

Idaho-Maryland Mine Project
Grass Valley, California

Section 3.0 - 2011 Revised Mineral Project Application and
Environmental Assessment for the Mineral Exploration
and/or Extraction Environmental Assessment

Volume RIA – Application Documents

Prepared by:

Idaho-Maryland Mining Corporation
431 Crown Point Circle, Suite No. 150
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May 2011
February 2, 2005 (Original Application)
April 25, 2005 (Revised Original Application)
May 29, 2007 (Revision of 2005 Application)



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CONTENTS – Section 3.0

<u>SECTION</u>	<u>PAGE NO.</u>
1.0 INTRODUCTION	3-1
2.0 MINERAL EXPLORATION AND/OR EXTRACTION ENVIRONMENTAL ASSESSMENT	3-3
A. EXISTING CONDITIONS.....	3-3
B. PROJECT FEATURES	3-5
C. ENVIRONMENTAL IMPACTS.....	3-15
3.0 RECLAMATION PLAN	3-40
3.1 Idaho-Maryland Mine Reclamation Plan.....	3-47
3.3.1 Mining Operation and Closure.....	3-47
3.3.2 Geotechnical Requirements	3-51
3.3.3 Hydrology and Water Quality.....	3-52
3.3.4 Environmental Setting and Protection of Fish and Wildlife Habitat	3-55
3.3.5 Resoiling and Revegetation	3-56
3.3.6 Administrative Requirements	3-59
3.3.7 Public Resources Code	3-60

TABLE

(Table is contained in Section 1.0)

R3-Rev2 Land Use and Zoning Summary

PLATES (CONTAINED IN 2007 VOLUME IIA)

(Plates referenced in Section 3.0 are listed below)

R1-Rev2	Project Location Map
N1A	Project Location and Mineral Rights Boundary
N1B	Nevada Irrigation District Service Proximate to the New Brunswick Site
R2A-Rev2	Idaho-Maryland Mine Site Plan
R2B-Rev2	Idaho-Maryland Mine Grading Plan
R2C-Rev2	Idaho-Maryland Mine Site Surface Features
N2D	Summary of Historic Mine Residue Sampling, 1989-Present
R3-Rev2	Round Hole Site Plan
R4-Rev2	New Brunswick Site Plan and Cross Sections
R5-Rev2	Idaho-Maryland Mine Site Internal Traffic Circulation Plan
6	Parcel Site Boundaries
7A	Tree Survey, Idaho-Maryland Site
7B	Tree Survey, Round Hole Site
7C	Tree Survey, New Brunswick Site
7D	Tree Survey Buffer Areas for the Idaho-Maryland and New Brunswick Sites

PLATES CONTINUED (CONTAINED IN 2007 VOLUME IIA)

(Plates referenced in Section 3.0 are listed below)

R9A	Artistic Rendering Idaho-Maryland Site from Sierra Nevada Hospital
N9B	Artistic Rendering Idaho-Maryland Site from Spring Hill Drive
R10	Artistic Rendering Idaho-Maryland Site from Centennial Dr. and Whispering Pines Ln.
N11A	Artistic Rendering Idaho-Maryland Site looking northwest from Centennial Drive
N11B	Artistic Rendering Idaho-Maryland Site looking northeast from Centennial Drive
R12A	Elevations of the Idaho-Maryland Site, Building 1, Truck Shop
N12B	Elevations of the Idaho-Maryland Site, Building 2, Core Shed
N12C	Elevations of the Idaho-Maryland Site, Building 3, Equipment Bay
R12D	Elevations of the Idaho-Maryland Site, Building 4, Process Plant and Warehouse
R12E	Elevations of the Idaho-Maryland Site, Building 5, Dry Change House No. 1
R12F	Elevations of the Idaho-Maryland Site, Building 6, Office No. 1
R12G	Elevations of the Idaho-Maryland Site, Building 7, Ceramics Plant
N12H	Elevations of the Idaho-Maryland Site, Building 8, Fuel Oil Storage
R12I	Elevations of the Idaho-Maryland Site, Building 9, Education Center
N12J	Elevations of the Idaho-Maryland Site, Building 10, Dry Change/Office No. 2
N12K	Elevations of the Idaho-Maryland Site, Building 11, Hoist House
N12L	Elevations of the Idaho-Maryland Site, Building 12, Idaho-Maryland Water Treatment Plant
N12M	Elevations of the Idaho-Maryland Site, Building 15, Aggregate Crushing Plant
13	Rendering of the Round Hole Site
R14	Artistic Rendering New Brunswick Site Looking Westerly from Brunswick Road
R15	Elevation of New Brunswick Site, Building 13, Hoist House
N15A	Elevation of the New Brunswick Site, Building 14, Water Treatment System
R16-Rev2	Cross-Sections of the Idaho-Maryland Site
R17	Idaho-Maryland Mine Site Lighting Plan
18	Round Hole Site Lighting Plan
R19	New Brunswick Site Lighting Plan
20	2004 Nevada County Zoning Parcels Within the Sphere of Influence
21	2004 City of Grass Valley Zoning Parcels Within the Sphere of Influence
R22	Site Development Features and City of Grass Valley 2020 Land Use and Zoning Designations
23	Proposed Changes to City of Grass Valley Land Use Designations
R24	Idaho-Maryland Mine Site Reclamation Plan
R25	New Brunswick Site Reclamation Plan
26	Round Hole Site Reclamation Plan

FIGURES

(Figures are contained in Section 1.0)

R1-Rev2	Flow Process Diagram, 2400 STPD Combined Ceramics and Gold Recovery Plants
N1A	Flow Process Diagram, Aggregate Plant
N2	Cyanidation Circuit Flow Diagram
N3	Summary of Project Phases

APPENDIX (Contained in Section 3.0 Only)

N-R USE PERMIT APPLICATION

APPENDICES (CONTAINED IN 2005 VOLUME III)

(Appendices referenced in Section 3.0 are listed below and comprise the master list for the document)

A	WETLAND ASSESSMENT
R-B	REVISED TREE SURVEY
B	TREE SURVEY
R-C	REVISED WATER TREATMENT SYSTEM DESCRIPTION
C	WATER TREATMENT SYSTEM DESCRIPTION
D	EMERGENCY RESPONSE PLAN
E	1995 ENVIRONMENTAL IMPACT REPORT
F	PRELIMINARY TITLE REPORTS
G	GEOTECHNICAL REPORT
H	PHASE I ENVIRONMENTAL ASSESSMENTS
I	AIR QUALITY
R-J	REVISED NOISE ANALYSIS
J	NOISE ANALYSIS
K	BIOLOGICAL EVALUATION
L	LIGHTING PLAN
M	SOCIOECONOMIC ANALYSIS
R-N	REVISED TRAFFIC ANALYSIS
N	TRAFFIC ANALYSIS
O	CULTURAL RESOURCES
P	NOTARIZED STATEMENT FROM PROPERTY OWNERS

EXHIBIT

(Exhibit is contained in Section 1.0)

R3-Rev2	Calculations for Run-off Coefficient and 2 year/1 hour and 100 year Storm Events
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1.0 INTRODUCTION

Idaho-Maryland Mining Corporation (“IMMC”) has prepared the Mineral Project Application (Application) and Mineral Exploration and/or Extraction Environmental Assessment (Assessment) for the Idaho-Maryland Mine Project in accordance with the City of Grass Valley (“City”) requirements as defined in the California Surface Mining and Reclamation Act (“SMARA”). The 2011 Revised Project Description is provided in Section 1.0. Graphics that depict the project features, construction phases, architectural renderings, and land use and zoning are contained in the 2005 Volume II and 2007 Volume IIA of this Application Document Set. The technical reports that were the basis for completing the Assessment and referenced herein are contained in the 2005 Volume III – Technical Appendices including those previously contained in the 2007 Volume IA. New appendices are contained 2011 Volume RIA in Section 1.0, Revised Project Description. Therefore, this report is subject to the limitations and qualifications presented in the referenced documents.

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2.0 MINERAL EXPLORATION AND/OR EXTRACTION ENVIRONMENTAL ASSESSMENT

FILE NUMBER: _____

APPLICANT: Idaho-Maryland Mining Corporation
431 Crown Point Circle, P.O. Box 1836, Grass Valley, CA 95945

CONTACT

PERSON: David Watkinson, President and CEO PHONE NUMBER: (530) 271-0679

MINING: _____ EXPLORATION: _____

NOTE: 1/ To supplement the Mineral Project Application, a Use Permit Application is contained in Appendix N-R for the proposed project.

2/ The Environmental Assessment provides information required for the processing of your application. Incorrect or incomplete information may cause a delay in processing. This form should be completed by the applicant, or his / her authorized representative. It may be reproduced by the applicant in order to provide expanded responses. Appropriate exhibits should be submitted to supplement written descriptions and responses.

A. EXISTING CONDITIONS

1. Describe the existing natural features of the subject property, including topography, vegetation, drainage, year 'round streams, and bodies of water (Attach exhibits).

The three project sites are located at an elevation of approximately 2,650 ft above mean sea level (MSL) and are illustrated in Plate R1-Rev2 and Plate 6. The area is located in the foothills of the Sierra Nevada range and exhibits great topographic relief. Regionally, the land slopes to the southwest. The sites are located in a valley area between Wolf Creek and South Fork Wolf Creek. The Idaho-Maryland and New Brunswick site developments are located outside of a 100-ft, floodplain setbacks, respectively, for Wolf Creek and South Fork of Wolf Creek as illustrated in Plates R2A-Rev2 and R4-Rev2. The South Fork Wolf Creek is located approximately 300 ft south of the New Brunswick shaft and lies generally south of the project area. The Round Hole site is the only one located within the City of Grass Valley ("City") and is illustrated in Plate R3-Rev2.

The closest perennial water is Wolf Creek, which runs along the northernmost portion of the Idaho-Maryland site property line (Plate R2C-Rev2). The South Fork Wolf Creek runs along the southern boundary of the New Brunswick site. Vegetation at the Idaho-Maryland site consists of a mixed willow vegetation series dominated by willow (*Salix* spp.) trees with interspersed cottonwood (*Platanus* spp.) trees and non-native annual grasses. Vegetation at the New Brunswick site can be classified as a white alder series, dominated by Himalayan blackberry and non-native annual grasses.

The hydrology at the Round Hole site consists of an off stream seep area that becomes consistently saturated upon stream inundation, holding water in a small pond area which creates a moist environment at the low points on the site and supports some water dependent types of vegetation. Other vegetation at the Round Hole site consists of a tanoak series co-dominated by tanoak (*Lithocarpus densiflorus*), madroñe, alder (*Alnus* spp.), and pine (*Pinus* spp.) trees.

The surface drainage on the New Brunswick site generally flows from northeast to southwest and empties into the South Fork Wolf Creek. The South Fork Wolf Creek is located approximately 300 ft south of the New Brunswick shaft and drains from east to west through the adjacent former Bohemia lumber mill site

that is currently owned by Sierra Pacific Industries. A few small surface water streams are nearby the sites that drain into the South Fork Wolf Creek.

2. Describe the existing man-made features of the subject property including buildings, roads, wells, septic systems. (Attach exhibits).

The 102-acre Idaho-Maryland site was part of the former Idaho-Maryland Mining Company property, and was used largely for mine waste storage. That mining operation was closed in 1956 and the land is currently vacant with the exception of a one-acre area at the corner of Idaho-Maryland Road and Centennial Drive that is occupied by the Hap Warnke Mill, a lumber mill. The Idaho No. 1 Shaft, which is located on an adjacent parcel east of the Idaho-Maryland site, historically provided access to the western portion of that mine's underground workings. Surface structures on the site have since been removed with the exception of concrete piers that were used for the distribution and storage of mine tailings and other concrete building foundations. In addition, other extant foundations or subsurface building remnants may exist on site. The site has been vacant since the mill closure and is now occupied by a cover of shrubs and trees, as viewed from both the Idaho-Maryland and East Bennett Roads. Access routes to the Idaho-Maryland site include a dirt road at the northwest corner from Idaho-Maryland Road and at the southeast corner from East Bennett Road.

The closed Round Hole site and shaft is located approximately 0.75 mile east of the Idaho-Maryland site and provided access to the underground workings of the former Idaho-Maryland Consolidated Mines, Inc. The 5 ft diameter Round Hole shaft starts at the secured shaft collar at the surface and descends vertically approximately 1,100 ft. Remnants of a head-frame foundation, secured shaft collar and development rock are located in the center of the site. The current access to the site is an unpaved road that intersects with Whispering Pines Lane.

The New Brunswick site was developed as a gold mine and mill site associated with the historical Idaho-Maryland mine operations. The New Brunswick Shaft is located approximately one mile southeast of the historical Idaho-Maryland mine and provided access to that mine's underground workings. Historically, the New Brunswick shaft provided access to the deepest levels of the Idaho-Maryland Mine situated 3,280 ft below the shaft collar, and the total depth of the shaft was 3,460 feet (ft). The shaft opening is currently secured and the historical mill structures have been removed. A large unused concrete ore silo and attached foundation slab are the remnants of the historic facilities. There may be other extant subsurface foundations or building remnants on-site. Current access to the site is located at the northwest corner on a dirt road off East Bennett Road.

The New Brunswick site boundary features include a drainage pond to the east, residential development to the south, undeveloped land to the west, and East Bennett Road to the north. The South Fork Wolf Creek drains from east to west through the adjacent former Bohemia lumber mill site. A few small surface water streams are nearby the site and drain into the South Fork Wolf Creek.

3. Describe (aerial photos would be most helpful) surrounding land uses and distances within the vicinity of the subject property, distances of the surrounding land uses and environmental character of the surroundings. Be specific. (Example: five single-family residences 500 ft to the north; a duplex 200 ft and a pine forest adjacent to the west; a state highway and gas station 200 ft to the east; and grazing land immediately to the south.) (Attach exhibits).

The Idaho-Maryland site is vacant and bounded to the south by East Bennett Road, to the north by Whispering Pines Lane and Idaho-Maryland Road, and to the northeast by Centennial Drive. Wolf Creek runs westerly through for approximately 1,150 ft along the northernmost portion of the site. The lands surrounding the property site to the southeast, south and west are within the jurisdiction of the County of

Nevada (County) and are zoned as Business Park (BP) (Plate 20). Neighboring properties to the north and east of Idaho-Maryland site are in the City and are designated Light Industrial (M-1) and Specific Plan (SP1-B) (Plate 21). The adjacent land northeast of Centennial Drive and on either side of Whispering Pines Lane has been developed for business office uses.

The Round Hole site is located in the City directly southwest of the intersection of Idaho-Maryland Road and Brunswick Road. The south side of the property is bounded by Whispering Pines Lane. The lands northeast of the site are within the jurisdiction of the County and are zoned as BP (Plate 20). The lands west and south of the property are within the City and zoned SP1-A, and are developed as a business office park. The adjacent properties are vacant lands, with the exception of buildings located to the southwest. The site is currently vacant.

The New Brunswick site is vacant and bounded to the north by East Bennett Road and is located southwest of the intersection of East Bennett Road (Greenhorn Road) and Brunswick Road (Plate 20). The site and properties to the north and east of the site are within the jurisdiction of the County and are zoned as BP/ Light Industrial/Site Performing Combining District (M1-SP) and Residential Agriculture (RA), respectively (Plate 20). There are no developments directly adjacent to the project property.

B. PROJECT FEATURES

1. Mineral (s) to be explored and/or mined

Industrial minerals and gold ore will be processed to produce construction aggregates, recycled stone and ceramics building products, and gold doré. The minerals for recycled stone and ceramics plant feedstocks, will be primarily quartz, metavolcanics, and diabase. The industrial mineral ore (e.g., development rock) for the aggregate plant will be primarily metavolcanics and diabase. Gold will be recovered primarily from quartz and diabase.

2. Methods

2a. *Mining method(s)*

As an underground mining project, the mining methods will involve underground, drill, and blast, mucking with loaders, trampling, hoisting, followed by belt conveyor transfer to two surface stockpiles. Underground mining methods will include a combination of stoping methods including room and pillar, shrinkage, cut and fill, long-hole, vertical crater retreat and other methods, as appropriate.

Check all applicable:

- | | |
|---|--|
| <input type="checkbox"/> Open Pit | <input type="checkbox"/> Dragline |
| <input type="checkbox"/> Hilltop Quarry | <input type="checkbox"/> Waste Dump |
| <input type="checkbox"/> Low Level Quarry | <input type="checkbox"/> Tailing Ponds |
| <input type="checkbox"/> Side hill Quarry | <input type="checkbox"/> Truck to Processing Plant |
| <input type="checkbox"/> Gravel/Sand Pit | <input checked="" type="checkbox"/> Conveyer to Processing Plant |
| <input type="checkbox"/> Clay Pit | <input type="checkbox"/> Rail Transport |
| <input type="checkbox"/> Borrow Pit | <input type="checkbox"/> Slurry Pipelines |
| <input type="checkbox"/> Single Bench | <input checked="" type="checkbox"/> Other (specify): see below _____ |
| <input type="checkbox"/> Multiple Bench | |
| <input checked="" type="checkbox"/> Underground | Stoping methods include room and pillar, |
| <input type="checkbox"/> Mechanical Excavation/Harvesting | shrinkage, cut and fill, long-hole, vertical crater |
| <input checked="" type="checkbox"/> Drill and Blast | retreat, and other methods, as appropriate. |
| <input type="checkbox"/> Shovel | |

2b. Exploration method(s)

All exploration activities will be performed underground. Primary exploration method will be diamond core drilling.

Check all applicable:

1) Test Trenches

- Backhoe
- Tractor
- Other (specify) _____

2) Drilling

- Rotary
- Core
- Wagon Drill
- Other (specify) _____

3) Seismic

- Explosives
- Non-explosives

4) Dredging

5) Sluicing

6) Other (specify) _____

Estimate total sample (volume in tons and cubic yards): Approximately 2 STPD

Mining rate Depth of Sampling: 500 ft to 8,000 ft

3. Describe the mineral recovery of exploratory process (type of chemicals, method, size and type of crushing equipment, etc.)

During the exploratory process, cores will be split lengthwise in half. One-half will be sent off-site for assay and the other half stored on-site in a secure facility. Mineral recovery during the exploratory process will be performed off-site in a certified facility. The types of chemicals, method, and details regarding this type of process to occur off-site are expected to be similar to those described for on-site operations detailed below in Item No. 4.

4. If processing of ore or concentrate is done onsite, describe the treatment process (type of chemicals, method, size, and type of equipment). If not, explain where processing will take place and method of transport.

At full production, the Idaho-Maryland Mine is expected to generate a maximum of 3,600 Short Tons Per Day ("STPD") of industrial mineral and gold ore from underground. The gold process plant will have an average production rate of 2,400 STPD for gold ore with 2,800 STPD in the crushing and grinding circuit, which allows for 400 STPD of industrial mineral ore to be processed as feed for the recycled stone and ceramics plant. An average of 800 STPD of gold plant tailings and industrial mineral ore will be used in the manufacture of recycled stone and ceramic building materials (e.g., floor roof tiles). An average of 1,600 STPD of the process plant tailings would be returned underground as backfill. An average of 800

STPD of development rock would be crushed to produce construction aggregates. Maximum mine throughput will be 3,600 STPD for 350 days per year. Note that the project operates 365 days per year and 350 days per represents a 96 percent availability of equipment due to mechanical breakdowns, power outages, or other unplanned shutdowns.

Except during the initial stage of site development, gold ore and industrial mineral ore are planned to be initially crushed underground, using a primary jaw crusher. The crushed material will then transported to the surface and placed in separate surface stockpiles via conveyor. The majority of the ore (2,400 STPD of gold ore and 400 STPD of industrial mineral ore) will then be drawn from the stockpiles and transported to the gold processing plant by conveyor. Once in the processing plant, the 400 STPD industrial mineral ore will be crushed and ground to enable approximately 80 percent passing to pass through a 100 mesh screen size (150 microns) before being sent by pneumatic conveyor to the recycled stone and ceramics plant for processing into tile and other products. The remaining 800 STPD industrial mineral ore will be sold uncrushed or trucked to the aggregate crushing plant for processing to produce a variety of aggregate products for sale into the local and regional markets. The 2,400 STPD of gold bearing ore will be conveyed separately to the gold process plant for crushing and grinding to enable 80 percent to pass through a 100-mesh screen prior to processing to remove the gold.

A flow process diagram is presented in Figure R1-Rev2 for reference and illustrates the ore extraction and process circuit that results in gold doré and recycled stone and ceramics products. Figure N1A presents the process circuit for the aggregate crushing plant.

Aggregate Plant Production

The aggregate plant will consist of primary, secondary, and tertiary crushers and screens used crush and sort crushed materials to make a variety of difference product sizes for sale into the local and regional markets.. The plant will be fed from using a front-end loader or a truck. Product will be loaded into aggregate transport trucks for shipment off site.

Recycled Stone and Ceramics Plant Production

The recycled stone and ceramics manufacturing process will utilize the proprietary process, which is based on a high temperature and pressure process to produce high-strength, low porosity industrial recycled stone and ceramics products such as floor tile, roof tile, and other industrial and commercial products. Feed material will be drawn at controlled rates from the storage silos, blended and fed to the recycled stone and ceramics manufacturing lines. The production process will include product forming, firing, cooling and surface finishing. Final product will be sorted and packaged and moved to either indoor or outdoor storage, and then shipped off site by truck.

Gold Plant Production

The feed material for the recycled stone and ceramic plant production (400 STPD) and gold plant production (2,400 STPD) will be fed to the secondary/tertiary crushing circuit in the gold plant on different schedules from separate surface stockpiles by using reclaim feeders and belt conveyors. Secondary crushing circuit product will be dried through rotary kilns to reduce the moisture content prior to single stage grinding using high-pressure grinding rolls. The ground product will be classified in dynamic separators to a target final product particle size. At this point, there will be a stream separation depending whether the material is industrial mineral or gold ore. If the material is industrial mineral ore, it will be considered as sized recycled stone and ceramic plant feed material and will be conveyed to a series of storage silos adjacent to the recycled stone and ceramics plant and will be segregated depending on the mineralogical compositions, and the final building products required. For gold ore, the material will be slurried and report to the gold recovery circuit. Gold tailings, if not used for mine backfill, will be

mechanically dewatered with filters and dried in a rotary kiln prior to pneumatic transfer to the recycled stone and ceramics plant storage silos.

Gold extraction from the ore will be performed by gravity separation, flotation, and cyanidation processes. The cyanidation process is illustrated in Figure N2. Initially, material will be sent through a gravity circuit that will recover most of the gold without the use of reagents. Tailings from the gravity circuit will be run through a flotation circuit, which would recover additional gold. Concentrate from the gravity and flotation circuits will be further processed through intensive cyanidation circuits. The gravity concentrate would represent about one percent of the original gold bearing ore and the flotation concentrate would represent about 14 percent of the original gold bearing ore. Small quantities of sodium cyanide solution will be used as a reagent in the intensive cyanidation process. Sodium cyanide dissolves the gold into a chemical solution in a highly monitored and closed loop leaching and electrowinning processing circuit. All of the equipment in these two circuits would be located in a fully bermed and sealed concrete area for spill containment. This area will be continuously monitored during operation, in accordance with regulatory requirements.

5. Is the proposal on an existing and / or historic mine site? (x) Yes () No. If Yes, describe briefly (specify existing, historic, or both).

The historic Idaho-Maryland Mine was discovered in 1851 and gold was produced from the mine between 1862 through 1956. It was the second largest historical underground gold producer in California. Total recorded production was 2,383,000 ounces of gold from 5,546,000 short tons for a recovered grade of 0.43 ounces of gold per short ton. The Idaho-Maryland site is proposed to be developed for the mine and ceramics plant operations complex.

Historically, the New Brunswick shaft existed to a vertical depth of 3,460 ft and provided access to the deepest levels of the Idaho-Maryland Mine located 3,280 ft below the shaft collar. The Round Hole shaft was also developed as part of the historic Idaho-Maryland mine and descends vertically approximately 1,100 ft.

6. Geological description, including general geological setting, with more detailed geologic description of the mineral deposit to be explored or mined, and principal minerals or rock types present.

The regional geology and soils were summarized in the May 1995 *Draft Environment Impact Report (EIR) for the Idaho-Maryland Gold Mine Dewatering and Exploration Project* (Use Permit U94-017, State Clearing House No. 94072066) contained in 2005 Volume III, Appendix E. The IMMC retained two companies, Holdrege and Kull, and ENGEO to prepare two Geotechnical Assessments for the project. The Holdrege and Kull report is contained in 2005 Volume III, Appendix G and the ENGEO report was submitted under separate cover to the City in 2007.

The landforms near the subject properties comprise thin soils weathered out of metamorphosed ultra-mafic to mafic intrusive rocks and meta-volcanic extrusive rocks. The rocks in the area show evidence of having been faulted multiple times, metamorphosed during plutonic emplacement of the Sierra Nevada batholith, and elevated during Tertiary uplift. The subject properties are located on moderately steep hillsides near the contact of Mesozoic ultra-mafic rocks and meta-volcanic rocks of uncertain Jurassic to Paleozoic age (*Noms and Webb, 1990*).

The Idaho-Maryland site is located on a structurally controlled, mesothermal gold deposit. The shape of the Idaho-Maryland ore deposit is defined on the east by the regional-scale Weimar Fault (also known as the 6-3 Fault in IMMC company reports), on the north by the Idaho Deformation Corridor, and on the west and south by the Morehouse Fault. The Idaho Deformation Corridor is a mélangé zone consisting of

a matrix of well foliated, highly deformed, serpentine. That formation contains large tectonic clasts or “slabs” of rocks whose lithologies vary from meta-volcanic flows and volcanoclastic units, fine grained metasedimentary units (e.g., cherts, slates), diabase and gabbro. The large Brunswick Slab, the largest and most important of the slabs is in the center of the Idaho-Maryland site, and is surrounded by and in fault-contact with the Idaho, Morehouse and Weimar faults. This slab extends generally east-west for 1.5 miles, north-south for 0.6 miles, and defined the northern, western, eastern and southern boundaries of the historic ore deposit. Most of the underground development, including the decline excavation, will occur in the metavolcanic rocks of the Brunswick Slab, and surface facilities will be constructed on the metavolcanic, diabase, and gabbro bedrock of the Brunswick Slab.

The Idaho Deformation Corridor is a fault zone of high strain that extends along the entire northern side of the Idaho-Maryland ore deposit. The corridor averages 500 ft in width and is traceable for 2.0 miles along a 275° to 290° strike. The zone dips 60° to 70° S and extends to the deepest levels of the mine at 0.62 miles. Within the corridor are less strained blocks of ground, with the high-strain zones occurring in a braided pattern or network throughout. The Brunswick Slab defines the southern boundary of the high-strain zone for nearly its entire length. The L Fault (in the Idaho Deformation Corridor) forms the northern boundary. In general, the zone contains both linear and non-linear fault members and exhibits a dominant reverse vertical displacement with a much weaker component of right-lateral horizontal displacement. Post-mineral reactivation of some faults shows small normal displacements. The linear and non-linear fault members have strong deformational fabric and well-developed fault gouges (*Engold, 2004*).

7. Will there be any potentially hazardous materials, such as toxic substances, flammables, or explosives used or stored at the site? (x) Yes () No. If Yes, describe method of use, storage and disposal.

At the Idaho-Maryland mine site, no hazardous materials will be used in the recycled stone and ceramics manufacture, but gold ore processing will involve the use of a combination of flotation and cyanidation technologies. Less than 15 percent of the ore will be treated with small quantities of sodium cyanide (NaCN) solution. Cyanide is a reagent used to safely leach gold from the ore and gold concentrate. The receiving, handling and use of cyanide on the Idaho-Maryland site will be conducted under the International Cyanide Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold. The code was developed as a voluntary industry safety code. The code was prepared under the direction of a multi-stakeholder Steering Committee, whose members were chosen by the United Nations Environment Program and the International Council on Metals and the Environment.

The required NaCN will either be transported to site in solid form or liquid form depending on availability and cost. In solid form, NaCN will be received as granules or as powder and would be transported in “super sacks” which are 1 or 2 ton, lined unbreakable nylon sacks to be handled by forklifts. In liquid form, the cyanide will be received as a 30-35 percent aqueous solution transported in double walled container trucks that will unload into onsite tanks. The containers are designed to withstand truck tip-over without breakage. Acids will not be kept in the same storage area to prevent formation of hydrogen cyanide gas (HCN) which can be lethal in high concentrations. Personnel handling the material would be equipped with respirators, safety glasses and gloves to avoid dust inhalation and skin contact. The handling and reagent mixing/makeup area will be well ventilated as another precaution. The frequency of unloading operations would minimize as much as possible with large tanks or large covered storage hoppers.

The sodium cyanide dissolves the gold into a chemical solution in a highly monitored and closed processing circuit, which allows for the economic recovery of the gold with electrowinning (electroplating). Almost all unreacted cyanide solution will be recovered and recycled back into the process. There would be trace amounts of cyanide contained in the tailings, which would be reacted with

hydrogen peroxide or sulfur dioxide to destroy the cyanide prior to final dewatering and transfer to the ceramics plant or to underground backfill.

Other hazardous materials to be used onsite include: lime, Ca(OH₂), sodium hydroxide (NaOH) and dilute hydrochloric acid (HCl) for pH control; lead nitrate (PbNO₃) to enhance gold leaching kinetics; hydrogen peroxide (H₂O₂) or sulfur dioxide gas (SO₂) for cyanide destruction; sodium isobutyl xanthate as a flotation collector; methyl isobutyl carbinol (MIBC) as a flotation frother; and soluble starch to depress the talc and mica. All Material Safety Data Sheets (“MSDS”) will be kept onsite and all chemical handling will be performed in accordance with the site Emergency Response Plan/Health and Safety Plan (ERP/HSP) that will be developed upon conclusion of the permit process.

Explosives and detonators will be required for drilling and blasting activities underground. These materials will be stored underground in a secured area.

The Idaho-Maryland site comprised two properties comprising approximately 102 acres. The northern area comprises approximately 56 acres and has been known as the WestBET property (10344 Centennial Drive). The southern property area comprises approximately 45 acres and has been known as the Old Lausman Mill site (11452 East Bennett Road). Phase I Environmental Site Assessments (Phase I) were conducted by MACTEC Engineering and Consulting (“MACTEC” in 2004 for both properties (2005 Volume III, Appendix H). Both property areas are currently identified on the (“Cal EPA”) Envirostor Database. The Old Lausman Mill site also appeared on the State Water Resource Control Board (“SWRCB”) Region 5 Leaking Underground Storage Tank Information List. The previous owner had removed an underground fuel tank in 2002 and IMMC has since remediated the tank site and a closure letter was received from the SWRCB on July 1, 2010. The WestBET property also appears on the Voluntary Clean-up Program (“VCP”) managed by the Cal EPA, Department of Toxic Substances Control (“DTSC”). The IMMC is working with the current property owners and DTSC to develop a plan to assume the VCP as part of the proposed project.

Neither the Round Hole nor the New Brunswick site are on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, as documented in the Phase I studies prepared by ERRG in 2007 for IMMC. The Phase I studies were conducted to address data gaps identified by the City in their June 2006 Project Master Environmental Assessment (“2006 MEA”). These documents have been submitted separately to the City and indicated that the Round Hole and New Brunswick site properties are not identified on any agency databases.

All hazardous materials will be stored at the Idaho-Maryland site warehouse, or near its location of use in accordance with its MSDS recommendations. The only exception will be mining explosives. The explosives will be temporarily stored on the Idaho-Maryland site in accordance with the Bureau of Alcohol, Tobacco and Firearms (“ATF”), California Occupational Safety and Health Administration (“Cal/OSHA”), and U.S. Mine Safety and Health Administration (“MSHA”) guidelines during the initial stages of decline construction. Once the decline is sufficiently advanced, the explosives will then be moved to a permanent underground storage location constructed in accordance with ATF, Cal/OSHA and MSHA guidelines.

8. Estimated number of employees:

Exploration Phase:	<u>205 (Maximum Permanent Operations Personnel, Phase I)</u>
Construction Phase:	<u>291 (Maximum Temporary Construction Personnel, Phase I)</u>
Mine Operation Phase:	<u>611 (Maximum Combined Construction and Operations Personnel, Phase II and II)</u>

Reclamation Phase: 85 (Maximum Combined Construction and Operations Personnel, Phase IV)

The Idaho-Maryland Project has been divided into four phases, as outlined below:

Figure N3 – Summary of Project Phases

Phase	Years 1-3	Years 4-6	Years 7-23	Year 24
Phase I – Initial Dewatering, Construction and Exploration				
Phase II – 1,200 STPD Gold Plant Operation				
Phase III – 2,400 STPD Gold Plant Operation				
Phase IV – Reclamation				

The expected temporary construction and contract employees are outlined below by year. The permanent operational employees are also outlined by year. The total of the two columns represents the total number of employees expected to be required for all facets of the project construction, operation, and reclamation. The number of temporary employees peaks at 291 in Year 1. The number of permanent employees peaks in Year 7. The combined employee workforces peak at 611 in Year 6.

Project Phase	Estimated Duration	Temporary Construction Personnel	Permanent Operations Personnel	Total Personnel
Phase I	Year 1	291	33	324
	Year 2	247	104	351
	Year 3	247	205	452
Phase II	Year 4	148	372	520
	Year 5	148	394	542
	Year 6	195	416	611
Phase III	Year 7	101	500	601
	Year 8	101	500	601
	Year 9-23	101	500	601
Phase IV	Year 24	5	80	85

At the Idaho-Maryland site, there will be several shifts of employees. Typically, mining, plant, and maintenance workers will work rotating shift 12 hour shifts, from 7 a.m. to 7 p.m. and 7 p.m. to 7 a.m. daily, seven days per week. Most senior staff and administrative personnel will work a 7 a.m. to 3:30 p.m. shift, five days per week. These shifts have been set up to avoid traffic at peak traffic times in the morning and afternoon as much as possible.

9. Estimated Time Frames

All phases are twenty-four hours a day, seven days a week (24/7) year round, until closure, as outlined in Table in Item No. 8 above.

	<u>Begin</u>	<u>End</u>
Exploration	Year 1	Year 23
Construction (Surface)	Year 1	Year 8
Construction (Underground)	Year 1	Year 23
Mine and Plant Operations	Year 1	Year 23
Reclamation	Year 24	Year 24
For seasonal operation, List operating months	N/A	N/A

10. Time Periods*10a. Mine Operation Time Periods*

All activities will be performed twenty-four hours a day, seven days a week unless otherwise noted.

Activity	Operating Hours	Days Of The Week	Total Length
Surface Construction	7:00 a.m. to 7:00 p.m.	M-S	8 years
Underground Construction	7 a.m. to 7 p.m. 7 p.m. to 7 a.m.	M-S	Life of mine
Blasting (surface)	7:00 a.m. to 7:00 p.m.	M-S	Less than 1 year
Blasting (underground)	Continuous	M-S	Life of mine
Overburden Removal	N/A	N/A	N/A
Off-site hauling of recycled stone and building products	Continuous except between 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. on weekdays when trucks are held on site.	M-S	Life of mine
Off site hauling of aggregate products	Continuous, between 7 a.m. and 7 p.m.	M-S	Life of mine
Ore extraction	7 a.m. to 7 p.m. 7 p.m. to 7 a.m.	M-S	Life of mine
Crushing / Processing	7 a.m. to 7 p.m. 7 p.m. to 7 a.m.	M-S	Life of mine
Reclamation	7 a.m. to 7 p.m. 7 p.m. to 7 a.m.	M-S	1 year

Note: Surface construction may occur inside buildings from 7 p.m. to 7 a.m. (equipment, mechanical, electrical, instrumentation, HVAC, and assembly).

10b. Exploration Activities

Exploration activities will be performed during mining operations, twenty-four hours a day, seven days a week.

11. Anticipated annual production (include all mined materials such as overburdened waste rock ore, etc.)

Annual mine extraction rate for industrial minerals and gold ore is 23,940,000 short tons total. Average mine throughput is 600 STPD for Phase I, 1,800 STPD for Phase II, and 3,600 STPD for Phase III, 350 days/year, for 3, 3, and 17 years respectively, totaling 23 years of operations (20 years of gold plant operation).

12. Total life cycle production

a. Mine Waste returned to pit or harvest area	<u>10,360,000 tons</u>
b. Aggregate/crushed rock to offsite uses	<u>5,390,000 tons</u>
c. Recycled stone and ceramics to offsite uses	<u>8,190,000 tons</u>
d. Fill material imported for onsite disposal	<u>0 tons</u>
e. Mine waste disposed offsite	<u>0 tons</u>
f. Total volume of material to be explored	<u>23,940,000 tons</u>
g. What is ratio of tons: yd ³ of material being mined?	<u>Mined material density is 1.5 short tons/cubic yards</u>

There exists the possibility of identifying additional reserves that may extend the mine life beyond 23 years through gold exploration success. It may also be possible to extend the mine life beyond 23 years to mine industrial ore for recycled stone and ceramics and aggregate production. This would depend on the market and unit price of these products 23 years from project inception. Should the project life be extended beyond 23 years, it is expected extension to operating permits would have to be approved by the City and other agencies.

13. Ground Water

a. Ground water depth	<u>260 ft below New Brunswick shaft collar</u>
b. Maximum shaft / tunnel pit depth	<u>8,000 ft</u>
c. Estimated daily / annual quantity of water pumped for de-watering:	<u>See below</u>

Primary dewatering is proposed to occur at the New Brunswick site. Up to 6 cubic ft per second (cfs) (2,700 gallons per minute, "gpm") of mine water may be pumped to dewater the mine down to the 3,280 ft level. The initial dewatering rate is expected to occur over a period 8 to 12 months. Once the initial dewatering is completed, the dewatering rate is anticipated to range between 1.1 (500 gpm) and 2.7 cfs (1,200 gpm), or 1,375 acre-ft per year, depending on seasonal variations. For operational purposes, to avoid pumping during peak power times during operational pumping, underground storage and pumping of mine water may be scheduled for nightshift only, at rates up to 2,800 gpm.

Mine water pumped from the New Brunswick site will be transferred through a raw water line, to be constructed under East Bennett Road, to the Idaho-Maryland site. This water will be discharged into a mine water detention pond. Water from this pond will be recycled for use in the gold process plant and recycled stone and ceramics plant. Water will also be recycled for drill water underground and for watering landscaping on surface. The water treatment system will process excess mine water generated on-site and its discharge will be through a pipeline and stream apron into Wolf Creek. There will be a

second pipeline and stream apron between the storm water detention pond and a second discharge point in Wolf Creek.

The proposed mine water treatment system at the Idaho-Maryland site for mine water will comprise two 1,400 gpm packaged units. The two systems will be equipped with three stages of water treatment described in 2005 Volume III, Appendices R-C and C. The systems will be designed to aerate the water as well as removing turbidity and contaminants, which are primarily iron and manganese. Therefore, the system discharges are expected to meet water quality standards in compliance with the California Toxics Rule under the CWA. The treated water from the Idaho-Maryland site will be discharged to Wolf Creek via a small pipeline that will terminate in a stream apron (refer to Plate R2A-Rev2).

14. Maximum amount of surface disturbance, including drill pads, trenching, access roads, etc.

The greatest area of surface disturbance of approximately 59.7 acres will occur on the 102 acre Idaho-Maryland site. The surface development and disturbance are summarized in 2011 Volume RIA, Section 1, Revised Project Description, Subsection 1.6.1.

15. If the nature of the deposit and the exploration and / or mining method used will permit, describe and show the step or phases of the mining operation that allow concurrent reclamation, and include proposed time schedule for such concurrent activities. If the nature of the deposit and / or mining method does not allow concurrent (annual) reclamation, explain why.

The Idaho-Maryland mine is an underground mine with surface processing facilities. All mined materials will be removed off-site in the form of recycled stone and ceramic building products and aggregate products, or returned underground as backfill. There will be no surface “dead” storage of material and all other surface facilities will be actively utilized, therefore concurrent reclamation is not planned. Reclamation at each of the three sites will occur at the end of the mine’s life cycle, approximately 24 years after construction commences. Plates R24, R25 and 26 illustrate the reclamation at the Idaho-Maryland, New Brunswick, and Round Hole sites, respectively.

16. Describe the ultimate physical condition of the site and specify proposed uses(s), or potential uses, of the mined lands as reclaimed.

The following reclamation measures are planned for the Idaho-Maryland site:

- a. The stockpiles will be drawn down and material processed into product. The stockpile pads will be ripped, re-soiled, re-graded and re-vegetated.
- b. Paved areas and roads may be retained if requested for the future property owner. Drains and ditches servicing the paved areas and roads will be retained if the paved areas and roads are retained. Alternatively, the paved areas and roads will be demolished by removal and disposal of road base materials in accordance with ordinance. The areas and roads will then be ripped, re-soiled, re-graded and re-vegetated.
- c. The storm water detention pond will remain if the paved areas and roads remain for future uses. Alternatively, the pond will be drained, backfilled, and re-vegetated. The storm water discharge stream apron located in Wolf Creek will be retained in operation if the storm settling pond is retained. The pond and stream apron will be required to be operated in accordance with the Storm Water Pollution Prevention Plan (“SWPPP”) by the new property owners. This plan will include the monitoring of Wolf Creek downstream and upstream of the stream apron. Alternatively, the stream apron and associated piping will be dismantled and scrapped in accordance with ordinance if the storm water detention pond is backfilled.

- d. Unpaved vehicle areas, roads, and the drains and ditches servicing these unpaved areas and roads will be demolished by removal and disposal of roadbase materials in accordance with ordinance. The areas and roads will then be ripped, re-soiled, re-graded and re-vegetated.
- e. Landscaped areas and unimproved areas will not be disturbed wherever possible.
- f. Areas void of vegetation will be re-vegetated.
- g. Buildings will be emptied of process and ancillary equipment and related structures. Building shells will be retained unless dictated otherwise by the future property owners. Should the buildings be demolished, building foundations and foundation base materials will be dug up, and disposed of in accordance with ordinance. Building footprint areas will be ripped, re-soiled, re-graded and re-vegetated.
- h. Buried pipe, conduit and other services will be dug up, demolished and scrapped in accordance with ordinance. Trenches and holes will be backfilled, re-soiled, re-graded and re-vegetated.
- i. If desired by the future property owner, site lighting will be dismantled, sold or scrapped in accordance with ordinance.
- j. Security fencing will be retained for the future property owner.

For the Round Hole and New Brunswick sites, reclamation activities, Items. “d” through “j” above, will apply. The Idaho-Maryland water treatment and stream apron system is planned to be retained in operation until the mine overflow water is determined to be sufficiently clean to discharge into Wolf Creek without treatment. The Wolf Creek will be monitored downstream and upstream of the stream aprons during the operation of the water treatment plants for conformance to project water quality standards that will be specified by the State Water Resources Control Board.

The reclamation of surface facilities will essentially clear the site of all mining related items with the exception of items to be retained at the request of the future property purchaser. The reclamation plan activities will include removal of physical impediments to future surface improvements on any of the sites within reason. The reclamation of underground accesses will comprise concrete capping of the Idaho-Maryland site portal, Idaho-Maryland shaft, Round Hole site shaft, and the New Brunswick site shaft. These caps can be removed by blasting. Rock backfill may also be used to backfill shafts, depending on the suitability and availability of material. This will likely not prevent future mining.

Final reclamation fill slopes will not exceed 2:1 in any circumstance. Revegetation will be carried out for end use.

C. ENVIRONMENTAL IMPACTS

1. Land

1a. How many cubic yards will be moved or disturbed?

A total of 268,472 yd³ of soil will be cut for the site development and 258,762 yd³ will be used as fill on the Idaho-Maryland site (Plates R2B-Rev2 and R16-Rev2). The balance of 9,711 yd³ may be used to build roads on-site. Approximately 59 acres of the 102 acres are expected to be developed (Plate R2A-Rev2).

1b. Will the Project result in the destruction, covering or modification of any unique geological and / or physical features such as unstable soils or historical faults? () Yes (x) No. If Yes, what protective measures are anticipated?

- Ic. Will the project result in increased erosion from wind or water, onsite or offsite?
(x) Yes () No. If Yes, explain.*

A site-specific erosion control plan will be developed for the project's construction SWPPPs for each property, in accordance with the federal Clean Water Act ("CWA") and the State's Porter-Cologne Act ("State CWA"). To prevent increased erosion during construction and operation, all roads, structures, and buildings will have drains or ditches to capture and redirect surface water to a storm water detention pond.

At the Idaho-Maryland site, during construction and operation, surface water draining from the east adjacent properties will be collected in a south to north running ditch. The ditch will be located immediately adjacent to the east side property line. The east ditch will discharge through a stream apron into Wolf Creek. Surface water draining from the west property is expected to be collected on the west property site prior to entry onto the Idaho-Maryland site (this system was constructed by the neighboring property owner, DeMartini).

- Id. Will the project expose the people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failures, or similar hazards? () Yes (x) No. If Yes, explain.*

It is not anticipated that the geologic units would become unstable at the project sites because all three sites have bedrock near the surface. Major structure and building foundations at the Idaho-Maryland site will be supported on engineered fill supported on bedrock. As summarized in the 1995 project EIR contained in 2005 Volume III, Appendix E, a large portion of the New Brunswick site has already been excavated and backfilled with engineered fill material, ready for construction of the emergency hoist house and water treatment facilities.

As part of the City's Phase I CEQA review process, the 2006 MEA was completed that identified a need to update the geotechnical information in Appendix E. The update was prepared by ENGEO for IMMC in 2007 and is part of a separate submittal "MEA Data Gap Response" package to the City. The 2007 geotechnical assessment has confirmed that the Idaho-Maryland and New Brunswick site soil and subsurface conditions will be adequate to support the intended project facilities and uses.

The possibility of surface subsidence is conceivable above underground openings close to the surface (within 20 ft). There are only five locations on this project where underground workings will be close to the surface: the portal of the decline; the collar of the New Brunswick shaft; the collar of the Union Hill shaft; the collar of the Idaho-Maryland shaft, and the collar of the Round Hole shaft. There are no plans for surface construction near the Union Hill shaft, and its remote location precludes it from endangering anyone's property. Prior to surface construction in the vicinity of the other three locations, engineered supports shall be constructed to prevent collapse and subsequent surface subsidence.

- Ie. Will the project result in the loss of agriculture lands? () Yes (x) No. If Yes, specify.*
- If. Is all or a portion of this property subject to a Williamson Land Act Contract (i.e., an agricultural preserve)? () Yes (x) No. If Yes, specify.*
- Ig. Is all or a portion of this property zoned TPZ? () Yes (x) No. If Yes, attach exhibit and copy of timber management plan.*

2. Water

- 2a. Will the project result in any stream alteration? (x) Yes () No*

For operations occurring within or adjacent to a seasonal or permanent stream, river or other body of water, describe actions being taken to protect water quality and wildlife habitat.

Potential impacts to water quality on or near the three project sites are described below.

At the Idaho-Maryland and New Brunswick sites, mine dewatering will occur from the new and historical underground workings. At the Idaho-Maryland site, mine water removed from the decline, Idaho-Maryland Shaft, and associated underground workings will be routed to a mine water detention pond. Water from the New Brunswick Shaft and associated underground workings will be pumped to surface and transferred to the mine water detention pond via a raw water line to be constructed under East Bennett Road. Mine water not recycled for use will be treated by the mine water treatment system (2005 Volume III, Appendix R-C) at the Idaho-Maryland site before being discharged to Wolf Creek. Water will be treated in accordance with the California Toxics Rule under the federal and State CWAs and then discharged into Wolf Creek via a pipeline and stream apron. A National Pollution Discharge Elimination System ("NPDES") permit will be obtained in accordance with state and federal regulations for discharges associated with the mine water detention pond.

2b. *Will there be any increased run-off?* (x) Yes () No. *Explain.*

The site drainage features have been designed to accommodate surface water for which the run-off coefficient of 0.62 was calculated for the Idaho-Maryland site (refer to Exhibit R3-Rev2). No increased run-off is anticipated for either the New Brunswick or Round Hole sites.

2c. *Will there be any discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?* (x) Yes () No.
If Yes, explain.

As detailed in Section 3.C.2.,a. above, mine dewatering is proposed to occur at the Idaho-Maryland and New Brunswick sites. Mine water will be treated (aeration and contaminant removal) and discharged into Wolf Creek through use of a pipeline and stream apron described in those sections.

2d. *Will there be any septic tank installation, sedimentation or potential chemical contamination? Indicate amount of effluent, which may be generated. Percolation tests should be provided.*
() Yes (x) No. *If Yes, explain.*

At the Idaho-Maryland site, wastewater disposal requirements for 400 employees are anticipated. Based on County flow estimates of 30 gallons/day/per person, additional daily discharge of 12,000 gallons would need to be accommodated in capacity at the City's treatment facility. The City Treatment facility currently runs a 2.78 million gallons/day plant. It is expected that the City treatment facility will have sufficient capacity to accommodate the project. A septic tank would be installed and maintained at the New Brunswick site.

Wastewater would not be generated at either the Round Hole sites. It should also be noted that construction contractor staff will be required to use temporary sanitary facilities provided and serviced by the construction contractor. Portable toilets will also be used underground and be clean on a regular basis.

2e. *Industrial water requirements:*

Amount required per day: No requirement from offsite. All process water will be drawn from underground dewatering.

Will water be recirculated for re-use? (x) Yes () No

2f. *Will there be any changes in the quantity of ground waters, either through direct additions or withdrawals, or through interception of any aquifer by cuts or excavations?* (x) Yes () No.

If Yes, explain and describe method to monitor effects.

At the New Brunswick site, a stable groundwater level occurs in this vertical mine shaft at a level of 260 ft below the mineshaft collar. This represents a level approximately 60 ft below the deepest nearby domestic water well at about 200 ft. Nonetheless, to mitigate the potential impact of dewatering on neighboring wells, a number of applicant proposed measures will be applied to ensure potential impacts to domestic well owners are eliminated or minimized.. Specifically domestic wells will be monitored prior to and during dewatering activities. In addition, domestic water will be provided to properties affected by dewatering, including connection to the Nevada Irrigation District (“NID”), services, as may be warranted.

2g. *Will there be a substantial reduction in the amount of water, otherwise available for public water supplies?* () Yes (x) No. *If Yes, explain.*

Potable water for on-site construction and operating personnel will require installation of a new potable water supply line that will be requested from NID. Based on County water usage of 35 USG/employee/day, NID may be requested to supply 14,000 USG per day.

In addition, potable water supply may be required for domestic well users, should their wells be impacted by mine dewatering activities. Based on 26 residences at 400 gallons per day (the average consumption for a family of four), the estimated maximum requirement will be 10,400 GPD that NID will be requested to supply.

2h. *Will the project expose people or property to water-related hazards such as flooding or ground slippage?* () Yes (x) No. *If Yes, explain.*

2i. *Will there be any significant changes in temperature, flow, or chemical content of surface thermal springs?* () Yes (x) No. *If Yes, explain.*

3. Air and Noise

3a. *Will there be any changes in air movement, temperature, dust, ash, smoke, fumes or odor as a result of the project?* (x) Yes () No. *If Yes, explain.*

There are expected to be potential impacts to air quality associated with the construction and operation of the project, as summarized in 2005 Volume III, Appendix I. Through employment of applicant proposed measures, best management practices (“BMPs”) during construction, and best available control technologies (“BACTs”) during operation, impacts to the Northern Sierra Air Quality Management District (“NSAQMD”) will be minimized as much as may be technically and economically feasible.

3b. *Method of dust control (specify water or chemicals to be used and frequency of application):*

Employment of BMPs, such as dampening construction areas and access roads with water or magnesium chloride on a regular basis.

3c. *Will the project result in a change in existing noise or vibration (due to blasting or use of heavy earth moving or breaking equipment) levels in the vicinity?* (x) Yes () No. *If Yes, explain.*

A noise assessment was originally prepared for the project by Brown-Buntin Associates (BBA) in 2004 and is presented in 2005 Volume III, Appendix J. The potential noise effects that may result from the project are detailed in 2005 Volume III, Appendix J, Section XI.a. That analysis has been updated and is presented herein and in Appendix R-J to the Revised Mineral Project Application.

To ensure that local noise standards are not exceeded, the following BMPs will be implemented:

- Reduce noise levels due to loaders and/or forklifts by 10 dBA or more by specifying the use of modern, quieter equipment. Whenever possible, rather than keep tile inventory stored outdoors, the tile will be loaded onto flatbeds that may be hitched to truck cabs for immediate transport. To ensure that noise from the air pollution control equipment would be less than significant at the nearest potentially affected residence, the design noise level from exterior fans or cyclones will be limited to about 80 dBA at a distance of 50 ft.
- The mine dewatering pumps will be located underground to mitigate pumping noise.

To mitigate the exposure of persons to excessive ground borne vibration or ground borne noise levels, the following mitigation measures are planned to be implemented:

- For near surface underground blasting, blasting mats and decline doors will be used to mitigate noise. For ground borne vibration from blasting, this would only occur during construction of the decline and the new Idaho-Maryland shaft. Once the decline and shaft are well underground, blasting noise and vibration will likely not be transmitted to the surface. This will be monitored to ensure compliance with noise ordinances by reducing the sizes of the blasts,
- For equipment generated ground borne vibration and noise, sufficient concrete foundation mass would be designed to mitigate ground borne vibration and noise

Based on the implementation of the above stated ground borne vibration and noise control measures, it is not anticipated that the project would result in noise levels in excess of applicable standards.

3d. What type of noise will be created by the project both during and after construction?

The noise types analyzed for the proposed project include: ambient, project facilities and equipment, traffic, and construction, and are summarized in Table X, Appendix R-J in the 2005 Volume III. Maximum noise levels from different types of equipment under different operating conditions could range from 70 dBA to 90 dBA at a distance of 50 ft. Construction activities would be temporary in nature, occurring during normal working hours.

3e. Determine average noise levels (Leg) at the property line for three time periods: Day (7:00 a.m. to 7:00 p.m.), Evening (7:00 p.m. to 10:00 p.m.), and Night (10:00 p.m. to 1:00 a.m.) in dBa.

Ambient noise levels in the project area are described by 2005 Volume III, Appendix J and Appendix R-J to the 2011 Revised Mineral Project Application. In general, ambient noise levels at residences in the project vicinity are relatively low, except for homes adjacent to major roadways. All site activities as described on each site will occur 24 hours per day, 7 days per week.

Idaho-Maryland Site

During the development of the decline at the Idaho-Maryland site, noise could be produced by heavy truck movements in and out of the portals, and by movements of other construction equipment. Normal activities at the decline will consist of underground operation of engine-powered equipment and blasting, at depths of 200 ft and more. Eventually, materials will be removed from the decline by conveyor belt systems, which typically produce noise levels in the range of 50 to 60 dBA at a distance of 25 ft.

Potentially significant noise sources associated with ongoing project activity at these sites are expected to include wheel loaders, forklifts, heavy trucks, conveyor belts, milling equipment and cyclones or fans at

the ceramics building. Except for during construction of the new shaft, blasting will be confined underground, so it would not be expected to produce an air blast with significant sound levels.

A crushing and screening plant would be operated near the decline opening. Key pieces of equipment would be located inside buildings. Later, a primary crushing would be installed underground at the bottom of the Idaho-Maryland Shaft. Secondary and tertiary crushing will eventually be located in the gold plant building..

For the noise analysis, it was assumed that two loaders could be operating at a use factor of 40 percent in the vicinity of the decline materials stockpiles. It is also assumed that forklifts could be operating at a use factor of 40 percent at the temporary storage area in the central portion of the site. Based upon Table X, Appendix R-J, engine-powered equipment such as loaders may be assumed to produce noise levels of about 80 dBA at a distance of 50 ft. BBA noise measurement data indicates that propane-powered forklifts are typically quieter than loaders, producing about 75 dBA at a distance of 50 ft. Electric forklifts are even quieter, producing less than 65 dBA at a distance of 25 ft.

Heavy trucks are projected to operate on the site at a rate of about five trucks per hour (refer to updated Traffic Analysis, Appendix R-N); a typical passage of a heavy truck would generate a sound exposure level (SEL) of about 90 dBA at a distance of 50 ft. Assuming a maximum of approximately ten total trips in an hour (in- and out-bound), the average heavy truck noise level (L_{eq}) would be 64 dBA at a distance of 50 ft. These same values were assumed for heavy truck movements to and from the shaft construction temporary storage area. It was assumed that no more than three forklifts would be operating in the temporary decline storage area at a given time.

To predict project-related noise levels at sensitive receivers, it was assumed that powered equipment would be used in the approximate center of the work area. For most sources, the nearest residence is located on the south side of East Bennett Road; for sources at the temporary storage area for the shaft construction, the nearest house is on Cordell Court.

Noise propagation from activities at the project site would be affected by local topography and by buildings at the project site. Where there would be no direct line of sight from the noise source to a receiver, it was assumed that the shielding provided by topography, large buildings and stockpiled materials would reduce the noise level by 10 dBA.

The “Predicted Unmitigated Project Noise Levels” table below, an excerpt from the updated noise analysis in Appendix R-N summarizes the predicted hourly average noise levels for the above equipment use at selected locations adjacent to the project site. Assuming continuous operations over a 24-hour period, the Day-Night Level (L_{dn}) for each cell in the table would be 6 dB higher than the hourly L_{eq} .

The predicted noise levels due to onsite use of engine-powered equipment at the Idaho-Maryland site would be less than significant at the adjacent industrial land uses, which are not considered to be noise sensitive. At the nearest houses on East Bennett Road and Cordell Court, the noise levels predicted for the project would be less than significant in terms of compliance with the City Noise Element night-time noise standard, and in terms of the increase in noise levels as compared to ambient conditions.

**Predicted Unmitigated Project Noise Levels
Idaho-Maryland Mine Site**

Noise Source	Predicted Average Noise Levels, dB, at Receiver Location (L_{eq})			
	North Project Boundary	Milco Development Boundary	Nearest House on East Bennett Road	Nearest House on Cordell Court
Loaders at Stockpiles	52	54	37	36
Propane-powered Forklifts at Temporary Decline Storage Area	49	50	34	33
Trucks at Temporary Decline Storage Area	64 ¹	64 ¹	25	25
Portable Crusher	65	62	42	41
Trucks at Temporary Shaft Storage Area	64 ¹	64 ¹	40	31

¹ - Assumes vehicles could operate within 50 ft of the property line.

Noise sources associated with the recycled stone and ceramic plant may include burners and blowers. In addition, BACT will be employed to abate potential impacts to air quality may include fans and cyclones. Most of this equipment would be located inside the building, though it is possible that some air pollution control fans and cyclones would be located on the outside of the building.

Mill equipment noise received outside the building will be reduced significantly by the insulated metal clad mill building walls. Noise could be emitted through ventilation openings, but could be reduced by the use of silencers, acoustical louvers, or lined ducts incorporating 90-degree bends. The noise level of the enclosed milling equipment is expected to remain below 50 dB L_{eq} at the nearest project boundary.

New Brunswick Site

This property will be developed for additional mine ventilation and emergency access, and will be the location of the mine's dewatering activities. The project does not anticipate operation of ventilation fans at this location.

Dewatering of the mine would involve operation of submersible electric pumps. Because this type of pump is generally very quiet, the noise due to operation of the dewatering pumps is expected to be less than significant.

A pump station would also be operated in the mine to pump water up to the dewatering site. This type of station is reported to be relatively noisy, but it would be located about 1300 ft below ground. Therefore, the noise from the underground pumping station is expected to be less than significant at above-ground receivers.

Round Hole Site

At the Round Hole site, the ventilation shaft will have a ventilation fan located several hundred ft below the surface. The largest fan being considered is reported to produce about 115 dBA at a distance of 5 ft. Assuming the fan is located about 250 ft down the shaft, the noise level would be reduced by about 34 dB at the collar of the shaft, to about 81 dBA. If additional fans were located in close proximity, the total sound level would increase. The frequency information available for the fan indicates that a simple tone noise could be produced at about 500 Hz.

The ventilation shaft opening would be located about 200 ft from the nearest property boundary. At that distance, the predicted fan noise level would be 45 dB L_{eq} . Assuming that a simple tone noise would be produced, the City Noise Element standard would be 45 dB at the nearest property line. The noise due to the ventilation fan(s) would comply with the Noise Element standard.

Since the median ambient noise levels at residential properties in the project area may be as low as 25 to 35 dB, noise from the ventilation fans could exceed ambient nighttime noise levels, and could be audible during the quietest hours of the night, depending on the proximity of the receiver to the Round Hole site. The nearest noise sensitive land use is a house on Whispering Pines Lane, about 1,500 ft from the ventilation shaft. The predicted fan noise level at that distance is 27 dB.

3f. *What is the distance and location to the nearest receptor?*

The homes nearest the project site include one home on Whispering Pines Lane, with the remainder of homes located east and south of the project site, typically over one hundred ft away from the project boundaries.

4. Plants and Animals

4a. *Will there, as a result of the project, be any changes in the species, or the number of plants and animals? (x) Yes () No. If Yes, explain.*

Project activities that may impact plants and animals at the project sites are as follows:

- At the Idaho-Maryland site, the project may result in the removal of some vegetation during the construction of the mine and mill facilities,
- At the Round Hole site, some vegetation will be removed or disturbed by construction of the hoist house and access road, and
- At the Idaho-Maryland site, discharge of treated mine water will increase the water flow in Wolf Creek. Per the 2004 Biological Evaluation (Volume III, Appendix K), natural communities are not anticipated to be impacted by the project. The Wetland Assessment performed by MACTEC in 2004 (2005 Volume III, Appendix A) assessed the planned discharges of treated mine water to Wolf Creek at the Idaho-Maryland site. The stream apron in which discharge will occur will be installed in accordance with regulatory requirements to minimize potential impacts to those riparian environments.

Vegetation and trees will be removed to accommodate the proposed project facilities on the Idaho-Maryland and Round Hole sites. A survey of trees with diameters greater than 8 in and those affected by the project on each site was performed in 2004 and is contained in 2005 Volume III, Appendix B, and illustrated in Plates 7A through 7D in 2005 Volume II. That survey was updated in 2007 for and is contained as Appendix R-B in 2005 Volume III. The tree surveys summarize the species, trunk diameter, and status of these trees for the project (saved, removed, or relocated).

Approximately 5,731 trees have been identified on the Idaho-Maryland site; 1,602 are located in the development area and 4,129 are located in the area outside of the proposed development area. The total number of trees that are expected to be removed is 1,180, or 20 percent of the total number of trees on that site. Of those that will need to be removed, a total of 316, or 26 percent, are in poor or very poor health.

The total landscaped area comprises about 5.5 acres (9 percent) of the developed area. Approximately 335 trees (27 percent) will be planted to replace the 1,180 (approximately 20 percent) trees to be removed

on the Idaho-Maryland site and will include species such as Douglas fir, Chinese pistache, Pfizer juniper, giant sequoia, red maple, *Liquidambar*, and Incense cedar.

The number of trees located on the Round Hole site is 139 of which 36 (approximately 26 percent) are in the areas to be developed and will need to be removed (refer to Plate 7B).

4b. *Will the project result in the loss of, or a reduction in any unique, rare or endangered species of plants or animals including their habitat?* () Yes (x) No. *If Yes, explain.*

A Biological Evaluation was performed by MACTEC in 2004 (2005 Volume III, Appendix K), during which special status species were not observed at the project sites and environs. However, the following conditions exist for the cited species: a moderate to high potential for Pine Hill flannel bush (*Fremontodendron decumbens*) to occur on the Idaho-Maryland site; a moderate potential for Follett's monardella (*Monardella follettii*) to occur at the three sites; a high potential for Brownish beaked-rush (*Rhynchospora capitellata*) to occur at the New Brunswick and Idaho-Maryland sites; and a high potential for the Coast (California) horned lizard (*Phrynosoma coronatum* [frontale]) to occur at all three sites. Therefore, MACTEC recommended that protocol level surveys be performed for these species to confirm their presence or absence in areas to be disturbed by planned project activities. Since 2004, the City's consultant, Environmental Science Associates ("ESA") performed biological surveys at the sites which were summarized in the 2008 Draft Environmental Impact Report for the Project ("2008 DEIR") whose studies are incorporated herein by reference. Reported in that document were observations of Valley Elderberry Longhorn Beetle habitat, seven elderberry (*Sambucus* sp) were observed on-site as were about the same number of flannel bush, thought to be *Fremontodendron decumbens*. The latter was further evaluated in June 2009 by ESA, IMMC and a representative of the U.S. Bureau of Land Management that manages the Pine Hill Preserve in El Dorado County. There was no conclusive evidence that the flannel bush that occurs on the site is *Fremontodendron decumbens*, as a result of that event.

4c. *Will new species be introduced into the area, or will the project result in a barrier to the normal replenishment of existing species of plants or animals?* () Yes (x) No. *If Yes, explain.*

4d. *Describe any actions being taken during the project and as part of the reclamation process that will enhance / protect wildlife habitat.*

As detailed in Section C.4.b, the Pine Hill flannel bush, Follett's monardella, Brownish beaked-rush, and the Coast (California) horned lizard have varying potential for occurrence at some or all of the three sites. Appropriate wildlife habitat restoration or enhancement plans will be created according to those findings, as appropriate. The mine and storm water detention ponds will be evaluated for conversion to wildlife habitat, during reclamation as may be appropriate. During reclamation of underground facilities, access ports for small wildlife will be provided and will be covered by steel grates with suitably sized openings to allow wildlife entry and prevent human entry.

5. Light and Glare

5a. *Will the proposed project produce new light and glare?* (x) Yes () No. *If Yes, specify amount, type and duration.*

IMMC has developed an external lighting plan (See 2005 Volume III, Appendix L) to minimize the amount of light and glare that would create offsite impacts (refer to Plates R17, 18 and R19). Lighting will be downcast and shielded where necessary to prevent unnecessary light spillage onto public viewing areas. To reduce glare, the project will treat surfaces with non-reflective treatments where feasible. Lighting will be used only for safety and security consistent with MSHA and Cal/OSHA requirements for operational needs and unnecessary lighting will be avoided.

6. Land Use

6a. *Might the project conflict with existing land uses including recreational, educational, religious or scientific?* () Yes (x) No. *If Yes, explain.*

The project sites are currently vacant and in a relatively undeveloped area in the City and County. A riparian buffer has been defined along Wolf Creek for future possible development of the Wolf Creek Parkway Trail, subject to negotiations with the City. A Mining Education Center and Outdoor Historic Theme Park is planned for the southern portions of the site. Upon conclusion of the mining and mineral processing activities (e.g., during site reclamation), these developments may be made available for continuous public use is considered consistent with the intent of the City's Parks and Recreation Master Plan. Until then, these areas will be available for public use during normal business hours as private property to ensure the security of mine and recycled stone and ceramics plant operations.

6b. *In what way will the project cause change in the land use pattern, scale, or character of the general area?*

The project development, as described in Section 1.0, 2011 Revised Project Description, comprises a general industrial use and creates an area of active employment. The City 2020 land use designations illustrated in Plate R22 will need to be changed to allow the Idaho-Maryland site to be developed as proposed (Plate 23) and summarized in Table R3-Rev2. The impacts from the proposed project to the City's land use would include:

- Transferring 46 acres whose land use is currently designated by the City to be BP and in the MRCZ to an MI land use;
- Expanding the MRCZ to encompass the 46 acres whose land use is currently designated by the City to be UMD; and
- Transferring 56 acres whose land use is currently designated by the City to be UMD to an MI land use, 10 acres of which are currently within a MRCZ designation.

The land use designations for project parcels to allow for the proposed project development will also require the City to prezone the Idaho-Maryland site areas as summarized below:

- Designating the 46 acres whose land use is currently designated by the City to be BP and in the MRCZ to be zoned for M-2/MR, General Industrial/Mineral Resources; and
- Designating the 56 acres whose land use is currently designated by the City to be UMD to be zoned for M-2/MR, General Industrial/Mineral Resources.

The Round Hole site land use and zoning designations are, respectively, BP and SP1-A and allow for and would continue to allow for the proposed use as a ventilation shaft, an employee access route and parking. The City has designated the future (year 2020) land use and zoning for the New Brunswick site to be Manufacturing-Industrial (MI) and M-2, General Industrial, respectively, and would allow for the development of the site for a ventilation shaft, employee access, parking, mine dewatering and treatment facility use. Therefore, no change in the City's General Plan is necessary for that site.

6c. *Distance from the location of the nearest recognized named community.*

The Idaho-Maryland site is located adjacent to the City approximately 1.5 miles east of the downtown area. The Round Hole site is located within the City and the New Brunswick site is located approximately one-half mile southeast of the Round Hole site.

7. Natural Resources

- 7a. *Will the project result in the increased rate of use of any renewable or non-renewable natural resources?* (x) Yes () No. Which one (s)?

The project will extract minerals for recycled stone and ceramics building products manufacture, aggregate production, and gold production. Recycled stone and ceramics feedstock will include quartz, metavolcanics, and diabase. Gold will be recovered primarily from quartz and diabase rock. Aggregate will be processed from metavolcanics and diabase. Ore removal for ceramic manufacture is currently estimated to be 8.1 million tons. Ore removal for gold recovery is estimated to be 15.5 million tons. Ore removed for aggregate production is estimated to be 5.4 million tons. Based on the gold resource recovery that could result from the reopening of the mine, it is not anticipated that a community loss of said mineral resources would result.

8. Risk or Upset

- 8a. *Will the project involve a risk of explosion or the release of hazardous substances, including but not limited to oil, pesticide, herbicide, chemicals or radiation, in the event of accident or upset conditions, flammable or explosives?* (x) Yes () No. If Yes, explain.

At the Idaho-Maryland mine site, ore processing will involve the use of a combination of flotation and cyanidation technologies. Less than 15 percent of the ore will be treated with small quantities of sodium cyanide (NaCN) solution. Cyanide is a reagent used to safely leach gold from the ore and gold concentrate. The receiving, handling and use of cyanide on the Idaho-Maryland site will be conducted under the International Cyanide Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold. The code was developed as a voluntary industry safety code. The code was prepared under the direction of a multi-stakeholder Steering Committee, whose members were chosen by the United Nations Environment Program and the International Council on Metals and the Environment.

The required NaCN will either be transported to site in solid form or liquid form depending on availability and cost. In solid form, NaCN will be received as granules or as powder and would be transported in “super sacks” which are 1 or 2 ton, lined unbreakable nylon sacks to be handled by forklifts. In liquid form, the cyanide will be received as a 30-35 percent aqueous solution transported in double walled container trucks that will unload into onsite tanks. The containers are designed to withstand truck tip-overs without breakage. Acids will not be kept in the same storage area to prevent formation of lethal hydrogen cyanide gas (HCN). Personnel handling the material would be equipped with respirators, safety glasses and gloves to avoid dust inhalation and skin contact. The handling and reagent mixing/makeup area will be well ventilated as another precaution. The frequency of unloading operations would be minimized as much as possible with large, covered storage hoppers.

The sodium cyanide dissolves the gold into a chemical solution in a highly monitored and closed processing circuit, which allows for the economic recovery of the gold through the use of electrowinning (electroplating). Almost all unreacted cyanide solution will be recovered and recycled back into the process. There would be trace amounts of cyanide contained in the tailings, which would be reacted with either hydrogen peroxide or sulfur dioxide to destroy the cyanide prior to final dewatering and transfer to the ceramics plant or to underground backfill.

Other hazardous materials to be used onsite include: lime, Ca(OH₂), sodium hydroxide (NaOH) and dilute hydrochloric acid (HCl) for pH control; lead nitrate (PbNO₃) to enhance gold leaching kinetics; hydrogen peroxide (H₂O₂) or sulfur dioxide gas (SO₂) for cyanide destruction; sodium isobutyl xanthate as a flotation collector; methyl isobutyl carbinol (MIBC) as a flotation frother; and soluble starch to depress the talc and mica. All MSDSs will be kept onsite and all chemical handling will be performed in

accordance with the site Emergency Response Plan/Health and Safety Plan (“ERP/HSP”) that will be developed as an expansion of that contained in Appendix D, 2005 Volume III, upon conclusion of the permit process. All hazardous materials will be stored at the Idaho-Maryland site warehouse, or near its location of use in accordance with its MSDS recommendations.

Explosives and detonators will be required for drilling and blasting activities underground. These materials will be stored in temporary secured areas above ground during part of project Phase I. For the remainder of Phase I, Phase II, and III, these material will be stored underground. There will be no need for storage of explosives during Phase IV. The temporary surface storage facilities will be permitted by the Bureau of Alcohol, Tobacco and Firearms (“BATF”), Cal/OSHA state mine inspectors, the MSHA federal mine inspectors. The MSHA inspectors will also perform an inspection compliant with the BATF protocol, as a courtesy to that sister federal agency. The Cal/OSHA will inspect the storage magazines at the beginning of the job and every two months thereafter. The MSHA will inspect the storage magazines at the beginning of the job and every three months thereafter. Storage of explosives is also regulated by the Nevada County Sheriff’s Department. On-site safety hazards will be mitigated by adherence to all applicable local, state, and federal safety regulations as administered for the site in an ERP/HSP (2005 Volume III, Appendix D).

Per the Phase I Environmental Assessments performed for the project (2005 Volume III, Appendix H), the Idaho-Maryland site is currently identified on the Cal EPA Office of Emergency Information Cortese List. The other sites are on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

- 8b. *Will the proposal result in possible interference with an emergency response plan or an emergency evacuation plan or will it result in improving such plans or capabilities?*
() Yes (x) No. *Explain.*

An ERP/HSP has been developed for the current activities of the IMMC (see 2005 Volume III, Appendix D), and may be modified as the project develops.

9. Population

- 9a. *Will the project have a growth – inducing effect on the community?*
() Yes (x) No. *If Yes, describe in detail.*

A socioeconomic analysis has been prepared for the project and is contained in 2005 Volume III, Appendix M. Population and housing demand estimates were updated by IMMC in 2011, based on the models summarized in that appendix.

Based on empirical data originated from the McLaughlin Mine Gold Mine Project provided to the City and ESA under separate cover, the total direct impact associated with the peak construction workforce of 291 employees is estimated to be 100 employees that would relocate to the City with 83 dependents, increasing the population by 184 persons. The total direct impact associated with the peak operation workforce of 500 employees is estimated to be 173 employees that would relocate to the City with 311 dependents, increasing the population by 483 persons.

The total direct impact associated with a worst case combined peak construction and operation workforces of 611 employees are estimated to be 211 employees relocating to the City with 339 dependents. This represents a population increase of 547 persons, or 3,4 percent over the City’s population recorded in 2000 (16,000 people). According to the City’s population projections contained in its General Plan Housing Element (2005 Volume III, Appendix M), between 2000 and 2020 the population in that jurisdiction is expected to increase approximately 45 percent, or 7,395 persons. The

direct population growth that may be associated with the project represents approximately 7.4 percent of the expected growth.

9b. *Could the project alter the location, distribution or displacement of the human population of the area?* () Yes (x) No. *Explain.*

Refer to Section 3.C.9.a.

9c. *How many new permanent residences will the project generate?*

Based on the population model contained in the Socioeconomic Analysis performed for the project (2005 Volume III, Appendix M) and further updated with revised workforce projections in 2011, the greatest need for residences occurs in Year 6 when the combined construction and operating workforce peaks at 611 people. Employees estimated to be relocating to the City are 211. Employees estimated to be relocating to the County and surrounding area are 106 (for a total of 317 employees). Based on adjustments for shared accommodation, it is estimated that 303 housing units will be required. It is estimated that 10 percent (30) would be purchased and 90 percent (273) would be rented. A total of 202 units would be located in the City and 102 units would be located in the County and surrounding area.

The project will not be expected to generate new permanent residences above or beyond what has already been projected for the region. See Section 3.C.10.a for further details regarding housing demand.

10. Housing

10a. *Will the proposal affect existing housing or create a demand for additional housing?*
() Yes (x) No. *Explain.*

Based on the housing demand model contained Socioeconomic Analysis performed for the project (Volume III, Appendix M),) and further updated with revised workforce projections in 2011, the greatest need for residences occurs in Year 6 when the combined construction and operating workforce peaks at 611 people. Employees estimated to be relocating to the City are 211. Employees estimated to be relocating to the County and surrounding area are 106 (for a total of 317 employees). Based on adjustments for shared accommodation, it is estimated that 303 housing units will be required. It is estimated that 10 percent (30) would be purchased and 90 percent (273) would be rented. A total of 202 units would be located in the City and 102 units would be located in the County and surrounding area. This would represent 4.0 percent of the City housing stock (U.S. Census 2000) and 0.3 percent of the County housing stock, respectively. The project would not be expected to create a demand for additional housing above or beyond what has already been projected for the region.

11. Traffic / Roads

11a. *Describe the proposed access to the project:*

The Idaho-Maryland Mining Corporation retained the Crane Transportation Group (CTG) to perform a traffic assessment for the Idaho-Maryland mine project. The original analysis is contained in 2005 Volume III, Appendix N and the updated analysis is contained in Appendix R-N to the 2011 Revised Mineral Project Application. This has been further updated by IMMC in 2011 based on more detailed analysis of employee shift changes, manpower, and expected traffic for the project. Use of a traffic management plan contained in Appendix S to the 2011 Revised Project Description to reduce daily employee trips to has been prepared by IMMC.

The primary employee and visitor access will be from Idaho-Maryland Road. For primary traffic flow patterns to and from this gate and the State Routes 20/49. All ceramics truck traffic and almost all

mining-related truck traffic will access the site through a gate at the Centennial Drive Extension south of the Whispering Pines Lane intersection. All project truck drivers will be instructed to use Idaho-Maryland Road to access the State Routes 20/49.

How many one-way trips (inbound and outbound) will the project generate during the typical weekdays:

Tables 1a and 1b summarize all weekday and weekend trips associated with the project (e.g., auto, light truck and heavy truck), and Table 2 summarizes peak hour trips due to automobiles. Based on the CTG report:

- per day: 816 (408 inbound + 408 outbound) “trip legs” (includes all trips - automobiles, light trucks and heavy trucks) as per Table 1a below.
- peak commute hours: maximum is the AM Peak Hours (7 a.m. to 9 a.m.): 105 (5 inbound + 87 outbound automobiles and 14 inbound trucks + 9 outbound trucks), as per Tables 2 and 3 below.
- per week: maximum estimate 4,080 (816 X 5 weekday days) as per Table 1a below.
- on weekend days: 1,320 (660 X 2 weekend days) as per Table 1b below.

The daily (weekday and weekend day) trip generation associated with the Idaho-Maryland Mine project for employees and work equipment is summarized in Tables 1a and 1b below.

TABLE 1a
Daily Trip Generation – Idaho-Maryland Mine Site
First Year of Steady-State Operation (Year 7)
Typical Weekday

TYPE OF VEHICLE TRIPS	INBOUND TRIPS	OUTBOUND TRIPS
Operational Employee Commute Trips	196	196
Construction Employee Commute Trips	35	35
Mining Education Center Visitor Commute Trips	50	50
Other Operational Visitor Trips (couriers, service calls, visitors, etc.)	20	20
Aggregate Sales Truck Trips	32	32
Recycled Stone and Ceramic Building Product Truck Trips	60	60
Other Supply Truck Trips	10	10
Construction Truck Trips	5	5
Subtotal	408	408

Source: Idaho-Maryland Mining Corp., 2011.

TABLE 1b
Daily Trip Generation – Idaho-Maryland Mine Site
First Year of Steady-State Operation (Year 7)
Typical Weekend Day

TYPE OF VEHICLE TRIPS	INBOUND TRIPS	OUTBOUND TRIPS
Operational Employee Commute	141	141
Construction Employee Commute	32	32
Mining Education Center Visitor Commute	50	50
Other Operational Visitor (couriers, service calls, visitors, etc.)	0	0
Aggregate Sales Truck	32	32
Recycled Stone and Ceramic Building Product Truck	60	60
Other Supply Truck	10	10
Construction Truck	5	5
SUBTOTAL	330	330

Source: Idaho-Maryland Mining Corp., 2011.

TABLE 2
Light Vehicle (Automobile) Trip Generation - Weekday Peak Traffic Periods
First Year of Steady-State Operation (Year 7)

PEAK PERIOD	TRIP TYPE	INBOUND	OUTBOUND
Morning Peak 7 a.m. to 9 a.m.	Operational Employee Commute Trips	0	64
	Construction Employee Commute Trips	0	15
	Mining Education Center Visitor Commute Trips	1	4
	Other Operational Visitor Trips (couriers, service calls, visitors, etc.)	4	4
School Peak 2 p.m. to 4 p.m.	Operational Employee Commute Trips	0	55
	Construction Employee Commute Trips	0	3
	Mining Education Center Visitor Commute Trips	13	13
	Other Operational Visitor Trips (couriers, service calls, visitors, etc.)	4	4

TABLE 2 (continued)

PEAK PERIOD	TRIP TYPE	INBOUND	OUTBOUND
Afternoon Peak 4 p.m. to 6 p.m.	Operational Employee Commute Trips	0	0
	Construction Employee Commute Trips	0	0
	Mining Education Center Visitor Commute Trips	13	13
	Other Operational Visitor Trips (couriers, service calls, visitors, etc.)	4	4

Source: Idaho-Maryland Mining Corp., 2011.

11b. Will the project involve offsite hauling? (x) Yes () No If Yes, specify:

There will be offsite hauling of refined gold, recycled stone and ceramic products, and aggregate from the Idaho-Maryland project site. Gold will be shipped once per week in an armored car. Recycled stone and ceramics transport trucks will be five axel, Class 8, 40-ton GVW tractor-trailer trucks with flatbed or enclosed trailers. Aggregate will be hauled in similarly rated dump trucks, suitable for 25-ton loads and typically used for such purposes (may include truck plus pup). The aggregate trucks may be open bed trucks with a retractable fabric cover. Recycled stone and ceramics trucks, aggregate truck, and construction and operation supply truck trips are the large truck trips summarized in Tables 1a and 1b above.

Inbound trucks will be empty, except supply trucks. All outbound recycled stone and ceramics trucks (which will be full) will be held at the project site between 7:00-9:00 AM and 4:00-6:00 PM. An average of three, and up to approximately six, recycled stone and ceramics trucks per hour are planned to depart the site in a typical operating day. It is possible that operational situations may arise, from time to time, that require slightly more frequent departure of vehicles. Such cases are expected to be few and the frequency of recycled stone and ceramics trucks is not expected to exceed eight trucks per hour. Subject to demand and sales for aggregate materials, approximately four aggregate trucks are planned to depart each hour during a "normal" business day.

Project truck traffic during the commute periods will not exceed six inbound trucks per hour. This information is summarized below in Table 3.

TABLE 3
Project Heavy Truck Trip Generation During Weekday Peak Traffic Periods
First Year of Steady-State Operation (Year 7) /1

PEAK PERIOD	TRIP TYPE	INBOUND	OUTBOUND
Morning Peak 7 a.m. to 9 a.m.	Aggregate Trucks	6	6
	Recycled Stone and Ceramics Trucks	5	0
	Supply Trucks (Operations)	2	2
	Supply Trucks (Construction)	1	1
School Peak 2 p.m. to 4 p.m.	Aggregate Trucks	6	6
	Recycled Stone and Ceramics Trucks	5	0
	Supply Trucks (Operations)	2	2
	Supply Trucks (Construction)	1	1
Afternoon Peak 4 p.m. to 6 p.m.	Aggregate Trucks	3	6
	Recycled Stone and Ceramics Trucks	5	0
	Supply Trucks (Operations)	2	2
	Supply Trucks (Construction)	1	1

Note: /1) Assumes recycled stone and ceramics trucks not released from site between 7:00-9:00 a.m. and 4:00-6:00 p.m.

Source: Idaho-Maryland Mining Corp., 2011.

1. Number of one-way (inbound and outbound) truck trips per day:

Peak NA Avg. 107 inbound and 107 outbound.

2. Number of one-way (inbound and outbound) truck trips per week:

Peak NA Avg. 535 inbound and 535 outbound.

3. Number of one-way truck trips on weekends:

Peak NA Avg. 107 inbound and 107 outbound.

4. Hours of hauling activities

a) Weekdays: 24 hour - with no outbound recycled stone and ceramic truck traffic allowed outbound between 7:00-9:00 a.m. and 4:00-6:00 p.m.

b) Weekends: 24 hour - with no recycled stone and ceramics truck traffic allowed outbound between 7:00-9:00 a.m. and 4:00-6:00 p.m.

- Volume of material and daily and total amounts:

See Tables above.

- *Size haul truck:* Ceramics transport trucks will be five axel, Class 8, 40 ton GVW tractor-trailer trucks with flatbed or enclosed trailers. Aggregate will be hauled in similarly rated "straight trucks," or equivalent, suitable for 25-ton loads and typically used for such purposes.

See Tables above.

11c. Will the project involve the transportation of offsite material to this site? (x) Yes () No.
If Yes, specify

1. Type of material and daily and total amounts

Off-site materials transported to the site will consist of items such as equipment, fuel, cement, explosives, grinding balls, replacement parts, reagents, lubricants and additives. Such deliveries could amount to as many as 15 inbound (and 15 outbound) trips at a maximum (for construction and operations) in any single day.

2. Number of one-way truck (inbound and outbound) trips per day:

Peak NA Avg. 30 (15 inbound and 15 outbound on a weekday)

3. Number of one-way (inbound and outbound) truck trips per week:

Peak 210 (105 inbound and 105 outbound on a weekday) Avg. NA

4. Number of one-way truck trips on weekends:

Peak 210 (105 inbound and 105 outbound on a weekend) Avg. NA

11d. Describe existing and proposed onsite and offsite road improvements:

Refer to 2011 Volume RIA, Section 2, Formal Development Revised Application Subsection 2.2,D.4. and illustrated on Plate R5-Rev2.

12. Public Services

12a. Will the proposal have an affect upon, or result in a need for new or altered governmental services in any of the following areas:

1. Fire Protection? (x) Yes () No. If Yes, explain.

In general, the Idaho-Maryland project sites will rely on the City Fire Department for fire protection services. The site fire protection systems that will be installed for the project will comply with the Grass Valley Municipal Code, Title 8 Health and Safety, Chapter 8.16 Fire Control Regulations, Section 8.16.010 Adoption of the Uniform Fire Code (UFC), 1991 edition, as published by the Western Fire Chiefs Association and the International Conference of Building Officials.

2. CHP and Sheriff Department Law enforcement protection? () Yes (x) No.
If Yes, explain.

Because ceramic processing is proprietary, in addition to the high security requirements for gold production, the IMMC will retain its own security staff to ensure that the sites are safe

and secure. The proposed project is not expected to result in new or altered law protection services.

3. *Schools? Which school districts?* () Yes (x) No. *If Yes, explain.*

4. *Federal, State, local or private parks, campgrounds or recreation facilities?*

() Yes (x) No. *If Yes, explain. Distance from and location of nearest such facility and name.*

Not applicable.

5. *Maintenance of public facilities including roads?* () Yes (x) No.

Refer to the Traffic Analysis in 2005 Volume III, Appendix N. The capacity of local roads to accommodate project requirements has been evaluated and additional maintenance of public facilities and roads may not be required as a result of project related traffic.

6. *Social Services?* () Yes (x) No. *If Yes, explain.*

7. *Solid waste facilities?* () Yes (x) No. *If Yes, explain.*

See Section 1.0, Revised Project Description.

8. *Medical facilities:* () Yes (x) No. *If Yes, explain.* 9. *Other Services Required:*

None.

13. Energy

13a. *Will the project result in a substantial increase in the demand upon existing sources of energy, or require the development of new sources of energy?* () Yes (x) No. *If Yes, explain.*

Electrical power requirement for the Idaho-Maryland site: up to 100 gigawatt hours per year (“GWhr/yr”) of electrical power. Service will be solicited from the local area provider, Pacific Gas and Electric Company (“PG&E”). Natural gas requirement for the Ceramic plant: up to 1,100 million cubic ft per year. Electrical power requirements for the New Brunswick site: up to 14 GWhr/yr of electrical power that will be solicited from PG&E. Electrical power requirements for the Round Hole site: up to 1 GWhr/yr of electrical power that will be solicited from PG&E.

Electrical power will be used at each site to operate electrical machinery, rotating equipment, lighting, process controls, HVAC systems and other facilities common to each of the unit operations. Natural gas will principally be used as a fuel for drying and firing of material associated with production of recycled stone and ceramic materials.

13b. *Source of power*

Power will be obtained from PG&E, as evidenced by the will serve letter that they have provided to IMMC who in turn provided a copy to the City.

14. Utilities

14a. *Will the proposal result in a need for new systems, or substantial alterations to the following utilities? Communication systems?* () Yes (x) No. *If Yes, explain.*

14b. *Source of domestic water:*

Private well: Water District (Specify): Nevada Irrigation District

14c. *Method of sewage disposal:*

Septic system: New Brunswick site. Other: City of Grass Valley Wastewater Treatment at Idaho-Maryland Site.

14d. *Describe storm water drainage system (use exhibit):*

At the Idaho-Maryland site, during construction and operation, surface water draining from the east adjacent property will be collected in a south to north running ditch (Plate R2B-Rev2). The east ditch will discharge through a steam apron into Wolf Creek. Drainage from the west adjacent property will be entirely collected on the adjacent property.

A site-specific erosion control plan will be developed for the project's construction SWPPPs for each property, in accordance with the federal and State CWAs. To prevent increased erosion during construction and operation, all roads, structures, and buildings will have drains or ditches to capture and redirect surface water to a storm water detention pond. Water from the storm water detention pond will be pumped into Wolf Creek via a pipeline and stream apron.

As the project operations will include mine dewatering and treatment of mine water to discharge into Wolf Creek, an NPDES permit will be obtained in accordance with state and federal regulations.

15. Human Health

15a. *Will the project result in the creation of any health hazard or potential health hazard (excluding mental health)?* (x) Yes () No. *If Yes, specify. Identify health hazards and define methods of control.*

As required by Cal/OSHA and MSHA laws and regulations, the Idaho-Maryland Mine will be required to have an Emergency Plan. The written Emergency Plan is a general plan of action for use in time of emergency. The plan will outline the duties and responsibilities of each mine official and key person so that each will know what is expected of him/her should a fire, serious injury or other emergency occur. This plan will be the subject of periodic safety training sessions so that key personnel and staff alike will know what to do during an emergency. Underground workers will be warned of an emergency by a stench gas system, power shut down and by telephone. An evacuation drill will be conducted every six months to assess the ability of all personnel to reach the surface in a timely manner and to critique the performance of key personnel and the plan.

Both state and federal law also require the Idaho-Maryland Mine to have or have access to two Mine Rescue Teams. These may be available from other county emergency teams or potentially from operating mines such as Sutter Mine, Briggs Mine, or Mesquite Mine. Other teams could be brought in from Nevada as may be warranted. In the event of a fire or explosion underground, which may cut off escape for some of the miners, the mine rescue plan and associated teams will be activated. These teams will have specialized equipment and training which will allow them into harmful environments to rescue trapped personnel.

Typically, city ambulance and fire fighting personnel will not need to go underground to provide first aid to injured miners. A portion of the mine personnel will be trained in first aid and will likely be the first responder to an injured miner. An injured miner would be transported to the surface by mine personnel

and will then be released to city fire and ambulance personnel for further first aid and transport to a medical facility to render assistance as required.

At the Idaho-Maryland mine site, ore processing will involve the use of a combination of flotation and cyanidation technologies. Less than 15 percent of the ore will be treated with small quantities of sodium cyanide (NaCN) solution. Cyanide is a reagent used to safely leach gold from the ore and gold concentrate. The receiving, handling and use of cyanide on the Idaho-Maryland site will be conducted under the International Cyanide Management Code For the Manufacture, Transport and Use of Cyanide in the Production of Gold. The code was developed as a voluntary industry safety code. The code was prepared under the direction of a multi-stakeholder Steering Committee, whose members were chosen by the United Nations Environment Program and the International Council on Metals and the Environment.

The required NaCN will either be transported to site in solid form or liquid form depending on availability and cost. In solid form, NaCN will be received as granules or as powder and would be transported in “super sacks” which are 1 or 2 ton, lined unbreakable nylon sacks to be handled by forklifts. In liquid form, the cyanide will be received as a 30-35 percent aqueous solution transported in double walled container trucks that will unload into onsite tanks. The containers are designed to withstand truck tip-overs without breakage. Acids will not be kept in the same storage area to prevent formation of lethal hydrogen cyanide gas (HCN). Personnel handling the material would be equipped with respirators, safety glasses and gloves to avoid dust inhalation and skin contact. The handling and reagent mixing/makeup area will be well ventilated as another precaution. The frequency of unloading operations would be minimized as much as possible with large, covered storage hoppers.

The sodium cyanide dissolves the gold into a chemical solution in a highly monitored and closed processing circuit, which allows for the economic recovery of the gold through the use of electrowinning (electroplating). Almost all unreacted cyanide solution will be recovered and recycled back into the process. There would be trace amounts of cyanide contained in the tailings, which would be reacted with either hydrogen peroxide or sulfur dioxide to destroy the cyanide prior to final dewatering and transfer to the ceramics plant or to underground backfill.

Other hazardous materials to be used on-site include: lime, Ca(OH₂), sodium hydroxide (NaOH), and dilute hydrochloric acid (HCl) for pH control; lead nitrate (PbNO₃) to enhance gold leaching kinetics; hydrogen peroxide (H₂O₂) or sulfur dioxide gas (SO₂) for cyanide destruction; sodium isobutyl xanthate as a collector; methyl isobutyl carbinol (MIBC) as a frother; and soluble starch to depress the talc and mica. All Material Safety Data Sheets (MSDS) will be kept on-site and all chemical handling will be performed in accordance with the site ERP/HSP that will be developed upon conclusion of the permit process.

Small amounts of explosives and detonators are anticipated to be required for infrequent use underground. It is proposed that these materials be stored underground in a secured area away from the shaft and main access routes. Based on the assumed implementation of the mitigation measures detailed in Section VII.a, there is a low potential for chemical release into the environment and, therefore, the project is not likely to pose a hazard to the public.

At the Round Hole and New Brunswick sites, hazardous materials will not be used.

Based on the implementation of the above stated hazardous materials handling control measures, it is not anticipated that the project would create a significant public hazard through the transport or use of hazardous materials.

As hazardous materials will be stored and used in accordance with applicable laws and regulations, hazardous and manufacturers recommendation, respectively, hazardous material releases are not expected

to occur on site. All MSDS will be kept on site and chemical handling will be performed in accordance with the ERP/HSP.

16. Aesthetics

16a. *How will the different project phases compare aesthetically with the surrounding area?*

At the Idaho-Maryland site, the factors that could be an impact to aesthetics include:

- The presence of earthworks, stockpiles, large buildings and structures, large outdoor equipment, overland piping, ponds, access roads and parking lots, and material storage areas.
- Mobile equipment traffic on site, and employee/applicant vehicle and freight truck movement into and out of site.

At the Round Hole site, the factors that could be an impact to aesthetics include:

- Presence of emergency hoist building and access road.

At the New Brunswick site, the factors that could be an impact to aesthetics include:

- Presence of emergency hoist head frame, hoist drum building, and compressor building, overland piping and access road.

The project design plans for building construction on the Idaho-Maryland site take into consideration the preservation and enhancement of existing site visual characteristics. The site is mostly surrounded by industrial uses such that the industrial character of the project will blend with those uses. In addition, the project has been designed such that the buildings and structures, which will be visible from key public observation points, will be visually appealing, in keeping with the historical mine use, and will comply with City design guidelines and standards. The proposed structures on each of the currently vacant properties will also be screened by existing trees.

The architectural renderings of the Idaho-Maryland site, including views of all sides of the building, roof plans, proposed exterior mechanical equipment, building lighting, and building materials and colors, are contained in Plates R9A, N9B, R10, N11A, and N11B. Architectural elevations of the Idaho-Maryland site are contained in Plate R12A, N12B, N12C, R12D through R12G, N12H, R12I, N12J through N12M. The architectural renderings of the Round Hole and New Brunswick sites are contained in Plates 13 and R14, respectively. Elevations for the Round Hole site are on Plate R3-Rev2 and elevations for the New Brunswick site are in Plates R15 and N15A.

16b. *Will the project cause a change in scenic views from existing residential areas or public lands or roads? (x) Yes () No. If Yes, describe in detail nature of change and duration.*

The Idaho-Maryland site located in valley area along Wolf Creek and is partially visible from East Bennett Road, and Idaho-Maryland Roads, and is visible from State Routes 20/49. None of these roads have been designated as state or county scenic routes. Efforts will be made to retain trees surrounding each property in a "buffer area". Trees that have occupied the site since the closure of the historical Idaho-Maryland Mine will be removed to allow for construction of project features. Rock outcroppings will remain in place.

17. Cultural Resources

17a. *Are there any sites of historical, archeological or paleontological interest on the subject property? (x) Yes () No () Don't know. If Yes, explain.*

According to a records search at the North Central Information Center, California State University ("NCIC"), two of the project sites may have cultural or historic resources of concern, as follows:

- "The Idaho-Maryland site is proximate to an historic-period archaeological resource in the Lower Banner Road adjacent to the project's northern boundary.
- The New Brunswick site contains four historic-period archaeological resources consisting of remnants of the historic New Brunswick Mine, Union Hill Mine, small tailings dumps and prospects."

17b. *Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure or object? () Yes (x) No. If Yes, explain.*

In 2004, MACTEC solicited and obtained information from the NCIC to determine whether archaeological and historical resources exist at the project sites. This data is contained in 2005 Volume III, Appendix O for the purpose of complying with National Historic Preservation Act Section 106 requirements. According to the NCIC, there are no historic buildings on the Idaho-Maryland and Round Hole sites. Within the New Brunswick site, the Union Hill Mine adits and prospect beds have been identified as resources that may be eligible for the National Register, and may need further evaluation if disturbed.

18. General

18a. *As a result of the project, how many local people will be employed?*

The temporary construction and permanent workforces associated with the project and are summarized below:

- Temporary construction jobs for the recycled stone and ceramics plant, aggregate plant, gold plant, and the mine are anticipated to peak at approximately 291 jobs in Year 1, assuming all permits are in place.
- Permanent operations long-term employment at the mine and ceramics plant would peak in Year at approximately 500 people (approximately 181 jobs for the recycled stone and ceramics operation and 319 jobs for the gold and aggregate mine operation.).
- Total combined employment would peak in Year 6 with 611 employees.

It is expected that once full production is reached, 50 percent of the employees would be hired locally and 50 percent would be hired from outside of the area.

18b. *What effect will the project have on the local tax base?*

During its growth period (Year 1 to 23), the Idaho-Maryland Mine could add 0.6 percent to the county's economic growth every year for the 10-year period. In addition, if the County's economy otherwise continues its 3.8 percent income growth rate since 1990, the Idaho-Maryland Mine could increase the County's growth rate to 4.4 percent, an increase of 16 percent over the County's previous growth rate according the Center for Economic Development at California State University at Chico.

18c. What is the relationship of this project to a larger or future project?

Not applicable.

18d. Identify State or Federal agencies that require permits, leases or licenses, and the type to be issued.

A list of state and federal agencies, contact numbers and applicable codes and regulations that may be applicable to the project is provided below:

List of State and Federal Agencies, Contacts, and Applicable Codes and Regulations

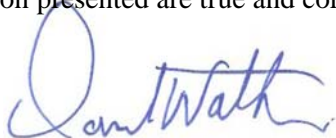
AGENCY	CONTACT	APPROVAL TYPE	CODES AND REGULATIONS
STATE GOVERNMENT			
California / Occupational Safety and Health Administration (Cal/OSHA)	916-574-2540	Notification of Commencement of Underground Operations	California Code of Regulations (CCR) Title 8
Northern Sierra Air Quality Management District	530-274-9360	Air Permit to Operate	CCR Title 17, Clean Air Act
California Regional Water Quality Control Board, Sacramento and Central Valley Region	916-464-4757	National Pollution Discharge Elimination System (NPDES), Section 401 Water Quality Certification	California Water Code, Clean Water Act, Section 401; Code of Federal Regulations (CFR) 40
California Department of Fish and Game	916-358-2842	Streambed Alteration Agreement	CCR Title 14, Fish and Game Code 1600-1616, State Endangered Species Act
California Department of Conservation, Mining and Geology Board	916-322-1082	Review and Approval of Mineral Management and Reclamation Plan	Public Resources Code, Division 2, Chapter 9, Section 2710 (Surface Mining and Reclamation Act); CCR Title 14 Section 3500,
FEDERAL GOVERNMENT			
Mine Safety and Health Administration (MSHA)	707-447-9842	Legal Identity Report	CFR 30
U.S. Army Corps of Engineers	916-557-5261	Nationwide Permit No. 7	Clean Water Act, Section 404; Rivers and Harbors Act
U.S. Bureau of Alcohol Tobacco and Firearms	404-417-2750	Permit to Receive and Store Explosives	U.S. Code, Title 18, Section 40; Safe Explosives Act
U.S. Fish and Wildlife Service Sacramento Valley Branch	916-414-6656	Consultation, as may be required	Federal Endangered Species Act

Based on the preliminary assessments of the three project sites, the following permits are expected to be needed for the proposed project:

- Mine Use Permit in accordance with the State Surface Mining and Reclamation Act (from City of Grass Valley),
- Use Permit – including the Formal Development Review Permit, General Plan Amendment Permit, Prezone Permit, and the Annexation Permit,
- Section 1601 Streambed Alteration Agreement - required by the California Department of Fish and Game,
- Section 401 of the federal Clean Water Act, Water Quality Certificate will be required by the SWRCB,
- Section 404 of the federal Clean Water Act, Nationwide Permit 7 from the U.S. Army Corps of Engineers for the diffuser;
- Air Quality Permit to Construct/Operate, from the Northern Sierra Air Quality Management District; and a
- Permit to Store and Use Explosives, from the U.S. Bureau of Alcohol, Tobacco, and Firearms.

CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements and information presented are true and correct to the best of my knowledge and belief.



Signature of Applicant
Authorized Representative

April 29, 2011
Date

3.0 RECLAMATION PLAN

1. Owner(s)/Operator/Agent:

Refer to Page No. 3-45, Section 3.0, Name and Address of Operator.

Address	Phone No.
---------	-----------

Address	Phone No.
---------	-----------

2. Name (if any) of Mineral property: Idaho-Maryland Mine

3. Property Owner(s), or owners of surface rights: (list all owners)

Refer to 2005 Volume III, P of the Application Documents that has an update for 2011.

Name	Address	Phone No.
------	---------	-----------

Name	Address	Phone No.
------	---------	-----------

Name	Address	Phone No.
------	---------	-----------

Name	Address	Phone No.
------	---------	-----------

4. Owners of Mineral Rights: (list all owners)
Refer to Page No. 3-45, Section 3.0 Name and Address of Operator.

Name	Address	Phone No.
------	---------	-----------

Name	Address	Phone No.
------	---------	-----------

5. Lessee:
 Not Applicable

Name	Address	Phone No.
------	---------	-----------

6. Operator:
 Refer to Page No. 3-45, Section 3.0 Name and Address of Operator.

Name	Address	Phone No.
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7. Agent or Process: (Person or company designated by operator as agent performing reclamation)

Refer to Page No. 3-45, Section 3.0 Name and Address of Operator.

Name	Address	Phone No.
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8. Give a brief description of the extent of the mined lands to be involved in this operation. Include legal description and total acreage.

Refer to 2011 Revised Project Application, Section 1.6, Page No. 1-8 and 2005 Volume III, F of the Application Documents Legal Description.

Section(s): _____ Township: _____ Range: _____

9. Describe the access route to the operation site:

The northern access routes to the site are the Idaho-Maryland Road via Whispering Pines and Centennial Drive. The southern access route to the site is via East Bennett Road, as illustrated in Plate R5-Rev2.

Attach Location and Vicinity Map. (use United States Geological Survey 7-1/2 or 15 minute topographic quadrangle sheet).

Refer to Plates R2A-Rev2, R3-Rev2, and R4-Rev2.

DESCRIPTION

10. Mineral commodity to be mined:

Refer to Page No. 3-5, Item B.1.

12. Geologic Description: Briefly describe general geologic setting, with more detailed description of mineral deposit to be mined, and principal minerals or rock types present.

Refer to Page No. 3-8, Item B.6.

13. Environmental Description: Briefly describe environment of site and surrounding area. Include existing area land use, soil, vegetation, ground water elevation, surface water characteristics, average annual rainfall, and other factors pertaining to environmental impacts and their mitigation and reclamation.

Refer to 2011 Revised Project Description Page Nos. 1-8 through 1-20, and Section 2.C. of the Mineral Project Application.

PROPOSED/EXISTING SURFACE(*) MINING OPERATION

14. **Proposed starting date of operation:** Refer to Page No. 3-47, Initiation and Termination Date.

Estimated life of operation: See above.

Duration of first phase: See above.

Was the mine in operation continuously since January 1, 1967? No.

If **Yes**, provide proper demonstration.

Is this a new mine? Yes No

Is this an expansion of an existing mine? Yes No

Is this continued mining of lands previously mined? Yes No

15. **Operation will be:** continuous seasonal intermittent

If seasonal or intermittent, explain in more detail:

16. **Operation will be:**

- under 5,000 tons (cubic yards) per year
 5,000 - 50,000 tons (cubic yards) per year
 50,000 - 250,000 tons (cubic yards) per year
 250,000 - 1,000,000 tons (cubic yards) per year
 Over 1,000,000 tons (cubic yards) per year

17. **Total anticipated production:**

Mineral commodities to be removed: 3,600 short tons per day (STPD) of gold and industrial mineral ores

Waste retained on-site *: Refer to 2011 Revised Project Description, Section 1.9, Subsection 1.9.1.2, Page 1-33.

Waste disposal of off-site: Refer to 2011 Revised Project Description, Section 1.9, Subsection 2.3, B.2, Page 1-38

Maximum anticipated depth: 8,000 ft

18. **Mining Method** (check all applicable): Refer to Page Nos. 3-5 and 3-6.

- Open Pit Gravel/Sand Pit Drill and Blast
 Quarry Single Bench
 Hill top Side hill Low level
 Underground* Borrow Pit Tailings Pond
 Rail Truck to Processing Plant
 Multiple Bench Conveyor to Processing Plant
 Shovel Dragline Clay Pit
 Waster Dump Gravel Bar Skimming Slurry Pump
 Other (specify) Stopping methods include room and pillar, shrinkage, cut and fill, long-hole, vertical crater retreat, and other methods, as appropriate. _____

(*) Includes surface activities associated with and underground mine.

- 19. If processing of mined ores or minerals is to be conducted at, or adjacent to the site, describe briefly the nature of the processing, and explain disposal method of tailings or waste from processing.**

Refer to Page No. 1-35, Revised Project Description Section 1.9, Subsection 1.9.2 Processing.

- 20. Estimate quantity (gallons per day) and quality of water required by the proposed operation, specifying proposed sources of this water; method of its conveyance to the site; quantity and quality of used and/or surplus water; and disposal of used and/or surplus water.**

Refer to Exhibit R4-Rev2, 2011 Revised Project Description Section 1.0.

- 21. If the nature of the deposit and the mining method used permit, describe and show the steps or phases of the mining operation that allow concurrent reclamation. Include a proposed time schedule for such concurrent activities.**

Refer to Section 3.1 Idaho-Maryland Mine Reclamation Plan, Page No. 3-48 Item Nos. SMARA 2772(c)(6) and SMARA 2772(c)(9).

- 22. Attach map of the mined lands, and/or suitable aerial photographs, and/or topographic maps showing: *Refer to Plate Nos. R1-Rev2 through 6.***

- a. () Boundaries and topographic details of the site.
- b. () Location of all streams, roads, railroads, water wells, and utility facilities within 500 ft of the site.
- c. () Location of all currently proposed access roads to be constructed in conducting the surface mining operation(s).
- d. () Location of areas to be mined, and of waste dump and tailings pond.
- e. () By use of color symbol or overlay, depiction of separate mining phases if applicable (see Item No.21).
- f. () The source of map base, orientation (north arrow), and scale (e.g., 1" = 500') of the map.

- 23. Indicate an overlay map of Item No.22, or by color symbol on map, those areas to be covered by the reclamation plan. *Refer to Plates R24 through 26.***

Size of area: < one acre, as openings to the underground mine will be secured in the current reclamation plan, described in Section 3.1, Idaho-Maryland Mine Reclamation Plan, beginning on Page No. 3-47.

- 24. Describe the ultimate condition of the site and specify proposed use(s) or potential use(s), of the mined lands, as reclaimed. If future mining is designated as the future use, explain essential reclamation features that will stabilize slopes, slope drainage ways, vegetation, and waterways.**

Refer to Section 3.1, Idaho-Maryland Mine Reclamation Plan, beginning on Page No. 3-47.

25. Describe the relationship of the interim uses, other than mining, and the ultimate physical condition to:

- a. Zoning regulations
- b. General Plan and Plan Elements

Refer to Section 3.1, Idaho-Maryland Mine Reclamation Plan, Page Nos. 3-47 through 3-60. Also refer to 2011 Revised Formal Development Review Permit Application, Section 2.

26. Provide evidence that all owners of a possessory interest in the land have been notified of the proposed use(s) or potential uses, identified in Item No. 24. Attach copy of notarized statement of acknowledgment, etc.

Refer to 2005 Volume III, Appendix P of the Application Documents which has an update for 2011.

27. Describe soil conditions and proposed soil salvage plan.

Refer to Section 3.1, Idaho-Maryland Mine Reclamation Plan, Subsection 3.5, Page Nos. 3-56 through 3-59.

28. Describe methods, sequence, and timing, for bringing reclamation of the land to its end state. Indicate on map (Items No.22 - No.23) or on diagrams as necessary. Include discussion of the following items:

- a. Backfilling and grading.
- b. Stabilization of slopes.
- c. Stabilization of permanent waste dumps, tailings, etc.
- d. Rehabilitation of pre-mining drainage.
- e. Removal, disposal or utilization of residual equipment, structures, refuse, etc.
- f. Control of contaminants, especially with regard to surface runoff and ground water.
- g. Treatment of streambeds and stream banks to control erosion and sedimentation.
- h. Removal or minimization of residual hazards.
- i. Resoiling and revegetation, with evidence that selected plants can survive the specific topography, soil, and climate of the site.

Refer to Section 3.1, Idaho-Maryland Mine Reclamation Plan, Page Nos. 3-47 through 3-60.

29. If applicant plans short-term phasing of reclamation, describe in detail specific reclamation to be accomplished during first phase.

Not applicable.

30. Describe how reclamation of site in this manner may affect future mining at the site and in the surrounding area.

Not applicable.

APPLICATION FOR EXPLORATION AND/OR MINING PERMIT

Applicants should check the appropriate application that is subject to the submittal:

ZONE CHANGE: (*) From: N/A To: Prezone of M-2/MR
USE PERMIT: Exploration and Mining Use

(*) When filed concurrently with a use permit application only.

PLEASE PRINT OR TYPE

1. **Name of proposed project:** Idaho-Maryland Mine

2. **Applicant (Operator):** Idaho-Maryland Mining Corporation
431 Crown Point Circle, P.O. Box 1836, Grass Valley, CA 95945 530-271-0679
 Address Telephone Number

3. **Agent or Contact Person:** David Watkinson, President and CEO
Same as above Same as above
 Address Telephone Number

4. **Owner of Surface Rights (covered by this application):**
Refer to 2005 Volume III, P of the Application Documents which has an update for 2007

Name	Address	Telephone Number

Name	Address	Telephone Number

5. **Owner(s) of Subsurface Mineral Rights (covered by this application):**
BET Trust, c/o Mr. Augustino Tassone, 110 Bank St., Grass Valley, CA 95945 530-273-4445
 Name Address Telephone Number

Name	Address	Telephone Number
<u>Idaho-Maryland Mining Corporation, address and telephone no. above in Item No. 2</u>		

6. **Briefly describe type of proposed exploratory or mining operation. Specify surface, underground, in-stream, etc.:**
Refer to Section 3.0, 2011 Mineral Exploration and/or Extraction Environmental Assessment, Section B.1. through B.4, Page Nos. 3-5 through 3-6.

7. **Type of Deposit:** Hard rock Placer In-stream
 Other(specify) _____

8. Assessor's Parcel Number(s): Refer to Table R3-Rev 2

Section 26 Township 16N Range 8E, M.D.M.

9. Nature of activity:

- Exploratory
- Expansion of existing mine
- Reopening historic mine
- Mining
- New Mine
- Not presently in operation

10. Total surface acreage of the property: 145
 Surface acreage included in this application: 145
 Subsurface acreage included in this application: 2,850

11. Signature of at least one of the mineral rights owners, or a copy of the appropriate agreements.

William Toms 5-16-07
 Signature Date
William Toms
 Printed name Date

Mary Bouma 05/22/07
 Signature Date
Mary Bouma
 Printed name Date

Erica Erickson 5-24-07
 Signature Date
Erica Erickson
 Printed name Date

12. Applicant's signature of Responsibility:

By submittal of this application, the applicant does hereby accept the responsibility to operate and reclaim the proposed project, consistent with the conditions of approval imposed by the City on the Reclamation Plan and Use Permit.

David Watkinson 5-23-07
 Signature Date
DAVID WATKINSON
 Printed Name

FOR OFFICE USE ONLY:

Application Number: _____
 Date Filed: _____ Receipt Number: _____
 Present Zoning: _____ G.P. Classification: _____
 Received By: _____

3.1 Idaho-Maryland Mine Reclamation Plan

This section is intended to summarize the key components of the Idaho-Maryland Mine Reclamation Plan in reference to the specific requirements of the Surface Mining and Reclamation Act (SMARA) enacted by the state legislature in 1975. In addition, requirements of the Title 14 of the California Code of Regulations (CCR) are addressed herein.

3.3.1 Mining Operation and Closure

- **SMARA 2770.5 100-Year Flood**
 - > Mine sites are underground and not in 100-year flood plains.
- **SMARA 2772(c)(1) Name and Address of Operator**
 - > Idaho-Maryland Mining Corporation (IMMC), 431 Crown Point Circle, P.O. Box 1836, Grass Valley CA, 95945.
- **SMARA 2772(c)(2) Quantity and type of minerals to be mined**
 - > Mined minerals will be for recycled stone and ceramics building products manufacture, aggregate production, and gold production. For recycled stone and ceramics feed, the minerals will be primarily quartz, metavolcanics, and diabase. Gold will be recovered primarily from quartz and diabase. Aggregate feed will primarily be metavolcanics and diabase.
 - > Minerals removal for recycled stone and ceramics production, aggregate production and gold production is currently estimated to be 23.9 million tons (600 tons per day for 3 years, 1,800 tons per day for 3 years, and 3,600 tons/day for 17 years, 350 days/year), assuming a 23 year mine life, excluding one additional year of reclamation activities).
- **SMARA 2772(c)(3) Initiation and Termination date**
 - > Production is planned to be staged in 4 phases (Phase I - 600 tons/day mine throughput for Years 1(e.g.,2013)-3, Phase II – 1,800 tons/day mine throughput for Year 4-6, Phase III – 3,600 tons/day mine throughput for Years 7-23, Phase IV – reclamation for Year 24 (e.g., 2037).
 - > The planned plant site closure date is Year 24, contingent on further underground exploration results for gold ore and the potential for the recycled stone and aggregate businesses to continue operation without the gold plant.
- **SMARA 2772(c)(4) Maximum anticipated depth of mining**
 - > Current planned maximum depth of mining is 8,000 ft below grade, based on use of current mining technology in North America..
- **SMARA 2772(c)(5) Size, legal description, etc.**
 - > Refer to 2005 Volume III, Appendix F, Preliminary Title Reports.

- **SMARA 2772(c)(6) Mining plan and time schedule that provides for completion of mining on each segment so that reclamation can be concurrent or phased ASAP**
 - > The mine is an *underground* operation where all surface facilities will be required until mine closure.
 - > The primary underground worker and material access will be through a single portal into a decline located on the Idaho-Maryland site and a production shaft on the Idaho-Maryland site. Ventilation will be provided through the Idaho-Maryland decline, Idaho-Maryland production shaft, as well as other shaft openings at the Round Hole and New Brunswick sites. An additional ventilation borehole or shaft may be excavated at the New Brunswick site. Mine dewatering will be ongoing and will be conducted through the shaft opening at the New Brunswick site. These openings must be maintained open until mine closure.

- **SMARA 2772(c)(9) Impact of reclamation on future mining**
 - > The site grading that will occur in the first 3 years of the project will constitute the reclamation of historical mining areas for which topsoil will be temporarily stored and then used as fill on-site on which the project facilities will be constructed. Please refer to Plate R2B-Rev2.
 - > Reclamation of surface facilities will essentially clear the site of all mining related items with the exception of items to be retained at the request of the future property purchaser. There will not likely be any physical impediments to the construction of future surface facilities on any of the sites.
 - > Reclamation of underground accesses will comprise concrete capping of the Idaho-Maryland site portal, Idaho-Maryland shaft, Round Hole shaft, and the New Brunswick site shaft. The concrete “plugs” will be engineered to manage water load using best engineering practices. These caps may be removed by blasting.
 - > Reclamation of underground workings will be comprised primarily of hydraulic backfill, paste backfill, rockfill, or cemented rockfill, depending on the suitability and availability of material. Mine workings would be backfilled during the operating life of the mine as part of the normal mining cycle. Tunnels and shafts would be left open for potential future access so as to not prevent future mining.
 - > Following completion of mining, the mine dewatering and water treatment system may continue to operate. In the event the treatment system is removed, the mine workings will be allowed to re-flood and surface waters will be allowed to equilibrate with their natural run-off patterns. Should the dewatering and water treatment system continue to be operated, the mine workings will be allowed to re-flood to a level to minimize dewatering pump power consumption, however, the water level will be kept sufficiently low to prevent overflow to surface. A smaller water treatment plant may be installed as the amount of discharge water would decrease as the mine flooded.

- **CCR 3502(b)(2) Public health and safety (exposure)**

- **CCR 3713(b) All portals, shafts, tunnels, or openings, gated or protected from public entry, but preserve access for wildlife**
 - > Reclamation of underground accesses will comprise concrete capping of the Idaho-Maryland site portal, Idaho-Maryland shaft, Round Hole shaft, and New Brunswick site shaft. The concrete “plugs” will be engineered to manage water load using best engineering practices. All ventilation shafts will be capped as well.
 - > If access ports to the underground workings for small wildlife are required, access will be provided. Access will comprise steel grates with suitably sized openings to allow wildlife entry and prevent human entry.
- **CCR 3502(b)(5) Deposition of old equipment**
- **CCR 3709(a) Equipment stored in designated areas and waste disposed of according to ordinance**
 - > Equipment, piping, and wiring will be sold, and then moved off site. Unsold items will be sold for scrap, recycled, or designated for disposal in an appropriate landfill, and moved off-site.
 - > Non-hazardous waste will be taken to suitable waste storage/transfer facilities, in accordance with local ordinances or requirements.
 - > Hazardous waste will be taken to suitable licensed hazardous waste facilities for storage or destruction. All applicable permits will be obtained prior to transport in accordance with regulatory requirements.
 - > Unused inventory of industrial materials, fuels and lubricants will be sold or returned to the vendors.
- **CCR 3709(b) Structures and equipment dismantled and removed**
 - > Equipment will be moved to other facilities operated by the applicant or sold, and then moved off-site. Unsold equipment will be sold for scrap and moved off-site.
 - > Some structures may be retained at the request of the future property purchaser, otherwise the structures will be sold and dismantled or sold as scrap and disposed off site in suitable facilities in accordance with regulatory requirements.
- **CCR 3713(a) Drill holes, water wells, monitoring wells completed or abandoned in accordance with laws**
 - > Drill holes, water wells, monitoring wells will be backfilled and capped in accordance with applicable laws.
- **SMARA 2772(c)(7) Description of proposed subsequent use or potential use**
 - > It is the intent of the property owner to sell the site properties following the mine closure and reclamation for continued urban uses in either industrial or business park enterprises. The IMMC and the City expect to enter into a Development Agreement or have the project use permit condition either which may require a marketing plan be developed

prior to project site reclamation. The purpose of such a document or permit condition will be to identify appropriate subsequent potential uses upon mine closure.

- > The City will be petitioned to rezone the facilities portion of the Idaho-Maryland site to M-2 General Industry prior to the commencement of mining. Hence, heavy industries that require significant land area could purchase the land and possibly the buildings to remain in industrial use. Alternatively, the area can be rezoned back to business park to develop an alternative use.
- > The Mining Education Center and Outdoor Historical Display Park would continue to be operated by IMMC or sold to an appropriate federal, state, or local agency. Alternatively, it could be sold to qualified special interest group or non-governmental organization. as a tourism business.
- > Nevada County zoning of the New Brunswick site is Industrial and, hence, heavy industry owners/operators that require significant land area could purchase the land.
- > The Round Hole site is zoned by the City for business park use and the land could be purchased by someone requiring this use.
- **SMARA 2772(c)(8) Description of reclamation measures adequate for proposed end use**
 - > For both the Idaho-Maryland and New Brunswick sites, previous descriptions concerning the ground openings, buildings, structures, equipment, piping, wiring, chemicals, fuels, lubricants and wastes apply.
 - > Refer to the reclamation maps of the Idaho-Maryland and New Brunswick sites for general plans of the reclamation.
 - > The following reclamation measures are planned for the Idaho-Maryland site:
 - The stockpiles will be drawn down and material processed into product. The stockpile pads will be ripped, re-graded and re-vegetated.
 - Paved areas and roads may be retained if requested for the future property owner.
 - Drains and ditches servicing the paved areas and roads will be retained if the paved areas and roads are retained. Alternatively, the paved areas and roads will be demolished by removal and disposal of roadbase materials in accordance with ordinance. The areas and roads will then be ripped, re-soiled, re-graded and re-vegetated.
 - The storm water detention pond will be retained if the paved areas and roads are retained or the pond is required for future use. Alternatively, the pond will be drained, backfilled, and re-vegetated. The storm water discharge stream apron located in Wolf Creek will be retained in operation if the storm water detention pond is retained. The pond and stream apron will be required to be operated in accordance with the SWPPP by the new property owners. Wolf Creek will be monitored downstream and upstream of the stream apron. Alternatively, the stream apron and associated piping will be dismantled and scrapped in accordance with local regulatory requirements if the storm water detention pond is backfilled.
 - Unpaved vehicle areas, roads, and the drains and ditches servicing these unpaved areas and roads, will be demolished by removal and disposal of roadbase materials in

accordance with ordinance. The areas and roads will then be ripped, re-soiled, re-graded and re-vegetated.

- Landscaped areas and unimproved areas will not be disturbed where possible.
- Areas void of vegetation will be re-vegetated.
- Buildings will be emptied of process and ancillary equipment and related structures. Building shells will be retained unless dictated otherwise by the future property owners. Should the buildings be demolished, building foundations and foundation base materials will be dug up, and disposed of in accordance with ordinance. Building footprint areas will be ripped, re-soiled, re-graded and re-vegetated.
- All buried pipe, conduit and other services structures not required by future owners will be dug up, demolished and scrapped in accordance with local regulatory requirements. Trenches and holes will be re-soiled, re-graded and re-vegetated.
- If desired by the future property owner, site lighting will be retained, dismantled, sold or scrapped in accordance with ordinance.
- Security fencing will be retained for the future property owner.

For the New Brunswick site, all reclamation activities will apply. As stated earlier, the dewatering, water treatment and stream apron system at the Idaho-Maryland site is planned to be retained in operation until the mine overflow water is determined to be sufficiently clean to discharge into Wolf Creek without treatment. Wolf Creek will be monitored downstream and upstream of the steam diffuse during the operation of the water treatment plant for conformance to water quality standards.

- **CCR 3707(a) Return prime ag. to prime ag.**
 - > Not applicable
- **CCR 3707(c) Productivity rates equal pre-project or similar site for two consecutive years. Rates set forth in plan**
 - > Not applicable
- **CCR 3708 Other ag capable of sustaining crops common to area**
 - > Not applicable

3.3.2 Geotechnical Requirements

- **CCR 3502(b)(3) Final slopes: consider physical properties and landscaping. Stability analysis for final slopes that approach critical gradient**

Refer to responses to CCR provisions below.

- **CCR 3704(f) Final cut slopes have minimum factor of safety for end use and conform with surrounding topography**
 - > Finished slopes are intended to have a maximum 2:1 slope for stability and re-vegetation.
 - > Sloped areas will be restored to conform to surrounding topography.

- **CCR 3502(b)(4) Disposition of fill materials considered. Foundation fills for end use in conformance with current engineering technology**
 - > Where geotechnically possible, fill materials will be drawn from other areas within the site and will be compacted for re-vegetation end use.
 - > No foundations are planned.
- **CCR 3704(a) For urban use, fill compacted in accordance with UBC, local grading ordinance, or other methods approved by the lead agency**
 - > All earthwork design will be performed in accordance with UBC, local grading ordinances with lead agency approval.
- **CCR 3704(b) For resource conservation, compact to standard for that end use**
 - > Compaction on slopes will be performed in accordance with UBC, local grading ordinances with lead agency approval. Re-vegetation will be carried out for end use.
- **CCR 3704(d) Final reclamation fill slopes not exceed 2:1, except when allowed by site-specific engineering analysis, and can be re-vegetated**
 - > Final reclamation fill slopes will not exceed 2:1 in any circumstance. Re-vegetation will be carried out for end use.
- **CCR 3704(e) At closure, final landforms of fills conform with surrounding topography or end use**
 - > Fill areas will be restored to conform to surrounding topography.

3.3.3 Hydrology and Water Quality

- **CCR 3710(a) Surface and ground water protected in accordance with Porter-Cologne and Clean Water Acts (RWQCB/SWRCB)**
 - > For all project sites, the IMMC will comply with the federal and State CWAs and apply for the necessary permits for construction and operation of the mine and its facilities. In addition to those provisions cited within the body of the 2011 Revised Mineral Project Application, the IMMC will work with the City, the CEQA lead agency, to comply with the requirements of the Project Mitigation Monitoring Plan that will be defined in the Final EIR (e.g., NPDES permit and Storm Water Pollution Prevention Plan, "SWPPP"). At the Idaho-Maryland site, during construction and operation, surface water draining from the east adjacent property will be collected in a south to north running ditch. The east ditch will discharge through a steam apron into Wolf Creek. Drainage from the west adjacent property is being collected on the adjacent property (owned by DeMartini). The east ditch will be retained and the new property owners will be required to maintain their operation in accordance with the SWPPP.
 - > At the New Brunswick site, County road ditches on the north and east sides prevent surface water from entering the site. The site drains to the south and the west. No additional measures are required to prevent off site surface water from entering the site.

- > Surface water within the Idaho-Maryland and New Brunswick sites will be dispersed by the use of contours, berms, swales, and ditches that will be constructed to conform to existing landforms. Existing vegetation and re-vegetation will also be used to absorb surface run off. Storm water reaching Wolf Creek will be monitored to ensure that the measures are sufficient to remove sediments and other debris to the level required in the Porter-Cologne and Clean Water Acts. These measures will be incorporated into the SWPPP.
- > On the Idaho-Maryland site, should the storm water detention pond and steam apron system be retained, water discharge into Wolf Creek will be monitored to ensure that sediments and other debris are removed to the level required in the Porter-Cologne and Clean Water Acts. The storm water detention pond will be designed for a 100 year storm event, in accordance with the City requirements.
- **CCR 3706(b) Water quality, recharge, and groundwater storage that is accessed by others shall not be diminished, except as allowed by plan**
 - > All existing wells within the mineral rights boundaries draw from an area of the water table that is being recharged from a fracture and fault system, typically within 200 feet of surface. Mine workings will be 500 feet below surface or greater, except for accesses to surface (shafts and portals) are required.
 - > The decline and Idaho-Maryland Shaft are sufficiently far from the nearest wells that impacts from these excavation directly on domestic wells are not expected. It is expected that the recharge of domestic wells in the vicinity of the mine will be sufficient that mine dewatering will not impact them. However, as an applicant proposed measure, IMMC will install a Nevada Irrigation System water supply system along East Bennett Road prior to mine dewatering to ensure that any impacts caused by mine dewatering, should they occur, can be mitigated.
- **CCR 3706(b) Substantially prevent siltation of groundwater recharge areas**
 - > Mine water will be drained down to sumps at various levels and pumped to the surface. It will be decanted in a mine water detention pond and then filtered through a water treatment system prior to discharge to Wolf Creek. There will not be groundwater recharge at the various mining levels.
- **SMARA 2773(a) Site-specific sediment and erosion control criteria for monitoring compliance with approved reclamation plan**

Refer to responses to CCR provisions below.

- **CCR 3503(a)(3) Erosion control facilities constructed and maintained where necessary**
 - > During mine operation, ditches will be used to capture and prevent surface water originating offsite from entering the site. All roads, structures and buildings will have drains or ditches to capture and redirect surface water to a storm water detention pond. Existing vegetation will be retained wherever possible. Construction disturbed areas not required by operations will be landscaped and re-vegetated.
 - > Following mine closure, surface water within the Idaho-Maryland and New Brunswick sites will be dispersed by the use of contours, berms, swales, and ditches, which will be

constructed to conform to existing landforms. Existing vegetation and re-vegetation will be used to absorb surface run off.

- **CCR 3503(b)(1) Settling ponds used where they will provide significant benefit to water quality**
 - > For the Idaho-Maryland site, a storm water detention pond will be constructed on the north side near Wolf Creek. The pond will be a handle surface run-off water generated by storm events. Surface water will be decanted to remove sediments and debris. Mine water will be collected in a mine water detention pond and cleansed through a water treatment system. Treated pond water will be discharged to Wolf Creek through a pipe and stream aprn. Wolf Creek will be monitored downstream and upstream of the site for water quality for the life of the project.
- **CCR 3503(e) Grading and re-vegetation to minimize erosion and convey surface runoff to natural drainage courses or interior basins. Spillway protection**
 - > All roads, structures and buildings will have drains or ditches to capture and redirect surface water to a storm water detention pond. Existing vegetation will be retained wherever possible. Construction disturbed areas not required by operations will be landscaped and re-vegetated. Interior basins and spillways will not be used.
- **CCR 3706(c) Erosion and sedimentation controlled during all phases of construction, operation, reclamation, and closure of surface mining operation to minimize siltation of lakes and water courses per RWQCB/SWRCB**
 - > Not Applicable
- **CCR 3706(d) Surface runoff and drainage controlled to protect surrounding land and water resources. Erosion control methods designed for not less than 20 year/1 hour intensity storm event**
 - > Surface runoff and drainage will be controlled as described previously. Erosion control methods will be designed for 100 year storm event and a 2 yr/ 1 hr event, as required by the City.
- **CCR 3706(e) Altered drainages shall not cause increased erosion or sedimentation**
 - > Where necessary, altered drainages will be constructed using natural material lined bed systems to prevent erosion and capture sediment.
- **CCR 3710(b) In-stream mining conducted in accordance with Fish and Game Code Section 1600 et seq, Section 404 of the Clean Water Act, and Section 10 of the Rivers and Harbors Act of 1899**
 - > Not Applicable

3.3.4 Environmental Setting and Protection of Fish and Wildlife Habitat

- **CCR 3502(b)(1) Environmental setting and impact of reclamation on surrounding land uses. (Identify sensitive species, wildlife habitat, sensitive natural communities [e.g., wetlands, riparian zones], etc.)**
 - > To allow for project development, the pre-project conditions (e.g., vacant, vegetated) each site would be zoned and developed for general industrial uses to support underground mining.
 - > The surface accesses to the underground portions at each site will be secured to allow for future general industrial or business park use of the land. Above-ground project facilities unique to mineral extraction and processing will be removed, leaving building structures available for occupancy.
 - > At the Idaho-Maryland site, conversion of the mine and storm water detention ponds to wildlife habitat will be evaluated as part of the site reclamation activities and undertaken if determined to be feasible.
 - > Discharges of treated mine water to Wolf Creek will cease, infrastructure will be removed, and the surface waters will be allowed to equilibrate with their natural run-off patterns.
- **CCR 3705(a) Vegetative Cover, suitable to end use, self-sustaining. Baseline studies documenting cover, density and species richness**
 - > Vegetative cover and terrestrial species were identified in the 2006 MEA and biological surveys were performed in 2007 and 2008 and summarized in the 2008 DEIR. The vegetative cover associated with the project development is expected to remain in place and maintained by the new owners or occupants and conform to the City's Development Code guidelines for urban uses.
- **CCR 3503(c) Protection of fish and wildlife habitat (all reasonable measures)**
 - > Permits will be obtained from appropriate regulatory agencies to protect fish and wildlife species that may be affected by the removal of stream aprons and sealing of underground portals to the mine.
- **CCR 3703(a) Sensitive species conserved or mitigated**
 - > Sensitive species were identified in the 2006 MEA and biological surveys were performed in 2007 and 2008 and summarized in the 2008 DEIR. These studies supersede those performed by MACTEC and summarized in the 2004 Biological Evaluation and Wetland Assessment (2005 Volume III, Appendices K and A, respectively). The IMMC will comply with the permits obtained for the development of the project and the CEQA Mitigation Monitoring Plan to ensure that sensitive species are conserved during site reclamation, as warranted.
- **CCR 3703(b) Wildlife habitat at least as good as pre-project, if approved end use is habitat**
 - > The approved end use is industrial or business park, not wildlife habitat. Therefore, the wildlife habitat at reclamation will be different than the pre-project condition.

- **CCR 3703(c) Wetlands avoided or mitigated at 1:1 minimum**
 - > There are no wetlands on any of the project sites.
- **CCR 3704(g) Piles or dumps not placed in wetlands without mitigation**
 - > Not applicable.
- **CCR 3710(d) In-stream mining not cause fish to be trapped in pools or off-channel pits, or restrict migratory or spawning activities**
 - > Not applicable.

3.3.5 Resoiling and Revegetation

- **CCR 3703(f) Resoiling (fine material on top plus mulches)**
 - > Soil suitable for re-vegetation will either be obtained from certified commercial sources off site will be used to resoil. Mulches will be used on top with fine soil.
- **CCR 3704(c) Mine waste stockpiled to facilitate phased reclamation and separate from growth media**
 - > There is no mine waste associated with the project. What would typically be mine waste for a gold mine will be used as feed material for aggregate plant the recycled stone and ceramics plant and will be completely consumed prior to mine closure.
- **CCR 3711(a) All salvageable topsoil removed. Topsoil and vegetation removal shall not precede surface mining by more than one year**
 - > Prior to construction, topsoil and vegetation will be removed from planned construction and mine stockpile areas. The soil will be stockpiled separately and used for re-vegetation of construction areas that will neither be used in operations nor reclamation. There will not be surface mining associated with the proposed project.
- **CCR 3711(b) Topsoil resources to be mapped prior to stripping, location of stockpiles on map. Topsoil and growth media in separate stockpiles**
 - > The site grading that will occur in the first 3 years of the project will constitute the reclamation of historical mining areas for which topsoil will be temporarily stored and then used as fill on-site on which the project facilities will be constructed. Please refer to Plate R2B-Rev2.
- **CCR 3711(c) Soil salvage and phases set forth in plan, minimize disturbance designed to achieve re-vegetation success**
 - > Soil salvage work will be carried out in accordance with the soil mapping prior to the start of heavy earthwork (Plate R2B-Rev2). The heavy earthwork on all sites will be completed in the first three years of the project. Topsoil placement for re-vegetation of construction areas not used in operations will take place immediately following completion of building construction.

- **CCR 3711(d) Top soiling phased ASAP. Topsoil stockpiles not to be disturbed until needed. Topsoil stockpiles clearly identified and planted with vegetation or otherwise protected.**
 - > Topsoil placement and re-vegetation of construction areas not used by operations will take place immediately following completion of building construction. Topsoil stockpiles, if any, will be made small, less than 25 ft tall, clearly identified and protected from further compaction to maintain porosity. Salvaged vegetation will be planted on topsoil stockpiles for additional protection, as may be warranted, in accordance with the Project Mitigation Monitoring Plan that will be developed with the Final EIR.
- **CCR 3711(e) Topsoil redistributed in stable site and consistent thickness**
 - > Topsoil will only be placed on areas prepared to UBC and local grading ordinances. Layering of topsoil will be uniform in thickness.
- **CCR 3707(b) Segregate and replace topsoil by horizon**
 - > A soil survey will be carried out prior to project start to determine soil horizons. National Resources Conservation Service (“NRCS”) will be contacted for information about soil types at the mine sites and for recommendations on how to handle them.
 - > Topsoil will be salvaged and stockpiled by recommended horizons.
- **CCR 3705(e) Soil altered or other than native topsoil, requires soil analysis. Amend if necessary**
 - > Altered soil, if found, will be sent to a soils lab for analysis. If soil is determined to be altered, it will be amended if possible or will be disposed of by ordinance.
- **CCR 3707(d) Fertilizers and amendments shall not contaminate water**
 - > Fertilizers and amendments will be used only if absolutely necessary. Quantity of use will be monitored to prevent overuse resulting in water contamination.
- **SMARA 2773(a) Re-vegetation plan specific to property. Monitoring plan**
- **CCR 3503(a)(1) Removal of vegetation and overburden preceding mining kept to a minimum**
 - > Vegetation will only be removed in areas of construction. Overburden will only be removed at the decline portal.
- **CCR 3503(g) Re-vegetation and plant survival (use available research)**
 - > The NRCS will be contacted for recommendations for re-vegetation and plant survival. Their recommendations will be implemented where feasible.

- **CCR 3705(a) Vegetative cover, suitable to end use, self-sustaining. Baseline studies documenting cover, density and species richness**
 - > A detailed study of the vegetation and a re-vegetation plan will be prepared during the course of finalizing the EIR for this project.
- **CCR 3705(b) Test plots if success has not been proven previously**
 - > The re-vegetation plan will use previous successful re-vegetation projects as its basis to mitigate chances of failure. Test plots will be used if prior successes do not exist for the project area.
- **CCR 3705(c) Decompaction of site**
 - > Areas of the site where there were stockpile pads, building foundations, roads, parking areas, staging and storage areas will all be ripped, re-graded prior to re-vegetation.
- **CCR 3705(d) Roads stripped of roadbase materials, re-soiled and re-vegetated, unless exempt**
 - > Paved and unpaved staging, parking or storage areas and roads will be demolished by removal and disposal of roadbase materials in accordance with ordinance. The areas and roads will then be ripped, re-soiled, re-graded and re-vegetated.
- **CCR 3705(f) Temporary access barriers installed**
 - > The Idaho-Maryland and New Brunswick sites will be entirely surrounded by permanent security chain link fencing with locking chain link gates at all entrances. Temporary fences will be erected on the Round Hole site during reclamation.
- **CCR 3705(g) Use native plant species, unless exotic species meet end use**
 - > Native species will be replanted unless the City or new property purchaser requires alternatives.
- **CCR 3705(h) Plant during correct season**
 - > The NRCS recommendations for re-vegetation will be followed where feasible and may address project features that have not been paved but instead compacted and graveled to support project development.
- **CCR 3705(i) Use soil stabilizing practices and irrigation, when necessary to establish vegetation**
 - > Soil materials will be moved under dry conditions as much as possible.
 - > Use sufficient volumes of soils necessary for re-vegetation.
 - > Construct stable slopes.
 - > Replace overburden (if any), subsoil, and topsoil in the correct sequence.
 - > Eliminate compacted soil.

- > Choose plants that increase soil fertility and improve soil structure.
- > Monitor progress and determine why plants did not thrive.
- > Ensure irrigation measures are sufficient and properly located.
- > Obtain recommendations from the experts.
- **CCR 3705(j) If irrigated, demonstrate self-sustaining without for two year minimum**
 - > Irrigation of re-vegetated areas will be turned off after the plants have stabilized and monitored for a minimum of two years after.
- **CCR 3705(k) Weeds managed**
 - > Weeds will be removed on a regular schedule during mine operations and after mine closure.
- **CCR 3705(l) Plant protection measures, fencing, caging**
 - > Young plants will be fenced or caged until maturity.
- **CCR 3705(m) Success quantified by cover, density and species-richness. Standards proposed in plan. Sample method set forth in plan and sample size provide 80 percent confidence level, as minimum**
 - > A focused vegetation management plan will be developed to so that areas that will be revegetated may be monitored to determine whether the site restoration has been successful (e.g., establishing transects and monitoring terrestrial species populations therein on a seasonal basis).

3.3.6 Administrative Requirements

These are typically a requirement from the lead agency (e.g., City or State of California)

- **SMARA 2772(c)(10) Required by the state of the lead agency and applicant: statements accepting responsibility for reclamation per the reclamation plan**
 - > Lead agency and applicant sign and certify that “this reclamation plan complies with the applicable requirements of Articles 1 and 9 (commencing with Sections 3500 et. seq., respectively) of Chapter 8 of Division 2 of Title 14 of the California Code of Regulations, and with the requirements of the Surface Mining and Reclamation Act, Sections 2710 et. seq.”
 - > Applicant agrees to same language but also “with any modifications requested by the administering agency as conditions of approval.”
- **SMARA 2773.1 Performance (financial) assurances**
 - > IMMC has estimated that the cost of implementing the components identified in this reclamation plan assuming the project is reclaimed at the end of the mine’s useful life as \$4 Million in (2011 dollars). However, since the project will proceed in a staged

approach, IMMC is planning on using a variety of financial assurances mechanisms including, but not limited to, cash, letters of credit and bonds, and combinations thereof. IMMC envisions the financial assurances to also be provided in a manner that is commensurate with the staged site development and ongoing reclamation activities. However, in no event will the financial assurances at any point in time be less than the amount necessary to complete reclamation if IMMC discontinues the operation.

- > Upon the City approving the proposed project, certifying the Final EIR and issuing the Conditional Use Permit, IMMC will post the required financial assurances in accordance with the City's Conditions of Project Approval.
- > A financial assurance mechanism that includes both the City and the Department of Conservation as obligees will be prepared separately between those parties and IMMC.
- **SMARA 2774(b) Annual inspection**
 - > IMMC will announce and conduct annual inspections with regulatory personnel as required.
- **SMARA 2776 All mining operations since 1/1/76 included in reclamation plan**
 - > Not applicable.
- **SMARA 2777 Amended reclamation plans required prior to substantial deviations to approved plans**
 - > IMMC will submit amendments to the reclamation plan for substantial deviations to approved plans prior for lead agency approval.

3.3.7 Public Resources Code

- **21151.7 EIR required for cyanide heap leaching**
 - > Not applicable.

Appendix N-R

City of Grass Valley Use Permit Application

CITY OF GRASS VALLEY USE PERMIT APPLICATION

Filing Fees

- Standard Use Permit\$ 2,219.00
- Environmental Review with Initial Study\$ 1,255.00
- City Preparation Fee of Notice of Exemption\$ 108.00*
- City Preparation Fee of Notice of Determination\$ 108.00*

*County filing fees for the posting of the notice and Fish and Game fees, if required, are not included and are to be paid to the County Recorder by the applicant. Fees increase January 1st of each year.

Use Permit Request: Mineral exploration and extraction for gold and industrial ores, as described in the Mineral Project Application.

Property Address or Location: 10344 Centennial Drive and 11352 East Bennett Road, Grass Valley, CA, properties comprising the Idaho-Maryland Site described in the Mineral Project Application. The properties are currently in Nevada County and are proposed to be annexed to the City as part of the proposed project.

Assessor's Parcel No(s): Refer to Attachment A.

General Plan Land Use: Vacant (County)

Proposed Zoning: M-2/MR (City)

Property Owner

NAME: BET Trust (Centennial)/ IMMC (East Bennett)
 ADDRESS: 110 Bank Street/ P.O. Box 1836
 CITY: Grass Valley, CA 95945 (Both)
 PHONE: 530-273-4445/ 530-271-0679
 EMAIL: Not applicable

Applicant/Representative

For BET Trust: IMMC
P.O. Box 1836, 431 Crown Point Circle, Ste. 150
Grass Valley, CA 95945
530-271-0679

SIGNATURE OF PROPERTY OWNER: _____
 (A property owner's representative can sign if the property owner provides a consent letter.)

SIGNATURE OF APPLICANT: _____

--OFFICE USE ONLY--	
Application No.:	Date Filed:
Fees Paid by:	Amount Paid:
Other Related Application(s):	

**SUPPLEMENTAL APPLICATION
INFORMATION FORM
USE PERMITS**

This document will provide necessary information about the proposed project. It will also be used to evaluate potential environmental impacts created by the project. Please be as accurate and complete as possible in answering the questions. Further environmental information could be required from the applicant to evaluate the project.

**PLEASE PRINT CLEARLY OR TYPE
USE A SEPARATE SHEET, IF NECESSARY, TO EXPLAIN THE FOLLOWING:**

I. Project Characteristics:

A. Describe all existing buildings and uses of the property: Refer to 2011 Revised Formal Development Review Application and Mineral Project Application.

B. Parcel size (square feet or acres): Refer to 2011 Revised Formal Development Review Application.

C. Describe surrounding land uses:

North Refer to 2011 Revised Formal Development Review Application.
 South Refer to 2011 Revised Formal Development Review Application.
 East Refer to 2011 Revised Formal Development Review Application.
 West Refer to 2011 Revised Formal Development Review Application.

D. Describe existing public or private utilities on the property: _____
Refer to 2011 Revised Formal Development Review Application.

E. Proposed building size (list by square feet, if multiple stories, list square feet for each floor): Refer to 2011 Revised Formal Development Review Application.

F. Proposed building height (measured from average finished grade to highest point): _____
Refer to 2011 Revised Formal Development Review Application.

G. Proposed building site plan: Refer to 2011 Revised Formal Development Review Application.

(1)	building coverage	_____ Sq. Ft.	_____ % of site
(2)	surfaced area	_____ Sq. Ft.	_____ % of site
(3)	landscaped area	_____ Sq. Ft.	_____ % of site
(4)	left in open space	_____ Sq. Ft.	_____ % of site
	Total	_____ Sq. Ft.	100 %

H. Construction phasing: If the project is a portion of an overall larger project, describe future phases or extension. Show all phases on site plan. _____
Refer to 2011 Revised Formal Development Review Application.

I. Exterior Lighting:

1. Identify the type and location of exterior lighting that is proposed for the project. _____
Refer to 2011 Revised Formal Development Review Application.

2. Describe how new light sources will be prevented from spilling on adjacent properties or roadways. Refer to 2011 Revised Formal Development Review Application.

J. Total number of parking spaces required (per Zoning Code): _____
Refer to 2011 Revised Formal Development Review Application.

K. Total number of parking spaces provided: Refer to 2011 Revised Formal Development Review Application

L. Traffic:

1. Average daily vehicle trips expected: Refer to 2011 Revised Mineral Project Application.

2. Number of P.M. Peak trips expected: Refer to 2011 Revised Mineral Project Application.

M. Will the project generate new sources of noise or expose the project to adjacent noise sources? Refer to 2011 Revised Mineral Project Application.

N. Will the project use or dispose of any potentially hazardous materials, such as toxic substances, flammables, or explosives? If yes, please explain. _____
Refer to 2011 Revised Mineral Project Application.

Will the project generate new sources of dust, smoke, odors, or fumes? If so, please explain.
Refer to 2011 Revised Mineral Project Application.

II. Project Characteristics:

A. Days of operation (e.g., Monday - Friday): Refer to 2011 Revised Mineral Project Application.

B. Total hours of operation per day: Refer to 2011 Revised Mineral Project Application.
Times of operation (e.g., 8 - 5, M - F): _____

C. If fixed seats involved, how many: Not applicable
If pews or benches, please describe how many and the total length: _____

D. Total number of employees: Refer to 2011 Revised Mineral Project Application.

E. Anticipated number of employees on largest shift: Refer to 2011 Revised Mineral Project Application.

III. If an **outdoor use** is proposed as part of this project, please complete this section.

A. Type of use: Refer to 2011 Revised Formal Development Review Application.

Sales _____ Processing _____ Storage _____
Manufacturing _____ Other _____

A. Area devoted to outdoor use (shown on site plan). Refer to 2011 Revised Formal Development Review Application.


Square feet/acres _____ Percentage of site _____

B. Describe the proposed outdoor use: Refer to 2011 Revised Formal Development Review Application.

IV. Is the proposed property located on a site which is included on the Hazardous Waste and Substances List (Cortese List)? Y N
10334 Centennial Drive Property.

The Cortese List is available for review at the Community Development Department counter. If the property is on the List, please contact the Planning Division to determine appropriate notification procedures prior to submitting your application for processing (Government Code Section 65962.5).

I hereby certify, to the best of my knowledge, that the above statements are correct.


Signature of Person Preparing Form

Apr 28, 2011
Date

530-271-0679
Telephone Number

**Attachment A
Use Permit Application - APNs, Land Use and Zoning Designations**

Project Properties	Assessor's Parcel Number	Acreage	Ownership Status	Municipal Jurisdiction		Existing County		City Land Use		State Zoning	City Zoning Existing	Proposed Project	
				County	City	Land Use	Zoning	Existing	2020			Land Use	Zoning
Idaho-Maryland Site													
<i>Northern I-M area (W-BET)</i>													
	09-550-32-000	0.48	Lease Option	x		vacant	BP	Industrial	BP	MRZ	NA	MI	M-2/MR
	09-550-37-000	4.47	Lease Option	x		vacant	BP	Industrial	BP	MRZ	NA	MI	M-2/MR
	09-550-38-000	40.10	Lease Option	x		vacant	BP	Industrial	BP	MRZ	NA	MI	M-2/MR
	09-550-40-000	0.13	Lease Option	x		vacant	BP	Industrial	BP	MRZ	NA	MI	M-2/MR
	09-550-39-000	0.98	Lease Option	x		vacant	BP	Industrial	BP	MRZ	NA	MI	M-2/MR
	09-560-36-000	10.25	Lease Option	x		vacant	BP	Industrial	BP	MRZ	NA	MI	M-2/MR
	Subtotal	56.41											
<i>Southern I-M Area</i>													
	09-560-14-000	6.01	Fee	x		vacant	BP	vacant	UMD	MRZ	NA	MI	M-2/MR
	09-560-16-000	1.20	Fee	x		vacant	BP	vacant	UMD	MRZ	NA	MI	M-2/MR
	09-560-18-000	1.83	Fee	x		vacant	BP	vacant	UMD	MRZ	NA	MI	M-2/MR
	09-560-19-000	3.02	Fee	x		vacant	BP	vacant	UMD	MRZ	NA	MI	M-2/MR
	09-560-25-000	8.67	Fee	x		vacant	BP	vacant	UMD	MRZ	NA	MI	M-2/MR
	09-560-29-000	1.65	Fee	x		vacant	BP	vacant	UMD	MRZ	NA	MI	M-2/MR
	09-560-30-000	3.93	Fee	x		vacant	BP	vacant	UMD	MRZ	NA	MI	M-2/MR
	09-560-45-000	9.64	Fee	x		vacant	BP	vacant	UMD	MRZ	NA	MI	M-2/MR
	09-560-46-000	9.36	Fee	x		vacant	BP	vacant	UMD	MRZ	NA	MI	M-2/MR
	Subtotal	45.31											
Total Idaho-Maryland Site		101.72											