Task ID# 1709

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February 23, 2007

Susan White
Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

RE: Response to Third Review of NOI to Commence Large Mining Operations, Geneva Rock Products, Inc., Point of the Mountain Quarry Operation M/035/026

Dear Ms. White:

This letter includes a response to the Division's third review, dated December 4, 2006 JBR submits these revised NOI pages and maps on behalf of Geneva Rock Products, Inc. (GRP).

Revisions to maps and text, in addition to comment responses below, are due to a change in the planned pit floor elevation for end of Phase 1 mining. Mining nearly to the lowest elevation of the existing pit floor would bring the floor elevation down to approximately 4665 feet, adding to the highwall and decreasing the size of the pit floor. Maps have been adjusted to show Phase 1 final pit floor elevation at 4665' rather than the elevation shown previously. This change affects acreages of pit floor vs. highwall, which have been adjusted throughout the document. The Phase 1 area has also been revised to show inclusion of the topsoil stockpiles at the northern point of the property. Overall acreage figures have been adjusted slightly, according to re-calculations affected simply by the width of lines used for the drawings.

Red-lined/strikeout pages are provided for the revised pages of the NOI text. Figures 2, 3, 5, 6, and 7 have been revised and are included. The surety was adjusted according to the Division's review comments, the updated rate sheet and current Means costs, the revised bond escalation rate, and the noted acreage changes.

105.1 Topographic Base Map, Boundaries, Pre-Act Disturbance
The noted highwall on the northeastern part of the property established prior to regulation by the Division remains undisturbed.

The access road which appears to have been cut into this face is actually within the Permit Area boundary as shown on Figure 3. The road has been labeled for clarification. The operator intends to restrict mining activity to the Permit Area, or to provide notice and the necessary documentation to the Division for plans otherwise.

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The legend on Figure 3 has been amended to describe Phase 1 as the bonded area.

106.2 Type of Operations to be Conducted

The concrete and asphalt piles at the north end of the property are made up completely of material that has been stockpiled from offsite. The concrete material is crushed and recycled into road base. These material stockpiles are not considered to be part of the mining operation.

106.5 Soil Types

The Division is correct; a Figure was removed, and the Figures have been renumbered; Figure references to topsoil storage areas have been corrected in the text.

Wording in the text regarding topsoil storage piles has been revised to reflect the following:
Topsoil stored above the highwall along the central/north property line would be utilized for interim reclamation. This soil would be utilized prior to completion of mining in Phase 1, such that the resource would not be lost.

Geneva has proposed a stockpile area on the southwest point of the property, outside the area proposed for mining. This is shown on Figure 3. Topsoil proposed for storage along the southwest point of the property would remain outside the proposed area to be mined.

The topsoil stockpiles on the northern part of the pit floor have been added to the permit area for Phase 1. This 5 acres at the northern point of the property is also included in reclamation calculations, as part of the pit floor.

Text has been added to state that a TCLP test on the reclamation fines material would be run for VOC's to assure that the toluene and 1,2-dichloroethane are not leachable.

106.6 Plan for protecting & re-depositing soils

The semi-permanent seed mix would include the following species and application rates (seeding rate in PLS pounds/acre) :

Bluebunch wheatgrass	6
Purple three-awn	3
Indian ricegrass	2
Sand dropseed	.5
Crested wheatgrass	1
Big sagebrush	.5
Palmer penstemon	2
Blue flax	3
Total	18

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The material in the fines pond has been recently analyzed by Geneva. The sieve and hydrometer analyses provided the following textural composition: pebbles 1%; sand 23.5%; silt 58.5%; clay 17%.
The sieve analysis results have been added to the NOI as Appendix E; reference to this analysis is made in section 106.5.

Several types of plants are known to 'volunteer' in the fines pond; Geneva has noted that grasses in particular are expected to take hold there. The semi-permanent seed mix described above would be used for reclamation of the fines pond.

106.7 Vegetation
The revegetation seed list under 106.6 has been added to the NOI. The revegetation plan is described in the NOI.

The references to north and south slopes have been changed to south-facing and north-facing in this section as well as in Section 109.3.

110.5 Revegetation Planting Program and Topsoil Redistribution
The seed mix is listed above, under 106.6.

R647-4-112 Variances
Regarding the use of topsoil, biosolids, or manure, it is Geneva's position that very little of the material if pushed over the highwall, would end up any further down than the first bench. It is expected that spall from the highwall will eventually fill in parts of the benches. Although the highwall would be stable, and access to the benches would be possible, it is expected that the spall material falling and collecting on the benches during the first three to five years post reclamation would not provide a safe walking/working surface for inspection of vegetation cover. In addition to the filling in of benches from spall, the outer edge of each bench would be gradually wearing, such that the actual bench surface would narrow over time and the overall highwall surface would begin to approximate more of a slope than a benched wall.

R647-4-113 Surety
9.5 Revegetation of Safety Berm – The safety berm calculation has been revised.
The pit floor revegetation cost has been updated to show topsoil relocation at $1.62 per cubic yard.
The suggested line item has not been added to surety since Geneva would not be moving the soil material from the upper bench to the pit floor
The escalation rate has been adjusted to 3.2%.

Thank you for your assistance.

Sincerely,
Linda J. Matthews
JBR Environmental Consultants, Inc.
Cc: Tony Christofferson and Carl Clyde, Geneva Rock

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Notice of Intention
to
Commence Large Mining Operations
Geneva Rock Products, Inc.
Point of the Mountain Quarry Operation
M/035/026

Submitted by:

Geneva Rock Products, Inc.
1565 West 400 North
P.O. Box 538
Orem, Utah 84059

to:

Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84114-5801

Prepared by:

JBR Environmental Consultants, Inc.
8160 S. Highland Drive
Sandy, Utah 84093

(801) 943-4144

November 15, 2005
Revised March 10, 2006; Revised November 17, 2006; Revised February 21, 2007

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Introduction/Project Background

Geneva Rock Products (GRP) owns and controls approximately 872 acres of private land, partially within and south of Draper, Utah (15547 South 300 West) in southwestern Salt Lake County and northwestern Utah County, Utah (Figure 1). The 872 acres of GRP property occurs on both sides of I-15, near the Point of the Mountain. The area on the east side of I-15 is known as the Point of the Mountain (POM) Quarry. The GRP property on the west side of I-15 is utilized for sand and gravel extraction, and for storage of fines from those operations, as well as from the POM operations.

The Permit Area covered under this Notice of Intent includes a total of 486.5 acres: 67 acres on the west side of I-15 and 419.5 acres in the POM Quarry. Within the POM Quarry (and part of the 419.5 POM Quarry acres) are 16 acres that are considered to be a Mixed Use Area, utilized by mining and construction operations. For this reason, the 16-acre Mixed Use Area is excluded from the Phase 1 bond for reclamation.

Although the entire Permit Area covers 486.5 acres, only the Phase 1 portion of the Permit Area, 288 acres, is currently designed for active mining and reclamation. Any further phases of mining and reclamation, once designed, would occur under additional future submittals to the Utah Division of Oil, Gas and Mining for review and approval.

The 288-acre Phase 1 area is outlined in Figure 2, and includes disturbance associated with development of a 115.5-acre pit floor, 107-acre high wall, 41 acres for storage of fines, and 24.5 acres made up of buffer, the northern point including topsoil storage areas, and a couple areas above the highwall on the southeast side of Phase 1. (See Figure 3).

GRP was organized in 1954 when it began supplying concrete for projects along the Wasatch Front. Currently, GRP operates a Sand and Gravel (S&G) Pit, Concrete Batch Plant (CBP), and Hot Mix Asphalt (HMA) Plant at its Point of the Mountain location. The surface property owner and the owner of the mineral rights underlying the surface are both Geneva Rock Products.

On August 9, 2005, GRP was notified by the Utah Division of Oil, Gas and Mining (UDOGM) that the Point of the Mountain Quarry Operation no longer qualified as a sand and gravel or rock aggregate operation, both of which are exempt from regulation under the Utah Mine Land Reclamation Act. UDOGM indicated that GRP needed to obtain a large mining permit in order to comply with the Act's administrative rules. A file number, M/035/026, was assigned to the operation. This Notice of Intent (NOI) represents GRP's application to obtain a large mining permit in order to continue operating and expand the POM Quarry. It addresses all of the required elements of Utah Rule R647-4, enacted October 1, 2001, as in effect November 1, 2005 including the development of an Operations Plan and a Reclamation Plan.

The highwall in the northeastern portion of the property, outside the permit area

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Notice of Intention to Commence Large Mining Operations
Geneva Rock Products, Inc.
Point of the Mountain Quarry Operation

This Notice of Intention (NOI) is submitted to the Utah Division of Oil, Gas and Mining in compliance with part R647-4-103 of the Utah Minerals Reclamation Program.

I. R647-4-104 Owner/Operator Information

1. **Mine Name**: GRP – Point of the Mountain (POM) Quarry

2. **Name of Permittee/ Operator/ Applicant**: Geneva Rock Products, Inc., a Corporation registered to do business in the State of Utah.
   Business License #: Draper City ON-2003-0348
   Registered Agent: Tony Christofferson
   Address: PO Box 538 Orem, Utah 84059
   Phone: 801-281-7800 Fax: 801-281-7830
   E-mail address: tchristofferson@clydeinc.com

3. **Permanent Address**: P.O. Box 538 (Corporate Office), Orem, UT 84059
   Phone: 801-281-7800 Fax: 801-281-7830

4. **Company Representative**: Carl C. Clyde, Vice President, Gravel & Asphalt Materials Division
   Address: 15547 South 300 West, Draper, UT
   Phone: 801-281-7950 Fax: 801-281-7970
   E-mail address: cclyde@genevarock.com

5. **Location of Operation**: Salt Lake and Utah Counties, Utah

   In Draper, Utah, on the east side of Interstate 15 (I-15) near the I-15 Exit 291. Universal Transverse Marcator (UTM) Coordinate System: UTM Datum NAD27 4,479.7 km Northing, 423 km Easting, Zone 12

   Sections 13,14, and 24 (T4S R1W) and Section 18 (T4S R1E), SLBM

6. **Ownership of the Land Surface**: Private (GRP) 486.5 acres

7. **Owners of Record of the Minerals to be Mined**: Private (Fee) GRP

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III. R647-4-106 Operation Plan

106.1 Type of Mineral to be Mined

The material to be mined is highly fractured quartzite and limestone (termed "ledgerock" by the mine operator) in addition to the alluvial sand and gravel deposits that have historically, and are currently being extracted from the site. All of the proposed mining will take place in bedrock. Rock products from the operations would be used in construction of transportation infrastructure, and heavy industrial, commercial, and residential construction. Final products produced from the POM pit and on-site production facilities include sand and gravel, concrete, and asphalt.

106.2 Type of Operations to be Conducted

Existing disturbance at the POM Quarry covers approximately 190 acres, including current facilities (including approximately 16 acres designated as the 'mixed use' area), roads, and the pit. The POM Quarry will be enlarged to recover additional reserves. These reserves will include the bedrock types previously described. This NOI covers extraction associated with Phase 1 of what is expected to be a multi-phase extraction project within the defined permit area, over the next 75 years. The ongoing development of the POM Quarry would depend upon economic conditions and demands for aggregate and asphalt materials in the surrounding communities.

Mining of bedrock will be conducted by ripping, drilling, blasting, and excavation/hauling. The drill size, blast holes, and frequency of blasting vary depending upon the situation. Blasting takes place on a variable schedule at the POM Quarry; blasting could occur 2 or 3 days in a row and then not for several weeks. Mining benches will typically be 25 feet wide, generated in 40-foot high lifts, and layed back approximately 15 feet to an overall 1:1 slope (Figure 5). Bench slopes will be in stable bedrock, but due to the highly fractured nature of the material, freeze/thaw cycles will loosen small particles, and the benches are expected to fill in with spall within 2 to 3 seasons.

Loose material, either unconsolidated sand and gravel or blasted bedrock, will be mined and loaded with various equipment depending upon availability and the hardness of the bank. Loaders are usually used to move the bank-mined material to the in-pit crusher or directly to the screening and wash plant in the process area. On occasion, small-, large-, or belly-dump trucks are used to move the material. Oversize material will be crushed utilizing dry crushers within the pit and stockpiled by a radial stacker for loading and transport to the screening and wash plant. At the screening and wash plant, feedstock is either washed and sized or sized without washing, depending on its "fines" content.

Phase 1 Mining

Phase 1 of the GRP POM (east side) operations covers an area of approximately 247 acres in the current pit area and to the east. All but approximately 59 acres of this area

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Processing Operations

A variety of processing operations exist at GRP's POM pit. The processing facilities are located on private land owned by GRP. Needed semi-portable processing facilities are installed as economic conditions change. The existing mobile processing equipment including crushers, screeners, radial stackers will be moved as phased development of the quarry progresses.

The fuel farm, retention pond, and maintenance shop described below and shown on Figure 3, are support facilities for GRP POM as well as their other nearby operations. These facilities are located in the mixed use area within the permit area boundary. They would remain at the end of mining at POM to support other operations.

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- **Fuel farm:** The POM pit has four underground fuel tanks with five associated pumps. These fuel tanks include one tank for gasoline (6,000 gallons) and three for diesel (12,000 gallons each). There are leak detection systems in place for all tanks and they are registered with the Utah Division of Environmental Response and Remediation. The surface area around the pumps is paved.

- **Retention pond**: A small retention pond is located east of the highway near the wash plant. It holds stormwater runoff from the roadway and parking area. The pond is unlined.

- **Maintenance shop:** The maintenance shop is also called the truck servicing garage. Inside, there are three oil (motor oil and lube oil) tanks. Each tank has a capacity of 900 gallons, and the oil is used for truck servicing. Although most of the shop is used by Geneva's construction operation (not regulated by DOGM), the bays are used for servicing all of the GRP trucks used for mining and construction. Used oil is stored in a 900-gallon tank and recycled by a permitted contractor. There are four parts washers. Expansion of the shop area is currently being planned.

The asphalt and concrete piles and aggregate equipment described below and shown on Figure 3, are located within the 486.5-acre POM permit area boundary.

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- **Asphalt pile:** One asphalt waste pile is located near the asphalt plant in the northern portion of the POM pit. This pile contains old highway asphalt, which is classified as twp 2 non-hazardous landfill material. This material is generally recycled and used in road construction projects.

- **Concrete Pile:** The concrete pile on the north end of the property is continually utilized as the material is stockpiled, crushed, and recycled into road base.

- **Miscellaneous Aggregate Processing Equipment:** A variety of miscellaneous aggregate processing equipment is located on-site, including crushers (grizzlies, feeders, splitters, traps and load bins, jaw crushers, cone crushers, and VSI crushers), screeners (dry screens, wet screens, and wash plants), conveyors and

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An underground 20-inch high pressure natural gas line is located in the same alignment as the transmission lines.

In addition, GRP has diesel, gasoline, and LPG fueled generator sets. These generators are portable to accommodate lighting plants, pumps, and compressors.

Water Supply and Wastewater

Water for dust suppression, toilets, and showers is supplied from GRP's process and drinking water systems. The drinking water and septic systems described below are located within the mixed use area inside of the permit area boundary, and will continue to be utilized at the end of active mining in the POM quarry.

GRP operates a drinking water system to supply culinary water to its employees. The system is regulated by the Utah Division of Drinking Water and is classed as a non-transient, non-community system. Water is not treated. Its DWW system number is 18154. Well Number 11 provides water to the culinary system. Well Number 9 supplies process water only, but there is no cross connection between the wells. Well Number 10 can also provide process water. One well, a dry well shown on Figure 3 is proposed for closure and plugging. A new well has been permitted nearby; it will be drilled approximately 1200 feet deep, with the same components as the old well. This new well will be used for process water. Other wells located at/near the POM pit are shown on Figure 4.

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The POM Quarry maintains two septic tank systems. One system is located under the construction office building, and one is located at the main office building (Figure 3). The latter also handles wastewater from the batch plant building that is transported via sealed HDPE pipes. Each septic system consists of a septic tank and a drain field. Sludge is periodically removed during servicing of tanks.

106.3 Estimated Acreage

Phase 1

The Phase 1 area totals 288 acres. On the east side of I-15 (POM), this includes 247 acres, 59 acres of which is currently undisturbed. At the end of mining in Phase 1, 115.5 acres will be pit floor and 107 acres will be highwall (222.5 acres total pit floor + highwall). The remaining 24.5 acres are buffer areas and topsoil storage areas. An area of 41 acres on the west side of I-15 has been designated for storage of reclamation fines during Phase 1. At the end of mining in Phase 1, the area may be reclaimed if the next phase is not mined.

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Active mining area – Phase 1

Total Permit Area

The total Permit Area covers **486.5 acres**. Phase 1 covers **288 acres**. All of the materials recoverable from within the property boundaries on the east side of I-15 (POM) are considered to be saleable. The current reclamation fines pond on the west side of I-15 covers about 17 acres. This reclamation fines area under Phase 1 will cover approximately 41 acres. The mixed use area covers 16 acres, and will continue to be utilized for support of other GRP operations after the completion of Phase 1 mining at the POM quarry.

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Figures 3 and 6 show the current and final mine configuration.

106.4 Nature of the Materials to be Mined and Production Rates

The material currently being mined includes sand and gravel for use in concrete and asphalt. Material to be mined as part of future phases will consist primarily of highly fractured quartzite.

Yearly production from the quarry is just under 5 million tons. This is based upon the current Division of Air Quality (DAQ) approval order cap; an increase in production has been applied for with DAQ; it is currently under consideration. In addition, about 400,000 tons of concrete are produced at the concrete batch plant and 600,000 tons of

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asphalt are produced at the asphalt plant. The remainder of the sand & gravel not utilized in production of concrete or asphalt is sold as road base and bedding sand. Some material is hauled to Orem, Salt Lake City, Park City, and Helper to batch plants there. On a daily basis, about 1,200 trucks go out the gate at the POM Quarry. These are a mix of belly dump and end dump trucks; haul truck capacity is an average of 30 tons of material. The quarry commonly operates 20 hours/day, 6 days/week; however as the need arises, work hours are increased to 24 hours/day, 7 days/week.

GRP's POM Quarry operations are proposed to continue for approximately 75 years. The total volume that is planned for mining under the Phased mining approach from 2005 through the life of the mine is a maximum of approximately 232.5 million cubic yards, depending upon market conditions.

106.5 Existing Soil Types, Location of Plant Growth Material

Two Natural Resource Conservation Service (NRCS) Soil Surveys were used to describe soils within the Project Area. The Soil Survey of Salt Lake Area, Utah (2002) and Soil Survey of Utah County, Utah, Central Part (1999) lists portions of the property within the Phase 1 area as being in one or two miscellaneous land types: gravel pits where mining had already occurred at the time of the survey, or stony terrace escarpments. The latter is characterized as being deep, well-drained, and stratified, with stones and cobblestones comprising the majority of the material volume. Runoff is listed as medium to rapid, and hazard of erosion as high. In addition to those two non-soil land types, several soils are mapped within the project area. Table 2 describes those soils for the Phase 1 area.

The reclamation fines pond is made up of wet slurry from the concrete wash tank. The concrete wash tank material was sampled March 9, 2006 and analyzed for its suitability as plant growth substrate. Testing parameters included pH, electrical conductivity, sodium adsorption ratio, texture, and volatiles. Results of the testing are included in Appendix C. A TCLP test of the reclamation fines material would be run for VOC's prior to reclamation of this area,to assure that the toluene and 1,2-dichloroethane shown in the Appendix C test results are not leachable.

The material in the fines pond has been recently analyzed by Geneva for textural composition. The February 2007 (Appendix E) sieve and hydrometer analyses provided the following textural composition: pebbles 1%; sand 23.5%; silt 58.5%; clay 17%.

The ultimate pit floor will be sampled for the same parameters as listed above, prior to reclamation.

There is no remaining salvageable topsoil in the current pit bottom or active mining areas of Phase 1. Steep slopes in the remainder of the Phase 1 area limit the feasibility of gathering topsoil; however, topsoil will be salvaged as much as possible in the remaining eastern portion of the Phase 1 area as the POM pit is expanded. It is

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anticipated that topsoil can be salvaged from a maximum of 59 acres, to an average depth of 9 inches. Salvaged topsoil will be stored in the proposed topsoil storage areas shown on Figure 3.

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Topsoil will be salvaged as much as possible from the areas to be mined; it will be stored in designated areas, and seeded to control erosion. The proposed reclamation growth material will be a combination of salvaged topsoil stored onsite, and composted manure. Other materials would be added as needed (based upon the results of sampling), but are not included in the reclamation cost at this time. Based upon a topsoil salvage area of 59 acres, approximately 71,390 cubic yards of topsoil will be stored for reclamation. If all of this is utilized on the pit floor, then coverage of about 4 inches of topsoil would be provided for the 115.5-acre pit floor and the 5-acre topsoil storage area (northern point of property).

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Any topsoil stored above the highwall would be utilized in interim reclamation efforts. The area proposed for topsoil storage on the southwest point of the property would remain outside the proposed area to be mined. The topsoils stored on the pit floor (northern point of the property) would be used in pit floor reclamation.

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Table 1. Soil Types within the GRP POM Phase 1 Area

Soil Component Name		Depth Class	Drainage Class	Perme-ability	Available Water Capacity Class	Ecological Site
Phase I	Wasatch Loamy Coarse Sand, 1-10% Slopes	Very deep	Excessively drained	Rapid	Low	Upland Sand (Indian Ricegrass)
	Wasatch Loamy Coarse Sand 10-25% slopes	Very deep	Excessively drained	Rapid	Low	Upland Sand (Indian Ricegrass)
	Bingham Gravelly Loam 1-3% slopes	Very deep	Well-drained	Moderate	Low	Upland Gravelly Loam (Mountain Big Sagebrush)

106.6 Plan for Protecting and Re-Depositing Existing Soils

Existing topsoil stockpiles are shown on Figure 3. GRP's topsoil stockpiles will be seeded per Division recommendations, if they are not proposed for use within a growing season. Stockpiles constructed in the fall will be seeded as soon as possible with a semi-permanent seed mix. Stockpiles constructed at other times will be seeded upon completion with an annual grain, such as winter barley, and then reseeded with the semi-permanent seed mix in the fall. The seed mixture shown below is based upon DOGM recommendations in the August 9, 2006 inspection report, as well as on reconnaissance of nearby areas. The suggested representative pre-mining vegetation will be sampled in Spring 2007 and cover/species results submitted to the Division. This onsite vegetation cover data will be included in Appendix D. Topsoil stockpiles will be bermed to control erosion.

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Table 2. Reclamation Seed Mix

Species	PLS lbs./acre
bluebunch wheatgrass	6
purple three awn	3
Indian ricegrass	2
sand dropseed	.5
crested wheatgrass	1
big sagebrush	.5
palmer penstemon	2
blue flax	3
Total	18

The safety berm above the highwall would be constructed from adjacent materials, such that a trench/berm system is created. The layer of topsoil material on the surface in the area of the proposed trench/berm system would be gathered to a depth of approximately 6 inches at the time the berm is constructed. This soil would be stored

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temporarily in a windrow adjacent to the berm, then distributed over the surface of the safety berm prior to seeding.

Any stored topsoil remaining in piles above the highwall in areas to be mined, would be used in concurrent reclamation. Soils would not be applied to the inactive highwall benches because the highwall benches are expected to fill in with spall within 2 to 3 seasons. The benches would be aerial-seeded the first fall after completion of mining in Phase 1, as a one-time measure to assist with the establishment of plants that would then begin to hold organic matter on the benches, and provide sparse vegetation cover on the highwall benches over time.

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106.7 Existing Vegetative Cover Communities to Establish Revegetation Success

Under R647-4-106 (7), the operations plan must provide a description of existing vegetative communities and cover levels, sufficient to establish revegetation success standards at 70% of pre-mining vegetative cover. Within the property boundaries, the vegetative cover has undergone extensive disturbance due to past mining operations.

The NRCS has classified the ecological site of the majority of the project area as Upland Gravelly Loam, with Upland Sand in the central and southwestern portion of the project area (NRCS 1999, 2002). These ecological sites occur on high lake terraces, alluvial fans, and foothills in the Upland climatic zone. Historically, vegetation within the project area included vegetation communities characterized by mountain big sagebrush and Indian ricegrass with other less-dominant species including needle and thread, antelope bitterbrush, bluebunch wheatgrass, Nevada wheatgrass and other perennial forbs and grasses.

The current vegetation on south-facing slopes in the area includes primarily cheat grass and other species including toadflax, six weeks fescue, bulbous bluegrass, gumweed, moth mullein, snakeweed, purple three-awn, sand dropseed, and goldenweed. Cover from perennial species was estimated at 10-15 percent.

On the north-facing slopes Wyoming big sagebrush is common, in addition to most of the above listed species.

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GRP has actively conducted reclamation at the POM site. As part of previous efforts at reclamation of the sand and gravel operations areas, portions of the POM Quarry have been seeded starting in 1998. These areas were reviewed but determined not to be suitable for reclamation success standards (See August 2006 mine inspection report in Appendix B). Baseline data for the slopes of the POM's future mining areas will be gathered in Spring of 2007 for future reclamation success standards. This cover data will be included in Appendix D.

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regraded surfaces will be ripped to a depth of at least 2 feet to provide a roughened surface to retain seed and to enable root penetration. Equipment used for this task is likely to be a dozer, and/or scraper. The topsoil in storage above the highwall would be used in reclamation. Topsoil stored on the northern point of the Phase 1 area will be mixed with manure and applied to the pit floor areas.

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Seed Bed Preparation

The topsoil and manure mix is expected to provide a reasonable growth medium for the site. On the pit floor, the surface will be roughened by deep ripping, to create small depressions to for water retention sites, and habitat niches. No topsoil would be applied to the reclamation fines areas prior to seeding.

Seed Mixture

A single seed mix is proposed for all reclaimed surfaces. The seed mixture will be based upon DOGM recommendations as included in the August 9, 2006 inspection report (bluebunch wheatgrass, purple three awn, sand dropseed, crested wheatgrass, big sage, palmer penstemon, and blue flax) as well as on reconnaissance of nearby areas. Should seed availability change prior to reclamation, some variation in the mix could occur, with agency approval. The suggested representative pre-mining vegetation will be sampled in Spring 2007 and cover/species results submitted to the Division.

Seeding Method

The seed mix would be broadcast seeded on the pit floor and fines area, and aerially seeded over the benches. Revegetation work, including both seedbed preparation and seed application will take place in the late fall season and seed would be spread as soon as possible following seedbed preparation.

Other Revegetation Procedures

GRP would monitor for noxious weeds, and would provide weed control measures according to County directives should noxious weeds pose a potential problem.

Further, they would monitor revegetation success for three years.

VIII. R647-4-112 Variances

The following variances from the Division's non-coal mineral rules are proposed:

R647-4-111.12 Topsoil Redistribution

A variance is being requested for certain areas where topsoil distribution is not feasible or practical, such as the pit highwall benches. Whatever topsoil is stored above the highwall would be used up in concurrent reclamation and would not be available for reclamation at the end of mining in Phase 1. The main use for stored topsoil would be

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Deleted: pushed over, to provide some soil to portions of the benches

SUPERSEDED

for reclamation of the pit floor.

It is expected that the stockpiled topsoil resource will be limited, and it would be impractical to haul upslope for further distribution to the highwall benches, which would fill in with spall over time. In addition, it is requested that the most practical use of the available topsoil resource stored on or near the pit floor will be for the concurrent and final reclamation of areas of the pit floor.

R647-4-111.13 Revegetation

The highwalls would be seeded aerially in the first fall season after the end of mining. A variance is requested to the reclamation standard for the highwall benches because it would be impractical and unsafe to measure revegetation success. The highwall benches would fill with spall from above, and would degrade over time at the outer edge, decreasing the width of the bench and creating a rocky, uneven surface that would not be a safe work surface for individual observers or vegetation cover data gathering.

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Deleted: and are expected to fill in with spall

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IX. R647-4-113 Surety

Surety calculation tables and supporting information (DOGM rate sheet) are included in **Appendix A**. Surety is calculated for completion of operations at the end of Phase 1 (288 acres). The Phase 1 pit floor, for purposes of reclamation, includes 115.5 acres of actual pit floor, and 5 acres utilized for topsoil storage on the northern point of the property, so the total pit floor is shown as 120.5 acres below. Bonds will be calculated and approved before disturbance into the remaining areas. Line items listed below correspond to bond cost estimate spreadsheet provided in Appendix A.

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General site cleanup and removal of trash and debris. (line item 9.5) $106,768
The facilities area would be cleaned up; trash & debris would be removed. The estimate includes clean up of 50 out of 120.5 acres. $ 3,750

The 82 conveyors and 38 additional pieces of equipment would be removed via 75 loads with a 'low boy', and 10 days of crane work. $74,385

The generators would be removed. $ 4,800

The 1200 foot asphalt road would be removed. $23,833

Backfilling, grading and contouring. (line item 9.2) $ 8,074
The final Phase 1 pit floor would be regraded. Maximum 120.5 acres, assumes no concurrent reclamation.

Revegetation. (line items 9.7-9.8-9.9) $421,210
After grading, topsoil would be applied to a depth of approximately 3 to 4 inches on the

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SUPERSEDED

pit floor (120.5 acres). Composted manure would be added at a rate of 5 tons/acre. No topsoil would be applied to the reclamation fines area.. There would be no waste rock. The reclamation fines material would sampled and tested for VOC's. The pit floor would then be ripped to a depth of at least 2 feet, and broadcast seeded. The reclamation fines area would be ripped and fertilized. _These areas would be broadcast seeded. The highwall would be seeded aerially.

Pit floor	$353,001
Safety berm (fertilize and seed)	$ 2,275
Reclamation fines pond (41 acres)	$ 44,075
Highwall	$ 18,060
Revegetation monitoring and weed control	$ 3,150
Reclamation fines TCLP test	$ 650

Safety gates, berms, barriers, signs, etc. **$134,386**

The POM safety berm around the perimeter of the pit would be 9,030 feet long, 4-feet high, with 2H:1V slopes. This berm would be constructed using a trackhoe and in-place material. (line item 9.3) $51,371

Topsoil would be removed from the berm footprint and replaced after construction to provide for reclamation. (line item 9.4) $40,294

Warning Signs (30) would be placed along the top of the safety berm at intervals of approximately 150 feet. (line item 9.1) $ 8,000

Fencing would be installed for 4685 feet along the top of the highwall to tie in with the existing fence. (line item 9.6) $ 15,461

Boulders would be placed on each bench, at the point where the unnamed drainage meets the highwall, prior to retreating from each bench. (line item 9.1) $ 19,260

Demolition, removal or burial of facilities/structures, well abandonment, regrading/ripping of facilities. **$0**

Demolition of buildings and facilities and well abandonment are not calculated in this bond estimate because these structures/facilities are essential infrastructure for GRP's operations and are within the mixed use area of the permit area.

Regrading/ ripping stockpiles, pads and other compacted areas.
(regrading/ripping pit floors and other compacted areas is included in other sections)

Ripping pit floors and access roads.
The pit floors would be ripped as included under revegetation.

Mulching, fertilizing and seeding the affected areas.

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Deleted: 22,120
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Deleted: 37,565
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SUPERCEDED

Ripping to a depth of at least 2 feet, fertilizing, and seeding would occur on the areas as noted above under revegetation.

Removal /disposal of hazardous materials. **$0**

The hazardous materials currently used on site under the small quantity generator permit will be handled and disposed of properly. Other waste materials would be consumed, recycled or otherwise disposed of properly at the end of operations.

Equipment mobilization/demobilization. **$14,000**

D10	$2000
992 loader	$2000
Cat16 grader	$2000
Trackhoe	$2000
Crane	$2000
631 scraper	$2000
777 haul truck	$2000

Reclamation Total	**$684,437**
Supervision during reclamation. 10 percent of reclamation total	**$ 68,444**
Subtotal (1)	**$752,881**
Contingency (10%)	**$ 75,288**
Subtotal (2)	**$828,169**
Escalation (for 5 yrs. @ 3.2% per yr.)	**$141,286**

==========

TOTAL **$969,455** **Rounded TOTAL $969,400**

Deleted: 76,351
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Deleted: 43,986
Deleted: 4,399
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Deleted: 384
Deleted: 1.6
Deleted: 67,599
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Deleted: 886,000

SUPERSEDED

Figures

SUPERCEDED

Appendix A
Surety Calculations

GENEVA BOND COST ESTIMATE FOR PHASE 1 ONLY									
9.1	Gates and Signs								
	# units	$/unit							
	40	200		8000					
	Rip Rap placement								
	Tons	$/ton							
	428	45.00		19260					
	Means(2007) 31 37 13.10-0370					9.1 TOTAL		27260	
9.2	Pit Floor Regrading								
				area (ac)	$/ac				
				120.5	67.00	9.2 TOTAL		8074	
9.3	Safety Berm *(12' wide 4' high, along top of highwall)*								
	perimeter								
	length(ft)								
	9030	sqf/lin ft	cu yd matl	$/cu yd					
		24	8027	6.40		9.3 TOTAL		51371	
9.4	Safety Berm Topsoil Removal & Replacement *(remove 6" topsoil from berm/ditch area= 24' across, & replace after berm constructed)*								
	length(ft)								
	length(ft)	width(ft)	cu yd matl	$/cu yd					
	9030	24	8027	5.02		9.4 TOTAL		40294	
	Means(2007) 31 23 16.42-0300 (track hoe)								
9.5	General site cleanup & trash removal *(estimate 50 out of 120.5 acres for cleanup)*								
	# acres	$/ac							
	50	75			3750				
	Loading/Trucking								
	# trips	$/trip							
	75	600			45000				
	Crane								
	# days	$/day							
	10	1506.5			15065				
	Laborers								
	# days	hrs/day	# laborers	$/hr					
	10	8	4	44.75	14320				
	Remove 24 Generators sets (assume 3 sets per trip)								
	# trips	$/trip							
	8	600			4800				
	Remove Asphalt Road								
	length	width	sq yds	$/sq yd					
	1200	25	3333	7.15	23833.33				
	Means(2007) 02 41 13.17-5050								
						9.5 TOTAL		106768	
9.6	Fencing *(installed, at top of highwall)*								
	lin feet	$/lin ft							
	4685	3.3							
						9.6 TOTAL		15461	
9.7	Revegetation *(top safety berm (5.0 acres))*								
	Material	$/ac	appl $/ac	# acres					
	comp man	175		5.0	875				
	seed	280		5.0	1400				
		DOGM rates, broadcast seeding							
						9.7 TOTAL		2275	
9.8	Revegetation - Pit Floor								
	Material	$/ac	$/cu yd	# acres	cu yd				
	comp man	175		120.5		21088			
	ripping	620		120.5		74710			

SUPERSEDED

	seed	280		120.5		33740			
	topsoil relocation		1.62		137940	223463			
		DOGM rates, broadcast seeding							
	Revegetation - Reclaim Fines								
	Material	$/ac	appl $/ac	# acres					
	comp man	175		41		7175			
	ripping	620		41		25420			
	seed	280		41		11480			
		DOGM rates, broadcast seeding							
	Revegetation Monitoring & Weed Control								
	Assume one trip per year, 3 years, 10 hours per trip								
	labor $/hr	truck/hr	hours						
	75	30	30			3150			
	Sample Reclamation Fines - TCLP - volatiles								
	Lab $	labor $	supplies						
	275	300	75			650			
						9.8 TOTAL		400875	
9.9	Revegetation - Highwall Aerial Seeding								
	Material	$/ac	$/cu yd	# acres	cu yd				
	seed	280		64.5		18060			
		DOGM rates, broadcast seeding used for aerial seeding							
						9.9 TOTAL		18060	
9.10	Equip mob/demob								
						9.10 TOTAL		14000	
		D10 dozer		2000					
		992 Loader		2000					
		track hoe		2000					
		Cat16 grader		2000					
		crane		2000					
		631 scraper		2000					
		777 haul truck		2000					
		TOTAL		14000					
9.11	**RECLAMATION TOTAL**							684437	
9.12	Reclamation Supervision (10% of Reclamation Total)							68444	
9.13	**SUBTOTAL (1)**							752881	
9.14	Contingency (10%)							75288	
9.15	**SUBTOTAL (2)**							828169	
9.16	Escalation (for 5 years at 3.2% per year)							141286	
9.17	**GRAND TOTAL**							**$ 969,455**	
	GRAND TOTAL ROUNDED							**$ 969,400**	

SUPERSEDED

Appendix E
Pond Silt Sieve Analysis Results

SUPERSEDED

February 22, 2007

Geneva Rock
5400 So. 302 West Ste. 200
Murray, Utah 84117

Project: # 1864 Lab Services
Material: Pond Silt
Source: Mt. Jordan Pit
Date: 02/15/2007

Lab # 86944

HYDROMETER RESULTS

% PASSING	PARTICLE SIZE (mm)
54.0	0.031
40.0	0.020
33.0	0.010
28.0	0.008
24.0	0.006
18.0	0.003
11.0	0.001

PH RESULTS

Lab #96945

PH = 8.64

Sincerely,

Susan Arnold
Lab Manager

SUPERCEDED

CMT ENGINEERING LABORATORIES

Construction • Materials • Technologies
Geotechnical, Environmental, & Materials Engineering / Testing / Research

02/22/07

GER200
GENEVA ROCK PRODUCTS
302 W. 5400 S. STE 200
MURRAY UT 84107-

ASTM C-2172, C-136, C-117
LAB NO.: 086944
MATERIAL: POND SILT
PIT/PLANT:

PROJECT: 1864 VICTOR LAB SERVICES TEST DATE: 02/15/07
IDENTIFICATION: MT JORDAN PIT
SPECIFICATION: SAMPLE BY: CUST RUN BY: MC
REMARKS:
ITEM: :

SIEVE USA-METRIC	GRAMS RETAINED	% RETAINED	ACCUM. % RETAINED	% PASSING	SPECIFICATION % PASSING
1/2"	0.0	0.0	0.0	100	
3/8"	1.7	0.2	0.2	100	
#4	6.7	0.6	0.8	99	
#10	7.8	0.7	1.5	99	
#16	2.7	0.2	1.7	98	
#40	2.3	0.2	1.9	98	
#100	17.2	1.6	3.5	97	
#200	222.3	20.1	23.5	76.5	

ORIGINAL WT. 1107.7
WASHED WT. 313.2
-#200 W.O. 794.5
-#200 S.O. 52.5
TOTAL -#200/75 847.0 = 76.5%

F.M. 0.00
DESIGN F.M. 0.00

MANAGER

SUPERCEDED

LOGAN LAB: 2005 NORTH 600 WEST UNIT D LOGAN, UT 84321 (phone) 435.753.2850 (fax) 435.753.2851
NORTH SALT LAKE OFFICE: 801 WEST ROBINSON DRIVE, STE 1 NORTH SALT LAKE, UT 84054 (phone) 801.936.1567 (fax) 801.936.1465
WEST VALLEY CITY LAB: 2688 SOUTH REDWOOD ROAD, STE E WEST VALLEY CITY, UT 84119 (phone) 801.887.0067 (fax) 801.887.0086

Scale	Size	% Passing	Material
US	1/2 "	100	Pebbles
US	3/8 "	100	Pebbles
US	#4	99	Pebbles
US	#10	99	Sand
US	#16	98	Sand
US	#40	98	Sand
US	#100	97	Sand
US	#200	76.5	Sand
Metric	0.031	54	Silt
Metric	0.02	40	Silt
Metric	0.01	33	Silt
Metric	0.008	28	Silt
Metric	0.006	24	Silt
Metric	0.003	18	Clay
Metric	0.001	11	Clay

SUPERCEDED

Grain-size Scales

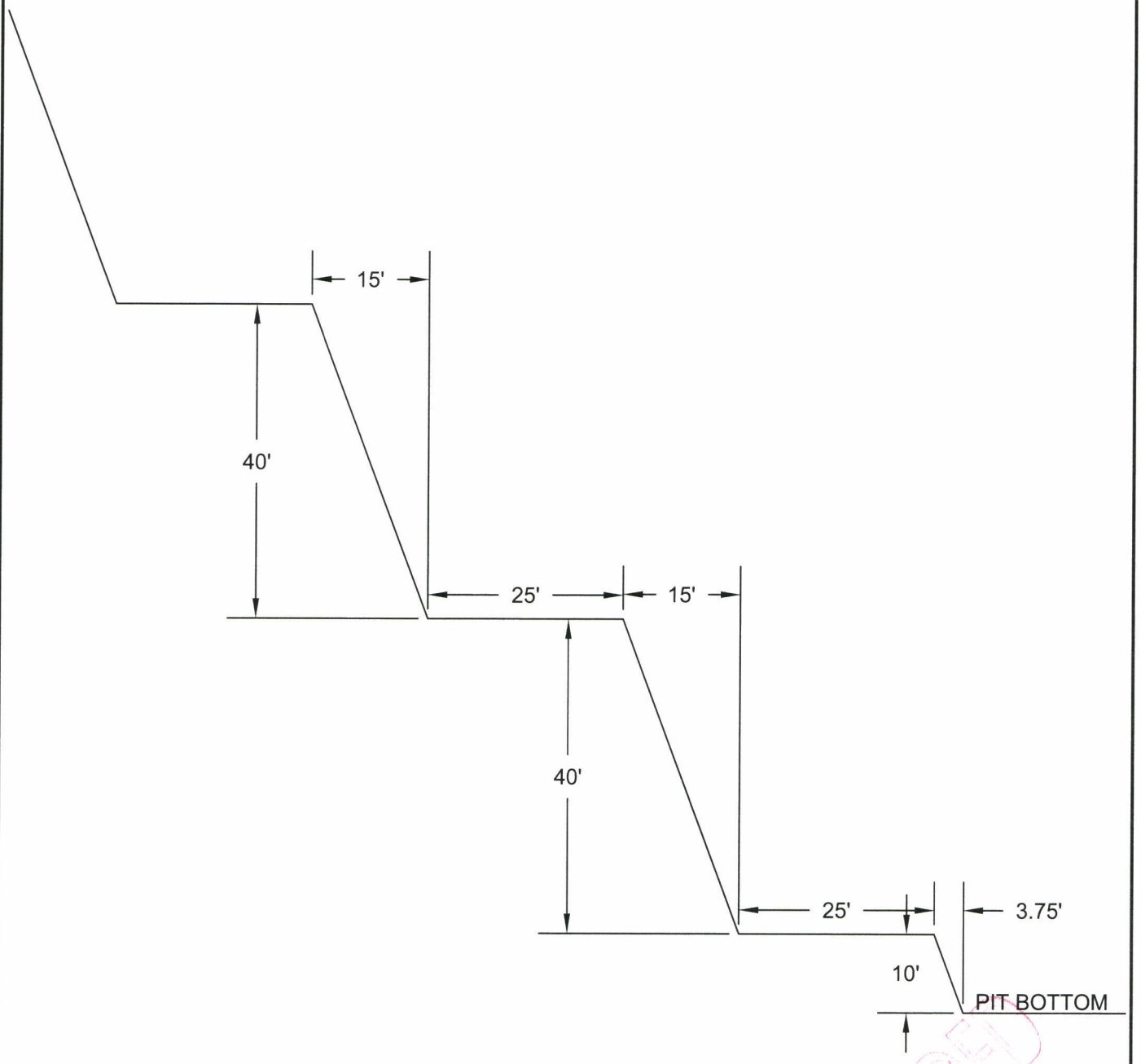
By Roy L. Ingram, University of North Carolina

GRAIN-SIZE SCALE USED BY AMERICAN GEOLOGISTS

Modified Wentworth Scale — after Lane, et al., 1947, Trans. American Geophysical Union, v. 28, p. 936-938

phi	GRADE LIMITS mm	mm	inches	U.S. Standard Sieve Series	GRADE NAME		
−12	4096		161.3				
					very large		
−11	2048		80.6				
					large		
−10	1024		40.3			Boulders	
					medium		
−9	512		20.2				
					small		
−8	256		10.1				
					large		
−7	128		5.0			Cobbles	
					small		GRAVEL
−6	64		2.52	63 mm			
					very coarse		
−5	32		1.26	31.5 mm			
					coarse		
−4	16		0.63	16 mm			
					medium	Pebbles	
−3	8		0.32	8 mm			
					fine		
−2	4		0.16	No. 5			
					very fine		
−1	2		0.08	No. 10			
					very coarse		
0	1		0.04	No. 18			
					coarse		
+1	1/2	0.500		No. 35			
					medium	Sand	SAND
+2	1/4	0.250		No. 60			
					fine		
+3	1/8	0.125		No. 120			
					very fine		
+4	1/16	0.062		No. 230			
					coarse		
+5	1/32	0.031					
					medium		
+6	1/64	0.016				Silt	
					fine		
+7	1/128	0.008					
					very fine		
+8	1/256	0.004					MUD
					coarse		
+9	1/512	0.002					
					medium		
+10	1/1024	0.001				Clay size	
					fine		
+11	1/2048	0.0005					
					very fine		
+12	1/4096	0.00025					

SUPERCEDED



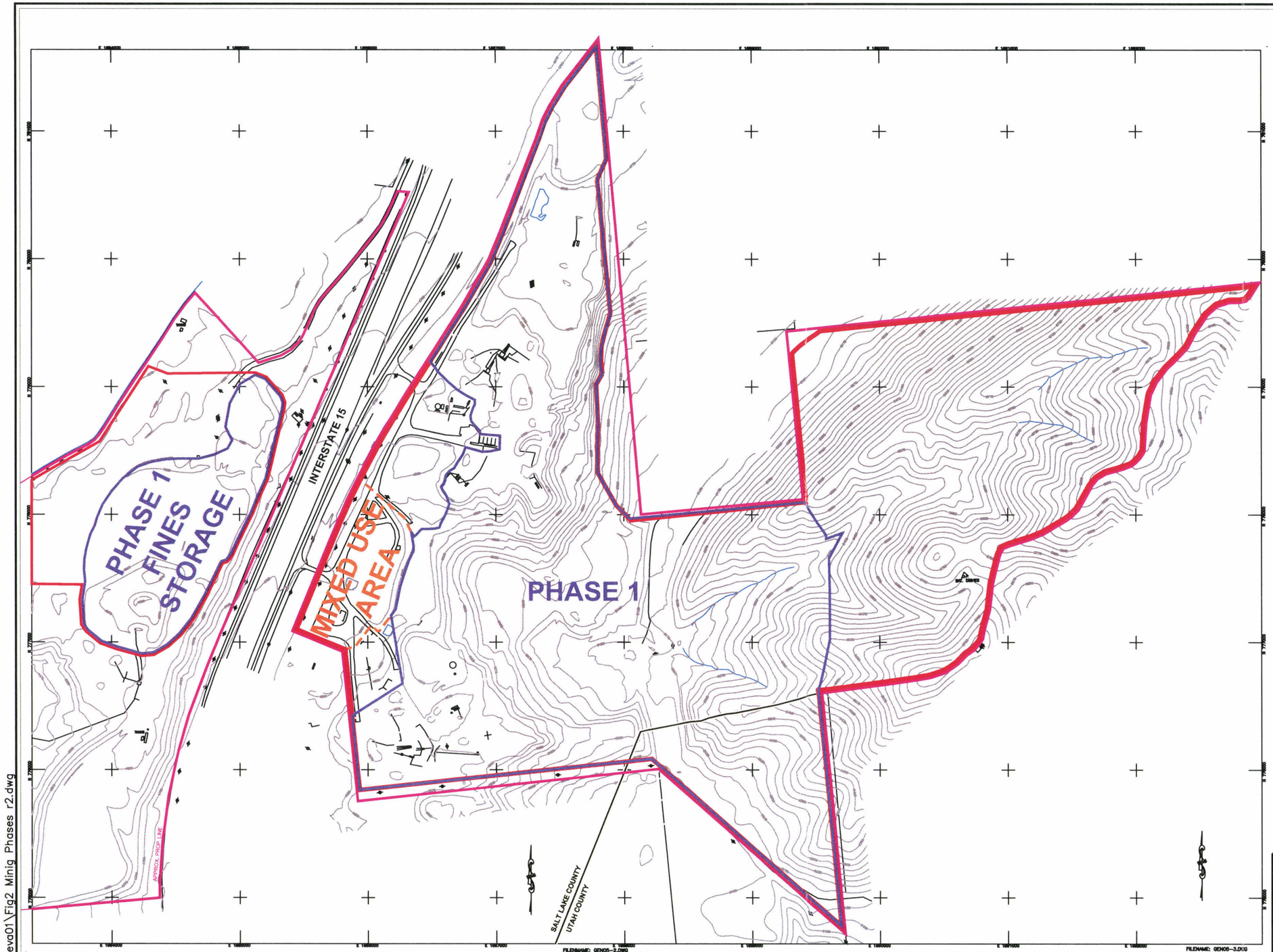
GENEVA ROCK PRODUCTS
POINT OF THE MOUNTAIN QUARRY

FIGURE 5
TYPICAL HIGHWALL CROSS SECTION

jbr environmental consultants, inc.

DESIGN BY	DRAWN BY	CH'D BY	SCALE	DATE DRAWN	REVISION
lm	cp		1'=20'	11/11/05	
				2/13/07	

drawings\Geneva01\Typical X-section r1.dwg



EXPLANATION

PROPERTY BOUNDARY

PERMIT AREA BOUNDARY

PHASE I BOUNDARY / BONDED AREA

MIXED USE AREA - AREA WITHIN PERMIT AREA BOUNDARY THAT IS UTILIZED BY BOTH MINING (REGULATED BY DOGM) AND CONSTRUCTION (NOT REGULATED BY DOGM) OPERATIONS.

N

800 0 800 FEET

APPROVED

GENEVA ROCK PRODUCTS
POINT OF THE MOUNTAIN QUARRY

FIGURE 2
PERMIT AREA AND PHASE 1 MAP

jbr environmental consultants, inc.

DESIGN BY	LM	DRAWN BY	CP	CH'D BY		SCALE	1"=800'

DATE DRAWN 10/06/06
REVISION 2/12/07

drawings\Geneva01\Fig2 Minig Phases r2.dwg