



Technical Report La Bolsa Project Pre-Feasibility Study



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For



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1.0 SUMMARY

1.1. GENERAL

Minefinders Corporation Ltd. engaged The MINES Group Inc. (TMG) of Reno, Nevada and Sonoran Resources LLC (SR) of Somerton, Arizona to prepare a Technical Report as an independent review of the geology, mineral Resources and potential for mining operations at the “La Bolsa” precious metals project in northern Sonora, Mexico, in a manner consistent with Canadian National Instrument Form 43-101F1.

The MINES Group Inc. and Sonoran Resources LLC have evaluated the development of Minera Minefinders, S.A. de C.V., (“Minefinders”) La Bolsa Project (“Project”) located in Northern Sonora, Mexico. The Project is a grassroots discovery for Minefinders and has been the subject of extensive exploration and development work since 1994 carried out through Minera Minefinders, S.A. de C.V., a wholly owned subsidiary of Minefinders Corporation, Ltd. The exploration work has resulted in the delineation of a significant low-grade bulk tonnage gold resource that is now the subject of this evaluation.

In the third quarter of 2008, Minefinders completed an internal scoping study on the Project. The scoping study reviewed conventional heap leach processing at various production rates. Since that time Minefinders has completed additional infill and step out drilling which resulted in an expanded resource. A 43-101 compliant resource estimate was independently reviewed and prepared by Sacrison Engineering and published October 16, 2009, is included in Appendix A of this report and is available to the public through www.sedar.com. Additional infill drilling continued into the 1st quarter of 2010 and was added to the 43-101 database to provide the most accurate resource geometry and grade distribution prior to estimation of reserves. The infill drilling data did not materially impact the aforementioned resource estimate.

The overall average grade of the ore body is low enough such that whole ore milling was not considered to be economic. Conventional heap leach technology was therefore selected as the base case for the study.

Variable crush sizes and plant throughputs were evaluated for heap leaching at La Bolsa. The optimum crush size for economic recovery was determined to be p80% -25 mm (crush product with 80% passing 25mm screening).

Plant throughput design was driven in large part by a corporate requirement for a minimum mine life balanced with a reasonable metal production level. Mine output was evaluated at selected gold and silver price combinations and at capacities of 1.8Mt/y, 2.2Mt/y, and 3.0Mt/y. The final analysis was completed based on 3.0Mt/y production rate in order to establish parameters for the Pre-Feasibility Study.

The 3.0Mt/y ore throughput design assumes any future reserve expansion will be accommodated by extended mine life rather than an increase in plant capacity.

All units of measure in this report are metric and all monetary values are stated in U.S. Dollars.

1.2. SCOPE OF WORK

Work reported for this Project has been completed and reviewed to a Pre-Feasibility or higher level of confidence, and includes the following:

- review all existing data files in Minefinders' Reno offices relating to environmental baseline work and geological resource modeling;
- create "bench" plans to be used for long range mine planning;
- evaluate available metallurgical data and utilize to create process design criteria and process facilities design;
- create a LOM schedule to be used in determination of estimated waste dump and leach pad locations and capacities, and estimated haul profiles;
- estimate fleet requirements, mining and processing costs, and estimate staffing requirements;
- evaluate crusher requirements and recommend a crusher layout, conveyor stacker design, and first pass equipment availability and costing;
- produce a generalized facilities layout plan;
- produce general arrangement and building designs for all mine facilities;
- recommend a processing plant/refinery design and layout, develop overall cost estimates for processing facilities and address related security issues;
- review hydrologic work to date and address, water rights, makeup water requirements, meteoric water containment or diversion requirements and produce a preliminary water balance;
- review existing environmental work, define and advance environmental planning and permitting with Environmental consulting groups in Hermosillo;
- obtain quotations from one or more local mining contractor(s). Obtain quotes from mining equipment sales groups, both new and used.
- utilize ore production scheduling, anticipated heap-leach recovery curves for gold and silver, and estimate overall production levels for the project economics and returns
- utilize all anticipated capital and operating costs, and anticipated returns, to present project economics and sensitivities

1.3. SOURCES OF INFORMATION

Minefinders has completed extensive work to date on the Project and has retained numerous consultants to work on the Project. In order to prepare a comprehensive and cohesive Pre-Feasibility Study Report, The Mines Group and Sonoran Resources have summarized and reviewed the work completed to date by the various contributors. The following is a summary of the sources of information utilized.

1.3.1. Geology and Mineral Resources

The description of the local regional geology was obtained from technical reports and work completed by Minefinders' geologists.

The exploration and assessment history and sampling methods and procedures were outlined in technical reports completed by Minefinders' geologists. The quality and reliability of the data collected was independently verified by Sacrison Engineering. Sacrison concluded that the analytical data used to complete the resource estimate is reliable based on their independent review of the data and data collection methods (Appendix 4).

The gold-silver mineralization at La Bolsa occurs within stockwork and disseminations that are generally located within a low-angle north-south trending structural zone that dips moderately eastward from its exposure along a north-south-trending ridge. Mineralization is in the form of an oxidized blanket that is sub-parallel to topography and then dips shallowly below surface from the base of the ridge.

A resource estimate was completed in 2009 by Minefinders using Gemcom® software. Sacrison Engineering audited and verified the resource model using Vulcan modeling software. This estimate and audit results were reported in a NI 43-101 compliant report dated October 16, 2009, and is available to the public through www.sedar.com. Additional infill drilling continued into the 1st quarter of 2010 and has been added to the 43-101 database to more accurately define the geometry and grade of the La Bolsa resource prior to estimation of reserves.

1.3.2. Mining

The NI 43-101 compliant resource model as reviewed by Sacrison was updated with 30 additional RC holes and 49 additional core holes for a total of 79 new holes, most of which are infill definition holes further refining model interpolation and providing the most accurate model possible. The drill updates provided additional data and accuracy and were utilized in conformance with all parameters and procedures as reviewed by Sacrison, and did not materially impact the resource estimate reported in the 43-101 document of October, 2009. Xochitl Valenzuela Engineering services subsequently utilized the updated block model and the MineSight 3D® software in order to complete pit optimization iterations for the deposit. Inputs for the optimization included:

- mining cost and general & administration operating cost ("G & A cost") from SR;
- process operating costs from SR;

- pit slope angles from The Mines Group, LLC (“TMG”) of Reno, Nevada
- Mine facilities plan and layouts by SR
- Heap-leach pads, waste dumps, and pond layout and design by TMG.

The optimized pit shells were created and utilized by Xochitl Valenzuela Engineering (“XVE”) as the basis for the detailed open pit design and final estimate of reserves. The mine production schedule was established by XVE, and capital and operating costs were determined by SR.

1.3.3. Metallurgy

Metallurgical test work and reports have been completed by McClelland Laboratories, Inc., Hazen Research, and METSO Minerals. Minefinders Corporation Ltd. directed the metallurgical testing program with additional recommendations from SR. These metallurgical test programs form the basis for the design criteria developed by metallurgist Rafael Sanchez of Sonoran Resources LLC. Recoveries and reagent consumptions estimated in this study were recommended by SR and reviewed and approved by McClelland Laboratories, Inc.

1.3.4. Process, Infrastructure and Ancillary Facilities

SR completed the design of the process plant based upon the design criteria, and developed the flowsheets for the Project. The process facilities general arrangements and design were completed and bids were obtained to estimate the facilities’ capital and operating costs.

The site layout, infrastructure and ancillary facilities were designed by SR. Incoming power and water supply design will be refined during the engineering phase prior to construction. Water well sites have been permitted but require completion and determination of production capacities. One final alternative power line from Nogales is being investigated at the time of this writing, with Mexico’s Comisión Federal Electricidad (CFE) and Minefinders consultant, Antonio Esparza. Cost structures presented in the study are based upon on-site, self generated power.

1.3.5. Environmental

The environmental impact statement for the Project is being prepared by Patricia Aguayo and Associates (PAA) concurrently with this report. Baseline studies were completed during 2008 and 2009. It is estimated that a final permit application could be prepared for submittal to Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT), prior to December of 2010. SEMARNAT has 90 days to deliver to the company a permit to mine with a list of Resolutions which the operation will have to abide by. This study contemplates receipt of the permit to mine by March 2011.

1.3.6. Property Description Permitting

The description of the property and the current status of permitting were obtained from Minefinders. The Mines Group has maintained close communications with PAA throughout this study to confirm that required permitting and environmental proceedings have continued to advance on behalf of Minefinders.

1.3.7. Project Implementation

SR prepared the project implementation schedule and narrative.

1.3.8. Financial Analysis

TMG and SR developed the operating and capital cost estimate details for the Project. Mining costs were provided by local contractors and/or are derived from nearby local operations which are considered comparable to La Bolsa in size and scope. Mining costs were developed in conjunction with equipment operating costs using input from Caterpillar Inc. and Hoss Equipment Co. All costs are reported in US\$.

1.4. NOTICE

This document contains the expression of the professional opinion of The Mines Group Inc. (TMG) and Sonoran Resources, LLC (SR) as to the interpretations to be made and conclusions to be drawn in light of information made available to, inspections and analyses performed by, and assumptions made by the authors using their professional judgment and reasonable care. The engineering performed for this study was limited to that deemed necessary so as to identify the essential elements of the Project in order to arrive at construction costs and operating costs estimates with the specified level of accuracy. The engineering should, therefore, not be used alone for design and construction purposes; further engineering will be required which would include additional scope definition, detailed design and preparation of detailed specifications.

This document embodies, and the opinions expressed therein are based on, certain data and information supplied by Minefinders or gathered from others. Unless expressly stated otherwise, SR makes no representation as to the accuracy of any such data and information that has not been verified or audited by SR and disclaims all liability with respect thereto.

This document is meant to be read as a whole and sections or parts thereof should thus not be read or relied upon out of context.

1.5. NATIONAL INSTRUMENT 43-101 DISCLOSURE

The October 16, 2009 resource estimate as completed by Minefinders, was audited by Messrs. David Linebarger and Ralph Sacrison of Sacrison Engineering, who are Independent Qualified Persons as defined by National Instrument 43-101. Sacrison Engineering (SE), completed an audit of the assay database to check the database relative to the original assay certificates and confirmed that the “database essentially was error free”. SE performed various statistical analyses and check estimations in order to confirm the validity of the resource estimate. No significant errors, deviances, or omissions were noted, and it is stated that “SE believes that the mineral zone model and interpolation procedures used by Minefinders conform to accepted engineering practice”. Mr. Linebarger states that the resource estimate conforms to the classification system adopted by the Canadian Institute of Mining and Metallurgy that forms the basis of National Instrument 43-101. The original 43-101 filing is found within the attached Appendix 04.

All of the audited database and resource calculation parameters and methodologies were utilized in calculation of an updated resource estimate in March of 2010. The updated resource estimate included additional infill and detail drilling that enhanced the geologic and geometric definition of the deposit, prior to estimation of reserves.

The reserve estimate, final mine design, and mine scheduling were completed by Ms. Xochitl Valenzuela, who is not a Qualified Person as defined in the National Instrument 43-101. The reserve estimate was completed utilizing information from sources outlined in Section 1.3.2.

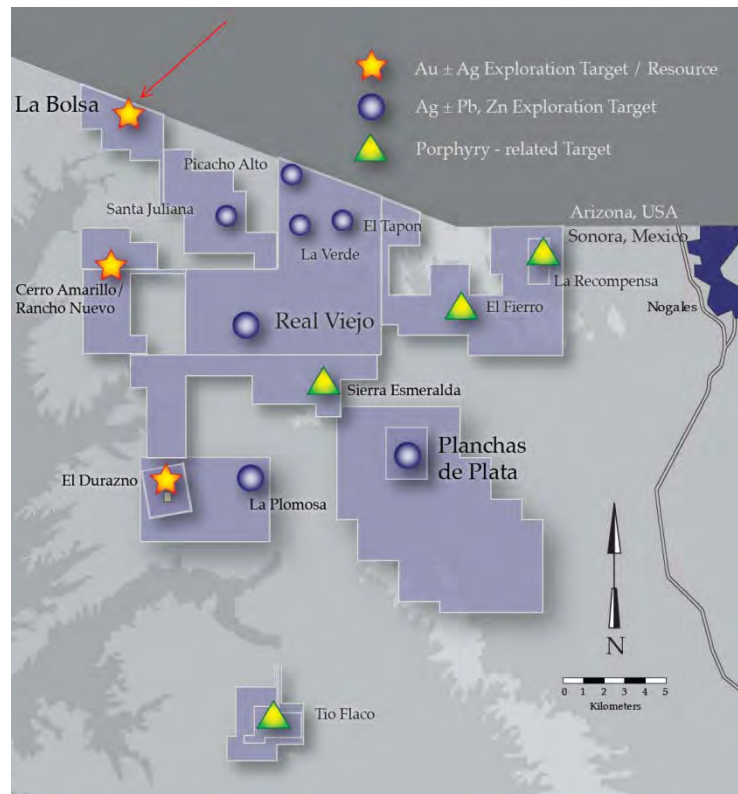
This Pre-Feasibility Study has been prepared and approved under the supervision of Mr. Anthony E.W. Crews, P.E., principal of The MINES Group, Inc. who is an Independent Qualified Person as defined in the National Instrument 43-101. The Mines group area of expertise and services to the industry include Civil and Mining engineering, Environmental management and permitting, Geological and Geotechnical studies and surface and subsurface Hydrology studies.

2.0 INTRODUCTION

2.1. PROPERTY DESCRIPTION AND LOCATION

The La Bolsa Project is located in Northern Mexico, Sonora State, Municipality of Nogales, about 27 km west northwest of the city of Nogales at coordinates of 31° 23' 00" N, and 111° 14' 30". The site is approximately midway between state capitals Phoenix, Arizona and Hermosillo, Sonora and is located 94 km southwest of Tucson, Arizona.

FIGURE 2.1-1 PROJECT LOCATION MAP



The terrain in the area consists of rolling hills from approximately 1,050 meters above sea level near the proposed site for the process plant, to 1,175 meters above sea level at the top of the surrounding hills and Cerro La Bolsa.

The Project site is characterized by mild dry winters and hot summers with maximum and minimum temperatures being 45°C and -10°C respectively. The total annual rainfall averages approximately 475 mm. Regular monsoonal rainfall occurs from July into September and while there are no lakes or rivers in proximity to the site some standing water and intermittent streams are present during the rainy season.

The property is 100% owned and controlled by Minefinders. Mineral rights are granted through the ABE Concession Title # 216305 that is located within the municipality of Nogales, Sonora

(expiry of April 29, 2052). This concession covers 996.7 hectares and encompasses the whole of the known La Bolsa resource and planned operations area. A single surface rights agreement is in place that allows for exploration, development, minerals extraction and mining infrastructure within the property.

2.2. GEOLOGY AND MINERAL RESOURCES

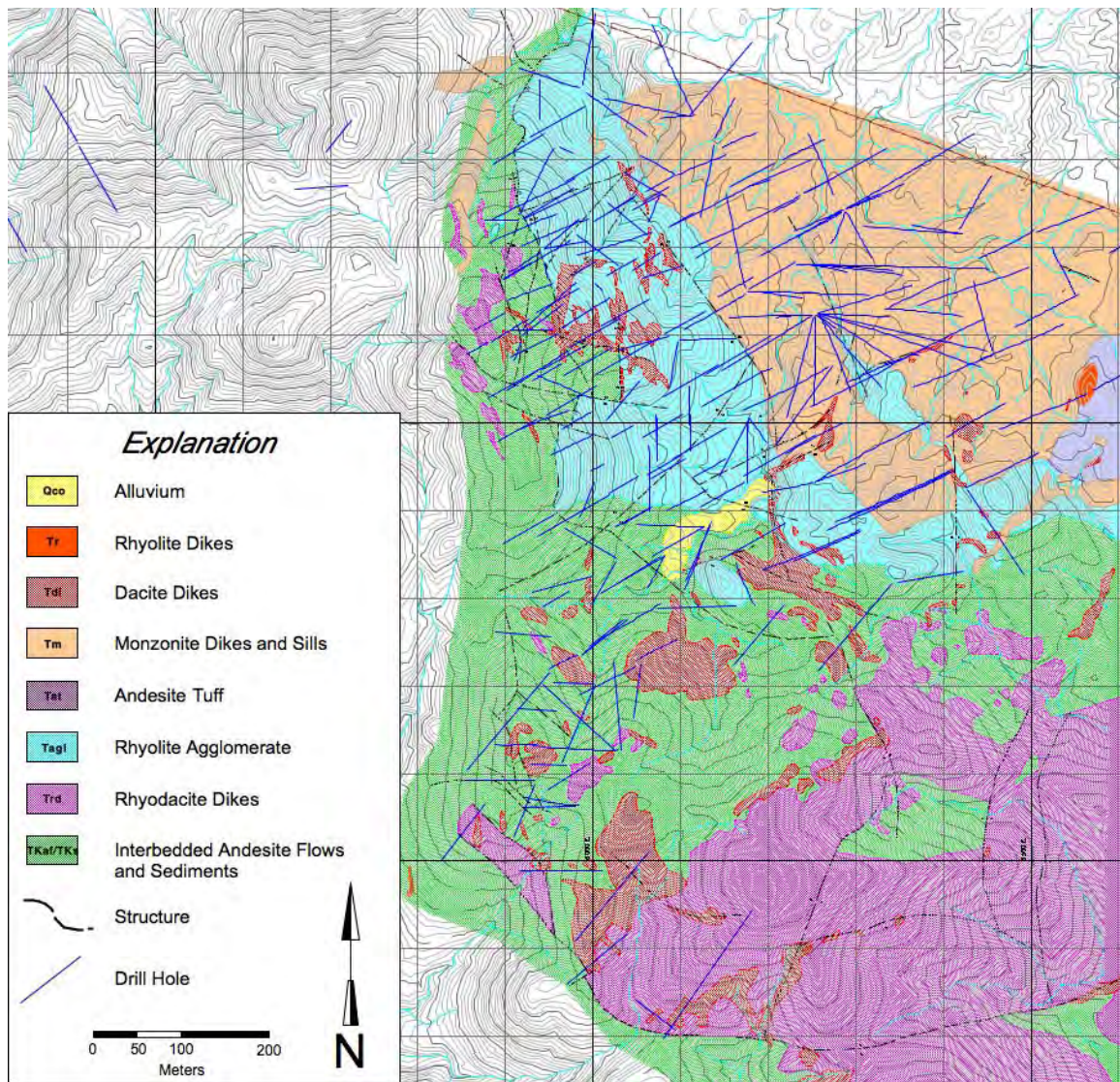
The gold-silver mineralization at La Bolsa occurs within stockworks and disseminations that are generally located within a low-angle north-south trending structural zone that dips moderately eastward from its exposure along a north-south-trending ridge. Mineralization is in the form of an oxidized blanket that is sub-parallel to topography and then dips shallowly below surface from the base of the ridge. Mineralization has been traced for approximately 1,100 meters (3,600 feet) along a north-south axis, and up to 800 meters (2,600 feet) down-dip to the east with thicknesses ranging from 10 to 60 meters (30 to 200 feet). Recent drilling at La Bolsa continues to extend that zone, and the known mineralization remains open, both down-dip and along strike.

Gold and silver mineralization at La Bolsa typically occurs in association with disseminated iron oxides and quartz–calcite and quartz–adularia veins and stockwork. Quartz veins are finely crystalline to chalcedonic while calcite veins tend to be coarsely crystalline, vuggy, or locally massive. Red, orange, and brown iron-oxides and brown to dark gray manganese oxides are often associated with the veining. Alteration of the volcanoclastic sediments, flows, and intrusive rocks consists of silicification, adularization, and intermediate-argillic alteration, accompanied by hematitic, goethitic, and limonitic iron oxides after less than 5 percent sulfides.

The hydrothermal fluids that deposited the gold-silver mineralization are interpreted to have been of epithermal low-sulfidation character.

A total of 267 drill holes have been drilled at La Bolsa, both core and reverse circulation. Figure 2.2-1 shows the traces of drill holes included in the La Bolsa Project database in Dark blue in relation to the overlying surface geology.

FIGURE 2.2-1 LA BOLSA PROPERTY MAP WITH DRILL HOLE LOCATIONS



The October 2009 mineral resource estimate was completed by a Qualified Person, as defined by National Instrument 43-101, and the classification of the mineral resource conforms to the Canadian Institute of Mining, Metallurgy and Petroleum Standards on Mineral Resources and Reserves. SR, through its subcontractor, Sacrison Engineering, completed an audit of the assay database to check the database relative to the original assay certificates. No significant errors or omissions were noted.

The gold and silver resources at La Bolsa were modeled and estimated utilizing geologic constraints and statistical evaluation of the drill sample data. A N 30° W baseline was established as a reference to locate 64 section lines, which are located perpendicular to the base line at 15 meter spacings.

Three-dimensional geologically constrained solids were used to interpret the mineral zones on the individual cross-sections. The interpreted sections were then used to form the 3-D zone solids. The formed zone solids flagged the drill hole samples contained within the zones. Estimation parameters were then formulated from the flagged samples, followed by estimation of grades by inverse distance to the third power methodology into the individual blocks. The generated blocks were of 5 meters (width) x 5 meters (length) x 3 meters (height) and were coded with the gold and silver grade estimations. The updated May 2010 resource model used the additional available infill and peripheral drill holes to provide further constraint and detail to the 2009 model. All modeling of the resources was performed using Gemcom® software.

The updated measured and indicated mineral resource estimate utilizing a cutoff grade of 0.25 g/t Au totals 18.73 million tonnes at an average grade of 0.676 g/t Au and 9.74 g/t Ag for a total of 0.407 million oz of gold and 5.87 million oz of silver.

2.3. MINING

The 5 meter X 5 meter X 3 meter resource model was reblocked to 5m X 5m X 6m dimensions to accommodate a larger mining unit and dilution. The resultant was an addition of 7.0% dilutional tonnes and an overall 7.3% decrease in average grade with a concomitant loss of 1,182 ounces of gold. Pit optimization was carried out using the MineSight 3D® economic pit evaluation software which utilizes the Lerchs-Grossmann algorithm. The highest IRR pit shell created by the Lerchs-Grossman run was based on an \$825 base gold price, and is the pit shell used for design and optimization. Total diluted reserves within the final design pit contain 316,135 ounces of gold and 4.5 million ounces of silver contained within 15.6 million tonnes of ore at an average grade of 0.63 g/t Au, 9.0 g/t Ag, and an associated 29.6 million tonnes of waste.

Variable pit wall slopes are used in the design and range from 44° to 52° on the hanging wall and end walls, to 35° on the footwall. Controlled blasting techniques will be necessary near the final pit wall. Careful blasting procedures will produce steeper bench face angles, allowing for the steepest final interramp angles that can be achieved.

A short pre-production period of two months has been considered in the La Bolsa mine plan. Mining commences during the end of construction, at a volumetric level of approximately 55% below the life of mine average. A higher stripping ratio of 2.14, as compared to life of mine average of 1.83, is required during this period. Initial ore mined will be fed directly to the crusher in order to provide overliner material. This ore will be stacked directly on the leach pad to support commissioning of process facilities.

Utilizing an ore throughput capacity of 3.0Mt/y, open pit mining will be completed in 5.3 years including 2 months of preproduction mining. Future pit expansion is not contemplated at this point in time although there remains potential for additional resource/reserve development to the south and east of the known resource area.

The waste dumps will be located adjacent to the pit, on the southeast and west sides. The two dumps have slightly higher capacity than the current planned 29.6Mt to allow for any future mining expansions. The waste dump will be filled from the top pushing outwards.

The primary mining equipment selected for the pit design includes two 10-14m³ wheel loaders (CAT 992/ WA900 Komatsu), up to eight 100 tonne capacity haul trucks and two 153mm diameter rotary blasthole drills.

Additional mining equipment will include maintenance service vehicles, a water truck, a grader, two track dozers, pickup trucks and an AN/EQ powder loading truck.

This study contemplated both a mining contractor as well as owner operated mining fleet scenarios. Pending a final decision, at peak mine production, the manpower will consist of up to 14 technical, administrative and supervisory personnel, 106 mine operations personnel and 7 mine maintenance personnel for a company owned fleet scenario, or 14 technical, administrative and supervisory personnel, 78 mine operations personnel and no mine maintenance personnel in a contracted scenario.

2.4. METALLURGY

Metallurgical testing on La Bolsa mineralization to date has included ore characterization studies, trace-element analyses, cyanide leach bottle-roll testing, and cyanide-leach column testing at various feed sizes. The objective of the testing was to characterize the ore with respect to metallurgical performance, investigate the most probable treatment alternatives and determine the most economical method for recovery. Composite samples used in the investigation were classified as either high or low grade, or north or south, and were oxide ores typical of the deposit. The results of testing indicated that the La Bolsa samples were amenable to cyanide heap leaching methods.

Trade off studies considering other potential process flowsheets were not completed as part of this study due to the overall low grade of the La Bolsa deposit.

The studies allowed for selection of the most favorable process flowsheet, based on current information, for pre-feasibility level evaluation. Preliminary economic analysis completed during the scoping study indicated that crushing and heap leaching would be the most appropriate method of ore treatment. The results of the testwork, particularly the column heap leaching tests performed during 2009, provide the basis for the flowsheet development.

Based on column leach tests, the projected recoveries for the oxide samples are estimated to be 72% gold recovery and 7% silver recovery at a p80% -25 mm crush. Based on the testwork, the selected leach cycle time is 60 days. The testwork indicates that there is an increase in gold extraction with a decrease in particle size; however the same testwork shows that the ore is more time sensitive than size sensitive. The smallest practical particle size was determined to be nominal -25 mm for optimum gold recovery. A p80% -25 mm product size was selected as there

is a significant increase in equipment requirements and operating costs when the product size is decreased below 25 mm, with only minor increase in additional gold recovery.

Impact and paddle abrasion testing was conducted by METSO Minerals in their Research and Test Center in Milwaukee, Wisconsin, USA. Testing consisted of a Bond Work Index test and Paddle Abrasion test on two samples supplied by Minefinders, one average hardness material and an above average hardness material. The Paddle Abrasion test results show that the average hardness material is a highly abrasive material, and the above average hardness material is classified as an abrasive material.

2.5. PROCESS PLANT

The design criterion was selected based on the metallurgical test work and on current industry practice. The selected flowsheet consists of two stage crushing followed by heap leaching of La Bolsa ores. The mine production rate was selected based on preliminary economic alternatives performed during the scoping study. The economics of various plant capacities indicated that economies of scale were evident. However, considering the current market environment, the lower capital cost heap leach alternative would be the most favorable. The rate of 3.0Mt/y was initially selected. The carbon adsorption, desorption processing facility (ADR) design allows for up to 15% higher processing capacity, accommodating operational expansion of up to 3.35Mt/y.

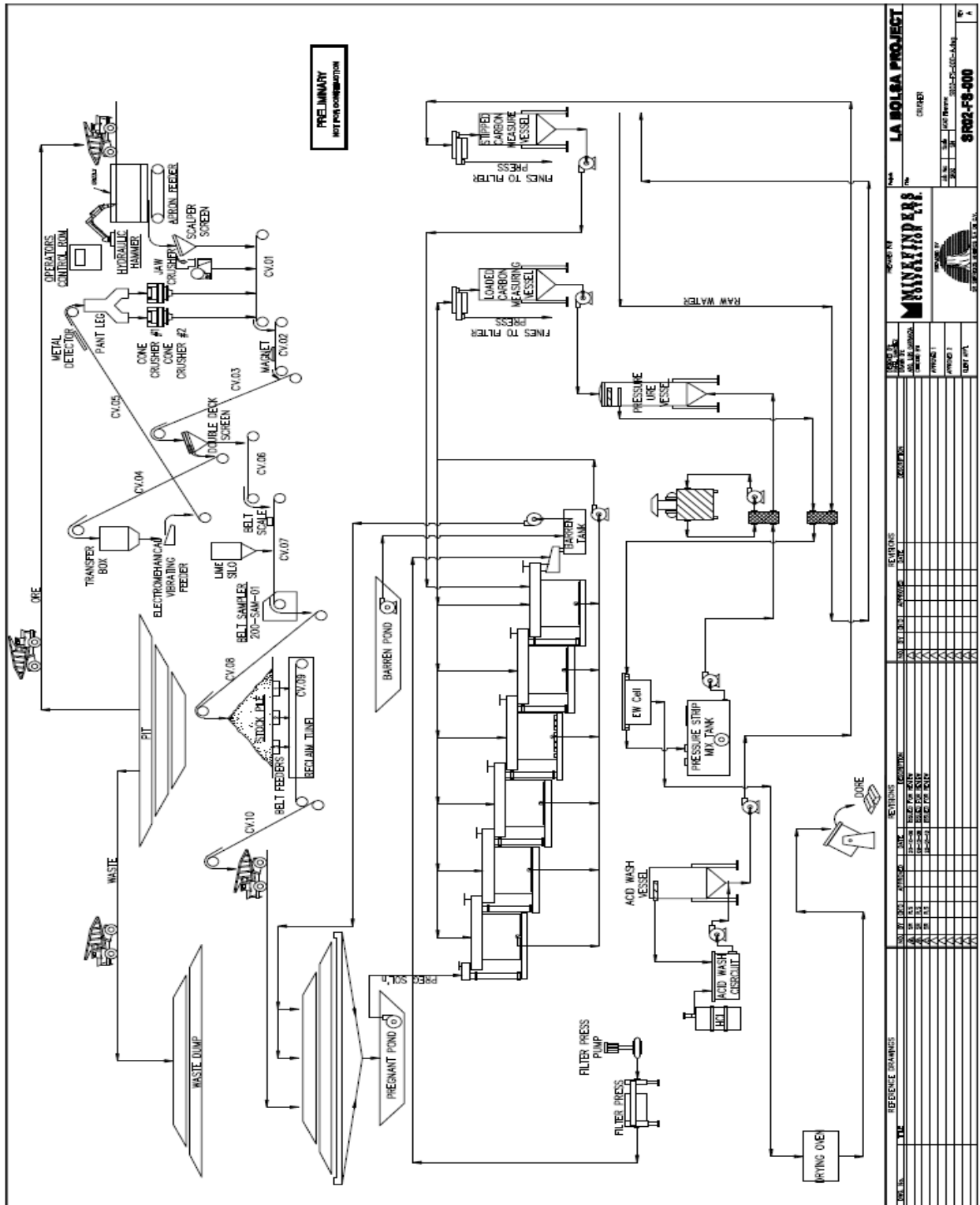
A review of the crushing equipment capacities by METSO Minerals indicate the equipment selected for 3Mt/y has a maximum capacity of 3.38Mt/y throughput.

The flowsheet selected for the Project is shown in figure 2.6-1 below. The flowsheet includes ROM being delivered to the primary jaw crusher followed by a coarse ore stockpile. The coarse ore stockpile will be reclaimed and conveyed to the secondary crushing and screening circuit. Ore will be conveyed to the leach pad via a system of grasshopper conveyors and radial stacker. More detailed engineering and planning will accompany a final leach pad design and stacking plan. The leach pad will be loaded in 6 m lifts to a maximum height of 50 m. The leach pad is to be constructed in two phases. The initial Phase I leach pad construction will have a two and a half year operational capacity. The ore will be leached for 60 days. Pregnant solution will be passed through carbon columns for gold recovery and the barren solution will return to the heap. Carbon stripping, electrowinning and refining circuits will be utilized to produce doré.

2.6. INFRASTRUCTURE AND ANCILLARY FACILITIES

The infrastructure in Mexico is well suited to support the development of the Project. The highway and road system are moderately well maintained and allow easy access to site from main centers of commerce. There is a railway in close proximity to the site and an airport approximately 35 km away. Sufficient power is available from the National Grid, however a trade off study needs to be completed following this study. Reportedly an 18 km line can be built from a substation in Nogales, across the neighboring ranches. This option is under study at the time of this writing in conjunction with the CFE and Minefinders' consultant.

FIGURE 2.6-1 HEAP LEACH PLANT SIMPLIFIED PROCESS FLOW SHEET



The Project site is shown on the site layout drawing in figure 2.7-1. The site is divided into two distinct sections. The open pit, one waste dump, and mine maintenance shop, will be located east of the natural divide created by Cerro La Bolsa. A second waste dump, the crushing facilities, administration building and leach pad will be situated in close proximity to and directly west of the open pit. The ADR will be located in the vicinity of the leach pad.

Water will be supplied from a new well within the site boundaries and pumped through an above ground 6-inch line. The new well field will supply approximately 57m³/hr (15.8 lps) to the plantsite. The pipeline will terminate at the Project's storage tank located near the plantsite and ADR plant. Potable water will be provided for the mine via local vendors.

Power supply to the site will be self-generated with diesel generators. One 1,250kW generator will supply the crushing plant, while two 500kW gensets will supply the ADR plant and offices. A third 500kW genset will be stationed at as part of the ADR power plant and operated in cyclical rotation. Ore transport, grasshopper conveyors and associated radial stacker will require a separate genset.

Personnel for construction and operations will be housed offsite, although a small four-cabin facility will be constructed for part time use by management personnel. No temporary or permanent construction camp is envisioned.

Ancillary facilities will include an administration building, a modest lunch area, an assay laboratory and maintenance and repair facility. Local architecture will be utilized wherever practical and cost effective. One-week fuel requirements will be stored at site.

2.7. ENVIRONMENTAL

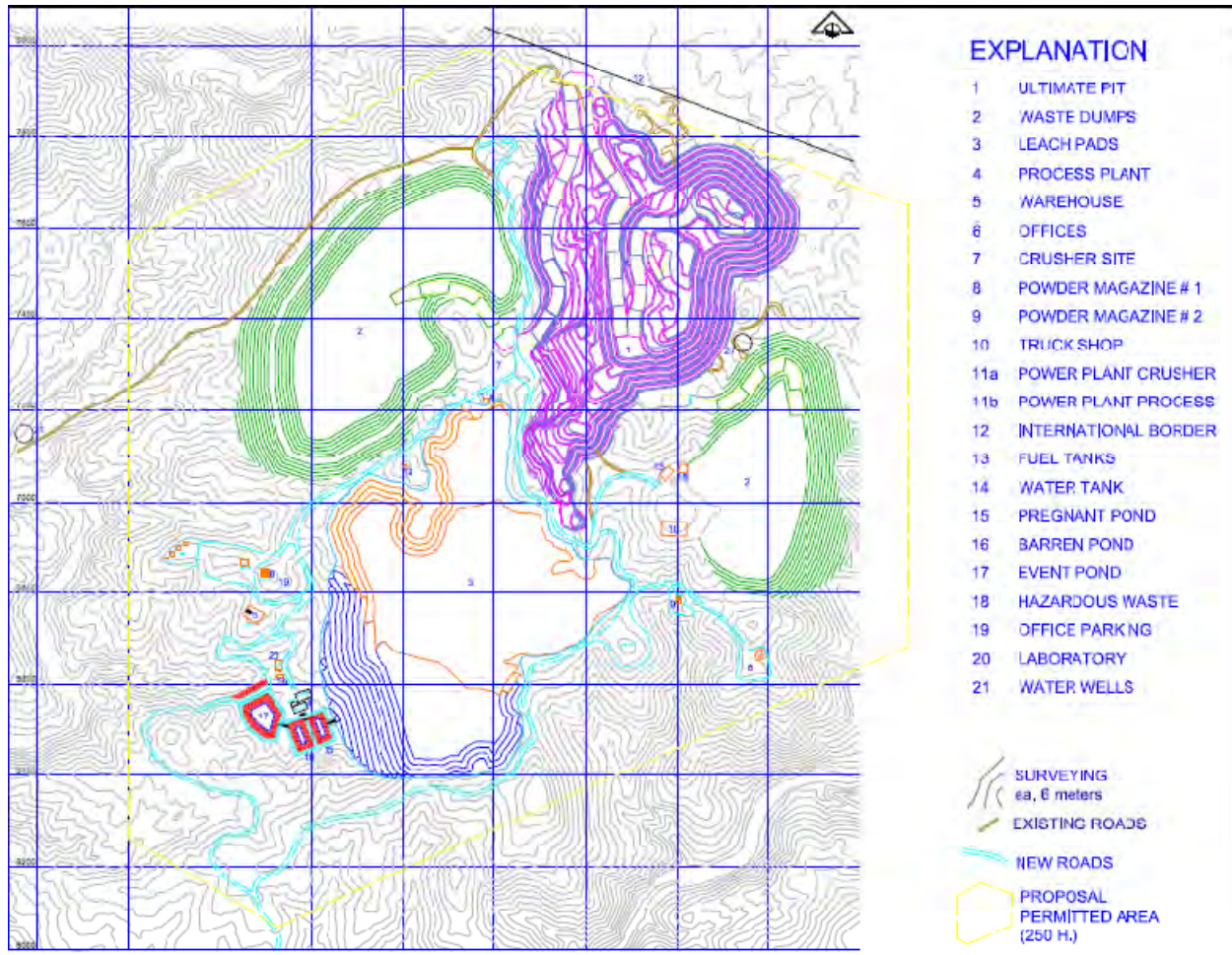
An environmental baseline study has been prepared for the Project by Patricia Aguayo and Associates (PAA), of Hermosillo, Sonora, Mexico. PAA are currently completing an Environmental Impact Statement for the project that will be submitted to regulatory authorities during Q4 of 2010. The EIS, known in Mexico as a MIA, forms the basis for mining permits. The permitting process is on schedule to be complete by year end 2010.

There are a few small villages in the general vicinity of the Project. The project itself is located on a private ranch, with the nearest house for the ranch hands being 4.5 km distant. The socio-economic impact of the Project is considered positive as employment will be provided in an economically depressed area.

The primary use of the land is for minor agriculture and domestic animal grazing. The majority of the land impacted by the Project is not suitable for agriculture. There have been no potential environmental impacts identified that would prevent the development of the Project.

By utilizing proper design, construction and operation practices to control site disturbance and emissions, potential impacts can be mitigated.

FIGURE 2.7-1 HEAP LEACH FACILITIES SITE PLAN



Minefinders is committed to complying with all of the regulatory requirements of Mexico and meeting or exceeding international environmental protection standards. At the same time, Minefinders wishes to develop the Project in a fashion that meets the concerns of the local communities.

2.8. PROJECT IMPLEMENTATION

The Project schedule with this study includes all activities from the completion of this Study through to commissioning of the facilities. The simplified schedule for the execution of the Project is included in the overleaf.

The first phase of the Project will include completion of the Environmental Impact Study known as Manifestación de Impacto Ambiental (MIA) which is being carried out in parallel with this pre-feasibility study. The MIA phase of the Project is contemplated to be completed and submitted to the regulatory authorities (SEMARNAT) by Q4 2010. SEMARNAT is then required by law to present Minefinders with a permit to mine along with technical stipulation within 90 days.

The overall duration of the implementation phase of the Project is 22 months from the date of approval by the company's board of directors.

The Project will be engineered and constructed to North American standards utilizing Mexican materials and methods wherever practical and cost effective. Where it is considered cost effective, modular construction and fabricated packages will be utilized in the construction of the Project.

2.9. FINANCIAL ANALYSIS

Capital and operating costs that were prepared for the Project are based on the scope of work developed during this Pre-Feasibility Study. The work completed has been of sufficient detail to allow the estimates to be completed to an accuracy of plus or minus 25%. Costs are expressed in first Quarter 2010 US dollars without allowance for escalation or inflation.

The capital cost estimate is based on standard EPCM methodology. There is a good selection of qualified fabricators and contractors in Northern Mexico to assure competitive bidding. Qualified tradesmen are available in Mexico. Prefabricated buildings and equipment packages and modules have been utilized where practical in order to decrease costs by reducing field erection costs. Only the major process equipment is imported for the Project. The balance of the equipment and all the construction bulk supplies are available from within Mexico. Where modules are fabricated, it is assumed they will be assembled offsite and shipped to site. Four months working capital has been assumed at startup totaling \$6,969,416 and impacts the cashflows. The working capital cost is shown as recovered in the final year of the financial modeling.

The capital cost estimate for the Project is summarized in Table 2.9-1.

FIGURE 2.9-1 PROJECT SCHEDULE

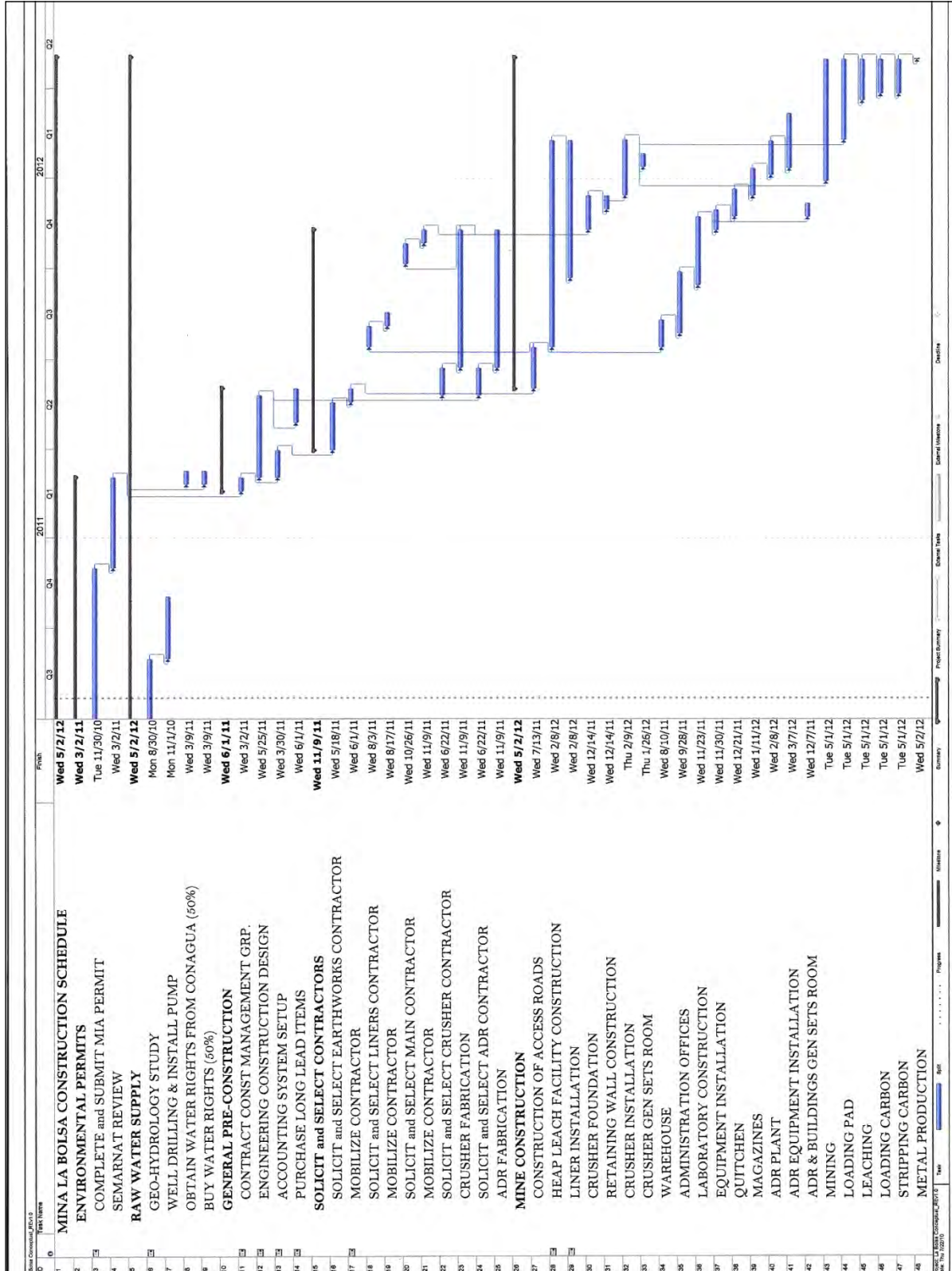


TABLE 2.9-1 CAPITAL COST SUMMARY

LA BOLSA CAPITAL COST SUMMARY, US\$	CAPITAL COST TOTAL US\$
DIRECT COSTS	
Plant and Equipment	
Buildings	1,663,603
Crushing Circuit, with no spare parts	4,035,903
Grasshopper Conveyors and Stacker Circuit	1,655,000
Gen Sets and Installation	944,000
Laboratory Equipment and Reagents	484,268
Truck Shop	169,202
Plant Water Distribution	165,718
Reagents Equipment	123,212
ADR Plant, turnkey with no spares, no Kiln	2,741,110
ADR Plant Concrete and Structural	720,000
Solution Management (Pumps)	143,788
Process Plant Mobile Equipment	297,000
Pad/Pond Construction Costs (Geomembranes, Earthwork, Drain Pipe, Clay Haul)	2,596,007
Raw Water Supply System (Include water well & Diversion Ditch Excavation)	399,254
Bird Netting	20,000
Furniture and Accessories	
Office Furniture	25,000
(2)Plotter	16,000
Copiers, Fax and Printers.	25,000
Computers, Software and Communication	
(12)Computers	18,000
Software (GEMCOM, ACAD, MSO)	50,000
Software (ACC-PAC)	25,000
Survey Equipment	75,000
Satellite Communication System	20,000
Light Vehicles	
(8)Pickup Truck	200,000
Warehouse Truck	25,000
Personnel Transport	90,000
(2)Light Vehicle for Administration	40,000
On Site Ambulance	25,000
Surface Rights	
Mine Start Up Agreement (Pierson)	500,000
Roads and Access	
County Road Upgrade - Saric to Ranch	65,000
Access Road Earthworks - Ranch to Site	93,549
Property Fences (Includes installation cost)	58,000
SUBTOTAL, DIRECT COSTS	17,533,614
INDIRECT COSTS	
Indirects and Owners Costs	500,737
Technical Services	36,000
Engineering and Drawings	377,941
PCM	1,200,000
Environmental Baseline Studies	12,046
Enviro. Permitting Expenditures (Impact Assessments, Land Use Chng., Risk Study)	86,792
Water Analysis Studies, SEMARNAT Permits, Water Permits	45,000
Blasting Permits	12,000
Air Monitoring	100,000
Initial Fills	439,452
Spare parts for Crusher & ADR	350,000
Mine Contractor Deposit	487,256
Construction Contractors Mob/Demob	50,000
SUBTOTAL, INDIRECT COSTS	3,697,224
SUBTOTAL, DIRECT AND INDIRECT COSTS	21,230,838
Contingency (15 %)	3,184,626
TOTAL INITIAL DIRECT AND INDIRECT COSTS	24,415,464
WORKING CAPITAL	-
4 Months: Mining, Crushing, Leaching, Admin	6,969,416
SUBTOTAL INITIAL WORKING CAPITAL	6,969,416
TOTAL INITIAL CAPITAL COSTS	31,384,880
Sustaining Capital Cost Summary	
DIRECT SUSTAINING COSTS	Sustaining Capital Cost,
Pad/Pond Construction Costs (Geomembranes, Earthwork, Drain Pipe, Clay Haul)	2,500,000
Capitalized Pre-stripping	9,426,020
Reclamation Expenditures	569,043
SUBTOTAL SUSTAINING CAPITAL COSTS	12,495,063
RECOVERIES	
Salvage	(2,348,952)
Mine Contractor Deposit	(487,256)
Initial Fills	(439,452)
Initial Working Capital	(6,969,416)
SUBTOTAL RECOVERIES	(10,245,075)
NET SUSTAINING CAPITAL COSTS	2,249,988
TOTAL NET CAPITAL & SUSTAINING CAPITAL	33,634,868

Ongoing capital costs for phase II leach pad expansion have been included in the capital cost estimate. A reclamation provision has also been included in the cash flow and is accrued as a monthly cost on a per ounce basis, and is shown as a non-cash charge. During years three and four 6.78Mt of waste material has been capitalized; this represents pre-stripping development to the northeast of the early pit in order to access a deeper section of the orebody.

Annual operating costs have been calculated for the Project. Table 2.9-2 summarizes the life of mine operating cost for the Project.

TABLE 2.9-2 LIFE OF MINE OPERATING COST SUMMARY

	US\$(000's)
Mining	54,575
Process and Heap Leach	54,899
General and Administration & Support Costs	7,932
Sub Total Site Operating Costs	117,406
Treatment and Transportation Costs	341
Total Cash Operating Costs	117,747
Cash Operating Costs US\$/Tonne of Ore	7.51
Operating Costs US\$/oz Au	510

The economic performance of the Project was prepared as a life of mine forecast derived from a detailed cash flow analysis. The NPV and IRR were calculated on a before tax basis.

The cash flow model was prepared for the Project based on an \$850 gold price with a \$14 silver price, as a base case. The summary of the cash flow model is presented in Table 2.9-3.

TABLE 2.9-3 SUMMARY OF CASH FLOW MODEL

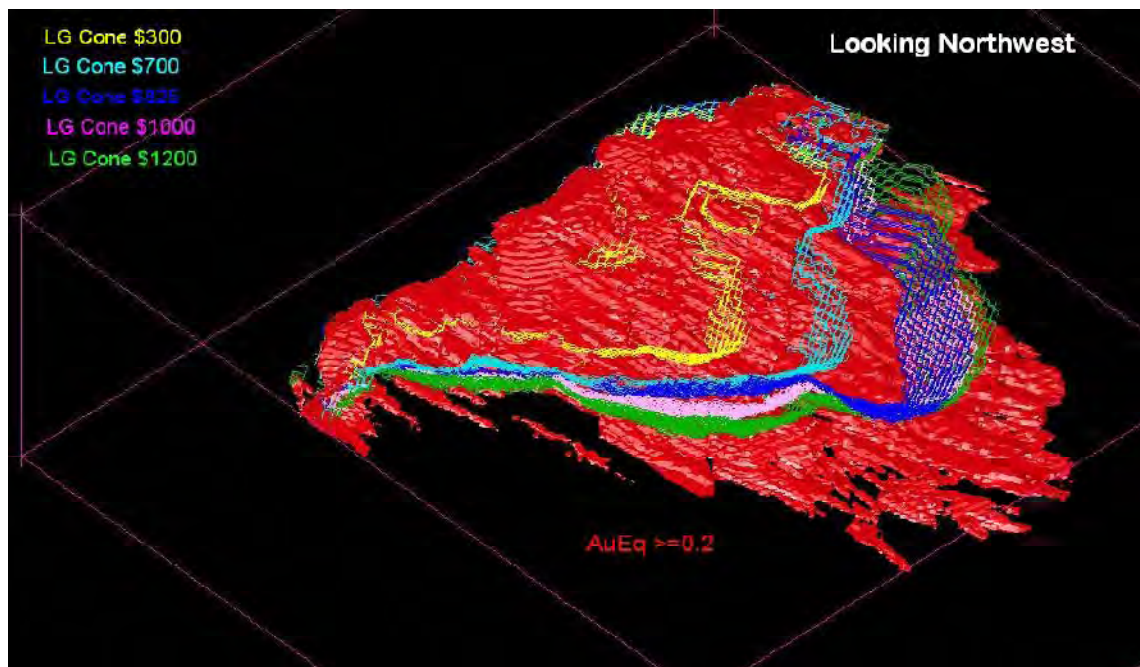
DESCRIPTION	YR 0 TOTAL	YR 1 TOTAL	YR 2 TOTAL	YR 3 TOTAL	YR 4 TOTAL	YR 5 TOTAL	YR 6 TOTAL	YR 7 TOTAL	GRAND TOTAL
PRODUCTION DATA:									
GOLD OUNCES PRODUCED & SOLD	0	3,677	40,054	41,925	43,481	46,273	37,661	14,545	227,617
SILVER OUNCES PRODUCED & SOLD	0	3,513	46,964	49,735	58,821	51,421	48,771	55,883	315,108
REVENUES	0	3,125,664	34,046,294	35,636,538	36,959,081	39,332,381	32,011,719	12,362,952	193,474,629
LESS: SELL, TRANS. & REFINE.	0	(5,516)	(60,082)	(62,888)	(65,222)	(69,410)	(56,491)	(21,817)	(341,426)
NET REVENUES	0	3,120,148	33,986,212	35,573,650	36,893,859	39,262,970	31,955,228	12,341,135	193,133,203
MINING COSTS:									
DRILLING & BLASTING COST	0	105,056	1,100,507	1,237,813	1,497,094	1,497,282	1,035,618	142,425	6,615,794
MINING	0	704,103	7,601,518	8,712,941	10,809,253	10,811,003	7,122,011	983,660	46,744,490
MINE SUPV, GEOL. & SUPPORT	0	3,870	234,480	234,480	234,480	234,480	234,480	39,080	1,215,350
DEFERRED STRIPPING	0	0	0	0	0	0	0	0	-
TOTAL MINING COST	0	813,029	8,936,505	10,185,235	12,540,827	12,542,765	8,392,109	1,165,165	54,575,634
TOTAL PROCESSING COSTS	0	935,933	9,826,106	9,844,355	9,848,875	9,850,715	9,543,180	5,050,659	54,899,823
TOTAL DIRECT PRODUCTION COST	-	1,748,962	18,762,611	20,029,589	22,389,702	22,393,480	17,935,289	6,215,824	109,475,457
TOTAL SUPPORT COSTS	0	258,749	1,538,454	1,513,804	1,402,223	1,523,007	1,579,003	117,261	7,932,501
OTHER COSTS:									
RECLAMATION PROVISION	-	9,193	100,136	104,813	108,703	115,683	94,152	36,362	569,043
DEPRECIATION & AMORTIZATION	-	534,192	5,818,689	6,090,471	6,316,500	6,722,109	5,470,970	2,112,893	33,065,825
INTEREST & OTHER INCOME	-	-	(29,500)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(179,500)
TOTAL OTHER COSTS	-	543,385	5,889,326	6,165,284	6,395,203	6,807,793	5,535,122	2,119,255	33,455,368
TOTAL COSTS	-	2,551,097	26,190,391	27,708,677	30,187,128	30,724,280	25,049,413	8,452,340	150,863,326
PRETAX PROFIT		569,051	7,795,822	7,864,973	6,706,731	8,538,690	6,905,814	3,888,795	42,269,877
NON-CASH CHARGES		543,385	5,918,826	6,195,284	6,425,203	6,837,793	5,565,122	2,149,255	33,634,868
TOTAL CASH FLOW FROM OPERATIONS		1,112,437	13,714,647	14,060,257	13,131,935	15,376,483	12,470,936	6,038,050	75,904,745
LESS: CAPITAL, MINE DEVEL, RECL	2,914,527	20,745,386	7,724,966	1,100,000	6,113,390	4,712,631	-	(9,676,032)	33,634,868
NET PRE-TAX CASH FLOW	(2,914,527)	(19,632,950)	5,989,681	12,960,257	7,018,545	10,663,852	12,470,936	15,714,082	42,269,877

2.10. RISKS AND OPPORTUNITIES

Additional drilling has been used to update the 43-101 resource model. The result is enhanced definition of interior portions of the deposit through the conversion of indicated resource material to the measured resource category. Expansion of the resource about its margins was negligible. Although potential exists for additional resource and reserve development it is anticipated that drill area expansion will be minimal.

The proximity of the La Bolsa deposit to the international border may preclude Northerly pit expansion potential. A permitting investigation effort could be initiated after startup with the mine staff to quietly explore possibilities of becoming the first open pit gold mine crossing the international boundary. Geologic evidence suggests that resource expansion west of the planned open pit is unlikely. Drilling to the South and East or an increase in gold prices may provide additional reserve ounces in a limited amount. An increase in production rate or an extension of current planned mine life could then be investigated. Other nearby outlying properties controlled by Minefinders may potentially add life extension to the mine.

FIGURE 2.10-1 ISOMETRIC VIEW OF OPTIMIZED PIT SHELLS AT DIFFERENT GOLD PRICES - \$US/OZ



Initial proposals from Mexican mining contractors for contract mining operations have shown a lower unit cost than owner-operated unit costs. Consequently contract mining is expensed in the proposed mine plan.

The Pre-Feasibility Study was completed using a January 2010 exchange rate of 12.9 MX pesos= US\$1.00.

2.11. CONCLUSIONS AND RECOMMENDATIONS

2.11.1. Geology and Mining

To continue advancing the Project to feasibility level, SR recommends the following work be completed during the upcoming 2010 exploration drilling program:

- Input into the geological model all new additional drilling to upgrade inferred and indicated resources to indicated and measured categories;
- complete additional drilling to condemn leach pad and waste dump areas;
- maintain the current quality control/quality assurance procedures for all future sampling programs;
- continue the independent verification of all new data.

The current resource model was constructed using 5m x 5m x 3m (LxWxH) blocks. It was determined that the block size used within the resource model is reasonable to depict the grade variability within the deposit, but is too small relative to the smallest mining unit (SMU). The current mine plan assumes 6 meter benches. A reblocking exercise was completed prior to mine planning to address this issue as well as incorporate a reasonable dilution factor. Reblocking was accomplished using MineSight 3D® software by combining the resource model 5x5x3m blocks into blocks of 5x5x6 meter dimensions. Two blocks were combined vertically for each block horizontally.

Geotechnical investigations on the open pit geotechnical parameters, completed by The Mines Group, were based on certain assumptions regarding distribution and characteristics of the rock mass at the Project. These assumptions may require further confirmation and are adequate for the current pre-feasibility study. Detailed geotechnical investigations to address all the feasibility study requirements in regards to geotechnical parameters utilized in pit optimization, mine design, leach pad design and mine costing are included in the appendices.

2.11.2. Process

The testing programs performed for this Pre-Feasibility Study were adequate for this level of study and are sufficient to support a feasibility study.

The column leach tests, which were the most important for this Study, appeared to be complete and the results satisfactorily consistent. It is accepted that the current metallurgical understanding of the La Bolsa ores is sufficient to construct a mine.

2.11.3. Infrastructure

A geotechnical investigation is required to be completed in the location of the process and ancillary facilities, leach pad and waste dump during any further study in order to finalize subsurface conditions and foundation requirements.

The current topographic coverage of the area at a 1 m contour interval is deemed adequate for construction.

Additional investigation is in process in regards to sites considered for production well development and this includes completion of pumping tests from existing drill holes. Once sufficient water is located, infrastructural capital and operating costs can be more closely estimated.

2.11.4. Environmental

Additional complete years of meteorological data are required to establish annual norms and potential for inter-year variation. Although believed climatologically similar, the closest historical monitoring facility is located within the town of Nogales, Mexico some 27 kilometers east of the project (Appendix 9). Additional data is currently being sought as part of the Environmental Impact Statement study. This data is important for the establishment of proper water balance modeling predictions. On-site meteorological data gathering should be initiated as soon as the company makes a positive construction decision.

Mapping and monitoring of all wells/springs and intermittent surface water should be continued in order to characterize the water quality and develop sampling methods as part of the EIS assessment.

Current soil descriptions and analysis and soil mapping of the project area is deemed adequate and baseline information on vegetation, mammals, reptiles and amphibians has been collected and surveyed throughout areas of potential impact for the planned operation..

Socio-economic assessments should continue with focus groups, community meetings, individual interviews and public announcements.

Estimates of labor requirements and scheduling plans should be evaluated with regard to housing, waste management and traffic increases.

2.11.5. Project Economics

In order to advance the project economics to a feasibility study level, the following work is required:

- Complete additional engineering in order to refine the capital and operating cost estimates to +/-20%.
- Obtain new quotes for contract mining, power supply, diesel supply and consumables.
- Finalize leach pad and all civil engineering works.
- Confirm labor costs and taxation data.

3.0 RELIANCE ON OTHER EXPERTS

This report has relied on data supplied by Minefinders Corporation Ltd. This data includes third party technical reports prepared by various consultants and government agencies, along with other relevant published and unpublished, internal Minefinders documents and third party studies and reports. The MINES Group and Sonoran Resources have endeavored, by making all reasonable enquiries, to confirm the authenticity and completeness of the third party technical data upon which this report is based.

The La Bolsa, mineral resource model was audited and verified independently by Sacrison Engineering of Elko, Nevada. Further detail may be reviewed in an independently prepared 43-101 technical report prepared by Sacrison Engineering in October of 2009, found in Appendix 04 and on www.sedar.com.

The reserve estimate, final mine design, and mine scheduling were completed by Ms. Xochitl Valenzuela, of Xochitl Valenzuela Engineering (XVE) in collaboration with Sonoran Resources' Chief Mining Engineer, Jose Rios Duarte. The mine production schedule established by XVE was utilized by Sonoran Resources to generate capital and operating costs. The reserve estimate was completed utilizing information from sources as outlined in Section 1.3.2.

Metallurgical test work and reports have been completed by McClelland Laboratories, Inc., Hazen Research, and METSO Minerals. Rafael Sanchez, Sonoran Resources' Vice President of Operations and Chemical Engineer specialized in Metallurgy, developed processing design criteria utilized in this report. Sonoran Resources completed the design of the process plant and developed the flowsheets for the Project. Additional processing plant designs and quotations were obtained from Lyntek Inc., Summit Valley Engineering and Kappes Cassidy & Associates.

An Environmental Impact Statement for the Project, incorporating all associated baseline studies, is being prepared by Patricia Aguayo and Associates (PAA) concurrently with this report.

The authors have not conducted land and mineral rights legal title evaluations and have relied on information provided by Minefinders pertaining to property ownership, which the Mines Group believes is reliable. The Mines Group is experienced with permitting evaluations required under the law by the Mexican regulatory authority, SEMARNAT. It is the opinion of the Mines Group that Minefinders is proceeding in the appropriate manner to obtain all permits required for mining.

4.0 PROPERTY DESCRIPTION AND LOCATION

4.1. PROPERTY LOCATION

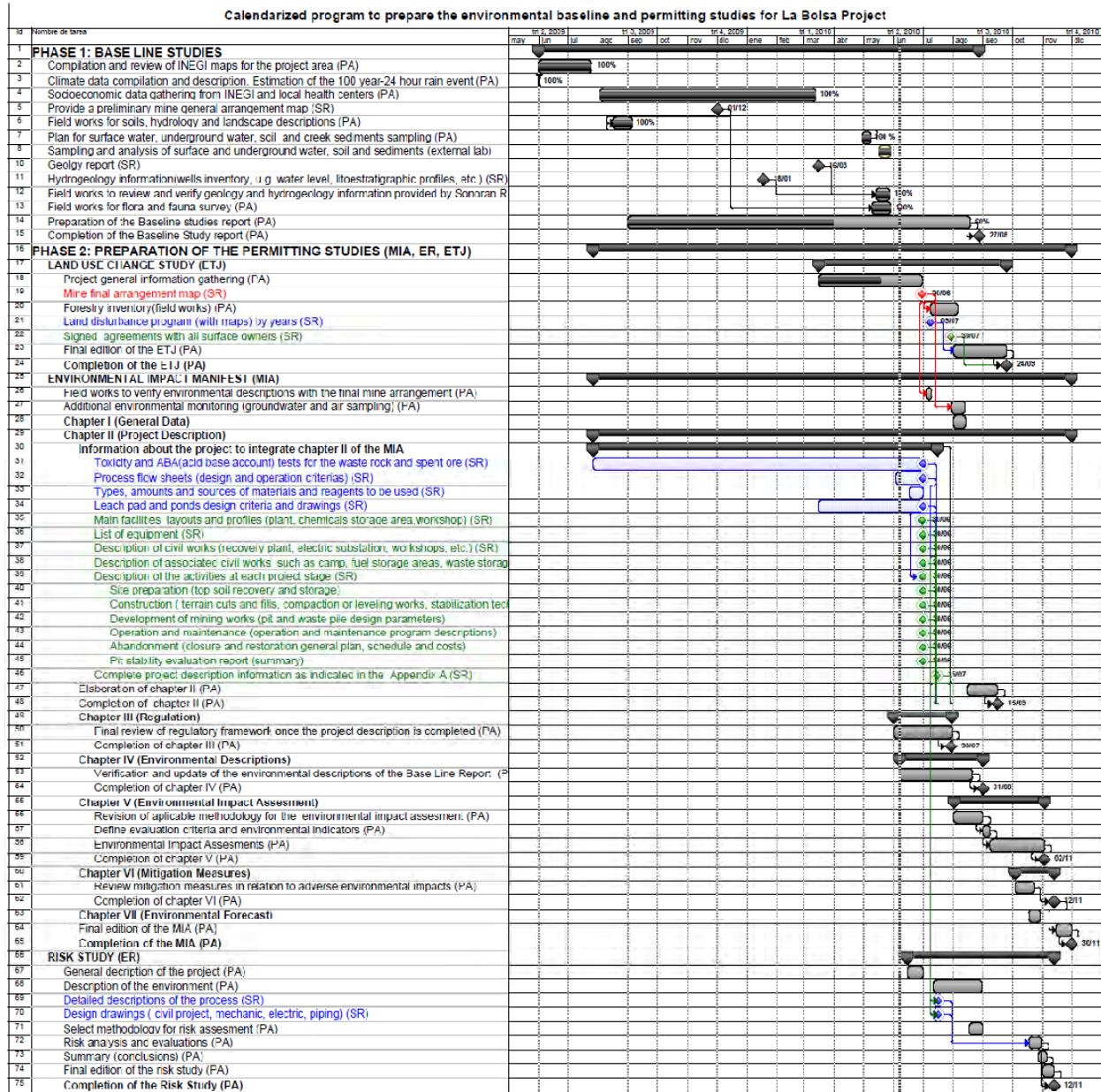
The La Bolsa project site is located in Northern Mexico, Sonora State, Municipality of Nogales, and 27 km west northwest of the city of Nogales, Mexico. The site is approximately midway between state capitals Phoenix, Arizona and Hermosillo, Sonora and is located 94 km southwest of Tucson, Arizona.

The Project site is located in a dry area. Intermittent surface water is evident only during heavy rains. Topsoil in the area is reported to be thin with fractured, weathered outcrop interspersed throughout. The subsurface conditions are assumed to be weathered bedrock. Such fractured bedrock would be suitable for economical spread footing foundation design.

4.2. PERMITTING

Permitting for mining operations is in progress through the process of compiling the Manifestación de Impacto Ambiental document (MIA). This document is scheduled to be presented to the Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT), prior to December of 2010. SEMARNAT has 90 days to deliver to the company a permit to mine with a list of Resolutions which the operation will have to abide by. This study contemplates receipt of the permit to mine by March 2011.

FIGURE 4.2-1 MEXICO MINING PROJECTS – PERMITTING GANTT CHART



5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES INFRASTRUCTURE AND PHYSIOGRAPHY

5.1. ACCESS

Access to the La Bolsa project is via an unpaved county road which currently connects the town of Saric, Sonora with the city of Nogales. The county road has been adequate throughout the exploration drilling phase of the project, but will require some improvements in order to support a full scale mining operation.

5.2. PHYSIOGRAPHY AND CLIMATE

The regional terrain of the area is low rolling hills with a few higher peaks adjacent to, and north of the US border. Elevations range from approximately 900 m above sea level in the valley floor to 1,600 m above sea level at the top of the larger mountains. The immediate project area consists of gently rolling hills ranging in elevation from around 1,050 m above sea level to the top of the surrounding hills and Cerro La Bolsa at 1,175 m above sea level.

The local climate is semi-arid and is characterized by hot summers with regular monsoonal rainfalls and mild occasionally wet winters. The average temperature is approximately 16°C with the maximum and minimum being 44°C and -10°C respectively. The mean annual rainfall is 483 mm, with the highest rainfall being observed during July through September and the lowest rainfall in April through June. The maximum recorded daily precipitation is approximately 45 mm. The majority of the land in the project vicinity is not suitable for agriculture. Vegetation is typical Sonoran desert, that is abundant yet thin, and comprised primarily of grasses and cactus.

5.3. LOCAL RESOURCES AND INFRASTRUCTURE

The largest settlements in the vicinity of the mine are Nogales to the southeast (population 159,103) and Saric to the south (population 2,257). The area contains a number of smaller villages with some marginal agricultural activity based on low productivity, non-irrigated farmland and grazing of domestic animals.

Available subsurface water exists within the project site boundary. Electrical power will be generated on site, although construction of a new power line from Nogales is being evaluated.

The nearest airport and a major link to the national rail system may be found within the nearby municipality of Nogales, Mexico. Nogales is also a major international gateway along the United States-Mexico border.

6.0 HISTORY

No records have been found related to the limited, historic prospecting which had taken place on La Bolsa hill prior to Minefinders exploration activities. Spanish prospectors, drifting north from the Planchas de Plata silver strike in Sonora in 1736, probably represented some of the first activity in the area. Small gold placers and shallow lode deposits were worked in the Oro Blanco district around 1740, 3 to 5 kilometers north and west of La Bolsa. The first American gold mining claim in the Oro Blanco region was located on March 20, 1873, by Robert N. Leatherwood, John Bartlett, and others, of Tucson. It is assumed that the few prospect pits found within the La Bolsa resource area were dug at approximately the same time as initial mining in the Oro Blanco District.

No modern day exploration had occurred at La Bolsa prior to property acquisition by Minefinders.

Initial field work by the company was carried out during the summer of 1994 and included geologic mapping, rock chip sampling and completion of a sample grid covering much of the current resource area. Since then Minefinders has been actively exploring in and around La Bolsa. Minefinders' personnel have evaluated more than 700 square kilometers within the area around La Bolsa via stream sediment surveys, reconnaissance rock chip and rock chip grid sampling, road cut sampling, geologic mapping, reverse circulation (RC) and core drilling, airborne and localized ground geophysics, aerial photo interpretation and satellite imagery review. Geologic understanding both at La Bolsa and regionally has been integrated to develop a complete understanding of stratigraphy, structure and mineralization.

The down-dip eastern extension of the La Bolsa mineralized zone remains open although recent drill intercepts on the eastern periphery indicate generally lower grades at increasing depth in this direction.

7.0 GEOLOGICAL SETTING

7.1. INTRODUCTION

The following section describes the geologic setting of La Bolsa area. Subsequent subsections summarize the regional and local geology, physical data collection, data verification and mineral resource estimation methodology for the La Bolsa Project. The information was collected from technical reports available in the public domain, the independently prepared 43-101 technical report and resource estimate prepared by Sacrison Engineering in October of 2009, internal reports prepared by Minefinders Corporation geologists, or consultants retained by Minefinders to work on the Project.

7.2. REGIONAL GEOLOGY

7.2.1. Introduction

La Bolsa lies within the southern portion of the Basin and Range physiographic province of Arizona and northwestern Mexico which is dominated by a series of elongate, northwest trending ranges separated by alluvial valleys.

7.2.2. Lithology

The regional stratigraphy surrounding La Bolsa can be divided into three distinct groups. The oldest of these are a series of moderately welded felsic tuffs with minor interbedded arkose and quartzite lenses. These rocks were sourced from the Jurassic age magmatic arc that has been identified in northwestern Sonora and are regionally extensive.

Overlying the oldest rocks are a series of interbedded fluvial and lacustrine sediments ranging from coarse conglomerates to fine siltstones, including minor fresh water limestones. Locally, especially in the area of La Bolsa, andesitic eruptive centers have contributed varying amounts of flows, flow breccias, and associated detritus to the sedimentary package.

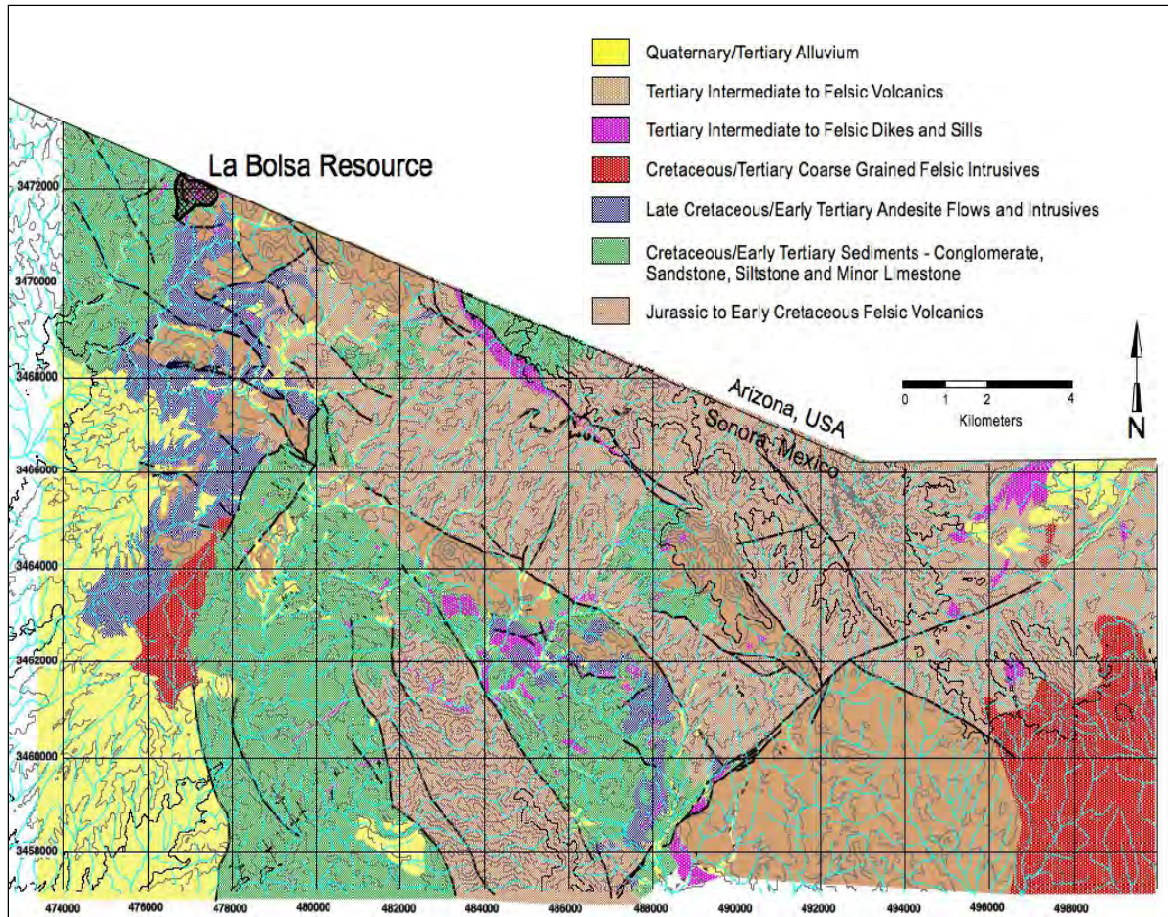
Finally, during the Tertiary period volcanic eruptions deposited a series of intermediate to felsic flows, flow breccias, tuffs and debris flows. Intrusive activity probably related to the intermediate to felsic extrusives drove hydrothermal systems that mineralized the northwest and northeast oriented structures. Older porphyry-related base metal mineralization is dominant along the northeast structures while precious metals dominant mineralization commonly occurs along the northwest structures. Refer to Figure 7.2-1 for an overview of the regional geology.

7.2.3. Structure

La Bolsa occurs within the proximity of a large vaguely defined northwest structural zone that has been termed the Imuris Lineament. This 30–50 kilometer wide lineament hosts a series of precious metals occurrences including Santa Gertrudis, Amelia, and Lluvia de Oro to the southeast and Oro Blanco and Mildred Peak to the northwest. The structural zone is subparallel to and has been theorized to be tectonically related to the Mojave-Sonora Megashear which is located approximately 100 kilometers to the south. Initial motion on structures making up the Imuris Lineament is inferred to be sinistral strike-slip movement as a result of a compressional regime oriented WNW-ESE that was active during the late Cretaceous and early Tertiary Periods. This deformation also resulted in variable folding of the existing rock units. Sinistral movement on the northwest structures also resulted in the propagation of northeast and east-west oriented dilational gashes and shears between the major northwest structures.

Subsequent Tertiary extension resulted in dip-slip reactivation of the northwest structures, forming a series of northwest oriented horsts and grabens. Motion was greatest on the northeast sides resulting in a gentle to moderate dip of the units to the northeast.

FIGURE 7.2-1 REGIONAL GEOLOGY



7.3. LOCAL GEOLOGY

7.3.1. General

Detailed geologic mapping (Fig. 7.3-1) and study of lithologies and geologic relationships have been conducted intermittently since 1994 within the project area. Petrographic studies of lithologies were also undertaken by Wenrich (1996), and Hudson (1996). Hazen Research Labs (Bolles, 1996) also completed ore characterization studies that helped to refine mineralogies and precious metals occurrences.

The gold-silver mineralization at La Bolsa occurs within stockwork and disseminations that are generally located within a low-angle north-south trending structural zone that dips moderately eastward from its exposure along a north-south-trending ridge. Mineralization is in the form of an oxidized blanket that is sub-parallel to topography and dips shallowly below surface from the base of the ridge. Mineralization has been traced for approximately 1,100 meters (3,600 feet) in length and up to 800 meters (2,600 feet) in width with thicknesses that range from 10 to 60

meters (30 to 200 feet). Recent drilling at La Bolsa continues to extend that zone, and the known mineralization remains open both down-dip and along strike.

7.3.2. Lithology

Most of the precious metals mineralization at La Bolsa occurs within a series of regionally propylitized andesite flows and flow breccias interbedded with varying amounts of conglomerates, arkosic sandstones, and minor siltstone. While the finer sedimentary material is regionally sourced, the coarser conglomeratic clasts are almost exclusively derived from the andesite flows. Andesite flows are moderately porphyritic and can range from less than one meter up to 100 meters thick. Post depositional faulting and folding as well as the lateral discontinuity of individual beds makes determination of strike and dip difficult. Within this package there is a general transition from sedimentary dominant at the north end of the deposit to volcanic dominant at the south.

Overlying the sediments and andesites is a rhyolitic tuff and agglomerate that forms the base of an upper volcanic package. This unit ranges from a moderately welded fine-grained tuff up to coarse cobble agglomerate which incorporates felsic volcanics and minor arkosic sandstone clasts.

Four separate intrusive events occurred at La Bolsa. While most of the intrusives predate the mineralization none form significant hosts.

The oldest intrusive, which probably predates the deposition of the rhyolitic agglomerate, is a dense porphyritic rhyodacite. On the south end of the property the rhyodacite occurs as a flow dome where the highest peak is the extrusive center and the surrounding ridges and slopes are made up of flow rock. Across the rest of the property this unit occurs sporadically as narrower dikes and sills.

The second set of intrusives is a porphyritic monzonite to quartz monzonite which occurs as a series of dikes on the northern end of the property and as a large sill/plug body occupying the flats on the northeast side of the deposit. While the western portion of this body is sill-like and overlies the rhyolitic agglomerate, surface mapping on the eastern and northern margin suggest the intrusive may become more plug-like in that direction.

The third set of intrusives is a series of porphyritic dacite dikes that were probably emplaced during the waning stages of the mineralizing event. These dikes commonly intruded high angle structures and are usually unmineralized where they are locally known to cut the low angle mineralized zone.

The last set of intrusives are represented by a series of narrow fine-grained rhyolite dikes. Although of limited extent within the project area, these dikes occur as large swarms both to the northwest and southeast along strike.

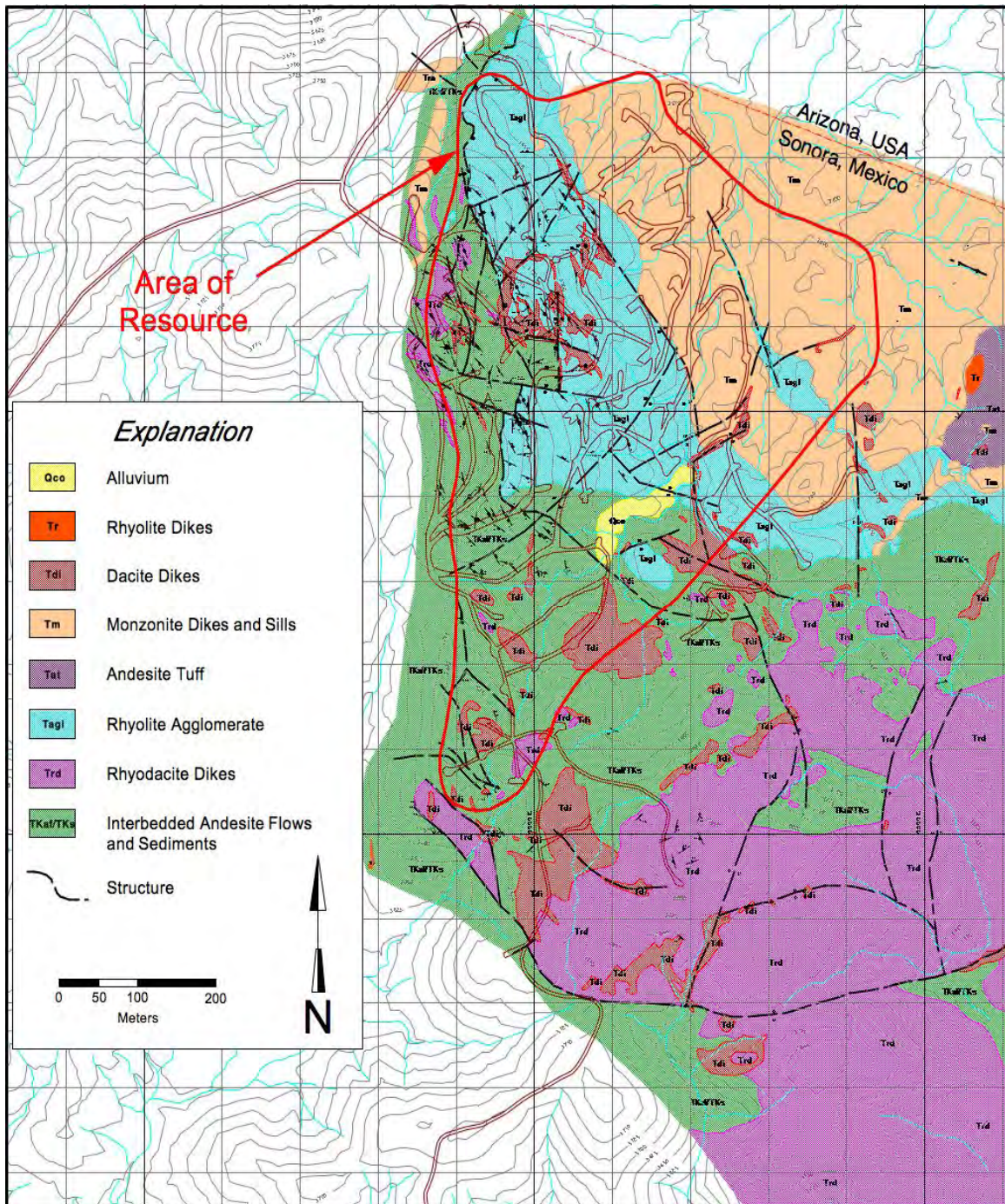
7.3.3. Structure

While the northwest structural fabric plays a major role at La Bolsa, northeast conjugate sets as well as a range of other orientations possibly associated with emplacement of the intrusives also dissect the area and control mineralization. The main structure and the host to the majority of the mineralization at La Bolsa is the north - northwest trending La Bolsa structure. While moderate to high angle to the northwest, the structure shallows to approximately a 15 to 20 degree east dip at La Bolsa, forming a continuous 10 to 40 meter thick brecciated and fractured zone. Approaching the flow dome the low angle structure forms a series of en-echelon, stair-stepped to the south, flat-lying gashes that eventually die out in the vicinity of the dome.

Offset on the La Bolsa structure is inferred to be dip-slip motion downward to the east. This motion resulted in the development of numerous north striking, steeply west-dipping dilational gashes and shears developed within the low angle zone. Flexures in the low angle zone and intersections with high angle structures also are loci for increased structural preparation.

High angle structures that cut the low angle zone are dominantly north – northwest or northeast in orientation although additional subordinate orientations do occur. High angle structures have at least three observed effects on the low angle zone and mineralization: 1) select structures acted as mineralizing feeders to the low angle zone; 2) intersection of select high-angle structures and the low-angle zone promoted greater fracturing and brecciation resulting in thicker and higher grade pockets of mineralization; 3) post–mineral structures offset the low-angle mineralized zone. Feeder structures tend to be north–northwest or northeast in orientation and have been identified on the north end of La Bolsa hill and extending to the central portion of the project. Typically these feeder structures have also developed increased fracturing at the intersection. Post- mineral high angle faulting is dominantly west–northwest or east-northeast in orientation with limited offsets of up to several tens of meters.

FIGURE 7.3-1 PROPERTY GEOLOGY MAP



7.3.4. Alteration

Influx of hydrothermal fluids of epithermal low-sulfidation character resulted in subdued to moderate alteration of the surrounding wall rocks at La Bolsa. Alteration of the volcanoclastic sediments, flows, and intrusive rocks consists of silicification, adularization, local argillic

alteration, and iron oxides after less than 5 percent sulfides all of which overprints a more regional propylitic alteration event.

The interbedded sediments and andesite flows, as well as local intrusives found within the mineralized zone may be locally silicified and replaced with a matrix of quartz and adularia but most commonly display moderate to weak intermediate-argillic alteration where select fragments and crystals have been partially converted to illite (hydromicas) with associated clays with visible iron-oxides after pyrite.

Stronger argillic alteration occurs within high-angle shear zones and where higher concentrations of sulfides have been oxidized. These zones are isolated and tend to be discontinuous. The weak to moderate propylitic alteration that is regional in extent is characterized by the development of chlorite, calcite and pyrite.

In the overlying rhyolitic agglomerate, alteration is dominated by a weak to moderate argillic alteration where the matrix and select clasts have been converted to clays with secondary hydromicas (illite). This style and intensity of alteration in the agglomerate also has been observed distal to the mineralized zone, suggesting it may be partially due to weathering and conversion of more dominant hydromica assemblages to clays. Above the low-angle zone and within the rhyolitic agglomerate, the limited veining present is consistently dominated by quartz. Strong silicification and adularization is associated with the quartz stockworks.

8.0 DEPOSIT TYPE

8.1.1. Geological Interpretation

The mineralized system at La Bolsa represents a low sulfidation, volcanic hosted, epithermal precious metal deposit.

The gold-silver mineralization at La Bolsa occurs within stockwork and disseminations that are generally located within a low-angle north-south trending structural zone that dips moderately eastward from its exposure along a north-south-trending ridge. Mineralization is in the form of an oxidized blanket that is sub-parallel to topography and then dips shallowly below surface from the base of the ridge. Gold and silver enrichment at La Bolsa typically occurs in association with disseminated iron oxides and quartz-calcite and quartz-adularia veins and stockwork. Hydrothermal gradients in association with increased porosity and permeability as reflected in the occurrence of breccias, structural zones, and permissive lithologies determined the primary fluid flow paths. Alteration of the volcanoclastic sediments, flows, and intrusive rocks consists of silicification, adularization, local argillic alteration, and iron oxides after less than 5 percent sulfides. The hydrothermal fluids that deposited the gold-silver mineralization are interpreted to have been of epithermal low-sulfidation character.

The generalized conceptual geologic interpretation for the mineralization is provided in Figure 9.1-1 below.

9.0 MINERALIZATION

9.1.1. Mineralization

The precious metal mineralization at La Bolsa occurs within stockworks and disseminations that are generally located within and somewhat below a low-angle, north-south trending structural zone that dips moderately eastward from its exposure along a north-south-trending ridge. Mineralization is in the form of an oxidized blanket that is subparallel to topography and then dips shallowly below surface from the base of the ridge. Mineralization has been traced for approximately 1,100 meters (3,600 feet) in length and up to 800 meters (2,600 feet) in width with thicknesses that range from 10 to 60 meters (30 to 200 feet). The mineralization is considered gold-dominant with lesser amounts of silver having an overall Ag:Au ratio of approximately 15:1. There are negligible amounts of base-metals within the overall system. Recent drilling at La Bolsa continues to extend the mineralized zone and it remains open both down-dip and along strike.

Throughout much of the resource area the agglomerate forms the hanging wall of the mineralized low-angle La Bolsa fault. In these areas the lower portions of the agglomerate often contain precious metals mineralization associated with more intense silicification, quartz-calcite stockworks and iron-oxides after sulfide. It is presumed that mineralized fluids were channeled laterally along the fault in part controlled by impermeability within the less fractured overlying agglomeratic unit.

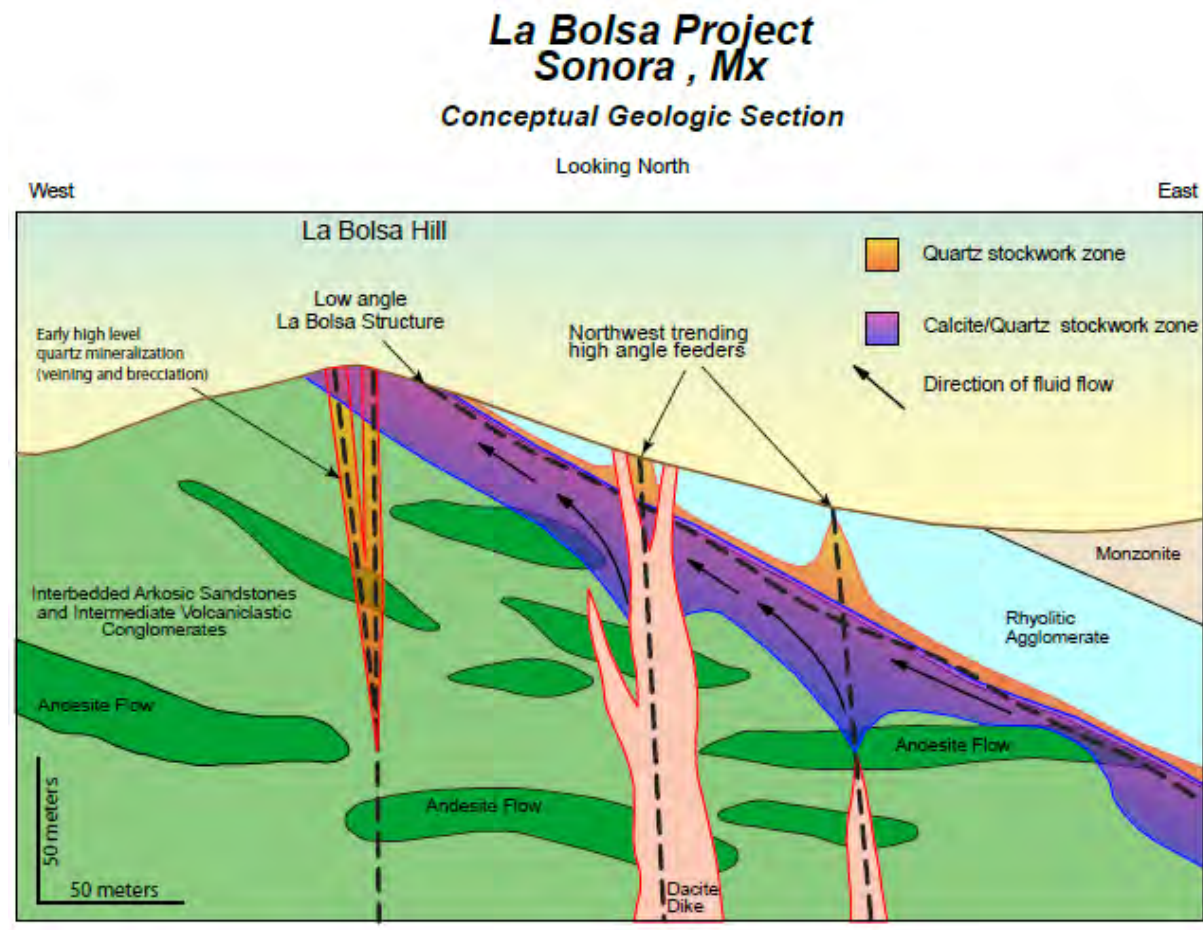
Precious metals mineralization is almost exclusively associated with quartz and calcite veining and stockworks in association with variable amounts of silicification and adularization. Within any given interval, percentages of quartz and calcite can vary dramatically, although in general calcite veining dominates. Non-mineralized calcite dominant veining and stockworks may also be locally developed below the mineralized zone within the propylitically altered assemblages common to the footwall rocks.

Veining on the north end of the project is approximately 70% calcite and 30% quartz. Moving across the project to the south this ratio approaches a 50/50 mix. In general quartz veining appears to be part of an earlier phase as evidenced by cross-cutting relationships. Within the mineralized zone higher gold grades tend to be associated with calcite-dominant intervals while lower grades result from quartz-rich intervals. Moderate to strong silicification and adularization typically halo these quartz vein rich intervals. Most veining is irregular in orientation and is best characterized as stockwork. Individual veins can range from a millimeter up to a meter thick but generally occur in the range of several millimeters to 20 centimeters.

Gangue mineralogy includes disseminated iron-oxides and quartz–calcite and quartz–adularia veins and stockwork. Quartz veins are finely crystalline to chalcedonic while calcite veins tend to be coarsely crystalline, vuggy, or locally massive. Red, orange, and brown iron oxides and brown to dark gray manganese oxides are often associated with mineralized zones and represent various amounts of hematite and goethite, minor jarosite, and manganese oxides. Increased iron oxides in the overlying agglomerate typically indicate proximity to the lower contact and mineralization. Increased iron oxides in the underlying flows and sediments are also generally associated with mineralization .

Ore characterization work by Hazen Research Laboratories included whole-rock chemical analyses, cyanidation study, and transmitted and reflected-light, microscopic study. The report indicated that ‘gold occurs primarily as electrum nuggets, ranging from 40 to 100 microns, and fine inclusions in goethite minerals’ (Bolles, 1996). A cross-section of the conceptual mineralized zones is shown in Figure 9.1-1 below.

FIGURE 9.1-1 LA BOLSA GEOLOGIC CROSS SECTION



9.2. EXPLORATION AND ASSESSMENT

9.2.1. Geologic Mapping

Detailed geologic mapping has been completed at 1:1200 and 1:1000 scales across more than one square kilometer covering the resource area. Regionally, reconnaissance level mapping has been completed at 1:5000 and 1:10000 scales over hundreds of square kilometers.

9.2.2. Geochemical Surveys

In order to outline and quantify mineralization at La Bolsa, more than 2,000 rock chip samples have been collected. All samples have been analyzed for gold and silver with a small number also analyzed for trace-elements. Of this total, 1,476 samples have been collected from a rock chip grid covering 2.5 square kilometers encompassing La Bolsa hill and several minor auxiliary mineralized zones to the west. The grid is aligned N20W and sampling is carried out over 30 meter (100 foot) intervals along 61 meter (200 foot) line spacing. Locally this spacing was tightened up where necessary. An additional 527 continuous rock chip samples were collected from trenches and road cuts over the top of La Bolsa hill and along trend to the south. Approximately 160 select rock chip samples were collected from across the property to characterize grades and the relationship between precious metals and the various styles of mineralization. Location maps for all geochemical sampling can be found in the October 2009, 43-101 report (refer to Appendix 04).

9.2.3. Geophysics

No ground geophysics has been performed at La Bolsa. During the summer of 1997 Minefinders contracted Aerodat to complete a 2,708 line-kilometer, helicopter-borne aeromagnetic-electromagnetic-radiometric (HEM) survey encompassing La Bolsa, the Oro Blanco district north of the border, and concessions to the south and east. Though not instrumental in guiding exploration and drill targeting, the survey did define regional structural trends and anomalies, and outline general concentrations of weakly magnetic rocks (andesites) and non magnetic rocks (felsic volcanics).

10.0 DRILLING

10.1.1. Drilling

A total of 267 completed drill holes define the study at La Bolsa, represented by 37,524 meters of drilling, including 15,781 sample intervals. Samples were collected from splits of 21,068 meters of core recovered from 153 core holes, and from drill chips recovered from 16,456 meters of reverse-circulation drilling. The overall ratio of core to reverse circulation drilling was 1.3:1, or 56%:44%. All sample intervals have been analyzed for gold and silver while all 2008 core holes and 6 mineralized sections from 1995 holes also have been analyzed for additional trace elements.

Evaluation of core – RC twins (10 twins completed on the property) indicates a discrepancy between the two methods, commonly as an understatement of grade in the RC holes. Upon reviewing three early twinned holes, Mine Development Associates came to the conclusion that ‘Gold found in the core holes above a .01 oz Au/ton cutoff averaged about 35% more than in the RC holes’ (Havenstrite, and Ristorcelli, 1996). Due to this discrepancy efforts have been made to utilize more core within the resource area and restrict RC to outside exploration targets.

Despite the possible downgrading effect of the RC data, all RC holes that have not been twinned by core holes have been left in the database with their original assays.

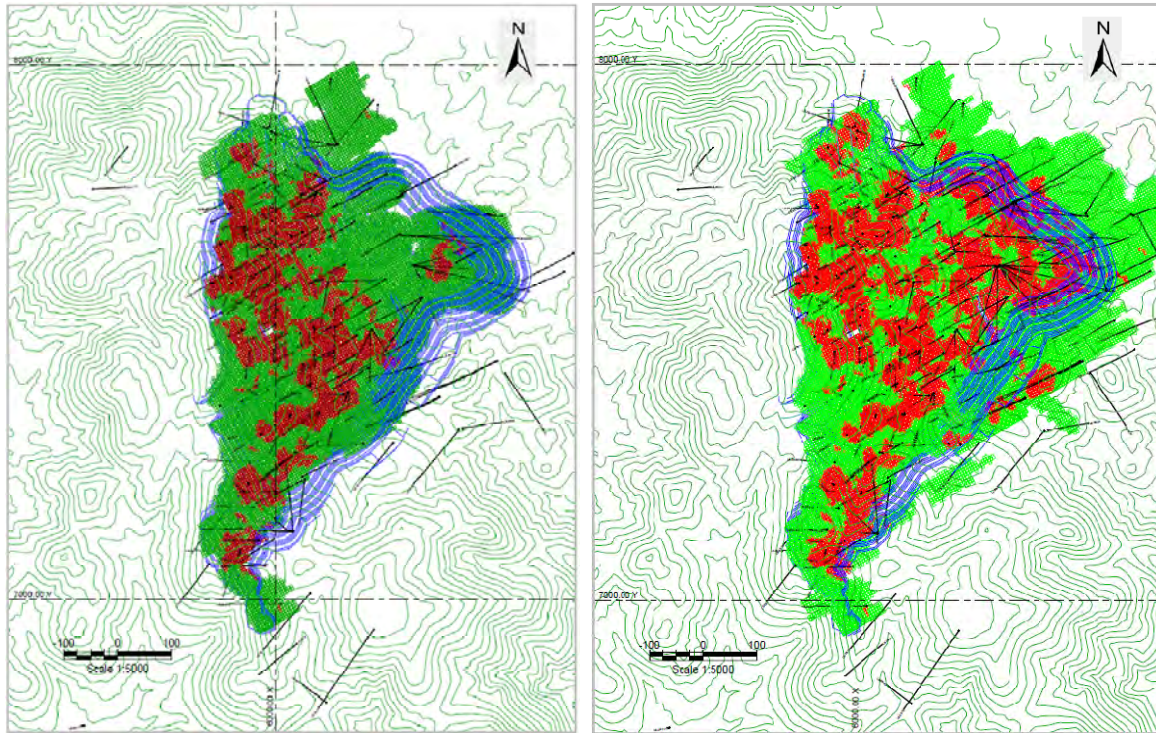
The first 12 holes completed in 1995 were angle holes oriented to the east or northeast as a result of the numerous steeply west-dipping mineralized fractures mapped at surface. Once drilling indicated the presence of a gentle east-dipping mineralized zone the preferred drill orientation became west to southwest (S60W) oriented with angles varying from 45° to 65°.

Additional holes have since been completed utilizing a range of other orientations to test fault intersections and possible feeders or where lack of permitted pads has dictated alternative orientations.

Initial drilling at La Bolsa (1995-96 programs) focused on the top two thirds of La Bolsa hill where the highest grades occur and where trench sampling identified significant widths of mineralization. Subsequent drill programs continued to expand the mineralization along strike to the south and down-dip to the east. The 2004 drill program was able to close off mineralization to the south. Limited drilling in 2008 focused on infill holes and provided material for metallurgical testing. In 2009 further infill drilling was completed as well as exploration of the eastern down-dip extension of mineralization. Final infill and peripheral drill holes were completed in early 2010 and were added to the resource database.

Figure 9.2-1 has two plan maps showing drill hole locations with measured and indicated resource blocks shown for both the October 2009, 43-101 report, and the additional drill holes included in the updated resource model (March of 2010) as used for this study. As is shown addition of the updated drilling primarily provided more detailed geometry and grade resolution as reflected by conversion of many of the 43-101 indicated blocks (green) to the measured block (red) category, with marginal expansion of the block model peripheral to the 43-101 M&I block model.

FIGURE 9.2-1 COMPARATIVE PLAN VIEW OF DRILLING ON RESOURCE AREA



October 2009

March 2010

**SURFACE EXPRESSION OF DRILL HOLES ARE SHOWN IN BLACK; MEASURED BLOCKS IN RED; INDICATED BLOCKS IN GREEN
NOTE INFILL DRILLING CONVERSION OF INDICATED BLOCKS OF OCTOBER TO MEASURED BLOCKS; MARCH**

Drilling conditions at La Bolsa are generally optimal. All holes were collared in or within a short distance of bedrock and as a result placement of 3 meters of casing was generally sufficient.

Water was typically encountered within the low angle zone except for near the tops of the hills where short RC holes were usually completed entirely dry. Due to the lack of post-mineral movement on the low-angle zone mineralized intervals are competent and drill recoveries tend to be very good.

All RC drilling was performed utilizing a 5 1/8 to 5 5/8 inch bit on a center return hammer while core holes were drilled with HQ (2 1/2 inch) size core. Three core holes that started with HQ sized core had to be reduced to NQ (1 7/8 inch) sized core at depth due to poor drilling conditions.

10.1.2. Survey Control

Surveys of the drill hole collars were conducted using several different methods. Of the 267 holes within the database 241 collars were surveyed by Global Positioning Systems (GPS) or

Total station methods. Methods used to locate the collars of the holes are in SE's opinion acceptable. Down the hole surveys were acquired in 160 of the drill holes.

During 1996 a survey of drill hole collars using a registered professional land surveyor was conducted to locate the drill holes. Collar locations from 1996 are considered the standard to compare the accuracy of current GPS work. Current Minefinders policy is to use the GPS method to locate the current hole collar along with several holes from the 1996 survey work to check on the accuracy of the GPS survey.

All of the drill hole collars were marked with either cement block or cement collar. The name of each drill hole had been written into the cement before it dried providing for a fairly permanent monument.

Approximately 48% of the core holes and 26% of the RC holes have been down – hole surveyed. Down-hole surveying of core holes was performed by the drilling company at the time of drilling utilizing a Sperry Sun or Reflex EZ-Shot camera. Surveying of RC holes was performed by Silver State Surveys of Tucson utilizing a gyroscopic camera after the end of the drilling program. Surveys were taken at down-the-hole intervals of not greater than 50 meters.

Due to the shallow depths of most holes and relatively good drilling conditions, no significant deviations were observed.

11.0 SAMPLING METHOD AND APPROACH

11.1.1. Sampling Method and Approach

Sampling Methods, Location, Number, Type, Nature and Spacing

Sampling methods at La Bolsa have followed standard industry practices for precious metals for both RC and core drilling. No special sampling techniques have been deemed necessary at La Bolsa, suggesting a rather homogenous, disseminated nature to the gold. Variations in gold recoveries have been observed between RC and core holes as discussed in Section 4.4.5.

11.1.2. Diamond Drilling Core Sampling

At the drill site core is recovered in intervals up to 3.05 meters (10 feet) and placed in plastic core boxes. The core run depth was marked on wood blocks and the drill hole number on the outside of the box. At least twice a day core was retrieved from the rig by Minefinders' personnel and brought to the camp. Geologic logging of the core entailed measurement of vein, fault and contact orientations, identification of lithologies and concentrations of veining, alteration, iron oxides and sulfides. Core recovery and RQD were also measured at this time.

Prior to 2008 all core was measured in feet as the project as a whole was utilizing Imperial units. In 2008 the decision was made to convert the project to metric and as a result 2008 and 2009 core holes were measured in meters. Wherever possible sample breaks were based on

geological contacts or features. For holes measured in feet the preferred sample interval was 5 feet. Longer sample lengths were only utilized where geology dictated or within intervals of poor recovery. With holes measured in meters the preferred sample interval was set at 1.5 meters to maintain uniformity with previous drilling and to avoid a significant increase in the total number of samples per hole. In 2009, due to an increase in the amount of unmineralized overburden in the area of drilling (eastern extension), sample intervals of 2 meters were used above the mineralized zone. Approaching the mineralized zone sample intervals were reduced to 1.5 meters and remained as such to the bottom of the holes. Again, longer intervals were only used where geology dictated or within intervals of poor recovery.

Core was photographed and then split with a hydraulic splitter. One half-split was bagged and stored at the camp until transport to the assay lab. Half-split 1.5 meter intervals averaged approximately 5 – 7 kilograms. The remaining half-split was stored in the original core boxes at the camp until a sufficient volume was achieved for transport to Minefinders' archival warehouse in Hermosillo utilizing a 5 ton truck.

SE reviewed core recovery data for the approximately 87% of the total core samples for which data has been recorded. The overall average diamond core recovery for this data was determined to be approximately 91.3%, but is 97.7% when accounting for lack of recovery due to overburden or saprolite. A small number of intervals of low recovery are noted as is expected where drilling difficulties were encountered. A review of the comparative datasets indicates no apparent bias is present due to low recovery.

Data from 63% of the total cored meters had an average RQD value of 57%.

11.1.3. Reverse Circulation Sampling

Reverse circulation drilling was performed either dry or wet depending on hole conditions and the presence of water in the hole. Generally the first 30 to 60 meters of the hole were completed dry. Below this level, sticky clays in the rhyolitic agglomerate or water in the mineralized zone usually warranted conversion to wet drilling. Throughout the hole two samples, each representing 1/4 splits, were collected on 1.5 meter (5 foot) intervals. Both samples were labeled with drill hole number and interval while one sample was labeled with an 'A' suffix to identify it as the second sample. During dry drilling, cuttings were run through a Jones splitter initially cutting the sample down to a 1/2 split. This half split was then run through the splitter again resulting in two 1/4 splits. During wet drilling a rotary splitter was utilized. A 1/2 split from one of the discharge tubes was further split into two 1/4 splits by a 'Y' tube. Each 1/4 split was collected in a 20-liter (5 gallon) bucket lined with a large sample bag. An average dry sample weight of between 10 and 15 kilograms (22 – 33 lb) resulted for most samples.

At the end of each drill shift the main split samples were brought to the camp by Minefinders' personnel where they were stored until transport to the assay lab. Split samples remained at the drill site until assays were received. Unmineralized intervals then were destroyed while mineralized intervals were collected and stored in camp for other testwork.

Due to the nature of RC drilling, the possibility of contamination of drill cuttings from intervals higher in the hole is a concern, especially when groundwater is encountered or fluids are added during drilling.

Down-hole contamination can sometimes be detected by careful inspection of the RC drill results in the context of the geology, by comparison with adjacent core holes, and by examining down-hole grade patterns.

11.1.4. Sampling Intervals

The drill hole spacing ranges from 15 meters to 100 meters. In order to identify the geometry of the mineralized zone, drill hole azimuths and inclinations have varied throughout the drilling campaigns. In general, Minefinders has utilized reverse circulation drill holes to expand the drilling area, while infilling with core holes to better define target areas.

12.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

12.1. QUALITY CONTROL/QUALITY ASSURANCE

12.1.1. Sample Preparation and Security

Core samples were photographed and then split with a hydraulic splitter. One half-split was bagged and stored at the camp until transport to the assay lab. The remaining half-split was stored in the original core boxes at the camp until sufficient volumes were accumulated and transported in a 5 ton truck to Minefinders' archival warehouse in Hermosillo.

For RC samples, at the end of each drill shift the main split samples were brought to the camp by Minefinders' personnel where they were stored until transport to the assay lab. Split samples remained at the drill site until the original sample assays were received. Unmineralized intervals then were destroyed while mineralized intervals were collected and stored in camp for other test work.

12.1.2. Analytical Methods

All reported analyses are fire assay analyses for gold and multi-acid digestion with AA analyses or fire assay analyses for silver. The assays were completed by either Chemex Labs of Vancouver, British Columbia, or Inspectorate Labs of Sparks, Nevada. Samples from these intervals were comprised of either HQ or NQ core or reverse-circulation cuttings. All samples were split prior to analysis and transported by the labs to sample preparatory facilities in Hermosillo, Edo. Sonora (Chemex) or Durango, Edo. Durango (Inspectorate).

During metallurgical testing at its sister property Dolores, Minefinders found that silver grades from these tests were greater than the drill hole assays. After consulting with various assay laboratories, it was determined that this was the result of poor dissolution of silver during the aqua-regia digestion procedure and that a multi-acid digestion process was necessary.

Based on this, Minefinders embarked upon systematic re-analysis of contained silver within a large volume of samples. The multi-acid digestion procedure was thereafter incorporated into the analyses program for all future La Bolsa determinations. The re-assay technique uses an array of different acids to aid in the digestion of any silver compounds. The multi-acid digestion and consequent silver reanalysis results are used preferentially, and whenever available for the La Bolsa drill hole database, replace the older aqua-regia results.

Gold assays were reported by the analytical laboratories in parts per billion (ppb) units, grams per metric tonne (g/t) units, or more rarely in ounces per ton (opt) units. Silver assays are generally reported in grams per metric tonne (g/t) units. Un-assayed intervals (missing samples) were set to null values (-99) and not used in the mineral resource estimation. Detection limits varied between analytical methods and laboratories. For consistency, intervals with values below detection were set to 0 ppb (Au) or 0.0 g/t (Ag).

Minefinders, as part of their overall quality control measures, routinely re-assays all values above 1000 ppb gold using fire assay with a gravimetric finish.

12.1.3. Quality Control

Quality control for the sampling of the La Bolsa property has included the following procedures and protocols:

Minefinders includes standards and check samples as part of their quality assurance/quality control (QA/QC) procedures. Approximately one sample in 20 submitted for analysis is a standard. Blanks, duplicates, and check samples are also routinely inserted into the sample stream by each of the commercial labs, are reported to MFL, and also aid in QA/QC monitoring.

When changes to the assay methods became necessary due to under reporting of the silver values, Minefinders changed their analytical technique and procedures.

The company recognized that RC drilling had an overall less reliable sample and focused their efforts on the use of core drilling.

Data generated from the analysis of the samples is electronically transferred and not hand entered into the drill hole database, thus eliminating one source of possible error.

12.1.4. Adequacy of Procedures

After audit of the October 2009 43-101 database and sampling procedures SE stated their opinion that the procedures and programs established by Minefinders for sampling at La Bolsa are adequate and conform to industry standard practice. Minefinders made changes to programs and polices when corrective action was necessary.

12.1.5. Twinned Holes – Core – RC Comparison

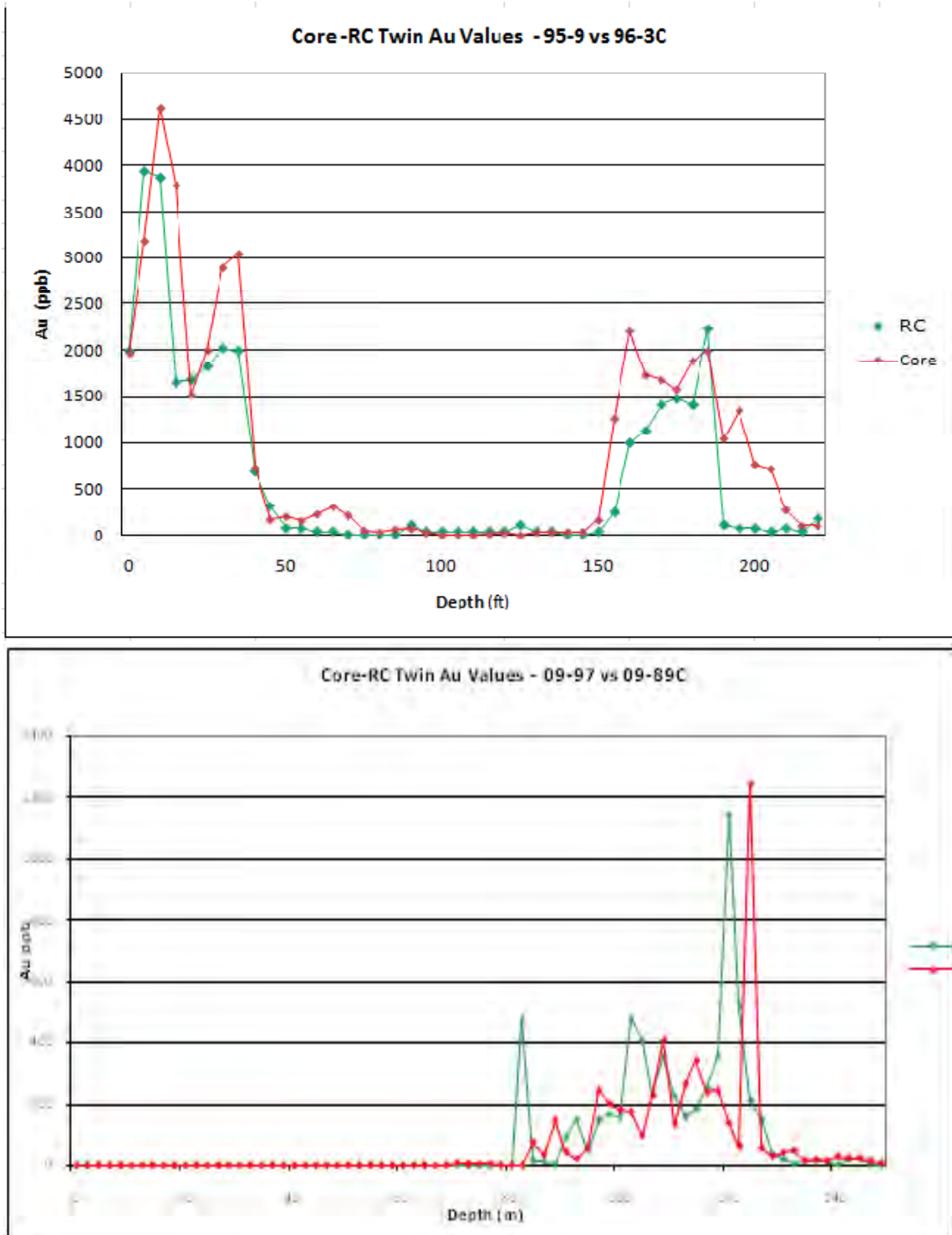
There are ten sets of RC-core twin holes at La Bolsa, two examples of twin comparisons are presented in Figure 12.1-1. Additional RC-core plots and statistical analyses are available in the October 2009 43-101 report (Appendix 4). These graphs show the down-hole gold plots for each

hole in the twin set. The collar elevations of some of the twin sets were adjusted so that both holes intersected the rhyolitic agglomerate and quartz/calcite stockwork contact at the same down-hole depth in order for the graphical comparisons to match more closely.

RC hole assay data from two out of the ten sets of twinned holes exhibit a down-hole, cyclic pattern in gold values, suggesting some down-hole contamination. The cyclic pattern may correlate with drill rod changes, as there is no corresponding pattern within the core holes data. In these two cases, the patterns initiate immediately down-hole of significant gold mineralization, which is the obvious candidate as the source of possible contamination. The cyclic patterns in the two affected RC holes occur within the inter-bedded andesites and sediments.

Careful inspection of all of the RC gold data from the twin-hole data has clearly identified down-hole contamination of gold in some of the La Bolsa RC drill samples that are material to resource estimation. In recognition of this, only data from the core holes from within the twinned hole sets are included in the database used for the resource estimation. The statistical analyses are presented in Appendix 04.

FIGURE 12.1-1 CORE - RC TWIN AU VALUES



13.0 DATA VERIFICATION

13.1. DATABASE

13.1.1. Data Verification - Independent Sampling

During 1997 MPH Consulting of Vancouver B.C. visited and collected 25 independent samples from various core and RC intervals. The samples are from the 1995 and 1996 drilling campaigns and consist of split core composites, direct core samples and RC cuttings. The samples were taken from the main mineralized zone. Chemex and XRAL were the assayers.

The results of the sampling are available in the October 2009 NI 43-101 report.

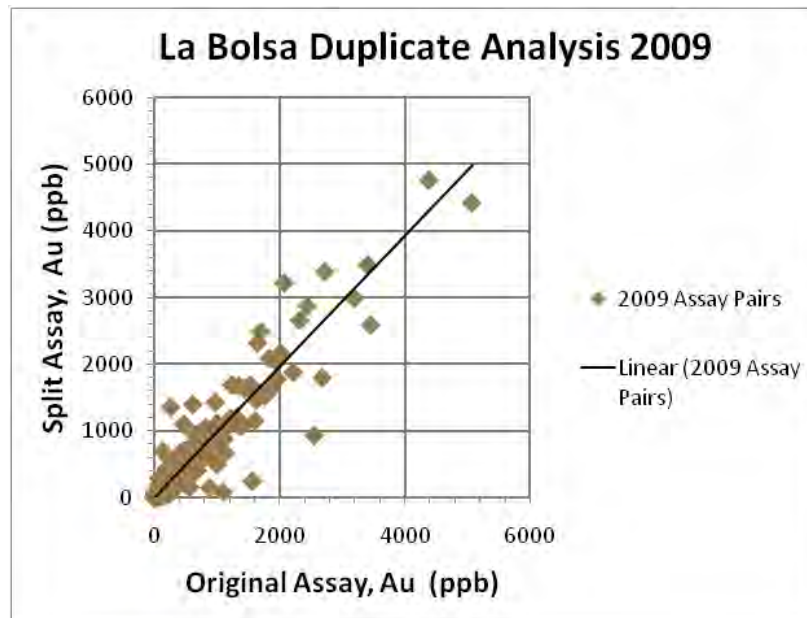
13.1.2. Data Verification - Field Splits

To check the initial drilling reproducibility, lab preparation procedures, and assay techniques, two holes from the 1995 RC drilling campaign were chosen by Minefinders for sample split assay analyses. Original assays were completed by ALS Chemex of Vancouver, British Columbia and analysis of the sample splits were completed by Bondar Clegg, also of Vancouver. These holes are LB95-1 and LB95-2. There were 126 samples in LB95-1, and 120 in LB95-2. Bearing in mind that field splits may reflect variability in the samples as well as variability in the assays, the first hole, LB95-1, indicates relatively low correlation. Splits off the second hole LB95-2, display a higher correlation and could be taken as indicating reasonable closure between the laboratories. This suggests good reproducibility between both labs in regards to sample preparation and assay techniques for these samples. The exercise indicated acceptability of the gold assays within the existing database used for the resource estimation.

During 2003 and 2004 additional field splits were sent to two different assay laboratories – Chemex and Inspectorate - for analysis. A total of 107 core split samples were analyzed and handled in a similar fashion as with the 1995 exercise. The assay method was fire assay with an atomic adsorption finish. A scatter plot depicts moderate correlation. The duplicate analyses together with inherent sample split variabilities, indicate that a systematic program is warranted to assure the reliability and precision of the field splits for representative grade estimation. Scatter plots and additional discussion for all comparisons except the 2009 data are available in the October 2009, 43-101 report.

In 2009 an additional 365 checks were performed on drill samples. During this drill program all original samples were sent to Inspectorate. Coarse rejects for 156 core samples and field splits for 209 RC samples were collected from holes completed during the program and sent to Chemex for analysis. Again the assay method was fire assay with an atomic absorption finish. Results show a moderately strong to strong correlation between the assay pairs, as seen in Figure 13.1-1.

FIGURE 13.1-1 ANALYSIS FOR 2009 CORE AND RC SAMPLES



(Three samples with Au >8,000 ppb excluded from the data set)

13.1.3. Data Verification – Standards

Minefinders incorporates standards into the sample stream at the rate of 1 standard approximately every 30 meters (approximately 1 standard for every 20 samples). From 2003 through September, 2009, 274 standards have been analyzed. A total of 186 were analyzed by Chemex (2003 – 2008 drilling) and 88 were analyzed by Inspectorate (2009 drilling). Three individual standards were used during this period: Cat#2, MF#1 and MF#2.

Standards are non-certified and were developed from mill tailing material that was bulk blended by Chemex. Basic statistics and scatter plots of each data set are available in the October 2009 43-101 report (Appendix 04).

The majority of values fall within a reasonable range although several groups from the 2003 – 2008 drilling show deviation. Deviations occurred in both the MF#1 and Cat#2 standards and both sets of deviations correspond to a series of 3 drill holes completed during the 2008 drill program. (drill holes LB08-59c, LB08-64c and LB08-65c) The reason for these deviations is unclear, and a re-assay of all mineralized intervals from these holes is currently planned. The standards are being re-analyzed as well.

13.1.4. Data Verification – Blanks

No sample blanks have been submitted into the sample stream by Minefinders. Blanks and internal checks completed by Chemex and Inspectorate are obtained and monitored by Minefinders.

13.1.5. Data Verification - Nature and Limitations of Verifications

In SE's opinion, as reported in the October 2009 43-101, a complete QA/QC program should encompass the routine addition of blanks, standards, and duplicates (BSD's) into the sample stream both at the lab as well as in the field.

It also should include periodic checks using another laboratory. Ideally, the field BSD's should be 'blind', in that they should be indistinguishable from the usual run of samples. It is noted that Minefinders' present policy includes the routine addition of standards (but no blanks) in the field and re-assay of second sample splits at another independent lab on an occasional, but not on a regular, basis. As noted above, however, duplicate assays are requested for higher-grade Au results.

SE's opinion is that Minefinders personnel apply a reasonable degree of vigilance in monitoring the sample results. SE considers the QA/QC protocols employed on the La Bolsa Project rigorous enough to ensure that the sample data is appropriate for use in mineral resource estimation.

13.1.6. Data Verification - Electronic Database Verification

The final gold and silver grades in the electronic database were manually compared against the grades of the certified assays obtained from the commercial assay laboratories that were used by Minefinders. There were 826 checked assay records from 12 drill holes. These represent about 5 percent of the total drill hole database. The checked intervals are representative of the majority of the drilling campaigns conducted since 1995. SE completed a standard database statistical check program on the database and found the database to be essentially error free. The minor errors encountered appeared to be transpositional in nature. It is SE's opinion that the La Bolsa electronic database is sufficiently accurate and suitable to be used to estimate mineral resources.

13.2. PHYSICAL DATA

13.2.1. Topography

An aerial survey of the property was done by Cooper Aerial Surveys of Tucson, AZ in 1996.

Aerial survey results were keyed to pre-established professionally surveyed ground control points to establish a high resolution detailed topographic base. This surface provides control for the mineralization model and all engineering work for the project.

13.2.2. Specific Gravity Analysis

Minefinders has completed 24 density (specific gravity) determinations on the La Bolsa property. Of these twenty-four samples, 14 were taken from within the mineralized zone. The average density of those samples within the mineralized zone is 2.47 g/cm³ (154.2 lb/ft³). It is noted here that Minefinders used a value of 2.48 g/cm³ (154.8 lb/ft³) for their modeling efforts.

The minimum and maximum specific gravity for the sample set is 2.22 and 2.52 g/cm³ (138.6 and 157.3 lb/ft³) respectively, and are dike material. The set of density determinations includes

samples from the 2008 drilling campaign only. The number of density determinations used in the resource estimation is acceptable.

13.2.3. Geotechnical Data

Data on the structural fabric of the rock on site was collected using a cell mapping procedure. A review of the raw data and plots reveals similar structural patterns that allow the individual cells to be combined into groups that can be expected to behave similarly with respect to stability referred to as “structural domains”. Recommended interramp pit slope angles based on the structurally controlled/kinematic analysis with a partially dewatered piezometric pressure condition are shown in Table 13.2-1.

TABLE 13.2-1 RECOMMENDED DESIGN INTERRAMP ANGLES BY DESIGN SECTOR AND STRUCTURAL DOMAIN

Design Sector:	W Wall	W Wall	N Wall	N Wall	NE Wall	SE Wall	SE Wall	SE Wall
Structural Domain:	Group 1	Group 2	Group 2	Group 4	Group 4	Group 1	Group 2	Group 4
Bench Ht (m) =	6	6	6	6	6	6	6	6
Expected BFA (deg) =	60	66	77	59	66	73	78	65
Catch Bench Width (m) for:								
Single Bench:	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
Double Bench:	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Triple Bench:	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
Recommended Interramp Angle (deg) for:								
Bench Scale (Backbreak) Analysis								
Single Bench:	33	36	40	33	36	39	41	35
Double Bench:	41	44	51	40	44	49	52	44
Triple Bench:	44	48	56	44	48	53	56	48
Major Structure/Kinematic Analysis								
	50	46	54	48	50	50	52	44

Control of the blasting anticipated in the proposed pit will be necessary. Its importance is pointed out herein as a reminder that blasting procedures and the potential need for controlled blasting techniques near the final pit wall should be considered in the normal operations. To the extent that careful blasting procedures can produce steeper bench face angles, the final interramp angles that can be achieved (as controlled by backbreak at the bench scale) will be significantly steeper.

Further discussion of the geotechnical data and its implications is offered in Section 18.1.

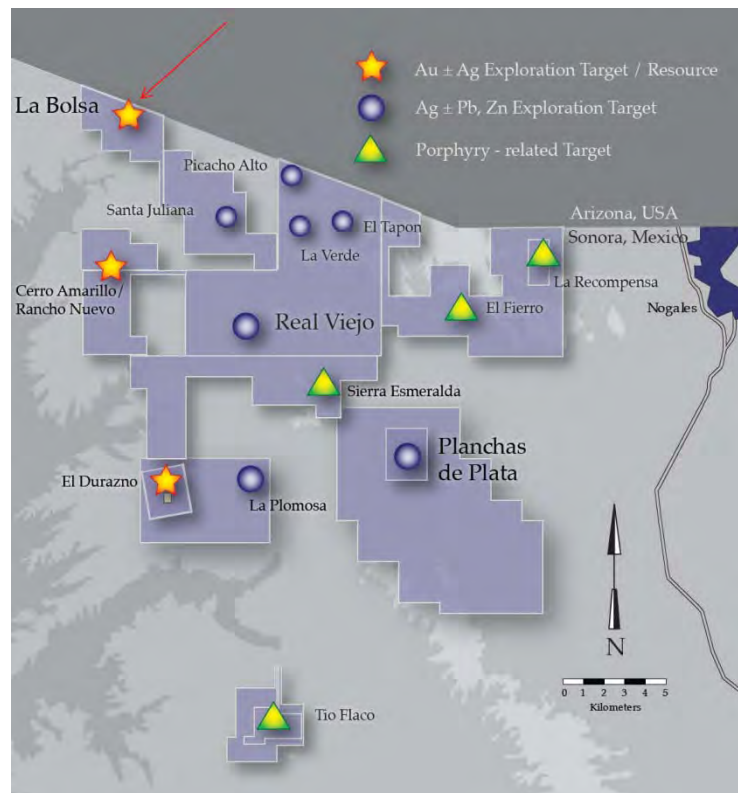
14.0 ADJACENT PROPERTIES

Minefinders has staked and received title to over 84,000 hectares of mineral rights within this highly-prospective region of Mexico. The company's concessions along with prospective geological targets are shown in figure 14.1-1 below. Apart from the La Bolsa deposit, an additional 13 potential targets have been defined within the concessions. Two of the more advanced targets are the Real Viejo project and the Planchas de Plata project.

The Real Viejo target is approximately 18 kilometers southeast of La Bolsa and is located in an area of substantial silver-lead-zinc mineralization. The Planchas de Plata project is approximately 16 kilometers southeast Real Viejo. These projects are considered early stage exploration projects and have had encouraging preliminary results. The company is pursuing a regimented exploration program with an experienced geological team.

Failure to define economically mineable resources within any of the targeted areas will have no negative impact upon the La Bolsa project economics.

FIGURE 14.1-1 ADJACENT PROPERTIES



15.0 MINERAL PROCESSING AND METALLURGICAL TESTING

15.1. METALLURGICAL SAMPLING

Metallurgical testing of mineralized material from La Bolsa has involved two separate sets of column leach tests completed in 2005 and 2009. Early in the project, Hazen Research, Inc. also completed an ore characterization study (Bolles, 1996). The Hazen study included limited whole rock analyses, preliminary cyanidation amenability study, and reflected light microscopy. Reported findings were that:

- 1). Precious metals mineralization was not associated with 'problem elements such as arsenic, antimony, or mercury' and that 'these elements are not present in significant quantities'.
- 2). 72-hour bottle roll cyanidation testing of the reverse circulation drill cuttings 'achieved gold extractions from 57 to 95% with low cyanide consumptions silver extractions ranged from 25 to 50%'... and that 'variability was probably caused by 'nuggets of gold' that did not leach completely'.
- 3). Microscopic examination indicated that the gold occurs 'primarily as electrum nuggets, a few flakes, and fine inclusions in goethite minerals. The coarse electrum nuggets, up to 350 microns, are probably responsible for the erratic gold extraction values (re. Cyanide testing).

Metallurgical testing in 2005 included construction of eight heap leach simulation test columns utilizing material from two composites (LBN and LBS). Approximately 556 kilograms of material for the 2005 composites was collected from the remaining half split core from the 2003 and 2004 rounds of drilling and shipped to McClelland Laboratories, Inc. of Sparks, Nevada.

Approximately 556 kilograms of material was collected and shipped to McClelland Laboratories, Inc. of Sparks, Nevada.

Composites labeled LBN were made up of material from the north half of the resource area and those labeled LBS were made up of material from the south half of the resource area. This was done to quantify the difference between calcite dominant mineralization on the north versus an equal mix of quartz and calcite on the south.

For each of the composites, two columns were constructed at a feed size of p80% -9.5 mm (3/8"), one at a feed size of p80% -15.8 mm (5/8"), and one at a feed size of p80% -37.5 mm (1 1/2"). Gold recoveries for the LBN composite at the p80% -9.5 mm feed size were 68.2% and 72.6% after 116 days and 163 days of leaching, respectively. Gold recoveries for the LBS composite at the p80% -9.5mm feed size were 60.4% and 64.4% following 116 and 165 days of leaching, respectively. Gold recoveries for the LBN p80% -15.8 mm feeds were 63.0% and 57.1% at the LBS p80% -15.8 mm feed size after 117 days of leaching. Gold recoveries at the LBN and

LBS p80% -37.5 mm feed size were 53.0% and 39.7%, respectively, after 117 days of leaching (see Table 15.1-1).

TABLE 15.1-1 2005 COLUMN PERCOLATION TEST SUMMARY- DRILL CORE COMPOSITE SAMPLES

MLI Composite	Test No.	Feed	Leach/ Rinse	Solution Applied									NaCN	Lime
		Size mm	Time, Days	Leach/Rin t/t ore	Au Rec. %	gAu/t ore	Ag Rec. %	gAg/t ore	Consum. kg/t ore	Added, kg/t ore				
					Extract.	Tail Scr'n	Calc.Head	%	Extract.	Tail Scr'n	Calc.Head			
LBN	P1	37.5	117	6.8	53.0	0.44	0.39	0.83	4.0	1	24	25	0.52	1.5
LBS	P2	37.5	117	6.8	39.7	0.31	0.47	0.78	<7.7	<1	12	<13	0.36	1.5
LBN	P3	15.8	117	6.7	63.0	0.51	0.30	0.81	7.4	2	25	27	1.43	1.5
LBS	P4	15.8	117	6.7	57.1	0.44	0.33	0.77	7.7	1	12	13	0.92	1.5
LBN	P5	9.5	116	6.9	68.2	0.58	0.27	0.85	11.1	3	24	27	1.52	1.5
LBS	P6	9.5	116	6.9	60.4	0.55	0.36	0.91	14.3	2	12	14	1.01	1.5
LBN	P7	9.5	163	8.3	72.6	0.61	0.23	0.84	12.0	3	22	25	2.62	1.5
LBS	P8	9.5	165	8.2	64.4	0.58	0.32	0.90	14.3	2	12	14	1.93	1.5

Additional detailed metallurgical testing was completed in 2008 using material shipped directly from the 2008 drill program. Material for the tests was collected from half-splits of HQ core drilled in 2008 used to prepare 4 different composites designated LB08N (north resource composite), LB08S (south resource composite), LB08LG (low-grade 0.48 and 0.60 g/t Au average composites), and LB08HG (high-grade 1.53 and 1.56 g/t Au average composite). Ten separate metallurgical heap leach simulation test columns were then constructed using material at several crush sizes that included 80% passing 9.5 mm (p 80% -3/8 inch) for each composite, 80% passing 15.8 mm (p80% -5/8 inch) for each composite, and 80% passing 25 mm (p80% -1 inch) for the LB08N and LB08S composites as shown in Table15.1-1 above.

Gold recoveries were rapid and generally complete after the first 120 days of leaching with only moderate to low reagent consumptions. Although the 9.5 mm crush size leached most rapidly, total recoveries at the 15.8 mm and 25 mm crush sizes were substantially the same as they averaged 78.8%, 74.4%, and 73.1% respectively, and suggest that the coarser crush may be appropriate for heap leaching of the La Bolsa ores. Silver recovery is significantly lower and an extended leach period to 252 days did not measurably increase silver recoveries. Use of coarser crush sizes should favorably affect capital and operating costs for possible mining operations on the property. The metallurgical column leach data allows for reasonable prediction of metallurgical recoveries for the project and development of a mine plan.

TABLE 15.1-2 2008 COLUMN PERCOLATION TESTS SUMMARY - DRILL CORE COMPOSITES SAMPLES

MLI Composite	Test No.	Feed Size mm	Leach/Rinse Time, days	Solution Applied			gAu/t ore			Ag Rec. %	gAg/t ore			NaCN Consum.	Lime Added,
				Leach/Rin t/t ore	Au Rec. %	Extract.	Tail Scr'n	Calc.Head	Extract		Tail Scr'n	Calc.Head	kg/t ore	kg/t ore	
															gAu/t ore
LB08 North Composite	P-1	25	252	11.7	74.2	0.72	0.25	0.97	8.0	2	23	25	2.11	1.5	
LB08 North Composite	P-2	15.8	252	12.0	77.4	0.82	0.24	1.06	8.3	2	22	24	1.94	1.5	
LB08 North Composite	P-3	9.5	252	11.5	81.4	0.83	0.19	1.02	12.5	3	21	24	1.98	1.5	
LB08 South Composite	P-4	25.0	252	11.7	71.9	0.69	0.27	0.96	6.7	1	14	15	1.71	1.8	
LB08 South Composite	P-5	15.8	252	11.9	75.8	0.72	0.23	0.95	11.8	2	15	17	1.93	1.8	
LB08 South Composite	P-6	9.5	252	10.7	80.0	0.76	0.19	0.95	11.8	2	15	17	1.94	1.8	
LB08 Combined LG Comp.	P-7	15.8	252	11.2	71.7	0.43	0.17	0.60	8.3	1	11	12	2.71	1.6	
LB08 Combined LG Comp.	P-8	9.5	252	12.5	77.1	0.37	0.11	0.48	8.3	1	11	12	3.11	1.6	
LB08 Combined HG Comp.	P-9	15.8	252	11.8	72.4	1.13	0.43	1.56	12.1	4	29	33	3.06	1.4	
LB08 Combined HG Comp.	P-10	9.5	252	12.7	76.5	1.17	0.36	1.53	15.6	5	27	32	3.22	1.4	

Additional detailed information regarding the metallurgical characterization of the La Bolsa ore material is included below within the “Additional Requirements for Technical Reports on Development Properties and Production Properties” section. A sub-section on ore processing and metallurgical recoveries is also included.

16.0 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

16.1. MINERAL RESOURCE ESTIMATE

16.1.1. Geostatistical Analysis

The gold and silver resources at La Bolsa were modeled and estimated by evaluating the drill data statistically. Three-dimensional geologically constrained zone solids were used to interpret the mineral zones into individual domain polygons on cross-sections spaced at 15-meter intervals. The interpreted sections were then used to form the 3-D zone solids. The formed zone solids flagged the drill hole samples contained within the zones. Estimation parameters were then formulated from the flagged samples, followed by estimation of grades by inverse distance methods into blocks of 5 meters (width) x 5 meters (length) x 3 meters (height) blocks that were limited to the mineral domains specified by the 15-metre mineral domain solids. All modeling of the resources was performed using Gemcom® software.

Several internal estimates of the mineral resources were made by Minefinders and various consultants in 1996 and 2008. In 2009 a comprehensive independent review (audit) of the La Bolsa mineral resource database, procedures, and estimation parameters was completed using information as provided by Tench C. Page, Brian Metzenheim and Zachary J. Black of Minefinders Corporation, Ltd. The NI 43-101 compliant resource estimate audit and report was prepared by David Linebarger and Ralph R. Sacrison of Sacrison Engineering for Sonoran Resources and filed in October of 2009.

All of the audited database and resource calculation parameters and methodologies were utilized in calculation of an updated resource estimate in March of 2010. The updated resource estimate included additional infill and detail drilling that enhanced the geologic and geometric definition of the deposit, prior to estimation of reserves.

The following sections outline the resource estimation process.

16.1.2. Drill Hole Assays

A total of 267 completed drill holes define the study at La Bolsa, totaling 37,524 meters of drilling, including 15,781 sample intervals. Samples were collected from splits of 21,068 meters of core produced from 153 core holes, and from drill chips recovered from 16,456 meters of reverse-circulation drilling. The overall ratio of core to reverse circulation drilling was 1.3:1 or 56%:44%. All sample intervals have been analyzed for gold and silver while all 2008 core holes and 6 intervals from 1995 holes also have been analyzed for additional trace elements.

During the 2008 drilling campaign, the drill hole database was converted from imperial units to metric units. This was done to make it consistent with the current company standard and other projects in Mexico. The database was checked and validated to insure there was a complete and accurate conversion. Sacrison Engineering has checked this conversion and confirmed its completeness. A summary of the drill holes by drilling campaign is available in the October 2009 43-101 report.

16.1.3. Topography

An aerial survey of the property was done by Cooper Aerial Surveys of Tucson, AZ in 1996.

Aerial survey results were keyed to pre-established professionally surveyed ground control points to establish a high resolution detailed topographic base. This surface provides control for the mineralization model and all engineering work for the project.

16.1.4. Bulk Density

The previously noted density determinations (Section 4.4.10) are applied in the resource modeling reported here.

Minefinders has completed 24 density (specific gravity) determinations on the La Bolsa property. Of these twenty-four samples, 14 were taken from within the mineralized zone. The average density of those samples within the mineralized zone is 2.47 g/cm³ (154.2 lb/ft³). It is noted here that Minefinders used a value of 2.48 g/cm³ (154.8 lb/ft³) for their modeling efforts.

The minimum and maximum density for the sample set are 2.22 and 2.52 g/cm³ (138.6 and 157.3 lb/ft³) respectively, and are dike materials.

16.1.5. Gold and Silver Assay Statistics

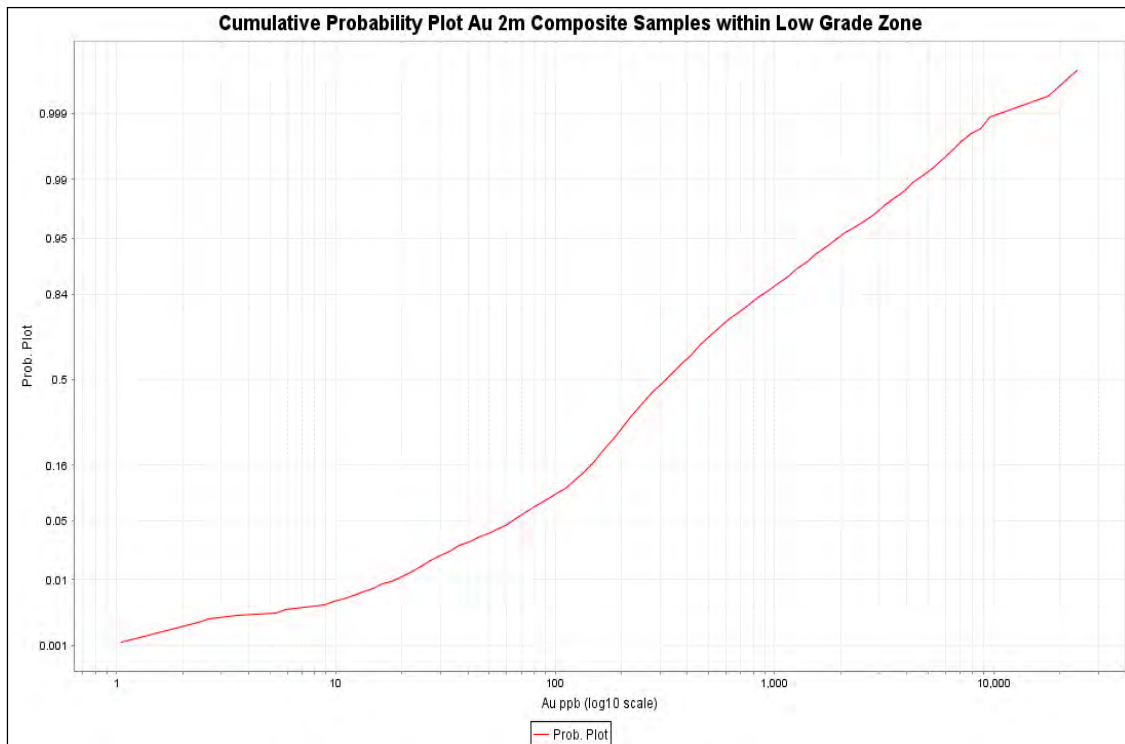
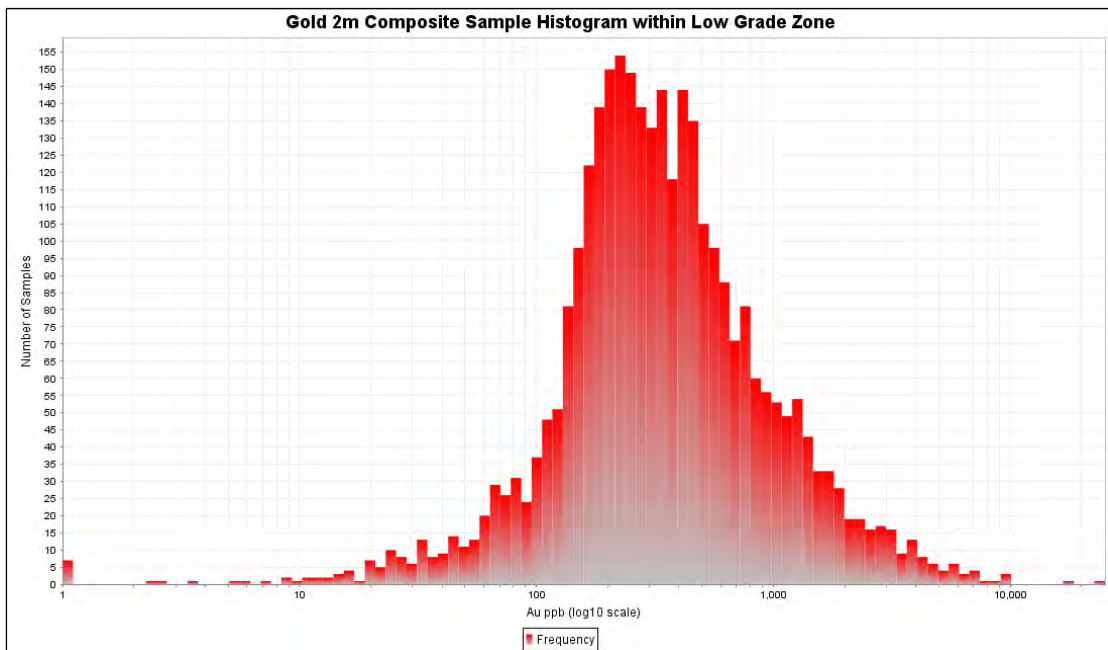
The La Bolsa March of 2010 mineral resource database consists of 23,981 raw assay intervals which are composited into 2 meter intervals for gold and silver. The summary statistics for the raw data (gold and silver) are listed below in Table 16.1-1.

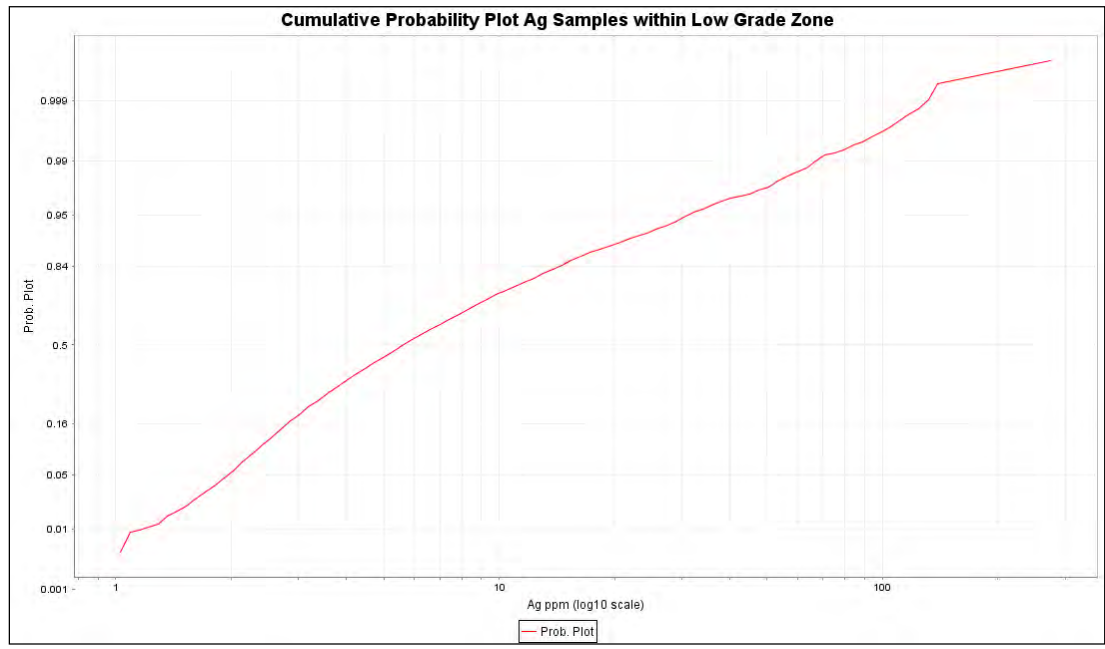
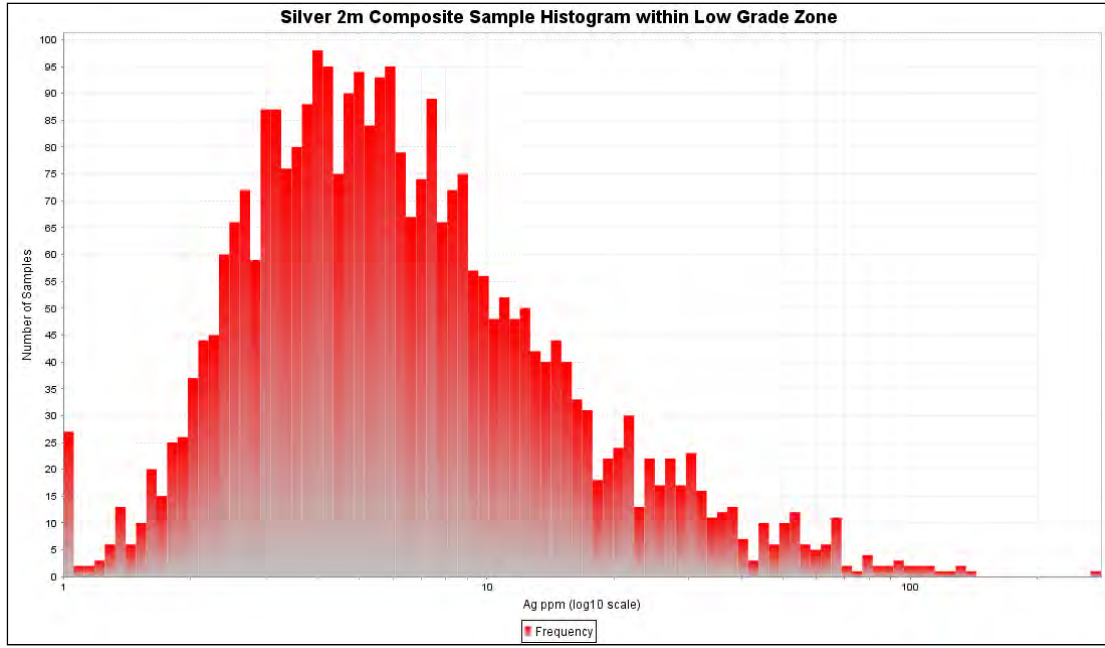
TABLE 16.1-1 SUMMARY STATISTICS - RAW DATA

Variable	Number	Unit	Mean	Maximum	Std. Dev	Cov
Au	23981	ppb	140	42651	588	4.181
Ag	23981	ppm	2.5	346	8	2.991

Figure 16.1-1 displays a histograms and cumulative frequency curve diagrams for the gold and silver assays within the current database. Additional histograms and cumulative frequency diagrams are available in the October 2009 43-101 report.

FIGURE 16.1-1 HISTOGRAMS AND CUMULATIVE FREQUENCY CURVES





16.1.6. Compositing

The raw drill hole assays were composited using the run length or 'down-the-hole' method. A composite length of 2 meters was selected by Minefinders. Compositing using a 2m interval has the effect of reducing the mean of the composite distribution while maintaining the inherent variability. The down-the-hole compositing routine assures that in general, all of the composites are of uniform sample length, except for the last composite in each drill hole. Most of the short composites will occur at the bottom of the hole. Table 16.1-2 displays the summary composite statistics

TABLE 16.1-2 SUMMARY STATISTICS FOR 2M COMPOSITES

Variable	Number	Unit	Mean	Maximum	Std. Dev	Cov
Au	15781	ppb	139	25121	497	3.582
Ag	15781	ppm	2.5	281	7	2.781

16.1.7. Grade Capping

Minefinders has elected to cut higher grade occurrences of gold and silver before estimation of the resource. Grade capping is commonly done to minimize the potential of over-estimating higher grade gold and silver values within resource models.

There are a variety of ways in which metal grades are capped by various resource modelers.

One of the more common methods used to determine grade capping limits in precious metal deposits is the use of cumulative probability plots. Minefinders has applied grade capping above the 99th percentile for both gold and silver. This grade cap affects only a very small percentage of the total composites.

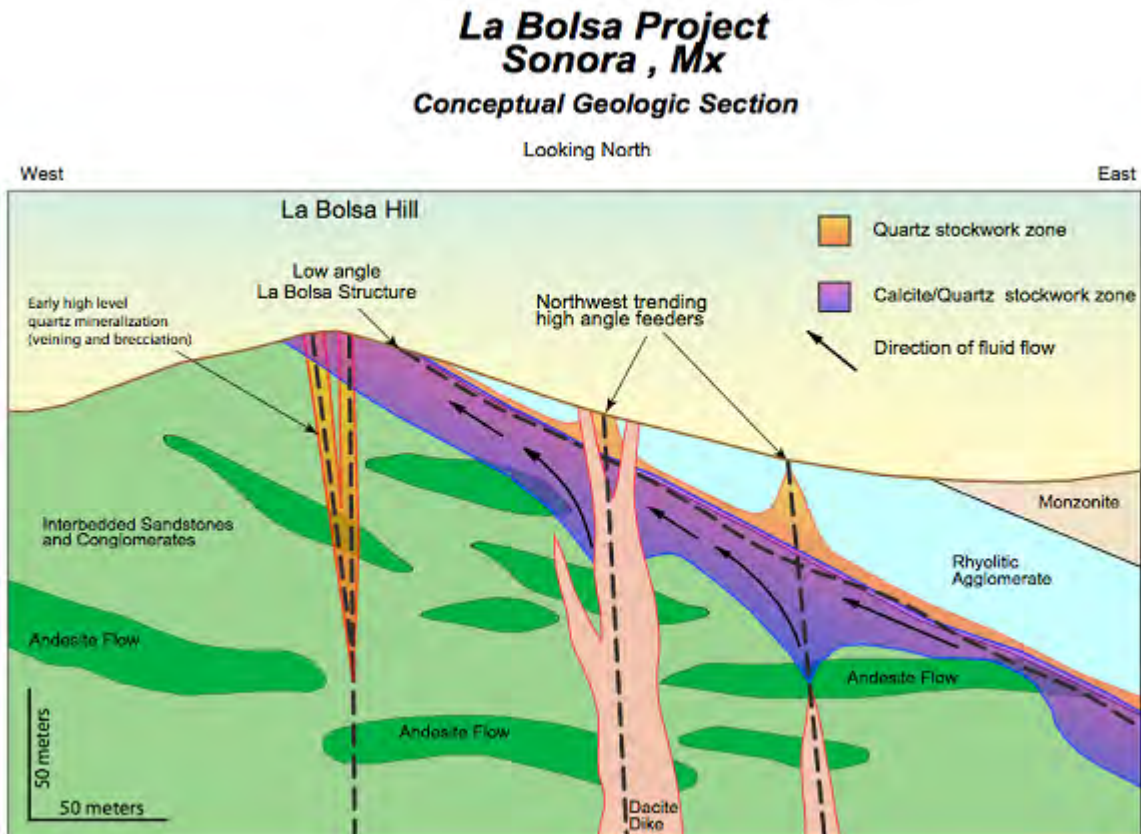
Based on review of the data and examination of the physical location of the values, Minefinders has chosen grade cuts at values of 10,000 ppb (10 g/t) for gold and 150 ppm (150 g/t) for silver. The grade cuts have been applied to the composite gold and silver values during estimation. The software (Gemcom®) used for resource modeling allows grade cutting to take place during grade interpolation without actually altering the database values. Cumulative frequency plots showing the capping effect can be found in the October 2009 43-101 report.

16.1.8. Grade Envelope Development

Polygonal grade boundaries were constructed on 15-meter sections by Minefinders personnel. Gold composites, drill-hole geologic information, 1:1500-scale surface geological and structural mapping were used to define the shapes of the polygons. Each set of envelopes are extended to the sectional thickness. Four sets of polygonal shapes were defined as follows:

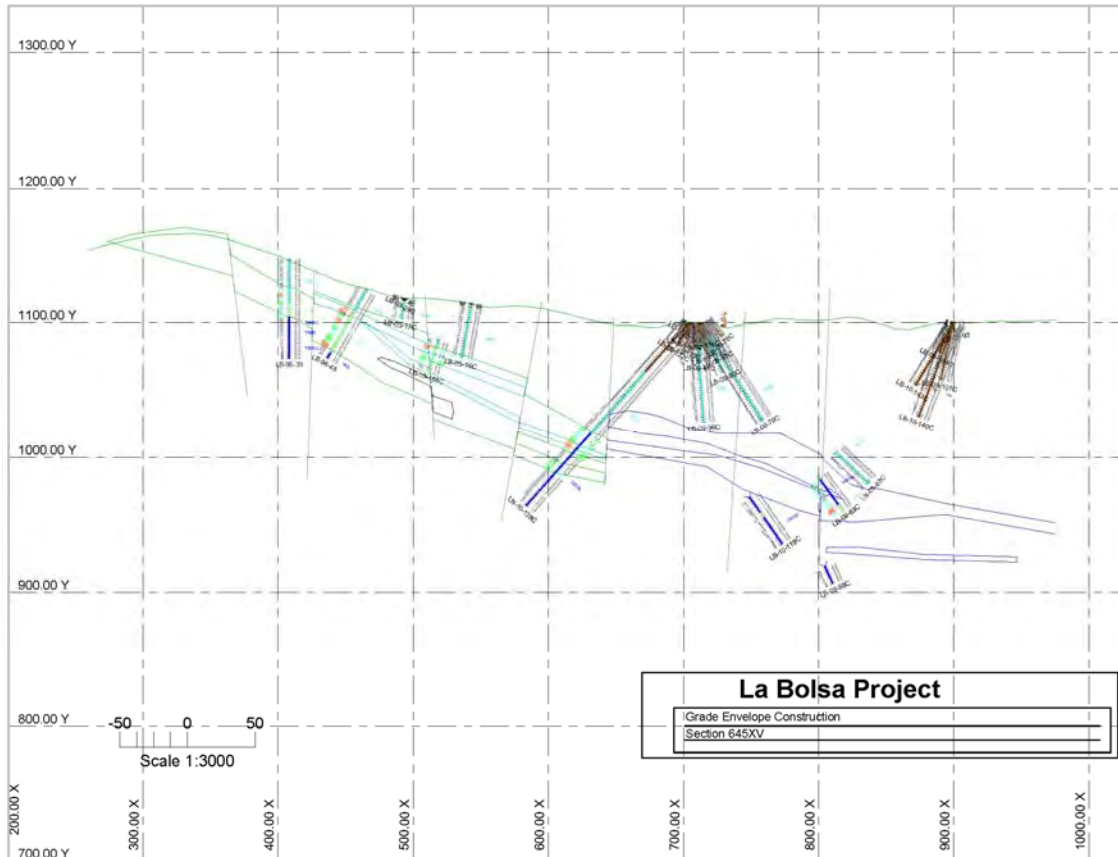
- I. Low-grade envelopes using a 0.2 g/t Au cutoff within the main ore body (green).
- II. Low-grade envelopes using a 0.2 g/t Au cutoff within the eastern zone of the mineralized trend (dark blue).
- III. High-grade envelopes using a 0.7 g/t Au cutoff within the main ore body (cyan).
- IV. Low-grade Hole, delineating material with less than 0.2 g/t Au internal to low grade envelopes (black).

FIGURE 16.1-2 CONCEPTUAL GEOLOGIC CROSS-SECTION



Comparative reference is made to the conceptual geologic section provided in Figure 16.1-2 above. Sectional interpretation showing low- and high-grade envelopes for section 645XV is presented below in Figure 16.1-3.

FIGURE 16.1-3 CROSS-SECTION 645 XV SHOWING GRADE ENVELOPE DEVELOPMENTS



The resource envelopes were developed to geologically constrain the grade estimation. The gold and silver mineralization was concentrated where fluids formed quartz-calcite vein, stockwork, and replacement zones. The main mineralized structural zone outcrops along the north to northwest trending La Bolsa ridge and dips gently north-eastward from 20° to 35°. Continuity of the structural zone can be demonstrated through geology and mineralization found within the drill holes. The mineralized zone extends for more than 1100 meters along strike and for some 800 meters eastward along the dip surface.

While the geologic resource model is straightforward, the actual geometry of the mineralized zone can be locally complex due to post-mineral cross-faulting and movement of blocks, either upthrown or downthrown along the fault planes. Accordingly the polygonal grade shells on 15m interval sections reflect the interpolated geologic offset of mineralization and lithologies. The

polygons that form the solid generally outline gold grades from 2 meter composites with a 0.2 g/t Au-only cutoff but also contain intervals of lower-grade material (ie. 0.15 g/t Au-only) where geologically consistent. Where intercept-to-intercept continuity of higher grade mineralization was geologically reasonable, an internal higher grade envelope at a general 0.7 g/t Au-only cutoff was outlined internal to the lower grade shell.

These grade zones were modeled separately from the main structural zone. Each sectional outline was then modified to accommodate faulting, alteration, rock type or changes in dip. The resulting wireframe solids were then used to code the model with at least 50% of the block within the solid.

The codes for the resource model were assigned as shown in the Table 16.1-3 below:

TABLE 16.1-3 RESOURCE MODEL CODING

Zone	Class	Cut off (g/t)	Code
Main	Low Grade	≥ 0.2	110
Main	High Grade	> 0.7	900
Main	Waste	< 0.2	14
Eastern/Lower	All	≥ 0.2	111

The code of 14 was given to all outside materials, that is, outside of the grade envelopes (generally referred to as the waste zone). A code of 1 was assigned material occurring above the topographic surface (designated as air) and so removed from the model.

The codes were assigned on a whole block basis to the block model. High grade, low grade, waste zones, main structural zone and air were coded in descending order of priority.

The mineralized envelopes also were used to code the encapsulated drillhole intervals with the same codes as the block model. Gold and silver assay intervals flagged with the codes then were used to identify individual composite samples during the interpolation process.

There are no partial blocks (no percentage flagging) in this process. As such, there are edge effects inherent in the tagging. First, the geometry of the solids does not correspond exactly to that of the block model, so partial blocks at the edge of a solid are flagged according to majority percentage. It is assumed that the volume excluded in blocks below 50 percent is roughly equal to the extra volume included in the blocks above 50 percent.

Another edge effect is related to the solids being simple horizontal extensions of the sectional shapes. As the mineralized zone traverses obliquely to the vertical section, the effect of these extended solids is to show a stepping effect. The effect is minimized by the 15 meter solid width. Minefinders assumes that the aggregate grade and volume inside the solids is equivalent to that contained in a smoother shape.

In SE's opinion, modeling of the solids has produced an accurate representation of the geologic continuity. SE has examined the solids models and compared them to the sample data and considers the interpretations to be reasonable. SE notes that Minefinders personnel have expended considerable time and effort in developing, interpreting the geology and building the solids models.

16.1.9. Variography

Minefinders employed the following process to model the spatial correlation of the data. The resulting variograms were used to determine the range of influence for measured, indicated, and inferred resources.

- Reviewed the geology for differing statistical regions.
- Samples were composited to ensure the minimum support-effect.
- Calculated and evaluated the classical statistics to identify any data set issues or multiple populations.
- Generated omnidirectional experimental variogram of the mineralized zone to identify the sill and estimate the nugget value, as down-the-hole variograms were not readily available.
- Created and analyzed variogram maps to locate the anisotropic directions.
- Generated multiple variograms along the identified anisotropies for modeling.

The apparent continuity of mineralization was nearly identical in the major (strike) and secondary (down dip) directions with least continuity identified as perpendicular to the major and secondary axes. Analyses of pairwise relative variograms by Minefinders, with allowance for anisotropy, gave ranges of 86 meters along strike, 86 meters down dip, and 28 meters across the zone. These distances were selected as the limits for the inferred resources. Major and semi-major variograms are available in the October 2009, 43-101 report.

16.2. RESOURCE BLOCK MODEL

Minefinders used a three-dimensional block model to estimate the gold and silver mineral resources for the La Bolsa Project. A grade envelope model was generated to delineate the mineralized zone. Variogram analysis was carried out on both gold and silver, block grades were estimated, and a density value applied. The model was repeatedly modified and validated with visual checks, statistical comparisons, and alternative interpolation methods. Mineral resources then were classified based upon geostatistical analysis and sample support factors.

16.2.1. Block Model

The block size is 5 x 5 x 3 meters, with one 5-meter axis oriented parallel to the strike of the model (azimuth 330 degrees), 5 meters across strike, and the 3 meters vertical. The lower corner of the model corresponds to the left hand end of Minefinders Section 0xv. There are approximately 200 ENE – WSW columns and 168 NNW – SSE rows. Block model elevations are from 780 to 1200 meters, or 140 vertical blocks.

The block model is initialized with all blocks flagged as waste. Blocks at least 50 percent within the low-grade sectional solids are then flagged as low-grade. Blocks at least 50 percent within the high-grade solids are flagged as high grade. Next, blocks that are at least 51 percent within low-grade areas of holes within the solids are flagged as low-grade holes. Finally, blocks at least 99 percent above the topography are flagged as air.

In SE's opinion, the configuration of the block model and the block size used is reasonable to depict the grade variability within the deposit. It is SE's opinion that the block size in the present model may be small relative to the selective mining unit (SMU) and that the block grade distribution may not exactly reflect what will be mined. A change of block size, if deemed necessary, can be achieved either by combining existing blocks (re-blocking) or by re-estimation of the grade using a different block size. The effect of increasing the block size will be to increase the tonnage and reduce grade due to additional dilution added to the material above the cutoff.

16.2.2. Grade Envelope Application

The grade envelope for the main structural zone has been incorporated into the block model to provide a limit on the extent to which the grade estimation can extend. It provides a so-called hard boundary outside of which estimation of grades does not occur.

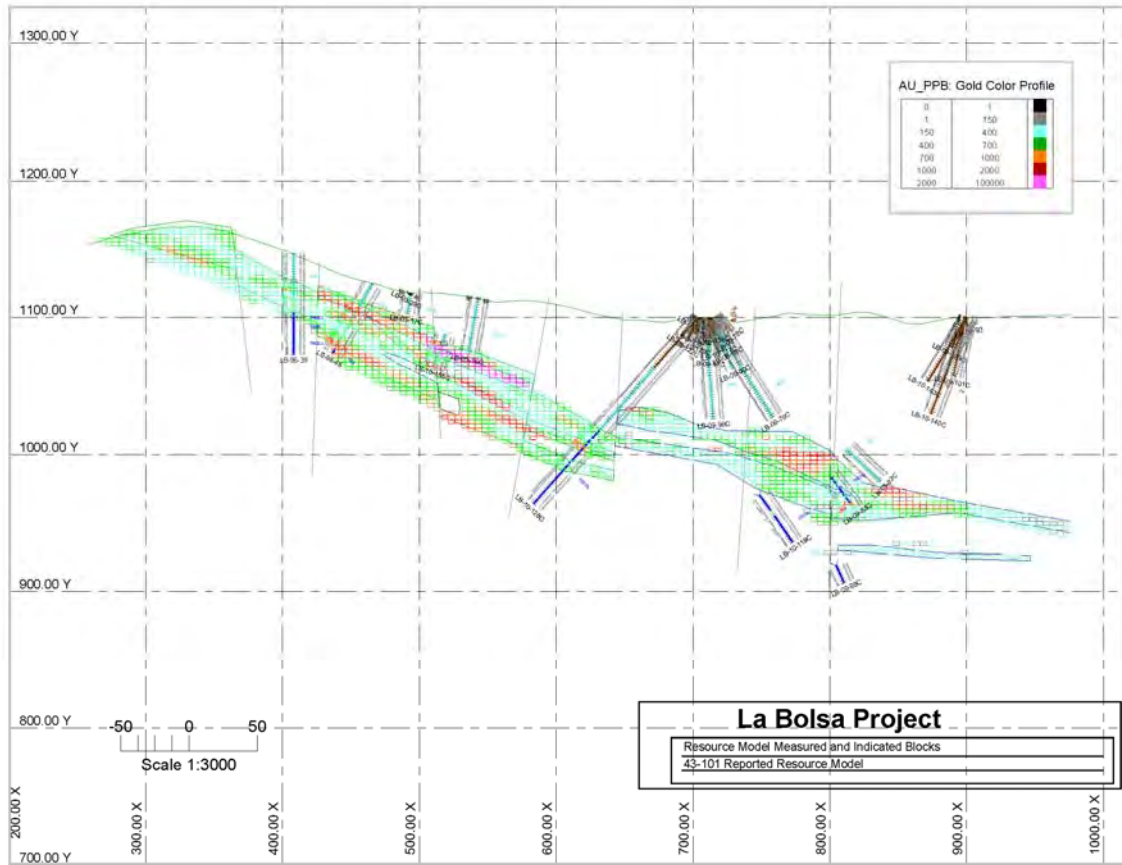
16.2.3. Grade Estimation

Based on the structurally controlled geometry of the deposit, Minefinders determined that an anisotropic search should be used in the mineralized zone. The selected search is biased along strike and down dip, and minimized perpendicular to those axes. Analysis of the variograms for the resource supports this approach. Sensitivity analysis of nearest-neighbor, and inverse distance interpolators were made using the defined search ellipses, grade envelopes, and several sets of composite parameters. Weighting powers were used in the inverse-distance runs. Minefinders used inverse-distance to the third power ($1/d^3$) for grade interpolation.

The calculation search ellipse used for the main zone of mineralization is 120 x 120 x 40, corresponding to an anisotropic ratio of 3:3:1. The relatively high anisotropy of the search is used to limit distortions of spatial grade distribution caused by drilling which is not perpendicular to the deposit, as well as to constrain the data used in the inverse-distance weighted block calculations. Minefinders decided to use this large search ellipse in order to assign grades to most of the blocks contained within the solids, and then exclude blocks from resource categories later using shorter search parameters for measured, indicated, and inferred categories.

Inverse-distance estimations used two composites per hole to minimize downhole averaging of data. A minimum of three samples per block were allowed. This requires at least two drill holes within the search ellipse for calculation of grade into a block, and serves to limit extrapolation of grade away from data. A maximum of 8 samples were used to ensure local grade consistency. An example of the block model along section 645XV is shown in Figure 16.2-1.

FIGURE 16.2-1 BLOCK MODEL SECTION 645 XV



When a grade model is constrained by geologic boundaries, there is a risk that there may be a bias in the interpolation of these boundaries. To validate that the La Bolsa model was unbiased, a nearest-neighbor estimation was evaluated using the same 2-meter drill hole composites with no geologic constraints, and using a search ellipse of 86 x 86 x 28. Based on this check it is believed that the interpolation procedures used by Minefinders conformed to accepted engineering practice.

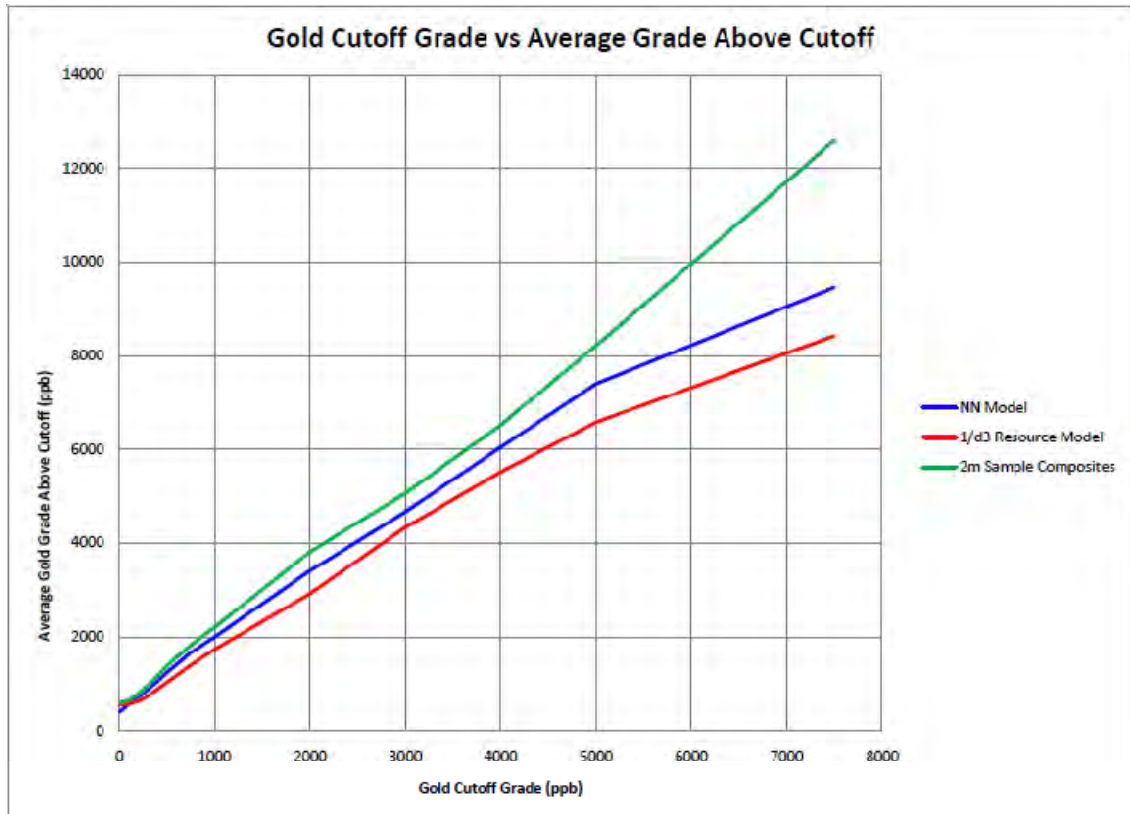
16.2.4. Block Grade Verification

As a general observation, grade models when constrained by boundaries such as mineralized envelopes may become biased by the envelope interpretation. To validate that the La Bolsa grade model was unbiased, the nearest neighbor was compared to both the inverse distance cubed estimation and the input composites. The cutoff grade vs. grade above cutoff for these estimators is shown in Figure 16.2-2. From this illustration it can be seen that the nearest neighbor estimator has produced higher grades than the inverse distance cubed ($1/d^3$) estimate.

Further, the average estimate of the $1/d^3$ did not exceed the average of the composite grade.

From this comparison it is reasonable to conclude that the $1/d^3$ estimate is unbiased. On this basis it is SE's opinion that the $1/d^3$ estimate is unbiased within the gold estimate. Based upon the comparison of the two estimates, it is SE's opinion that the $1/d^3$ model provides a reasonable estimate of the Mineral Resource at La Bolsa.

FIGURE 16.2-2 ESTIMATED GOLD GRADES VS. COMPOSITE GRADE



16.2.5. Resource Classification

Definitions of the measured, indicated, and inferred resource categories are presented in the October 2009, 43-101 report. The definitions follow guidelines accepted by the international financial institutions and security exchange commissions.

The criterion used by Minefinders to assign resources to the three categories is presented in Table 16.2-1 below:

TABLE 16.2-1 MEASURED, INDICATED AND INFERRED CLASSIFICATION PARAMETERS

CLASS	STRIKE RANGE	DIP RANGE	THICKNESS	MAX # COMPOSITES PER HOLE	MIN SAMPLE	MAX SAMPLE
Measured	30	30	10	2	3	8
Indicated	57.5	57.5	20	2	2	8
Inferred	86	86	28	1	1	1

Measured and Indicated are classified only within the identified mineralized zone.

Mineral resources have been classified according to the definitions in the CIM Standards on Mineral Resources and Reserves Definitions and Guidelines, as incorporated in National Instrument 43-101. Resource blocks are classed as Measured, Indicated, or Inferred, depending on the confidence level of the estimate.

In SE's opinion the methods used to classify mineral resources at La Bolsa are reasonable.

16.2.6. Confidence Levels of Key Criteria

The confidence level of the key criteria considered during resource classification was prepared by Sacrison Engineering for the October 2009 NI 43-101 and presented in Table 16.2-2.

TABLE 16.2-2 CONFIDENCE LEVELS OF KEY CRITERIA

Confidence Levels of Key Criteria		
Item	Discussion	Confidence
Drilling	RC/Diamond - Industry Standard Approach, except for minor downgrading of values and downhole contamination by RC drilling. Predominance of diamond core mitigates any RC risks.	High
Logging	Standard Approach and Methodology	High
Drill Sample Recovery	Good Recoveries for most intervals, No data available for core recovery vs. gold grade or RQD	Moderate
Sampling Techniques and Preparation	Industry Standard for Both RC and Diamond Drilling	High
Quality of Assay Data	Available quality control indicates geological and assay data is consistent with industry practice independent investigation and sampling by MPH Consultants	Moderate
Verification of Sampling and Assaying	Twinning of RC/Core hole which reproduces globally original drill intercept, However limited program of blanks and duplicate samples introduced into assay stream	Moderate
Surveying of Hole Collars	Majority of Collars Surveyed by GPS with industry standard down hole methods, location of 3D downhole samples adequately established	High
Data Density and Distribution	Majority of holes drilled on approx. 40m E x 40m N grid with higher grade areas drilled to approx. 25m N x 25m E grid Depth and peripheral areas are more broadly spaced reflecting lower confidence	Moderate
Bulk Density	Densities based upon only 24 samples, well distributed throughout the mineralized and waste zones, however only limited scope of density program	Moderate
Audits and Reviews	Early internal resource assessment by MDA in 1996, and internal qualifying report by MPH Consultants in 1997	Moderate
Database Integrity	Minor errors identified and corrected	High
Geological Interpretation	Interpretation methods and constraints considered robust with confidence increasing with drill intercept density	High
Estimation and Grade Modelling Techniques	Inverse Distance Cubed	Moderate

16.2.7. La Bolsa Mineral Resource Summary

Categorization of the resource estimate was undertaken in accordance with the criteria laid out in the Canadian National Instrument 43-101 (CNI 43-101). A combination of Measured and Indicated Mineral Resources have been defined using definitive criteria determined during the validation of the grade estimates, with detailed consideration of the CNI 43-101 categorization guidelines.

The updated model contains a total of 64 drill sections trending along a 060 azimuth, spaced every fifteen meters. Three dimensional, geologically constrained solids were used to interpret the mineral zones onto the individual cross-sections. The formed solids were utilized to flag drill hole samples which were contained within. Grade estimation was completed for blocks by using an inverse distance to the third power methodology. Blocks of 5 meters (length) x 5 meters (width) x 3 meters (height) were generated in accordance with the parameters of the Sacrison 43-101 verified resource and were coded with the gold and silver grades, density, lithology, in or

out of mineralized envelope, and resource class (measured, indicated, inferred). All modeling of the resources was performed using Gemcom® software.

The measured and indicated mineral resource reported at a 0.25g/t Au cutoff grade totals 18.73Mt with an average grade of 0.676g/t Au, and 9.74 g/t Ag for a total of 0.407 million ounces of gold and 5.87 million ounces of silver. The categorized mineral resources for the La Bolsa Project are stated at various cutoff grades as shown in Table 16.2-3 below.

TABLE 16.2-3 RESOURCE ESTIMATE

Measured Resources

GRADEGROUP	Tonnes	Au		Ag	
		g/t	Ounces	g/t	Ounces
0.20	10,834	0.697	242,657	10.17	3,542,382
0.25	9,705	0.751	234,464	10.84	3,383,952
0.30	8,572	0.814	224,454	11.64	3,207,736
0.40	6,518	0.961	201,447	13.52	2,833,044
0.50	4,976	1.121	179,320	15.56	2,488,750
0.60	3,940	1.272	161,078	17.37	2,200,419
0.75	2,894	1.489	138,574	20.02	1,862,772
1.00	1,859	1.837	109,816	24.32	1,453,346

Indicated Resources

GRADEGROUP	Tonnes	Au		Ag	
		g/t	Ounces	g/t	Ounces
0.20	10,636	0.539	184,475	7.87	2,689,850
0.25	9,028	0.596	172,866	8.56	2,483,960
0.30	7,643	0.654	160,642	9.32	2,290,827
0.40	5,413	0.780	135,797	11.10	1,930,986
0.50	3,903	0.909	114,111	12.97	1,628,125
0.60	2,857	1.042	95,725	14.80	1,359,471
0.75	1,817	1.256	73,360	17.90	1,045,569
1.00	1,030	1.560	51,677	23.35	773,296

Inferred Resources

GRADEGROUP	Tonnes	Au		Ag	
		g/t	Ounces	g/t	Ounces
0.20	13,663	0.506	222,445	7.61	3,342,926
0.25	11,020	0.574	203,528	8.64	3,061,275
0.30	9,263	0.631	188,037	9.46	2,816,466
0.40	6,602	0.747	158,457	11.18	2,372,989
0.50	4,394	0.897	126,785	12.26	1,732,348
0.60	3,199	1.028	105,711	13.84	1,423,091
0.75	2,060	1.227	81,280	16.55	1,095,936
1.00	1,166	1.508	56,548	21.49	805,898

Measured + Indicated Resources

GRADEGROUP	Tonnes	Au		Ag	
		g/t	Ounces	g/t	Ounces
0.20	21,470	0.619	427,132	9.03	6,232,232
0.25	18,734	0.676	407,330	9.74	5,867,912
0.30	16,215	0.739	385,095	10.55	5,498,563
0.40	11,931	0.879	337,243	12.42	4,764,030
0.50	8,879	1.028	293,432	14.42	4,116,875
0.60	6,797	1.175	256,803	16.29	3,559,889
0.75	4,711	1.399	211,935	19.20	2,908,341
1.00	2,889	1.739	161,493	23.97	2,226,642

16.3. MINERAL RESERVE ESTIMATE

16.3.1. Mineral Reserve Estimates

Several NPV pit runs were created for analysis utilizing the reblocked diluted resource as prepared by Xochitl Valenzuela Engineering (XVE) and described in Section 17.1.2 under mining dilution. More detailed results of these runs may be viewed in Appendix 05 of this report.

Smoothed pit designs that include appropriate pit access ramps, wall slope angles, catchment berm designs and minimum mining widths for the selected mining equipment were produced by XVE for one mining phase as guided by the Lerch-Grossmann \$825 pit shell.

The mineral reserve estimates for the Project consist of the inventory of the proven and probable blocks (ie. the reblocked/diluted measured and indicated mineral resource) contained within the final design pit. There is a high proportion of proven (60.5%) to probable (39.5%) reserve within the pit; very few inferred blocks are found within the pit design and no attempt has been made to report them. The resulting internal cutoff grade based on operating process costs, G&A cost, metallurgical recovery and gold price of US\$825/oz is 0.194 g/t.

Using a generalized 0.2 g/t gold only cutoff results in the total and categorized proven and probable reserve estimates as displayed in Table 16.3-1 below.

TABLE 16.3-1 ESTIMATED MINERAL RESERVE (PROVEN AND PROBABLE)

Reserves	Tonnes	Gold Grade (g/t)	Gold Ounces Contained	Silver Grade (g/t)	Silver Ounces Contained
Proven	9,461,535	0.667	203,045	10.1	3,079,309
Probable	6,169,633	0.570	113,090	7.2	1,422,228
Total P & P Reserve	15,631,168	0.629	316,135	9.0	4,501,537

Table 16.3-2 details the estimated proven and probable mineral reserves and corresponding strip ratio by bench within the final pit design, assuming the 0.2g/t cutoff, as shown below.

TABLE 16.3-2 MINERAL RESERVE ESTIMATES BY BENCH WITHIN THE FINAL PIT

Pit-ramp 825 R2 DILUTED								
Cutoff 0.2								
Bench	Ore tonnes	Au g/t	Ag g/t	Waste tonnes	Au oz	Ag oz	Total Tonne	S/R
1176				1,250			1,250	
1170	20,832	0.882	9.2	18,704	591	6,189	39,536	0.90
1164	90,043	0.878	8.6	74,694	2,542	24,752	164,737	0.83
1158	207,639	0.827	10.4	197,982	5,520	69,428	405,621	0.95
1152	310,144	0.826	11.3	354,111	8,231	112,178	664,255	1.14
1146	421,710	0.683	9.9	436,650	9,258	133,685	858,360	1.04
1140	464,074	0.572	8.0	607,037	8,528	119,213	1,071,111	1.31
1134	567,828	0.525	6.8	680,529	9,581	124,689	1,248,357	1.20
1128	688,925	0.564	7.6	682,010	12,501	169,000	1,370,935	0.99
1122	743,513	0.598	8.5	800,053	14,297	203,905	1,543,566	1.08
1116	811,641	0.594	8.3	956,431	15,498	216,587	1,768,072	1.18
1110	860,633	0.618	8.3	1,154,707	17,100	229,107	2,015,340	1.34
1104	856,493	0.660	9.0	1,458,303	18,180	247,832	2,314,796	1.70
1098	813,088	0.638	9.5	1,848,293	16,673	249,389	2,661,381	2.27
1092	768,370	0.649	10.5	2,141,135	16,028	259,882	2,909,505	2.79
1086	714,262	0.624	10.6	2,340,085	14,336	243,648	3,054,347	3.28
1080	668,101	0.635	10.3	2,183,692	13,646	221,458	2,851,793	3.27
1074	600,683	0.722	10.4	1,916,466	13,945	200,656	2,517,149	3.19
1068	539,757	0.782	10.4	1,788,260	13,569	179,783	2,328,017	3.31
1062	445,143	0.700	9.1	1,700,412	10,018	129,521	2,145,555	3.82
1056	382,189	0.669	7.8	1,473,685	8,217	95,967	1,855,874	3.86
1050	398,538	0.669	7.6	1,350,412	8,567	96,997	1,748,950	3.39
1044	408,013	0.666	7.7	1,229,062	8,731	100,877	1,637,075	3.01
1038	427,015	0.625	8.3	1,003,526	8,586	113,538	1,430,541	2.35
1032	463,776	0.584	8.7	842,558	8,712	130,022	1,306,334	1.82
1026	459,658	0.643	9.8	704,962	9,498	145,123	1,164,620	1.53
1020	418,269	0.582	9.0	534,977	7,825	121,163	953,246	1.28
1014	449,692	0.465	7.3	417,596	6,719	105,687	867,288	0.93
1008	444,027	0.527	8.5	299,869	7,526	120,773	743,896	0.68
1002	350,045	0.688	11.7	194,627	7,745	131,111	544,672	0.56
996	312,246	0.577	9.4	118,787	5,789	94,366	431,033	0.38
990	231,045	0.492	7.7	66,536	3,655	56,975	297,581	0.29
984	157,010	0.485	5.9	37,951	2,447	29,884	194,961	0.24
978	74,456	0.460	4.4	8,984	1,102	10,629	83,440	0.12
972	44,655	0.523	4.2	9,207	751	5,958	53,862	0.21
966	17,655	0.393	2.8	2,894	223	1,567	20,549	0.16
	15,631,168	0.629	8.957	29,636,437	316,135	4,501,537	45,267,605	1.90

Note: Final Mineral Reserves include initial preproduction mining reserves.

17.0 OTHER RELEVANT DATA AND INFORMATION

The authors of this report are not aware of any additional, relevant data and information which have been excluded from this report, which would make the report misleading.

18.0 ADDITIONAL REQUIREMENTS FOR TECHNICAL REPORTS ON DEVELOPMENT PROPERTIES AND PRODUCTION PROPERTIES

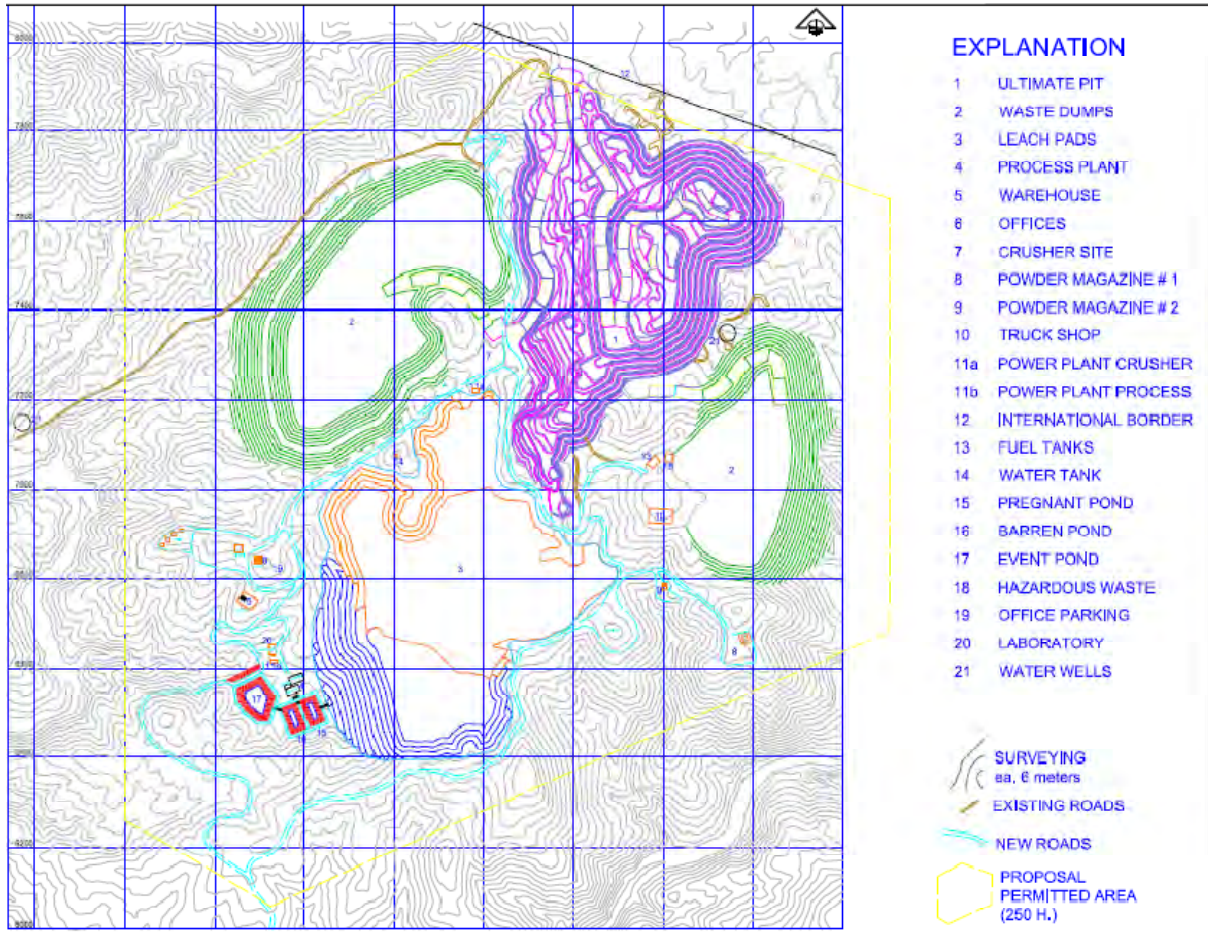
18.1. MINING OPERATIONS

18.1.1. Introduction

The 5 meter X 5 meter X 3 meter resource model was reblocked to 5m X 5m X 6m dimensions to accommodate a larger SMU and dilution, as well as to match the planned bench height. The resultant was an addition of 7.0% dilutional tonnes and an overall 7.3% decrease in average grade with a concomitant loss of 1,182 ounces of gold. Pit optimization was carried out using the MineSight 3D[®] economic pit evaluation software which utilizes the Lerchs-Grossmann algorithm. The highest IRR pit shell created by the Lerchs-Grossman run was based on an \$825 gold price and \$14 silver price, and is the pit shell used for final pit design and optimization. Total diluted reserves within the design pit contain 316,135 ounces of gold and 4.5 million ounces of silver within 15.6 million tonnes of ore at an average grade of 0.63 g/t Au, 9.0 g/t Ag, and an associated 29.6 million tonnes of waste.

The proposed open pit mining rate for this deposit is based upon a production rate of 8500 ore t/d yielding a mine life of 5.3 years. As is seen in the site plan presented below as Figure 18.1-1, the La Bolsa project allows for construction of a compact operation close proximity between all facilities.

FIGURE 18.1-1 SITE PLAN



18.1.2. Open Pit Optimization

Introduction

SR employed Xochitl Valenzuela Engineering (XVE) services who utilized MineSight Software to apply the Lerchs-Grossmann algorithm for pit optimization of the La Bolsa deposit, based on analyses of the resource model. The program enables the generation of a series of nested optimal pits where each successive outline uses a slightly higher gold price than the previous one. This is accomplished for a range of prices, from the lowest for each ore that can be profitably mined to the highest expected in the future. These pits are then analyzed at the base case cost and prices to establish their respective values. Selection of the optimal pit is usually based on the pit shell that provides the highest project Net Present Value (NPV).

Several iterations of the optimization runs were completed in order to reflect differing sets of technical and economical parameters. Parameters were changed during intermediate runs and final values eventually selected for a final run.

Optimization Input Parameters

Economically La Bolsa is a gold deposit with minor silver credits. Estimated gold grades from the geological block model with associated volumes and densities for individual blocks have formed the basis for the metal content estimates of each block of the model. The completed geological block model was transmitted to XV Engineering directly, ready for mine planning purposes.

Technical and economic parameters utilized in the initial optimization process are summarized in Table 18.1-1.

TABLE 18.1-1 INPUT PARAMETERS FOR PIT OPTIMIZATION

La Bolsa Economic Assumptions			
COST PARAMETERS			
Mining cost	1.05 \$/tonne Mined		
Processing Cost	2.86 \$/Ore tonne Processed		
G&A Cost	0.84 \$/Ore tonne Processed		
TOTAL OPERATING COST	4.75 \$/Ore tonne		
Sales cost	1.00 \$/oz		
RECOVERY			
Recovery Au	72% Percent		
Recovery Ag	7% Percent		
METAL PRICE SENSITIVITY	Minimum	Maximum	Incremental
Gold Price	\$300.00	\$1,200.00	\$25.00
Silver Price	\$4.13	\$21.00	\$0.47
Base Case Gold Price	\$825.00		
Base Case Silver Price	\$14.00		
PIT SLOPE	7 sectors		

Input Resource Model

The resource estimate for the La Bolsa deposit was prepared in October of 2009 by Sacrison Engineering using a geological model and sampling database provided by Minefinders and may be accessed through the Canadian Securities Administrators in the SEDAR filing system. The block model is classified into measured, indicated and inferred resources in accordance with the

definitions from the CIM Standing Committee which formed the basis for National Instrument 43-101, and may be obtained via SEDAR within the report published by Minefinders on October 16, 2009, titled 'TECHNICAL REPORT ON THE LA BOLSA PROPERTY SONORA, MEXICO'.

The NI 43-101 compliant resource model as reviewed by Sacrison was updated with 30 additional RC holes and 49 additional core holes for a total of 79 new holes which are infill definition holes that further refine model interpolation thereby providing the most accurate model possible. The drill updates were utilized in conformance with all parameters and procedures as reviewed by Sacrison. The updated model was input into MineSight 3D software in order to complete pit optimizations for the deposit.

The mineral resources estimated at a cutoff grade of 0.2 g/t gold, reflecting a heap leach scenario, are summarized in Table 18.1-2.

TABLE 18.1-2 MINERAL RESOURCE ESTIMATE SUMMARY BY MINEFINDERS MARCH 2010

RESOURCE CATEGORY	TONNES (x1,000)	Average Grade Au	CONTAINED GOLD	Average Grade Ag	CONTAINED SILVER
Measured	10,834	0.697	242,657	10.17	3,542,382
Indicated	10,636	0.539	184,475	7.87	2,689,850
Measured & Indicated	21,470	0.619	427,132	9.03	6,232,232
Inferred	13,663	0.506	222,445	7.61	3,342,926

Only the measured and indicated blocks of the resource model were used for reserve estimation and the inferred resource blocks were treated as waste in the pit optimization process. The original block model size of 5m x 5m x 3m was left intact to provide better representation of grade variability, during initial Lerchs-Grossman cone optimization runs. Reblocking was then performed for additional cone miner runs.

Metallurgical Recovery

Metallurgical recovery for the La Bolsa deposit was assumed to be 72% for gold and 7% for silver. Detailed metallurgical reports and analyses are discussed in Sections 15 above and 18.2 below and in Appendix 06.

Mining Dilution

Reblocking of the resource was used as a means to introduce dilution as well as match the block size to the planned mining practice and equipment fleet size. Reblocking was accomplished using MineSight 3D® software by combining the resource model blocks of 5x5x3m blocks into blocks of 5x5x6 meter dimensions. Two blocks were combined vertically for each block horizontally. Gold and silver grades within each new block were calculated as a direct weighted average thereby incorporating waste blocks from the edge of the mineralized envelopes into the ore, accounting for edge dilution. New codes were reassigned to each of the newly combined

blocks, either Code 1 or Code 3, as follows. If at least one of the two original blocks contained material defined as measured or indicated, Code 1 was assigned. All other blocks were assigned Code 3.

A comparison was made to define the amount of dilution that is added to the Minefinders geological resource model (5x5x3) to the reserve model (5x5x6). Several iterations were carried out. Reblocking the resource model reduced the average gold grade of mineralization above gold cutoffs by -7.3% as shown below. These reblocked grades are used in the minable reserve tables shown in Table 18.1-3 and in all planning and scheduling.

TABLE 18.1-3 DILUTION

DILUTIONARY EFFECT OF REBLOCKING							
	Cutoff	Ore tonne	Au g/t	Au oz	Waste tonne	Total tonne	S/R
\$825 LG Cone - 5x5x3m Resource	0.194	14,084,478	0.692	313,567	27,295,314	41,379,792	1.9
\$825 LG Cone - 5x5x6m Diluted Resource	0.194	15,108,360	0.641	311,411	26,271,432	41,379,792	1.7
Pit Design \$825 R2 - 5x5x3 Resource	0.194	14,713,322	0.673	318,453	30,554,456	45,267,778	2.1
Pit Design \$825 R2 - 5x5x6 Diluted Res.	0.194	15,819,553	0.624	317,271	29,448,052	45,267,605	1.9
Pit Design \$825 R2 - 5x5x6 Diluted Res.	0.2	15,631,168	0.629	316,106	29,636,436	45,267,604	1.9

As shown in the table above, the dilutionary effect when comparing Lerchs-Grossman cone miner runs on the original resource model and the reblocked model is an increase of 6.8% more ore tonnes at a lower gold grade resulting in 0.7% metal loss. A similar relationship occurs when analyzing the difference in block models after haul road ramp design engineering is completed (R2) on the optimized cone. Ore tonnes increase by 7.0%, grade decreases by -7.3% and a overall loss of 1,182 gold ounces occurs (-0.4%).

One final adjustment was made prior to determining mineable reserves. The 0.194 g/t gold cutoff grade associated with the \$825 Lerchs-Grossman cone was increased to 0.20 g/t Au as a minor factor of conservatism.

Mine Operating Cost

The mine operating cost utilized in pit optimization was estimated to be US\$1.05/t of material moved for both ore and waste.

Process Operating Cost

An average process operating cost utilized in pit optimization of US\$2.86/t of ore was estimated for a 5 years of production based on a production rate of 3Mt/y of ore. This unit cost used in pit optimization included process and heap leach costs.

General and Administration Cost (G&A Cost)

The average G&A cost utilized in pit optimization of US 0.84/t of ore was estimated based on similar nearby, active operations.

Capital Costs

No allowance was made for capital cost, ongoing capital requirements, taxation, project finance charges or royalties for the reserve optimization process. These costs would not affect the estimated reserves.

Metal Price

Base case metal prices of US\$825 per ounce of gold and US\$14 per ounce of silver were used during the pit optimization process.

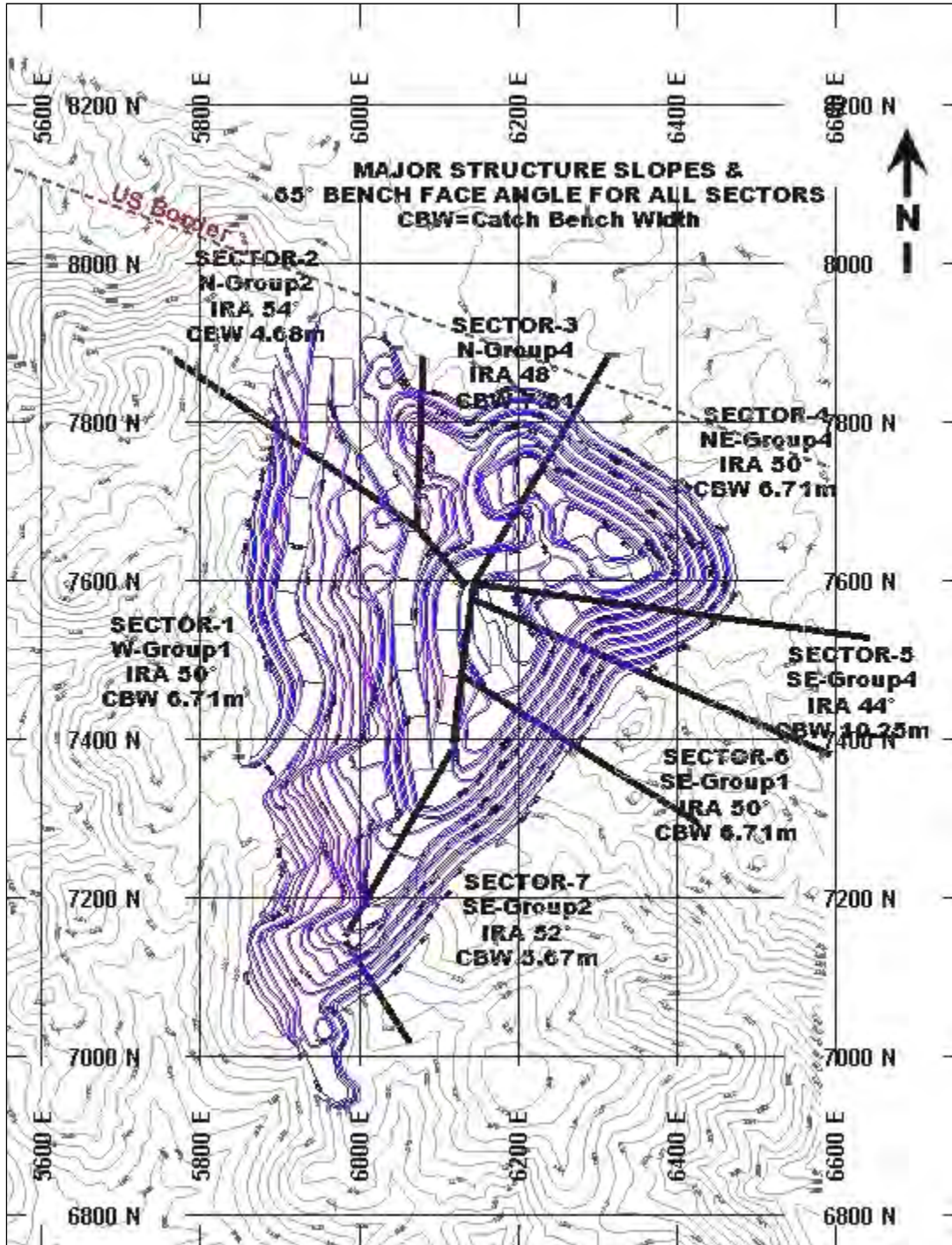
Pit wall Slope Angle

A study undertaken by the Mines Group defined variable stability regimes and categorized the data into sectors. These findings were incorporated into the final pit design. The table and associated map below clarify the inner ramp within each sector and their special relationship.

TABLE 18.1-4 RECOMMENDED DESIGN INTERRAMP ANGLES BY DESIGN SECTOR AND STRUCTURAL DOMAIN

USING MAJOR STRUCTURE SLOPE AND VARIABLE CATCH BECHES WITH 65° OF FBA FOR ALL SECTORS								
APPLIED IN PIT OPTIMIZATION								
Sector No.	SECTOR-1	N/A	SECTOR-2	SECTOR-3	SECTOR-4	SECTOR-6	SECTOR-7	SECTOR-5
Design Sector	W Wall	W Wall	N Wall	N Wall	NE Wall	SE Wall	SE Wall	SE Wall
Structural Domain	Group 1	Group 2	Group 2	Group 4	Group 4	Group 1	Group 2	Group 4
Bench Ht (m)	6	6	6	6	6	6	6	6
Expected BFA (Deg)	65	65	65	65	65	65	65	65
Major Structure/Kinematic Analysis	50	46	54	48	50	50	52	44
Catch Bench Width -Triple bench (m)	6.71		4.68	7.81	6.71	6.71	5.67	10.25
RECOMMENDED BE THE MINES GROUP								
Design Sector	W Wall	W Wall	N Wall	N Wall	NE Wall	SE Wall	SE Wall	SE Wall
Structural Domain	Group 1	Group 2	Group 2	Group 4	Group 4	Group 1	Group 2	Group 4
Bench Ht (m)	6	6	6	6	6	6	6	6
Expected BFA (Deg)	60	66	77	59	66	73	78	65
Catch Bench Width (m) for:								
Single Bench	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
Double Bench	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Triple Bench	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
Recommended Interramp Angle (deg) for:								
Single Bench	33	36	40	33	36	39	41	35
Double Bench	41	44	51	40	44	49	52	44
Triple Bench	44	48	56	44	48	53	56	48
Major Structure/Kinematic Analysis	50	46	54	48	50	50	52	44

FIGURE 18.1-2 PIT SLOPE STABILITY SECTORS



Optimization Methodology

The block values for pit optimization are calculated from the recoverable gold content adjusted by the operating costs.

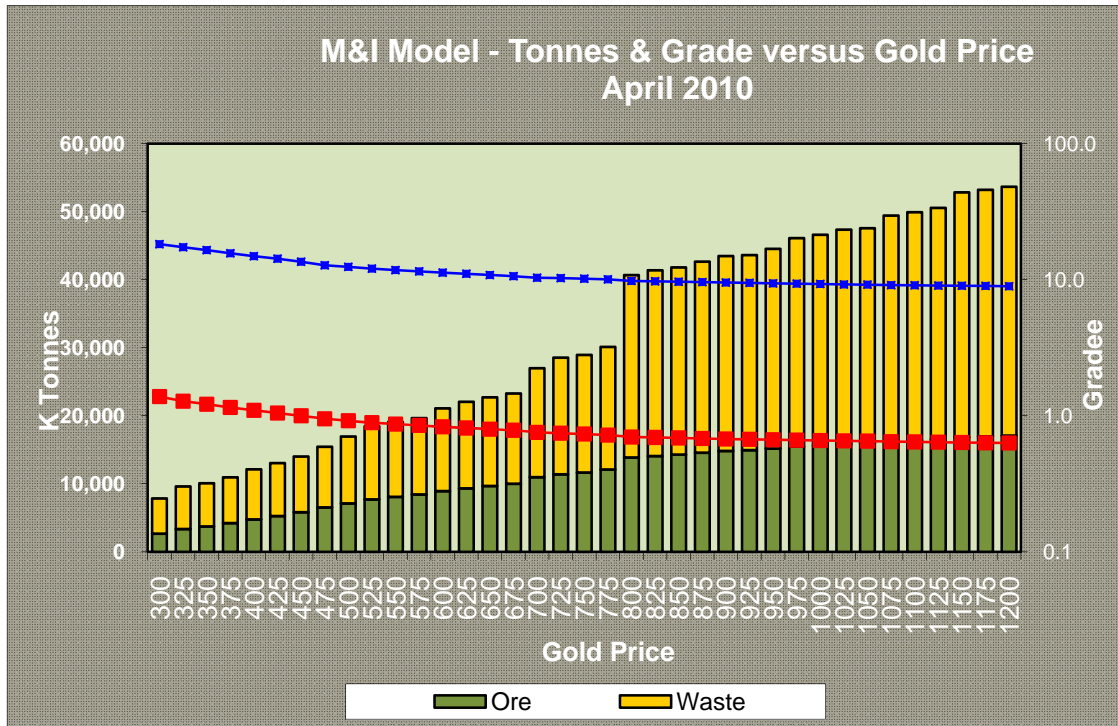
The Lerchs-Grossmann algorithm produces a series of pit shells and an optimal ultimate pit limit for a specified gold price. Two pit optimization models were used: 1) optimization considering only Measured and Indicated material; and 2) optimization using Measured, Indicated and Inferred material.

Optimization results are presented in Table 18.1-5 for the M&I model with the base case having been highlighted. MI&I model results do not give a significant difference due to inferred blocks representing only 3.4% of the mineralized blocks in the model. The Lerchs-Grossman cone results are presented graphically in Figure 18.1-3 showing the tonnes of ore and waste and the average grade of ore in each pit.

Table 18.1-5 Results for Measured and Indicated (M&I) Pit Optimization

Case	Gold Price	Silver Price	Cutoff AuEq	Total Ore					Waste tonne	Total tonnes	S/R
				Ore tonne	Au g/t	Au oz	Ag g/t	Ag oz			
1	\$300	\$4.1	0.535	2,668,356	1.383	118,612	18.3	1,566,699	5,173,962	7,842,318	1.94
2	\$325	\$4.6	0.494	3,363,438	1.279	138,327	17.3	1,870,952	6,246,624	9,610,062	1.86
3	\$350	\$5.1	0.458	3,740,460	1.215	146,094	16.5	1,982,592	6,347,250	10,087,710	1.70
4	\$375	\$5.5	0.428	4,231,872	1.149	156,383	15.6	2,127,529	6,711,624	10,943,496	1.59
5	\$400	\$6.0	0.401	4,769,040	1.095	167,872	14.9	2,281,067	7,354,440	12,123,480	1.54
6	\$425	\$6.5	0.377	5,264,544	1.047	177,269	14.3	2,413,800	7,783,170	13,047,714	1.48
7	\$450	\$6.9	0.356	5,826,822	0.999	187,070	13.5	2,537,881	8,172,840	13,999,662	1.40
8	\$475	\$7.4	0.337	6,535,110	0.950	199,573	12.8	2,679,012	8,916,096	15,451,206	1.36
9	\$500	\$7.9	0.321	7,109,664	0.919	209,999	12.4	2,834,580	9,833,076	16,942,740	1.38
10	\$525	\$8.3	0.305	7,698,912	0.889	220,083	12.1	2,984,038	10,746,336	18,445,248	1.40
11	\$550	\$8.8	0.291	8,070,912	0.869	225,381	11.8	3,054,705	11,020,500	19,091,412	1.37
12	\$575	\$9.3	0.279	8,423,382	0.849	230,052	11.5	3,119,116	11,239,794	19,663,176	1.33
13	\$600	\$9.8	0.267	8,931,720	0.829	237,928	11.3	3,236,441	12,159,378	21,091,098	1.36
14	\$625	\$10.2	0.256	9,324,180	0.812	243,481	11.0	3,311,802	12,728,910	22,053,090	1.37
15	\$650	\$10.7	0.246	9,675,162	0.797	247,796	10.8	3,364,572	13,035,066	22,710,228	1.35
16	\$675	\$11.2	0.237	9,999,732	0.782	251,537	10.6	3,411,959	13,267,194	23,266,926	1.33
17	\$700	\$11.6	0.229	10,984,044	0.755	266,520	10.3	3,650,150	16,015,158	26,999,202	1.46
18	\$725	\$12.1	0.221	11,398,824	0.744	272,533	10.3	3,768,423	17,149,572	28,548,396	1.50
19	\$750	\$12.6	0.214	11,662,200	0.734	275,136	10.2	3,807,642	17,271,402	28,933,602	1.48
20	\$775	\$13.0	0.207	12,098,370	0.721	280,256	10.0	3,904,766	18,022,656	30,121,026	1.49
21	\$800	\$13.5	0.200	13,862,952	0.698	310,955	9.8	4,363,673	26,811,714	40,674,666	1.93
22	\$825	\$14.0	0.194	14,084,478	0.692	313,567	9.7	4,404,436	27,295,314	41,379,792	1.94
23	\$850	\$14.4	0.188	14,294,472	0.687	315,552	9.7	4,439,499	27,503,076	41,797,548	1.92
24	\$875	\$14.9	0.183	14,573,658	0.680	318,599	9.6	4,492,660	28,086,558	42,660,216	1.93
25	\$900	\$15.4	0.178	14,822,154	0.674	321,342	9.5	4,533,113	28,655,346	43,477,500	1.93
26	\$925	\$15.8	0.173	14,941,752	0.671	322,226	9.5	4,548,704	28,667,994	43,609,746	1.92
27	\$950	\$16.3	0.168	15,175,740	0.666	324,873	9.4	4,587,603	29,350,242	44,525,982	1.93
28	\$975	\$16.8	0.164	15,461,250	0.661	328,714	9.4	4,648,557	30,648,522	46,109,772	1.98
29	\$1,000	\$17.3	0.160	15,633,486	0.657	330,342	9.3	4,670,118	30,963,234	46,596,720	1.98
30	\$1,025	\$17.7	0.156	15,825,810	0.653	332,390	9.2	4,693,969	31,543,926	47,369,736	1.99
31	\$1,050	\$18.2	0.152	15,930,900	0.650	333,165	9.2	4,708,371	31,629,300	47,560,200	1.99
32	\$1,075	\$18.7	0.149	16,273,884	0.645	337,276	9.1	4,770,357	33,146,316	49,420,200	2.04
33	\$1,100	\$19.1	0.145	16,410,594	0.642	338,555	9.1	4,792,873	33,511,806	49,922,400	2.04
34	\$1,125	\$19.6	0.142	16,547,676	0.639	340,018	9.0	4,810,819	34,010,658	50,558,334	2.06
35	\$1,150	\$20.1	0.139	16,862,760	0.635	344,472	9.0	4,896,506	35,988,024	52,850,784	2.13
36	\$1,175	\$20.5	0.136	16,980,870	0.633	345,426	9.0	4,908,354	36,230,010	53,210,880	2.13
37	\$1,200	\$21.0	0.133	17,089,122	0.631	346,426	9.0	4,921,832	36,569,274	53,658,396	2.14

FIGURE 18.1-3 GRAPH OF TONNES AND GRADES VERSUS GOLD PRICE



The base-case pits represent the volume that can be mined where incremental tonnage at the bottom of the pit is breakeven. In other words, using the given economic assumptions, the value from material mined at the bottom of the pit is equal to the cost to process the economical material and mine it along with overlying waste.

To review Net Present Value for the mine, iterations using the other pits in the model should be evaluated with more accurate capital and operating costs, and application of the time value of money. This will generally add value to the property while reducing the size of the ultimate pit to be mined.

Simple scheduling of year-by-year production was done using M&I. Upon investigation, no incremental pits were selected representing individual pushbacks and a single phase of mining was determined to be optimum for La Bolsa. M&I pit \$825 was selected as the optimum pit shell from the range of different ultimate pits (from \$700 to \$1000) used to create separate cash-flow evaluations. The pits were compared to determine which pit provided the best NPV at the base case cutoff. Total leaching capacity was set to 3Mt/y.

Initial and sustaining capital was set according to the preliminary capital costs table provided by Sonoran Resources. Table 18.1-6 provides a summary of the capital cost and operating costs assumed for the cash flow evaluations.

TABLE 18.1-6 CAPITAL COST AND OPERATING COST ASSUMPTIONS

CAPITAL EXPENDITURE	YEAR-1	YEAR-2	YEAR-3	YEAR-4	YEAR-5	TOTAL
Initial Capital	\$ 23,000,000					\$ 23,000,000
Sustaining Capital			\$ 2,000,000			\$ 2,000,000
Total CAPEX						\$ 25,000,000
OPERATING COSTS						
Mining Cost per tonne	\$1.05					
Processing Cost per ore tonne	\$2.86					
G&A Cost per ore tonne	\$0.84					
Sales Cost per ounce of Au	\$1.00					
Sales Cost per ounce of Ag	\$1.00					
Royalty NSR	\$0.00					
GOLD PRICE						
	\$825					
SILVER PRICE						
	\$14					
PROCESS RECOVERY						
Au Recovery	72%					
Ag Recovery	7%					

Pro forma separate cash flows were created using M&I pits 17 (\$700) through 33 (\$1100) as ultimate pit limits. The maximum net present value at a 0% discount rate was obtained using pit \$825 as the ultimate pit limit.

Additionally, metal price sensitivity analyses were also performed for higher gold prices, from \$825 to \$1100, in order to assess potential, more optimistic scenarios. Optimized pit shells \$825, \$1000, \$1050 and \$1100 were used for the analysis. Results are presented below in Table 18.1-7. Results showed pit shell \$825 to be the most optimum scenario which was utilized for further operational planning.

Final mine design based upon the \$825 pit shell was carried out as detailed below and incorporated into a more detailed financial model which is discussed further in section 11.0 of this study.

TABLE 18.1-7 NPV CONE EVALUATIONS SUMMARY

			Ultimate Pit \$825	Ultimate Pit \$1000	Ultimate Pit \$1050	Ultimate Pit \$1100
Pit Shell Contained Reserves Cutoff 0.194 AuEq	Ore Tonnes	tonnes	15,108,357	16,207,007	16,391,380	16,775,255
	Au Grade	g/t	0.641	0.624	0.621	0.616
	Ag Grade	g/t	9.1	8.9	8.9	8.8
	Au Contained Metal	oz	311,415	325,158	327,357	332,138
	Recovered Au	oz	224,219	234,114	235,697	239,140
	Recovered Ag	oz	310,638	325,357	327,008	332,122
	Waste Tonnes Mined	tonnes	26,258,121	30,370,952	31,144,233	33,122,375
	Total Tonnes Mined	tonnes	41,366,478	46,577,959	47,535,613	49,897,630
	Strip Ratio	w:o	1.74	1.87	1.90	1.97
Cash Flow Metal Price	Net Cash Flow	\$	64,458,739	63,266,532	62,904,746	61,907,587
Gold \$825	Rate of Return	\$	79%	71%	71%	67%
Silver \$14	NPV (5%)	\$	50,731,906	48,925,777	48,542,182	47,452,694
	NPV (10%)	\$	40,204,384	38,104,679	37,728,727	36,616,426
Cash Flow Metal Price	Net Cash Flow	\$	104,318,279	104,887,140	104,805,697	104,421,245
Gold \$1000	Rate of Return	\$	127%	118%	117%	111%
Silver \$16	NPV (5%)	\$	83,812,134	83,172,051	82,975,547	82,282,154
	NPV (10%)	\$	68,021,960	66,692,145	66,442,165	65,580,591
Cash Flow Metal Price	Net Cash Flow	\$	127,050,782	128,623,865	128,702,383	128,667,318
Gold \$1100	Rate of Return	\$	155%	146%	145%	138%
Silver \$17	NPV (5%)	\$	102,678,367	102,703,192	102,613,451	102,145,928
	NPV (10%)	\$	83,886,872	82,996,055	82,817,971	82,099,374

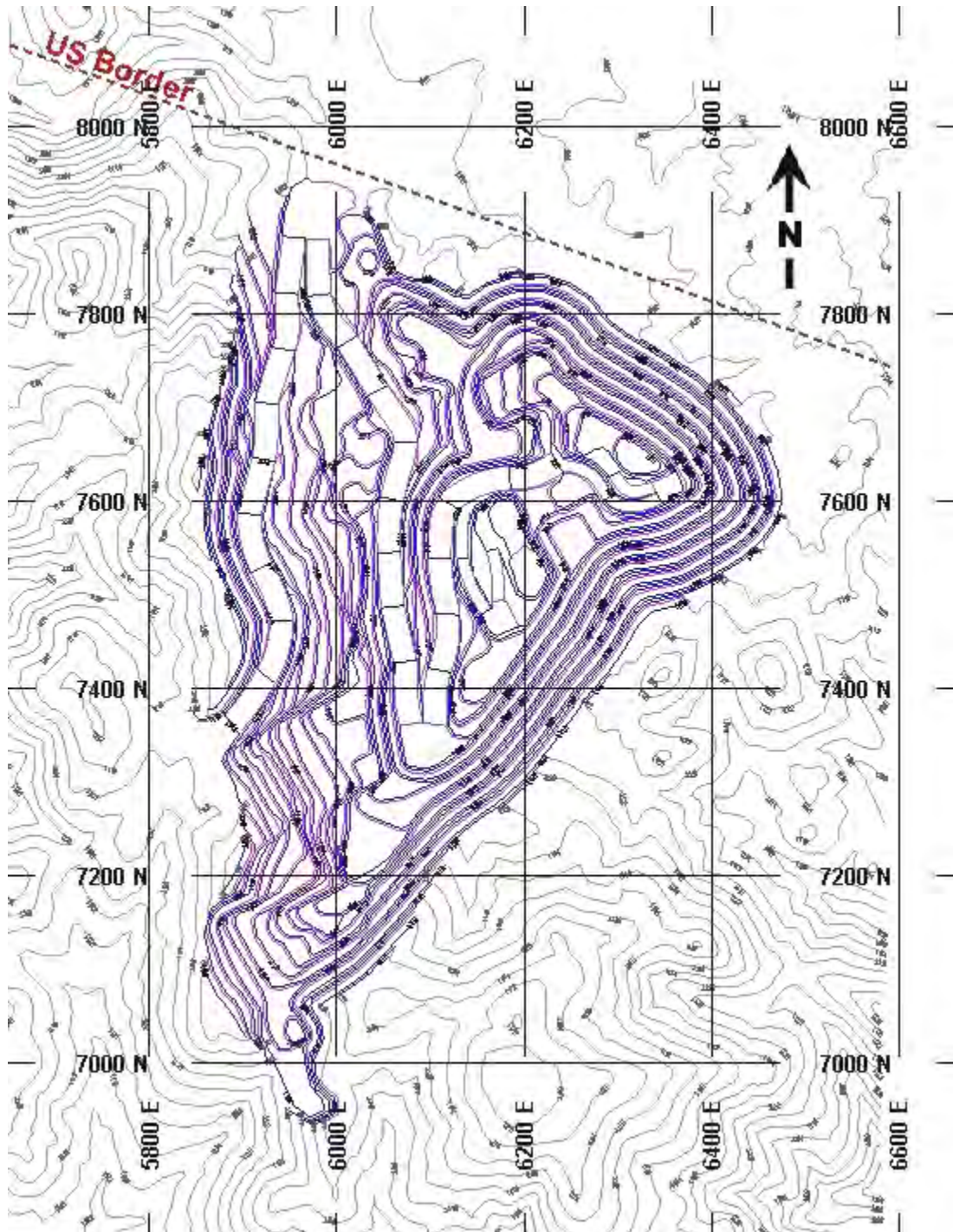
18.1.3. Mine Design

Introduction

Design of the open pit was completed by Xochitl Valenzuela Engineering (XVE) for a single phase ultimate pit shell, representing 5.3 years of mine life. The design of the ultimate pit is shown on Figure 18.1-4 and is included in Appendix 05. The estimated mineral reserve for the pit is listed in Table 18.1-8.

The lowest bench mined is at an elevation of 966 m. The highest pit wall elevation is 1,176 m, measured from the highest point of the pit rim. Total vertical depth of mining is 210m.

FIGURE 18.1-4 ULTIMATE PIT DESIGN



Pit Bench Design

A bench height of 6 m has been selected for the pit design based on the relatively low production rate and medium size mine equipment used in this study. The block model was initially constructed with a block height of 3 m for a more accurate gold grade estimating procedure. A reblocking exercise was completed resulting in 6m high blocks which were used in mine planning.

A preliminary geotechnical assessment was carried out by The Mines Group in conjunction with Minefinders personnel, which included a review of the geotechnical log data from the La Bolsa database. The final results of the review were incorporated into the mine planning and pit design. The complete Slope Stability report with recommendations is included in Appendix 05 and referenced in Section 18.1.2.

Table 18.1-4 and Figure 18.1-2 are excerpted from the Slope Stability report and present recommended inter-ramp and bench face slope angles with corresponding catchment berms for final pit walls in all sectors; pit-slope constraints were used in accordance with the recommendations of The Mines Group. In general, the west wall's pit-slope angle is coincident with footwall limits of mineralization thereby resulting in a much flatter slope. Catchment berms are left at the final pit wall every 18 m of vertical drop (every third bench) for improved pit wall stability, improved drainage and to catch falling rocks. The width of berms is 6m except in the west wall where berms vary from a minimum of 6 m to a maximum of 20 m depending on the angle of the ore to waste boundary.

Required clearing of rocks off the final pit wall will be done by excavator or wheel loader after mining of each individual 6 m bench is completed. If required, a dozer will be used for ripping at the toe to ensure that the position of the wall is in accordance with the design. If further cleaning of the walls becomes necessary, the catchment berm will allow equipment to travel along the pit perimeter and drag a chain across the wall.

Ramp and Haul Road Design

The width of the travelling surface of the mine haul roads inside the pit is 21 m. In addition, there is a requirement for a 1.5 m high safety berm which will occupy a width of 3 m. Allowance is also made for a 1 m wide drainage ditch. The total required width of the haul road is, therefore, 25 m. The grade of the haul road is generally at the gradient of 10%. The last four segments of the haul road close to the pit floor are designed for single lane only with a total road width of 13.5 m.

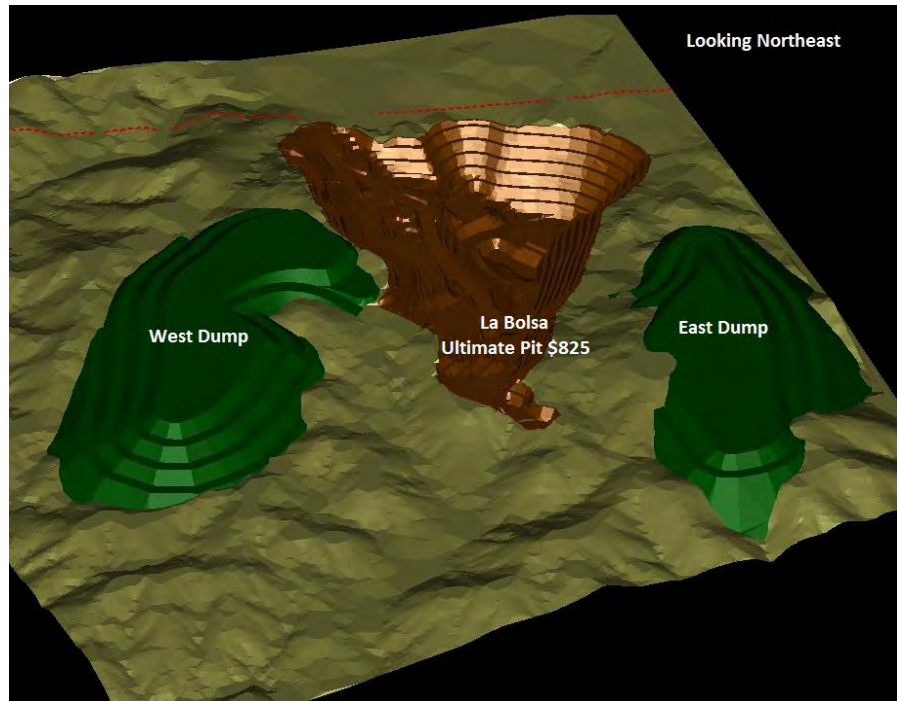
The pit haul ramp is constructed over the west wall of the pit with two switch-backs, one in the north and one in the south, thereby taking advantage of the low angle of mineralization.

Waste Dump Design

Preliminary waste dump configurations were generated to check for volumetric adequacy within the surrounding area. Maximum volume requirements were based upon NPV pit runs utilizing \$1,000 gold prices at a cutoff grade of 0.13g/t Au which resulted in approximately 30M tonnes

of waste. The western and eastern waste dump designs accommodate 18M and 11M tonnes capacity respectively. Dumps were designed to receive waste rock material in 18m lifts with 20m catch benches, resulting in an overall slope of 22 degrees. Future re-contouring and reclamation efforts will be simpler and lower cost as the permitted 2.5:1 slope requirements are created. Final design details including berms should be completed prior to a production decision.

FIGURE 18.1-5 WASTE DUMP LOCATIONS (NOT TO SCALE)



The waste dumps will be located east and west of the open pit, within 50 and 20m respectively, from the crest of the pit. The dumps will hold 29.6Mt of waste at completion of mining. The valleys in which the dumps are located, however, have a considerably higher capacity suitable for storing waste from any potential mine expansions.

The top of the design dumps are at elevations of 1170 m for the western dump and 1176 m for the eastern. The initial dumping elevation is 1140 m for both dumps, continuing with a second and final lift at 1176 m elevation. Upon completion of mining, the face of the dump will be graded and covered with a layer of growth media and seeds.

18.1.4. Mineral Reserve Estimates

Several NPV pit runs were created for analysis utilizing the reblocked diluted resource as prepared by XVE and described in Section 18.1.2 under mining dilution. More detailed results of these runs may be viewed in Appendix 05 of this report.

Smoothed pit designs that include appropriate pit access ramps, wall slope angles, catchment berm designs and minimum mining widths for the selected mining equipment were produced by XVE for one mining phase as guided by the Lerch-Grossmann \$825 pit shell.

The mineral reserve estimates for the Project consist of the inventory of the proven and probable blocks (ie. the reblocked/diluted measured and indicated mineral resource) contained within the final design pit. There is a high proportion of proven (60.5%) to probable (39.5%) reserve within the pit; very few inferred blocks are found within the pit design and no attempt has been made to report them. The resulting internal cutoff grade based on operating process costs, G&A cost, metallurgical recovery and gold price of US\$825/oz is 0.194 g/t.

Using a generalized 0.2 g/t gold only cutoff results in the total and categorized proven and probable reserve estimates as displayed in Table 18.1-8 below.

TABLE 18.1-8 ESTIMATED MINERAL RESERVE (PROVEN AND PROBABLE)

Reserves	Tonnes	Gold Grade (g/t)	Gold Ounces Contained	Silver Grade (g/t)	Silver Ounces Contained
Proven	9,461,535	0.667	203,045	10.1	3,079,309
Probable	6,169,633	0.570	113,090	7.2	1,422,228
Total P & P Reserve	15,631,168	0.629	316,135	9.0	4,501,537

Table 18.1-9 below details the estimated proven and probable mineral reserves and corresponding strip ration by bench within the final pit design, assuming the 0.2g/t cutoff, as shown below.

TABLE 18.1-9 MINERAL RESERVE ESTIMATES BY BENCH WITHIN THE FINAL PIT

Pit-ramp 825 R2 DILUTED								
Cutoff 0.2								
Bench	Ore tonnes	Au g/t	Ag g/t	Waste tonnes	Au oz	Ag oz	Total Tonne	S/R
1176				1,250			1,250	
1170	20,832	0.882	9.2	18,704	591	6,189	39,536	0.90
1164	90,043	0.878	8.6	74,694	2,542	24,752	164,737	0.83
1158	207,639	0.827	10.4	197,982	5,520	69,428	405,621	0.95
1152	310,144	0.826	11.3	354,111	8,231	112,178	664,255	1.14
1146	421,710	0.683	9.9	436,650	9,258	133,685	858,360	1.04
1140	464,074	0.572	8.0	607,037	8,528	119,213	1,071,111	1.31
1134	567,828	0.525	6.8	680,529	9,581	124,689	1,248,357	1.20
1128	688,925	0.564	7.6	682,010	12,501	169,000	1,370,935	0.99
1122	743,513	0.598	8.5	800,053	14,297	203,905	1,543,566	1.08
1116	811,641	0.594	8.3	956,431	15,498	216,587	1,768,072	1.18
1110	860,633	0.618	8.3	1,154,707	17,100	229,107	2,015,340	1.34
1104	856,493	0.660	9.0	1,458,303	18,180	247,832	2,314,796	1.70
1098	813,088	0.638	9.5	1,848,293	16,673	249,389	2,661,381	2.27
1092	768,370	0.649	10.5	2,141,135	16,028	259,882	2,909,505	2.79
1086	714,262	0.624	10.6	2,340,085	14,336	243,648	3,054,347	3.28
1080	668,101	0.635	10.3	2,183,692	13,646	221,458	2,851,793	3.27
1074	600,683	0.722	10.4	1,916,466	13,945	200,656	2,517,149	3.19
1068	539,757	0.782	10.4	1,788,260	13,569	179,783	2,328,017	3.31
1062	445,143	0.700	9.1	1,700,412	10,018	129,521	2,145,555	3.82
1056	382,189	0.669	7.8	1,473,685	8,217	95,967	1,855,874	3.86
1050	398,538	0.669	7.6	1,350,412	8,567	96,997	1,748,950	3.39
1044	408,013	0.666	7.7	1,229,062	8,731	100,877	1,637,075	3.01
1038	427,015	0.625	8.3	1,003,526	8,586	113,538	1,430,541	2.35
1032	463,776	0.584	8.7	842,558	8,712	130,022	1,306,334	1.82
1026	459,658	0.643	9.8	704,962	9,498	145,123	1,164,620	1.53
1020	418,269	0.582	9.0	534,977	7,825	121,163	953,246	1.28
1014	449,692	0.465	7.3	417,596	6,719	105,687	867,288	0.93
1008	444,027	0.527	8.5	299,869	7,526	120,773	743,896	0.68
1002	350,045	0.688	11.7	194,627	7,745	131,111	544,672	0.56
996	312,246	0.577	9.4	118,787	5,789	94,366	431,033	0.38
990	231,045	0.492	7.7	66,536	3,655	56,975	297,581	0.29
984	157,010	0.485	5.9	37,951	2,447	29,884	194,961	0.24
978	74,456	0.460	4.4	8,984	1,102	10,629	83,440	0.12
972	44,655	0.523	4.2	9,207	751	5,958	53,862	0.21
966	17,655	0.393	2.8	2,894	223	1,567	20,549	0.16
	15,631,168	0.629	8.957	29,636,437	316,135	4,501,537	45,267,605	1.90

Note: Final Mineral Reserves include initial preproduction mining reserves.

18.1.5. Mine Production Schedule

Pre-Production Schedule

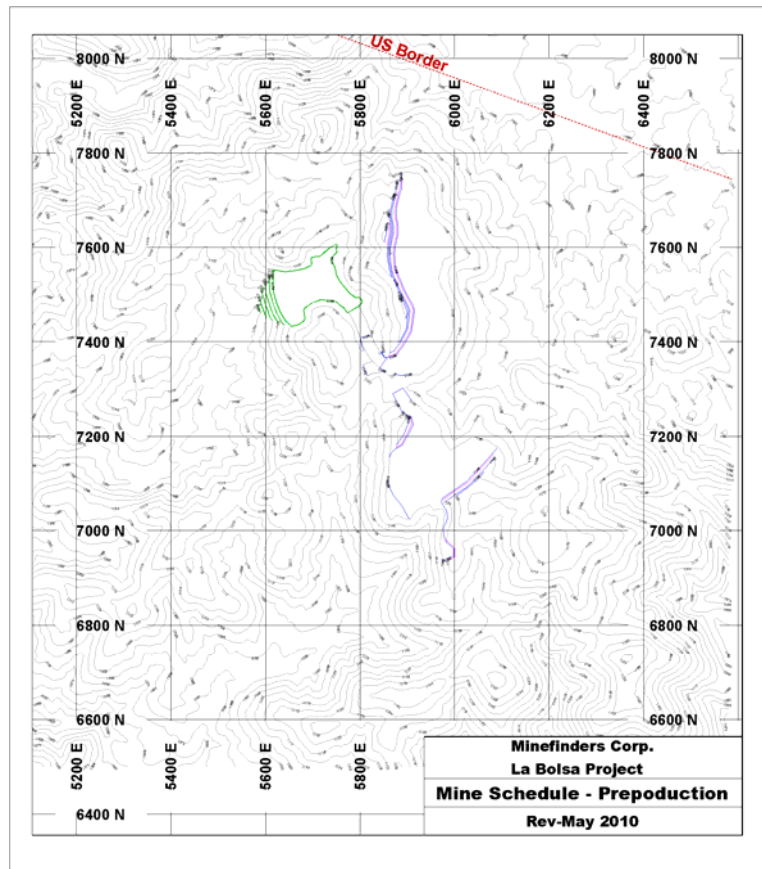
The mine production schedule includes a two month, pre-production period. During this period, the topsoil will be stripped from the areas affected by the mining, the surface drainage and haul roads will be constructed and the pre-production mining of waste and ore will be completed.

Topsoil will be stripped from the initial benches of the open pit, waste dumps and haul roads and will be stockpiled in selected areas. Surface runoff collection and drainage ditches will be constructed at the pit rim to divert water and minimize pit inflows.

The main surface haul roads are constructed from the pit exit to the crusher, from the pit exit to the waste dumps and from the pit exit to the mine shop. Ancillary roads will be constructed to the explosives magazine and ANFO storage area. (see Figure 18.1-1)

The first ore mined within the open pit is near surface ore which is proximal to the crusher, hence the pre-production waste stripping requirements to gain ore access are minimal. During the pre-production period, 292,000 t of waste and 320,000 t of ore will be excavated. Approximately 150,000 t of ore will be delivered to the primary crusher to be processed for leach pad overliner material during the start up of the crushing plant. The ore delivered to the crusher will coincide with the commissioning of the process plant.

FIGURE 18.1-6 END OF PREPRODUCTION PERIOD - MAP OF LA BOLSA OPEN PIT



Annual Mine Production Schedule

An annual mine production schedule has been prepared for the life-of-mine. The schedule is 5.3 years long, where preproduction/ramp-up period is included in year 1.

The mine production schedule was prepared by numerically scheduling mined quantities on a bench-by-bench basis for each year. Plan maps demonstrating open pit and waste dump growth on an annual basis may be viewed below in Figure 18.1-7. Further detail is provided within Appendix 05.

A summary of the annual mine production schedule is presented in Table 18.1-10. An expanded, detailed mine production schedule by bench and time period is presented in Table 18.1-11.

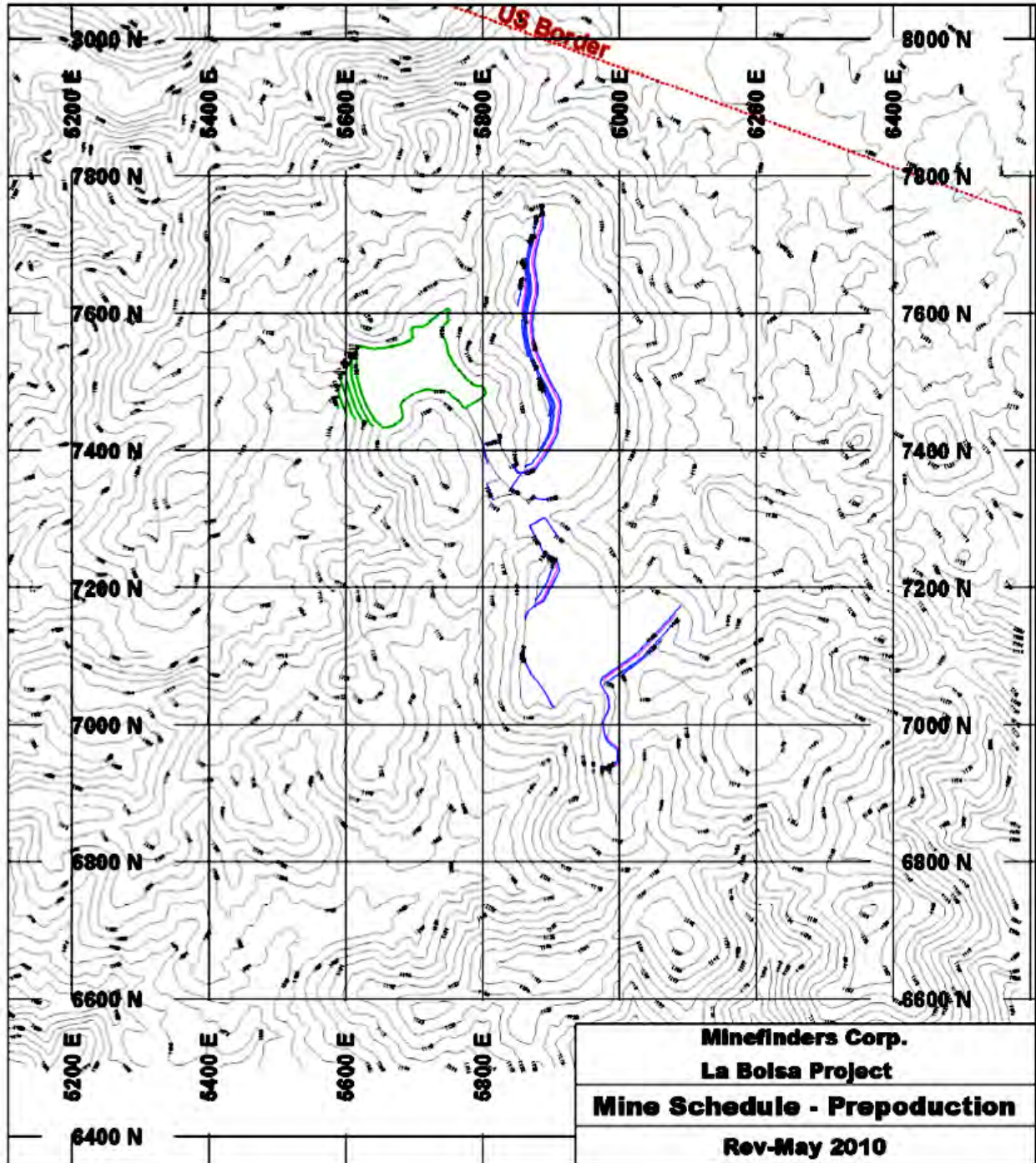
TABLE 18.1-10 ANNUAL PRODUCTION SCHEDULE

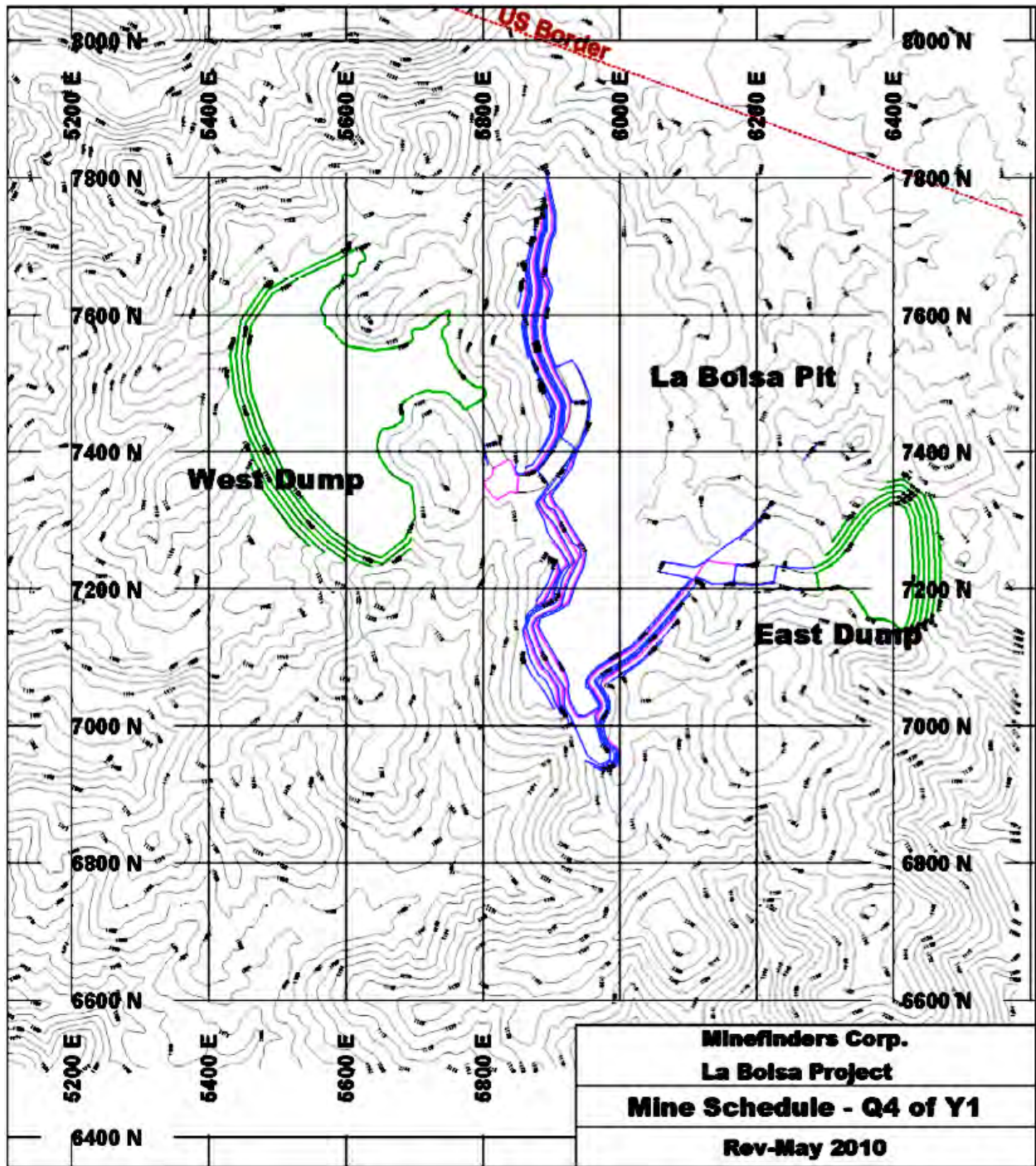
DESCRIPTION	YR 1 TOTAL	YR 2 TOTAL	YR 3 TOTAL	YR 4 TOTAL	YR 5 TOTAL	YR 6 TOTAL	YR 7 TOTAL	GRAND TOTAL
ORE TONNES MINED	318,514	3,002,681	3,000,280	3,000,821	3,000,338	2,908,534	400,000	15,631,168
WASTE TONNES MINED	292,630	3,399,337	4,200,494	5,708,277	5,709,853	3,116,003	428,533	22,855,127
Capitalized Waste Tonnes				3,390,928	3,390,382			6,781,310
TOTAL TONNES MINED	611,144	6,402,018	7,200,774	12,100,026	12,100,573	6,024,537	828,533	45,267,605
WASTE TO ORE RATIO	0.92	1.13	1.40	3.03	3.03	1.07	1.07	1.90
MINED AU GRADE (g/t)	0.845	0.608	0.624	0.646	0.689	0.563	0.563	0.629
MINED AG GRADE (g/t)	9.8	8.4	8.6	10.3	8.8	8.7	8.7	9.0
MINED OUNCES - Au oz	8,652	58,675	60,199	62,296	66,462	52,614	7,236	316,135
MINED OUNCES - Ag oz	100,368	809,600	831,864	994,334	844,073	809,914	111,384	4,501,537
OUNCES PRODUCED - Au oz	3,677	40,054	41,925	43,481	46,273	37,661	14,545	227,617
OUNCES PRODUCED - Ag oz	3,513	46,964	49,735	58,821	51,421	48,771	55,883	315,108

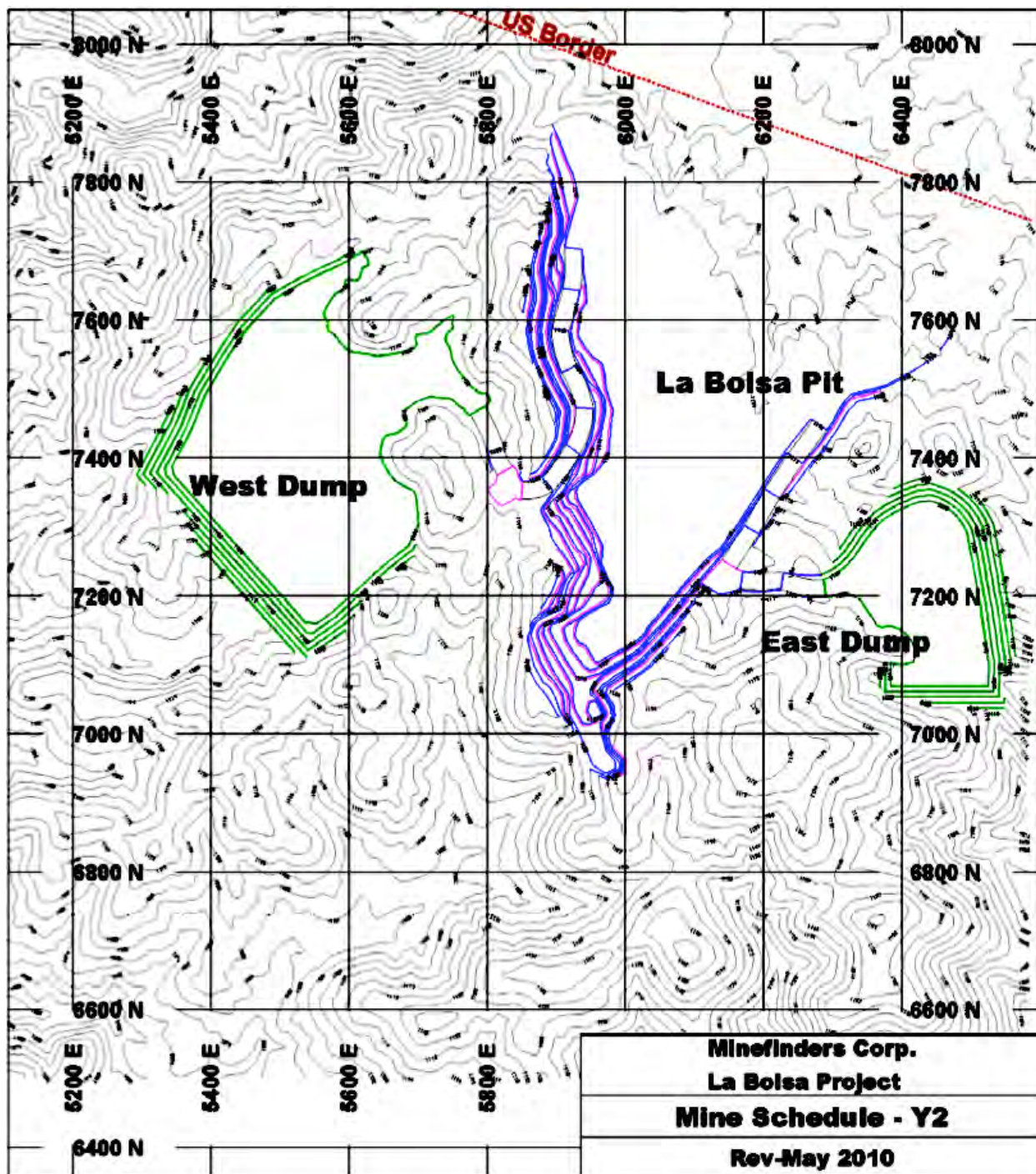
TABLE 18.1-11 PRODUCTION SCHEDULE BY BENCH AND PERIOD AND PHASE

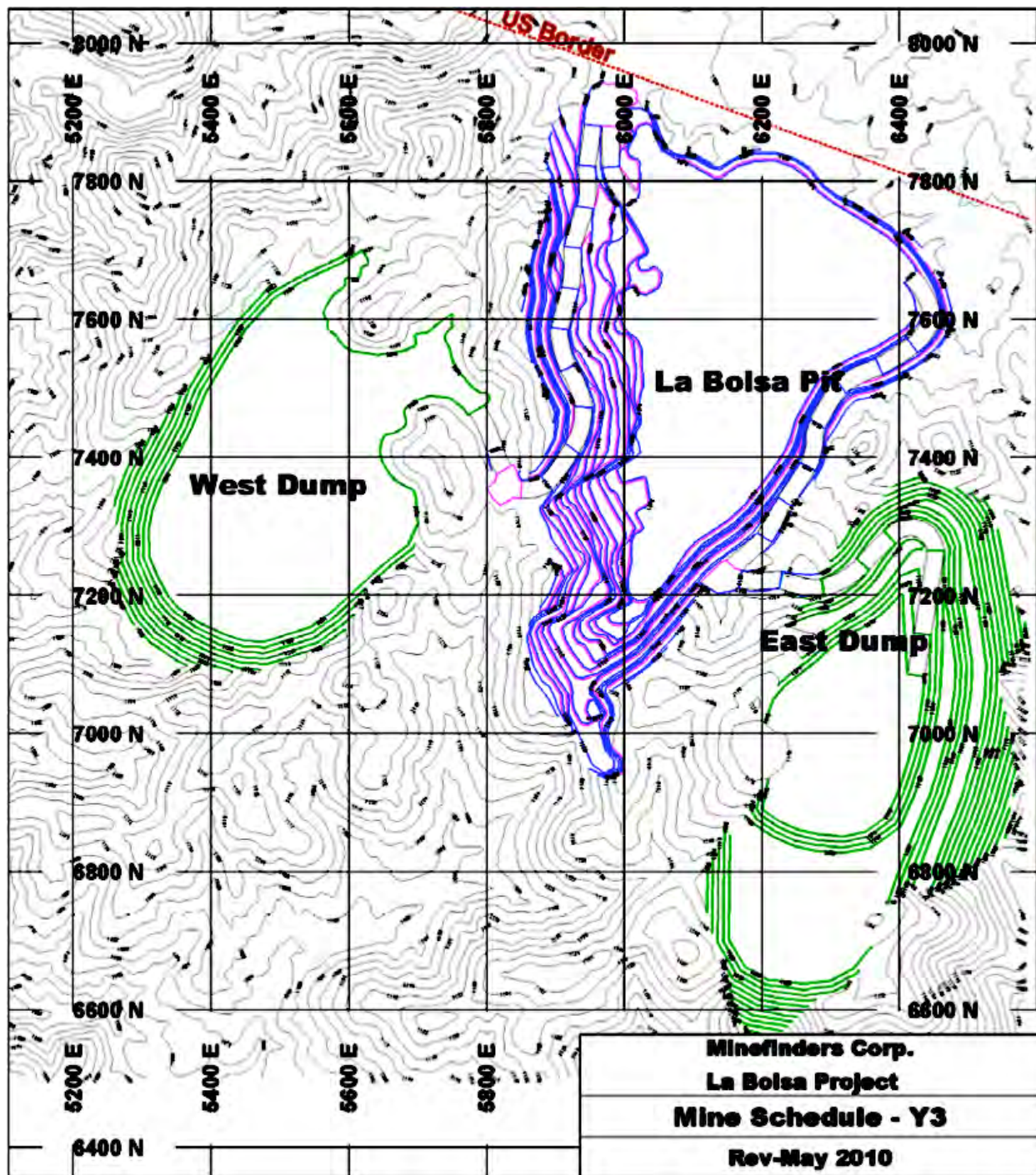
Period	Phase	Bench	Ore			Waste tonnes	Total tonnes	Period	Phase	Bench	Ore			Waste tonnes	Total tonnes
			Ore tonnes	Au g/t	Ag g/ft						Ore tonnes	Au g/t	Ag g/ft		
Preprod	1	1176	0	0.000	0.000	1,250	1,250	Year-3	1	1098	535,088	0.638	9,540	1,378,293	1,913,381
	1	1170	20,832	0.882	9.240	18,704	39,536		1	1092	768,370	0.649	10,520	2,141,135	2,909,505
	1	1164	90,043	0.878	8.550	74,694	164,737		1	1086	714,262	0.624	10,610	2,340,085	3,054,347
	1	1158	207,639	0.827	10.400	197,982	405,621		1	1080	668,101	0.635	10,310	2,183,692	2,851,793
	1						0		1	1074	315,000	0.722	10,390	1,056,000	1,371,000
	Total	318,514	0.845			292,630	611,144	Total	3,000,821	0.646		9,099,205	12,100,026		
Year1-Q1	1	1152	310,144	0.826	11.250	354,111	664,255	Year-4	1	1074	285,683	0.722	10,390	860,466	1,146,149
	1	1146	421,710	0.683	9.860	436,650	858,360		1	1068	539,757	0.782	10,360	1,788,260	2,328,017
	1	1140	19,000	0.572	7.990	59,000	78,000		1	1062	445,143	0.700	9,050	1,700,412	2,145,555
	1						0		1	1056	382,189	0.669	7,810	1,473,685	1,855,874
	Total	750,854	0.739			849,761	1,600,615	1	1050	398,538	0.669	7,570	1,350,412	1,748,950	
Year1-Q2	1	1140	445,074	0.572	7.990	548,037	993,111	1	1044	408,013	0.666	7,690	1,000,000	1,408,013	
	1	1134	305,000	0.525	6.830	302,000	607,000	1	1038	427,015	0.625	8,270	800,000	1,227,015	
	1						0	1	1032	114,000	0.584	8,720	127,000	241,000	
	Total	750,074	0.553			850,037	1,600,111	Total	3,000,338	0.689		9,100,235	12,100,573		
Year1-Q3	1	1134	262,828	0.525	6.830	378,529	641,357	Year-5	1	1044	0	0.666	7,690	229,062	229,062
	1	1128	488,000	0.564	7.630	471,000	959,000		1	1038	0	0.625	8,270	203,526	203,526
	1						0		1	1032	349,776	0.584	8,720	715,558	1,065,334
	Total	750,828	0.551			849,529	1,600,357	1	1026	459,658	0.643	9,820	704,962	1,164,620	
Year1-Q4	1	1128	200,925	0.564	7.630	211,010	411,935	1	1020	418,269	0.582	9,010	534,977	953,246	
	1	1122	550,000	0.598	8.530	639,000	1,189,000	1	1014	449,692	0.465	7,310	417,596	867,288	
	1						0	1	1008	444,027	0.527	8,460	299,869	743,896	
	1						0	1	1002	350,045	0.688	11,650	194,627	544,672	
	Total	750,925	0.589			850,010	1,600,935	1	996	312,246	0.577	9,400	118,787	431,033	
Year-2	1	1122	193,513	0.598	8.530	161,053	354,566	1	990	231,045	0.492	7,670	66,536	297,581	
	1	1116	811,641	0.594	8.300	956,431	1,768,072	1	984	157,010	0.485	5,920	37,951	194,961	
	1	1110	860,633	0.618	8.280	1,154,707	2,015,340	1	978	74,456	0.460	4,440	8,984	83,440	
	1	1104	856,493	0.660	9.000	1,458,303	2,314,796	1	972	44,655	0.523	4,150	9,207	53,862	
	1	1098	278,000	0.638	9.540	470,000	748,000	1	966	17,655	0.393	2,760	2,894	20,549	
	1						0	Total	3,308,534	0.563		3,544,536	6,853,070		
	Total	3,000,280	0.624			4,200,494	7,200,774	Year-6	1	1002				0	
								1	996					0	
								1	990					0	
								1	984					0	
								1	978					0	
								1	972					0	
								1	966					0	

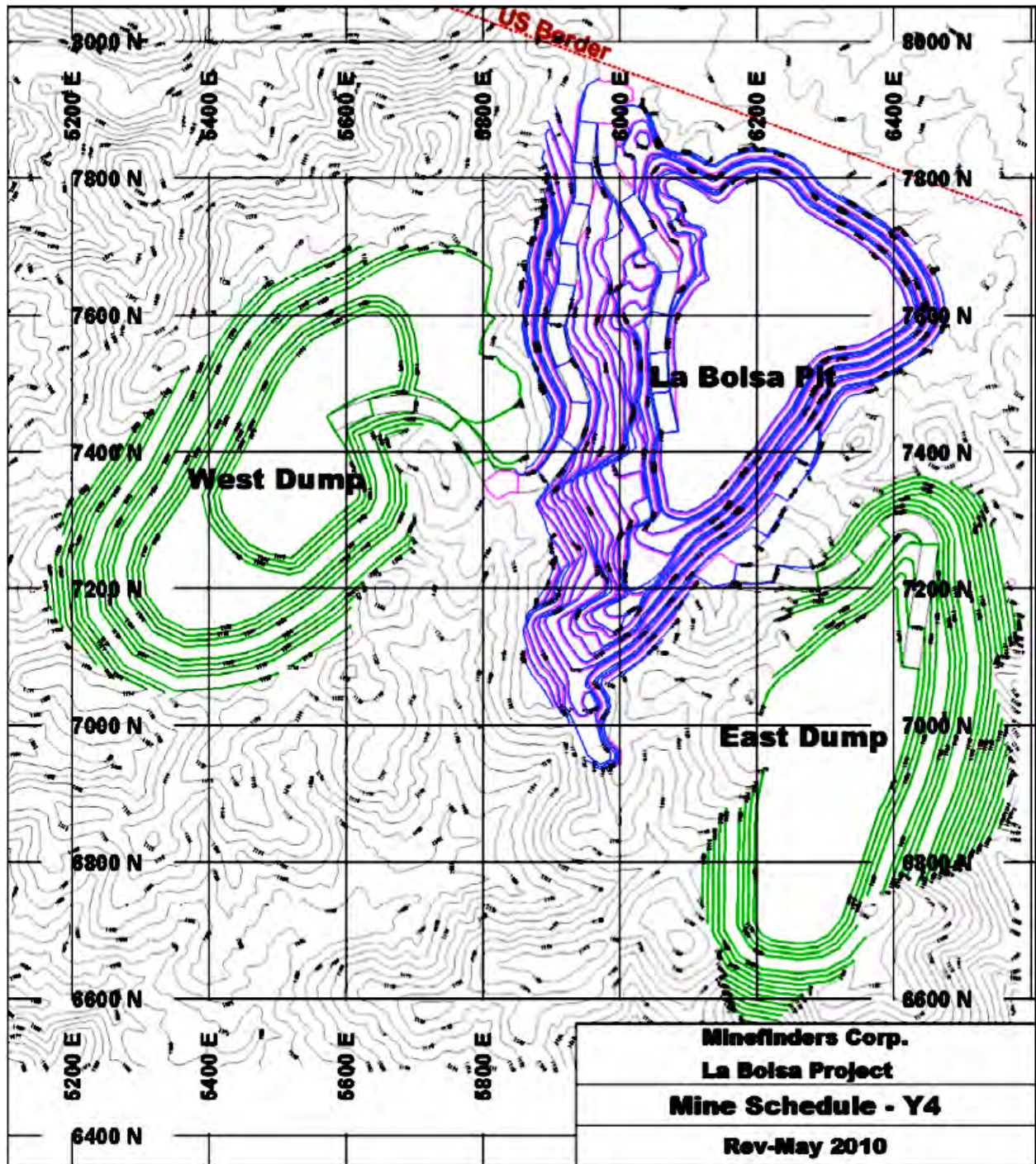
FIGURE 18.1-7 PLAN MAPS SHOWING ANNUAL OPEN PIT AND WASTE DUMP DEVELOPMENT

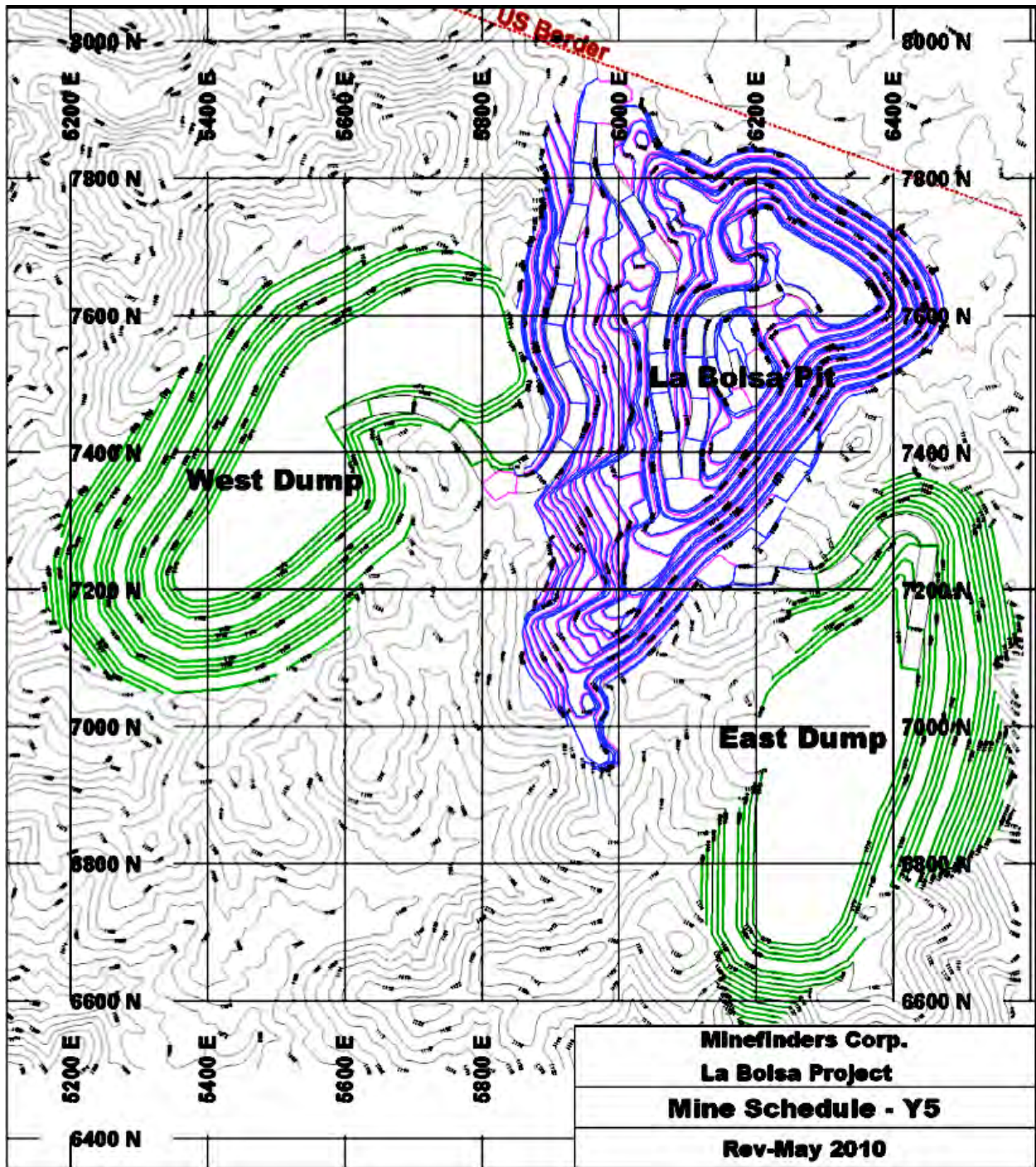


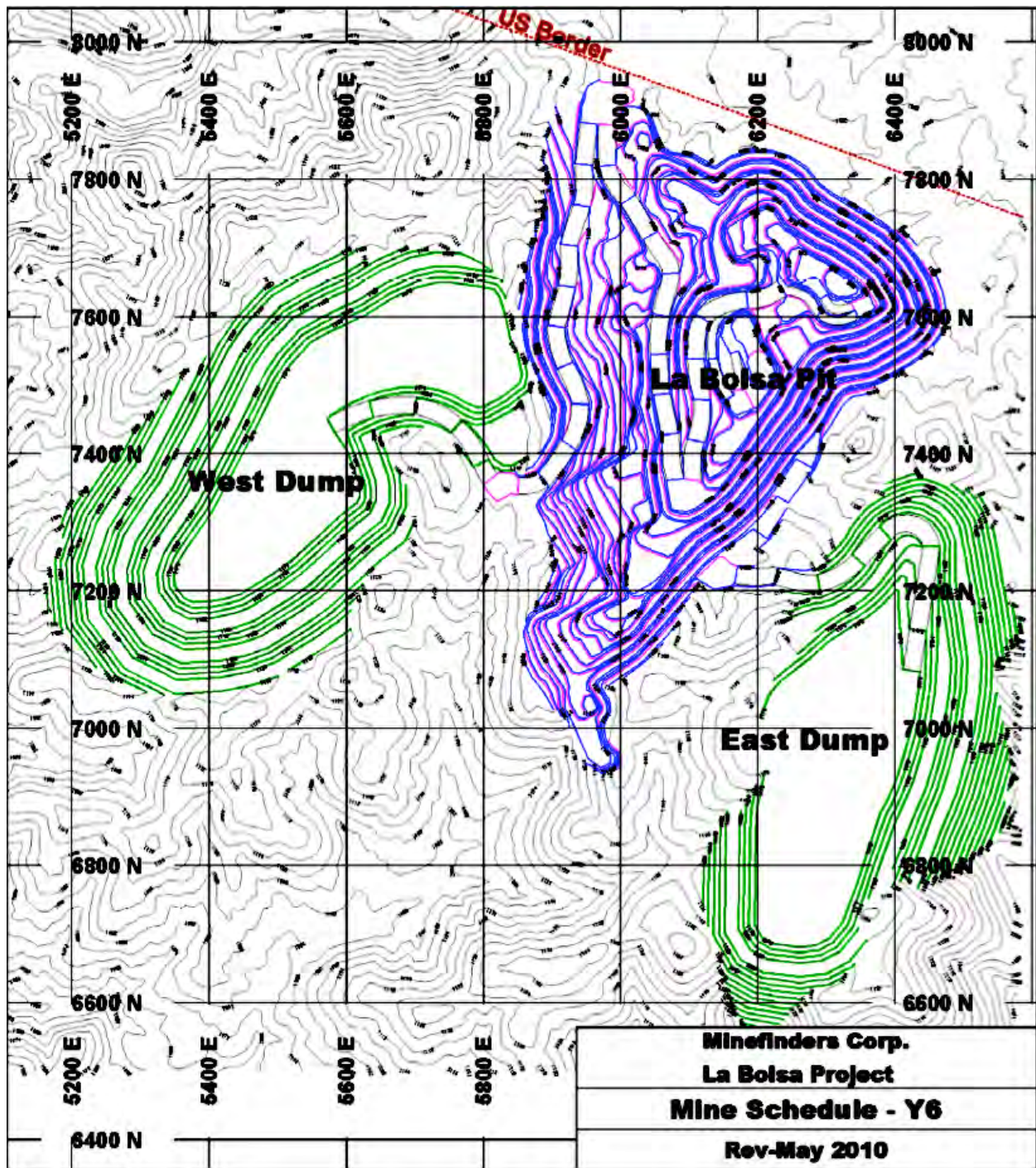












18.1.6. Mining Equipment

Mining Equipment Selection

The nominal production rate of 8500 t/d of ore and 18400 t/d of waste will require a medium sized fleet of mining equipment.

For the purpose of capacity and cost calculations, it has been assumed that the major mining equipment including loaders, trucks, dozers and grader will be Caterpillar equipment.

Loading and Hauling Equipment

Table 18.1-12 is a list of the selected mining equipment.

TABLE 18.1-12 MAJOR MINING EQUIPMENT

EQUIPMENT TYPE	NOMINAL SPECIFICATION	NUMBER OF UNITS
Wheel Loader	800 hp Flywheel Power (992)	2
Off Highway Truck	938 hp flywheel power (777)	8

The selected front-end loader is well matched to the 6m bench height and provides the ability to selectively excavate ore and waste.

Support Equipment

Table 18.1-13 lists the selected mining support equipment types to be used in the mine.

Production drilling of blast holes will be carried out by a rotary drill capable of drilling 4.5 to 8 inch (114mm to 203mm) holes and will be suitable for drilling 6m benches with 1m of subdrill. If double benching is introduced, the drill will also be capable of drilling 12m benches with the required subdrill. Secondary drilling of run-of-mine oversize material will be performed with an airtrack drill.

TABLE 18.1-13 MINING SUPPORT EQUIPMENT

EQUIPMENT TYPE	NOMINAL SPECIFICATION	NUMBER OF UNITS
Track Dozer	305 hp Flywheel Power	2
Track Dozer	200 hp Flywheel Power	1
Motor Grader	185 hp Flywheel Power	1
Water truck	15,000 L	1
Airtrack Drill	170 mm	2
Backhoe Loader	100 hp Flywheel Power	1
Excavator	0.73 M3 Bucket Capacity	1
Drills	25-40Klb Blasthole Rig	2

Equipment Requirements

The mine equipment requirements are based on the mine operating 10 hours per shift, two shifts per day, seven days per week, 360 days per year, totaling 7,200 hours per year.

The number of drilling, loading and hauling units required to meet the proposed mine production schedule on an annual basis has been determined by estimating individual production equipment productivities on a per shift basis and estimating the number of required operating equipment shifts per year.

A list of mining equipment requirements by year is shown in Table 18.1-14. This list includes estimated support equipment requirements.

TABLE 18.1-14 MINING EQUIPMENT REQUIREMENTS BY YEAR

EQUIPMENT TYPE	1	2	3	4	5
Drill	2	2	2	2	2
Loader	2	2	2	2	2
Haul Truck	4	6	8	8	6
Track Dozer 305 hp	2	2	2	2	2
Track Dozer 200 hp	1	1	1	1	1
Motor Grader	1	1	1	1	1
Water Truck	1	1	1	1	1
Excavator	1	1	1	1	1
Backhoe Loader	1	1	1	1	1
Airtrack Drill	1	1	1	1	1

18.1.7. Drilling

The drill and blasting calculations were made by Hanka Explosives, a local explosives supplier and blasting contractor, and are shown in Table 18.1-15.

TABLE 18.1-15 DRILL AND BLASTING CALCULATIONS

DATE:	11/25/2009
0.180	kg/t
0.476	kg/m³

DATA	ORE	WASTE	TOTAL	
TOTAL TONNES	15,631,168	29,636,437	45,267,605	\$850 USD/oz
Mine Life			5.3	
Days per month			30	
Metric tonnes per year	2,942,277	5,591,781	8,541,058	
Metric tonnes per month	245,733	465,982	711,755	
Metric tonnes per day	8,192	15,533	23,725	

DRILL PARAMETERS

Bench Height (m)	6	6
Drill Hole Diameter, (mm)	114.3	146.05
Drill Hole diameter (in)	4.5	5.75
Spacing (m)	4.5	6.0
Sub drilling (m)	0.8	0.8
Stemming (m)	3.0	3.0
Rock Density (mt/cm)	2.45	2.45
Rock Tonnes per hole	297.7	485.1

EXPLOSIVE PER HOLE

Booster (kg)	0.454	1.454
AN/FO (kg)	54	87
Total (kg)	54.0	88.8
Powder Factor (kg/t)	0.182	0.183
power Factor, kg/m ³	0.445	0.448

Holes per month	789	1,017	1,806
-----------------	-----	-------	-------

Analysis carried out to determine crushability describe the La Bolsa ore as a medium to hard ore. Silica content in the ore ranges 0 to 5 silicification intensity, contributing to this factor. Penetration rates used in drill selection and performance are based on experience gained with similar rock characteristics and equipment, supported by the drill manufacturer's assessment of the application. This has been confirmed by acceptable penetration rates achieved during exploration drilling.

Drill Pattern Design

The drill pattern is based on a powder factor of 0.18 kg/t, a hole diameter of 114mm and 6m high benches. Since the ore and waste has similar physical characteristics, the drill pattern is 4.5 x 4.5 meters in ore and 5.5 x 6.0 meters in waste according to Hanka explosives calculations with 1 meter subdrilling.

An allowance has been made for re-drilling of 5% of the holes to cover for locally poor ground conditions.

Blasthole Drilling Production Estimate

The blasthole drilling productivity is calculated as shown in Table 18.1-15.

The average penetration rate includes moving and set-up time and is based on experience with similar equipment and also from drill manufacturer’s assessment based on rock hardness.

18.1.8. Blasting

Blasting Design

The drill pattern is 4.5 m x 4.5 m. in ore and 5.5 m x 6.0 m in waste. The blast will be tied at 45° to the square pattern.

An explosives contractor will use a heavy Ammonium Nitrate Fuel Oil (ANFO) truck to blend ANFO and emulsions on the blast pattern. On average, blasting will be carried out three to four times a week and blasting will take place on a day shift only basis. There will be sufficient ANFO storage capacity on site to accommodate one month of blasting activities.

The manpower complement for blasting includes a drilling and blasting foreman and a blasting crew.

Blasting Practice Adjacent to Pit Walls

It is assumed that controlled blasting at final pit walls will be required. For the purpose of estimating the costs for the required smooth or pre-split blasting, it is assumed that, in addition to the regular drill pattern, additional holes will be drilled every 1.6 m along the final pit wall. Costs for this blasting operation have been accounted for by increasing the overall drilling and blasting cost by 15%.

18.1.9. Loading

A summary of loading productivity calculations is presented in Table 18.1-16.

TABLE 18.1-16 LOADING PRODUCTIVITY

	QTY	POTENTIAL PRODUCTION MT/HR	AVG KM/HR
Loaders	2	3,216	
Haulers	8	3,245	11.5

Fleet Estimates

Fleet availability (%)	70.6
tonnes/scheduled hr	1,721.8
tonnes / yr	14,463,475.6

The ore and waste rock have similar density and hardness. Therefore, the loading productivity has been assumed the same in both materials.

18.1.10. Hauling Productivity Estimate

Hauling productivity varies with the haul road profile and destination. In order to estimate hauling productivities, the average annual haul road profiles were measured from the mined benches to the crusher and the waste dumps. To this effect, the average bench elevation mined in each year was calculated.

Truck speeds used are presented in Table 18.1-17.

TABLE 18.1-17 TRUCK SPEEDS

	KILOMETERS PER HOUR (KM/HR)
Level loaded	40
Level empty	40
Up loaded	11
Up empty	25
Down loaded	25
Down empty	25

Loading time for trucks is four minutes, including waiting time and spot time. Dump time is one minute. The truck speeds in Table 18.1-18 are based on 10% grade and 2% rolling resistance. Effective operating time is 425 minutes per ten-hour shift, based on 8.5 effective 50-minute hours. Delays are as follows:

- lunch break 0.5 hours;
- shift change 0.5 hours; and
- blasting and other delays 0.5 hours.

The load capacity is 92 dry tonnes per truck load.

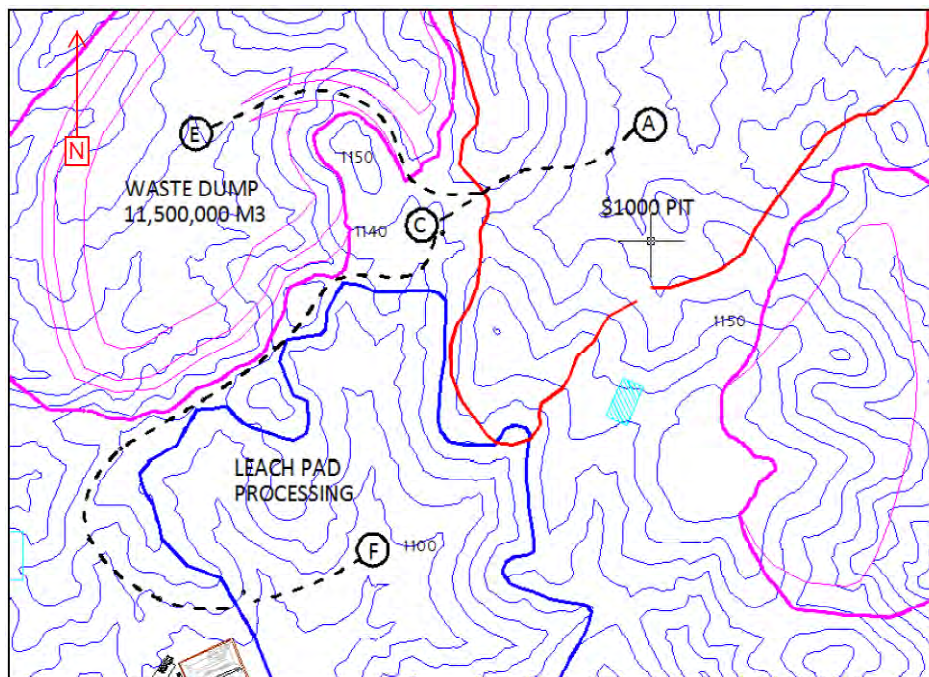
Annual one-way haul profiles from loading to dumping locations are presented in Table 18.1-18.

TABLE 18.1-18 HAUL ROAD PROFILES

HAULING PROFILES														
\$1000 pit design	Ore To crusher				to Waste Dump				Ore to Leach Pad					
	Section	tonnes	long (m)	%	Section	tonnes	long (m)	%	Section	tonnes	long (m)	%		
YEAR-1	A-C	2,325,094	250	-10	A-E	4,483,248	250	-10	C-F	2,325,094	250	-8		
			100	0			100	0			250	0		
							100	10					400	-8
							500	0					200	0
							350						950	
YEAR-2	A-C	3,000,079	350	10	A-E	6,439,972	350	10	C-F	3,000,079	250	-8		
			100	0			100	0			250	0		
							200	10					100	0
							400	0						
							450						1,050	
YEAR-3	A-C	3,000,573	600	10	A-E	6,441,224	600	10	C-F	3,000,573	250	-8		
			100	0			100	0			500	0		
							300	10						
							300	0						
							700						1300	
YEAR-4	A-C	3,000,546	1000	10	A-E	6,440,450	1000	10	C-F	3,000,546	250	-8		
			100	0			100	0			400	0		
							400	10						
							200	0						
							1100						1700	
YEAR-5	A-C	2,773,483	1500	10	A-E	5,794,961	1500	10	C-F	2,773,483	100	0		
			100	0			100	0			200	8		
							500	10					400	0
							100	0						
							14,099,775	1600					29,599,855	2200
Note: The distances were calculated from the pit to crusher, wastedumps and crusher to Leach Pad only one direction. Distances are in meters														

Figure 18.1-8 below depicts the hauling profiles from the pit to crusher, pit to waste dumps, and crusher to leach pads.

FIGURE 18.1-8 HAUL PROFILES SKETCH (NOT TO SCALE)



Road and Dump Maintenance

The mine fleet includes a track dozer, and a grader. This equipment will be used for construction and maintenance of bench roads, haul roads and the waste dump.

18.1.11. Mine Services

The facilities and equipment provided to support the mining at the La Bolsa Project is described below.

Mine Maintenance Facilities

Mine services complexes will be provided, including a repair and maintenance facility and fuel facilities for mobile mining equipment and a mine dry, which includes clean and dirty change areas, storage lockers and washroom facilities.

Explosives Magazines and ANFO Storage

Explosives for mining operations will be supplied on site on a regular basis. Explosives will be stored in two magazines, a detonator magazine and a powder magazine. The magazines will be fenced and located within the property boundary at least 0.5 km from the nearest mine facilities or populated areas. The magazines will be mounded.

An Ammonium Nitrate storage bin will also be located on site adjacent to the waste haul road. The on-site inventory of blasting agents will be sufficient to supply blasting operations for one month of operation.

Service roads connecting the magazine area and ammonium nitrate storage silo area to the waste dump haul road will be constructed.

Pit Power

The power to operate in-pit submersible sump pumps for mine dewatering will be on an ad hoc basis with a stand-alone diesel powered pump.

Mine Dewatering

The La Bolsa pit is considered to be a “dry” pit. The ground water table at site is assumed below the planned pit bottom the only “inflow” water expected is from precipitation and minor fracture controlled transient groundwater. The inflow water within the pit boundaries will be transported by drainage ditches along haul roads, collected at the pit floor and pumped out.

The mean annual precipitation is estimated at 483 mm. Average monthly rainfalls of up to 108 mm have been recorded at the nearby Nogales weather station. The amount of precipitation from 108 mm of rain that falls within the pit boundaries is estimated to be 33,199 m³. This water, in the worst case scenario will have to be pumped out from the pit, although one can reasonably assume that most of the water will drain into the ground.

Simple ditches along pit rim perimeters will prevent runoff water from entering the pit. An excavator for ongoing road/runoff ditching and pit sump excavation will be provided on a contract basis.

18.1.12. Mine Engineering

The mine organization includes engineers, surveyors and geologists that will carry out required mine engineering, geology and production planning tasks.

The geology department has, in its organization, three positions for grade control technicians, i.e. one on each crew. These personnel will be responsible for sample collections.

Grade Control

During operation, frequent updating of the geological grade model is required. Ore/waste contacts will be marked on the benches with tapes or by other means to guide the loader operator so that ore and waste can be selectively excavated with a minimum of mixing.

In order to update the block model, drill cuttings from all blast holes drilled in ore and at the ore/waste contact will be sampled. One sample per hole will produce a total of 60 samples per day.

Ideally, the rotary blast hole drill will be equipped with an automatic sampler. If not, a tray with open containers positioned at the hole will catch the drill cuttings.

18.1.13. Manpower

All personnel in the mine department will be Mexican nationals. The manpower requirements to support contract mining are summarized in Table 18.1-9.

FIGURE 18.1-9 MINING SUPPORT PERSONNEL REQUIREMENTS

DEPARTMENT	EMPLOYEE		UNIT
Engineering Dept.			
	CHIEF ENGINEER		1
	PLANNING ENGINEER		1
	SURVEYOR		1
	SURVEYOR ASSISTANT		1
	SURVEYOR ASSISTANT		1
	DRAFTSPERSON/ GEOTECH		1
	ASSISTANT		1
	Engineering Department Totals		7
Geology Dept.			
	SENIOR GEOLOGIST		1
	ASSISTANT		1
	ORE CONTROL TECH		1
	ORE CONTROL LABOR		1
	ORE CONTROL LABOR		1
	Geology Department Totals		5
Mining Dept.			
	MINING SUPERINTENDENT		1
	MINE SUPERVISOR		1
	Mining Department Totals		2
	Total All Departments		14

Excluding the pre-production period, the required manpower complement has been estimated, based on a two -shift-per-day, seven-day-per-week operation. This results in the most optimum utilization of mine equipment and also provides sufficient time for maintenance of the primary crusher system.

In general, one operator will be assigned to each major mine equipment unit on each shift. For instance, in drilling operations four operators are assigned to the two drills which operate on a two-shift-per-day basis. The two loaders will operate continuously two shifts per day and will require six loader operators and an extra universal operator. This will be the responsibility of the selected contractor.

18.1.14. Risks and Opportunities

The capacity and expertise is in place in Sonora for Minefinders to consider the option of contracting the mining operations including drill-blast, load-haul and mine services. Three contractors have been approached and have submitted preliminary bid proposals based on the operating parameters developed for 3Mt/yr of ore production delivered to the crusher. In all cases, the contractor bids have shown lower unit costs than owner operated unit costs. Contract mining should be given further consideration in future studies.

The particular characteristics of shape and size of the La Bolsa deposit combined with the proximity to the U.S. international border precludes the pre-feasibility pit design from significant

expansion, if any at all. An increase in metals prices will affect internal waste becoming ore, but should not add significant additional ore external to the current pit.

Geotechnical parameters utilized in pit optimization and mine design that were recommended by The Mines Group were based on certain assumptions regarding distribution and characteristics of the rock mass at the Project. These parameters are considered preliminary and will require confirmation. Changes in pit wall angle configurations, catchment berm widths, hydro geological parameters, etc., may result in different pit geometry and, consequently, affect mineral reserve estimates, production schedules and financial results.

18.1.15. Conclusions and Recommendations

The La Bolsa ore deposit demonstrates viability as an open pittable resource with a relatively low waste to ore stripping ratio. Preliminary study indicates that a mining contractor will be cost effective for the relatively short lived operation.

Geotechnical investigations completed by The Mines Group were based on certain assumptions regarding distribution and characteristics of the rock mass at the Project. These assumptions will require confirmation. A detailed geotechnical investigation to address all the feasibility study requirements in regards to geotechnical parameters utilized in pit optimization, mine design and mine costing has been initiated but must still be completed.

Final pit optimization was completed with the most recently estimated technical, geotechnical and economic parameters. As some of these parameters will change, the optimization should be repeated and mineral reserves re-estimated. Otherwise, current cutoff grades reflecting the changes must undergo constant adjustment in order to send economic material to the process plant.

18.2. RECOVERABILITY/METALLURGY

18.2.1. Introduction

Preliminary studies, including mineralogy, trace element analyses and preliminary metallurgical testing, have been completed on composite samples of the La Bolsa deposit. The studies characterize the ore with respect to metallurgical performance, investigate the viability of treatment by heap leaching with dilute cyanide solutions and determine the most economical method for the recovery of the contained gold and silver. The results of metallurgical testing performed on samples taken from the La Bolsa deposit are presented in Appendix 06.

Current metallurgical testing performed under the direction of McClelland Laboratories, Inc. showed that the La Bolsa ores were amenable to simulated heap leach cyanidation treatment at all feed sizes evaluated, and were moderately sensitive to feed size with respect to gold recovery. Average gold recoveries obtained from the LB08 North and South composites at p80%

-25mm, p80% -15.8mm and p80% -9.5mm feed sizes were 73.1%, 76.6% and 80.7%, respectively, in 252 days of leaching.

Preliminary evaluations completed during the scoping study indicated that low-cost heap leaching and carbon-adsorption recovery would be the most appropriate method of ore treatment given the low-grade nature of the deposit and cyanide-leach amenability to gold extraction. The current study presents the results of the metallurgical test programs, with an emphasis on the results of column heap leaching tests performed during 2008-09, which provide the basis for the current proposed process flowsheet.

18.2.2. Metallurgical Review

Mineralogical Investigations

Metallurgical testing of mineralized material from La Bolsa has involved two separate sets of column leach tests completed in 2005 and 2009. Early in the project, Hazen Research, Inc. also completed an ore characterization study (Bolles, 1996).

These metallurgical and mineralogical investigations were conducted as summarized in the Table 18.2-1.

TABLE 18.2-1 MINERALOGICAL SAMPLES

INVESTIGATOR	REPORT DATE	WORK	SAMPLE IDENTIFICATION
McClelland Laboratories	6-12-09	Bottle roll tests Column Leach Composite Tests	LB 08 North, LB08 South, LB 08-LG, LB08 HG
McClelland Laboratories	4-28-08	Bottle roll tests Column Leach Composite Tests	P1 through P8
Hazen Research Laboratories	1996	Bottle roll tests Ore Characterization Study	LB 95-6, -9, -21, - 29

A total of 18 heap leach simulation test columns at various feed sizes have been constructed and tested to gauge the amenability of the La Bolsa ores to heap leach cyanidation at various crush sizes. A review of metallurgical testing completed for the La Bolsa ores is provided in the independently prepared NI-43-101 "Technical Report on the La Bolsa Property" filed by Sacrison Engineering and dated October 16, 2009. The report states, "The metallurgical column leach data allows for reasonable prediction of metallurgical recoveries for the project and development of a mine Plan" (page 58/88).

Ore Characterization Study

Mineralogical examinations from the Hazen work determined that gold occurs primarily as electrum nuggets, occasionally flakes and as fine inclusions in goethite minerals.

Characterization studies carried out by Hazen Research for problem elements such as arsenic, antimony and mercury indicate that these elements are not present in significant quantities.

18.2.3. Sample Composite Preparation

Sampling of the La Bolsa deposit has included trenching, percussion drilling and diamond core drilling.

Diamond drill samples were utilized for the two sets of column leach simulation tests completed at McClelland Labs. The holes were sampled on 5 ft intervals, logged geologically and assayed for gold. Sample composites were prepared for metallurgical testing, based on gold content, degree of oxidation, and alteration characteristics.

The composition of the metallurgical composites and their sources may be viewed within the McClelland report #3276, dated June 12th 2009, found in Appendix 07 of this report.

18.2.4. Metallurgical Testing

Introduction

Metallurgical sample composites were prepared and/or specified by Minefinders and shipped to the respective metallurgical laboratories for testing. The composites were selected based on rock type and alteration characteristics defined by Minefinders geologists. All samples used in metallurgical investigations were selected by Minefinders' geologists and samples were distinguished by North and South deposit area as well as high and low grade oxide.

Earliest metallurgical data consists of a 1996 report generated by Hazen Research in Denver, Colorado which focused on dynamic leach tests with drill cuttings (bottle roll tests). A summary of the Hazen bottle roll test recoveries is presented below in table form. Overall the recovery numbers reported reveal amenability of the La Bolsa ores to direct cyanidation and are a somewhat "typical" oxide heap leach precious metal ore.

TABLE 18.2-2 1996 BOTTLE ROLL TEST RESULTS

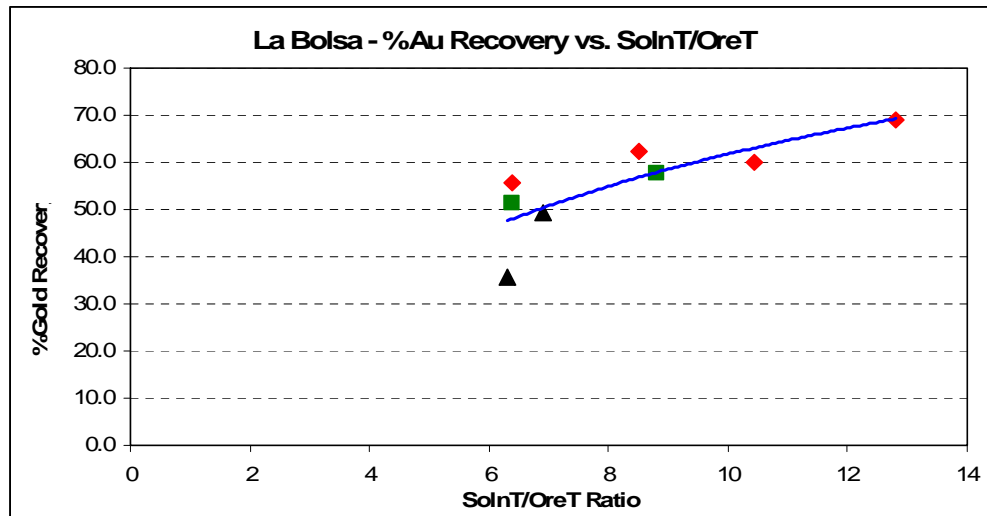
MINEFINDERS CORPORATION LTD			
HAZEN RESEARCH DATA - 1996			
SAMPLE ID	LEACH TIME, HOURS	% EXTRACTION	
		Au	Ag
LB-95-6, 15-100 ft	72	76.0	27.4
LB-95-6, 15-100 ft	72	66.4	25.7
LB-95-6, 15-100 ft	96	80.6	39.4
LB-95-9, 0-50 ft	72	82.9	44.8
LB-95-9, 0-50 ft	72	78.9	44.5
LB-95-9, 0-50 ft	96	85.3	42.8
LB-95-21, 0-120 ft	72	94.7	37.8
LB-95-21, 0-120 ft	72	82.7	39.6
LB-95-21, 0-120 ft	96	86.0	37.0
LB-95-29, 140-230 ft	72	56.9	50.4
LB-95-29, 140-230 ft	72	80.1	53.9
LB-95-29, 140-230 ft	96	81.7	59.3

Further testing was performed in 2005 by McClelland Labs (MLI Job #3034) using samples from the North (LBN) and South (LBS) ends of the deposit. Testing consisted of Bottle roll test to find optimal reagents parameters, precious metal recovery and recovery rates, followed by Column percolation leach test at 80% -37.5mm, 15.8mm and 9.5mm feed sizes to determine precious metal recovery, recovery rates, reagent requirements and feed size sensitivity under simulated heap leaching conditions. The metallurgical test program was performed under the direction of Jack McPartland and the results are summarized in a report dated April 28, 2008 (refer to Appendix 07).

A review of data carried out during a scoping study in the spring of 2008 suggested that there may be a stronger relationship between gold recovery and total solution tonnes passing each ore tonne, than between gold recovery versus size fraction. Figure 18.2-1 below shows a table and graph, derived from the McClelland data, which demonstrate the argument and depict increasing recovery with increasing solution/ore ratio.

FIGURE 18.2-1 SOLUTION TO ORE RATIO CURVE

SONORAN RESOURCES LLC				
from McClelland data				
	Soln/Ore Ratio	Recovery %Au	Recovery %Ag	Size Frac. mm(inches)
P1	6.9	49.3	4.8	
P2	6.3	35.6	3.4	37.5 (1.5")
P3	8.8	57.7	7.5	
P4	6.4	51.5	9.0	15.8 (5/8")
P5	8.5	62.5	10.4	
P6	6.4	55.6	12.0	
P7	12.8	69.0	13.6	
P8	10.4	60.0	13.6	9.5 (3/8")



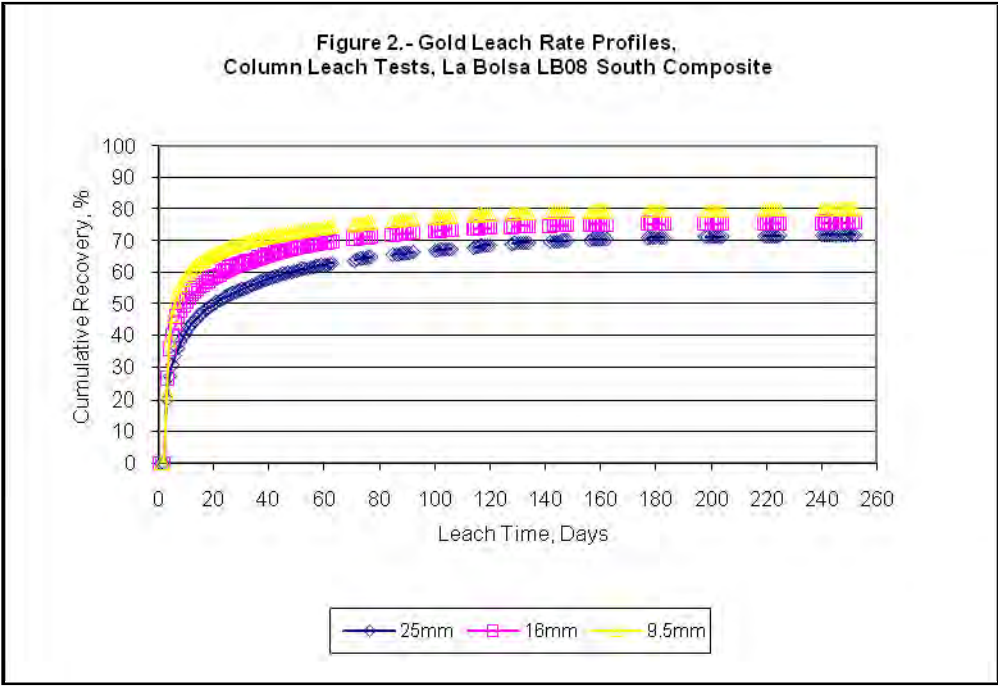
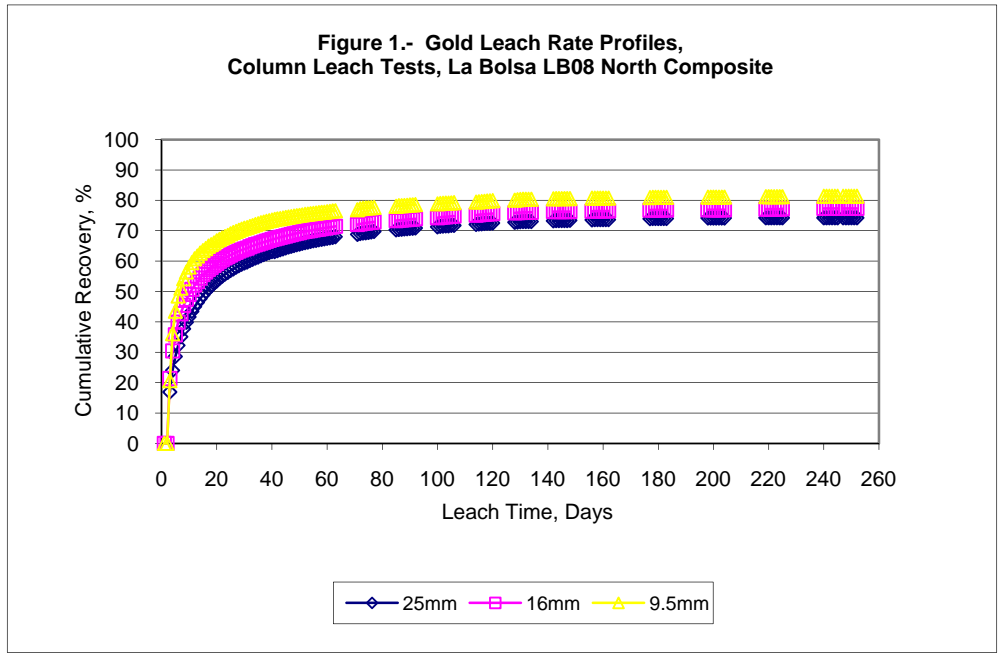
All of the earlier results of the cyanide leaching tests were positive and indicated that the La Bolsa samples were amenable to cyanidation and, based on recovery by size information, the samples could be candidates for heap leaching. Minefinders requested and prepared for a second phase of testing in June 2008, at McClelland Labs the results of which are published in a report dated June 12, 2009 (MLI Job #3276) (refer to Appendix 07). The report focused on the evaluation of the recovery sensitivity to size and time under leach.

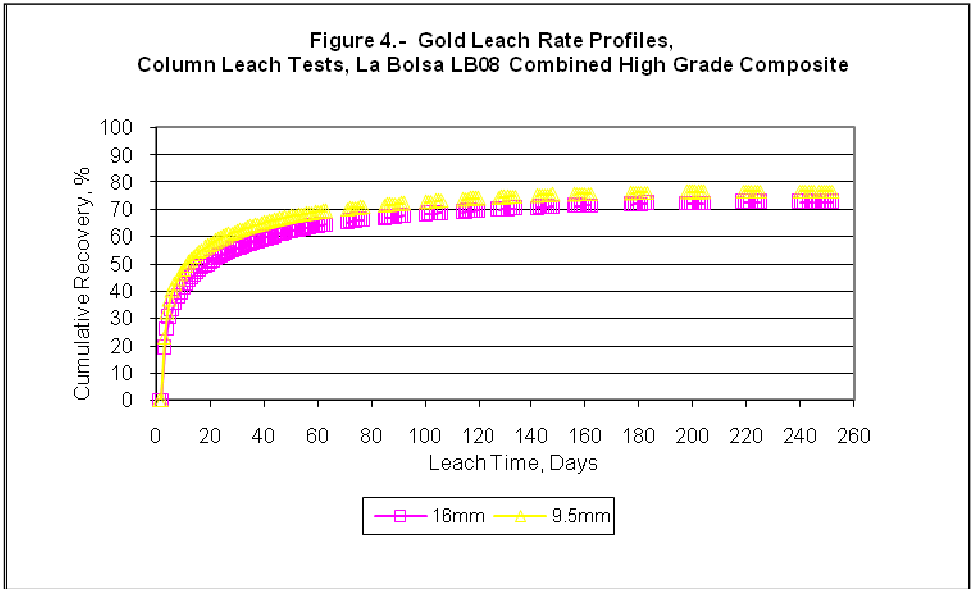
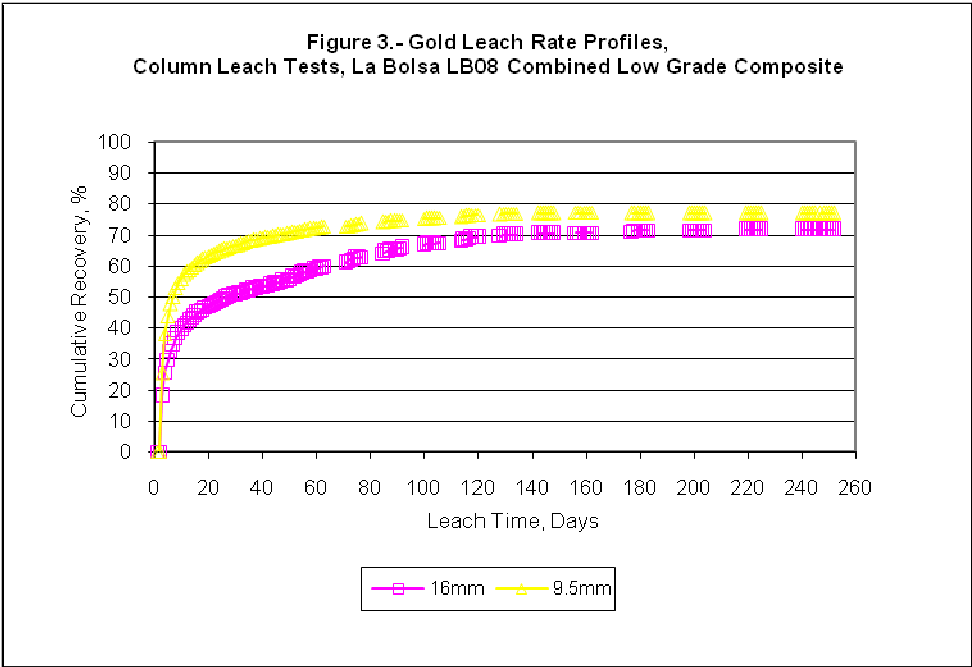
The current study presents the results of the metallurgical test programs, with an emphasis on the column leach test work performed during 2008. These results form the basis of the proposed process flowsheet.

A total of 125 La Bolsa half-split drill core samples from select intervals, identified by Minefinders' personnel, were shipped to McClelland for compositing and testing. Samples were compositing according to instructions from Minefinders' personnel to produce the four drill core composites: LB08 North, LB08 South, LB08 LG and LB08 HG. These were then split and crushed to specification to provide material for each of the heap leach simulation test columns.

Recovery results for the ten 2008 heap leach simulation test columns are shown in the leach rate profiles at different crush sizes for the composites samples prepared:

FIGURE 18.2-2 MCCLELLAND LABS 2008 COLUMN TESTS RECOVERY CURVES





Gold recoveries were rapid with only low to moderate reagent consumptions. Gold recoveries averaged 78.8%, 74.4%, and 73.1% at crush sizes of p80% -9.5mm, p80% -15.8mm, and p80% - 25mm, respectively.

Silver recoveries (not shown) were generally low and the extended leach period (to 252 days) did not significantly increase silver recovery.

Crushing Studies

In June 2009, Minefinders collected representative samples from core intervals from the project, to be used for rock characterization studies for crushing circuit design parameter definition. Two samples were selected for testing. The first sample represented an average hardness sample and was selected from the sediments and calcite vein material with weak to no silicification. A second hard sample was selected from andesites and silicified rhyolitic agglomerate. Most intervals are moderate to strongly silicified except for an andesitic interval where the andesite was dense and competent, representing primary hardness rather than hardness related to silicification.

The testing was performed at the Metso Mineral Research and Test Center in Milwaukee, Wisconsin, USA. Testing consisted of a Bond Work Index test and Paddle Abrasion test on two materials supplied by Minefinders, one average hardness material and an above average hardness. All testing results can be seen in the Metso reports in Appendix 07. It should be noted that for the Bond Work Index testing, the sample received did not consist of enough pieces of sample at the testing specification size requirements to provide accurate results. The largest pieces of sample were used for the testing. Results are used with care in the interest of obtaining data from the sample knowing that proper size was not always achieved. Also it should be noted that for the Bond Work Index, core samples were used which typically are not the proper pieces of sample to use compared to natural rock.

Metso defines the average hardness material as highly abrasive. Metso defines the above average hardness material as an abrasive material based upon the Paddle Abrasion test (refer to Appendix 07).

The paddle abrasion tests are performed to provide an estimate of material wear during the crushing process. This information is used to estimate liner wear in the crushers.

18.3. PROCESSING

18.3.1. Introduction

The process design criteria for this Pre-Feasibility Study were developed based on the metallurgical testing programs of 2005 and 2008 and on current industry practice. In 2008 a preliminary scoping study was prepared based on the initial metallurgical testing and current market conditions and the study contemplated Cyanide Heap Leaching with a Merrill Crowe plant for precious metals recovery.

The objective of the studies were to select the most economic mine and process plant production rates and to select the most favorable mineral processing flowsheet for pre-feasibility level evaluation. In the initial McClelland column tests (2005) lower gold recoveries were achieved than in the second round of test work in 2008. These earlier tests determined an average ratio of Silver to Gold (Ag:Au) to be 4.7, indicating that a Merrill Crowe recovery process should be recommended. However it was observed that there was a strong dependency of the recovery of precious metals with respect to leaching time. The implications were that a coarser

size fraction might be leached for a longer time, and achieve the same recovery results. Based on these observations it was recommended to run additional column tests at differing and coarser sizes with equal and longer leach times.

From a review of the more recent 2008 test work an average silver to gold ratio of 2.7 (Ag:Au) is evident. This observation may be determined based upon the average of all tests for composites LBNorth and LBSouth. Given the final and more definitive data, the preferred metals recovery process is determined to be that of activated carbon, adsorption, desorption recovery process plant (ADR). This decision is also supported by the lower silver grade that the preliminary mine plan and ore release schedule as completed by Ms Xochitl Valenzuela, consulting engineering services (XVE). The overall five year average silver grade within the current mine plan for La Bolsa is 9.0 g/t.

18.3.2. Process Design Criteria

Production Rate

The overall mine production rate was selected based on a preliminary scoping study carried out by SR in 2008. Minefinders management stipulated to a preferred minimum mine life and metal production level.

Production rates of 2.1 million t/y, 2.4 million t/y, and 3 million t/y were evaluated at various crusher throughputs in order to optimize the crushing circuit.

It was determined to begin the Project with a 3 million t/y crushing and heap leaching facility to process La Bolsa ores. The mine will continue at this production rate for approximately five years. The plant has been designed to produce the specified production rate.

Preliminary crushing plant design work indicated that the equipment necessary to produce 3Mt/y would have a maximum capability of processing up to 3.38Mt/y.

Production Schedule

An ore release schedule was prepared by XVE, defining the annual production rates and the gold and silver grades to be delivered to the processing facilities. According to the schedule, up to 3 million tonnes of ore will be mined per year and delivered to the crushing plant on a seven day per week schedule utilizing a total of 350 days per year. The mine will operate 20 hours per day.

The crushing circuit will operate on the same schedule as the mine. Run-of-mine ore will be direct dumped into the crushing plant and the crushed ore will be conveyed to a 13,500t crushed ore stockpile. Secondary crushing, conveying and pad loading will operate 350 days per year, 20 hours per day. The heap leach process facilities, i.e. solution pumping and precious metals recovery, will operate 365 days per year, 24 hours per day. The crushed ore stockpile will provide three operating shifts of surge capacity to accommodate the typical variance in short-term production rates.

Ore Characteristics

Ore characteristics, including specific gravity: bulk density and delivered ore moisture were derived from geological information provided by Minefinders, tests done by McClelland Laboratories, and compared with typical values for similar ore types catalogued in industry literature.

Heap leach material characteristics such as saturated ore moisture, required for water balance calculations, were determined from column leach test data performed by McClelland Laboratories.

Bond crushing indices and abrasion indices were determined through laboratory testing at METSO's Mineral Research and Test Center in Milwaukee, WI, USA.

Projected Metal Recoveries

Projected gold recoveries were based on column leach test results of the La Bolsa ore composites carried out at McClelland Laboratories in Reno, NV.

Average gold recoveries obtained from the LB08 North and South composites at 80% passing minus 25mm, was 73.1%. The production heap leach recovery for gold is modeled at 70% recovery during mining with an additional final 2% recovery realized during post mining leach operations.

Silver recoveries were projected from the cyanide leach column test data at 7%. Silver has a much slower leach kinetics profile as compared to gold and a significantly lower overall recovery as well.

Silver recoveries were estimated in order to assess and estimate equilibrium carbon loadings for carbon circuit design. The amount of silver reporting to the leach solutions did not have significant effect on the size of the carbon adsorption circuit.

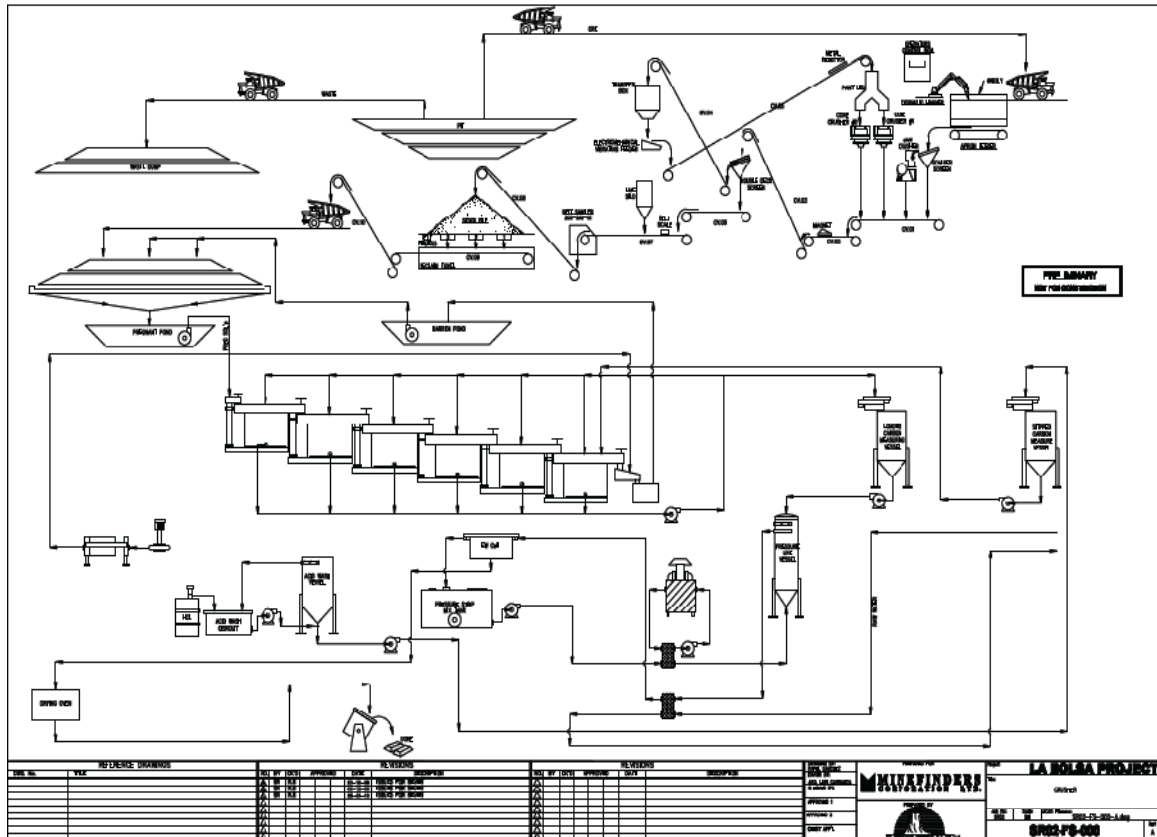
Detailed Process Design Criteria

The process design criteria for this Pre-Feasibility Study are presented in Appendix 10.

18.3.3. Process Description

A simplified flowsheet for the crushing and heap leach facilities is presented here in Figure 18.3-1 (Drawing No.SR02-FS-000-A).

FIGURE 18.3-1 SIMPLIFIED PROCESS FLOWSHEET DRAWING NO. SR02-FS-000-A



The mine will operate 20 hours per day, seven days per week 360 days per year and will deliver a total of 3Mt/y of ore to the crusher. The crushing plant operation will follow the mining schedule. The crushing, conveying and heap leach pad loading sections will operate 360 days per year, 20 hours per day and the heap leach solution pumping and precious metal recovery circuits will be operated 365 days per year, 24 hours per day.

Crushing

The process flowsheet for the crushing circuit is presented on Drawing No. SR02-FS-001-C in Appendix 02.

All ore is classified as oxide and will be campaigned through the crushing circuit. For the purpose of this study it was assumed, based on column tests at this size, that no permeability issues will occur and that the ore should not require any agglomeration pretreatment when crushed to p80% -25mm and stacked to lift heights in excess of 30 m. All ore will be crushed to p80% -25 mm. Lime and barren solution will be added to the ore accordingly, at rates defined through column test results.

Ore will be delivered to the primary crusher by 100-tonne haul trucks and direct dumped through a 900 mm stationary grizzly into a dump pocket, allowing capacity for approximately two truckloads. A rock breaker will be installed to break oversized material, It will be necessary to sort large boulders in the pit to prevent excessive oversize material from reaching the crusher.

The ore will be fed to a primary jaw crusher at a rate of about 415 t/h, using a vibrating grizzly feeder. The bars on the grizzly decks of the feeder will have a spacing of 88 mm. Based on preliminary process modeling, approximately 46% of the feed material or 188t/h will bypass the crusher. The primary jaw crusher will operate with closed side setting of approximately 88 mm and produce a product with a p80% of approximately 170 mm. The mechanical utilization of the primary crusher has been projected to be 88%, which is typical for this type of crushing circuit.

Ore discharging the grizzly feeder and crusher will be transferred to the coarse ore stockpile by an acceleration conveyor followed by a stockpile feed conveyor. A continuous belt magnet and metal detector will be installed to remove and detect tramp metal prior to the fine crushing circuit.

The secondary crushing circuits will operate seven days per week, 20 hours per day with an average production rate of approximately 415 t/h. Ore will be reclaimed from the crushed ore stockpile using one 1,524 mm x 7,315 mm apron feeders and transferred to the secondary crusher feed bin by a 1,200 mm belt conveyor. Ore will be transferred from the feed bin to a double secondary crusher via a 1,200 mm belt feeder with a pant leg divider. The secondary crushers will be HP300 standard cone crushers or equivalent with 240kW drives and will operate in close circuit. The crusher closed side setting will be 32 mm and will produce a product of approximately 100% passing 32 mm. The crusher product will be transported to the two screen double decks where the oversize will be conveyed to a 50 Ton transfer box to feed back to the secondary crushers and the undersize will be conveyed to a weigh station, lime addition and sampler before the product stockpile at p80% -25mm.

The two double screen decks will be 6'x16' with upper deck at 44mm opening and lower deck at 32mm opening designed to work at 90% capacity with 415 t/h.

High pressure, low volume spray fogging systems will be used for dust suppression at the dump pocket and at conveyor transfer points throughout the crushing facilities.

Lime Addition and Conveying

Buffering of the ore to facilitate pH control will take place through the addition of approximately 1.8 kg/t of lime, directly onto the ore as it travels on the screen underflow conveyor (CV-07). During normal operation, the ore and lime will be mixed as it transfers from one conveyor to the next and in the stockpile.

Heap Leach Pad Loading

The crushed ore will be conveyed to the heap leach pad via grasshopper conveyors and a radial stacker system. Sufficient room to store 8 hours of normal operation will be provided at the stockpile in front of Crushing circuit.

The heap will be loaded in 6 m high lifts to a maximum height of 50 m. The total leaching cycle will be approximately 70 days so the total ore under leach at any one time will be 70 days production or approximately 560,000 t.

Heap Leach Pad Layout

The pad will be constructed in two phases, the first of which will contain approximately two and a half years of production. The leach pad area will be cleared of organic material and graded to provide drainage and a suitable foundation of natural material. The leach pad will generally follow the existing grade. A preliminary design has been provided by The Mines Group for the pre-feasibility study and represents a typical valley fill design. A 300 mm layer of compacted low permeability soil will be applied over the competent native material to act as a liner. On top of the compacted low permeability soil, an 80 mil HDPE liner will be applied. The solution collection piping will be placed on top of the liner and covered with 500 mm of overliner material. The overliner material will be crushed mine ore placed to protect the liner and piping from the conveyors or trucks. A stacking plan needs to be completed to ensure stackers are viable in the specific situation. The initial pad will have a system of tributary solution collection piping that will feed a central solution collection pipe at the toe of the pad. Each section will have a solution collection sump with an overflow pipe which will penetrate the containment berm and discharge into one of two parallel solution collection ditches or pipes for transport to the pregnant solution tank.

The solution will flow through the pipe to a valve box at the edge of the pad, and discharge onto the liner outside of the toe of the heap but within the containment.

Heap Leach Operating Cycle

The initial operational concept will be to place 35 days of ore on the pad or one-half of a full cycle of ore. The distribution piping and drip emitter lines will be installed and leaching will commence while the second 35 days of ore is being placed. Fresh barren (leach) solution will be pumped to the heap and distributed onto the ore at a rate of around 8.44 l/h/m² for a total solution flow rate of approximately 510 m³/h. The total ore under leach at any one time will be a full cycle or 70 days of ore. The solution will flow from the heap to the pregnant solution tank through a single solution collection pipe. The pregnant solution will be passed through the carbon columns for gold and silver recovery and the barren solution will return to the barren solution tank to be pumped back to the heap after adding the target reagents. This operating concept provides for a single pass of the solution through the heap and does not consider recycle of pregnant solution to increase the gold concentration of the solution prior to recovery.

Carbon Adsorption

Pregnant gold bearing solution will flow from the heap at a flow rate of approximately 464m³/h. The differences between the average solution volumes flowing to and from the heap are due to absorption of solution by the ore and solution loss to evaporation. The pregnant solution is pumped from the pregnant solution tank through a stationary trash screen to a bank of six 2,800 mm diameter x 2,800 mm tall carbon columns operating in series. Each carbon column will contain 2.0 tonnes of carbon, the projected amount of carbon that will be loaded each day. Solution discharging from the carbon columns will pass over a 1,200 mm x 3,000 mm carbon safety screen and return by gravity to the barren solution tank.

The design carbon loadings are estimated from standard carbon loading isotherms, actual plant performance reported in the literature and the projected Au, Ag and Cu solution concentrations observed in the cyanide leach test results. The projected carbon loading is 4,666 g/t of gold and silver. Based on the metal production rate, a total of 2 t of carbon must be loaded and stripped each day.

Carbon is advanced from column to column counter current to solution flow and loaded carbon is transferred from the first column to the carbon stripping circuit by a single carbon transfer pump connected to a network of pipes. Carbon is transferred at a pulp density of approximately 25% solids.

Carbon Elution and Reactivation

Loaded carbon is transferred from the carbon columns to a carbon dewatering screen and into a fiberglass acid wash tank. The acid wash tank will hold a full 2.0 t batch of carbon. The carbon will be washed in one bed volume of 3% hydrochloric acid solution, rinsed with five bed volumes of water and then neutralized with one bed volume of 1% sodium hydroxide solution.

The acid washed carbon will be transferred to a 2 tonne elution column. The elution or strip stage will involve high temperature elution of the gold and silver with a solution typically containing 20 to 25 wt% ethylene or propylene glycol, and 2 wt% sodium hydroxide. The target temperature and pressure will be 150°C at 460kPa.

Strip solution will be pumped from the barren strip solution tank through a recovery heat exchanger, followed by a propane solution heater to raise the temperature to 150°C and then up-flow through the carbon elution column at a solution flow rate of two bed volumes per hour. The pregnant strip solution will discharge from the top of the column; pass through the heat recovery heat exchanger and into a bank of two electrowinning cells operating in parallel. The electrowinning cells are designed for a single pass gold recovery of approximately 95%. The barren electrolyte will overflow to the electrowinning discharge tank from which it will be pumped back to the barren strip solution tank and thus complete the cycle. The gold stripping process typically requires circulation of strip solution at a rate of two bed volumes per hour for a period of approximately 8 hours.

The stripping process is proposed to be operated in closed circuit with the electrowinning cells. i.e. at the same flow rate rather than the more traditional batch operation.

Carbon Reactivation

No carbon reactivation is contemplated in this study. Associated cost provisions have been made in the budget for replacement of the activated carbon once per a year.

Gold Electrowinning and Refining

Approximately 14 kg of dore will be produced as a precious metal sludge in the electrowinning cells per day. Two electrowinning cells will be installed. The cells specified will be designed so that the cathodes can be cleaned in place using a high-pressure water nozzle. This precludes the requirement to remove the cathodes from the cells to a separate wash tank for cleaning. The sludge will be washed through the discharge nozzle in the bottom of the electrowinning cell and into the suction of the gold sludge pump. The sludge will be pumped to a filter press and recovered as a filter cake. The filtered solution will be recycled to the electrowinning cell being cleaned. An estimated one melt will be performed each week in a propane furnace to produce precious metal dore.

18.3.4. Process Reagents and Consumables

Sodium Cyanide

Cyanide is the key reagent for the dissolution and extraction of gold and silver from the ore. Sodium cyanide is mixed with water to form a dilute cyanide solution. The cyanide solution is distributed onto the heaps whereby the solution percolates down through the heap. The cyanide reacts with and dissolves the gold and silver, which goes into solution. Cyanide consumption is projected to be 0.50 kg/t ore.

Sodium cyanide in briquette form and contained in sealed shipping bags or boxes will be delivered to site by transport truck. At the site, the boxes will be off loaded from the transport truck by forklift and stored in a protected area. As required, a full box will be transferred by forklift to the cyanide reagent mixing area, placed over the receiving port on the top of the cyanide mixing tank. The cyanide will be discharged into the mixing tank and barren solution plus caustic will be added. The cyanide will be mixed on a batch basis and newly mixed cyanide solution will be pumped into the cyanide holding tank.

The cyanide solution will be pumped from the holding tank to the barren solution tank and the barren strip solution tank as required.

Lime

Lime is added in dry form to the crushed ore to provide the required protective alkalinity for cyanidation and to enhance agglomeration. Lime will be added to the ore on the conveyor as it is transferred to the heaps at a rate of 1.8 kg/t of ore.

Hydrated lime will be transported to the site by tanker trucks. At the site, the lime will be pneumatically transferred from the tank to the lime storage silo. The lime storage silo will have a capacity of 60 t of lime. The silo will be fitted with a vibrator on the cone to assist in maintaining smooth flow to the silo discharge. The lime will be reclaimed from the silo via a variable speed screw conveyor and discharged onto the ore on Conveyor No. 07 as it is conveyed to the heaps.

Antiscalant

Antiscalant is added to the leach solution to prevent the formation of scale in the small diameter leach solution lines and solution emitters. The antiscalant will be delivered to site in bulk and stored in a vendor owned tank. Antiscalant will be pumped directly from the tank to the barren solution tank and the solution pond as required using a portable metering pump. Antiscalant consumption is projected to be 0.032 kg/t ore.

Sodium Hydroxide (Caustic)

Caustic is used to control the pH of the barren leach solution and the barren strip solution and to neutralize the acid wash solution after completion of the acid wash cycle. Caustic consumption is projected to be 0.008 kg/t of ore. Liquid Caustic, at 50%, will be delivered in trucks to the reagent storage area. Caustic will be discharged from the truck into the supplier storage tank where it will be pumped to a holding tank, and diluted with fresh water to a concentration of approximately 21% NaOH. Caustic solution mixing is performed on a batch basis. From the holding tank, caustic is pumped via metering pumps as required to the acid wash circuit and the barren strip solution tank.

Hydrochloric Acid

Hydrochloric acid is used to dissolve calcium carbonate scale and other contaminants from the loaded carbon prior to elution. Concentrated hydrochloric acid solution will be delivered to site in 220 kg drums. At site, the acid will be pumped from the drums into the acid holding tank and diluted to approximately 3% HCl.

Acid solution is pumped from the holding tank to the acid wash circuit as required. Spent acid from the acid wash circuit is neutralized and directed to the barren solution tank and ultimately to the heap.

Activated Carbon

Granular activated carbon is used to adsorb gold from the pregnant leach solution. Carbon consumption is projected to be 0.158 kg/t of ore treated. Carbon will be delivered to site in 500 kg bulk bags. New carbon contains fine particles which must be removed to prevent gold losses. This will be accomplished by adding the new carbon to the stripped carbon measure vessel and let it soak for 8 hours. The reactivated carbon will be screened before being transferred to the carbon columns.

Fluxes

Borax, niter, silica and soda ash are used in small quantities for the fire refining of gold bullion. The flux will be mixed with the dewatered gold bearing sludge from the electrowinning cells and

placed into the melting furnace creating a slag which removes impurities from the metal. Flux materials will be delivered in 20 kg bags on pallets.

Crusher Liners

Primary crusher liner consumption is projected to be 0.02 kg/t of ore crushed.

Secondary cone crusher liner consumption is projected to average at 0.025 kg/t.

Crusher liners will be delivered on pallets.

18.3.5. Services

Water

Fresh Water

A preliminary water balance has been prepared and is presented in the appendices.

On average, approximately 57m³/h (15.8 l/s) of fresh water will be required for the total La Bolsa plantsite, including approximately 45m³/h (12.5 l/s) of fresh water for the heap leach processing facilities. The majority of the fresh water will be required to replace heap leach solution lost to ore wetting and evaporation. The remainder will be used for fire water, road watering, potable water and in the process plant for dust suppression, reagent mixing and acid washing of carbon.

Fresh water will be supplied to the mine site by submersible well pumps, located near the mine site. The water will be pumped directly from the wells to a 200m³ storage tank located on hills in the area of the crusher facility. Water will be distributed from the storage tank by gravity. Makeup water for processing will be added directly to the ore during conveyance and to the barren solution tank.

The heap leach process will be a net consumer of water through absorption and evaporation. Process water will be recycled to the heap. There will be no discharge of solution to the environment during the operating life of the processing facilities. Water treatment should only be required during the detoxification and reclamation stages of the Project.

Process Water Tank

Barren solution will be used as much as possible for carbon transfer, carbon stripping solution makeup and in plant service needs. Occasional, additional process water needs will be acquired from the RAW water head tank located near the crusher, above the processing facilities.

Air

Compressed air will be distributed throughout the plant for instrumentation and air tools. Instrument air will be passed through an air dryer prior to distribution to the instruments. One 750 kPa/85 m³/h (50 cfm) air compressor will be installed at the process plant. A second

750kPa/85 m³/h air compressor will be installed in the crusher to supply air for the bag house and to provide air for pneumatic tools.

18.3.6. Risks and Opportunities

The ultimate stack heap height of 50 m is considered conservative and will require further investigation during the feasibility study.

A used ADR plant and crusher circuit could replace the proposed new machinery and provide a lesser capital cost to the operation. The availability of used equipment should be further investigated during the feasibility study.

18.4. INFRASTRUCTURE AND ANCILLARY FACILITIES

18.4.1. Introduction

Infrastructure required to support a mining project at the La Bolsa site is mostly nonexistent at this time with the exception of drill roads and an exploration drill hole set up as a low volume water well. A reliable system of transportation and support facilities are in close proximity to the site and adequate water should be easily developed within the Project site. Ancillary facilities will be constructed utilizing Mexican building practices wherever practical and cost effective. The following describes the infrastructure and ancillary facilities needed to support the Project; Appendix 8.0 contains preliminary mine layout and ancillary design plans for the Project.

18.4.2. Site Layout

Location

The entire site is extremely remote relative to any pueblos or houses of any sort and should be considered favorable for the location of a new mine. The proposed site layout is found within Appendix 2.

The plantsite will be located in the small valley located directly below the leach pad site, at approximately north 6550 and east 5400 at an elevation of 1,068 m above sea level. The plantsite location lies in a valley to the southwest of the open pit mine which is at an elevation of approximately 1,140 m above sea level. The principal hill on site known as Cerro La Bolsa forms part of a drainage divide from which the mine is located on the eastern side and the heap leach and processing facilities are on the west side.

The crushing plant is essentially on top of the divide and between the open pit and the leach pad and will be in close proximity to the open pit, minimizing the haul distance. The impact of any potential dust from the operations will be minimized in this location as the prevailing winds are from the west. The crushing plant is located away from any buildings.

The leach pad has been located to the north of the plantsite in a north-south trending valley. The leach pad is bounded to the east by a bordering hillside and to the west by the valley.

The leach pad ponds and ADR plant are located in the valley to the south and west of the leach pad to allow solution to flow by gravity to the ADR plant.

Survey

The pre-feasibility design was completed using topographic information supplied by Minefinders. The topographic base map being utilized has contour intervals of 1 m. This current topographic base map is deemed adequate to support a future feasibility study.

Geotechnical

A detailed geotechnical report completed by The Mines Group supports the Pre-Feasibility Study design and may be found in Appendix 05. The report is based upon site visits made by qualified representatives of The Mines Group and their geotechnical evaluation of available rock conditions as evidenced by available drill core, detailed geologic mapping, and surface and trench rock exposures at site. Ground conditions generally consist of a thin layer of topsoil over fractured competent rock, suitable for economical spread footings for buildings and equipment foundations.

A more detailed geotechnical evaluation is normally not considered essential for this level of study but will be required to support the feasibility level design. The feasibility level study should also address the ground conditions; slope stability, leach pad design and waste dump design as well as borrow sources for construction materials.

Site Drainage

There are no permanent creeks or rivers on the site, however, during periods of heavy rains there is some surface runoff, open channel flow and standing water in low areas. Nominal grading and ditching will be adequate to maintain a well-drained site. Finish grade on the plantsite will be constructed to provide positive drainage away from structures. A system of ditches will route runoff around the plantsite and the leach pad.

Roads

Site Access Roads

Portions of the existing access roads will have to be upgraded to support large loads coming in for construction of the mine operation. New access roads will be stripped of organic material and surfaced with granular materials. Drainage ditches and culverts will be placed in accordance with the site drainage requirements.

Plantsite Roads

Plantsite roads will be stripped of organic material and surfaced with granular materials. Drainage ditches and culverts will be placed in accordance with the site drainage requirements. Site haul roads will be 25 m wide and constructed to meet the requirements of haul trucks. Other roads on site will be approximately 5 m wide.

Security

The entire site will be surrounded with a three strand barbed wire range fence in order to keep range animals out of the plantsite. The plantsite and ponds will be fenced with 2m high, industrial grade chain link fencing. Access to the plantsite will be restricted to one access at the main gate, which will include a gatehouse manned 24 hours per day. Explosives storage facilities will also have chain link fencing.

18.4.3. Power Supply and Electrical Distribution

General

The electrical system has been sized to take into account the process loads of the crushing plant, conveyors and ADR plant as well as the ancillary building loads, including the workshop/warehouse, camp facilities and administration buildings.

The load list estimate is included at the end of this section in the equipment index and power consumption table.

Power Supply

A study of power supply options for the La Bolsa Gold Project is still ongoing. The initial assumption was that mainline electrical power from the National grid will be cost prohibitive to bring to site. Self generated power from diesel generator power plants is envisioned. Discussions are however ongoing with the Comisión Federal de Electricidad (CFE), to assess the viability of a line from Nogales to site. A proposal from CFE to construct a line from Nogales has just been submitted to Minefinders via the consultant, Antonio Esparza and may be seen in the Appendix 03 of this report. Line power would be preferable and a tradeoff analysis should be carried out.

The current plan assumes processing facilities will be self supported with three 500kW diesel generators, two of which will be required to operate under average operating conditions. The third will be a backup and will be continually rated into the demand cycle.

The crushing circuit will be operated by one 1250kW generator.

Grid power will be preferable if the resulting associated capital cost is reasonable.

Power Distribution

Power distribution details must be refined as part of the final feasibility. All electrical systems will be built to Standards as set out in the National Electrical Code (NEC), or NFPA 70E, which has been accepted by Mexico.

The crushing and process plantsite ancillary facilities switchgear and electrical equipment will be installed in modular electrical rooms adjacent to or within their respective buildings where economically feasible.

In non-process areas, such as the administration building, fuel storage facility, water tanks and workshop complex, a combination of armored-type cable and rigid galvanized steel conduit and

wire system will be used in exposed areas. Motor control centers will be complete with motor starters, contactors, disconnect switches, transformers, panels, circuit breakers and fuses.

Communications

Communication cabling will be supported on messenger wire run underground in two-inch conduit to the respective buildings.

Fire Alarm System

A complete self-contained fire alarm system will be installed in all buildings to meet the local codes and insurance underwriters' regulations for fire protection.

18.4.4. Water Supply and Distribution

Fresh Water Supply

The average fresh water demand for the plantsite, including process and ancillary facilities, is estimated at 57 m³/hr (15.8 l/s) and will be supplied by production wells to be developed.

Fresh Water Demand

A preliminary water requirement has been prepared and is presented in Appendix 09 as a water balance calculation spreadsheet.

On average, approximately 57m³/h (15.8 l/s) of fresh water will be required for the total La Bolsa plantsite, including approximately 18 m³/h (5 l/s) of fresh water for the auxiliary buildings and road wetting. The majority of the fresh water, approximately 39 m³/h (11 l/s), is required to replenish heap leach solution. The remainder will be used for fire water, road watering, potable water and in the process plant for dust suppression, reagent mixing and acid washing of carbon.

Fresh water, at an average rate of 57 m³/h, (15.8 l/s) will be supplied to the mine site by a submersible well pump(s), located near the mine site. The water will be pumped directly from the wells to a 200m³ storage tank located on hills in the area of the crusher facility. Water will be distributed from the storage tanks by gravity. Makeup water for processing will be added directly to the ore during conveyance and to the barren solution tank.

The heap leach process will be a net consumer of water through absorption and evaporation. Process water will be recycled to the heap. There will be no discharge of solution to the environment during the operating life of the processing facilities. Water treatment should only be required during the detoxification and reclamation stages of the Project.

Water Storage and Distribution

Fresh Water Storage

The fresh water distribution system flow sheet is shown on Drawing SR02-000-265-001 in Appendix 02.

One fresh water tank will be utilized on the Project site which will be located on the hill to the south of the pit and supply fresh water for the crushing plant, leach pad and ancillary facilities.

The fresh water tank serving the mine site will be 7 meters in diameter by 6 meters high, giving a total capacity of 231 m³. Of this, 70 m³ will be fire water reserve and 130 m³ will be fresh water storage.

Fire Water Distribution

The fire water distribution system will be fed from the fresh water tank via a separate flange fitting. Since the fire/fresh water tank is elevated on the surrounding hillside, gravity flow will be utilized for the water distribution. Utilizing gravity flow eliminates the need for fire water pumps and diesel driven fire water pumps.

The fire water system will consist of a buried fire water loop pipeline and hydrant system at the plantsite and ancillary buildings and at the ADR plant. Hose cabinets will be placed at the fire hydrant locations and the system supplemented with portable fire extinguishers placed within the process facilities.

Emergency showers and eyewash stations will be located throughout the process facilities.

Fresh Water Distribution

The fresh water distribution system at the plantsite will include fresh water makeup to the process area and for road watering. Road watering supply will be provided by a standpipe located near the crusher area.

Fresh water supply will be gravity flow. The supply pipeline from the fresh water tank will be buried high density polyethylene (HDPE) pipe to the point of service. Above ground distribution pipe will be carbon steel.

Potable Water Distribution

Potable water will be supplied by an offsite vendor. Bottled potable water will be supplied to all locations, i.e. administration building, control rooms, truck shop and the ADR plant.

18.4.5. Sewage Collection and Treatment

The sewage collection treatment and disposal system at the plantsite will be comprised of a buried gravity collection system from the ancillary facilities to an onsite septic leach field. The collection system will be comprised of buried PVC pipe and concrete manholes. On site portable toilets will be in service near the open pit.

18.4.6. Fuel and Lubricant Storage and Distribution

Diesel fuel will be delivered to the site by tanker truck. Due to the reliable supply and good all season access to the site, only minimal storage is required at site.

Diesel fuel requirements for the mining equipment and process and ancillary facilities will be supplied from a diesel fuel storage tank located at near the truck shop above the eastern waste dump. The diesel fuel storage tank will be a field erected steel tank having a capacity in excess

of one week's fuel requirements. The diesel fuel tank will be erected within a lined containment area sized to contain 110% of the capacity of the storage tank as per SEMARNAT stipulations.

Diesel fuel distribution will be limited to loading and unloading facilities and metering equipment at the diesel fuel tank.

Lubricants will be delivered to the site in drums. The drums will be stored in a secure area with spill containment alongside the truck shop. The lubricants will be distributed to hose reels in the truck shop service bay with barrel pumps.

18.4.7. Architectural Specifications

Local building materials will be utilized wherever practical and cost effective. Local buildings are primarily concrete and block-work structures. Prefabricated offices and truck shop facilities offer cost savings to the mine.

Process Facilities

The crushing facility will consist of prefabricated operator control rooms and will be simple yet functional. Crusher foundations will be spread footings. The crushing facilities will not be clad and will be left open to allow for servicing of equipment by a rough terrain crane. A modular structure will be provided at the primary crusher to serve as a control room.

The ADR plant will be located outdoors, a secure block-work building will be provided for the electrowinning and refinery areas. A modular structure will be provided at the ADR plant to serve as a control room.

Workshop/Warehouse

The workshop will be a prefabricated, custom-designed temporary fabric building mounted on and designed around 4, forty foot long, overseas shipping containers set inline, two per side. This modular type of shop offers low cost, rapid installation.

The workshop will be supported by a mobile crane for equipment repair, a fume extraction system, a small vehicle repair bay and one outdoor wash bay equipped with high pressure water monitors and a sloped concrete pad to an oil/water separator.

Critical spares will be warehoused in the shipping containers which offer secure indoor storage. An outdoor secure storage area surrounded by a chain link fence will be included adjacent to the shop.

Administration Building

The administration building will be of a single-storey prefabricated panel construction or of mobile modular construction. These buildings can be efficiently transported to site and assembled quickly and efficiently.

The administration building will be approximately 350 m² in size. The administration building includes general areas for engineering, geology and administration personnel and offices for the

general manager, mine manager, administrative support positions, H.R./community affairs position, chief geologist, chief engineer, process metallurgist and security chief.

Mine Site Cabins

Four small sleeping quarters will be constructed to house key personnel on an ad hoc basis. While the mine is less remote than many in Mexico, it is far enough away that occasional key personnel will invariably spend several days on site. These buildings will be of a single-storey prefabricated panel construction or of mobile modular construction.

Assay Laboratory

A fully equipped assay laboratory will be included on the plantsite. The laboratory will perform daily analysis of mining and process samples. The laboratory will be a single story structure of approximately 150 m² and will be of block and panel construction.

Miscellaneous Site Buildings

A main gatehouse will be located at the entrance to the plantsite. This building will be a simple single-storey block-work structure. An additional block-work security shack will be located at the entrance to the ADR plant.

The explosives storage magazines will be of block-work construction.

Accommodation Buildings

There are no plans to erect a temporary construction camp or a permanent camp for operations personnel. During construction, the contractors will be responsible to provide workforce accommodation. Operations personnel will be housed in the surrounding towns and villages.

18.4.8. Mobile Plant Equipment

Mobile surface equipment will be supplied for the daily operations of the plant and leach pad. Any required maintenance to these vehicles will be addressed within the truck shop facilities mentioned above.

18.4.9. Recommendations

A geotechnical investigation is required in the location of the process and ancillary facilities, leach pad and waste dumps during the feasibility study in order to finalize subsurface conditions and foundation requirements.

Additional investigation of the potential water well sites must be undertaken, including completion of pumping tests.

18.5. ENVIRONMENTAL

18.5.1. Summary

The primary source of information for this section of the Pre-Feasibility Report is the Environmental Impact Statement for the project, officially known as the Manifestación de Impacto Ambiental (MIA). The MIA is being prepared for Minefinders under the direction of Ms. Patricia Aguayo and Associates of Hermosillo, Sonora (PAA). Several baseline studies which support the MIA document have been completed and others are in process. All of the tables and figures referred to in the following section are contained within the MIA supporting documents or within the MIA report itself.

In order to mitigate and minimize the potential impacts to the environment, Minefinders will use the best available technology and will comply with all environmental norms and good practices applicable to the different development phases of the La Bolsa project.

Environmental impacts resulting from the development of the mine are negligible with minor negative consequence and are outweighed by the overall social and economic benefits.

18.5.2. Regulatory Framework Conditions

Exploration and mining activities in Mexico are subject to control by the Secretaria del Medio Ambiente y Recursos Naturales (Secretary of the Environment and Natural Resources), known by its acronym SEMARNAT. NOM 120

18.5.3. Existing Site Conditions

The proposed Project is located directly along the northern border of Sonora and Arizona and geologically crosses into the U.S. La Bolsa is a greenfield, precious metals project with no existing mining infrastructure or equipment at the property. Site access is moderately good and will require minor upgrading of existing roads to suffice for reliable supply lines, and equipment and personnel transport on a daily basis.

Physical Conditions

Meteorology and Air Quality

There are no meteorological gauging stations of the State located in the immediate vicinity of the project. The nearest station, at Nogales, Sonora lacks sufficient data recommended to predict 100 year storm events. Since the project is adjacent to the neighboring state of Arizona, USA, weather modeling programs from the US National Oceanic and Atmospheric Administration (NOAA) were utilized from within their Hydrometeorological Design Studies Center. A 100 year event is modeled to be 122.4 mm of rain in a 24 hour time period.

Air quality data for the project area is also unavailable. Visual observations during the field work indicate generally good air quality conditions.

Existing Soils and Land Use Capability

Soils within the project area are poorly developed, reflecting existing climate and topographic conditions. Two main soil types are recognized, lithosol and regosol. Regosol is a well-drained, medium-textured and non-differentiated soil with an AC profile. It is prone to erosion due to the low coherence of its matrix material and is generally between 10 and 50 cm thickness within the Project area. Lithosol is mineral soil less than 10 cm thick and rests directly on bedrock. The low water holding capacity and the high permeability of these soils make them sensitive to drought. The only feasible land use in the area with these soil types is low volume grazing.

Existing Air Quality

No industrial sources of air pollution exist within the immediate vicinity of the project area. There are sporadic air emissions related to agricultural activities, specifically fugitive dust from field preparation and harvesting as well as gaseous emissions from routine burning of fields. The La Bolsa project will install PM-10 air monitoring stations as part of the operating permit. No air quality monitoring stations currently are in operation near La Bolsa.

Existing Water Quality

Detailed ground water hydrological studies for the area around the La Bolsa project do not exist. In and around the immediate project area there are a few small diameter drill holes which are being used as water sources for exploration drilling needs, cattle watering and domestic uses at a nearby ranch house. Springs are sparse and ephemeral. A small spring sampled for water quality analysis, located on the La Bolsa Hill, dried up after the first round of sampling. A more detailed hydrology study is underway as part of the permitting process for future operations. Test drilling of potential production well sites will be part of this study.

Biological Conditions

The dominant type vegetation at the study area is “pastizal natural” (natural pasture) with some influence from “matorral desértico micrófilo” with “matorral espinoso” (desert shrub micrófilo with thorny shrub). The area presents abundant gramineae species. Due to the disturbance from cattle being raised in the area, some other species have grown from the mezquite and shrubs vegetation frontiers. Dominant flora species are: vinorama (*Acacia constricta*), cósahui del norte (*Calliandra eriophylla*), tarachique (*Bodonia angustifolia*), táscate (*Juniperus monoesperma*), tomatillo (*Lycium berlandieri*), gatuño (*Mimosa aculeaticarpa*), mezquite (*Prosopis velutina*), ocotillo (*Fouquieria splendens*), zacate araña (*Arístida ternipes*) and zacate llanero (*Eragrostis intermedia*).

See report La Bolsa Flora and Fauna, of July 2009, in Appendix 09.

Socio-Economic/Cultural Conditions

See report LBP Socio-Econo, undated, 7 pgs in the Appendix 09.

The future of Minefinders and its subsidiaries is dependent on its ability to find, explore and further develop projects consistent with a commitment to sustainable development, protection of human life, health, the environment, and to add value to the communities in which we operate. To achieve this Minefinders has developed and will implement a comprehensive sustainability policy which has been approved by the Board of Directors.

Minefinders understands the actions and conduct of every Minefinders Corporation, Ltd. employee and contractor are the basis upon which stakeholders will evaluate a commitment to achieving the highest standards of social responsibility.

The local surrounding communities may expect to benefit economically from the development but there may also be negative impacts. Minefinders intends that the former will be maximized and the latter minimized.

Minefinders has given community support to an appropriate extent during its field operations and expects community support activities to increase as the project is developed.

Minefinders will draw its labor force to the extent possible from local sources and to give priority to local inhabitants for training to semi-skilled and skilled levels.

18.5.4. Impact Identification, Assessment and Mitigation

Assessment of the potential environmental impacts associated with the La Bolsa project have been defined over the past several years through baseline studies undertaken by Minefinders consultants. Pertinent documents may be found in Appendix 09 of this prefeasibility study.

The more significant impacts to the environment are briefly described below for each one of the attributes of the natural system:

Hydrology

Current surface drainage patterns will be affected by development of the La Bolsa mining operations. Three local watersheds that drain to two ephemeral creeks, Arroyo La Bolsa and Arroyo Los Alisos will be impacted. The fundamental impact will be the modification of the drainage patterns, the decrease in the water volume draining through these watersheds and potential pollution of the watercourses if excessive silt migration from waste rock dumps or accidental discharges/leakage of chemicals or process solutions from the process facilities occurs.

The use of underground water for the mining operation may cause a cone of depression and could affect existing wells at the area. Other potential impacts would be contamination of groundwater due leaks in the process solution containment system resulting in infiltration of process solutions.

The mitigation to potential surface water impacts will be through lining of all areas where chemical substances or process solutions are handled, a hazardous and non-hazardous residues handling program, water quality and creek sediments monitoring, pluvial water diversion works and run off control works for the mine facilities.

To mitigate the impact of the underground water quality a double liner system will be installed on the leach pad and ponds. The capacity of ponds will be defined based on an extraordinary 100 year rain event over a 24 hour period. Groundwater monitoring wells will be installed at strategic points to detect any alteration of the groundwater quality.

Flora

The impact to the natural flora will be direct and irreversible, where clearing and stripping of the land is required for construction of the mine facilities. It is estimated that about 122 hectares of land will be cleared, according to the mine general arrangement plans. The type of vegetation to be affected is mostly Natural Pasture where dominant flora species are: *Acacia constricta* (vinorama), *Calliandra eriophylla* (cósahui del norte), *Dodonaea angustifolia* (tarachique), *Fouquieria splendens* (ocotillo), *Prosopis velutina* (mezquite), among others. No protected flora species were identified within the project area. Some cactus located within the area are listed in CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), such as *Carnegiea gigantea* (sahuaro), *Stenocereus thurberi* (pitahaya) and others. CITES regulates the importation and exportation of the listed species. No legal restrictions are expected for the flora in case of developing the La Bolsa project, although company planning includes establishment of a protection and rescue program for the cactus and some other species of regional interest.

One of the main mitigation actions of the flora impact will be the recovery of top soil during the clearing and stripping phases and its use to restore disturbed areas of the mine, mainly during the closure phase. The execution of a protection program for flora species of interest such as cactus and native species of regional interest at all stages of the project, which will include, species rescuing, soil scarification and seeding of native species to restore disturbed areas.

Fauna

Local fauna has been previously impacted at the project area by to the current ranching activities, the use of the existing road networks through the area and mining exploration activities which have been carried out over the last several decades in the area.

The development of La Bolsa project will cause the movement of wild fauna to non-perturbed areas, affecting directly the rodents group, since the Natural Pasture is the natural habitat for most of them. Also large mammals such as *Odocoileus hemionus* (mule deer) and *Odocoileus virginianus* (white tail deer) and reptiles such *Gopherus agassizi* (desert tortoise) will be affected.

A total of 72 protected fauna species (listed in the NOM-059-SEMARNAT-2001) are included in the different fauna groups reported for the study area. Some of the protected species that could be affected by the project are:

Mammals: ocelote (*Leopardus pardalis*), tejón (*Taxidea taxus*), murciélago lengua larga (*Choeronycteris mexicana*), murciélago pinto (*Euderma maculatum*), puerco espín americano (*Erethizon bottae*), rata canguro (*Dipodomys merriane*).

Birds: gavilán de cooper (*Accipiter cooperi*), gavilán pajarero (*Accipiter striatus*), águila real (*Aquila chrysaetos*), gavilán aura (*Buteo albonotatus*), codorniz Moctezuma (*Cyrtonix montezumae*), gorrión junco ojo oscuro (*Junco hyemalis*), carpintero bellotero (*Melanerpes lewis*), pájaro carpintero (*Picoides stricklandi*), búho campestre (*Asio flammeus*), tecolote enano (*Micrathene whitneyi*).

Reptils: lagartija de collar común (*Crotaphytus collaris*), salamanquesa (*Coleonyx variegatus*), monstruo de gila (*Heloderma suspectum*), iguana chackawala (*Sauromalus obesus*), serpiente coralillo sonoreense (*Micruroides euryxanthus*), víbora de cascabel (*Crotalus atrox*), tortuga del desierto (*Gopherus agassizi*).

Amphibians: salamandra (*Ambystoma tigrinum*).

Some of the mitigating measures for the protection of fauna will be implementation of a program to rescue and relocate protected specimens or their nests, ahead of pre-stripping activities. Other measures will include installation of adequate fences to eliminate access to the process areas. For birds, scaring devices and or netting will be necessary to avoid the contact with the solution ponds.

Air

Air quality deterioration and noise may be some of the adverse effects of the mine development. Trucking, blasting, crushing and diesel generators are the principal activities which will effect changes to the current air quality.

Suspended particles will be the major air pollutant followed by combustion gases such as SO_x, NO_x and metals depending on the operating conditions. Potential effects on air quality will be tracked through air monitoring stations utilizing PM-10 size selective high volume air sampling systems.

At present the area has very acceptable air quality conditions. Mitigation measures to be taken include periodic watering of the service roads, dust suppression systems installed at the crusher plant, periodic maintenance of the equipment and machinery, and installation of air quality monitoring at the sources and the immediate surrounding area.

Soil

With the initiation of mining operations a formal change of land use from forestry to mining will take place. The mining operations will create new landforms which, together with the clearing of the land, could cause severe erosional effects. Another potential impact will be

the deterioration of the soil quality due to accidental spills and leakage from the process areas or from the fuel storage and handling areas.

Prevention of these aforementioned impacts will take place through adequate collection and disposal programs for all residues, personnel training, and implementation of maintenance and monitoring programs for the handling of fuels and chemicals to avoid or respond efficiently to any leak or spillage.

Socioeconomic

Overall the socioeconomic impact to the local environment by the development of La Bolsa project will be a positive one. The main impact will be the hiring of residents from the local communities. It is estimated that the project will employ up to 250 people during the construction phase and create 97 permanent positions during the operations stage.

The use of goods and services from the region will have positive economic benefits to the region. Upgrading of some of roads and water well installation are two other positive impacts to the area.

Landscape

One of the more evident impacts to the environment will be the alteration of the existing natural terrain. The impact will be irreversible but partially controllable.

The landscape will be affected in first place by the clearing and stripping of the land, followed by the construction of access and service roads. More profound impacts will be created by the cuts and fills of the terrain, namely the creation of the open pit from the mining of the ore body and the disposal of the waste rock and the construction of two waste rock dump sites.

The adverse effect to the landscape will be mitigated by means of post mining recontouring, restoration and reforestation programs over the disturbed areas.

18.5.5. Conceptual Closure and Reclamation Planning

La Bolsa will be permitted and constructed following guidelines within Mexico's most recent *Preliminary norm on environmental protection for leaching systems*. These norms, which may be found in draft form through SEMARNAT, cover specifications for designing, building, operating and closure of mines utilizing leaching pad technology.

As part of the permitting requirements, a detailed mine closure and reclamation plan will be prepared and submitted to SEMARNAT during the operation stage of the project. The plan will be concurrently executed throughout the operation phase of the project and will be completed during the abandonment phase. With closure of the mine, the disturbed areas must be restored to guarantee that all areas have been physically and chemically stabilized and do not present any risk to the water quality or threaten public health.

Heap Leach Pad Closure

Mexican law defines leach pads as one of the systems for the disposal of solid residues generated by the mineral recovery process. Regulations dealing with heap leach pad closure are defined in Article 17 of the LGPGIR (General Law on the Prevention and Integrated Waste Management), and dictate that planning should meet maximum safety conditions to guarantee the protection of the public health, economic and social activities as well as ecological balance. Stability and closure constraints will require that the exterior ore heap slopes be constructed with benches between the lifts, to provide an overall or composite ore heap slope of 2.0:1. Each lift is 6 m in height.

To define a heap closure plan will require knowledge of the characteristics of the spent ore, at the end of leaching, since it will remain on site. Acid-base accounting (ABA) and material content tests have been initiated, through McClelland Laboratories in Reno NV, on the leached material remaining in columns subject to metallurgical tests.

The La Bolsa ore is oxidized, can be leached with cyanide, and will not react naturally to produce acid. When recovery of precious metals is deemed complete, the spent ore heap will be rinsed with fresh water until the pad effluent meets the following criteria:

- WAD cyanide levels are below 0.2 mg/l
- pH values are between 5 and 10 units
- Any effluent from the pad should comply with the quality criteria of the discharge norm NOM-001-SEMARNAT-1996m

Once the spent ore has been chemically stabilized, measures should be taken in order to prevent hydro and wind erosion that may affect natural water courses and soil. Also the physical stability of the heap is important. Some general criteria to follow will be:

- Slope grading to diminish the velocity of water and to facilitate the establishment of native vegetation
- Placement of top soil recovered during the clearing and stripping of natural land
- Seeding and reforestation with native flora species
- Backfill of process ponds with no hazardous material
- Slope grading in a such a way to minimize adverse visual effects
- Re-establishment as much as possible the capacity of the surface drainage existing before the mine works.

Open Pit Closure

The slopes of the pit will end up in structurally stable conditions. For security reasons a barrier such as a four-thread barbed wire fence might need constructing around the pit and/or a simple earthen berm, to restrict access to the pit.

Elimination of diversion ditches will ensure future pluvial waters from the ephemeral drainage are redirected into the open pit. All access roads are to be recontoured, scarified and reseeded with native plant species.

Exploration drill holes encountered minimal water within the elevation zone of the open pit excavation. The current hydrologic information indicates that any local aquifer is well below the levels of the open pit, and it is extremely unlikely that a lake will be formed following abandonment. The actual experience of the operation will help define other closure measures which might be taken, prior to the abandonment stage of the pit.

Mine Waste Dump Closure

The waste rock dumps will remain on site and for their reclamation the slopes will be smoothed out to achieve a final angle of approximately 2.5:1 (22°). The project area is not accessible to any general public activity. Waste rock dumps will be re-contoured in a simple fashion to accommodate continued usage of the land within today's status (open range grazing). If necessary, work will be carried out for erosion control, most importantly in the drainage routes toward the pit or towards natural washes.

Recontouring design should ensure elimination of excessive migration of fine soil particles to the natural water courses. Once the slopes have been smoothed out, the dumps will be covered with a layer of growth media recovered in the construction phase of the mine. Where necessary and operatively possible, the land will be scarified and have seeds planted and native plants placed.

Tests are being carried out to evaluate the acid-generating potential of samples representative of the waste rock to be produced. All mining will take place within oxidized levels and it is anticipated that the results will show the waste rock material is not a generator of acid, nor is it classified as a dangerous residue, and hence will not require isolation or special treatment in the abandonment stage.

18.5.6. Impact Monitoring Programs Environmental Monitoring

The primary method for determining the impacts of a mine development is through an environmental monitoring program. A good baseline of the environmental and socioeconomic conditions is a prerequisite for subsequent impact monitoring and includes characterization of water. Environmental monitoring of the La Bolsa site will continue, for approximately two years after final mining activities. The monitoring program will consist of observations at the areas under restoration to verify the progress on native vegetation reestablishment, the performance of drainage control works and safety conditions.

Collection of periodic samples (water and sediments) will take place for surveillance of the surface and groundwater quality.

Application of Environmental Standard

Minefinders will operate and abandon the mine under the guidelines set forth in Mexican law and as administered by SEMARNAT as the lead agency. Guidelines and standards as set forth by regulatory system as defined in the following tables, 18.5-1 and 18.5-2.

TABLE 18.5-1 WATER AND SOIL QUALITY MONITORING GUIDELINES AND STANDARDS

Condition to monitor	Evaluation criteria	Applicable standard	Recommended periodicity
Underground water quality	It should be compare with the background water quality and with the indicated norm.	NOM-127-SSA1-1994	Quarterly or more frequently if detecting any problem.
Surface water quality	Compare to the indicated criteria and according to the actual use of the water..	CE-CCA-001/89	Quarterly
Creek sediment characteristics	It should be compared with the background quality of the sediments.	No standard. It is recommended to measure total metals (As, Cu, Ni, Cd, Pb, Au, Ag, Se, Hg, Cr)	Each 6 months
Discharge of water (from septic tanks or any other source)	It should be compared to the indicated norm	NOM-001-SEMARNAT-1996	Each six months for the septic tank, and when any other discharge may occur from the mine facilities.
Soil quality	It should be compared with the background soil quality and with the indicated norm to define the soil remediation actions.	NOM-147-SEMARNAT/SSA1-2004	When a considerable spillage (chemical/process solution/ hydrocarbons) occur on the soil
Characterization of residues	Check with indicated norm if residues classify as hazardous	NOM-053-SEMARNAT-1993.	When toxic residues are produced

TABLE 18.5-2 BIO-MONITORING GUIDELINES AND STANDARDS

Condition to monitor	Evaluation criteria	Applicable standard	Recommended periodicity
Logbook records of all rescuing efforts of flora and fauna, and plants produced at the nursery	Vegetation survival percentage, the amount and type of produced trees.	No standard	Quarterly
Record of cleared surface and restored/reforested surface	Surface (hectares)	Compensation and restoration commitments with SEMARNAT	Each six months
Record of indicators of the conservation condition of the flora in the restored areas and in natural nearby areas	Measure the following parameters: density, coverage, forest biomass, etc.	No standards	Each six months
Observation of fauna conditions	Presence/absence of fauna (mammals, birds, etc.)	No standards	Each six months

Environmental Effects of Monitoring

An environmental management plan must be prepared to describe the actions needed to protect the environment, achieve environmental compliance and meet applicable environmental performance standards. It shall identify the environmental aspects of the all project components. Updates and revisions of the plan will be ongoing, as the project is developed. The environmental monitoring program is implemented to verify that the environmental protection measures required for each stage of the project are being applied and no unintended adverse effects are produced on the natural resources surrounding the mine operations.

Properly designed, the monitoring program will detect any potential harm to the environment, identifying the source of the problems and applying the control measures opportunely.

Monitoring Programs

The La Bolsa Project has potential impacts in one single catchment basin. Environmental Effects Monitoring programs should involve establishment of several stations at each of several sites (i.e. near field, far field and reference) for each independent exposure area. Study design should support the appropriate types of analysis planned (i.e. univariate and multivariate statistical analyses) to delineate the spatial/temporal extent of any effects, and to explore cause-effect

relationships between the biota, water and sediment quality. Design of environmental monitoring programs will be further defined within the feasibility stage of development. Monitoring will cover Water Quality and Biomonitoring programs. Social effects monitoring will require significantly less effort since the project is confined within private ranch lands.

Geology and Soils

La Bolsa lies within the southern portion of the Basin and Range physiographic province of Arizona and northwestern Mexico which is dominated by a series of elongate, northwest trending ranges separated by alluvial valleys. Soil descriptions and analysis, including baseline metals concentrations, define no agricultural capability of soils within the area of future mine operations impact. Loss of agricultural soil resources through construction activities or contamination by mine process water will be nonexistent. Mitigation of onsite disturbances will consist of recovery and stockpiling of soils, via pre-stripping construction activities, and reuse of such soils during reclamation reseeding programs.

Monitoring Water Quality

Mapping of all wells and springs within the project area and an assessment of their importance to local community has been included as part of the MIA assessment to evaluate and prioritize their importance in monitoring. Additional monitoring wells will be installed below the processing facilities and will be sampled on a predetermined frequency as dictated through permits. Detailed sampling methods for ground water and any possible surface waters, including protocols for sample collection, preservation, transportation and analysis, should be developed.

18.5.7. ENVIRONMENTAL, HEALTH AND SAFETY MANAGEMENT

Minefinders' environmental health and safety (EHS) policy statement should outline a commitment to high standards in all respects of its operations, including environment, health and safety. Minefinders undertakes to act responsibly as a steward of the resources in its charge, working for the well being of its employees and the communities in which it operates. The primary emphasis of the EHS plan would be prevention and preparedness. This recognizes the that emergencies can and will occur and minimizes them with appropriate emergency planning.

An EHS plan is an organizational structure for planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining environmental, health and safety policies. The EHS outlines the structure, responsibility and protocol for:

- minimizing risks to environment, health and safety and ensure compliance with government, company and industry requirements;
- implementing site-specific environmental, health, hygiene, safety and emergency response policies, management programs and practices;
- training and equipping all employees, consistent with their responsibilities to maintain a healthy and injury-free workplace;

- requiring contractors to follow practices consistent with Minefinders' environment, health and safety procedures;
- maintaining monitoring programs ensuring ongoing compliance with government laws and regulations and Minefinders' policy; and
- communicating openly and on a timely basis with employees, the government the community and other stakeholder on activities involving environment, health and safety.

As an integral part of the Project management, the management of the EHS would be the dedicated task of an EHS professional. This professional will report to the mine manager and be tasked with responsibility for policies, codes of practice, guidelines and standards.

19.0 PROJECT IMPLEMENTATION

19.1. INTRODUCTION

The schedule showing the execution of the Project is included at the end of this section. The schedule reflects the work required from completion of the current Pre-feasibility Study through to completion of the commissioning of the Project. The work remaining in order to bring the Project to completion is shown in two phases:

- the pre-implementation phase, including completion of the environmental Impact Assessment (MIA), the feasibility study and the associated site investigations, drilling programs and laboratory test work as well as obtaining all necessary permits and arranging the financing; and
- the project implementation phase, including completion of the engineering, procurement and construction of the Project.

The schedule reflects a standard Engineering, Procurement and Construction Management ("EPCM") methodology where all engineering is completed and issued for tender to qualified fabricators and contractors for fabrication and construction. The schedule reflects all contracts to be lump sum competitive bids; no unit rate contracts or "fast track" fabrication or construction methods will be required to meet the schedule requirements. Long delivery components will be purchased by the company, Minefinders, and free issued to the contractor. This is consistent with the approach of minimizing risk and overall Project cost.

19.2. PRE-IMPLEMENTATION

An environmental impact study is underway and scheduled to be completed by the end of Q4 2010. The study will be completed using the baseline information gathered to date and expanded with further environmental testing and monitoring.

In order to support the schedule, an EPCM package should be tendered prior to receipt of financing and permitting of the Project. Detailed engineering will commence immediately

following the Minefinders Board of Directors approving of the project and prior to finalization of the permitting process.

19.3. ENGINEERING

Final detailed engineering should begin immediately.

The detailed engineering will be completed to North American Standards; however, standard Mexican construction materials and methods will be utilized wherever practical and cost effective.

A period has been allowed in the schedule at the start of detailed engineering in order to finalize mine and process plant production rates developed for the feasibility study.

In order to support the detailed engineering and the overall construction schedules, equipment specifications will be prepared immediately following the finalization of the flow sheets, allowing procurement of the equipment.

Engineering design and specifications will be completed by all disciplines to support competitive bidding of the construction of the work. Engineering should be approximately 70% complete when the work is tendered for construction and 100% complete at the time the contract is awarded.

19.4. PROCUREMENT AND CONTRACTS

The schedule is based on the process equipment and long delivery electrical equipment being procured by an EPCM contractor as an agent for the Owner and free issued to the installation contractor. The installation contractor will procure the construction bulk supplies.

Procurement of complete modules and packages has been included in this Study where it is considered cost effective and beneficial to the schedule. Modules and packages can be fabricated in a shop at a cost less than at site and the site installation time is greatly reduced. The packages procured for the Project will include the following:

- ADR modules;
- crushing plant and conveyors;
- structural steel;
- administration offices;

The packages will be fully engineered by the EPCM contractor and issued for competitive lump sum bids to qualified USA or Mexican fabricators. This Study has assumed the packages will be fabricated in the USA or Mexico. The EPCM contractor should ensure quality control personnel at the fabricator's shops to ensure the design, specifications and schedule requirements are met. The equipment and materials for all the packages will be available in USA or Mexico.

The site installation of the ADR modules will be included in the fabricator's scope of work. The modules will be installed on prepared concrete foundations. The crusher package and structural steel will be free issued to the structural/mechanical contractor on-site for installation.

Contracts will be tendered to qualified USA or Mexican Contractors on a lump sum competitive bid basis. The contract package breakdown will include the following:

- site civil and services;
- process facilities concrete;
- process facilities general contract;
- ancillary buildings;
- water supply; and
- power supply

The site work, services and concrete contracts will be awarded early in the program to allow the start of critical activities such as the leach pad, plant and crusher sites bulk earthworks and the crusher concrete.

The process facilities construction will be tendered and awarded to a Mexican General Contractor. The contract will include structural, mechanical, electrical and instrumentation work for the process facilities.

The ancillary facilities and miscellaneous site buildings will be constructed by Mexican contractors as "design/build" to Mexican standards and panelized construction in order to ensure the most cost effective structures are provided that meet the construction schedule. The ancillary facilities will not be available for use during the construction of the Project. A temporary construction site office facility may be mobilized for the construction phase.

19.5. CONSTRUCTION

The construction of the Project is scheduled to start after a brief mobilization period. The site rough grading and leach pad preparation will commence immediately after. The plantsite and crusher site rough grading must be completed early in the program to allow concrete placement to begin for the crushing plant.

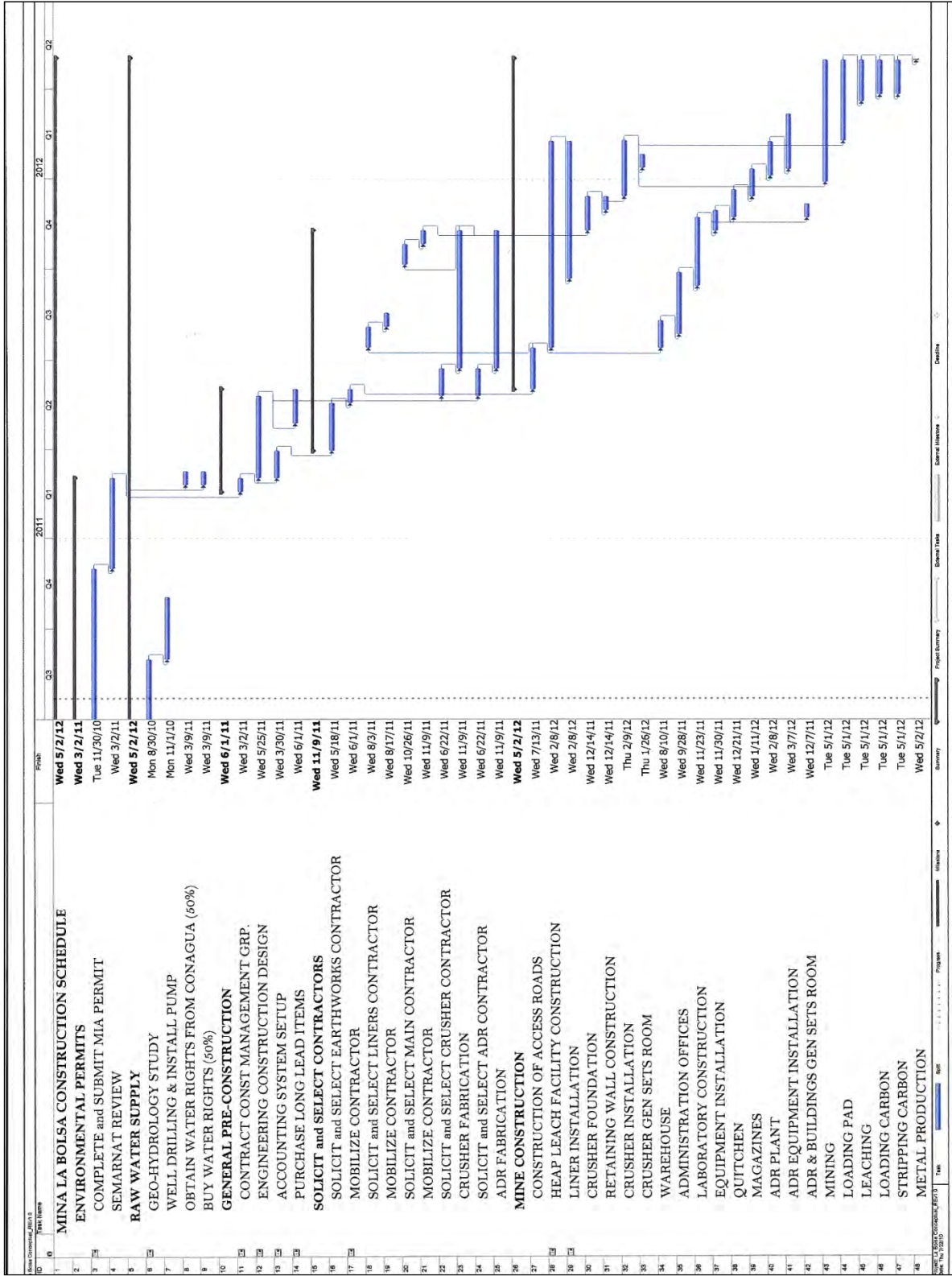
Aggregates for construction will be supplied from off-site facilities in Nogales, Sonora. A concrete batch plant could be mobilized to the mine site, however it is believed several ready mix companies are available in nearby Nogales. The supply of concrete and quality control will be the responsibility of the installation contractor. Minefinders will have quality control personnel on-site managed by the EPCM contractor to perform spot quality control checks on the concrete as it is poured. The first priority for concrete work will be the crushing facilities.

The general contractor will install the crushing plant, including structural, mechanical, electrical and instrumentation. Vendor representatives will be on-site to assist with the installation and

start-up on an as-required basis. The construction of the crushing plant is scheduled to be complete and ready for check out and start-up before the pad and ponds are completed.

The ADR plant will be shipped to site as prefabricated modules and installed by the fabricator on prepared concrete foundations. The ADR start-up will be completed utilizing water. As the start-up and commissioning of the ADR will require a large quantity of water, the fresh water tanks and ponds will be filled prior to the ADR plant start-up. The start-up of the ADR will include full hydrostatic testing of the systems and load testing with water. Commissioning of the ADR will begin after the first cell of the pad has been loaded and pregnant solution is being collected.

FIGURE 19.5-1 CONSTRUCTION SCHEDULE



20.0 FINANCIAL ANALYSIS

20.1. CAPITAL COST ESTIMATE

20.1.1. Introduction

The capital cost estimate prepared for the Project is based on the scope of work developed during the 2008 scoping study and during this current Pre-Feasibility Study. Details of the scope of work for each area are included in the respective sections of this Report in the form of narrative descriptions, engineering and drawings.

The work completed to support the preparation of the capital cost estimate has been of sufficient detail to allow the various facilities to be estimated to an accuracy of plus or minus 25%.

The capital cost estimate takes into account the location of the Project, climatic and seismic conditions, availability of manpower, materials, equipment and the Project schedule. The estimate includes all initial pre-production costs up to and including commissioning of the process and ancillary facilities, infrastructure and mining. Ongoing capital costs are not included in the capital cost estimate and are summarized in Section 11.2.

The total capital cost of the Project is US\$ 33,634,868. A working capital expense of \$6,969,416 is allocated to the first four months of operations and a salvage value of \$2,348,952 derived from 50% of the crushing circuit and 20% of the conveyor stacker circuit are included in the capital expense. These items are shown as recuperated costs for the purpose of cash flow modeling. All costs are expressed in January 2010 US dollars without allowance for escalation or inflation. An exchange rate of 12.9 MXP = US\$1.00 was utilized during this Study.

The capital cost estimate was divided into cost areas that reflect the major design area designations. Approximately 70% of the capital cost is Mexican component. Table 20.1-1 provides an overall summary of the Project capital costs.

TABLE 20.1-1 CAPITAL COST

LA BOLSA CAPITAL COST SUMMARY, US\$		CAPITAL COST TOTAL US\$
DIRECT COSTS		
Plant and Equipment		
	Buildings	1,663,603
	Crushing Circuit, with no spare parts	4,035,903
	Grasshopper Conveyors and Stacker Circuit	1,655,000
	Gen Sets and Installation	944,000
	Laboratory Equipment and Reagents	484,268
	Truck Shop	169,202
	Plant Water Distribution	165,718
	Reagents Equipment	123,212
	ADR Plant, turnkey with no spares, no Kiln	2,741,110
	ADR Plant Concrete and Structural	720,000
	Solution Management (Pumps)	143,788
	Process Plant Mobile Equipment	297,000
	Pad/Pond Construction Costs (Geomembranes, Earthwork, Drain Pipe, Clay Haul)	2,596,007
	Raw Water Supply System (Include water well & Diversion Ditch Excavation)	399,254
	Bird Netting	25,000
Furniture and Accessories		
	Office Furniture	25,000
	(2)Plotter	16,000
	Copiers, Fax and Printers.	25,000
Computers, Software and Communication		
	(12)Computers	18,000
	Software (GEMCOM, ACAD, MSO)	50,000
	Software (ACC-PAC)	25,000
	Survey Equipment	75,000
	Satellite Communication System	20,000
Light Vehicles		
	(8)Pickup Truck	200,000
	Warehouse Truck	25,000
	Personnel Transport	90,000
	(2)Light Vehicle for Administration	40,000
	On Site Ambulance	25,000
Surface Rights		
	Mine Start Up Agreement (Pierson)	500,000
Roads and Access		
	County Road Upgrade - Saric to Ranch	65,000
	Access Road Earthworks - Ranch to Site	93,549
	Property Fences (Includes installation cost)	58,000
SUBTOTAL, DIRECT COSTS		17,533,614

INDIRECT COSTS		
	Indirects and Owners Costs	500,737
	Technical Services	36,000
	Engineering and Drawings	377,941
	PCM	1,200,000
	Environmental Baseline Studies	12,046
	Enviro. Permitting Expenditures (Impact Assessments, Land Use Chng., Risk Study)	86,792
	Water Analysis Studies, SEMARNAT Permits, Water Permits	45,000
	Blasting Permits	12,000
	Air Monitoring	100,000
	Initial Fills	439,452
	Spare parts for Crusher & ADR	350,000
	Mine Contractor Deposit	487,256
	Construction Contractors Mob/Demob	50,000
SUBTOTAL, INDIRECT COSTS		3,697,224
SUBTOTAL, DIRECT AND INDIRECT COSTS		21,230,838
Contingency (15 %)		3,184,626
TOTAL INITIAL DIRECT AND INDIRECT COSTS		24,415,464
		-
WORKING CAPITAL		-
	4 Months: Mining, Crushing, Leaching, Admin	6,969,416
SUBTOTAL INITIAL WORKING CAPITAL		6,969,416
TOTAL INITIAL CAPITAL COSTS		31,384,880
		-
Sustaining Capital Cost Summary		Sustaining Capital Cost,
DIRECT SUSTAINING COSTS		
	Pad/Pond Construction Costs (Geomembranes, Earthwork, Drain Pipe, Clay Haul)	2,500,000
	Capitalized Pre-stripping	9,426,020
	Reclamation Expenditures	569,043
SUBTOTAL SUSTAINING CAPITAL COSTS		12,495,063
RECOVERIES		
	Salvage	(2,348,952)
	Mine Contractor Deposit	(487,256)
	Initial Fills	(439,452)
	Initial Working Capital	(6,969,416)
SUBTOTAL RECOVERIES		(10,245,075)
		-
NET SUSTAINING CAPITAL COSTS		2,249,988
		-
TOTAL NET CAPITAL & SUSTAINING CAPITAL		33,634,868

20.1.2. Basis of Estimate

The costs developed are based on a standard EPCM methodology as well as derived from nearby ongoing, active operations and mine construction projects. There is a good selection of qualified contractors available in Northern Mexico to bid the fabrication and construction work on the Project.

In order to support the requirements of the engineering and construction schedule, the process equipment will be purchased early in the Project and free issued to the installation contractor. This is considered the lowest cost approach to execution of the Project.

The capital cost estimate has been prepared using standard estimating practices.

Direct Costs

The direct construction costs have been estimated for the Project scope of work based on quantity takeoffs where the engineering has been developed to a sufficient level of accuracy and allowances or factors where limited engineering detail is available.

This study contemplates self generated power. Construction of a line from site to connect to the grid near the city of Nogales is being investigated as of this writing. The water well costs are best estimates based on similar nearby, recent projects.

Current costs for construction, labor, equipment, bulk supplies and materials were obtained from several local fabricators and contractors in Hermosillo, Sonora.

Prefabricated packages and module construction have been utilized wherever practical in order to reduce the cost associated with field installation labor. The packages and modules considered for the Project include the administration offices and the truck shop.

In order to be consistent with the construction methodology and increase the level of accuracy some of the estimate, the designs were issued to suppliers for budget level quotations for the packages.

Metso Minerals provided a budgetary level quotation for the supply of the major crusher components and collaborated with Sonoran Resources for overall crusher design requirements. Sonoran Resources LLC, Kappes, Cassidy & Associates, Lyntek, Inc. and Summit Valley Equipment & Engineering, provided budgetary level quotations for the supply of the ADR plant. Compañia Industrial Hanka, SA de CV provided budgetary quotations for explosives handling, storage and contract blast hole loading. Ashland Chemical de México, S.A. de C.V., Degussa Mexico, SA de CV and Calhidra de Sonora S.A. de C.V. provided quotations for supplies and reagents required for the project.

Equipment and Bulk Materials

Most major equipment and materials are considered to be purchased new. Used equipment options should be further investigated if Minefinders takes a go forward position based on this study. Significant savings can be realized. Used equipment prices are short term and need to be secured near the time solicitation of prices. In almost all cases, the major mining and process equipment will be imported. Minor process equipment can be sourced in Mexico including

pressure vessels, tanks, pumps and agitators. The mine and plant mobile equipment will typically be sourced from outside of Mexico at lesser cost, although the mining is assumed by contractor. Capital expenditures for mobile mining equipment were based on quotes from Drilltech and Caterpillar in Mexico. Used equipment prices were sourced from Hoss Equipment and various vendors via the world wide web. Trade off studies determined a mining contractor was most economical, hence no fleet was capitalized. Budget level quotations were obtained for the major process equipment, while other equipment costs were estimated from Sonoran Resources in house data from previous and ongoing projects in the state Sonora.

Earthworks costs were estimated from quantities produced from engineered quantity takeoffs based on the site layout. The site roads and access roads were estimated based on the class of road and historic costs. The estimate assumes that common backfill material will be available within site boundary.

The capital costs associated with the leach pad allows for construction of a two and a half year pad. Subsequent leach pad construction is included in ongoing capital costs.

All bulk construction materials will be supplied from within Mexico. The quantities used for the capital cost estimate are estimated from the drawings or based on allowances. Budget prices for domestically supplied bulk materials were obtained from a Mexican contractor.

Preliminary investigations indicate that concrete and construction aggregates are available within 20 km from site. No batch plant should be required on-site due to proximity of ready mix plants, however all contractors who were sourced for bids indicated availability of mobile batch plants. Costs for the delivery of concrete and aggregates to site were obtained from a local contractor and utilized in the estimate. Structural concrete was estimated based on simple spread footing design and the building footprint height and utilization. Concrete was estimated by the "class of concrete", i.e. slab on grade or footing to which unit rates were applied.

Structural steel quantities were based on building function and building volume obtained from the general arrangements. Structural steel was estimated by "class of steel" to which unit rates were applied. Pricing for supply and installation of steel as well as steel quantities were obtained from a local contractor.

Piping, instrumentation and electrical distribution within process facilities are factored quantities based on the facility type. The electrical site distribution costs were estimated based on engineering material takeoffs and prices from Mexican suppliers.

Site ancillary buildings were issued to a local Mexican contractor for budget quotation. Shelter Structures of Florida quoted prefabricated construction for the truck shop canopy. This cost was carried in the estimate as they were marginally less expensive as compared to the Mexican built

facilities. A more detailed investigation into building options should be completed during the feasibility study.

Construction Equipment

Construction equipment requirements to complete the direct works have been identified in the estimate line items where it can be delineated with accuracy based on a unit rate basis. General construction equipment that could not be accurately identified as applicable to any particular task is included in construction indirect costs.

The estimate is based on the contractor supplying all equipment required for the construction of the Project. Any plant mobile equipment purchased for the Project will not be utilized for construction with the exception of placement of the overliner material on the heap leach pad. Mining Equipment by contractor will not necessarily be used in construction.

Manpower

The estimate is based on tradesmen being employed by an independent general contractor for the construction of the Project. The estimate assumes qualified tradesmen are available in Mexico for all disciplines. From previous visits, it is apparent that the contractors will be able to construct the Project with 100% national labor; no expatriate trades will be required.

Due to the proximity to the towns of Nogales, Altar and Saric, there would be no construction camp requirement. Construction personnel would be housed in the local towns and transported to site by the contractors.

Pre-production mine stripping is included in the estimate and will be undertaken by the mining contractor's workforce.

Indirect Costs

Indirect costs have not been calculated in detail. Indirect costs include construction indirects, freight, insurance, spare parts and initial fills, EPCM, Owner's costs. Working capital and contingency numbers were applied as capital expenditures.

Insurance

Course of construction insurance and contractor's liability insurance has been assumed as part of contractors cost.

Spare Parts and Initial Fills

The cost of spare parts for crushing and processing were estimated based on similar project data on file with Sonoran Resources. Initial fills were estimated based upon projected monthly consumption from the pertinent areas of the operation.

EPCM Cost

The EPCM cost is estimated at \$2,078,678 and includes \$377,941 of additional detailed engineering. It does not include preparation of a feasibility study or any specialized consultants. A feasibility study is considered to be contained within the engineering number.

Contingency

Contingency has been calculated as 15% of the total direct and indirect capital costs. The intent of the contingency is to cover cost increase on items included in the scope of work that cannot be delineated with sufficient accuracy at this stage of Project development. The contingency does not allow for major changes in scope and is an allowance expected to be spent.

20.2. SUSTAINING CAPITAL COSTS

Ongoing capital costs have not been included in the capital cost estimate with the exception of a second phase of leach pad construction, final reclamation costs and pre-stripping of 6.8 million tonnes of waste during years 4 and 5.

20.3. OPERATING COST ESTIMATE

20.3.1. Introduction

The annual operating costs expressed in Q1 2010 \$US dollars are summarized in Table 20.3-1.

Table 20.3-1 Annual Operating Costs

DESCRIPTION	YR 1 TOTAL	YR 2 TOTAL	YR 3 TOTAL	YR 4 TOTAL	YR 5 TOTAL	YR 6 TOTAL	YR 7 TOTAL	GRAND TOTAL
GOLD SELLING PRICE	850	850	850	850	850	850	850	
SILVER SELLING PRICE	14	14	14	14	14	14	14	
SELLING & REFINING EXPENSES	5,516	60,082	62,888	65,222	69,410	56,491	21,817	341,426
TOTAL DRILL/BLASTING COST	105,056	1,100,507	1,237,813	1,497,094	1,497,282	1,035,618	142,425	6,615,794
TOTAL MINING COSTS	704,103	7,601,518	8,712,941	10,809,253	10,811,003	7,122,011	983,660	46,744,490
TOTAL CRUSHER COSTS	197,030	2,163,368	2,186,877	2,187,190	2,186,910	2,133,710	322,430	11,377,515
CONVEYOR / STACKER COST	54,147	510,456	510,048	510,140	510,057	494,451	71,400	2,660,699
TOTAL LEACHING COSTS	515,587	5,096,919	5,091,032	5,093,108	5,092,326	4,943,690	3,080,243	28,912,907
TOTAL PRECIP. COSTS	164,943	2,009,340	2,008,226	2,008,477	2,008,253	1,928,057	1,530,809	11,658,105
TOTAL REFINING COSTS	4,225	46,023	48,172	49,960	53,168	43,272	45,777	290,598
TOTAL MINE SUPV. & SUPPORT	3,870	234,480	234,480	234,480	234,480	234,480	39,080	1,215,350
TOTAL ENGR, GEOL & MINE PLANNING	31,150	373,800	373,800	373,800	373,800	373,800	70,088	1,970,238
TOTAL ASSAY LABORATORY	10,650	429,300	429,300	429,300	429,300	429,300	134,156	2,291,306
TOTAL MINE ADMINISTRATION	145,882	903,976	918,109	933,732	950,917	969,821	458,886	5,281,323
TOTAL SAFETY & ENVIRONMENTAL	35,168	242,280	242,280	242,280	242,280	242,280	54,283	1,300,851
TOTAL MINE SECURITY	62,880	224,400	224,400	224,400	224,400	224,400	161,450	1,346,330
TOTAL COMMUNITY RELATIONS	22,200	22,200	22,200	22,200	22,200	22,200	20,760	153,960

Operating Cost Summary

Detailed operating costs have been presented for Mining, Process and General and Administration (G&A) and are detailed in the appendices.

The mining operating costs are modeled as constant through the life of the mine and are deemed appropriate for the level of detail within this study. The average life of mine, cash mine operating cost is estimated at US\$7.51 per tonne of ore. The average life of mine process operating cost is US\$3.51 per tonne of ore. The average life of mine general and administration cost is US\$0.52 per tonne of ore..

20.3.2. Mine Operating Cost Estimate

An economic analyses of the La Bolsa project was completed. Capital and operating costs are estimated to a +/-25-30% confidence level for the 8,500 t/d Project. Capital cost is estimated at US\$ 30.95 million initially, with US\$ 2.5 million in sustaining capital required over the life of the mine. Unit operating costs were modeled as constant throughout the five year mine life.

Average total cash cost over the life of mine is estimated to be US\$ 515.81 per troy ounce of gold produced or US\$ 7.51 per tonne of ore processed, using silver produced as a credit towards production costs.

Costs were developed based on a base case of US\$850 per troy ounce of gold and US\$14.00 per troy ounce of silver. The metal prices used are less than the weighted average of 60% historical and 40% future projections as allowed by NI 43-101.

20.3.3. Process Operating Cost Estimate

Power

Consumables and Maintenance Supplies

Estimates for consumables and maintenance supplies are derived from vendor quotes or other ongoing gold mining operations nearby. Reagent consumptions and wear material consumptions were estimated from the results of metallurgical testing, including the column leach testing program performed by McClelland Labs and the abrasion testwork performed by Metso Minerals. Operating and maintenance supply requirements were estimated from published and in-house data for operations of similar size and complexity. Reagent pricing was determined from budget level quotes from potential suppliers and typically included freight to the La Bolsa mine site. Cyanide, sodium hydroxide, hydrochloric acid and antiscalent quotes were obtained from Degussa Chemical company. Quotes for lime, diesel fuel and power were obtained from Mexican suppliers. The costs include estimates of freight, duties and VAT.

20.3.4. General and Administration Operating Costs

The general and administrative operating costs were estimated to be US\$0.52/t over the life of the Project. This cost estimate includes all general and administrative labor, operating supplies, employee transportation costs and site security and community relations costs.

TABLE 20.3-2 LIFE OF MINE OPERATING COSTS

DESCRIPTION	GRAND TOTAL
TOTAL MINING COST	54,575,634
TOTAL PROCESSING COSTS	54,899,823
TOTAL DIRECT PRODUCTION COST	109,475,457
TOTAL SUPPORT COSTS	7,932,501
TOTAL OTHER COSTS	33,455,368
TOTAL COSTS	150,863,326
PRETAX PROFIT	42,269,877

20.4. CASH FLOW PROJECTIONS

20.4.1. Introduction

The cash flow base case is calculated at a price of US\$850/oz gold and based on the annual production schedule over the life of the mine using the data and criteria developed during this investigation.

20.4.2. Project Cash Flow

The cash flow projection for the La Bolsa Project is included below in Table 20.4-1. The results of the economic evaluation are expressed as a before tax rate of return and corresponding net present value in Q1 2010 US dollars and assume 100% equity in the Project by Minefinders.

The summary life of mine economic performance of the Project, based on the cash flow, is summarized below.

TABLE 20.4-1 LIFE OF MINE FINANCIAL SUMMARY

DESCRIPTION	YR 0 TOTAL	YR 1 TOTAL	YR 2 TOTAL	YR 3 TOTAL	YR 4 TOTAL	YR 5 TOTAL	YR 6 TOTAL	YR 7 TOTAL	GRAND TOTAL
PRODUCTION DATA:									
GOLD OUNCES PRODUCED & SOLD	0	3,677	40,054	41,925	43,481	46,273	37,661	14,545	227,617
SILVER OUNCES PRODUCED & SOLD	0	3,513	46,964	49,735	58,821	51,421	48,771	55,883	315,108
REVENUES	0	3,125,664	34,046,294	35,636,538	36,959,081	39,332,381	32,011,719	12,362,952	193,474,629
LESS: SELL, TRANS. & REFINE.	0	(5,516)	(60,082)	(62,888)	(65,222)	(69,410)	(56,491)	(21,817)	(341,426)
NET REVENUES	0	3,120,148	33,986,212	35,573,650	36,893,859	39,262,970	31,955,228	12,341,135	193,133,203
MINING COSTS:									
DRILLING & BLASTING COST	0	105,056	1,100,507	1,237,813	1,497,094	1,497,282	1,035,618	142,425	6,615,794
MINING	0	704,103	7,601,518	8,712,941	10,809,253	10,811,003	7,122,011	983,660	46,744,490
MINE SUPV, GEOL. & SUPPORT	0	3,870	234,480	234,480	234,480	234,480	234,480	39,080	1,215,350
DEFERRED STRIPPING	0	0	0	0	0	0	0	0	-
TOTAL MINING COST	0	813,029	8,936,505	10,185,235	12,540,827	12,542,765	8,392,109	1,165,165	54,575,634
PROCESSING COSTS:									
CRUSHING COST	0	197,030	2,163,368	2,186,877	2,187,190	2,186,910	2,133,710	322,430	11,377,515
CONVEYOR/ STACKER COST	0	54,147	510,456	510,048	510,140	510,057	494,451	71,400	2,660,699
LEACHING COST	0	515,587	5,096,919	5,091,032	5,093,108	5,092,326	4,943,690	3,080,243	28,912,907
PROCESSING COST	0	164,943	2,009,340	2,008,226	2,008,477	2,008,253	1,928,057	1,530,809	11,658,105
REFINING COST	0	4,225	46,023	48,172	49,960	53,168	43,272	45,777	290,598
TOTAL PROCESSING COSTS	0	935,933	9,826,106	9,844,355	9,848,875	9,850,715	9,543,180	5,050,659	54,899,823
TOTAL DIRECT PRODUCTION COST	-	1,748,962	18,762,611	20,029,589	22,389,702	22,393,480	17,935,289	6,215,824	109,475,457
PRODUCTION SUPPORT COSTS:									
ASSAY LABORATORY	0	10,650	429,300	429,300	429,300	429,300	429,300	134,156	2,291,306
ENGR., & MINE PLANNING	0	31,150	373,800	373,800	373,800	373,800	373,800	70,088	1,970,238
MINE ADMINISTRATION	0	145,882	903,976	918,109	933,732	950,917	969,821	458,886	5,281,323
SAFETY & ENVIRONMENTAL	0	35,168	242,280	242,280	242,280	242,280	242,280	54,283	1,300,851
SECURITY	0	62,880	224,400	224,400	224,400	224,400	224,400	161,450	1,346,330
COMMUNITY RELATIONS	0	22,200	22,200	22,200	22,200	22,200	22,200	20,760	153,960
SILVER REVENUE CREDITS	-	(49,180)	(657,502)	(696,285)	(823,489)	(719,890)	(682,798)	(782,362)	(4,411,507)
TOTAL SUPPORT COSTS	0	258,749	1,538,454	1,513,804	1,402,223	1,523,007	1,579,003	117,261	7,932,501
OTHER COSTS:									
RECLAMATION PROVISION	-	9,193	100,136	104,813	108,703	115,683	94,152	36,362	569,043
DEPRECIATION & AMORTIZATION	-	534,192	5,818,689	6,090,471	6,316,500	6,722,109	5,470,970	2,112,893	33,065,825
INTEREST & OTHER INCOME	-	-	(29,500)	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(179,500)
TOTAL OTHER COSTS	-	543,385	5,889,326	6,165,284	6,395,203	6,807,793	5,535,122	2,119,255	33,455,368
TOTAL COSTS	-	2,551,097	26,190,391	27,708,677	30,187,128	30,724,280	25,049,413	8,452,340	150,863,326
PRETAX PROFIT		569,051	7,795,822	7,864,973	6,706,731	8,538,690	6,905,814	3,888,795	42,269,877
NON-CASH CHARGES		543,385	5,918,826	6,195,284	6,425,203	6,837,793	5,565,122	2,149,255	33,634,868
TOTAL CASH FLOW FROM OPERATIONS		1,112,437	13,714,647	14,060,257	13,131,935	15,376,483	12,470,936	6,038,050	75,904,745
LESS: CAPITAL, MINE DEVEL, RECL	2,914,527	20,745,386	7,724,966	1,100,000	6,113,390	4,712,631	-	(9,676,032)	33,634,868
NET PRE-TAX CASH FLOW	(2,914,527)	(19,632,950)	5,989,681	12,960,257	7,018,545	10,663,852	12,470,936	15,714,082	42,269,877

Production Schedule

- A two month pre-production period and a 5 year and two month mine life;
- A nominal ore production rate 3.0Mt/y mining and processing:
- An ore dilution factor of 7.0%;
- A total life of mine ore production of 15.6M tonnes of ore; and
- Life of mine average grade of 0.629g/t Au and 9.0g/t in a single phase mine.

Recovery

- Contained Gold is 316,135ozt in;
- Gold Recovery of 72%;
- Gold Recovered 227,617 ozt :
- Gold Price US\$850/oz; and
- Gold Gross Value of US\$ 187,784,199

Operating Costs

- Cash operating cost US\$516/ozt Au;
- Unit treatment and transportation cost of US\$1.50/oz Au;
- Unit total operating cost US\$662/ozt Au,; and
- Total operating costs of US\$ 150,863,326 (including site operating cost, treatment and transportation).

Capital Cost

- Initial capital investment US\$ 24,415,464 (including infrastructure, mining, process and heap leach, ancillary buildings, mining and waste dump);
- Sustaining capital investment US\$ 11,926,020 including 6.8M tonnes of capitalized waste material in years 4 and 5;
- Reclamation US\$569,043;
- Working capital of US\$ 6,969,416 is included in initial capital investment;
- Total capital investment US\$ 33,634,868.

Cash Flow

- Operating income US\$ 91,590,247 (Gold Value - Operating Costs);
- No Royalty;
- Salvage value US\$ 2,348,952;
- Before tax cash flow US\$42,269,877

Economics

Pit825

Before Tax

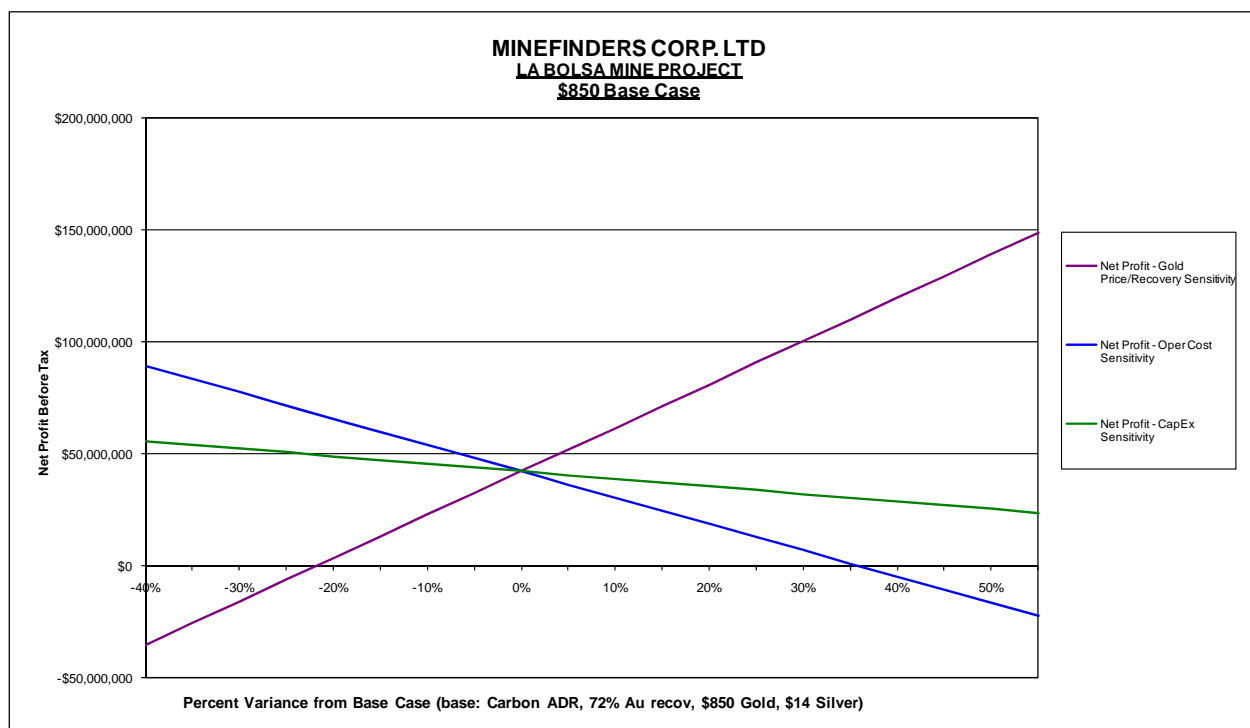
- NPV @ 0% US\$42,269,877
- IRR 34%

20.5. SENSITIVITY ANALYSIS

The sensitivity of the project has been analyzed for Gold Recovery, Gold Price, Operating Cost and Capital Expense. Figure 20.5-1 illustrates the sensitivity of the project to these variables.

The sensitivity analysis indicates the project is most sensitive to Gold Recovery with variance in Gold Price also showing strong sensitivity. The project appears to be least sensitive to Capital Cost and is moderately sensitive to Operating Costs.

TABLE 20.5-1 SENSITIVITIES GRAPH



20.6. RISKS AND OPPORTUNITIES

Preliminary quotes obtained from Mexican Mining Contractors have indicated competitive rates in the range of US\$ +1.00/t of material mined. Given a more detailed mine plan in the near future to estimate with, this cost should be realistic and possibly slightly high. This option could have a significant positive impact on the economic performance of the Project and should be further investigated during the feasibility study.

The current global currency crisis has the potential of substantially decreasing the cost of Mexican supplied materials and labor. The estimates for this Study have been prepared using the January 2010 exchange rate and are considered reasonable relative to the mine life.

The potential to increase production based on higher than \$850 gold prices would have a positive impact on the project economics by reducing the unit operating costs. In addition, at higher production rates, main line power should be considered in order to reduce the power consumption costs.

21.0 INTERPRETATIONS AND CONCLUSIONS

Precious metal mineralization has been proven to exist at La Bolsa in sufficient concentration levels to allow for mining operations. The La Bolsa prefeasibility study indicates project viability as an open pit mine resource with a relatively low waste to ore stripping ratio.

Environmental studies and mine permitting efforts are nearly complete, adding significant value to the project. La Bolsa is located in an easily accessible region of Mexico, a mining friendly jurisdiction. The company can realize a return on the investment in La Bolsa either through initiation of mining operations or through divestiture of the project to another legitimate mining company.

22.0 RECOMMENDATIONS

1. Continued work at La Bolsa is recommended in order to complete a detailed Feasibility Study for production of the resource.
2. Investigation of the groundwater supply should continue with detailed aquifer testing including long-term pumping (7 days) of test wells.
3. Surface water rights should be obtained.
4. An Environmental Impact Statement, and the process of applying for Operating permits should continue and be finalized.
5. Metallurgical testing is adequate for designing process recovery systems at the project. However, additional bulk sampling from the surface could assist in final design.
6. Additional site-specific sampling using drill holes and test pits need to be completed along with appropriate laboratory testing to assist with final civil engineering design requirements and the completion of a final Feasibility Study. All outside sources and on-site borrow areas for

required soil materials need to be identified and characterized. Pit slope design should be updated through the generation of a pit slope stability report based on rock mass strength and limit equilibrium stability analysis. All final facility sites should be field checked for geologic hazards.

7. The preliminary water balance calculations should be updated and upgraded to account for any changes in the final mine plan and a stochastic model should be prepared.

8. Condemnation Drilling should be completed for all facilities.

9. A meteorological station should be setup and site specific data collection started to verify regional data used.

10. Alternatives for closure and stability of tailings should be further developed and incorporated into a feasibility study.

11. Strong relations with the local community should be continued and augmented to assist in community development.

12. Operating costs should be updated and refined to reflect additional detail developed in a final feasibility study.

13. Minefinders should continue to enhance the project's economic model for purpose of defining sources of financing.

14. Make a more detailed study of blasthole drilling, especially:

- a. Drill penetration rates (need testing, may be able to correlate with exploration drilling rates)
- b. Required powder factors for adequate fragmentation of ore and waste
- c. Drill bit life (need abrasion testing)

The aforementioned Work Program should be to be funded at an estimated cost of \$US855,000.

Completion of a feasibility study for the project is estimated to cost an additional US\$600,000. Approximately \$150,000 should be directed toward final condemnation drilling under all proposed mine facilities. Completion of the environmental permitting efforts is estimated to require an additional US\$60,000. Acquisition of water rights is estimated to cost an additional US\$45,000.

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24.0 DATE AND SIGNATURE PAGE

The undersigned have prepared this Technical Report, titled *Technical Report La Bolsa Project Pre-Feasibility Study*, dated January 10, 2011 in support of the public disclosure of technical aspects of the La Bolsa project by Minefinders Corporation, Ltd.

The format and content of the report are intended to conform to Form 43-101F1 of National Instrument 43-101 (NI 43-101) of the Canadian Securities Administrators.

Completion Date of Report

January 10, 2011

Signed.



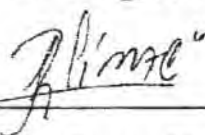
Anthony Crews, BS Eng. (Civil), P.E.

January 10, 2011



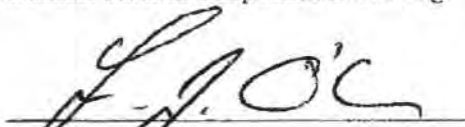
Joel Primitivo Sanchez Campos, BS Eng.

January 10, 2011



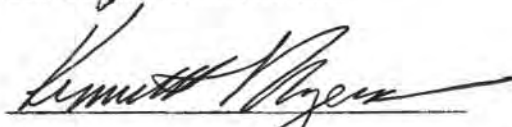
J. Rafael Sanchez Campos, BS Chem. Eng.

January 10, 2011



Lawrence J. O'Connor, BS Geol.

January 10, 2011



Kenneth L. Myers, BS Eng. (Civil) M.S. Eng. (Geol.)

January 10, 2011

CERTIFICATE OF QUALIFICATION

I, **Anthony E. W. Crews**, a principal with The MINES Group, Inc. with business address at 1325 Airmotive Way Suite 175U, Reno, Nevada, USA do hereby certify that:

1. I have supervised the preparation of the report titled, '*Technical Report, La Bolsa Project, Pre-Feasibility Study*', dated January 10, 2011, for Minefinders Corporation, Ltd. and I am responsible for all sections of this report.
2. I personally visited the La Bolsa project site near Nogales, Sonora, Mexico for one day on June 24th, 2009 as part of the due diligence necessary to compile this report.
3. I hold a BSc. degree in Civil Engineering from the University of the Witwatersrand, Johannesburg, South Africa.
4. I have practiced my profession continuously since 1976.
5. I am a registered Civil Engineer in the State of Nevada, USA, Number C8427.
6. I am a Principal with The MINES Group, Inc., an Engineering firm specializing in Civil, Geotechnical and Environmental Engineering.
7. I have not received, nor do I expect to receive, any interest, directly or indirectly, from Minefinders Corporation Ltd., or of any affiliate thereof.
8. I have had no involvement with the property that is the subject of this Pre-Feasibility Study.
9. By reason of education, experience and independence, I meet the definition of Independent Qualified Person as outlined in National Instrument 43-101.
10. I am not aware of any omission which makes the technical report misleading.
11. I hereby give my permission to include this Report, or the summary thereof, in any document to be filed with any appropriate regulatory authority.
12. This Report has been prepared according to the recommendations and guidelines established by National Instrument 43-101.

DATED at Reno, Nevada this 10th day of January, 2011.



**Anthony
Crews**

Digitally signed by Anthony Crews
DN: cn=Anthony Crews, o=The
MINES Group, Inc, ou,
email=aewcrews@minesgroup.co
m, c=US
Date: 2011.01.12 18:22:23 -08'00'

Anthony E. W. Crews, Principal with The MINES Group, Inc.

CERTIFICATE OF QUALIFICATION

I, Lawrence J. O'Connor, with an office at 10220 Hawkeye Cir., Reno, Nevada, 89523, USA do hereby certify that:

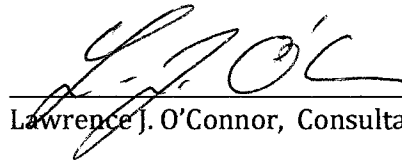
1. This certificate applies to the report titled, '*Technical Report, La Bolsa Project, Pre-Feasibility Study*' for Minefinders Corporation Ltd.. and dated January 10th, 2011.
2. I hold a Bachelors degree in Geology from Fort Lewis College, in Durango, Colorado, USA.
3. I have practiced my profession in the natural resource industry continuously for 29 years. My work experience includes grass roots exploration and mine operations in both open pit and underground mines, ore control geology, resource/reserve modeling, mine engineering, process management, reclamation-closure and general mine management. I am a member of the Prospectors and Developers Association of Canada, the AME of British Columbia and the SME (Society for Mining Metallurgy and Exploration). My relevant experience for the purpose of this technical report is:

• Sonoran Resources, LLC	CEO	2008 – 2009
• Western Goldfields, Inc.	V.P. Operations	2004 – 2006
• Eldorado Gold Corp.	General Manager	1994 – 1997
• Bema Gold Corp.	Process Supt.	1992 – 1993
	Chief Engineer	1991
	Senior Geologist	1989 – 1990
• Western Mining Corp. (WMC)	Mine Geologist	1987 - 1989

4. I am currently self employed as a geological and mining consultant.
5. I am responsible for authorship and/or technical review of all sections of the report titled '*Technical Report, La Bolsa Project, Pre-Feasibility Study*', for Minefinders Corporation Ltd.
6. I have carried out day-long onsite reviews of the La Bolsa project on June 6th, and August 21st of 2008, and on June 24th of 2009.
7. I have not received, nor do I expect to receive, any interest, directly or indirectly, from Minefinders Corporation Ltd., or of any affiliate thereof, and am independent of the issuer.
8. I have had no involvement with the property that is the subject of this Pre-Feasibility Study technical report.
9. I have read National Instrument 43-101 and Form 43-101F1 and, by reason of education and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101. This technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;

10. As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

DATED on this 10th day of January, 2011.



Lawrence J. O'Connor, Consultant

CERTIFICATE OF QUALIFICATION

I, J. Rafael Sanchez Campos, with business address at 5597 W. County 15th Street, Somerton, AZ 85350 USA and Guillermo Carpena #78 esq. con Nayarit, Colonia 5 de Mayo, Hermosillo, Sonora México 83010 do hereby certify that:

1. I have reviewed all metallurgical test work affecting the report titled, '*Technical Report, La Bolsa Project, Pre-Feasibility Study*' for Minefinders Corporation Ltd., dated January 10, 2011.
2. I hold a Bachelors degree in Chemical Engineering, specializing in Metallurgy, from the University of Sonora.
3. I have practiced my profession within the mining industry continuously for 22 years.
4. I am a registered Chemical Engineer, specializing in Metallurgy in the country of Mexico with cedula #4239461
5. I am currently employed as Vice President of Operations with Sonoran Resources, LLC, a consulting group specializing in mine design and construction.
6. I am responsible for metallurgical and processing content within this report.
7. I have not received, nor do I expect to receive, any interest, directly or indirectly, from Minefinders Corporation Ltd., or of any affiliate thereof, and am independent of the issuer.
8. I have had no involvement with the property that is the subject of this Pre-Feasibility Study.
9. I have read National Instrument 43-101 and Form 43-101F1 and, by reason of education and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101. This technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
10. As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

DATED this 10th day of January, 2011.



J. Rafel Sanchez Campos, V.P. Operations

CERTIFICATE OF QUALIFICATION

I, Joel Primitivo Sanchez Campos, with business address at 5597 W. County 15th Street, Somerton, AZ 85350 USA and Guillermo Carpena #78 esq. con Nayarit, Colonia 5 de Mayo, Hermosillo, Sonora México 83010 do hereby certify that:

1. I have completed a review of all engineering and mine planning for the report titled, '*Technical Report, La Bolsa Project, Pre-Feasibility Study*', dated January 10, 2011, for Minefinders Corporation Ltd..
2. I hold a Bachelors degree in Mining Engineering from the University of Sonora, in Hermosillo, Sonora, Mexico.
3. I have practiced my profession within the mining industry continuously for 27 years.
4. I am a registered Mining Engineer, in the country of Mexico with number 981600.
5. I am currently employed as Mining Engineer with Sonoran Resources, LLC, a consulting group specializing in mine design and construction.
6. I am responsible for mine planning and mining operations content within this report.
7. I have not received, nor do I expect to receive, any interest, directly or indirectly, from Minefinders Corporation Ltd., or of any affiliate thereof, and am independent of the issuer.
8. I have had no involvement with the property that is the subject of this Pre-Feasibility Study.
9. I have read National Instrument 43-101 and Form 43-101F1 and, by reason of education and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101. This technical report has been prepared in compliance with National Instrument 43-101 and Form 43-101F1;
10. As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

DATED on this 10th day of January, 2011.



Joel Primitivo Sanchez Campos, Mining Engineer

CERTIFICATE OF QUALIFICATION

I, **Kenneth L. Myers**, a principal with The MINES Group, Inc. with business address at 1325 Airmotive Way Suite 175U, Reno, Nevada, USA do hereby certify that:

1. I have contributed to the report titled, '*Technical Report, La Bolsa Project, Pre-Feasibility Study*', dated January 10, 2011, for Minefinders Corporation Ltd. and I am responsible for the report in Appendix 05 of this report, titled '*Pre-feasibility Level Pit Slope Stability Study, La Bolsa Project, Sonora, Mexico*'.
2. I visited the La Bolsa Project site for four days on November 7th through 11th, 2009 to provide geotechnical expertise and collect data for preliminary open pit slope design.
3. I hold a BS degree in Civil Engineering from the University of Cincinnati, in 1973 .and a MS degree in Geological Engineering from the University of Missouri - Rolla, in 1975 .
4. I have worked continuously within the mining industry for more than 36 years.
5. I am a registered Civil Engineer in the State of Nevada, USA, Number 10254.
6. I am a Principal with The MINES Group, Inc., an Engineering firm specializing in Civil, Geotechnical and Environmental Engineering.
7. I have not received, nor do I expect to receive, any interest, directly or indirectly, from Minefinders Corporation Ltd., or of any affiliate thereof.
8. I have had no involvement with the property that is the subject of this Pre-Feasibility Study.
9. By reason of education, experience and independence, I meet the definition of Independent Qualified Person as outlined in National Instrument 43-101.
10. I hereby give my permission to include the report titled, '*Pre-feasibility Level Pit Slope Stability Study, La Bolsa Project, Sonora, Mexico*', in whole or part, within this study. The full report is attached within Appendix 05 of this report.
11. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make this report not be misleading.

DATED at Reno, Nevada this 10th day of January, 2011.



**Kenneth
Myers**

Digitally signed by Kenneth Myers
DN: cn=Kenneth Myers, c=US,
o=The MINES Group, Inc.,
email=kmyers@minesgroup.com
Date: 2011.01.13 09:59:55 -08'00'

Kenneth L. Myers, Principal with The MINES Group, Inc.

CONSENT OF AUTHOR

To: British Columbia Securities Commission
Alberta Securities Commission
Saskatchewan Financial Services Commission
Manitoba Securities Commission
Ontario Securities Commission
New Brunswick Securities Commission
Nova Scotia Securities Commission
Registrar of Securities, Prince Edward Island
Securities Commission of Newfoundland and Labrador
Registrar of Securities, Northwest Territories
Registrar of Securities, Nunavut
Registrar of Securities, Yukon
United States Securities and Exchange Commission

I, Anthony E. W. Crews, do hereby consent to the filing of the written disclosure of the technical report titled 'Technical Report, La Bolsa Project, Pre-feasibility Study' and dated January 10, 2011 (the "Technical Report") and any extracts from or a summary of the Technical Report in the July 7, 2010 Press Release of Minefinders Corporation Ltd., and to the filing of the Technical Report with the addressed Securities Commissions. I consent to the incorporation by reference of the Technical Report or any portion thereof into the Company's Form F-10 Registration Statements (No. 333-155590, 333-138709, and 333-170839) as filed with the United States Securities and Exchange Commission.

I also certify that I have read the written disclosure being filed, that the written disclosure being filed fairly and accurately represents the information in the Technical Report that supports the disclosure and I do not have any reason to believe that there are any misrepresentations in the information derived from the Technical Report or that the written disclosure in the July 7, 2010 Press Release of Minefinders Corporation Ltd. contains any misrepresentation of the information contained in the Technical Report.

Dated this 10th Day of January, 2011.



**Anthony
Crews**

Digitally signed by Anthony Crews
DN: cn=Anthony Crews, o=The MINES
Group, Inc, ou,
email=aewcrews@minesgroup.com, c=US
Date: 2011.01.12 18:20:44 -08'00'

Signed: Anthony E. W. Crews


CONSENT OF AUTHOR

To: British Columbia Securities Commission
Alberta Securities Commission
Saskatchewan Financial Services Commission
Manitoba Securities Commission
Ontario Securities Commission
New Brunswick Securities Commission
Nova Scotia Securities Commission
Registrar of Securities, Prince Edward Island
Securities Commission of Newfoundland and Labrador
Registrar of Securities, Northwest Territories
Registrar of Securities, Nunavut
Registrar of Securities, Yukon
United States Securities and Exchange Commission

I, Lawrence J. O'Connor, do hereby consent to the filing of the written disclosure of the technical report titled 'Technical Report, La Bolsa Project, Pre-feasibility Study' and dated January 10, 2011 (the "Technical Report") and any extracts from or a summary of the Technical Report in the July 7, 2010 Press Release of Minefinders Corporation Ltd., and to the filing of the Technical Report with the addressed Securities Commissions. I consent to the incorporation by reference of the Technical Report or any portion thereof into the Company's Form F-10 Registration Statements (No. 333-155590, 333-138709 and 333-170839) as filed with the United States Securities and Exchange Commission.

I also certify that I have read the written disclosure being filed, that the written disclosure being filed fairly and accurately represents the information in the Technical Report that supports the disclosure and I do not have any reason to believe that there are any misrepresentations in the information derived from the Technical Report or that the written disclosure in the July 7, 2010 Press Release of Minefinders Corporation Ltd. contains any misrepresentation of the information contained in the Technical Report.

Dated this 10th Day of January, 2011.


Signed: Lawrence J. O'Connor

CONSENT OF AUTHOR

To: British Columbia Securities Commission
Alberta Securities Commission
Saskatchewan Financial Services Commission
Manitoba Securities Commission
Ontario Securities Commission
New Brunswick Securities Commission
Nova Scotia Securities Commission
Registrar of Securities, Prince Edward Island
Securities Commission of Newfoundland and Labrador
Registrar of Securities, Northwest Territories
Registrar of Securities, Nunavut
Registrar of Securities, Yukon
United States Securities and Exchange Commission

I, J. Rafael Sanchez Campos, do hereby consent to the filing of the written disclosure of the technical report titled 'Technical Report, La Bolsa Project, Pre-feasibility Study' and dated January 10, 2011 (the "Technical Report") and any extracts from or a summary of the Technical Report in the July 7, 2010 Press Release of Minefinders Corporation Ltd., and to the filing of the Technical Report with the addressed Securities Commissions. I consent to the incorporation by reference of the Technical Report or any portion thereof into the Company's Form F-10 Registration Statements (No. 333-155590, 333-138709, and 333-170839) as filed with the United States Securities and Exchange Commission.

I also certify that I have read the written disclosure being filed, that the written disclosure being filed fairly and accurately represents the information in the Technical Report that supports the disclosure and I do not have any reason to believe that there are any misrepresentations in the information derived from the Technical Report or that the written disclosure in the July 7, 2010 Press Release of Minefinders Corporation Ltd. contains any misrepresentation of the information contained in the Technical Report.

Dated this 10th Day of January, 2011.

A handwritten signature in black ink, appearing to read 'J. Rafael Sanchez Campos', is written over a horizontal line.

Signed: J. Rafael Sanchez Campos

CONSENT OF AUTHOR

To: British Columbia Securities Commission
Alberta Securities Commission
Saskatchewan Financial Services Commission
Manitoba Securities Commission
Ontario Securities Commission
New Brunswick Securities Commission
Nova Scotia Securities Commission
Registrar of Securities, Prince Edward Island
Securities Commission of Newfoundland and Labrador
Registrar of Securities, Northwest Territories
Registrar of Securities, Nunavut
Registrar of Securities, Yukon
United States Securities and Exchange Commission

I, Joel Primitivo Sanchez Campos, do hereby consent to the filing of the written disclosure of the technical report titled 'Technical Report, La Bolsa Project, Pre-feasibility Study' and dated January 10, 2011 (the "Technical Report") and any extracts from or a summary of the Technical Report in the July 7, 2010 Press Release of Minefinders Corporation Ltd., and to the filing of the Technical Report with the addressed Securities Commissions. I consent to the incorporation by reference of the Technical Report or any portion thereof into the Company's Form F-10 Registration Statements (No. 333-155590, 333-138709, and 333-170839) as filed with the United States Securities and Exchange Commission.

I also certify that I have read the written disclosure being filed, that the written disclosure being filed fairly and accurately represents the information in the Technical Report that supports the disclosure and I do not have any reason to believe that there are any misrepresentations in the information derived from the Technical Report or that the written disclosure in the July 7, 2010 Press Release of Minefinders Corporation Ltd. contains any misrepresentation of the information contained in the Technical Report.

Dated this 10th Day of January, 2011.



Signed: Joel Primitivo Sanchez Campos

CONSENT OF AUTHOR

To: British Columbia Securities Commission
Alberta Securities Commission
Saskatchewan Financial Services Commission
Manitoba Securities Commission
Ontario Securities Commission
New Brunswick Securities Commission
Nova Scotia Securities Commission
Registrar of Securities, Prince Edward Island
Securities Commission of Newfoundland and Labrador
Registrar of Securities, Northwest Territories
Registrar of Securities, Nunavut
Registrar of Securities, Yukon
United States Securities and Exchange Commission

I, Kenneth L. Myers, do hereby consent to the filing of the written disclosure of the technical report titled 'Technical Report, La Bolsa Project, Pre-feasibility Study' and dated January 10, 2011 (the "Technical Report") and any extracts from or a summary of the Technical Report in the July 7, 2010 Press Release of Minefinders Corporation Ltd., and to the filing of the Technical Report with the addressed Securities Commissions. I consent to the incorporation by reference of the Technical Report or any portion thereof into the Company's Form F-10 Registration Statements (No. 333-155590, 333-138709, and 333-170839) as filed with the United States Securities and Exchange Commission.

I also certify that I have read the written disclosure being filed, that the written disclosure being filed fairly and accurately represents the information in the Technical Report that supports the disclosure and I do not have any reason to believe that there are any misrepresentations in the information derived from the Technical Report or that the written disclosure in the July 7, 2010 Press Release of Minefinders Corporation Ltd. contains any misrepresentation of the information contained in the Technical Report.

Dated this 10th Day of January, 2011.



**Kenneth
Myers**

Digitally signed by Kenneth Myers
DN: cn=Kenneth Myers, c=US,
o=The MINES Group, Inc.,
email=klmyers@minesgroup.com
Date: 2011.01.13 16:51:25 -08'00'

Signed: Kenneth L. Myers