# PLAN OF OPERATION for the Liberty Bell Mine, Quartzsite, AZ

Submitted to:

U.S. Department of Interior Bureau of Land Management Yuma Field Office 2555 East Gila Ridge Road Yuma, AZ 85365-2240

Prepared for:

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# Liberty Bell Project – Plan of Operation Liberty Bell Resources, LLC Quartzsite, AZ March, 2013

## **Purpose and Scope**

This Plan of Operations describes the Liberty Bell Project (Project) proposed by Liberty Bell Resources, LLC (Liberty Bell). This Plan of Operations is submitted to comply with 43 CFR 3809, Surface Management for Unpatented Mining Claims and Sites Situated on Land Administered by the Bureau of Land Management.

#### **Project Overview**

The mine is located on federal placer mining claims in southern La Paz County, about 8.8 miles east, southeast of Quartzsite, Arizona, as shown in Figure 1, Vicinity Map. The general area has been disturbed by past mining and exploration, beginning in the 1930s and continuing until the present. The Project also includes use of Gold Nugget Road to access the mine site.

The planned operation will result in the extraction of approximately 7,000,000 tons (4.89 million cubic yards) of placer materials from approximately 54 acres of land. Daily production will be approximately 1,000 tons. On site facilities, stockpile and screening equipment will occupy approximately 27.4 acres. The site is expected to operate over a period of twenty five years.

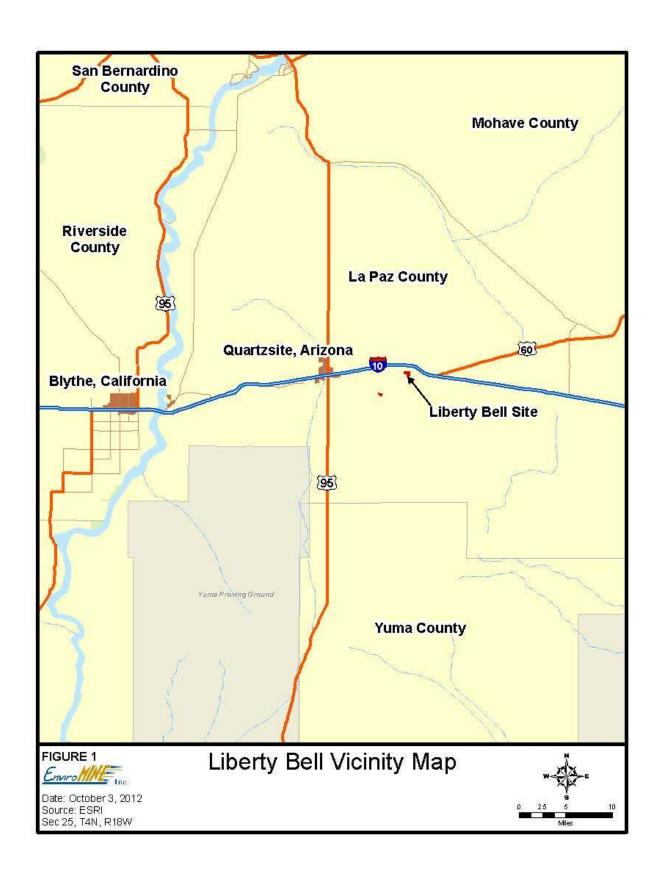
Materials excavated from the site less than ¾ inch in size will be treated with an acetic acid-water solution to dissolve carbonates and then be segregated into different particles sizes only. Finer materials segregated from larger, excess rock will transported to a gold recovery site located on private land north of Quartzsite, AZ for further processing. Material transported to gold recovery facility is expected to be between 100 and 250 tons per day or up to approximately 25% of the material mined. Based on the gold values of the ore, this may be increased or decreased. After the gold is extracted, the processed materials at the offsite extraction plant will be returned to the stockpile, tested for toxics and properly disposed.

Work will begin as soon as this Plan of Operations has been approved and equipment can be mobilized. The operation, including reclamation, should be complete approximately twenty five years from start-up. Occupancy, as defined in 43 CFR 3715, will be required for mine facilities including the office/change house unit, shop/storage units, water and fuel tanks, truck scale, mining equipment, signage, fence and gates.

The Project will be designed and operated to minimize potential direct, indirect, and cumulative impacts related to the resources discussed below. Table 1 shows resources with potential to be impacted by the Project, and the development and operating practices that will be used to minimize those impacts.

**TABLE 1. Environmental Protection Practices Review** 

Potentially Affected Resource	Practice		
Socio-economics	Hire from local area workforce where possible.		
Air	<ul> <li>Implement dust control measures such as road watering and treatment.</li> <li>Dust from screening at the plant site will be controlled by water sprays.</li> </ul>		
Water	<ul> <li>Install storm water diversions and controls to minimize erosion and sedimentation.</li> <li>Construct low-flow bypass channel to collect up to 5-year storm flow.</li> <li>Construct channel erosion barrier at upstream end of Italian Wash. Test ore, excess rock and tailings for acid rock drainage, leaching of metals</li> <li>Store fuel, lubricants and solvents with secondary containment.</li> </ul>		
	<ul> <li>Clean up spills immediately. Recycle ~95% of the water at the plant site.</li> </ul>		
Land/Soils	<ul><li>Use existing roads for access to site.</li><li>Stockpile topsoil for revegetation.</li></ul>		
Vegetation	<ul> <li>Minimize new disturbance to limit vegetation damage.</li> <li>Relocate saguaro cactus for use prior to mining.</li> </ul>		
Wildlife	Minimize new disturbance to limit habitat degradation.		
Special Species Status	Train workers to recognize and protect special status species.		
Visual Resources	<ul> <li>Remove temporary structures;</li> <li>Excess rock to be returned to mine area.</li> <li>Re-grade disturbed areas to blend with topography during reclamation.</li> <li>Remove processing equipment</li> <li>Cover tailings with suitable materials.</li> </ul>		
Livestock	<ul><li>Minimize new disturbance.</li><li>Cattle, if present, will not be excluded</li></ul>		
Cultural Resources	<ul> <li>Avoid known cultural resources. Train workers to recognize and avoid cultural resources.</li> <li>If previously unknown cultural resources are found, isolate the area and obtain clearance before proceeding.</li> </ul>		
Recreation/Public Safety	<ul> <li>Minimize new disturbance. Exclude public only from operations area.</li> <li>Relocate access road to enable through passage.</li> </ul>		



# 1.0 Claimant and Operator Information

The claimants are: Liberty Bell Resources 1, LLC

41865 Boardwalk Avenue, Suite 204

Palm Desert, CA 92211

760-565-1757

The operator is: Liberty Bell Resources 1, LLC

41865 Boardwalk Avenue, Suite 204

Palm Desert, CA 92211

760-565-1757

Contact: Peter Pocklington, President

Liberty Bell Resources 1, LLC

41865 Boardwalk Avenue, Suite 204

Palm Desert, CA 92211

760-565-1757

Federal Tax Identification Number is: 90-0706986

Crystal Pistol Resources, LLC holds the claims through a Purchase Agreement of mining claims with:

Kenneth R. Shepherd who is the recorded owner of the unpatented "P" mining claims located on the property identified as P11, P12, P13, P14, P21, P22 and P23.

Douglas Andrea, et. al., is the recorded owner of one associated claim adjacent to the P Claims identified as Gold Nugget Extension #1

These claims have since been transferred by Crystal Pistol Resources, LLC to Liberty Bell Resources I, LLC.

See Table 2 for a list of claims for the area to be disturbed under this Plan of Operation.

Table 2. Liberty Bell Claim Information

Claim Name	AMC Number	Location within T4N, R18W
P11	302434	Section 25, NE 1/4
P12	302435	Section 25, NE 1/4
P13	302436	Section 25, NE 1/4
P21	302444	Section 25, NE 1/4
P22	302445	Section 25, NE 1/4
P23	302446	Section 25, NE 1/4
Gold Nugget Ext. #1	411276	Section 25, NW 1/4

# 2.0 Claims, Location, Access, Area Description

The mining claims are located approximately one mile south of the I-10 freeway interchange on Gold Nugget Road. Gold Nugget Road is located approximately 8.8 miles east of Quartzsite, Arizona (Figure 2). Access to the mining claims is provided by Gold Nugget Road (BLM road LP1017) which currently extends from I-10 through the mining claims. The project will relocate the alignment of Gold Nugget Road in the area of the plant before reconnecting with the original alignment south of the project area. Existing road widths are provided in Appendix A.

The proposed mine area is located within the Italian Wash, which drains an area of approximately 8,000 acres to the south of the site. Current conditions find a braided, dry wash with sparse desert scrub vegetation. Vegetation communities and wildlife observed within the project vicinity are described as typical of the Lower Colorado River subdivision of the Sonoran Desert 2.1 Claims

The proposed mine is located within a group of seven contiguous, unpatented, placer mining claims (Figure 3). A map and claim information is included in Appendix B. Operations will be located on Liberty Bell Claims P11, P12, P13, P21, P22, P23 and Gold Nugget Ext. #1. Mineral exploration work has been conducted on the following claims: P11, P12, P13, P21, P22 and P23. The plant, office, overburden storage area and shop area will be located on the Gold Nugget Ext. #1 claim located west, and adjacent to, Italian Wash. The claims subject to this Plan of Operations cover an area of approximately 160-acres within Section 25 of Township 4 North, Range 18 West, Gila and Salt River Baseline and Meridian.

#### 2.2 Location

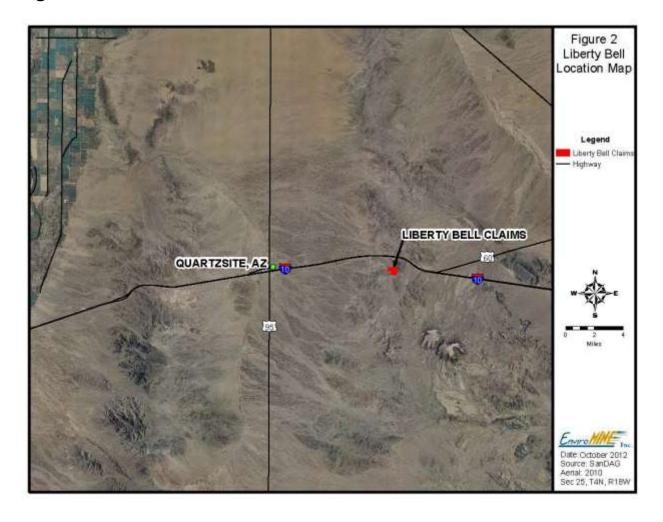
The project site is located in the unincorporated area of southern La Paz County, 8.8 miles east of Quartzsite, AZ. The project is located at the southwest corner of Guadalupe Mountain and covers portions of Italian Wash. The 160-acre BLM parcel covered by the claims is immediately south of the Interstate 10 on Gold Nugget Road. Additional claims are controlled by Liberty Bell Resources, LLC to the south and east of the project site (Figure 2).

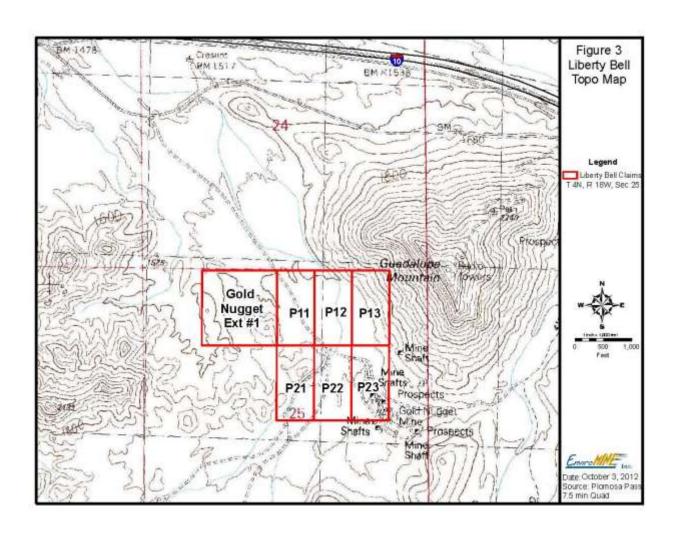
The project site is located on the southwestern edge of Guadalupe Mountain in the Plomosa Mountain Range at about 1,600 feet (amsl) elevation as presented on the topographic map (Figure 3). The cadastral description is the northeast ¼ of Section 25, Township 4 North, Range 18 West, Gila and Salt River Baseline and Meridian as shown on Figure 4.

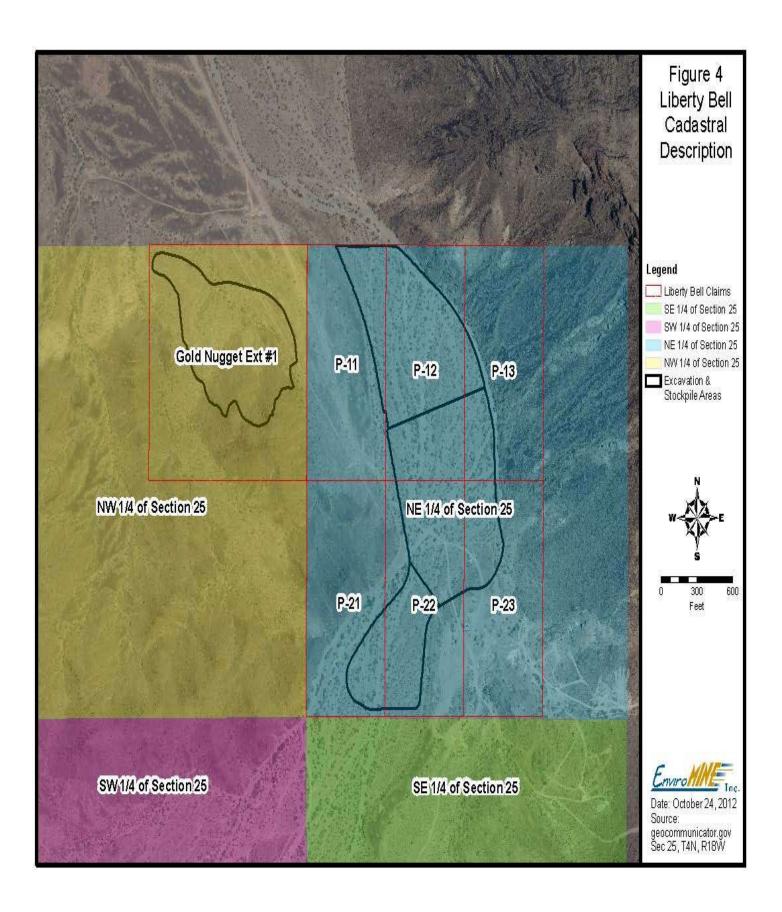
#### 2.3 Access

Primary access to the Liberty Bell Mine is from Interstate 10, Gold Nugget Road exit, Exit 26. Follow Gold Nugget Road (on the south side of I-10) east for approximately 0.4. Turn right on a dirt road referred to in the BLM's Yuma Field Office Resource Management Plan (RMP) as LP1017. Proceed southeast on this road for approximately 0.8 miles to the project boundary.

Figure 2. Location







#### 2.3.1 Roads

Gold Nugget Road has been in use for many years to support mining, ranching, recreational and other uses. The existing dirt road averages 15.3 feet in width and is graded. This dirt road will be paved as part of the mine operations from the existing pavement to the entrances of the Liberty Bell Mine plant area.

In the general vicinity of the Liberty Bell plant and loading area, BLM Road LP 1017 will be relocated west of its current location. This is being done to avoid conflict between public traffic and the haul trucks moving mined materials to the process plant area. After relocation, the process plant will be on the east side of the road. An excess rock stockpile will be located west of the road.

Several two track roads also exist in the general area and the mine site. It is assumed these roads were developed during prospecting exploration and mining of the area over the decades.

#### 2.4 Utilities

One groundwater well, owned by the claim owner, is located in the southeast portion of the plan area. Two other wells registered with the State of Arizona are located in the permit area but neither well is operable. One of the registered wells is actually casing placed in a mine shaft presumably for dewatering purposes. No other utilities are located on the mining claims.

Aggregate washing and screening will be done on the Liberty Bell Mine site. Water will be piped from the well to the plant area. Additional processing for separation of gold will be done at a mill located on private land north of Quartzsite, AZ. No extensions of utilities will be necessary to carry out mining and reclamation activities identified in this plan. Electrical power will be provided by two on site, diesel powered generators of 2,000 kW/hr and 350 kW/hr.

#### 2.5 Land Use

The area is remote and is not zoned by La Paz County. The nearest residences are located approximately 6.25 miles to the east in the small community of Brenda, AZ. The predominate landowner in the area is the United States Government with the land administered by the Department of Interior, Bureau of Land Management (BLM). The lead agency for this project is the BLM, Yuma Field Office located in Yuma, AZ.

#### 2.6 Area Biology

Vegetation communities within the project vicinity are described as Lower Colorado River subdivision of the Sonoran Desert by Brown (1994). Vegetation within the vicinity of the project site is characterized by creosote bush (*Larrea* (ridelllata), paloverde (*Cercidium* floridum), brittlebush (*Encelia* farinosa), ironwood (*Olneya* tesota), white bursage (*Ambrosia* dumosa), white thorn acacia (*Acacia* greggii), and an occasional saguaro (*Carnegiea* gigantea) and ocotillo (*Fourquiera*). Cacti in the area include jumping cholla (*Opuntia* fulgeta), cane cholla (*Opuntia* acanthocarpa), and barrel cactus (*Ferocactus* wislizenii),

Wildlife observed in the area include mourning doves (*Zenaida macrocoura*), nighthawks (*Chordelia sp.*), and desert cottontail (*Sylvilagus audoboni*). Wildlife typical of Lower Colorado River subdivision anticipated to occur in the area includes coyote (*Canus latrans*), round-tailed ground squirrel, (*Spermophilus tereticautus*), desert pocket mouse, (*Perognatus penicillatus*), LeConte's thrasher (*Toxostoma lecontei*) and a variety of snakes and lizards.

# 3.0 Geology

# 3.1 Regional Geology

The Liberty Bell Project claims are located within the Basin and Range Geomorphologic Province, which comprises the southwestern third of the State of Arizona. The region is characterized by linear mountain ranges separated by downthrown, alluvium-filled basins. In southern Arizona, a "belt" of Precambrian metamorphic rocks ("core complex") form a transition zone between the younger, predominantly volcanic desert mountains of the south and the folded and faulted highlands of central Arizona. A more complete discussion of the geology in the Liberty Bell area, and geologic map, is provided in Appendix C.

#### 3.2 Local Geology

The alluvial placer gravel materials located in the Italian Wash consist of schist, granite, and volcanic rocks derived from the Plomosa Mountains. The schist exposures in the Plomosa Mountains contain gold-bearing quartz veins and stringers, and probably were a significant source of the placer gold deposits. These schists are geologically important because they are the host rocks of numerous prolific veincontrolled gold mines in Arizona. The Liberty Bell Property contains gold placer gravels located within washes that drain the Plomosa Mountains, and these drainages obtain alluvial material from the Plomosa Mining District.

#### 3.3 Groundwater

On January 26th, 2012, In2Wells, LLC in association with AZCA Drilling & Pump completed an aquifer pump test of the water well located on Claim # P-23. AZCA Drilling and Pump installed a 20 Hp. 480 Volt, 3 Phase submersible motor with a Goulds pump (model 95L20) set at approximately 420 feet. The measured non-pumping static water level before the test was at 194.6 feet. Initially, the well was pumped at 100 gallons per minute (gpm). After a short time, water level dropped to the pump inlet at which time the flow was reduced to a rate of 75 gpm. This rate was sustained for a period of six hours and showed a slow but steady decline in the water level surface. Pumping was stopped at the end of six hours and recovery of the water surface was monitored. Monitoring indicated the well fully recovered within three hours to the initial measured depth below ground surface of 194.6 feet. Figure 5 illustrates the results of that testing.

The geo-hydrologist concluded that the well could be pumped for six hours and should fully recover within six hours. At a pump rate of 75 GPM for 360 minutes the well would yield 27,000 gallons or 54,000 gallons in two cycles per day. Conservatively, the well could be expected to produce 50,000 gallons per day when needed.

Water quality was not evaluated as part of this test.

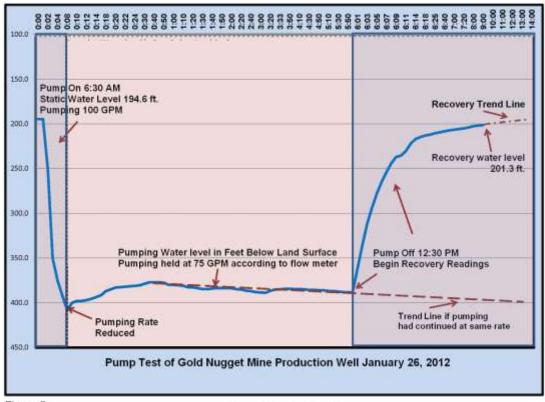


Figure 5 Source: In2Wells, LLC: Jan. 31, 2012

Pump Test Graph

# 4.0 Description of Operations

Gold placer mining consists of three major operational steps: excavation, beneficiation and processing. Excavation is defined as removing ore material from a deposit and encompasses all activities prior to beneficiation. Beneficiation is the operation in which raw material is made suitable for processing. This process may include crushing and milling, or in the placer process, screening to remove boulders and gravels from the finer fraction containing gold. Processing in placer mining usually involves gravity separation techniques to separate the gold from the gravels. In many cases, the process removes other heavy minerals with the gold to form a concentrate.

Processing may also include recovery of gold by physical or chemical means, and refining to produce a final, marketable product. Additional processing of fine materials from the Liberty Bell Mine will be completed at a private, gold recovery facility located north of Quartzsite, AZ.

### Gold Extraction Process Facility (private)

The Liberty Bell Gold Extraction Facility is located on 13.3 acres of a 40 acre private parcel approximately 9 miles north of Quartzsite, AZ and one mile east of Highway 95. Approximately, 250 tons of head ore will be transported from the Liberty Bell mine to the processing plant per day at full production but may increase to 500 tons per day based on the gold values of the coarse fraction materials. At a rate of 250 tons per day, 15 haul truck trips a day will travel from the Liberty Bell mine site to the Processing Plant during operational hours. Trucks will travel the 19 mile distance via Gold Nugget Road to Interstate 10 and State Highway 95 to the extraction plant. They will be routed around Quartzsite, Arizona using Riggles Avenue to Tyson Street, where the trucks will merge onto Highway 95.

Currently the gold extraction facility is being set up to process small volumes of ore and will be expanded as the mine is developed. The facility will be operated under a Conditional Use Permit issued by La Paz County.

The Liberty Bell process will utilize a saturated saline and nitric acid solution to leach the ore and solubilize metals contained within the material. All processing will be completed within a contained tank and piping system. Through a series of individual chemical processes, gold and silver will be recovered from solution and any waste material neutralized. There will be two separate processing areas/lines to extract the precious metals. The purpose of the first process field will be to extract silver from the ore and then transfer the materials to a gold processing area for extraction of gold.

Each process area will consist of a large tank field where digestion, storage and metal recovery will occur. The majority of these tanks will be made of polypropylene which are resistant to the chemicals be utilized in the process. Due to the type of tank materials and that parts of the processes are temperature sensitive; these process tanks will be placed within a temperature controlled structure. Support tanks for fuel, water and large volume, solution storage will be placed outdoors. Outdoor tanks will be shaded or made of materials resistant to sunlight degradation.

After precious metals are extracted, the spent ore is rinsed with fresh water to remove any residual acid or soluble salts. Rinse water will be recycled into the saline leaching solution for re-use in the process lines or treated and sent to onsite evaporation ponds. All processed material will be transferred to a stockpile and properly disposed. A complete description of the gold recovery site and process is provided as Appendix J.

#### 4.1 Placer Development Liberty Bell Mine

Mining at the Liberty Bell Mine will occur on BLM land located in Italian Wash located east of Quartzsite and west of Guadalupe Mountain. In general, the open cut mining will involve stripping away vegetation, overburden, and excess rock to reach the ore buried below. In the placer industry, the pay zone or pay streak is the equivalent of ore and may be referred to as either pay dirt or pay gravel, depending on the nature of the deposit. The pay streak can be excavated by bulldozers and loaders or excavators. Loaders and excavators load haul trucks that transport the pay dirt to a wash plant for material segregation and recovery of gold bearing material. Once a cut has been mined, it is generally backfilled with excavated overburden and excess rock or converted to a water recycle or sediment trap.

Excess rock material consists of large rock or material that contains very little, or no, gold. All material excavated from the pit, other than very large rock, will be hauled to the plant for additional segregation. After segregation of the different particle sizes, materials not selected for further onsite separation will be stored in the onsite stockpile. Once room is available in the pit for backfilling operations to begin, stockpiled materials will be returned to the pit.

Caliché present on the site and occurs at various depths, thickness and lateral extent. The thickness appears to vary from a few inches to a few feet. Caliché zones often carry high gold grades, acting as false bedrock. If the caliché zones are extensive and thick; the caliché material will be ripped, crushed and screened as appropriate. It is extremely doubtful the breaking up caliché layers will require blasting. Extensive caliché was not observed in drill auger holes, trenches, or steep walls of the dominant drainages during the geologic investigations (personal communication, Craig Parkinson, PG).

The Liberty Bell Mine is expected to employ approximately 20 people during operation. This includes approximately 12 individuals associated with the development of the resource and operation of the beneficiation plant. It also includes the employment of 8 truck drivers for exporting materials to an offsite processing plant for gold extraction.

#### 4.1.1 Operations

The placer extraction project will be completed in six phases and consist of:

- Phase 1 Site Preparation, Plant Setup and Road Development
- Phase 2 Pit 1 Extraction
- Phase 3 Pit 2 Extraction
- Phase 4 Pit 3 Extraction

• Phase 5 - Equipment Removal, Final Grading and Reclamation

Components of the project will include:

- Resource extraction using heavy equipment
- Material sorting and washing with associated settling ponds
- Stockpiling of materials
- Loading of on highway trucks for transportation offsite
- Reclaiming disturbed lands

Excavation of the placer materials will proceed 10 hours per day, 5 days per week. Typical equipment to be used is listed in Table 3, below. Equipment could vary slightly. Mine equipment will be diesel-fueled and filled from an on-site tank. Pick-ups and on road haul trucks will be fueled at off-site commercial stations.

Quantity Description Excavator - Cat 385C FS or equivalent 1 1 Excavator - Cat 324D or equivalent 1 Dozer, Cat D9 w rippers Loader 6 yard, Cat 972H or equivalent 1 Loader 4 yard, Cat 950H or equivalent 1 Trucks articulated off road 40 ton, Cat 740 or equivalent 3 Tractors and Dump trailers on road 8 1 Water Truck AWD 4,000 gallon off road 1 Grader, Cat 14M or equivalent 1 Fuel truck 2,500 gallon with "fast-Fill" capability 1 Service truck mechanic body with welder and air compressor 1 Lube truck Grease, oils and oil change waste tanks

TABLE 3. Mobile Equipment

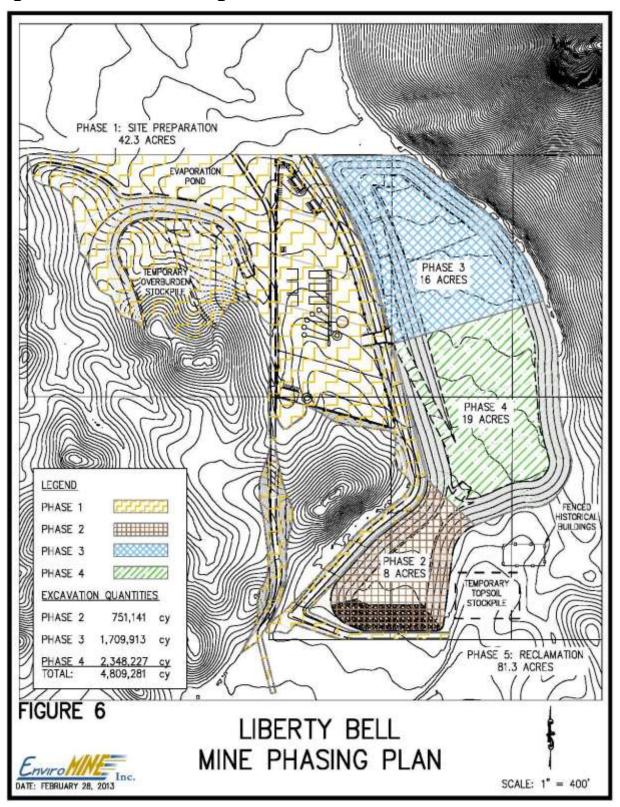
#### 4.1.2 Excavation Phasing

The proposed mineral resource recovery project would be developed in four phases. The timing for these phases may change in the future and more than one phase may be in operation at any one time (Figure 6). The phases would include:

#### Phase 1 - Site Preparation

Phase 1 operations will involve initial grading to establish access routes, grade a level pad area for material processing, install electrical generators, prepare overburden stockpile area and construct settling ponds. Assembly and installation of the processing plant will also be completed. This processing area with settling ponds will include approximately 27.4 acres of the project site including associated activities required to construct the access road. The low-flow bypass channel and an internal

Figure 6. Excavation Phasing



haul road will also be constructed between Phase 1 and the extraction areas to the east. Completion of this phase will take approximately 6 months depending on the availability of equipment for the plant.

Extraction of the pits will proceed near the end of Phase 1 and begin on the southerly end of the project. Pit development will progress continuously in a northerly direction and will overlap other Phases.

#### Phase 2 - Pit 1 Extraction

Resource recovery in Phase 2 will commence at the southern end of the project area. Pit 1 is located southeast of the processing plant and progress northward along Italian Wash. Pit 1 will include an area of approximately 8 acres and will continue for approximately 3 - 4 years. Extraction of the resource will begin with topsoil removal. Approximately, 4 inches of topsoil material will be salvaged from the initial cut and stockpiled in the southeast portion of the project on previously disturbed lands. Resource extraction will continue with excavator and loaders to approximately 75 feet beneath the existing ground surface in series of benches. Static water level measured during the pump test was measured at 194.6 feet below ground surface. Groundwater is not expected to be encountered during excavation activities.

Following resource depletion in Phase 2, Pit 1 will remain in place and the drop structure constructed. Pit 1 will serve as a detention pond capable of containing the calculated overflow of the 100 year event. All waste rock will be stored in the overburden stockpile northwest of the plant.

#### Phase 3 - Pit 2 Extraction

Upon completion of the Phase 2 extraction efforts, mining will be moved to the Phase 3 end of the project area and proceed northerly in benches. Phase 3 will remove materials from Pit 2. Pit 2 is an approximate 16 acre parcel in the north central portion of the excavation area of the project. Excess rock will be stored in the overburden stockpile until enough operating space is available in Pit 2 to begin backfill operations. Excess rock will then be utilized as starting at the southern edge of the active pit and will continue for the remainder of the project.

This phase is expected to continue for approximately 9 years and will result in a gently sloping landform which will tie into the undisturbed area to the south. Topsoil from the advancing cut face will be returned to the final reclaimed surface in Pit 2 and not stockpiled. On completion, the landform will exhibit a relatively flat plain sloping north-westerly. Once the surface reaches the planned reclaimed elevation, reclamation of the surface will begin in 10 acres increments.

#### Phase 4 - Pit 3 Extraction

Upon completion of the Phase 3 excavation, Phase 4 will continue to remove the remaining materials from an approximate 19 acre parcel in the central area of the excavation activity. After resource depletion, Pit 3 will join with Pit 1. Backfilling from the overburden stockpile will then commence. This phase is expected to continue for

approximately 12 years and will result in a gently sloping landform which will tie into the reclaimed area to the north.

# Phase 5 - Equipment Removal, Final Grading and Reclamation

The final phase of the Liberty Bell Project will follow resource depletion in Phase 4. Phase 5 will involve the replacement of any remaining excess rock from the overburden stockpile to the Pit 1 area, backfilling any ponds and equipment removal. Removal of the bypass channel, final grading and reclamation of the plant area and Pit 1 will then be conducted. The drop structure will remain place to prevent any potential head cutting. Topsoil initially stockpiled in Phase 1 and 2 will be used as a top dressing on the graded areas. After final grading is completed, erosion control devices would be installed and the remaining disturbed area planted with retained cacti species. The area affected is anticipated to be approximately 68.4 acres. This is expected to last about 2 years and will be the last phase in the process.

# 4.1.3 Mineral Exploration

Parkinson Geologic Services (PGS) examined the Liberty Bell Property on April 7 through April 10, 2010. The geologic evaluation consisted of general geologic and logistic reconnaissance and photography of the property, bulk sample extraction and processing, gravity separation of coarse and fine gold, and collection of concentrates and sluiced "slime" samples for geochemical analysis. PGS coordinated and supervised the collection and processing of 16 bulk samples of placer gravels from various surface exposures over a large area of claims in the area. The 2010 exploration program consisted of extracting nominal 500-pound placer-gravel samples from in-place gravel deposits in existing washes and gulches using a back-hoe loader.

The PGS 2010 exploration program and results are provided in detail in the NI 43-101 Technical Report dated May 12, 2010 and provided under separate cover. The reader is referred to that report for specific details. A summary of the results from the 2010 gold recovery work are shown in Table 4.

	Weight			Gold (	Grade
	Milligrams	Grams	Troy Oz.	Oz./ton	Oz./yd.³
Total	9111	9.111	0.292		
Average	607.4	0.6074	0.019	0.078	0.117

Table 4: 2010 Placer Gold Recovery Summary

PGS also conducted a more focused auger drilling and trenching on 50 acres of the project site in 2011. Auger drilling and bulk sample collection was carried out from January 31 to February 4, 2011 in the southern Italian Wash area. Ten drill sites were selected by PGS with assistance from Sespe Consulting. The bulk samples collected during drilling were processed for gold recovery on the Liberty Bell project site during June 2011.

Ten auger drill hole sites were selected in the claim group of P11 through P14 and P21 through P24. The 10 drill sites were designated GNA1 through GNA10 in the field. A SOILMEC T-108 auger drilling rig with a 2-foot diameter auger was connected to a telescoping drill pipe approximately 75 feet long. Individual samples were compiled at 20-foot intervals, and the bore holes were terminated at a target depth of 60 feet or when drill advancement had slowed significantly.

Ten trenches were also dug to a maximum nominal depth of 20 feet and a haul truck load estimated at 20 tons was collected from each trench. The bulk sample from each trench was screened on site through a ½-inch Power Screen, and approximately 1000 pounds of screened material was collected in super sacks for subsequent gold recovery processing.

Numerous gold recovery tests were conducted on the alluvial placer material found in the Italian Wash area of the Liberty Bell property during 2011. Testing and gold grade calculations were performed by individuals at private laboratories (Paul Jones at McDermitt, NV; Joe Balser and Metallurgical Laboratories in Concord CA), by independent laboratories (American Assay at Sparks Nevada, and Florin Analytical at Reno Nevada), and by independent consultants (Ron Peery at Paul Jones' lab).

The results reported from these sources indicate that there are economically significant amounts of gold present within the Italian Wash: some that can be recovered by using physical extraction, some by chemical extraction, e.g., Acid Leach/Solvent Extraction (AL/SX), and also some by liberating free gold particles through chemically breaking up the caliché and clay present in the gravel.

Free, or observable gold, in the gravels was estimated at 2.65 grams/ton and 1.83 g/t for inferred resources and indicated resources, respectively, as a result of testing on the 2010 exploration effort. Mercury amalgamation utilized on samples collected in the 2011 exploration work estimated only 38 mg/bank cubic yard.

A summary of results from the physical and chemical extraction of gold from the Liberty Bell mine site are presented below in Table 5 and provided in the 2011, 43-101 Technical Report. Gold grades are presented as ounces of gold per ton of alluvial material.

Table 5: Summary of Extraction Methods on Gold Nugget Project (oz./ton)

Method	Gold Grade Range	Gold Grade Average
Physical	0.12 to 17.19	2.44
AL/SX	0.76 to 3.81	2.25
Vitrification Fire Assay	0.97 to 2.10	1.77

Reference: Parkinson, Craig L. 2011.

The gold grades from the physical and chemical methods are not considered additive at this point in the project, because the testing was not completed on identical samples. For a complete discussion of the sampling effort and the analytical extraction methods employed for the 2011 exploration effort, refer to the 2011 National Instrument 43-101 Technical Report on the Gold Nugget Project Italian Wash Area, La Paz County Arizona, USA prepared by Parkinson Geologic Services, Grass Valley, California which has been submitted under separate cover.

#### 4.2 Site Wash & Screen Plant

The site process plant (Plant) has been designed to process up to 1,000 tons of placer materials during a 10-hour working day (100 tons/hour). This process will require water and dilute acetic acid on site. The process includes the following equipment:

- Grizzly
- Portable Crusher (occasional use)
- Single screen deck (+3/4")
- Log Washer
- 1 Triple-deck screen
- 1 sand screw
- 3 dewatering screens
- Conveyors and material stackers
- 6,000 gallon acetic-acid tank
- 60,000 gallon freshwater tank
- 3 concrete-lined settling ponds
- 3 screened-materials bunkers (stockpiles)
- Assorted piping.

Processing of the materials begins by dumping placer material into an elevated grizzly to scalp off any rocks larger than 2" in diameter. The remaining fraction passes through a single desk screen to separate the +3/4" materials for the stream. The remaining materials will be sent through log washer/blade mill where the acetic acid solution will be introduced. This 1:25 acetic-acid water solution (4% acid) is meant to dissolve carbonates, assist in breaking down clumps of clay and liberating auriferous materials for gold (and silver) extraction.

Acetic acid will be stored in a 6,000-gallon stainless-steel or poly-tank (bermed and lined) and added to the process as needed. Any fresh acid required to be added will be introduced into the water line immediately prior to the log washer. Fresh water will be piped to the site from the onsite well and stored in a 60,000-gallon freshwater tank and the settling ponds. Water from the settling ponds will be recycled into the process with fresh water and acid added as needed.

Upon exiting the log washer, all materials will go to a double screen deck (+5/16) % +8 screens) for fresh water rinsing and to sort the materials by size. Materials larger than +5/16 will be stockpiled on the site and ultimately returned to the pit. It is estimated that approximately 35% of the total volume will fall into this oversize classification.

Since caliché onsite has potential to contain gold values, stockpiles of materials greater than ¾ inch in size will be observed for any caliché rock present. This caliché will be segregated from the remaining rock and stored in a separate stockpile for onsite crushing to -5/16" size, as needed. A temporary, portable crusher will be utilized for this purpose if crushing is necessary. Materials crushed to this size will be placed into the process line for exposure to the acidic acid wash and screening.

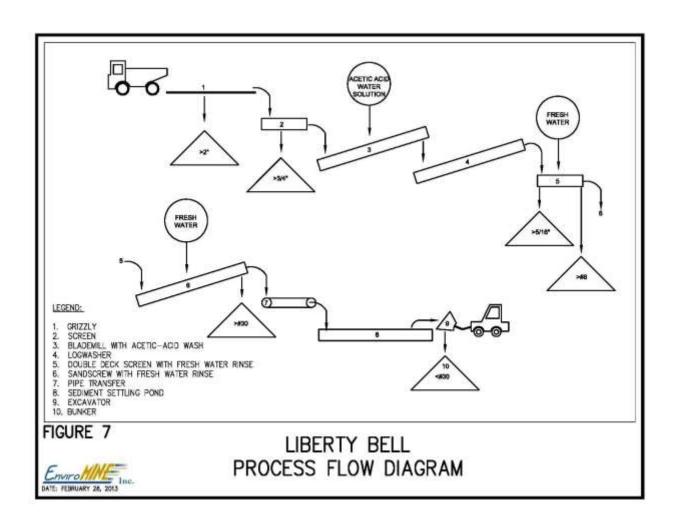
Individual fractions that are less than 5/16" and greater than 8 mesh screen size will pass over a screen and then conveyed to an individual stockpile. These stockpiles will be individually sampled frequently and tested for gold values at the extraction plant laboratory. Some stockpiles may be subject to further physical, screening based on the analytical results of the testing. Those materials with high gold content will be transported to the extraction plant for processing. All materials not transported off site for processing will eventually be returned to the pit as backfill when space is available. Figure 7 presents a process flow diagram showing the general process line.

The -8 screen fraction will move to a sand-screw which will segregate materials in the +200 mesh range from the clay and silt-sized particles. The larger particles, i.e., -8 to >200 mesh, will be stockpiled separately. The -200 mesh materials will transport with the wash solution from the sand screw to one of three lined settling ponds. The receiving settling pond will be changed every day. After standing water is pumped to the receiving pond, the sediments will be removed and transferred to a material bunker for further drying. These materials will be transported to the recovery facility north of Quartzsite.

It is estimated that the materials hauled off site for processing will be in the range of 100 to 250 tons per day if all fractions below a #8 mesh size are sent to the extraction process. This may increase or decrease based on gold values detected in the coarser fractions. All materials removed from the site will be for the purpose of processing to recover gold.

The sediment basins are designed to settle fine materials for recovery while clarifying and recycling the acidic water. Each sediment basin is 100' x 65' x 10' with a maximum capacity of 243,000 gallons of water, each. Each pond will be constructed of steel reinforced concrete with an under lining of polyurethane and leak recovery system. The settling ponds will be connected to allow the acidic water to flow from south to north. This will allow for easy drainage and sediment retrieval. Discharge from the sand screws to the settling ponds will be rotated daily. The clay and silt-sized sediments will collect in the ponds during one day and then be removed the next. The acidic water will flow through the first settling pond and then to a second clear-acidic water pond before recycling to the log washer where acid makeup will be added. This design will allow processing to continue while sediment is being reclaimed from the third pond.

Each settling pond has been structurally designed with a 10% slope so that a front-end-loader can drive in and out of it for the retrieval of sediment. The sediment retrieved will then be stockpiled in the adjacent storage bunker after the water rinse.



Each settling pond has a stockpile bunker located at the entrance to each pond. Each bunker is  $60^{\circ} \times 60^{\circ} \times 10^{\circ}$  and is designed to hold approximately 1,300 cubic yards of sediment. These bunkers will allow the rinse water to drain from the sediment and back into the rinse water pond.

In the fourth step of the Liberty Bell process, the slime tailings will be dried and then loaded onto highway trucks for transport to a gold recovery facility located on private property. After removing gold from the materials at the recovery facility, the processed, tailings will be stockpiled at the extraction plant, tested for toxics and disposed of properly. This gold recovery site is located approximately 9.6 miles north of the intersection of State Highway 95 and Interstate 10 in Quartzsite, AZ. A complete description of the gold recovery site and process is provided as Appendix J.

Excess rock consists of material that contains no gold and must be removed to expose gold bearing materials. Industry usually refers to overburden as excess rock. It is generally disposed of in excess rock dumps near the point of excavation. Eventually, the stockpiled excess rock will be used to backfill the mine cut during reclamation. Because the desired material (gold) is such a small fraction of the material mined, there is a high volume of excess rock generated. Overburden removed from the initial mine cuts will be stockpiled in the designated area northwest of the plant until there is space available in the pit to accept excess rock. At that time, excess rock will be then be progressively returned to the pit as backfill in areas where mining has been completed. At the completion of mining activities the materials stored in stockpiles will be returned to the final cuts.

Liberty Bell has several options for processing equipment. The equipment identified in Table 6 is appropriate for the process of materials as described in the preceding discussion.

Quantity Description 1 Grizzly 1 Single Screen deck (+1") Portable Crusher (occasional use) 1 1 log washer/blade mill 1 Single Deck Screen +5/16" 2 Sluice boxes – fines and coarse 2 Sand screws 1 Radial stackers, 100' x 36" belt 1 Radial stackers Diesel, 100' x 48" belt 1,200 CFM Air compressor Diesel 1

TABLE 6. Plant/Support Equipment

The process plant is essentially a wash plant commonly used to segregate earthen materials into different particle sizes and clean silts and clays from larger particles. The wash plant uses a combination of physical agitation and washing to clean the material. A review of available wash plants capable of processing 1,000 tons of ore per

185 CFM Air compressor Diesel 2,000 kW generator set 480/60/3

350 kW generator set 120/240/480/60/3

1

1

1

day indicate this type of equipment utilizes approximately 650 gallons per minute (gpm) to screen and wash the aggregate materials. Plant layout is presented in Figure 8.

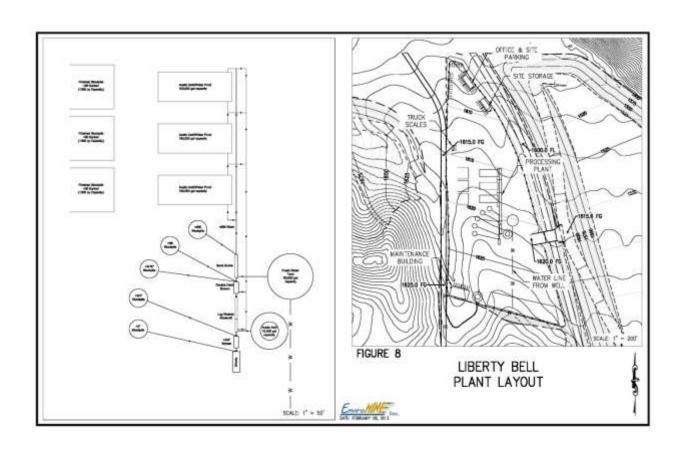
It is estimated that about 650 gpm of water will be needed to operate the process wash plant at the planned mining rate of 1,000 tons per day. With the use of dewatering screws and screens, about 85%, 550 gpm, will be recovered in the settling/water storage ponds adjacent to the process line for re-use. This water will be re-cycled into the process. Losses include retention in the materials and evaporation. This loss is expected to total approximately 15% of the total process water use. New water, needed to make up for losses in the process plant, will be about 100 gpm, continuous through the work day. Adding water consumption for general dust control on the mine, it is estimated that approximately 133 gpm of new water will be required during the work day. This daily water demand will be met through storage in an above ground tank of pumped water during operating and non-operating periods. The existing well, with water storage capabilities, should be able to meet this demand on a weekly basis. If not, an additional well will be permitted and drilled onsite.

An electric generator driven by an approximately 500 hp diesel engine will provide power for the processing equipment.

Possible permits for the plant site and their status (Appendix D) are:

Aquifer Protection Permit (APP): Liberty Bell shall apply for a Determination of Applicability (DOA) from the ADEQ. If it is determined that a permit is required, this will be obtained under the APP program prior to beginning operations.

- AZPDES Mining GP 2010. Coverage under this permit is required for the mine site for precipitation runoff from the plant and mine area. Coverage is obtained by preparing a Storm Water Pollution Prevention Plan (SWPPP), controlling potentially impacted runoff as required in the SWPPP, and filing a Notice of Intent (NOI) with the ADEQ. The SWPPP is retained on site and is not submitted to the ADEQ unless state-designated impaired or outstanding waters could be impacted, which is not the case at the site. Liberty Bell is preparing a SWPPP for the operation and will submit a NOI for coverage under MSGP 2010 once runoff control measures have been installed. A copy of the NOI will also be submitted to the BLM.
- Air Quality Permit: A Class II Air Quality Permit will be required for the plant because the combined brake horsepower for the generator internal combustion engines may exceed the permit threshold. Regulated pollutants emitted at the plant are particulates (PM) and fine particulates (PM10 and PM2.5), plus nitrogen oxides (NOx), sulfur dioxide (SO2) and carbon monoxide (CO). Although average plant throughput will be determined by mine production, the maximum plant throughput was assumed to be 1,500 tons/10 hour day to allow for process catch-up following down time or fewer plant operating days.



Particulate Matter (PM) and PM10 (≤ 10 microns) emissions at the process will be controlled by water sprays at key material transfer points, which will lower actual emissions by about 90%. An Air Quality Permit application is being prepared for the plant. This and the permit will be submitted to the BLM when received.

**TABLE 7. Potential Mine Air Emissions** 

EMISSION TYPE	MAX. CONC. <sup>1</sup> (µg/m3)	PAB CONC. <sup>2</sup> (μg/m3)	NAAQS³ (μg/m3)
Annual NOx	19	0.25	100
24 hr. PM10	6.8	1.3	150
Annual PM10	1.4	0.26	[a]
24 hr. PM2.5	5.5	0.19	35
Annual PM2.5	1.10	0.038	15
1 hr. SO2	0.22	0.0029	200
24 hr. SO2	0.089	0.0012	365
Annual SO2	0.018	0.0002	80
8 hr. CO	165	2.1	10,000

- [a] Annual PM 10 standard (formerly 50 µg/m3) was revoked 12/17/2006.
- 1 Maximum concentration conservatively calculated as the sum of the maximum predicted point source and maximum predicted area source concentrations.
- 2 Process area boundary assumed to be 20m from point sources and center of area source
- 3 National Ambient Air Quality Standards, USEPA Office of Air and Radiation 7/1/2011
- Section 404 Permit. Liberty Bell will consult with the U.S. Army Corps of Engineers to determine if a 404 permit will be required on the mine site. This permit is required for dredging or fill operations within the Waters of the United States.

#### 4.3 Ancillary Facilities

A generator will supply electricity for lighting and plant equipment; one 60,000 gallon water tank and one 6,000 gallon acetic acid tank will be located on site. One 12,000 gallon dual-containment diesel tank will be located on the utilities pad (Figure 9). The diesel tank will supply fuel to the generators, compressor and mobile diesel equipment. Serviced, portable toilets will be placed on site for personnel.

Electrical distribution will be by electrical cable from the generator to the plant equipment and office trailers. Electrical cable will be suspended from poles. Water will be obtained from wells and piped to the site. A 4,000 gallon capacity, water truck will be utilized to control dust on the roads, pit and stockpile. Diesel consumption is expected to be about 850 gallons per day. Diesel fuel will be hauled to site by the fuel vendor in 10,000 gallon tank truck or 7,500 gallon truck and trailer.

An office/change house trailer and shop/storage trailers, will be located at the Liberty Bell plant area, located just east of Gold Nugget Road. A small generator will be used to supply power for lighting, water heating and air conditioning.

Equipment will be maintained at the work site or the shop. Major repairs will be done off-site. A watchman will be present on site during non-operational hours.

#### 4.4 Water Management Plan

#### 4.4.1 Mine Site

The Italian Wash is fed by a relatively large drainage basin that extends to the south approximately 5 miles. The total drainage basin area has been determined to be approximately 8,000 acres. Although runoff from precipitation within the wash is infrequent, high flows can occur during intense precipitation events (Table 8).

Anticipated Runoff for Italian Wash			
Recurrence Interval	Volume (CFS)		
2 years	651		
5 years	2,044		
20 years	4,717		
100 years	7.363		

Table 8. Runoff - Italian Wash

As a result, it will be necessary to control runoff in the Italian Wash to allow safe and uninterrupted mining operations

Prior to the commencement of mining, it will be necessary to route the runoff from a 5-year storm around the mining area. The mining plan has accounted for this by establishing a "low flow" channel along the western margin of the Italian Wash (Plot Plan, Sheet 4). When runoff occurs, water will route into this channel for conveyance past the mining area. It will again join the Italian Wash downstream of the mining area. This will allow safe operations from the most frequent runoff events.

Should runoff exceed the 5-year conveyance capacity of the channel, flood waters would overtop the channel at the upstream limits of the mining area. To prevent channel erosion upstream of the mining area, it will be necessary to construct an erosion resistant barrier (drop structure). The drop structure will be constructed at the upstream end of the mining area after the first phase of mining (Phase 2) and will consist of large cobbles and rocks with a geo-textile backing. In the event of a high volume runoff event (i.e., >5 year storm), the mining pit will be flooded. Water collected within the pit would be expected to infiltrate rapidly and disperse. (Plot Plan, Sheet 4)

Precautions must be taken to insure that personnel and equipment losses do not occur from flash flooding. The National Weather Service will be routinely monitored. If a thunderstorm alert is issued for the Quartzsite area, the excavation operations will be stopped. All equipment and personnel will be moved to the plant area which is located

out of the drainage. In addition, at the close of each work day, all mining equipment shall be removed from the mining pit area and stored on high ground adjacent to the working areas.

Dust will be controlled on the site through the use of a 4,000 gallon capacity water truck equipped with front and rear spray bars. Material stockpiles, haul roads and other unpaved areas will be watered periodically throughout the day for dust suppression purposes. There are a number of conservation techniques that will also be employed to reduce the amount of water used to control dust raised by trucks traveling on haul roads. Non-toxic binding agents or other surface treatments may be used. Other water requirements may include surface watering of outgoing loads to control dust during on highway transport and process water. It is estimated that approximately 20,000 gallons per day will be used for dust control. Water will be obtained from the groundwater well and storage tanks.

#### 4.4.2 Plant Site

About 650 gpm will be needed to operate the process wash plant at the planned maximum throughput of 1,000 tons per day. Water losses are estimated to include 13% retention and 2% evaporation. About 85%, 550 gpm, will be recovered in the settling/water storage ponds adjacent to the process line. This water will be re-cycled into the process. New water needed to make up for losses in the process plant will be about 100 gpm, continuous through the work day. Dust control is expected to use approximately 20,000 gallons per day or 33 gpm for the entire mine site. Total consumption is therefore 133 gpm during operating hours. Although this demand can be met by the current well on a weekly basis, a second, water well may be permitted and drilled in the area; if it should become necessary. Runoff will be handled in accordance with the Storm Water Pollution Prevention Plan (SWPPP).

The settling/storage ponds are designed to settle fine materials for recovery while clarifying and recycling the acidic water. Each settling basin is 100' x 65' x 10' with a maximum capacity of 243,000 gallons of water, each. Each pond will be constructed of steel reinforced concrete with an external lining of polyurethane. The settling ponds will be connected to allow the acidic water to flow from south to north. This will allow for easy drainage and sediment retrieval. Discharge from the sand screws to the settling ponds will be rotated on a daily basis. The clay and silt-sized sediments will collect in the ponds during one day and then be removed the next. The acidic water will flow through the first settling pond and then to a second clear-acidic water pond before recycling to the sand screw. This design will allow processing to continue while sediment is being reclaimed from the third pond.

Each settling pond has been structurally designed with a 10% slope so that a front-end-loader can drive in and out of it for the retrieval of sediment. The sediment retrieved will then be stockpiled in the adjacent storage bunker after the water rinse.

Each settling pond has a stockpile bunker located at the entrance to each pond. Each bunker is  $60^{\circ} \times 60^{\circ} \times 10^{\circ}$  and is designed to hold approximately 1,300 cubic yards of sediment. These bunkers will allow the rinse water to drain from the sediment and back into the rinse water pond. Trucks can then take the sediment to the gold recovery circuit.

Stockpiles will be sloped toward the hillside to prevent precipitation runoff from running over and eroding the dump/stockpile faces. Natural runoff will be diverted away from disturbed areas and directed to natural drainage. Runoff will be handled in accordance with the SWPPP.

#### 4.5 Native Plant Management & Cultural Resources

Liberty Bell will adhere to the Arizona Native Plant Law. A biological survey has been completed for the project and is included as Appendix E. A survey locating native plants and developing a salvage plan in accordance with the Arizona Native Plant Law will be required. Disturbance of native plants (any cacti, mesquite, palo verde, ironwood, and ocotillo) will be avoided to the extent possible during the project. Prior to any activities in an area, native plants requiring consideration by the BLM will be flagged in areas of potential surface disturbance. Plants that must be removed prior to excavation will be transplanted to areas of similar microhabitat. Based on the use of existing access, coupled with the native plant survey and salvage plan, it is anticipated that minimal clearing and loss of native vegetation will occur.

A salvage plan has been included in Appendix E of the plan of operation. Generally, salvage may include:

- removal and transplanting out of surface disturbance area
- removal and salvage by private individuals
- removal and salvage by commercial dealers
- any combination of the above

A Cultural Resource report is provided in Appendix F

#### 4.6 Rock Characterization and Handling Plan

#### 4.6.1 Ore grade and characteristics

The mineral resource at the Liberty Bell Mine consists of gold-bearing placer gravel deposits in a segment of Italian Wash. The primary source rocks of these placer sands and gravel deposits are quartz stringers, quartz monzonite, pegmatite, aplite, diorite, granodiorite, metasedimentary rocks, and material from the overlying Tertiary-Quaternary flows.

Free, or observable gold, in the gravels was estimated at 2.65 grams/ton and 1.83 g/t for inferred resources as a result of testing on the 2010 exploration effort. Mercury amalgamation utilized on samples collected in the 2011 exploration work estimated only 38 mg/bank cubic yard. However, a combination of physical and chemical gold extraction methods have indicated there are economically significant amounts of gold present within the Italian Wash.

In addition to the gold content, the gravels hosted on the property contain anomalous amounts of silver. Certain concentrates from samples, especially those close to the older lode mine east of the wash, have been observed to contain some galena.

However, analysis completed for lead has indicated very low concentrations with a maximum of 0.1%. In addition, x-ray diffraction completed on these materials has not detected galena in measurable amounts.

Black sands (ferromagnesians and iron oxides) are also plentiful in the processed placer-gravel concentrates and may hold some potential for the recovery of additional precious metals. Although there could be platinoids in the black sands, the local geology does not appear to support this possibility. Silver is invariably associated with gold. It is expected that silver will be recovered at the extraction plant, but comprehensive data for this component has not been compiled.

Placer ore grade will be determined at appropriate intervals by samples taken from working faces of the excavations and grab samples from stockpiles. Samples collected will be analyzed at the gold extraction plant on private property and results provided back to the mine site.

Table 9. Materials Transported Offsite

Mined	Transported	Stockpiled -
Tonnage	Offsite – tons*	tons
1,000	100 - 250	750 - 900

<sup>\*</sup>tonnage range based on results of testing prior to hauling

#### 4.6.2 Excess rock characteristics

Excess rock includes all materials ¾" or greater in size. Materials less than ¾" in size that do not contain adequate gold values, based on testing, will also be included as excess rock. Approximately 75% (750 tons) of the mined materials are expected to be excess rock (overburden). These materials will be stockpiled on site temporarily until adequate room is available in the mine area to return these materials back to the pit. All excess rock will be used as backfill. Placement into the pit is anticipated to begin after the start of Phase 2 of the mining operation. Prior to placement of overburden in the stockpile area, the surface 4" will be stripped and placed in a stockpile for use during site reclamation.

#### 4.6.3 Overburden Stockpile characteristics

All overburden and excess rock will be stockpiled within a 14.5-acre area immediately west of the wash plant in order for the pit to be developed. The overburden stockpile is planned to be approximately 50' in height and will be placed against the hillside to minimize the lateral extent of the stockpile. During the first excavation phase all excess material not hauled to the gold extraction plant north of Quartzsite will be placed in the stockpile. Once room is available in the pit, excess material will be returned to the pit as backfill. At the end of mining all stockpiled materials will be returned to the pit, ripped to relieve compaction, re-contoured and reclaimed.

#### 4.6.4 Precipitation runoff quality

Precipitation runoff quality will be checked as described in the SWPPP for each site, by checking outfall points for evidence of turbidity or hydrocarbons entering natural water courses.

#### 4.7 Diesel Fuel and Lubricants Spill Control

A Spill Prevention Control and Countermeasure Plan (SPCC) will be developed for the site as required by the Federal Clean Water Act of 1973. A discussion of how spills will be handled is provided in the following sections.

#### 4.7.1 Mine Site

The only likely spills at the mine site are diesel fuel and lubricants. Diesel fuel usage is expected to be about 850 gallons per day for the entire site. Diesel fuel will be delivered to equipment via an onsite 2,500 gallon capacity fuel truck which will be parked within the fenced plant area during non working hours. Equipment fueling will be attended at all times and adequate precautions taken to prevent spills. This truck will utilize fuel stored in an above-ground 12,000 gallon dual containment tank, with a leak detection system, near the plant area.

Routine servicing and maintenance of equipment will be performed at the site where the equipment is located. Repairs will normally be done at the shop area unless the equipment is immobile, in which case, repairs will be done where the equipment became disabled. Oil changes will be done in the shop area. If oil, lubricants or other fluids have to be drained, a plastic catch basin will be used to prevent soil contamination. Major repairs will be done at the shop or an off-site service facility.

Soil contaminated by minor spills of petroleum products will be shoveled into drums by site personnel and disposed of at an approved off-site facility. Liberty Bell will keep two empty 55 gallon drums with shovels, booms and mats available for this use. Spills greater than 25 gallons, or spills less than 25 gallons that are not cleaned up in 24 hours, will be reported to the ADEQ at 602-771-2330 and to the BLM Yuma Field Office.

#### 4.7.2 Wash Plant Site

At the plant site, the only likely hazardous material spills are diesel fuel, lubricants and acetic acid. Diesel fuel usage is expected to be about 850 gallons per day. Diesel fuel will be stored in an above-ground, 12,000 gallon, dual containment tank with a leak detection system and bermed containment. Fuel will be piped (double contained) a short distance from the tank to the generator and plant engines. Lubricants will be stored in their original containers within a secondary-containment cabinet.

Fuel delivery by a vendor will be required approximately every five days. Oil and other petroleum products will be stored in closed containers inside the storage trailer. Alternatively, drums will be placed in a HDPE lined sump with sufficient capacity to

hold 125% of the maximum volume of products stored. Spills on public roads will be responded to by Liberty Bell and or the contract vendor/transporter. Liberty Bell will contract with Envirosolve, Inc., a hazardous waste clean-up, transportation and disposal firm located in Quartzsite, to respond to spills that are beyond the capability of site personnel. Envirosolve has its own licensed hazardous waste disposal facility near Quartzsite.

Acetic acid will be stored in a 6,000 gallon onsite tank. This tank will be placed within a bermed and lined area designed to contain 110% of the tank volume. This will prevent any acid leaks or spills from reaching native materials.

#### 4.8 Fire Plan

MSHA requires that mobile mine equipment be equipped with fire extinguishers that are inspected monthly. In addition, fire extinguishers will be placed in the shop and office building, near the fuel tank and on mobile equipment. Phone numbers for the Quartzsite fire department and to the BLM Yuma office will be posted in the office. Liberty Bell will provide maps showing the mine and process area location to the local fire department and request that they be prepared to respond to fires and medical emergencies. In the event of a fire, site personnel will report to the office for fire-fighting or evacuation instructions from the senior company/contractor person on site.

Activities that could potentially cause sparking, or open flames, such as torch cutting or welding will be conducted in open areas away from vegetation. Firefighting equipment such as fire extinguishers and hand tools will be kept close at hand during this process. A water truck will also be on site during these activities. It is understood that during "Red Flag" days, i.e., days of high fire danger declared by BLM, that these activities will be restricted or not allowed according to discussions with Mr. James Stewart, Fire Mitigation and Education Officer of the BLM Yuma Field Office.

#### 4.9 Safety and Emergency Response Plan

All personnel on the mine site shall be MSHA trained and certified for surface mining. In the event of an emergency, site personnel will report to the office for instructions from the senior company/contractor person on site. Calling 911 will bring response from the La Paz County Sheriff who will dispatch emergency equipment and personnel. The coordinates of the mine site and plant site will be posted at the offices to direct medevac helicopters to the sites. A satellite phone will be located in the mine office. The site has cellular phone coverage.

# 4.10 Storm Water Pollution Prevention Plans

Liberty Bell will prepare a SWPPP for the operations and file an NOI with ADEQ. SWPPPs are dynamic documents, intended to be revised from time to time as needed. SWPPPs will be kept at the mine and plant sites as required under the permit.

#### 4.11 Surface Disturbance

The plant area, located on the west side of Italian Wash, will be approximately 13 acres in size. After topsoil removal, the area will be graded level to develop a pad for the screening equipment, storage tanks, settling ponds, fuel dispensing devices, maintenance shed and office trailers. A 14.4 acre overburden stockpile will be associated with the pad northwest of the plant equipment, but will not be graded for use. Visitors to the site and all deliveries will enter the mine operations through this point.

## 4.12 Waste Management

Due to the size of the operation, both the mine and plant will generate moderate quantities of wastes. Materials will also be managed to minimize the amount of waste created and to ensure that uncontaminated materials do not become contaminated. A summary of these measures is provided below.

#### 4.12.1 Solid Waste

All non-hazardous solid waste except tailings will be disposed of in the Quartzsite landfill. Contractors and Liberty Bell personnel will collect and dispose of these wastes as they are generated.

### 4.12.2 Hazardous Waste

Generation of hazardous waste at the site is not anticipated. If waste of this type develops, Liberty Bell will briefly store these materials and then properly transport and dispose of these materials as required by State and Federal regulation. As part of these pollution prevention activities, materials considered for purchase will be checked to determine if they have the potential to create hazardous waste. If they do, non-hazardous substitutes will be sought. The operations will be examined on an on-going basis to ensure that hazardous substances are eliminated whenever possible.

If any hazardous waste is generated at the operation it is assumed it would be associated with equipment maintenance and repair such as the following:

- Cleaning solvents 10 gallons
- Waste Oil 100 gallons maximum

If necessary, Liberty Bell will apply for a hazardous waste identification number from the EPA and register as a generator of hazardous waste with ADEQ. Because of the very small quantities involved, Liberty Bell should qualify as a Conditionally Exempt Small Quantity Generator of hazardous wastes.

# 4.12.3 Sanitary Waste

At the mine site, serviced, portable toilets will be located at strategic locations on the site.

## 4.12.4 Specific Waste Management Activities, Mine and plant

In general, solid and hazardous waste will be managed in drums, or other appropriate containers, and stored on a lined and bermed pad. Containers will be covered to prevent blowing trash. Scrap metal will be collected in a pile and transported to a metal recycler when a load has been accumulated. Waste oil and lubricants will be placed in drums or other containers for recycling.

While on site, the containers will be stored in an area with secondary containment. Lead acid batteries will be returned to the vendor or shipped to a recycler. While on site, they will be stored in an area protected from storm water with secondary containment. Nickel-Cadmium and lithium batteries will be stored in boxes for recycling. Tires will be exchanged with the tire vendor when new tires are purchased.

Wood and packing materials will be collected, banded and transported to a recycler or disposal facility. Liberty Bell will transport materials as required by the Resource Conservation and Recovery Act (RCRA) and Department of Transportation (DOT) regulations. Shipments will be properly marked and manifested (using manifests or bills of lading).

#### 4.13 Noxious Weeds

Noxious weeds that appear at the mine or plant site will be controlled by hoeing or other appropriate mechanical means. In order to control seed from the weedy material, the trimmings will be disposed of in trash containers. Trash will be hauled to a licensed disposal facility. Areas used for materials borrow will be inspected prior to excavation to ensure noxious weeds are not introduced. If seeding of the disturbance is conducted, weed free seed will be specified and all equipment used in the seeding area will be cleaned prior to mobilization to the site. Mulch will not be utilized on the site.

### 4.14 General Schedule

Mine development will commence as soon as a contractor can be mobilized following approval of this Plan of Operations. Presently, a contractor could be on site within six weeks of plan approval. Mine development, including haul roads, is expected to take about four months.

Identification of plant equipment has begun. Plant site development and equipment installation will begin at about the same time as mine development and is expected to be complete within four months.

Mining and plant operations will begin simultaneously, and are expected to be complete within twenty five years unless additional ore is found. Mine site reclamation will begin as soon as mining is complete and will require about eight months.

Plant site reclamation will begin as soon as plant operations are complete, which may be a month or so after the completion of mining if ore stockpiles remain to be screened. Plant site reclamation should also require about two months.

## 4.15 Public Safety and Site Security

A watchman will be employed to stay on the mine site at times when miners are not present. The watchman will have access to a satellite phone located in the office to call for assistance if needed. A gate will be installed on all entrances off Gold Nugget Road to the processing area and the large stockpile. Signs will be posted on the gates and at other appropriate points to warn the public of mining hazards. The generator and compressor motors will be locked out when miners are not present. Fencing will be placed between Gold Nugget road and the mine operations to prevent access to dangerous situations and operating equipment. Signs will be posted at appropriate intervals warning the public of hazards (See Section 9.0 Occupancy).

As indicated, gates and warning signs shall be installed on the entrances between Gold Nugget Road and the claims area. Gold Nugget Road will remain open to the public. The generator at the site will be locked out when workers are not present to prevent unauthorized starting.

## 4.16 Summary of Operations

A summary of the operations, existing conditions and future conditions are provided in the Table 6. This information will assist in the evaluation of potential impacts of the project to the environment and community.

Table 10. Summary of Operations

Operations	Existing	Future	
Hours of Operation	-	Mon – Fri., 6:00 am – 4:00pm	
Number of employees	-	20	
Acres Disturbed	-	82 acres	
Depth of Mining		16 feet average, 30 feet max (estimated)	
Haul Truck Trips	-	25 per day one way (on site only)	
Highway Truck Trips	-	23 per day – one way (offsite)	
Dozers	-	1- Cat D9	
Loaders	-	2 – Cat 972H 1- Cat 950H	
Excavators		1- Cat 385C FS 1 –Cat 324D	
Grader		1-Cat 14M	
Off Road Haul Trucks		3- Cat 740	
Water Consumed/Day	-	Plant: 12,000 gals. Dust Control: 25,000 gals. 3 -143K gal. retention ponds	
continued			
Table 10: continued		•	

Fuel Storage Tanks, Scales, Garages, Gates, Signs, Fences	3 gates and fence	1 Fuel tank – 12K capacity, cargo containers, trailer. 3 gates, mine hazard warning signs
Rock Removed per day	-	1000 tons
Noise Emissions	ı	Per MCAP
Air Emissions		Max allowed by AZ DEQ
NPDES Permit Need	-	To be determined
Diesel Consumption	-	850 gals./day
Electrical Consumption	ı	NA – Diesel powered generator
Daily Opacity Levels	-	Maximum allowed by Air District
Biological Permits	To be surveyed	-
Cultural Resources	To be surveyed	-
Tribal Concerns	-	To be determined
Visual	1	One light plant - emergency
BLM Bond Amount (est)	-	\$447,873

# 5.0 Transportation

#### 5.1 Mine Site

Vehicle transportation to the mine site is required primarily for mine personnel, fuel and lubricants, acetic acid, mining supplies, equipment and mobile buildings. Mining supplies consist primarily of bucket wear parts and other repair parts. Ore will be transported from the mine to the plant, and excess rock returned to the pit, in off road haul trucks. Trash and other waste materials not associated with excess rock will be removed from the mine site to disposal facilities. Vehicle traffic will be confined to Gold Nugget Road. Anticipated mine traffic is as shown in Table 11.

**TABLE 11. Mine Traffic** 

Туре	Capacity	No.	No. of Trips
Off road haul truck	40 ton ea.	3	3 per hour
Fuel truck	2,500 gal.	1	1 per day

Haul road watering will be done as needed. Non-toxic, dust palliatives, such as Desert Mtn. Corporation's Road Loc product, will be used to bind dust particles to the road surface. It is anticipated the two 55 gallon drums of the palliative will be stored on site in the maintenance structure and used as an additive to dust control water. Any major applications of palliatives will be contracted through the manufacturer.

#### 5.2 Wash Plant Site

Vehicle transportation to the plant site is required primarily for ore, plant workers, supervisors, fuel and lubricants, water, plant supplies, equipment and mobile buildings. Plant supplies consist of screens, conveyor components and other repair parts.

Trash and other waste materials will be transported to disposal facilities. Vehicle traffic will use Gold Nugget Road, which connects to I-10 at the Liberty Bell Exit. Anticipated plant traffic is shown in Table 12.

TABLE 12. Plant Traffic

Purpose	No. of Trips	
Head ore transport to offsite refinery	4 - 8 truck trips/day	
Fuel delivery	2 deliveries per week	

# 6.0 Interim Management Plan

Temporary closure is not anticipated but could be necessitated by heavy rains interfering with mine or plant traffic, break-down of key equipment, unavailability of fuel or key supplies, labor disputes, periods of low gold/silver prices or other unforeseeable events.

Should temporary closure be required, Liberty Bell would notify the BLM Yuma Field Office, the reason for the closure and the expected duration of the closure. Specific measures that will be taken at the mine and plant sites are provided below.

## 6.1 Mine & Plant Site

In the event that the mine is not to be tended by personnel and be closed for more than one month, Liberty Bell will take the following actions:

- Mining equipment will be consolidated in the plant area.
- Tools, equipment, supplies and records will be removed from the office/change house and the shop/storage mobile building.
- All fuel, chemicals and waste will be removed from the site and tanks secured.
- The compressor and generator will be removed from site.
- The gates will be locked and Keep Out signs posted.

A company representative will inspect the site monthly and after heavy rains to ensure that the site is secure and that the inspection and maintenance requirements of the SWPPP are being met.

#### 7.0 Reclamation Plan

#### 7.1 Mine Site

Reclamation of all areas disturbed will be completed in accordance with Section 3809.401 (b)(3) and to the standard described in this plan. Reasonable measures will be taken to prevent unnecessary or undue degradation of Federal lands during operations and reclamation. These will include restricting reclamation activities to disturbed areas (e.g. not obtaining fill or covering materials from undisturbed areas).

Disturbed surfaces will be graded to blend in with the existing topography and will not exceed a slope of 2H:1V (Horizontal:Vertical). Contoured land will be ripped to a depth of 2 to 3 feet to relieve compaction of the materials. Drainages will be re-established and connected to the onsite drainages. Any rip-rap or materials used to construct the channel or drop structure will be placed into the pit and covered by fill from stockpiles.

At the completion of mining, Liberty Bell and its contractors will remove all equipment, trash and debris from the site. All equipment, mobile equipment, fuel tanks and generator will be removed. Mobile buildings (office and shop) will be loaded on a trailer, and hauled from the site to a yard in Quartzsite. The water tank will be loaded on a trailer by winch and hauled to an appropriate site in Quartzsite or to an interested buyer.

Trash and other salvage materials such as scrap metal will be loaded by hand or frontend loader into a truck for haulage to a landfill or recycler. Any oil-contaminated soil will be shoveled into drums and hauled to an approved landfill.

The haul road from the excavation area to the plant will be closed. Once contoured, the road areas will be ripped to a depth of 2 to 3 feet to relieve compaction. Water bars will be installed as necessary to divert runoff off the road and into natural drainage.

### 7.2 Plant site

Reclamation of the plant site will consist of removing all planting equipment and cleaning up the plant site. Hard-packed disturbed areas will be ripped by grader to create a seedbed. Contoured and ripped surfaces will be allowed to naturally re-seed. Liberty Bell will re-seed the disturbed area if BLM determines this to be the preferred approach.

All disturbed areas on BLM land will be ripped or scarified by grader to create a seedbed. Contoured and scarified surfaces will be allowed to naturally re-seed. In accordance with the Arizona Native Plants law and the salvage plan developed for the site, all recovered plants stored in the nursery area will be returned to the area and replanted. When reclamation is complete, Liberty Bell will notify the BLM so that an inspection of the area can be made.

## 7.3 Financial Assurance

The estimated cost of reclamation is \$447,873.00. Bond calculations are provided in Appendix G and include dust control, contractor administration costs, contractor's bond premium, liability insurance, contractor's profit, and the BLM contract management fee.

# 8.0 Monitoring Plan

### 8.1 Wildlife

Liberty Bell will post photos of threatened, endangered and special status species in the mine office. Miners will be instructed to recognize, properly handle those in harm's way and avoid disturbing these species or other wildlife encountered. Sightings and injury or death of any species will be recorded and reported to the BLM.

# 8.2 Archaeological Sites

Archaeological sites will be marked or fenced and avoided. Liberty Bell will monitor operations to ensure that these sites, and other artifacts that may be discovered, are not disturbed.

# 8.3 Surface Water Quality

Surface water quality at the mine site and plant site will be monitored as required by the SWPPPs prepared to comply with MSGP 2010.

#### **8.4 Invasive Weeds**

Monitoring of weedy plant species will be conducted through the entire term of the Liberty Bell operation. Control and removal of the weeds will be completed as described under Section 4.12 Noxious Weeds

### 8.5 Reclamation Success

Liberty Bell will monitor the mine site annually for three years following the winter rains to see if disturbed areas are re-vegetating and other reclamation measures need repair or modification. Should remedial work appear necessary, Liberty Bell will consult with the BLM Yuma Field Office to agree on methods and to obtain approval to carry out the work. Remediation activities (such as additional planting, removal of non-native invasive species, or erosion control) will be taken during the 3-year period, if necessary, to ensure the success of the restoration effort. If the mitigation fails to meet the established performance criteria after the 3-year maintenance and monitoring period, monitoring and remedial activities will extend beyond the 3-year period until specified by the Project Biologist in consultation with BLM.

# 9.0 Occupancy

The following is submitted to comply with 43 CFR 3715.3-2. The mine facilities, office/change house unit, shop/storage unit, portable toilets, fuel and water tanks and mining equipment will remain on the mine site until mining is complete. During this time a security person will be present at the site during non-operational hours. The plant and stockpile areas will be fenced. A fence will also be placed between Gold Nugget Road and the mine pit. Multiple hazard signs will be place around the site to warn the public of danger. Three gates will be used to discourage public access to the operating areas during nights, weekends and holidays. Two gates will be installed at the entrances to the plant area off BLM route LP 1017 and one gate to the stockpile. Gold Nugget Road will not be blocked and will remain open to the public at all times.

The proposed occupancy is reasonably incident to prospecting, mining and plant operations. The office/change house unit, the shop/storage unit, portable toilet, fuel and water tanks and mining equipment are required for the mining operation and serve no other purpose. Because of the remoteness of the site, it would be impractical to remove facilities and equipment after each day's work and return for the next. The watchman is needed to protect the public from mining hazards and to discourage theft and vandalism of mining equipment.

The proposed occupancy is appropriate for the planned work, constitutes actions and expenditures of labor and resources that would be made by a person of ordinary prudence to develop, mine and beneficiate a valuable mineral deposit using methods, structures and equipment appropriate to the geological terrain, mineral deposit, and stage of development and reasonably related activities.

The proposed occupancy constitutes substantially regular work that directly benefits the mineral property by providing facilities for developing the mine, mining the ore and reclaiming the site. The work is directly associated with the development of the property and the processing of the ore. The work is contemplated to be continuous until mining and reclamation are complete.

The activities proposed are reasonably calculated to lead to the extraction and beneficiation of minerals from the ore on the property. The mining equipment proposed in Section 4.1.1 above is sized to be adequate for developing mine and mining the ore at the proposed rate with normal equipment availability. The work of development and mining will be observable and verifiable.

Nothing proposed in this Notice will interfere with public access to adjacent public lands. Existing roads, except as indicated above, will remain open to the public. The proposed period of occupancy is twenty five years. A Use and Occupancy Request is submitted as Appendix I.

## 10.0 Acknowledgements

- It is understood that should the nature of the operation change, a modified or supplemental Plan of Operations and Reclamation Plan may be required.
- It is understood that approval of this Plan of Operations and Reclamation Plan does not constitute certification of ownership to any person named herein or recognition of the validity of any mining claim herein.
- It is understood that a bond equivalent to the actual cost of performing the agreed upon reclamation measures will be required before this plan can be approved.
- Bonding and any bond reduction amounts will be set on a site-specific basis in coordination with cooperating agencies in accordance with 43 CFR 3809.590.
- It is understood that approval of this plan does not relieve Liberty Bell of the responsibility to comply with other applicable Federal or State laws, rules, or regulations.
- It is understood that any information provided with the plan that is marked confidential will be treated by the BLM in accordance its rules, and regulations.
- Liberty Bell agrees to comply with all Conditions in the Plan of Operations and Reclamation Plan, including recommended changes and reclamation requirements.
- Liberty Bell understands that the bond will not be released until the BLM and associated State Agency gives written approval of the reclamation work.

# **Signatures**

1

### SUBMITTED BY:

Liberty Bell Resources 1, LLC
Peter Pocklington, President
Date

#### 11.0 References

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