETT Date/Time: 4/19/12 16:00 Signature:

Received by (print): BARBARA EVERETT Date/Time: 4/11/12 15:00 Signature:

Received by (print): Date/Time: Signature:

Sample Disposal: Return to Client: Lab Disposal: X

Received by Laboratory: Date/Time: 4-20-12 9:45 Signature:

LABORATORY USE ONLY

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.

Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

# ANALYTICAL SUMMARY REPORT

July 05, 2012

Rio Grande Resources Corporation
PO Box 1150
Grants, NM 87020

Workorder No.: C12050924

Project Name: Mt. Taylor Mine

Energy Laboratories, Inc. Casper WY received the following 3 samples for Rio Grande Resources Corporation on 5/24/2012 for analysis.

| Sample ID | Client Sample ID | Collect Date | Receive Date | Matrix | Test |
|---|---|---|---|---|---|
| C12050924-001 | MT-WP-SM1 | 05/18/12 9:30 | 05/24/12 | Soil | Digestion For RadioChemistry<br>Radium 226<br>Uranium, Isotopic |
| C12050924-002 | MT-WP-SM2 | 05/18/12 9:40 | 05/24/12 | Soil | Same As Above |
| C12050924-003 | MT-WP-SM3 | 05/18/12 10:00 | 05/24/12 | Soil | Same As Above |

The results as reported relate only to the item(s) submitted for testing. The analyses presented in this report were performed at Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Radiochemistry analyses were performed at Energy Laboratories, Inc., 2325 Kerzell Lane, Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these test results, please call.

Report Approved By:

Stephanie D Waldrop
Reporting Supervisor

Digitally signed by
Stephanie Waldrop
Date: 2012.07.05 16:09:59 -06:00

**CLIENT:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Sample Delivery Group:** C12050924

**Report Date:** 07/05/12

# CASE NARRATIVE

ORIGINAL SAMPLE SUBMITTAL(S)
All original sample submittals have been returned with the data package.

SAMPLE TEMPERATURE COMPLIANCE: 4°C (±2°C)
Temperature of samples received may not be considered properly preserved by accepted standards. Samples that are hand delivered immediately after collection shall be considered acceptable if there is evidence that the chilling process has begun.

GROSS ALPHA ANALYSIS
Method 900.0 for gross alpha and gross beta is intended as a drinking water method for low TDS waters. Data provided by this method for non potable waters should be viewed as inconsistent.

RADON IN AIR ANALYSIS
The desired exposure time is 48 hours (2 days). The time delay in returning the canister to the laboratory for processing should be as short as possible to avoid excessive decay. Maximum recommended delay between end of exposure to beginning of counting should not exceed 8 days.

SOIL/SOLID SAMPLES
All samples reported on an as received basis unless otherwise indicated.

ATRAZINE, SIMAZINE AND PCB ANALYSIS
Data for PCBs, Atrazine and Simazine are reported from EPA 525.2. PCB data reported by ELI reflects the results for seven individual Aroclors. When the results for all seven are ND (not detected), the sample meets EPA compliance criteria for PCB monitoring.

SUBCONTRACTING ANALYSIS
Subcontracting of sample analyses to an outside laboratory may be required. If so, ENERGY LABORATORIES will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

BRANCH LABORATORY LOCATIONS
eli-b - Energy Laboratories, Inc. - Billings, MT
eli-g - Energy Laboratories, Inc. - Gillette, WY
eli-h - Energy Laboratories, Inc. - Helena, MT
eli-r - Energy Laboratories, Inc. - Rapid City, SD
eli-t - Energy Laboratories, Inc. - College Station, TX

CERTIFICATIONS:
USEPA: WY00002, Radiochemical WY00937; FL-DOH NELAC: E87641, Radiochemical E871017; California: 02118CA; Oregon: WY200001, Radiochemical WY200002; Utah: WY00002; Virginia: 00057; Washington: C836

ISO 17025 DISCLAIMER:
The results of this Analytical Report relate only to the items submitted for analysis.

ENERGY LABORATORIES, INC. - CASPER,WY certifies that certain method selections contained in this report meet requirements as set forth by the above accrediting authorities. Some results requested by the client may not be covered under these certifications. All analysis data to be submitted for regulatory enforcement should be certified in the sample state of origin. Please verify ELI's certification coverage by visiting www.energylab.com

ELI appreciates the opportunity to provide you with this analytical service. For additional information and services visit our web page www.energylab.com.

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12050924-001
**Client Sample ID:** MT-WP-SM1

**Report Date:** 07/05/12
**Collection Date:** 05/18/12 09:30
**DateReceived:** 05/24/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 0.7 | pCi/g-dry | | | | E903.0 | 06/20/12 01:37 / dmf |
| Radium 226 precision (±) | 0.08 | pCi/g-dry | | | | E903.0 | 06/20/12 01:37 / dmf |
| Radium 226 MDC | 0.04 | pCi/g-dry | | | | E903.0 | 06/20/12 01:37 / dmf |
| Uranium 234 | 0.6 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 234 precision (±) | 0.3 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 234 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 235 | 0.03 | pCi/g-dry | U | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 235 precision (±) | 0.09 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 235 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 238 | 0.6 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 238 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 238 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12050924-002
**Client Sample ID:** MT-WP-SM2

**Report Date:** 07/05/12
**Collection Date:** 05/18/12 09:40
**DateReceived:** 05/24/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 0.7 | pCi/g-dry | | | | E903.0 | 06/20/12 01:37 / dmf |
| Radium 226 precision (±) | 0.08 | pCi/g-dry | | | | E903.0 | 06/20/12 01:37 / dmf |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 06/20/12 01:37 / dmf |
| Uranium 234 | 0.8 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 234 precision (±) | 0.3 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 234 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 235 | 0.1 | pCi/g-dry | U | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 235 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 235 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 238 | 0.4 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 238 precision (±) | 0.2 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 238 MDC | 0.3 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Project:** Mt. Taylor Mine
**Lab ID:** C12050924-003
**Client Sample ID:** MT-WP-SM3

**Report Date:** 07/05/12
**Collection Date:** 05/18/12 10:00
**DateReceived:** 05/24/12
**Matrix:** Soil

| Analyses | Result | Units | Qualifier | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **RADIONUCLIDES** | | | | | | | |
| Radium 226 | 1.1 | pCi/g-dry | | | | E903.0 | 06/20/12 01:37 / dmf |
| Radium 226 precision (±) | 0.09 | pCi/g-dry | | | | E903.0 | 06/20/12 01:37 / dmf |
| Radium 226 MDC | 0.03 | pCi/g-dry | | | | E903.0 | 06/20/12 01:37 / dmf |
| Uranium 234 | 1.1 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 234 precision (±) | 0.3 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 234 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 235 | -0.02 | pCi/g-dry | U | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 235 precision (±) | 0.09 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 235 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 238 | 0.9 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 238 precision (±) | 0.3 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |
| Uranium 238 MDC | 0.2 | pCi/g-dry | | | | E908.0 | 06/18/12 08:39 / dmf |

**Report Definitions:**
RL - Analyte reporting limit.
QCL - Quality control limit.
MDC - Minimum detectable concentration
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
U - Not detected at minimum detectable concentration

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation
**Report Date:** 07/05/12
**Project:** Mt. Taylor Mine
**Work Order:** C12050924

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: E903.0** | | | | | | | | | | Batch: R161002 |
| **Sample ID: LCS-33822** | | Laboratory Control Sample | | | | Run: BERTHOLD 770-1_120612A | | | | 06/20/12 01:37 |
| Radium 226 | | 0.29 | pCi/g-dry | | 60 | 70 | 130 | | | S |
| - LCS response is outside of the acceptance range for this analysis. Since the MB, MS, and MSD are acceptable the batch is approved. | | | | | | | | | | |
| **Sample ID: MB-33822** | 3 | Method Blank | | | | Run: BERTHOLD 770-1_120612A | | | | 06/20/12 01:37 |
| Radium 226 | | -0.003 | pCi/g-dry | | | | | | | U |
| Radium 226 precision (±) | | 0.003 | pCi/g-dry | | | | | | | |
| Radium 226 MDC | | 0.006 | pCi/g-dry | | | | | | | |
| **Sample ID: C12050924-003AMS** | | Sample Matrix Spike | | | | Run: BERTHOLD 770-1_120612A | | | | 06/20/12 01:37 |
| Radium 226 | | 4.6 | pCi/g-dry | | 72 | 70 | 130 | | | |
| **Sample ID: C12050924-003AMSD** | | Sample Matrix Spike Duplicate | | | | Run: BERTHOLD 770-1_120612A | | | | 06/20/12 01:37 |
| Radium 226 | | 4.5 | pCi/g-dry | | 71 | 70 | 130 | 2.5 | 23.8 | |

**Qualifiers:**

RL - Analyte reporting limit.
MDC - Minimum detectable concentration
U - Not detected at minimum detectable concentration
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

# QA/QC Summary Report

Prepared by Casper, WY Branch

**Client:** Rio Grande Resources Corporation **Report Date:** 07/05/12

**Project:** Mt. Taylor Mine **Work Order:** C12050924

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method: E908.0** | | | | | | | | | | Batch: R160930 |
| **Sample ID: C12050924-003AMS** | 2 | Sample Matrix Spike | | | | Run: EGG-ORTEC_120614A | | | | 06/18/12 08:39 |
| Uranium 234 | | 52.2 | pCi/g-dry | | 115 | 70 | 130 | | | |
| Uranium 238 | | 53.1 | pCi/g-dry | | 115 | 70 | 130 | | | |
| **Sample ID: C12050924-003AMSD** | 2 | Sample Matrix Spike Duplicate | | | | Run: EGG-ORTEC_120614A | | | | 06/18/12 08:39 |
| Uranium 234 | | 51.9 | pCi/g-dry | | 110 | 70 | 130 | 0.6 | 28 | |
| Uranium 238 | | 54.9 | pCi/g-dry | | 114 | 70 | 130 | 3.3 | 27.8 | |
| **Sample ID: LCS-33822** | 2 | Laboratory Control Sample | | | | Run: EGG-ORTEC_120614A | | | | 06/18/12 08:39 |
| Uranium 234 | | 2.52 | pCi/g-dry | | 108 | 80 | 120 | | | |
| Uranium 238 | | 2.59 | pCi/g-dry | | 109 | 80 | 120 | | | |
| **Sample ID: MB-33822** | 9 | Method Blank | | | | Run: EGG-ORTEC_120614A | | | | 06/18/12 08:39 |
| Uranium 234 | | 0.01 | pCi/g-dry | | | | | | | U |
| Uranium 234 precision (±) | | 0.02 | pCi/g-dry | | | | | | | |
| Uranium 234 MDC | | 0.03 | pCi/g-dry | | | | | | | |
| Uranium 235 | | 0.0009 | pCi/g-dry | | | | | | | U |
| Uranium 235 precision (±) | | 0.01 | pCi/g-dry | | | | | | | |
| Uranium 235 MDC | | 0.03 | pCi/g-dry | | | | | | | |
| Uranium 238 | | 0.007 | pCi/g-dry | | | | | | | U |
| Uranium 238 precision (±) | | 0.01 | pCi/g-dry | | | | | | | |
| Uranium 238 MDC | | 0.03 | pCi/g-dry | | | | | | | |

**Qualifiers:**

RL - Analyte reporting limit.

MDC - Minimum detectable concentration

ND - Not detected at the reporting limit.

U - Not detected at minimum detectable concentration

# Standard Reporting Procedures

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

---

# Workorder Receipt Checklist

## Rio Grande Resources Corporation C12050924

Login completed by: Brian H. Cody
Date Received: 5/24/2012

Reviewed by: BL2000\kschroeder
Received by: kg

Reviewed Date: 5/25/2012
Carrier name: Ground

| | | | |
|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on shipping container/cooler? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on sample bottles? | Yes ☐ | No ☐ | Not Present ☑ |
| Chain of custody present? | Yes ☑ | No ☐ | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | |
| Sample containers intact? | Yes ☑ | No ☐ | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | |
| All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes ☑ | No ☐ | |
| Container/Temp Blank temperature: | 22.3°C | | |
| Water - VOA vials have zero headspace? | Yes ☐ | No ☐ | No VOA vials submitted ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☐ | Not Applicable ☑ |

Contact and Corrective Action Comments:

None

# Chain of Custody and Analytical Request Record



PLEASE PRINT- Provide as much information as possible.

| | | | |
|---|---|---|---|
| Company Name: Rio Grande Resources Corporation - NM #C11115 | Project Name, PWS, Permit, Etc.: MT. TAYLOR MINE | Sample Origin State: NM | EPA/State Compliance: Yes ☑ No ☐ |
| Report Mail Address: PO Box 1150 Grants, New Mexico 87020 | Contact Name: Joe Lister - Mine Manage | Phone/Fax: (505)287-7971 | Email: joe.lister@riograndereso |
| | | | Sampler: (Please Print) Joel Lister/AK |
| Invoice Address: Rio grande Resources Corporation PO Box 1150 Grants, new Mexico 87020 | Invoice Contact & Phone: Joe Lister - Mine Managr | Purchase Order: | Quote/Bottle Order: Soil Samples |

Special Report/Formats – ELI must be notified prior to sample submittal for the following:

☐ DW ☐ A2LA
☐ GSA ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: _____
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A Air W Water S Soils/Solids V Vegetation B Bioassay O Other

ANALYSIS REQUESTED

| SAMPLE IDENTIFICATION (Name, Location, Interval, etc.) | Collection Date | Collection Time | MATRIX | Isotopic Uranium | Radium 226 | SEE ATTACHED | Normal Turnaround (TAT) |
|---|---|---|---|---|---|---|---|
| 1 MT - WP - SM1 | 05/18/12 | 09:30 | soil | X | X | | |
| 2 MT - WP - SM2 | 05/18/12 | 09:40 | soil | X | X | | |
| 3 MT - WP - SM3 | 05/18/12 | 10:00 | soil | X | X | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by: UPS- G
Cooler ID(s): BOX
Receipt Temp: 22.3 °C
On Ice: Yes (No)
Custody Seal (Y) N
Intact (Y) N
Signature Match (Y) N

LABORATORY USE ONLY
C12050924

**Custody Record MUST be Signed**

| | | | | | |
|---|---|---|---|---|---|
| Relinquished by (print): Joe Lister | Date/Time: 05/22/12 09:19 | Signature: | Received by (print): | Date/Time: | Signature: |
| Relinquished by (print): | Date/Time: | Signature: | Received by (print): | Date/Time: | Signature: |
| Sample Disposal: Return to Client: _____ | Lab Disposal: XXXXX | | Received by Laboratory: | Date/Time: 5-24-12 9:15 | Signature: |

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

# MT. TAYLOR ORE CHEMICAL ANALYSIS
MARCH 18, 1986

| | % BY WEIGHT |
|---|---|
| Sodium | 1.62 |
| Magnesium | 0.605 |
| Aluminum | < 0.01 |
| Silicon | 33.40 |
| Sulfur | 0.118 |
| Chlorine | 0.030 |
| Calcium | 1.06 |
| Titanium | 0.149 |
| Vanadium | 0.091 |
| Chromium | < 0.01 |
| Manganese | 0.03 |
| Iron | 1.52 |
| Cobalt | < 0.01 |
| Nickel | < 0.01 |
| Copper | < 0.01 |
| Zinc | < 0.01 |
| Arsenic | < 0.01 |
| Selenium | 0.009 |
| Bromide | < 0.01 |
| Rubidium | 0.016 |
| Strontium | 0.012 |
| Zirconium | 0.009 |
| Molybdenum | 0.003 |
| Lead | 0.012 |
| Thorium | 0.009 |
| Uranium | 0.420 |

# APPENDIX D.4

## Field Sampling and Laboratory Test Data

Original Closeout Plan Soil Data

Vinyard & Associates, Inc.

4415-D Hawkins, NE
Albuquerque, New Mexico 87109
(505) 345-1937

Geotechnical Engineering • Materials Testing • Environmental Engineering

November 6, 1995

AK GeoConsult, Inc.
13212 Manitoba Drive, NE
Albuquerque, NM 87111

Attn: Mr. Alan K. Kuhn, PhD, PE

Subject: Mt. Taylor Mine Soil Samples
V & A Project No. 95-1-245

Gentlemen:

Attached are copies of the Proctor, Sieve Analysis and Atterberg Limits Test Results for the Mt. Taylor Mine Soil Samples.

Should you have any questions regarding this data, please do not hesitate to call.

Sincerely,

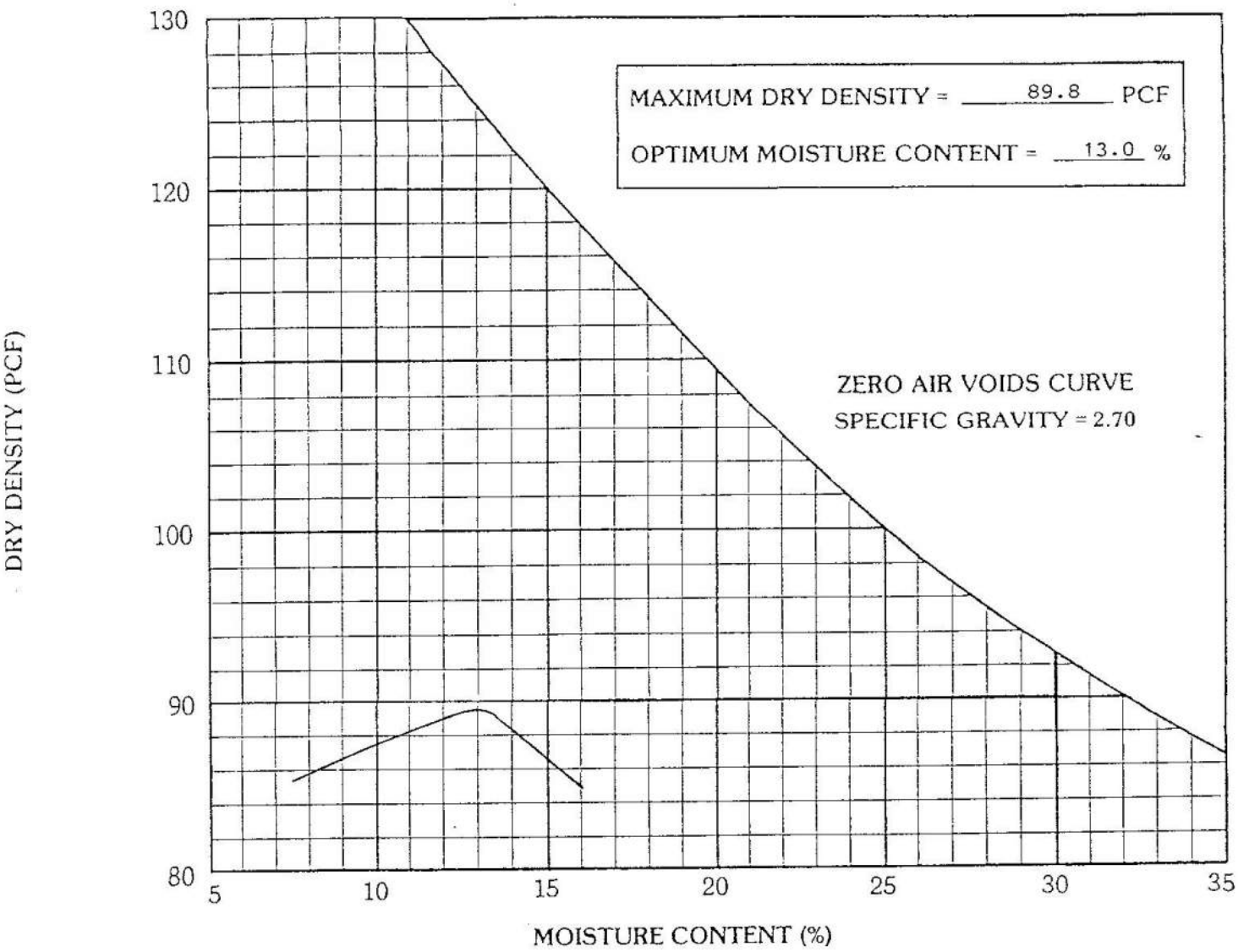
Martin D. Vinyard, PE

Attachments: Data Sheets (10)

cc: Addressee (1)

V & A

# COMPACTION TEST RESULTS




SAMPLE LOCATION: TP-1

SOIL DESCRIPTION: CLAY, very sandy

UNIFIED SOIL CLASSIFICATION: (CL)

AASHTO SOIL CLASSIFICATION:

TEST METHOD: ASTM D-698

ATTERBERG LIMITS: LL 38 % PI 18 %

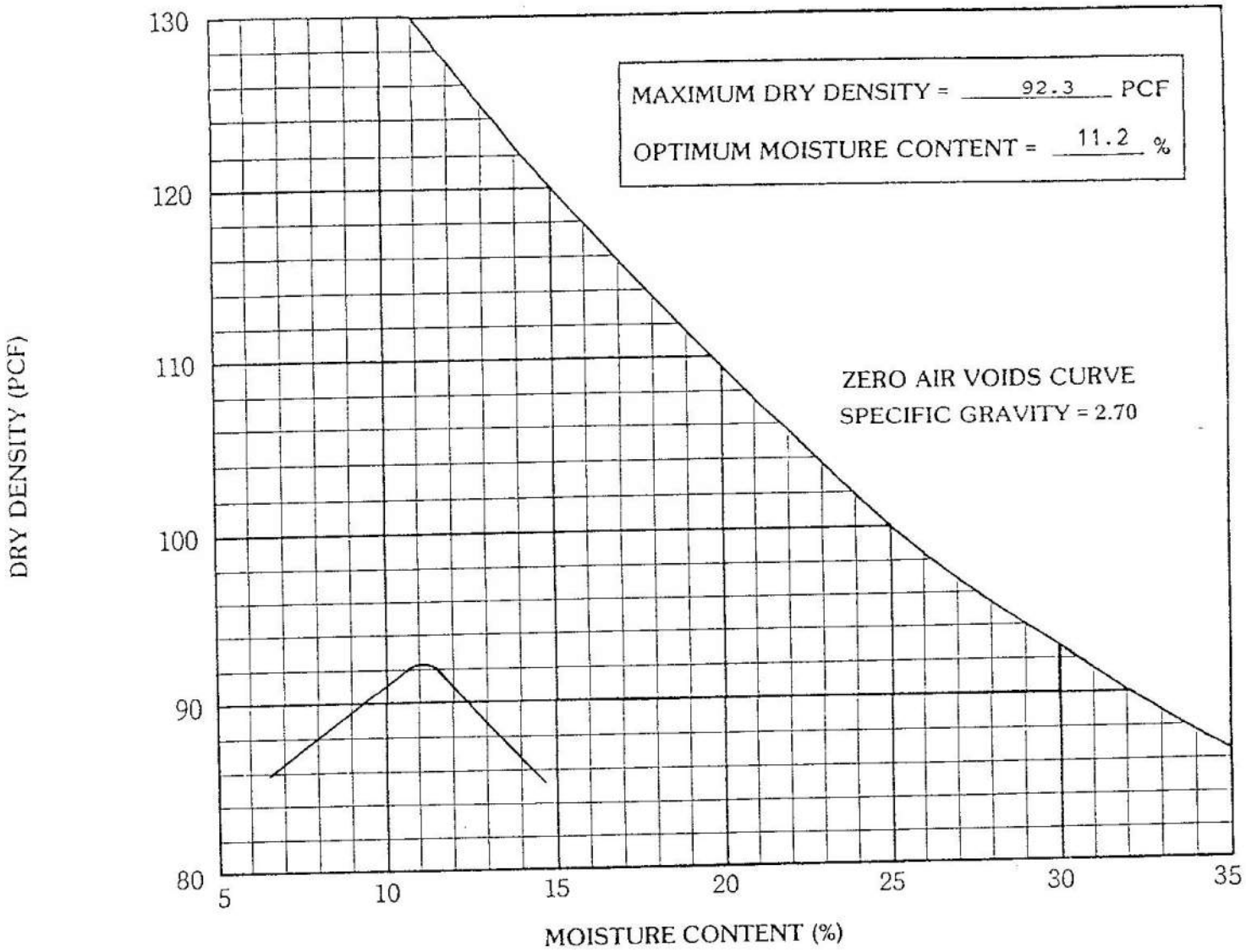
| SIEVE ANALYSIS - % PASSING | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 1/2" | 3/4" | 3/8" | No. 4 | No. 8 | No. 16 | No. 30 | No. 50 | No. 100 | No. 200 |
| | | | | | 100 | 99 | 96 | 79 | 66.4 |

Project No: 95-1-245

Figure

V & A

# COMPACTION TEST RESULTS




SAMPLE LOCATION: TP-4A

SOIL DESCRIPTION: CLAY, very sandy

UNIFIED SOIL CLASSIFICATION: (CL)

AASHTO SOIL CLASSIFICATION:

TEST METHOD: ASTM D-698

ATTERBERG LIMITS: LL 39 % PI 21 %

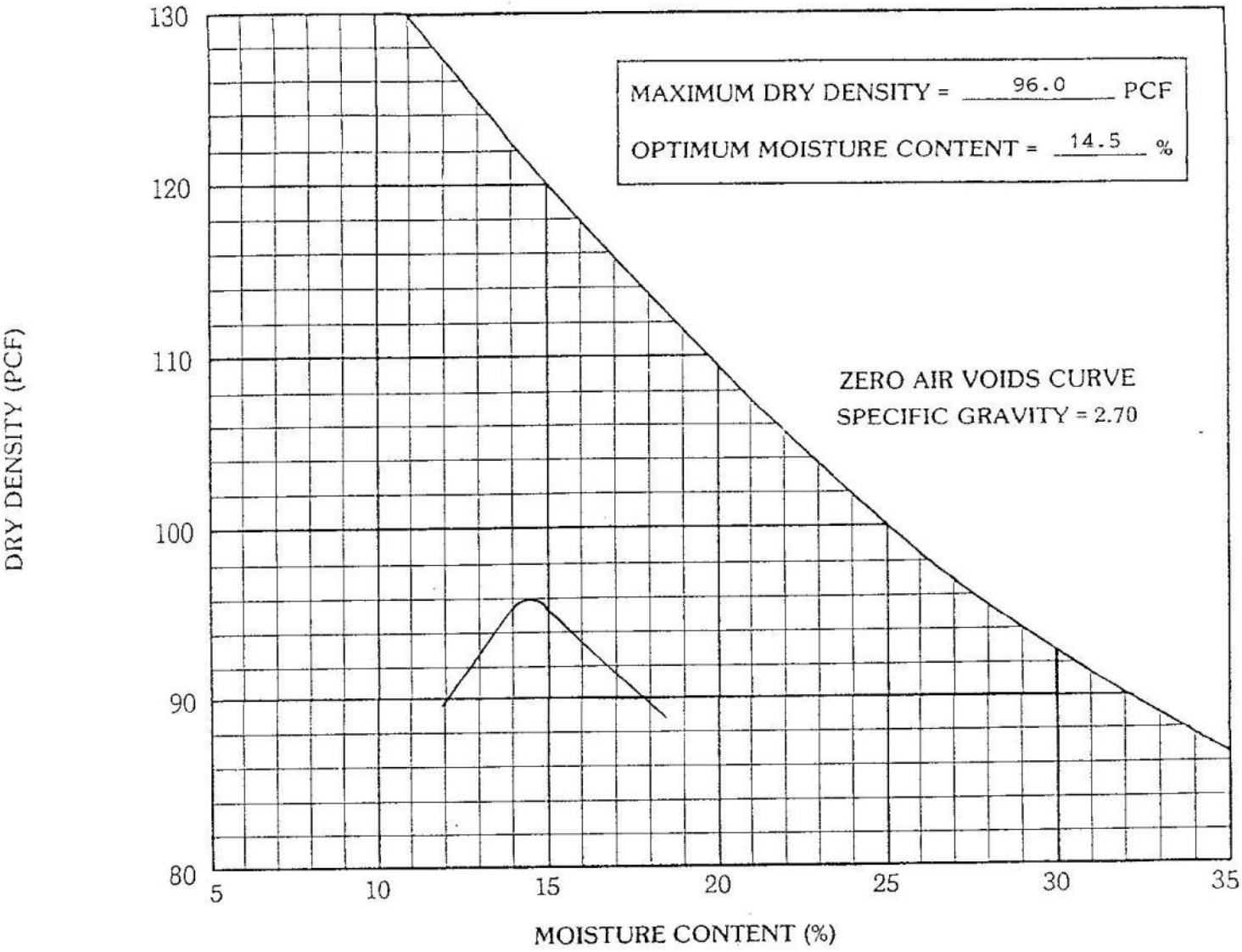
| SIEVE ANALYSIS - % PASSING | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 1/2" | 3/4" | 3/8" | No. 4 | No. 8 | No. 16 | No. 30 | No. 50 | No. 100 | No. 200 |
| | | | | 100 | 99 | 97 | 94 | 80 | 69.4 |

Project No: 95-1-245

Figure

V & A

# COMPACTION TEST RESULTS




SAMPLE LOCATION: TP-6

SOIL DESCRIPTION: SAND, very clayey

UNIFIED SOIL CLASSIFICATION: (SC)

AASHTO SOIL CLASSIFICATION:

TEST METHOD: ASTM D-698

ATTERBERG LIMITS: LL 29 % PI 14 %

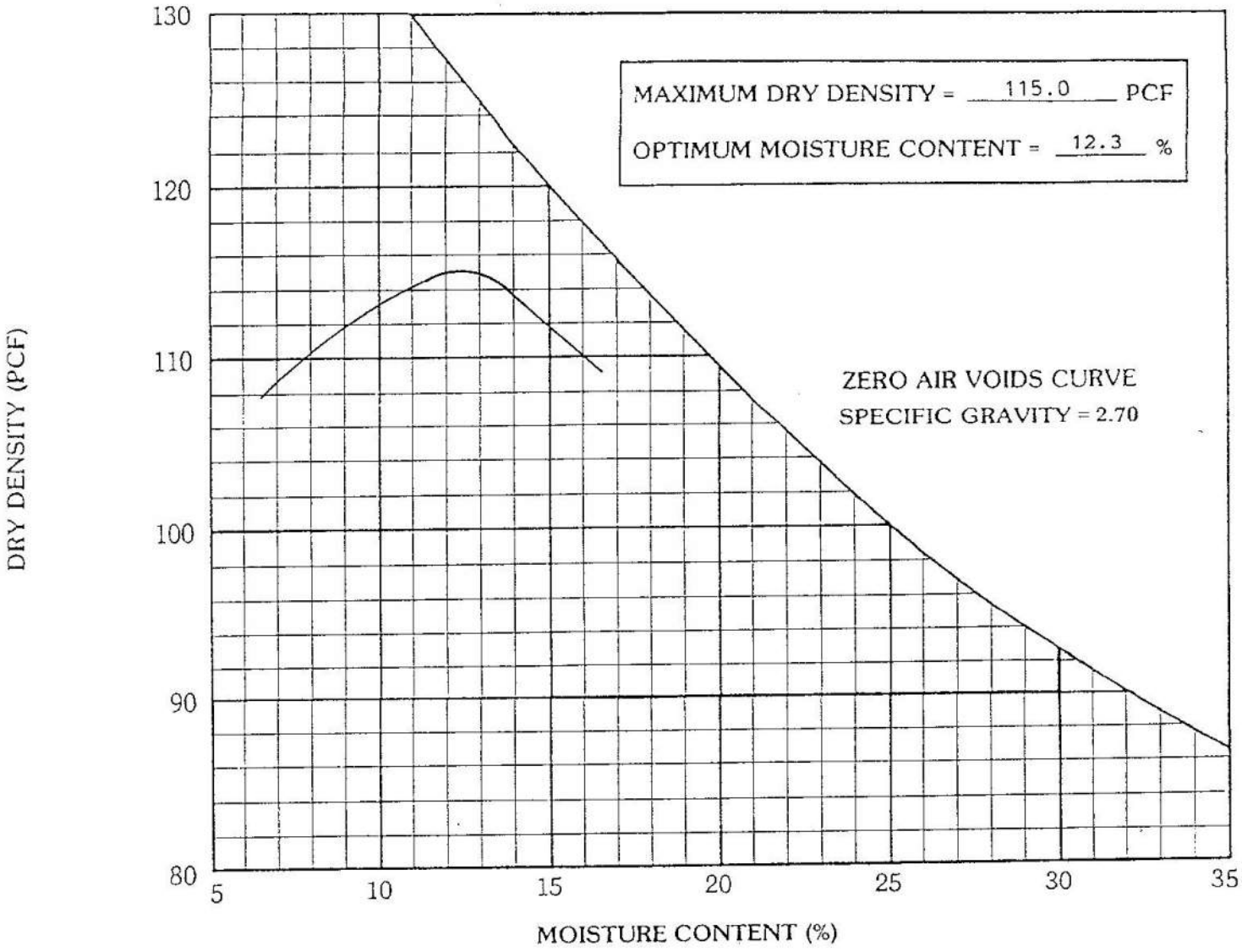
| SIEVE ANALYSIS - % PASSING | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 1/2" | 3/4" | 3/8" | No. 4 | No. 8 | No. 16 | No. 30 | No. 50 | No. 100 | No. 200 |
| | | 100 | 99 | 98 | 95 | 93 | 89 | 63 | 48.5 |

Project No: 95-1-245

Figure

V & A

# COMPACTION TEST RESULTS




SAMPLE LOCATION: TP-7

SOIL DESCRIPTION: CLAY, very sandy

UNIFIED SOIL CLASSIFICATION: (CL)

AASHTO SOIL CLASSIFICATION:

TEST METHOD: ASTM D-698

ATTERBERG LIMITS: LL 38 % PI 21 %

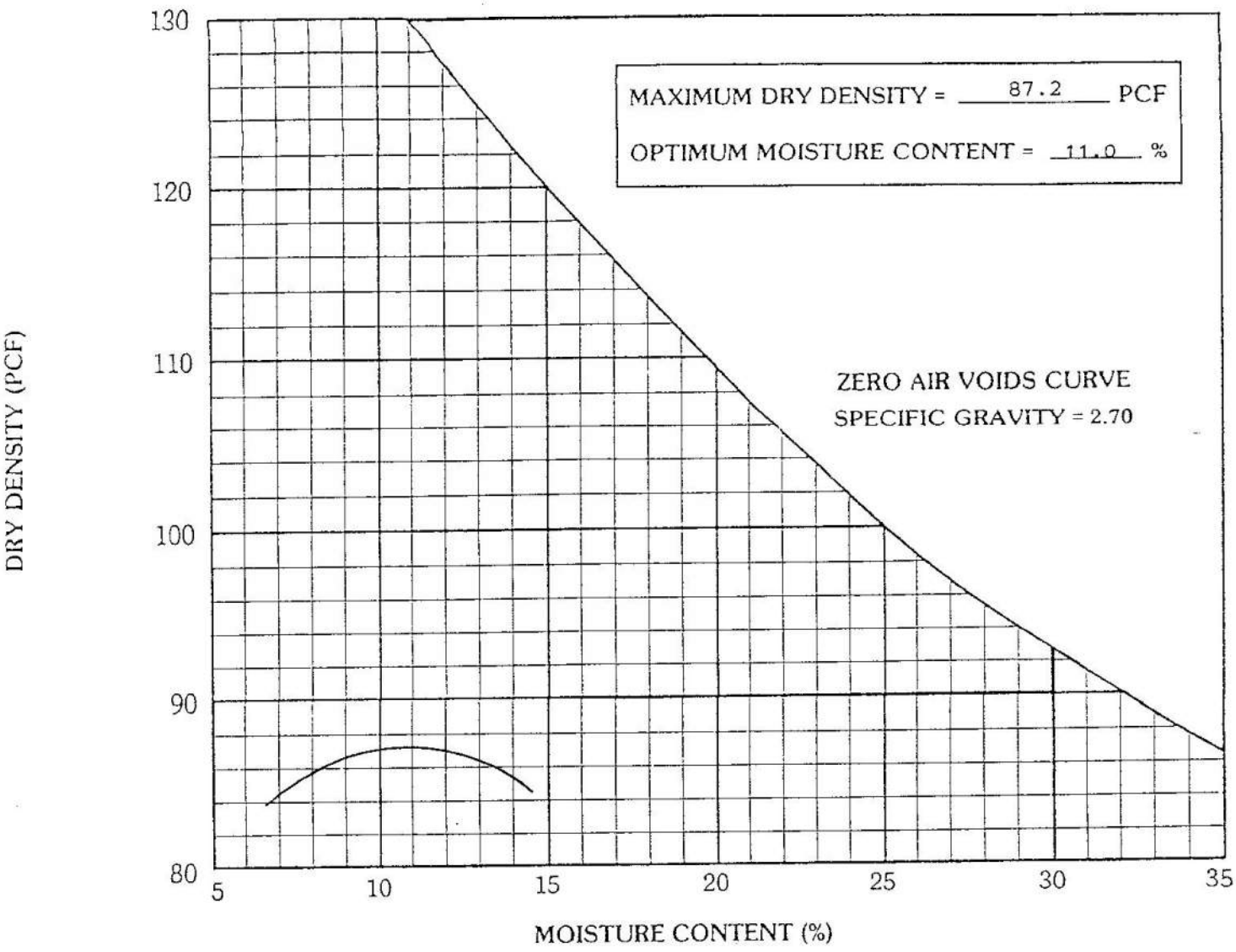
| SIEVE ANALYSIS - % PASSING | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 1/2" | 3/4" | 3/8" | No. 4 | No. 8 | No. 16 | No. 30 | No. 50 | No. 100 | No. 200 |
| | | | | 100 | 99 | 96 | 92 | 76 | 67.3 |

Project No: 95-1-245

Figure

V & A

# COMPACTION TEST RESULTS




SAMPLE LOCATION: TP-8

SOIL DESCRIPTION: CLAY, very sandy

UNIFIED SOIL CLASSIFICATION: (CL)

AASHTO SOIL CLASSIFICATION:

TEST METHOD: ASTM D-698

ATTERBERG LIMITS: LL 37 % PI 20 %

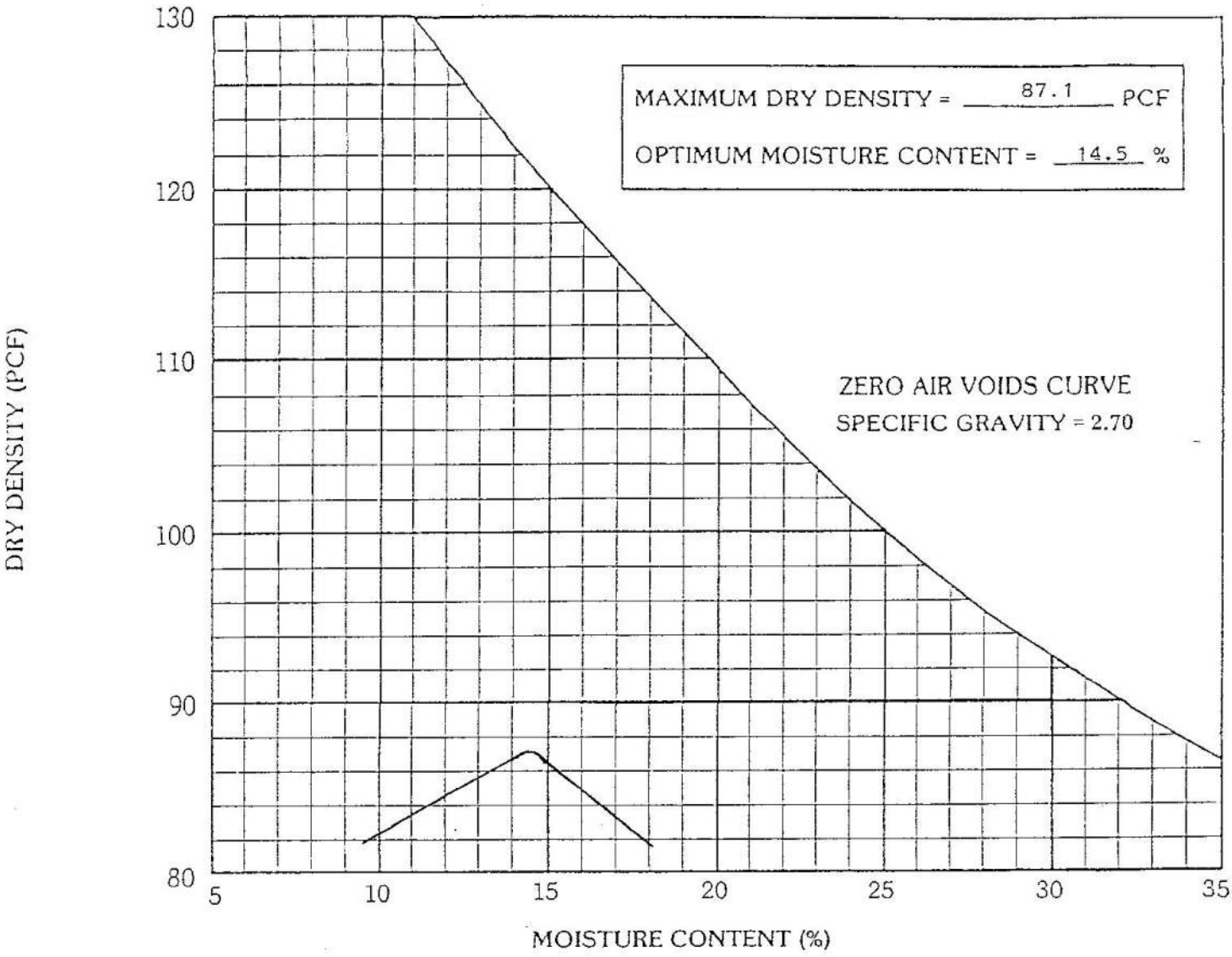
| SIEVE ANALYSIS - % PASSING | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 1/2" | 3/4" | 3/8" | No. 4 | No. 8 | No. 16 | No. 30 | No. 50 | No. 100 | No. 200 |
| | | | | 100 | 99 | 97 | 94 | 78 | 63.3 |

Project No: 95-1-245

Figure

V & A

# COMPACTION TEST RESULTS




SAMPLE LOCATION: TP-9

SOIL DESCRIPTION: CLAY, very sandy

UNIFIED SOIL CLASSIFICATION: (CL)

AASHTO SOIL CLASSIFICATION:

TEST METHOD: ASTM D-698

ATTERBERG LIMITS: LL 44 % PI 26 %

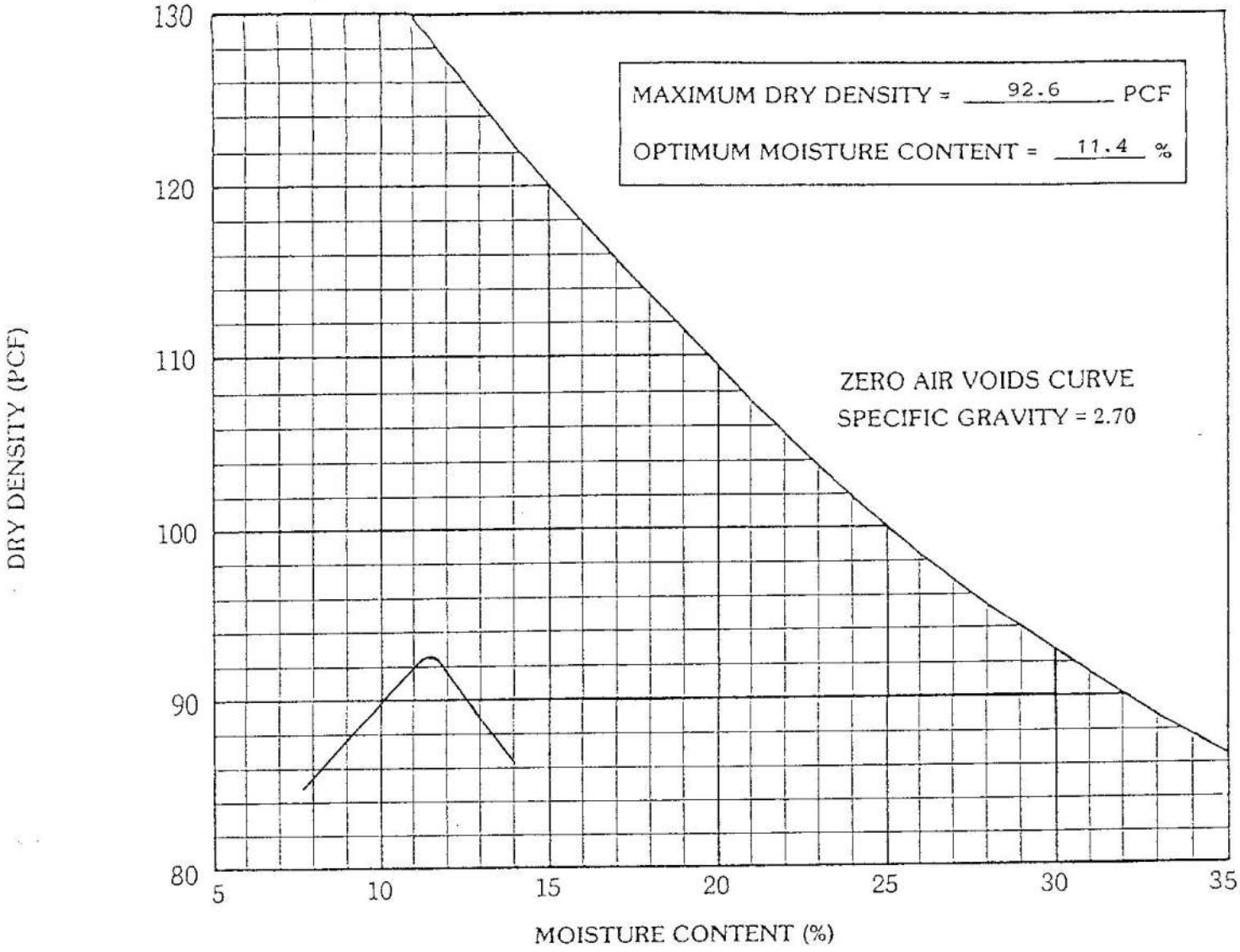
| SIEVE ANALYSIS - % PASSING | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 1/2" | 3/4" | 3/8" | No. 4 | No. 8 | No. 16 | No. 30 | No. 50 | No. 100 | No. 200 |
| | | | | | 100 | 99 | 97 | 90 | 79.5 |

Project No: 95-1-245

Figure

V & A

# COMPACTION TEST RESULTS




SAMPLE LOCATION: TP-10

SOIL DESCRIPTION: CLAY, very sandy

UNIFIED SOIL CLASSIFICATION: (CL)

AASHTO SOIL CLASSIFICATION:

TEST METHOD: ASTM D-698

ATTERBERG LIMITS: LL 34 % PI 19 %

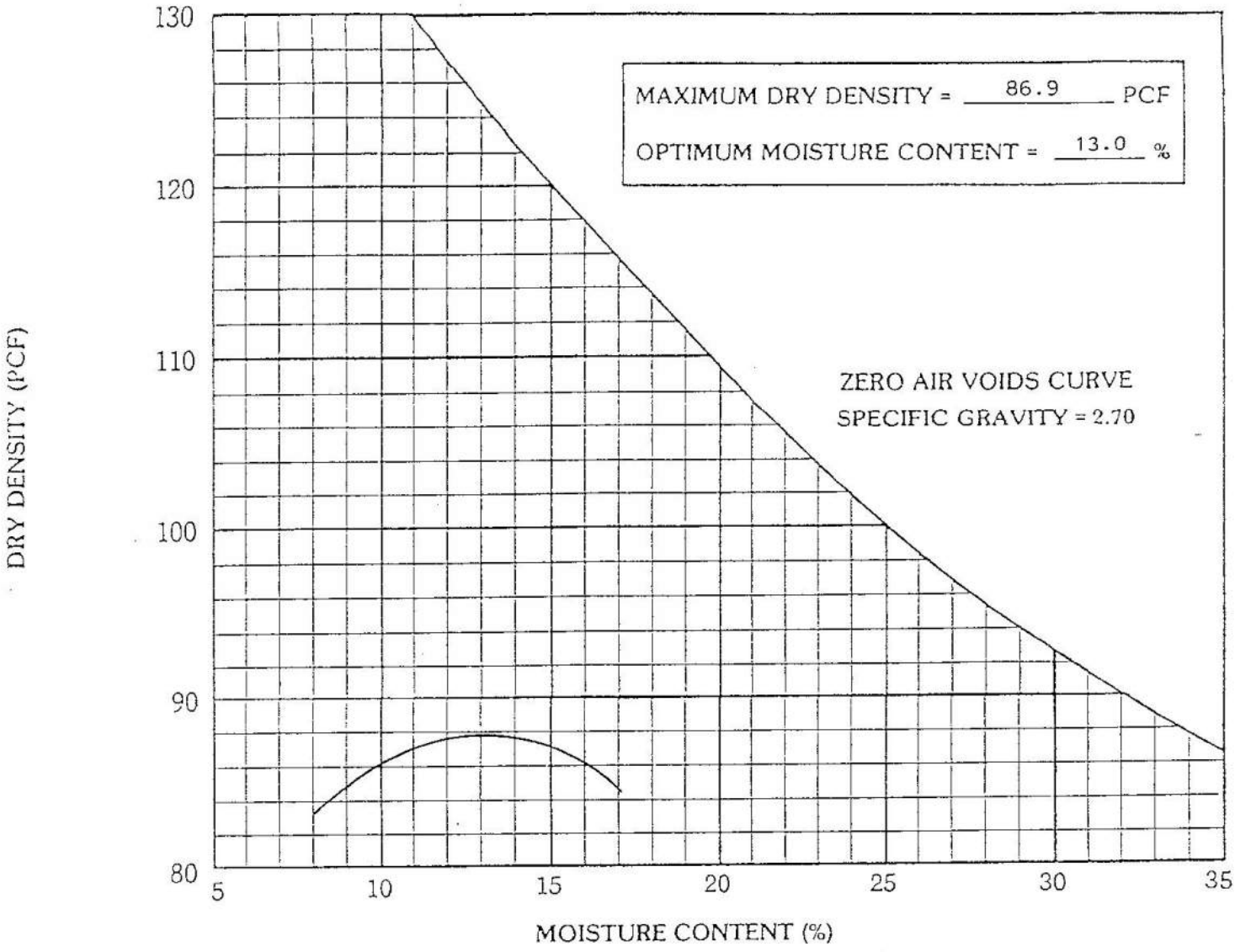
| SIEVE ANALYSIS - % PASSING | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 1/2" | 3/4" | 3/8" | No. 4 | No. 8 | No. 16 | No. 30 | No. 50 | No. 100 | No. 200 |
| | | | 100 | 99 | 99 | 98 | 95 | 82 | 72.8 |

Project No: 95-1-245

Figure

V & A

# COMPACTION TEST RESULTS




SAMPLE LOCATION: TP-11

SOIL DESCRIPTION: CLAY, sandy

UNIFIED SOIL CLASSIFICATION: (CL)

AASHTO SOIL CLASSIFICATION:

TEST METHOD: ASTM D-698

ATTERBERG LIMITS: LL 44 % PI 25 %

| SIEVE ANALYSIS - % PASSING | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 1/2" | 3/4" | 3/8" | No. 4 | No. 8 | No. 16 | No. 30 | No. 50 | No. 100 | No. 200 |
| | | | | | 100 | 99 | 97 | 90 | 80.3 |

Project No: 95-1-245

Figure

V & A

# SUMMARY OF LABORATORY TEST DATA

| Test Hole No. | Depth (Feet) | Unified Classification | Natural Dry Density (pcf) | Natural Moisture Content (%) | Atterberg Limits | | SIEVE ANALYSIS % PASSING BY WEIGHT | | | | | | | | | | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | LL | PI | 1½" | 3/4" | 3/8" | No. 4 | No. 8 | No. 16 | No. 30 | No. 50 | No. 100 | No. 200 | |
| TP1 | - | - | - | - | 38 | 18 | - | - | - | - | - | 100 | 99 | 96 | 79 | 66.4 | CLAY, very sandy |
| TP2 | - | - | - | - | 28 | 11 | - | - | 100 | 99 | 98 | 97 | 96 | 91 | 60 | 45.3 | SAND, very clayey |
| TP3 | - | - | - | - | 28 | 13 | - | - | - | 100 | 99 | 99 | 98 | 94 | 68 | 51.9 | CLAY, very sandy |
| TP4A | - | - | - | - | 39 | 21 | - | - | - | - | 100 | 99 | 97 | 94 | 80 | 69.4 | CLAY, very sandy |
| TP4B | - | - | - | - | 38 | 21 | - | - | - | - | 100 | 99 | 98 | 97 | 88 | 75.7 | CLAY, very sandy |
| TP5 | - | - | - | - | 30 | 16 | - | - | - | - | 100 | 99 | 98 | 94 | 77 | 65.0 | CLAY, very sandy |
| TP6 | - | - | - | - | 29 | 14 | - | - | 100 | 99 | 98 | 95 | 93 | 89 | 63 | 48.5 | SAND, very clayey |
| TP7 | - | - | - | - | 38 | 21 | - | - | - | - | 100 | 99 | 96 | 92 | 76 | 67.3 | CLAY, very sandy |
| TP8 | - | - | - | - | 37 | 20 | - | - | - | - | 100 | 99 | 97 | 94 | 78 | 63.3 | CLAY, very sandy |
| TP9 | - | - | - | - | 44 | 26 | - | - | - | - | - | 100 | 99 | 97 | 90 | 79.5 | CLAY, very sandy |
| TP10 | - | - | - | - | 34 | 19 | - | - | - | 100 | 99 | 99 | 98 | 95 | 82 | 72.8 | CLAY, very sandy |
| TP11 | - | - | - | - | 44 | 25 | - | - | - | - | - | 100 | 99 | 97 | 90 | 80.3 | CLAY, very sandy |

Project No. 95-1-245

Table

V & A

# SIEVE ANALYSIS TEST RESULTS

| Sieve Size | Percent Passing Following Scalping over a 3/4" Sieve WP-1 | WP-2 |
|---|---|---|
| 3/4" | 100 | 100 |
| 3/8" | 94 | 98 |
| No. 4 | 91 | 95 |
| No. 8 | 89 | 93 |
| No. 16 | 87 | 91 |
| No. 30 | 81 | 87 |
| No. 50 | 43 | 65 |
| No. 100 | 23 | 37 |
| No. 200 | 17.8 | 27.7 |

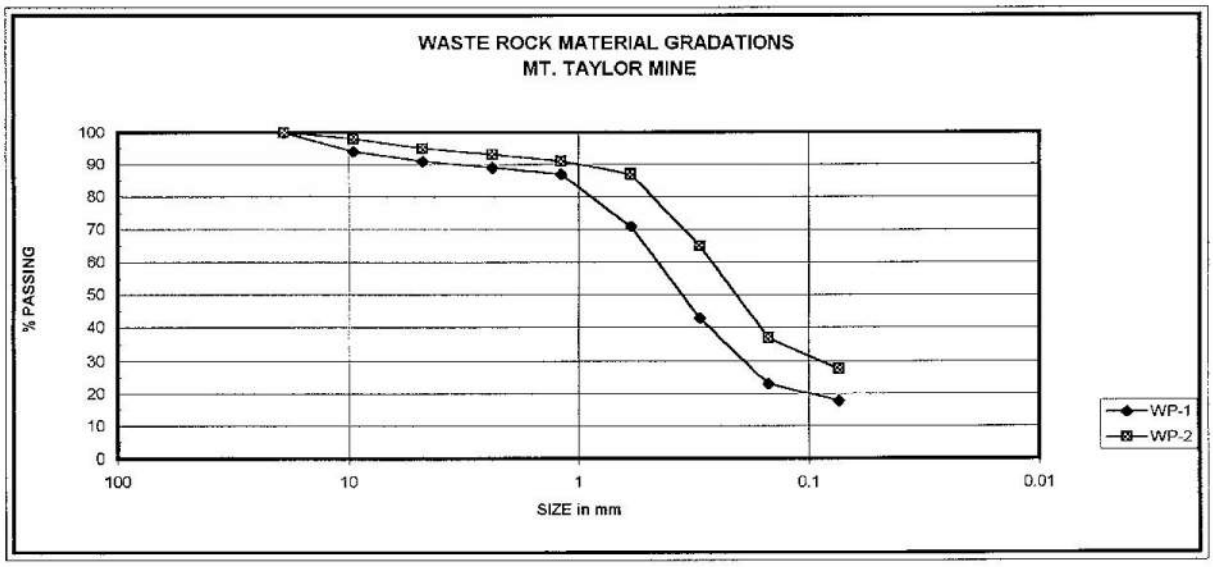
WP-1 + 3/4" material = 2.7% of total sample weight

WP-2 + 3/4" material = 6.8% of total sample weight

WASTE ROCK CHARACTERISTICS
MT. TAYLOR MINE

SIZE GRADATIONS

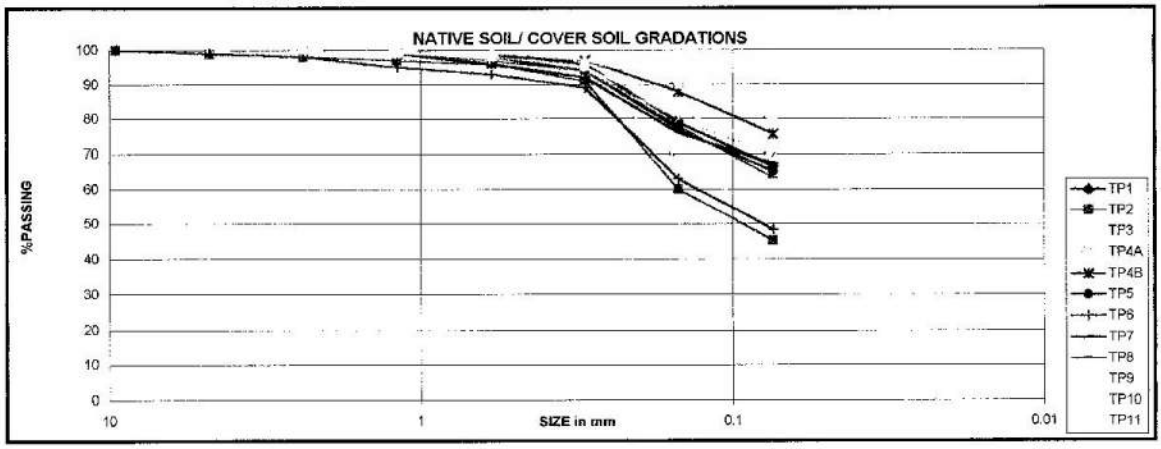
| SIEVE # | SIZE in mm | % PASSING | |
|---|---|---|---|
| | | WP-1 | WP-2 |
| 3/4" | 19.1 | 100 | 100 |
| 3/8" | 9.52 | 94 | 98 |
| 4 | 4.76 | 91 | 95 |
| 8 | 2.38 | 89 | 93 |
| 16 | 1.19 | 87 | 91 |
| 30 | 0.59 | 71 | 87 |
| 50 | 0.297 | 43 | 65 |
| 100 | 0.149 | 23 | 37 |
| 200 | 0.074 | 17.8 | 27.7 |



## NATIVE SOIL - COVER SOIL CHARACTERISTICS
## MT. TAYLOR MINE

### SIZE GRADATIONS

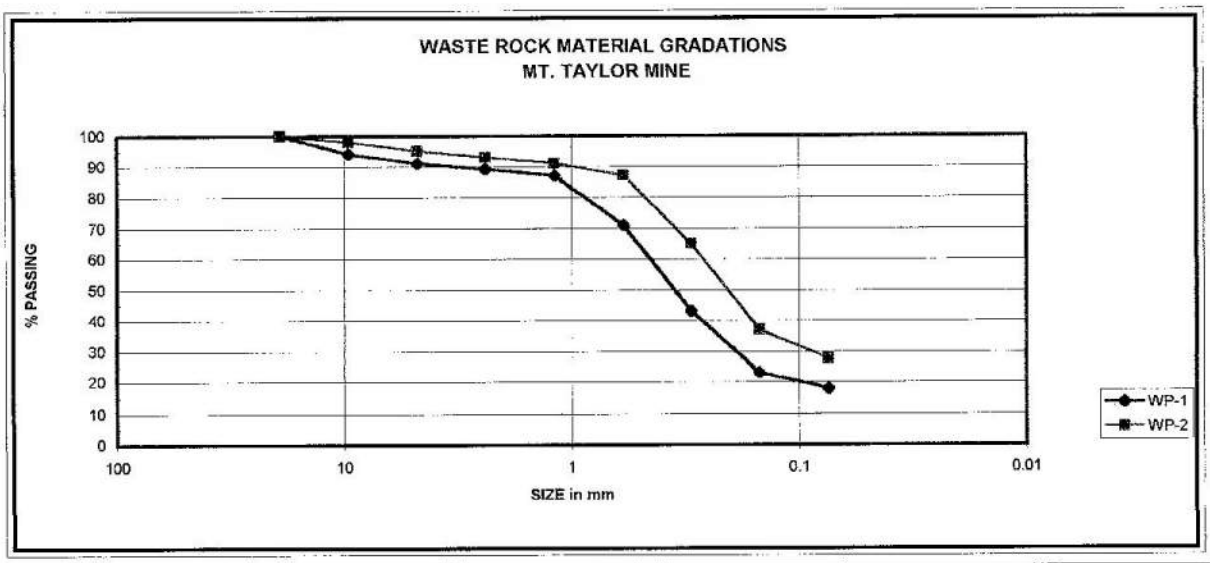
| SIEVE # | SIZE in mm | % PASSING FOR SAMPLE #: | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TP1 | TP2 | TP3 | TP4A | TP4B | TP5 | TP6 | TP7 | TP8 | TP9 | TP10 | TP11 | AVERAGE |
| 3/4" | 19.1 | | | | | | | | | | | | | |
| 3/8" | 9.52 | | 100 | | | | | 100 | | | | | | 100 |
| 4 | 4.76 | | 99 | 100 | | | | 99 | | | | | | 99 |
| 8 | 2.38 | | 98 | 99 | 100 | 100 | 100 | 98 | 100 | 100 | | 100 | | 99 |
| 16 | 1.19 | 100 | 97 | 99 | 99 | 99 | 99 | 95 | 99 | 99 | 100 | 99 | 100 | 99 |
| 30 | 0.59 | 99 | 96 | 98 | 97 | 98 | 98 | 93 | 96 | 97 | 99 | 98 | 99 | 97 |
| 50 | 0.297 | 96 | 91 | 94 | 94 | 97 | 94 | 89 | 92 | 94 | 97 | 95 | 97 | 94 |
| 100 | 0.149 | 79 | 60 | 68 | 80 | 88 | 77 | 63 | 76 | 78 | 90 | 82 | 90 | 78 |
| 200 | 0.074 | 66.4 | 45.3 | 51.9 | 69.4 | 75.7 | 65 | 48.5 | 67.3 | 63.3 | 79.5 | 72.6 | 80.3 | 65 |
| | | | | | | | | | | | | | | |
| USCS = | | CL | SC | CL | CL | CL | CL | SC | CL | CL | CL | CL | CL | CL |
| LL = | | 38 | 28 | 28 | 39 | 38 | 30 | 29 | 38 | 37 | 44 | 34 | 44 | 36 |
| PI = | | 18 | 11 | 13 | 21 | 21 | 16 | 14 | 21 | 20 | 26 | 19 | 25 | 19 |
| | | | | | | | | | | | | | | |
| d75 = | | 0.15 | 0.2 | 0.19 | 0.1 | 0.06 | 0.13 | 0.2 | 0.14 | 0.15 | 0.05 | 0.09 | 0.18 | 0.14 |



# WASTE ROCK CHARACTERISTICS
# MT. TAYLOR MINE

## SIZE GRADATIONS

| SIEVE # | SIZE in mm | % PASSING | | | |
|---|---|---|---|---|---|
| | | WP-1 | WP-2 | AVERAGE | |
| 3/4" | 19.1 | 100 | 100 | 100 | |
| 3/8" | 9.52 | 94 | 98 | 96 | d75 = 0.5mm |
| 4 | 4.76 | 91 | 95 | 93 | d50 = 0.3mm |
| 8 | 2.38 | 89 | 93 | 91 | |
| 16 | 1.19 | 87 | 91 | 89 | |
| 30 | 0.59 | 71 | 87 | 79 | |
| 50 | 0.297 | 43 | 65 | 54 | |
| 100 | 0.149 | 23 | 37 | 30 | |
| 200 | 0.074 | 17.8 | 27.7 | 23 | |



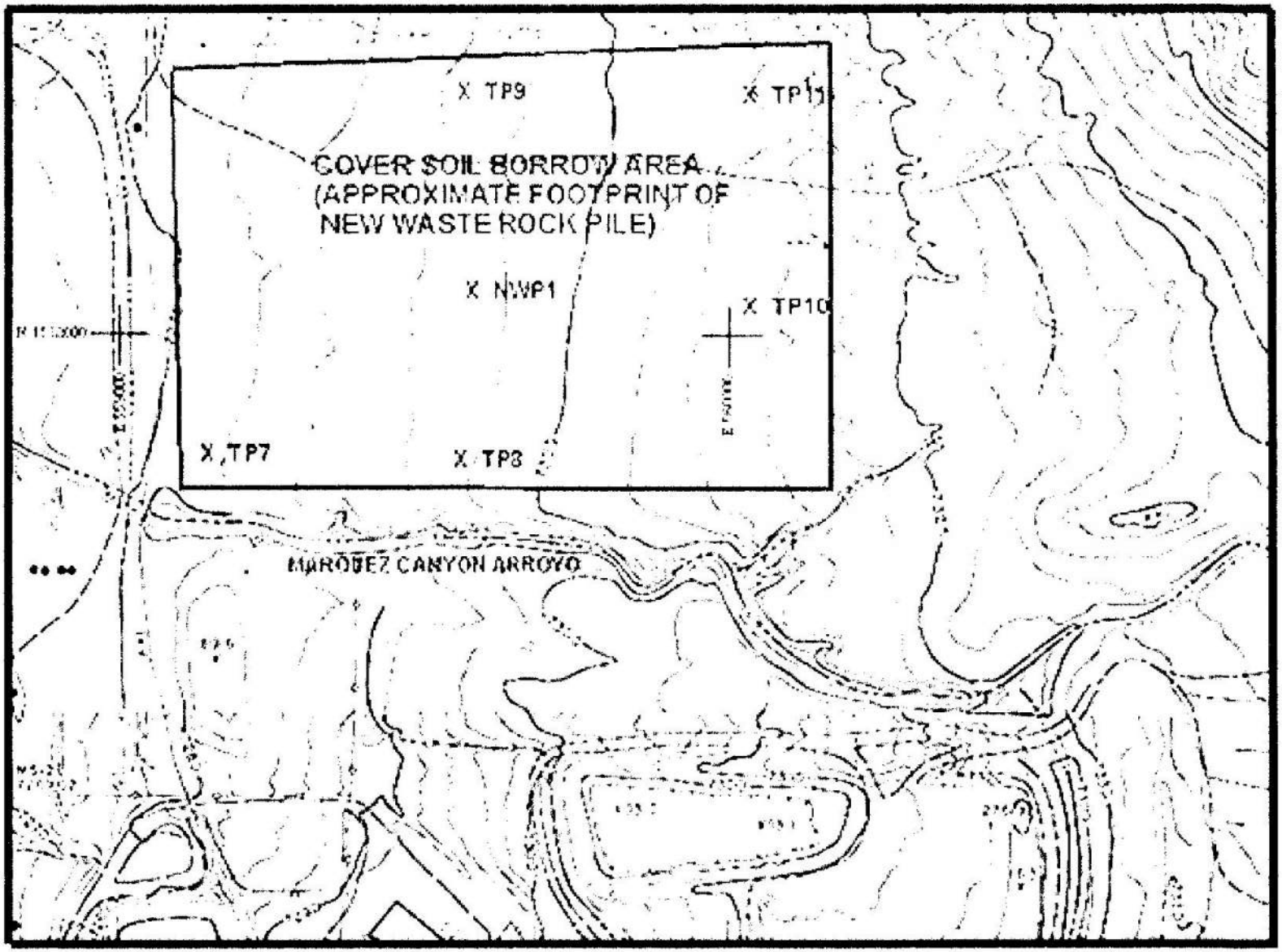



FIGURE A-1 LOCATIONS OF SOIL SAMPLES WITHIN DESIGNATED COVER SOIL BORROW AREA

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

**Client:** Rio Grande Resources Corp.
**Project:** Mt. Taylor Mine
**Sample ID:** Composite
**Lab ID:** 0398S05459
**Matrix:**
**Condition:**

**Date Received:** 09/16/98
**Date Reported:** 09/17/98
**Date Sampled:** NG

| Parameter | Analytical Result | Units | Units |
|---|---|---|---|
| PH | 9.2 | s.u. | |
| Solids - Total Dissolved | 170 | mg/L | |
| Nitrogen - Nitrate | 0.17 | mg/L | |
| Sulfate | 11 | mg/L | |
| Arsenic | 0.013 | mg/L | |
| Cadmium | <0.004 | mg/L | |
| Chromium | <0.01 | mg/L | |
| Iron | 0.92 | mg/L | |
| Lead | <0.05 | mg/L | |
| Molybdenum | 0.02 | mg/L | |
| Selenium | 0.034 | mg/L | |
| Zinc | 0.10 | mg/L | |

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes (MCAWW)" - EPA/600/4-79-020 - March, 1983.

Reviewed By: 

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

**Client:** Rio Grande Resources Corp.
**Project:** Mt. Taylor Mine
**Sample ID:** WP #3 NW
**Lab ID:** 0398S04751
**Matrix:** Soil
**Condition:** Cool/Intact

**Date Received:** 08/20/98
**Date Reported:** 09/17/98
**Date Sampled:** 08/19/98
**Time Sampled:** 1000

| Parameter | Analytical Result | Units | Units |
|---|---|---|---|
| Sulfur forms - Total | 0.00 | % | |
| Acid Base-TS | 0.0 | t/kt | |
| Neutralization Potential (NP) | 10 | t/kt | |
| Acid Base Potential-TS | 10.2 | t/kt | |

Reference:

Reviewed By: 

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

**Client:** Rio Grande Resources Corp.
**Project:** Mt. Taylor Mine
**Sample ID:** WP #1 SW
**Lab ID:** 0398S04749
**Matrix:** Soil
**Condition:** Cool/Intact

**Date Received:** 08/20/98
**Date Reported:** 09/17/98
**Date Sampled:** 08/19/98
**Time Sampled:** 0930

| Parameter | Analytical Result | Units | Units |
|---|---|---|---|
| Sulfur forms - Total | 0.01 | % | |
| Acid Base-TS | 0.31 | t/kt | |
| Neutralization Potential (NP) | 30 | t/kt | |
| Acid Base Potential-TS | 29.9 | t/kt | |

Reference:

Reviewed By: 

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

**Client:** Rio Grande Resources Corp.
**Project:** Mt. Taylor Mine
**Sample ID:** WP #2 Center
**Lab ID:** 0398S04750
**Matrix:** Soil
**Condition:** Cool/Intact

**Date Received:** 08/20/98
**Date Reported:** 09/17/98
**Date Sampled:** 08/19/98
**Time Sampled:** 0945

| Parameter | Analytical Result | Units | Units |
|---|---|---|---|
| Sulfur forms - Total | 0.03 | % | |
| Acid Base-TS | 0.94 | t/kt | |
| Neutralization Potential (NP) | 24 | t/kt | |
| Acid Base Potential-TS | 23.1 | t/kt | |

Reference:

Reviewed By: _____

# APPENDIX E

## Cost Estimate

## To be supplied 60 days after CCP is approved

# APPENDIX F

## Revegetation Plan and Monitoring Protocols

# Mt. Taylor Mine

## REVEGETATION PLAN AND MONITORING PROTOCOLS

October 2025

Prepared by:

CEDAR CREEK ASSOCIATES, INC.

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## 1.0 INTRODUCTION

This plan, part of the Closeout/ Closure Plan (CCP) for the Mt. Taylor Mine, describes the measures that Rio Grande Resources (RGR) will take to re-establish vegetation on disturbed areas within the mine permit area that will minimize additional disturbance, mitigate impacts to affected environmental resources, rehabilitate disturbed areas to support post-mining land use (PMLU) of grazing, and provide protection of soil and runoff comparable to the natural conditions in the local area. The requirements of this Plan will be implemented primarily by a contractor at the time of mine closeout. The mine surface facilities are located on 285.6 acres, of which approximately 148 acres are currently disturbed land, and the remaining 137.9 acres are undisturbed. Closeout activities are anticipated to disturb an additional 27 acres, bringing the total land disturbance to 175 acres. Affected areas, to be identified before RGR commences final reclamation, will also be revegetated according to this plan. The affected areas known at this time to be revegetated include Borrow Area B and the areas of the Treated Water Discharge Pipeline outside of the Right-of-Way.

The areas to be revegetated include:

- Support (Service and Support) Facilities – 32 acres
- Mine Water Treatment Area - 28 acres
- Treated Water Discharge Pipeline beyond the mine surface area - 15 acres
- Ore Stockpile Pad and Runoff Retention Pond – 11.8 acres
- Expanded Disposal Cell - 13 acres
- Affected Areas
    - Borrow Area B (and access road) – 6.7 acres
    - Continental Divide Substation Area (depending on the Utility's wishes)
    - County Road 334 - 4.7 acres (non-driving surfaces of the Access Road)
    - Area of the Treated Water Discharge Pipeline outside of the Right-of-Way

The remainder of the disturbed area not to be revegetated includes the Continental Divide Substation, PMLU buildings, road surfaces, the south storm water pond, diversion channels, and rock slopes.

## 2.0 REVEGETATION PROTOCOLS

Revegetation protocols and performance criteria for Part 5 and Part 6 guidelines from the New Mexico Mining and Minerals Division. The particular guidance relevant to the project are the Self-Sustaining Ecosystem Guideline (December 2022), the Soil and Cover Material Handling and Suitability Guideline, and Revegetation Guideline (December 2022). This revegetation plan includes reasonable considerations growth media, seeding conditions, and site conditions including climate and post-mining use.

### 2.1 Grading

To prepare the mine site ground surfaces for revegetation, mine facilities not preserved for PMLU will be removed (CCP Technical Specification C.2) and the disturbed areas within the mine permit area will be regraded (CCP Section 4.4.7, Finish Grading and CCP Technical Specification C.4), including backfill of mine water treatment pond basins to approximate original grades.

Regraded material will be placed to minimize potential adverse effects to surface water, ground water and natural conditions of areas outside of the mine area. All surfaces will be graded to a final surface configuration which will support the approved post-mining land use, which will be grazing, or where appropriate, commercial. Temporary runoff and erosion controls, specified in the Stormwater Pollution Prevention Plan (SWPPP) will be employed to manage sediment generated during closeout earthwork. Grading operations will be performed by dozers, scrapers, graders or other equipment. An excavator with hydraulic hammer may be used to reduce high walls to 1H:1V slope, where appropriate. Finish grading will create the grades and slope directions shown on the CCP Appendix A drawings sheets CL 07A, CL 07B, CL 14, and CL 15, which may include shallow depressions and will have a roughened surface suitable for seed nesting and resistance to erosion.

### 2.2 Growth Media Considerations

At the Mt. Taylor Mine, the soil profile is typically 0-36 inches of silty sand over layers of interbedded inorganic clays of medium plasticity and sand-clay mixtures. The topsoil, referred to here as growth media, consists of fine grained sand, sand-clay mixtures, and medium plasticity clay. The agronomic descriptions of these soils are given in the CCP Section 4.4. The soil that is intended to be used for the growth media that will cover the radon barrier of the waste pile and disposal cell is classified as silty sand (SM), sand-clay mixtures (SC), and low to medium plasticity clay (CL) per the Unified Soil Classification System (USCS) and as sandy loam and clay loam per the USDA classification system (HEAL, 2014). It occurs as a residual soil derived from weathering of Mesa Verde sedimentary rock or colluvial/ alluvial soil from erosion of up-slope rock outcrops, including basalt. Based on Table 1 of the Closeout Plan

Guidelines for Existing Mines (MARB 1996) that are part of the State of New Mexico Energy, Minerals and Natural Resources Department (EMNRD) of Mining Act Reclamation Program (MARP) Attachment #1, Soil and Topsoil Suitability Ratings, this soil is rated as good to fair for texture.

During mine construction, site soils were excavated to create pond basins and other surficial features on the site. Most of the excavated soil was used to construct pond berms and to adjust grades for mine surface facilities. Local soils will be used for the growth media and will be obtained primarily from existing borrow areas, by excavations on site or borrow areas adjacent to the mine site, and regrading of pond berms or other grading performed during ground preparation. Table 4.3 (CCP) lists the available soil volumes versus borrow soil required for closeout; ample soil is available from these various sources, all within the mine permit boundaries.

### 2.2.1 Growth Media for Waste Rock Pile and Disposal Cell Cover

According to the latest design, a 33-inch layer of growth media (comprised of a piedmont soil) will be placed on top of the radon barrier, then a 12-inch rock mulch layer for erosion protection will be placed on the top surface of the cell cover. The rock mulch will be approximately 30% 2-inch minus and 70% pediment soils by volume. During placement, only light compaction of the piedmont soil will occur as a result of equipment movement used to place, spread, and grade the loam soil. Soil textures for the growth medium will follow the USDA classification system.

Growth media will be placed on the disposal cell by truck and spread primarily by dozer or motor-grader. The appropriate soil thickness will be achieved by GPS-guided equipment following the soil cover grading plan. The thickness of the placed loam cover is verified by sampling of soil depth using hand-augured holes through the completed growth medium. Thickness verification measurements will be made at least every ¼ acre. RGR will utilize an independent QA/QC contractor to obtain these measurements and validate the growth media layer thicknesses. For each location, the measurements will be documented and reviewed to ensure that the minimum thickness of growth media is attained. Where growth media layer thicknesses are insufficient, additional material will be placed to correct the deficiencies.

#### *2.2.1.1 Biointrusion*

Biointrusion can occur from plants, mammals, and insects. In general, upland plants in the region, even potentially deep-rooted shrubs, have the majority of their roots in the top 25 cm of the soil profile because the plants are primarily relying on precipitation to maintain. At the Homestake – Grant Reclamation Project, Cedar Creek observed a saltbush taproot growing laterally at approximately 20 cm depth. This is evidence that the plant rooting will develop where plant available water is. In the context

of the cover, the plant roots would not be expected to penetrate the radon barrier because plant available water would not be found in the radon barrier. If precipitation were to percolate deep into the soil profile, it would be expected to rest on top of the radon barrier. Due to the compaction, the plants would respond by forming fine dense roots in the vicinity to use the available water. Therefore, plant biointrusion is generally not a concern on the cover.

In general, it is likely that small mammals will inhabit the cover over time. High concentration of burrows and tunnels affect soil morphology and are likely to increase percolation rates. However, the majority of species with the potential to inhabit the area have shallow burrowing depths that leave them unlikely to interact with the radon barrier. Prairie dogs and badgers pose the highest risk to the cover as they may burrow deep enough to affect the radon barrier and form many wide burrows.

There are many species of insects that may be present on the cover. In general, the species of flies, wasps, crickets, and beetles, that have subterranean habits are unlikely to burrow more than a maximum of 12 inches into the ground and generally only burrow down to 6 inches. However, ants and termites, which can burrow upwards of 6 and 30 feet underground, respectively, are possible risks to the cover.

Overall, the cover design of using a rock mulch layer, with 30% 2-inch minus rock by volume, on the top surface generally discourages burrowing from insects and small mammals but the care and maintenance plan for the cover should include observations of small mammal burrows and insect mounds to ensure the effectiveness of the cover.

### 2.2.2 Growth Media for Contaminated Soil Clean-up Areas

When the excavation of contaminated soil has been finished, RGR will determine whether at least six inches of clean soil remains in place in areas to be revegetated. An agronomic assessment will be implemented to determine whether the remaining soils exhibit suitable physical, chemical, and fertility parameters to establish and sustain plant growth. Organic amendments or supplemental growth media may be used to address agronomic deficiencies.

## 2.3 Seedbed Preparation

Native arid vegetation is ecologically adapted to low fertility systems. Therefore, using standard agronomic fertility ranges designed for intensively managed, often heavily irrigated, and annually harvested agricultural systems is misrepresentative of the requirements for arid grassland and shrub systems in New Mexico.

When soil materials are disturbed (plowed, harvested, tilled), organic matter and associated fertility can be released (volatilized) by a subsequent increase in microbial activity. Incorporation of compost to

improve germination conditions for the revegetation surface is recommended. Soil organic matter serves as a reservoir of nutrients for vegetation, provides soil aggregation (providing structure), increases nutrient exchange, retains moisture, reduces compaction, reduces surface crusting, and increases water infiltration into soil. Organic matter increases the water holding capacity as it alters particle aggregation and pore size distribution. Water holding capacity of soil materials is an important consideration for land reclamation. Suitable soil water content is essential for seed germination, seedling establishment, and plant survival as desiccation is a major risk on disturbed sites, especially in arid environments.

Compost is a mixture of organic residues (manure or biosolids or green waste, straw, etc.) that have been piled, mixed and moistened to undergo thermophilic decomposition. Enough compost amendment should be incorporated into the project soils to add 1% organic matter to the top 3 inches of soil. Therefore, a general application rate of 8 cubic yards per acre incorporated to 3 inches depth of composted cow or green manure, or composted biosolids, should be sufficient for reclamation on the tailings site. Suitable material will have at least 25% organic matter, pH not to exceed 8.5, soluble salts less than 10 mmhos/cm, and carbon to nitrogen ratio between 10:1 and 20:1. Moisture content, salinity, and organic matter, of organic amendments need to be tested for by a certified laboratory. All testing should be conducted on representative samples of material from the same batch intended to be purchased. Given the potential for elevated salts in the soils, only low salt amendments should be used. Composted biosolids will be tested to ensure sufficiently low radium activity concentrations prior to use. In specific instances, such as harvesting growth media from very deep in the soil profile or using material stockpiled for more than a year, increased quantities of manure may be beneficial, and will be addressed on an "as needed" basis.

Composted manures and composted biosolids are more desirable than inorganic fertilizers and industrial byproducts such as Biosol, because they are significantly lower in inorganic and total nitrogen. Nitrogen preferentially stimulates the growth of undesirable weedy annual species, which reduces available water and nutrients for desirable perennial vegetation. In addition to the low nitrogen levels, the physical structure of the compost increases localized water holding capacity and creates "islands" of fertility to aid germination. Plant germination and establishment in the first few years is critical, as native seed sources then begin to supplement the initial seeding and stabilize the soil medium. Organic amendment application should occur immediately prior to seeding, and be incorporated as soon as

possible, preferably by disk harrow. Composted manure and/or biosolids left on the soil surface, exposed to warm temperatures and potential precipitation, will readily decompose, thus making it less beneficial.

## 2.4 Seeding

The proposed seed mix is comprised of all native species and application rates are presented on the table below and is optimized for site edaphic and climatic conditions. Each included species was evaluated for the following factors:

- Species Range
- Adapted to Project Soils
- Performance on Local Revegetation
- Species Dominance in Local Ecological Communities
- Precipitation Zones

These factors were also considered when recommending application rate, which was determined by seeds per square foot. Seeding can be accomplished using either broadcasting and drilling techniques (as recommended on the seed mix), following final contouring and compost application/incorporation. Seeding season shall be March 1 to April 30 or October 1 to November 30. In certain circumstances, seeding prior to the monsoonal period (in June or July) may be appropriate as well. Efforts will be made to implement seeding at optimal times for site conditions (late fall/early spring). However, if a unit must be seeded during inopportune months, a field level risk assessment will determine whether temporary erosion control measures (such as crimped hay, wood shreds, wattles, etc.) are needed to stabilize the surface prior to anticipated vegetation establishment. Drill seeding techniques cannot be used on extremely rough surfaces and in areas with slopes of 3H:1V or steeper (natural or cut slopes east of the shafts). In these situations, seed will be broadcast, and a light disc harrowing perpendicular to the flow of energy (wind and/or water) should immediately follow seeding to increase seed to soil contact and provide some protection from wind or water erosion and granivory. Hydroseeding may also be used in a

two-pass system, where the first pass is dedicated to sowing most of the seed and the second pass installs the mulch. The disposal cell will be seeded with this mix.

| Mt. Taylor Seed Mix | | | | | | |
|---|---|---|---|---|---|---|
| | | | Specifications / Recommendations | | | |
| Lifeform | Common Name | Scientific Nomenclature | PLS / lb.** | Recommd. PLS lbs/ac | PLS / $ft^2$ | % of Seeds in Mix |
| Grasses | Sideoats Grama | *Bouteloua curtipendula* | 191,000 | 1.00 | 4.4 | 5.0% |
| | Blue Grama | *Bouteloua gracilis* | 825,000 | 1.00 | 18.9 | 21.6% |
| | Bottlebrush Squirreltail | *Elymus elymoides* | 192,000 | 0.50 | 2.2 | 2.5% |
| | Slender Wheatgrass | *Elymus trachycaulum* | 159,000 | 2.00 | 7.3 | 8.3% |
| | Indian Ricegrass | *Eriocoma hymenoides* | 141,000 | 1.00 | 3.2 | 3.7% |
| | Galleta | *Hiliaria jamesii* | 159,000 | 0.50 | 1.8 | 2.1% |
| | Alkali Sacaton | *Sporobolus airoides* | 1,758,000 | 0.25 | 10.1 | 11.5% |
| | Sand Dropseed | *Sporobolus cryptandrus* | 5,298,000 | 0.10 | 12.2 | 13.9% |
| | | **Grass Subtotal** | | **6.35** | **60.1** | **68.7%** |
| Forbs | Lewis Flax | *Linum lewisii* | 293,000 | 1.00 | 6.7 | 7.7% |
| | Rocky Mtn. Penstemon | *Penstemon strictus* | 592,000 | 0.25 | 3.4 | 3.9% |
| | Upright Prairie Coneflower | *Ratibida columnifera* | 737,104 | 0.25 | 4.2 | 4.8% |
| | Scarlet Globemallow | *Sphaeralcea coccinea* | 500,000 | 0.25 | 2.9 | 3.3% |
| | | **Forb Subtotal** | | **1.75** | **17.2** | **19.7%** |
| Shrubs | Fourwing Saltbush | *Atriplex canescens* | 52,000 | 2.50 | 3.0 | 3.4% |
| | Winterfat | *Ceratoides lanata* | 56,700 | 2.00 | 2.6 | 3.0% |
| | Rubber Rabbitbrush | *Chrysothamnus naseousus* | 400,000 | 0.50 | 4.6 | 5.2% |
| | | **Shrub Subtotal** | | **5.00** | **10.2** | **11.6%** |
| | | **Total** | | **13.10** | **87.5** | |
| Suitable Alternatives | Purple Three-awn | *Aristida purpurea* | 250,000 | | | |
| | Spike Muhly | *Muhlenbergia wrightii* | 1,600,000 | | | |
| | Western Wheatgrass | *Pascopyrum smithii* | 110,000 | | | |
| | Purple Prarie Clover | *Dalea purpurea var. purpurea* | 300,000 | | | |
| | Firecracker Penstemon | *Penstemon eatonii* | 900,000 | | | |
| | Sand Sagebrush | *Artemisia filifolia* | 2,000,000 | | | |
| | Apache Plume | *Fallugia paradoxa* | 480,000 | | | |

## 2.5 Erosion Control

The principle means to obtain erosional stability on the disposal cell is rock armor. Vegetation establishment and persistence will serve as the primary erosion control measure for other revegetation. A field level risk assessment will determine whether temporary erosion control measures (such as certified weed-free crimped hay, wood shreds, wattles, etc.) are needed to stabilize the surface prior to anticipated vegetation establishment.

## 2.6 Climate Change Considerations

Climate change modeling results provide general indications of how the climate may shift in New Mexico over the next several decades and into the next century, albeit with a significant degree of uncertainty, spatially, temporally, and degree of magnitude. In general, modeling results from the Nature Conservancy and the Southwest Climate Change Network indicate a general warming and drying trend (with localized instances of cooling and increases in precipitation), with increased variation in timing, intensity, and form of precipitation from typical averages. The species selected for revegetation are well suited to the current arid climate of this region, yet have a relatively wide tolerance to climatic conditions, particularly regarding the predicted result of climate change (warmer and drier). In other words, if precipitation decreases, drought increases, or temperatures and subsequent evaporation rates rise, these species will still be suitable for and tolerant of future climates projected in the region. The anticipated circumstances of climate change may actually select for more efficient, later seral species (as is a desired outcome for the project), over short-lived annuals and less efficient cool season grasses.

## 3.0 VEGETATION SAMPLING METHODS

Revegetation monitoring will consist of both qualitative and quantitative protocols. Qualitative protocols record any deficiencies in vegetation, both general and localized, and any other pertinent information relative to the reclamation is also recorded while traversing monitoring units during vegetation evaluations. During these traverses, the observer is vigilant for: 1) areas of poor establishment/growth, 2) pervasively weak or stressed plants, 3) indicators of soil fertility problems (e.g., certain anthocyanine colorations), 4) noxious weeds or invasive plant infestation, 5) evidence of unintended livestock grazing, 6) excessive erosion, 7) "pockets" of the aforementioned, and 8) any other similar revegetation / reclamation related issues. Quantitative protocols are described in the following sections.

Reference areas should be used as a benchmark for revegetation success. Appropriate reference areas will be selected in coordination with the New Mexico Mining and Minerals Division (MMD) prior to implementing revegetation monitoring and should provide a suitable target for revegetation performance by representing project topographic and edaphic conditions.

### 3.1 Sample Site Selection / Location

The systematic procedure for the determination of sample locations occurs in the following stepwise manner. First, a fixed point of reference is selected for the entire area to facilitate location of the systematic grid in the field. Second, a systematic grid of appropriate dimensions (i.e., 200 ft X 200 ft) is selected to provide a minimum number of coordinate intersections; reclaimed areas are conducted to a minimum of 20 transects whereas reference area sampling is conducted to a minimum of 15 initial transects. Third, a scaled representation of the grid is overlain on field maps extending parallel to major compass points to facilitate field location. Fourth, unbiased placement of this grid is controlled by selection of a random origin. Fifth, utilizing a GPS, all of the initial sample points are located in the field.

### 3.2 Determination of Ground Cover

Ground cover at each sampling site is determined utilizing the point-intercept method (Bonham 1989) as illustrated on Figure 1. Implementation of the technique for the sampling effort occurs as follows: First, a transect of 10 meters length is extended from the starting point of each sample site toward the direction of the next site to be sampled. Then, at each one-meter interval along the transect, a "laser point bar" is situated vertically above the ground surface, and a set of 10 readings recorded as to foliar hits on vegetation (by species), litter, standing dead, rock (>2mm), or bare soil. Hits are determined at each meter interval by activating a battery of 10 specialized lasers situated along the bar at 10-centimeter intervals and recording the variable intercepted by each of the narrow (0.02 inch)

focused beams (see Figure 1). In this manner, a total of 100 intercepts per transect are recorded resulting in 1 percent foliar cover per intercept.

### 3.3 Determination of Woody Plant Density

At each sample site, a 2-meter-wide by 50-meter-long belt transect is established parallel to the ground cover transect and in the direction of the next sampling point (in a cardinal compass direction – Figure 1). Occasionally 4 x 25 meter transects are employed where distance between points necessitates shorter belts. Then within each belt, all woody plants (shrubs, trees, and succulents) are enumerated by species and age class. Determination of whether or not a plant could be counted depends on the location of its main stem or root collar where it exited the ground surface with regard to belt limits.

### 3.4 Determination of Productivity

At each sample site, current annual production is collected from a 1/2 $m^2$ quadrat frame at each sampling location. Utilization and development will be estimated using on the ground observations of herbivory within each of these quadrat frames. The quadrat is placed one meter and 90º to the right (clockwise) of the ground cover transect to avoid vegetation trampled by investigators during sample site location. From within each quadrat, all above ground current annual vegetation within the vertical boundaries of the frame is clipped and bagged separately by life form as follows:

| | |
|---|---|
| Native Perennial Cool Season Grass | Shrub |
| Native Perennial Warm Season Grass | Sub-Shrub |
| Introduced Perennial Grass | Native Perennial Forb |
| Annual Grass | Introduced Perennial Forb |
| Noxious Weed | Native/Introduced Annual/Biennial Forb |

All production samples are returned to the lab for drying and weighing. Drying will occur at 105º C until a stable weight is achieved (typically 24 hours). Samples will then be weighed to the nearest 0.1 gram. Utilization and growth stage adjustments will be incorporated into the presentation of results.

### 3.5 Determination of Emergent Density

In the first growing season following seeding, between 5-15 samples are collected from each reclaimed unit. Each sample consists of a cluster of five 1.0 $ft^2$ quadrats distributed in an unbiased manner. Following a random toss of each quadrat, the number of emergent plants rooted within the frame's perimeter is recorded accordingly into one of five classes: perennial grass, perennial forb, shrub/tree (by species), annual grass, or annual forb.

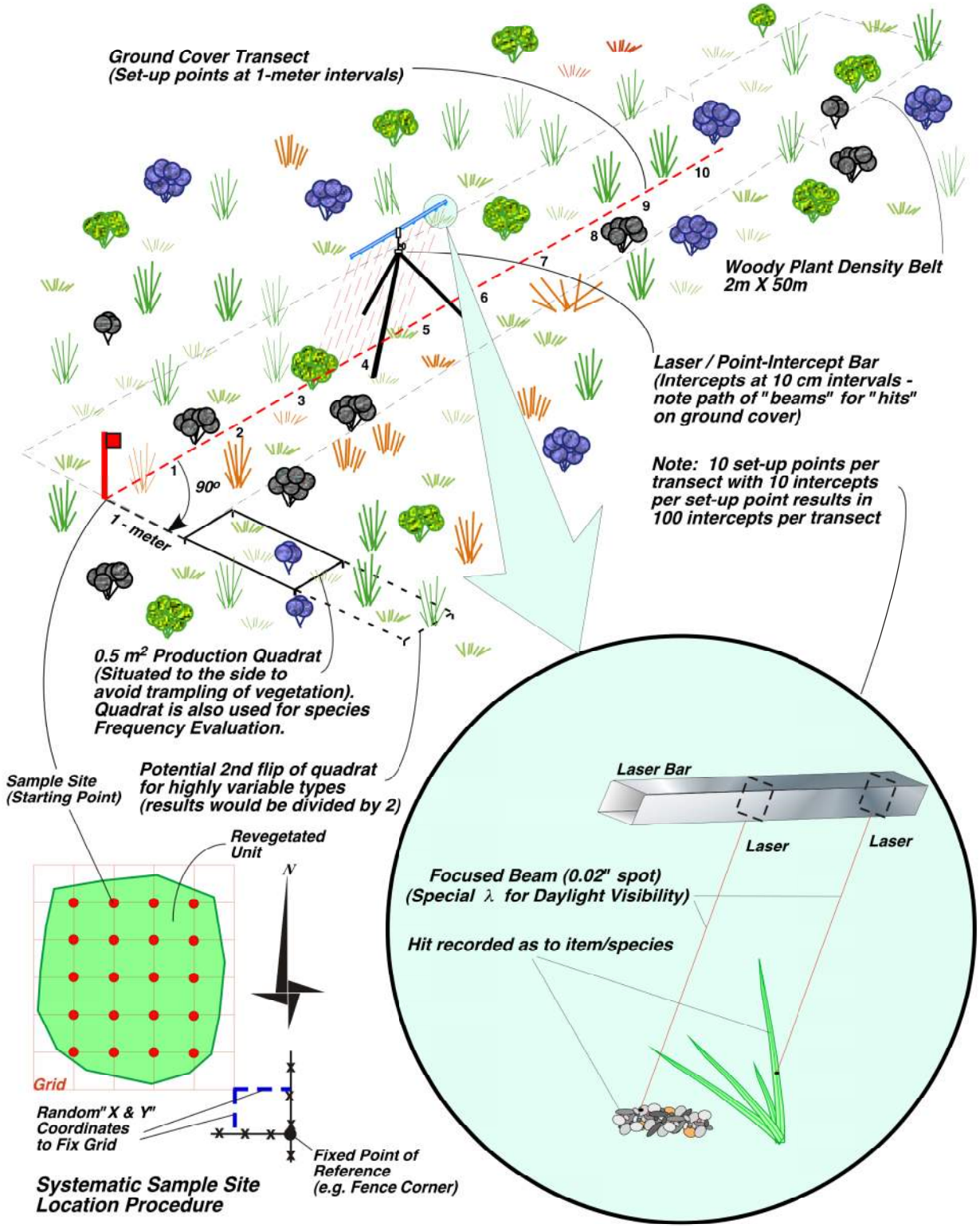



**Figure 1**

*Sampling Procedure at a Systematic Sample Site Location*

**Figure 1: Sampling Procedure**

## 4.0 REVEGETATION MONITORING SCHEDULE AND SUCCESS EVALUATIONS

### 4.1 Monitoring Schedule

The revegetation liability period (period of time that the owner is responsible for revegetation performance) under the MMD framework is 12 years with monitoring every three years. The annual site visits for the revegetation will be as follows:

Year 1 – Emergent Density Evaluation
Year 3 – Qualitative and quantitative evaluations (managerial information only).
Year 6 – Qualitative and quantitative evaluations (managerial information only).
Year 9 – Qualitative and quantitative evaluations (managerial information only).
---
Year 11 – Qualitative and quantitative evaluations (final success evaluation).
Year 12 – Qualitative and quantitative evaluations (final success evaluation).

As indicated, the final efforts, during year 11 and 12, would be an evaluation for success determination. Years 11 and 12 evaluations will be conducted in such a manner as to provide defensible verification that success has been achieved. If it is determined that vegetation needs additional time to mature, monitoring will continue once every 3 years, thereafter, until success evaluations are positive. Other than first year efforts, annual monitoring would be a combination of both qualitative and quantitative efforts to facilitate tracking and progress toward revegetation success standards.

### 4.2 Success Criteria

The primary post mining land use is anticipated to be grazing, therefore, revegetation success in revegetated units will concentrate on four performance standards (1) vegetative ground cover, and 2) diversity, 3) woody plant density, and 4) productivity. Revegetation efforts will be considered successful when the following criteria have been met. The reference areas will be sampled along with the revegetation to provide a suitable comparison each year of assessment. In this manner, the success criteria is dynamic and adjusts to climatic conditions.

1. Vegetative Ground Cover Standard

   The target revegetated unit equals or exceeds 70% of an appropriate reference area absolute desirable vegetative ground cover (exclusive of listed noxious species), with 90 percent statistical confidence. Desirable vegetation excludes noxious and nuisance (non-

native annual weeds) but includes other annuals and perennials which are native and non-native.

2. Species Diversity Standard:

   Ground cover shall be comprised of a minimum of three perennial grass species, one perennial forb species, and one shrub species to address species diversity.

3. Woody Plant Density Standard:

   Woody Plant Density, as indicated by number of stems per acre in the revegetated unit equals or exceeds 200 stems per acre.

4. Productivity Standard:

   The target revegetated unit equals or exceeds 70% of an appropriate reference area absolute desirable vegetative productivity (exclusive of listed noxious species and succulents). Desirable vegetation excludes noxious and nuisance (non-native annual weeds) but includes other annuals and perennials which are native and non-native.

## 4.3 Sample Adequacy Determination

Ground cover sampling within reclaimed areas is conducted to a minimum of 20 initial transects whereas reference area sampling is conducted to a minimum of 15 initial transects. From these preliminary efforts, sample means and standard deviations for total non-overlapping vegetation ground cover are calculated. The procedure is such that sampling continues until an adequate sample, $\mathbf{n_{min}}$, has been collected in accordance with the Cochran formula (below) for determining sample adequacy, whereby the population is estimated to be within 10% of the true mean (μ) with 90% confidence. These limits facilitate a very strong estimate of the target population (MMD 1996).

When the inequality ($\mathbf{n_{min}} \leq \mathbf{n}$) is true, sampling is adequate and $\mathbf{n_{min}}$ is determined as follows:

$$\mathbf{n_{min} = (t^2 s^2) / (0.1\ \bar{x}\ )^2}$$

where: n = the number of actual samples collected

$t$ = the value from the one-tailed $t$ distribution for 90% confidence with n-1 degrees of freedom

$s^2$ = the variance of the estimate as calculated from the initial samples

$\bar{x}$ = the mean of the estimate as calculated from the initial samples

If sampling is designed for a formal success evaluation and the initial samples do not provide a suitable estimate of the mean (i.e., had the inequality been false), additional samples will be collected until the inequality ($\mathbf{n_{min}} \leq \mathbf{n}$) becomes true or until a maximum of 40 samples are collected. If sample adequacy is not achieved after 40 samples are collected, a reverse null approach will be used to demonstrate success. The demonstration of success will utilize the central limit theorem which assumes approximate normality when a sufficiently large number of samples are collected (greater than 30). A one-sided, one-sample, reverse–null t-test is considered appropriate. Since sampling adequacy is not required (nor recommended) for woody plant density, one density belt will be co-located with each ground cover transect, but adequacy shall not be tested for this variable. Resulting data can then be considered reasonable for the evaluation purposes intended.

## 5.0 MANAGEMENT ACTIONS / CONTINGENCY

After the initial seeding occurs and monitoring has begun, circumstances may require additional management actions to facilitate revegetation parcels toward the desired outcomes. The management actions presented below may not represent an exhaustive list of potential options, as additional management alternatives may be needed to address site-specific issues that arise.

### 5.1 Inter-seeding

If undesirable precipitation, wind events, or any other factors contribute to poor seed germination, additional seed may be broadcast or drilled (if topography allows) to increase vegetative cover or diversity, as required.

### 5.2 Weed Control

Weed management may be implemented if noxious weeds identified during annual vegetation surveys present an obstacle to achieving performance criteria for the cover. Noxious weed control is species-dependent and both method and timing will vary from species to species. Should the need arise, noxious weed patches will be identified and delineated with a GPS during the annual vegetation survey. Data regarding the species and density of the population will be recorded, and then an informal control plan will be formulated and implemented. The effectiveness of control methods will be documented during the following annual vegetation survey.

Prevention is the highest priority weed management practice on non-infested lands; therefore, protecting weed-free plant communities is the most economical and efficient land management practice. Prevention is best accomplished by ensuring that new weed species seed or vegetative reproductive plant parts of weeds are not introduced into new areas and early detection of any new weed species before they begin to spread. Control methods may include chemical or mechanical approaches. The optimum method for weed management varies depending on a number of site-specific variables such as associated vegetation, weed type, stage of growth, and severity of the weed infestation.

#### 5.2.1 Chemical Control

Chemical control consists of selective and non-selective herbicides. Target noxious weed, herbicide selection, proximity to desirable plant species, and timing are considerations for chemical control. The use of herbicides would be in compliance with all Federal and State laws on proper use, storage, and

disposal. The chemical application would be done by a licensed contractor in accordance with all applicable laws and regulations and all label instructions will be strictly followed.

### 5.2.2 Mechanical Control

Mechanical control is the physical removal of weeds and includes tilling, mowing, and pulling undesirable plant species. Treatment options and efficacy depend on the noxious weed targeted and method used.

## 5.3 Mulching

If revegetation parcels are eroding at an unforeseen rate while vegetation is still being established, mulch may be used to provide rainsplash and wind protection, reduce evaporation, and stabilize the seedbed. Preferably, a wood fiber or wood shred mulch would be used, as it is more robust than hay or straw and more likely to provide wind protection.

If used, wood fiber mulch or wood shred mulch would consist of specially prepared wood fibers and would not be produced from recycled material such as sawdust, paper, cardboard, or residue from pulp and paper plants. If necessary, such as on a steep slope or an area deemed a high wind erosion risk area, a tackifier can be used with the wood-fiber mulch to improve adhesion. If erosion areas are localized, small, or well sheltered, a simple straw mulch should suffice in providing rainsplash protection. Interseeding would most likely be necessary if erosion is sufficient enough to require post-revegetation corrective mulching.

## 5.4 Supplemental Irrigation

The seed mix proposed for this project is comprised of species adapted to the local climactic conditions and supplemental irrigation is not likely required to establish vegetation. Irrigation typically causes an artificial climactic regime that overly encourages annual weeds versus the desired seeded species. Also, under the influence of irrigation, the adapted plants that do germinate will develop above ground biomass at the expense of below ground biomass. Once the irrigation stops, those plants have essentially become "accustomed" to artificial circumstances and will typically die during a normally tolerated drought. Over approximately the last 20 years, practical applications of arid land reclamation science have abandoned the use of irrigation.

However, a prolonged drought during the plant establishment period could become detrimental to the project. In this specific circumstance, supplemental irrigation may be used to facilitate germination, but procedures for implementing irrigation need to be highly managed and not exceed 120% of any

monthly precipitation average. Soil moisture sensors and unsaturated flow modeling should accompany the planning and implementation of irrigation events to facilitate vegetation establishment and growth, while maintaining the primary function of isolating the buried materials from the water balance. Per the New Mexico Mining and Minerals Division comments on the CCP (May 10, 2023), irrigation of revegetated areas will only be permitted for the first three years after seeding.

To encourage and sustain perennial growth, particularly of warm season grasses and shrubs, and discourage annual weedy species, irrigation needs to occur as infrequent pulses of relatively substantial quantities of water, in an attempt to mimic the natural monsoonal precipitation experienced in mid to late summer. These irrigation events, mimicking high intensity, short duration convective thunderstorms will increase the amount of plant available water, facilitating the robust and extensive root systems needed for survival of perennial vegetation beyond irrigation. In contrast, frequent and shallow irrigation events will benefit the shallow rooted annual species and facilitate perennial root growth near the surface, which during periods of drought will desiccate, and result in the senescence of all shallow rooted vegetation.

## 6.0 REFERENCES


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Mining Act Reclamation Bureau (MARB). 1996. Closeout Plan Guidelines for Existing Mines. April 30.

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MMD. 2022a. Guidance for Revegetation of Part 5 Existing Mines and Part 6 New Mines. December 2022.

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MMD. 2022c. Self-Sustaining Ecosystem Guidelines: In the Context of the New Mexico Mining Act Rules. December 2022.

# APPENDIX E

## Cost Estimate

## To be supplied 60 days after CCP is approved

# APPENDIX F

## Revegetation Plan and Monitoring Protocols

# Mt. Taylor Mine

## REVEGETATION PLAN AND MONITORING PROTOCOLS

October 2025

Prepared by:

CEDAR CREEK ASSOCIATES, INC.

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## 1.0 INTRODUCTION

This plan, part of the Closeout/ Closure Plan (CCP) for the Mt. Taylor Mine, describes the measures that Rio Grande Resources (RGR) will take to re-establish vegetation on disturbed areas within the mine permit area that will minimize additional disturbance, mitigate impacts to affected environmental resources, rehabilitate disturbed areas to support post-mining land use (PMLU) of grazing, and provide protection of soil and runoff comparable to the natural conditions in the local area. The requirements of this Plan will be implemented primarily by a contractor at the time of mine closeout. The mine surface facilities are located on 285.6 acres, of which approximately 148 acres are currently disturbed land, and the remaining 137.9 acres are undisturbed. Closeout activities are anticipated to disturb an additional 27 acres, bringing the total land disturbance to 175 acres. Affected areas, to be identified before RGR commences final reclamation, will also be revegetated according to this plan. The affected areas known at this time to be revegetated include Borrow Area B and the areas of the Treated Water Discharge Pipeline outside of the Right-of-Way.

The areas to be revegetated include:

- Support (Service and Support) Facilities – 32 acres
- Mine Water Treatment Area - 28 acres
- Treated Water Discharge Pipeline beyond the mine surface area - 15 acres
- Ore Stockpile Pad and Runoff Retention Pond – 11.8 acres
- Expanded Disposal Cell - 13 acres
- Affected Areas
    - Borrow Area B (and access road) – 6.7 acres
    - Continental Divide Substation Area (depending on the Utility's wishes)
    - County Road 334 - 4.7 acres (non-driving surfaces of the Access Road)
    - Area of the Treated Water Discharge Pipeline outside of the Right-of-Way

The remainder of the disturbed area not to be revegetated includes the Continental Divide Substation, PMLU buildings, road surfaces, the south storm water pond, diversion channels, and rock slopes.

## 2.0 REVEGETATION PROTOCOLS

Revegetation protocols and performance criteria for Part 5 and Part 6 guidelines from the New Mexico Mining and Minerals Division. The particular guidance relevant to the project are the Self-Sustaining Ecosystem Guideline (December 2022), the Soil and Cover Material Handling and Suitability Guideline, and Revegetation Guideline (December 2022). This revegetation plan includes reasonable considerations growth media, seeding conditions, and site conditions including climate and post-mining use.

### 2.1 Grading

To prepare the mine site ground surfaces for revegetation, mine facilities not preserved for PMLU will be removed (CCP Technical Specification C.2) and the disturbed areas within the mine permit area will be regraded (CCP Section 4.4.7, Finish Grading and CCP Technical Specification C.4), including backfill of mine water treatment pond basins to approximate original grades.

Regraded material will be placed to minimize potential adverse effects to surface water, ground water and natural conditions of areas outside of the mine area. All surfaces will be graded to a final surface configuration which will support the approved post-mining land use, which will be grazing, or where appropriate, commercial. Temporary runoff and erosion controls, specified in the Stormwater Pollution Prevention Plan (SWPPP) will be employed to manage sediment generated during closeout earthwork. Grading operations will be performed by dozers, scrapers, graders or other equipment. An excavator with hydraulic hammer may be used to reduce high walls to 1H:1V slope, where appropriate. Finish grading will create the grades and slope directions shown on the CCP Appendix A drawings sheets CL 07A, CL 07B, CL 14, and CL 15, which may include shallow depressions and will have a roughened surface suitable for seed nesting and resistance to erosion.

### 2.2 Growth Media Considerations

At the Mt. Taylor Mine, the soil profile is typically 0-36 inches of silty sand over layers of interbedded inorganic clays of medium plasticity and sand-clay mixtures. The topsoil, referred to here as growth media, consists of fine grained sand, sand-clay mixtures, and medium plasticity clay. The agronomic descriptions of these soils are given in the CCP Section 4.4. The soil that is intended to be used for the growth media that will cover the radon barrier of the waste pile and disposal cell is classified as silty sand (SM), sand-clay mixtures (SC), and low to medium plasticity clay (CL) per the Unified Soil Classification System (USCS) and as sandy loam and clay loam per the USDA classification system (HEAL, 2014). It occurs as a residual soil derived from weathering of Mesa Verde sedimentary rock or colluvial/ alluvial soil from erosion of up-slope rock outcrops, including basalt. Based on Table 1 of the Closeout Plan

Guidelines for Existing Mines (MARB 1996) that are part of the State of New Mexico Energy, Minerals and Natural Resources Department (EMNRD) of Mining Act Reclamation Program (MARP) Attachment #1, Soil and Topsoil Suitability Ratings, this soil is rated as good to fair for texture.

During mine construction, site soils were excavated to create pond basins and other surficial features on the site. Most of the excavated soil was used to construct pond berms and to adjust grades for mine surface facilities. Local soils will be used for the growth media and will be obtained primarily from existing borrow areas, by excavations on site or borrow areas adjacent to the mine site, and regrading of pond berms or other grading performed during ground preparation. Table 4.3 (CCP) lists the available soil volumes versus borrow soil required for closeout; ample soil is available from these various sources, all within the mine permit boundaries.

### 2.2.1 Growth Media for Waste Rock Pile and Disposal Cell Cover

According to the latest design, a 33-inch layer of growth media (comprised of a piedmont soil) will be placed on top of the radon barrier, then a 12-inch rock mulch layer for erosion protection will be placed on the top surface of the cell cover. The rock mulch will be approximately 30% 2-inch minus and 70% pediment soils by volume. During placement, only light compaction of the piedmont soil will occur as a result of equipment movement used to place, spread, and grade the loam soil. Soil textures for the growth medium will follow the USDA classification system.

Growth media will be placed on the disposal cell by truck and spread primarily by dozer or motor-grader. The appropriate soil thickness will be achieved by GPS-guided equipment following the soil cover grading plan. The thickness of the placed loam cover is verified by sampling of soil depth using hand-augured holes through the completed growth medium. Thickness verification measurements will be made at least every ¼ acre. RGR will utilize an independent QA/QC contractor to obtain these measurements and validate the growth media layer thicknesses. For each location, the measurements will be documented and reviewed to ensure that the minimum thickness of growth media is attained. Where growth media layer thicknesses are insufficient, additional material will be placed to correct the deficiencies.

#### *2.2.1.1 Biointrusion*

Biointrusion can occur from plants, mammals, and insects. In general, upland plants in the region, even potentially deep-rooted shrubs, have the majority of their roots in the top 25 cm of the soil profile because the plants are primarily relying on precipitation to maintain. At the Homestake – Grant Reclamation Project, Cedar Creek observed a saltbush taproot growing laterally at approximately 20 cm depth. This is evidence that the plant rooting will develop where plant available water is. In the context

of the cover, the plant roots would not be expected to penetrate the radon barrier because plant available water would not be found in the radon barrier. If precipitation were to percolate deep into the soil profile, it would be expected to rest on top of the radon barrier. Due to the compaction, the plants would respond by forming fine dense roots in the vicinity to use the available water. Therefore, plant biointrusion is generally not a concern on the cover.

In general, it is likely that small mammals will inhabit the cover over time. High concentration of burrows and tunnels affect soil morphology and are likely to increase percolation rates. However, the majority of species with the potential to inhabit the area have shallow burrowing depths that leave them unlikely to interact with the radon barrier. Prairie dogs and badgers pose the highest risk to the cover as they may burrow deep enough to affect the radon barrier and form many wide burrows.

There are many species of insects that may be present on the cover. In general, the species of flies, wasps, crickets, and beetles, that have subterranean habits are unlikely to burrow more than a maximum of 12 inches into the ground and generally only burrow down to 6 inches. However, ants and termites, which can burrow upwards of 6 and 30 feet underground, respectively, are possible risks to the cover.

Overall, the cover design of using a rock mulch layer, with 30% 2-inch minus rock by volume, on the top surface generally discourages burrowing from insects and small mammals but the care and maintenance plan for the cover should include observations of small mammal burrows and insect mounds to ensure the effectiveness of the cover.

### 2.2.2 Growth Media for Contaminated Soil Clean-up Areas

When the excavation of contaminated soil has been finished, RGR will determine whether at least six inches of clean soil remains in place in areas to be revegetated. An agronomic assessment will be implemented to determine whether the remaining soils exhibit suitable physical, chemical, and fertility parameters to establish and sustain plant growth. Organic amendments or supplemental growth media may be used to address agronomic deficiencies.

## 2.3 Seedbed Preparation

Native arid vegetation is ecologically adapted to low fertility systems. Therefore, using standard agronomic fertility ranges designed for intensively managed, often heavily irrigated, and annually harvested agricultural systems is misrepresentative of the requirements for arid grassland and shrub systems in New Mexico.

When soil materials are disturbed (plowed, harvested, tilled), organic matter and associated fertility can be released (volatilized) by a subsequent increase in microbial activity. Incorporation of compost to

improve germination conditions for the revegetation surface is recommended. Soil organic matter serves as a reservoir of nutrients for vegetation, provides soil aggregation (providing structure), increases nutrient exchange, retains moisture, reduces compaction, reduces surface crusting, and increases water infiltration into soil. Organic matter increases the water holding capacity as it alters particle aggregation and pore size distribution. Water holding capacity of soil materials is an important consideration for land reclamation. Suitable soil water content is essential for seed germination, seedling establishment, and plant survival as desiccation is a major risk on disturbed sites, especially in arid environments.

Compost is a mixture of organic residues (manure or biosolids or green waste, straw, etc.) that have been piled, mixed and moistened to undergo thermophilic decomposition. Enough compost amendment should be incorporated into the project soils to add 1% organic matter to the top 3 inches of soil. Therefore, a general application rate of 8 cubic yards per acre incorporated to 3 inches depth of composted cow or green manure, or composted biosolids, should be sufficient for reclamation on the tailings site. Suitable material will have at least 25% organic matter, pH not to exceed 8.5, soluble salts less than 10 mmhos/cm, and carbon to nitrogen ratio between 10:1 and 20:1. Moisture content, salinity, and organic matter, of organic amendments need to be tested for by a certified laboratory. All testing should be conducted on representative samples of material from the same batch intended to be purchased. Given the potential for elevated salts in the soils, only low salt amendments should be used. Composted biosolids will be tested to ensure sufficiently low radium activity concentrations prior to use. In specific instances, such as harvesting growth media from very deep in the soil profile or using material stockpiled for more than a year, increased quantities of manure may be beneficial, and will be addressed on an "as needed" basis.

Composted manures and composted biosolids are more desirable than inorganic fertilizers and industrial byproducts such as Biosol, because they are significantly lower in inorganic and total nitrogen. Nitrogen preferentially stimulates the growth of undesirable weedy annual species, which reduces available water and nutrients for desirable perennial vegetation. In addition to the low nitrogen levels, the physical structure of the compost increases localized water holding capacity and creates "islands" of fertility to aid germination. Plant germination and establishment in the first few years is critical, as native seed sources then begin to supplement the initial seeding and stabilize the soil medium. Organic amendment application should occur immediately prior to seeding, and be incorporated as soon as

possible, preferably by disk harrow. Composted manure and/or biosolids left on the soil surface, exposed to warm temperatures and potential precipitation, will readily decompose, thus making it less beneficial.

## 2.4 Seeding

The proposed seed mix is comprised of all native species and application rates are presented on the table below and is optimized for site edaphic and climatic conditions. Each included species was evaluated for the following factors:

- Species Range
- Adapted to Project Soils
- Performance on Local Revegetation
- Species Dominance in Local Ecological Communities
- Precipitation Zones

These factors were also considered when recommending application rate, which was determined by seeds per square foot. Seeding can be accomplished using either broadcasting and drilling techniques (as recommended on the seed mix), following final contouring and compost application/incorporation. Seeding season shall be March 1 to April 30 or October 1 to November 30. In certain circumstances, seeding prior to the monsoonal period (in June or July) may be appropriate as well. Efforts will be made to implement seeding at optimal times for site conditions (late fall/early spring). However, if a unit must be seeded during inopportune months, a field level risk assessment will determine whether temporary erosion control measures (such as crimped hay, wood shreds, wattles, etc.) are needed to stabilize the surface prior to anticipated vegetation establishment. Drill seeding techniques cannot be used on extremely rough surfaces and in areas with slopes of 3H:1V or steeper (natural or cut slopes east of the shafts). In these situations, seed will be broadcast, and a light disc harrowing perpendicular to the flow of energy (wind and/or water) should immediately follow seeding to increase seed to soil contact and provide some protection from wind or water erosion and granivory. Hydroseeding may also be used in a

two-pass system, where the first pass is dedicated to sowing most of the seed and the second pass installs the mulch. The disposal cell will be seeded with this mix.

| Mt. Taylor Seed Mix | | | | | | |
|---|---|---|---|---|---|---|
| | | | Specifications / Recommendations | | | |
| Lifeform | Common Name | Scientific Nomenclature | PLS / lb.** | Recommd. PLS lbs/ac | PLS / $ft^2$ | % of Seeds in Mix |
| Grasses | Sideoats Grama | *Bouteloua curtipendula* | 191,000 | 1.00 | 4.4 | 5.0% |
| | Blue Grama | *Bouteloua gracilis* | 825,000 | 1.00 | 18.9 | 21.6% |
| | Bottlebrush Squirreltail | *Elymus elymoides* | 192,000 | 0.50 | 2.2 | 2.5% |
| | Slender Wheatgrass | *Elymus trachycaulum* | 159,000 | 2.00 | 7.3 | 8.3% |
| | Indian Ricegrass | *Eriocoma hymenoides* | 141,000 | 1.00 | 3.2 | 3.7% |
| | Galleta | *Hiliaria jamesii* | 159,000 | 0.50 | 1.8 | 2.1% |
| | Alkali Sacaton | *Sporobolus airoides* | 1,758,000 | 0.25 | 10.1 | 11.5% |
| | Sand Dropseed | *Sporobolus cryptandrus* | 5,298,000 | 0.10 | 12.2 | 13.9% |
| | | **Grass Subtotal** | | **6.35** | **60.1** | **68.7%** |
| Forbs | Lewis Flax | *Linum lewisii* | 293,000 | 1.00 | 6.7 | 7.7% |
| | Rocky Mtn. Penstemon | *Penstemon strictus* | 592,000 | 0.25 | 3.4 | 3.9% |
| | Upright Prairie Coneflower | *Ratibida columnifera* | 737,104 | 0.25 | 4.2 | 4.8% |
| | Scarlet Globemallow | *Sphaeralcea coccinea* | 500,000 | 0.25 | 2.9 | 3.3% |
| | | **Forb Subtotal** | | **1.75** | **17.2** | **19.7%** |
| Shrubs | Fourwing Saltbush | *Atriplex canescens* | 52,000 | 2.50 | 3.0 | 3.4% |
| | Winterfat | *Ceratoides lanata* | 56,700 | 2.00 | 2.6 | 3.0% |
| | Rubber Rabbitbrush | *Chrysothamnus naseousus* | 400,000 | 0.50 | 4.6 | 5.2% |
| | | **Shrub Subtotal** | | **5.00** | **10.2** | **11.6%** |
| | | **Total** | | **13.10** | **87.5** | |
| Suitable Alternatives | Purple Three-awn | *Aristida purpurea* | 250,000 | | | |
| | Spike Muhly | *Muhlenbergia wrightii* | 1,600,000 | | | |
| | Western Wheatgrass | *Pascopyrum smithii* | 110,000 | | | |
| | Purple Prarie Clover | *Dalea purpurea var. purpurea* | 300,000 | | | |
| | Firecracker Penstemon | *Penstemon eatonii* | 900,000 | | | |
| | Sand Sagebrush | *Artemisia filifolia* | 2,000,000 | | | |
| | Apache Plume | *Fallugia paradoxa* | 480,000 | | | |

## 2.5 Erosion Control

The principle means to obtain erosional stability on the disposal cell is rock armor. Vegetation establishment and persistence will serve as the primary erosion control measure for other revegetation. A field level risk assessment will determine whether temporary erosion control measures (such as certified weed-free crimped hay, wood shreds, wattles, etc.) are needed to stabilize the surface prior to anticipated vegetation establishment.

## 2.6 Climate Change Considerations

Climate change modeling results provide general indications of how the climate may shift in New Mexico over the next several decades and into the next century, albeit with a significant degree of uncertainty, spatially, temporally, and degree of magnitude. In general, modeling results from the Nature Conservancy and the Southwest Climate Change Network indicate a general warming and drying trend (with localized instances of cooling and increases in precipitation), with increased variation in timing, intensity, and form of precipitation from typical averages. The species selected for revegetation are well suited to the current arid climate of this region, yet have a relatively wide tolerance to climatic conditions, particularly regarding the predicted result of climate change (warmer and drier). In other words, if precipitation decreases, drought increases, or temperatures and subsequent evaporation rates rise, these species will still be suitable for and tolerant of future climates projected in the region. The anticipated circumstances of climate change may actually select for more efficient, later seral species (as is a desired outcome for the project), over short-lived annuals and less efficient cool season grasses.

## 3.0 VEGETATION SAMPLING METHODS

Revegetation monitoring will consist of both qualitative and quantitative protocols. Qualitative protocols record any deficiencies in vegetation, both general and localized, and any other pertinent information relative to the reclamation is also recorded while traversing monitoring units during vegetation evaluations. During these traverses, the observer is vigilant for: 1) areas of poor establishment/growth, 2) pervasively weak or stressed plants, 3) indicators of soil fertility problems (e.g., certain anthocyanine colorations), 4) noxious weeds or invasive plant infestation, 5) evidence of unintended livestock grazing, 6) excessive erosion, 7) "pockets" of the aforementioned, and 8) any other similar revegetation / reclamation related issues. Quantitative protocols are described in the following sections.

Reference areas should be used as a benchmark for revegetation success. Appropriate reference areas will be selected in coordination with the New Mexico Mining and Minerals Division (MMD) prior to implementing revegetation monitoring and should provide a suitable target for revegetation performance by representing project topographic and edaphic conditions.

### 3.1 Sample Site Selection / Location

The systematic procedure for the determination of sample locations occurs in the following stepwise manner. First, a fixed point of reference is selected for the entire area to facilitate location of the systematic grid in the field. Second, a systematic grid of appropriate dimensions (i.e., 200 ft X 200 ft) is selected to provide a minimum number of coordinate intersections; reclaimed areas are conducted to a minimum of 20 transects whereas reference area sampling is conducted to a minimum of 15 initial transects. Third, a scaled representation of the grid is overlain on field maps extending parallel to major compass points to facilitate field location. Fourth, unbiased placement of this grid is controlled by selection of a random origin. Fifth, utilizing a GPS, all of the initial sample points are located in the field.

### 3.2 Determination of Ground Cover

Ground cover at each sampling site is determined utilizing the point-intercept method (Bonham 1989) as illustrated on Figure 1. Implementation of the technique for the sampling effort occurs as follows: First, a transect of 10 meters length is extended from the starting point of each sample site toward the direction of the next site to be sampled. Then, at each one-meter interval along the transect, a "laser point bar" is situated vertically above the ground surface, and a set of 10 readings recorded as to foliar hits on vegetation (by species), litter, standing dead, rock (>2mm), or bare soil. Hits are determined at each meter interval by activating a battery of 10 specialized lasers situated along the bar at 10-centimeter intervals and recording the variable intercepted by each of the narrow (0.02 inch)

focused beams (see Figure 1). In this manner, a total of 100 intercepts per transect are recorded resulting in 1 percent foliar cover per intercept.

### 3.3 Determination of Woody Plant Density

At each sample site, a 2-meter-wide by 50-meter-long belt transect is established parallel to the ground cover transect and in the direction of the next sampling point (in a cardinal compass direction – Figure 1). Occasionally 4 x 25 meter transects are employed where distance between points necessitates shorter belts. Then within each belt, all woody plants (shrubs, trees, and succulents) are enumerated by species and age class. Determination of whether or not a plant could be counted depends on the location of its main stem or root collar where it exited the ground surface with regard to belt limits.

### 3.4 Determination of Productivity

At each sample site, current annual production is collected from a 1/2 $m^2$ quadrat frame at each sampling location. Utilization and development will be estimated using on the ground observations of herbivory within each of these quadrat frames. The quadrat is placed one meter and 90º to the right (clockwise) of the ground cover transect to avoid vegetation trampled by investigators during sample site location. From within each quadrat, all above ground current annual vegetation within the vertical boundaries of the frame is clipped and bagged separately by life form as follows:

| | |
|---|---|
| Native Perennial Cool Season Grass | Shrub |
| Native Perennial Warm Season Grass | Sub-Shrub |
| Introduced Perennial Grass | Native Perennial Forb |
| Annual Grass | Introduced Perennial Forb |
| Noxious Weed | Native/Introduced Annual/Biennial Forb |

All production samples are returned to the lab for drying and weighing. Drying will occur at 105º C until a stable weight is achieved (typically 24 hours). Samples will then be weighed to the nearest 0.1 gram. Utilization and growth stage adjustments will be incorporated into the presentation of results.

### 3.5 Determination of Emergent Density

In the first growing season following seeding, between 5-15 samples are collected from each reclaimed unit. Each sample consists of a cluster of five 1.0 $ft^2$ quadrats distributed in an unbiased manner. Following a random toss of each quadrat, the number of emergent plants rooted within the frame's perimeter is recorded accordingly into one of five classes: perennial grass, perennial forb, shrub/tree (by species), annual grass, or annual forb.

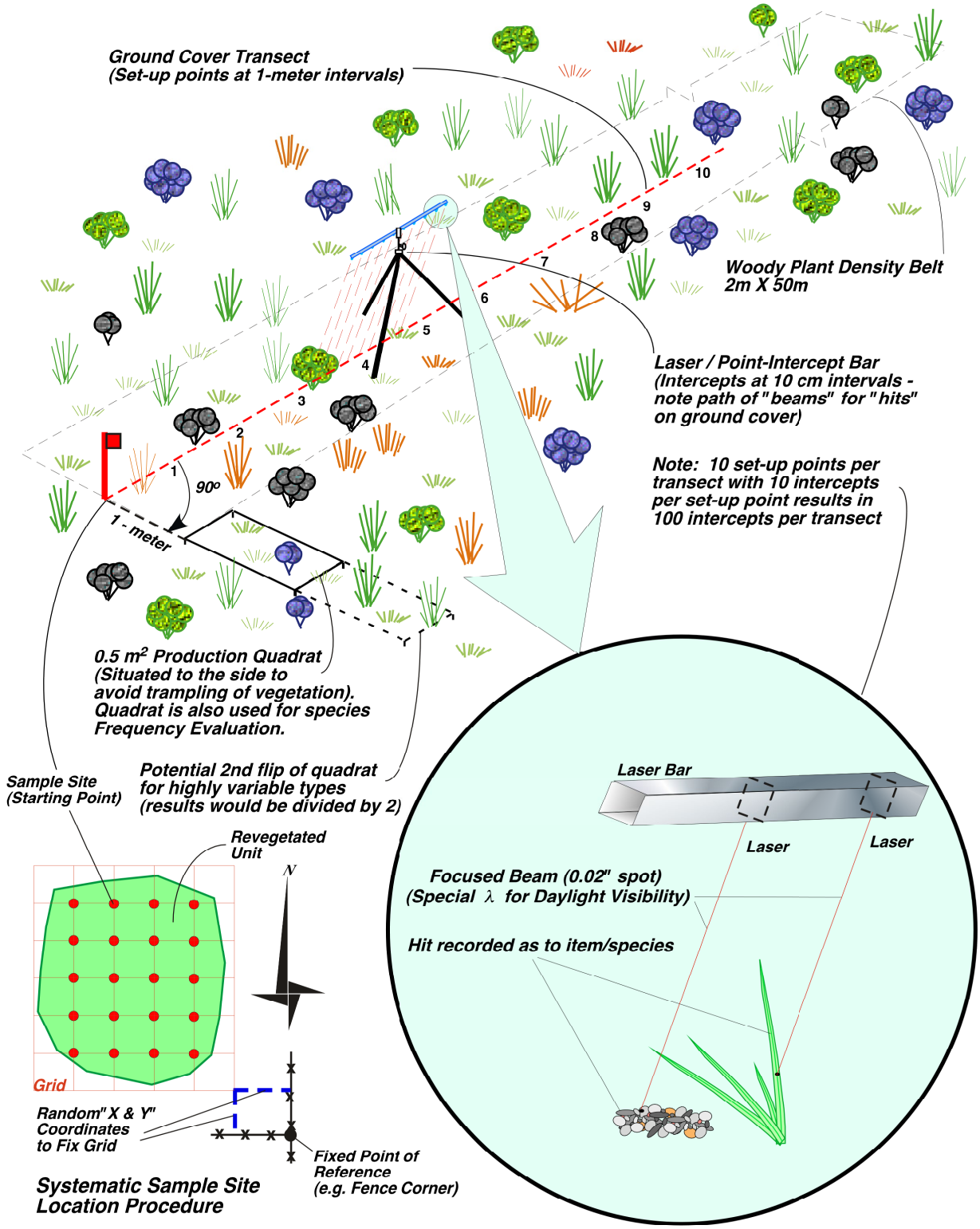



***Figure 1***

***Sampling Procedure at a Systematic Sample Site Location***

**Figure 1: Sampling Procedure**

## 4.0 REVEGETATION MONITORING SCHEDULE AND SUCCESS EVALUATIONS

### 4.1 Monitoring Schedule

The revegetation liability period (period of time that the owner is responsible for revegetation performance) under the MMD framework is 12 years with monitoring every three years. The annual site visits for the revegetation will be as follows:

Year 1 – Emergent Density Evaluation
Year 3 – Qualitative and quantitative evaluations (managerial information only).
Year 6 – Qualitative and quantitative evaluations (managerial information only).
Year 9 – Qualitative and quantitative evaluations (managerial information only).
---
Year 11 – Qualitative and quantitative evaluations (final success evaluation).
Year 12 – Qualitative and quantitative evaluations (final success evaluation).

As indicated, the final efforts, during year 11 and 12, would be an evaluation for success determination. Years 11 and 12 evaluations will be conducted in such a manner as to provide defensible verification that success has been achieved. If it is determined that vegetation needs additional time to mature, monitoring will continue once every 3 years, thereafter, until success evaluations are positive. Other than first year efforts, annual monitoring would be a combination of both qualitative and quantitative efforts to facilitate tracking and progress toward revegetation success standards.

### 4.2 Success Criteria

The primary post mining land use is anticipated to be grazing, therefore, revegetation success in revegetated units will concentrate on four performance standards (1) vegetative ground cover, and 2) diversity, 3) woody plant density, and 4) productivity. Revegetation efforts will be considered successful when the following criteria have been met. The reference areas will be sampled along with the revegetation to provide a suitable comparison each year of assessment. In this manner, the success criteria is dynamic and adjusts to climatic conditions.

1. Vegetative Ground Cover Standard

   The target revegetated unit equals or exceeds 70% of an appropriate reference area absolute desirable vegetative ground cover (exclusive of listed noxious species), with 90 percent statistical confidence. Desirable vegetation excludes noxious and nuisance (non-

native annual weeds) but includes other annuals and perennials which are native and non-native.

2. Species Diversity Standard:

   Ground cover shall be comprised of a minimum of three perennial grass species, one perennial forb species, and one shrub species to address species diversity.

3. Woody Plant Density Standard:

   Woody Plant Density, as indicated by number of stems per acre in the revegetated unit equals or exceeds 200 stems per acre.

4. Productivity Standard:

   The target revegetated unit equals or exceeds 70% of an appropriate reference area absolute desirable vegetative productivity (exclusive of listed noxious species and succulents). Desirable vegetation excludes noxious and nuisance (non-native annual weeds) but includes other annuals and perennials which are native and non-native.

## 4.3 Sample Adequacy Determination

Ground cover sampling within reclaimed areas is conducted to a minimum of 20 initial transects whereas reference area sampling is conducted to a minimum of 15 initial transects. From these preliminary efforts, sample means and standard deviations for total non-overlapping vegetation ground cover are calculated. The procedure is such that sampling continues until an adequate sample, $\mathbf{n_{min}}$, has been collected in accordance with the Cochran formula (below) for determining sample adequacy, whereby the population is estimated to be within 10% of the true mean (μ) with 90% confidence. These limits facilitate a very strong estimate of the target population (MMD 1996).

When the inequality ($\mathbf{n_{min}} \leq \mathbf{n}$) is true, sampling is adequate and $\mathbf{n_{min}}$ is determined as follows:

$$\mathbf{n_{min} = (t^2 s^2) / (0.1\ \bar{x}\ )^2}$$

where: n = the number of actual samples collected

$t$ = the value from the one-tailed $t$ distribution for 90% confidence with n-1 degrees of freedom

$s^2$ = the variance of the estimate as calculated from the initial samples

$\bar{x}$ = the mean of the estimate as calculated from the initial samples

If sampling is designed for a formal success evaluation and the initial samples do not provide a suitable estimate of the mean (i.e., had the inequality been false), additional samples will be collected until the inequality ($\mathbf{n_{min}} \leq \mathbf{n}$) becomes true or until a maximum of 40 samples are collected. If sample adequacy is not achieved after 40 samples are collected, a reverse null approach will be used to demonstrate success. The demonstration of success will utilize the central limit theorem which assumes approximate normality when a sufficiently large number of samples are collected (greater than 30). A one-sided, one-sample, reverse–null t-test is considered appropriate. Since sampling adequacy is not required (nor recommended) for woody plant density, one density belt will be co-located with each ground cover transect, but adequacy shall not be tested for this variable. Resulting data can then be considered reasonable for the evaluation purposes intended.

## 5.0 MANAGEMENT ACTIONS / CONTINGENCY

After the initial seeding occurs and monitoring has begun, circumstances may require additional management actions to facilitate revegetation parcels toward the desired outcomes. The management actions presented below may not represent an exhaustive list of potential options, as additional management alternatives may be needed to address site-specific issues that arise.

### 5.1 Inter-seeding

If undesirable precipitation, wind events, or any other factors contribute to poor seed germination, additional seed may be broadcast or drilled (if topography allows) to increase vegetative cover or diversity, as required.

### 5.2 Weed Control

Weed management may be implemented if noxious weeds identified during annual vegetation surveys present an obstacle to achieving performance criteria for the cover. Noxious weed control is species-dependent and both method and timing will vary from species to species. Should the need arise, noxious weed patches will be identified and delineated with a GPS during the annual vegetation survey. Data regarding the species and density of the population will be recorded, and then an informal control plan will be formulated and implemented. The effectiveness of control methods will be documented during the following annual vegetation survey.

Prevention is the highest priority weed management practice on non-infested lands; therefore, protecting weed-free plant communities is the most economical and efficient land management practice. Prevention is best accomplished by ensuring that new weed species seed or vegetative reproductive plant parts of weeds are not introduced into new areas and early detection of any new weed species before they begin to spread. Control methods may include chemical or mechanical approaches. The optimum method for weed management varies depending on a number of site-specific variables such as associated vegetation, weed type, stage of growth, and severity of the weed infestation.

#### 5.2.1 Chemical Control

Chemical control consists of selective and non-selective herbicides. Target noxious weed, herbicide selection, proximity to desirable plant species, and timing are considerations for chemical control. The use of herbicides would be in compliance with all Federal and State laws on proper use, storage, and

disposal. The chemical application would be done by a licensed contractor in accordance with all applicable laws and regulations and all label instructions will be strictly followed.

### 5.2.2 Mechanical Control

Mechanical control is the physical removal of weeds and includes tilling, mowing, and pulling undesirable plant species. Treatment options and efficacy depend on the noxious weed targeted and method used.

## 5.3 Mulching

If revegetation parcels are eroding at an unforeseen rate while vegetation is still being established, mulch may be used to provide rainsplash and wind protection, reduce evaporation, and stabilize the seedbed. Preferably, a wood fiber or wood shred mulch would be used, as it is more robust than hay or straw and more likely to provide wind protection.

If used, wood fiber mulch or wood shred mulch would consist of specially prepared wood fibers and would not be produced from recycled material such as sawdust, paper, cardboard, or residue from pulp and paper plants. If necessary, such as on a steep slope or an area deemed a high wind erosion risk area, a tackifier can be used with the wood-fiber mulch to improve adhesion. If erosion areas are localized, small, or well sheltered, a simple straw mulch should suffice in providing rainsplash protection. Interseeding would most likely be necessary if erosion is sufficient enough to require post-revegetation corrective mulching.

## 5.4 Supplemental Irrigation

The seed mix proposed for this project is comprised of species adapted to the local climactic conditions and supplemental irrigation is not likely required to establish vegetation. Irrigation typically causes an artificial climactic regime that overly encourages annual weeds versus the desired seeded species. Also, under the influence of irrigation, the adapted plants that do germinate will develop above ground biomass at the expense of below ground biomass. Once the irrigation stops, those plants have essentially become "accustomed" to artificial circumstances and will typically die during a normally tolerated drought. Over approximately the last 20 years, practical applications of arid land reclamation science have abandoned the use of irrigation.

However, a prolonged drought during the plant establishment period could become detrimental to the project. In this specific circumstance, supplemental irrigation may be used to facilitate germination, but procedures for implementing irrigation need to be highly managed and not exceed 120% of any

monthly precipitation average. Soil moisture sensors and unsaturated flow modeling should accompany the planning and implementation of irrigation events to facilitate vegetation establishment and growth, while maintaining the primary function of isolating the buried materials from the water balance. Per the New Mexico Mining and Minerals Division comments on the CCP (May 10, 2023), irrigation of revegetated areas will only be permitted for the first three years after seeding.

To encourage and sustain perennial growth, particularly of warm season grasses and shrubs, and discourage annual weedy species, irrigation needs to occur as infrequent pulses of relatively substantial quantities of water, in an attempt to mimic the natural monsoonal precipitation experienced in mid to late summer. These irrigation events, mimicking high intensity, short duration convective thunderstorms will increase the amount of plant available water, facilitating the robust and extensive root systems needed for survival of perennial vegetation beyond irrigation. In contrast, frequent and shallow irrigation events will benefit the shallow rooted annual species and facilitate perennial root growth near the surface, which during periods of drought will desiccate, and result in the senescence of all shallow rooted vegetation.

## 6.0 REFERENCES


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